TOWN OF CANTON

INVITATION FOR BID

Construction of a Non-motorized Boat Ramp Facility at 50 Old River Road Collinsville, Connecticut

BIDS WILL BE RECEIVED in the Office of the Chief Administrative Officer, Canton Town Hall, 2nd Floor, 4 Market Street Collinsville, CT until 2:00 pm local time on Thursday, May11, 2023 at which time all bids will be publicly opened in the second floor Conference Room of the Canton Town Hall.

Notice

Town of Canton, CT
Invitation For Bid for Construction of a Non-motorized Boat Ramp at 50 Old River Road, Collinsville, CT

The Town of Canton, Connecticut is seeking a qualified company to provide construction services for the Construction of a Non-motorized Boat Ramp at 50 Old River Road, Collinsville, CT

Proposals will be received in the Town of Canton CAO's office no later than 2:00 pm, EST on Thursday, May 11, 2023 at which time all bids will be publicly opened in the second floor Conference Room of the Canton Town Hall. The Town of Canton will reject bids received after that date and time. The Invitation For Bid may be obtained at the Town's website, www.townofcantonct.org under "Request for Proposals."

Contractors that are interested in being considered for this project shall submit one original proposal and 2 copies to:

Robert Skinner
Reference "Construction of a Non-motorized Boat Ramp at 50 Old River Road, Collinsville, CT"
Chief Administrative Officer
Town of Canton
4 Market Street
PO Box 168
Collinsville, CT 06022-0168

The Town of Canton is an Equal Opportunity – Affirmative Action Employer.

TABLE OF CONTENTS

TECHNICAL SPECIFICATION

SECTION TITLE **PAGE**

APPENDICES

LIST OF DRAWINGS

FIG NO. TITLE

TOWN OF CANTON, CONNECTICUT
INSTRUCTIONS TO BIDDERS

INTRODUCTION

The Town of Canton (the "Town") is soliciting an invitation for bid for the Construction of a Non-motorized Boat Ramp at 50 Old River Road, Collinsville, CT. This invitation is not a contract offer.

The scope of this project is described more particularly in the Invitation for Bid and the bid proposal that is a part of this bid package.

The location [Old Canton Road, Canton], general characteristics and principal details of the work are indicated in this invitation for bid and other references noted on this document.

Interested parties should submit a bid response in accordance with the requirements and directions set forth in this bid package. Bidders may not contact any Town employee or official concerning this Invitation other than the Town's Chief Administrative Officer as set forth in the attached documents. A bidder's failure to comply with this requirement may result in disqualification. The Town will return unopened any bid received after the date and time of bid opening.

If there are any conflicts between the provisions of these Instructions to Bidders and any other document(s) comprising this bid package, these Instructions to Bidders shall prevail.

KEY DATES

Invitation For Bid issued: April10, 2023 Bid
Opening: May11, 2023 @ 2:00 pm Contract

.....

SCHEDULING THE WORK

Work under this contract shall reach substantial completion within One Hundred Twenty (120) calendar days [unless otherwise modified or authorized by the Chief Administrator Officer] from the day the contractor starts work, which date shall not be more than ten (10) calendar days from the date of written notice to begin work, unless such notice specifically instructs the contractor to begin work at a later date.
Calendar days in this contract shall mean each consecutive day including Saturdays, Sundays and legal holidays.
No extensions of time will be allowed for adverse weather conditions unless the number of days of inclement Weather is substantially greater or conditions more severe than the average for the calendar period as recorded by a recognized weather observation agency and the contractor provides documentation at the end of each calendar month identifying these weather delays. Work on this project shall not be performed on Saturdays, Sundays or legal holidays except by written consent and direction of the owner.

Work shall proceed in an orderly fashion to minimize inconvenience to the abutting property owners. All contract work, including punch list items, shall reach final completion within ten (10) calendar days from the date of substantial completion.

CONTINGENCIES

The Town reserves the right to cancel this bid process and any resulting Contract at any time if the Town deems such action to be in its best interests, including but not only if either of the following conditions exists:
The Town, through changes in its requirements or methods of operation, no longer has a need for the subject matter of this Invitation; or
The Town is not satisfied with the work under the Contract, or the successful bidder fails to comply with any of the Contract's terms and conditions.

OBTAINING BID PACKAGE

The bid package – i.e., each of the documents listed on the page preceding these Instructions and collectively referred to as the "Invitation" – may be obtained at the Town's website, www.townofcantonct.org under "Request for Proposals."

BID SUBMISSION INSTRUCTIONS

Bids will be received in the Office of the Chief Administrative Officer, Canton Town Hall, 2nd Floor, 4 Market Street Collinsville, CT until 2:00 pm local time on Thursday, May 11, 2023, at which time all bids will be publicly opened in the second floor Conference Room of the Canton Town Hall. Postmarks prior to the bid opening date and time do NOT satisfy this condition. The Town will NOT accept corrections and/or modifications received after the first bid is opened publicly. Bids may not be withdrawn after bid opening, and bids must remain in effect for sixty (60) calendar days after bid opening, even if the bidder discovers errors in the bid after opening.

One (1) original bid and two (2) copies must be submitted on the accompanying Bid Form and in sealed, opaque envelopes clearly labeled with the bidder's name, the bidder's address, the words "BID DOCUMENTS," and the Bid Title and Bid Opening Date, to prevent opening prior to the bid opening date. The bidder should also complete the following forms and submit as part of the bid submission:
Disclosures
Legal Status
Bid Security
Non-Collusion Affidavit
Bidder Qualifications

The Town will reject, and not accept, bids submitted in unmarked envelopes that the Town opens in its normal course of business. The Town may, but shall not be required to, return such bid and inform the bidder that the bid may be resubmitted in a sealed envelope properly marked as described above.

Bids must be submitted on the prescribed form and all blank spaces for bid prices must be completed and all prices shall be stated in both words and figures. Bid prices shall include all labor, materials, equipment, tools, transportation, and incidentals thereto necessary to perform the work in accordance with the Contract Plans and Specifications and First-Class Work of the type being bid. The person signing the bid must initial errors, alterations or corrections on both the original bid and all required copies. Ditto marks or words such as "SAME" shall not be used in the Bid Form.
Bids may be withdrawn personally or in writing provided that the Town receives the withdrawal prior to the time and date fixed for the bid opening. Bids are considered valid

for sixty (60) calendar days after bid opening, to permit the Town the time to review the bids and to investigate the bidders' qualifications prior to awarding the bid. Bidders may not withdraw, cancel or modify their bid for a period of sixty (60) calendar days after the bid opening or the Bidder shall forfeit its Bid Security.
An authorized person representing the legal entity of the bidder must sign the bid.

UNIT PRICES AND LUMP SUM PRICES

The unit prices for each of the several items in the bid shall include the prorated share of overhead and profit so that multiplying the quantity shown for each item by the unit price bid represents the total bid for that item. The town may reject any bid not conforming to this requirement. Bidders should note this provision because, if conditions make it necessary for the town to revise the quantities, no limit shall be fixed for such increased or decreased quantities, nor extra compensation allowed.
Lump sum prices for each of the several items in the bid shall include its prorated share of overhead, profit, and all costs associated with that item. The lump sum price represents the entire compensation that the town shall pay for all of the work associated with the item. The town retains the right, as best serves the town, and all or part of the bid items as part of the award of this bid.

QUESTIONS

Questions concerning the bid process and procedures are to be in writing and directed only to:
Name: Robert Skinner – Chief Administrative Officer
E-mail: rskinner@townofcantonct.org

Bidders may not contact any other Town employee or official concerning this Invitation. A bidder's failure to comply with this requirement may result in disqualification.
If a bidder finds any omission, discrepancy or error in, has questions concerning, or seeks an exception to anything in the documents constituting this Invitation; it should notify the Town as soon as possible but not less than five (5) business days before the date of the bid opening. The bidder must direct that inquiry to: Robert Skinner, email address: rskinner@townofcantonct.org. No oral statement of the Town shall be effective or binding to modify any of the provisions of this Invitation.
However, the Town will not make any oral interpretations to any bidder as to the meaning of any bid documents or portions thereof, and no bidder shall rely on any alleged oral interpretation. A bidder shall request an interpretation in writing to Robert Skinner, email address: rskinner@townofcantonct.org.

ADDENDUM/ADDENDA

At least five (5) calendar days prior to the bid opening, **the Town will post a copy of any and all addendum or addenda on the Town's website, www.townofcantonct.org, under "Request for Proposals."** Said addendum or addenda; which shall be a part of this Invitation/Bid and the resulting Contract; containing all questions received as provided for above and decisions regarding same. Each bidder is responsible for checking the website to determine if the Town has issued an addendum or addenda and, if so, to complete its bid in accordance with the Invitation as modified by the addendum/addenda.

COSTS FOR PREPARING BID

This Invitation does not commit the Town to pay any costs incurred by bidders in preparing their responsive bids. Each bidder agrees that all costs it incurs in developing its bid are its sole responsibility.

OWNERSHIP OF BIDS

All bids submitted become property of the Town.

FREEDOM OF INFORMATION ACT

All information submitted in a bid or in response to a request for additional information is subject to disclosure under the Connecticut Freedom of Information Act as amended. A bidder's responses may contain financial or other data that it claims constitute proprietary or confidential information or a trade secret. To protect such data from disclosure, a bidder should identify specifically the pages that contain claimed confidential information by visibly marking all such pages of the bid.

REQUIRED DISCLOSURES AND BIDDER'S QUALIFICATIONS

In its bid each bidder must:

- State its inability to meet any specified requirement of the Invitation;
- Make a complete disclosure of all resolved and pending mediation, arbitration and litigation matters in which the bidder or its principals (regardless of their place of employment) have been involved for the most recent five (5) years;
- Make a complete disclosure of each instance of its or its principals' (regardless of their place of employment) conviction, guilty plea, nolo contendere plea, finding of civil liability or criminal responsibility in any civil action or for any criminal offense, except motor vehicle infractions; and
- Make a complete disclosure of each instance of its or its principals' (regardless of their place of employment) finding of a violation of any state or local ethics standards or other offense arising out of the submission of bids or proposals, or performance of work on public works projects or contracts.

A bidder's acceptability based on these disclosures and any investigation the Town deems necessary to determine a bidder's ability to perform the work described in this Invitation shall lie solely with the Town.

CONFLICT OF INTEREST

By submitting a bid, a bidder certifies that it has no conflict of interest as defined in the Town's Ordinance # 230 concerning ethics. The Town shall review all bids under this provision and may reject any bid where, in the Town's opinion, the bidder could be in a conflict of interest or could be perceived to be in a possible conflict of interest position if the bidder were to become a party to the Contract.

DEBARRED CONTRACTORS

The Town will reject any bid from a bidder that is on a debarred contractor list of the United States and/or the State of Connecticut.

LEGAL STATUS

Each bidder must complete the Bidder's Legal Status Disclosure form and must, if required, have a current license or registration to do business in the State of Connecticut that is on file with the Connecticut Secretary of the State's Office. The Town may, in its sole discretion, request acceptable evidence of any bidder's legal status.

BID SECURITY

No bid security required.

PRESUMPTION OF BIDDER'S FULL KNOWLEDGE

At the time the first bid is opened, the Town will presume that each bidder has read and understood each document comprising this Invitation and any addenda posted on the Town's website. A bidder's failure and/or omission to receive or examine any information concerning this Invitation shall in no way relieve it from any aspect of its bid or the obligations related to it.

At the time the first bid is opened, the Town will also presume that each bidder is familiar with and will comply with all federal, state and local laws, ordinances and regulations that in any manner relate to this Invitation and the performance of the work described in it.

By submitting a bid, each bidder represents that it has thoroughly examined and become familiar with the scope of work outlined in this Invitation and it is capable of performing the work to achieve the Town's objectives.

Each bidder shall visit and examine the location of and the routes to be used during the work described in this Invitation and thoroughly familiarize itself with all actual conditions of the property before preparing its bid. The submission of a bid shall be construed as an assurance that such examination has been made, and the Town will not recognize or award claims for compensation for additional labor, equipment or materials for difficulties encountered.

TAX EXEMPTIONS

The Town is exempt from the payment of federal excise taxes and Connecticut sales and use taxes. Exemption from State sales tax per Conn. Gen. Stat. Chapter 219, § 12-412(1). No exemption certificates are required, and none will be issued. The successful bidder will be provided the Town of Canton's Federal Tax Exempt #. Bidders shall avail themselves of these exemptions.

INSURANCE

The successful bidder shall, at its own expense and cost; obtain and keep in force during the entire duration of the work and during the completed operations period that is the subject of this Invitation; the insurance coverage set forth in Article 67 of the General Conditions of these Contract Documents.

AWARD CRITERIA; SELECTION; CONTRACT EXECUTION

The Town reserves the right to accept the bid that, all things considered, is in the best interests of the Town. Although price will be an important factor, it will not be the only basis for award. Due consideration will also be given to a bidder's experience, references, service, ability to respond promptly to requests, past performance satisfactory to the Town, and other criteria relevant to the interests of the Town, including the bid documents' compliance with the procedural requirements stated in this Invitation.

The Town has adopted a Local Bidders Preference Policy that is included below.

LOCAL BIDDER PREFERENCE POLICY

On any item, project or service which value exceeds $7,500 or which is advertised through a competitive bid process and in which there is a qualified Town Based Resident Bidder, the lowest responsible bidder shall be determined in the following order:

1. A Town Based Resident Bidder which has submitted a bid not more than 10% higher than the lowest responsible bid may be awarded the bid provided such Town Based Resident Bidder agrees to accept the award of the bid at the amount of the lowest responsible bidder.

2. If more than one Town Based Resident Bidder has submitted a bid not more than 10% higher than the lowest responsible bid, the lowest responsible bidder shall be the Town Based Resident Bidder which submitted the lowest bid.

3. Otherwise, the award will go to the lowest responsible bidder who would qualify if there were no Town Based Resident Bidder.

Any local vendor meeting the requirements of a Town Based Resident Bidder, as defined below, responding to the solicitation shall be required to submit a signed Local Bidder Affidavit Form with the bid submittal. Failure to submit an affidavit form, may at the option of the Town, result in disqualification as a local vendor and ineligibility for contract award as a Town Based Resident Bidder.

The term "Town Based Resident Bidder" shall mean any business with a principal place of business located within the Town of Canton. A business shall not be considered to be a Town Based Resident Bidder unless evidence to establish that such business has a bona fide principal place of business in Canton is included with each bid submitted by the business. Such evidence may include documentation of ownership, or a long-term lease on the real estate from which the principal place of business is operated or payment of property taxes on the personal property of the business to be used in the performance of the bid.

The Local Bidder Preference process shall not apply under the following circumstances:

1) Professional services contracts which are awarded on subjective criteria in addition to cost.

2) Contracts using state, federal or other funds that have regulations disallowing such practice.

3) If the qualified Town Based Resident Bidder is not current in the payment of all local taxes.

1) Bids made through regional organizations or state agencies such as state contracts, CRCOG or CIRMA, when the product or services offered have already been selected through a competitive process.

2) Bids received through a reverse auction process.

The Town will not award the bid to any bidder who is in arrears or in default to the Town on any debt, contract, security or any other obligation.
The Town reserves the rights, in its sole discretion: to accept any, all, or any part of bids; to reject any, all, or any part of bids; to waive any non-material deficiencies or clerical errors in the bidding process or bid; and to award the bid that in its judgment will be in the Town's best interests. The Town also reserves the right to award the purchase of individual items under this Invitation to any combination of separate bids or bidders. All bids will be publicly opened and read aloud as received on the date, at the time, and at the place identified in this Invitation. Bidders may be present at the opening.
The Town may correct, after bidder verification, any mistake in a bid that is obviously a clerical error, such as a price extension or decimal point error. If an error exists in an extension of prices, the unit price shall prevail. In the event of a discrepancy between the price quoted in words and in figures, the words shall control.
The Town will select the bid that it deems to be in the Town's best interest and issue a Notice of Conditional Award of Bid to the successful bidder. The conditional award shall be subject to further discussions with the bidder that are deemed necessary by the Town and to the successful bidder's provision of the documents required by this Invitation and the execution of a Contract in the form contained in this Invitation. The successful bidder's failure to provide each required form or execute the Contract within ten (10) business days of the date of the Notice of Conditional Award of Bid shall be grounds for the Town to declare the bid withdrawn, to call the bid security, and/or to enter into discussions with another bidder.
The Town will post the bid results and award recommendation on the Town's website, www.townofcantonct.org, under "Request for Proposals."
The Bid Awarded and Contract Execution dates listed in the instructions to bidders section are anticipated, not certain, dates.

SUPPLIER DIVERSITY (SET-ASIDE-GOALS)

The contractor who is selected to perform this Town service must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5. An Affirmative Action Plan must be filed with and approved by the Commission on Human Rights and Opportunities prior to the commencement of service.

State law requires a minimum of twenty-five (25%) percent of the state –funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services (DAS) under the provisions of CONN. GEN. STAT. § 4a-60g, as amended (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses). The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on

Human Rights and Opportunities. Forms can be found at
http://www.ct.gov/opm/cwp/view.asp?a=390928&opmNav GID=1806

NONDESCRIMINATION CERTIFICATION – Affidavit
By Entity

For Contracts Valued at $50,000 or More

Documentation in the form of an affidavit signed under the penalty of false statement by a chief executive officer, president, chairperson, member or other corporate officer duly authorized to adopt corporate, company, or partnership policy that certifies the contractor complies with the nondiscrimination agreements and warranties under Connecticut General Statutes §§ 4a-60a, as amended.

COLLUSION

Each bidder shall complete the Non-Collusion Affidavit that is a part of this Invitation. Any act(s) of misrepresentation or collusion in connection with a bid may be a basis to disqualify a bid submitted by the bidder responsible for said misrepresentation or collusion. In the event that such conduct is discovered after the execution of the Contract, the Town may terminate the Contract without incurring any liability, penalty, damages or other loss.

ADVERTISING

The successful bidder may not name the Town in its advertising, news releases, and promotional efforts without the Town's prior written approval.
If it chooses, the successful bidder may list the Town in a statement of references or similar document required as part of a public bid. The Town's permission to the successful bidder to do so is **not** a statement about the quality of the successful bidder's work or the Town's endorsement of the successful bidder or its work.

W-9 FORM

The successful bidder must provide the Town with a completed W-9 form before commencing work.

PAYMENTS

Payments will be made within thirty (30) calendar days after the appropriate Town officer receives and approves the invoice, unless otherwise specified in the Technical Specifications.

TOWN INSPECTION OF WORK

The Town may inspect the successful bidder's work at all reasonable times. This right of inspection is solely for the Town's benefit and does not transfer to the Town the responsibility for discovering patent, latent, or other defects. The successful bidder has the sole and exclusive responsibility for performing in accordance with the Contract.

REJECTED WORK OR MATERIALS

The successful bidder, at its sole cost and expense, shall remove from the Town's premises rejected items, commodities and/or work within 48 hours of the Town's notice of rejection. Immediate removal may be required when safety or health issues are present.

If the contractor fails to remove rejected work in a timely manner, the Town may arrange to have such rejected work removed and deduct associated costs from payments due to the contractor.

MAINTENANCE AND AVAILABILITY OF RECORDS

The successful bidder shall maintain all records related to the work described in the Invitation for a period of three (3) years after final payment under the Contract or until all pending Town, state and federal audits are completed, whichever is later. Such records shall be available for examination and audit by Town, state and federal representatives during that time.

REPRESENTATION OF TOWN

In performing the work described in the Invitation, the successful bidder, its agents and employees shall act in an independent capacity and shall not act as officers, employees or agents of the Town.

SUBCONTRACTING

The successful bidder agrees not to enter into any subcontracting agreement for any or all of the work described in the Invitation without obtaining the Town's prior written consent. All subcontracting shall be subject to the same terms and conditions as are applicable to the successful bidder. The successful bidder shall be fully and solely responsible for the performance of and payments to any subcontractors. The contractor shall not award more than 49% of the contract value to anyone subcontractor.

COMPLIANCE WITH LAW

The successful bidder shall comply with all applicable laws, regulations, ordinances, codes and orders of the United States, the State of Connecticut and the Town related to its bid and the performance of the work described in the Invitation and these specifications. The successful bidder shall commit no trespass on private property in performing any of the work described in the Invitation. By submitting a bid, the successful bidder covenants that it has complied, and during the term of the Contract will comply, with the obligations under the Immigration Reform and Control Act ("IRCA") and that all employees it assigns to the Contract are authorized for employment in the United States of America. The successful bidder further covenants that it has properly completed, and during the term of the Contract will properly complete, I-9s for all employees assigned to the Contract. The successful bidder agrees to defend, indemnify and hold the Town harmless in the event that any of the successful bidder's employees provided under the Contract is found not to be authorized to work under the law or in the event that there is a determination that the successful bidder has failed to comply with IRCA's obligations, including but not limited to the failure to prepare correctly and maintain I-9s. The successful bidder further agrees to defend, indemnify and hold harmless the Town from and against any and all claims brought against the Town as a result of these obligations, including but not limited to settlement fees, judgments, attorneys' fees and costs. These defense, hold harmless and indemnity obligations shall survive the Contract's termination or expiration.

LICENSES AND PERMITS

The successful bidder shall, for the term of the Contract, have and provide proof of all permits and licenses required by the Town and/or any other state or federal authority.

The successful bidder shall immediately and in writing notify the Town of the loss or suspension of any such license or permit.

SECURITY: PERFORMANCE, AND PAYMENT

At the time of Contract execution, the successful bidder shall file with the Town security in an amount not less than one hundred percent (100%) of the total bid for, which security shall be for both the satisfactory performance of the work including all labor and materials. Such security shall be in the form of either surety bond(s) or the successful bidder's certified check. The surety bond(s) shall be prepared in the form of the Performance Bond, and the Labor and Material Payment Bond, made a part of this Invitation, duly executed by the bidder and the surety and shall be subject to the review and approval of the Town's legal counsel. The bidder's surety shall be licensed by the State of Connecticut and listed by the US Department of the Treasury in Circular No. 570. The Town may accept a certified check in lieu of a surety bond, subject to review and approval of the Town's legal counsel. The bidder's bank shall be licensed and insured by the State of Connecticut and the Federal Deposit Insurance Corporation. The failure of the Town's legal counsel to approve the form of such security shall be grounds for the Town to reject the bid.
The successful bidder shall provide the Town with such security prior to the start of each Contract year in an amount the Town estimates for the work anticipated for that Contract year. Failure to provide such security shall be grounds to terminate the Contract.

NON-DISCRIMINATION AND EQUAL EMPLOYMENT OPPORTUNITY

During the term of the Contract, the successful bidder agrees to be an equal employment opportunity employer and will not discriminate as to race, color, creed, sex, national origin, marital status, physical or mental disability or any other protected classification under state and federal law.

END OF INSTRUCTIONS TO BIDDERS

WAGE AND PAYROLL

REQUIREMENTS

PREVAILING WAGE LAWS IN CONNECTICUT

Conn. Gen. Stat. Section 31-53(g) provides monetary thresholds which must be met before the law is applicable. The prevailing wage law does not apply where the ***total cost of all work to be performed by all contractors and subcontractors*** in connection with new construction of a public works project is less than four hundred thousand ($400,000) dollars. The prevailing wages law does not apply where the ***total cost of all work to be performed by all contractors and subcontractors*** in connection with remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project under one hundred thousand ($100,000) dollars.

CONTRACTOR/BIDDER'S RESPONSIBILITY REGARDING PREVAILING WAGE LAW:

If the Contractor's/Bidder's total contract bid price for all work included under this contract, as listed in the submitted Bid Proposal, is equal to or greater than the limits listed above as applicable under said law; then the Contractor's/Bidder's unit prices and lump sum prices submitted herein and the resulting total contract bid price submitted herein should be based on the applicable Prevailing State Wage Rates; and it will further be the Contractor's/Bidder's responsibility to obtain the current applicable Prevailing Wage Rates from the State of Connecticut – Department of Labor and meet all requirements therein of the Law and the State of Connecticut.

AGREEMENT

This Agreement (the "Agreement") is entered into the _____ day of _____2022 by and between the Town of Canton, a political subdivision of the State of Connecticut (the "Owner") and _____

_____

(the "Contractor").

WHEREAS, the Owner has issued an Invitation for Bids for Construction of a Non-motorized Boat Ramp at 50 Old River Road, Collinsville, CT (the "Premises"); and

WHEREAS, Contractor submitted a proposal to the Owner on May 11, 2023, for the Work; and

WHEREAS, the Owner and the Contractor desire to enter into a formal Agreement for the performance of the Work;

THEREFORE, in consideration of the recitals set forth above and the mutual promises by the parties below, the parties agree as follows:

1. General. The Contractor agrees to perform the Work in accordance with the Contract Documents (as set forth below). The Contract Documents represent the entire and integrated agreement between the Owner and the Contractor and supersede all prior negotiations, representations or agreements, whether written or oral.

2. Duties. Contractor shall perform the Work described in the Contract Documents except for any work that is specifically prescribed in the Contract Documents to be the responsibility of another person. Contractor shall furnish all labor, equipment, trucks, materials, tools, facilities, supplies, transport, and any other things necessary to carry out the Work in a first-class manner for work of this type.

3. Permits and Standards. Contractor shall, at its own expense, obtain all required permits and agreements from the Town of Canton, federal, state or other governmental authority for performance of the Work in accordance with the standards prescribed by the federal Environmental Protection Agency, the Occupational Safety and Health Administration, NIOSH, the Department of Energy and Environmental Protection of the State of Connecticut and any other federal, state or local government laws and regulations. In the event of a conflict or overlap of any such laws or regulations, the most stringent provisions shall be applicable.

4. Compliance with Laws. Contractor shall comply with all federal, state and local laws, ordinances, regulations and applicable permits governing the Work whether or not such laws and regulations are fully and properly included as part of this Agreement.

5. Schedule. The Work under this Contract will be given to the Contractor using Work Orders. The Work shall be completed within the number of calendar days required to complete each assigned Work Order as agreed to prior to the issuance of the Work Order. The Contractor shall commence with the Work of any assigned Work Order within ten days after receipt of signed [by the Town] Work Order. The rate of progress shall be such that the work shall be performed and completed in accordance with the contract before the expiration of the time limit stipulated, which time is of the essence of the Agreement. Failure by the Contractor to complete the Work of any Work Order as agreed to by both parties may be grounds for terminating this Contract.

6. Payment. The Owner will pay the Contractor in accordance with the Contract Documents and agreed upon unit prices for Work in place. Payment will be made by the Owner monthly within 30 days after the approval of the Contractor's Application for Payment as provided in the Contract Documents less retainage of five percent (5%).

6. Insurance. The Contractor shall carry and keep in force during the term of this Agreement completed operations period all insurance as more specifically described in the Contract Documents by a company or companies authorized to do business in Connecticut. The Company shall provide certificates of insurance and endorsements or insurance policies specifying such coverage and naming the Town and its officers, agents, employees and volunteers as additional insured prior to the start of the Work and on an annual basis. In the event of any conflict between the insurance requirements set forth below and insurance requirements set forth in other Contract Documents, the requirements in this Agreement shall control.

The Contractor shall provide the following coverages and minimum limits of insurance:

3) Worker's Compensation Insurance:
Statutory Coverage

Employer's Liability

$1,000,000 each accident/$1,000,000 disease-policy limit/$1,000,000 disease each employee

4) Commercial General Liability:

Including Premises & Operations, Products and Completed Operations, Personal and Advertising Injury, Contractual Liability and Independent Contractors.

Limits of Liability for Bodily Injury and Property Damage

Each Occurrence $1,000,000

Aggregate $2,000,000

5) Automobile Insurance:
Including all owned, hired, borrowed and non-owned vehicles and pollution

Limit of Liability for Bodily Injury and Property Damage:

Per Accident $1,000,000

1) Umbrella

Each Occurrence $5,000,000

Aggregate Limit $5,000,000

The Contractor and the Contractor's subcontractors, if any, shall cause the commercial liability coverage required by the Contract Documents to include (1) the Town and its officers, agents, volunteers and employees, as additional insured for claims caused in

whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Town and its officers, agents, volunteers and employees as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations. The Contractor shall, before commencement of its Work, submit to the Town evidence of the aforementioned requirements from itself and its subcontractors, if any, in the form of an additional insured endorsement or insurance policy acceptable to the Town. Failure by the Contractor to provide the endorsements required in this section shall entitle the Town to withhold payment from the Contractor then due or to become due until such time as the endorsements or policies are provided. The insurance (both primary and umbrella coverage's) of the Contractor and the Contractor's subcontractors, if any, shall be primary to any insurance that may be available to the Town and its officers, agents, employees and volunteers and any insurance available to the Town and its officers, agents, employees and volunteers is secondary and non-contributory. The policies of insurance or endorsements as provided herein shall state that the insurance of the Contractor and the Contractor's subcontractors, if any, (both primary and umbrella coverage's) shall be primary to any insurance that may be available to the Town and its officers, agents, employees and volunteers and any insurance available to the Town and its officers, agents, employees and volunteers is secondary and non-contributory. The Contractor and the Contractor's subcontractors, if any, shall cause their insurers to directly provide the Town with thirty (30) days advance notice of cancellation. The Contractor and the Contractor's subcontractors, if any, shall cause their insurers to directly provide the Town with ten (10) days advance notice of cancellation for non-payment. The insurance obligations provided herein shall survive the termination and/or cancellation and/or full performance of this Agreement.

8. Contract Documents. The Contract Documents include, without limitation, the following:

(i) The Agreement
(ii) The Owner's Invitation for Bid and Instructions to Bidders
(iii) Drawings – if included as part of the bid documents
(iv) The Contractor Bid Proposal
(v) Specifications and/or Special Provisions
(vi) General Conditions and documents referenced therein
(vii) Any modifications issued after the execution of this Agreement.

9. No Assignment. The Contractor shall not subcontract, transfer or assign its obligations under the Contract Documents or any portion thereof without the prior written consent of the Owner. Any assignment or attempted assignment without the Owner's written consent shall not relieve the Contractor of its obligations under this Agreement and such assignment shall be null and void and have no legal effect.

10. Contractor Personnel Must Be Authorized to Work. The Contractor confirms that it has complied with the obligations under the Immigration Reform and Control Act (IRCA) and that the employees, independent contractors and other personnel it provides under this Agreement are authorized for employment in the United States. The Contractor further confirms that it has properly completed I-9s for all employees assigned to the Owner's place of business. The Contractor agrees to hold harmless and indemnify the Owner in the event that any of the employees or other personnel provided by the Contractor are found not to be authorized to work under the law or in the event that there is a determination that the obligations set forth under IRCA, including, but not limited to, the failure to correctly prepare and maintain I-9s, have not been complied with by the

Contractor. The Contractor agrees to indemnify, defend and hold the Owner harmless against any claims brought against the Contractor or the Owner as a result of these obligations, including but not limited to, settlement fees, judgments and attorneys' fees and costs.

11. Compliance with Laws. The Contractor shall perform the Work in compliance with any and all applicable local, state and federal laws or regulations. The Contractor agrees to indemnify, defend and save harmless the Owner and its officers, agents, volunteers and employees, from and against all loss or expense, (including costs and attorneys' fees), arising out of or resulting from the Contractor's failure to perform the Work in accordance with all applicable laws and regulations. The defense and indemnity obligations provided herein shall survive the termination and/or cancellation and/or full performance of this Agreement.

1. Execution. This Agreement may be executed in two or more counterparts, each of which shall be considered an original instrument, but all of which shall be considered one and the same agreement, and shall become binding when one or more counterparts have been signed by each of the parties hereto and delivered (including delivery by facsimile) to each of the parties.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year first written above.

THE TOWN OF CANTON

Witness:

By ----------

_____ Robert Skinner
Chief Administrative Officer

_____ Date: , 2023

Witness:

By

_____ _____
Contractor

_____ Date: , 2023

PERFORMANCE BOND

Bond Number

KNOW ALL MEN BY THESE PRESENTS:

That _____, as Principal, hereafter called Principal, and _____, as Surety, hereinafter called Surety are held and firmly bound unto the Town of Canton as Oblige, hereinafter called Owner, in the amount of _____ and _____ Dollars ($ _____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, by these presents. WHEREAS, Principal has by written Agreement dated _____ entered into a Contract with the Owner for:

"Construction of a Non-motorized Boat Ramp at 50 Old River Road, Collinsville, CT"

Which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

The Surety hereby waives notice of any alterations or extensions of time made by the Owner.

WHEREAS, Principal shall be, and declared by the Owner to be in default under the Contract, the Owner having performed the Owner's obligations thereunder, the Surety shall promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions; or,

2. Obtain a Bid or Bids for submission to the Owner for completing the Contract in accordance with its terms and conditions, and upon determination by the Owner of the lowest qualified responsible Bidder, arrange for a Contract between the Bidder and the Owner, and make available as Work progresses sufficient funds to pay the cost of completion of the Contract.

Any suit brought under this Bond must be instituted before the expiration of three (3) years from the date on which final payment under this Contract is rendered.

This Bond is issued simultaneously with another Bond in favor of the Town of Canton conditioned for full payment of Labor and Materials.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Owner named herein or the executors, administrators, or successors of the Owner.

Signed and sealed this day of , 20_____.

(Seal of Principal)

(Principal)

In the Presence of:

B y :

(Witness)

_____

_____

(Witness)

(Seal of Surety)

(Surety)

B y :

(Witness)_____

(Witness)_____

(Power of Attorney for person signing for Surety Company must be attached to the Bond)

LABOR AND MATERIAL
PAYMENT BOND

Bond Number

KNOW ALL MEN BY THESE PRESENTS:

That _____ , as Principal, hereafter called Principal, and _____ , as Surety, hereinafter called Surety are held and firmly bound unto the Town of Canton as Oblige, hereinafter called Owner, in the amount of _____ and Dollars ($ _____) for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, by these presents.

WHEREAS, Principal has by written Agreement dated _____ entered into a Contract with the Owner for:

"Construction of a Non-motorized Boat Ramp at 50 Old River Road, Collinsville, CT"

Which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

This Bond is issued simultaneously with another Bond in favor of the Town of Canton conditioned for the full and faithful performance of the Contract.

The Surety hereby waives notice of any alterations or extensions of time made by the Owner.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall pay for all labor and materials furnished by himself or his subcontractors for use in the prosecution of the Work, and used therein, then, this obligation to be void; otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this Bond is executed pursuant to the provisions of Sections 49-41, 49-42, and 49-43 of the Connecticut General Statues, and the rights and liabilities hereunder shall be determined and limited by said Sections to the same extent as if they were copied at length herein.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Owner named herein or the executors, administrators, or successors of the Owner.

Signed and sealed this_____day of _____ , 20_____.

(Seal of Principal)

(Principal)

In the Presence of:

_____ B y :

(Witness)

_____

(Witness)

(Seal of Surety)

(Surety)

_____ B y :

(Witness)

_____

(Witness)

(Power of Attorney for person signing for Surety Company must be attached to the Bond)

TOWN OF CANTON, CONNECTICUT
GENERAL CONDITIONS

Article 1: Definitions

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meanings which shall be applicable to both the singular and plural thereof:

(a) Agreement or Contract: The written agreement between the Owner and the Contractor covering the Work to be performed. The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral.

(b) Bid: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

(c) Bidder: Any person, firm or corporation submitting a Bid for the Work.

(d) Bonds: Performance and labor materials payment bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the Contract Documents.

(e) Change Order: A written order to the Contractor signed by the Owner authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

(f) Contract Documents: The Instructions to Bidders, General Conditions, the Agreement, Specifications, Drawings, Addenda (whether issued prior to opening of Bids or execution of the Agreement), Modifications once executed or issued after the execution of the Contract, and such other information as may be included with the Contract Documents.

(g) Contract Price: The total monies payable to the Contractor under the Contract Documents for the Work.

(h) Contract Time: The number of calendar days or the milestone dates set forth in the Contract Documents to complete the Work so that the Work is ready for its intended use as determined by the Owner and Engineer.

(i) Contractor: The person, firm or corporation with whom the Owner has executed the Agreement.

(j) Drawings: The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams which have been prepared or approved by the Engineer.

(k) Engineer: Wherever in the Contract Documents the word “Engineer” is used, it shall be understood as referring to Triton Coastal Consultants, LLC acting personally or through his authorized assistants or an independent engineer engaged by the Owner.

(l) Inspector: The authorized representative of the Engineer or Owner who is assigned to the Project or any parts thereof.

(m) Modification: (a) a written amendment of the Contract Document signed by both parties; (b) a Change Order; (c) a written clarification of interpretation issued by the Engineer or (d) a written order for a minor change or alteration in the Work issued by the Engineer. A Modification may only be issued after execution of the Agreement and must be in writing.

(m) Owner: Town of Canton acting through its First Selectman or the Chief Administrative Officer or their Agent(s).

(n) Project: The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

(o) Shop Drawings: All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work.

(p) Specifications: The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

(q) Subcontractor: An individual, firm or corporation having a direct Contract with the Contractor or with any other Subcontractor for the performance of a part of the Work for the Project.

(r) Engineer: Triton Coastal Consultants, LLC, 385 Church Street, Suite 203, Guilford, CT 06437.

(s) Work: Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by the Contractor under the Contract Documents, including the furnishing of all labor, materials, equipment and other incidentals.

Article 2: Progress and Submission Schedules; Preconstruction Conference; Time of Starting the Work

(t) Within ten days after execution of the Agreement, the Contractor shall submit to the Owner and Engineer for approval, a critical path method schedule indicating the starting and completion dates of the various portions of the Work. Such schedule shall be updated monthly and is a condition to the Owner's obligation to pay the Contractor. The schedule shall identify and indicate the submission of all required shop drawings and product data required by the Contract Documents and indicate the time allowed by the Contract Documents for approval or disapproval of same by Engineer. The Contractor acknowledges that the Owner owns any float indicated in the Contractor's schedule.

(u) Before starting the Work, a conference shall be held to review the above schedules, to establish procedures for handling submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the Work.

(v) Within ten (10) calendar days after Notice of Award and prior to executing the Agreement the Contractor shall furnish the Owner and Engineer acceptable Certificates of Insurance, endorsements or insurance policies as required by the Contract Documents.

(d) The Contractor shall start the Work on the date on which the Agreement is executed and delivered, or on such other date, as may be specified in the Agreement. However, at the time of the execution and delivery of the Agreement the Owner may give the Contractor a written Work Order to proceed, stating a different date on which it is expected that the Contractor shall start the Work.

(w) The Contract Time shall commence to run on the date when the Work is to start as provided in the above paragraph.

Article 3: Correlation, Interpretation and Intent of Contract Documents

(x) It is the intent of the Contract Documents to describe the entire Work to be performed by the Contractor in accordance with the Drawings, Specifications, and other parts of the Contract Documents. The Contract Documents comprise the entire Agreement between the Owner and the Contractor. They may be altered only by a Modification.

(y) The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

(z) Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. It shall be the Contractor's responsibility in subcontracting portions of the Work, to arrange or group items of Work under particular trades to conform with then-prevailing customs of the trade, and in accordance with applicable requirements of law. The Owner shall have no liability arising out of jurisdictional issues raised or claims advanced by Subcontractors, trade organizations or other interested parties based on the arrangement or subdivision of Work in the Contract Documents. In the event of any claim arising out of any duplication, conflict, inconsistency or discrepancy within the Contract Documents as to the allocation of the Work among the Subcontractors and Contractor's own forces, the Contractor shall be solely responsible for resolving the claim and shall be responsible for ensuring that all the Work is completed regardless of where it appears in the Contract Documents.

(aa) Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

(bb) The terms "knowledge," "recognize," "discover," and "observe," their respective derivatives, and similar terms in the Contract Documents, as used in reference to the Contractor shall be interpreted to mean that which (1) the Contractor knows, recognizes, discovers and observes, and (2) the Contractor should, in exercising the care, skill, and diligence required by the Contract Documents, know, recognize, discover or observe, as the case may be. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a party familiar with the Project and exercising the care, skill, and diligence required by the Contract Documents (including any Work that the party should be able to reasonably anticipate or infer based on Contract Documents then existing).

(f) Execution of the Agreement by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

(cc) Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents. The Contractor shall promptly report to the Engineer any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Engineer may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

(dd) The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Engineer any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

(ee) The Contractor shall conduct its inspection and review of the Contract Documents as provided herein well in advance of the Work or portion thereof as to afford the Engineer sufficient time to correct or otherwise supplement the Contract Documents in the event of an error, omission or inconsistency therein. The Contractor shall also allow sufficient time for the Contractor to assess the impact of such error, omission or inconsistency and for the Owner to evaluate same. If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Engineer issues in response to the Contractor's notices or requests for information, the Contractor shall make Claims as provided in this Agreement If the Contractor fails to perform the obligations of paragraphs (g) and (h), the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Engineer for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

(ff) After reporting to the Engineer any error, inconsistency or omission the Contractor may discover in its review of the Contract Documents, the Contractor shall not proceed with any Work so affected without the Engineer's written modification to the Contract Documents unless otherwise directed in writing by the Owner. In the event that the Contractor proceeds with the Work so affected prior to the Engineer's written response or written direction from the Owner, then Contractor shall be responsible for the cost of remedial work in the event the Contractor's actions are inconsistent with the Engineer's written modification(s) to the Contract Documents or written direction from the Owner.

(k) In the event of a conflict or discrepancy in the Contract Documents, the greater quantity, higher quality, more expensive item, process, procedure or cost of Work shall control as reasonably determined by the Engineer.

Article 4: Copies of Documents and Record Documents

(gg) The Owner shall furnish the Contractor up to five (5) copies of the Specifications and Drawings as are reasonably necessary for the execution of the Work. Additional copies shall be furnished, upon request, at the cost of reproduction.

(hh) The Contractor shall keep three (3) record copies of all Specifications, Drawings, Addenda, Modifications and Shop Drawings in good order and annotated to show all changes made during the Work. These shall be available to the Engineer during the course of the Work and shall be delivered to him upon Completion of the Work.

Article 5: Separate Contracts

The Owner may award other contracts in the vicinity of the Work which may proceed simultaneously with the execution of this Contract. The Contractor shall perform his Work so as not to cause interference with other contractors. The Contractor shall cooperate and coordinate its Work with the Owner's separate contractors, if any.

Article 6: Subcontractors

(ii) Prior to the execution and delivery of the Agreement, the successful Bidder shall submit to the Engineer for acceptance a list of names of Subcontractors and such other persons and organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for those portions of the Work. Prior to the execution and delivery of the Agreement, the Engineer shall notify the successful Bidder in writing, if the Engineer, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The Owner shall decide, based on the Engineer's objection, if the Agreement shall be executed with the existing list. The Contractor has the option to substitute another Subcontractor, person, or organization to satisfy the Engineer's objection without additional compensation. Failure to notify the Contractor prior to the execution and delivery of the Agreement shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the Engineer to reject defective Work, material or equipment not in conformance with the requirements of the Contract Documents.

(jj) The Contractor shall be fully responsible for all acts and omissions of his Subcontractors and of persons directly or indirectly employed by them and of persons for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any Contractual relationship between any Subcontractor and the Owner or the Engineer to pay or to see to the payment of any monies due any Subcontractor, sub-Subcontractor or supplier, except as may otherwise be required by law.

(kk) The Contractor agrees to specifically bind every Subcontractor to all of the applicable terms and conditions of the Contract Documents. Every Subcontractor, by undertaking to perform any of the Work, shall there by automatically be deemed to be bound by such terms and conditions.

Article 7: Materials, Equipment and Labor; Or Equal Clause

(ll) The Contractor shall provide and pay for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities, services, and incidentals necessary for the execution and completion of the Work.

(mm) All materials and equipment shall be new, except where specifically noted in the Contract Documents or where reuse is allowed and the conditions of reuse. If required by the Contract Documents or the Engineer, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment to be furnished.

(nn) Wherever in these Contract Documents a particular brand, make of material, device or equipment is shown or specified, such brand, make of material, device or equipment shall be regarded as a standard of quality, performance and serviceability. Where such items are specified, unless otherwise noted, this shall not be interpreted to preclude the furnishing of items other than those specified where the quality, use and serviceability of the substitute is adjudged by the Engineer to be the equal or better than the standard.

(oo) All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise specifically provided in the Contract Documents.

Article 8: Patent Fees and Royalties

The Contractor shall pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of a patent rights or copyrights held by others. The Contractor shall indemnify and hold harmless the Owner and the Engineer and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorney's fees) arising out of any infringement of such rights during or after completions of the Work, and shall defend all such claims or allegations, even if meritless, in connections with any infringement of such rights.

Article 9: Permits, Laws and Regulations

(pp) The Contractor shall secure and pay for all applicable permits and licenses in connection with the Work.

(qq) The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the Contractor observes that the Specifications or Drawings are at variance therewith, he shall give the Engineer prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Engineer, he shall bear all costs arising therefrom, including but not limited to attorneys' fees and costs.

Article 10: Availability of Lands; Physical and Subsurface Conditions

The Owner shall provide, as indicated in the Contract Documents and not later than the date when needed by the Contractor, the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of the Contractor. Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified in the Contract Documents. If the Contractor believes that any delay in the Owner's furnishing

these lands or providing such easements entitles him to an extension of the Contract Time, he may make a claim therefore as provided hereafter. The Contractor shall provide and pay for all additional land and access thereto that may be required for temporary storage of materials and equipment.

Article 11: Engineer's Control

(rr) In the performance of the Work, the Contractor shall abide by all orders, directions and requirements of the Engineer and shall perform all Work to the satisfaction of the Engineer, consistent with the requirements of the Contract Documents. The Engineer shall determine the amount, quality, acceptability and fitness of all parts of the Work, shall interpret the Contract Documents and Change Orders and shall decide all other questions in connection with the Work.

(ss) The enumeration herein or elsewhere in the Contract Documents of particular instances in which the opinion, judgment, discretion or determination of the Engineer shall control or in which Work shall be performed to his satisfaction or subject to his approval or inspection, shall not imply that only matters similar to those enumerated shall be so governed and performed, but without exception all the Work shall be so governed and so performed.

(tt) The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Engineer and shall not proceed with that portion of the Work without further written instructions from the Engineer. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

(uu) If the Contract Documents refer to particular construction means, methods, techniques, sequences or procedures, or indicate or imply that such are to be used in the Work, such mention is intended only to indicate that the operations of the Contractor shall be such as to produce at least the quality of Work implied by the operations described, but that the actual determination of whether or not the described operations may be safely and suitably employed on the Work shall be the responsibility of the Contractor. The Contractor shall notify the Engineer for informational purposes only of the actual construction means, methods, techniques, sequences or procedures, which the Contractor intends to employ on the Work, if those differ from those mentioned in the Contract Documents.

Article 12: Authority and Duties of Inspectors

Inspectors employed by the Owner or the Engineer shall be authorized to inspect all Work done and material furnished. Such inspection may extend to all or any part of the Work, and to the preparation or manufacture of the materials to be used. In case of any dispute arising between the Contractor and the Inspector as to materials furnished or the manner of performing the Work, the Inspector shall have authority to reject material or

suspend the Work until the question at issue can be referred to and decided by the Engineer. The Inspector shall not be authorized to revoke, alter, enlarge, relax or release any requirements of the Contract Documents, nor to approve or to accept any portion of the Work nor issue instructions contrary to the Contract Documents. The Inspector shall in no case act as foreman or perform other duties for the Contractor, or interfere with the management of the Work by the Contractor. Any advice which the Inspector may give the Contractor shall in no circumstance be construed as binding the Engineer or Owner in any way nor releasing the Contractor from fulfillment of the terms of the Contract.

Article 13: Tests and Inspections

(vv) If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested, or approved by someone other than the Contractor, the Contractor shall give the Engineer timely notice of readiness therefore. The Contractor shall furnish the Engineer the required certificates of inspection, testing or approval. All such tests shall be in accordance with the methods prescribed by the American Society for Testing and Materials or such other applicable organization as may be required by law or the Contract Documents. The cost of all such inspections, tests and approvals shall be borne by the Contractor unless otherwise provided.

(ww) Any Work which fails to meet the requirements of any such test, inspection or approval and any Work which meets the requirements of any such test or approval, but does not meet the requirements of the Contract Documents shall be considered defective. Such defective Work may be rejected, corrected or accepted as may be determined by the Engineer.

(xx) Neither observations by the Engineer or the Inspector nor inspections, tests or approvals by other persons shall relieve the Contractor from his obligation to perform the Work in accordance with the requirements of the Contract Documents.

Article 14: Contractor's Supervision and Superintendence

(yy) The Contractor shall supervise and direct the Work efficiently and with his best skill and attention. He shall be solely responsible for the means, methods, techniques, sequences and procedures. In accordance with Article 3, before undertaking the Work he shall carefully study and compare the Contract Documents and check and verify all figures shown thereon. He shall at once report in writing to the Engineer any conflict, error or discrepancy which he may discover, the Contractor shall be responsible to see that the Work complies with the Contract Documents.

(zz) The Contractor shall keep on the Work Site, at all times during its progress, a full-time resident superintendent satisfactory to the Engineer and Owner. The superintendent shall not be replaced without the consent of the Engineer except under extraordinary circumstances. The Superintendent shall be the Contractor's representative at the Site and shall have authority to act on behalf of the Contractor. All Communications given to the superintendent shall be as binding as if given to the Contractor.

(aaa) The Engineer or Owner shall not be responsible for the acts or omissions of the Contractor, or any Subcontractors, or any of his or their agents or employees, or any other persons performing any of the Work.

Article 15: Safety and Protection; Emergencies

(a) The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work as may be required by

applicable law, industry standard, or local practice. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

3. All employees on the Work site and other persons who may be affected thereby.

4. All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

5. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities.

(b) No materials or other obstruction shall be placed within fifteen (15) feet of any fire hydrant, which at all times must be readily accessible to the fire department.

(bbb) The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. All damage, injury or loss to any property referred to in the above paragraphs caused, directly or indirectly, in whole or in part by the Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor.

(ccc) In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Engineer or Owner, is obligated to act, at his discretion, to prevent threatened damage, any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes involved, provided such action is not the result of the fault or negligence, in whole or in part, of the Contractor, a Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

Article 16: Access to the Work

(ddd) The Engineer and his representatives shall, at all times, have access to the Work. The Contractor shall provide proper facilities for such access and observation of the Work and also for any inspection, or testing thereof by others.

(eee) If any Work is covered contrary to the instruction of the Engineer, it must, if requested by the Engineer, be uncovered for his observation and replaced at the Contractor's expense.

(fff) If any Work has been covered which the Engineer has not specifically requested to observe prior to its being covered, or if the Engineer considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at the Engineer's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective or does not meet the requirements of the Contract Documents, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate Change Order shall be issued deducting all such costs from the Contract Price. If, however, such Work is found to be non-defective and meets the requirements of the Contract Documents, the Contractor shall be allowed an

increase in the Contract Price or extension of the Contract Time directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction if he makes a claim therefore as provided hereafter.

Article 17: Change in the Work

(ggg) Without invalidating the Agreement, the Owner may, at any time or from time to time, order additions, deletions or revisions in the Work; these shall be authorized by Change Orders. Upon receipt of a Change Order, the Contractor shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment may be made as provided hereafter.

(hhh) The Engineer may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a field order ("Field Order"). If the Contractor believes that any minor change or alteration authorized by the Engineer entitles him to an increase in the Contract Price, he may make a claim therefore as provided hereafter.

(iii) Additional Work performed by the Contractor without authorization of a Change Order shall not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in herein.

(jjj) It is the Contractor's responsibility to notify his Surety of any changes affecting the general scope of the Work or change in the Contract Price and the amount of the applicable Bonds shall be adjusted accordingly. The Contractor will furnish proof of such adjustment to the Owner.

(kkk) A Construction Change Directive is a written order prepared by the Engineer and signed by the Owner and Engineer, directing the Contractor to proceed with certain Work deemed by the Owner and Engineer to be within the scope of the Contract or a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions. The Contract Sum and Contract Time may be adjusted accordingly.

(lll) A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order or as a directive to the Contractor to proceed with work deemed by the Owner and Engineer to be within the scope of the Contractor's Work, which the Contractor disputes

Article 18: Change Orders

(a) The value of any Work covered by a Change Order shall be determined in one of the following ways:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.

2. By mutual acceptance of a lump sum.

3. By cost and mutually acceptable fixed amount for overhead and profit.

4. If none of the above methods is agreed upon, the value shall be determined by the Engineer on the basis of costs and a percentage for overheard and profit. Costs shall only include labor (payroll, payroll taxes, fringe benefits, workmen's compensation, etc.), materials, equipment, and other incidentals directly related to the Work involved. The maximum percentage which shall be allowed for the Contractor's combined overhead and profit shall be as follows:

a. For all such Work done by his own organization, the Contractor may add up to ten percent (10%) of his actual net increase in costs, and

b. For all such Work done by Subcontractors, each Subcontractor may add up to ten percent (10%) of his actual net increase in costs form combined overhead and profit and the Contractor may add up to five percent (5%) of the Subcontractor's total for his combined overhead and profit; provided that no overhead or profit shall be allowed on costs incurred in connection with premiums for public liability insurance or otherwise special insurance directly related to such Work.

In each case, the Contractor will submit in form prescribed by the Engineer an itemized cost breakdown together with supporting data.

5. The amount of credit to be allowed by the Contractor to the Owner for any such change which results in a net decrease in cost will be the amount of the actual net decrease as determined by the Engineer. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

Article 19: Change of the Contract Time

(mmm) The Contract Time may only be changed by a Change Order. If the Contractor is entitled by the Contract Documents to make a claim for an extension in the Contract Time, his claim shall be in writing delivered to the Engineer within ten (10) days of the occurrence of the event giving rise to the claim. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

(nnn) The Contract Time may be extended in an amount equal to time lost due to delays beyond the control of the Contractor if he makes a claim therefore as provided in paragraph above. Such delays shall include, but not be restricted to, acts or neglect by any other Contractor employed by the Owner, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God or the public enemy.

(ooo) All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this article shall not exclude recovery for damages (including compensation for additional professional services) for delay by either party.

(ppp) No Damage for Delay. In all events, the Contractor shall have no separate claim for damages or costs of any kind resulting from a delay in the Work as demonstrated by the Contractor's construction schedule, regardless of whether all or part of such delay may be in any way attributable to the acts, the failure to act, or the omissions of the Owner, the Owner's agents or representatives or independent contractors, the Owner's consultants, if any, the Engineer or the Engineer's consultants. The Contractor agrees that its sole remedy for such delay shall be an extension of time, which may be granted or denied in accordance with the terms of this Agreement.

(qqq) Waiver of Impact Claims. In all events, the Contractor waives all forms of impact claims including but not limited to efficiency, loss of productivity, trade stacking,

disruption, re-sequencing, and the like regardless of whether all or part of such impact may be in any way attributable to the acts, the failure to act, or the omissions of the Owner, the Owner's agents or representatives or independent contractors, the Owner's consultants, if any, the Engineer or the Engineer's consultants.

(g) The Contractor shall include similar No Damage for Delay and No Impact Claim provisions in the agreements the Contractor executes with its Subcontractors, suppliers and other persons or entities that the Contractor employs to perform the Work.

(rrr) The Contractor waives Claims against the Owner for consequential damages arising out of or relating to this Contract. This waiver includes damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit. This waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with the Contract Documents.

Article 20: Warranty and Guarantee; Correction, Removal or Acceptance of Defective Work

(sss) The Contractor warrants and guarantees to the Owner and the Engineer that all materials and equipment shall be new unless otherwise specified and that all Work will be of good quality and free from faults or defects and in accordance with the requirements of the Contract Documents and of the inspections, tests or approvals referred to in Article 13: Tests and Inspections. All unsatisfactory Work, all faulty or defective Work and all Work not conforming to the requirements of the Contract Documents or of such inspections, tests or approvals shall be considered defective. Prompt notice of all defects shall be given to the Contractor. All defective Work, whether or not in place, may be rejected.

(ttt) If required by the Engineer prior to the issuance of the certificate of completion, the Contractor shall promptly, without cost to the Owner and as required by the Engineer, either correct any defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the Engineer, remove it from the site and replace it with non-defective Work or remove and replace such rejected Work within a reasonable time, all as required by written notice from the Engineer, the Owner may have deficiency corrected or the rejected Work removed and replaced. All direct or indirect costs of such correction or removal and replacement, including compensation for additional professional services shall be paid by the Contractor, and an appropriate Change Order shall be issued deducting all such costs from the Contract Price. The Contractor shall also bear the expenses of making good all work of others destroyed or damaged by his correction, removal or replacement of his defective Work.

(uuu) If, after the approval of final payment and prior to the expiration of one (1) year after the date of completion, any Work is found to be defective the Contractor shall, promptly without cost to the Owner and in accordance with the Owner's written instructions, either correct such defective Work, or, if it has been rejected by the Owner, remove it from the site and replace it with non-defective Work. If the Contractor does not promptly comply with the terms of such instructions, the Owner may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including Compensation for additional professional services, will be paid by the Contractor and/or deducted from monies owed the Contractor.

Article 21: Applications for Progress Payments

(vvv) At least ten (10) days before each progress payment falls due (but not more often than once a month), the Contractor shall submit to the Engineer for review the Application for Payment filled out and signed by the Contractor covering the Work completed as of the date of the Application and supported by such data as the Engineer may reasonably require. There shall be no payment for materials stored on or off the site. The progress payment request shall be subject to a five percent (5%) retainage which shall be held by the Owner until all defective work and all punch list items have been addressed to the full satisfaction of the Engineer and the Town. The retainage may be held beyond the application for Final Payment if there is any outstanding defective work that needs to be corrected and/or punch list items that need to be addressed; after which time all outstanding defective work has been corrected and all punch list items have been addressed to the full satisfaction of the Engineer and the Town; the retainage can be released. Retainage can be reduced, after the application for Final Payment has been made, to the value of the outstanding defective work that needs to be corrected plus the value of punch list items that need to be addressed.

(www) The Contractor warrants and guarantees that title to all Work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, shall have passed to the Owner prior to the making of the Application for Payment, free and clear of all liens, claims, security interests and encumbrances; and that no Work, materials or equipment covered by an Applications for Payment shall have been acquired by the Contractor or by any other person performing the Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person. Each progress payment request shall be accompanied by Lien Waivers in a form satisfactory to the Owner's legal counsel. No progress payment shall be processed by the Engineer for payment without fully executed lien and claim waivers from the Contractor, material suppliers and Subcontractors.

(xxx) The Engineer shall, within thirty (30) days after receipt of each Application for Payment, either indicate in writing his approval of payment and present the Application to the Owner, or return the Application to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the Application.

(a) The Owner shall, within thirty (30) days of presentation of an approved Application for Payment by the Engineer, pay the Contractor the amount approved by the Engineer.

(b) The Contractor shall pay its Subcontractor(s) and suppliers in accordance with applicable Connecticut law and shall cause its Subcontractor(s) to pay their Subcontractor(s) in accordance with applicable Connecticut law.

Article 22: Certificates of Completion and Final Payment

(yyy) Upon written notice from the Contractor that the Project is complete, the Engineer shall make a final inspection with the Owner and the Contractor and shall notify the Contractor in writing of any particulars in which this inspection reveals that the Work is defective and/or not completed. The Contractor shall immediately make such corrections and perform such work as are necessary to remedy such defects and/or complete the project.

(zzz) After the Contractor has completed any such corrections and finished the contract work to the full satisfaction of the Engineer and delivered all maintenance and operating

instructions, schedules, guarantees, bonds, certificated of inspection, lien and claim waivers from itself, Subcontractor(s) and material suppliers, and other documents, all as required by the Contract Documents; the Engineer shall issue a certificate of completion and the Contractor may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by such supporting data as the Engineer may require, together with complete and legally effective releases or waivers (satisfactory to the Owner) of all liens and claims arising out of the Work, including but not limited to all labor and services performed and the material and equipment furnished thereunder. In lieu thereof and as approved by the Owner, the Contractor may furnish receipts of releases in full; an affidavit of the Contractor that the releases which a lien or claim could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or supplier fails to furnish a release or receipt in full, the Contractor may furnish a bond satisfactory to the Owner to indemnify and defend it against any lien or claim.

(c) If, on the basis of his observation and review of the Work during construction, his final inspection and his review of the final Application for Payment, all as required by the Contract Documents, the Engineer is satisfied that the Work has been completed and the Contractor has fulfilled all of his obligations under the Contract Documents, he will, within thirty (30) days after receipt of the final Application for Payment, indicate in writing his approval of payment and present the Application to the Owner for payment. Otherwise, he will return the Application to the Contractor, indicating in writing his reasons for refusing to approval final payment, in which case the Contractor will make the necessary corrections and resubmit the Application for Payment.

(aaaa) Final payment shall constitute one hundred percent (100%) of the final Contract amount. A Maintenance Bond in the amount of one hundred percent (100%) of the Contract Cost shall be provided prior to final payment. The Owner shall, within thirty (30) days of presentation to him of an approved final Application for Payment, pay the Contractor the amount approved by the Engineer.

Article 23: Waivers of Claims and Continuing Obligations

(bbbb) The Contractor's obligation to perform the Work and complete the Project in accordance with the Contract Documents shall be absolute. Neither approval of any progress or final payment by the Engineer, nor any payment by the Owner to the Contractor under the Contract Documents, nor any use or occupancy of the Project or any part thereof by the Owner, nor any act of acceptance by the Owner nor any failure to do so, nor any correction of faulty or defective Work by the Owner shall constitute an acceptance of Work not in accordance with the Contract Documents.

(cccc) Pending final resolution of a claim, except as otherwise mutually agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments, which are not the subject of a good faith dispute, in accordance with the Contract Documents.

(dddd) The making and acceptance of final payment shall constitute a waiver of all claims by the Contractor against the Owner other than those previously made in writing and still unsettled.

Article 24: Indemnification

(eeee) To the fullest extent permitted by law the Contractor shall defend, indemnify and hold harmless the Owner, the Engineer, the Owner's consultant(s), if any, and their respective officers, directors, owners, agents, members, employees and independent contractors of any of them from and against all allegations, even if meritless, claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Article.

(ffff) Further, to the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless the Owner, the Engineer and the Owner's consultant(s) and their respective officers, directors, owners, agents, members, employees and independent contractors, from and against all allegations, even if meritless, claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from any breach or failure of the Contractor to comply with the terms and conditions of the Contract Documents but only to the extent caused by the acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Article.

(gggg) In claims against any person or entity indemnified under this Article by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Article shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

(a.) All defense, indemnity and hold harmless provisions set forth in this Contract shall survive termination and/or cancellation and/or full performance of the Contract.

Article 25: Cleaning Up

The Contractor shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work, and at the completion of each day of the Work shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, construction equipment and machinery, and surplus materials, and shall leave the site clean and passable. The Contractor's failure to keep the site free from waste, rubbish and debris on a daily basis shall entitle the Owner to clean up said waste, rubbish and debris and charge the costs of the same to the Contractor without notice and/or deduct said costs from monies owed to the Contractor.

Article 26: Owner's Right to Stop or Suspend Work

(a) The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

(b) The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension or interruption. No adjustment shall be made to the extent

(c) That performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is wholly or partially responsible; or

(d) That an equitable adjustment is made or denied under another provision of the Contract.

(e) The Contractor shall resume the Work on the date so fixed by the Owner.

Article 27: Owner's Right to Terminate

The Owner may terminate or abandon the Project for any one or more of the following reasons:

(a) If the Contractor is adjudged as a bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to his Subcontractor(s) or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction, or if he disregards the authority of the Engineer or Owner, or if he otherwise violates any provision of the Contract Documents, then the Owner may, without prejudice to any other right or remedy and after giving the Contractor and his surety seven (7) days written notice, terminate the services of the Contractor and take possession of the Work and of all machinery thereon owned by the Contractor, and finish the Work by whatever method the Owner may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Work, including compensation for additional professional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor shall pay the difference to the Owner on demand including but not limited to attorneys' fees and any other associated costs. Such other associated costs will be determined by the Owner.

(b) Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any rights of the Owner against the Contractor then existing or which may thereafter accrue.

(c) Upon seven (7) days written notice to the Contractor and the Engineer, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the project and terminate the Agreement for the Owner's convenience. In such case, the Contractor shall be paid for all Work actually executed and reasonable expenses sustained by reason of such termination. The Engineer shall reasonably determine the amount of monies due the Contractor. Such payment shall not include any overhead or profit on Work not executed. In all events, the Contractor

waives any and all claims for damages of any kind or nature including but not limited to claims for overhead and profit on Work not executed.

(In the event the Owner is adjudged to have wrongfully terminated the Agreement, then such termination shall be converted into a termination for convenience and the Contractor shall be compensated as provided in Paragraph (c) above.

Article 28: Contractor's Right to Stop Work or Terminate

(a) If, through no act or fault, in whole or in part, of the Contractor or anyone for whom it is directly or indirectly liable, the Work is suspended for a period of more than ninety (90) days by the Owner or under an order of court or other public authority, or the Engineer fails to act on any Application for Payment within sixty (60) days after it is submitted, or the Owner fails to pay the Contractor any sum approved by the Engineer within sixty (60) days of its approval and presentation, then the Contractor may, upon seven (7) days written notice to the Owner and the Engineer, terminate the Agreement and recover from the Owner payment for all Work executed. The Engineer shall reasonably determine the amount of monies due the Contractor. Such payment shall not include any overhead or profit on Work not executed. In all events, the Contractor waives any and all claims for damages of any kind or nature including but not limited to claims for overhead and profit on Work not executed.
Instead of terminating the Agreement, if the Engineer has failed to act on an approved [by the Engineer] Application for Payment or the Owner has failed to make any approved payment [by the Engineer and Owner] as aforesaid, the Contractor may upon seven (7) days' notice to the Owner stop the Work until he has been paid all approved amounts then due. Contractor cannot stop work for lack of payment if said payment was not made for reason.

Article 29: Provisions Required by Law Deemed Inserted
Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted or is not correctly inserted, then upon the application of either the Owner or the Contractor, the Contract shall forthwith be physically amended to make such insertion.

Article 30: Contract Security
The Contractor shall furnish surety bonds acceptable to the Owner in an amount at least equal to one hundred percent (100%) of the Contract Price as security for the faithful performance of this Contract and for payment of all persons performing labor under this Contract and furnishing materials in connection with this Contract. The surety on such bond shall be a duly authorized surety company, satisfactory to the Owner and authorized to do business in the State of Connecticut.

Article 31: Time for Completion and Liquidated Damages
It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion as specified in the Contract Documents (as outlined in the Instruction to Bidders section of this Contract) for the Work to be done hereunder are ESSENTIAL CONDITIONS of this Contract; and it further mutually understood and agreed that the Work embraced in this Contract shall be commenced not more than ten (10) calendar days from the date of written Notice To Begin Work or Notice to Proceed or issuance of a Work Order.

The Contractor agrees that said Work shall be pursued regularly, diligently and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for the completion of the Work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

If the said Contractor shall neglect, fail or refuse to complete the Work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as part consideration for the awarding of this Contract, to pay the Owner the amount specified in the Contract, not as a penalty but as liquidated damages for such breach of Contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the Work.

The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, the said amount is agreed to be the amount of damages which the Owner would sustain and said amount shall be retained from time to time by the Owner from current periodical estimates. It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall be of the essence of this Contract. Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the Work is due:

(a) To any preference, priority or allocation order duly issued by the State or Federal Government;

(b) To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, act of God, or the public enemy, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes; and

(c) To any delays of Subcontractor(s) or supplies occasioned by any of the causes specified in subsections (a) and (b) of this article.

Article 32: Nondiscrimination Clause

Contractor agrees to comply with all provisions of the Civil Rights Act of 1964, the Equal Opportunity Act of 1972, Executive Orders 11246, 11375, 11478, and if applicable the Connecticut Fair Employment Practice Law and any and all similar state or federal legislation, and any amendments thereof.

Article 33: Wage Scale Provisions

Contractor agrees to comply with all State/Federal Wage Scale Provisions and the Wage and Payroll Section of this Contract in accordance with Conn. Gen. Stat. Section 3153(g) if applicable based on the Contractor's submitted total bid price for the project work included under this Contract.

Article 34: Work by Others

The Contractor agrees that the Owner may permit other persons, firms, corporations or entities to utilize publicly owned property at the site of the Work and that such permission(s) shall not affect this Agreement.

Article 35: Mediation of Disagreements

In case of any dispute between the Owner and the Contractor or other party making claims in relation to this Contract concerning the respective rights and liabilities of the parties thereunder, which cannot be resolved within thirty (30) days by mutual agreement of the parties may be referred to the American Arbitration Association for Non-Binding Mediation by either party. The costs of such Mediation shall be borne equally by each party involved in the Mediation. Only in the event of failure to resolve the dispute by Mediation shall suit be instituted under this Contract; provided however, that any party may institute suit to preserve any claims as may be required by law.

Article 36: Applicable Law

This Contract is to be governed by and construed in accordance with the laws of the State of Connecticut. Any suit brought against a party to this Contract shall be brought exclusively in the Connecticut Superior Court of the Hartford Judicial District.

Article 37: Alteration and Amendments

This Contract may be altered, amended or modified only in writing by the Owner and the Contractor.

Article 38: Notice

Any notice under this Contract shall be in writing and shall be sent by Registered or Certified Mail, with Return Receipt, to the Owner c/o its Chief Administrative Officer or the Contractor, each at the last address as designated by each party in writing.

Article 39: Shop Drawings and Samples

(a) If required by the Engineer and/or the contract documents contained herein, after checking and verifying all field measurements, the Contractor shall submit to the Engineer for approval, in accordance with the accepted schedule of Shop Drawing submissions, five (5) copies (or at the Engineer's option, one reproducible copy) of all Shop Drawings and other submittals as may be required by the Contract Documents and/or as ordered by the Engineer, which shall have been checked by and stamped with the approval of the Contractor and identified as the Engineer may require. The data on Shop Drawings and other submittals shall be complete with respect to dimensions, design criteria, materials of construction and the like to enable the Engineer to review the information as required.

(b) The Contractor shall also submit to the Engineer for approval, with such promptness as to cause no delay in the Work, all samples shall have been checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers, and the use for which intended.

(c) At the time of each submission, the Contractor shall, in writing, call the Engineer's attention to any deviations that the Shop Drawing(s) or sample may have from the requirements of the Contract Documents.

(d) The Engineer shall review, with reasonable promptness, Shop Drawing(s) and samples, but his review shall be only for conformance with design concept of the Project

and for compliance with the information given in the Contract Documents. The review of separate items as such shall not indicate review of the assembly in which the item functions. The Contractor shall make any corrections required by the Engineer and shall return the required number of corrected copies of the Shop Drawings and resubmit new samples until reviewed and accepted. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the Engineer on previous submissions.

(e) No Work requiring a Shop Drawing or sample submission shall commence until the submission has been reviewed by the Engineer.

(e) The Engineer's review of the Shop Drawings or samples shall not relieve the Contractor from his responsibility for any deviations from the requirements of the Contract Documents, unless the Contractor has in writing called the Engineer's attention to such deviations at the time of submission and the Engineer has given written approval to the specific deviation, nor shall any approval by the Engineer relieve the Contractor from the responsibility for errors or omissions in the Shop Drawings.

Article 40: Maintenance Bond

The Contractor shall be required to furnish the Owner a Maintenance Bond in the amount of one hundred (100%) percent of the final cost of the work prior to Final Payment. This Maintenance Bond shall assure the satisfactory condition of the required Work under the Contract for a period of not less than one (1) year after the acceptance of the Work by the Owner. The Surety for the Bond shall meet the same criteria as for the Performance Bond and the Labor and Materials Payment Bond.

Article 41: Progress Prints and As Built Drawings

At the completion of the Work and if required by the Contract Documents and/or by the Engineer, and as an express condition precedent to final payment, the Contractor shall submit to the owner and Engineer an as-built of the Work completed under this Contract.

Article 42: Call Before You Dig Requirements

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

"CALL BEFORE YOU DIG," toll free, statewide, 1-800-922-4455 at least 24 hours in advance of performing any excavation and/or as may be required.

Article 43: Protection of The Work

The Contractor shall protect all work done under this contract, and all work done by the Owner's separate contractors within the limits of this Contract during the progress of the Work and until completion, from injury by reason of any work under this Contract, or by reason of any negligence on its part, or by reason of weather conditions. The method to be employed for protection shall be at the Contractor's discretion, but shall be subject to the approval of the Engineer, who may order the work or any portion of it suspended when he considers conditions to be not favorable for first-class work.

The Contractor shall protect all Work; bituminous pavement, concrete walk, grass areas, etc., from all traffic and use until it is suitable for use or until completion of the Contract.

Article 44: Dust Control and Cleanup

Upon suspension or completion of the Work or of any portion thereof, the Contractor shall remove all materials, equipment and rubbish, and shall leave the premises in a neat and orderly condition. The premises shall, during the progress of the work, be kept clean, presentable and satisfactory to the Engineer, and shall be so left at the completion of the Contract. As the work progresses, all streets shall be thoroughly cleaned of all rubbish, excess earth, rock, and other debris. The Contractor shall take necessary precautions to prevent and avoid dust and to keep the streets clean each day, whether a normal work day or not. All cleanup operations shall be accomplished to the satisfaction of the Engineer. The cost of any work associated with any required dust control and/or cleanup for the work under this project will be considered included in the base unit prices and/or lump sum prices for each item in the bid proposal and there will be no separate payment for such work performed to complete this project.

Article 45: Construction Materials

Construction materials on the site shall be limited in quantity and place occupying area so as to not hinder and block the use of the roadway nor any facilities.

No advance payment will be made to the Contractor for construction materials purchased in advance and stored by the Contractor. All materials will be paid for each item complete and accepted in place according to the Contract Price or applicable unit prices.

Article 46: Construction Staking, Line, and Grade

Any survey work required for the proper construction of the various components, appurtenances, etc. associated with the project and work included in this Contract; shall be the Contractor's responsibility to coordinate and have performed. The Contractor shall complete all work to within 1/4 inch of line and grade as indicated on the Contract Plans and/or as established by the Engineer, except where otherwise specified. The Contractors surveyor shall be responsible for supplying line and grade at least 48 hours prior to beginning any work that may require line and grade.

Unless the Bid documents include an item for construction surveying and staking; the cost of any work associated with any required construction surveying and staking for the work under this project will be considered included in the base unit prices and/or lump sum prices for each item in the bid proposal and there will be no separate payment for such work performed to complete this project.

Article 47: Prompt Completion of Work

After an excavation or other work [paving, crack filling, pipe work, etc.] is commenced, the Contractor shall prosecute the Work with diligence and on a continuous uninterrupted basis and shall promptly complete such Work and restore the street to its original condition or as near as may be, so as not to obstruct the street or travel thereon more than is reasonably necessary.

Article 48: Work Interruptions

There may be some occasions where utility companies will be involved in the relocation or adjustment of their existing facilities. In such event, the Contractor shall work in another location until the utility completes its work. No additional compensation will be made for

delays or inconvenience sustained by the Contractor due to interference by the utility companies.

Article 49: Temporary Suspension of Work

The Engineer or Owner shall have the authority to suspend the work wholly or in part, for such period or periods as he considers necessary in the best interest of the Town, or in the interest of public necessity, convenience or safety as provided in this Agreement.

If it should become necessary to stop work for an identified period, the Contractor shall store all materials and equipment in such manner that they will not obstruct or impede the traveling public unnecessarily nor allow the material to become damaged in anyway; and
he shall take every precaution to prevent damage to the work already completed, and to erect temporary structures where necessary.

The Contractor shall maintain the roadway and other project areas in safe condition for travel and shall maintain all barricades, signs and lights during the period of project suspension, construction and/or disturbance.

Unless the Bid documents include an item(s) for maintenance and protection of traffic; the cost of any work associated with any required maintenance and protection of traffic including but not limited to barricades, signs, lights, temporary travel lanes, temporary pavement, signals, etc. as required and/or as ordered by the engineer for the same execution of the work under this project will be considered included in the base unit prices and/or lump sum prices for each item in the bid proposal and there will be no separate payment for such work performed to complete this project.

Article 50: Manholes and Utility Cuts

All manhole frames and covers, gate boxes and similar structures in the area of the Work shall be reset to the proper line and grade by the Contractor. Repairs of all cuts in the pavement base will be the responsibility of the Contractor. The Contractor shall cooperate with all utility owners to facilitate this Work.

Article 51: Signs and Traffic and/or Pedestrian Detours

When necessary, the Owner or the Engineer will determine all traffic and/or pedestrian detours. The Contractor shall cooperate in placing the signs where required and/or as ordered by the Engineer.

The Contractor shall place and maintain barricades, fencing, as needed and/or as ordered by the Owner or the Engineer to protect areas of the construction site. The Contractor shall place barricades on all side streets at the next intersection away from the street or roadway section where construction [paving, crack filling, pipe work, etc.] is taking place or any other construction work area involved. The Contractor shall place barricades where needed for "Detour", “Local Traffic Only”, “Local Pedestrian Traffic Only” and other such signs as may be required to prevent entrance into the designated construction area(s). Any barricades remaining overnight and on weekends must have lights and reflectors when such are placed near active travel ways [pedestrian or vehicular].

The Contractor shall furnish all warning signs as shown on the Contract Documents as well as any and all additional barricades, traffic drums, detour signs and the like, including illumination of same as well as any obstacles in the roadway, using battery powered flashers as directed by the ENGINEER or applicable law or applicable standards. All signs

associated with roadway construction [paving, crack filling, pipe work, etc.] and/or pedestrian travel way construction shall be in accordance with the Manual of Uniform Traffic Control Devices for Streets and Highways as published by the U.S. Department of Transportation, Federal Highway Administration, latest issue.

Unless the Bid documents include an item(s) for maintenance and protection of traffic; the cost of any work associated with any required maintenance and protection of traffic including but not limited to barricades, signs, lights, temporary travel lanes, temporary pavement, signals, etc. as required and/or as ordered by the engineer for the same execution of the work under this project will be considered included in the base unit prices and/or lump sum prices for each item in the bid proposal and there will be no separate payment for such work performed to complete this project.

Article 52: Maintenance and Protection of Vehicular and Pedestrian Traffic

The Legal Traffic Authority for the Town of Canton shall prescribe all conditions for maintenance and protection of traffic for the Project. All work zones for construction under this contract shall be in conformance with the latest edition of the Manual of Uniform Traffic Control Devices [MUTCD] and/or as ordered by the Legal Traffic Authority for the Town of Canton. In general, if the excavation procedures expose utility frames for manholes, gate boxes, catch basins, etc. more than 2 inches, then a ramped section of processed stone or a temporary asphalt collar, or traffic control devices such as drums, cones and barricades shall be provided around these structures to prevent damage to vehicular traffic as required and/or as ordered by the Engineer.

Ramped sections and traffic control devices shall be to such dimensions and at such locations as shown on the Contract Documents or as directed by the Engineer or as required by applicable law or applicable standards.

Equipment and material left within the street lines overnight shall be protected by barricades or traffic drums equipped with flashing lights, as directed by the Engineer and in conformance with applicable laws and regulations and applicable standards, all at the Contractor's sole expense.

Unless the Bid documents include an item(s) for maintenance and protection of traffic; the cost of any work associated with any required maintenance and protection of traffic including but not limited to barricades, signs, lights, temporary travel lanes, temporary pavement, signals, etc. as required and/or as ordered by the engineer for the same execution of the work under this project will be considered included in the base unit prices and/or lump sum prices for each item in the bid proposal and there will be no separate payment for such work performed to complete this project.

Article 53: Noise

The Contractor shall conduct and carry out construction work in such a manner as to avoid unnecessary inconvenience and annoyance to the general public and occupants of neighboring property. During the hours of 3:00 p.m. and 7:00 a.m. he/she shall not use, except with the express written permission of the Engineer or in case of an emergency as herein otherwise provided, any tool, appliance or equipment producing noise of sufficient volume and or beyond limits established by local codes and ordinances so as to disturb the sleep or repose of occupants of the neighboring property.

Article 54: Operation of Equipment in Roadways

No equipment shall be operated with any metal surfaces, steel pads and cleats on backhoe outriggers and stabilizers and on crawler mounted equipment, etc., in direct contact with the surface of any pavement, curb or walk unless authorized by the Engineer. The Contractor shall use suitable wood, plywood or rubber blocks under outriggers and stabilizers or shall use rubber or fiber pads manufactured for the purpose and fastened to the steel pads. Suitable planking shall be used under crawler mounted equipment if required by the Town.

All pavements, curbs, walks, lawns, etc. damaged by the Contractor during its operations and not scheduled for repair or replacement under this Contract shall be repaired to the satisfaction of the Owner and Engineer at the Contractor's expense and without cost to the Owner.

Article 55: Clearance of Vital Structures

The construction work shall be performed and conducted so as not to interfere with access to fire hydrants, fire stations, fire escapes, water gates, underground vaults, catch basins and all other vital equipment as designated by the Owner.

The Contractor shall maintain all gutters free and unobstructed for the full depth of the adjacent curb and for at least one (1') foot in width from the face of such curb at the gutter line. Catch basins and/or yard drains shall be kept clear and serviceable.

The Contractor shall make provisions to take dispose of all surplus water, muck, silt, or other run-off pumped from excavations and shall be responsible for any damage resulting from its failure to so provide.

Article 56: Relocation and Protection of Utilities

Notice is hereby given that the Contractor must familiarize himself with the provision of Public Act No. 87-71 regarding its duties and responsibilities with respect to excavating, and discharging explosives on demolition in proximity to public utility underground facilities.

In case any said purpose pipe crossing or other encasement should be damaged, and for this purpose pipe crossing or other encasement or devices are to be considered as part of a substructure, they shall be repaired by the agency or person owning them and the expense of such repairs borne by the Contractor. The Contractor shall be responsible for any damage done to any public or private property by reason of the breaking of any water pipes, sewer, gas pipe, electric conduit or other utility. The Contractor shall inform itself as to the existence and location of all underground utilities; and shall arrange to have any such utilities marked out; prior to the commencement of any excavation and/or material removal, and protect the same against any damage.

Article 57: Protection of Adjoining Property

The Contractor shall at all times and at its own expense preserve and protect from injury any adjoining property by providing proper safeguards and taking other measures suitable for that purpose. The Contractor shall, at his own expense, shore up and protect all buildings, walls, fences or other property likely to be damaged during the progress of the construction

work and shall be responsible for all damage to public or private property or highways resulting from its failure to properly protect and carry out said Work. The Contractor shall not disturb, cut or remove (even temporarily) any trees, bushes, shrubs or flowers on municipal or private property without Owner or Engineer approval. Any of these items which have been disturbed, removed or cut by the Contractor shall be the sole responsibility of the Contractor; including replacement should any of the trees, bushes, shrubs or flowers die as a result of the Contractor's Work or operations.

Article 58: Excavation

Curbs, Walks, Roadway, Driveway Ramps/Aprons, and Trenches: The term excavation as used in this Contract for curbs and walks shall mean the removal to line and grade and the satisfactory disposal of all materials encountered, including the cutting and removal of tree roots, existing walk, driveways, curbs, gutters, pavement, and other obstructions encountered as necessary for the preparation of the subgrade for all proposed improvements. All such material excavated during the course of the work and not reusable shall become the property of the Contractor and it shall be his responsibility to legally dispose of the material.

Excavations of sidewalks, curbs, roadways, driveway ramps/aprons, and trenches shall be completely backfilled at the end of each workday once the new sidewalk, curb, roadway, driveway ramp/apron, trench construction components have obtained their proper strength for backfilling. Excavations for sidewalks, sidewalk ramps, curbs, roadway, driveway ramp/apron, trench construction components shall not remain open for more than 72 hours, at which time the Contractor shall complete the new construction [Portland cement concrete, bituminous concrete, structures, etc.] or prepare the excavated area so it is completely passable by vehicles and/or pedestrians at no extra cost to the Owner. The excavation for roadway, driveway, driveway ramp construction, and trenches must be completely backfilled and open for vehicular traffic at the end of each day. Trenches in paved roads may require a temporary bituminous concrete pavement surface at the end of each day. Trench segments that need to remain open for the next day’s continuation of work may use steel plates to protect the trenches if approved by the Engineer but may require temporary bituminous concrete edge ramp paving if needed for vehicles and/or pedestrians to pass over.

Article 59: Trenches

The maximum length of open trench permissible at any time shall be as may be specified by the Owner and Engineer and no greater length shall be open for pavement removal, excavation, construction, backfilling, patching and all other operations without written permission of the Owner or Engineer. The Contractor shall be required to backfill and protect all trenches before the close of any working day. However, at the discretion of the Engineer, the Contractor may utilize steel plates measuring approximately 1" thick by 5' wide by 10' long to cover the open trench. Utilization of steel plates will generally be used only for overnight protection of trenches to allow completion of Work the following work day. Steel plates will not be used to keep trenches open more than one night. Trenches to be left open for more than one night shall be backfilled.

Article 60: Excavated Material

All material excavated from trenches or excavations shall be removed from the site of the Work except in rare cases where material is suitable for part of the backfill, however,

permission must be granted by the Engineer prior to placement/use of any such material within the construction limits.

Article 61: Disposal of Excavated Material

Road grinding and excavated materials (radius granite curbs, catch basin frames, millings, etc.) that are reusable shall if, requested by the Engineer, be delivered to and unloaded at the location designated by the Owner, at no extra cost to the Owner. The delivery will be coordinated by the Engineer. All other materials excavated that are not reusable and not wanted by the Owner shall become the property of the Contractor and it shall be his responsibility to legally dispose of the material.

Article 62: Use of Areas Behind Curb Line

The Contractor shall not store any material or park any equipment used on this Contract behind the curb line or in the road, without written permission from the Engineer. Should any area back of curb become damaged during construction, the Contractor shall be responsible for restoring the area to its original condition as directed by the Engineer.

Article 63: Insurance

The Contractor shall carry and keep in force during the term of this Agreement completed operations period insurance as more specifically described in the Contract Documents by a company or companies authorized to do business in Connecticut. The Company shall provide certificates of insurance and endorsements or insurance policies specifying such coverage and naming the Town and its officers, agents, employees and volunteers as additional insured prior to the start of the Work and on an annual basis. In the event of any conflict between the insurance requirements set forth below and insurance requirements set forth in other Contract Documents, the requirements in this Agreement shall control.

The Contractor shall provide the following coverages and minimum limits of insurance:

6) Worker's Compensation Insurance:
   Statutory Coverage

   Employer's Liability

   $1,000,000 each accident/$1,000,000 disease-policy limit/$1,000,000 disease each employee

7) Commercial General Liability:

   Including Premises & Operations, Products and Completed Operations, Personal and Advertising Injury, Contractual Liability and Independent Contractors.

   Limits of Liability for Bodily Injury and Property Damage

   Each Occurrence $1,000,000

   Aggregate $2,000,000

8) Automobile Insurance:
   Including all owned, hired, borrowed and non-owned vehicles and pollution

Limit of Liability for Bodily Injury and Property Damage:

Per Accident $1,000,000

1) Umbrella
   Each Occurrence $5,000,000

   Aggregate Limit $5,000,000

The Contractor and the Contractor's subcontractors, if any, shall cause the commercial liability coverage required by the Contract Documents to include (1) the Town and its officers, agents, volunteers and employees, as additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Town and its officers, agents, volunteers and employees as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations. The Contractor shall, before commencement of its Work, submit to the Town evidence of the aforementioned requirements from itself and its subcontractors, if any, in the form of an additional insured endorsement or insurance policy acceptable to the Town. Failure by the Contractor to provide the endorsements required in this section shall entitle the Town to withhold payment from the Contractor then due or to become due until such time as the endorsements or policies are provided. The insurance (both primary and umbrella coverages) of the Contractor and the Contractor's subcontractors, if any, shall be primary to any insurance that may be available to the Town and its officers, agents, employees and volunteers and any insurance available to the Town and its officers, agents, employees and volunteers is secondary and non-contributory. The policies of insurance or endorsements as provided herein shall state that the insurance of the Contractor and the Contractor's subcontractors, if any, (both primary and umbrella coverages) shall be primary to any insurance that may be available to the Town and its officers, agents, employees and volunteers and any insurance available to the Town and its officers, agents, employees and volunteers is secondary and non-contributory. The Contractor and the Contractor's subcontractors, if any, shall cause their insurers to directly provide the Town with thirty (30) days advance notice of cancellation. The Contractor and the Contractor's subcontractors, if any, shall cause their insurers to directly provide the Town with ten (10) days advance notice of cancellation for nonpayment. The insurance obligations provided herein shall survive the termination and/or cancellation and/or full performance of this Agreement

(a) The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

1. Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;

4. Claims for damages insured by usual personal injury liability coverage;
5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
6. Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
7. Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18 and elsewhere in the Contract Documents.
8. Products Liability and Completed Operations, Premises, Personal and Advertising Injury, and Independent Contractor.
9. Professional Liability to the extent the Contractor provides any professional services as may be required by the Contract Documents or required for the Contractor's means, methods and procedures.

(b) The insurance required by this Article shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverage's, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

(a) Certificates of insurance, policy endorsements and insurance policies acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies and endorsements required by this Article shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the time required by this Agreement.

(b) The Contractor and the Contractor's Subcontractors shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Engineer and the Engineer's consultants and the agents and employees of any of them as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner , the Engineer and the Engineer's consultants and the agents and employees of any of them as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations. The Contractor shall, before commencement of its Work, submit to the Owner evidence of the aforementioned requirements from itself and its Subcontractors in the form of an ISO 20 10 11 85 additional insured endorsement or

equivalent as determined by the Owner. Failure by the Contractor to provide the Application for Payment then due or to become due
until such time as the endorsements are provided. The insurance of the Contractor and the Contractor's Subcontractor's (both primary and umbrella coverages) shall be primary to any insurance that may be available to the Owner, the Engineer and the Engineer's consultants and the agents and employees of any of them and any insurance available to the Owner, the Engineer and the Engineer's consultants and the agents and employees of any of them is secondary and non-contributory. The policies of insurance or endorsements as provided herein shall state that the insurance of the Contractor and the Contractor's Subcontractor(s) (both primary and umbrella coverages) shall be primary to any insurance that may be available to the Owner and any insurance available to the Owner is secondary and non-contributory. The
Contractor and the Contractor's Subcontractor's shall cause their insurers to directly provide the Owner with thirty (30) days advance notice of cancellation. The insurance obligations provided herein shall survive the termination and/or cancellation and/or full performance of this Agreement.

END OF GENERAL CONDITIONS

BID FORM TOWN OF CANTON CONSTRUCTION OF A NON-MOTORIZED BOAT RAMP FACILITY by _____ (hereinafter called "BIDDER"), a corporation or limited liability company, organized and existing under the laws of the State of _____, a partnership, or an individual doing business as: _____* *Insert the Corporation, Limited Liability Company, Partnership, or Individual name as applicable. Cross out non-applicable types. SUMMARY BASE BID AND AMOUNT: The total BASE BID price to furnish all labor, materials, and equipment and to perform all work described in the Invitation for Bid for "CONSTRUCTION OF A NON-MOTORIZED BOAT RAMP

FACILITY" is: $_____.

_____

(Written words)

The BIDDER, in compliance with the Advertisement for BIDS for the below designated project, states that it has thoroughly examined and understands the terms and provisions of the Agreement Documents. Based upon those examinations and that understanding, the BIDDER hereby proposes to perform all work, furnish all labor, materials, equipment, supplies and anything else required or necessary in order to complete the CONSTRUCTION OF A NON-MOTORIZED BOAT RAMP FACILITY in strict accordance with the agreement documents, within the time set forth hereinafter and for the prices stated above. Prices cover all expenses incurred in performing the work that is required by the contract documents of which this BID is a part.

BIDDER hereby agrees to commence WORK under this agreement on the date to be specified in the NOTICE TO PROCEED.

This BID is submitted in full compliance with the conditions outlined in the Agreement Documents. The BIDDER has responded to and completely filled in all required spaces in the BID document and obtained the necessary Notary Public signature where so required.

This BID Respectfully Submitted by:

IF A SOLELY OWNED COMPANY:

Company Name _____

Address _____

Town _____

By _____
(Authorized Signature)

Title _____ Date_____

IF A CORPORATION OR LIMITED LIABILITY COMPANY:

A company organized under the laws of _____, composed of officers as follows:

_____	_____
President	Secretary
_____	_____
Vice President	Treasurer

IF A PARTNERSHIP:

A partnership doing business under the firm name and style of _____, composed of partners as follows:

_____	_____
Name & Title (if any)	Name & Title (if any)
_____	_____
Name & Title (if any)	Name & Title (if any)

This Bill must bear the written signature of the BIDDER. If the BIDDER is a partnership, the Bid must be signed by a partner. If the BIDDER is a corporation or limited liability, the Bid must be signed by a duly authorized officer of such corporation or limited liability company.

Town of Canton
Bidder's NON-COLLUSION Affidavit

RE: Construction of a Non-motorized Boat Ramp at 50 Old River Road, Collinsville, CT

The undersigned bidder, having fully informed himself/itself regarding the accuracy of the statements made herein, certifies that:

(1) The bid is genuine; it is not a collusive or sham bid;

(2) The bidder developed the bid independently and submitted it without collusion with, and without any agreement, understanding, communication or planned common course of action with, any other person or entity designed to limit independent bidding or competition;

(3) The bidder, its employees and agents have not communicated the contents of the bid to any person not an employee or agent of the bidder and will not communicate the bid to any such person prior to the official opening of the bid; and

(4) No elected or appointed official or other officer or employee of the Town of Canton is directly or indirectly interested in the bidder's bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

The undersigned bidder further certifies that this statement is executed for the purpose of inducing the Town of Canton to consider its bid and make an award in accordance therewith.

_____ _____
Legal Name of Bidder (signature)
Bidder's Representative, Duly Authorized

_____
Name of Bidder's Authorized Representative

_____
Title of Bidder's Authorized Representative

_____
Date

Subscribed and sworn to before me this_____ day of , 20___.

____
Notary Public
My Commission Expires:

(Acknowledgement if a Corporation)

State of Connecticut)
) ss:
County of ____________)

On this the ______________ day of___________ , 20___ before me personally came and appeared ______________________________to me known, who, being by me duly sworn, did depose and say that he/she is the _______________________________ of _______________________________ , the corporation described in and which executed the foregoing instrument; that he/she knows the seal of the corporation; that one of the impressions affixed to said instrument is an impression of such seal; that it was so affixed by order of the directors of said corporation, and that s/he signed her/his name thereto by like order.

(Notary Seal) ____
Commissioner of the Superior Court
Notary Public
My commission expires:

(Acknowledgement of a Partnership)

State of Connecticut)
) ss:
County of Hartford)

On this the ______________ day of___________ , 20___ before me personally came and appeared ______________________________________ to me known, and known to me to be a partner of the partnership described in and which executed the foregoing instrument and he/she acknowledged to me that he/she executed the same as and for a free act of said partnership.

(Notary Seal) ____
Commissioner of the Superior Court
Notary Public
My commission expires:

(Acknowledgement of a Proprietorship)

State of Connecticut)
) ss:
County of Hartford)

On this the ____________ day of __________ , 20___ before me personally came and appeared ______________________________to me known, and known to me to be the person described in and who executed the foregoing instrument and acknowledged that he/she executed the same as his/her free act and deed.

(Notary Seal) ____

Commissioner of the Superior Court
Notary Public
My commission expires:

TOWN OF CANTON, CONNECTICUT

BIDDER'S LEGAL STATUS DISCLOSURE

Please fully complete the applicable section below, attaching a separate sheet if you need additional space.

For purposes of this disclosure, "permanent place of business" means an office continuously maintained, occupied and used by the bidder's regular employees regularly in attendance to carry on the bidder's business in the bidder's own name. An office maintained, occupied and used by a bidder only for the duration of a contract will not be considered a permanent place of business. An office maintained, occupied and used by a person affiliated with a bidder will not be considered a bidder's permanent place of business.

IF A SOLELY OWNED BUSINESS:

Bidder's Full Legal Name

_____

Mailing Address

_____

_____

Owner's Full Legal Name

_____

Does the bidder have a "permanent place of business" in Connecticut, as defined above?

_____ Yes _____ No

If yes, please state the full street address (not a post office box) of that "permanent place of business."

_____

_____

IF A CORPORATION:

Bidder's Full Legal Name

_____

Mailing Address

_____

_____

State in which Legally Organized

_____

State Business ID #

_____

Current Officers

President

_____

Secretary

_____

Chief Financial Officer

_____

Vice President

_____

Treasurer

_____

Does the bidder have a "permanent place of business" in Connecticut, as defined above?

_____ Yes _____ No

If yes, please state the full street address (not a post office box) of that "permanent place of business."

_____

_____

IF A LIMITED LIABILITY COMPANY:

Bidder's Full Legal Name

Mailing Address

State in which Legally Organized _____

State Business ID # _____

Current Manager(s) and Members

_____
Name & Title (if any)

_____
Address

_____
Name & Title (if any)

_____
Address

_____
Name & Title (if any)

_____
Address

_____
Name & Title (if any)

_____
Address

Does the bidder have a "permanent place of business" in Connecticut, as defined above?

_____ Yes _____ No

If yes, please state the full street address (not a post office box) of that "permanent place of business."

_____

_____

IF A PARTNERSHIP:

Bidder's Full Legal Name

Mailing Address

State in which Legally Organized

State Business ID # (if applicable)

Current Partners

_____
Name & Title (if any)

_____
Address

_____
Name & Title (if any)

_____
Address

_____
Name & Title (if any)

_____
Address

_____
Name & Title (if any)

_____
Address

Does the bidder have a "permanent place of business" in Connecticut, as defined above?

_____ Yes _____ No

If yes, please state the full street address (not a post office box) of that "permanent place of business."

_____

_____

_____
Bidder's Full Legal Name

_____
(print) Name and Title of Bidder's Authorized Representative

_____

(Signature) Bidder's Representative, Duly Authorized

_____

Date

END OF LEGAL STATUS DISCLOSURE FORM

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions shall be answered and information given shall be clear and comprehensive. This statement shall be notarized. If additional room is required to answer questions, please attach additional sheet(s) with the supplemental information. The bidder's name shall appear on the top of the supplemental sheets to avoid confusion. The bidder may submit additional information as it deems necessary to enable the Town to judge the bidder's ability to perform the proposed Contract.

1. Bidder's full legal name:

2. Permanent main office address:

3. Contact person for this Invitation:

4. Phone and fax numbers and e-mail address of the contact person during normal business hours:

5. Date of organization:

6. Date of incorporation, if applicable:

7. Number of years bidder has been engaged in business under present firm or trade name:

8. Contracts on hand (dollar value, anticipated completion date):

9. General character or type of work performed by the bidder:

10. Has the bidder ever failed to complete any work awarded to it? If so, please explain in detail the circumstances:

11. Has the bidder ever defaulted on a contract? If so, please explain in detail the circumstances:

12. List contracts of a similar nature (size, type, and complexity) completed successfully by the bidder within the last five (5) years. List the other contracting party, the value of the contract, and the year completed.

13. List the equipment that will be available for the work described in this Invitation.

14. How many years of experience does the bidder have in work of similar size, type, and complexity to the Work of this Invitation?

15. Describe the background and experience of each individual person listed in the Bidder's Legal Status Disclosure:

16. Provide the name of the bidder's bank or other financial institution, contact person, phone number, address, and state the bidder's available credit:

17. If necessary for the Town to determine an award of contract, will the bidder provide a detailed financial statement?

18. List all legal disputes (mediation, arbitration or litigation) that the bidder or any predecessor in interest has been involved with in the last five (5) years, the nature of the dispute, the adverse party and the result.

LOCAL PREFERENCE AFFIDAVIT
(If Applicable)

STATE OF _____)
) ss. Date
COUNTY OF _____)

_____ (affiant), being first duly sworn, deposes and says:

1) That I am over the age of 18 and understand the obligations of an oath.

2) That I am the owner, partner, officer, representative, or agent of _____, the bidder/proposer that has submitted the attached bid/proposal.

3) That bidder/proposer has a principal place of business located at_____ , which is in the Town of Canton.

4) That the bidder/proposer is current on all taxes, both personnel and real estate and all fees, including, but not limited to sewer use fees.

5) That if bidder/proposer is not the owner of the real estate where such principal place of business is located, then bidder/proposer is submitting proof that such address is the bona fide principal place of business, such as a lease or personnel property tax bill.
6) That bidder/proposer has read the Local Bidder Preference Policy and being aware of its terms and conditions, swears that it is a qualified "Town Based Resident Bidder" as specified in the Policy.

(Signed)_____
Affiant

(Title)

On this _____ day of_____, 20__, before me personally appeared _____ , who made oath that he/she has read the foregoing Local Preference Affidavit and that based on his/her own knowledge believe the same to be true.

_____
Notary Public (My Comm. Expires)
Commissioner of the Superior Court

NONDISCRIMINATION CERTIFICATION

INSTRUCTIONS

For use by an entity (corporation, limited liability company, or partnership) when entering into any contract type with the Town of Canton valued at $50,000 or more for any year of the contract. Complete all sections of the form. Sign form in the presence of a commissioner of Superior Court or Notary Public. Submit prior to the Town of Canton prior to contract execution.

AFFIDAVIT

I, the undersigned, am over the age of eighteen (18) and understand and appreciate the obligations of an oath.

I am _____of _____ , an entity
Signatory's Title Name of Entity

Duly formed and existing under the laws of _____ .
Name of State or Commonwealth

I certify that I am authorized to execute and deliver this affidavit on behalf of

_____ and that
Name of Entity

Name of Entity has a policy in place that complies with the nondiscrimination agreements and warranties of Connecticut § § 4a-60 and 4a-60a, as amended.

_____
(Authorized Signatory)

_____
(Printed Name)

Sworn and subscribed to before me on this _____ day of_____ 20

_____
Commission of the Superior Court

Commission Expiration Date
Or Notary Public

TECHNICAL SPECIFICATION

SECTION 01100 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. Construction of a town-owned non-motorized boat launch facility, located at 50 Old River Road in Canton, Connecticut, consists generally of the following:

1. Hold a pre-construction meeting with the contractor, the Owner, Town Planner, ZEO, Wetlands Agent, Project Administrator, or their designees.
2. The applicant, owner, or agent (permittee) shall notify the IWWA in writing a minimum of forty-eight (48) hours prior to commencing work on the site and at the completion of the permitted activities.
3. Install/establish erosion and sedimentation protection measures, sediment barriers, temporary stockpile area, concrete washout, and safety fence around the perimeter of the site as shown and as directed by the owner.
4. The applicant shall verify in writing to the IWWA that any necessary erosion and sedimentation control measures are in place and functional prior to the start of construction within the Upland Review Area
5. Perform selective tree removal/pruning and clearing as necessary and as directed by the owner. Stockpile or remove topsoil as necessary.
6. Reclaim and blend existing bike path within the project limits, remove site features as noted, and protect/stockpile existing site features as noted and as directed by the owner.
7. Perform rough grading to access the location of the boat launch. Stockpile soils for reuse or remove soils offsite. Install additional erosion control measures as necessary.
8. Install and dewater temporary cofferdam.
9. Excavate boat launch area for construction of the boat launch. Stockpile and dewater soils for reuse or remove soils offsite.
10. Prepare subbase, install geotextile, aggregate base course, geotextile, and concrete block mats for boat launch.
11. Install cementitious grout at perimeter and between block mats.
12. Install stone in annular space of block mats.
13. Perform final grading for the accessible boat ramp and bike path
14. Remove all accumulated sediment from erosion control measures and remove and/or reuse.
15. Install topsoil, seed, and erosion control blanket.
16. Install crushed stone aggregate base and install new bituminous pavement for bike path and ramp.
17. Remove temporary cofferdam.
18. Install site items such as handrails, pipe bollard, split rail fence, pavement markings, etc.
19. Upon permanent stabilization of all disturbed areas, remove erosion and sediment controls (unless specifically directed to remain).

B. No progress payment will be made to the Contractor until the following acceptable schedules are approved by the Owner:

1. Progress Schedule
2. Schedule of Shop Drawings
3. Progress Schedule of Values

C. The Contractor shall furnish all tools, labor, equipment, materials and incidentals to complete all items of work set forth in a manner described in the Contract Documents.

D. The Owner reserves the right to eliminate from the Contract any of the work shown in the event it deems it to be in the best interests of the Owner.

1.2 RELATED WORK

A. All Technical Specification Sections.

B. Wherever reference is made to the Form 818 or ConnDOT Specifications, it shall mean the Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 818 (2020) as modified by Supplemental Specifications, or updated versions, issued by the Connecticut Department of Transportation.

C. DEEP Certification

D. Canton Inland Wetlands and Watercourses Agency permit approval (Appendix A)

E. Canton Planning and Zoning Commission Approval Letter (Appendix B)

F. U.S. Army Corps of Engineers Regional General Permit No. 5 for the State of Connecticut (Appendix C)

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 ACCESS TO SITE

A. Site will be closed to the Public during construction.

B. The Contractor shall make every effort to minimize damage to all access routes, and he shall be required to restore them to their original conditions. The Contractor shall acquire all necessary permits for working in, on or from public streets or rights of way and for securing access rights of their own.

C. If the Contractor, by direct negotiation and bargain with any land owner, lessee or tenant, has secured for himself any right to use more space or greater privileges in the space defined as the limit of work on the contract drawings provided by the Owner for purposes incidental to the performance of the Contract, he shall, upon request of the Owner, furnish to the Owner proper evidence that such additional rights have been properly secured and assurance that no damage to or claim upon the Owner will arise

therefrom. The Owner shall not be liable in any way for any expense incurred by the Contractor in securing any such right to use additional property.

3.2 SEQUENCE OF OPERATIONS

A. The Contractor shall conform to the approved progress schedule to complete the work within the Contract Times.

3.3 WORK HOURS

A. Contractor shall perform the work during the hours of 7:00 AM to 5:00 PM, Monday through Friday within an 8 hour period unless approved by the Owner. The Contractor shall not work on Saturday, Sunday, or any legal holiday or outside of designated working hours without the Owner's written consent.

3.4 SITE CONDITIONS

A. All costs of the removal and restoration to original condition of walls, fences, structures, utility lines, poles, guy wires or anchors, and other improvements required for passage of the Contractor's equipment shall be borne by the Contractor. The Contractor shall notify the proper authorities, Owner and all utilities of any intended modification or disruption to their property prior to the start of construction and shall cooperate with them in the scheduling and performance of his operations.

B. The Contractor shall be responsible for and reimburse the Owner and others for any and all losses, damage or expense which the Owner or those others may suffer, either directly or indirectly or through any claims of any person or party, for any trespass outside the spaces and rights of way provided by the Owner to the Contractor or any violation or disregard of the terms and conditions established for the use or occupancy of those rights or for negligence in the exercise of those rights. The Owner may retain or deduct from any sum or sums due or to become due to the Contractor such amount or amounts as may be proper to insure the Owner against loss or expense by reason of the failure of the Contractor to observe the limits and conditions of the rights of way, rights of access, etc., provided by the Owner.

END OF SECTION

SECTION 02100 – EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. This work includes the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to provide, operate and maintain means and devices to minimize erosion within and adjacent to the work area and to prevent the entrance of any silt-laden water from work areas into any standing or moving bodies of water or into adjacent wetland areas, using silt fence, hay bales, hay bale backed silt fence, or silt sacks at catch basins where indicated on the plans or as ordered by the Engineer.

B. This work includes the periodic inspection, repair, replacement, or cleanout of accumulated sediment and the removal and disposal of the system and associated surplus materials at the end of the project.

C. All work shall conform to Form 818, Section 1.10.03 and as noted below.

PART 2 - PRODUCTS

2.1 MATERIALS

A. GEOTEXTILE SILT FENCE
1. Geotextiles shall conform to Form 818, Sections 2.19, 7.55 and M.08.01.19.

B. WOOD STAKES
1. Wood stakes shall be 2 inch x 2 inch x 36 inch.

C. COMPOST FILTER SOCK
1. Compost filter sock used as perimeter control shall be Filtrexx SiltSoxx ORIGINAL or approved equal.
   a. Mesh Material: Multi-Filament Polypropylene (MFPP) Photodegradable
   b. Mesh Size Opening: 1/8”
   c. Diameter: 8” for stockpile locations and 12” for perimeter control locations.
   d. Tensile Strength (ASTM D4595) for 12” diameter: MD: 670 lbs TD: 423 lbs
2. Compost filter media shall be FilterMedia™ as supplied by Filtrexx or approved equal.
   a. Organic material shall be weed free and derived from a clean, separated source of organic matter.
   b. The organic materials shall be free of any refuse, contaminants, or other materials toxic to plant growth, animals, or humans. Non-organic products will not be accepted.
   c. pH – 5.0-8.0 in accordance with Test Methods for the Examination of Composting and Compost (TMECC) 04.11-A.
   d. Particle size – 99% passing a 2 in (50mm) sieve and a maximum of 40% passing a 3/8 in (9.5mm) sieve, in accordance with TMECC 02.02-B

e. Moisture content of less than 60% in accordance with standardized test methods for moisture determination.
f. Material shall be relatively free (<1% dry weight) of inert or foreign manmade material.

D. EROSION CONTROL MATTING
1. Class 1: Slope Protection – Type C (sandy soils) or Type D (clayey soils) erosion control matting shall conform to Form 818, Section 9.50 and M.13.09 and as indicated on the ConnDOT's Qualified Product List.
2. Staples and staple pattern shall be per the manufacturer's recommendation.

E. CONSTRUCTION ENTRANCE
1. Stone – Angular stone shall conform to Form 818, Section M.01.02, size #3.
2. Geotextile
a. The geotextile used shall be specifically intended for "road stabilization" applications and shall be consistent with the manufacturer's recommendations for the intended use.
b. Fibers used in the geotextile shall consist of synthetic polymers composed of at least 85% by weight polypropylenes, polyesters, polyamides, polyethylene, polyolefins or polyvinylidene-chlorides.
c. The fibers shall be formed into a stable network of filaments or yarns retaining dimensional stability relative to each other.

F. DEWATERING BAG
1. Dewatering bag shall be utilized for dewatering the cofferdam or as necessary to control stormwater and/or groundwater.
2. Dewatering Bags shall be composed of a UV resistant, non-woven geotextile sewn into a completely enclosed bag.
3. Dewatering Bags shall be sewn with high strength double stitched seams.
4. Dewatering Bags shall have a sewn-in sleeve to receive the pump discharge hose.

Dewatering Bag Required Properties

Property	**Test Method**	**Value**
Weight (oz/yd^2) (typical)	ASTM D5261	8 oz
Grab Tensile Strength (MD)	ASTM D4632	200 lbs
Mullen Burst	ASTM D3786	350 psi
UV Resistance	ASTM D4355	70% @ 500 hrs
Flow Rate (Gal/Min/Ft^2)	ASTM D4491	80
Filtering Efficiency	ASTM D5141	80%

All properties are minimum average roll values (MARV)

G. TEMPORARY COFFERDAM
1. Portadam, Inc.
3082 South Black Horse Pike
Williamstown, New Jersey 08094
(800) 346-4793
Phone (856) 740-0606
Fax (856) 740-0614

www.portadam.com
email: Don Boyer dboyer@portadam.com

2. Temporary, portable, cofferdam uses steel support frame with continuous-reinforced vinyl liner membrane to provide means of water diversion or retention.
3. Clearances: Layout cofferdam to provide adequate clearances in all directions as required for execution of work to be performed in dewatered area, including room for excavation, dewatering pumps, and cofferdam installation and removal operations.
4. Steel support frame units of different heights are compatible and can be arranged in line, switching from one height unit to another as required by existing site condition contour changes.
5. Full height of cofferdam can be used as equipment is designed to hold loading up to top of steel support frame.
6. Steel support frame can be installed in almost any configuration and to any horizontal length required.
7. Steel Support Frame Adjustment:
    a. Sliding clamp arrangement for assembly of steel support frame in field allows adjustment of frame alignment every 30 inches along required installation line.
    b. Horizontal Adjustment: Allows turning or curving installation line.
    c. Vertical Adjustment: Allows working up or down slopes and over irregular contours and obstructions.
8. Installation and removal of cofferdam can be performed in underwater or dry locations.
9. Steel Support Frame
    a. Tubular, welded steel structural support members.
    b. Vertical Height of Steel Support Frame: 10 Feet
    c. Reusable, steel support frame transfers hydraulic loading to a near vertical downward load, thereby reducing lateral forces and creating a free-standing structure with no back bracing to interfere with work area and no anchoring into foundations.
10. Liner
    a. Impervious, inert, flexible fabric membrane.
    b. Upper Portion Positioned Against Steel Support Frame: Nylon-reinforced PVC liner.
    c. Lower Portion: Polyethylene bed sealing apron with heavy chain on outside perimeter to assist with sinking liner
    d. Reusable, continuous, flexible, liner membrane provides waterstop when positioned along diagonal face of steel support frame and extended around perimeter of support frame assembly.
    e. Extended out horizontally as sealing apron providing sealing effect by hydrostatic pressure beyond toe of steel support frame.
    f. Seals over most irregular contours.
    g. Standard widths can be modified to accommodate site-specific requirements.
11. Accessories - Woven poly bags. Fill with washed, clean sand.
12. Submittals
    a. Submit manufacturer's product data, including installation and removal instructions.

b. Shop Drawings: Submit manufacturer's shop drawings, including plans, elevations, sections, and details, indicating layout, dimensions, and materials.

PART 3 - EXECUTION

3.1 GENERAL

A. SILT FENCE: The installation, maintenance and removal of silt fence shall conform to the requirements of Form 818, Section 2.19.03.

B. COMPOST FILTER SOCK: Sacks shall be installed, maintained, and removed in accordance to the manufacturer's specifications.

C. EROSION CONTROL MATTING

1. Erosion control matting shall be installed conforming to the requirements of Form 818, Section 9.50 following seeding where called for on the plans or as directed by the Engineer. Staples shall be installed as per Manufacturer's recommendations. Where two lengths of matting are joined, the end of the up-grade strip shall overlap the down-grade strip.
2. The Contractor shall maintain and protect the areas with erosion control matting until such time as the turf grass is established.
3. The Contractor shall replace or repair at his own expense any and all erosion control matting areas damaged by fire, water or other causes including the operation of construction equipment.

D. CONSTRUCTION ENTRANCE

1. Clear the area of the entrance of all vegetation, roots, and other objectionable material.
2. At poorly drained locations install subsurface drainage insuring the outlet to the drains are free flowing.
3. If using a geotextile in place of free draining material, unroll the geotextile in a direction parallel to the roadway centerline in a loose manner permitting it to conform to the surface irregularities when the stone is placed.
4. Unless otherwise specified by the manufacturer, the minimum overlap of geotextile panels joined without sewing according to the manufacturer's recommendations.
5. The geotextile may be temporarily secured with pins recommended or provided by the manufacturer but they shall be removed prior to placement of the stone.
6. Place the stone to the specified dimensions. Keep additional stone available or stockpile for future use.
7. If the grade of the construction entrance drains to the paved surface and it exceeds 2%, construct a water bar within the construction entrance at least 15 feet from its entrance on the paved surface diverting runoff water to a settling or filtering area.

E. DEWATERING BAG

1. Install the bag on a mild slope to ensure incoming water flows downhill through the bag. Secure the hose to bag connection using a heavy-duty pipe clamp, rope, or other suitable means to prevent leakage.

2. Place the bag on an aggregate, hay bales, or other highly permeable surface to maximize water flow through the entire surface area of the bag.
3. Monitor the bag at all times while the pump is running. While monitoring, ensure the hose to bag connection is secure with only minimal leaking. Check for flow permeating from the bottom surface of the bag. If flow appears restricted, move bag to a surface with higher permeability.
4. Use the following guidelines and any specific guidelines provided by the manufacturer for bag installations.
    a. Transport and place bags with care to prevent ripping or tearing the fabric.
    b. Avoid installing on steep slopes as the bag may roll, causing failure.
    c. Insert the discharge hose a minimum of 1-foot inside the bag.
    d. Do not insert more than one discharge hose into the bag.
    e. Avoid use of excessive flow rates or overfilling the bag. This may cause the bag to rupture or cause failure to the hose to bag connection.
5. Removal
    a. Contractor shall be responsible for disposing the bag. The accumulated sediment may be reused in non-erosive portions of the project area and seeded after removing the fabric.
    b. Securely tie off the pump hose connection sleeve when transporting full bags for disposal. Do not clean and reuse a bag after the voids are clogged with trapped sediment.

F. PORTADAM
1. Examination
    a. Examine area to receive temporary cofferdam. Notify Engineer and Owner of conditions that would adversely affect installation or removal.
    b. Do not begin installation or removal until unacceptable conditions are corrected.
    c. Evaluate foundation consistencies relating to load bearing capacity before installation, based on anticipated water depth (hydraulic loading).
2. Prepare riverbed surfaces in accordance with manufacturer's instructions.
3. Installation
    a. Install temporary cofferdam in accordance with manufacturer's instructions at locations indicated on the Drawings.
    b. Steel Support Frame
        1) Install steel support frame in accordance with manufacturer's instructions.
        2) Assemble individual support frames into pairs onshore.
        3) Place support frame pairs directly into position along configuration perimeter line, making progressive connections.
            a) If soft materials are encountered that result in excessive settlement, additional pinning may be required to resist the minimal sliding forces not overcome by the back leg of the steel support frame. Additional support can be provided using a combination of remedies, such as special geotextile underlayment fabrics bracing with vertical, horizontal, and backraker (45 degrees) heavy scaffold piping, or other methods. These additional treatments are used to address and minimize settlement of the steel support frame that might occur

because of the softer bottom conditions and allows maximum freeboard required to protect the work area.

c. Make final elevation and direction adjustments.
d. Remove obstructions, if required.
e. Install support frame pairs using varying height frames as required, at different elevations as encountered over irregular contours and up and down slopes.

4. Liner:
   a. Install liner in accordance with manufacturer's instructions.
   b. Prepare liner onshore by laying out individual liner sections and joining into desired configuration.
   c. Place assembled liner sections around perimeter of steel support frame and secure to top at each frame pair location.
   d. Clear rocks, debris, and obstructions from proposed sealing apron location.
   e. Unroll liner down diagonal face of steel support frame and extend out onto existing riverbed at toe of frame.
   f. Pull extension of liner horizontally out away from toe of steel support frame to form sealing apron.
   g. Bury outside perimeter of sealing apron in soft material and place sandbags to form cutoff.
   h. Make final liner adjustments after pumps are started in enclosed area and water head differential draws liner tightly onto steel support frame and surrounding riverbed area.
   i. Locate minor leaks under sealing apron and seal with sandbags.
5. Dewatering
   a. The pumped water must be discharged in accordance with the requirements of Form 818, Section 1.10 and as described above.
6. Removal
   a. Remove temporary cofferdam in accordance with manufacturer's instructions.
   b. Re-water enclosed area after completion of construction and cleanup, equalizing water pressure on steel support frame and releasing head differential on liner.
   c. Prior to rewatering the area, allow for inspection and acceptance of the dry work by the Engineer or Owner
   d. Rewater area in such a way as not to disturb or otherwise damage any permanent construction.
   e. Remove liner sections.
   f. Lift out steel support frame by reverse method used for installation.
   g. Remove sandbags.
7. Field Quality Control
   a. Manufacturer's Field Services: Manufacturer's representative shall [provide technical assistance and guidance for installation of temporary cofferdam.
8. Returning
   a. Check steel support frame and liner for damage.
   b. Inventory and account for materials.
   c. Package materials for return shipping to manufacturer in accordance with manufacturer's instructions.

END OF SECTION

SECTION 02110 – CLEARING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:
1. Cutting trees, shrubs, and bushes.
2. Removing stumps and roots.
3. Removing other materials and items.
4. Disposal of materials.
5. Stripping and stockpiling topsoil.

PART 2 - PRODUCTS

2.1 MATERIALS

A. None required by this Section.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 CLEARING AND GRUBBING

A. Remove all rubbish and debris from within the Contract Limits. If separate Contract Limits are not otherwise established, the Contract Limits shall correspond to the property lines of the project site.

B. Remove selected trees, shrubs, bushes, vines, undergrowth, stumps, and roots from areas to be occupied by the parking lot and other proposed work shown on the Drawings.

C. Backfill holes from stump excavations with suitable backfill material in accordance with the Section entitled "Earthwork".

D. The Town ZEO and Owner will designate trees and other plants to be removed. Protect all other trees and plants to remain from damage by erecting barricades, fences, or by other acceptable means. Prevent falling trees from damaging trees and plants designated to remain.

E. Protect areas outside the limits of clearing from damage by the clearing and grubbing operations.

3.3 STRIPPING AND STOCKPILING TOPSOIL

A. Strip topsoil from cleared areas. Do not mix topsoil with subsoils. Keep topsoil free of brush, trash, large stones, and other extraneous materials.

B. Stockpile topsoil at areas on the site that will not interfere with subsequent elements of the project, or as designated by the Owner's Representative.

C. Any topsoil remaining after all work is in place shall become the property of the Contractor, who shall dispose of the topsoil off the site.

D. The Contractor shall supply additional topsoil at Contractor's expense if there is a shortage from stripping.

3.4 REMOVING OTHER ITEMS

A. Remove existing signs, fences and wooden rails designated for removal on the drawings and as directed by the Owner. Owner may take removed signs. If owner does not take removed signs, they shall be disposed of by the Contractor.

3.5 DISPOSAL OF MATERIAL

A. No burning will be allowed.

B. All rubbish, debris, logs, stumps, roots, cuttings, and all other materials resulting from the clearing and grubbing operations shall become the property of the Contractor, who shall be responsible for the removal and disposal of this material off the site, unless specifically specified otherwise. The Contractor shall dispose of the material at no additional cost to the Owner. The manner and location of disposal shall comply with all applicable local, state and federal regulations.

END OF SECTION

SECTION 02120 – RECLAIMED ASPHALT PAVEMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. Reclamation of asphalt pavement shall be performed as specified below.

B. This technical specification section covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to reclaim the existing bituminous parking and travel ways, as specified below, to form an asphaltic stabilized base.

C. Work under this item shall consist of pulverizing the in-place asphalt pavement and underlying material, mixing and/or blending the material, spreading it, adding water as necessary, shaping and compacting the resultant mixture to lines and grades shown on the plans.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Reclaimed Base

1. All pulverized material shall pass the 3-inch sieve and shall meet the following gradation:

REQUIRED RECLAIMED BASE GRADATION*

Sieve Size	% Passing
3”	100
1-1/2”	70-100
3/4”	55-90
#4	40-75
#40	10-30
#200	3-10

*Gradation may vary due to local aggregate conditions

B. Granular Fill

1. All granular fill which is added to the pulverized roadway material shall conform to Section 02219 – Earthwork as directed by the Owner.

2.2 SUBMITTALS

A. Gradation test results for reclaimed base material

B. Gradation test results for processed aggregate

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

B. PAVEMENT PULVERIZATION

1. The Contractor shall be responsible for coordinating work with utility companies to locate, identify and mark all utility structures as necessary. The Contractor must not damage any existing manholes, catch basins, valve boxes or other castings which may be located in the surface of the road. Any damage to these structures shall be repaired by the Contractor at the Contractor's expense.
2. The existing road pavement shall be pulverized and mixed with gravel fill material existing in the roadway to a depth of 12 inches, or as directed by the Owner.
3. The pulverization shall blend the asphalt and fill material into a homogeneous mass, utilizing the asphalt acquired from the existing pavement as a stabilizer which shall bond the material together when compacted.

C. BASE PREPARATION

1. Rolling shall be done immediately following pulverization. If additional fines are required the Contractor may be directed to add processed aggregate base. Water shall be applied during the entire operation to ensure optimum moisture at the time of compaction.
2. Compaction shall be achieved by the use of a vibratory roller having the capability of producing high amplitude and low frequency vibrations. The compaction shall be a minimum of 95% of the proctor wet density (AASHTO T-180D).
3. After the material has been thoroughly worked as described above it shall be shaped and graded to the lines and elevations as indicated on the plans or as directed by the Owner.
4. Maintenance and protection of traffic, dust control and daily clean-up throughout the project area shall be the responsibility of the Contractor.

D. EQUIPMENT REQUIREMENTS

1. Reclamation will be by means of a traveling rotary reclaimer or equivalent machine capable of cutting through the existing asphalt at depths up to 12 inches in one pass.
2. The machine shall be self-propelled and equipped with an adjustable grading blade thus leaving its path generally smooth for traffic. Equipment such as road planers or cold milling machines, which are designed to mill or shred the existing bituminous concrete rather than to crush or fracture it, are not considered capable of achieving specification gradation. The required and necessary action of the reclaimer will increase the percentages of fine aggregate. This machine is not intended for use on subbases with large boulders or ledge. Existing bituminous concrete and gravel/aggregate base must be pulverized and mixed so as to form a homogeneous mass of uniformly processed base material, which will bond together when compacted.

3. At least one vibratory roller shall be used on each reclaimed surface, and shall have a compacting width of not less than 5 feet. Each roller shall have a gross weight of not less than 15 tons.

END OF SECTION

SECTION 02219 – EARTHWORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. Travel Way Areas Site Earthwork:
   1. This specification section is only for the above-water travel way areas site earthwork shown on the Drawings. See other specification sections for the earthwork related to the construction the boat launch ramp and various other below-water items shown on Drawings.

B. Work Included:
   1. Excavating, filling, and grading, complete in place, as shown on the Drawings and as specified.
   2. Removal and disposal of abandoned utility services, concrete slabs and foundations, if encountered.

1.2 QUALITY ASSURANCE

A. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this Section, and who shall be present at all times during progress of the work of this Section and shall direct all work performed under this Section.

1.3 SUBMITTALS

A. Submit material supplier's specifications, certifications, and other data required to demonstrate compliance with the specified requirements.

1.4 SUBSURFACE CONDITIONS

A. Contractors should visit the site and acquaint themselves with all existing conditions. Prior to bidding, Contractors may perform their own subsurface investigations to satisfy themselves as to site and subsurface conditions, but all such investigations shall be made only under time schedules and arrangements accepted in advance by the Owner's Representative and Owner.

B. Utilities: Existing utilities shown on the Drawings have been plotted from available data. The locations are only approximate. The Contractor shall verify the locations of all existing utilities within the work area. Notify each affected utility company and dig test pits as required for utility confirmation prior to beginning work. Notify "Call Before You Dig" (1-800-922-4455) prior to excavating.

C. Boring logs and reports resulting from investigations of subsurface conditions are included in the Appendix of these Specifications. These boring logs and reports were used by the Owner in the preparation of the Drawings and Specifications. These boring logs and reports are made available for Contractor's information, but are not a warranty of subsurface conditions.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Crushed Stone: Shall be in conformance with Form 818, Section M.01, sizes as specified on the Drawings.

B. Sand: Shall be in conformance with concrete fine aggregate, Form 818, Table M.01.04-1 (ASTM C33 sand)

C. Processed Aggregate Base: Shall be in conformance with Form 818, Section M.05.01.

D. Granular Fill: For use under structures, slabs and other uses: Section M.02.01 of the ConnDOT Specifications

E. Suitable Backfill Material and Non Structural Fill:
   1. Wherever reference is made on the Drawings or in the Specifications to suitable backfill material, suitable material, suitable fill material, the material shall conform to the following:
      a. It shall be mineral soil free from organic materials, topsoil, wood, trash, debris and other objectionable materials which may be compressible or which cannot be properly compacted.
      b. It shall not contain rocks or lumps of soil larger than six (6) inches in the largest dimension, and not more than 15 percent of the rocks or lumps shall be larger than 2 1/2 inches in the largest dimension.
      c. It shall not contain granite blocks, broken concrete, masonry rubble, bituminous pavement, snow, ice, frozen soil or other similar materials.
      d. It shall have physical properties such that it can be readily spread and compacted during filling.
   2. Do not import suitable fill or backfill material before all suitable, on-site, excavated material has been used.
   3. This material shall not be used at locations where the use of granular fill or structural fill is indicated.
   4. In general this material may be used, unless specified otherwise, for filling to subgrades under roadways, parking lots, planting beds, lawns; to finished rough grades; and for backfill in trenches.

F. Geotextile
   1. For use as processed base separation/stabilization fabric.
   2. Geotextile shall be nonwoven needlepunched geotextile made of 100% polypropylene staple filaments, resistant to ultraviolet and biological deterioration,

rotting, naturally encountered basics and acids. Polypropylene shall be stable within a pH range of 2 to 13.

3. Shall be in accordance with AASHTO M-288-06 for Class 2 applications.

G. Geogrid

1. For use as subgrade stabilization fabric.
2. Geogrid shall be a woven geotextile made of 100% polypropylene slit film yarns, resistant to ultraviolet and biological deterioration, rotting, naturally encountered basics and acids. Polypropylene shall be stable within a pH range of 2 to 13.
3. Shall be in accordance with AASHTO M-288-06 for Class 3 Stabilization & Separation applications.

2.2 OTHER MATERIALS

A. All other materials, not specifically described but required for a complete and proper installation, shall be as selected by the contractor subject to the acceptance of the Owner's Representative.

PART 3 - EXECUTION

3.1 GENERAL

A. Familiarization: Prior to all work of this Section, become thoroughly familiar with the site, the site conditions, and all portions of the Work falling within this Section.

B. Owner Review of subgrade surfaces:

1. The Owner will make reviews of the excavated surface and prepared subgrade surface before Contractor proceeds with filling or grading.
2. Contractor shall provide Owner with one week advanced notice of when the site will be ready for these reviews and shall plan their activities to allow Owner another one week to make each review.

C. Acceptance of Excavations: Where required by these Specifications, notify Owner's Representative when excavations are complete and do not proceed with further work until Owner's Representative has indicated his acceptance.

D. Backfilling Prior to Acceptance of Work Installed:

1. Do not allow or cause any of the work performed or installed to be covered or enclosed by work of this Section prior to all required observations, tests, and acceptances.
2. Should any of the work be so covered or enclosed before it has been observed, tested and accepted, uncover all such work at no additional cost to the Owner.
3. After the work has been completely observed, tested and accepted, make all repairs and replacements necessary to restore the work to the condition in which it was found at the time of uncovering, all at no additional cost to the Owner.

3.2 FINISHED ELEVATIONS AND LINES

A. For setting and establishing finished elevations and lines, secure the services of a Land Surveyor acceptable to the Owner's Representative. The Land Surveyor shall be registered in the State of Connecticut. Carefully preserve all data and monuments set by the Land Surveyor and, if displaced or lost, immediately replace at no additional cost to the Owner.

B. A baseline shall be established for project layout.

3.3 UTILITIES

A. Before starting excavation, establish location and extent of any underground utilities occurring in the work area.

B. Make arrangements with appropriate utility company for removal and relocation of their lines which are in the way of excavation and which are to remain in service.

C. Maintain, re-route or extend, as required, other existing utility lines to remain in service.

D. Protect utility services uncovered by excavations.

E. Remove abandoned service lines and facilities from areas of excavation. Cap, plug or seal such lines and identify at grade.

F. Accurately locate and record abandoned and active service lines uncovered, re-routed or extended, on the Project Record Drawings.

3.4 EXCESS WATER CONTROL

A. Unfavorable Weather Conditions: Do not excavate, place, spread, or compact any material during unfavorable weather conditions. Do not resume operations until moisture content and fill density are satisfactory.

B. Softened Subgrade: Where soil has been softened or eroded by flooding or placement during unfavorable weather, remove all damaged areas and recompact as specified for fill and compaction below.

C. Dewatering:
   1. Provide and maintain, at all times during construction, ample means and devices with which to remove promptly and dispose of all water from all sources entering the excavations or other parts of the Work.
   2. Dewater by means which will ensure dry excavations and the preservation of the final lines and grades of the bottoms of excavations.
   3. Dispose of excess water in an acceptable manner in conformance with the applicable requirements of the Section entitled “Erosion and Sediment Control”.

3.5 EXCAVATING

A. Sheeting, Shoring and Bracing:
   1. Properly support all excavations in strict accordance with all pertinent municipal, state and federal laws, codes, ordinances, and regulations.
   2. Provide sheeting, shoring and bracing to support excavation walls in such a manner that they will be safe and that the ground alongside the excavation will not slide or settle, and that all existing improvements of every kind, whether on public or private property, will be fully protected from damage.
   3. In the event of damage to such improvements, immediately make all repairs and replacements necessary at no additional cost to the Owner.
   4. Arrange sheeting, shoring and bracing so as to not place stress on any portion of the completed Work until the general construction thereof has proceeded far enough to provide sufficient strength.
   5. Removal of Sheeting, Shoring and Bracing: Exercise care in the removal of sheeting, shoring, and bracing to prevent collapse and caving of the excavation faces being supported.

B. Depressions: Where depressions result from or have resulted from the removal of surface or subsurface obstructions, open the depressions to equipment working width and remove all debris and soft material.

C. Other Areas: Excavate to the lines and grades shown on the Drawings. Where excavation grades are not shown on the Drawings, excavate as required to accommodate the installation.

D. Overexcavation: Backfill and compact all overexcavated areas, as specified below for fill, and at no additional cost to the Owner.

E. Stockpile suitable excavated material for re-use.

F. Unsuitable Material Excavation:
   1. Where shown on the Drawings or where directed by the Owner's Representative, excavate unsuitable material as shown or as directed. Generally, unsuitable material is wet or unstable material that will not give suitable foundation for pipes or structures.
   2. When unsuitable material has been removed, backfill and compact the excavated area as specified below for fill. Backfill with suitable backfill material unless specified otherwise.

3.6 PREPARATION OF AND OWNER REVIEW OF SUBGRADE

A. Owner Review: After the site has been cleared, stripped and excavated to the specified subgrade level, notify Owner who will review the subgrade. Do not proceed with filling or grading until Owner has reviewed the subgrade and any necessary measurements have been made.

B. Scarifying: After the Owner review, scarify the exposed soil subgrade surface to a minimum depth of six inches, thoroughly moisture-condition and compact to the requirements specified for fill below.

C. Leveling: After compacting, the subgrade surface shall be true to the required line and grade.

3.7 FILL AND COMPACTION

A. Wherever filling is required under any part of a structure, use granular fill unless indicated otherwise on the Drawings.

B. Moisture-conditioning: Water or aerate each lift of the fill material as necessary, and thoroughly mix to obtain a moisture content which will permit proper compaction.

C. Do not place fill material on surfaces that are muddy, frozen or that contain snow, frost or ice.

D. Wherever filling is required to bring other areas to the required grade, use suitable fill material. Use granular fill where specifically indicated on the Drawings or directed by the Owner's Representative.

E. Filling: Spread the required fill material in layers not exceeding eight inches in uncompacted thickness. Repeat filling and compaction process until the required grade is attained.

F. Compaction: Compact the required fill material to a minimum of 95 percent maximum density as determined by ASTM D1557, Method C.

G. In the event that density tests indicate unsatisfactory (less than specified) compaction, such material is to be removed and replaced, or added compaction effort is to be provided. The contractor shall remove, replace, recompact, and retest the material at no additional cost to the Owner.

3.8 GRADING

A. General: Perform all rough and finish grading required to attain the elevations shown and to fill eroded areas shown on the Drawings.

B. Grading tolerances:
   1. Subgrades under lawns: Plus or minus 0.2 foot.
   2. Subgrades under other areas: Plus or minus 0.1 foot.

C. Treatment after completion of grading:
   1. After grading is completed, permit no further excavating, filling or grading.
   2. Use all means necessary to prevent erosion of newly graded areas during construction and until such time as permanent drainage and erosion and sediment control measures have been installed.

3.9 TRENCHING

A. General:
   1. Perform all trenching required for the installation of pipes, utilities, and structures. Perform all trenching required for the installation of other items of other Sections where the trenching is not specifically described in those other Sections.
   2. Make all trenches open vertical construction, unless otherwise permitted, with sufficient width to provide free working space at both sides of the trench and around the installed item as required for caulking, joining, backfilling and compacting.
   3. If encountered, excavate rock and unsuitable material as specified above in this Section.

B. Depth: Excavate to the elevations shown on the Drawings. Where elevations are not shown on the Drawings, excavate to sufficient depth to give a minimum of three feet of backfill above the top of the pipe or other item measured from the adjacent finished grade.

C. Trench Sheeting, Shoring and Bracing:
   1. Properly support all trenches in strict accordance with all pertinent municipal, state and federal laws, codes, ordinances, and regulations.
   2. Provide sheeting, shoring and bracing to support trench walls in such a manner that they will be safe and that the ground alongside the excavation will not slide or settle, and that all existing improvements of every kind, will be fully protected from damage.
   3. In the event of damage to such improvements, immediately make all repairs and replacements necessary at no additional cost to the Owner.
   4. Arrange sheeting, shoring and bracing so as to not place stress on any portion of the completed Work until the general construction thereof has proceeded far enough to provide sufficient strength.

D. Removal of Trench Sheeting, Shoring and Bracing: Exercise care in the removal of sheeting, shoring, and bracing to prevent collapse and caving of the excavation faces being supported.

E. Grading and Stockpiling Trenched Material:
   1. Do not grade or stockpile material adjacent to the trench where it will endanger the stability of the excavation.
   2. Control the stockpiling of trenched material in a manner to prevent water running into the excavations. Do not obstruct surface drainage, but provide means whereby storm water is diverted into existing gutters, other surface drains, or temporary drains.

3.10 BACKFILL

A. Pipes: After the pipe has been bedded and covered in accordance with another Section of these Specifications, place and compact suitable backfill material as specified below.

B. Other Items: When other items have been laid in the trench or excavation in accordance with the requirements of other Sections of these Specifications, place and compact suitable backfill material as specified below.

C. Placement and Compaction: Place and compact backfill material in uniform lifts of not more than eight inches in uncompacted thickness. Compact to a minimum of 95 percent maximum density as determined by ASTM D1557, Method C.

3.11 DISPOSAL OF MATERIAL

A. All excess material, both suitable and unsuitable, resulting from excavating, filling, and grading operations shall become the property of the Contractor. The Contractor shall be responsible for removal and disposal of the excess material off the site, unless specifically specified otherwise.

B. The contractor shall dispose of the material at no additional cost to the Owner. The manner and location of disposal shall comply with all local, state, and federal regulations.

END OF SECTION

SECTION 02535 – BOLLARDS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Installation precast concrete bollards and recycled rubber and steel bollards, complete in place, as shown of the Drawings and as specified.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pour in Place Concrete Base: Form 818, Section M.03.01. Concrete shall be PCC03341 unless otherwise indicated on the Drawings.

B. Precast Bollard
1. Roto-molded polyethylene concrete filled precast bollard as manufactured by United Concrete Products, Yalesville, CT, or approved equal.
2. Optional Base: 4,000 psi precast concrete with lifting hooks.

2.2 SUBMITTALS
1. Manufacturer's descriptive literature and color options for the Owner's approval.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 EXCAVATIONS FOR BOLLARDS

A. Install bollards at the locations shown on the Drawings. Exact location of bollards to be directed by the Owner. Coordinate bollard installation with the installation of the boat launch and parking area.

B. Make excavations in accordance with the provisions of the section entitled "Earthwork". Excavate the minimum size hole necessary to install the bollard and provide the specified backfill dimensions.
1. For the rubber bollards, and if the optional concrete base for the precast bollards is not utilized, it is the intent to fill the entire excavation with concrete backfill.

C. Protect bottoms of excavations from frost. Do not place bollards or concrete backfill on frozen ground.

D. Provide dewatering as specified under the section entitled "Earthwork". All installations shall be done in the dry.

3.3 INSTALLATION AND BACKFILL

A. Precast Bollard
   1. Optional Concrete Base
      a. Set the precast concrete base and integral bollard into the prepared excavation using the provided lifting hooks.
      b. Ensure the concrete base and bollard is installed level before backfilling. Temporarily support during backfilling to provide level installation.
   2. Bollard Only (No concrete base)
      a. Set bollard in prepared excavation and temporarily support during backfilling to provide bollard at specified height.
      b. Carefully backfill with concrete to the minimum dimensions shown on the drawings.
      c. For bollards in pavement areas, lower the top of concrete elevation to allow for the installation of the finished pavement layers.

END OF SECTION

SECTION 02730 – BITUMINOUS CONCRETE PAVEMENT

PART 1 - GENERAL

1.1 WORK INCLUDED

A. This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to place bituminous concrete pavement for construction, widening, overlaying, resurfacing, reconstruction or replacement of road surfaces, to the proposed grades as shown on the drawings, typical cross sections, or as directed by the Owner.

1.2 QUALITY ASSURANCE

A. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this Section, and who shall be present at all times during progress of the work of this Section and shall direct all work performed under this Section.

PART 2 - PRODUCTS

2.1 MATERIALS

A. All materials used shall conform to Form 818, Section M.04, as applicable. The job mix used for construction of roads shall be as follows:
   1. The binder course shall be Class 1 Bituminous Concrete.
   2. The wear course shall be Class 2 Bituminous Concrete.
   3. Processed aggregate shall be coarse gradation conforming to Section 02219 – Earthwork for "Processed Aggregate Base".
   4. The subbase shall conform to the requirements of Form 818, Section M.02.02 and M.02.06.
   5. The subgrade shall conform to the requirements of Form 818, Section M.02.02 and M.02.06.

2.2 SUBMITTALS

A. The following submittals shall be submitted to the Engineer for review and approval prior to installation:
   1. Gradation test results for Processed Aggregate.

B. Density testing shall be conducted during paving process and the results shall be forwarded to the Owner.

PART 3 - EXECUTION

3.1 BITUMINOUS CONCRETE PAVEMENT

A. The placement of the material defined shall be performed in accordance with Form 818, Section 4.06.03. The Contractor shall refer and conform to the applicable sections of Form 818 pertaining to the weather conditions permitting the placement of bituminous concrete.

B. Where bituminous concrete is being applied as trench placement or is being matched to an existing pavement, the placement of material shall use against a smooth and cut surface and be sealed with a tack coat.

C. Prior to the application of the bituminous concrete finish course, all work within the project shall be complete, and shall include, but not be limited to, the adjustments of frames, grates, covers, utility boxes, both public and private, as well as curbing, sweeping of the binder and/or existing pavement surfaces with the proper pickup sweeper and accessory equipment and utilizing it for the removal of earth and/or other dust producing materials from the paved surfaces to prepare them for bituminous concrete overlay and, if directed, loaming and seeding.

D. Sweeping of the binder course shall take place prior to paving. The Contractor will be responsible for removal and disposal of the sweepings. This disposal shall meet with the approval of the Owner.

E. Tack coat application shall conform to Form 818, Section 4.06.03.

END OF SECTION

SECTION 02800 – SITE IMPROVEMENTS AND AMENITIES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Miscellaneous site items including the installation brick pavers, paver edging, and ADA hand rails, complete in place, as shown of the Drawings and as specified.

1.2 QUALITY ASSURANCE

A. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this Section, and who shall be present at all times during progress of the work of this Section and shall direct all work performed under this Section.

1.3 PRODUCT HANDLING

A. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation, to protect the work and materials of all other trades and to protect all objects designated to remain.

B. Delivery and Storage: Deliver all materials to the job site in original containers with all labels intact and legible at time of use. Store in strict accordance with the manufacturer's recommendations as accepted by the Owner's Representative.

C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the acceptance of the Owner's Representative and at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Brick Pavers
   1. The existing brick pavers will be removed, stored, and reinstalled.
   2. If the brick pavers cannot be salvaged, new brick pavers shall be in conformance with ASTM C67.
   3. Brick paver color shall be chosen by Owner.

B. Paver Edging

1. Permaloc StructurEdge, 3/16"x 1-5/8" high, extruded aluminum, 6063 alloy, T6 hardness, paver restraint edging for straight-line and curvilinear applications in corrugated L-shaped profile, as manufactured by Permaloc Corporation, Holland MI 49424, telephone (800) 356-9660 or (616) 399-9600. Horizontal base shall have holes spaced 4 inches (102 mm) apart along its length to receive spikes, or approved equal.
2. Thickness: 3/16 inch gage section shall have 0.210 inch thick exposed top lip.
3. Length: 8'.
4. Connection Method: Section ends shall splice together with horizontal 0.060 inch thick x 1 inch wide x 4 inches long aluminum sliding connector.
5. Anchoring: 3/8 inch x 10 inches bright spiral steel spike. Use plastic washers if desired.
6. Finish: Mill Finish. Paint finish shall comply with AAMA 2603 for electrostatically baked on paint..

C. Ramp Handrail
1. All handrail components shall conform to the Americans with Disabilities Act of 1990, as amended.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Paver Restraint Edging
1. Ensure that all underground utility lines are located and will not interfere with the proposed edging installation before beginning work.
2. Locate border line of edging with string or other means to assure border straightness and curves as designed.
3. Install base of edging resting on compacted level base and facing towards and under paver.
4. Drive 3/8" x 10" bright spiral steel spikes through edging holes in section base of paver restraint edging at spaces for following applications:
   a. Anchor each section end with spike.
   b. 4 inches to 12 inches on center.
5. Securely connect sections together in accordance with manufacturer's instructions.
6. Install pavers.

B. Brick Paver
1. Prepare base for pavers by removing excess soils and unstable subbase materials. Compact subgrade to 95% proctor density test.
2. Paver Base: Backfill excavated area with appropriate depth aggregate material shown on the Drawings. Base shall be compacted in 2 to 3 lifts to achieve proper

density. The base should extend 6”-12” beyond the edge of paver installation. Screed sand over base to uniform thickness of not less than 1 inch and not more than 1-1/4 inches.

3. After installation of restraint edging and pavers, sweep fine sand into joints and compact. Continue sweeping sand into joints. Make several passes alternating direction of compactor each time. Remove excess sand from paver installation.

C. Hand Rails

1. Hand rails shall be installed in accordance with the Americans with Disabilities Act of 1990, as amended.

END OF SECTION

SECTION 02810 – TRAFFIC SIGNS

PART 1 - PART 1: GENERAL

1.1 DESCRIPTION

A. Work Included: Traffic signs, complete in place, as shown of the Drawings and as specified.

1.2 QUALITY ASSURANCE

A. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this Section, and who shall be present at all times during progress of the work of this Section and shall direct all work performed under this Section.

1.3 APPLICABLE SPECIFICATIONS

A. Signs within a public street right-of-way or public property shall conform to the requirements of the agency having jurisdiction over the public street or property.

PART 2 - PART 2: PRODUCTS

2.1 MATERIALS

A. Types of signs shall be as indicated on the Drawings. Signs shall conform to the requirements of the "Manual on Uniform Traffic Control Devices."

B. Sign panels shall comply with the applicable requirements of Form 818, Section M.18.13.

C. Sign Posts: Steel posts shall comply with Form 818, Section M.18.14. Size as shown on the Drawings. Equivalent posts may be proposed by the Contractor following review and acceptance by the Owner.

D. Sign Mounting Bolts: Form 818, Section M.18.15.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install signs at locations indicated on the Drawings. Exact sign location to be directed by the Owner in the field.

B. Metal sign posts shall be set in concrete bases and the backfill thoroughly tamped after the posts have been set plumb. Depth of post embedment shall be 2 feet or as indicated on the Drawings.

C. Attach signs to posts with the specified hardware.

END OF SECTION

SECTION 02820 – SPLIT RAIL FENCE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Installation of wooden split rail fence, complete in place, as shown of the Drawings and as specified, if existing fence is not salvageable.

1.2 QUALITY ASSURANCE

A. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this Section, and who shall be present at all times during progress of the work of this Section and shall direct all work performed under this Section.

PART 2 - PRODUCTS

2.1 GENERAL

A. The existing split rail fence, inclusive of posts and rails will be removed, stored and reinstalled.

B. If the fence components cannot be salvaged, fence components match the existing split rail fence in dimension, type, and color.

C. Unless otherwise instructed by the Owner, the fence shall match the existing fence height.

D. All wood materials shall be treated wood, or wood of a natural resistance to decay. Materials shall be free from loose knots, cracks, and other imperfections.

2.2 RAILS: Rails shall match the existing 2-rail or 3-rail system currently installed.

2.3 POSTS: Posts shall match the existing width/diameter of the existing posts currently installed.

PART 3 - EXECUTION

3.1 SITE EXAMINATION

A. Ensure property lines and legal boundaries of work are clearly established.

B. Survey of fence location to be provided by Contractor.

C. Verify areas to receive fencing are completed to final grade.

3.2 POST INSTALLATION

A. Posts shall be set true to line and grade.

B. Posts shall be spaced 8 feet on center.

C. Line posts do not require concrete footings.

D. Corner and end posts require 12-inch diameter concrete footings extending at least 30-inches into undisturbed natural ground or properly compacted fill.

E. Concrete set posts
   1. Excavate holes in firm, undisturbed or compacted soil.
      a. Holes shall have depths approximately 6" deeper than post bottom, but no less than 30 inches.
      b. Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads.
      c. Set post bottom 30" below surface when in firm, undisturbed soil.
   2. Place concrete around posts in a continuous pour. Trowel finish around post and slope to direct water away from posts.

F. Check each post for vertical and top alignment and maintain in position during placement and finishing operations.

END OF SECTION

SECTION 02850 – PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: The purpose of this technical specification is for the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to install waterborne pavement markings, including centerlines, lane lines, shoulder lines, stop bars, crosswalks, parking stalls, lane arrows, symbols, and legends in accordance with the details shown on the plans, or as directed by the Owner.

1.2 QUALITY ASSURANCE

A. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this Section, and who shall be present at all times during progress of the work of this Section and shall direct all work performed under this Section.

1.3 APPLICABLE SPECIFICATIONS

A. Pavement markings shall be in accordance with the Manual of Uniform Traffic Control Devices (MUTCD)

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials for this work shall conform to the requirements of Form 818, Section M.07.20.

2.2 SUBMITTALS

A. The following submittals shall be submitted to the Engineer for review and approval prior to installation:
   1. Material certifications for all waterborne pavement markings

PART 3 - EXECUTION

A. The construction methods including equipment, application procedures, performance, and warranty shall conform to the requirements of Form 818, Section 12.09.

END OF SECTION

SECTION 02910 – LAWNS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Providing an established uniform stand of perennial turf grasses by furnishing and placing topsoil, fertilizer, seed, and mulch upon those areas indicated on the Drawings and upon all other areas which were disturbed by the Contractor's operations and landscaping edging at pavement edges, complete in place, as shown of the Drawings and as specified.

1.2 APPLICABLE SPECIFICATIONS

A. Standards: Comply with the requirements specified in this Section, of the Erosion and Sediment Control Plan shown on the Drawings, and of the Regulatory Agency (Canton IWWA) having jurisdiction over erosion and sediment control.

1.3 1.03 SUBMITTALS

A. Submit seed supplier's certifications for seed mixture.

PART 2 - PART 2: PRODUCTS

2.1 MATERIALS

A. Provide topsoil, fertilizer, seed, mulch, limestone, water, and all other materials necessary for the construction and establishment of lawns. Provide these materials shown on the Drawings.

B. In the event that there is no Erosion and Sediment Control Plan or that said Plan does not specify these materials, these materials shall conform to the requirements of Section M.13 of the ConnDOT Specifications. A suitable commercially available lawn seed mixture may be proposed by the Contractor for review and acceptance by the Owner's Representative.

C. Seed mix shall be "New England Erosion/Restoration Seed Mix for Detention Basins and Moist Sites" supplied by:

New England Wetland Plants, Inc
820 West Street
Amherst, MA 01002
Phone: 413-548-8000 Fax 413-549-4000
Info@newp.com
www.newp.com

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 CONSTRUCTION METHODS

A. Locations: Construct and establish lawns at the locations as indicated on the Drawings and all other disturbed areas.

B. Grading: Bring areas to receive lawns to the proper grade and slope, as required, as shown on the Drawings, or as directed by the Owner's Representative.

C. Construction of Lawns: Provide temporary and permanent vegetative cover in accordance with the Erosion and Sediment Control Plan shown on the Drawings. In the event that there is no Erosion and Sediment Control Plan or that said Plan does not specify lawn construction, construct lawns in accordance with the following:
   1. Topsoil: Place in accordance with the requirements of Section 9.44.03 of the ConnDOT Specifications. Depth to be 4 inches minimum unless shown otherwise on the Drawings.
   2. Turf Establishment: Accomplish the work as specified under Section 9.50.03 of the ConnDOT Specifications.
   3. Lime and fertilizer per supplier's recommendations.
   4. Mulch: Apply hay mulch at a rate of 70 to 90 pounds per 1,000 square feet.

3.3 MAINTENANCE OF LAWNS

A. Maintain all lawns from the time of planting until acceptance by the Owner. This time period will not exceed three months beyond the completion of the project unless specifically indicated otherwise.

B. During this time period:
   1. Water lawns to keep in a healthy growing condition.
   2. Mow all lawns as necessary and as directed by the Owner's Representative to keep lawns neat and attractive.
   3. Protect all seeded areas against damage, including that caused by erosion and trespassing, by providing and maintaining proper safeguards, including mulching and fencing.
   4. Repair areas sustaining damage at no additional cost to the Owner.

END OF SECTION

SECTION 03330 – ARTICULATING CONCRETE BLOCK (ACB) SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: The purpose of this technical specification is for the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to install ACB System in accordance with the details shown on the plans, or as directed by the Owner.

B. The contractor shall furnish all labor, materials, equipment, and incidentals required for, and perform all operations in connection with, the installation of the ArmorFlex® Articulating Concrete Block (ACB) system in accordance with the lines, grades, design and dimensions shown on the Contract Drawings and as specified herein.

1.2 QUALITY ASSURANCE

A. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this Section, and who shall be present at all times during progress of the work of this Section and shall direct all work performed under this Section

1.3 RELATED SECTIONS

A. Section 2219 – Earthwork

1.4 SUBMITTALS

A. Manufacturer's certificates of compliance for ACB/mats, revetment cable, geotextile, and any revetment cable fittings and connectors in accordance with the current version of ASTM D 6884, *Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems*.

B. Shop Drawings for the layout of the mats, installation, and safety instructions, and any recommendations, if applicable, that are specifically related to the project.

C. Particle size distribution report for subbase material.

1.5 PRE-INSTALLATION MEETINGS

A. Supplier’s representative shall be available for pre-installation meeting a minimum two weeks prior to starting work of this section.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Materials delivered to the site shall be inspected for damage, unloaded and stored with the minimum of handling. Material shall be kept free of dirt and debris.

B. Storage shall be in accordance with manufacturer's requirements.

C. Handling: Materials shall be handled in such a manner as to ensure delivery to the site in sound, undamaged condition.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Articulating concrete block system shall be ArmorFlex® 45S, as manufactured and sold by:

1. ARMORTEC, A Contech Company
   9025 Centre Pointe Dr., Suite 400
   West Chester, OH 45269
   Phone: 1-800-645-7000 Fax: 1-513-645-7993

2.2 MATERIALS

A. ARTICULATING CONCRETE BLOCKS

1. Manufacturing shall conform to the current version of ASTM D-6684, *Standard Specification for Materials and Manufacture of Articulating Concrete Block (ACB) Revetment Systems*.
2. Cementitious Materials - Materials shall conform to the following applicable ASTM specifications:
   a. Portland Cements - Specification C 150, for Portland Cement.
   b. Blended Cements - Specification C 595, for Blended Hydraulic Cements.
   c. Hydrated Lime Types - Specification C 207, for Hydrated Lime Types.
   d. Pozzolans - Specification C 618, for Fly Ash and Raw or Calcined Natural Pozzolans for use in Portland Cement Concrete.
   e. Aggregates – Specification C 33, for Concrete Aggregates, except that grading requirements shall not necessarily apply.
3. Casting: The ACB units shall be produced using a dry cast method. Dry cast units obtain strength more quickly than wet cast blocks, and will also achieve a greater uniformity of quality and greater durability.
4. Physical Requirements: At the time of delivery to the work site, the ACB units shall conform to the physical requirements prescribed in the table listed below.

PHYSICAL REQUIREMENTS

Compressive Strength Net Area Min. p.s.i (mPa)		Water Absorption Max. lb/ft^3 (kg/m^3)	
Avg. of 3 units	Individual Unit	Avg. of 3 units	Individual Unit
4,000 (27.6)	3,500 (24.1)	9.1 (160)	11.7 (192)

5. Visual Inspection
    a. All units shall be sound and free of defects which would interfere with the proper placement of the unit, or which would impair the performance of the system. Surface cracks incidental to the usual methods of manufacture, or surface chipping resulting from customary methods of handling in shipment and delivery, shall not be deemed grounds for rejection.
    b. Cracks exceeding 0.25 inches in width and/or 1.0 inch in depth shall be deemed grounds for rejection. Chipping resulting in a weight loss exceeding 10% of the average weight of a concrete unit shall be deemed grounds for rejection.
    c. Blocks rejected prior to delivery from the point of manufacture shall be replaced at the manufacturer's expense. Blocks rejected at the job site shall be repaired with structural grout or replaced upon request at the expense of the contractor.
6. Sampling and Testing
    a. The purchaser (or their authorized representative) shall be afforded access to the relevant manufacturing facility or facilities, if desired, in order to inspect and/or sample the ACB units from lots ready for delivery prior to release for delivery to the job site. Such inspections are at the sole expense of the requesting entity.
    b. Purchaser may request additional testing other than that provided by the manufacturer as needed. Such requested testing will extend any stated lead times for manufacturing and delivery, if the results of such testing are a prerequisite to approval (i.e., approval for release to manufacturing). Costs associated with such testing shall be borne by the purchaser.
7. The selected ARMORFLEX® blocks shall have the following nominal characteristics:

STANDARD SIZES OF ARMORFLEX® BLOCKS

CLASS	TYPE	MIN. WEIGHT (lbs)	BLOCK SIZE			OPEN AREA %
			Length (in)	Width (in)	Height* (in)	
45S	Closed	39	13.0	11.6	4.75	10
**Block height may vary based on local manufacture's capabilities.*						

B. GALVANIZED STEEL REVETMENT CABLE AND FITTINGS
1. Revetment cable shall be constructed of preformed galvanized aircraft cable (GAC). The cables shall be made from individual wires and strands that have been formed during the manufacture into the shape they have in finished cable.
2. Cable shall consist of a core construction comprised of seven (7) wires wrapped within seven (7) or nineteen (19) wire strands.
3. The size of the revetment cable shall be selected such that the minimum acceptable strength is at least five (5) times that required for lifting of the mats, in accordance with ASTM D-6684 paragraph 5.5.2. This design shall include a reduction factor for splicing of 75%, unless a larger factor can be substantiated by laboratory testing.
4. The revetment cable shall exhibit resistance to mild concentrations of acids, alkalis, and solvents. Fittings such as sleeves and stops shall be aluminum, and the washers

shall be galvanized steel or plastic. Furthermore, depending on material availability, the cable type (7x7 or 7x19) can be interchanged while always ensuring the required factor of safety for the cable.

5. Selection of cable and fittings shall be made in a manner that ensures a safe design factor for mats being lifted from both ends, thereby forming a catenary. Consideration shall be taken for the bending of the cables around hooks or pins during lifting. Fittings such as sleeves and stops shall be aluminum and washers shall be plastic unless otherwise shown on the Contract Drawings.

C. FILTER FABRIC

1. The standard for sizing geotextile for these applications is AASHTO M-288, Permanent Erosion Control, Class 2. Either woven monofilament or non-woven geotextile are acceptable; woven slit-film geotextiles are not acceptable.
2. Geotextile shall be sized for the soil subgrade permeability. The contractor shall provide soil gradation testing prior to ordering filter fabric.
3. Under no circumstances shall the filter fabric be permanently affixed or otherwise adhered to the blocks or mats; i.e., the filter fabric shall be independent of the block system.
4. During all periods of shipment and storage, the filter fabric shall be protected from direct sunlight, UV radiation, and temperatures greater than 140°F. To the extent possible, the fabric shall be maintained wrapped in its protective covering. Geotextile exposure to sunlight or UV radiation shall be minimized to the greatest extent possible until the installation process begins.
5. At the time of installation, filter fabric shall be rejected if it has been removed from its protective cover for over 72 hours or has defects, tears, punctures, flow deterioration, or damage incurred during manufacture, transportation or storage. With the acceptance of the Owner, a torn or punctured section of fabric shall be repaired by placing a filter fabric patch over the damaged area prior to placing the mats. The patch shall be large enough to overlap a minimum of three (3) feet in all directions.

D. STONE:

1. Stone bedding directly beneath the ACB shall conform to Form 818, Section M.01 and Table M.01.02-2 for No. 3 stone (2 ½" minus).
2. Stone for ACB infill shall conform to Form 818, Section M.01 and Table M.01.02-2 for No. 8 stone (3/8").

E. GEOGRID

1. Dimensions and Delivery The biaxial geogrid shall be delivered to the job site in roll form with each roll individually identified and nominally measuring 3.8 meters (12.5 feet) in width and 100 meters (328 feet) in length.
2. Geogrid shall be designed primarily for base stabilization/subgrade improvement.
3. Geogrid shall be integrally formed biaxial Class 1 geogrid consisting of polypropylene with positive mechanical interlock.
4. Geogrid physical properties shall conform to the following table.

GEOGRID PROPERTIES

Index Properties	**Units**	**MD Values[1.]**	**XMD Values[1.]**
Aperture Dimensions[2.]	in (mm)	1.0 (25)	1.3 (33)
Rib Thickness`	in (mm)	0.03 (0.76)	0.03 (0.76)
Tensile Strength @ 2% Strain[3.]	lb/ft (kN/m)	280 (4.1)	450 (6.6)
Tensile Strength @ 5% Strain[3.]	lb/ft (kN/m)	580 (8.5)	92 (13.4)
Ultimate Tensile Strength[3.]	lb/ft (kN/m)	850 (12.4)	1,300 (19.0)
Structural Integrity			
Junction Efficiency[4.]	%	93	
Overall Flexural Rigidity[5.]	mg-cm	250,000	
Aperture Stability[6.]	m-N/deg	0.32	
Durability			
Resistance to Installation Damage[7.]	%SC / %SW / %GP	95 / 93 / 90	
Resistance to Long Term Degradation[8.]	%	100	
Resistance to UV Degradation[9.]	%	100	

Notes
1. Unless indicated otherwise, values shown are minimum average roll values determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes.
2. Nominal dimensions.
3. Determined in accordance with ASTM D6637-10 Method A.
4. Load transfer capability determined in accordance with ASTM D7737-11.
5. Resistance to bending force determined in accordance with ASTM D7748/D7748M-14.
6. Resistance to in-plane rotational movement measured in accordance with ASTM D7864/D7864M-15.
7. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
8. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
9. Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05

PART 3 - EXECUTION

3.1 SUBGRADE PREPARATION

A. All subgrade preparation shall be performed in accordance with the current version of ASTM D 6884, *Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems.*

B. The slope shall be graded to a smooth plane surface to ensure that intimate contact is achieved between the slope face and the geotextile (filter fabric), and between the geotextile and the entire bottom surface of the individual ACBs. All slope deformities, roots, grade stakes, and stones which project normal to the local slope face must be re-graded or removed. No holes, "pockmarks", slope board teeth marks, footprints, or other voids greater than 0.5 inch in depth normal to the local slope face shall be permitted. No grooves or depressions greater than 0.5 inches in depth normal to the local slope face with a dimension exceeding 1.0 foot in any direction shall be permitted. Where such areas are evident, they shall be brought to grade by placing compacted homogeneous material. The slope and slope face shall be uniformly compacted, and the depth of layers, homogeneity of soil, and amount of compaction shall be as required by the EOR.

C. Excavation and preparation for all termination trenches or aprons shall be done in accordance to the lines, grades and dimensions shown in the Contract Drawings. The termination trench hinge-point at the top of the slope shall be uniformly graded so that no dips or bumps greater than 0.5 inches over or under the local grade occur. The width of the termination trench hinge-point shall also be graded uniformly to assure intimate contact between all ACBs and the underlying grade at the hinge-point.

D. Immediately prior to placing the filter fabric and ACB mats, the prepared subgrade shall be inspected by the EOR as well as the owner's representative. No fabric or blocks shall be placed thereon until that area has been approved by each of these parties.

3.2 PLACEMENT OF GEOTEXTILE FILTER FABRIC

A. All placement and preparation should be performed in accordance with Form 818, Section 7.55 and the current version of ASTM D 6884, *Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment* Systems. Filter Fabric, or filtration geotextile, as specified elsewhere, will be placed within the limits of ACBs shown on the Drawings.

B. The geotextile will be placed directly on the prepared area, in intimate contact with the subgrade, and free of folds or wrinkles. The geotextile will also be placed directly on the stone base layer in intimate contact with the stone, and free of folds or wrinkles. The geotextile will not be walked on or disturbed when the result is a loss of intimate contact between the between the geotextile and the subgrade or the ACB and the geotextile.

C. The geotextile filter fabric will be placed so that the upstream strip of fabric overlaps the downstream strip.
   1. The longitudinal and transverse joints will be overlapped at least one and a half (1.5) feet for dry installations and at least three (3) feet for below-water installations.
   2. The geotextile will extend at least one (1) foot beyond the top and bottom revetment termination points, or as required by the EOR. If ACBs are assembled and placed as large mattresses, the top lap edge of the geotextile should not occur in the same location as a space between ACB mats unless the space is concrete filled.

3.3 PLACEMENT OF GEOGRID

A. For very soft soils (CBR < 0.5), it may be beneficial to minimize subgrade disturbance and leave root mats in place, cutting stumps and other projecting vegetation as close and even to the ground surface as practical. For moderately competent soils (CBR > 2), it may be prudent to lightly proof roll the subgrade to locate unsuitable materials. When possible, backdrag to smooth out any ruts.

B. Place the rolls of geogrid in position, cut the roll bands and manually unroll the material over the prepared subgrade.
   1. Fine grained non-cohesive soils such as silts present unique challenges, especially with the presence of excessive moisture.

C. Unroll the geogrid in the direction of travel so that the long axis of the roll is parallel with channelized traffic patterns.
   1. For very soft subgrades (CBR<0.5), unrolling geogrid transversely or parallel to the embankment alignment, may be preferred, particularly if lateral spreading and separation of overlaps is a concern.

D. Overlap adjacent rolls along their sides and ends in accordance with manufacturer's recommendations.
   1. Overlap ("shingle") geogrids in the direction the fill placement will be spread to avoid "peeling" of geogrid at overlaps by the advancing fill.
   2. To expedite "shingling," consider placing rolls at the far end of the coverage area first, and work toward the near end from where the fill will be advanced.
   3. Weaker subgrades that are easily rutted with conventional construction traffic will require an "end-dumping" operation. (see below "Dumping and Spreading Aggregate Fill")
   4. Adjacent geogrid rolls are not normally mechanically connected to one another, particularly if fill is placed and spread as described herein
      a. A notable exception is over very soft subgrades (CBR < 0.5) where nylon cable ties (or "zip ties") can be effective in helping maintain overlap dimensions. These ties are not considered structural connections, but rather construction aids.

E. Cut and overlap the geogrid to accommodate curves.
   1. Cutting may be done with sharp shears, a knife-like implement or handheld power (i.e., "cutoff") saws.
   2. Cut grid to conform to manhole covers and other immovable protrusions.

F. Place geogrids in daily work sections so that proper alignment is maintained.
   1. On cooler days, geogrid will exhibit "roll memory" where the product may roll back upon cutting or reaching the end of the roll. It is recommended that the installer take appropriate measures to ensure that the product lies flat during fill placement using sod staples, zip ties or simply adding a shovelful of fill to weigh down the product.

G. Before fully unrolling the geogrid, anchor the beginning of the roll, in the center and at the corners, to the underlying surface.

H. Anchor the geogrid with small piles of aggregate fill or a washer and pin.
   1. Large, heavy-gauge staples may also be used by driving them into the subsoil through the apertures of the grid.

I. Unroll the geogrid, align it, and pull it taut to remove wrinkles and laydown slack with hand tension, then secure in place.

J. Additional shoveled piles of aggregate fill, pins or staples may be required to hold the geogrid in place prior to placement of the aggregate fill.

3.4 DUMPING AND SPREADING AGGREGATE FILL

A. Aggregate should not be spread by heavy equipment, such as bulldozers, to mitigate creating a "wave" in the sheet of geogrid ahead of the advancing fill. If waving occurs, the pins or shoveled material should be removed to allow the waves to dissipate at the ends and edges of the roll.

B. Lift thickness shall be a minimum of 6 inches or as shown on the Drawings.

C. Over relatively competent subgrades (CBR > 4), aggregate fill may be dumped directly onto the geogrid.

D. Standard, highway-legal, rubber-tired trucks (end dumps and belly dumps) may drive over the geogrid at very slow speeds (less than 5 mph) and dump aggregate fill as they advance, provided this construction traffic will not cause significant rutting upon bare subgrade.
   1. Turns and sudden starts and stops should be avoided.
   2. Over softer subgrades, back trucks up and dump fill upon previously placed fill.
   3. For very soft subgrades (CBR < 0.5), extreme caution should be taken to avoid overstressing the subgrade soil both during and after fill placement.
      a. Contact a manufacturer's representative for guidance with constructing over very soft subgrade soils (CBR < 0.5).
      b. Do not drive tracked equipment directly on geogrid.
   4. Ensure at least 6 inches of aggregate fill (or required minimum design fill thickness) is spread between the geogrid and tracked equipment.
      a. Only operate rubber-tired equipment directly on the geogrid if the underlying subsoil is not prone to rutting under limited construction traffic.
      b. Over softer subgrades (CBR < 2), a lightweight, low ground pressure (LGP) dozer is recommended to evenly push out the fill over the exposed geogrid.
   5. Care should be taken not to catch the dozer blade or other equipment on geogrid. The dozer blade should be raised gradually as each lift is pushed out over the geogrid. The desired effect is fill that cascades onto the geogrid, rather than being pushed into it..
   6. When building over a soft subgrade, it is desirable to work from stronger to weaker areas.
      a. Be aware of geogrid overlaps and advance the aggregate fill with the shingle pattern

E. Standard compaction methods may be used unless the soils are very soft. In these cases, static instead of vibratory compaction is prudent, particularly over fine-grained, non-cohesive soils such as silt. Compaction is then achieved using a light roller.

F. Keeping the moisture content of the fill material near optimum will make compaction more efficient. Water spray is most effective with sand fill.

G. For construction over very soft soils, compaction requirements are normally reduced for the initial lift as the primary intent of the initial lift is to achieve a suitable working surface.

H. If rutting or severe pumping occurs under truck or dozer traffic, fill should be added immediately to strengthen the section. Silty subgrades are particularly prone to pumping. In some cases, it may be prudent to cease operations for a period of time, allowing pore pressures to dissipate and the subgrade to stabilize.

I. Compact aggregate fill to project specifications, after it has been graded smooth and before it is subject to accumulated traffic. Inadequate compaction will result in surface rutting under wheel loads.

J. Compaction equipment and methods should be appropriate for the type of fill being used, its thickness and the underlying subgrade conditions.

K. If the aggregate fill thickness is insufficient to support imposed load(s) when constructing over soft soil, excessive subgrade and surface rutting will result. Measures should be taken to ensure the proper thickness of granular fill is placed atop the geogrid to maximize support and minimize movement at the surface.

3.5 PLACEMENT OF THE ACBS/MATS

A. ACB placement and preparation should be performed in accordance with the current version of ASTM D 6884, *Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems*. ACB block/mats, will be constructed within the specified lines and grades shown on the Contract Drawings.

B. Field installation shall be consistent with the way the system was installed in preparation for hydraulic testing pursuant to the current version of ASTM D 7277, *Standard Test Method for Performance Testing of Articulating Concrete Block (ACB) Revetment Systems for Hydraulic Stability in Open Channel Flow*.

1. Any external restraints, anchors, or other ancillary components (such as synthetic drainage mediums) shall be employed as they were during testing; e.g., if the hydraulic testing installation utilized a drainage layer, then the field installation must also utilize a drainage layer. This does not preclude the use of other section components for other purposes, e.g., a geogrid for strengthening the subgrade for vehicular loading, or an intermediate filter layer of sand to protect very fine-grained native soils.

C. The subgrade shall be prepared in such a manner as to produce a smooth plane surface prior to placement of the ACBs or mats.

D. No individual block within the plane of placed ACBs will protrude more than 0.5 inches or as otherwise specified by the EOR. ACBs should be flush and develop intimate contact with the subgrade section, as approved by the EOR.

E. Proposed hand placing is only to be used in limited areas, specifically identified by the EOR or manufacturers' mat layout drawings, as approved by the EOR.

F. If assembled and placed as large mattresses, the ACB mats will be attached to a spreader bar or other approved device to aid in the lifting and placing of the mats in their proper position by the use of a crane or other approved equipment.
   1. The equipment used should have adequate capacity to place the mats without bumping, dragging, tearing or otherwise damaging the underlying fabric.

G. The mats will be placed side-by-side, so that the mats abut each other, and/or end-to-end.
   1. Mat seams or openings between mats greater than two (2) inches will be backfilled with 4000 p.s.i. non-shrink grout, concrete or other material approved by the EOR.
   2. Whether placed by hand or in large mattresses, distinct changes in grade that results in a discontinuous revetment surface in the direction of flow will require backfill at the grade change location so as to produce a continuous surface.

H. Termination trenches will be backfilled and compacted flush with the top of the blocks.
   1. The integrity of the trench backfill must be maintained so as to ensure a surface that is flush with the top surface of the ACBs for its entire service life.
   2. Termination trenches will be backfilled as shown on the Contract Drawings.
   3. Backfilling and compaction of trenches will be completed in a timely fashion.

I. The cells or openings in the ACBs will be backfilled and compacted with suitable material, as specified by the EOR.

J. The manufacturer of the ACBs/mats shall provide design and construction advice during the design and initial installation phases of the project when required or as necessary, at the discretion of the EOR.
   1. The ACB supplier shall provide, at a minimum, one full day or two half-days of on-site project support upon request.

END OF SECTION

SECTION 04100 – SOIL MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work under this item shall include excavation, handling, transporting and stockpiling materials at the waste storage area (WSA), and covering, securing, and maintaining the stockpiled materials throughout the duration of the Project. All excavated materials are to be considered environmentally impacted.

B. Sampling has indicated that historical spraying of diesel fuel, and possibly other historical activities, has resulted in impacts to soil within the proposed canoe/kayak launch project work area. Analytical testing of the soils determined concentrations of both extractable total petroleum hydrocarbons (ETPH) and (polynuclear aromatic hydrocarbons) PAH above the Residential Direct Exposure Criteria (RDEC). As such, all soils will be remediated through excavation and off-site disposal.

C. Roles and Responsibilities
   1. For the purposes of the following sections, the Owner is the Town of Canton, the "Environmental Consultant" is Triton Environmental, Inc, and the Contractor will be the bid award recipient.
   2. The Owner or the Owner's representative will be responsible for signing all waste manifests, land disposal notifications, waste shipping records, and associated paperwork, as applicable for wastes transported from the site.
   3. The Construction Manager will be responsible for the following:
      a. Determining the project schedule.
      b. Construction sequencing, and other operational parameters of the project and communicating such information to the project team.
      c. Overseeing all construction work for the project.
      d. Designating on-site material staging or stockpiling locations.
      e. Providing all labor, materials, equipment, and other services required for handling, transporting, and disposing of materials encountered.
      f. Developing a site specific Health and Safety Plan (HASP) for review by the Owner and Environmental Consultant.
      g. Protecting health of workers, other on-site personnel, the general public, and the environment by complying with the approved HASP and all other applicable local, state, and federal health and safety standards.
      h. Preparing appropriate paperwork to obtain approval from selected disposal facilities for wastes to be transported from the site (for review and signature by the Owner).

D. The disposal facility shall be:
   Ondrick Materials & Recycling
   22 Industry Road
   Chicopee, MA
   (413) 592-2566
   https://ondrickmr.com/soil-remediation/

1.2 SAMPLING PROCEDURE

A. Triton collected a total of 10 soil samples on November 7, 2022, and December 6, 2022.
   1. The samples were identified as TB-1 through TB-10 (see Figure 2 in Appendix D).
   2. Each sample was collected by either manually driving a two-foot-long steel macrocore fitted with a dedicated acetate liner to a predetermined depth or using a shovel to collect surficial soils. The depths were based on the proposed depth of excavation within the project work zone as determined by the final grading plan.
   3. Each sample was analyzed for ETPH using the Connecticut Department of Public Health method and PAHs by EPA method 8270.

1.3 ANALYTICAL RESULTS

A. The analytical data is summarized in the attached Table 1 in Appendix D.

B. The data generated during this sampling event is of sufficient quantity to obtain pre-approval at a permitted soil disposal facility for the volume of waste soil that is anticipated to be generated during the kayak/boat launch construction project. Although the soil could be reused at the site under certain specific conditions with notice to the DEEP, reuse of the soil is not recommended due to concentrations of both ETPH and PAH above the RDEC. As such, reuse represents a potential risk exposure pathway to users of the site.

C. The owner will be responsible for obtaining pre-authorization for the disposal of the soils requiring excavation at a permitted waste disposal facility. The Town of Canton will be considered the generator of the waste soil on the pre-approval application.

1.4 RELATED SECTIONS

A. Section 02219 – Earthwork

B. Section 02100 – Erosion and Sedimentation Control

C. Appendix D – Analytical Soil Testing Information

PART 2 - PRODUCTS

2.1 MATERIALS

A. Plastic Sheet: Polyethylene plastic sheeting for underlayment shall be at least 6 mil thick. Polyethylene plastic sheeting for covering excavated material shall be at least 6 mil thick. Both shall be at least 10 feet wide.

B. Covers for roll-off/storage containers shall be made of polyethylene plastic, or similar water-tight material, that is of sufficient size to completely cover top opening and can be securely fastened to the container.

C. Sandbags: Sandbags used to secure polyethylene covers shall be at least 30 pounds.

D. Sorbent Boom: Shall be 8 inches in diameter and 10 feet long and possess petrophilic and hydrophobic properties. Sorbent booms shall also have devices (i.e. clips, clasps, etc.) for connection to additional lengths of boom.

PART 3 - EXECUTION

3.1 CONSTRUCTION METHODS:

A. SOIL EXCAVATION

1. When controlled materials are encountered during the course of the work, health and safety provisions shall conform to the appropriate sections of the Contract. Provisions may include implementation of engineering controls, air and personal monitoring, the use of chemical protective clothing (CPC), personal protective equipment (PPE), implementation of engineering controls, air and personal monitoring, and decontamination procedures.
2. Materials removed from any excavation shall be transported directly from the point of origin to the WSA. The stockpiles of excavated controlled materials shall be maintained as shown on the Project Plans.
3. The Contractor shall plan excavation activities within project limits in consideration of the capacity of WSA. **No claims for delay shall be considered based on the Contractor's failure to coordinate excavation activities as specified herein.**

B. TRANSPORTATION AND STOCKPILING

1. In addition to following all pertinent Federal, State and local laws or regulatory agency policies, the Contractor shall adhere to the following precautions during transport of non-hazardous materials:
   a. Transported Controlled Materials are to be covered prior to leaving the point of generation and are to remain covered until the arrival at the WSA.
   b. All vehicles departing the site are properly logged to show the vehicle identification, driver's name, time of departure, destination, and approximate volume and content of materials carried.
   c. All vehicles shall have secure, watertight containers free of defects for material transportation.
   d. No material shall leave the site until there is adequate lay down area prepared in the WSA.
   e. Documentation must be maintained indicating that all applicable laws have been satisfied and that the materials have been successfully transported and received at the WSA.
2. Construction of the WSA shall be completed prior to the initiation of construction activities generating controlled materials. Plastic polyethylene sheeting shall underlay all excavated controlled materials. Measures shall be implemented to divert rainfall away from the WSA.
3. Placement of sorbent boom along the perimeter of the WSA shall be conducted when soil is saturated with petroleum product.
4. Excavated materials shall be staged as shown on the Project Plans or as directed by the Engineer.

C. WASTE STORAGE AREA MAINTENANCE

1. The Contractor shall provide all necessary materials, equipment, tools and labor for anticipated activities within the WSA. Such activities include, but are not limited to:
    a. Handling and management of stockpiles and drummed CPC/PPE
    b. Uncovering and recovering stockpiles
    c. Maintenance of WSA
    d. Replacement of damaged components (i.e. sand bags, plastic polyethylene sheeting, etc.); and waste inventory record management.
2. The Contractor shall manage all materials in the WSA in such a way as to minimize tracking of potential contaminated materials across the site and off-site, and minimize dust generation.
3. Each stockpile shall be securely covered when not in active use with a cover of sufficient size to prevent generation of dust and infiltration of precipitation. The cover shall be to prevent wind erosion.
4. The staged stockpiles shall be inspected at least daily by the Contractor to ensure that the cover and containment have not been damaged and that there is no apparent leakage from the pile. If the cover has been damaged, or there is evidence of leakage from the piles, the Contractor shall immediately replace the cover or containment as needed to prevent the release of materials to the environment from the piles.
5. An inventory of stockpiled materials and drummed CPC/PPE shall be conducted on a daily basis. Inventory records shall indicate the approximate volume of material/drums stockpiled per day; the approximate volume of material/drums stockpiled to date; material/drums loaded and transported off-site for disposal; any materials loaded and transported for on-site reuse; and identification of stockpiles relative to their points of generation.
6. Following the removal of all stockpiled controlled materials, residuals shall be removed from surfaces of the WSA as directed by the Engineer. This operation shall be accomplished using dry methods such as shovels, brooms, mechanical sweepers or a combination thereof. Residuals shall be disposed of as controlled materials.

D. DEWATERING
1. Dewatering activities shall conform to pertinent sections of the Specifications.

E. DECONTAMINATION
1. All equipment shall be provided to the work site free of contamination. The Engineer may prohibit from the site any equipment that in his opinion has not been thoroughly decontaminated prior to arrival. Any decontamination of the Contractor's equipment prior to arrival at the site shall be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the Project that has not been thoroughly decontaminated prior to arrival.
2. The Contractor shall furnish labor, materials, tools, and equipment for decontamination of all equipment and supplies that are used to handle controlled materials. Decontamination shall be conducted at an area designated by the Engineer and may be required prior to equipment and supplies leaving the Project or between stages of the work.
3. Dry decontamination procedures are recommended. Residuals from dry decontamination activities shall be collected and managed as controlled materials. If dry methods are unsatisfactory as determined by the Engineer, the Contractor shall modify decontamination procedures as required subject to the Engineer's approval.

F. DUST CONTROL

1. The Contractor shall implement a fugitive dust suppression program in accordance with the Contract to prevent the off-site migration of particulate matter and/or dust resulting from excavation, loading and operations associated with Controlled Materials. It shall be the Contractor's responsibility to supervise fugitive dust control measures and to monitor airborne particulate matter. The Contractor shall:
    a. Employ reasonable fugitive dust suppression techniques.
    b. Visually observe the amounts of particulate and/or fugitive dust generated during the handling of controlled materials. If the apparent amount of fugitive dust and/or particulate matter is not acceptable to the Engineer, the Engineer may direct the Contractor to implement corrective measures at his discretion, including, but not limited to, the following:
        1) Apply water to pavement surfaces
        2) Apply water to equipment and excavation faces; and
        3) Apply water during excavation, loading and dumping.

G. GENERAL CONDITIONS

1. Operate, maintain and repair the WSA in conformance with specifications.
2. Maintain a communications system capable of summoning fire, police, and/or other emergency service personnel.
3. Prevent unauthorized entry onto the stockpiles using fences, gates, or other natural or artificial barriers.
4. Separate incidental excavation waste to the satisfaction of the receiving facility or to an extent that renders the contaminated soil and/or sediment suitable for its intended reuse.
5. Isolate and temporarily store incidental waste in a safe manner prior to off-site transport to a facility lawfully authorized to accept such waste.
6. Not store more than 100 cubic yards of incidental waste at any one time.
7. Prevent or minimize the transfer or infiltration of contaminants from the stockpiles to the ground as detailed in section 3.1B. "Transportation and Stockpiling" above.
8. Securely cover each stockpile of soil as detailed in "C. WSA Maintenance" above.
9. Minimize wind erosion and dust transport as detailed in 3.1F. "Dust Control" above.
10. Use anti-tracking measures at the WSA to ensure the vehicles do not track soil from the WSA onto a public roadway at any time.
11. Instruct the transporters of contaminated soil and/or sediment of best management practices for the transportation of such soil (properly covered loads, removing loose material from dump body, etc.).
12. Control all traffic related to the operation of the facility in such a way as to mitigate the queuing of vehicles off-site and excessive or unsafe traffic impact in the area where the facility is located.

H. METHOD OF MEASUREMENT:

1. The work of controlled material handling will be measured for payment by the number of cubic yards of controlled material excavated within the project limit and delivered to the WSA. Excess excavations made by the Contractor beyond the payment limits specified in the Contract will not be measured for payment and the Contractor assumes all costs associated with the appropriate handling, management, and disposal of this material.

2. Equipment decontamination, the collection of residuals, and the collection and disposal of liquids generated during equipment decontamination activities will not be measured separately for payment.

I. BASIS OF PAYMENT:

1. This work shall be paid for at the Contract unit price, which shall include all transportation from the excavation site to the final WSA, including any intermediate handling steps; stockpiling controlled materials at the WSA; covering, securing, and maintaining the individual stockpiles within the WSA throughout the duration of the Project; and all tools, equipment, material and labor incidental to this work.
2. This price shall also include equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the WSA; and the collection and disposal of liquids generated during equipment decontamination activities.
3. All materials, labor and equipment associated with compliance with the general conditions above will not be measured separately, but will be considered incidental.

END OF SECTION

Appendix A

Canton Inland Wetlands and Watercourses Agency Approval Letter

INLAND WETLANDS & WATERCOURSES AGENCY
Canton, Connecticut INC. 1806
4 Market Street, Canton, Connecticut 06019

December 19, 2022

Town of Canton
4 Market Street
Collinsville, CT 06022

Re: **File 09-22-1223;** 50 Old River Road; Assessor Map 34, Parcel 4490050; Zone MCPF; Proposed Boat Launch, Town of Canton, owner/applicant

Dear Town of Canton,

Please be advised that at a regular meeting on Thursday, December 8, 2022, the Canton Inland Wetlands and Watercourses Agency made the following motion:

MOTION: Mr. Shepard moved, to approve **File 09-22-1223;** 50 Old River Road; Assessor Map 34, Parcel 4490050; Zone MCPF; Proposed Boat Launch, Town of Canton, owner/applicant with the following conditions and waivers:

1. Add into the E & S Plan the option for either silt fence or filter socks, especially around the stockpile area;
2. That a cement clean-out area should be at the stockpile area and whatever is cleaned out is shipped off-site;
3. Any contaminated material, specifically the spreader area soil has to be taken off-site;
4. Any changes after Planning and Zoning review may be allowed by the Authorized Agent as long as determined by the authorized agent to be specifically minimal in nature, as long as authorized agent approvable;
5. Granting the waiver of the analyst of the chemical and physical characteristics of any fill material and the origin of any fill material be provided to the Town; and
6. Proposed approval for a period of five years.

SECONDED: Mr. Sinish
VOTE: Passed unanimously.

This approval is granted in part on the application submitted and received on September 22, 2022; and upon the following documentation submitted by the applicant or others during the course of the proceeding on the application:

Drawings:

1. C1.0 – Existing conditions Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 9/27/22
2. C2.0 – Site Layout Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 9/27/22
3. C3.0 – Grading Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 9/27/22
4. C4.0 – Soil Erosion and Sediment Control Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 9/27/22
5. C5.0 – Details; 50 Old River Road; prepared by Triton Environmental, Inc., dated 9/27/22
6. C6.0 – Details; 50 Old River Road; prepared by Triton Environmental, Inc., dated 9/27/22
7. C2.0 – Revised Site Layout Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 12/6/22
8. C3.0 – Revised Grading Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 12/6/22
9. C4.0 – Revised Soil Erosion and Sediment Control Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 12/6/22
10. C2.0 – Revised Site Layout Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 12/7/22
11. C3.0 – Revised Grading Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 12/7/22
12. C4.0 – Revised Soil Erosion and Sediment Control Plan; 50 Old River Road; prepared by Triton Environmental, Inc., dated 12/7/22

Correspondence:

1. **File 09-22-1223;** 50 Old River Road; Assessor Map 34, Parcel 4490050; Zone MCPF; Proposed Boat Launch; Town of Canton, owner/applicant
2. Introduction from Triton Environmental, Inc.
3. Site Description
4. Proposed Development
5. Regulatory Summary and Requirements
6. Site Location Map
7. FEMA Flood Map
8. Abutters List and Map
9. Wetland Evaluation Report from Pietras Environmental Group, LLC, dated 12/6/16
10. Staff Report
11. Draft IWWA minutes from 10/13/22

Please contact the Land Use office if you have any questions or concerns regarding this action. A notice of decision will appear in the Hartford Courant on Wednesday, December 21, 2022.

The permit is issued by the IWWA subject to the following general conditions:

1. The applicant, owner, or agent (permittee) shall notify the IWWA in writing a minimum of forty-eight (48) hours prior to commencing work on the site and at the completion of the permitted activities.

2. The permit is valid for a period not to exceed five (5) years from the date of issue. The permittee may request and the IWWA or the IWWA Agent may grant such additional periods to complete the authorized activities prior to the expiration of the permit.

3. All work shall be consistent with the terms and conditions of the permit and the Regulations of the IWWA. All work not specifically identified and authorized herein shall constitute a violation of this permit and may result in an enforcement action.

4. This permit is not transferable to any other party without the written authorization of the IWWA or the IWWA Agent.

5. In evaluation of the application for this permit, the IWWA Agent has relied upon information provided by the permittee. If such information is subsequently found to be false, incomplete, or misleading, this permit may be modified, suspended, or revoked by the IWWA or the IWWA Agent. The permittee may be subject to civil or criminal prosecution, as provided by law, in the event the permit is suspended or revoked.

6. The permittee shall employ best management practices, consistent with the specific terms and conditions of this permit, to control storm water runoff from the property to limit or eliminate soil erosion or sedimentation or pollution into wetland or watercourses to the extent practical. The permittee shall notify the IWWA, in the event of an unauthorized discharge of pollutants into a wetland or watercourse within two (2) business days of the event.

7. The permittee shall install, maintain, and repair such erosion and sedimentation control measures as may be required to limit or reduce to the extent practical soil erosion or sedimentation into wetlands and watercourses. Such measures shall be put into place prior to the commencement of work on the site and shall remain in place until such time as permanent soil stabilization is achieved.

8. The permittee shall not commence any work until other permits or authorizations as may be required are obtained from local, state, or federal agencies.

9. This permit does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws, ordinances, or regulations.

10. The applicant shall verify in writing to the IWWA that any necessary erosion and sedimentation control measures are in place and functional prior to the start of construction within the Upland Review Area.

Lisa Ozaki

Lisa Ozaki
Community Development Coordinator

Cc: File #09-22-1223

Appendix B

Canton Planning and Zoning Commission Approval Letter

PLANNING & ZONING COMMISSION
Canton, Connecticut, Inc. 1806
4 Market Street, Collinsville, Connecticut 06022

PLANNING & ZONING COMMISSION APPROVAL/CERTIFICATE OF ACTION
FILE 315; APLN 2242; 50 OLD RIVER ROAD

March 8, 2023

Robert Skinner
Town of Canton
P.O. Box 468
Collinsville, CT 06022

Stephen Benben
385 Church Street
Suite 201
Guilford, CT 06437

RE: **File 315; Apln 2242;** 50 Old River Road; Assessors Map 34; Parcel 4490050; Zone: MCPF; Site Plan & Special Permit, Section 6.2, Floodplain; Section 6.3, Farmington River Protection Overlay; Section 6.4, Municipal, Community, and Public Facilities; proposed canoe and kayak launch; Town of Canton, owner / Bob Skinner & Stephen Benben, applicant

Dear Mr. Skinner & Mr. Benben,

Please be advised that at a Special Meeting on Wednesday, March 1, 2023, the Canton Planning and Zoning Commission voted on the above referenced item.

MOTION: Commissioner Thiesse MOVED that the Canton Planning and Zoning Commission does hereby APPROVE **File 315; Apln 2242**; 50 Old River Road; Assessors Map 34; Parcel 4490050; Zone: MCPF; Site Plan & Special Permit, Section 6.2, Floodplain; Section 6.3, Farmington River Protection Overlay; Section 6.4, Municipal, Community, and Public Facilities; proposed canoe and kayak launch; Town of Canton, owner / Bob Skinner & Stephen Benben, applicant

This approval is granted in part on the application submitted on December 29, 2022, received on January 18, 2023; testimony received at a public hearing commenced on February 21, 2023,

and continued and closed on that date March 1, 2023; and upon the following documentation submitted by the applicant or others during the course of the proceedings on the application:

Drawings:

1. C1.0 – Existing Conditions Plan; prepared for Town of Canton; prepared by Triton Coastal Consultants, LLC, dated 12/28/22
2. C2.0 – Site Layout Plan; prepared for Town of Canton; prepared by Triton Coastal Consultants, LLC, dated 12/28/22
3. C3.0 – Grading Plan – prepared for Town of Canton; prepared by Triton Coastal Consultants, LLC, dated 12/28/22
4. C4.0 – Soil Erosion and Sediment Control Plan; prepared for Town of Canton; prepared by Triton Coastal Consultants, LLC, dated 12/28/22
5. C5.0 – Details; prepared for Town of Canton; prepared by Triton Coastal Consultants, LLC, dated 12/28/22
6. C6.0 – Details; prepared for Town of Canton; prepared by Triton Coastal Consultants, LLC, dated 12/28/22

Correspondence

1. Town of Canton Planning Application – **File 315; Apln 2242;** 50 Old River Road; Assessors Map 34; Parcel 4490050; Zone: MCPF; Site Plan & Special Permit, Section 6.2, Floodplain; Section 6.3, Farmington River Protection Overlay; Section 6.4, Municipal, Community, and Public Facilities; proposed canoe and kayak launch; Town of Canton, owner / Bob Skinner & Stephen Benben, applicant
2. 1.0 – Introduction from Triton Coastal Consultants, LLC
3. 2.0 – Existing Site Description from Triton Coastal Consultants, LLC
4. 3.0 – Proposed Development from Triton Coastal Consultants, LLC
5. 4.0 – Regulatory Summary and Requirements from Triton Coastal Consultants, LLC
6. Figure 1 – Site Location Map; 50 Old River Road; prepared for Town of Canton; prepared by Triton Coastal Consultants, LLC, dated 2021
7. Figure 2 – FEMA Flood Map; 50 Old River Road; prepared for Town of Canton; prepared by Triton Coastal Consultants, LLC, dated October 2020
8. Town of Canton Flood Plain District Development Permit Supplemental Application Information
9. Town of Canton Floor Plan District Development Application; Design Professional's Certificate – Engineer, dated 12/28/22
10. Site Plan Checklist
11. Special Permit Checklist
12. Additional requirements in Floor-Prone Areas Checklist
13. Abutter List
14. Town of Canton – Assessment Parcel Map
15. Notice to Abutters
16. Wetland Delineation Report from Pietras Environmental Group, LLC, dated 12/16/2016
17. Opinion of Probable Erosion Control Cost
18. Public Hearing Legal Notice

19. Postponement request until Feb. 23 meeting, dated 1/9/23
20. Staff Completion Report, 1/10/23
21. Draft motion
22. Sign Affidavit, dated 2/21/23
23. Letter from Triton Coastal Consultants, LLC Response to Application Completion Report, dated 2/20/23
24. George Redford Letter

This approval is granted because the Commission finds that the application, as conditioned, modified by, and inclusive of the stipulations of this approval, would comply with the following:

1. The standards of Section 6.2, Floodplain; Section 6.3, Farmington River Protection Overlay; and Section 6.4, Municipal, Community, and Public Facilities
2. The standards of Section 7 of Zoning as applicable
3. The Site Plan criteria of Section 9.1; and,
4. The Special Permit criteria of Section 9.2.E.

This approval is **effective March 22, 2023** and UPON THE RECORDING OF THE APPROVAL LETTER/CERTIFICATE OF ACTION WITH THE TOWN CLERK.

The Commission hereby grants this approval subject to the following conditions, modifications, restrictions, and safeguards:

1. The above-referenced plans shall be submitted for signature by the Chair and filing the final approved plan with the Land Use Office:

2. No site preparation work, including, but not limited to, grading, tree removal, on-site storage of materials and excavation work, may commence until the required erosion and sedimentation control measures have been installed; and a preconstruction meeting has been held with the Town Planner, ZEO, Wetlands Agent, Project Administrator, or their designees. Tree removal specifically necessary for and limited to the installation of erosion controls may be authorized by the ZEO;

3. The applicant shall be responsible for erosion and sedimentation control in accordance with the approved plan; failure to adhere to the plans, or create any discharge of materials, shall be considered a violation and may result in immediate enforcement, including, but not limited to, the calling of the bond;

4. No site preparation work, including, but not limited to, grading, tree removal, on-site storage of materials and excavation work, may commence until a preconstruction meeting has been held with the Town Planner, ZEO, Wetlands Agent, Project Administrator, or their designees;

5. The ZEO, in accordance with Section 9.8 and CGS 8-3(f) shall have the authority to authorize site activities to commence, and to allow for the issuance of Building Permits;

6. The ZEO shall not authorize the issuance of building permits and the commencement of site activities until Conditions # 1-8 have been met;

7. Certificates of Zoning Compliance must be applied for in accordance with Section 9.8.C, and approved by the ZEO prior to the issuance of a Certificate of Occupancy (CGS 8-3(f)). Certificates of Zoning Compliance may not be issued by the ZEO until the requirements of Section 9.8.C have been met inclusive of the following:
   a. All site improvements included on the approved plans, and otherwise associated with this approval, to be installed as approved;
   b. All existing refuse and debris shall be removed from the site;
   c. A complete improvement location survey (as-built) plans shall be submitted to the ZEO in accordance with Section 9.8.C.8 including but not limited to documentation required during and immediately following the process of construction;
   d. There shall be no on-site burial of building materials or debris, and a notarized statement to this effect shall be submitted to the ZEO;
   e. The appropriate professional licensed by the State of Connecticut (the design professional) shall be retained during construction and shall certify to the ZEO in writing that all site development work and auxiliary facilities, sewer, parking areas, landscaping and plantings have been installed in accordance with the approved Site Development Plan;
   f. Outside lighting shall be tested to conform to the approved business and nonbusiness reduced levels and documentation of the use of automatic dimmers or timers, within ½ hour of closing is provided, prior to the issuance of a Certificate of Occupancy;

8. All necessary operation and maintenance of storm water retention/ detention basins and storm water management systems shall be the responsibility of the property owner;

9. Litter, refuse, and debris from the site and or generated from the site and found in surrounding areas shall be quickly removed;

10. All landscaping shall be neatly maintained and dead vegetation replaced as soon as weather permits in accordance with the approved plans;

11. Final release of any security or subsequent reductions shall require the approval of the Commission;

12. Per Section 9.1.G.2, all work in connection with this approved site plan shall be completed within the time frame establish by CGS (presently 5 years after the approval of the plan, or March 1, 2028) unless extended by law or action of the Commission;

13. Per Section 9.2.H.1, failure to record the special permits granted through this approval within twelve months (March 1, 2024) shall void the special permits;

14. This approval shall be binding upon the applicant/developer, heirs, assigns, and grantees.

15. In evaluating this application, the Town of Canton and this Commission has relied on information provided by the Applicant or his agent.

In evaluating this application, the Town of Canton and this Commission has relied on information provided by the Applicant or his agent.

SECONDED BY: Commissioner Perry.
VOTE: Passed.

The Notice of Decision will appear in the Hartford Courant on Friday, March 3, 2023. Should you have any questions, please feel free to contact this office at 860-693-7856.

Sincerely,

Lisa Ozaki

Lisa Ozaki
Community Development Coordinator

CC: File 315; Apln 2242
Town of Canton Building Department

Appendix C

U.S. Army Corps of Engineers
Regional General Permit No. 5 for the State of Connecticut

US Army Corps of Engineers ®
New England District

Appendix E: Self-Verification Notification Form

This form is required for all inland projects in Connecticut, but it is not required if work is done within boundaries of Mashantucket Pequot or Mohegan Tribal Lands. At least two weeks before work commences, complete all fields (write "none" if applicable) below, send this form, Official Species List (see GC 12), documentation of THPO and SHPO notifications if applicable, site location map, project plans (not required for projects involving the installation of construction mats only) and any State or local approval(s) to:

Regulatory Division, Branch B
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751
or cenae-r-ct@usace.army.mil

and

CT DEEP
79 Elm Street
Hartford, CT 06106-5127
or DEEP.LWRDRegulatorySubmittals@ct.gov

State Permit Number: _____ Date of State Permit: _____

Permittee: Town of Canton c/o Robert Skinner
Address, City, State & Zip: 4 Market Street Canton, CT 06022
Phone(s) and Email: 860.693.7837 rskinner@townofcantonct.org

Agent: Triton Coastal Consultants, Inc. c/o Stephen Benben
Address, City, State & Zip: 385 Church Street, Suite 201 Guilford, CT 06437
Phone(s) and Email: 203.458.7200 sbenben@tritoncoastal.com

Contractor: TBD
Address, City, State & Zip: _____
Phone(s) and Email: _____

Project Name: Town of Canton Boat Launch
Project Location (provide detailed description & locus map):
Address, City, State & Zip: 50 Old River Road Canton, CT 06022
Lat. ° N, Long ° (Decimal Degrees): 41D 49' 6.19"N 72D 55' 19.68"W
Waterway Name: Farmington River

Proposed Work Dates: Start: May 2023 Finish: July 2023

Work will be done under the following GPs (circle all that apply):

2	5	6	9	10	11	12	13	14	15	17	18	19	21

Area of Wetland Impacts (SF): Permanent: 824 sf Temporary: 0 sf

Area of Waterway Impacts (SF): Permanent: 190 sf Temporary: 525 sf

TOTAL Project Impact (SF): Permanent: 6,893 sf Temporary: 525 sf

Describe the specific work that will be undertaken in waters and wetlands: Permanent disturbance includes placement of fill consisting of geotextile separation fabric, gravel subbase, concrete blocks, and grout. Temporary disturbance includes the placement of a portable cofferdam and dewatering the work area.

Have the THPOs and the CT SHPO been notified of the proposed work per the procedures in GC 11? If so, attach any responses received to this form.
Yes ___X___ date contacted 12/27/2022 No _____

Are there Federally listed endangered/threatened species, other than the northern long-eared bat, present? (see GC 12) Yes _____ No___X___

Confirm no SAVs are present or will be impacted: Yes ___X___ No_____
Applicable to GPs:

2	5	6	9	10	11	12	13	14	15	17	18	19	21

Confirm no unconfined work with impact to diadromous fish (see App. H): Yes ___X___ No_____
Applicable to GPs:

2	5	6	9	10	19

Confirm work complies with Stream Crossing BMPs (see App. G): Yes _N/A_ No_____

Applicable to GPs:

2	6	17	19

If GP 19 and work does not comply with Appendix G, identify date of Interagency Meeting where waiver was granted: Date of Meeting: _____
Identify interagency participants: CT DEEP:_____ USACE:_____

Will your project include any secondary effects? (Secondary effects include, but are not limited to, non-tidal waters or wetlands drained, flooded, fragmented, or mechanically cleared resulting from a single and complete project. See Appendix F - Definitions.) If YES, describe here:
Limited clearing will be required to install the launch and ADA accessible path to the launch. The disturbed areas will be revegetated with a native New England wetland seed mix.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions for Self-Verification under the Connecticut GPs.

Permittee Signature: _____ Date**:** _____

January 3, 2023

Mr. Stephen Benben
Triton Coastal, LLC
385 Church Street
Guilford, CT 06437
(sent only via email to sbenben@tritoncoastal.com)

Subject: Town of Canton Boat Launch
50 Old River Road
Canton, Connecticut

Dear Mr. Benben,

The State Historic Preservation Office (SHPO) has reviewed the referenced project in response to your request for our comments regarding potential effects to historic properties. SHPO understands that the proposed activities include the construction of a kayak and canoe launch ramp. The project will include excavation of a portion of the west bank of the Farmington River as well as the reconfiguration of an existing paved path. There are no properties listed on the State or National Registers of Historic Places recorded within the project area. The area surrounding the project location contains previously recorded archeological sites and is considered archeologically sensitive, but it is unlikely intact archeological resources will be impacted by the proposed activities that are primarily located within previously disturbed soils. Based on the information submitted to this office, it is the opinion of SHPO that no historic properties will be affected by the proposed project.

This office appreciates the opportunity to review and comment upon this project. For additional information, please contact Cory Atkinson, Staff Archaeologist and Environmental Reviewer, at (860) 500-2458 or cory.atkinson@ct.gov.

Sincerely,

Jonathan Kinney
State Historic Preservation Officer

Applicant: General Public, State of Connecticut **Effective Date: December 15, 2021**
Expiration Date: December 15, 2026

DEPARTMENT OF THE ARMY
REGIONAL GENERAL PERMITS FOR THE
STATE OF CONNECTICUT

The New England District of the U.S. Army Corps of Engineers (USACE) hereby issues twenty-three (23) regional general permits (GPs), listed in Appendix A, for activities subject to USACE jurisdiction in waters of the United States (U.S.), including navigable waters within the State of Connecticut, adjacent ocean waters to the seaward limit of the outer continental shelf, and tribal lands[1]. These GPs are issued in accordance with USACE regulations at 33 CFR 320 - 332 [see 33 CFR 325.5(c)(1)] and authorize activity-specific categories of work that are similar in nature and cause no more than minimal individual and cumulative adverse environmental impacts while providing protection to the aquatic environment and the public interest.

This document contains the following sections and appendices:

GENERAL CRITERIA

For activities to qualify for these GPs, they must meet the terms, eligibility criteria and stipulations listed in Appendix A – General Permits, the general conditions (GCs) in Appendix B, and any special conditions included in verification letters that are deemed necessary to protect aquatic resources.

Under these GPs, projects may qualify for the following:

- Self-Verification (inland): A Self-Verification Notification Form (SVNF) and supporting materials are required
- Self-Verification (coastal): An SVNF is not required, except for GP 12. USACE relies on Connecticut Department of Energy and Environmental Protection (CT DEEP) and applicant/agent submittals.
- Pre-Construction Notification (PCN):
  - Inland: Application to, and written approval from, USACE is required.
  - Coastal: Notification to USACE provided by CT DEEP or by applicants as necessary. Written approval from USACE is required.

[1] Tribal reservation lands are considered a sovereign nation and are therefore acknowledged separately from the State of Connecticut.

APPENDIX A - GENERAL PERMITS FOR THE STATE OF CONNECTICUT & TRIBAL LANDS

All Self-Verification and Pre-Construction Notification activities must comply with all applicable terms, general conditions, and any additional eligibility requirements below.

"INLAND" as written in this appendix refers to non-tidal and non-navigable waters and wetlands, which are defined as waters that are regulated under Section 404 of the CWA, including rivers, streams, lakes, ponds, and wetlands. These resource areas exclude Section 10 Navigable Waters of the U.S, which are defined in Appendix F. The jurisdictional boundaries are the ordinary high water mark (OHW) in the absence of adjacent wetlands; beyond OHW to the limit of adjacent wetlands when adjacent wetlands are present; and the wetland limit when only wetlands are present.

"COASTAL" as written in this appendix refers to tidal, coastal & navigable waters of the U.S. These waters, subject to Section 10 of the Rivers and Harbors Act of 1899, are those waters subject to the ebb and flow of the tide in addition to the non-tidal portions of the Connecticut River from Long Island Sound to the Massachusetts state border. The jurisdictional limits are the mean high water mark (MHW) in tidal waters and OHW in non-tidal portions of the federally-designated navigable rivers. For the purposes of these GPs, fill placed in the area between MHW and the high tide line (HTL), in the bordering and contiguous wetlands to tidal waters, are also reviewed in the "coastal" sections below. Work in these waters that includes a discharge of dredged or fill material is regulated under Section 404 of the CWA seaward of HTL.

GP Activity #	Category of Activity
GP 1	Aids to navigation & temporary recreational structures *(Coastal only)*
GP 2	Repair or maintenance of existing currently serviceable, authorized, or grandfathered structures & fills and removal of structures *(Coastal and Inland)*
GP 3	Moorings *(Coastal only)*
GP 4	Pile-supported structures & floats, including boat lifts/hoists & other miscellaneous structures & work *(Coastal only)*
GP 5	Boat ramps and marine railways *(Coastal and Inland)*
GP 6	Utilities including lines, outfall and intake structures and appurtenant features *(Coastal and Inland)*
GP 7	Dredging, transport & disposal of dredged material, beach nourishment & rock removal and rock relocation *(Coastal only)*
GP 8	Discharges of dredged or fill material incidental to the construction of bridges *(Coastal only)*
GP 9	New shoreline and bank stabilization projects and Living Shorelines *(Coastal and Inland)*
GP 10	Aquatic habitat restoration, establishment, and enhancement activities *(Coastal and Inland)*
GP 11	Fish and wildlife harvesting activities *(Coastal and Inland)*
GP 12	Oil spill and hazardous material response operations *(Coastal and Inland)*
GP 13	Cleanup of hazardous and toxic waste and removal of contaminated soil *(Coastal and Inland)*
GP 14	Scientific measurement and monitoring devices *(Coastal and Inland)*
GP 15	Survey and exploratory survey activities *(Coastal and Inland)*
GP 16	Aquaculture & Mariculture Activities (*Coastal only*)
GP 17	New and expansion of recreational, residential, institutional, and commercial developments *(Inland only)*
GP 18	Wetland crossings for linear transportation projects *(Inland only)*
GP 19	Stream river and brook crossings (not including wetland crossings) *(Coastal and Inland)*
GP 20	Energy generation and renewable energy facilities and hydropower projects *(Coastal and Inland)*
GP 21	Temporary fill not associated with a regulated General Permit activity *(Inland only)*
GP 22	Modification and Improvement of Existing Minor drainage features and Mosquito Control *(Coastal only)*
GP 23	Agricultural Activities *(Inland only)*

	• Private boat lifts. • Letter of no objection from riparian property owner is required for new structures within 25 feet of riparian property line extensions. • Reconfiguration of existing authorized structures, both private or commercial, provided those structures do not extend beyond the existing footprint** of the facility or extend further waterward of MHW, or encroach into SAS or shellfish beds. • Access stairs. • Temporary structures not in FNPs such as scaffolding to facilitate activities covered by another GP	
GP 5. BOAT RAMPS & MARINE RAILWAYS (Sections 10 & 404; tidal and non-tidal waters of the U.S.) Activities required for the construction of boat ramps & marine railways, including associated excavation & discharges of fill. Dredging in coastal waters of the U.S. is not eligible under GP 5 (see GP 7).		
	SELF-VERIFICATION (SV)	**PRE-CONSTRUCTION NOTIFICATION (PCN)**
GP 5(A) INLAND An SVNF is required.	Not eligible for SV: • Unconfined fill or excavation discharges in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon, including designated critical habitat, foraging, and overwintering areas. (See GC 12 for a hyperlink to the NOAA ESA) • Fill or excavation discharges in vegetated shallows with *Vallisneria americana* (also known as water celery, American eelgrass or tapegrass). • Boat ramps located within 25 feet of riparian property line extensions unless the properties are owned by the same owner or a letter of no objection from the abutter is provided. Eligible for SV: • Ramp construction with ≤5,000 SF of temporary & permanent impact • Ramps constructed in inland waters that support anadromous fish (see Appendix H) provided construction occurs during low (at or below the normal water elevation) or no-flow condition and/or behind a cofferdam between July 1 and March 31. The cofferdam shall be constructed of non-erodible materials (steel sheets, aqua barriers, or geotextile liner; earthen cofferdams are not permissible).	Not eligible for PCN (Individual Permit required): • Permanent and temporary fill >1/2 acre. Eligible for PCN (includes work not eligible for SV): • Permanent and temporary fill ≤1/2 acre • Boat ramps located within 25 feet of an abutting riparian property line with a letter of no objection from the abutter(s).
GP 5(B) COASTAL Note: If boat ramps are located within 25 feet of a riparian property line and the	These activities are not eligible for SV	Not eligible for PCN (Individual Permit required): • Permanent and temporary impacts >1/2 acre of waters and wetlands. • Permanent and temporary impacts >1000 SF in tidal SAS, other than vegetated shallows. • Impacts >100 SF in SAV. Eligible for PCN:

APPENDIX B - GENERAL CONDITIONS

1. Other Permits. Authorizations provided by these GPs do not obviate the need for project proponents to obtain other Federal, State, or local permits, approvals, or authorizations required by law. Applicants are responsible for applying and obtaining all such permits, approvals or authorizations. Work that is not regulated by the State, but subject to USACE jurisdiction, may be still be eligible for these GPs.

2. Federal Jurisdiction

a. Applicability of these GPs shall be evaluated with reference to federal jurisdictional boundaries (e.g., mean high water mark (MWH), high tide line (HTL), ordinary high water mark (OHW), and wetland boundary). Activities shall be evaluated with reference to "waters of the U.S." under the Clean Water Act (33 CFR 328) and "navigable waters of the U.S." under Section 10 of the Rivers and Harbors Act of 1899 (33 CFR 329). Prospective permittees are responsible for ensuring that the boundaries satisfy the federal criteria defined at 33 CFR 328 – 329. These sections prescribe the policy, practice, and procedures to be used in determining the extent of USACE jurisdiction.

b. Permittees shall identify the following aquatic resources on project plans: wetlands and other special aquatic sites (SAS) including vegetated shallows (also known as submerged aquatic vegetation (SAV)), riffle and pool complexes, sanctuaries and refuges, coral reefs, and mudflats; and other waters such as lakes and ponds; and perennial and intermittent streams on the project site. Wetlands shall be delineated in accordance with the Corps of Engineers Wetlands Delineation Manual and its applicable regional supplement.

3. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)

a. Activities shall be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the U.S. to the maximum extent practicable at the project site (i.e., on site). Consideration of mitigation (avoiding, minimizing, rectifying, reducing, or compensating) is required to the extent necessary to ensure that the adverse effects to the aquatic environment are no more than minimal.

b. Applicants should consider riparian/forested buffers for stormwater management and low impact development (LID) best management practices (BMPs) to reduce impervious cover and manage stormwater to minimize impacts to the maximum extent practicable.

c. Compensatory mitigation[1] for unavoidable impacts to waters of the U.S., including direct, secondary and temporal[2], will generally be required for projects with permanent impacts that exceed the SV area limits, and may be required for temporary impacts that exceed the SV area limits, to offset unavoidable impacts which remain after all appropriate and practicable avoidance and minimization has been achieved and to ensure that the adverse effects to the aquatic environment are no more than minimal. Proactive restoration projects or temporary impact work with no secondary effects may generally be excluded from this requirement.

Note: The USACE Connecticut In-Lieu Fee Program allows USACE permittees, as compensation for their project impacts to aquatic resources of the U.S. in Connecticut to make monetary payment *in-lieu* of permittee-responsible mitigation. Information is provided at https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/In-Lieu-Fee Programs/CT/. This only applies to USACE required mitigation and additional CT DEEP mitigation may be required.

4. Discretionary Authority. Notwithstanding compliance with the terms and conditions of this permit, USACE retains discretionary authority to require an Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. This authority is invoked on a case-by-case basis whenever USACE determines that the potential consequences of the proposal warrant Individual Permit review based on the concerns stated above. This authority may be invoked for projects with cumulative adverse environmental effects that are more than minimal, or if there is a special resource or concern

[1] Compensatory mitigation sites proposed to offset losses of aquatic resource function must comply with the applicable provisions of 33 CFR 332. See also the New England District Compensatory Mitigation Standard Operating Procedures at http://www.nae.usace.army.mil/Missions/Regulatory/Mitigation.aspx

[2] Temporal loss: The time lag between the losses of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site(s) (33 CFR 332.2).

associated with a particular project. Whenever USACE notifies an applicant that an Individual Permit may be required, authorization under these GPs is voided and no work may be conducted in waters of the U.S. until a USACE Individual Permit is obtained or until USACE notifies the applicant that further review has demonstrated that the work may be reviewed under these GPs.

5. Fills Within 100-Year Floodplains. The activity shall comply with applicable Federal Emergency Management Agency (FEMA)-approved State of Connecticut or local floodplain management requirements. Permittees should contact FEMA and/or the State of Connecticut regarding floodplain management requirements.

6. Single and Complete Projects. The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. The GPs shall not be used for piecemeal work and shall be applied to single and complete projects.

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

b. Unless USACE determines the activity has independent utility, all components of a single project and/or all planned phases of a multi-phased project (e.g., subdivisions should include all work such as roads, utilities, and lot development) shall be treated together as constituting one single and complete project.

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

7. Use of Multiple General Permits. The use of more than one GP for a single and complete project is prohibited, except when the acreage loss of waters of the U.S. authorized by the GPs does not exceed the acreage limit of the GPs with the highest specified acreage limit. For example, if a road crossing over waters is constructed under GP 19, with an associated utility line crossing authorized by GP 6, if the maximum acreage loss of waters of the U.S. for the total project is ≥1 acre it shall be evaluated as an IP.

8. USACE Property and Federal Projects

a. USACE projects and property can be found at: www.nae.usace.army.mil/Missions/Civil-Works

b. In addition to any authorization under these GPs, proponents must contact the USACE Real Estate Division at (978) 318-8585 for work occurring on or potentially affecting USACE properties and/or USACE-controlled easements to initiate reviews and determine what real estate instruments are necessary to perform work. Permittees may not commence work on USACE properties and/or USACE-controlled easements until they have received any required USACE real estate documents evidencing site-specific permission to work.

c. Any proposed temporary or permanent modification or use of a Federal project (including but not limited to a levee, dike, floodwall, channel, anchorage, seawall, bulkhead, jetty, wharf, pier or other work built but not necessarily owned by the United States), or any use which would obstruct or impair the usefulness of the Federal project in any manner, and/or would involve changes to the authorized Federal project's scope, purpose, and/or functioning, is not eligible for SV and will also require review and approval by USACE pursuant to Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408) (Section 408)

d. A PCN is required for all work in, over, under, or within a distance of three times the authorized depth of a USACE Federal Navigation Project (FNP) and may also require permission under Section 408.

e. Any structure or work that extends closer than a distance of three times the project's authorized depth to the horizontal limits of any FNP shall be subject to removal at the owner's expense prior to any future USACE dredging or the performance of periodic hydrographic surveys.

f. Where a Section 408 permission is required, written verification for the PCN will not be issued prior to the decision on the Section 408 permission request.

9. National Lands. Activities that impinge upon the value of any National Wildlife Refuge, National Forest, National Marine Sanctuary, or any area administered by the National Park Service, U.S. Fish and Wildlife Service (USFWS) or U.S. Forest Service are not eligible for SV and require either a PCN or Individual Permit.

10. Wild and Scenic Rivers

a. The following activities in designated rivers of the National Wild and Scenic River (WSR) System, or in a river designated by Congress as a "study river" for possible inclusion in the system, require a PCN or IP unless the National Park Service (NPS) has determined in writing to the proponent that the proposed work will not adversely affect the WSR designation or study status:

(1) Activities that occur in WSR segments, in and 0.25 mile up or downstream of WSR segments, or in tributaries within 0.25 miles of WSR segments;

(2) Activities that occur in wetlands within 0.25 mile of WSR segments; or

(3) Activities that have the potential to alter free-flowing characteristics in WSR segments. The District Engineer will coordinate the application with the NPS or its designee with direct management responsibility for that river.

b. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

c. As of 2021, designated rivers in Connecticut include: the West Branch of the Farmington River from Colebrook to Canton (designated river); the Eightmile River and tributaries in Salem, Lyme, and East Haddam (designated river); the Lower Farmington River from Canton to Windsor (study river – including its tributary Salmon Brook) and the Wood & Pawcatuck Rivers. Additional information can be found at: http://www.rivers.gov/connecticut.php.

11. Historic Properties

a. No undertaking shall cause effects (defined at 33 CFR 325 Appendix C and 36 CFR 800) to properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places[3], including previously unknown historic properties within the permit area, unless USACE or another Federal action agency has satisfied the consultation requirements of Section 106 of the National Historic Preservation Act (NHPA). The State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO) and the National Register of Historic Places can assist with locating information on:

(1) Previously identified historic properties; and

(2) Areas with potential for the presence of historic or cultural resources, which may require identification and evaluation by qualified historic preservation and/or archaeological consultants or tribal entities in consultation with USACE and the SHPO and/or THPO(s).

b. For activities eligible for SV, proponents must document that the activity will not cause effects as stated in 11(a). To comply with this condition, both SV and PCN prospective permittees shall notify the CT SHPO and THPOs for projects in close proximity to tribal lands or with potential impacts to tribal lands and request their identification of historic properties and cultural resources. The notification shall consist of the project location, plans, and brief narrative and state that a federal permit is required. Documentation of the notification to the SHPO/THPO shall be included with the SV or PCN submittal and dated. If no response is received within 30-days from the SHPO/THPO notification, the Corps may proceed to a permit decision on an SV or PCN. A PCN or IP is required if any activity may have an adverse effect on a historic property or cultural resource.

[3] Many historic properties are not listed on the National Register of Historic Places and may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with USACE and the SHPO and/or THPO(s).

c. Proponents must submit a PCN to USACE as soon as possible if the authorized activity may cause effects as stated in 11(a) to ensure that USACE is aware of any potential effects of the permitted activity on any historic property or cultural resource so that the consultation requirements of Section 106 of NHPA can be satisfied.

d. All PCN (inland projects) submittals shall:

1) show notification to the SHPO and applicable THPO(s) for their identification of historic properties or cultural resources (https://portal.ct.gov/-/media/DECD/Historic-Preservation/01_Programs_Services/Environmental-Review/ProjectNotificationForm_2021.pdf). If no response is received within 30-days from the SHPO/THPO notification, the Corps may proceed to a permit decision on an SV or PCN.

2) state which historic properties or cultural resources may be affected by the proposed work or include a vicinity map indicating the location of them, and

3) include any available documentation from the SHPO or THPO(s) indicating that there are, or are not, historic properties or cultural resources affected. Starting consultation early in project planning can save proponents time and money.

e. If you discover any previously unknown historic, cultural, or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

f. Federal agencies should follow their own procedures for complying with the requirements of Section 106 of the NHPA. Along with the application, Federal permittees shall provide USACE with the appropriate documentation to demonstrate compliance with those requirements.

g. Federal and non-federal applicants should coordinate with USACE before conducting any onsite archeological work (reconnaissance, surveys, recovery, etc.) requested by the SHPO or the THPOs, as USACE will determine the permit area for the consideration of historic properties based on 33 CFR 325 Appendix C. This is to ensure that work done is in accordance with USACE requirements.

12. Federal Threatened and Endangered Species

a. No activity is authorized by these GPs which:

(1) Is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat or proposed critical habitat of such species.

(2) "May affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(3) Is "likely to adversely affect" a listed species or critical habitat unless Section 7 consultation has been completed by USACE or another lead action agency in coordination with USACE.

(4) Violates the ESA.

b. All prospective permittees shall attach to their SVNF or PCN an Official Species List obtained from the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) found at: *https://ecos.fws.gov/ipac* and provide the email address of the person who generated the list.

c. For proposed activities in waters with tidal influence, prospective permittees shall also refer to the National Oceanic and Atmospheric Administration (NOAA) Fisheries' Section 7 Mapper for federally-listed species found at: *https://noaa.maps.arcgis.com/apps/webappviewer/index.html.*

Several tidal freshwater waterways in Connecticut have been identified as foraging and overwintering areas, or designated as critical habitat, for the endangered Atlantic sturgeon and shortnose sturgeon. The extent of these waterways is highlighted below. The list of waters below does not include higher salinity coastal tidal creeks and brackish waterways which also possess habitat for these species, so it is strongly recommended that applicants refer to the NOAA Section 7 mapper (link above) for all work in waterways that may have tidal influence:

- Mainstem Housatonic River from Long Island Sound (LIS) to the upstream limit of the Derby Dam in Shelton, CT (Atlantic sturgeon critical habitat; migrating and foraging habitat for Atlantic sturgeon and shortnose sturgeon).
  - Naugatuck River confluence with the Housatonic River up to the Naugatuck River Reservoir dam in Ansonia, CT.
- Quinnipiac River from LIS to the bridge/intersection of Quinnipiac Street and River Road, Wallingford, CT (migrating and foraging habitat for Atlantic sturgeon and shortnose sturgeon).
- Mainstem Connecticut River from LIS to the Massachusetts Border (Atlantic sturgeon critical habitat; spawning, migrating, and foraging for Atlantic sturgeon; overwintering, migrating, and foraging for shortnose sturgeon).
  - Salmon River confluence at Connecticut River to the dam at Powerhouse Road, Leesville, CT
  - Farmington River confluence with the Connecticut River to Tunxis Road, Tariffville, CT
  - Pattaconk Brook confluence with the Connecticut River to North Quarter Park, Chester, CT
  - Confluence of Hamburg Cove with the Connecticut River to Eightmile River at Joshuatown Road/Old Hamburg Road, Hamburg, CT.
  - Lord Creek confluence with the Connecticut River to Coults Hole and Mack Creek to Lord Hill Lane, Lyme, CT.
  - North Cove confluence with Connecticut River and Falls River confluence in North Cove to River Road, Essex, CT.
  - Mattabassett River confluence at the Connecticut River to Rt. 3, northeast of Newfield Street in Middletown, CT.
  - Coginchaug River confluence with the Mattabassett River to Johnson Street north of the Providence & Worcester Railroad.
  - Selden Creek, Lyme, CT.
- Mainstem of the Thames River to Norwich, Connecticut (migrating and foraging habitat for Atlantic sturgeon and shortnose sturgeon).
  - Shetucket River confluence with Thames River up to Greenville Dam, Greenville, CT
  - Yantic River confluence with the Thames River to Yantic Falls, Norwich, CT.
  - Horton Cove confluence with the Thames River to Stony Brook and Mohegan Brook, Montville, CT.
  - Poquetanuck Cove confluence with the Thames River to Poquetanuck Brook at Shingle Road, Poquetanuck, CT.

d. A PCN is required if a threatened or endangered species, a species proposed for listing as threatened or endangered, or designated or proposed critical habitat (all hereinafter referred to as "listed species or habitat"), as identified under the ESA, may be affected by the proposed work, unless consultation is completed by another lead Federal agency, in which case, an application can be SV. An activity may remain eligible for SV if the only listed species affected is the northern long-eared bat (*Myotis septrionalis*), and only after Section 7 consultation has been completed by USACE under the 4(d) Rule Streamlined Consultation.

e. Federal agencies shall follow their own procedures for complying with the requirements of the ESA while ensuring that USACE and any other federal action agencies are included in the consultation process.

f. Non-federal representatives designated by USACE to conduct informal consultation or prepare a biological assessment shall follow the requirements in the designation document(s) and the ESA. Non-federal representatives shall also provide USACE with the appropriate documentation to demonstrate compliance with those requirements. The USACE will review the documentation and determine whether it is sufficient to address ESA compliance for the GP activity, or whether additional ESA consultation is necessary.

g. The requirements to comply with Section 7 of the ESA may be satisfied by a programmatic agreement (PA) or programmatic consultation (PC) with USACE, the New England District, or another federal agency. New England District PAs and PCs are found at: https://www.nae.usace.army. mil/Missions/Regulatory/State-General-Permits/Connecticut-General-Permit.

13. Pile Installation and Removal and Related Time of Year Restrictions

a. Derelict, degraded, or abandoned piles and sheet piles in the project area shall be removed in their entirety as practicable and properly disposed of in an upland location and not in wetlands or other waters of the U.S. In areas of fine-grained substrates, piles/sheets shall be removed by direct, vibratory, or clamshell pull method to minimize potential turbidity and sedimentation impacts. If removal is not practicable, said piles/sheets shall be cut off or driven to a depth of, at least, one foot below substrate.

b. Work involving pile installation and/or removal should occur "In-the-dry" or adhere to the applicable waterbody's time-of-year restrictions in Appendix H.

14. Navigation

a. No activity may cause more than a minimal adverse effect on navigation.

b. Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the U.S.

c. Any structure or work that extends closer to the horizontal limits of any USACE FNP than a distance of three times the project's authorized depth shall be subject to removal at the owner's expense prior to any future USACE dredging or the performance of periodic hydrographic surveys. This is applicable to SV and PCN.

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

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

f. A PCN is required for all work in, over or under an FNP or its buffer zone unless otherwise indicated in Appendix A. as the work may also require a Section 408 permit.

15. Federal Liability. In issuing these permits, the Federal Government does not assume any liability for the following: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest; (c) damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit; (d) design or construction deficiencies associated with the permitted work; and/or (e) damage claims associated with any future modification, suspension, or revocation of these permits.

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

- Mats should be in good condition to ensure proper installation, use and removal.

- Where feasible, mats should be carried and not dragged unless they are being used as a grading implement.
- Where feasible, place mats in a location that would minimize the amount needed for the wetlands crossing.
- Minimize impacts to wetland areas during installation, use, and removal.
- Install adequate erosion & sediment controls at approaches to mats to promote a smooth transition to, and minimize sediment tracking onto, swamp mats.
- In most cases, construction mats should be placed along the travel area so that the individual boards are resting perpendicular to the direction of traffic. No gaps should exist between mats. Place mats far enough on either side of the resource area to rest on firm ground.
- Provide standard construction mat BMP details to work crews.
- Construction mats shall be thoroughly cleaned before re-use to minimize spread of invasive species.

17. Temporary Fill

a. Temporary fill, including but not limited to construction mats and corduroy roads shall be entirely removed as soon as they are no longer needed to construct the authorized work. Temporary fill shall be placed in its original location or disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S.

b. All temporary fill and disturbed soils shall be stabilized to prevent its eroding into waters of the U.S. where it is not authorized. Work shall include phased or staged development to ensure only areas under active development are exposed and to allow for stabilization practices as soon as practicable. Temporary fill must be placed in a manner that will prevent it from being eroded by expected flows.

c. Unconfined temporary fill authorized for discharge into waters of the U.S. shall consist of material that minimizes impacts to water quality (e.g., washed stone, stone, etc.).

d. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Materials shall be placed in a location and manner that does not adversely impact surface or subsurface water flow into or out of the wetland. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric or other appropriate material laid on the pre-construction wetland grade where practicable to minimize impacts and to facilitate restoration to the original grade. Construction mats are excluded from this requirement.

e. Construction debris and/or deteriorated materials shall not be located in waters of the U.S.

18. Restoration of Inland Wetland Areas

a. Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be stabilized with a wetland seed mix containing only plant species native to New England and shall not contain any species listed in the "Invasive and Other Unacceptable Plant Species" Appendix D in the "New England District Compensatory Mitigation Guidance" found at http://www.nae.usace.army.mil/Portals/74/docs/regulatory/Mitigation/CompensatoryMitigationGuidance.pdf.

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

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

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

19. Coastal Bank Stabilization. Projects involving construction or reconstruction/maintenance of bank stabilization structures within USACE jurisdiction should be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable. For example, vertical bulkheads should only be used in situations where reflected wave energy can be tolerated. This generally eliminates bodies of water where the reflected wave energy may interfere with or impact harbors, marinas, or other developed shore areas. A revetment is sloped and is typically employed to absorb the direct impact of waves more effectively than a vertical seawall. For more information, go to the USACE Coastal Engineering Manual (supersedes the Shore Protection Manual) located at https://www.nae.usace.army.mil/Missions/Regulatory/Useful-Documents-Forms-and-Publications/. Select "Products/ Services," "Publications." Part 5, Chapter 7-8, a (2) c.

20. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below OHW or HTL, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the U.S. during periods of low-flow or no-flow, or during low tides.

21. Aquatic Life Movements & Management of Water Flows

a. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Unless otherwise stated, activities impounding water in a stream require a PCN to ensure impacts to aquatic life species are avoided and minimized. All permanent and temporary crossings of waterbodies (e.g., streams, wetlands) shall be:

(1) Suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species; and

(2) Properly aligned and constructed to prevent bank erosion or streambed scour both adjacent to and inside the culvert. Permanent and temporary crossings of wetlands shall be suitably culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity between the wetlands on either side of the road.

b. To avoid adverse impacts on aquatic organisms, the low flow channel/thalweg shall remain unobstructed during periods of low flow, except when it is necessary to perform the authorized work.

c. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the preconstruction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

d. Refer to Appendix G for Stream Crossing BMPs.

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

23. Spawning, Breeding, and Migratory Areas

a. Jurisdictional activities and impacts such as excavations, discharges of dredged or fill material, and/or suspended sediment producing activities in jurisdictional waters that provide value as fish migratory areas, fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided and minimized to the maximum extent practicable.

b. Jurisdictional activities in waters of the U.S. that provide value as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for obtaining any "take" permits required under the USFWS's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the USFWS to determine if such "take" permits are required for a particular activity.

24. Storage of Seasonal Structures. Coastal structures, such as pier sections and floats, that are removed from the waterway for a portion of the year (often referred to as seasonal structures) shall be stored in an upland location, located above MHW and not in tidal wetlands. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is seaward of MHW. This is intended to prevent structures from being stored on the marsh substrate and the substrate seaward of MHW.

25. Environmental Functions and Values. The permittee shall make every reasonable effort to carry out the construction or operation of the work authorized herein in a manner that minimizes any adverse impacts on existing fish, wildlife, and the environmental functions to the extent practicable. The permittee will discourage the establishment or spread of plant species identified as non-native invasive species by any federal or state agency.

26. Vernal Pools.

a. A PCN is required if a discharge of dredged or fill material is proposed within a vernal pool depression located within waters of the U.S.

b. GC 26(a) above does not apply to projects that are within a municipality that meets the provisions of a USACE-approved vernal pool Special Area Management Plan (SAMP) and are otherwise eligible for SV, and the applicant meets the requirements to utilize the vernal pool SAMP.

27. Invasive Species

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

b. Unless otherwise directed by USACE, all applications for PCN inland projects proposing fill in USACE jurisdiction shall include an Invasive Species Control Plan. Additional information can be found at www.nae.usace.army.mil/missions/regulatory/invasive-species and https://cipwg.uconn.edu/

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

29. Inspections. The permittee shall allow USACE to make periodic inspections at any time deemed necessary to ensure that the work is being or has been performed in accordance with the terms and conditions of this permit. To facilitate these inspections, the permittee shall complete and return to USACE the Work-Start Notification Form and the Compliance Certification Form when either is provided with a verification letter. The USACE may also require post-construction engineering drawings for completed work or post-dredging survey

drawings for any dredging work.

30. Maintenance. The permittee shall maintain the activity authorized by these GPs in good condition and in conformance with the terms and conditions of this permit. This does not include maintenance dredging projects. Maintenance dredging is subject to the review thresholds in Appendix A – General Permit #7 as well as any conditions included in a written USACE authorization. Maintenance dredging includes only those areas and depths previously authorized and dredged. Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a)(2).

31. Property Rights. Per 33 CFR 320.4(g)(6), these GPs do not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

32. Transfer of GP Verifications. If the permittee sells the property associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to this office to validate the transfer. A copy of the GP verification must be attached to the letter, and the letter must contain the following statement and signature:

When the structures or work authorized by this general permit are still in existence at the time the property is transferred, the terms and conditions of this general permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this general permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____(Transferee)
_____(Date)

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

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

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

36. Abandonment. If the permittee decides to abandon the activity authorized under this General Permit, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of USACE.

37. Enforcement cases. These GPs do not apply to any existing or proposed activity in USACE jurisdiction associated with an on-going USACE or EPA enforcement action, until such time as the enforcement action is resolved or USACE determines that the activity may proceed independently without compromising the enforcement action.

38. Previously Authorized Activities

a. Completed projects that received prior authorization from USACE (via SV or PCN), shall remain authorized in accordance with the original terms and conditions of those authorizations, including their terms, general conditions, and any special conditions provided in a written verification.

b. Activities authorized pursuant to 33 CFR Part 330.3 ("Activities occurring before certain dates") are not affected by these GPs.

39. Duration of Authorization

a. These GPs expire five years from the date issued as listed at the top of the cover sheet. Activities authorized by these GPs that have either commenced (i.e., are under construction) or are under contract to commence in reliance upon this authorization will have an additional year from the expiration date to complete the work. The permittee must be able to document to USACE satisfaction that the project had commenced or was under contract by the expiration date of these GPs. If work is not completed within the one-year extended timeframe, the permittee must contact USACE. The USACE may issue a new authorization provided the project meets the terms and conditions of the CT GPs in effect at the time.

b. Activities authorized under these GPs will remain authorized until the GP expires, unless discretionary authority has been exercised on a case-by-case basis to require an Individual Permit in accordance with 33 CFR 325.2(e)(2), or the authorization is modified, suspended, or revoked in accordance with 33 CFR 325.7. Activities completed under the SV or PCN authorizations of these GPs will continue to be authorized after its expiration date.

APPENDIX F - DEFINITIONS

Artificial or Living Reef: A structure that is constructed or placed in waters for the purpose of enhancing fishery resources and commercial and recreational fishing opportunities.

Biodegradable: A material that decomposes into elements found in nature within a reasonably short period of time and will not leave a residue of plastic or a petroleum derivative in the environment after degradation. In contrast, degradable plastics break down into plastic fragments that remain in the environment after degradation. Examples of biodegradable materials include jute, sisal, cotton, straw, burlap, coconut husk fiber (coir) or excelsior. In contrast, degradable plastics break down into plastic fragments that remain in the environment after degradation. Photodegradable, UV degradable or Oxo-(bio)degradable plastics are not considered biodegradable under this GP.

Boating facilities: These provide, rent, or sell mooring space, such as marinas, boat/yacht clubs, boat yards, dockominiums, town facilities, dockominiums, etc. Not classified as boating facilities are piers shared between two abutting properties or town mooring fields that charge an equitable user fee based on the actual costs incurred.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Confined Aquatic Disposal (CAD): The process of disposing dredged material, sometimes determined to be unsuitable for unconfined disposal in an aquatic environment in a manner to sequester it from the overlying water column. When this disposal takes place into a natural or constructed depression on the seafloor, it is referred to as a CAD cell.

Construction mats: Construction, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. This definition does not include "corduroy roads".

Corduroy roads: Roads made from cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures.

Cumulative effects: The changes in an aquatic ecosystem that are attributable to the collective effect of several individual 1) discharges of dredged or fill material, or 2) structures. Although the impact of a particular discharge may constitute a minor change, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. See 40 CFR 230.11(g).

Currently serviceable: Useable as is or with some minor maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Dredged material & discharge of dredged material: These are defined at 33 CFR 323.2(c) and (d). The term dredged material means material that is excavated/dredged from waters of the United States.

Dredging:

- **Improvement Dredging:** For the purposes of these GPs, this is dredging deeper than previously authorized by the Corps or dredged.
- **Maintenance Dredging:** For the purposes of these GPs, this is dredging from an area previously authorized by the Corps or dredged. The Corps may require proof of authorization and dredging. Maintenance dredging typically refers to the routine removal of accumulated sediment to maintain the design depths of serviceable navigation channels, harbors, marinas, boat launches and port facilities. Maintenance dredging is conducted for navigational purposes and does not include any expansion of

the previously dredged area. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS, shellfish, etc.

- **New Dredging:** For the purposes of these GPs, this is dredging of an area that has never been authorized by the Corps and dredged, including expansion of previously dredged areas. New dredging may also include those activities that do not meet the definition of maintenance dredging, as determine by the Corps.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s) but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Expansions: Work that increases the footprint of fill, depth of basin or drainage feature, structures, or floats, or slip capacity.

Footprint (boating facility): The limit of structures, such as docks, pilings, piers, or platforms, at an established marina or docking facility.

Fill material & discharge of fill material: These are defined at 33 CFR 323.2(e) and (f). The term fill material is defined as material placed in waters of the U.S. where the material has the effect of either replacing any portion of a water of the U.S. with dry land or changing the bottom elevation of any portion of a water of the U.S.

Federal navigation projects (FNPs): These areas are maintained by the Corps; authorized, constructed and maintained on the premise that they will be accessible and available to all on equal terms; and are comprised of Corps Federal anchorages, Federal channels and Federal turning basins. Information, including the limits, is provided at http://www.nae.usace.army.mil/Missions/Navigation.aspx

FNP buffer zone: The buffer zone of a Corps FNP is equal to three times the authorized depth of the FNP. For additional information see http://www.nae.usace.army.mil/Missions/Navigation/Connecticut-Projects/

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along the shore objects, a continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

In the dry: Work that is done under dry conditions, e.g., work behind cofferdams or when the stream or tide is waterward of the work.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.
Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance but are still reasonably foreseeable.
Individual Permit: A Department of the Army authorization that is issued following a case-by-case evaluation of a specific structure or work in accordance with the procedures of 33 CFR 322, or a specific project involving the proposed discharge(s) in accordance with the procedures of 33 CFR 323, and in accordance with the procedures of 33 CFR 325 and a determination that the proposed discharge is in the public interest pursuant to 33 CFR 320.
Living shoreline: Living shorelines stabilize banks and shores in coastal waters along shores with small fetch and gentle slopes that are subject to low-to mid-energy waves. A living shoreline has a footprint that is made up mostly of native material. It incorporates vegetation or other living, natural "soft" elements alone or in combination with some type of harder shoreline structure (e.g., oyster or mussel reefs or rock sills) to dissipate wave energy and to collect naturally deposited sediment for added protection and stability.
Maintenance:
a. The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 – "Activities occurring before certain dates," provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification.

- Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized.
- Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.
- No seaward expansion for bulkheads or any other fill activity is considered SV maintenance.
- Only structures or fills that were previously authorized and comply with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the SV or PCN thresholds in Section V.

b. The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state.
c. Contact the Corps to determine whether stream crossing replacements require a PCN.
d. Exempted Maintenance. In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design."
Navigable waters of the United States: Navigable waters of the U.S. are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The Connecticut River has been determined to be a Navigable water of the United States. Refer to Title 33 CFR Part 329.
Ordinary High Water Mark (OHW): A line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas. See 33 CFR 328.3(e).
Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.
Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.
Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function but does not result in a gain in aquatic resource area.
Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: reestablishment and rehabilitation.
Secondary effects: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final Section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are: a) aquatic areas drained, flooded, fragmented, or mechanically cleared, b) fluctuating water levels in an impoundment and downstream associated with the operation of a dam, c) septic tank leaching and surface runoff from residential or commercial developments on fill, and d) leachate and runoff from a sanitary landfill located in waters of the U.S. See 40 CFR 230.11(h).
Shellfish dredging/harvesting: Shellfish dredging typically consists of a net on a frame towed behind a boat to capture shellfish and leave the sediment behind. Dredges may skim the surface, utilize hydraulic jets, toothed rakes or suction apparatus.
Special aquatic sites: These include inland and saltmarsh wetlands, mud flats, vegetated shallows (submerged aquatic vegetation), sanctuaries and refuges, coral reefs, and riffle and pool complexes. These are defined at 40 CFR 230.3 and listed in 40 CFR 230 Subpart E.
Stream bed: The substrate of the stream channel between the OHW marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the streambed, but outside of the OHW marks, are not considered part of the streambed.
Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the U.S.
Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.
Submerged aquatic vegetation: Submerged aquatic vegetation (SAV) such as eelgrass is known to play a critical ecosystem role. The U.S. Environmental Protection Agency (EPA) has designated SAV (referred to as vegetated shallows in the Section 404(b)(1) Guidelines), including eelgrass, as "special aquatic sites" under the 404(b)(1) Guidelines due to its important role in the marine ecosystem for nesting, spawning, nursery cover and forage areas for fish and wildlife. Furthermore, the MAFMC has designated SAV, including eelgrass as a Habitat Area of Particular Concern (HAPC) for summer flounder EFH and the NEFMC has designated SAV as part of the nearshore juvenile Atlantic cod HAPC. Seagrasses provide important ecological services including fish and shellfish habitat, and shorebird feeding habitats, nutrient and carbon cycling, sediment stabilization, and biodiversity (Thayer et al 1984, Fonseca and Cahalan 1992, Fonseca et al., 1998, Kenworthy et al 1998, Orth et al., 2006). In many

locations along the east coast, eelgrass coverage has declined by fifty percent or more since the 1970's (Thayer et al. 1975, Short et al. 1993, Short and Burdick 1996). Loss of eelgrass is attributed to reduced water quality and clarity resulting from elevated inputs of nutrients or other pollutants such as suspended solids and disturbances such as dredging (Kemp et al. 1983, Short et al. 1993, Short and Burdick 1996, Orth et al. 2006). Eelgrass may also be adversely affected through shading and burial or smothering resulting from turbidity and subsequent sedimentation (Deegan and Buchsbaum 2005, Duarte et al. 2005, Johnson et al. 2008). In Massachusetts, surveys from 1995 to 2007 have shown statewide declines in seagrass cover in 90% of the embayments where it was studied (Costello and Kentworthy, 2010). In New Hampshire, eelgrass distribution throughout the entire Great Bay Estuary has declined precipitously since 1996, with a loss of 76% in the Great Bay and extirpation of nearly all beds in the Piscataqua River during that time (Short 2013). Given the widespread decline in eelgrass beds in New England, any additional loss to this habitat will likely significantly affect the resources that depend on these meadows. Successful compensatory mitigation for impacts to SAV can be costly and difficult to implement, making this habitat especially vulnerable to permanent loss.

Temporary impacts: Temporary impacts include waters of the U.S. that are temporarily filled, flooded, excavated, drained or mechanically cleared because of the regulated activity and restored to preconstruction contours and elevations upon completion of construction.

Tide gates: Structures such as duckbills, flap gates, manual and self-regulating tide gates, etc. that regulate or prevent upstream tidal flows.

Utility Line: Any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, data, and telegraph messages, and radio and television communication. The term utility line does not include activities that drain a water of the U.S., such as drainage tile or French drains, but it does apply to pipes conveying drainage from another area.

Vegetated shallows: Permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as eelgrass and widgeon grass (*Rupiamaritima*) in marine systems (doesn't include salt marsh) as well as several freshwater species in rivers and lakes. Note: These areas are also commonly referred to as submerged aquatic vegetation (SAV).

Vernal pools (VPs): For the purposes of these GPs, VPs are depressional wetland basins that typically go dry in most years and may contain inlets or outlets, typically of intermittent flow. Vernal pools range in both size and depth depending upon landscape position and parent material(s). In most years, VPs support one or more of the following obligate indicator species: wood frog, spotted salamander, blue-spotted salamander, marbled salamander, Jefferson's salamander and fairy shrimp. However, they should preclude sustainable populations of predatory fish. VP areas are:

• Depression (includes the VP depression up to the spring or fall high water mark, and includes any vegetation growing within the depression),
• Envelope (area within 0-100 feet of the VP depression's edge), and
• Critical terrestrial habitat (area within 100-750 feet of the VP depression's edge).

The envelope and critical terrestrial habitat protect the water quality of the breeding site (e.g., providing shade, leaf litter, and coarse woody material) and support the non-larval life-cycle stages of amphibian species. **Note:** The Corps may determine that a waterbody should not be designated as a VP based on available evidence.

Weir: A barrier across a river designed to alter the flow characteristics. In most cases, weirs take the form of a barrier, smaller than most conventional dams, across a river that causes water to pool behind the structure (not unlike a dam) and allows water to flow over the top. Weirs are commonly used to alter the flow regime of the river, prevent flooding, measure discharge and help render a river navigable.

Waters of the United States.: Waters of the U.S. are defined in 33 CFR 328. These waters include more than navigable waters of the U.S. and are the waters where permits are required for the discharge of dredged or fill material pursuant to Section 404 of the CWA. Waters of the U.S. include jurisdictional wetlands.

CT DEEP WQC Definitions:

Special Wetlands: Include vernal pools, bogs, fens, cedar swamps, spruce swamps, calcareous seepage swamps, and wetlands that provide habitat for threatened or endangered species or species of special concern as designated by the State of Connecticut Natural Diversity Database. The following definitions for bogs, calcareous seepage wetlands, cedar swamps, fens, spruce swamps, and vernal pools apply for the purposes of this GP:

Calcareous Seepage Swamp: A forested wetland characterized by the discharge of groundwater with a chemistry influenced by an underlying limestone geology.

Cedar Swamp: A forested wetland characterized by the presence of Northern White Cedar or Atlantic White Cedar.

Fen: A peat accumulating wetland dominated by sedges and/or ericaceous shrubs. Typical plant species include low sedges, ericaceous shrubs, sphagnum and other mosses.

Spruce Swamp: A forested wetland characterized by the presence of Red or Black Spruce.

Vernal Pool: An often temporary body of water occurring in a shallow depression of natural or human origin that fills during spring rains and snow melt and typically dries up during summer months. Vernal pools support populations of species specially adapted to reproducing in these habitats. Such species may include wood frogs, mole salamanders (*Ambystoma* sp.), fairy shrimp, fingernail clams, and other amphibians, reptiles, and invertebrates. Vernal pools lack breeding populations of fish. **All vernal pools are subject to the jurisdiction of the CT DEEP under Connecticut Water Quality Standards.**

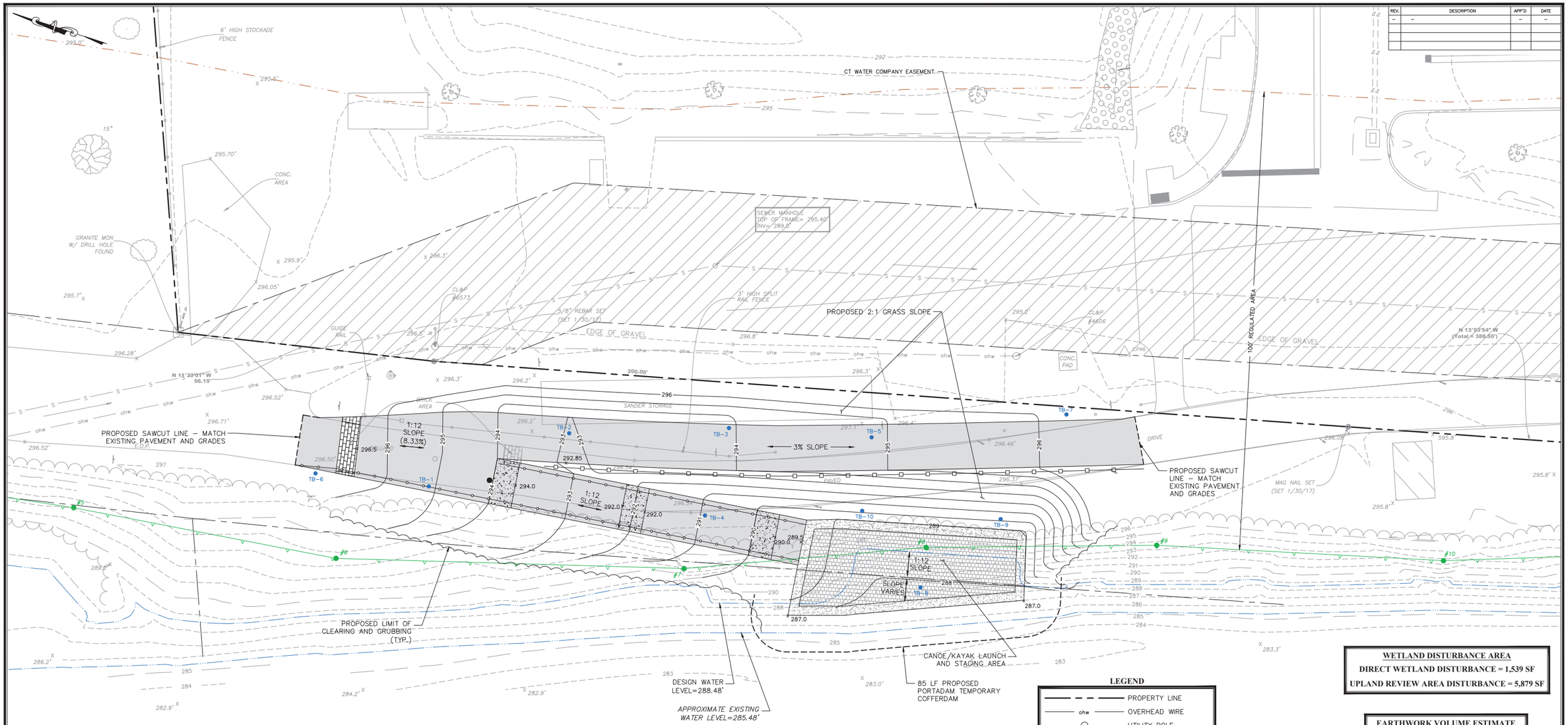
Threatened, Endangered or Special Concern Species; Significant Natural Communities/Critical Habitats: Species listed by CT DEEP pursuant to Chapter 495 of the Connecticut General Statute as threatened or endangered species or species of special concern. General locations of threatened and endangered species and species of special concern, and significant natural communities/critical habitats are identified on maps published by the Connecticut Department of Energy and Environmental Protection entitled "Natural Diversity Data Base Areas" and on the CTECO Interactive Map Viewers at www.cteco.uconn.edu .

Adverse Effect to Hydraulic Characteristics: An adverse effect to hydraulic characteristics includes an increase in flood water surface elevation, an increase in flood flow velocity or a restriction of flood low conveyance in a manner that would impact upstream, downstream, or adjacent property.

Appendix D

Analytical Soil Testing Information

REV.	DESCRIPTION	APP'D	DATE
–	–	–	–



LEGEND

- PROPERTY LINE
- OVERHEAD WIRE
- UTILITY POLE
- WETLAND BOUNDARY
- 100' WETLAND SETBACK
- EDGE OF WATER
- EXISTING FENCE
- PROPOSED HANDRAIL
- PROPOSED SPLIT RAIL FENCE
- TREE LINE
- SANITARY PIPE
- SANITARY MANHOLE
- STROMWATER PIPE
- CATCH BASINS
- HYDRANT
- UTILITY EASEMENT
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- SOIL BORING

WETLAND DISTURBANCE AREA

DIRECT WETLAND DISTURBANCE = 1,539 SF

UPLAND REVIEW AREA DISTURBANCE = 5,879 SF

EARTHWORK VOLUME ESTIMATE

CUT 670 CY

FILL 7 CY

NET 663 CY EXPORT

APPROXIMATE SCALE

10 0 5 10 20

(IN FEET)
1 Inch = 10 ft.

NOTES:

1. BASE MAP IS FROM AN IMPROVEMENT LOCATION SURVEY – RECORD; PREPARED BY DESIGN PROFESSIONALS, INC.; DATED: 11-9-2018; SCALE: 1"=30' AND AN EASEMENT MAP PREPARED BY GESICK & ASSOSIATES, P.C.; DATED: 2-15-2022; SCALE: 1"=40'.
3. ENTIRE PROPERTY IS WITHIN SPECIAL FLOOD HAZARD AREA, ZONE AE, WITH BASE FLOOD ELEVATION OF 297.5 – 298.0' (NAVD88).

SEAL & SIGNATURE

TRITON ENVIRONMENTAL, INC.
Environmental Consulting & Engineering
385 Church Street, Suite 203 • Guilford, Connecticut 06437 • 203.458.7200

FIGURE 2
SITE PLAN SHOWING
SAMPLING LOCATIONS

KAYAK/CANOE SOIL INVESTIGATION

TOWN OF CANTON
50 OLD RIVER ROAD
CANTON, CONNECTICUT

DRAWN BY: FSM	APPROVED BY: DSV	
DATE: 12/22/22	SCALE: 1"=10'	FILE No.: 200028-SI-02

P:\CAD\DRAWINGS\200000\200028\FIGURES\SOIL INVESTIGATION\200028-SI-02.DWG
Layout:C3.0

TABLE 1

Summary of Analytes Detected in Soil Samples

Town of Canton

50 Old River Road - Canton, CT

Compound	RSR Criteria		TB-1 0-1' 11/7/2022	TB-2 0-3' 11/7/2022	TB-3 0-2' 11/7/2022	TB-4 0-3.5' 11/7/2022	TB-5 0-2' 11/7/2022	TB-6 0-0.5' 12/6/2022	TB-7 0-0.5' 12/6/2022	TB-8 0-0.5' 12/6/2022	TB-9 0-2' 12/6/2022	TB-10 0-2' 12/6/2022
	RDEC	GA PMC										
Petroleum Hydrocarbons (mg/kg)												
ETPH	500	500	**640**	ND<54	100	240	ND<53	170	ND<56	130	200	ND<58
PAHs (mg/kg)								NA	NA	NA	NA	NA
Naphthalene	1,000	5.6	0.23	ND<0.11	0.11	0.12	ND<0.11					
2-Methyl Naphthalene	270	0.56	0.24	ND<0.22	ND<0.21	ND<0.21	ND<0.21					
Acenaphthylene	1,000	8.4	2	0.18	0.63	0.97	0.11					
Acenaphthene	1,000	8.4	2	ND<0.11	ND<0.11	0.13	ND<0.11					
Fluorene	1,000	5.6	6.6	ND<0.11	0.16	0.47	ND<110					
Phenanthrene	1,000	4	4.8	0.26	1.7	3.5	0.12					
Anthracene	1,000	40	2.5	ND<0.11	0.43	0.8	ND<0.11					
Fluoranthene	1,000	5.6	14	0.46	2.7	4.8	0.26					
Pyrene	1,000	4	11	0.47	2.9	**4.4**	0.28					
Benzo(a)Anthracene	1	1	**6.5**	0.23	**1.3**	**2.2**	0.15					
Chrysene	84	1	**6.4**	0.29	**1.6**	**2.4**	0.16					
Benzo(b)Fluoranthene	1	1	**7.8**	0.32	**1.5**	**2.6**	0.23					
Benzo(k)Fluoranthene	8.4	1	**3.1**	0.11	0.55	1	ND<0.11					
Benzo(a)Pyrene	1	1	**6.3**	0.25	**1.3**	**2.2**	0.17					
Indeno(1,2,3-cd)Pyrene	1	1	**3.7**	0.15	0.7	**1.2**	ND<0.11					
Dibenz(a,h)anthracene	1	1	**1.1**	ND<0.11	0.23	0.35	ND<0.11					
Benzo(g,h,i)Perylene	8.4	1	**4.1**	0.18	0.86	**1.4**	0.12					
% Solids	NE	NE	92	92	95	92	94	87	88	96	94	84

Notes:

Only parameters detected are shown

Bold and shaded concentrations exceed one or more of the RSR criteria

ND = Not Detected at the indicated detection limit

NE = None Established

RSR = Remediation Standard Regulations

RDEC = Residential Direct Exposure Criteria

PMC = Pollutant Mobility Criteria

Underlined criteria are based on 2015 DEEP pre-approved APS criteria (rev. 2018)

80 Lupes Drive
Stratford, CT 06615

Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cet1@cetlabs.com

Client: Mr. David Vasiliou
Triton Environmental
385 Church St.
Guilford, CT 06437

Analytical Report

CET# 2110241R

Report Date:November 16, 2022
Project: 200028, Canton

Connecticut Laboratory Certificate: PH 0116
Massachusetts Laboratory Certificate: M-CT903
Rhode Island Laboratory Certificate: 199

New York NELAP Accreditation: 11982
Pennsylvania Laboratory Certificate: 68-02927

SAMPLE SUMMARY

The sample(s) were received at 2.2°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
TB-1 0-1ft	2110241-01	Soil	11/07/2022 11:00	11/08/2022
TB-2 0-3ft	2110241-02	Soil	11/07/2022 11:40	11/08/2022
TB-3 0-2ft	2110241-03	Soil	11/07/2022 13:15	11/08/2022
TB-4 0-3.5ft	2110241-04	Soil	11/07/2022 12:45	11/08/2022
TB-5 0-2ft	2110241-05	Soil	11/07/2022 12:10	11/08/2022

Analyte: Percent Solids [SM 2540 G]

Analyst: KML

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2110241-01	TB-1 0-1ft	92	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	
2110241-02	TB-2 0-3ft	92	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	
2110241-03	TB-3 0-2ft	95	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	
2110241-04	TB-4 0-3.5ft	92	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	
2110241-05	TB-5 0-2ft	94	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	

Client Sample ID TB-1 0-1ft

Lab ID: 2110241-01

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**640**	54	1	EPA 3550C	B2K1053	11/10/2022	11/10/2022 23:55	1
Surrogate: Octacosane	*118 %*	*50 - 150*			B2K1053	11/10/2022	*11/10/2022 23:55*	

1 C18-C36 may be PNA Related

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Phenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
1,3-Dichlorobenzene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
n-Nitroso-di-n-propylamine	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Pyridine	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*F1
n-Nitroso-dimethylamine	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
bis(2-Chloroethyl)ether	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Aniline	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*I
2-Chlorophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
1,4-Dichlorobenzene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzyl Alcohol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*C1
1,2-Dichlorobenzene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
bis(2-Chloroisopropyl)ether	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Hexachloroethane	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2-Methyl Phenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
3+4 Methyl Phenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Naphthalene	**230**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2-Nitrophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*C2
2,4-Dichlorophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Hexachlorobutadiene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
4-Chloro-3-methylphenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Nitrobenzene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Isophorone	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2,4-Dimethylphenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
bis(2-Chloroethoxy)methane	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzoic Acid	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*C2
1,2,4-Trichlorobenzene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2,6-Dichlorophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
4-Chloroaniline	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	

Client Sample ID TB-1 0-1ft

Lab ID: 2110241-01

Semivolatile Organics
Method: EPA 8270D

Analyst: TWF

Matrix: Soil

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4,5-Tetrachlorobenzene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2-Methyl Naphthalene	**240**	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Acenaphthylene	**2000**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Acenaphthene	**200**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Dibenzofuran	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Fluorene	**660**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*F1
Hexachlorocyclopentadiene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2,4,6-Trichlorophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2,4,5-Trichlorophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2,4-Dinitrophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*C2
4-Nitrophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2-Chloronaphthalene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2-Nitroaniline	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*C2
Dimethylphthalate	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2,6-Dinitrotoluene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*F1
4-Nitroaniline	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2,4-Dinitrotoluene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2,3,4,6-Tetrachlorophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
4-Chlorophenyl-phenylether	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Diethylphthalate	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Phenanthrene	**4800**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Anthracene	**2500**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Carbazole	**420**	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Fluoranthene	**14000**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Pyrene	**11000**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
n-Nitrosodiphenylamine	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Pentachlorophenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
3-Nitroaniline	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*F1*C2
4,6-Dinitro-2-methylphenol	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*C2
1,2-Diphenylhydrazine	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
4-Bromophenyl-phenylether	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Hexachlorobenzene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Di-n-butylphthalate	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Pentachloronitrobenzene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzo[a]anthracene	**6500**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Chrysene	**6400**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Butylbenzylphthalate	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
3,3-Dichlorobenzidine	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*C2
bis(2-Ethylhexyl)phthalate	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Di-n-octylphthalate	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	*C2
Benzo[b]fluoranthene	**7800**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	

Client Sample ID TB-1 0-1ft

Lab ID: 2110241-01

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Benzo[k]fluoranthene	**3100**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzo[a]pyrene	**6300**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Indeno[1,2,3-cd]pyrene	**3700**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Dibenz[a,h]anthracene	**1100**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzo[g,h,i]perylene	**4100**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Surrogate: 2-Fluorophenol	*69.0 %*		*30 - 130*		B2K1002	11/10/2022	*11/11/2022 18:27*	
Surrogate: Phenol-d6	*76.0 %*		*30 - 130*		B2K1002	11/10/2022	*11/11/2022 18:27*	
Surrogate: Nitrobenzene-d5	*67.6 %*		*30 - 130*		B2K1002	11/10/2022	*11/11/2022 18:27*	
Surrogate: 2-Fluorobiphenyl	*71.9 %*		*30 - 130*		B2K1002	11/10/2022	*11/11/2022 18:27*	
Surrogate: 2,4,6-Tribromophenol	*89.9 %*		*30 - 130*		B2K1002	11/10/2022	*11/11/2022 18:27*	
Surrogate: Terphenyl-d14	*81.6 %*		*30 - 130*		B2K1002	11/10/2022	*11/11/2022 18:27*	

Client Sample ID TB-2 0-3ft

Lab ID: 2110241-02

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	ND	54	1	EPA 3550C	B2K1053	11/10/2022	11/11/2022 00:16	
Surrogate: Octacosane	*96.1 %*	*50 - 150*			B2K1053	11/10/2022	*11/11/2022 00:16*	

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
2-Methyl Naphthalene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Acenaphthylene	**180**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Acenaphthene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Fluorene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	*F1
Phenanthrene	**260**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Anthracene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Fluoranthene	**460**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Pyrene	**470**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[a]anthracene	**230**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Chrysene	**290**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[b]fluoranthene	**320**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[k]fluoranthene	**110**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[a]pyrene	**250**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Indeno[1,2,3-cd]pyrene	**150**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Dibenz[a,h]anthracene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[g,h,i]perylene	**180**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Surrogate: Nitrobenzene-d5	*74.6 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 18:52*	
Surrogate: 2-Fluorobiphenyl	*79.9 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 18:52*	
Surrogate: Terphenyl-d14	*95.5 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 18:52*	

Client Sample ID TB-3 0-2ft

Lab ID: 2110241-03

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**100**	52	1	EPA 3550C	B2K1053	11/10/2022	11/11/2022 00:37	1
Surrogate: Octacosane	*101 %*	*50 - 150*			B2K1053	11/10/2022	*11/11/2022 00:37*	

1 C18-C36 may be PNA Related

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	**110**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
2-Methyl Naphthalene	ND	210	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Acenaphthylene	**630**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Acenaphthene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Fluorene	**160**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	*F1
Phenanthrene	**1700**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Anthracene	**430**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Fluoranthene	**2700**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Pyrene	**2900**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[a]anthracene	**1300**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Chrysene	**1600**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[b]fluoranthene	**1500**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[k]fluoranthene	**550**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[a]pyrene	**1300**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Indeno[1,2,3-cd]pyrene	**700**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Dibenz[a,h]anthracene	**230**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[g,h,i]perylene	**860**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Surrogate: Nitrobenzene-d5	*68.7 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:17*	
Surrogate: 2-Fluorobiphenyl	*75.0 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:17*	
Surrogate: Terphenyl-d14	*83.8 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:17*	

Client Sample ID TB-4 0-3.5ft

Lab ID: 2110241-04

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**240**	54	1	EPA 3550C	B2K1053	11/10/2022	11/11/2022 00:57	1
Surrogate: Octacosane	*107 %*	*50 - 150*			B2K1053	11/10/2022	*11/11/2022 00:57*	

1 C18-C36 may be PNA Related

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	**120**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
2-Methyl Naphthalene	ND	210	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Acenaphthylene	**970**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Acenaphthene	**130**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Fluorene	**470**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	*F1
Phenanthrene	**3500**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Anthracene	**800**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Fluoranthene	**4800**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Pyrene	**4400**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[a]anthracene	**2200**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Chrysene	**2400**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[b]fluoranthene	**2600**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[k]fluoranthene	**1000**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[a]pyrene	**2200**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Indeno[1,2,3-cd]pyrene	**1200**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Dibenz[a,h]anthracene	**350**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[g,h,i]perylene	**1400**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Surrogate: Nitrobenzene-d5	*62.4 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:42*	
Surrogate: 2-Fluorobiphenyl	*69.5 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:42*	
Surrogate: Terphenyl-d14	*82.2 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:42*	

Client Sample ID TB-5 0-2ft

Lab ID: 2110241-05

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	ND	53	1	EPA 3550C	B2K1053	11/10/2022	11/11/2022 01:18	
Surrogate: Octacosane	*95.9 %*	*50 - 150*			B2K1053	11/10/2022	*11/11/2022 01:18*	

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
2-Methyl Naphthalene	ND	210	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Acenaphthylene	**110**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Acenaphthene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Fluorene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	*F1
Phenanthrene	**120**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Anthracene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Fluoranthene	**260**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Pyrene	**280**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[a]anthracene	**150**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Chrysene	**160**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[b]fluoranthene	**230**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[k]fluoranthene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[a]pyrene	**170**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Indeno[1,2,3-cd]pyrene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Dibenz[a,h]anthracene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[g,h,i]perylene	**120**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Surrogate: Nitrobenzene-d5	*67.5 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 20:07*	
Surrogate: 2-Fluorobiphenyl	*75.7 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 20:07*	
Surrogate: Terphenyl-d14	*91.0 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 20:07*	

QUALITY CONTROL SECTION

Batch B2K1002 - EPA 8270D

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1002-BLK1)					Prepared: 11/10/22 Analyzed: 11/11/22				
Phenol	ND	200							
1,3-Dichlorobenzene	ND	200							
n-Nitroso-di-n-propylamine	ND	200							
Pyridine	ND	200							
n-Nitroso-dimethylamine	ND	200							
bis(2-Chloroethyl)ether	ND	200							
Aniline	ND	200							
2-Chlorophenol	ND	200							
1,4-Dichlorobenzene	ND	200							
Benzyl Alcohol	ND	200							
1,2-Dichlorobenzene	ND	200							
bis(2-Chloroisopropyl)ether	ND	200							
Hexachloroethane	ND	200							
2-Methyl Phenol	ND	200							
3+4 Methyl Phenol	ND	200							
Naphthalene	ND	100							
2-Methyl Naphthalene	ND	200							
2-Nitrophenol	ND	200							
2,4-Dichlorophenol	ND	200							
Acenaphthylene	ND	100							
Acenaphthene	ND	100							
Hexachlorobutadiene	ND	200							
4-Chloro-3-methylphenol	ND	200							
Fluorene	ND	100							
Nitrobenzene	ND	200							
Phenanthrene	ND	100							
Anthracene	ND	100							
Isophorone	ND	200							
2,4-Dimethylphenol	ND	200							
Fluoranthene	ND	100							
bis(2-Chloroethoxy)methane	ND	200							
Pyrene	ND	100							
Benzo[a]anthracene	ND	100							
Benzoic Acid	ND	200							
1,2,4-Trichlorobenzene	ND	200							
Chrysene	ND	100							
2,6-Dichlorophenol	ND	200							
Benzo[b]fluoranthene	ND	100							
4-Chloroaniline	ND	200							
Benzo[k]fluoranthene	ND	100							
Benzo[a]pyrene	ND	100							
Indeno[1,2,3-cd]pyrene	ND	100							
1,2,4,5-Tetrachlorobenzene	ND	200							
Dibenz[a,h]anthracene	ND	100							
2-Methyl Naphthalene	ND	200							
Benzo[g,h,i]perylene	ND	100							
Acenaphthylene	ND	100							
Acenaphthene	ND	100							
Dibenzofuran	ND	200							

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1002-BLK1) - Continued					Prepared: 11/10/22 Analyzed: 11/11/22				
Fluorene	ND	100							
Hexachlorocyclopentadiene	ND	200							
2,4,6-Trichlorophenol	ND	200							
2,4,5-Trichlorophenol	ND	200							
2,4-Dinitrophenol	ND	200							
4-Nitrophenol	ND	200							
2-Chloronaphthalene	ND	200							
2-Nitroaniline	ND	200							
Dimethylphthalate	ND	200							
2,6-Dinitrotoluene	ND	200							
4-Nitroaniline	ND	200							
2,4-Dinitrotoluene	ND	200							
2,3,4,6-Tetrachlorophenol	ND	200							
4-Chlorophenyl-phenylether	ND	200							
Diethylphthalate	ND	200							
Phenanthrene	ND	100							
Anthracene	ND	100							
Carbazole	ND	200							
Fluoranthene	ND	100							
Pyrene	ND	100							
n-Nitrosodiphenylamine	ND	200							
Pentachlorophenol	ND	200							
3-Nitroaniline	ND	200							
4,6-Dinitro-2-methylphenol	ND	200							
1,2-Diphenylhydrazine	ND	200							
4-Bromophenyl-phenylether	ND	200							
Hexachlorobenzene	ND	200							
Di-n-butylphthalate	ND	200							
Pentachloronitrobenzene	ND	200							
Benzo[a]anthracene	ND	100							
Chrysene	ND	100							
Butylbenzylphthalate	ND	200							
3,3-Dichlorobenzidine	ND	200							
bis(2-Ethylhexyl)phthalate	ND	200							
Di-n-octylphthalate	ND	200							
Benzo[b]fluoranthene	ND	100							
Benzo[k]fluoranthene	ND	100							
Benzo[a]pyrene	ND	100							
Indeno[1,2,3-cd]pyrene	ND	100							
Dibenz[a,h]anthracene	ND	100							
Benzo[g,h,i]perylene	ND	100							
Surrogate: Nitrobenzene-d5					*54.8*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*58.3*	*30 - 130*			
Surrogate: Terphenyl-d14					*76.6*	*30 - 130*			
Surrogate: 2-Fluorophenol					*61.9*	*30 - 130*			
Surrogate: Phenol-d6					*64.4*	*30 - 130*			
Surrogate: Nitrobenzene-d5					*54.8*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*58.3*	*30 - 130*			
Surrogate: 2,4,6-Tribromophenol					*78.0*	*30 - 130*			
Surrogate: Terphenyl-d14					*76.6*	*30 - 130*			
LCS (B2K1002-BS1)					Prepared: 11/10/22 Analyzed: 11/11/22				
Phenol	2190	200	4,000.000		54.8	30 - 130			

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
LCS (B2K1002-BS1) - Continued					Prepared: 11/10/22 Analyzed: 11/11/22				
1,3-Dichlorobenzene	1830	200	4,000.000		45.8	40 - 140			
n-Nitroso-di-n-propylamine	2150	200	4,000.000		53.8	40 - 140			
Pyridine	1390	200	4,000.000		**34.6**	40 - 140			**L**
n-Nitroso-dimethylamine	1770	200	4,000.000		44.2	40 - 140			
bis(2-Chloroethyl)ether	2140	200	4,000.000		53.5	40 - 140			
Aniline	1870	200	4,000.000		46.6	40 - 140			
2-Chlorophenol	2130	200	4,000.000		53.3	30 - 130			
1,4-Dichlorobenzene	1840	200	4,000.000		46.1	40 - 140			
Benzyl Alcohol	1570	200	4,000.000		39.3	30 - 130			
1,2-Dichlorobenzene	1920	200	4,000.000		47.9	40 - 140			
bis(2-Chloroisopropyl)ether	2420	200	4,000.000		60.5	40 - 140			
Hexachloroethane	1910	200	4,000.000		47.8	40 - 140			
2-Methyl Phenol	2370	200	4,000.000		59.2	30 - 130			
3+4 Methyl Phenol	2390	200	4,000.000		59.9	30 - 130			
Naphthalene	1970	100	4,000.000		49.3	40 - 140			
2-Methyl Naphthalene	2170	200	4,000.000		54.4	40 - 140			
2-Nitrophenol	2440	200	4,000.000		61.0	30 - 130			
2,4-Dichlorophenol	2280	200	4,000.000		57.1	30 - 130			
Acenaphthylene	2060	100	4,000.000		51.5	40 - 140			
Acenaphthene	2120	100	4,000.000		52.9	40 - 140			
Hexachlorobutadiene	1990	200	4,000.000		49.9	40 - 140			
4-Chloro-3-methylphenol	2660	200	4,000.000		66.5	30 - 130			
Fluorene	2300	100	4,000.000		57.5	40 - 140			
Nitrobenzene	2180	200	4,000.000		54.6	40 - 140			
Phenanthrene	2340	100	4,000.000		58.6	40 - 140			
Anthracene	2350	100	4,000.000		58.7	40 - 140			
Isophorone	2230	200	4,000.000		55.8	40 - 140			
2,4-Dimethylphenol	1970	200	4,000.000		49.2	30 - 130			
Fluoranthene	2420	100	4,000.000		60.6	40 - 140			
bis(2-Chloroethoxy)methane	2300	200	4,000.000		57.5	40 - 140			
Pyrene	2440	100	4,000.000		61.0	40 - 140			
Benzo[a]anthracene	2430	100	4,000.000		60.8	40 - 140			
Benzoic Acid	2530	200	4,000.000		63.3	30 - 130			
1,2,4-Trichlorobenzene	2000	200	4,000.000		50.1	40 - 140			
Chrysene	2420	100	4,000.000		60.6	40 - 140			
2,6-Dichlorophenol	2280	200	4,000.000		57.0	30 - 130			
Benzo[b]fluoranthene	2350	100	4,000.000		58.8	40 - 140			
4-Chloroaniline	2340	200	4,000.000		58.5	40 - 140			
Benzo[k]fluoranthene	2360	100	4,000.000		59.0	40 - 140			
Benzo[a]pyrene	2470	100	4,000.000		61.7	40 - 140			
Indeno[1,2,3-cd]pyrene	2740	100	4,000.000		68.4	40 - 140			
1,2,4,5-Tetrachlorobenzene	2140	200	4,000.000		53.4	40 - 140			
Dibenz[a,h]anthracene	2600	100	4,000.000		65.0	40 - 140			
2-Methyl Naphthalene	2170	200	4,000.000		54.4	40 - 140			
Benzo[g,h,i]perylene	2730	100	4,000.000		68.2	40 - 140			
Acenaphthylene	2060	100	4,000.000		51.5	40 - 140			
Acenaphthene	2120	100	4,000.000		52.9	40 - 140			
Dibenzofuran	2260	200	4,000.000		56.5	40 - 140			
Fluorene	89.1	100	4,000.000		**2.23**	40 - 140			**L**
Hexachlorocyclopentadiene	2250	200	4,000.000		56.3	40 - 140			
2,4,6-Trichlorophenol	2500	200	4,000.000		62.5	30 - 130			
2,4,5-Trichlorophenol	2580	200	4,000.000		64.5	30 - 130			
2,4-Dinitrophenol	2910	200	4,000.000		72.7	30 - 130			

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
LCS (B2K1002-BS1) - Continued					Prepared: 11/10/22 Analyzed: 11/11/22				
4-Nitrophenol	2730	200	4,000.000		68.2	30 - 130			
2-Chloronaphthalene	2240	200	4,000.000		55.9	40 - 140			
2-Nitroaniline	2860	200	4,000.000		71.4	40 - 140			
Dimethylphthalate	2380	200	4,000.000		59.5	40 - 140			
2,6-Dinitrotoluene	ND	200	4,000.000			40 - 140			**L**
4-Nitroaniline	1670	200	4,000.000		41.7	40 - 140			
2,4-Dinitrotoluene	2830	200	4,000.000		70.8	40 - 140			
2,3,4,6-Tetrachlorophenol	2630	200	4,000.000		65.7	30 - 130			
4-Chlorophenyl-phenylether	2240	200	4,000.000		56.1	40 - 140			
Diethylphthalate	2470	200	4,000.000		61.8	40 - 140			
Phenanthrene	2340	100	4,000.000		58.6	40 - 140			
Anthracene	2350	100	4,000.000		58.7	40 - 140			
Carbazole	2550	200	4,000.000		63.8	40 - 140			
Fluoranthene	2420	100	4,000.000		60.6	40 - 140			
Pyrene	2440	100	4,000.000		61.0	40 - 140			
n-Nitrosodiphenylamine	2420	200	4,000.000		60.6	40 - 140			
Pentachlorophenol	2450	200	4,000.000		61.3	30 - 130			
3-Nitroaniline	230	200	4,000.000		**5.74**	40 - 140			**L**
4,6-Dinitro-2-methylphenol	3180	200	4,000.000		79.6	30 - 130			
1,2-Diphenylhydrazine	2500	200	4,000.000		62.5	40 - 140			
4-Bromophenyl-phenylether	2370	200	4,000.000		59.2	40 - 140			
Hexachlorobenzene	2380	200	4,000.000		59.4	40 - 140			
Di-n-butylphthalate	2660	200	4,000.000		66.4	40 - 140			
Pentachloronitrobenzene	2820	200	4,000.000		70.5	40 - 140			
Benzo[a]anthracene	2430	100	4,000.000		60.8	40 - 140			
Chrysene	2420	100	4,000.000		60.6	40 - 140			
Butylbenzylphthalate	3150	200	4,000.000		78.7	40 - 140			
3,3-Dichlorobenzidine	2670	200	4,000.000		66.8	40 - 140			
bis(2-Ethylhexyl)phthalate	3070	200	4,000.000		76.9	40 - 140			
Di-n-octylphthalate	3200	200	4,000.000		79.9	40 - 140			
Benzo[b]fluoranthene	2350	100	4,000.000		58.8	40 - 140			
Benzo[k]fluoranthene	2360	100	4,000.000		59.0	40 - 140			
Benzo[a]pyrene	2470	100	4,000.000		61.7	40 - 140			
Indeno[1,2,3-cd]pyrene	2740	100	4,000.000		68.4	40 - 140			
Dibenz[a,h]anthracene	2600	100	4,000.000		65.0	40 - 140			
Benzo[g,h,i]perylene	2730	100	4,000.000		68.2	40 - 140			
Surrogate: Nitrobenzene-d5					*56.2*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*54.6*	*30 - 130*			
Surrogate: Terphenyl-d14					*74.7*	*30 - 130*			
Surrogate: 2-Fluorophenol					*56.9*	*30 - 130*			
Surrogate: Phenol-d6					*60.2*	*30 - 130*			
Surrogate: Nitrobenzene-d5					*56.2*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*54.6*	*30 - 130*			
Surrogate: 2,4,6-Tribromophenol					*76.4*	*30 - 130*			
Surrogate: Terphenyl-d14					*74.7*	*30 - 130*			

Batch B2K1053 - CT-ETPH

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1053-BLK1)					Prepared: 11/10/22 Analyzed: 11/10/22				
ETPH	ND	50							
Surrogate: Octacosane					*99.9*	*50 - 150*			
LCS (B2K1053-BS1)					Prepared: 11/10/22 Analyzed: 11/10/22				
ETPH	1180	50	1,500.000		78.4	60 - 120			
Surrogate: Octacosane					*93.5*	*50 - 150*			

CASE NARRATIVE

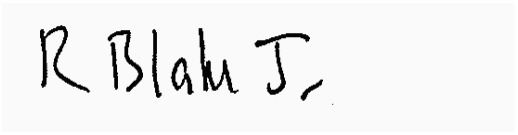
Revision: Original report dated 11/15/2022; Reported full SVOC list for samples 2110241-01 through -05 per client request.

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

Sincerely,

David Ditta
Laboratory Director

This technical report was reviewed by Robert Blake



Project Manager

This report shall not be reproduced except in full, without the written approval of the laboratory

Report Comments:

Sample Result Flags:
E- The result is estimated, above the calibration range.
H- The surrogate recovery is above the control limits.
L- The surrogate recovery is below the control limits.
B- The compound was detected in the laboratory blank.
P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
D- The RPD between the sample and the sample duplicate is high. Sample Homogeneity may be a problem.
+- The Surrogate was diluted out.
*C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
*C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
*F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
*F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
*I- Analyte exceeds method limits from second source standard in Initial Calibration Verification (ICV). No directional bias.

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

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

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

ND is None Detected at or above the specified reporting limit
Reporting Limit (RL) is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
All analyses were performed in house unless a Reference Laboratory is listed.
Samples will be disposed of 30 days after the report date.

80 Lupes Drive
Stratford, CT 06615

COMPLETE ENVIRONMENTAL TESTING, INC.

Tel: (203) 377-9984
Fax: (203) 377-9952
email: cet1@cetlabs.com

Quality Control Definitions and Abbreviations

Internal Standard (IS)	An Analyte added to each sample or sample extract. An internal standard is used to monitor retention time, calculate relative response, and quantify analytes of interest.
Surrogate Recovery	The % recovery for non-target organic compounds that are spiked into all samples. Used to determine method performance.
Continuing Calibration	An analytical standard analyzed with each set of samples to verify initial calibration of the system.
Batch	Samples that are analyzed together with the same method, sequence and lot of reagents within the same time period.
ND	Not detected at or above the specified reporting limit.
RL	RL is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
Dilution	Multiplier added to detection levels (MDL) and/or sample results due to interferences and/or high concentration of target compounds.
Duplicate	Result from the duplicate analysis of a sample.
Result	Amount of analyte found in a sample.
Spike Level	Amount of analyte added to a sample
Matrix Spike Result	Amount of analyte found including amount that was spiked.
Matrix Spike Dup	Amount of analyte found in duplicate spikes including amount that was spike.
Matrix Spike % Recovery	% Recovery of spiked amount in sample.
Matrix Spike Dup % Recovery	% Recovery of spiked duplicate amount in sample.
RPD	Relative percent difference between Matrix Spike and Matrix Spike Duplicate.
Blank	Method Blank that has been taken through all steps of the analysis.
LCS % Recovery	Laboratory Control Sample percent recovery. The amount of analyte recovered from a fortified sample.
Recovery Limits	A range within which specified measurements results must fall to be compliant.
CC	Calibration Verification

Flags:

- H- Recovery is above the control limits
- L- Recovery is below the control limits
- B- Compound detected in the Blank
- P- RPD of dual column results exceeds 40%
- #- Sample result too high for accurate spike recovery.

NELAP ACCREDITED TNI LABORATORY

Connecticut Laboratory Certification PH0116
Massachussets Laboratory Certification M-CT903
Pennsylvania NELAP Accreditation 68-02927

New York NELAP Accreditation 11982
Rhode Island Certification 199

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Complete Environmental Testing, Inc. ***Client:*** Triton Environmental

Project Location: 200028, Canton ***Project Number:***

Laboratory Sample ID(s): ***Sample Date(s):***

2110241-01 thru 2110241-05 11/07/2022

List RCP Methods Used: ***CET #:*** 2110241

CT-ETPH, EPA 8270D

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	☑ Yes ☐ No
1A	Were the method specified preservation and holding time requirements met?	☑ Yes ☐ No
1B	VPH and EPH Methods only: Was the VPH and EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	☐ Yes ☐ No ☑ N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	☑ Yes ☐ No
3	Were samples received at an appropriate temperature (< 6 degrees C.)?	☑ Yes ☐ No ☐ N/A
4	Were all QA/QC performance criteria specified in the CT DEP Reasonable Confidence Protocol documents achieved?	☑ Yes ☐ No
5a	a) Were reporting limits specified or referenced on the chain-of-custody?	☑ Yes ☐ No
5b	b) Were these reporting limits met?	☑ Yes ☐ No
6	For each analytical method referenced in this laboratory report package, were results reported for all consituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☐ Yes ☑ No
7	Are project specific matrix spikes and laboratory duplicates included with this data set?	☐ Yes ☑ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."
This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature:  **Position:** Laboratory Director

Printed Name: David Ditta **Date:** 11/14/2022

Name of Laboratory: Complete Environmental Testing, Inc.

This certification form is to be used for RCP methods only.

RCP Case Narrative

6- The client requested a subset of the RCP 8270 list.

7- Project specific QC was not requested by the client.

QC Batch/Sequence Report

Batch	Sequence	CET ID	Sample ID	Specific Method	Matrix	Collection Date
B2K1053		2110241-01	TB-1 0-1ft	CT-ETPH	Soil	11/07/2022
B2K1053		2110241-02	TB-2 0-3ft	CT-ETPH	Soil	11/07/2022
B2K1053		2110241-03	TB-3 0-2ft	CT-ETPH	Soil	11/07/2022
B2K1053		2110241-04	TB-4 0-3.5ft	CT-ETPH	Soil	11/07/2022
B2K1053		2110241-05	TB-5 0-2ft	CT-ETPH	Soil	11/07/2022
B2K1002	S2K1109	2110241-01	TB-1 0-1ft	EPA 8270D	Soil	11/07/2022
B2K1002	S2K1109	2110241-02	TB-2 0-3ft	EPA 8270D	Soil	11/07/2022
B2K1002	S2K1109	2110241-03	TB-3 0-2ft	EPA 8270D	Soil	11/07/2022
B2K1002	S2K1109	2110241-04	TB-4 0-3.5ft	EPA 8270D	Soil	11/07/2022
B2K1002	S2K1109	2110241-05	TB-5 0-2ft	EPA 8270D	Soil	11/07/2022

Certified Analyses included in this Report

Analyte	Certifications
CT-ETPH in Soil	
ETPH	CT
EPA 8270D in Soil	
Phenol	CT,NY,PA
1,3-Dichlorobenzene	CT,NY,PA
n-Nitroso-di-n-propylamine	CT,NY,PA
Pyridine	CT,NY,PA
n-Nitroso-dimethylamine	CT,NY,PA
bis(2-Chloroethyl)ether	CT,NY,PA
Aniline	CT,NY,PA
2-Chlorophenol	CT,NY,PA
1,4-Dichlorobenzene	CT,NY,PA
Benzyl Alcohol	CT,NY,PA
1,2-Dichlorobenzene	CT,NY,PA
bis(2-Chloroisopropyl)ether	CT,NY,PA
Hexachloroethane	CT,NY,PA
2-Methyl Phenol	CT,NY,PA
3+4 Methyl Phenol	CT,NY,PA
Naphthalene	CT,NY,PA
Naphthalene	CT,NY,PA
2-Methyl Naphthalene	CT,NY,PA
2-Nitrophenol	CT,NY,PA
2,4-Dichlorophenol	CT,NY,PA
Acenaphthylene	CT,NY,PA
Acenaphthene	CT,NY,PA
Hexachlorobutadiene	CT,NY,PA
4-Chloro-3-methylphenol	CT,NY,PA
Fluorene	CT,NY,PA
Nitrobenzene	CT,NY,PA
Phenanthrene	CT,NY,PA
Anthracene	CT,NY,PA
Isophorone	CT,NY,PA
2,4-Dimethylphenol	CT,NY,PA
Fluoranthene	CT,NY,PA
bis(2-Chloroethoxy)methane	CT,NY,PA
Pyrene	CT,NY,PA
Benzo[a]anthracene	CT,NY,PA
Benzoic Acid	CT,NY,PA
1,2,4-Trichlorobenzene	CT,NY,PA
Chrysene	CT,NY,PA
2,6-Dichlorophenol	CT,NY,PA
Benzo[b]fluoranthene	CT,NY,PA
4-Chloroaniline	CT,NY,PA
Benzo[k]fluoranthene	CT,NY,PA
Benzo[a]pyrene	CT,NY,PA
Indeno[1,2,3-cd]pyrene	CT,NY,PA
1,2,4,5-Tetrachlorobenzene	CT,NY,PA
Dibenz[a,h]anthracene	CT,NY,PA
2-Methyl Naphthalene	CT,NY,PA
Benzo[g,h,i]perylene	CT,NY,PA

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270D in Soil	
Acenaphthylene	CT,NY,PA
Acenaphthene	CT,NY,PA
Dibenzofuran	CT,NY,PA
Fluorene	CT,NY,PA
Hexachlorocyclopentadiene	CT,NY,PA
2,4,6-Trichlorophenol	CT,NY,PA
2,4,5-Trichlorophenol	CT,NY,PA
2,4-Dinitrophenol	CT,NY,PA
4-Nitrophenol	CT,NY,PA
2-Chloronaphthalene	CT,NY,PA
2-Nitroaniline	CT,NY,PA
Dimethylphthalate	CT,NY,PA
2,6-Dinitrotoluene	CT,NY,PA
4-Nitroaniline	CT,NY,PA
2,4-Dinitrotoluene	CT,NY,PA
2,3,4,6-Tetrachlorophenol	CT,NY,PA
4-Chlorophenyl-phenylether	CT,NY,PA
Diethylphthalate	CT,NY,PA
Phenanthrene	CT,NY,PA
Anthracene	CT,NY,PA
Carbazole	CT,NY,PA
Fluoranthene	CT,NY,PA
Pyrene	CT,NY,PA
n-Nitrosodiphenylamine	CT,NY,PA
Pentachlorophenol	CT,NY,PA
3-Nitroaniline	CT,NY,PA
4,6-Dinitro-2-methylphenol	CT,NY,PA
1,2-Diphenylhydrazine	CT
4-Bromophenyl-phenylether	CT,NY,PA
Hexachlorobenzene	CT,NY,PA
Di-n-butylphthalate	CT,NY,PA
Pentachloronitrobenzene	CT,NY
Benzo[a]anthracene	CT,NY,PA
Chrysene	CT,NY,PA
Butylbenzylphthalate	CT,NY,PA
3,3-Dichlorobenzidine	CT,NY
bis(2-Ethylhexyl)phthalate	CT,NY,PA
Di-n-octylphthalate	CT,NY,PA
Benzo[b]fluoranthene	CT,NY,PA
Benzo[k]fluoranthene	CT,NY,PA
Benzo[a]pyrene	CT,NY,PA
Indeno[1,2,3-cd]pyrene	CT,NY,PA
Dibenz[a,h]anthracene	CT,NY,PA
Benzo[g,h,i]perylene	CT,NY,PA
SM 2540 G in Soil	
Percent Solids	CT

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2024
NY	New York Certification (NELAC)	11982	04/01/2023
PA	Pennsylvania DEP	68-02927	05/31/2023

2110241

COMPLETE ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY

Volatile Soils Only:
Date and Time in Freezer
Client:
CET:

80 Lupes Drive
Stratford, CT 06615
Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cetservices@cetlabs.com
e-mail: bottleorders@cetlabs.com

Matrix: A=Air, S=Soil, W=Water, DW=Drinking Water, C=Cassette, Solid, Wipe, Other (Specify)

Turnaround Time ** (check one): Same Day *, Next Day *, Two Day *, Three Day *, Std (5-7 Days)

Metals: 8 RCRA, 13 Priority Poll, 15 CT DEP, Total, SPLP, TCLP, Dissolved, Field Filtered, Lab to Filter

Additional Analysis: 8260 CT List, 8260 Aromatics, 8260 Halogens, CT ETPH, 8270 CT List, 8270 PNAs, PCBs ☐ SOX ☐ ASE, Pesticides

Sample ID/Sample Depths (include Units for any sample depths provided)	Collection Date/Time	Matrix	Std (5-7 Days)	CT ETPH	8270 PNAs	TOTAL # OF CONT.	NOTE #
TB-1 0-1'	11/7/22 11:00	S	X	X	X		
TB-2 0-3'	11:40						
TB-3 0-2'	1:15						
TB-4 0.-3.5-1	12:45						
TB-5 0-2'	12:10						
						5	

PRESERVATIVE (Cl–HCl, N–HNO_3, S–H_2SO_4, Na–NaOH, C=Cool, O–Other)

CONTAINER TYPE (P–Plastic, G–Glass, V–Vial, O–Other)

Soil VOCs Only (M=MeOH B= Sodium Bisulfate W=Water F= Empty Vial E=Encore)

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
	11/8/22 8:50	
	11/7/22 1015	11/7/22

NOTES:

Client / Reporting Information

Company Name: Triton Environmental
Address: 385 Church St
City: Guilford State: CT Zip: 06137
Report To: Dave Vasilion E-mail: On file
Phone # Fax #

Project Information

Project: 200028 PO #:
Location: Canton Project #: 200028
CET Quote # Collector(s): AJS

QA/QC ☐ Std ☐ Site Specific (MS/MSD) * ☒ RCP Pkg * ☐ DQAW *
Data Report ☒ PDF ☒ EDD - Specify Format excel Other
RSR Reporting Limits (check one) ☒ GA ☐ GB ☐ SWP ☐ Other
Laboratory Certification Needed (check one) ☒ CT ☐ NY ☐ RI ☐ MA ☐ PA
Temp Upon Receipt 2.6 °C Evidence of Cooling: (Y) N
PAGE 1 OF 1

*** Additional charge may apply. ** TAT begins when the samples are received at the Lab and all issues are resolved. TAT for samples received after 3 p.m. will start on the next business day. All samples picked up by courier service will be considered next business day receipt for TAT purposes.**

REV. 12/18

80 Lupes Drive
Stratford, CT 06615

Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cet1@cetlabs.com

Client: Mr. David Vasiliou
Triton Environmental
385 Church St.
Guilford, CT 06437

Analytical Report

CET# 2110241

Report Date:November 15, 2022
Project: 200028, Canton

Connecticut Laboratory Certificate: PH 0116
Massachusetts Laboratory Certificate: M-CT903
Rhode Island Laboratory Certificate: 199

New York NELAP Accreditation: 11982
Pennsylvania Laboratory Certificate: 68-02927

SAMPLE SUMMARY

The sample(s) were received at 2.2°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
TB-1 0-1ft	2110241-01	Soil	11/07/2022 11:00	11/08/2022
TB-2 0-3ft	2110241-02	Soil	11/07/2022 11:40	11/08/2022
TB-3 0-2ft	2110241-03	Soil	11/07/2022 13:15	11/08/2022
TB-4 0-3.5ft	2110241-04	Soil	11/07/2022 12:45	11/08/2022
TB-5 0-2ft	2110241-05	Soil	11/07/2022 12:10	11/08/2022

Analyte: Percent Solids [SM 2540 G]

Analyst: KML

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2110241-01	TB-1 0-1ft	92	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	
2110241-02	TB-2 0-3ft	92	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	
2110241-03	TB-3 0-2ft	95	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	
2110241-04	TB-4 0-3.5ft	92	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	
2110241-05	TB-5 0-2ft	94	1.0	%	1	B2K0930	11/09/2022	11/09/2022 16:00	

Client Sample ID TB-1 0-1ft

Lab ID: 2110241-01

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**640**	54	1	EPA 3550C	B2K1053	11/10/2022	11/10/2022 23:55	1
Surrogate: Octacosane	*118 %*	*50 - 150*			B2K1053	11/10/2022	*11/10/2022 23:55*	

1 C18-C36 may be PNA Related

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	**230**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
2-Methyl Naphthalene	**240**	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Acenaphthylene	**2000**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Acenaphthene	**200**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Fluorene	**660**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Phenanthrene	**4800**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Anthracene	**2500**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Fluoranthene	**14000**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Pyrene	**11000**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzo[a]anthracene	**6500**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Chrysene	**6400**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzo[b]fluoranthene	**7800**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzo[k]fluoranthene	**3100**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzo[a]pyrene	**6300**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Indeno[1,2,3-cd]pyrene	**3700**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Dibenz[a,h]anthracene	**1100**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Benzo[g,h,i]perylene	**4100**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:27	
Surrogate: Nitrobenzene-d5	*67.6 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 18:27*	
Surrogate: 2-Fluorobiphenyl	*71.9 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 18:27*	
Surrogate: Terphenyl-d14	*81.6 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 18:27*	

Client Sample ID TB-2 0-3ft

Lab ID: 2110241-02

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	ND	54	1	EPA 3550C	B2K1053	11/10/2022	11/11/2022 00:16	
Surrogate: Octacosane	*96.1 %*	*50 - 150*			B2K1053	11/10/2022	*11/11/2022 00:16*	

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
2-Methyl Naphthalene	ND	220	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Acenaphthylene	**180**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Acenaphthene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Fluorene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Phenanthrene	**260**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Anthracene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Fluoranthene	**460**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Pyrene	**470**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[a]anthracene	**230**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Chrysene	**290**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[b]fluoranthene	**320**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[k]fluoranthene	**110**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[a]pyrene	**250**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Indeno[1,2,3-cd]pyrene	**150**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Dibenz[a,h]anthracene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Benzo[g,h,i]perylene	**180**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 18:52	
Surrogate: Nitrobenzene-d5	*74.6 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 18:52*	
Surrogate: 2-Fluorobiphenyl	*79.9 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 18:52*	
Surrogate: Terphenyl-d14	*95.5 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 18:52*	

Client Sample ID TB-3 0-2ft

Lab ID: 2110241-03

Conn. Extractable TPH

Analyst: PDS

Method: CT-ETPH

Matrix: Soil

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**100**	52	1	EPA 3550C	B2K1053	11/10/2022	11/11/2022 00:37	1
Surrogate: Octacosane	*101 %*	*50 - 150*			B2K1053	11/10/2022	*11/11/2022 00:37*	

1 C18-C36 may be PNA Related

Semivolatile Organics

Analyst: TWF

Method: EPA 8270D

Matrix: Soil

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	**110**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
2-Methyl Naphthalene	ND	210	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Acenaphthylene	**630**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Acenaphthene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Fluorene	**160**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Phenanthrene	**1700**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Anthracene	**430**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Fluoranthene	**2700**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Pyrene	**2900**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[a]anthracene	**1300**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Chrysene	**1600**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[b]fluoranthene	**1500**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[k]fluoranthene	**550**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[a]pyrene	**1300**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Indeno[1,2,3-cd]pyrene	**700**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Dibenz[a,h]anthracene	**230**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Benzo[g,h,i]perylene	**860**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:17	
Surrogate: Nitrobenzene-d5	*68.7 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:17*	
Surrogate: 2-Fluorobiphenyl	*75.0 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:17*	
Surrogate: Terphenyl-d14	*83.8 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:17*	

Client Sample ID TB-4 0-3.5ft

Lab ID: 2110241-04

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**240**	54	1	EPA 3550C	B2K1053	11/10/2022	11/11/2022 00:57	1
Surrogate: Octacosane	*107 %*	*50 - 150*			B2K1053	11/10/2022	*11/11/2022 00:57*	

1 C18-C36 may be PNA Related

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	**120**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
2-Methyl Naphthalene	ND	210	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Acenaphthylene	**970**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Acenaphthene	**130**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Fluorene	**470**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Phenanthrene	**3500**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Anthracene	**800**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Fluoranthene	**4800**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Pyrene	**4400**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[a]anthracene	**2200**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Chrysene	**2400**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[b]fluoranthene	**2600**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[k]fluoranthene	**1000**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[a]pyrene	**2200**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Indeno[1,2,3-cd]pyrene	**1200**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Dibenz[a,h]anthracene	**350**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Benzo[g,h,i]perylene	**1400**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 19:42	
Surrogate: Nitrobenzene-d5	*62.4 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:42*	
Surrogate: 2-Fluorobiphenyl	*69.5 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:42*	
Surrogate: Terphenyl-d14	*82.2 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 19:42*	

Client Sample ID TB-5 0-2ft

Lab ID: 2110241-05

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	ND	53	1	EPA 3550C	B2K1053	11/10/2022	11/11/2022 01:18	
Surrogate: Octacosane	*95.9 %*	*50 - 150*			B2K1053	11/10/2022	*11/11/2022 01:18*	

Semivolatile Organics **Analyst: TWF**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
2-Methyl Naphthalene	ND	210	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Acenaphthylene	**110**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Acenaphthene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Fluorene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Phenanthrene	**120**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Anthracene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Fluoranthene	**260**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Pyrene	**280**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[a]anthracene	**150**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Chrysene	**160**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[b]fluoranthene	**230**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[k]fluoranthene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[a]pyrene	**170**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Indeno[1,2,3-cd]pyrene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Dibenz[a,h]anthracene	ND	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Benzo[g,h,i]perylene	**120**	110	1	EPA 3545A	B2K1002	11/10/2022	11/11/2022 20:07	
Surrogate: Nitrobenzene-d5	*67.5 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 20:07*	
Surrogate: 2-Fluorobiphenyl	*75.7 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 20:07*	
Surrogate: Terphenyl-d14	*91.0 %*	*30 - 130*			B2K1002	11/10/2022	*11/11/2022 20:07*	

QUALITY CONTROL SECTION

Batch B2K1002 - EPA 8270D

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1002-BLK1)					Prepared: 11/10/22 Analyzed: 11/11/22				
Naphthalene	ND	100							
2-Methyl Naphthalene	ND	200							
Acenaphthylene	ND	100							
Acenaphthene	ND	100							
Fluorene	ND	100							
Phenanthrene	ND	100							
Anthracene	ND	100							
Fluoranthene	ND	100							
Pyrene	ND	100							
Benzo[a]anthracene	ND	100							
Chrysene	ND	100							
Benzo[b]fluoranthene	ND	100							
Benzo[k]fluoranthene	ND	100							
Benzo[a]pyrene	ND	100							
Indeno[1,2,3-cd]pyrene	ND	100							
Dibenz[a,h]anthracene	ND	100							
Benzo[g,h,i]perylene	ND	100							
Surrogate: Nitrobenzene-d5					*54.8*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*58.3*	*30 - 130*			
Surrogate: Terphenyl-d14					*76.6*	*30 - 130*			
LCS (B2K1002-BS1)					Prepared: 11/10/22 Analyzed: 11/11/22				
Naphthalene	1970	100	4,000.000		49.3	40 - 140			
2-Methyl Naphthalene	2170	200	4,000.000		54.4	40 - 140			
Acenaphthylene	2060	100	4,000.000		51.5	40 - 140			
Acenaphthene	2120	100	4,000.000		52.9	40 - 140			
Fluorene	2300	100	4,000.000		57.5	40 - 140			
Phenanthrene	2340	100	4,000.000		58.6	40 - 140			
Anthracene	2350	100	4,000.000		58.7	40 - 140			
Fluoranthene	2420	100	4,000.000		60.6	40 - 140			
Pyrene	2440	100	4,000.000		61.0	40 - 140			
Benzo[a]anthracene	2430	100	4,000.000		60.8	40 - 140			
Chrysene	2420	100	4,000.000		60.6	40 - 140			
Benzo[b]fluoranthene	2350	100	4,000.000		58.8	40 - 140			
Benzo[k]fluoranthene	2360	100	4,000.000		59.0	40 - 140			
Benzo[a]pyrene	2470	100	4,000.000		61.7	40 - 140			
Indeno[1,2,3-cd]pyrene	2740	100	4,000.000		68.4	40 - 140			
Dibenz[a,h]anthracene	2600	100	4,000.000		65.0	40 - 140			
Benzo[g,h,i]perylene	2730	100	4,000.000		68.2	40 - 140			
Surrogate: Nitrobenzene-d5					*56.2*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*54.6*	*30 - 130*			
Surrogate: Terphenyl-d14					*74.7*	*30 - 130*			

Batch B2K1053 - CT-ETPH

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1053-BLK1)					Prepared: 11/10/22 Analyzed: 11/10/22				
ETPH	ND	50							
Surrogate: Octacosane					*99.9*	*50 - 150*			
LCS (B2K1053-BS1)					Prepared: 11/10/22 Analyzed: 11/10/22				
ETPH	1180	50	1,500.000		78.4	60 - 120			
Surrogate: Octacosane					*93.5*	*50 - 150*			

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

Sincerely,

David Ditta
Laboratory Director

This technical report was reviewed by Timothy Fusco

Project Manager

This report shall not be reproduced except in full, without the written approval of the laboratory

Report Comments:

Sample Result Flags:
E- The result is estimated, above the calibration range.
H- The surrogate recovery is above the control limits.
L- The surrogate recovery is below the control limits.
B- The compound was detected in the laboratory blank.
P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
D- The RPD between the sample and the sample duplicate is high. Sample Homogeneity may be a problem.
+- The Surrogate was diluted out.
*C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
*C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
*F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
*F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
*I- Analyte exceeds method limits from second source standard in Initial Calibration Verification (ICV). No directional bias.

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

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

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

ND is None Detected at or above the specified reporting limit
Reporting Limit (RL) is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
All analyses were performed in house unless a Reference Laboratory is listed.
Samples will be disposed of 30 days after the report date.

80 Lupes Drive
Stratford, CT 06615

COMPLETE ENVIRONMENTAL TESTING, INC.

Tel: (203) 377-9984
Fax: (203) 377-9952
email: cet1@cetlabs.com

Quality Control Definitions and Abbreviations

Internal Standard (IS)	An Analyte added to each sample or sample extract. An internal standard is used to monitor retention time, calculate relative response, and quantify analytes of interest.
Surrogate Recovery	The % recovery for non-target organic compounds that are spiked into all samples. Used to determine method performance.
Continuing Calibration	An analytical standard analyzed with each set of samples to verify initial calibration of the system.
Batch	Samples that are analyzed together with the same method, sequence and lot of reagents within the same time period.
ND	Not detected at or above the specified reporting limit.
RL	RL is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
Dilution	Multiplier added to detection levels (MDL) and/or sample results due to interferences and/or high concentration of target compounds.
Duplicate	Result from the duplicate analysis of a sample.
Result	Amount of analyte found in a sample.
Spike Level	Amount of analyte added to a sample
Matrix Spike Result	Amount of analyte found including amount that was spiked.
Matrix Spike Dup	Amount of analyte found in duplicate spikes including amount that was spike.
Matrix Spike % Recovery	% Recovery of spiked amount in sample.
Matrix Spike Dup % Recovery	% Recovery of spiked duplicate amount in sample.
RPD	Relative percent difference between Matrix Spike and Matrix Spike Duplicate.
Blank	Method Blank that has been taken through all steps of the analysis.
LCS % Recovery	Laboratory Control Sample percent recovery. The amount of analyte recovered from a fortified sample.
Recovery Limits	A range within which specified measurements results must fall to be compliant.
CC	Calibration Verification

Flags:

- H- Recovery is above the control limits
- L- Recovery is below the control limits
- B- Compound detected in the Blank
- P- RPD of dual column results exceeds 40%
- #- Sample result too high for accurate spike recovery.

NELAP ACCREDITED TNI LABORATORY

Connecticut Laboratory Certification PH0116
Massachussets Laboratory Certification M-CT903
Pennsylvania NELAP Accreditation 68-02927

New York NELAP Accreditation 11982
Rhode Island Certification 199

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Complete Environmental Testing, Inc.

Client: Triton Environmental

Project Location: 200028, Canton

Project Number:

Laboratory Sample ID(s):

2110241-01 thru 2110241-05

Sample Date(s):

11/07/2022

List RCP Methods Used:

CT-ETPH, EPA 8270D

CET #: 2110241

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	☑ Yes ☐ No
1A	Were the method specified preservation and holding time requirements met?	☑ Yes ☐ No
1B	VPH and EPH Methods only: Was the VPH and EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	☐ Yes ☐ No ☑ N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	☑ Yes ☐ No
3	Were samples received at an appropriate temperature (< 6 degrees C.)?	☑ Yes ☐ No ☐ N/A
4	Were all QA/QC performance criteria specified in the CT DEP Reasonable Confidence Protocol documents achieved?	☑ Yes ☐ No
5a	a) Were reporting limits specified or referenced on the chain-of-custody?	☑ Yes ☐ No
5b	b) Were these reporting limits met?	☑ Yes ☐ No
6	For each analytical method referenced in this laboratory report package, were results reported for all consituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☐ Yes ☑ No
7	Are project specific matrix spikes and laboratory duplicates included with this data set?	☐ Yes ☑ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."
This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature:  **Position:** Laboratory Director

Printed Name: David Ditta **Date:** 11/14/2022

Name of Laboratory: Complete Environmental Testing, Inc.

This certification form is to be used for RCP methods only.

RCP Case Narrative

6- The client requested a subset of the RCP 8270 list.

7- Project specific QC was not requested by the client.

QC Batch/Sequence Report

Batch	Sequence	CET ID	Sample ID	Specific Method	Matrix	Collection Date
B2K1053		2110241-01	TB-1 0-1ft	CT-ETPH	Soil	11/07/2022
B2K1053		2110241-02	TB-2 0-3ft	CT-ETPH	Soil	11/07/2022
B2K1053		2110241-03	TB-3 0-2ft	CT-ETPH	Soil	11/07/2022
B2K1053		2110241-04	TB-4 0-3.5ft	CT-ETPH	Soil	11/07/2022
B2K1053		2110241-05	TB-5 0-2ft	CT-ETPH	Soil	11/07/2022
B2K1002	S2K1109	2110241-01	TB-1 0-1ft	EPA 8270D	Soil	11/07/2022
B2K1002	S2K1109	2110241-02	TB-2 0-3ft	EPA 8270D	Soil	11/07/2022
B2K1002	S2K1109	2110241-03	TB-3 0-2ft	EPA 8270D	Soil	11/07/2022
B2K1002	S2K1109	2110241-04	TB-4 0-3.5ft	EPA 8270D	Soil	11/07/2022
B2K1002	S2K1109	2110241-05	TB-5 0-2ft	EPA 8270D	Soil	11/07/2022

2110241

CET

COMPLETE ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY

Volatile Soils Only:
Date and Time in Freezer
Client:
CET:

80 Lupes Drive
Stratford, CT 06615
Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cetservices@cetlabs.com
e-mail: bottleorders@cetlabs.com

Matrix: A=Air, S=Soil, W=Water, DW=Drinking Water, C=Cassette, Solid, Wipe, Other (Specify)

Turnaround Time ** (check one): Same Day *, Next Day *, Two Day *, Three Day *, Std (5-7 Days)

Metals: 8 RCRA, 13 Priority Poll, 15 CT DEP, Total, SPLP, TCLP, Dissolved, Field Filtered, Lab to Filter

Additional Analysis: 8260 CT List, 8260 Aromatics, 8260 Halogens, CT ETPH, 8270 CT List, 8270 PNAs, PCBs ☐ SOX ☐ ASE, Pesticides

Sample ID/Sample Depths (include Units for any sample depths provided)	Collection Date/Time	Matrix	Std (5-7 Days)	CT ETPH	8270 PNAs	TOTAL # OF CONT.	NOTE #
TB-1 0-1'	11/7/22 11:00	S	X	X	X		
TB-2 0-3'	11:40						
TB-3 0-2'	1:15						
TB-4 0.-3.5-1	12:45						
TB-5 0-2'	12:10						
						5	

PRESERVATIVE (Cl–HCl, N–HNO_3, S–H_2SO_4, Na–NaOH, C=Cool, O–Other)

CONTAINER TYPE (P–Plastic, G–Glass, V–Vial, O–Other)

Soil VOCs Only (M=MeOH B= Sodium Bisulfate W=Water F= Empty Vial E=Encore)

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
	11/8/22 8:50	
	11/7/22 1015	11/7/22

NOTES:

Client / Reporting Information

Company Name: Triton Environmental
Address: 385 Church St
City: Guilford State: CT Zip: 06137
Report To: Dave Vasilion E-mail: On file
Phone # Fax #

Project Information

Project: 200028 PO #:
Location: Canton Project #: 200028
CET Quote # Collector(s): AJS

QA/QC ☐ Std ☐ Site Specific (MS/MSD) * ☒ RCP Pkg * ☐ DQAW *

Data Report ☒ PDF ☒ EDD - Specify Format excel Other

RSR Reporting Limits (check one) ☒ GA ☐ GB ☐ SWP ☐ Other

Laboratory Certification Needed (check one) ☒ CT ☐ NY ☐ RI ☐ MA ☐ PA

Temp Upon Receipt 2.2°c Evidence of Cooling: (Y) N

PAGE 1 OF 1

* Additional charge may apply. ** TAT begins when the samples are received at the Lab and all issues are resolved. TAT for samples received after 3 p.m. will start on the next business day. All samples picked up by courier service will be considered next business day receipt for TAT purposes.

REV. 12/18

80 Lupes Drive
Stratford, CT 06615

Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cet1@cetlabs.com

Client: Mr. David Vasiliou
Triton Environmental
385 Church St.
Guilford, CT 06437

Analytical Report

CET# 2110553

Report Date:November 22, 2022
Project: 200028, Canton

Connecticut Laboratory Certificate: PH 0116
Massachusetts Laboratory Certificate: M-CT903
Rhode Island Laboratory Certificate: 199

New York NELAP Accreditation: 11982
Pennsylvania Laboratory Certificate: 68-02927

SAMPLE SUMMARY

The sample(s) were received at 2.2°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
TB-1 0-1ft	2110553-01	Soil	11/07/2022 11:00	11/08/2022
Composite 1,3,4	2110553-02	Soil	11/07/2022 11:00	11/08/2022

Analyte: Percent Solids [SM 2540 G]

Analyst: KML

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2110553-01	TB-1 0-1ft	93	1.0	%	1	B2K1737	11/17/2022	11/17/2022 16:38	
2110553-02	Composite 1,3,4	91	1.0	%	1	B2K1737	11/17/2022	11/17/2022 16:38	

Analyte: Flashpoint [EPA 1010A]

Analyst: MTL

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2110553-02	Composite 1,3,4	>200 F	NA	°F	1	B2K2241	11/22/2022	11/22/2022 14:11	

Analyte: Reactive Sulfide [SW 846 Ch. 7]

Analyst: MTL

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2110553-02	Composite 1,3,4	ND	22	mg/kg dry	1	B2K1723	11/17/2022	11/17/2022 16:41	

Analyte: Reactive Cyanide [SW 846 Ch. 7]

Analyst: MTL

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2110553-02	Composite 1,3,4	ND	5.5	mg/kg dry	1	B2K1721	11/17/2022	11/17/2022 16:41	

Analyte: pH [EPA 9045D]

Analyst: EAS

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2110553-02	Composite 1,3,4	7.32 @22.8°C	NA	pH Units	1	B2K1732	11/17/2022	11/17/2022 17:28	

Analyte: Mercury [EPA 7471B]

Analyst: EAS

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2110553-02	Composite 1,3,4	ND	0.14	mg/kg dry	1	B2K2110	11/21/2022	11/21/2022 14:12	

Analyte: TCLP Lead [EPA 6020A]

Analyst: SS

Prep: EPA 3005A-1311

Matrix: Extract

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2110553-02	Composite 1,3,4	0.046	0.013	mg/L	1	B2K1835	11/18/2022	11/18/2022 18:42	

Client Sample ID TB-1 0-1ft

Lab ID: 2110553-01

Volatile Organics **Analyst: RAN**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	13	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*F2*I
Chloromethane	ND	8.4	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*F2*I
Vinyl Chloride	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*C1
Bromomethane	ND	8.4	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*F2*I
Chloroethane	ND	8.4	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*C1
Trichlorofluoromethane	ND	34	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*C1
Acetone	ND	130	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*F2*C2*I
Acrylonitrile	ND	6.8	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Trichlorotrifluoroethane	ND	34	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,1-Dichloroethene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Methylene Chloride	ND	51	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*F1
Carbon Disulfide	ND	8.4	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Methyl-t-Butyl Ether (MTBE)	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
trans-1,2-Dichloroethene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,1-Dichloroethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
2-Butanone (MEK)	ND	21	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*I
2,2-Dichloropropane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
cis-1,2-Dichloroethene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Bromochloromethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*C1
Chloroform	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*C1
Tetrahydrofuran	ND	21	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	*C2*I
1,1,1-Trichloroethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Carbon Tetrachloride	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,1-Dichloropropene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Benzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,2-Dichloroethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Trichloroethene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,2-Dichloropropane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Dibromomethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Bromodichloromethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Methyl Isobutyl Ketone	ND	21	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
cis-1,3-Dichloropropene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Toluene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
trans-1,3-Dichloropropene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
2-Hexanone	ND	21	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,1,2-Trichloroethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Tetrachloroethene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,3-Dichloropropane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Dibromochloromethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,2-Dibromoethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
trans-1,4-Dichloro-2-Butene	ND	21	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	

Client Sample ID TB-1 0-1ft

Lab ID: 2110553-01

Volatile Organics **Analyst: RAN**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Chlorobenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,1,1,2-Tetrachloroethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Ethylbenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
m+p Xylenes	ND	8.4	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
o-Xylene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Styrene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Bromoform	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Isopropylbenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,1,2,2-Tetrachloroethane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Bromobenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,2,3-Trichloropropane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
n-Propylbenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
2-Chlorotoluene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
4-Chlorotoluene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,3,5-Trimethylbenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
tert-Butylbenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,2,4-Trimethylbenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
sec-Butylbenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,3-Dichlorobenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
4-Isopropyltoluene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,4-Dichlorobenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,2-Dichlorobenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
n-Butylbenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,2-Dibromo-3-Chloropropane	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,2,4-Trichlorobenzene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Hexachlorobutadiene	ND	4.2	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Naphthalene	ND	8.4	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
1,2,3-Trichlorobenzene	ND	8.4	1.57	EPA 5035A-L	B2K2115	11/21/2022	11/21/2022 12:55	
Surrogate: 1,2-Dichloroethane-d4	*82.5 %*		*70 - 130*		B2K2115	11/21/2022	*11/21/2022 12:55*	
Surrogate: Toluene-d8	*96.5 %*		*70 - 130*		B2K2115	11/21/2022	*11/21/2022 12:55*	
Surrogate: 4-Bromofluorobenzene	*102 %*		*70 - 130*		B2K2115	11/21/2022	*11/21/2022 12:55*	

Client Sample ID Composite 1,3,4

Lab ID: 2110553-02

Total Metals **Analyst: SS**

Method: EPA 6010C **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**37**	2.1	1	EPA 3051A	B2K2109	11/21/2022	11/21/2022 16:32	
Selenium	**5.3**	2.6	1	EPA 3051A	B2K2109	11/21/2022	11/21/2022 16:32	
Cadmium	ND	0.52	1	EPA 3051A	B2K2109	11/21/2022	11/21/2022 16:32	
Chromium	**15**	2.1	1	EPA 3051A	B2K2109	11/21/2022	11/21/2022 16:32	
Arsenic	**2.6**	1.0	1	EPA 3051A	B2K2109	11/21/2022	11/21/2022 16:32	
Barium	**46**	2.1	1	EPA 3051A	B2K2109	11/21/2022	11/21/2022 16:32	
Silver	ND	2.1	1	EPA 3051A	B2K2109	11/21/2022	11/21/2022 16:32	

PCBs by ASE **Analyst: MFJ**

Method: EPA 8082A **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
PCB-1016	ND	0.055	1	EPA 3545A	B2K1750	11/17/2022	11/18/2022 15:26	
PCB-1221	ND	0.055	1	EPA 3545A	B2K1750	11/17/2022	11/18/2022 15:26	
PCB-1232	ND	0.055	1	EPA 3545A	B2K1750	11/17/2022	11/18/2022 15:26	
PCB-1242	ND	0.055	1	EPA 3545A	B2K1750	11/17/2022	11/18/2022 15:26	
PCB-1248	ND	0.055	1	EPA 3545A	B2K1750	11/17/2022	11/18/2022 15:26	
PCB-1254	ND	0.055	1	EPA 3545A	B2K1750	11/17/2022	11/18/2022 15:26	
PCB-1260	ND	0.055	1	EPA 3545A	B2K1750	11/17/2022	11/18/2022 15:26	
PCB-1268	ND	0.055	1	EPA 3545A	B2K1750	11/17/2022	11/18/2022 15:26	
PCB-1262	ND	0.055	1	EPA 3545A	B2K1750	11/17/2022	11/18/2022 15:26	
Surrogate: TCMX [1C]	*80.3 %*	*30 - 150*			B2K1750	11/17/2022	*11/18/2022 15:26*	
Surrogate: TCMX [2C]	*83.5 %*	*30 - 150*			B2K1750	11/17/2022	*11/18/2022 15:26*	
Surrogate: DCB [1C]	*94.1 %*	*30 - 150*			B2K1750	11/17/2022	*11/18/2022 15:26*	
Surrogate: DCB [2C]	*94.2 %*	*30 - 150*			B2K1750	11/17/2022	*11/18/2022 15:26*	

QUALITY CONTROL SECTION

Batch B2K1721 - SW 846 Ch. 7

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1721-BLK1)					Prepared: 11/17/22 Analyzed: 11/17/22				
Reactive Cyanide	ND	5.0							

Batch B2K1723 - SW 846 Ch. 7

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1723-BLK1)					Prepared: 11/17/22 Analyzed: 11/17/22				
Reactive Sulfide	ND	20							

Batch B2K1732 - EPA 9045D

Analyte	Result (pH Units)	RL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1732-BLK1)					Prepared: 11/17/22 Analyzed: 11/17/22				
pH	6.14								
Duplicate (B2K1732-DUP1)		**Source: 2110553-02**			Prepared: 11/17/22 Analyzed: 11/17/22				
pH	7.28			7.32			0.548	5	

Batch B2K1750 - EPA 8082A

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1750-BLK1)					Prepared: 11/17/22 Analyzed: 11/18/22				
PCB-1016	ND	0.050							
PCB-1221	ND	0.050							
PCB-1232	ND	0.050							
PCB-1242	ND	0.050							
PCB-1248	ND	0.050							
PCB-1254	ND	0.050							
PCB-1260	ND	0.050							
PCB-1268	ND	0.050							
PCB-1262	ND	0.050							
Surrogate: TCMX [1C]					*55.5*	*30 - 150*			
Surrogate: TCMX [2C]					*58.2*	*30 - 150*			
Surrogate: DCB [1C]					*59.6*	*30 - 150*			
Surrogate: DCB [2C]					*60.2*	*30 - 150*			
LCS (B2K1750-BS1)					Prepared: 11/17/22 Analyzed: 11/18/22				
PCB-1016	0.915	0.050	1.000		91.5	40 - 140			
PCB-1260	0.927	0.050	1.000		92.7	40 - 140			
Surrogate: TCMX [1C]					*105*	*30 - 150*			
Surrogate: TCMX [2C]					*104*	*30 - 150*			
Surrogate: DCB [1C]					*102*	*30 - 150*			
Surrogate: DCB [2C]					*102*	*30 - 150*			

Batch B2K1835 - EPA 6020A

Analyte	Result (mg/L)	RL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K1835-BLK1)					Prepared: 11/18/22 Analyzed: 11/18/22				
Lead	ND	0.013							
LCS (B2K1835-BS1)					Prepared: 11/18/22 Analyzed: 11/18/22				
Lead	0.196	0.013	0.200		97.8	80 - 120			
Duplicate (B2K1835-DUP1)		**Source: 2110553-02**			Prepared: 11/18/22 Analyzed: 11/18/22				
Lead	0.0613	0.013		0.0459			28.8	444	
Matrix Spike (B2K1835-MS1)		**Source: 2110553-02**			Prepared: 11/18/22 Analyzed: 11/18/22				
Lead	0.252	0.013	0.200	0.0459	103	75 - 125			
Matrix Spike Dup (B2K1835-MSD1)		**Source: 2110553-02**			Prepared: 11/18/22 Analyzed: 11/18/22				
Lead	0.247	0.013	0.200	0.0459	101	75 - 125	1.91	20	

Batch B2K2109 - EPA 6010C

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K2109-BLK1)					Prepared: 11/21/22 Analyzed: 11/21/22				
Lead	ND	2.0							
Selenium	ND	2.5							
Cadmium	ND	0.50							
Chromium	ND	2.0							
Arsenic	ND	1.0							
Barium	ND	2.0							
Silver	ND	2.0							
LCS (B2K2109-BS1)					Prepared: 11/21/22 Analyzed: 11/21/22				
Lead	23.7	1.9	24.272		97.6	80 - 120			
Selenium	46.6	2.4	48.544		96.1	80 - 120			
Cadmium	24.9	0.49	24.272		103	80 - 120			
Chromium	25.1	1.9	24.272		103	80 - 120			
Arsenic	22.8	0.97	24.272		94.1	80 - 120			
Barium	26.4	1.9	24.272		109	80 - 120			
Silver	4.45	1.9	4.854		91.7	80 - 120			

Batch B2K2110 - EPA 7471B

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K2110-BLK1)					Prepared: 11/21/22 Analyzed: 11/21/22				
Mercury	ND	0.13							
LCS (B2K2110-BS1)					Prepared: 11/21/22 Analyzed: 11/21/22				
Mercury	1.26	0.13	1.250		100	80 - 120			

Batch B2K2115 - EPA 8260C

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K2115-BLK1)					Prepared: 11/21/22 Analyzed: 11/21/22				
Dichlorodifluoromethane	ND	7.5							
Chloromethane	ND	5.0							
Vinyl Chloride	ND	2.5							
Bromomethane	ND	5.0							
Chloroethane	ND	5.0							
Trichlorofluoromethane	ND	20							
Acetone	ND	75							
Acrylonitrile	ND	4.0							
Trichlorotrifluoroethane	ND	20							
1,1-Dichloroethene	ND	2.5							
Methylene Chloride	ND	30							
Carbon Disulfide	ND	5.0							
Methyl-t-Butyl Ether (MTBE)	ND	2.5							
trans-1,2-Dichloroethene	ND	2.5							
1,1-Dichloroethane	ND	2.5							
2-Butanone (MEK)	ND	13							
2,2-Dichloropropane	ND	2.5							
cis-1,2-Dichloroethene	ND	2.5							
Bromochloromethane	ND	2.5							
Chloroform	ND	2.5							
Tetrahydrofuran	ND	13							
1,1,1-Trichloroethane	ND	2.5							
Carbon Tetrachloride	ND	2.5							
1,1-Dichloropropene	ND	2.5							
Benzene	ND	2.5							
1,2-Dichloroethane	ND	2.5							
Trichloroethene	ND	2.5							
1,2-Dichloropropane	ND	2.5							
Dibromomethane	ND	2.5							
Bromodichloromethane	ND	2.5							
Methyl Isobutyl Ketone	ND	13							
cis-1,3-Dichloropropene	ND	2.5							
Toluene	ND	2.5							
trans-1,3-Dichloropropene	ND	2.5							
2-Hexanone	ND	13							
1,1,2-Trichloroethane	ND	2.5							
Tetrachloroethene	ND	2.5							
1,3-Dichloropropane	ND	2.5							
Dibromochloromethane	ND	2.5							
1,2-Dibromoethane	ND	2.5							
trans-1,4-Dichloro-2-Butene	ND	13							
Chlorobenzene	ND	2.5							
1,1,1,2-Tetrachloroethane	ND	2.5							
Ethylbenzene	ND	2.5							
m+p Xylenes	ND	5.0							
o-Xylene	ND	2.5							
Styrene	ND	2.5							
Bromoform	ND	2.5							
Isopropylbenzene	ND	2.5							
1,1,2,2-Tetrachloroethane	ND	2.5							
Bromobenzene	ND	2.5							
1,2,3-Trichloropropane	ND	2.5							

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K2115-BLK1) - Continued					Prepared: 11/21/22 Analyzed: 11/21/22				
n-Propylbenzene	ND	2.5							
2-Chlorotoluene	ND	2.5							
4-Chlorotoluene	ND	2.5							
1,3,5-Trimethylbenzene	ND	2.5							
tert-Butylbenzene	ND	2.5							
1,2,4-Trimethylbenzene	ND	2.5							
sec-Butylbenzene	ND	2.5							
1,3-Dichlorobenzene	ND	2.5							
4-Isopropyltoluene	ND	2.5							
1,4-Dichlorobenzene	ND	2.5							
1,2-Dichlorobenzene	ND	2.5							
n-Butylbenzene	ND	2.5							
1,2-Dibromo-3-Chloropropane	ND	2.5							
1,2,4-Trichlorobenzene	ND	2.5							
Hexachlorobutadiene	ND	2.5							
Naphthalene	ND	5.0							
1,2,3-Trichlorobenzene	ND	5.0							
Surrogate: 1,2-Dichloroethane-d4					*82.0*	*70 - 130*			
Surrogate: Toluene-d8					*96.7*	*70 - 130*			
Surrogate: 4-Bromofluorobenzene					*105*	*70 - 130*			
LCS (B2K2115-BS1)					Prepared: 11/21/22 Analyzed: 11/21/22				
Dichlorodifluoromethane	75.6	7.5	50.000		**151**	70 - 130			**H**
Chloromethane	74.2	5.0	50.000		**148**	70 - 130			**H**
Vinyl Chloride	61.1	2.5	50.000		122	70 - 130			
Bromomethane	73.8	5.0	50.000		**148**	70 - 130			**H**
Chloroethane	57.2	5.0	50.000		114	70 - 130			
Trichlorofluoromethane	59.3	20	50.000		119	70 - 130			
Acetone	159	75	100.000		**159**	70 - 130			**H**
Acrylonitrile	47.0	4.0	50.000		93.9	70 - 130			
Trichlorotrifluoroethane	54.1	20	50.000		108	70 - 130			
1,1-Dichloroethene	55.5	2.5	50.000		111	70 - 130			
Methylene Chloride	33.6	30	50.000		**67.1**	70 - 130			**L**
Carbon Disulfide	63.8	5.0	50.000		128	70 - 130			
Methyl-t-Butyl Ether (MTBE)	47.4	2.5	50.000		94.9	70 - 130			
trans-1,2-Dichloroethene	50.1	2.5	50.000		100	70 - 130			
1,1-Dichloroethane	46.4	2.5	50.000		92.7	70 - 130			
2-Butanone (MEK)	114	13	100.000		114	70 - 130			
2,2-Dichloropropane	52.0	2.5	50.000		104	70 - 130			
cis-1,2-Dichloroethene	48.2	2.5	50.000		96.3	70 - 130			
Bromochloromethane	44.9	2.5	50.000		89.8	70 - 130			
Chloroform	43.5	2.5	50.000		87.0	70 - 130			
Tetrahydrofuran	55.9	13	50.000		112	70 - 130			
1,1,1-Trichloroethane	55.7	2.5	50.000		111	70 - 130			
Carbon Tetrachloride	55.3	2.5	50.000		111	70 - 130			
1,1-Dichloropropene	62.4	2.5	50.000		125	70 - 130			
Benzene	56.6	2.5	50.000		113	70 - 130			
1,2-Dichloroethane	48.2	2.5	50.000		96.3	70 - 130			
Trichloroethene	55.2	2.5	50.000		110	70 - 130			
1,2-Dichloropropane	53.2	2.5	50.000		106	70 - 130			
Dibromomethane	56.1	2.5	50.000		112	70 - 130			
Bromodichloromethane	52.2	2.5	50.000		104	70 - 130			
Methyl Isobutyl Ketone	109	13	100.000		109	70 - 130			

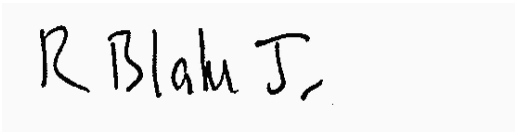
Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
LCS (B2K2115-BS1) - Continued					Prepared: 11/21/22 Analyzed: 11/21/22				
cis-1,3-Dichloropropene	60.1	2.5	50.000		120	70 - 130			
Toluene	52.7	2.5	50.000		105	70 - 130			
trans-1,3-Dichloropropene	56.7	2.5	50.000		113	70 - 130			
2-Hexanone	124	13	100.000		124	70 - 130			
1,1,2-Trichloroethane	52.2	2.5	50.000		104	70 - 130			
Tetrachloroethene	55.4	2.5	50.000		111	70 - 130			
1,3-Dichloropropane	53.2	2.5	50.000		106	70 - 130			
Dibromochloromethane	53.0	2.5	50.000		106	70 - 130			
1,2-Dibromoethane	52.4	2.5	50.000		105	70 - 130			
trans-1,4-Dichloro-2-Butene	48.2	13	50.000		96.3	70 - 130			
Chlorobenzene	49.1	2.5	50.000		98.1	70 - 130			
1,1,1,2-Tetrachloroethane	51.0	2.5	50.000		102	70 - 130			
Ethylbenzene	50.5	2.5	50.000		101	70 - 130			
m+p Xylenes	108	5.0	100.000		108	70 - 130			
o-Xylene	57.7	2.5	50.000		115	70 - 130			
Styrene	57.0	2.5	50.000		114	70 - 130			
Bromoform	54.1	2.5	50.000		108	70 - 130			
Isopropylbenzene	57.7	2.5	50.000		115	70 - 130			
1,1,2,2-Tetrachloroethane	50.4	2.5	50.000		101	70 - 130			
Bromobenzene	46.5	2.5	50.000		93.0	70 - 130			
1,2,3-Trichloropropane	45.9	2.5	50.000		91.8	70 - 130			
n-Propylbenzene	49.4	2.5	50.000		98.8	70 - 130			
2-Chlorotoluene	50.0	2.5	50.000		100	70 - 130			
4-Chlorotoluene	50.4	2.5	50.000		101	70 - 130			
1,3,5-Trimethylbenzene	51.6	2.5	50.000		103	70 - 130			
tert-Butylbenzene	53.8	2.5	50.000		108	70 - 130			
1,2,4-Trimethylbenzene	52.1	2.5	50.000		104	70 - 130			
sec-Butylbenzene	51.8	2.5	50.000		104	70 - 130			
1,3-Dichlorobenzene	49.3	2.5	50.000		98.6	70 - 130			
4-Isopropyltoluene	54.3	2.5	50.000		109	70 - 130			
1,4-Dichlorobenzene	45.7	2.5	50.000		91.4	70 - 130			
1,2-Dichlorobenzene	49.5	2.5	50.000		99.0	70 - 130			
n-Butylbenzene	51.5	2.5	50.000		103	70 - 130			
1,2-Dibromo-3-Chloropropane	53.3	2.5	50.000		107	70 - 130			
1,2,4-Trichlorobenzene	55.6	2.5	50.000		111	70 - 130			
Hexachlorobutadiene	49.6	2.5	50.000		99.3	70 - 130			
Naphthalene	55.2	5.0	50.000		110	70 - 130			
1,2,3-Trichlorobenzene	52.4	5.0	50.000		105	70 - 130			
Surrogate: 1,2-Dichloroethane-d4					*77.9*	*70 - 130*			
Surrogate: Toluene-d8					*96.5*	*70 - 130*			
Surrogate: 4-Bromofluorobenzene					*107*	*70 - 130*			

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

Sincerely,

David Ditta
Laboratory Director

This technical report was reviewed by Robert Blake



Project Manager

Report Comments:

Sample Result Flags:
E- The result is estimated, above the calibration range.
H- The surrogate recovery is above the control limits.
L- The surrogate recovery is below the control limits.
B- The compound was detected in the laboratory blank.
P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
D- The RPD between the sample and the sample duplicate is high. Sample Homogeneity may be a problem.
+- The Surrogate was diluted out.
*C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
*C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
*F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
*F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
*I- Analyte exceeds method limits from second source standard in Initial Calibration Verification (ICV). No directional bias.

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

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

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

ND is None Detected at or above the specified reporting limit
Reporting Limit (RL) is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
All analyses were performed in house unless a Reference Laboratory is listed.
Samples will be disposed of 30 days after the report date.

80 Lupes Drive
Stratford, CT 06615

COMPLETE ENVIRONMENTAL TESTING, INC.

Tel: (203) 377-9984
Fax: (203) 377-9952
email: cet1@cetlabs.com

Quality Control Definitions and Abbreviations

Internal Standard (IS)	An Analyte added to each sample or sample extract. An internal standard is used to monitor retention time, calculate relative response, and quantify analytes of interest.
Surrogate Recovery	The % recovery for non-target organic compounds that are spiked into all samples. Used to determine method performance.
Continuing Calibration	An analytical standard analyzed with each set of samples to verify initial calibration of the system.
Batch	Samples that are analyzed together with the same method, sequence and lot of reagents within the same time period.
ND	Not detected at or above the specified reporting limit.
RL	RL is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
Dilution	Multiplier added to detection levels (MDL) and/or sample results due to interferences and/or high concentration of target compounds.
Duplicate	Result from the duplicate analysis of a sample.
Result	Amount of analyte found in a sample.
Spike Level	Amount of analyte added to a sample
Matrix Spike Result	Amount of analyte found including amount that was spiked.
Matrix Spike Dup	Amount of analyte found in duplicate spikes including amount that was spike.
Matrix Spike % Recovery	% Recovery of spiked amount in sample.
Matrix Spike Dup % Recovery	% Recovery of spiked duplicate amount in sample.
RPD	Relative percent difference between Matrix Spike and Matrix Spike Duplicate.
Blank	Method Blank that has been taken through all steps of the analysis.
LCS % Recovery	Laboratory Control Sample percent recovery. The amount of analyte recovered from a fortified sample.
Recovery Limits	A range within which specified measurements results must fall to be compliant.
CC	Calibration Verification

Flags:

- H- Recovery is above the control limits
- L- Recovery is below the control limits
- B- Compound detected in the Blank
- P- RPD of dual column results exceeds 40%
- #- Sample result too high for accurate spike recovery.

NELAP ACCREDITED TNI LABORATORY

Connecticut Laboratory Certification PH0116
Massachussets Laboratory Certification M-CT903
Pennsylvania NELAP Accreditation 68-02927

New York NELAP Accreditation 11982
Rhode Island Certification 199

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Complete Environmental Testing, Inc.

Client: Triton Environmental

Project Location: 200028, Canton

Project Number:

Laboratory Sample ID(s):

2110553-01 thru 2110553-02

Sample Date(s):

11/07/2022

List RCP Methods Used:

EPA 1311, EPA 6010C, EPA 6020A, EPA 7471B, EPA 8082A, EPA 8260C

CET #: 2110553

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	☑ Yes ☐ No
1A	Were the method specified preservation and holding time requirements met?	☑ Yes ☐ No
1B	VPH and EPH Methods only: Was the VPH and EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	☐ Yes ☐ No ☑ N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	☑ Yes ☐ No
3	Were samples received at an appropriate temperature (< 6 degrees C.)?	☑ Yes ☐ No ☐ N/A
4	Were all QA/QC performance criteria specified in the CT DEP Reasonable Confidence Protocol documents achieved?	☐ Yes ☑ No
5a	a) Were reporting limits specified or referenced on the chain-of-custody?	☑ Yes ☐ No
5b	b) Were these reporting limits met?	☑ Yes ☐ No
6	For each analytical method referenced in this laboratory report package, were results reported for all consituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☐ Yes ☑ No
7	Are project specific matrix spikes and laboratory duplicates included with this data set?	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A, or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence."
This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature:  **Position:** Laboratory Director

Printed Name: David Ditta **Date:** 11/22/2022

Name of Laboratory: Complete Environmental Testing, Inc.

This certification form is to be used for RCP methods only.

RCP Case Narrative

4- See Exceptions Report Below

6- Client requested a subset of the RCP metals list.

4- Exceptions Report

Analyte	QC Type	Exception	Result	RPD	Recovery (%)	Batch/Sequence Sample ID
Acetone	LCS	High	159		159	B2K2115
Bromomethane	LCS	High	73.8		148	B2K2115
Chloromethane	LCS	High	74.2		148	B2K2115
Dichlorodifluoromethane	LCS	High	75.6		151	B2K2115
Methylene Chloride	LCS	Low	33.6		67.1	B2K2115
Acetone	CC	High	143		143	S2K2108
Bromochloromethane	CC	Low	38.3		76.6	S2K2108
Chloroethane	CC	Low	34.7		69.4	S2K2108
Chloroform	CC	Low	39.1		78.1	S2K2108
Tetrahydrofuran	CC	High	73.9		148	S2K2108
Trichlorofluoromethane	CC	Low	35.6		71.1	S2K2108
Vinyl Chloride	CC	Low	36.8		73.5	S2K2108
2-Butanone (MEK)	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				
Acetone	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				
Bromomethane	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				
Chloromethane	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				
Dichlorodifluoromethane	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				
Tetrahydrofuran	ICV	Analyte exceeds method limit of second source standard. Non-directional bias				

QC Batch/Sequence Report

Batch	Sequence	CET ID	Sample ID	Specific Method	Matrix	Collection Date
B2K2241		2110553-02	Composite 1,3,4	EPA 1010A	Soil	11/07/2022
B2K1820		2110553-02	Composite 1,3,4	EPA 1311	Soil	11/07/2022
B2K2109	S2K2103	2110553-02	Composite 1,3,4	EPA 6010C	Soil	11/07/2022
B2K1835	S2K1806	2110553-02	Composite 1,3,4	EPA 6020A	Soil	11/07/2022
B2K2110		2110553-02	Composite 1,3,4	EPA 7471B	Soil	11/07/2022
B2K1750	S2K1811	2110553-02	Composite 1,3,4	EPA 8082A	Soil	11/07/2022
B2K2115	S2K2108	2110553-01	TB-1 0-1ft	EPA 8260C	Soil	11/07/2022
B2K1732		2110553-02	Composite 1,3,4	EPA 9045D	Soil	11/07/2022
B2K1721		2110553-02	Composite 1,3,4	SW 846 Ch. 7	Soil	11/07/2022
B2K1723		2110553-02	Composite 1,3,4	SW 846 Ch. 7	Soil	11/07/2022

Certified Analyses included in this Report

Analyte	Certifications
EPA 1010A in Soil	
Flashpoint	CT,NY,PA
EPA 6010C in Soil	
Lead	CT,NY,PA
Selenium	CT,NY,PA
Cadmium	CT,NY,PA
Chromium	CT,NY,PA
Arsenic	CT,NY,PA
Barium	CT,NY,PA
Silver	CT,NY,PA
EPA 6020A in Water	
Lead	CT
EPA 7471B in Soil	
Mercury	CT,NY,PA
EPA 8082A in Soil	
PCB-1016	CT,NY,PA
PCB-1221	CT,NY,PA
PCB-1232	CT,NY,PA
PCB-1242	CT,NY,PA
PCB-1248	CT,NY,PA
PCB-1254	CT,NY,PA
PCB-1260	CT,NY,PA
PCB-1268	CT,NY,PA
PCB-1262	NY,PA
EPA 8260C in Soil	
Dichlorodifluoromethane	CT,NY,PA
Chloromethane	CT,NY,PA
Vinyl Chloride	CT,NY,PA
Bromomethane	CT,NY,PA
Chloroethane	CT,NY,PA
Trichlorofluoromethane	CT,NY,PA
Acetone	CT,NY,PA
Acrylonitrile	CT
Trichlorotrifluoroethane	CT,NY,PA
1,1-Dichloroethene	CT,NY,PA
Methylene Chloride	CT,NY,PA
Carbon Disulfide	CT,NY,PA
Methyl-t-Butyl Ether (MTBE)	CT,NY,PA
trans-1,2-Dichloroethene	CT,NY,PA
1,1-Dichloroethane	CT,NY,PA
2-Butanone (MEK)	CT,NY,PA
2,2-Dichloropropane	CT,NY,PA
cis-1,2-Dichloroethene	CT,NY,PA
Bromochloromethane	CT,NY,PA
Chloroform	CT,NY,PA
Tetrahydrofuran	CT
1,1,1-Trichloroethane	CT,NY,PA
Carbon Tetrachloride	CT,NY,PA

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Soil	
1,1-Dichloropropene	CT,NY,PA
Benzene	CT,NY,PA
1,2-Dichloroethane	CT,NY,PA
Trichloroethene	CT,NY,PA
1,2-Dichloropropane	CT,NY,PA
Dibromomethane	CT,NY,PA
Bromodichloromethane	CT,NY,PA
Methyl Isobutyl Ketone	CT,NY,PA
cis-1,3-Dichloropropene	CT,NY,PA
Toluene	CT,NY,PA
trans-1,3-Dichloropropene	CT,NY,PA
2-Hexanone	CT,NY,PA
1,1,2-Trichloroethane	CT,NY,PA
Tetrachloroethene	CT,NY,PA
1,3-Dichloropropane	CT,NY,PA
Dibromochloromethane	CT,NY,PA
1,2-Dibromoethane	CT,NY,PA
trans-1,4-Dichloro-2-Butene	CT,NY,PA
Chlorobenzene	CT,NY,PA
1,1,1,2-Tetrachloroethane	CT,NY,PA
Ethylbenzene	CT,NY,PA
m+p Xylenes	CT,NY,PA
o-Xylene	CT,NY,PA
Styrene	CT,NY,PA
Bromoform	CT,NY,PA
Isopropylbenzene	CT,NY,PA
1,1,2,2-Tetrachloroethane	CT,NY,PA
Bromobenzene	CT,NY,PA
1,2,3-Trichloropropane	CT,NY,PA
n-Propylbenzene	CT,NY,PA
2-Chlorotoluene	CT,NY,PA
4-Chlorotoluene	CT,NY,PA
1,3,5-Trimethylbenzene	CT,NY,PA
tert-Butylbenzene	CT,NY,PA
1,2,4-Trimethylbenzene	CT,NY,PA
sec-Butylbenzene	CT,NY,PA
1,3-Dichlorobenzene	CT,NY,PA
4-Isopropyltoluene	CT,NY,PA
1,4-Dichlorobenzene	CT,NY,PA
1,2-Dichlorobenzene	CT,NY,PA
n-Butylbenzene	CT,NY,PA
1,2-Dibromo-3-Chloropropane	CT,NY,PA
1,2,4-Trichlorobenzene	CT,NY,PA
Hexachlorobutadiene	CT,NY
Naphthalene	CT,NY,PA
1,2,3-Trichlorobenzene	CT
EPA 9045D in Soil	
pH	CT,NY,PA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SM 2540 G in Soil	
Percent Solids	CT
SW 846 Ch. 7 in Soil	
Reactive Cyanide	CT
Reactive Sulfide	CT

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2024
NY	New York Certification (NELAC)	11982	04/01/2023
PA	Pennsylvania DEP	68-02927	05/31/2023

Jacqueline M. Bakos

From: David Vasiliou <dvasiliou@tritonenvironmental.com>
Sent: Wednesday, November 16, 2022 8:49 AM
To: CET Services
Subject: RE: additional analysis

Hi Jacqui,

I have a better solution. Yes, you can run the VOCs out of the 4oz jar from TB-1. After that, you can composite TB-1, TB-3, and TB-4 into one sample and then run the full volume analysis as you need to. You can name the new sample Composite-1,3,4. Does that work for you?

Dave

Ref No: 200028 11.15.2022

TRITON ENVIRONMENTAL

David S. Vasiliou, Triton Environmental, Inc.
385 Church Street, Suite 201, Guilford, CT 06437
203.458.7200 | www.tritonenvironmental.com

From: CET Services [mailto:cetservices@cetlabs.com]
Sent: Tuesday, November 15, 2022 4:11 PM
To: David Vasiliou
Subject: RE: additional analysis

Dave,
So we have approx. 100g left . Tclp takes 100g alone, we can do less but have to note it on report. Also flash usually takes a full 4oz jar. That test is not by weight but size. We fill a cup approx. 4oz jar size. And with that we might be able to run it but also have to note on report not the full size sample was used. And I assume you are giving us permission to take the voc's out of the 4oz jar?

Let me know what you would like us to do.
Thank you

Jacqui Bakos
Sample Manager
Complete Environmental Testing, Inc.
Phone: (203) 377-9984
Fax: (203) 377-9952
www.cetlabs.com

2110553

CHAIN OF CUSTODY

COMPLETE ENVIRONMENTAL TESTING, INC.

Volatile Soils Only:
Date and Time in Freezer
Client:
CET:

80 Lupes Drive
Stratford, CT 06615
Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cetservices@cetlabs.com
e-mail: bottleorders@cetlabs.com

Matrix: A=Air, S=Soil, W=Water, DW=Drinking Water, C=Cassette, Solid, Wipe, Other (Specify)

Turnaround Time ** (check one): Same Day *, Next Day *, Two Day *, Three Day *, Std (5-7 Days)

Metals: 8 RCRA, 13 Priority Poll, 15 CT DEP, Total, SPLP, TCLP, Dissolved, Field Filtered, Lab to Filter

Additional Analysis: Pdt, Flashpoint, Reactivity, TCLP Pb

Sample ID/Sample Depths (include Units for any sample depths provided)	Collection Date/Time	Matrix	Std (5-7 Days)	8260 CT List	8260 Aromatics	8260 Halogens	CT ETPH	8270 CT List	8270 PNAs	PCBs ☐ SOX ☐ ASE	Pesticides	8 RCRA	13 Priority Poll	15 CT DEP	Total	SPLP	TCLP	Dissolved	Field Filtered	Lab to Filter	Pdt	Flashpoint	Reactivity	TCLP Pb	TOTAL # OF CONT.	NOTE #
TB-1 0-1'	11/7/22 11:00	S	X	A			X		X	A		A			A						A	A	A	A		
TB-2 0-3'	11:40																									
TB-3 0-2'	1:15																									
TB-4 0-3.5'	12:45																									
TB-5 0-2'	12:10																								5	

PRESERVATIVE (Cl–HCl, N–HNO_3, S–H_2SO_4, Na–NaOH, C=Cool, O–Other)

CONTAINER TYPE (P–Plastic, G–Glass, V–Vial, O–Other)

Soil VOCs Only (M=MeOH B=Sodium Bisulfate W=Water F=Empty Vial E=Encore)

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
	11/8/22 8:50	
	11/8/22 1015	11/9/22

NOTES:
A - run on Standard TAT. Also, please report the full SVOC list. JV 11/14/22

Client / Reporting Information

Company Name: Triton Environmental
Address: 385 Church St
City: Guilford State: CT Zip: 06437
Report To: Dave Vasilion E-mail: On file
Phone # Fax #

Project Information

Project: 200028 PO #:
Location: Canton Project #: 200028
CET Quote # Collector(s): AJS

QA/QC ☐ Std ☐ Site Specific (MS/MSD) * ☒ RCP Pkg * ☐ DQAW *
Data Report ☒ PDF ☒ EDD - Specify Format Excel Other
RSR Reporting Limits (check one) ☒ GA ☐ GB ☐ SWP ☐ Other
Laboratory Certification Needed (check one) ☒ CT ☐ NY ☐ RI ☐ MA ☐ PA
Temp Upon Receipt °C Evidence of Cooling: Y N

PAGE 1 OF 1

*** Additional charge may apply. ** TAT begins when the samples are received at the Lab and all issues are resolved. TAT for samples received after 3 p.m. will start on the next business day. All samples picked up by courier service will be considered next business day receipt for TAT purposes.**

REV. 12/18

80 Lupes Drive
Stratford, CT 06615

Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cet1@cetlabs.com

Client: Mr. David Vasiliou
Triton Environmental
385 Church St.
Guilford, CT 06437

Analytical Report

CET# 2120197

Report Date:December 14, 2022
Project: 200028, Canton
Project Number: 200028

Connecticut Laboratory Certificate: PH 0116
Massachusetts Laboratory Certificate: M-CT903
Rhode Island Laboratory Certificate: 199

New York NELAP Accreditation: 11982
Pennsylvania Laboratory Certificate: 68-02927

SAMPLE SUMMARY

The sample(s) were received at 6.0°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
WC-2	2120197-01	Soil	12/06/2022 11:35	12/07/2022
TB-6 0-0.5ft	2120197-02	Soil	12/06/2022 9:00	12/07/2022
TB-7 0-0.5ft	2120197-03	Soil	12/06/2022 9:15	12/07/2022
TB-8 0-0.5ft	2120197-04	Soil	12/06/2022 9:30	12/07/2022
TB-9 0-2ft	2120197-05	Soil	12/06/2022 10:30	12/07/2022
TB-10 0-2ft	2120197-06	Soil	12/06/2022 11:25	12/07/2022

Analyte: Percent Solids [SM 2540 G]

Analyst: JRF

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2120197-01	WC-2	92	1.0	%	1	B2L0847	12/08/2022	12/08/2022 15:52	
2120197-02	TB-6 0-0.5ft	87	1.0	%	1	B2L0847	12/08/2022	12/08/2022 15:52	
2120197-03	TB-7 0-0.5ft	88	1.0	%	1	B2L0847	12/08/2022	12/08/2022 15:52	
2120197-04	TB-8 0-0.5ft	96	1.0	%	1	B2L0847	12/08/2022	12/08/2022 15:52	
2120197-05	TB-9 0-2ft	94	1.0	%	1	B2L0847	12/08/2022	12/08/2022 15:52	
2120197-06	TB-10 0-2ft	84	1.0	%	1	B2L0847	12/08/2022	12/08/2022 15:52	

Analyte: Flashpoint [EPA 1010A]

Analyst: MTL

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2120197-01	WC-2	>200 F	NA	°F	1	B2L1352	12/13/2022	12/13/2022 16:54	

Analyte: Reactive Sulfide [SW 846 Ch. 7]

Analyst: MTL

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2120197-01	WC-2	ND	22	mg/kg dry	1	B2L1212	12/12/2022	12/12/2022 17:47	

Analyte: Reactive Cyanide [SW 846 Ch. 7]

Analyst: MTL

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2120197-01	WC-2	ND	5.4	mg/kg dry	1	B2L1211	12/12/2022	12/12/2022 17:46	

Analyte: pH [EPA 9045D]

Analyst: EAS

Matrix: Soil

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2120197-01	WC-2	5.73 @22.6°C	NA	pH Units	1	B2L0834	12/08/2022	12/08/2022 14:10	

Analyte: TCLP Lead [EPA 6020A]

Prep: EPA 3005A-1311

Analyst: SS

Matrix: Extract

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2120197-01	WC-2	0.017	0.013	mg/L	1	B2L0833	12/08/2022	12/09/2022 14:53	

Client Sample ID WC-2

Lab ID: 2120197-01

PCBs by Soxhlet **Analyst: MFJ**

Method: EPA 8082A **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
PCB-1016	ND	0.054	1	EPA 3540C	B2L0835	12/08/2022	12/13/2022 03:26	
PCB-1221	ND	0.054	1	EPA 3540C	B2L0835	12/08/2022	12/13/2022 03:26	
PCB-1232	ND	0.054	1	EPA 3540C	B2L0835	12/08/2022	12/13/2022 03:26	
PCB-1242	ND	0.054	1	EPA 3540C	B2L0835	12/08/2022	12/13/2022 03:26	
PCB-1248	ND	0.054	1	EPA 3540C	B2L0835	12/08/2022	12/13/2022 03:26	
PCB-1254	ND	0.054	1	EPA 3540C	B2L0835	12/08/2022	12/13/2022 03:26	
PCB-1260	ND	0.054	1	EPA 3540C	B2L0835	12/08/2022	12/13/2022 03:26	
PCB-1268	ND	0.054	1	EPA 3540C	B2L0835	12/08/2022	12/13/2022 03:26	
PCB-1262	ND	0.054	1	EPA 3540C	B2L0835	12/08/2022	12/13/2022 03:26	
Surrogate: TCMX [1C]	*95.6 %*	*30 - 150*			B2L0835	12/08/2022	*12/13/2022 03:26*	
Surrogate: TCMX [2C]	*101 %*	*30 - 150*			B2L0835	12/08/2022	*12/13/2022 03:26*	
Surrogate: DCB [1C]	*70.1 %*	*30 - 150*			B2L0835	12/08/2022	*12/13/2022 03:26*	
Surrogate: DCB [2C]	*73.7 %*	*30 - 150*			B2L0835	12/08/2022	*12/13/2022 03:26*	

Semivolatile Organics **Analyst: JTS**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Phenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
1,3-Dichlorobenzene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
n-Nitroso-di-n-propylamine	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Pyridine	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	*F1
n-Nitroso-dimethylamine	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
bis(2-Chloroethyl)ether	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Aniline	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2-Chlorophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
1,4-Dichlorobenzene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Benzyl Alcohol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
1,2-Dichlorobenzene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
bis(2-Chloroisopropyl)ether	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Hexachloroethane	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2-Methyl Phenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
3+4 Methyl Phenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	

Client Sample ID WC-2

Lab ID: 2120197-01

Semivolatile Organics
Method: EPA 8270D

Analyst: JTS

Matrix: Soil

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Naphthalene	ND	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2-Nitrophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2,4-Dichlorophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Hexachlorobutadiene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
4-Chloro-3-methylphenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Nitrobenzene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Isophorone	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2,4-Dimethylphenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
bis(2-Chloroethoxy)methane	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Benzoic Acid	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
1,2,4-Trichlorobenzene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2,6-Dichlorophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
4-Chloroaniline	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
1,2,4,5-Tetrachlorobenzene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2-Methyl Naphthalene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Acenaphthylene	**330**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Acenaphthene	**210**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Dibenzofuran	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Fluorene	**250**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Hexachlorocyclopentadiene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2,4,6-Trichlorophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2,4,5-Trichlorophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2,4-Dinitrophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
4-Nitrophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2-Chloronaphthalene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2-Nitroaniline	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Dimethylphthalate	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2,6-Dinitrotoluene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
4-Nitroaniline	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2,4-Dinitrotoluene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
2,3,4,6-Tetrachlorophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
4-Chlorophenyl-phenylether	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Diethylphthalate	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Phenanthrene	**2600**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Anthracene	**520**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Carbazole	**280**	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Fluoranthene	**3500**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	

Client Sample ID WC-2

Lab ID: 2120197-01

Semivolatile Organics **Analyst: JTS**

Method: EPA 8270D **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Pyrene	**2800**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
n-Nitrosodiphenylamine	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Pentachlorophenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
3-Nitroaniline	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
4,6-Dinitro-2-methylphenol	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
1,2-Diphenylhydrazine	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
4-Bromophenyl-phenylether	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Hexachlorobenzene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Di-n-butylphthalate	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Pentachloronitrobenzene	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Benzo[a]anthracene	**1400**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Chrysene	**1500**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Butylbenzylphthalate	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
3,3-Dichlorobenzidine	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
bis(2-Ethylhexyl)phthalate	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Di-n-octylphthalate	ND	220	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Benzo[b]fluoranthene	**1600**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Benzo[k]fluoranthene	**780**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Benzo[a]pyrene	**1300**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Indeno[1,2,3-cd]pyrene	**850**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Dibenz[a,h]anthracene	**230**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Benzo[g,h,i]perylene	**980**	110	1	EPA 3545A	B2L0804	12/08/2022	12/09/2022 21:25	
Surrogate: 2-Fluorophenol	*84.5 %*		*30 - 130*		B2L0804	12/08/2022	*12/09/2022 21:25*	
Surrogate: Phenol-d6	*93.8 %*		*30 - 130*		B2L0804	12/08/2022	*12/09/2022 21:25*	
Surrogate: Nitrobenzene-d5	*78.1 %*		*30 - 130*		B2L0804	12/08/2022	*12/09/2022 21:25*	
Surrogate: 2-Fluorobiphenyl	*83.4 %*		*30 - 130*		B2L0804	12/08/2022	*12/09/2022 21:25*	
Surrogate: 2,4,6-Tribromophenol	*114 %*		*30 - 130*		B2L0804	12/08/2022	*12/09/2022 21:25*	
Surrogate: Terphenyl-d14	*106 %*		*30 - 130*		B2L0804	12/08/2022	*12/09/2022 21:25*	

Volatile Organics **Analyst: RAN**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Dichlorodifluoromethane	ND	10	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	*C2

Client Sample ID WC-2

Lab ID: 2120197-01

Volatile Organics **Analyst: RAN**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Chloromethane	ND	6.9	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Vinyl Chloride	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Bromomethane	ND	6.9	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Chloroethane	ND	6.9	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Trichlorofluoromethane	ND	28	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Acetone	ND	100	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	*C2*I
Acrylonitrile	ND	5.6	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Trichlorotrifluoroethane	ND	28	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,1-Dichloroethene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Methylene Chloride	ND	42	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Carbon Disulfide	ND	6.9	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Methyl-t-Butyl Ether (MTBE)	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
trans-1,2-Dichloroethene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,1-Dichloroethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
2-Butanone (MEK)	ND	17	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	*C2*I
2,2-Dichloropropane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
cis-1,2-Dichloroethene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Bromochloromethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Chloroform	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Tetrahydrofuran	ND	17	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	*I
1,1,1-Trichloroethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Carbon Tetrachloride	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,1-Dichloropropene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Benzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,2-Dichloroethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Trichloroethene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,2-Dichloropropane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Dibromomethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Bromodichloromethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Methyl Isobutyl Ketone	ND	17	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
cis-1,3-Dichloropropene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Toluene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
trans-1,3-Dichloropropene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
2-Hexanone	ND	17	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	*C2*I
1,1,2-Trichloroethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Tetrachloroethene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,3-Dichloropropane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	

Client Sample ID WC-2

Lab ID: 2120197-01

Volatile Organics **Analyst: RAN**

Method: EPA 8260C **Matrix: Soil**

Analyte	Result (ug/kg dry)	RL (ug/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
Dibromochloromethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,2-Dibromoethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
trans-1,4-Dichloro-2-Butene	ND	17	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	*I
Chlorobenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,1,1,2-Tetrachloroethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Ethylbenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
m+p Xylenes	ND	6.9	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
o-Xylene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Styrene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Bromoform	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Isopropylbenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,1,2,2-Tetrachloroethane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Bromobenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,2,3-Trichloropropane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
n-Propylbenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
2-Chlorotoluene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
4-Chlorotoluene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,3,5-Trimethylbenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
tert-Butylbenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,2,4-Trimethylbenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
sec-Butylbenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,3-Dichlorobenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
4-Isopropyltoluene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,4-Dichlorobenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,2-Dichlorobenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
n-Butylbenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,2-Dibromo-3-Chloropropane	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,2,4-Trichlorobenzene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Hexachlorobutadiene	ND	3.5	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Naphthalene	ND	6.9	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
1,2,3-Trichlorobenzene	ND	6.9	1.28	EPA 5035A-L	B2L0745	12/08/2022	12/08/2022 03:05	
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70 - 130*		B2L0745	12/08/2022	*12/08/2022 03:05*	
Surrogate: Toluene-d8	*98.8 %*		*70 - 130*		B2L0745	12/08/2022	*12/08/2022 03:05*	
Surrogate: 4-Bromofluorobenzene	*99.1 %*		*70 - 130*		B2L0745	12/08/2022	*12/08/2022 03:05*	

Client Sample ID TB-6 0-0.5ft

Lab ID: 2120197-02

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**170**	57	1	EPA 3550C	B2L0902	12/09/2022	12/09/2022 23:54	1
Surrogate: Octacosane	*113 %*	*50 - 150*			B2L0902	12/09/2022	*12/09/2022 23:54*	

1 C18-C36 may be PNA Related

Client Sample ID TB-7 0-0.5ft

Lab ID: 2120197-03

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	ND	56	1	EPA 3550C	B2L0902	12/09/2022	12/10/2022 00:15	
Surrogate: Octacosane	*113 %*	*50 - 150*			B2L0902	12/09/2022	*12/10/2022 00:15*	

Client Sample ID TB-8 0-0.5ft

Lab ID: 2120197-04

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**130**	51	1	EPA 3550C	B2L0902	12/09/2022	12/10/2022 00:37	1
Surrogate: Octacosane	*116 %*	*50 - 150*			B2L0902	12/09/2022	*12/10/2022 00:37*	

1 C18-C36 may be PNA Related

Client Sample ID TB-9 0-2ft

Lab ID: 2120197-05

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	**200**	52	1	EPA 3550C	B2L0902	12/09/2022	12/10/2022 00:58	R
Surrogate: Octacosane	*116 %*	*50 - 150*			B2L0902	12/09/2022	*12/10/2022 00:58*	

R C14-C36 range unknown

Client Sample ID TB-10 0-2ft

Lab ID: 2120197-06

Conn. Extractable TPH **Analyst: PDS**

Method: CT-ETPH **Matrix: Soil**

Analyte	Result (mg/kg dry)	RL (mg/kg dry)	Dilution	Prep Method	Batch	Prepared	Date/Time Analyzed	Notes
ETPH	ND	58	1	EPA 3550C	B2L0902	12/09/2022	12/10/2022 01:19	
Surrogate: Octacosane	*116 %*	*50 - 150*			B2L0902	12/09/2022	*12/10/2022 01:19*	

QUALITY CONTROL SECTION

Batch B2L0745 - EPA 8260C

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L0745-BLK1)					Prepared: 12/7/22 Analyzed: 12/7/22				
Dichlorodifluoromethane	ND	7.5							
Chloromethane	ND	5.0							
Vinyl Chloride	ND	2.5							
Bromomethane	ND	5.0							
Chloroethane	ND	5.0							
Trichlorofluoromethane	ND	20							
Acetone	ND	75							
Acrylonitrile	ND	4.0							
Trichlorotrifluoroethane	ND	20							
1,1-Dichloroethene	ND	2.5							
Methylene Chloride	ND	30							
Carbon Disulfide	ND	5.0							
Methyl-t-Butyl Ether (MTBE)	ND	2.5							
trans-1,2-Dichloroethene	ND	2.5							
1,1-Dichloroethane	ND	2.5							
2-Butanone (MEK)	ND	13							
2,2-Dichloropropane	ND	2.5							
cis-1,2-Dichloroethene	ND	2.5							
Bromochloromethane	ND	2.5							
Chloroform	ND	2.5							
Tetrahydrofuran	ND	13							
1,1,1-Trichloroethane	ND	2.5							
Carbon Tetrachloride	ND	2.5							
1,1-Dichloropropene	ND	2.5							
Benzene	ND	2.5							
1,2-Dichloroethane	ND	2.5							
Trichloroethene	ND	2.5							
1,2-Dichloropropane	ND	2.5							
Dibromomethane	ND	2.5							
Bromodichloromethane	ND	2.5							
Methyl Isobutyl Ketone	ND	13							
cis-1,3-Dichloropropene	ND	2.5							
Toluene	ND	2.5							
trans-1,3-Dichloropropene	ND	2.5							
2-Hexanone	ND	13							
1,1,2-Trichloroethane	ND	2.5							
Tetrachloroethene	ND	2.5							
1,3-Dichloropropane	ND	2.5							
Dibromochloromethane	ND	2.5							
1,2-Dibromoethane	ND	2.5							
trans-1,4-Dichloro-2-Butene	ND	13							
Chlorobenzene	ND	2.5							
1,1,1,2-Tetrachloroethane	ND	2.5							
Ethylbenzene	ND	2.5							
m+p Xylenes	ND	5.0							
o-Xylene	ND	2.5							
Styrene	ND	2.5							
Bromoform	ND	2.5							
Isopropylbenzene	ND	2.5							

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L0745-BLK1) - Continued					Prepared: 12/7/22 Analyzed: 12/7/22				
1,1,2,2-Tetrachloroethane	ND	2.5							
Bromobenzene	ND	2.5							
1,2,3-Trichloropropane	ND	2.5							
n-Propylbenzene	ND	2.5							
2-Chlorotoluene	ND	2.5							
4-Chlorotoluene	ND	2.5							
1,3,5-Trimethylbenzene	ND	2.5							
tert-Butylbenzene	ND	2.5							
1,2,4-Trimethylbenzene	ND	2.5							
sec-Butylbenzene	ND	2.5							
1,3-Dichlorobenzene	ND	2.5							
4-Isopropyltoluene	ND	2.5							
1,4-Dichlorobenzene	ND	2.5							
1,2-Dichlorobenzene	ND	2.5							
n-Butylbenzene	ND	2.5							
1,2-Dibromo-3-Chloropropane	ND	2.5							
1,2,4-Trichlorobenzene	ND	2.5							
Hexachlorobutadiene	ND	2.5							
Naphthalene	ND	5.0							
1,2,3-Trichlorobenzene	ND	5.0							
Surrogate: 1,2-Dichloroethane-d4					*103*	*70 - 130*			
Surrogate: Toluene-d8					*99.3*	*70 - 130*			
Surrogate: 4-Bromofluorobenzene					*101*	*70 - 130*			
LCS (B2L0745-BS1)					Prepared: 12/7/22 Analyzed: 12/7/22				
Dichlorodifluoromethane	45.9	7.5	50.000		91.8	70 - 130			
Chloromethane	42.6	5.0	50.000		85.1	70 - 130			
Vinyl Chloride	42.5	2.5	50.000		85.0	70 - 130			
Bromomethane	48.3	5.0	50.000		96.5	70 - 130			
Chloroethane	44.1	5.0	50.000		88.1	70 - 130			
Trichlorofluoromethane	44.4	20	50.000		88.8	70 - 130			
Acetone	85.6	75	100.000		85.6	70 - 130			
Acrylonitrile	43.1	4.0	50.000		86.2	70 - 130			
Trichlorotrifluoroethane	46.0	20	50.000		92.0	70 - 130			
1,1-Dichloroethene	46.1	2.5	50.000		92.2	70 - 130			
Methylene Chloride	54.3	30	50.000		109	70 - 130			
Carbon Disulfide	42.7	5.0	50.000		85.3	70 - 130			
Methyl-t-Butyl Ether (MTBE)	42.5	2.5	50.000		85.1	70 - 130			
trans-1,2-Dichloroethene	43.6	2.5	50.000		87.2	70 - 130			
1,1-Dichloroethane	44.0	2.5	50.000		87.9	70 - 130			
2-Butanone (MEK)	87.0	13	100.000		87.0	70 - 130			
2,2-Dichloropropane	45.6	2.5	50.000		91.2	70 - 130			
cis-1,2-Dichloroethene	43.8	2.5	50.000		87.5	70 - 130			
Bromochloromethane	41.6	2.5	50.000		83.3	70 - 130			
Chloroform	43.6	2.5	50.000		87.1	70 - 130			
Tetrahydrofuran	37.4	13	50.000		74.8	70 - 130			
1,1,1-Trichloroethane	45.2	2.5	50.000		90.4	70 - 130			
Carbon Tetrachloride	44.8	2.5	50.000		89.6	70 - 130			
1,1-Dichloropropene	45.3	2.5	50.000		90.5	70 - 130			
Benzene	45.3	2.5	50.000		90.6	70 - 130			
1,2-Dichloroethane	42.1	2.5	50.000		84.2	70 - 130			
Trichloroethene	48.0	2.5	50.000		96.0	70 - 130			
1,2-Dichloropropane	44.9	2.5	50.000		89.9	70 - 130			

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
LCS (B2L0745-BS1) - Continued					Prepared: 12/7/22 Analyzed: 12/7/22				
Dibromomethane	45.2	2.5	50.000		90.4	70 - 130			
Bromodichloromethane	44.3	2.5	50.000		88.6	70 - 130			
Methyl Isobutyl Ketone	87.5	13	100.000		87.5	70 - 130			
cis-1,3-Dichloropropene	47.0	2.5	50.000		93.9	70 - 130			
Toluene	45.3	2.5	50.000		90.6	70 - 130			
trans-1,3-Dichloropropene	46.1	2.5	50.000		92.2	70 - 130			
2-Hexanone	91.4	13	100.000		91.4	70 - 130			
1,1,2-Trichloroethane	44.8	2.5	50.000		89.7	70 - 130			
Tetrachloroethene	46.0	2.5	50.000		91.9	70 - 130			
1,3-Dichloropropane	44.7	2.5	50.000		89.5	70 - 130			
Dibromochloromethane	44.9	2.5	50.000		89.7	70 - 130			
1,2-Dibromoethane	43.9	2.5	50.000		87.8	70 - 130			
trans-1,4-Dichloro-2-Butene	43.0	13	50.000		85.9	70 - 130			
Chlorobenzene	45.5	2.5	50.000		91.0	70 - 130			
1,1,1,2-Tetrachloroethane	45.9	2.5	50.000		91.8	70 - 130			
Ethylbenzene	45.4	2.5	50.000		90.7	70 - 130			
m+p Xylenes	93.5	5.0	100.000		93.5	70 - 130			
o-Xylene	47.0	2.5	50.000		94.0	70 - 130			
Styrene	46.5	2.5	50.000		93.0	70 - 130			
Bromoform	44.7	2.5	50.000		89.4	70 - 130			
Isopropylbenzene	46.7	2.5	50.000		93.4	70 - 130			
1,1,2,2-Tetrachloroethane	41.1	2.5	50.000		82.1	70 - 130			
Bromobenzene	44.2	2.5	50.000		88.4	70 - 130			
1,2,3-Trichloropropane	43.2	2.5	50.000		86.3	70 - 130			
n-Propylbenzene	45.0	2.5	50.000		90.0	70 - 130			
2-Chlorotoluene	45.2	2.5	50.000		90.4	70 - 130			
4-Chlorotoluene	44.7	2.5	50.000		89.3	70 - 130			
1,3,5-Trimethylbenzene	45.9	2.5	50.000		91.8	70 - 130			
tert-Butylbenzene	46.0	2.5	50.000		91.9	70 - 130			
1,2,4-Trimethylbenzene	45.8	2.5	50.000		91.5	70 - 130			
sec-Butylbenzene	45.2	2.5	50.000		90.3	70 - 130			
1,3-Dichlorobenzene	45.0	2.5	50.000		89.9	70 - 130			
4-Isopropyltoluene	45.9	2.5	50.000		91.7	70 - 130			
1,4-Dichlorobenzene	44.0	2.5	50.000		88.0	70 - 130			
1,2-Dichlorobenzene	45.2	2.5	50.000		90.4	70 - 130			
n-Butylbenzene	45.2	2.5	50.000		90.5	70 - 130			
1,2-Dibromo-3-Chloropropane	43.8	2.5	50.000		87.7	70 - 130			
1,2,4-Trichlorobenzene	47.4	2.5	50.000		94.8	70 - 130			
Hexachlorobutadiene	46.5	2.5	50.000		93.0	70 - 130			
Naphthalene	46.8	5.0	50.000		93.5	70 - 130			
1,2,3-Trichlorobenzene	45.8	5.0	50.000		91.5	70 - 130			
Surrogate: 1,2-Dichloroethane-d4					*95.8*	*70 - 130*			
Surrogate: Toluene-d8					*99.2*	*70 - 130*			
Surrogate: 4-Bromofluorobenzene					*103*	*70 - 130*			

Batch B2L0804 - EPA 8270D

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L0804-BLK1)					Prepared: 12/8/22 Analyzed: 12/9/22				
Phenol	ND	200							
1,3-Dichlorobenzene	ND	200							
n-Nitroso-di-n-propylamine	ND	200							
Pyridine	ND	200							
n-Nitroso-dimethylamine	ND	200							
bis(2-Chloroethyl)ether	ND	200							
Aniline	ND	200							
2-Chlorophenol	ND	200							
1,4-Dichlorobenzene	ND	200							
Benzyl Alcohol	ND	200							
1,2-Dichlorobenzene	ND	200							
bis(2-Chloroisopropyl)ether	ND	200							
Hexachloroethane	ND	200							
2-Methyl Phenol	ND	200							
3+4 Methyl Phenol	ND	200							
Naphthalene	ND	100							
2-Nitrophenol	ND	200							
2,4-Dichlorophenol	ND	200							
Hexachlorobutadiene	ND	200							
4-Chloro-3-methylphenol	ND	200							
Nitrobenzene	ND	200							
Isophorone	ND	200							
2,4-Dimethylphenol	ND	200							
bis(2-Chloroethoxy)methane	ND	200							
Benzoic Acid	ND	200							
1,2,4-Trichlorobenzene	ND	200							
2,6-Dichlorophenol	ND	200							
4-Chloroaniline	ND	200							
1,2,4,5-Tetrachlorobenzene	ND	200							
2-Methyl Naphthalene	ND	200							
Acenaphthylene	ND	100							
Acenaphthene	ND	100							
Dibenzofuran	ND	200							
Fluorene	ND	100							
Hexachlorocyclopentadiene	ND	200							
2,4,6-Trichlorophenol	ND	200							
2,4,5-Trichlorophenol	ND	200							
2,4-Dinitrophenol	ND	200							
4-Nitrophenol	ND	200							
2-Chloronaphthalene	ND	200							
2-Nitroaniline	ND	200							
Dimethylphthalate	ND	200							
2,6-Dinitrotoluene	ND	200							
4-Nitroaniline	ND	200							
2,4-Dinitrotoluene	ND	200							
2,3,4,6-Tetrachlorophenol	ND	200							
4-Chlorophenyl-phenylether	ND	200							
Diethylphthalate	ND	200							
Phenanthrene	ND	100							
Anthracene	ND	100							
Carbazole	ND	200							
Fluoranthene	ND	100							

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L0804-BLK1) - Continued					Prepared: 12/8/22 Analyzed: 12/9/22				
Pyrene	ND	100							
n-Nitrosodiphenylamine	ND	200							
Pentachlorophenol	ND	200							
3-Nitroaniline	ND	200							
4,6-Dinitro-2-methylphenol	ND	200							
1,2-Diphenylhydrazine	ND	200							
4-Bromophenyl-phenylether	ND	200							
Hexachlorobenzene	ND	200							
Di-n-butylphthalate	ND	200							
Pentachloronitrobenzene	ND	200							
Benzo[a]anthracene	ND	100							
Chrysene	ND	100							
Butylbenzylphthalate	ND	200							
3,3-Dichlorobenzidine	ND	200							
bis(2-Ethylhexyl)phthalate	ND	200							
Di-n-octylphthalate	ND	200							
Benzo[b]fluoranthene	ND	100							
Benzo[k]fluoranthene	ND	100							
Benzo[a]pyrene	ND	100							
Indeno[1,2,3-cd]pyrene	ND	100							
Dibenz[a,h]anthracene	ND	100							
Benzo[g,h,i]perylene	ND	100							
Surrogate: 2-Fluorophenol					*88.0*	*30 - 130*			
Surrogate: Phenol-d6					*95.2*	*30 - 130*			
Surrogate: Nitrobenzene-d5					*85.1*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*84.6*	*30 - 130*			
Surrogate: 2,4,6-Tribromophenol					*96.1*	*30 - 130*			
Surrogate: Terphenyl-d14					*104*	*30 - 130*			
LCS (B2L0804-BS1)					Prepared: 12/8/22 Analyzed: 12/9/22				
Phenol	2800	200	4,000.000		70.0	30 - 130			
1,3-Dichlorobenzene	2170	200	4,000.000		54.2	40 - 140			
n-Nitroso-di-n-propylamine	2980	200	4,000.000		74.4	40 - 140			
Pyridine	1040	200	4,000.000		**26.0**	40 - 140			**L**
n-Nitroso-dimethylamine	1600	200	4,000.000		40.1	40 - 140			
bis(2-Chloroethyl)ether	2520	200	4,000.000		63.0	40 - 140			
Aniline	1660	200	4,000.000		41.4	40 - 140			
2-Chlorophenol	2610	200	4,000.000		65.3	30 - 130			
1,4-Dichlorobenzene	2180	200	4,000.000		54.5	40 - 140			
Benzyl Alcohol	3220	200	4,000.000		80.6	30 - 130			
1,2-Dichlorobenzene	2270	200	4,000.000		56.8	40 - 140			
bis(2-Chloroisopropyl)ether	3140	200	4,000.000		78.6	40 - 140			
Hexachloroethane	2380	200	4,000.000		59.6	40 - 140			
2-Methyl Phenol	2890	200	4,000.000		72.2	30 - 130			
3+4 Methyl Phenol	2960	200	4,000.000		74.0	30 - 130			
Naphthalene	2490	100	4,000.000		62.2	40 - 140			
2-Nitrophenol	3110	200	4,000.000		77.8	30 - 130			
2,4-Dichlorophenol	2970	200	4,000.000		74.3	30 - 130			
Hexachlorobutadiene	2410	200	4,000.000		60.3	40 - 140			
4-Chloro-3-methylphenol	3560	200	4,000.000		89.0	30 - 130			
Nitrobenzene	2840	200	4,000.000		71.0	40 - 140			
Isophorone	3220	200	4,000.000		80.5	40 - 140			
2,4-Dimethylphenol	2680	200	4,000.000		67.1	30 - 130			

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
LCS (B2L0804-BS1) - Continued					Prepared: 12/8/22 Analyzed: 12/9/22				
bis(2-Chloroethoxy)methane	2970	200	4,000.000		74.3	40 - 140			
Benzoic Acid	3270	200	4,000.000		81.7	30 - 130			
1,2,4-Trichlorobenzene	2530	200	4,000.000		63.3	40 - 140			
2,6-Dichlorophenol	2870	200	4,000.000		71.8	30 - 130			
4-Chloroaniline	1950	200	4,000.000		48.8	40 - 140			
1,2,4,5-Tetrachlorobenzene	2630	200	4,000.000		65.7	40 - 140			
2-Methyl Naphthalene	2780	200	4,000.000		69.5	40 - 140			
Acenaphthylene	2810	100	4,000.000		70.1	40 - 140			
Acenaphthene	2870	100	4,000.000		71.7	40 - 140			
Dibenzofuran	3090	200	4,000.000		77.3	40 - 140			
Fluorene	3030	100	4,000.000		75.6	40 - 140			
Hexachlorocyclopentadiene	2400	200	4,000.000		59.9	40 - 140			
2,4,6-Trichlorophenol	3190	200	4,000.000		79.8	30 - 130			
2,4,5-Trichlorophenol	3480	200	4,000.000		87.0	30 - 130			
2,4-Dinitrophenol	2980	200	4,000.000		74.4	30 - 130			
4-Nitrophenol	3660	200	4,000.000		91.5	30 - 130			
2-Chloronaphthalene	2640	200	4,000.000		65.9	40 - 140			
2-Nitroaniline	3570	200	4,000.000		89.2	40 - 140			
Dimethylphthalate	3210	200	4,000.000		80.3	40 - 140			
2,6-Dinitrotoluene	3660	200	4,000.000		91.5	40 - 140			
4-Nitroaniline	3600	200	4,000.000		89.9	40 - 140			
2,4-Dinitrotoluene	3700	200	4,000.000		92.5	40 - 140			
2,3,4,6-Tetrachlorophenol	3760	200	4,000.000		93.9	30 - 130			
4-Chlorophenyl-phenylether	2940	200	4,000.000		73.6	40 - 140			
Diethylphthalate	3340	200	4,000.000		83.5	40 - 140			
Phenanthrene	3100	100	4,000.000		77.4	40 - 140			
Anthracene	3060	100	4,000.000		76.6	40 - 140			
Carbazole	3400	200	4,000.000		84.9	40 - 140			
Fluoranthene	3250	100	4,000.000		81.3	40 - 140			
Pyrene	3260	100	4,000.000		81.5	40 - 140			
n-Nitrosodiphenylamine	3740	200	4,000.000		93.4	40 - 140			
Pentachlorophenol	2910	200	4,000.000		72.8	30 - 130			
3-Nitroaniline	3290	200	4,000.000		82.4	40 - 140			
4,6-Dinitro-2-methylphenol	3590	200	4,000.000		89.9	30 - 130			
1,2-Diphenylhydrazine	3530	200	4,000.000		88.3	40 - 140			
4-Bromophenyl-phenylether	3000	200	4,000.000		75.0	40 - 140			
Hexachlorobenzene	3130	200	4,000.000		78.2	40 - 140			
Di-n-butylphthalate	3640	200	4,000.000		91.0	40 - 140			
Pentachloronitrobenzene	3590	200	4,000.000		89.9	40 - 140			
Benzo[a]anthracene	3220	100	4,000.000		80.5	40 - 140			
Chrysene	3130	100	4,000.000		78.3	40 - 140			
Butylbenzylphthalate	4000	200	4,000.000		100	40 - 140			
3,3-Dichlorobenzidine	3600	200	4,000.000		90.0	40 - 140			
bis(2-Ethylhexyl)phthalate	4100	200	4,000.000		103	40 - 140			
Di-n-octylphthalate	4220	200	4,000.000		106	40 - 140			
Benzo[b]fluoranthene	3200	100	4,000.000		80.1	40 - 140			
Benzo[k]fluoranthene	3430	100	4,000.000		85.8	40 - 140			
Benzo[a]pyrene	3080	100	4,000.000		76.9	40 - 140			
Indeno[1,2,3-cd]pyrene	3480	100	4,000.000		87.0	40 - 140			
Dibenz[a,h]anthracene	3350	100	4,000.000		83.8	40 - 140			
Benzo[g,h,i]perylene	3510	100	4,000.000		87.6	40 - 140			
Surrogate: 2-Fluorophenol					*70.9*	*30 - 130*			
Surrogate: Phenol-d6					*77.6*	*30 - 130*			

Analyte	Result (ug/kg)	RL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
LCS (B2L0804-BS1) - Continued					Prepared: 12/8/22 Analyzed: 12/9/22				
Surrogate: Nitrobenzene-d5					*74.3*	*30 - 130*			
Surrogate: 2-Fluorobiphenyl					*75.4*	*30 - 130*			
Surrogate: 2,4,6-Tribromophenol					*102*	*30 - 130*			
Surrogate: Terphenyl-d14					*97.8*	*30 - 130*			

Batch B2L0833 - EPA 6020A

Analyte	Result (mg/L)	RL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L0833-BLK1)					Prepared: 12/8/22 Analyzed: 12/9/22				
Lead	ND	0.013							
LCS (B2L0833-BS1)					Prepared: 12/8/22 Analyzed: 12/9/22				
Lead	0.187	0.013	0.200		93.7	80 - 120			
Duplicate (B2L0833-DUP1)		**Source: 2120197-01**			Prepared: 12/8/22 Analyzed: 12/9/22				
Lead	0.0169	0.013		0.0174			2.52	20	
Matrix Spike (B2L0833-MS1)		**Source: 2120197-01**			Prepared: 12/8/22 Analyzed: 12/9/22				
Lead	0.201	0.013	0.200	0.0174	91.8	75 - 125			
Matrix Spike Dup (B2L0833-MSD1)		**Source: 2120197-01**			Prepared: 12/8/22 Analyzed: 12/9/22				
Lead	0.212	0.013	0.200	0.0174	97.4	75 - 125	5.49	20	

Batch B2L0834 - EPA 9045D

Analyte	Result (pH Units)	RL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L0834-BLK1)					Prepared: 12/8/22 Analyzed: 12/8/22				
pH	5.93								

Batch B2L0835 - EPA 8082A

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L0835-BLK1)					Prepared: 12/8/22 Analyzed: 12/12/22				
PCB-1016	ND	0.050							
PCB-1221	ND	0.050							
PCB-1232	ND	0.050							
PCB-1242	ND	0.050							
PCB-1248	ND	0.050							
PCB-1254	ND	0.050							
PCB-1260	ND	0.050							
PCB-1268	ND	0.050							
PCB-1262	ND	0.050							
Surrogate: TCMX [1C]					*82.8*	*30 - 150*			
Surrogate: TCMX [2C]					*89.2*	*30 - 150*			
Surrogate: DCB [1C]					*63.3*	*30 - 150*			
Surrogate: DCB [2C]					*66.4*	*30 - 150*			
LCS (B2L0835-BS1)					Prepared: 12/8/22 Analyzed: 12/13/22				
PCB-1016	0.828	0.050	1.000		82.8	40 - 140			
PCB-1260	0.791	0.050	1.000		79.1	40 - 140			
Surrogate: TCMX [1C]					*87.9*	*30 - 150*			
Surrogate: TCMX [2C]					*95.2*	*30 - 150*			
Surrogate: DCB [1C]					*72.0*	*30 - 150*			
Surrogate: DCB [2C]					*75.6*	*30 - 150*			

Batch B2L0902 - CT-ETPH

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L0902-BLK1)					Prepared: 12/9/22 Analyzed: 12/9/22				
ETPH	ND	50							
Surrogate: Octacosane					*85.3*	*50 - 150*			
LCS (B2L0902-BS1)					Prepared: 12/9/22 Analyzed: 12/9/22				
ETPH	1400	50	1,500.000		93.1	60 - 120			
Surrogate: Octacosane					*85.1*	*50 - 150*			

Batch B2L1211 - SW 846 Ch. 7

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L1211-BLK1)					Prepared: 12/12/22 Analyzed: 12/12/22				
Reactive Cyanide	ND	5.0							

Batch B2L1212 - SW 846 Ch. 7

Analyte	Result (mg/kg)	RL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2L1212-BLK1)					Prepared: 12/12/22 Analyzed: 12/12/22				
Reactive Sulfide	ND	20							

80 Lupes Drive
Stratford, CT 06615

COMPLETE ENVIRONMENTAL TESTING, INC.

Tel: (203) 377-9984
Fax: (203) 377-9952
email: cet1@cetlabs.com

Quality Control Definitions and Abbreviations

Internal Standard (IS)	An Analyte added to each sample or sample extract. An internal standard is used to monitor retention time, calculate relative response, and quantify analytes of interest.
Surrogate Recovery	The % recovery for non-target organic compounds that are spiked into all samples. Used to determine method performance.
Continuing Calibration	An analytical standard analyzed with each set of samples to verify initial calibration of the system.
Batch	Samples that are analyzed together with the same method, sequence and lot of reagents within the same time period.
ND	Not detected at or above the specified reporting limit.
RL	RL is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
Dilution	Multiplier added to detection levels (MDL) and/or sample results due to interferences and/or high concentration of target compounds.
Duplicate	Result from the duplicate analysis of a sample.
Result	Amount of analyte found in a sample.
Spike Level	Amount of analyte added to a sample
Matrix Spike Result	Amount of analyte found including amount that was spiked.
Matrix Spike Dup	Amount of analyte found in duplicate spikes including amount that was spike.
Matrix Spike % Recovery	% Recovery of spiked amount in sample.
Matrix Spike Dup % Recovery	% Recovery of spiked duplicate amount in sample.
RPD	Relative percent difference between Matrix Spike and Matrix Spike Duplicate.
Blank	Method Blank that has been taken through all steps of the analysis.
LCS % Recovery	Laboratory Control Sample percent recovery. The amount of analyte recovered from a fortified sample.
Recovery Limits	A range within which specified measurements results must fall to be compliant.
CC	Calibration Verification

Flags:

- H- Recovery is above the control limits
- L- Recovery is below the control limits
- B- Compound detected in the Blank
- P- RPD of dual column results exceeds 40%
- #- Sample result too high for accurate spike recovery.

NELAP ACCREDITED TNI LABORATORY

Connecticut Laboratory Certification PH0116
Massachussets Laboratory Certification M-CT903
Pennsylvania NELAP Accreditation 68-02927

New York NELAP Accreditation 11982
Rhode Island Certification 199

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

Sincerely,

David Ditta
Laboratory Director

This technical report was reviewed by Timothy Fusco

Project Manager

Report Comments:

Sample Result Flags:
E- The result is estimated, above the calibration range.
H- The surrogate recovery is above the control limits.
L- The surrogate recovery is below the control limits.
B- The compound was detected in the laboratory blank.
P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
D- The RPD between the sample and the sample duplicate is high. Sample Homogeneity may be a problem.
+- The Surrogate was diluted out.
*C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
*C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
*F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
*F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
*I- Analyte exceeds method limits from second source standard in Initial Calibration Verification (ICV). No directional bias.

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

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

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

ND is None Detected at or above the specified reporting limit
Reporting Limit (RL) is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
All analyses were performed in house unless a Reference Laboratory is listed.
Samples will be disposed of 30 days after the report date.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
CT-ETPH in Soil	
ETPH	CT
EPA 1010A in Soil	
Flashpoint	CT,NY,PA
EPA 6020A in Water	
Lead	CT
EPA 8082A in Soil	
PCB-1016	CT,NY,PA
PCB-1221	CT,NY,PA
PCB-1232	CT,NY,PA
PCB-1242	CT,NY,PA
PCB-1248	CT,NY,PA
PCB-1254	CT,NY,PA
PCB-1260	CT,NY,PA
PCB-1268	CT,NY,PA
PCB-1262	NY,PA
EPA 8260C in Soil	
Dichlorodifluoromethane	CT,NY,PA
Chloromethane	CT,NY,PA
Vinyl Chloride	CT,NY,PA
Bromomethane	CT,NY,PA
Chloroethane	CT,NY,PA
Trichlorofluoromethane	CT,NY,PA
Acetone	CT,NY,PA
Acrylonitrile	CT
Trichlorotrifluoroethane	CT,NY,PA
1,1-Dichloroethene	CT,NY,PA
Methylene Chloride	CT,NY,PA
Carbon Disulfide	CT,NY,PA
Methyl-t-Butyl Ether (MTBE)	CT,NY,PA
trans-1,2-Dichloroethene	CT,NY,PA
1,1-Dichloroethane	CT,NY,PA
2-Butanone (MEK)	CT,NY,PA
2,2-Dichloropropane	CT,NY,PA
cis-1,2-Dichloroethene	CT,NY,PA
Bromochloromethane	CT,NY,PA
Chloroform	CT,NY,PA
Tetrahydrofuran	CT
1,1,1-Trichloroethane	CT,NY,PA
Carbon Tetrachloride	CT,NY,PA
1,1-Dichloropropene	CT,NY,PA
Benzene	CT,NY,PA
1,2-Dichloroethane	CT,NY,PA
Trichloroethene	CT,NY,PA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Soil	
1,2-Dichloropropane	CT,NY,PA
Dibromomethane	CT,NY,PA
Bromodichloromethane	CT,NY,PA
Methyl Isobutyl Ketone	CT,NY,PA
cis-1,3-Dichloropropene	CT,NY,PA
Toluene	CT,NY,PA
trans-1,3-Dichloropropene	CT,NY,PA
2-Hexanone	CT,NY,PA
1,1,2-Trichloroethane	CT,NY,PA
Tetrachloroethene	CT,NY,PA
1,3-Dichloropropane	CT,NY,PA
Dibromochloromethane	CT,NY,PA
1,2-Dibromoethane	CT,NY,PA
trans-1,4-Dichloro-2-Butene	CT,NY,PA
Chlorobenzene	CT,NY,PA
1,1,1,2-Tetrachloroethane	CT,NY,PA
Ethylbenzene	CT,NY,PA
m+p Xylenes	CT,NY,PA
o-Xylene	CT,NY,PA
Styrene	CT,NY,PA
Bromoform	CT,NY,PA
Isopropylbenzene	CT,NY,PA
1,1,2,2-Tetrachloroethane	CT,NY,PA
Bromobenzene	CT,NY,PA
1,2,3-Trichloropropane	CT,NY,PA
n-Propylbenzene	CT,NY,PA
2-Chlorotoluene	CT,NY,PA
4-Chlorotoluene	CT,NY,PA
1,3,5-Trimethylbenzene	CT,NY,PA
tert-Butylbenzene	CT,NY,PA
1,2,4-Trimethylbenzene	CT,NY,PA
sec-Butylbenzene	CT,NY,PA
1,3-Dichlorobenzene	CT,NY,PA
4-Isopropyltoluene	CT,NY,PA
1,4-Dichlorobenzene	CT,NY,PA
1,2-Dichlorobenzene	CT,NY,PA
n-Butylbenzene	CT,NY,PA
1,2-Dibromo-3-Chloropropane	CT,NY,PA
1,2,4-Trichlorobenzene	CT,NY,PA
Hexachlorobutadiene	CT,NY
Naphthalene	CT,NY,PA
1,2,3-Trichlorobenzene	CT
EPA 8270D in Soil	
Phenol	CT,NY,PA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270D in Soil	
1,3-Dichlorobenzene	CT,NY,PA
n-Nitroso-di-n-propylamine	CT,NY,PA
Pyridine	CT,NY,PA
n-Nitroso-dimethylamine	CT,NY,PA
bis(2-Chloroethyl)ether	CT,NY,PA
Aniline	CT,NY,PA
2-Chlorophenol	CT,NY,PA
1,4-Dichlorobenzene	CT,NY,PA
Benzyl Alcohol	CT,NY,PA
1,2-Dichlorobenzene	CT,NY,PA
bis(2-Chloroisopropyl)ether	CT,NY,PA
Hexachloroethane	CT,NY,PA
2-Methyl Phenol	CT,NY,PA
3+4 Methyl Phenol	CT,NY,PA
Naphthalene	CT,NY,PA
2-Nitrophenol	CT,NY,PA
2,4-Dichlorophenol	CT,NY,PA
Hexachlorobutadiene	CT,NY,PA
4-Chloro-3-methylphenol	CT,NY,PA
Nitrobenzene	CT,NY,PA
Isophorone	CT,NY,PA
2,4-Dimethylphenol	CT,NY,PA
bis(2-Chloroethoxy)methane	CT,NY,PA
Benzoic Acid	CT,NY,PA
1,2,4-Trichlorobenzene	CT,NY,PA
2,6-Dichlorophenol	CT,NY,PA
4-Chloroaniline	CT,NY,PA
1,2,4,5-Tetrachlorobenzene	CT,NY,PA
2-Methyl Naphthalene	CT,NY,PA
Acenaphthylene	CT,NY,PA
Acenaphthene	CT,NY,PA
Dibenzofuran	CT,NY,PA
Fluorene	CT,NY,PA
Hexachlorocyclopentadiene	CT,NY,PA
2,4,6-Trichlorophenol	CT,NY,PA
2,4,5-Trichlorophenol	CT,NY,PA
2,4-Dinitrophenol	CT,NY,PA
4-Nitrophenol	CT,NY,PA
2-Chloronaphthalene	CT,NY,PA
2-Nitroaniline	CT,NY,PA
Dimethylphthalate	CT,NY,PA
2,6-Dinitrotoluene	CT,NY,PA
4-Nitroaniline	CT,NY,PA
2,4-Dinitrotoluene	CT,NY,PA
2,3,4,6-Tetrachlorophenol	CT,NY,PA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 8270D in Soil	
4-Chlorophenyl-phenylether	CT,NY,PA
Diethylphthalate	CT,NY,PA
Phenanthrene	CT,NY,PA
Anthracene	CT,NY,PA
Carbazole	CT,NY,PA
Fluoranthene	CT,NY,PA
Pyrene	CT,NY,PA
n-Nitrosodiphenylamine	CT,NY,PA
Pentachlorophenol	CT,NY,PA
3-Nitroaniline	CT,NY,PA
4,6-Dinitro-2-methylphenol	CT,NY,PA
1,2-Diphenylhydrazine	CT
4-Bromophenyl-phenylether	CT,NY,PA
Hexachlorobenzene	CT,NY,PA
Di-n-butylphthalate	CT,NY,PA
Pentachloronitrobenzene	CT,NY
Benzo[a]anthracene	CT,NY,PA
Chrysene	CT,NY,PA
Butylbenzylphthalate	CT,NY,PA
3,3-Dichlorobenzidine	CT,NY
bis(2-Ethylhexyl)phthalate	CT,NY,PA
Di-n-octylphthalate	CT,NY,PA
Benzo[b]fluoranthene	CT,NY,PA
Benzo[k]fluoranthene	CT,NY,PA
Benzo[a]pyrene	CT,NY,PA
Indeno[1,2,3-cd]pyrene	CT,NY,PA
Dibenz[a,h]anthracene	CT,NY,PA
Benzo[g,h,i]perylene	CT,NY,PA
EPA 9045D in Soil	
pH	CT,NY,PA
SM 2540 G in Soil	
Percent Solids	CT
SW 846 Ch. 7 in Soil	
Reactive Cyanide	CT
Reactive Sulfide	CT

CET # : 2120197
Project: 200028, Canton
Project Number: 200028

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2024
NY	New York Certification (NELAC)	11982	04/01/2023
PA	Pennsylvania DEP	68-02927	05/31/2023

2120197

COMPLETE ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY

Volatile Soils Only:

Date and Time in Freezer
Client:
CET:

80 Lupes Drive
Stratford, CT 06615
Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cetservices@cetlabs.com
e-mail: bottleorders@cetlabs.com

Matrix: A=Air, S=Soil, W=Water, DW=Drinking Water, C=Cassette Solid, Wipe, Other (Specify)

Sample ID/Sample Depths (include Units for any sample depths provided)	Collection Date/Time	Matrix	Turnaround Time ** (check one): Same Day *	Next Day *	Two Day *	Three Day *	Std (5-7 Days)	8260 CT List	8260 Aromatics	8260 Halogens	CT ETPH	8270 CT List	8270 PNAs	PCBs [✓ SOX] ☐ ASE	Pesticides	Metals: 8 RCRA	13 Priority Poll	15 CT DEP	Total	SPLP	TCLP (pb)	Dissolved	Field Filtered	Lab to Filter	Additional Analysis: Reactivity	Flashpoint	pH								TOTAL # OF CONT.	NOTE #
WC-2	12/6/22	S					X	X				X		X							X				X	X	X								2	
TB-6 0-6"	9:00									X																									1	
TB-7 0-6"	9:15																																		1	
TB-8 0-6"	9:30																																		1	
TB-9 0-2'	10:30																																		1	
TB-10 0-2'	11:25																																		1	

PRESERVATIVE (Cl–HCl, N–HNO_3, S–H_2SO_4, Na–NaOH, C=Cool, O–Other) — TOTAL # OF CONT.: 7

CONTAINER TYPE (P–Plastic, G–Glass, V–Vial, O–Other)

Soil VOCs Only (M=MeOH B=Sodium Bisulfate W=Water F=Empty Vial E=Encore)

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	
[illegible]	12/7/22 12:55	[illegible]	12/7/22 12:55
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	

NOTES:

Client / Reporting Information

Company Name: Triton Environmental
Address: 385 Church Street
City: Guilford State: CT Zip: 06437
Report To: Dave Vasilion E-mail: On File
Phone # Fax #

Project Information

Project: 200028 PO #:
Location: Canton Project #: 200028
CET Quote # Collector(s): AJS

QA/QC [✓ Std] ☐ Site Specific (MS/MSD) * ☐ RCP Pkg * ☐ DQAW *

Data Report [✓ PDF] [✓ EDD - Specify Format] excel Other

RSR Reporting Limits (check one) [✓ GA] ☐ GB ☐ SWP ☐ Other

Laboratory Certification Needed (check one) [✓ CT] ☐ NY ☐ RI ☐ MA ☐ PA

Temp Upon Receipt 6.0 °C Evidence of Cooling: [✓ Y] N

PAGE 1 OF 1

* Additional charge may apply. ** TAT begins when the samples are received at the Lab and all issues are resolved. TAT for samples received after 3 p.m. will start on the next business day. All samples picked up by courier service will be considered next business day receipt for TAT purposes.

REV 12/18

CONSTRUCTION OF TOWN OF CANTON BOAT LAUNCH

TOWN OF CANTON
50 OLD RIVER ROAD
COLLINSVILLE, CONNECTICUT

ISSUE DATE: MARCH 30, 2023

PROPERTY OWNER
TOWN OF CANTON
CONTACT: ROBERT SKINNER
4 MARKET STREET
COLLINSVILLE, CONNECTICUT 06019

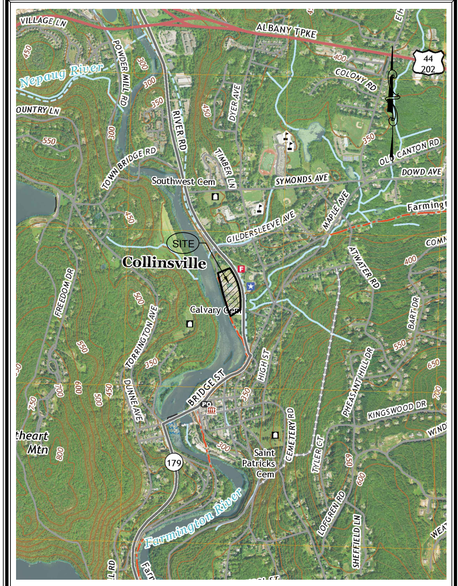
CIVIL/ENVIRONMENTAL ENGINEER
TRITON COASTAL CONSULTANTS, LLC.
385 CHURCH STREET SUITE 203
GUILFORD, CONNECTICUT 06437

SEAL & SIGNATURE

STATE OF CONNECTICUT
STEPHEN J. BENSEN
34083
REGISTERED
PROFESSIONAL ENGINEER

SHEET LIST

NO.:	TITLE:
C1.0	EXISTING CONDITIONS PLAN
C2.0	SITE LAYOUT PLAN
C3.0	GRADING PLAN
C4.0	SOIL EROSION AND SEDIMENT CONTROL PLAN
C5.0	DETAILS
C6.0	DETAILS
C7.0	DETAILS
C8.0	DETAILS



SITE LOCATION MAP
SCALE: 1"= 1500'

P:\CAD\DRAWINGS\200000\200028\FIGURES\CIVIL\BOAT LAUNCH DESIGN\200028-BLD26.DWG
Layout:Title

REV.	DESCRIPTION	APP'D	DATE
–	–	–	–

LEGEND

PROPERTY LINE	EXISTING FENCE
EXISTING CONTOUR	TREE LINE
OVERHEAD WIRE	SANITARY PIPE
UTILITY POLE	SANITARY MANHOLE
WETLAND BOUNDARY	STORMWATER PIPE
50' FARMINGTON RIVER PROTECTION OVERLAY	CATCH BASINS
EDGE OF WATER	HYDRANT
UTILITY EASEMENT	ZONING DISTRICT BOUNDARY

NOTES:

1. BASE MAP IS FROM AN IMPROVEMENT LOCATION SURVEY – RECORD; PREPARED BY DESIGN PROFESSIONALS, INC.; DATED: 11–9–2018; SCALE: 1"=30' AND AN EASEMENT MAP PREPARED BY GESICK & ASSOSIATES, P.C.; DATED: 2–15–2022; SCALE: 1"=40'.

3. ENTIRE PROPERTY IS WITHIN SPECIAL FLOOD HAZARD AREA, ZONE AE, WITH BASE FLOOD ELEVATION OF 297.5 – 298.0' (NAVD88).

APPROXIMATE SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

SEAL & SIGNATURE

STATE OF CONNECTICUT
STEPHEN J. BENBEN
24952
LICENSED
PROFESSIONAL ENGINEER

TRITON COASTAL CONSULTANTS, LLC
Engineering & Permitting

385 Church Street, Suite 203 • Guilford, Connecticut 06437 • 203.458.7200

C1.0

EXISTING CONDITIONS PLAN

50 OLD RIVER ROAD
CANTON, CONNECTICUT

DRAWN BY: FSM		APPROVED BY: SJB
DATE: 3/20/23	SCALE: 1"=30'	FILE No.: 200028–BLD26

P:\CAD\DRAWINGS\200000\200028\FIGURES\CIVIL\BOAT LAUNCH DESIGN\200028–BLD26.DWG
Layout:C1.0

REV.	DESCRIPTION	APP'D	DATE
1	TOWN COMMENTS	SJB	2/17/23

LEGEND

LEGEND

— — —	PROPERTY LINE	○—○—○	EXISTING FENCE
- - 292 - -	EXISTING CONTOUR	⌒⌒⌒	TREE LINE
—— ohw ——	OVERHEAD WIRE	—— S —— S ——	SANITARY PIPE
⊙	UTILITY POLE	⊙	SANITARY MANHOLE
—●#6—	WETLAND BOUNDARY	═ ═ ═	STORMWATER PIPE
—··—··—	EDGE OF WATER	▯ ▯	CATCH BASINS
▨	UTILITY EASEMENT	⊙	HYDRANT
		▬	ZONING DISTRICT BOUNDARY

CBYD.COM 811 Call Before You Dig, Inc.

NOTES:

1. BASE MAP IS FROM AN IMPROVEMENT LOCATION SURVEY – RECORD; PREPARED BY DESIGN PROFESSIONALS, INC.; DATED: 11–9–2018; SCALE: 1"=30' AND AN EASEMENT MAP PREPARED BY GESICK & ASSOSIATES, P.C.; DATED: 2–15–2022; SCALE: 1"=40'.

3. ENTIRE PROPERTY IS WITHIN SPECIAL FLOOD HAZARD AREA, ZONE AE, WITH BASE FLOOD ELEVATION OF 297.5 – 298.0' (NAVD88).

APPROXIMATE SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft.

SEAL & SIGNATURE

STATE OF CONNECTICUT STEPHEN J. BENBEN 24952 LICENSED PROFESSIONAL ENGINEER

TRITON COASTAL CONSULTANTS, LLC
Engineering & Permitting
385 Church Street, Suite 203 • Guilford, Connecticut 06437 • 203.458.7200

C2.0

SITE LAYOUT PLAN

TOWN OF CANTON
50 OLD RIVER ROAD
CANTON, CONNECTICUT

DRAWN BY: FSM		APPROVED BY: SJB
DATE: 3/20/23	SCALE: 1"=10'	FILE No.: 200028–BLD26

P:\CAD\DRAWINGS\200000\200028\FIGURES\CIVIL\BOAT LAUNCH DESIGN\200028–BLD26.DWG
Layout:C2.0

REV.	DESCRIPTION	APP'D	DATE
1	–	–	–

WETLAND DISTURBANCE AREA

DIRECT WETLAND DISTURBANCE = 1,539 SF

UPLAND REVIEW AREA DISTURBANCE = 5,879 SF

EARTHWORK VOLUME ESTIMATE

CUT 670 CY

FILL 7 CY

NET 663 CY EXPORT

APPROXIMATE SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 ft.

LEGEND

PROPERTY LINE	EXISTING FENCE
OVERHEAD WIRE	SANITARY PIPE
UTILITY POLE	SANITARY MANHOLE
WETLAND BOUNDARY	STORMWATER PIPE
50' FARMINGTON RIVER PROTECTION OVERLAY	CATCH BASINS
EDGE OF WATER	HYDRANT
UTILITY EASEMENT	PROPOSED CONTOUR
PROPOSED HANDRAIL	PROPOSED SPOT ELEVATION
PROPOSED SPLIT RAIL FENCE	

NOTES:

1. BASE MAP IS FROM AN IMPROVEMENT LOCATION SURVEY – RECORD; PREPARED BY DESIGN PROFESSIONALS, INC.; DATED: 11-9-2018; SCALE: 1"=30' AND AN EASEMENT MAP PREPARED BY GESICK & ASSOSIATES, P.C.; DATED: 2-15-2022; SCALE: 1"=40'.

3. ENTIRE PROPERTY IS WITHIN SPECIAL FLOOD HAZARD AREA, ZONE AE, WITH BASE FLOOD ELEVATION OF 297.5 – 298.0' (NAVD88).

CBYD.COM Call Before You Dig, Inc. 811

SEAL & SIGNATURE

STATE OF CONNECTICUT STEPHEN J. BENBEN 24952 LICENSED PROFESSIONAL ENGINEER

TRITON COASTAL CONSULTANTS, LLC
Engineering & Permitting
385 Church Street, Suite 203 • Guilford, Connecticut 06437 • 203.458.7200

C3.0

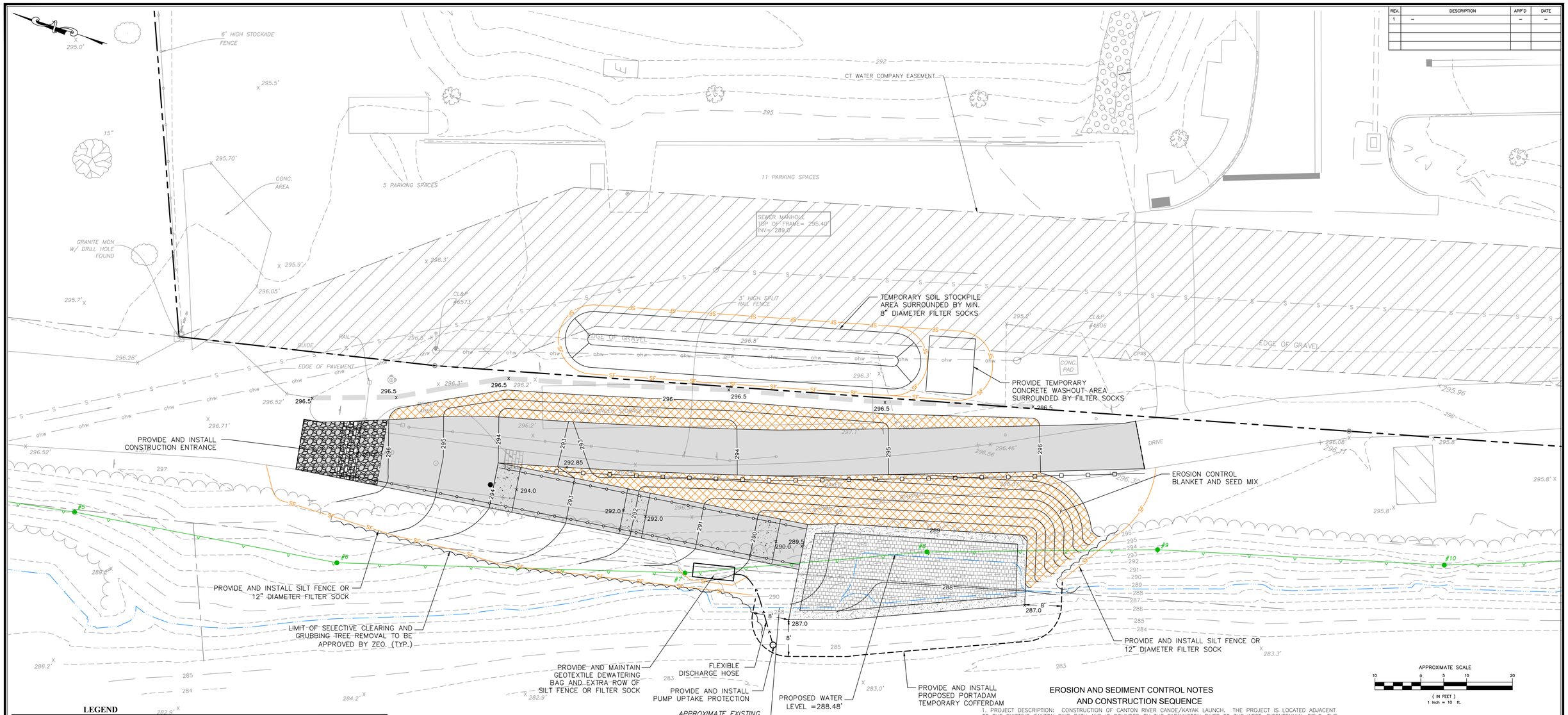
GRADING PLAN

TOWN OF CANTON
50 OLD RIVER ROAD
CANTON, CONNECTICUT

DRAWN BY: FSM		APPROVED BY: SJB
DATE: 3/20/23	SCALE: 1"=10'	FILE No.: 200028–BLD26

P:\CAD\DRAWINGS\200000\200028\FIGURES\CIVIL\BOAT LAUNCH DESIGN\200028–BLD26.DWG
Layout:C3.0

REV.	DESCRIPTION	APP'D	DATE
1	–	–	–



LEGEND

- PROPERTY LINE
- EXISTING CONTOUR (292)
- OVERHEAD WIRE (ohw)
- UTILITY POLE
- WETLAND BOUNDARY (#6)
- 50' FARMINGTON RIVER PROTECTION OVERLAY
- EDGE OF WATER
- UTILITY EASEMENT
- PROPOSED HANDRAIL
- PROPOSED SPLIT RAIL FENCE
- EXISTING FENCE
- TREE LINE
- SANITARY PIPE (S)
- SANITARY MANHOLE
- STORMWATER PIPE
- CATCH BASINS
- HYDRANT
- ZONING DISTRICT BOUNDARY
- PROPOSED CONTOUR (292)
- PROPOSED SPOT ELEVATION (x292)
- PROPOSED SILT FENCE OR FILTER SOCK AS NOTED (SF)

NOTES:

1. BASE MAP IS FROM AN IMPROVEMENT LOCATION SURVEY – RECORD; PREPARED BY DESIGN PROFESSIONALS, INC.; DATED: 11-9-2018; SCALE: 1"=30' AND AN EASEMENT MAP PREPARED BY GESICK & ASSOSIATES, P.C.; DATED: 2-15-2022; SCALE: 1"=40'.

3. ENTIRE PROPERTY IS WITHIN SPECIAL FLOOD HAZARD AREA, ZONE AE, WITH BASE FLOOD ELEVATION OF 297.5 – 298.0' (NAVD88).

SEED MIX

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES

THE NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES CONTAINS A SELECTION OF NATIVE GRASSES AND WILDFLOWERS DESIGNED TO COLONIZE GENERALLY MOIST, RECENTLY DISTURBED SITES WHERE QUICK GROWTH OF VEGETATION IS DESIRED TO STABILIZE THE SOIL SURFACE. IT IS AN APPROPRIATE SEED MIX FOR ECOLOGICALLY SENSITIVE RESTORATIONS THAT REQUIRE STABILIZATION AS WELL AS LONG-TERM ESTABLISHMENT OF NATIVE VEGETATION.

THIS MIX IS PARTICULARLY APPROPRIATE FOR DETENTION BASINS THAT DO NOT HOLD STANDING WATER. MANY OF THE PLANTS IN THIS MIX CAN TOLERATE INFREQUENT INUNDATION, BUT NOT CONSTANT FLOODING. THE MIX MAY BE APPLIED BY HAND, BY MECHANICAL SPREADER, OR BY HYDRO-SEEDER. AFTER SOWING, LIGHTLY RAKE, ROLL OR CULTIPACK TO INSURE GOOD SEED TO SOIL CONTACT. BEST RESULTS ARE OBTAINED WITH A SPRING OR LATE SUMMER SEEDING. LATE FALL AND WINTER DORMANT SEEDING REQUIRES AN INCREASE IN THE APPLICATION RATE. A LIGHT MULCHING OF CLEAN, WEED-FREE STRAW IS RECOMMENDED.

APPLICATION RATE: 35 LBS/ACRE | 1250 SQ FT/LB

SPECIES: RIVERBANK WILD RYE (ELYMUS RIPARIUS), CREEPING RED FESCUE (FESTUCA RUBRA), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM (ANDROPOGON GERARDII), SWITCH GRASS (PANICUM VIRGATUM), UPLAND BENTGRASS (AGROSTIS PERENNANS), NODDING BUR MARIGOLD (BIDENS CERNUA), HOLLOW-STEM JOE PYE WEED (EUPATORIUM FISTULOSUM/EUTROCHIUM FISTULOSUM), NEW ENGLAND ASTER (ASTER NOVAE-ANGLIAE), BONESET (EUPATORIUM PERFOLIATUM), BLUE VERVAIN (VERBENA HASTATA), SOFT RUSH (JUNCUS EFFUSUS), WOOL GRASS (SCIRPUS CYPERINUS).

PLANT NOTES

1. SUPPLY BUILDER WITH PHOTOS OF ALL SPECIMEN MATERIAL FOR APPROVAL WITH BID
2. MULCH PLANTS WITH SHREDDED CEDAR OR PINE BARK MULCH
3. CONTRACTOR TO PROVIDE INITIAL WATERING AND FOLLOW UP WITH MAINTENANCE. CONTRACTOR TO ASSURE FUTURE WATERING NEEDS ARE MET FOR GUARANTEE PERIOD
4. FIELD LOCATE ALL MATERIAL ON SITE WITH OWNER – PROVIDE 72 HOURS MINIMUM NOTICE. SET UP OF ALL MATERIAL FOR APPROVAL REQUIRED PRIOR TO INSTALLATION.
5. PLANT MATERIAL SHALL BE GUARANTEED FOR TWO GROWING SEASONS
6. CONTRACTOR SHALL RESTORE – TOPSOIL, RAKE AND RESEED ANY DAMAGED AREAS DUE TO PLANTING OPERATIONS. USE PLANKING AND PROTECT DRIVE, CURBS AND INFILTRATION AREA
7. CONTRACTOR RESPONSIBLE FOR UTILITY LOCATION AND PROTECTION – "CALL BEFORE YOU DIG".
8. REFER TO ENGINEERING PLANS FOR LOCATION OF INFILTRATION UNITS, ANY SITE UTILITIES PROPOSED
9. INVASIVE PLANTS TO BE REMOVED FROM THE PLANTING AREA.

EROSION AND SEDIMENT CONTROL PLAN

1. INTENT: THE INTENT OF THE PROPOSED EROSION AND SEDIMENTATION CONTROLS IS TO MINIMIZE THE EROSION OF SOIL AND TO MINIMIZE THE DISCHARGE OF ERODED SEDIMENTS INTO DRAINAGE SYSTEMS, WATER COURSES OR ADJACENT LANDS. AS SUCH, CARE SHALL BE TAKEN BY THE CONTRACTOR TO INSTALL AND MAINTAIN THESE CONTROLS, AND OTHERS AS NECESSARY, IN ORDER TO CONTAIN ERODED SEDIMENTS ON SITE.

2. GENERAL DESIGN CRITERIA: THE DESIGN CRITERIA AND CONSTRUCTION PROCEDURES FOR EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN GENERAL ACCORDANCE WITH THE CURRENT EDITION OF "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" PREPARED BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION, WHILE TAKING INTO CONSIDERATION THE EXISTING CHARACTER OF THE SITE.

3. DUST CONTROL: CONTROL DUST GENERATION BY SWEEPING OF PAVED SURFACES, APPLICATION OF WATER AND\OR USE OF TEMPORARY MULCH ON PERIODIC BASIS AND WHEN DIRECTED.

4. CONSTRUCTION ENTRANCE: PRIOR TO ANY GRADING ACTIVITY, INSTALL CONSTRUCTION ENTRANCES AS SHOWN ON THE PLANS AND AT ANY OTHER CONSTRUCTION ACCESS POINTS ONTO THE ADJACENT STREET. REPLACE OR REPAIR CONSTRUCTION ENTRANCES THAT BECOME CLOGGED WITH SILT AND AS DIRECTED. REMOVE CONSTRUCTION ENTRANCE AT PROJECT COMPLETION OR AFTER SITE IS PAVED OR SUITABLY STABILIZED.

5. GRADING: DISTURBANCE OF GROUND SURFACES SHALL BE LIMITED TO AREAS OF PROPOSED CONSTRUCTION. CONSTRUCTION SHALL BE PLANNED IN SUCH A MANNER AS TO MINIMIZE THE AREA OF BARE SOIL AT ANY GIVEN TIME. NO EXPOSED AREA SHALL BE LEFT FOR MORE THAN 30 DAYS WITHOUT THE ESTABLISHMENT OF A TEMPORARY STABILIZATION COVER.

6. SEDIMENT BARRIER: INSTALL SEDIMENT BARRIERS (FILTER FABRIC SILT FENCE) AT THE LOCATIONS SHOWN ON THE PLANS AND ADDITIONALLY, AT ANY OTHER LOCATIONS AS NECESSARY TO INTERCEPT AND FILTER OVERGROUND STORMWATER FLOWS BEFORE THESE FLOWS LEAVE THE PROJECT SITE OR ENTER A WATERBODY.

7. MAINTENANCE: FAILED EROSION AND SEDIMENT CONTROLS SHALL BE IMMEDIATELY EVALUATED ON A CASE BY CASE BASIS AND APPROPRIATE CORRECTIVE MEASURES TAKEN, INCLUDING CLEANING OR REPLACEMENT OF DEFECTIVE CONTROLS OR THE INSTALLATION OF SUPPLEMENTARY FACILITIES.

8. ANY ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES DEEMED NECESSARY BY THE OWNER DURING CONSTRUCTION SHALL BE IMPLEMENTED BY THE CONTRACTOR.

EROSION AND SEDIMENT CONTROL NOTES AND CONSTRUCTION SEQUENCE

1. PROJECT DESCRIPTION: CONSTRUCTION OF CANTON RIVER CANOE/KAYAK LAUNCH. THE PROJECT IS LOCATED ADJACENT TO THE EXISTING CANTON BIKE PATH AND IS BOUNDED BY THE FARMINGTON RIVER TO THE WEST, BICENTENNIAL FIELD, THE DEPARTMENT OF PUBLIC WORKS AND THE WASTEWATER POLLUTION CONTROL FACILITY TO THE EAST. THE PROPOSED WORK CONSISTS OF THE CONSTRUCTION OF A NEW CANOE/KAYAK LAUNCH, ADA ACCESSIBLE ASPHALT RAMP, AND RELATED SITE AMENITIES, AND PARTIAL RECONSTRUCTION OF THE EXISTING BIKE PATH.

2. CONSTRUCTION SCHEDULE: A CONSTRUCTION DURATION OF APPROXIMATELY 60-90 DAYS IS ANTICIPATED. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A MORE DETAILED SCHEDULE AND SEQUENCE OF CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING CONSTRUCTION.

3. CONTACT PERSON: THE OWNER'S REPRESENTATIVE WILL BE THE CONTACT PERSON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF THE CONSTRUCTION EROSION CONTROL MEASURES. THE OWNER WILL BE RESPONSIBLE FOR MAINTENANCE OF THE PERMANENT CONTROL MEASURES.

4. PROBABLE CONSTRUCTION SEQUENCE:
   1) HOLD A PRE-CONSTRUCTION MEETING WITH THE CONTRACTOR AND THE OWNER STAFF RESPONSIBLE FOR CONSTRUCTION REVIEWS.
   2) INSTALL/ESTABLISH EROSION AND SEDIMENTATION PROTECTION MEASURES, SEDIMENT BARRIERS, TEMPORARY STOCKPILE AREA, TEMPORARY CONCRETE WASHOUT AREA, AND SAFETY FENCE, AS NECESSARY, AROUND THE PERIMETER OF THE SITE AS SHOWN AND AS DIRECTED BY THE OWNER.
   3) PERFORM SELECTIVE TREE REMOVAL/PRUNING AND CLEARING AS NECESSARY AND AS DIRECTED BY THE OWNER. STOCKPILE OR REMOVE TOPSOIL AS NECESSARY.
   4) RECLAIM AND BLEND EXISTING BIKE PATH WITHIN THE PROJECT LIMITS, REMOVE SITE FEATURES AS NOTED, AND PROTECT/STOCKPILE EXISTING SITE FEATURES AS NOTED AND AS DIRECTED BY THE OWNER.
   5) PERFORM ROUGH GRADING TO ACCESS THE LOCATION OF THE BOAT LAUNCH. STOCKPILE SOILS FOR REUSE OR REMOVE SOILS OFFSITE. INSTALL ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY.
   6) INSTALL AND DEWATER TEMPORARY COFFERDAM.
   7) EXCAVATE BOAT LAUNCH AREA FOR CONSTRUCTION OF THE BOAT LAUNCH. STOCKPILE AND DEWATER SOILS FOR REUSE OR REMOVE SOILS OFFSITE.
   8) INSTALL BASE COURSE, GEOTEXTILE, AND CONCRETE BLOCK MATS FOR BOAT LAUNCH. INSTALL CEMENTITIOUS GROUT AT PERIMETER AND BETWEEN BLOCK MATS.
   9) PERFORM FINAL GRADING FOR THE ACCESSIBLE BOAT RAMP AND BIKE PATH
   10) REMOVE ALL ACCUMULATED SEDIMENT FROM EROSION CONTROL MEASURES AND REMOVE AND/OR REUSE.
   11) INSTALL TOPSOIL AND EROSION CONTROL BLANKET.
   12) INSTALL CRUSHED STONE AGGREGATE BASE AND INSTALL NEW BITUMINOUS PAVEMENT FOR BIKE PATH AND RAMP.
   13) REMOVE TEMPORARY COFFERDAM.
   14) INSTALL SITE ITEMS SUCH AS HANDRAILS, PIPE BOLLARD, SPLIT RAIL FENCE, PAVEMENT MARKINGS, ETC.
   15) UPON PERMANENT STABILIZATION OF ALL DISTURBED AREAS, REMOVE EROSION AND SEDIMENT CONTROLS (UNLESS SPECIFICALLY DIRECTED TO REMAIN).

MISC SITE IMPROVEMENTS:
ALL DISTURBED AREAS NOT COVERED BY PAVEMENT HALL BE TOPSOILED, SEEDED AND MULCHED WITHIN 30 DAYS OF FINAL GRADING.

UPON PROJECT COMPLETION AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED (UNLESS SPECIFICALLY DIRECTED TO REMAIN), ALL ACCUMULATED SEDIMENT SUITABLY DISPOSED OF AND THE AREAS STABILIZED.

SEAL & SIGNATURE

STATE OF CONNECTICUT · STEPHEN J. BENSEN · 24383 · REGISTERED PROFESSIONAL ENGINEER

TRITON COASTAL CONSULTANTS, LLC
Engineering & Permitting
385 Church Street, Suite 203 • Guilford, Connecticut 06437 • 203.458.7200

C4.0

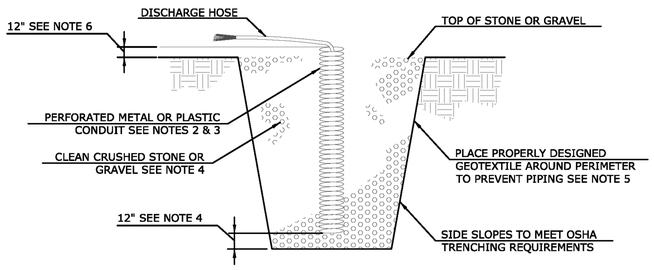
SOIL EROSION AND SEDIMENT CONTROL PLAN

TOWN OF CANTON
50 OLD RIVER ROAD
CANTON, CONNECTICUT

DRAWN BY: FSM	APPROVED BY: SJB	
DATE: 3/20/23	SCALE: 1"=10'	FILE No.: 200028-BLD26

P:\CAD\DRAWINGS\2000001\2000028\FIGURES\CIVIL\BOAT LAUNCH DESIGN\200028-BLD26.DWG
Layout:C4.0

REV.	DESCRIPTION	APP'D	DATE
–	–	–	–

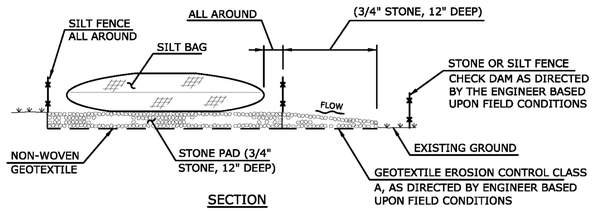


REFER TO PAGE 5-13-3 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL".

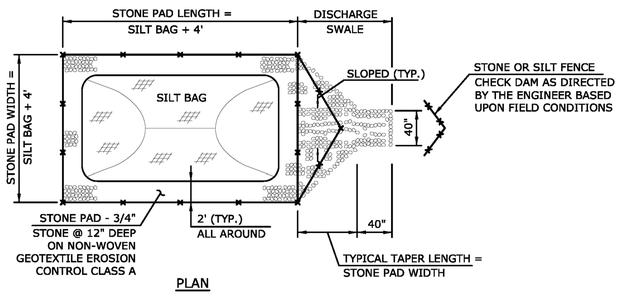
NOTE:
1. OVERALL SUMP PIT DIMENSIONS SHALL BE COMPATIBLE WITH ANTICIPATED SEEPAGE RATES AND PUMP SIZE TO BE USED.
2. THE STANDPIPE DIAMETER AND NUMBER OF PERFORATIONS SHALL BE COMPATIBLE WITH THE PUMP SIZE BEING USED.
3. PERFORATIONS IN THE STANDPIPE SHALL BE EITHER CIRCULAR OR SLOTS. PERFORATION SIZE SHALL NOT EXCEED 1/2" IN DIAMETER.
4. CRUSHED STONE OR GRAVEL SHALL BE NO SMALLER THAN CT DOT #8 SIZE NOR LARGER THAN CT DOT #3 SIZE. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.
5. IF EXCESSIVE MOVEMENT OF FINE SOIL PARTICLES FROM THE SURROUNDING EXISTING SOILS IS ANTICIPATED, A PROPERLY DESIGNED GEOTEXTILE SHALL BE PLACED BETWEEN THE EXISTING SOILS AND THE CRUSHED STONE OR GRAVEL BACKFILL.
6. THE STANDPIPE SHALL EXTEND A MINIMUM OF 12" ABOVE THE SURROUNDING GROUND.

PUMP INTAKE TYPICAL SECTION OF SUMP PIT

N.T.S.



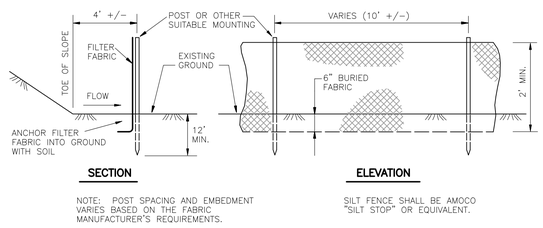
SECTION



PLAN

SILT BAG INSTALLATION

N.T.S.



SECTION

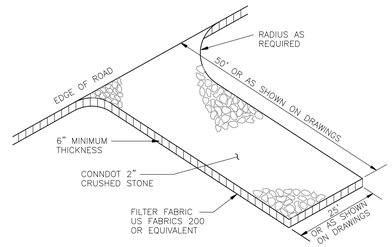
ELEVATION

NOTE: POST SPACING AND EMBEDMENT VARIES BASED ON THE FABRIC MANUFACTURER'S REQUIREMENTS.

SILT FENCE SHALL BE AMOCO "SILT STOP" OR EQUIVALENT.

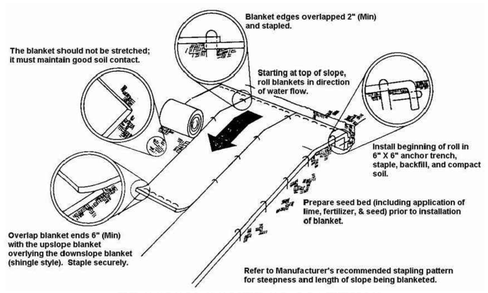
SILT FENCE

N.T.S.



CONSTRUCTION ENTRANCE

N.T.S.



EROSION CONTROL MATTING

N.T.S.

SEAL & SIGNATURE

TRITON COASTAL CONSULTANTS, LLC
Engineering & Permitting
385 Church Street, Suite 203 • Guilford, Connecticut 06437 • 203.458.7200

C5.0

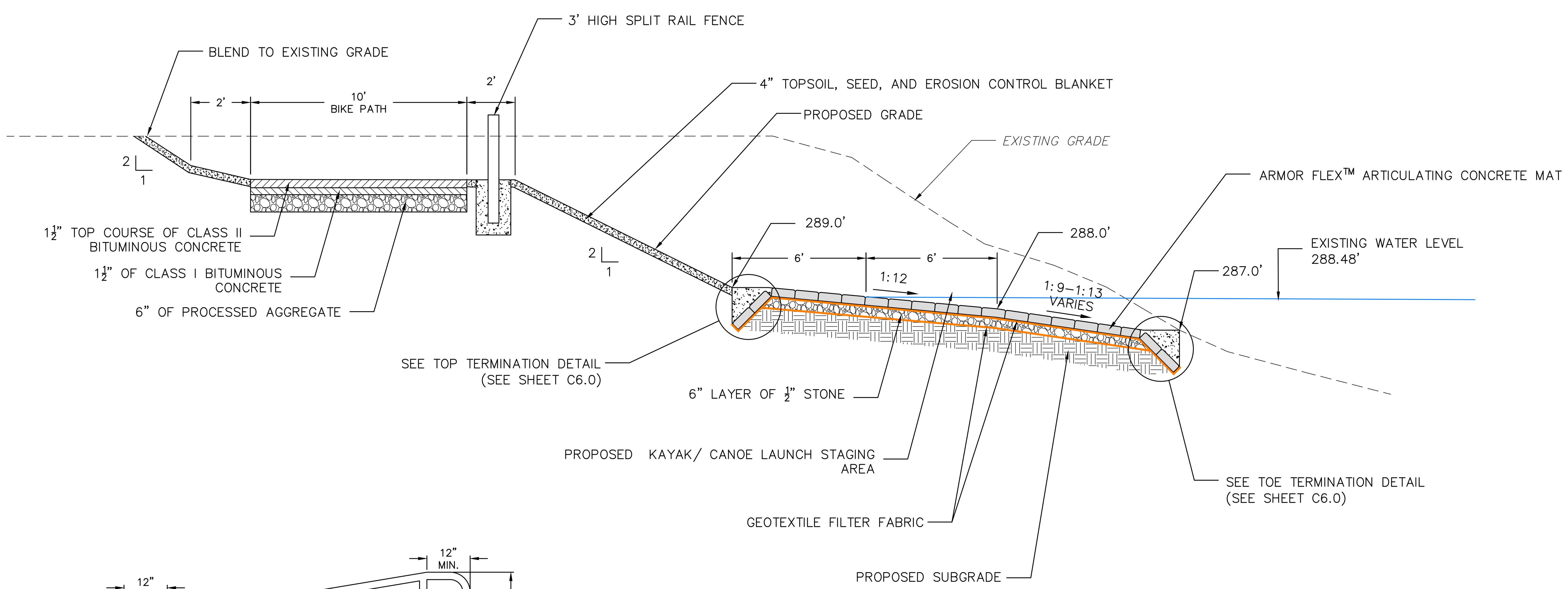
DETAILS

TOWN OF CANTON
50 OLD RIVER ROAD
CANTON, CONNECTICUT

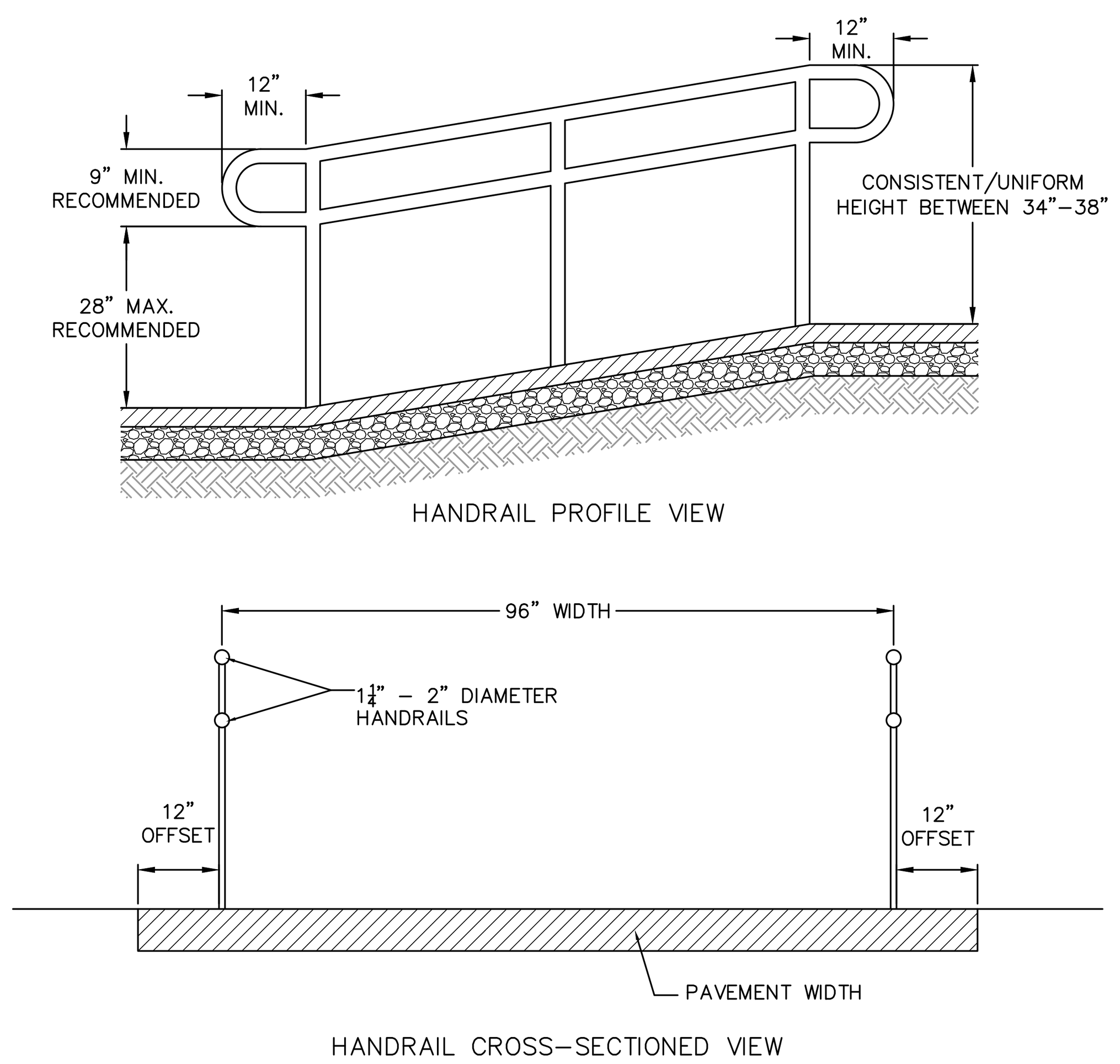
DRAWN BY: FSM	APPROVED BY: SJB	
DATE: 3/20/23	SCALE: N.T.S.	FILE No.: 200028-BLD26

P:\CAD\DRAWINGS\200000\200028\FIGURES\CIVIL\BOAT LAUNCH DESIGN\200028-BLD26.DWG
Layout:C5.0

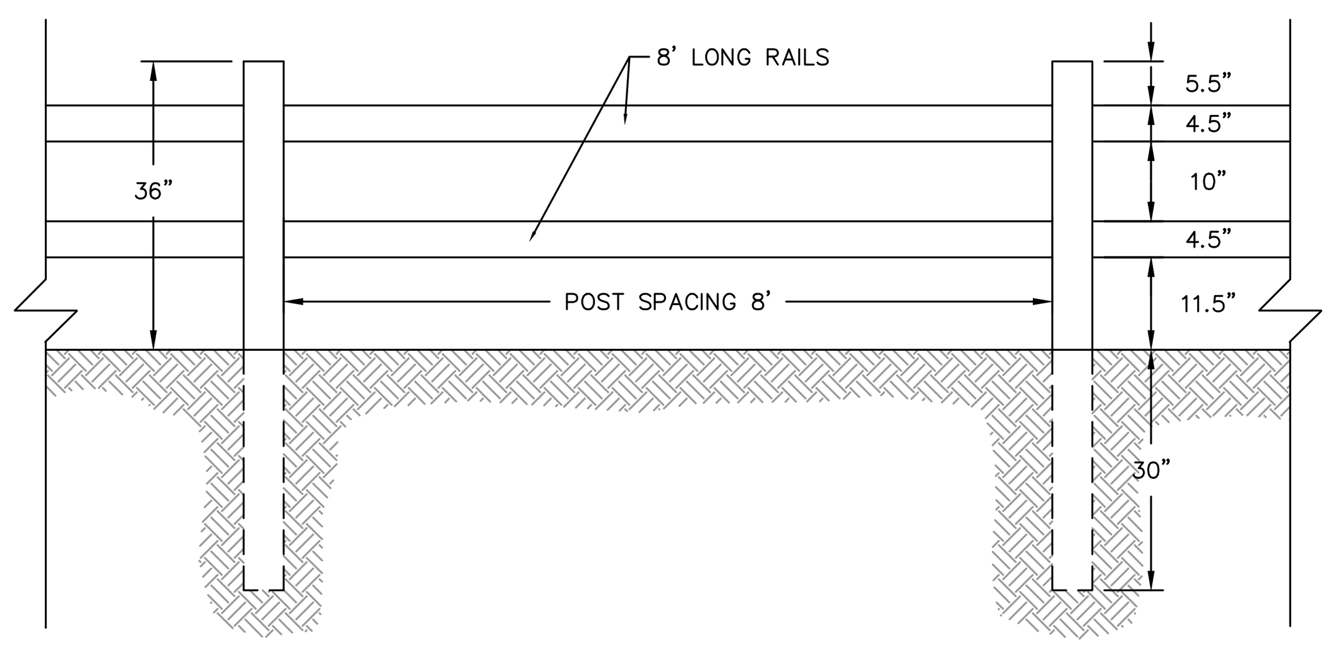
REV.	DESCRIPTION	APP'D	DATE
–	–	–	–



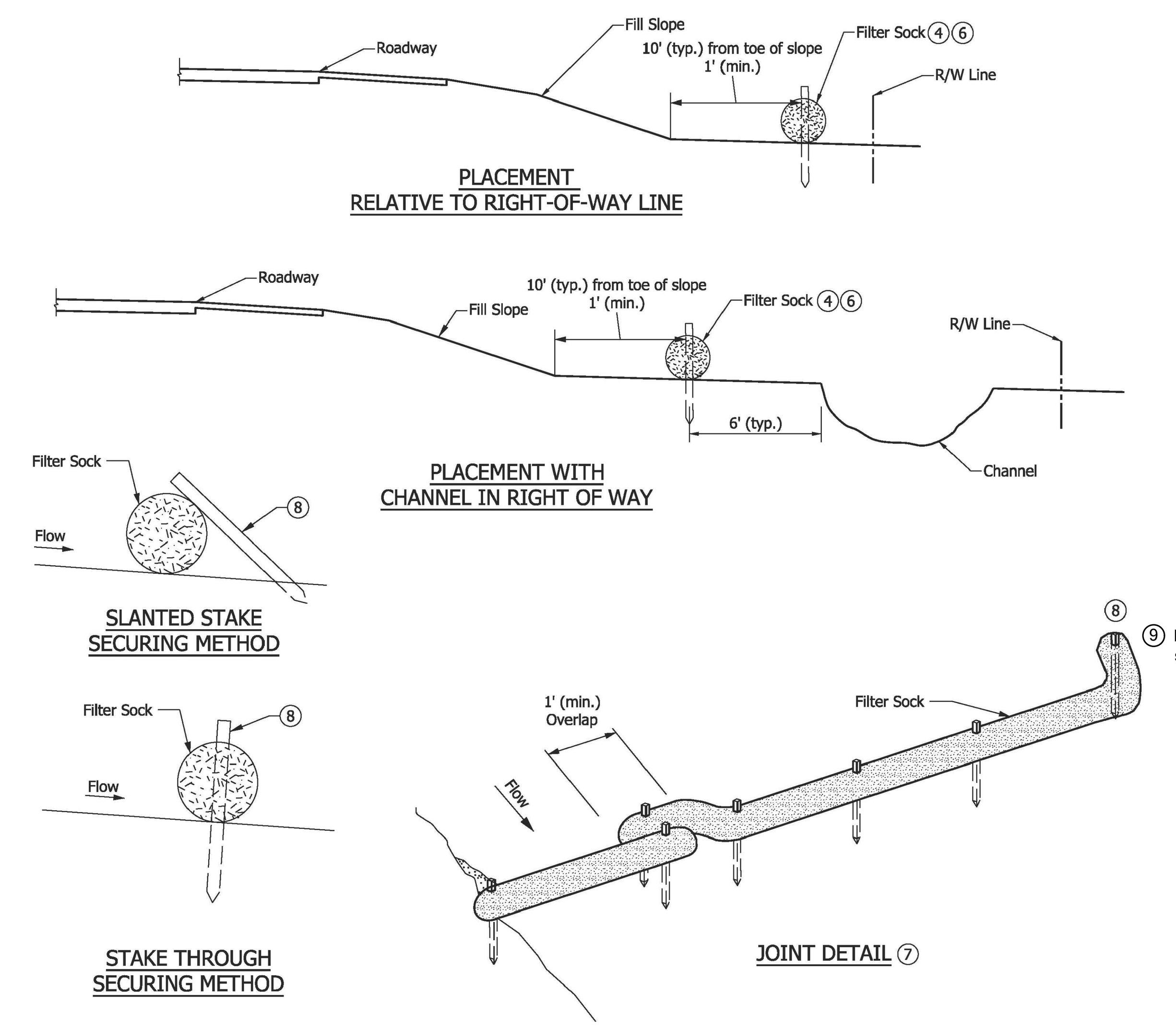
TYPICAL EMBANKMENT
N.T.S.



TYPICAL HANDRAIL DETAIL
N.T.S.



2-RAIL SPLIT RAIL FENCE
N.T.S.



⑨ Filter sock shall be weighted down in areas of impervious surfaces or impractical to drive stakes

FILTER SOCK
N.T.S.

NOTES:

1. Fiber roll may be substituted for filter sock.
2. Filter sock shall be installed as shown or in accordance with manufacturer's recommendations.
3. Filter sock diameter shall be as required by design based on watershed area.
4. Filter sock shall be placed perpendicular to the flow of water.
5. Filter sock shall be secured as shown or in accordance with the manufacturer's instructions.
6. Filter sock does not require staking when fill slope is less than or equal to 12%, except when fill slope is below the Q_{100} water surface elevation and flood prone area.
7. Filter socks shall be secured in locations below the Q_{100} water surface elevation and flood prone location. Filter sock end shall be secured using the stake through method. Intermediate points may be secured using either the stake through or slanted stake method.
8. Stake angle and length shall be sufficient to wedge filter sock to the ground to prevent movement and undercutting.

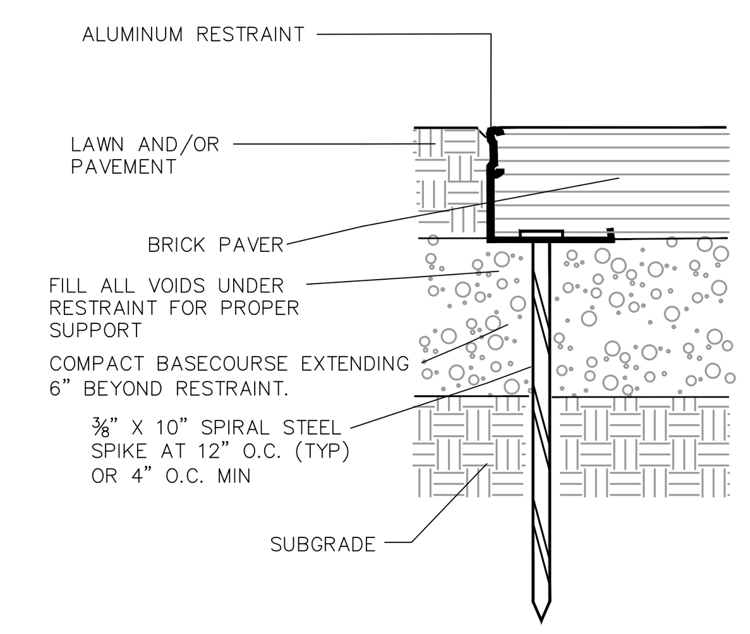
NOTES:

1 INSTALLATION PER MANUFACTURER'S "INSTALLATION GUIDELINES"

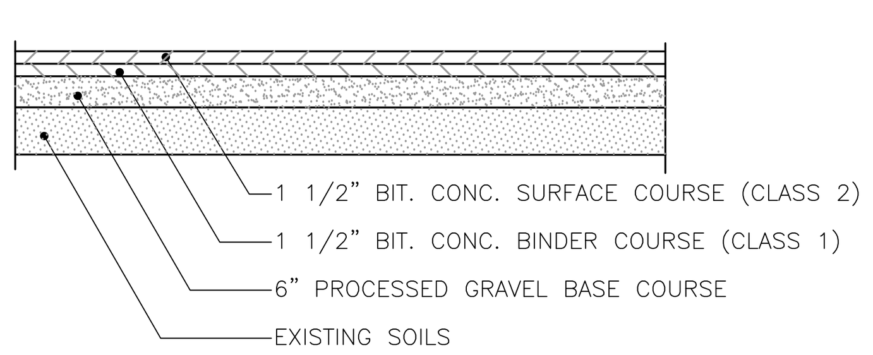
2 8'–0" SECTIONS CONNECTED WITH 4" SLIDING CONNECTOR.

3 MAINTAIN ⅜" GAP BETWEEN SECTIONS TO ALLOW FOR PRODUCT EXPANSION IN EXTREME TEMPERATURES.

4 CORNERS: NOTCH BASE ONLY AND FORM A CONTINUOUS CORNER.

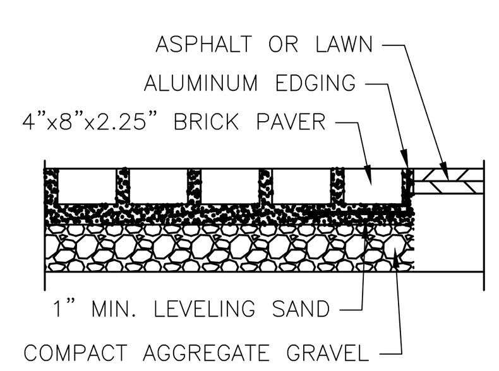


BRICK PAVER RESTRAINT
N.T.S.

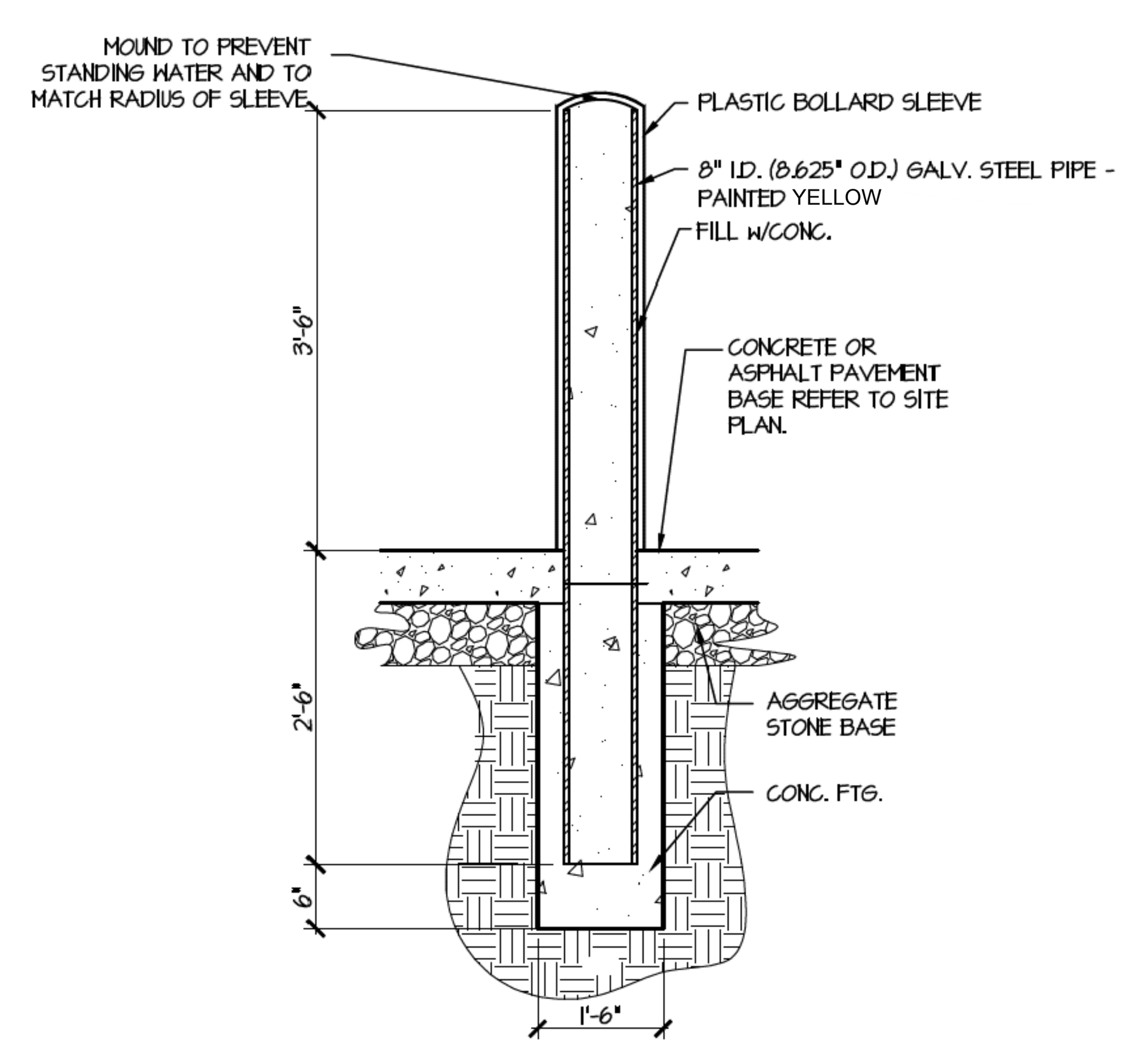


NOTE: EXISTING SOILS MAY BE USED IN–SITU IF THEY MEET THE GRADATION REQUIREMENTS FOR SUBBASE AND ARE APPROVED BY THE OWNER.

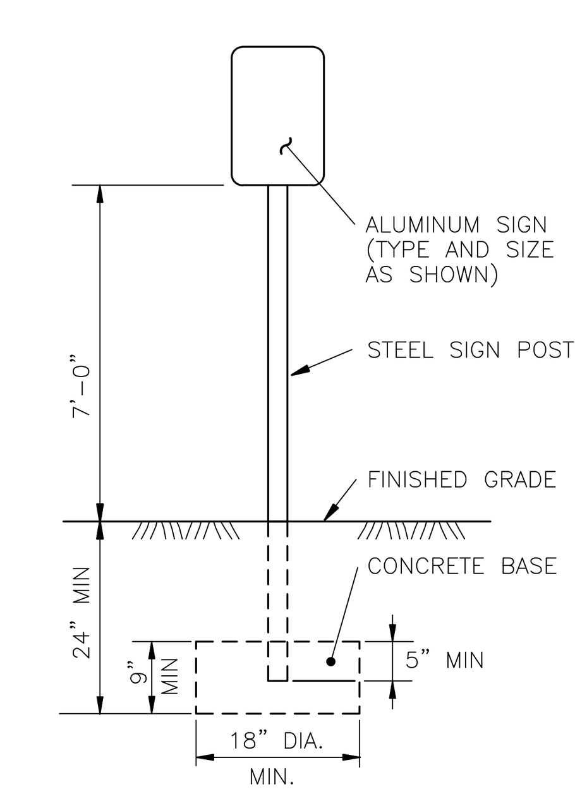
PAVEMENT CROSS SECTION
N.T.S.



BRICK PAVER DETAIL
N.T.S.

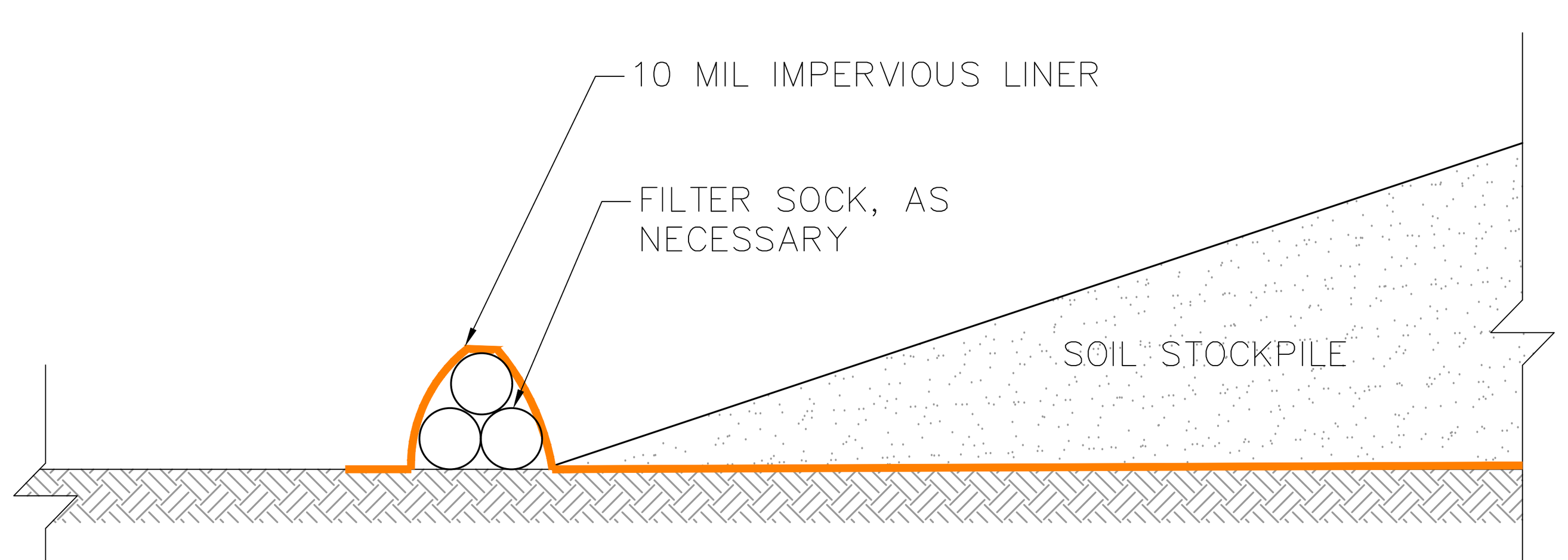


CONCRETE FILLED STEEL PIPE BOLLARD
N.T.S.



COLORS TO CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"

TRAFFIC SIGN POST
N.T.S.



TEMPORARY SOIL STOCKPILE
N.T.S.

SEAL & SIGNATURE

TRITON COASTAL CONSULTANTS, LLC
Engineering & Permitting

385 Church Street, Suite 203 • Guilford, Connecticut 06437 • 203.458.7200

C6.0

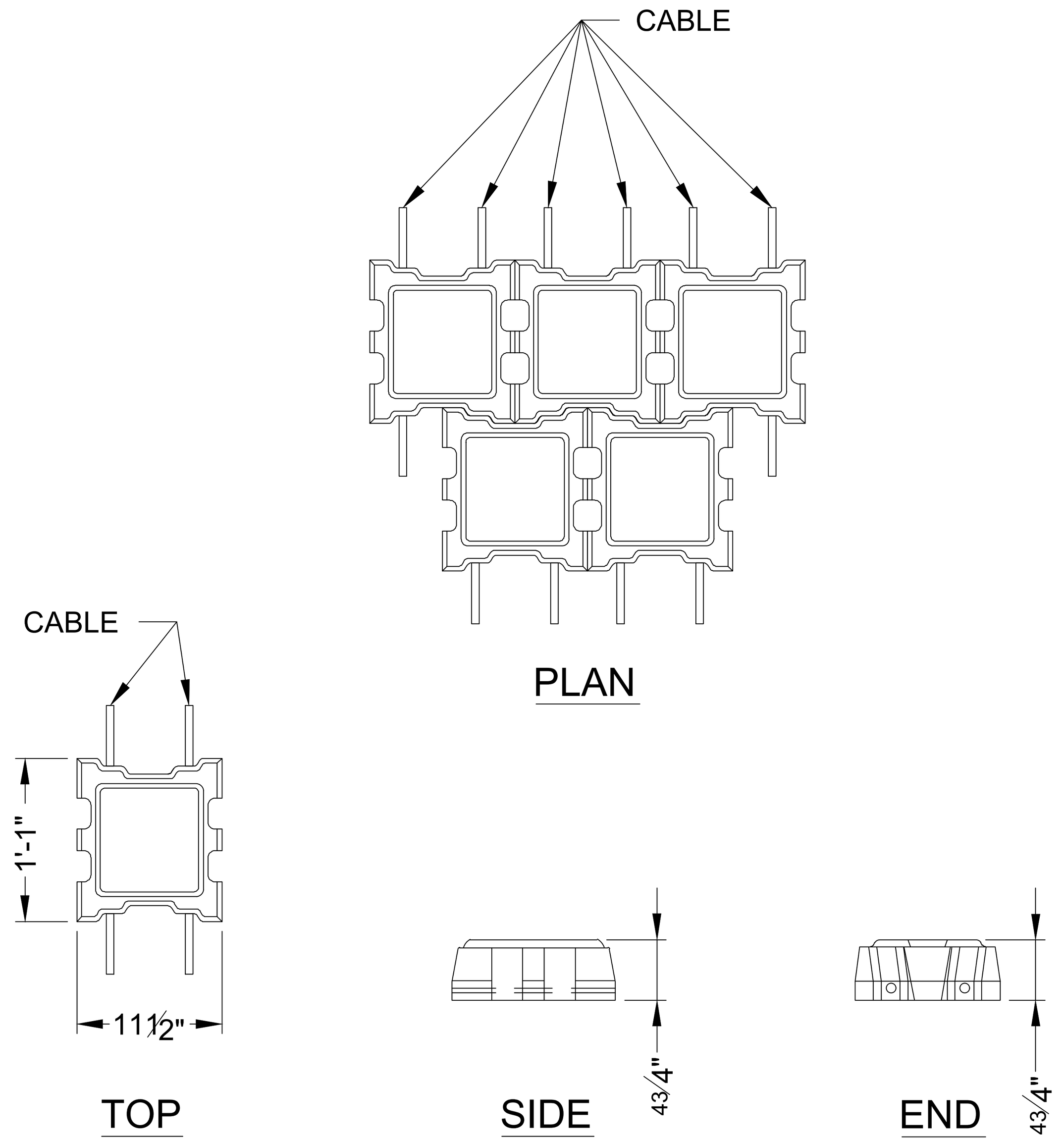
DETAILS

TOWN OF CANTON
50 OLD RIVER ROAD
CANTON, CONNECTICUT

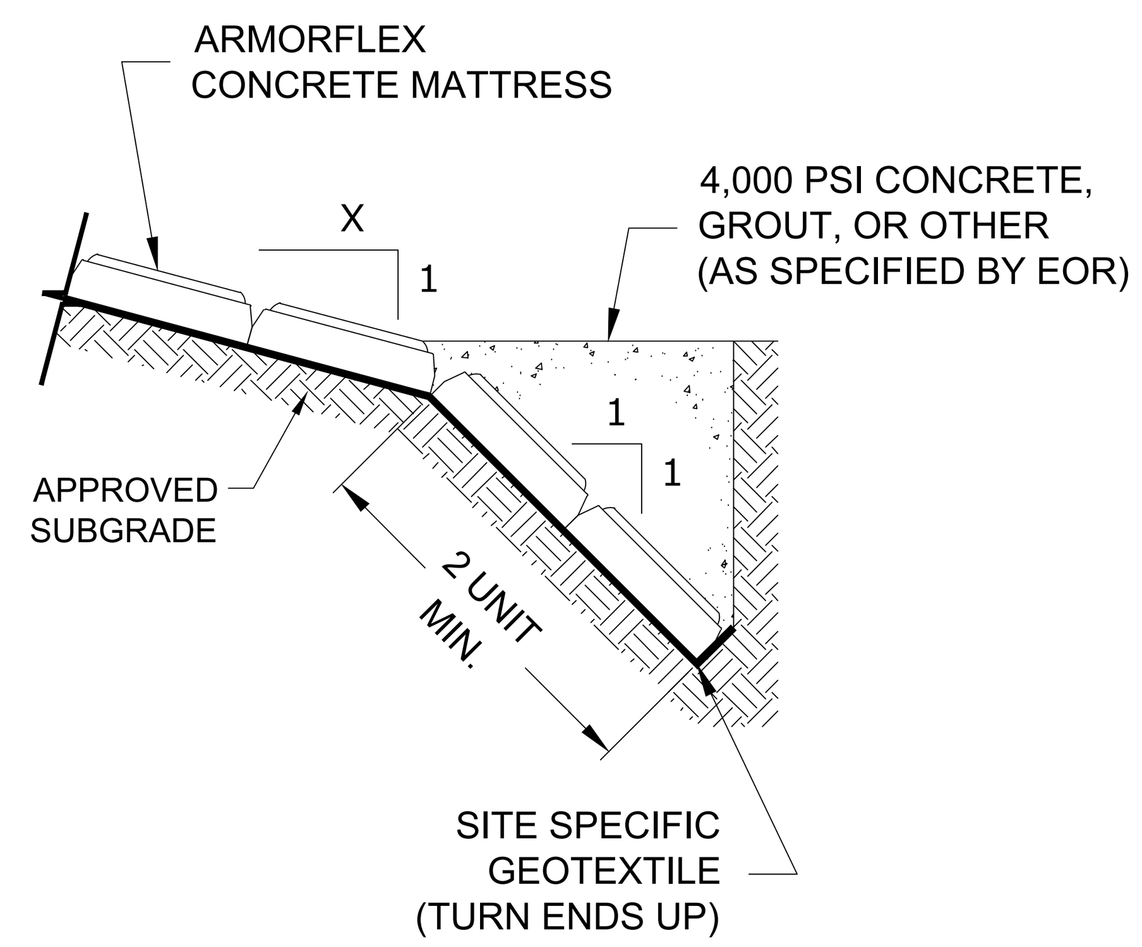
DRAWN BY: FSM		APPROVED BY: SJB
DATE: 3/20/23	SCALE: N.T.S.	FILE No.: 200028–BLD26

P:\CAD\DRAWINGS\200000\200028\FIGURES\CIVIL\BOAT LAUNCH DESIGN\200028–BLD26.DWG
Layout:C6.0

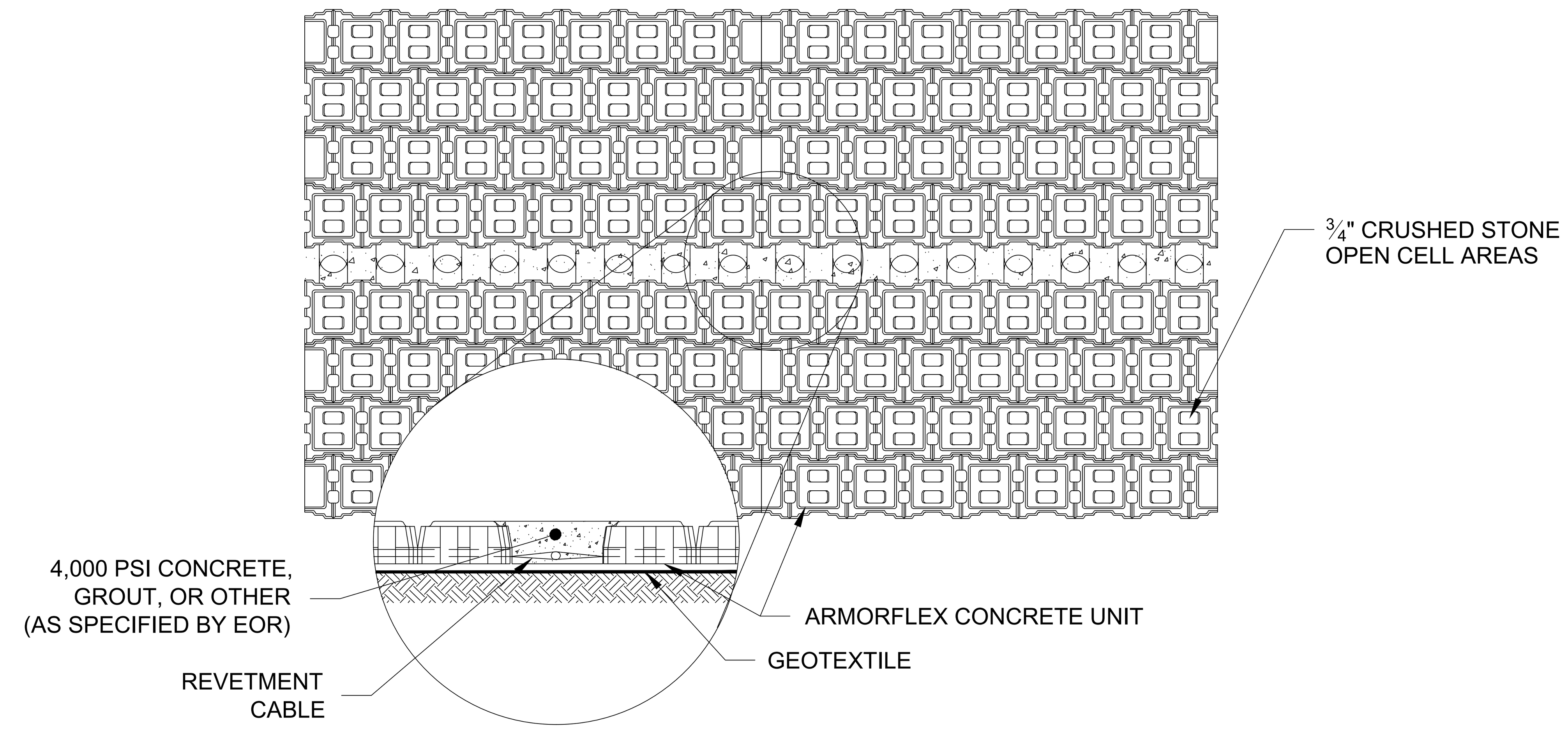
REV.	DESCRIPTION	APP'D	DATE
–	–	–	–



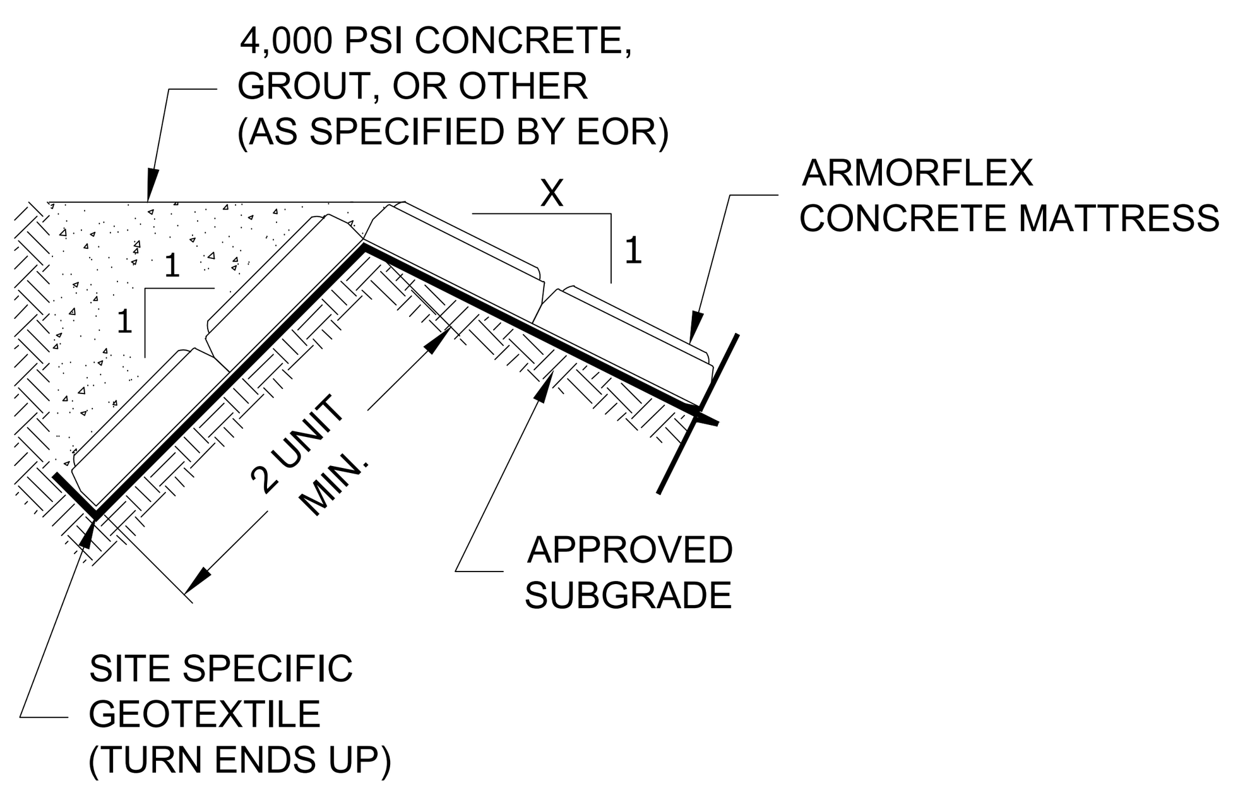
TYP. 45S BLOCK
N.T.S.



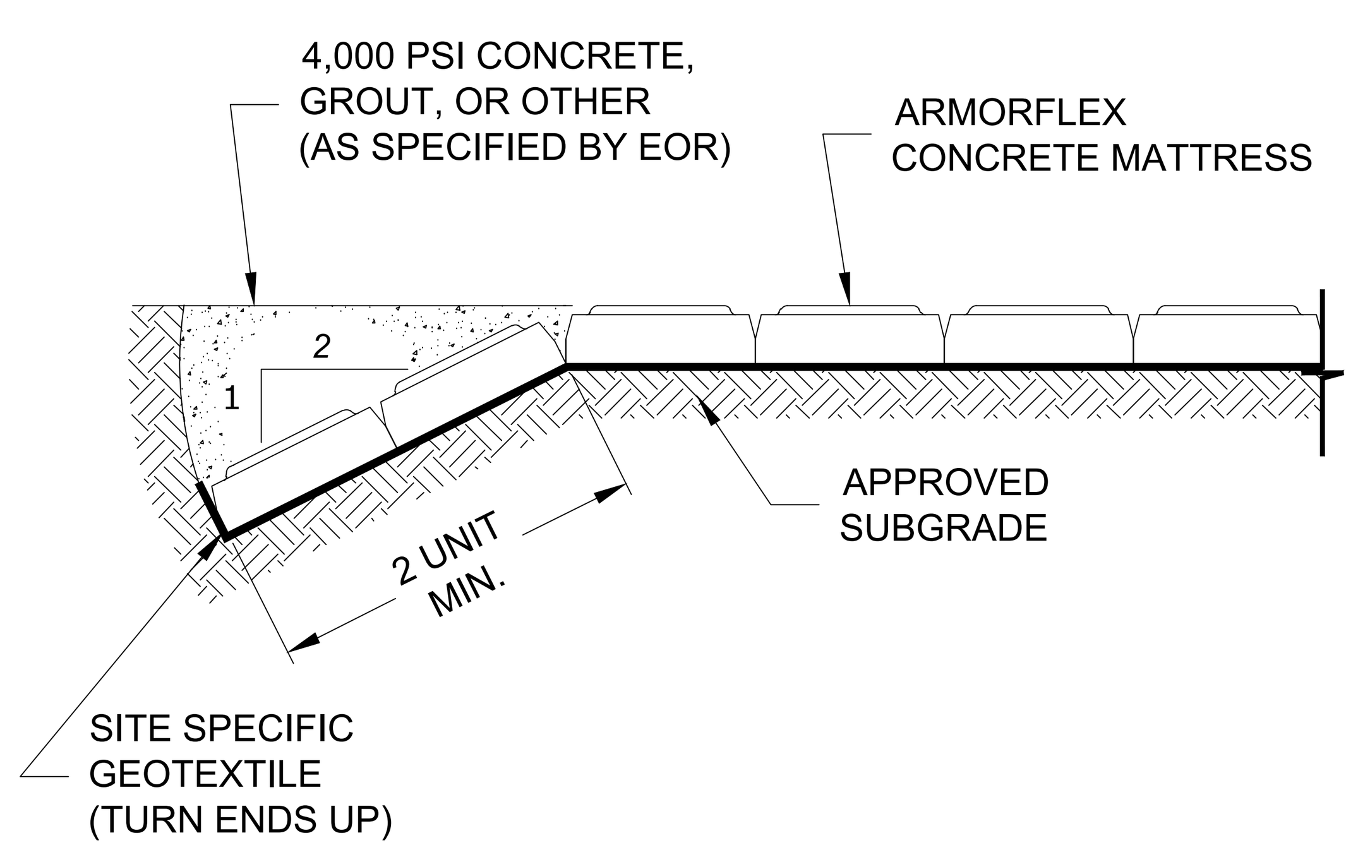
TOE TERMINATION
N.T.S.



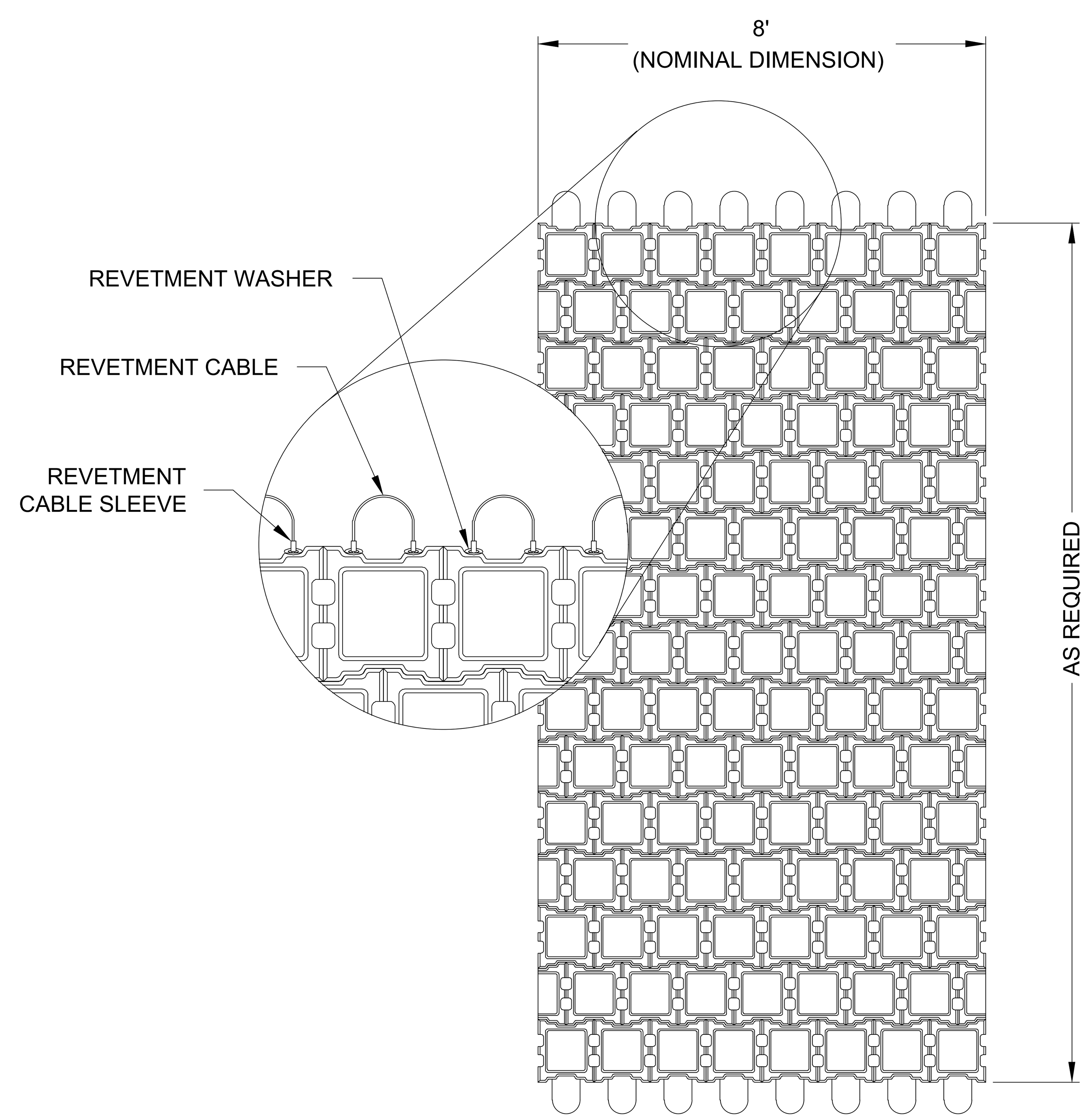
TYP. MAT TO MAT
N.T.S.



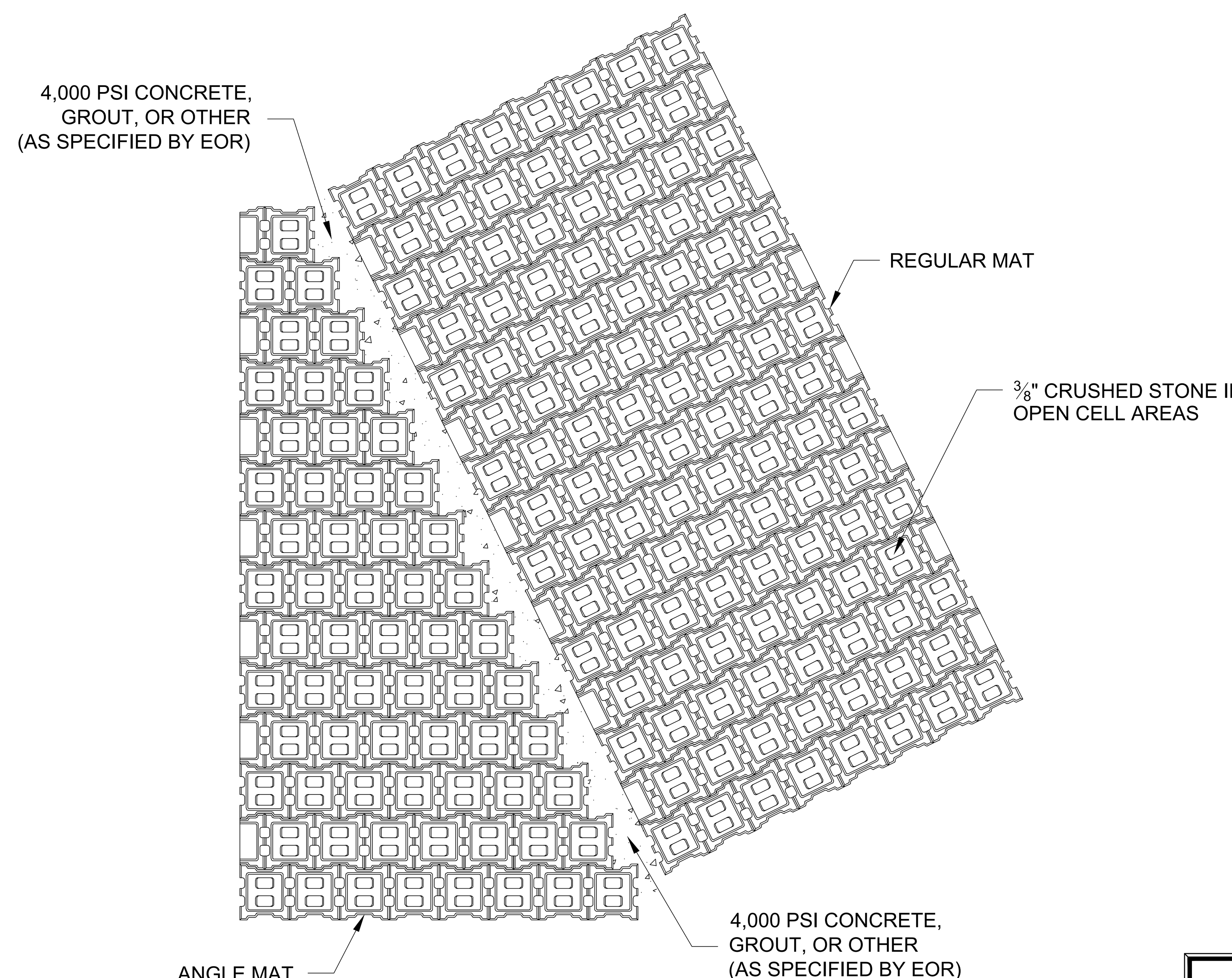
TOP TERMINATION
N.T.S.



FLANK TERMINATION
N.T.S.



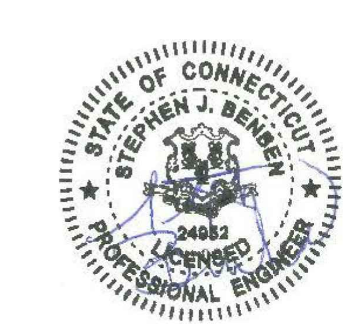
TYP. 45S MAT
N.T.S.



NOTE:
ANGLE MATS WILL BE CONSTRUCTED BY OMITTING THE REQUIRED UNITS SO THE REQUIRED MAT DIMENSIONS CAN BE OBTAINED.

TYP. ANGLE MAT
N.T.S.

SEAL & SIGNATURE



TRITON COASTAL CONSULTANTS, LLC
Engineering & Permitting
385 Church Street, Suite 203 • Guilford, Connecticut 06437 • 203.458.7200

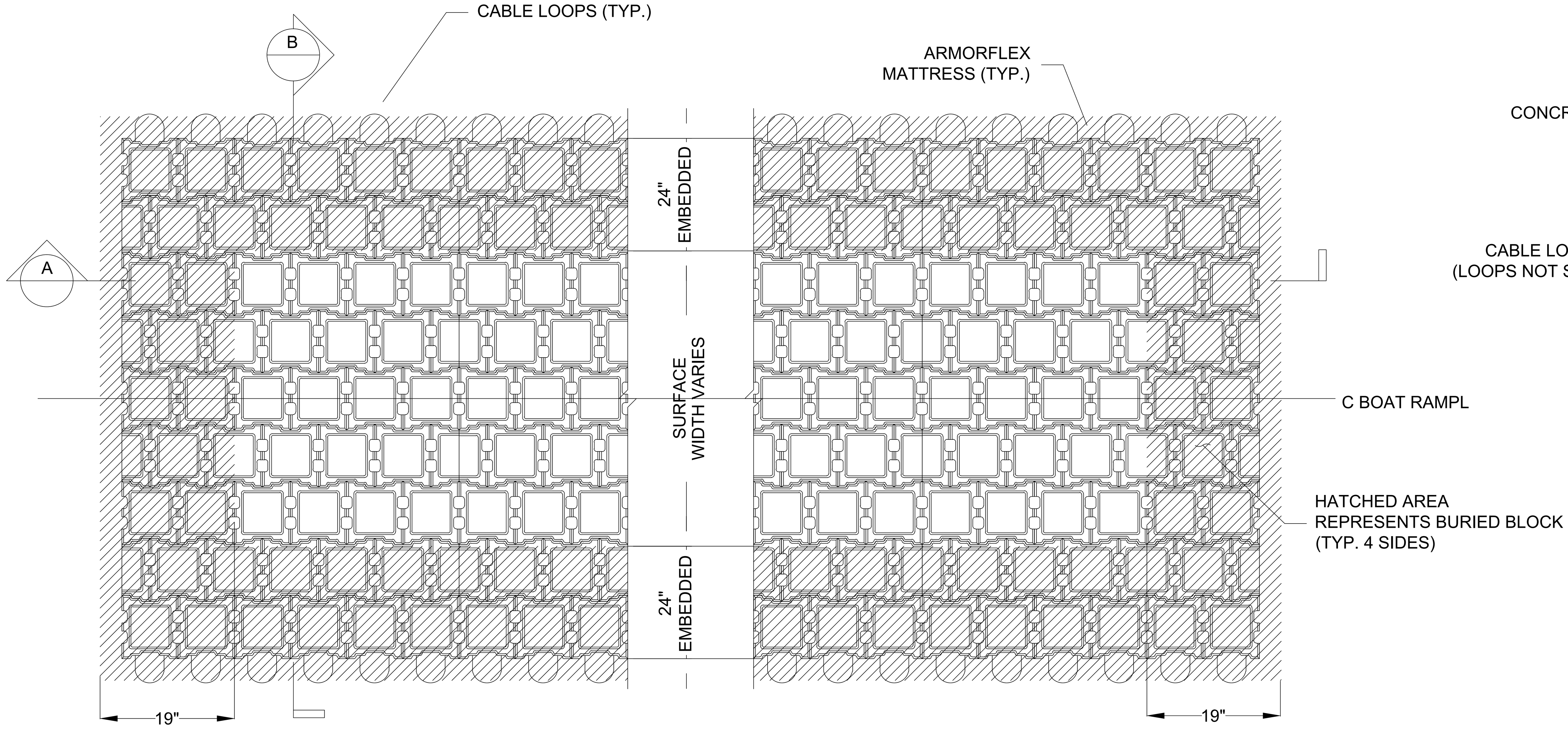
C7.0

DETAILS

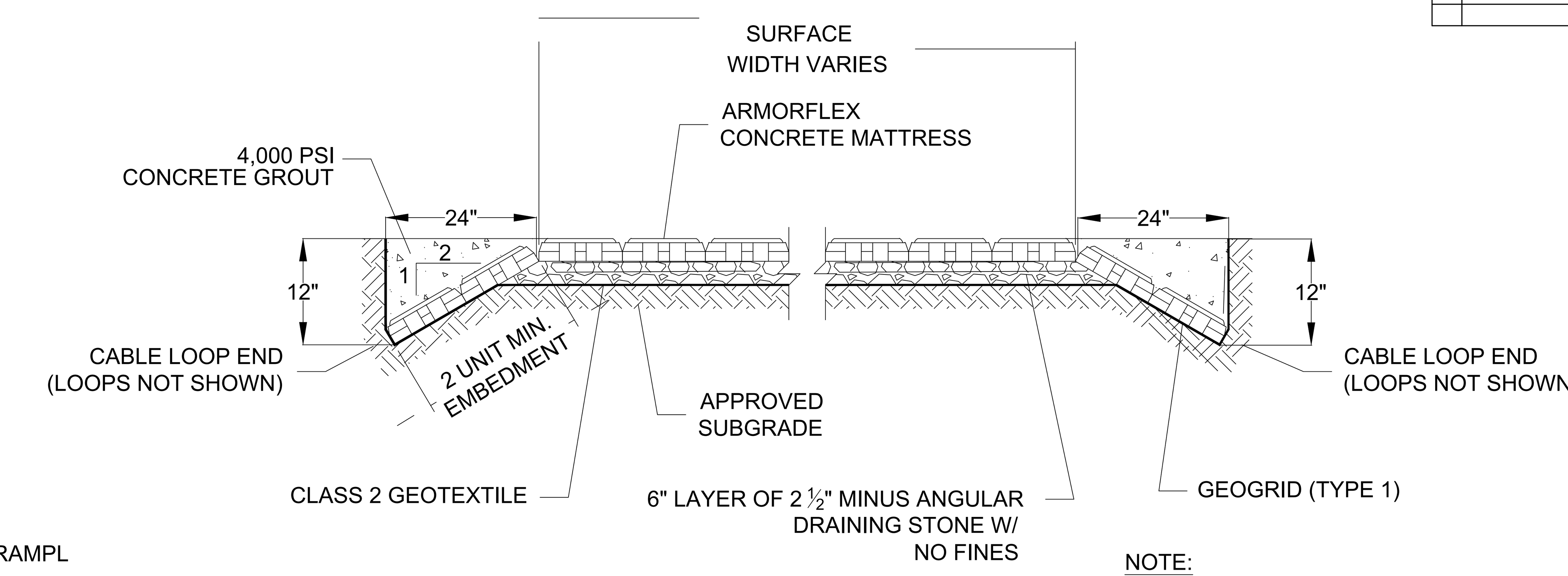
TOWN OF CANTON
50 OLD RIVER ROAD
CANTON, CONNECTICUT

DRAWN BY: FSM		APPROVED BY: SJB
DATE: 3/20/23	SCALE: N.T.S.	FILE No.: 200028–BLD26

REV.	DESCRIPTION	APP'D	DATE
–	–	–	–

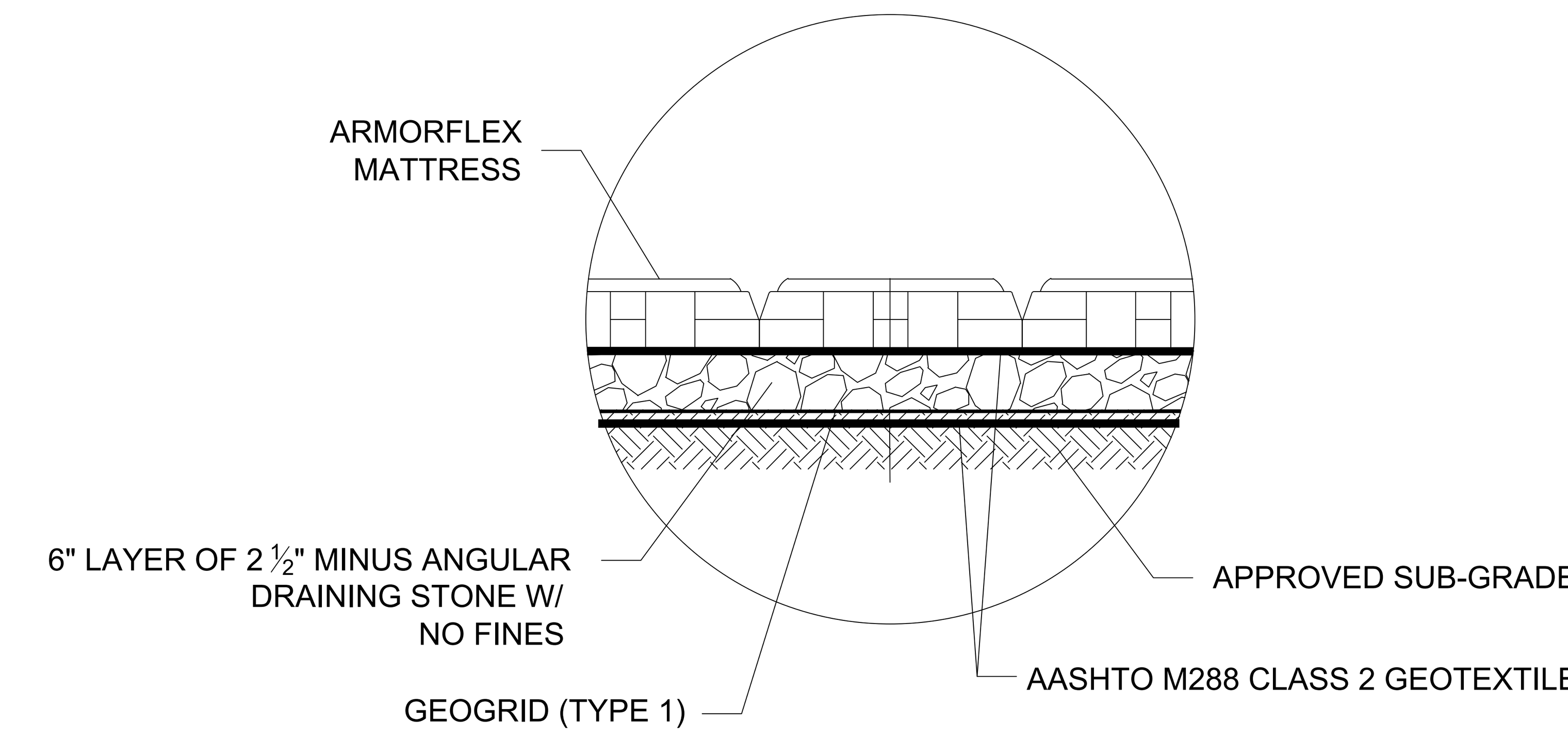


BOAT RAMP PLAN
N.T.S.

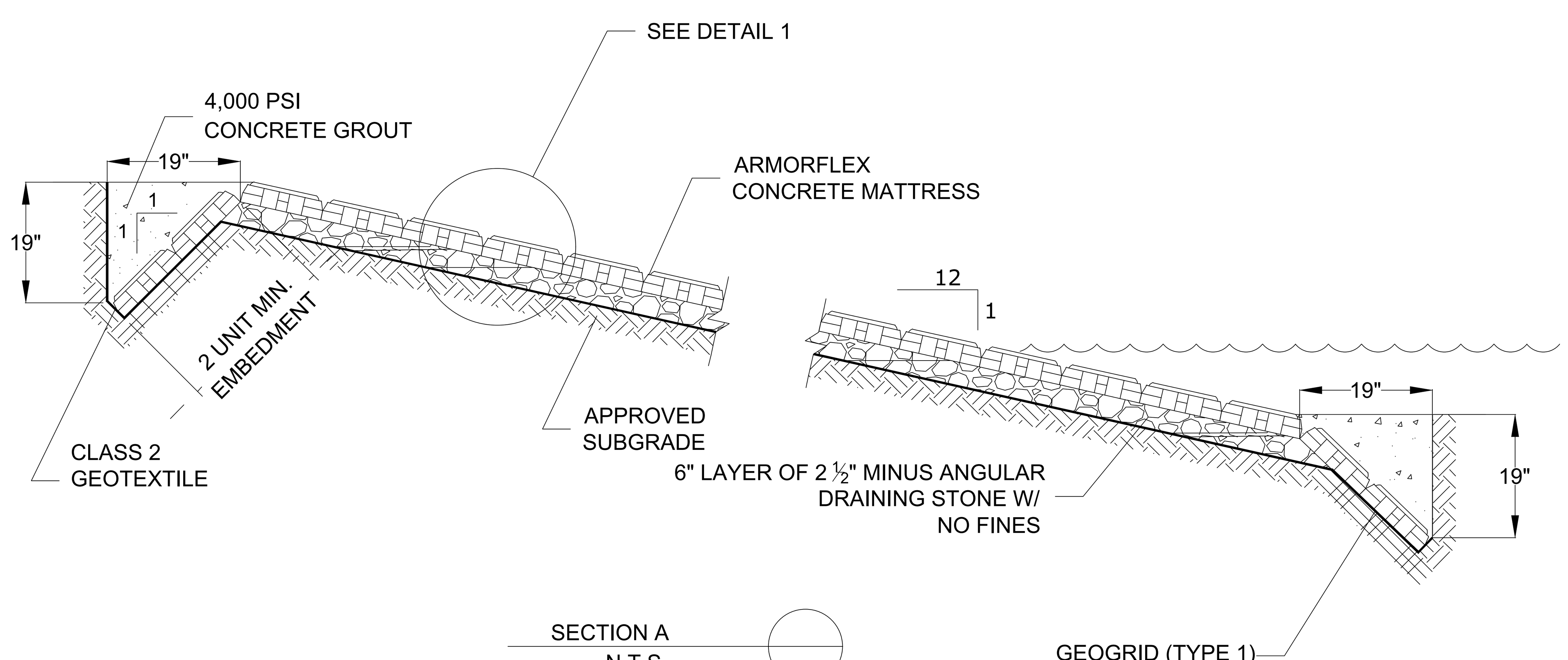


NOTE:
CONTRACTOR SHALL PROVIDE ON INSITU GRADATION TEST PRIOR TO GEOTEXTILE ORDERING

SECTION B
N.T.S.



DETAIL 1
N.T.S.



SECTION A
N.T.S.

SEAL & SIGNATURE

STATE OF CONNECTICUT STEPHEN J. BENSEN 24952 LICENSED PROFESSIONAL ENGINEER

TRITON COASTAL CONSULTANTS, LLC
Engineering & Permitting

385 Church Street, Suite 203 • Guilford, Connecticut 06437 • 203.458.7200

C8.0

DETAILS

TOWN OF CANTON
50 OLD RIVER ROAD
CANTON, CONNECTICUT

DRAWN BY: FSM		APPROVED BY: SJB
DATE: 3/20/23	SCALE: N.T.S.	FILE No.: 200028–BLD26

P:\CAD\DRAWINGS\200000\200028\FIGURES\CIVIL\BOAT LAUNCH DESIGN\200028–BLD26.DWG
Layout:C8.0