



TOWN OF FALMOUTH, MASSACHUSETTS

INVITATION FOR BID

CONTRACT AND SPECIFICATIONS

FOR

**Upper Coonamessett River
Restoration Project
Falmouth, MA 02540
November 2024**

TOWN MANAGER

Michael Renshaw

BOARD OF SELECTMEN

Nancy Robbins Taylor, Chair
Edwin (Scott) P. Zylinski II, Vice Chair
Douglas C. Brown
Robert P. Mascali
Heather M.H. Goldstone

DIRECTOR PUBLIC WORKS

Peter McConarty, P.E., PLS

TOWN ENGINEER

James McLoughlin, P.E.

Engineering Division

416 Gifford Street

Falmouth, MA 02540

Phone: (508) 457-2543 FAX: (508) 548-1537

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SECTION I

NOTICE TO BIDDERS

The Town of Falmouth, Department of Public Works, will accept sealed bids for:

UPPER COONAMESSETT RIVER RESTORATION PROJECT 2024

Bids will be received in the Office of the Town Engineer, 416 Gifford Street, Falmouth, MA 02540 on or before the following time and date: **2:00 P.M. on Friday, November 15th, 2024** at which time and place the Bids will be publicly opened and read.

The project consists of river and bog restoration and the construction of a boardwalk.

Bidding Documents will be available after 8:00 A.M on Wednesday, October 16th, 2024 and may be examined and/or obtained at the office of the Engineering Division of the Department of Public Works, 416 Gifford Street, Falmouth, MA 02540.

Bidders requesting Contract Documents by mail shall include an additional non-refundable check payable to the Town of Falmouth in the amount of \$15.00 per set, to cover costs of handling and mailing.

A Mandatory Pre-Bid meeting will occur on-site at **10:00 A.M. on Tuesday, October 29th, 2024**.

General Bids must be accompanied by a bid deposit. The amount of the bid deposit shall be an amount of 5 percent (5%) of the Bidder's maximum total bid price, payable to the Town of Falmouth, MA. The bid security will be retained until the successful bidder has executed the contract with the Town, whereupon it will be returned. If the bidder fails to execute the contract within 30 calendar days of the Notice of Award, the Town may annul the award and the bid security will be forfeited.

Bidders may not withdraw their Bids for a period of 120 calendar days, after the actual date of the opening of the Bids.

The successful Bidder must furnish a 100 percent (100%) Construction Performance Bond and a 100 percent (100%) Construction Payment Bond with a surety company licensed to do business in the Commonwealth of Massachusetts.

Wage rates for this Project are subject to the minimum wage rates as per M.G.L. Chapter 149, Section 26 to 27D inclusive.

The bidding and award of this Contract will be under the provisions of M.G.L. Chapter 30, Section 39M.

Bidders shall indicate their intent to comply with the Town of Falmouth's Supplemental Equal Employment Opportunity, Anti-Discrimination and Affirmative Action Program.

The Town reserves the right to waive any informality in or reject any and all Bids, or to accept the Bid deemed to be in the best interest of the Town of Falmouth.

Bids are welcome from minority and female businesses.

DEPARTMENT OF PUBLIC WORKS
Peter M. McConarty
Director of Public Works

Advertised:
Central Register 10/16/2024
Falmouth Enterprise 10/18/2024

SECTION II

INFORMATION TO BIDDERS / GENERAL CONDITIONS

1. Attention of all bidders is directed to Massachusetts General Laws and to all applicable Sections of the General Laws as most recently amended which govern the award of this Contract.
2. Bidding Contractors shall complete and submit the Statement of Bidder's Qualifications in addition to providing three References with contact information.
3. The bidder shall submit his proposal upon forms furnished by the Department of Public Works.

The bidder shall specify the price in figures and in words in Section IV, if space for words is provided. All words and figures shall be typewritten or in ink. In case of discrepancy, the amount shown in words will govern.

4. All proposals shall be signed correctly in ink by the individual or in case of a firm, partnership or corporation, it shall be signed by a person having a legal authority from said firm, partnership or corporation.
5. All proposals shall be submitted to the Office of the Town Engineer, 416 Gifford Street, Falmouth, Massachusetts 02540 on or before the date stated in the Notice to Bidders. Each proposal shall be in a sealed envelope, clearly marked to indicate the contents, together with the name and address of the bidder and the time and date of bid opening.
6. Proposals will be publicly opened and read at the time and place indicated in the Notice to Bidders. Bidders or their authorized agents are invited to be present.
7. Bid forms shall be completely filled in. Bids which are incomplete, conditional, or obscure, or which contain additions not called for will be rejected. Use the pages of this Document when submitting Bid and submit Agreement Document intact. All bids along with the qualifying statements shall be considered firm prices for the period of the Proposal as submitted by the bidder. Any Bid received after the time and date of opening stated in the "Notice" shall not be opened. Unopened Bids will be returned to the respective Bidders. No award will be made to any bidder who cannot satisfy the Town of Falmouth, Department of Public Works, that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to prosecute and complete the work successfully within the time named. The Owner's decision or judgment on these matters will be final, conclusive and binding.
8. The Town may make such investigations as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Town all such information and data for this purpose as the Town may request. The Town reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Town, that such bidder is properly qualified to carry out the obligations of the Agreement and to complete the work contemplated therein within the time period set forth in the Bid Proposal.

9. All applicable Federal, State and Local Laws, ordinance and rules, regulations (including but not limited to any laws, ordinances or regulations relating to the Town of Falmouth, or the Massachusetts Department of Environmental Protection) of any authorities shall be binding upon the bidder throughout the pendency of this Contract. The bidder shall be responsible for compliance with any such law, ordinance rule, or regulation, and shall hold the Town harmless and indemnify same in the event of non-compliance during the pendency of this Contract.

10. Examination of Contract Documents and Site

Before submitting a Bid, each Bidder must examine the Contract Documents thoroughly, visit the site to become familiar with local conditions that may in any manner affect cost, progress or performance of the Work and become familiar with Federal, State, and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work.

Before submitting a Bid, Bidders may, at their own expense, make such additional investigations and test as they may deem necessary to determine their Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

On request, the Owner will provide each Bidder access to the site to conduct such investigations and tests, as each Bidder deems necessary for the submission of a Bid.

The submission of a bid will constitute an incontrovertible representation that the Bidder has complied with every requirement of the Contract Documents which are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the work.

At the time of the opening of bids, each bidder will be presumed to have read and to be thoroughly familiar with the Contract Documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve the bidder from any obligation with respect to his bid.

11. Interpretations

In any case, where there is a matter of opinion concerning any portion of the Specifications, work methods, work to be accomplished or any other matter concerning this Contract, the final decision shall be that of the Town.

All questions about the meaning or intent of the Contract Documents shall be received in writing by the Town of Falmouth, Department of Public Works, Engineering Division, 416 Gifford Street, Falmouth, MA 02540 or in electronic format by James McLoughlin, Town Engineer, james.mcloughlin@falmouthma.gov, at least fourteen (14) days before the date set herein for the opening of bids.

Written clarifications or interpretations will be issued by Addenda not later than five (5) days before the bid opening date. Only questions answered by formal written Addenda will be binding. Oral and other clarifications or interpretations will be without legal effect. Addenda will be sent by mail, E-mail or fax to all parties recorded as having received the Contract Documents. Bidders are responsible for determining that they have received all addenda issued. Each bidder shall acknowledge receipt of any and all the addendum issued to the invitation for bids by so indicating on the Bid Sheet. Failure to do so shall be

cause to reject the bid as being non-responsive.

12. Quantities and Prices

All quantities are approximate and the Department does not expressly or by implication agree that the actual quantities will correspond therewith, but the Department reserves the right to increase or decrease the quantity. An increase or decrease in the quantity for any item shall not be regarded as cause for an increase or decrease in the prices.

Where applicable, all bid prices shall include the cost of mobilization of equipment within the boundaries of the Town of Falmouth and no extra payment will be made for such mobilization or movement of equipment from job to job site.

13. Bid Security

Each Bid must be accompanied by a bid bond, a certified check, or a treasurer's or a cashier's check issued by a responsible bank or trust company, payable to Owner. The Bid Security shall be in the amount stated in the Notice to Bidders and shall be sealed in a separate envelope from the Bid and then attached to the envelope containing the Bid. All Bid Securities will be returned on the execution of the Agreement or if no award is made, within one hundred twenty (120) calendar days after the actual date of opening of the Bids, unless forfeited under the conditions herein stipulated.

In case a party to whom a Contract is awarded shall fail or neglect to execute the Agreement and furnish the satisfactory bonds within the time specified. Owner may determine that the Bidder has abandoned the Contract, thereupon the proposal Bid Forms and acceptance shall be null and void and the Bid Security accompanying the Bid Form shall be forfeited to Owner as liquidated damages for such failure or neglect and to indemnify said Owner for any loss which may be sustained by failure of the Bidder to execute the Agreement and furnish the bonds as aforesaid, provided that the amount forfeited to Owner shall not exceed the difference between the Bid Price of said Bidder and that of the next lowest responsible and eligible bidder and provided further that, in case of death, disability, or other unforeseen circumstances affecting the bidder, such Bid Security may be returned to the Bidder. After execution of the agreement and acceptance of the bonds by Owner, the Bid Security accompanying the Proposal Bid Form of the Successful Bidder will be returned.

14. Execution of Bid Documents

Bids by corporations shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

Bids by partnerships shall be executed in the partnership name and signed by a partner, whose title shall appear under this signature. The official address of the partnership shall be shown below the signature.

15. Modifications and Withdrawal of Bids

Bids may be modified only by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

Bids may be withdrawn prior to the scheduled time (or authorized postponement thereof) for the opening of Bids. Any Bid received after the time and date specified shall not be considered.

16. No Bid may be withdrawn for a period of one hundred twenty calendar (120) days after the actual date of the opening of the Bids. Should there be reasons why the Contract cannot be awarded within the specified period the time may be extended by mutual agreement between the Town and the bidder.

17. Once the bidder has submitted his bid, and said bid is properly received by the Town for consideration and comparison with other bids similarly submitted, the bidder agrees that he may not and will not withdraw it for a period of one hundred twenty (120) consecutive calendar days after the actual date of the opening bids.

18. Competitive Bidding

The bidding and award of the Contract shall be in full compliance with Section 39M inclusive of Chapter 30 of the General Laws of the Commonwealth of Massachusetts as last revised.

The Town may waive any formalities or minor defects or reject any and all bids.

19. Non-Collusive Resolution EEO/AA Certification and State Tax Certification Clause

Each bidder must sign and submit the "Non-Collusive Resolution" "EEO/AA Certification", and a "State Tax Certification Clause" with the bid sheet.

Signature of the Bidder is required on the Proposal Form regarding the Non-Collusive resolution which states: "The Bidder certifies under the provisions of Chapter 701 of the Acts of 1983 and under the penalties of perjury, that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person". As used in this Section, the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

The Town of Falmouth has in place an Affirmative Action Policy and a Minority Business Enterprise Program. Attention is called to the Certification that the bidder shall comply with the minority manpower ratio. This Certification, of the Bid must be signed and submitted with the Bid.

As per regulations, the Contractor shall give first priority to utilizing resources in the area (Town of Falmouth) including Sub-contractors, and employee workers.

20. The Contractor shall comply with any and all requirements set out in the following:

- I. Notice to Bidders
- II. Information for Bidders/General Conditions
- III. Special Conditions
- IV. Proposal
- V. Non-Collusive Resolution
- VI. EEO/AA Certificate
- VII. State Taxes Certificate Clause
- VIII. Falmouth Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program
- IX. Contractor's and Sub-Contractor's Certification

- X. Statement of Compliance
- XI. Bankruptcy Statement
- XII. Prevailing Wage Rates
- XIII. Agreement
- XV. Specifications/Plans
- XVI. Order of Conditions and Related Permits
- XVII. Statement of Bidder's Qualifications

21. Environmental Regulations

The Contractor shall comply with all Rules and Regulations of the Massachusetts Department of Environmental Protection (MA DEP) as applied to the maintenance and management of the site. In addition, the Contractor shall comply with the Falmouth Conservation Commission Regulations and Order of Conditions for the project and site.

The Contractor shall also comply with all related Permits, including:

A. Received Permits

- a. MEPA Final Record of Decision
- b. Section 404 Army Corps of Engineers Permit
- c. Chapter 91 License
- d. Wetlands Protection Act Order of Conditions

The Contractor must provide all necessary equipment to perform the required work in the time allowed as per the terms of this Bid. The Contractor shall furnish and pay the cost of all the necessary materials and furnish and pay for all superintendence, labor, tools equipment and transportation and perform all work required for and the restoration of the property in strict accordance with this Contract, and any amendments thereto and such supplemental plans and Specifications which may hereafter be approved.

22. Bonds and Insurance

- a. A Performance and Payment Bond in the amount of One Hundred (100%) percent of the annual contract price will be required for the faithful performance of the Contract. The Contractor shall obtain and submit the bond within ten (10) days after notification of the bid award. The successful bidder's Bid Bond shall not be released until such time the Performance and Labor and Materials Bonds have been posted. Within seven (7) working days of receipt of acceptable Payment Bond and Agreement signed by the party to whom the Agreement was awarded, the Town shall sign the Agreement and return to such party an executed duplicate of the Agreement.
- b. Certificate of Insurance acceptable to the Town shall be filed with the Town prior to execution of any contractual Agreement. These Certificates shall contain a provision that coverage afforded under the policies will not be reduced or canceled unless at least fifteen (15) days prior written notice has been given to the Town.
- c. The Contractor shall procure and maintain, at the Contractor's own expense, during the Contract time, liability insurance as herein-after specified:

General Liability of at least \$1,000,000 Bodily Injury and Property Damage Liability, Combined Single Limit with a \$3,000,000 Annual Aggregate Limit.

Products and Completed Operations shall be maintained for up to 3 years after completion of the project.

Automobile Liability (applicable for any contractor who has an automobile operating exposure) of at least \$1,000,000 Bodily Injury and Property Damage per accident. The Town shall be named as an Additional Insured.

Builders' Risk Property Coverage for the full insurable value (completed value) including existing structure of the building under construction. It shall include "All Risk" insurance for physical loss or damage including theft.

Architects and Engineers Professional Liability (applicable for any architects or engineers involved in the project) of at least \$1,000,000/occurrence, \$3,000,000 aggregate. The Town shall be named as an Additional Insured.

Property Coverage for materials and supplies being transported by the contractor.

Umbrella Liability of at least \$2,000,000/occurrence, \$2,000,000/aggregate. The Town shall be named as an Additional Insured.

Waiver of Subrogation Delete Waiver of Subrogation Language in its entirety from any contract the Municipality enters into.

- d. The Contractor shall procure and maintain, at the Contractor's own expense, during the duration of the Agreement, in accordance with the provisions of the Laws of the Commonwealth of Massachusetts, G. L. Chapter 149, Section 34A, Workman's Compensation Insurance, including occupational disease provisions, for all the Contractor's employees, and in case any work is sublet, the Contractor shall require such sub-contractor similarly to provide Workman's Compensation Insurance, including occupational disease provision for all of the latter's employees unless such employees are covered by the protection offered by the Contractor. In case any class of employees engaged in hazardous work under this Agreement is not protected under the Workman's Compensation Law, the Contractor shall provide and shall use each sub-contractor to provide adequate and suitable insurance for the protection of its employee not otherwise protected.
- e. The Contractor shall indemnify and save harmless the Town and the Town's agents and employees from and against all losses and all claims, demands, payments suits, actions recoveries, and judgments of every nature and description brought or recovered against them by reason of any act or omission of the said Contractor, its agent, or employees, in the execution of the work or in guarding the same.
- f. Contractor shall not allow any other business interest or operation to interfere with or diminish his ability to perform services required under this Contract with maximum efficiency.
- g. The actual performance of work and superintendence shall be performed by the Contractor, but the Town shall, at all times, have access to the premises for the purpose of observing or inspecting the work performed by the Contractor. Town's approval to allow Contractor to assign, sub-contract or sublet any portion or all of this work shall not diminish or reduce Contractor's responsibility to perform under this Contract. Contractor shall have full responsibility for all sub-contractors or assignments under this Contract. In the event the Town is dissatisfied with the progress or performance of the Work in accordance with the Standard of Work or time of completion set forth in the Agreement, the Town shall give the Contractor or his representative written notice in which the Town shall state the cause of dissatisfaction;

provided however, no written notice or opportunity for remedy shall be provided, if Town finds the site unattended at any time or is violating any major operating conditions established by Occupational Safety and Health Administration (OSHA). Should the Contractor fail to remedy the matters complained of within one (1) day after the written notice is received by the Contractor or his representatives, the Contractor shall be deemed in default of this Agreement, and shall be paid only for such work as has been completed prior to default. Again, the Contractor shall not be provided a one (1) day remedy period if site is found unattended at any time and the Town shall be entitled to automatically terminate the Contract without notice if afore-said circumstances occurs.

23. Wage Rates Prevailing Wage Rates as determined by the Commissioner of Department of Labor and Industries under the provision of the Massachusetts General Laws, Chapter 149, Section 26 to 27D, as amended, apply to this project. It is the responsibility of the Contractor, before bid opening, to request if necessary, any additional information on Prevailing Wage Rates for those trades people who may be employed for the proposed work under this Contract. The schedules of prevailing wage rates are included in Section XII.

24. Payroll Records, Labor, Maximum Hours of Employment.

- a. Every employee in public work shall lodge, board and trade where and with whom he elects; and no persons or his agents or employees under Contract with the Commonwealth, a county, city or town or with a department, board, commission or officer acting therefore, for the doing of public work, shall directly or indirectly require as a condition of employment therein, that the employee shall lodge, board or trade at a particular place or with a particular person (Chapter 49, Section 25 of the MA General Laws).
- b. Commissioner of Labor and Industries, public necessity so require (Chapter 149, Section 34 of the General Laws, as no laborer, workman, mechanic, foreman or inspector working within this Commonwealth, in the employee of the Contractor, Sub-contractor or other persons doing or contracting to do the whole or a part of the work contemplated by this Contract, shall be required or permitted to work no more than eight (8) hours in any one day or no more than 48 hours in any one week, or no more than six (6) days in any one week, except in cases of emergency, or in case any town subject to Section 149 of the General Laws is a party to such a Contract, more than eight (8) hours in any one day, except as aforesaid. The Department or the Contract or any Sub-contractor may employ laborers, workmen, mechanics, foreman and inspectors for more than eight (8) hours in any one day in the work to be done or under Contract when in the opinion of the Commissioner of Labor and Industries, public necessity so requires (Chapter 149, Section 34 of the General Laws, as amended).
- c. Attention of Bidders is called to Section 148 of Chapter 149 of the General Laws and Amendments thereof requiring the weekly payment of employees.
- d. Upon request of the Engineer of the Massachusetts Department of Labor and Industries, the Contractor shall furnish certified copies of any or all payrolls for the Contract, showing the name, address, and occupational classification of each employee on said works, and the hours worked by, and the wages paid each such employee. Such payroll shall also include the rates paid for rented trucks or rental equipment of any kind used on the work. This requirement shall also apply to the work of any Sub-contractor having a Sub-contract for any of the work performed on the

project. Such records shall be kept in such manner as the Commissioner of Labor and Industries shall prescribe, and shall be open to inspection by the Engineer or any authorized representative of the Department of Labor and Industries at any reasonable time and as often as may be necessary. In the case the work covered by this Contract is financed from Federal Funds the above provisions relative to the hours of employment shall be subject to such revisions and amendment as are required by the Rules and Regulations controlling the expenditures of such Federal Funds.

25. Buy American. The Contractor agrees that the Contractor, Sub-contractor, material men, and suppliers in the performance of this Contract will give preference to domestic construction material.
26. Compliance with Laws. The Contractor shall keep himself fully informed of all existing and future Federal, State, and Local Laws, ordinances, rules, and regulations affecting those engaged or employed on the Work, the materials and equipment used in the Work or the conduct of the Work, and of all orders, decrees and other requirements of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the Drawings, Specifications or other Contract Documents in relation to any such law, ordinance, rule, regulation, order, decree or other requirement, the Contractor shall forthwith report to the Administrator in writing. The Contractor shall at all times observe and comply with, and cause all his agents, servants and employees to observe and comply with all such existing and future laws, ordinances, rules, regulations, orders, decrees and other requirements and he shall protect, indemnify and save harmless the Owners, its officers, agents, servants and employees from and against any and all claims, demands, suits, liabilities, judgments, penalties, losses, damages, costs and expenses, including attorney's fee, arising from or based upon any violation or claimed violation of any such law, ordinance, rule, regulation, order, decree or other requirements, whether committed by the Contractor or any of his agents, servants, or employees.
27. Provisions Required by Law Deemed Inserted. Each and every provision of Law and clause required by Law to be inserted in the Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.
28. Massachusetts Sales and Use Tax. Materials and equipment purchased for permanent installation in this project will be exempt from the Massachusetts Sales and Use Tax. The exemption certificate number is E-046-001-148. Each Bidder shall take this exemption into account in calculating his Bid for the Work.
29. Utilities. Any temporary utility of the Contractor's convenience, other than as stated in the Contract, shall be the Contractor's responsibility and at his own expense.
30. Method of Payment to Contractor: The Town, so long as the Contractor continues to carry on the work, shall make monthly payments therefore as follows: Each month prior to the completion of the work done to date of the estimate and thereupon the Town shall deduct such estimate five percent (5%) thereof, and shall pay the balance of such estimate to the Contractor. Thirty (30) days after the satisfactory completion of the Work as determined by the Engineer, the Town shall pay the Contractor the final amount due and remaining to be paid under this Contract, deducting from said amount and keeping for its own, any expense incurred by the Town on account of defects, omissions or mistakes of the

Contractor in his Work, provided, however, that no final payment shall be made until all liens and claims against the Town and its officers, due to the work, are satisfied.

31. Open Excavations: All open excavations shall be adequately safe guarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The length of open trench will be controlled by the particular surrounding conditions, but shall always be confined to the limits prescribed by the Owner. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, special construction procedures shall be taken, such as limiting the length of open trench or requiring that the trench shall not remain open overnight.
32. Work During Inclement Weather: No work shall be done under these Specifications except by permission of the Owner when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the Contractor, upon the direction of the Owner, shall suspend all work until instructed to resume operations by the Owner. The contract time shall be extended to cover the duration of the order. Work damaged during periods of suspension due to inclement weather shall be repaired and/or replaced by the Contractor. No earth fill or embankment shall be placed upon frozen material. If there is a delay in the Work due to the weather conditions, the necessary precautions must be taken to bond new Work to old.

33. Notice to Utilities

Written notice shall be given by the Contractor to all public service corporations or officials owning or having charge of publicly or privately owned utilities of his intention to commence operations affecting such utilities at least one (1) week in advance of the commencement of such operations that may affect their utilities and the Contractor shall at the same time file a copy of such notice with the Owner.

Following are the names and addresses of the utilities presumed to be affected, but the completeness of the list is not guaranteed.

EVERSOURCE
484 Willow Street
Yarmouth, MA 02675
Attn. Mr. Brian Mello
(508) 790-9038

Falmouth Water Division
416 Gifford Street
Falmouth, MA 02540
Attn. Mr. Steve Rafferty
(508) 457-2543

National Grid
127 Whites Path
South Yarmouth, MA 02664
Attn. Mr. Peter Nagle
(508) 760-7500

Falmouth Fire Rescue Dept.
399 Main Street
Falmouth, MA 02540
Attn. Mr. Michael Small, Chief
(508) 457-2538

Verizon
44 Old Town House Road
So. Yarmouth, MA 02664
Attn. Mr. Daryl Crossman
(508) 884-4991

Falmouth Police Dept.
750 Main Street
Falmouth, MA 02540
Attn. Mr. Edward Dunne, Chief
(508) 457-2529

Comcast
35 Resnik Rd.
Plymouth, MA 02360

Falmouth Wastewater Division
416 Gifford Street
Falmouth MA 02540

Attn. Mr. Gene Lyczynski
(508) 732-0649

Attn. Ms. Amy Lowell
(508) 457-2543

Falmouth Engineering Division
416 Gifford Street
Falmouth, MA 02540
Attn: Mr. James McLoughlin
(508) 457-2543

Falmouth Highway Division
416 Gifford Street
Falmouth, MA 02540
Attn: Mr. Jim Grady
(508) 457-2543

34. Extra Work.

Extra work shall be defined as follows: Work which was not originally anticipated and/or contained in the contract; and therefore is determined by the Owner to be necessary for the proper completion of the project.

The Contractor shall do any work not herein otherwise provided for when and as ordered in writing by the Owner. Such written order shall be prior to the Contractor performing the work and shall set forth the Extra Work to be done, the basis of payment time adjustments, if any.

35. Payment for Extra Work will be made as follows:

- a. Where the Contract contains a unit price for work and the Owner orders extra work for work of the same kind as other work contained in the Contract and is performed under similar physical conditions, the Contractor shall accept full and final payment at the Contract unit prices for the accepted quantities of extra work done.
- b. An agreed upon lump sum payment offer to do the extra work as specified by the Owner. The Contractor shall submit the lump sum offer in writing.
- c. Unless an agreed lump sum and/or unit price is obtained from above, the Contractor shall accept as full payment for work or materials for which no price agreement is contained in the Contract, an amount equal to the following:
 - i. The actual cost for direct labor, material and equipment plus ten percent (10%) of this total for overhead;
 - ii. Plus actual cost of Workmen's Compensation and Liability Insurance, Health, Welfare and Pension benefits, Social Security deductions and Employment Security Benefits;
 - iii. Plus ten percent (10%) of the total of one (1) and two (2);
 - iv. Plus the estimated proportionate cost of surety bonds. For work performed by a sub-contractor, the Contractor shall accept full payment therefore an amount equal to the cost to the Contractor of such work as determined by the Owner, plus ten percent of such cost. No allowance shall be made for general superintendence and the use of small tools and manual equipment.

36. Guarantee

The Contractor guarantees that the Work and Services to be performed under the Contract, and all workmanship, materials, and equipment performed, furnished, used or

installed in the construction of the same shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Drawings, Specifications, and other Contract documents, that the strength of all parts of all manufactured equipment shall be adequate and as specified and that the performance test requirements of the Contract shall be fulfilled. This guarantee shall be for a period of one year, unless noted otherwise, from and after the date of completion and acceptance of the Work as stated in the final estimate. If part of the Work is accepted in accordance with that sub-section of this AGREEMENT titled "Partial Acceptance", the guarantee for that part of the Work shall be for a period of one (1) year from the date fixed for such acceptance.

If at any time within the said period of guarantee any part of the Work requires repairing, correction, or replacement, the Owner may notify the Contractor in writing to make the required repairs, correction, or replacements. If the Contractor neglects to commence making such repairs, corrections, or replacements to the satisfaction of the Owner within ten (10) days from the date of receipt of such notice, or having commenced fails to prosecute such Work with diligence, the Owner may employ other persons to make said repairs, correction, or replacements, including compensation for additional professional services, shall be paid by the Contractor.

Any settling of backfilled trenches that may occur during the guaranty-warranty period shall be repaired by Contractor at no additional expense to Owner, including the complete restoration of all plantings, paving, or other improvements of any kind, damaged as a result thereof.

37. Boycott

The Contractor shall not participate in or cooperate with an international boycott, as defined in Section 999 (b) (3) and (4) of the Internal Revenue Code of 1954, as amended, or engage in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws.

38. Safety and Health Regulations

This project is subject to the Safety and Health regulations of the U.S. Department of Labor set forth in 29 CFR, Part 1926, and to the Massachusetts Department of Labor and Industries, Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations" (Chapter 454 CMR 10.00 et seq.). Contractors shall be familiar with the requirements of these regulations.

The Successful Bidder shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).

The Successful Bidder shall have a competent person or persons, as required under the Occupational Safety Health Act on the Site to inspect the Work and to supervise the conformance of the Work with the regulations of the Act.

39. Manufacturer's Experience

Wherever it is written that an equipment manufacturer must have a specified period of experience with its product, equipment which does not meet the specified experience period can be considered if the equipment supplier or manufacturer is willing to provide a

bond or cash deposit for the duration of the specified time period which will guarantee replacement of that equipment in the event of failure. Such bond shall be an Efficiency Guarantee Bond executed on a form to be approved by the Owner.

40. Access to Work

Representatives of the Commonwealth and any local agencies having a direct interest in the Work shall have access to the Work under this contract wherever it is in preparation or progress and the Contractor shall provide proper facilities for such access and inspection.

41. Laws and Regulations

Applicable provisions of Massachusetts General Laws and Regulations and/or the United States Code and Code of Federal Regulations Govern this Contract and any provision violation of the foregoing shall be deemed null, void and of no effect. Where conflict between Code of Federal Regulations and State Laws and Regulations exist, the more stringent requirement shall apply.

42. Daily Cleanup

- a. The Contractor shall clean up, at least daily, all refuse, rubbish, scrap and surplus material, debris and unneeded construction equipment resulting from the construction operations and sweep the area. The site of the work and the adjacent areas affected there shall at all times present a neat, orderly and workmanlike appearance.
- b. Upon written notification by the Owner, the Contractor shall within 24 hours clean up those areas, which in the Owner's opinion are in violation of this section and the above referenced sections of the specifications.
- c. If in the opinion of the Owner, the referenced areas are not satisfactorily cleaned up, all other work on the project shall stop until the cleanup is satisfactory.

43. Sequence of Work

The Contractor shall submit to the Owner a proposed construction schedule with their bid, an updated construction schedule five (5) days prior to the pre-construction conference, and shall provide revised schedules should progress of the work vary from the proposed schedule. The schedule shall indicate all important construction activities and milestones and shall provide for the proper sequence of construction giving consideration for purchasing time, submittal approval process, material delivery, and other similar time consuming factors. The schedule shall include start and finish times and it shall be updated at least every month and submitted with the periodic payment estimates. The schedule items developed shall correspond to all of the items of the schedule of values and payments estimates.

44. Final Cleanup

Before acceptance by the Owner, the Contractor shall perform a final cleanup to bring the construction site to its original or specified condition. This cleanup shall include removing all trash and debris off of the premises. Before acceptance, the Owner shall approve the condition of the site.

45. Hours of Construction Activity

Contractor shall conduct all construction activity between 7:00 A.M. and 6:00 P.M., Monday through Friday. No construction work shall be allowed on Saturdays, Sundays, or Holidays without written authorization from the Town.

46. Project Record Documents

Keep accurate record documents for all additions, substitution of material, variations in work, and any other revisions to the Contract Documents.

47. Contractor's Representative

The Contractor shall designate a representative who will be available to respond to emergency calls by the Town at any time day and night and on weekends and holidays should such a situation arise.

48. Pre-construction Conference

The Owner will schedule the pre-construction conference after the Town issues the Notice of Award. Representatives of the Town, the Consultant, and the Contractor shall attend. The agenda shall include, but not be limited to, the following:

- a. Distribution of extra sets of contract documents.
- b. Submission of list of Subcontractors, list of products, schedule of values, and the progress schedule.
- c. Designation of personnel representing the parties of the Contractor and the Town.
- d. Procedures and processing of submittal, substitutions, applications for payments, change orders and contract closeout procedures.

49. Coordination of Work

The General Contractor shall be responsible for coordinating his own work as well as that of any subcontractors. He shall be responsible for notification of the Consultant when each phase of work is expected to begin and the approximate completion date.

50. Time for Completion of Contract

- a. Work on site may commence on or about December 15, 2024.
- b. The Work will be substantially complete by June 30, 2025.

Note that certain work is limited to specific dates in the Order of Conditions and Related Permits.

- c. The final inspection by the Owner and Consultant, resulting in a punch list of non-compliant items, will be conducted no later than July 31, 2025.
- d. The issues listed in the punch list must be resolved by contractor to the Owner's satisfaction by August 31, 2025.

- e. After receiving the Notice to Proceed the Contractor shall submit for approval, the construction schedule that states the dates on which each task will be started and completed including a final completion date.

51. Site Security

The Contractor shall be responsible for site security to prevent vandalism and accidents by unauthorized access to the site prior to completion of the work.

52. Construction Permits

The Contractor shall obtain, pay, and be responsible for necessary construction permits from those authorities having jurisdiction over the land, utilities, or structures which are located within the limits of work which will be impacted by the Contractor's operations.

53. Electric Power

Contractor is responsible for providing all necessary power to execute the work.

54. Award of Contract

The Contract will be awarded within 120 calendar days after the actual date of the opening of the bids to the lowest responsible and eligible Bidder (Successful Bidder). Such a Bidder shall possess the skill, ability, and integrity necessary for the faithful performance of the work. The term "lowest responsible and eligible Bidder" as used herein shall mean the Bidder whose Bid is the lowest of those Bidders possessing the skill, ability, and integrity necessary to the faithful performance of the Work.

Owner reserves the right to reject any and all Bids; to waive any and all informalities if it is in the Owner's best interest to do so, and the right to disregard all non-conforming, non-responsive or conditional Bids.

The award of all bids shall be made by the Board of Selectmen at a regular meeting.

55. Notice to Proceed

The Town, after the execution of the Contract, will send the "Notice to Proceed" to the Contractor within 30 calendar days.

SECTION III
SPECIAL CONDITIONS

Defined Terms.

“Town” or “Owner” – Town of Falmouth

“Consultant”, “Engineer” or “Owner’s Representative” -Inter-Fluve for all portions of the restoration and Stephen Stimson for stream crossings and boardwalks.

Work Schedule. Work on this project is restricted to a normal 8-hour day, 5-day week with the Prime Contractor and all Subcontractors working on the same shift.

No work will be done on this contract on Saturdays, Sundays or Holidays without prior approval by the Owner.

Existing Utilities. All utilities as shown on the plans are as best as can be obtained from available information. The Contractor is to further check with the Town of Falmouth Water Division, Falmouth Wastewater Division, Falmouth Board of Health, Eversource, National Grid, Comcast, and Verizon for exact location of utilities as shown and those not shown. Call Dig Safe prior to the start of any excavation.

Property Corners. The Contractor shall replace any and all existing property corners and markers (i.e., iron pins, stone monuments, etc.) that are moved during the Contract. Replacement of these corners and markers shall be done at the Contractor's own expense.

Underground Utilities. The Contractor shall be responsible for any damage that occurs to the underground utilities (i.e., sanitary sewer lines etc.). Caution is to be exercised when the Contractor is crossing these lines.

The Contractor's attention is directed to the necessity of making his own investigation in order to assure that no damage to existing structures, drainage lines, traffic signal conduits, etc., will occur.

The Contractor shall notify "Mass. DIG SAFE" and procure a DIG SAFE number for each location prior to disturbing existing ground.

Dust Control. The Contractor shall take all necessary precautions to prevent and abate nuisance caused by dust arising from his operations. Approved methods applicable to various parts of the work such as application of water spray, oils, tars, emulsions, or calcium shall be employed.

Final Payment Constitutes Release. The acceptance by the Contractor of the final payment of the five percent (5%) withheld shall operate as a release to the Town of all claims and all liabilities to the Contractor for all work done or materials furnished in connection with the Work.

The payment to the Contractor of said final payment does not, however, release him or his sureties from any obligation under this Contract.

Hauling, Handling and Storage of Materials. The Contractor, shall, at his own expense, handle and haul all material furnished by him and shall remove any of his surplus materials at the completion of the Work. The Contractor shall provide suitable and adequate storage for equipment and materials furnished by him that are liable to injury and shall be responsible for any loss of or damage to any equipment or materials by theft breakage or otherwise. The Contractor shall be responsible for all damage to the work under construction during its progress and until final completion and acceptance even though partial payments have been made under the Contract.

Insufficiency of Safety Precautions. If, at any time, in the judgment of the Owner, the Work is not properly made safe in regard to public travel, persons on or about the Work, or public or private property, the Owner shall have the right to order such safeguards to be erected and such precautions to be taken as he deems advisable, and the Contractor shall comply promptly with such precautions to be taken as he deems advisable, and the Contractor shall comply promptly with such orders. If, under such circumstances, the Contractor does not or cannot immediately put the work and the safeguard into proper and approved condition or if the Contractor or his representative is not upon the site so that he can be notified immediately of the insufficiency of safety precautions, the Owner may put the work into such condition that it shall be in his opinion, in all respects safe. The Contractor shall pay all costs and expenses incurred by the Owner in so shall pay all costs and expenses, losses liability, claims, suits, proceedings, judgments, awards or damages resulting from, by reason of, or in connection with any failure to take safety precautions or the insufficiency of the safety precautions taken by him or by the Owner acting under authority of this subsection.

Precedence between Drawings and Specifications. In the case of conflict between the dimensions shown on the Plans or detail drawings and those in the Specifications, the dimensions on the Drawings shall govern. If the conflict is other than dimensions, the Specifications shall govern.

Construction Staking. All surveying needed or incidental to the layout or construction staking shall be the responsibility of the Contractor. Stakes and markers shall be provided as necessary to control the work and assure construction is in conformance to the Plans and Specifications, enable inspection and/or observation of the work by the Government, Town or its designated representatives, and as otherwise indicated by the Engineer. Following staking of the work, the Engineer may make field-based adjustments to the layout as necessary to meet current site conditions; Contractor shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without prior written approval of Owner.

Work to Conform. During its progress and on its completion, the Work shall conform to the lines, levels, and grades indicated on the Drawings or given by the Owner

and shall be built in a work man like manner, in strict accordance with the Drawings, Specifications, and other Contract documents and the directions given from time to time by the Owner. Contractor shall be solely responsible for ensuring that constructed work conforms to the lines and grades as indicated. Owner and/or Engineer may make periodic spot measurements to check conformance with the lines and grades.

Electrical Energy. The Contractor shall make all necessary applications and arrangements and pay all fees and charges for electrical energy for power and light necessary for the proper completion of the work and during its entire progress. The Contractor shall provide and pay for all temporary wiring, switches connections and meters.

The Contractor shall provide sufficient electric lighting so that all Work may be done in a work man like manner when there is not sufficient daylight.

Sanitary Regulations. Sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers in such manner and at such locations as may be approved. The contents shall be removed and disposed of in a satisfactory manner as the occasion requires. The Contractor shall rigorously prohibit the committal of nuisances within, on or about the work. Any employees found violating these provisions shall be discharged and not again employed on the work without the written consent of the Owner. The sanitary conveniences specified above shall be the obligation and responsibility of the Contractor.

Coordination with Utility Companies. The Contractor shall notify all utility companies at least fourteen (14) days in advance of his proposed date of start of work in any area where utilities may be affected.

The Contractor shall coordinate with the utility companies and shall allow the utility companies unhampered access to the construction site. The Contractor shall satisfy himself as to the existing conditions of the areas in which he is to perform his work. He shall conduct and arrange his work so as not to impede or interfere with the work of other contractors working in the same or adjacent areas.

Control of Material. Only new materials and equipment shall be incorporated in the work. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the Owner. No material shall be delivered to the Work without prior approval of the Owner.

As soon as possible after the Contract has been executed, the Contractor shall submit to the Owner data relating to materials and equipment he proposes to furnish for the work. Such data shall be in sufficient detail to enable the Owner to identify the particular product and to form an opinion as to its conformity to the Specifications.

The Contractor shall submit shop drawings to the Owner in accordance with the requirements stated in the General Conditions as supplemented.

Facilities and labor for handling and inspection of all materials and equipment shall be furnished by the Contractor. If the Owner requires, either prior to beginning or during the progress of the work, the Contractor shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the Specifications. Such samples shall be furnished, stored, packed, and shipped as directed at the Contractor's expense.

The Contractor shall submit data and samples sufficiently early to permit consideration and approval before materials are necessary for incorporation in the work. Any delay of approval resulting from the Contractor's failure to submit samples or data promptly shall not be used as a basis of a claim against the Owner.

The materials and equipment used on the Work shall correspond to the approved samples or other data.

All materials and equipment to be incorporated in the Work shall be handled and stored by the Contractor before, during and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting and any injury, theft or damage of any kind whatsoever to the material or equipment.

Cement, sand and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All miscellaneous and reinforcing steel shall be stored off the ground or otherwise to prevent accumulations of dirt or grease, and in a position to prevent accumulations of standing water and to minimize rusting.

All materials which, in the opinion of the Owner, have become so damaged as to be unfit for the use intended or specified shall be promptly removed from the site of the work, and the Contractor shall receive no compensation for the damaged material or its removal. All pipe and other materials delivered to the job shall be unloaded and placed in manner which will not interfere with the flow of necessary traffic.

Care shall be taken when unloading materials, including but not limited to pipe, fittings, valves, and hydrants at the site. Materials shall not be dropped when unloaded. The Contractor shall use a backhoe with adequate slings, chairs, etc., subject to the approval of the Owner, for unloading the material. Chains and cables shall not be used. Materials damaged during unloading shall not be used in the Work and shall be removed from the site.

Submittals. Contractor shall make the following submittals to Owner and Engineer for their evaluation consistent with the timing indicated below:

- a. Construction Schedule- Contractor shall submit a construction schedule with their bid. Five (5) days prior to the pre-construction conference, the Contractor shall submit to the Owner and Engineer a revised schedule illustrating the anticipated commencement date and duration of each of the major work tasks. The schedule shall address the phasing of construction in a manner that will provide good project coordination. The Contractor will be required to update or modify the written

construction schedule as necessary to accurately reflect the rate and progress on the project.

b. Materials and Method Submittals listed in the table below:

Submittal	Required Timing and Description
Construction Schedule	Submitted with bid, with revised schedule five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
Itemized List of Mobilization Costs (Section 01 71 13)	At pre-construction conference.
Construction Operations Plan that details the Contractor's approach to the project, including the temporary access design, updated construction sequencing plan, water management plan, Storm Water Pollution Prevention Plan, spill prevention plan, traffic control plan, and demolition plan.	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
3-Year Plant Maintenance Plan (Section 32 90 00)	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
Planting Operations Plan (Section 32 90 00)	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
Invasive Plant Management Plan (Section 32 90 00)	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
<p>Materials Certifications and/or Methods Descriptions for the following items:</p> <p>Coir Fabrics (Section 31 23 00)</p> <p>Riffle Aggregate (Section 31 23 00)</p> <p>Large Wood Logs, Vertical Timber Piles, and Rootwads (Section 31 22 00)</p> <p>Seed Mixes (Section 32 90 00)</p>	Approved submittal required prior to delivery of material to site or implementation of method.

Containerized Plants (Section 32 90 00)	
Metal Fabrications Shop Drawings and Welders Certification (Section 05 55 00)	
Heavy Timber (Section 06 13 00)	
Wood Decking Shop Drawings and Certificates (Section 06 15 00)	
Stabilized Aggregate (Section 32 15 43)	

Protection of Utilities and Properties. In case of damages of utilities, the Contractor shall promptly notify the Owner and shall, if requested, furnish manpower at the Owner's direction in getting access to the utility. Pipes or other structures damaged by the operation of the Contractor may be repaired by the Owner, either the municipality or the utility company. The cost of such repair shall be borne by the Contractor without compensation.

Any temporary utility for the Contractor's convenience, other than as stated in the Contract, shall be the Contractor's responsibility and at his own expense.

SECTION IV

PROPOSAL

BIDDER and his surety, where appropriate, have completed and executed the attached documents, which are identified below.

TO: Town of Falmouth, Massachusetts represented by the Department of Public Works.

A. The undersigned hereby proposes to furnish all labor, materials, equipment and tools incidental thereto; for Coonamessett River Restoration and Boardwalk Construction and to do and complete all work in its entirety in the manner and under the conditions required and stated in the Specifications and at the prices listed below and for the time period set forth.

B. This Bid includes Addenda Number _____

Base Bid: Coonamessett River Restoration

The sum of _____ Dollars

\$ _____

The Base Bid includes the following Unit Pricing:

BID UNIT PRICING

<u>Item</u>	<u>Unit</u>	<u>Approx. Quantity</u>	<u>Unit Price</u>
Mobilization & Demobilization	LS	1	_____
Demolition	LS	1	_____
Clearing and Grubbing	LS	1	_____
Erosion, Pollution & Water Control	LS	1	_____
Hatchville Road Culvert Backfill	LS	1	_____
Earthwork (Perimeter Ditches/ Uplands/Berms)	CY	1000	_____
Earthwork (Channel/Wetlands)	CY	2,500	_____
Microtopography	DAY	8	_____
Riffle Aggregate	TON	25	_____
Surface Fabric	SY	40	_____
Salvaged Saplings	EA	106	_____
Logs and Vertical Timber Piles (Contractor Supplied)	EA	292	_____
Logs With Rootwads (Contractor Supplied)	EA	253	_____
Slash	DAY	6	_____
Sphagnum Moss Salvage and Transplant	AC	0.5	_____
Transitional Zone Seeding	AC	1.5	_____
Upland Zone Seeding	AC	0.5	_____

1-Gallon Shrubs	EA	800	_____
2-Gallon Trees	EA	700	_____
5-Gallon Trees	EA	50	_____
Follow-Up Invasive Plant Management	DAY	16	_____
Crossing 1	LS	1	_____
Crossing 2	LS	1	_____
Crossing 3	LS	1	_____
Crossing 4	LS	1	_____
ADA Path	SF	8,500	_____

- A. The Undersigned agrees that, if they are selected as General Contractor, they will, within ten (10) calendar days after presentation thereof by the Awarding Authority, execute a Contract in accordance with the terms of this General Bid and furnish a performance Bond and also a Labor and Material or Payment Bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority, and each in the sum of 100% of the Contract Price, the premiums for which are to be paid by the General Contractor and are included in the Contract Price.
- B. The Undersigned Agrees to complete the work within the time frame specified. The Contract will be awarded within 30 calendar days after the actual date of the opening of the Bids. A "Notice" to proceed will be issued within thirty (30) calendar days after both parties sign the agreement.
- C. If the Bidder is a corporation, indicate State of Incorporation under the signature and affix corporate seal; if a partnership, give full names and residential address of all partners; and if an individual, give residential address if different from business address.
- D. If the Bidder to whom the Contract is awarded is a corporation; an affidavit giving the Principal the right to sign the Contract must accompany the executed Contract.

Company Name

Authorized Signature

Contractor's Federal Tax ID No.

Name & Title (type or print)

Mailing Address

Telephone #

City

State

Zip

Date

NOTE: The following forms must be filled out in their entirety by the Bidder and submitted with the Bid.

1. Proposal Bid Sheets (including a 5% Bid Bond).
2. Bidding Contractors must submit three references capable of verifying the Bidding Contractors' qualifications.
3. Bidding Contractors must submit Statement of Bidder's Qualifications (Section XVII).
4. Certificate of Vote (if applicable).
5. Non-Collusive Resolution and Non-Debarment Certification (Section V).
6. EEO/AA Certification and References (Section VI).
7. State Taxes Certificate Clause (Section VII).
8. Contractor's Certification (Section IX).
9. Statement of Compliance (Section X).
10. Bankruptcy Statement (Section XI).
11. Proposed Schedule Timeline include Begin Date and Completion Date. List various activities and associated timelines.

Failure to fill out and submit all of the above forms may result in the Bid being declared Non-Responsive and not eligible for award consideration at the discretion of the Town of Falmouth.

CERTIFICATE OF VOTE
(to be filed if Contractor is a Corporation)

I, _____, hereby certify that I am a duly qualified and
(Secretary of the Corporation)

Acting Secretary of _____
(Name of Corporation)

and I further certify that a meeting of the Directors of said company, duly called and held on

_____, at which time all Directors were present and voting, the
(Date of Meeting)

following vote was unanimously passed:

VOTED: To authorize and empower

anyone acting singly, to execute Forms of General Bid, Contracts or bonds on behalf of the Corporation.

I further certify that the above is still in effect and has not been changed or modified in any respect.

By: _____
(Secretary of Corporation)

True Copy:

Attest: _____
(Notary Public)

My commission expires: _____

SECTION V

NON-COLLUSIVE RESOLUTION

The undersigned certifies, under the provisions of Chapter 701 of the Acts of 1983 and under the penalties of perjury, that this is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this Section, the word "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.

DATE: _____

SIGNATURE: _____

The required names, address, and telephone numbers of all persons interested in the foregoing Bid, as Principals, are as follows:

NON-DEBARMENT CERTIFICATE

"The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of Section Twenty-Nine F of Chapter Twenty-Nine, or any other applicable debarment provisions of any other Chapter of the General Laws of any rule or regulation promulgated hereunder".

NAME: _____

TITLE: _____

SIGNATURE: _____

DATE: _____

SECTION VI

EEO/AA CERTIFICATE

The Bidder hereby certifies he/she shall comply with the minority manpower ration and specific action steps contained in SECTION IX attached here, including compliance with the minority contractor compliance specified in Section V of said Appendix. The Contractor receiving the award of the Contract shall be required to obtain from each of its sub-contractors and submit to the Contracting or Administering Agency prior to the performance of any work under this Contract, a Certification by said sub-contractor, regardless of tier, that they will comply with the minority manpower and specific Affirmative Action steps contained in the EEO/AA Program.

NAME:

TITLE:

SIGNATURE:

DATE:

REFERENCES

The Bidder is requested to state below what work is of a similar character to that included in the proposed Contract he has done and to give references that will enable the Owner to judge his experience, skill and business standing. List Name, Title and Telephone Numbers of references:

<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
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SECTION VII

STATE TAXES CERTIFICATE CLAUSE

I, certify under the penalties of perjury that I, to my best knowledge and belief, have filed all State (Commonwealth of Massachusetts) tax returns and paid all State (Commonwealth of Massachusetts) taxes under law.

By: _____

*Signature of Individual or Corporate Name (Mandatory) Corporate Officer (Mandatory, if applicable)

**Social Security No. or Federal I.D. No.

*Approval of a Contract or other agreement will not be granted unless the applicant signs this Certificate Clause.

** Your Social Security Number will be furnished to the Massachusetts Department of Revenue to determine whether you have met tax filing or tax payment obligations. Providers who fail to correct their non-filing or delinquency will not have a Contract or other Agreement issued, renewed or extended. This request is made under the authority of Massachusetts General Laws, Chapter 62C, Section 49A.

SECTION VIII

TOWN OF FALMOUTH

SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY

ANTI-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM

- I. For the purposes of this Contract, "minority" refers to Asian Americans, Blacks, Spanish Surnamed Americans, North American Indians, and Cape Verdeans. "Commission" refers to the Massachusetts Commission Against Discrimination. "Town" hereinafter refers to the Town of Falmouth.
- II. During the performance of this Contract, the Contractor and all of (his) Sub-contractors (hereinafter collectively referred to as the Contractor), for himself, his assignee, and successors in interest, agree as follows:
 1. In connection with the performance of work under this Contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color religious creed, national origin, age, or sex. The aforesaid provisions shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment advertising, recruitment; termination; rates of pay or other forms of compensation; conditions or privileges of employment, and selection of apprenticeship. The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Town setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (M.G.L. Chapter 151B).
 2. In connection with the performance of work under this Contract, the Contractor shall undertake in good faith Affirmative Action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age, or sex, and to eliminate and remedy any effects of such discrimination in the past. Such Affirmative Action shall entail positive and aggressive measures to ensure equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, and in-service or apprenticeship training programs. This Affirmative Action shall include all action required to guarantee equal opportunity in employment for all persons, regardless of race, color, religious creed, national origin, age, or sex. A purpose of this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this and future Town public construction projects.
- III.
 1. As part of this obligation of remedial action under the foregoing section, the Contractor shall maintain on this project a not less than 5% ratio of minority employee man hours to total man hours in each job category including but not limited to brick-layers, carpenters, cement masons, electricians, ironworkers, operating engineers, and those "classes of work" enumerated in Section 44C of Chapter 149 of the Massachusetts General Laws.

2. In the hiring of minority journeymen, apprentices, trainees, and advanced trainees, the Contractor shall rely on referrals from a multi-employer Affirmative Action program by the Town, traditional referral methods utilized by the construction industry, and referrals from agencies, not more than three in number at any time, designated by the Liaison Committee or the Town.

IV.

1. At the discretion of either the Commission or the Town, there may be established for the life of this Contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of one representative each from the agency or agencies administering this project, hereinafter called the administering agency, the Town and such other representatives as may be designated by the Town in conjunction with the administering agency.
2. The Contractor (or his agent, if any, designated by him as the on-site equal employment opportunity officer) shall recognize the Liaison Committee as an Affirmative Action body and shall establish a continuing working relationship with the Liaison Committee, consulting with the Liaison Committee on all matters related to minority recruitment, referral, employment and training.
3. The Contractor shall prepare projected manning tables on a quarterly basis. These shall be broken down into projections by week, or workers required in each trade. Copies shall be furnished one (1) week in advance of the commencement of the period covered, and also when updated, to the Town and Liaison Committee.
4. Records of employment referral orders, prepared by the Contractor shall be available to the Town and to the Liaison Committee on request.
5. The Contractor shall prepare weekly reports in a form approved by the Town of hours worked in each trade by each employee, identified as minority or non-minority. Copies of these shall be provided at the end of each week to the Town and to the Liaison Committee.

V. If the Contractor shall use any sub-contractor on any work performed under this Contract, he shall take affirmative action to negotiate with qualified sub-contractors. This affirmative action shall cover both pre-bid and post-bid periods. It shall include notification to the Office of Minority Business Assistance (within the executive Office of Commerce and Development) or its designer, while bids are in preparation of all products work or service for which the Contractor intends to negotiate bids.

VI. In the employment of journeymen, apprentice's, trainees and advanced trainees, the Contractor shall give preference, first, to citizens of the Commonwealth who have served in the Armed Forces of the United States in time of war and have been honorably discharged there from or released from active duty therein, and who are qualified to perform the work to which the employment relates, and secondly, to citizens of the Commonwealth generally, and if such cannot be obtained in sufficient numbers, then to citizens of the United States.

VII. A designee of the Town and a designee of the Liaison Committee shall each have right of access to the construction site.

VIII. Compliance with Requirements.

The Contractor shall comply with the provisions of Executive Order No.74, as amended by executive Order No.116 dated May 1, 1975, and of Chapter 151B as amended, of the Massachusetts General Laws, both of which are herein incorporated by reference and made a part of this Contract.

IX. Non-Discrimination.

The Contractor, in performance of all work after award, and prior to completion of the Contract work, will not discriminate on grounds of race, color, religious creed, national origin, age or sex in employment practices, in the selection or retention of sub-contractors, or in the procurement of materials and rentals of equipment.

X. Solicitations for Sub-Contractors, and for the Procurement of Material and Equipment.

In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a sub-contractor or for the procurement of materials or equipment. Each potential sub-contractor supplier shall be notified in writing by the Contractor of the Contractor's obligations under this Contract relative to non-discrimination and Affirmative Action.

XI. Bidders Certification Requirement.

The following certification statement will be inserted in the Bid document just above the bidder's signature, as a substitute for the present bidder Certification Form: "The bidder hereby certifies he shall comply with the minority manpower ratio and specific steps contained in the Appendix EEO attached hereto, including compliance with the Minority Contractor Compliance specified in Section V of said Appendix. The Contractor receiving the award of the Contract shall be required to obtain from each of its sub-contractors and submit to the contracting or administering agency prior to the performance of any work under said Contract a certification by said sub-contractor, regardless of tier, that it will comply with the minority manpower ration and specific affirmative steps contained in the Appendix EEO".

XII. Contractor's Certification.

The Contractor's Certification form must be signed by all successful low bidder(s) prior to award by the contracting agency. (See attachment)

XIII. Compliance-Information, Reports and Sanctions.

1. The Contractor will provide all information and reports required by the administrating agency or the Town on instructions issued by either of them and will permit access to its facilities and any books, records, accounts and other sources of information, which may be determined by the Town to affect the employment of personnel. This provision shall apply only to information pertinent to the Town's supplementary Affirmative Action Contract requirements. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the administering agency or the Town as appropriate and shall set forth what efforts he has made to obtain the information.
2. Whenever the administrating agency, the Town, or the Liaison Committee believes the General Contractor or any Sub-Contractor may not be operating in compliance

with the terms of this Section, the Town directly or through its designated agent, shall conduct appropriate investigation, and may confer with the parties, to determine if such Contractor is operating in compliance with the terms of this Section. If the Town or its agent finds the General Contractor or any Sub-contractor not in compliance, it shall make a preliminary report on non-compliance, and notify such Contractor in writing of such steps as will in the judgment of the Town or its agent bring such Contractor into compliance. In the event that such Contractor fails or refuses to fully perform such steps, the Town shall make a final report of non-compliance, and recommend to the administering agency the imposition of one or more of the sanctions listed below. If however, the Town believes the General Contractor or any Sub-Contractor has taken or is taking every possible measure to achieve compliance, it shall not make a final report of non-compliance. Within fourteen (14) days of the receipt of the recommendations of the Town the administering agency shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement.

- A. The recovery by the administering agency from the General Contractor of 1/100 of 1% of the Contract award price or \$1000 whichever sum is greater, in the nature of liquidated damages or, if a Sub-Contractor is in non-compliance, the recovery by the administering agency from the General Contractor, to be assessed by the General Contractor as a back charge against the Sub-Contractor, of 1/10 of 1% of the Sub-Contractor price, or \$400 whichever is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply.
 - B. The suspension of any payment or part thereof due under the Contract until such time as the General Contractor or any Sub-Contractor is able to demonstrate his compliance with the terms of the Contract.
 - C. The termination, or cancellation, of the Contract, in whole or in part, unless the General Contractor or any Sub-Contractor is able to demonstrate within a specified time his compliance with the terms of the Contract.
 - D. The denial to the General Contractor or any Sub-Contractor of the right to participate in any future contracts awarded by the administering agency for a period of up to three years.
3. If at any time after the imposition of one or more of the sanctions a Contractor is able to demonstrate that he is in compliance with this Section, he may request the administering agency, in consultation with the Town, to suspend the sanctions conditionally, pending a final determination by the Town as to whether the Contractor is in compliance. Upon final determination of the Town, the administering agency, based on the recommendation of the Town, shall either lift the sanctions or re-impose them.
 4. Sanctions enumerated under Sections XII-2 shall not be imposed by the administering agency except after an adjudicatory proceeding, as that term is used M.G.L. c. 30A, has been conducted. No investigation by the Town or its agent shall be initiated without prior notice to the Contractor.

XIV. Severability.

The provisions of this Section are severable, and if any court of competent jurisdiction the decision of such court shall hold any of these provisions unconstitutional shall not affect or impair any of the remaining provisions.

SECTION IX

CONTRACTOR'S CERTIFICATION

A. Name of Project: _____

A Sub-contractor will not be eligible for award of a Contract unless such Sub-contractor has submitted the following Certification, which is deemed a part of the resulting contract:

CONTRACTOR'S CERTIFICATION

_____ certifies that

1. It tends to use the following listed construction trades in the work under the Contract.

and

2. Will comply with the minority manpower ratio and specific Affirmative Action steps contained herein.

(Signature of Authorized Representative or Contractor)

SUB-CONTRACTOR'S CERTIFICATION

A. Name of Project: _____

A Sub-contractor will not be eligible for award of contract unless such Sub-contractor has submitted the following Certification, which is deemed a part of the resulting contract:

_____ certifies that

1. It tends to use the following listed construction trades in the work under the Contract.

and

2. Will comply with the minority manpower ratio and specific Affirmative Action steps contained herein

(Signature of Authorized Representative or Sub-Contractor)

SECTION XI

BANKRUPTCY STATEMENT

I/We certify that (name of firm) _____
*is NOT currently under any bankruptcy law or proceeding.

Signature of individual: _____
(or Corporate name)

By (Corporate Officer): _____
(mandatory, if applicable)

*If the firm is under any bankruptcy law or proceeding, a statement must be included which specifies any details of the proceeding which would affect the ability of the firm to carry out the provisions of this bid during the term of any contract resulting from this bid.

SECTION XII
PREVAILING WAGE RATES



MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: Town of Falmouth

Contract Number:

City/Town: FALMOUTH

Description of Work: River and bog restoration work; boardwalk construction

Job Location: 650 Sandwich Road, East Falmouth, MA 02540

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, the awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.
- This annual update requirement is generally not applicable to 27F "rental of equipment" contracts. For such contracts, the prevailing wage rates issued by DLS shall remain in effect for the duration of the contract term. However, if the prevailing wage rate sheet issued does not contain wage rates for each year covered by the contract term, the Awarding Authority must request updated rate sheets from DLS and provide them to the contractor to ensure the correct rates are being paid throughout the duration of the contract. Additionally, if an Awarding Authority exercises an option to renew or extend the contract term, they must request updated rate sheets from DLS and provide them to the contractor.
- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. For a sample payroll reporting form go to <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Contractors must obtain the wage schedules from awarding authorities. Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$39.95	\$15.07	\$18.67	\$0.00	\$73.69
	12/01/2024	\$39.95	\$15.07	\$20.17	\$0.00	\$75.19
	01/01/2025	\$39.95	\$15.57	\$20.17	\$0.00	\$75.69
	06/01/2025	\$40.95	\$15.57	\$20.17	\$0.00	\$76.69
	12/01/2025	\$40.95	\$15.57	\$21.78	\$0.00	\$78.30
	01/01/2026	\$40.95	\$16.17	\$21.78	\$0.00	\$78.90
	06/01/2026	\$41.95	\$16.17	\$21.78	\$0.00	\$79.90
	12/01/2026	\$41.95	\$16.17	\$23.52	\$0.00	\$81.64
	01/01/2027	\$41.95	\$16.77	\$23.52	\$0.00	\$82.24
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.02	\$15.07	\$18.67	\$0.00	\$73.76
	12/01/2024	\$40.02	\$15.07	\$20.17	\$0.00	\$75.26
	01/01/2025	\$40.02	\$15.57	\$20.17	\$0.00	\$75.76
	06/01/2025	\$41.02	\$15.57	\$20.17	\$0.00	\$76.76
	12/01/2025	\$41.02	\$15.57	\$21.78	\$0.00	\$78.37
	01/01/2026	\$41.02	\$16.17	\$21.78	\$0.00	\$78.97
	06/01/2026	\$42.02	\$16.17	\$21.78	\$0.00	\$79.97
	12/01/2026	\$42.02	\$16.17	\$23.52	\$0.00	\$81.71
	01/01/2027	\$42.02	\$16.77	\$23.52	\$0.00	\$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.14	\$15.07	\$18.67	\$0.00	\$73.88
	12/01/2024	\$40.14	\$15.07	\$20.17	\$0.00	\$75.38
	01/01/2025	\$40.14	\$15.57	\$20.17	\$0.00	\$75.88
	06/01/2025	\$41.14	\$15.57	\$20.17	\$0.00	\$76.88
	12/01/2025	\$41.14	\$15.57	\$21.78	\$0.00	\$78.49
	01/01/2026	\$41.14	\$16.17	\$21.78	\$0.00	\$79.09
	06/01/2026	\$42.14	\$16.17	\$21.78	\$0.00	\$80.09
	12/01/2026	\$42.14	\$16.17	\$23.52	\$0.00	\$81.83
	01/01/2027	\$42.14	\$16.77	\$23.52	\$0.00	\$82.43
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
	12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$39.28	\$9.65	\$17.80	\$0.00	\$66.73
	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
ASBESTOS WORKER (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (SOUTHERN MASS)</i>	06/01/2024	\$41.80	\$14.50	\$11.05	\$0.00	\$67.35
	12/01/2024	\$42.80	\$14.50	\$11.05	\$0.00	\$68.35
	06/01/2025	\$43.80	\$14.50	\$11.05	\$0.00	\$69.35
	12/01/2025	\$44.80	\$14.50	\$11.05	\$0.00	\$70.35
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
	12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$39.28	\$9.65	\$17.80	\$0.00	\$66.73
	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
2	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
3	70	\$33.68	\$7.07	\$14.23	\$0.00	\$54.98
4	75	\$36.09	\$7.07	\$15.24	\$0.00	\$58.40
5	80	\$38.50	\$7.07	\$16.25	\$0.00	\$61.82
6	85	\$40.90	\$7.07	\$17.28	\$0.00	\$65.25
7	90	\$43.31	\$7.07	\$18.28	\$0.00	\$68.66
8	95	\$45.71	\$7.07	\$19.32	\$0.00	\$72.10

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	08/01/2024	\$64.50	\$11.49	\$23.59	\$0.00	\$99.58
BRICKLAYERS LOCAL 3 (NEW BEDFORD)	02/01/2025	\$65.80	\$11.49	\$23.59	\$0.00	\$100.88
	08/01/2025	\$67.95	\$11.49	\$23.59	\$0.00	\$103.03
	02/01/2026	\$69.30	\$11.49	\$23.59	\$0.00	\$104.38
	08/01/2026	\$71.50	\$11.49	\$23.59	\$0.00	\$106.58
	02/01/2027	\$72.90	\$11.49	\$23.59	\$0.00	\$107.98

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 New Bedford

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.25	\$11.49	\$23.59	\$0.00	\$67.33
2	60	\$38.70	\$11.49	\$23.59	\$0.00	\$73.78
3	70	\$45.15	\$11.49	\$23.59	\$0.00	\$80.23
4	80	\$51.60	\$11.49	\$23.59	\$0.00	\$86.68
5	90	\$58.05	\$11.49	\$23.59	\$0.00	\$93.13

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.90	\$11.49	\$23.59	\$0.00	\$67.98
2	60	\$39.48	\$11.49	\$23.59	\$0.00	\$74.56
3	70	\$46.06	\$11.49	\$23.59	\$0.00	\$81.14
4	80	\$52.64	\$11.49	\$23.59	\$0.00	\$87.72
5	90	\$59.22	\$11.49	\$23.59	\$0.00	\$94.30

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$46.63	\$9.65	\$18.22	\$0.00	\$74.50
	12/01/2024	\$48.10	\$9.65	\$18.22	\$0.00	\$75.97
	06/01/2025	\$49.60	\$9.65	\$18.22	\$0.00	\$77.47
	12/01/2025	\$51.10	\$9.65	\$18.22	\$0.00	\$78.97
	06/01/2026	\$52.65	\$9.65	\$18.22	\$0.00	\$80.52
	12/01/2026	\$54.15	\$9.65	\$18.22	\$0.00	\$82.02
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.48	\$9.65	\$18.22	\$0.00	\$73.35
	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71	
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	09/01/2024	\$48.37	\$9.83	\$19.97	\$0.00	\$78.17
	03/01/2025	\$49.62	\$9.83	\$19.97	\$0.00	\$79.42
	09/01/2025	\$50.87	\$9.83	\$19.97	\$0.00	\$80.67
	03/01/2026	\$52.12	\$9.83	\$19.97	\$0.00	\$81.92
	09/01/2026	\$53.37	\$9.83	\$19.97	\$0.00	\$83.17
	03/01/2027	\$54.62	\$9.83	\$19.97	\$0.00	\$84.42

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
2	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
3	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
4	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
5	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
6	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
7	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77
8	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
2	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
3	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
4	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
5	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
6	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
7	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77
8	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77

Notes:

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME	10/01/2024	\$26.65	\$7.02	\$4.80	\$0.00	\$38.47
CARPENTERS-ZONE 3 (Wood Frame)	10/01/2025	\$27.75	\$7.02	\$4.80	\$0.00	\$39.57
	10/01/2026	\$28.85	\$7.02	\$4.80	\$0.00	\$40.67

All Aspects of New Wood Frame Work

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$57.15	\$15.30	\$16.40	\$0.00	\$88.85
	12/01/2024	\$58.63	\$15.30	\$16.40	\$0.00	\$90.33
	06/01/2025	\$59.96	\$15.30	\$16.40	\$0.00	\$91.66
	12/01/2025	\$61.43	\$15.30	\$16.40	\$0.00	\$93.13
	06/01/2026	\$62.76	\$15.30	\$16.40	\$0.00	\$94.46
	12/01/2026	\$64.24	\$15.30	\$16.40	\$0.00	\$95.94
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$36.17	\$15.30	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.12	\$15.30	\$16.40	\$0.00	\$68.82
	06/01/2025	\$37.97	\$15.30	\$16.40	\$0.00	\$69.67
	12/01/2025	\$38.92	\$15.30	\$16.40	\$0.00	\$70.62
	06/01/2026	\$39.78	\$15.30	\$16.40	\$0.00	\$71.48
	12/01/2026	\$40.73	\$15.30	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$9.95	\$0.00	\$0.00	\$38.58
2	55	\$31.49	\$9.95	\$6.66	\$0.00	\$48.10
3	60	\$34.36	\$9.95	\$7.26	\$0.00	\$51.57
4	65	\$37.22	\$9.95	\$7.87	\$0.00	\$55.04
5	70	\$40.08	\$9.95	\$20.32	\$0.00	\$70.35
6	75	\$42.95	\$9.95	\$20.93	\$0.00	\$73.83
7	80	\$45.81	\$9.95	\$21.53	\$0.00	\$77.29
8	90	\$51.53	\$9.95	\$22.74	\$0.00	\$84.22

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.23	\$9.95	\$0.00	\$0.00	\$39.18
2	55	\$32.15	\$9.95	\$6.66	\$0.00	\$48.76
3	60	\$35.08	\$9.95	\$7.26	\$0.00	\$52.29
4	65	\$38.00	\$9.95	\$7.87	\$0.00	\$55.82
5	70	\$40.92	\$9.95	\$20.32	\$0.00	\$71.19
6	75	\$43.85	\$9.95	\$20.93	\$0.00	\$74.73
7	80	\$46.77	\$9.95	\$21.53	\$0.00	\$78.25
8	90	\$52.61	\$9.95	\$22.74	\$0.00	\$85.30

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN	06/10/2024	\$45.53	\$9.65	\$18.40	\$0.00	\$73.58
LABORERS - ZONE 2	12/02/2024	\$47.00	\$9.65	\$18.40	\$0.00	\$75.05
	06/02/2025	\$48.50	\$9.65	\$18.40	\$0.00	\$76.55
	12/01/2025	\$50.00	\$9.65	\$18.40	\$0.00	\$78.05
	06/01/2026	\$51.55	\$9.65	\$18.40	\$0.00	\$79.60
	12/07/2026	\$53.05	\$9.65	\$18.40	\$0.00	\$81.10
	06/07/2027	\$54.65	\$9.65	\$18.40	\$0.00	\$82.70
	12/06/2027	\$56.25	\$9.65	\$18.40	\$0.00	\$84.30
	06/05/2028	\$57.93	\$9.65	\$18.40	\$0.00	\$85.98
	12/04/2028	\$59.60	\$9.65	\$18.40	\$0.00	\$87.65

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 2</i>	06/10/2024	\$46.53	\$9.65	\$18.40	\$0.00	\$74.58
	12/02/2024	\$48.00	\$9.65	\$18.40	\$0.00	\$76.05
	06/02/2025	\$49.50	\$9.65	\$18.40	\$0.00	\$77.55
	12/01/2025	\$51.00	\$9.65	\$18.40	\$0.00	\$79.05
	06/01/2026	\$52.55	\$9.65	\$18.40	\$0.00	\$80.60
	12/07/2026	\$54.05	\$9.65	\$18.40	\$0.00	\$82.10
	06/07/2027	\$55.65	\$9.65	\$18.40	\$0.00	\$83.70
	12/06/2027	\$57.25	\$9.65	\$18.40	\$0.00	\$85.30
	06/05/2028	\$58.93	\$9.65	\$18.40	\$0.00	\$86.98
	12/04/2028	\$60.60	\$9.65	\$18.40	\$0.00	\$88.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS <i>LABORERS - ZONE 2</i>	06/10/2024	\$46.28	\$9.65	\$18.40	\$0.00	\$74.33
	12/02/2024	\$47.75	\$9.65	\$18.40	\$0.00	\$75.80
	06/02/2025	\$49.25	\$9.65	\$18.40	\$0.00	\$77.30
	12/01/2025	\$50.75	\$9.65	\$18.40	\$0.00	\$78.80
	06/01/2026	\$52.30	\$9.65	\$18.40	\$0.00	\$80.35
	12/07/2026	\$53.80	\$9.65	\$18.40	\$0.00	\$81.85
	06/07/2027	\$55.40	\$9.65	\$18.40	\$0.00	\$83.45
	12/06/2027	\$57.00	\$9.65	\$18.40	\$0.00	\$85.05
	06/05/2028	\$58.68	\$9.65	\$18.40	\$0.00	\$86.73
	12/04/2028	\$60.35	\$9.65	\$18.40	\$0.00	\$88.40

For apprentice rates see "Apprentice- LABORER"

DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 2</i>	06/10/2024	\$46.53	\$9.65	\$18.40	\$0.00	\$74.58
	12/02/2024	\$48.00	\$9.65	\$18.40	\$0.00	\$76.05
	06/02/2025	\$49.50	\$9.65	\$18.40	\$0.00	\$77.55
	12/01/2025	\$51.00	\$9.65	\$18.40	\$0.00	\$79.05
	06/01/2026	\$52.55	\$9.65	\$18.40	\$0.00	\$80.60
	12/07/2026	\$54.05	\$9.65	\$18.40	\$0.00	\$82.10
	06/07/2027	\$55.65	\$9.65	\$18.40	\$0.00	\$83.70
	12/06/2027	\$57.25	\$9.65	\$18.40	\$0.00	\$85.30
	06/05/2028	\$58.93	\$9.65	\$18.40	\$0.00	\$86.98
	12/04/2028	\$60.60	\$9.65	\$18.40	\$0.00	\$88.65

For apprentice rates see "Apprentice- LABORER"

DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 2</i>	06/10/2024	\$46.28	\$9.65	\$18.40	\$0.00	\$74.33
	12/02/2024	\$47.75	\$9.65	\$18.40	\$0.00	\$75.80
	06/02/2025	\$49.25	\$9.65	\$18.40	\$0.00	\$77.30
	12/01/2025	\$50.75	\$9.65	\$18.40	\$0.00	\$78.80
	06/01/2026	\$52.30	\$9.65	\$18.40	\$0.00	\$80.35
	12/07/2026	\$53.80	\$9.65	\$18.40	\$0.00	\$81.85
	06/07/2027	\$55.40	\$9.65	\$18.40	\$0.00	\$83.45
	12/06/2027	\$57.00	\$9.65	\$18.40	\$0.00	\$85.05
	06/05/2028	\$58.68	\$9.65	\$18.40	\$0.00	\$86.73
	12/04/2028	\$60.35	\$9.65	\$18.40	\$0.00	\$88.40

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: WRECKING LABORER <i>LABORERS - ZONE 2</i>	06/10/2024	\$45.53	\$9.65	\$18.40	\$0.00	\$73.58
	12/02/2024	\$47.00	\$9.65	\$18.40	\$0.00	\$75.05
	06/02/2025	\$48.50	\$9.65	\$18.40	\$0.00	\$76.55
	12/01/2025	\$50.00	\$9.65	\$18.40	\$0.00	\$78.05
	06/01/2026	\$51.55	\$9.65	\$18.40	\$0.00	\$79.60
	12/07/2026	\$53.05	\$9.65	\$18.40	\$0.00	\$81.10
	06/07/2027	\$54.65	\$9.65	\$18.40	\$0.00	\$82.70
	12/06/2027	\$56.25	\$9.65	\$18.40	\$0.00	\$84.30
	06/05/2028	\$57.93	\$9.65	\$18.40	\$0.00	\$85.98
	12/04/2028	\$59.60	\$9.65	\$18.40	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 223</i>	09/01/2023	\$47.87	\$11.75	\$16.86	\$0.00	\$76.48

Apprentice - ELECTRICIAN - Local 223

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.15	\$11.75	\$0.57	\$0.00	\$31.47
2	45	\$21.54	\$11.75	\$0.65	\$0.00	\$33.94
3	50	\$23.94	\$11.75	\$0.72	\$0.00	\$36.41
4	55	\$26.33	\$11.75	\$7.79	\$0.00	\$45.87
5	60	\$28.72	\$11.75	\$8.31	\$0.00	\$48.78
6	65	\$31.12	\$11.75	\$8.65	\$0.00	\$51.52
7	70	\$33.51	\$11.75	\$9.38	\$0.00	\$54.64
8	75	\$35.90	\$11.75	\$9.90	\$0.00	\$57.55

Notes:

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86
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Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.81	\$16.03	\$0.00	\$0.00	\$48.84
2	55	\$36.09	\$16.03	\$20.21	\$0.00	\$72.33
3	65	\$42.65	\$16.03	\$20.21	\$0.00	\$78.89
4	70	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
5	80	\$52.50	\$16.03	\$20.21	\$0.00	\$88.74

Notes:

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
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For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2024	\$50.79	\$15.00	\$16.40	\$0.00	\$82.19
	11/01/2024	\$52.08	\$15.00	\$16.40	\$0.00	\$83.48
	05/01/2025	\$53.52	\$15.00	\$16.40	\$0.00	\$84.92
	11/01/2025	\$54.81	\$15.00	\$16.40	\$0.00	\$86.21
	05/01/2026	\$56.25	\$15.00	\$16.40	\$0.00	\$87.65
	11/01/2026	\$57.54	\$15.00	\$16.40	\$0.00	\$88.94
	05/01/2027	\$58.97	\$15.00	\$16.40	\$0.00	\$90.37
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2024	\$52.37	\$15.00	\$16.40	\$0.00	\$83.77
	11/01/2024	\$53.67	\$15.00	\$16.40	\$0.00	\$85.07
	05/01/2025	\$55.12	\$15.00	\$16.40	\$0.00	\$86.52
	11/01/2025	\$56.42	\$15.00	\$16.40	\$0.00	\$87.82
	05/01/2026	\$57.87	\$15.00	\$16.40	\$0.00	\$89.27
	11/01/2026	\$59.17	\$15.00	\$16.40	\$0.00	\$90.57
	05/01/2027	\$60.62	\$15.00	\$16.40	\$0.00	\$92.02
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2024	\$24.91	\$15.00	\$16.40	\$0.00	\$56.31
	11/01/2024	\$25.67	\$15.00	\$16.40	\$0.00	\$57.07
	05/01/2025	\$26.52	\$15.00	\$16.40	\$0.00	\$57.92
	11/01/2025	\$27.28	\$15.00	\$16.40	\$0.00	\$58.68
	05/01/2026	\$28.13	\$15.00	\$16.40	\$0.00	\$59.53
	11/01/2026	\$28.89	\$15.00	\$16.40	\$0.00	\$60.29
	05/01/2027	\$29.74	\$15.00	\$16.40	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 223</i>	09/01/2020	\$43.66	\$10.90	\$14.66	\$0.00	\$69.22
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 223</i>	09/01/2020	\$36.86	\$10.90	\$12.45	\$0.00	\$60.21
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$45.23	\$15.30	\$16.40	\$0.00	\$76.93
	12/01/2024	\$46.41	\$15.30	\$16.40	\$0.00	\$78.11
	06/01/2025	\$47.47	\$15.30	\$16.40	\$0.00	\$79.17
	12/01/2025	\$48.64	\$15.30	\$16.40	\$0.00	\$80.34
	06/01/2026	\$49.70	\$15.30	\$16.40	\$0.00	\$81.40
	12/01/2026	\$50.88	\$15.30	\$16.40	\$0.00	\$82.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$27.01	\$9.65	\$17.80	\$0.00	\$54.46
	12/01/2024	\$27.01	\$9.65	\$17.80	\$0.00	\$54.46
	06/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	12/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	06/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66
	12/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE II</i>	03/01/2024	\$49.47	\$8.83	\$20.27	\$0.00	\$78.57

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - FLOORCOVERER - Local 2168 Zone II

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.74	\$8.83	\$1.76	\$0.00	\$35.33
2	55	\$27.21	\$8.83	\$1.76	\$0.00	\$37.80
3	60	\$29.68	\$8.83	\$3.52	\$0.00	\$42.03
4	65	\$32.16	\$8.83	\$3.52	\$0.00	\$44.51
5	70	\$34.63	\$8.83	\$16.75	\$0.00	\$60.21
6	75	\$37.10	\$8.83	\$16.75	\$0.00	\$62.68
7	80	\$39.58	\$8.83	\$18.51	\$0.00	\$66.92
8	85	\$42.05	\$8.83	\$18.51	\$0.00	\$69.39

Notes: Steps are 750 hrs.
 % After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
 Step 1&2 \$32.63/ 3&4 \$39.28/ 5&6 \$59.86/ 7&8 \$66.52

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$36.17	\$15.30	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.12	\$15.30	\$16.40	\$0.00	\$68.82
	06/01/2025	\$37.97	\$15.30	\$16.40	\$0.00	\$69.67
	12/01/2025	\$38.92	\$15.30	\$16.40	\$0.00	\$70.62
	06/01/2026	\$39.78	\$15.30	\$16.40	\$0.00	\$71.48
	12/01/2026	\$40.73	\$15.30	\$16.40	\$0.00	\$72.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 1333</i>	06/01/2020	\$39.18	\$10.80	\$10.45	\$0.00	\$60.43
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - GLAZIER - Local 1333

Effective Date - 06/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.59	\$10.80	\$1.80	\$0.00	\$32.19
2	56	\$22.04	\$10.80	\$1.80	\$0.00	\$34.64
3	63	\$24.49	\$10.80	\$2.45	\$0.00	\$37.74
4	69	\$26.94	\$10.80	\$2.45	\$0.00	\$40.19
5	75	\$29.39	\$10.80	\$3.15	\$0.00	\$43.34
6	81	\$31.83	\$10.80	\$3.15	\$0.00	\$45.78
7	88	\$34.28	\$10.80	\$10.45	\$0.00	\$55.53
8	94	\$36.73	\$10.80	\$10.45	\$0.00	\$57.98

Notes:

Apprentice to Journeyworker Ratio:1:3

HOISTING ENGINEER/CRANES/GRADALLS	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
OPERATING ENGINEERS LOCAL 4	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.82	\$15.30	\$0.00	\$0.00	\$46.12
2	60	\$33.62	\$15.30	\$16.40	\$0.00	\$65.32
3	65	\$36.42	\$15.30	\$16.40	\$0.00	\$68.12
4	70	\$39.22	\$15.30	\$16.40	\$0.00	\$70.92
5	75	\$42.02	\$15.30	\$16.40	\$0.00	\$73.72
6	80	\$44.82	\$15.30	\$16.40	\$0.00	\$76.52
7	85	\$47.63	\$15.30	\$16.40	\$0.00	\$79.33
8	90	\$50.43	\$15.30	\$16.40	\$0.00	\$82.13

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$31.61	\$0.00	\$0.00	\$0.00	\$31.61
2	60	\$34.49	\$15.30	\$16.40	\$0.00	\$66.19
3	65	\$37.36	\$15.30	\$16.40	\$0.00	\$69.06
4	70	\$40.24	\$15.30	\$16.40	\$0.00	\$71.94
5	75	\$43.11	\$15.30	\$16.40	\$0.00	\$74.81
6	80	\$45.98	\$15.30	\$16.40	\$0.00	\$77.68
7	85	\$48.86	\$15.30	\$16.40	\$0.00	\$80.56
8	90	\$51.73	\$15.30	\$16.40	\$0.00	\$83.43

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - B	10/01/2024	\$42.33	\$14.59	\$19.04	\$2.24	\$78.20
	04/01/2025	\$43.83	\$14.59	\$19.04	\$2.24	\$79.70
	10/01/2025	\$45.08	\$14.59	\$19.04	\$2.24	\$80.95
	04/01/2026	\$46.58	\$14.59	\$19.04	\$2.24	\$82.45

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 223	09/01/2020	\$43.66	\$10.90	\$14.66	\$0.00	\$69.22
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For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - B	10/01/2024	\$42.33	\$30.43	\$19.04	\$2.24	\$94.04
	04/01/2025	\$43.83	\$30.43	\$19.04	\$2.24	\$95.54
	10/01/2025	\$45.08	\$30.43	\$19.04	\$2.24	\$96.79
	04/01/2026	\$46.58	\$30.43	\$19.04	\$2.24	\$98.29

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (TESTING AND BALANCING - WATER) PLUMBERS & PIPEFITTERS LOCAL 51	08/26/2024	\$54.74	\$10.15	\$19.95	\$0.00	\$84.84
	08/25/2025	\$57.49	\$10.15	\$19.95	\$0.00	\$87.59

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

HVAC MECHANIC PLUMBERS & PIPEFITTERS LOCAL 51	08/26/2024	\$54.74	\$10.15	\$19.95	\$0.00	\$84.84
	08/25/2025	\$57.49	\$10.15	\$19.95	\$0.00	\$87.59

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
	12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21

For apprentice rates see "Apprentice- LABORER"

HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$39.28	\$9.65	\$17.80	\$0.00	\$66.73
	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (SOUTHERN MASS)</i>	09/01/2024	\$51.23	\$14.75	\$19.61	\$0.00	\$85.59
	09/01/2025	\$54.31	\$14.75	\$19.61	\$0.00	\$88.67
	09/01/2026	\$57.38	\$14.75	\$19.61	\$0.00	\$91.74

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Southern MA

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.62	\$14.75	\$14.32	\$0.00	\$54.69
2	60	\$30.74	\$14.75	\$15.37	\$0.00	\$60.86
3	70	\$35.86	\$14.75	\$16.43	\$0.00	\$67.04
4	80	\$40.98	\$14.75	\$17.49	\$0.00	\$73.22

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.16	\$14.75	\$14.32	\$0.00	\$56.23
2	60	\$32.59	\$14.75	\$15.37	\$0.00	\$62.71
3	70	\$38.02	\$14.75	\$16.43	\$0.00	\$69.20
4	80	\$43.45	\$14.75	\$17.49	\$0.00	\$75.69

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 37</i>	03/16/2021	\$42.46	\$7.70	\$17.10	\$0.00	\$67.26
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 37

Effective Date - 03/16/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	70	\$29.72	\$7.70	\$17.10	\$0.00	\$54.52
2	75	\$31.85	\$7.70	\$17.10	\$0.00	\$56.65
3	80	\$33.97	\$7.70	\$17.10	\$0.00	\$58.77
4	85	\$36.09	\$7.70	\$17.10	\$0.00	\$60.89
5	90	\$38.21	\$7.70	\$17.10	\$0.00	\$63.01
6	95	\$40.34	\$7.70	\$17.10	\$0.00	\$65.14

Notes:

Apprentice to Journeyworker Ratio:1:4

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71	

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER LABORERS - ZONE 2	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46	

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 2

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.12	\$9.65	\$18.40	\$0.00	\$51.17
2	70	\$26.97	\$9.65	\$18.40	\$0.00	\$55.02
3	80	\$30.82	\$9.65	\$18.40	\$0.00	\$58.87
4	90	\$34.68	\$9.65	\$18.40	\$0.00	\$62.73

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$18.40	\$0.00	\$51.97
2	70	\$27.90	\$9.65	\$18.40	\$0.00	\$55.95
3	80	\$31.89	\$9.65	\$18.40	\$0.00	\$59.94
4	90	\$35.87	\$9.65	\$18.40	\$0.00	\$63.92

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	06/01/2024	\$38.53	\$9.65	\$17.80	\$0.00	\$65.98
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96

Apprentice - LABORER (Heavy & Highway) - Zone 2

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.12	\$9.65	\$17.80	\$0.00	\$50.57
2	70	\$26.97	\$9.65	\$17.80	\$0.00	\$54.42
3	80	\$30.82	\$9.65	\$17.80	\$0.00	\$58.27
4	90	\$34.68	\$9.65	\$17.80	\$0.00	\$62.13

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$17.80	\$0.00	\$51.37
2	70	\$27.90	\$9.65	\$17.80	\$0.00	\$55.35
3	80	\$31.89	\$9.65	\$17.80	\$0.00	\$59.34
4	90	\$35.87	\$9.65	\$17.80	\$0.00	\$63.32

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
	12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
	12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 2</i>	06/03/2024	\$38.62	\$9.65	\$17.76	\$0.00	\$66.03
	12/02/2024	\$39.95	\$9.65	\$17.76	\$0.00	\$67.36
	06/02/2025	\$41.34	\$9.65	\$17.76	\$0.00	\$68.75
	12/01/2025	\$42.72	\$9.65	\$17.76	\$0.00	\$70.13
	06/01/2026	\$44.16	\$9.65	\$17.76	\$0.00	\$71.57
	12/07/2026	\$45.60	\$9.65	\$17.76	\$0.00	\$73.01
	06/07/2027	\$47.05	\$9.65	\$17.76	\$0.00	\$74.46
	12/06/2027	\$48.50	\$9.65	\$17.76	\$0.00	\$75.91
	06/05/2028	\$50.00	\$9.65	\$17.76	\$0.00	\$77.41
	12/04/2028	\$51.50	\$9.65	\$17.76	\$0.00	\$78.91
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46	
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.53	\$9.65	\$18.40	\$0.00	\$66.58
	12/01/2024	\$39.86	\$9.65	\$18.40	\$0.00	\$67.91
	06/01/2025	\$41.25	\$9.65	\$18.40	\$0.00	\$69.30
	12/01/2025	\$42.63	\$9.65	\$18.40	\$0.00	\$70.68
	06/01/2026	\$44.07	\$9.65	\$18.40	\$0.00	\$72.12
	12/01/2026	\$45.51	\$9.65	\$18.40	\$0.00	\$73.56
	06/01/2027	\$46.96	\$9.65	\$18.40	\$0.00	\$75.01
	12/01/2027	\$48.41	\$9.65	\$18.40	\$0.00	\$76.46
	06/01/2028	\$49.91	\$9.65	\$18.40	\$0.00	\$77.96
12/01/2028	\$51.41	\$9.65	\$18.40	\$0.00	\$79.46	
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71	
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2024	\$49.32	\$11.49	\$21.62	\$0.00	\$82.43
	02/01/2025	\$50.36	\$11.49	\$21.62	\$0.00	\$83.47
	08/01/2025	\$52.08	\$11.49	\$21.62	\$0.00	\$85.19
	02/01/2026	\$53.16	\$11.49	\$21.62	\$0.00	\$86.27
	08/01/2026	\$54.92	\$11.49	\$21.62	\$0.00	\$88.03
	02/01/2027	\$56.04	\$11.49	\$21.62	\$0.00	\$89.15

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.66	\$11.49	\$21.62	\$0.00	\$57.77
2	60	\$29.59	\$11.49	\$21.62	\$0.00	\$62.70
3	70	\$34.52	\$11.49	\$21.62	\$0.00	\$67.63
4	80	\$39.46	\$11.49	\$21.62	\$0.00	\$72.57
5	90	\$44.39	\$11.49	\$21.62	\$0.00	\$77.50

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.18	\$11.49	\$21.62	\$0.00	\$58.29
2	60	\$30.22	\$11.49	\$21.62	\$0.00	\$63.33
3	70	\$35.25	\$11.49	\$21.62	\$0.00	\$68.36
4	80	\$40.29	\$11.49	\$21.62	\$0.00	\$73.40
5	90	\$45.32	\$11.49	\$21.62	\$0.00	\$78.43

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2024	\$64.52	\$11.49	\$23.56	\$0.00	\$99.57
	02/01/2025	\$65.82	\$11.49	\$23.56	\$0.00	\$100.87
	08/01/2025	\$67.97	\$11.49	\$23.56	\$0.00	\$103.02
	02/01/2026	\$69.32	\$11.49	\$23.56	\$0.00	\$104.37
	08/01/2026	\$71.52	\$11.49	\$23.56	\$0.00	\$106.57
	02/01/2027	\$72.92	\$11.49	\$23.56	\$0.00	\$107.97

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.26	\$11.49	\$23.56	\$0.00	\$67.31
2	60	\$38.71	\$11.49	\$23.56	\$0.00	\$73.76
3	70	\$45.16	\$11.49	\$23.56	\$0.00	\$80.21
4	80	\$51.62	\$11.49	\$23.56	\$0.00	\$86.67
5	90	\$58.07	\$11.49	\$23.56	\$0.00	\$93.12

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.91	\$11.49	\$23.56	\$0.00	\$67.96
2	60	\$39.49	\$11.49	\$23.56	\$0.00	\$74.54
3	70	\$46.07	\$11.49	\$23.56	\$0.00	\$81.12
4	80	\$52.66	\$11.49	\$23.56	\$0.00	\$87.71
5	90	\$59.24	\$11.49	\$23.56	\$0.00	\$94.29

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 2) <i>MILLWRIGHTS LOCAL 1121 - Zone 2</i>	01/01/2024	\$42.76	\$10.08	\$21.47	\$0.00	\$74.31
	01/06/2025	\$45.09	\$10.08	\$21.47	\$0.00	\$76.64
	01/05/2026	\$47.42	\$10.08	\$21.47	\$0.00	\$78.97

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 2

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.52	\$10.08	\$5.50	\$0.00	\$39.10
2	65	\$27.79	\$10.08	\$6.50	\$0.00	\$44.37
3	75	\$32.07	\$10.08	\$18.97	\$0.00	\$61.12
4	85	\$36.35	\$10.08	\$19.97	\$0.00	\$66.40

Effective Date - 01/06/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.80	\$10.08	\$5.50	\$0.00	\$40.38
2	65	\$29.31	\$10.08	\$6.50	\$0.00	\$45.89
3	75	\$33.82	\$10.08	\$18.97	\$0.00	\$62.87
4	85	\$38.33	\$10.08	\$19.97	\$0.00	\$68.38

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:4

MORTAR MIXER LABORERS - ZONE 2	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) OPERATING ENGINEERS LOCAL 4	06/01/2024	\$24.71	\$15.30	\$16.40	\$0.00	\$56.41
	12/01/2024	\$25.37	\$15.30	\$16.40	\$0.00	\$57.07
	06/01/2025	\$25.97	\$15.30	\$16.40	\$0.00	\$57.67
	12/01/2025	\$26.63	\$15.30	\$16.40	\$0.00	\$58.33
	06/01/2026	\$27.22	\$15.30	\$16.40	\$0.00	\$58.92
	12/01/2026	\$27.89	\$15.30	\$16.40	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	06/01/2024	\$30.28	\$15.30	\$16.40	\$0.00	\$61.98
	12/01/2024	\$31.08	\$15.30	\$16.40	\$0.00	\$62.78
	06/01/2025	\$31.80	\$15.30	\$16.40	\$0.00	\$63.50
	12/01/2025	\$32.60	\$15.30	\$16.40	\$0.00	\$64.30
	06/01/2026	\$33.32	\$15.30	\$16.40	\$0.00	\$65.02
	12/01/2026	\$34.12	\$15.30	\$16.40	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$9.95	\$0.00	\$0.00	\$38.58
2	55	\$31.49	\$9.95	\$6.66	\$0.00	\$48.10
3	60	\$34.36	\$9.95	\$7.26	\$0.00	\$51.57
4	65	\$37.22	\$9.95	\$7.87	\$0.00	\$55.04
5	70	\$40.08	\$9.95	\$20.32	\$0.00	\$70.35
6	75	\$42.95	\$9.95	\$20.93	\$0.00	\$73.83
7	80	\$45.81	\$9.95	\$21.53	\$0.00	\$77.29
8	90	\$51.53	\$9.95	\$22.74	\$0.00	\$84.22

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.23	\$9.95	\$0.00	\$0.00	\$39.18
2	55	\$32.15	\$9.95	\$6.66	\$0.00	\$48.76
3	60	\$35.08	\$9.95	\$7.26	\$0.00	\$52.29
4	65	\$38.00	\$9.95	\$7.87	\$0.00	\$55.82
5	70	\$40.92	\$9.95	\$20.32	\$0.00	\$71.19
6	75	\$43.85	\$9.95	\$20.93	\$0.00	\$74.73
7	80	\$46.77	\$9.95	\$21.53	\$0.00	\$78.25
8	90	\$52.61	\$9.95	\$22.74	\$0.00	\$85.30

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	07/01/2024	\$48.16	\$9.95	\$23.95	\$0.00	\$82.06
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2025	\$49.36	\$9.95	\$23.95	\$0.00	\$83.26

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.08	\$9.95	\$0.00	\$0.00	\$34.03
2	55	\$26.49	\$9.95	\$6.66	\$0.00	\$43.10
3	60	\$28.90	\$9.95	\$7.26	\$0.00	\$46.11
4	65	\$31.30	\$9.95	\$7.87	\$0.00	\$49.12
5	70	\$33.71	\$9.95	\$20.32	\$0.00	\$63.98
6	75	\$36.12	\$9.95	\$20.93	\$0.00	\$67.00
7	80	\$38.53	\$9.95	\$21.53	\$0.00	\$70.01
8	90	\$43.34	\$9.95	\$22.74	\$0.00	\$76.03

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.68	\$9.95	\$0.00	\$0.00	\$34.63
2	55	\$27.15	\$9.95	\$6.66	\$0.00	\$43.76
3	60	\$29.62	\$9.95	\$7.26	\$0.00	\$46.83
4	65	\$32.08	\$9.95	\$7.87	\$0.00	\$49.90
5	70	\$34.55	\$9.95	\$20.32	\$0.00	\$64.82
6	75	\$37.02	\$9.95	\$20.93	\$0.00	\$67.90
7	80	\$39.49	\$9.95	\$21.53	\$0.00	\$70.97
8	90	\$44.42	\$9.95	\$22.74	\$0.00	\$77.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	07/01/2024	\$46.22	\$9.95	\$23.95	\$0.00	\$80.12
PAINTERS LOCAL 35 - ZONE 2	01/01/2025	\$47.42	\$9.95	\$23.95	\$0.00	\$81.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.11	\$9.95	\$0.00	\$0.00	\$33.06
2	55	\$25.42	\$9.95	\$6.66	\$0.00	\$42.03
3	60	\$27.73	\$9.95	\$7.26	\$0.00	\$44.94
4	65	\$30.04	\$9.95	\$7.87	\$0.00	\$47.86
5	70	\$32.35	\$9.95	\$20.32	\$0.00	\$62.62
6	75	\$34.67	\$9.95	\$20.93	\$0.00	\$65.55
7	80	\$36.98	\$9.95	\$21.53	\$0.00	\$68.46
8	90	\$41.60	\$9.95	\$22.74	\$0.00	\$74.29

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.71	\$9.95	\$0.00	\$0.00	\$33.66
2	55	\$26.08	\$9.95	\$6.66	\$0.00	\$42.69
3	60	\$28.45	\$9.95	\$7.26	\$0.00	\$45.66
4	65	\$30.82	\$9.95	\$7.87	\$0.00	\$48.64
5	70	\$33.19	\$9.95	\$20.32	\$0.00	\$63.46
6	75	\$35.57	\$9.95	\$20.93	\$0.00	\$66.45
7	80	\$37.94	\$9.95	\$21.53	\$0.00	\$69.42
8	90	\$42.68	\$9.95	\$22.74	\$0.00	\$75.37

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$9.95	\$0.00	\$0.00	\$33.33
2	55	\$25.72	\$9.95	\$6.66	\$0.00	\$42.33
3	60	\$28.06	\$9.95	\$7.26	\$0.00	\$45.27
4	65	\$30.39	\$9.95	\$7.87	\$0.00	\$48.21
5	70	\$32.73	\$9.95	\$20.32	\$0.00	\$63.00
6	75	\$35.07	\$9.95	\$20.93	\$0.00	\$65.95
7	80	\$37.41	\$9.95	\$21.53	\$0.00	\$68.89
8	90	\$42.08	\$9.95	\$22.74	\$0.00	\$74.77

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.98	\$9.95	\$0.00	\$0.00	\$33.93
2	55	\$26.38	\$9.95	\$6.66	\$0.00	\$42.99
3	60	\$28.78	\$9.95	\$7.26	\$0.00	\$45.99
4	65	\$31.17	\$9.95	\$7.87	\$0.00	\$48.99
5	70	\$33.57	\$9.95	\$20.32	\$0.00	\$63.84
6	75	\$35.97	\$9.95	\$20.93	\$0.00	\$66.85
7	80	\$38.37	\$9.95	\$21.53	\$0.00	\$69.85
8	90	\$43.16	\$9.95	\$22.74	\$0.00	\$75.85

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	07/01/2024	\$44.82	\$9.95	\$23.95	\$0.00	\$78.72
PAINTERS LOCAL 35 - ZONE 2	01/01/2025	\$46.02	\$9.95	\$23.95	\$0.00	\$79.92

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.41	\$9.95	\$0.00	\$0.00	\$32.36
2	55	\$24.65	\$9.95	\$6.66	\$0.00	\$41.26
3	60	\$26.89	\$9.95	\$7.26	\$0.00	\$44.10
4	65	\$29.13	\$9.95	\$7.87	\$0.00	\$46.95
5	70	\$31.37	\$9.95	\$20.32	\$0.00	\$61.64
6	75	\$33.62	\$9.95	\$20.93	\$0.00	\$64.50
7	80	\$35.86	\$9.95	\$21.53	\$0.00	\$67.34
8	90	\$40.34	\$9.95	\$22.74	\$0.00	\$73.03

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.01	\$9.95	\$0.00	\$0.00	\$32.96
2	55	\$25.31	\$9.95	\$6.66	\$0.00	\$41.92
3	60	\$27.61	\$9.95	\$7.26	\$0.00	\$44.82
4	65	\$29.91	\$9.95	\$7.87	\$0.00	\$47.73
5	70	\$32.21	\$9.95	\$20.32	\$0.00	\$62.48
6	75	\$34.52	\$9.95	\$20.93	\$0.00	\$65.40
7	80	\$36.82	\$9.95	\$21.53	\$0.00	\$68.30
8	90	\$41.42	\$9.95	\$22.74	\$0.00	\$74.11

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	06/01/2024	\$38.53	\$9.65	\$17.80	\$0.00	\$65.98
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)

PANEL & PICKUP TRUCKS DRIVER	06/01/2024	\$39.78	\$15.07	\$18.67	\$0.00	\$73.52
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	12/01/2024	\$39.78	\$15.07	\$20.17	\$0.00	\$75.02
	01/01/2025	\$39.78	\$15.57	\$20.17	\$0.00	\$75.52
	06/01/2025	\$40.78	\$15.57	\$20.17	\$0.00	\$76.52
	12/01/2025	\$40.78	\$15.57	\$21.78	\$0.00	\$78.13
	01/01/2026	\$40.78	\$16.17	\$21.78	\$0.00	\$78.73
	06/01/2026	\$41.78	\$16.17	\$21.78	\$0.00	\$79.73
	12/01/2026	\$41.78	\$16.17	\$23.52	\$0.00	\$81.47
	01/01/2027	\$41.78	\$16.77	\$23.52	\$0.00	\$82.07

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i> For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	\$46.11	\$9.40	\$23.12	\$0.00	\$78.63
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$46.11	\$9.40	\$23.12	\$0.00	\$78.63

Apprentice - PILE DRIVER - Local 56 Zone 2

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Notes: Apprentice wages shall be no less than the following Steps;
(Same as set in Zone 1)
1\$57.06/2\$61.96/3\$66.87/4\$69.32/5\$71.78/6\$71.78/7\$76.68/8\$76.68

Apprentice to Journeyworker Ratio:1:5

PIPELAYER <i>LABORERS - ZONE 2</i>	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71

For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

PLUMBER & PIPEFITTER <i>PLUMBERS & PIPEFITTERS LOCAL 51</i>	08/26/2024	\$54.74	\$10.15	\$19.95	\$0.00	\$84.84
	08/25/2025	\$57.49	\$10.15	\$19.95	\$0.00	\$87.59

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PLUMBER/PIPEFITTER - Local 51

Effective Date - 08/26/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$21.90	\$10.15	\$2.50	\$0.00	\$34.55
2	50	\$27.37	\$10.15	\$2.50	\$0.00	\$40.02
3	60	\$32.84	\$10.15	\$8.80	\$0.00	\$51.79
4	70	\$38.32	\$10.15	\$14.08	\$0.00	\$62.55
5	80	\$43.79	\$10.15	\$17.60	\$0.00	\$71.54

Effective Date - 08/25/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$23.00	\$10.15	\$2.50	\$0.00	\$35.65
2	50	\$28.75	\$10.15	\$2.50	\$0.00	\$41.40
3	60	\$34.49	\$10.15	\$8.80	\$0.00	\$53.44
4	70	\$40.24	\$10.15	\$14.08	\$0.00	\$64.47
5	80	\$45.99	\$10.15	\$17.60	\$0.00	\$73.74

Notes:
Steps 2000hrs. Prior 9/1/05; 40/40/45/50/55/60/65/75/80/85

Apprentice to Journeyworker Ratio:1:3

PNEUMATIC CONTROLS (TEMP.) PLUMBERS & PIPEFITTERS LOCAL 51	08/26/2024	\$54.74	\$10.15	\$19.95	\$0.00	\$84.84
	08/25/2025	\$57.49	\$10.15	\$19.95	\$0.00	\$87.59

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

PNEUMATIC DRILL/TOOL OPERATOR LABORERS - ZONE 2	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
	12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21

For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	06/01/2024	\$39.53	\$9.65	\$18.40	\$0.00	\$67.58
	12/01/2024	\$40.86	\$9.65	\$18.40	\$0.00	\$68.91
	06/01/2025	\$42.25	\$9.65	\$18.40	\$0.00	\$70.30
	12/01/2025	\$43.63	\$9.65	\$18.40	\$0.00	\$71.68
	06/01/2026	\$45.07	\$9.65	\$18.40	\$0.00	\$73.12
	12/01/2026	\$46.51	\$9.65	\$18.40	\$0.00	\$74.56
	06/01/2027	\$47.96	\$9.65	\$18.40	\$0.00	\$76.01
	12/01/2027	\$49.41	\$9.65	\$18.40	\$0.00	\$77.46
	06/01/2028	\$50.91	\$9.65	\$18.40	\$0.00	\$78.96
	12/01/2028	\$52.41	\$9.65	\$18.40	\$0.00	\$80.46
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$39.53	\$9.40	\$17.55	\$0.00	\$66.48
	12/01/2024	\$40.86	\$9.40	\$17.55	\$0.00	\$67.81
	06/01/2025	\$42.25	\$9.40	\$17.55	\$0.00	\$69.20
	12/01/2025	\$43.63	\$9.40	\$17.55	\$0.00	\$70.58
	06/01/2026	\$45.07	\$9.40	\$17.55	\$0.00	\$72.02
	12/01/2026	\$46.51	\$9.40	\$17.55	\$0.00	\$73.46
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$36.17	\$15.30	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.12	\$15.30	\$16.40	\$0.00	\$68.82
	06/01/2025	\$37.97	\$15.30	\$16.40	\$0.00	\$69.67
	12/01/2025	\$38.92	\$15.30	\$16.40	\$0.00	\$70.62
	06/01/2026	\$39.78	\$15.30	\$16.40	\$0.00	\$71.48
	12/01/2026	\$40.73	\$15.30	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 653 - Southeastern Concrete (Weymouth)</i>	08/01/2023	\$25.00	\$13.91	\$6.90	\$0.00	\$45.81
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR LABORERS - ZONE 2	06/01/2024	\$38.78	\$9.65	\$18.40	\$0.00	\$66.83
	12/01/2024	\$40.11	\$9.65	\$18.40	\$0.00	\$68.16
	06/01/2025	\$41.50	\$9.65	\$18.40	\$0.00	\$69.55
	12/01/2025	\$42.88	\$9.65	\$18.40	\$0.00	\$70.93
	06/01/2026	\$44.32	\$9.65	\$18.40	\$0.00	\$72.37
	12/01/2026	\$45.76	\$9.65	\$18.40	\$0.00	\$73.81
	06/01/2027	\$47.21	\$9.65	\$18.40	\$0.00	\$75.26
	12/01/2027	\$48.66	\$9.65	\$18.40	\$0.00	\$76.71
	06/01/2028	\$50.16	\$9.65	\$18.40	\$0.00	\$78.21
	12/01/2028	\$51.66	\$9.65	\$18.40	\$0.00	\$79.71
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE OPERATING ENGINEERS LOCAL 4	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofing) ROOFERS LOCAL 33	08/01/2024	\$51.03	\$13.03	\$21.70	\$0.00	\$85.76
	02/01/2025	\$52.28	\$13.03	\$21.70	\$0.00	\$87.01
	08/01/2025	\$53.78	\$13.03	\$21.70	\$0.00	\$88.51
	02/01/2026	\$55.03	\$13.03	\$21.70	\$0.00	\$89.76

Apprentice - ROOFER - Local 33

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.52	\$13.03	\$6.52	\$0.00	\$45.07
2	60	\$30.62	\$13.03	\$21.70	\$0.00	\$65.35
3	65	\$33.17	\$13.03	\$21.70	\$0.00	\$67.90
4	75	\$38.27	\$13.03	\$21.70	\$0.00	\$73.00
5	85	\$43.38	\$13.03	\$21.70	\$0.00	\$78.11

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.14	\$13.03	\$6.52	\$0.00	\$45.69
2	60	\$31.37	\$13.03	\$21.70	\$0.00	\$66.10
3	65	\$33.98	\$13.03	\$21.70	\$0.00	\$68.71
4	75	\$39.21	\$13.03	\$21.70	\$0.00	\$73.94
5	85	\$44.44	\$13.03	\$21.70	\$0.00	\$79.17

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.
 (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 33</i>	08/01/2024	\$51.28	\$13.03	\$21.70	\$0.00	\$86.01
	02/01/2025	\$52.53	\$13.03	\$21.70	\$0.00	\$87.26
	08/01/2025	\$54.03	\$13.03	\$21.70	\$0.00	\$88.76
	02/01/2026	\$55.28	\$13.03	\$21.70	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 17 - B</i>	10/01/2024	\$42.33	\$14.59	\$19.04	\$2.24	\$78.20
	04/01/2025	\$43.83	\$14.59	\$19.04	\$2.24	\$79.70
	10/01/2025	\$45.08	\$14.59	\$19.04	\$2.24	\$80.95
	04/01/2026	\$46.58	\$14.59	\$19.04	\$2.24	\$82.45

Apprentice - SHEET METAL WORKER - Local 17-B

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$16.93	\$14.59	\$4.18	\$1.09	\$36.79
2	45	\$19.05	\$14.59	\$4.71	\$1.17	\$39.52
3	50	\$21.17	\$14.59	\$11.84	\$1.45	\$49.05
4	55	\$23.28	\$14.59	\$11.84	\$1.52	\$51.23
5	60	\$25.40	\$14.59	\$15.53	\$1.64	\$57.16
6	65	\$27.51	\$14.59	\$15.84	\$1.71	\$59.65
7	70	\$29.63	\$14.59	\$16.15	\$1.78	\$62.15
8	75	\$31.75	\$14.59	\$16.45	\$1.86	\$64.65
9	80	\$33.86	\$14.59	\$16.76	\$1.93	\$67.14
10	85	\$35.98	\$14.59	\$17.07	\$2.00	\$69.64

Effective Date - 04/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.53	\$14.59	\$4.18	\$1.09	\$37.39
2	45	\$19.72	\$14.59	\$4.71	\$1.17	\$40.19
3	50	\$21.92	\$14.59	\$11.84	\$1.45	\$49.80
4	55	\$24.11	\$14.59	\$11.84	\$1.52	\$52.06
5	60	\$26.30	\$14.59	\$15.53	\$1.64	\$58.06
6	65	\$28.49	\$14.59	\$15.84	\$1.71	\$60.63
7	70	\$30.68	\$14.59	\$16.15	\$1.78	\$63.20
8	75	\$32.87	\$14.59	\$16.45	\$1.86	\$65.77
9	80	\$35.06	\$14.59	\$16.76	\$1.93	\$68.34
10	85	\$37.26	\$14.59	\$17.07	\$2.00	\$70.92

Notes:

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.24	\$15.07	\$18.67	\$0.00	\$73.98
	12/01/2024	\$40.24	\$15.07	\$20.17	\$0.00	\$75.48
	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.53	\$15.07	\$18.67	\$0.00	\$74.27
	12/01/2024	\$40.53	\$15.07	\$20.17	\$0.00	\$75.77
	01/01/2025	\$40.53	\$15.57	\$20.17	\$0.00	\$76.27
	06/01/2025	\$41.53	\$15.57	\$20.17	\$0.00	\$77.27
	12/01/2025	\$41.53	\$15.57	\$21.78	\$0.00	\$78.88
	01/01/2026	\$41.53	\$16.17	\$21.78	\$0.00	\$79.48
	06/01/2026	\$42.53	\$16.17	\$21.78	\$0.00	\$80.48
	12/01/2026	\$42.53	\$16.17	\$23.52	\$0.00	\$82.22
	01/01/2027	\$42.53	\$16.77	\$23.52	\$0.00	\$82.82
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2</i>	10/01/2024	\$63.76	\$11.51	\$23.30	\$0.00	\$98.57
	03/01/2025	\$65.38	\$11.51	\$23.30	\$0.00	\$100.19

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SPRINKLER FITTER - Local 550 (Section B) Zone 2

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$22.32	\$11.51	\$12.90	\$0.00	\$46.73
2	40	\$25.50	\$11.51	\$13.70	\$0.00	\$50.71
3	45	\$28.69	\$11.51	\$14.50	\$0.00	\$54.70
4	50	\$31.88	\$11.51	\$15.30	\$0.00	\$58.69
5	55	\$35.07	\$11.51	\$16.10	\$0.00	\$62.68
6	60	\$38.26	\$11.51	\$16.90	\$0.00	\$66.67
7	65	\$41.44	\$11.51	\$17.70	\$0.00	\$70.65
8	70	\$44.63	\$11.51	\$18.50	\$0.00	\$74.64
9	75	\$47.82	\$11.51	\$19.30	\$0.00	\$78.63
10	80	\$51.01	\$11.51	\$20.10	\$0.00	\$82.62

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$22.88	\$11.51	\$12.90	\$0.00	\$47.29
2	40	\$26.15	\$11.51	\$13.70	\$0.00	\$51.36
3	45	\$29.42	\$11.51	\$14.50	\$0.00	\$55.43
4	50	\$32.69	\$11.51	\$15.30	\$0.00	\$59.50
5	55	\$35.96	\$11.51	\$16.10	\$0.00	\$63.57
6	60	\$39.23	\$11.51	\$16.90	\$0.00	\$67.64
7	65	\$42.50	\$11.51	\$17.70	\$0.00	\$71.71
8	70	\$45.77	\$11.51	\$18.50	\$0.00	\$75.78
9	75	\$49.04	\$11.51	\$19.30	\$0.00	\$79.85
10	80	\$52.30	\$11.51	\$20.10	\$0.00	\$83.91

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 223</i>	09/01/2024	\$40.69	\$11.75	\$14.53	\$0.00	\$66.97

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 223

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Notes: See Electrician Apprentice Wages

Telecom Apprentice Wages shall be the same as the Electrician Apprentice Wages

Apprentice to Journeyworker Ratio:2:3***

TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2024	\$63.44	\$11.49	\$23.59	\$0.00	\$98.52
	02/01/2025	\$64.74	\$11.49	\$23.59	\$0.00	\$99.82
	08/01/2025	\$66.89	\$11.49	\$23.59	\$0.00	\$101.97
	02/01/2026	\$68.24	\$11.49	\$23.59	\$0.00	\$103.32
	08/01/2026	\$70.44	\$11.49	\$23.59	\$0.00	\$105.52
	02/01/2027	\$71.84	\$11.49	\$23.59	\$0.00	\$106.92

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.72	\$11.49	\$23.59	\$0.00	\$66.80
2	60	\$38.06	\$11.49	\$23.59	\$0.00	\$73.14
3	70	\$44.41	\$11.49	\$23.59	\$0.00	\$79.49
4	80	\$50.75	\$11.49	\$23.59	\$0.00	\$85.83
5	90	\$57.10	\$11.49	\$23.59	\$0.00	\$92.18

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.37	\$11.49	\$23.59	\$0.00	\$67.45
2	60	\$38.84	\$11.49	\$23.59	\$0.00	\$73.92
3	70	\$45.32	\$11.49	\$23.59	\$0.00	\$80.40
4	80	\$51.79	\$11.49	\$23.59	\$0.00	\$86.87
5	90	\$58.27	\$11.49	\$23.59	\$0.00	\$93.35

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$49.81	\$9.65	\$18.22	\$0.00	\$77.68
	12/01/2024	\$51.28	\$9.65	\$18.22	\$0.00	\$79.15
	06/01/2025	\$52.78	\$9.65	\$18.22	\$0.00	\$80.65
	12/01/2025	\$54.28	\$9.65	\$18.22	\$0.00	\$82.15
	06/01/2026	\$55.83	\$9.65	\$18.22	\$0.00	\$83.70
	12/01/2026	\$57.33	\$9.65	\$18.22	\$0.00	\$85.20

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.60	\$9.65	\$18.22	\$0.00	\$73.47
	12/01/2024	\$47.07	\$9.65	\$18.22	\$0.00	\$74.94
	06/01/2025	\$48.57	\$9.65	\$18.22	\$0.00	\$76.44
	12/01/2025	\$50.07	\$9.65	\$18.22	\$0.00	\$77.94
	06/01/2026	\$51.62	\$9.65	\$18.22	\$0.00	\$79.49
	12/01/2026	\$53.12	\$9.65	\$18.22	\$0.00	\$80.99
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$45.48	\$9.65	\$18.22	\$0.00	\$73.35
	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.41	\$15.30	\$16.40	\$0.00	\$87.11
	12/01/2024	\$56.85	\$15.30	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.13	\$15.30	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.57	\$15.30	\$16.40	\$0.00	\$91.27
	06/01/2026	\$60.85	\$15.30	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.29	\$15.30	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.82	\$15.07	\$18.67	\$0.00	\$74.56
	12/01/2024	\$40.82	\$15.07	\$20.17	\$0.00	\$76.06
	01/01/2025	\$40.82	\$15.57	\$20.17	\$0.00	\$76.56
	06/01/2025	\$41.82	\$15.57	\$20.17	\$0.00	\$77.56
	12/01/2025	\$41.82	\$15.57	\$21.78	\$0.00	\$79.17
	01/01/2026	\$41.82	\$16.17	\$21.78	\$0.00	\$79.77
	06/01/2026	\$42.82	\$16.17	\$21.78	\$0.00	\$80.77
	12/01/2026	\$42.82	\$16.17	\$23.52	\$0.00	\$82.51
	01/01/2027	\$42.82	\$16.77	\$23.52	\$0.00	\$83.11
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2024	\$57.71	\$9.65	\$19.00	\$0.00	\$86.36
	12/01/2024	\$59.18	\$9.65	\$19.00	\$0.00	\$87.83
	06/01/2025	\$60.68	\$9.65	\$19.00	\$0.00	\$89.33
	12/01/2025	\$62.18	\$9.65	\$19.00	\$0.00	\$90.83
	06/01/2026	\$63.73	\$9.65	\$19.00	\$0.00	\$92.38
	12/01/2026	\$65.23	\$9.65	\$19.00	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2024	\$59.71	\$9.65	\$19.00	\$0.00	\$88.36
	12/01/2024	\$61.18	\$9.65	\$19.00	\$0.00	\$89.83
	06/01/2025	\$62.68	\$9.65	\$19.00	\$0.00	\$91.33
	12/01/2025	\$64.18	\$9.65	\$19.00	\$0.00	\$92.83
	06/01/2026	\$65.73	\$9.65	\$19.00	\$0.00	\$94.38
	12/01/2026	\$67.23	\$9.65	\$19.00	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2024	\$49.78	\$9.65	\$19.00	\$0.00	\$78.43
	12/01/2024	\$51.25	\$9.65	\$19.00	\$0.00	\$79.90
	06/01/2025	\$52.75	\$9.65	\$19.00	\$0.00	\$81.40
	12/01/2025	\$54.25	\$9.65	\$19.00	\$0.00	\$82.90
	06/01/2026	\$55.80	\$9.65	\$19.00	\$0.00	\$84.45
	12/01/2026	\$57.30	\$9.65	\$19.00	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2024	\$51.78	\$9.65	\$19.00	\$0.00	\$80.43
	12/01/2024	\$53.25	\$9.65	\$19.00	\$0.00	\$81.90
	06/01/2025	\$54.75	\$9.65	\$19.00	\$0.00	\$83.40
	12/01/2025	\$56.25	\$9.65	\$19.00	\$0.00	\$84.90
	06/01/2026	\$57.80	\$9.65	\$19.00	\$0.00	\$86.45
	12/01/2026	\$59.30	\$9.65	\$19.00	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2024	\$40.24	\$15.07	\$18.67	\$0.00	\$73.98
	12/01/2024	\$40.24	\$15.07	\$20.17	\$0.00	\$75.48
	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2024	\$39.28	\$9.65	\$18.40	\$0.00	\$67.33
	12/01/2024	\$40.61	\$9.65	\$18.40	\$0.00	\$68.66
	06/01/2025	\$42.00	\$9.65	\$18.40	\$0.00	\$70.05
	12/01/2025	\$43.38	\$9.65	\$18.40	\$0.00	\$71.43
	06/01/2026	\$44.82	\$9.65	\$18.40	\$0.00	\$72.87
	12/01/2026	\$46.26	\$9.65	\$18.40	\$0.00	\$74.31
	06/01/2027	\$47.71	\$9.65	\$18.40	\$0.00	\$75.76
	12/01/2027	\$49.16	\$9.65	\$18.40	\$0.00	\$77.21
	06/01/2028	\$50.66	\$9.65	\$18.40	\$0.00	\$78.71
12/01/2028	\$52.16	\$9.65	\$18.40	\$0.00	\$80.21	
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2024	\$38.78	\$9.65	\$17.80	\$0.00	\$66.23
	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.03	\$15.30	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.48	\$15.30	\$16.40	\$0.00	\$89.18
	06/01/2025	\$58.78	\$15.30	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.23	\$15.30	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.53	\$15.30	\$16.40	\$0.00	\$93.23
	12/01/2026	\$62.98	\$15.30	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & PIPEFITTERS LOCAL 51</i>	08/26/2024	\$54.74	\$10.15	\$19.95	\$0.00	\$84.84
	08/25/2025	\$57.49	\$10.15	\$19.95	\$0.00	\$87.59
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Op Eng Marine (Dredging Work)						
BOAT OPERATOR <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$29.26	\$7.63	\$3.30	\$0.00	\$40.19
CERTIFIED WELDER <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$31.09	\$7.63	\$3.60	\$0.00	\$42.32
CHIEF WELDER/ CHIEF MATE <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$33.02	\$7.63	\$3.60	\$0.00	\$44.25
DERRICK / SPIDER / SPILLBARGE OPERATOR <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$33.02	\$7.63	\$3.60	\$0.00	\$44.25
DRAG BARGE OPERATOR / WELDER / MATE <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$30.24	\$7.63	\$3.30	\$0.00	\$41.17
ENGINEER / ELECTRICIAN <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$33.02	\$7.63	\$3.60	\$0.00	\$44.25
LICENSED BOAT OPERATOR <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$33.02	\$7.63	\$3.60	\$0.00	\$44.25
LICENSED TUG OPERATOR OVER 1000HP <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$38.18	\$7.63	\$3.60	\$0.00	\$49.41
MAINTENANCE ENGINEER <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$33.03	\$7.63	\$3.60	\$0.00	\$44.26
OILER - MARINE DIVISION <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$24.30	\$7.63	\$3.00	\$0.00	\$34.93
OPERATOR / LEVERMAN <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$38.18	\$7.63	\$3.60	\$0.00	\$49.41
RODMAN / SCOWMAN <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$24.30	\$7.63	\$3.00	\$0.00	\$34.93
SHOREMAN / DECKHAND <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2017	\$24.30	\$7.63	\$3.00	\$0.00	\$34.93

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.

*** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

**** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

SECTION XIII

AGREEMENT

This AGREEMENT executed this ____ day of _____ in the year Two Thousand and Twenty Four herein referred to as the Agreement), by and between the Town of Falmouth, Massachusetts, acting by and through its Board of Selectmen, duly authorized therefore, who act herein solely for said Town and without personal liability to themselves, Party of the First Part, and _____ Party of the Second Part.

The Contractor hereby agrees to commence with the work under this Contract as set forth in "The Contract and Specifications for Upper Coonamessett River Restoration", which is incorporated herein by this reference thereto.

Witnessed, that for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Owner, the Contractor hereby agrees with the Owner to **Upper Coonamessett River Restoration Project**, hereinafter called the project, for the consideration of _____, and at his own proper costs and expense to furnish all materials, supplies, equipment, tools, superintendence, labor, insurance bonds, and other accessories and services necessary to perform the required work.

The Owner agrees to pay the Contractor for the Project.

IN WITNESS WHEREOF, the parties of this AGREEMENT have hereunder set their names and seals as to the day and year first written.

TOWN OF FALMOUTH, MASSACHUSETTS

APPROVED FOR
(CONTRACTOR)

APPROVED FOR TOWN OF FALMOUTH
(OWNER)

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Date: _____

APPROVED AS TO FORM

APPROVED AS TO AVAILABILITY OF FUNDS

By: _____
Town Counsel

By: _____
Town Accountant

SECTION XV

SPECIFICATIONS / PLANS

01 11 00	SUMMARY OF WORK
01 22 00	MEASUREMENT AND PAYMENT
01 26 00	CONTRACT MODIFICATION PROCEDURES
01 35 13	SPECIAL CONDITIONS
01 43 39	MOCKUPS (STIMSON)
01 71 13	MOBILIZATION AND DEMOBILIZATION
02 40 00	DEMOLITION
05 55 00	METAL FABRICATIONS (STIMSON)
06 10 00	ROUGH CARPENTRY (STIMSON)
06 13 00	HEAVY TIMBER (STIMSON)
06 15 00	WOOD DECKING (STIMSON)
31 10 00	CLEARING AND GRUBBING
31 22 00	LARGE WOOD
31 23 00	EARTHWORK
31 25 00	EROSION, POLLUTION, AND WATER CONTROL
32 90 00	SITE PLANTINGS
32 15 43	STABILIZED AGGREGATE (STIMSON)

SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

- A. This section includes:
1. Furnish all labor, materials, and equipment required in accordance with provisions of the Contract Documents.
 2. Completely coordinate work with all other trades.
 3. Although such work may not be specifically indicated, furnish and install all miscellaneous items incidental to or necessary.

1.2 WORKED COVERED BY CONTRACT

- A. The Work includes but is not limited to the furnishing of the labor, materials and equipment and the Construction of the following:
1. Upper Coonamessett River Restoration Project Drawing Sheets 1 through 18, prepared by Inter-Fluve
 - a) Access development and traffic control,
 - b) Clearing, grubbing, and demolition,
 - c) Erosion, sedimentation and pollution control, and flow management;
 - d) Earthwork including excavating, stockpiling, sorting, grading
 - 1) Removal of earthen berms and flow control structures;
 - 2) Channel reconstruction and bank stabilization;
 - 3) Wetland grading and microtopography;
 - e) Installation of Large Wood;
 - f) Seeding and planting; and
 - g) Invasive species management
 2. Upper Coonamessett River Restoration Structural Drawing Sheets L1.0 to L3.1, prepared by Stimson Associates

- a) Construction of stream crossings;
- b) Construction of ADA trail.

1.3 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit use of the premises for Work and storage and allow for work by other contractors/subcontractors.
- B. Contractor shall coordinate use of premises under direction of Owner and Engineer.
- C. Contractor assumes full responsibility for the protection and safekeeping of products and materials the Contractor has stored on site.
- D. Contractor is responsible for surface water management and diversion and dewatering as necessary.
- E. Contractor shall move any stored products, or materials, under Contractor's responsibility, which interfere with operations of Owner or separate contractor/subcontractor.
- F. Contractor shall obtain and pay for the use of any additional storage or work areas if needed for Contractor operations.
- G. Contractor shall confine all materials storage, equipment storage and employee and subcontractor parking to areas within the project site.
- H. Contractor shall restore any areas used for materials storage, equipment storage, or employee and subcontractor parking to their original condition or better, unless specified otherwise.
- I. Contractor shall provide sanitary facilities within the designated staging area.

1.4 WORK SEQUENCE

- A. Contractor shall sequence operations to allow for efficient progress of Work.
- B. Construction must be fully complete, including all in-water work, within eight months of receipt of the Notice to Proceed. Plantings and planting warranties may extend beyond this date.
- C. Contractor is responsible for sequencing operations to perform all Work shown of the Drawings. Sequences other than those specified will be considered by Engineer, provided they assure completion of the work as shown on the Drawings.

- D. Contractor shall conduct all on site work during regular working hours which are defined as weekdays, 7:00 a.m. to 6:00 p.m., holidays excluded. Contractor may apply to work outside of regular working hours upon written approval from the Engineer and Owner.

1.5 LINES AND GRADES

- A. Construct the river bed as shown on the Drawings to the tolerances described in Section 31 23 00 – Earthwork. Adjustments may be made if bedrock or boulders are encountered, pending acceptance by Engineer.
- B. Engineer will establish or designate control points for the Work as follows:
1. The horizontal and vertical control designated by Engineer will consist of at least two monuments with horizontal and vertical coordinates.
- C. Provide all survey, layout, and measurement work required.
1. Locate and protect control points prior to starting site work and preserve all permanent reference points during construction.
 2. Make no changes or relocations without prior written notice and approval by the Engineer.
 3. Report to Engineer when any reference point is lost, destroyed, or requires relocation because of necessary changes in grades or locations.
 4. Require Professional Land Surveyor to replace Project control points and all Federal, State, City, County and private land monuments that may be lost or destroyed.
 - a) Establish replacements based on original survey control.
 - b) Comply with local and State requirements for monument replacement and restoration.
- D. Establish lines and levels, locate and lay out by instrumentation and similar appropriate means.
- E. From time to time, verify layouts by the same methods.
- F. Maintain a complete, accurate log of all control and survey work as it progresses.
- G. On request of the Engineer, submit documentation to verify accuracy of survey work.

1.6 REGULATORY REQUIREMENTS

- A. Comply with all Federal, State, and local laws, regulations, codes, permits, and ordinances applicable to the Work.
- B. References in the Contract Documents to local codes shall mean the Town of Falmouth and/or Barnstable County, Massachusetts.
- C. Other standards and codes that apply to the Work are designated in the Specifications.

1.7 ACCESS BY GOVERNMENT OFFICIALS

- A. Authorized representatives of government agencies shall at all times have access to the Work where it is in preparation or progress. Contractor shall provide proper facilities for access and inspection.

1.8 EASEMENTS AND RIGHTS-OF-WAY

- A. Confine construction operations to the immediate vicinity of the location indicated on Drawings and use due care in placing construction tools, equipment, excavated materials, materials and supplies, so as to cause the least possible damage to property and interference with traffic.
- B. Any work proposed outside the limits of active construction shown on the Drawings shall be reviewed in advance by the Owner, Property Owner, and Engineer and agreed to in writing prior to commencement.

1.9 FENCES

- A. Maintain all fences affected by the Work until completion of the Work. Erect temporary fencing per OSHA requirements.
- B. Keep gates closed and locked when not in use.

1.10 PROTECTION OF PUBLIC AND PRIVATE PROPERTY

- A. Protect, shore, brace, support, and maintain sheetpile, formwork, pipes, drains, and other materials that are part of or otherwise affected by construction operations.
- B. Restore to their original condition, pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, together with sod, and shrubs, in yards and parking areas, whether within or outside the work area or easement. Remove all gravel from staging areas.
- C. Use new materials for replacements of all items.

- D. Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, that may be caused by transporting equipment, materials, or workers to or from the Work or any part or site thereof, whether by Contractor or Contractor's subcontractors or suppliers.
- E. Make satisfactory and acceptable arrangements with Owner of, or the agency or authority having jurisdiction over, any damaged property concerning its repair, replacement, or payment of costs incurred in connection with the damage.
- F. In areas where the Contractor's operations are adjacent to or near a utility and such operations may cause damage which might result in considerable expense, loss, and inconvenience, the operation shall be suspended until all arrangements necessary for the protection thereof have been made by the Contractor.
- G. Notify all utility offices that may be affected by the construction at least 48 hours in advance. Before exposing, any utility having jurisdiction shall grant permission and may oversee the operation. Should service of any utility be interrupted due to the Contractor's operation, the proper authority shall be notified immediately. Contractor shall cooperate with the said authority in restoring the service as promptly as possible and shall bear any costs incurred.

1.11 MAINTENANCE AND TRAFFIC

- A. Maintain entry and access roads. Roads and paved areas used by the Contractor shall be restored to pre-project or better condition prior to project completion.
- B. Conduct Work to interfere as little as possible with public travel, whether vehicular or pedestrian.
- C. Whenever it is necessary to cross, close, or obstruct roads, driveways, and walks, whether public or private, provide and maintain suitable and safe bridges, detours, or other temporary measures for accommodation of public and private travel.
- D. Do not block access to any residence or business.
- E. Comply with all rules and regulations of the local, County or State authorities regarding the closures of public streets or highways to use of public traffic. No public road shall be closed to the public except by express permission of the public agency responsible for the road.
- F. Do not close any street or portion thereof without first notifying and receiving approval from the Fire Department and Police Department. Conduct operations to minimize interference with emergency vehicle access.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 22 00
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SUMMARY

- A. This section describes the basis of measurement and payment for the contract items:
1. Mobilization & Demobilization
 2. Demolition
 3. Clearing and Grubbing
 4. Erosion, Pollution & Water Control
 5. Hatchville Road Culvert Backfill
 6. Earthwork (Perimeter Ditches/Uplands/Berms)
 7. Earthwork (Channel/Wetlands)
 8. Microtopography
 9. Riffle Aggregate
 10. Surface Fabric
 11. Salvaged Saplings
 12. Logs and Vertical Timber Piles (Contractor Supplied)
 13. Logs with Rootwads (Contractor Supplied)
 14. Slash
 15. Sphagnum Moss Salvage and Transplant
 16. Transitional Zone Seeding
 17. Upland Zone Seeding
 18. 1-Gallon Shrubs
 19. 2-Gallon Trees

20. 5-Gallon Trees
 21. Follow-Up Invasive Plant Management
 22. Crossing 1
 23. Crossing 2
 24. Crossing 3
 25. Crossing 4
 26. ADA Path
- B. The bid price for each item of the contract shall cover all work shown on the Drawings and required by these Specifications and other contract documents. All costs in connection with the Work, including furnishing all materials, equipment and supplies; providing all construction, plants, equipment and tools, and performing all necessary labor and supervision to fully complete the Work, shall be included in the lump sum and unit prices bid. All work not specifically set forth as a pay item in the Construction Contract shall be considered as a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid.
- C. All estimated quantities provided in the Construction Contract are to give the Bidder an estimate of the effort required to fulfill the Contract. Owner does not represent that the listed description of lump sum pay items is either comprehensive or unique. The Contractor shall be responsible to make independent quantity estimates in order to determine the actual quantities necessary to construct the project as shown in the Drawings and described in the Specifications. The Contractor agrees not to make any claim for damages, anticipated profits or otherwise on account of any difference between the amount of work actually performed and materials actually furnished and the estimated amounts herein except as allowed in Section II Information to Bidders/General Conditions.
- D. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- E. Engineer reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

PART 2 PRODUCTS (NOT USED)**PART 3 EXECUTION****3.1 MEASUREMENT AND PAYMENT ITEMS****A. Base Bid – Coonamessett River Restoration**

1. Mobilization & Demobilization. This item includes all preparatory work and operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for necessary permits, submittals, notifications and other documentation including billboard for display; for the establishment of all offices or other facilities necessary for work on the project; for premiums on contract bonds and insurance for the Contract and for other work and operations that must be performed or costs incurred before beginning work on the project. This item also includes work and operations necessary to disband all mobilized items and clean up the site. The removal of all temporary access ways, signs, temporary fencing, and temporary facilities or works and the restoration of surfaces to an equal or better than existing condition shall also be included. Mobilization & Demobilization for subcontracted work is included. Access and Traffic Control, access development, and any temporary crossings needed for construction access and movements, will be incidental to the Item “Mobilization & Demobilization.”
 - a) Measurement. No measurement for this item will be made.
 - b) Payment. Payment for Mobilization & Demobilization will be made at the contract lump sum price of the Construction Contract, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item.
2. Demolition. This item includes all labor, equipment and materials associated with the demolition and disposal of culverts, appurtenances, and other structures indicated for removal from the work area as shown in the Drawings and described in the Specifications.
 - a) Measurement. No measurement for this item will be made.
 - b) Payment. Payment for Demolition will be made at the contract lump sum price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item.
3. Clearing and Grubbing. This item includes all labor, equipment and materials associated with Clearing and Grubbing including but not limited to: all vegetative clearing required to complete the Work, including

removing and stockpiling trees and shrubs from the work area as indicated for reuse as Large Wood and slash, the clearing vegetation and debris from ditches as indicated, as well as the initial removing, treating, and disposing of invasive species prior to substantial construction completion from within the Limit of Disturbance as shown in the Drawings and any additional disturbed areas and as described in the Specifications.

- a) Measurement. No measurement for this item will be made.
 - b) Payment. Payment for Clearing and Grubbing will be made at the contract lump sum price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item.
4. Erosion, Pollution and Water Control. This item includes all labor, equipment and materials associated with Erosion, Pollution and Water Control including but not limited to: dewatering, stream diversion, silt fence, turbidity curtains, oil absorbing booms, bulk bags and other erosion control measures for control of water, erosion and pollution control, and other best management practices for erosion and pollution control necessary to complete the Work on the Project.
- a) Measurement. No measurement for this item will be made.
 - b) Payment. Payment for Erosion, Pollution and Water Control will be made at the contract lump sum price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item.
5. Hatchville Road Culvert Backfill. This item includes compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this Item, including installation and removal of temporary bulkheads or forms, site access, and fill materials.
- a) Measurement. No measurement for this item will be made.
 - b) Payment. Payment for Hatchville Road Culvert Backfill will be made at the contract lump sum price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item.
6. Earthwork (Perimeter Ditches/Uplands/Berms). This item includes compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this Item, including excavation, stockpiling, sorting, transporting, management, placement, and compaction of fill as indicated, and spoiling of excavated material in designated areas.

- a) Measurement. The estimated quantity for this item of work shall be the final pay quantity, unless the dimensions of any portion of the item are revised by the Resident Project Representative, or the item or any portion of the item is eliminated. If the dimensions of any portion of the item are revised, and the revisions result in the increase or decrease in the estimated quantity of work, the final pay quantity for the item will be revised in the amount represented by the changes in the dimensions, and the compensation for the item will be based on the revised quantity multiplied by the bid unit price for the item. The estimated quantity is based on comparison of existing and design AutoCAD digital terrain surfaces, and reflect in-place volumes.
- b) Payment. Payment for Earthwork (Perimeter Ditches/Uplands/Berms) will be made at the Contract price per cubic yard, which shall be compensation in full for all labor, materials, equipment, and other expenses necessary to complete the work as specified for this item.
7. Earthwork (Channel/Wetlands). This item includes compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this Item, including excavation, stockpiling, sorting, transporting, management and placement of fill as indicated, and spoiling of excavated material in designated areas.
- a) Measurement. The estimated quantity for this item of work shall be the final pay quantity, unless the dimensions of any portion of the item are revised by the Resident Project Representative, or the item or any portion of the item is eliminated. If the dimensions of any portion of the item are revised, and the revisions result in the increase or decrease in the estimated quantity of work, the final pay quantity for the item will be revised in the amount represented by the changes in the dimensions, and the compensation for the item will be based on the revised quantity multiplied by the bid unit price for the item. The estimated quantity is based on comparison of existing and design AutoCAD digital terrain surfaces, and reflect in-place volumes.
- b) Payment. Payment for Earthwork (Channel/Wetlands) will be made at the Contract price per cubic yard, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item.
8. Microtopography. This item includes compensation in full for all labor, materials, equipment and other expenses necessary to complete the Work as specified for this Item, including disturbing and turning over the existing bog surface 1 foot above and below (+/-) from the grades shown in the Drawings.

- a) Measurement. Microtopography shall be measured by the number of 8-hour shifts completed by an excavator and operator with specific application to this work. Minimum capacity shall be Caterpillar 312 excavator or equivalent, or as otherwise reviewed and approved by the Owner.
- b) Payment. Payment for Microtopography will be made at the Contract unit price per day, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the Work as specified for this item.
9. Riffle Aggregate. This item includes all labor, equipment and materials for the furnishing and installation of Riffle Aggregate for Riffles as shown on the Drawings. Items incidental to Riffle Aggregate include: excavating, hauling and disposal of native material removed to create subgrade dimensions. Minor adjustments or modifications to riffle substrate may be required after flow is activated; if required, this work would occur within 14 days from the date that flow is activated on the riffle substrate and shall be incidental to 'Riffle Aggregate'.
- a) Measurement. Riffle Aggregate shall be measured by the tons of channel bed material meeting the specified gradation installed in the Work, complete and in place. The Contractor shall furnish the Engineer with weight tickets from state-certified scales for each load of channel bed material installed in the work.
- b) Payment. Riffle Aggregate will be paid for at the Contract unit price per ton installed, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for the Item.
10. Surface Fabric. This item includes all materials, equipment and labor for Surface Fabric including but not limited to woven and non-woven coir fabrics, stakes, and seed. Required excavation shall be incidental to the unit price for Surface Fabric installed under the bid item, Surface Fabric.
- a) Measurement. Surface Fabric shall be measured on the basis of square feet of exposed surface fabric, complete and in place.
- b) Payment. Surface Fabric shall be paid at the Contract unit price per square foot installed, complete and in place, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the Work as specified for this item.
11. Salvaged Saplings. This item includes compensation in full for all labor, materials, equipment and other expenses necessary to complete the Work

as indicated. Installation shall be along the mainstem stream in locations shown on the Drawings.

a) Measurement. This item shall be measured on the basis of each Salvaged Sapling installed in the work, complete and in place. Reduction or increase in the quantity for this item will not be grounds for renegotiation of the base unit price for the Item.

b) Payment. This item shall be paid at the Contract unit price per Salvaged Sapling installed, complete and in place, which shall be compensation in full for all labor, materials, equipment, and other expenses necessary to complete the work as specified for this item. Reduction or increase in the quantity for this item will not be grounds for renegotiation of the base unit price for the Item.

12. Logs and Vertical Timber Piles (Contractor Supplied). This item includes compensation in full for all labor, materials, equipment, and other expenses necessary to complete the Work as indicated. This Item shall include procurement, installation, and management of Logs and Vertical Timber Piles, stockpiled on the site. Installation shall be along the mainstem stream in locations shown on the Drawings, and shall include procurement and delivery, transportation from the stockpile area for use in the Work, excavation, subgrade preparation, Log and Vertical Timber Pile installation, complete and in place.

a) Measurement. This Item shall be measured on the basis of each piece of Logs and Vertical Timber Piles installed in the work, complete and in place. Installation of slash associated with Logs and Vertical Timber Piles shall be considered incidental to this Item. Reduction or increase in the quantity for this item will not be grounds for renegotiation of the base unit price for the Item.

b) Payment. This item shall be paid at the Contract unit price per Log and Vertical Timber Pile procured, installed, complete and in place, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item. Reduction or increase in the quantity for this item will not be grounds for renegotiation of the base unit price for the Item.

13. Logs with Rootwads (Contractor Supplied). This item includes compensation in full for all labor, materials, equipment, and other expenses necessary to complete the work as indicated. This Item shall include procurement, installation, and management of Logs with Rootwads. Installation shall be along the proposed mainstem of the river and within large wood complexes as shown on the drawings and shall include transportation from the stockpile area for use in the Work, excavation, subgrade preparation, placement, and backfill.

- a) Measurement. This item shall be measured on unit price basis of each Log with Rootwad procured and installed in the work, complete and in place. Reduction or increase in the quantity for this item will not be grounds for renegotiation of the base unit price for the Item.
- b) Payment. This item shall be paid at the Contract unit price per Log with Rootwad procured, installed, complete and in place, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the Work as specified for this item. Reduction or increase in the quantity for this item will not be grounds for renegotiation of the base unit price for the Item.
14. Slash. This item includes compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this Item. Slash shall include installation of Owner-supplied Slash and Slash salvaged during Clearing and Grubbing, dispersed across the site, in locations other than the mainstem or other locations shown on the Drawings designated for large wood installation covered under separate Items of Work. Slash must be staged in piles proximal to eventual location of installation prior to commencement of time keeping for this item. Installation shall include excavation, subgrade preparation, and installation of Slash on the bog surface, in tributaries and backwater channels, and along the edges of the ponds, complete and in place. Staging operations to distribute slash proximal to the installation locations shall be considered incidental to this Item.
- a) Measurement. Slash shall be measured by the number of 8-hour shifts completed with an excavator and operator with specific application to this work. Minimum capacity shall be Caterpillar 312 excavator or equivalent with a thumb attachment, or as otherwise reviewed and approved by the Owner.
- b) Payment. Payment for Slash will be made at the Contract unit price per day, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the Work as specified for this item.
15. Sphagnum Moss Salvage and Transplant. This item includes compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this Item, Sphagnum Moss Salvage and Transplant. Salvaging and transplanting shall be in locations shown on the Drawings, and shall include excavation of sphagnum moss, onsite management and materials transport, and placement of sphagnum moss.

- a) Measurement. Sphagnum Moss Salvage and Transplant shall be measured per acre of sphagnum moss transplanted and placed in final locations as shown on the Drawings.
- b) Payment. Payment for this Item will be made at the contract per acre price, which shall be compensation in full for all labor, equipment and other expenses necessary to complete the Work as specified for this item.
16. Transitional Zone Seeding. This item includes all labor, watering, equipment, materials, maintenance and warranty associated with seeding in the Transitional Zone. Cover crop and mulch shall be incidental to this Item.
- a) Measurement. This Item will be measured per acre seeded as shown in the Drawings and Specifications. The Contractor shall submit invoices of seed materials purchased to demonstrate rates of seed application.
- b) Payment. Payment for this Item will be made at the contract per acre price, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item.
17. Upland Zone Seeding. This item includes all labor, watering, equipment, materials, maintenance and warranty associated with seeding in the Upland Zone. Cover crop and mulch shall be incidental to this Item.
- a) Measurement. This Item will be measured per acre seeded as shown in the Drawings and Specifications. The Contractor shall submit invoices of seed materials purchased to demonstrate rates of seed application.
- b) Payment. Payment for this Item will be made at the contract per acre price, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item.
18. 1-Gallon Shrubs. This item includes, but is not necessarily limited to, furnishing plant material, site preparation, hole excavation, planting, stabilizing, irrigation, rodent protection, maintenance, and warranty as shown in the Drawings and described in the Specifications. This item includes supplying all materials, equipment, labor, tools and incidentals to complete this work and the required warranty performance associated with providing 1-Gallon Shrubs.

- a) Measurement. This Item will be measured per each installed as shown in the planting areas on the Drawings and as specified.
- b) Payment. Payment for this Item shall be per live installed plant at the contract unit price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment, and other expenses necessary to complete the work as specified for this item.
19. 2-Gallon Trees. This item includes, but is not necessarily limited to, furnishing plant material, site preparation, hole excavation, planting, stabilizing, irrigation, rodent protection, maintenance, and warranty as shown in the Drawings and described in the Specifications. This item includes supplying all materials, equipment, labor, tools and incidentals to complete this work and the required warranty performance associated with providing 2-Gallon Trees.
- a) Measurement. This Item will be measured per each installed as shown in the planting areas on the Drawings and as specified.
- b) Payment. Payment for this Item shall be per live installed plant at the contract unit price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment, and other expenses necessary to complete the work as specified for this item.
20. 5-Gallon Trees. This item includes, but is not necessarily limited to, furnishing plant material, site preparation, hole excavation, planting, stabilizing, irrigation, rodent protection, maintenance, and warranty as shown in the Drawings and described in the Specifications. This item includes supplying all materials, equipment, labor, tools and incidentals to complete this work and the required warranty performance associated with providing 5-Gallon Trees.
- a) Measurement. This Item will be measured per each installed as shown in the planting areas on the Drawings and as specified.
- b) Payment. Payment for this Item shall be per live installed plant at the contract unit price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment, and other expenses necessary to complete the work as specified for this item.
21. Follow-up Invasive Plant Management. This item includes compensation in full for all labor, materials, equipment, and other expenses necessary to complete the Work as specified for this item, including all removal, treatment, disposal, equipment, and materials associated with Follow-up Invasive Species Management within the Limit of Disturbance as shown on the Drawings and any additional disturbed areas for the three years

following substantial construction completion as described in the Specifications.

- a) Measurement. This Item will be measured by the number of 8-hour shifts completed with two-licensed herbicide applicators with specific application to this work.
 - b) Payment. Payment for this Item will be made at the Contract unit price per day, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the Work as specified for this item.
22. Crossing 1. This item includes all labor, equipment, and materials associated with the construction of Crossing 1 as depicted on the plans and specifications, or as otherwise indicated.
- a) Measurement. No measurement for this item will be made.
 - b) Payment. Payment for Crossing 1 will be made at the contract lump sum price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment, and other expenses necessary to complete the work as specified for this item.
23. Crossing 2. This item includes all labor, equipment, and materials associated with the construction of Crossing 2 as depicted on the plans and specifications, or as otherwise indicated.
- a) Measurement. No measurement for this item will be made.
 - b) Payment. Payment for Crossing 2 will be made at the contract lump sum price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment, and other expenses necessary to complete the work as specified for this item.
24. Crossing 3. This item includes all labor, equipment, and materials associated with the construction of Crossing 3 as depicted on the plans and specifications, or as otherwise indicated.
- a) Measurement. No measurement for this item will be made.
 - b) Payment. Payment for Crossing 3 will be made at the contract lump sum price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment and other expenses necessary to complete the work as specified for this item.

25. Crossing 4. This item includes all labor, equipment, and materials associated with the construction of Crossing 4 as depicted on the plans and specifications, or as otherwise indicated.
- a) Measurement. No measurement for this item will be made.
 - b) Payment. Payment for Crossing 4 will be made at the contract lump sum price in the Construction Contract, which shall be compensation in full for all labor, materials, equipment, and other expenses necessary to complete the work as specified for this item.
26. ADA Path. This item includes all labor, equipment and materials associated with construction of the ADA Path as depicted on the plans and specifications, or as otherwise indicated.
- a) Measurement. This Item will be measured per square foot of ADA Path surface installed as shown on the Drawings and as specified.
 - b) Payment. Payment for this Item will be made at the Contract unit price per square foot.

END OF SECTION

SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

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

1.2 MINOR CHANGES IN THE WORK

- A. Engineer will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on a Field Order Form [EJCDC Document C-942].

1.3 PROPOSAL REQUESTS

- A. Engineer-Initiated Proposal Requests: Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
1. Proposal Requests issued by the Engineer are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 2. Within 5 days after receipt of Change Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a) Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b) Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c) Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to the Engineer.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
5. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Engineer will issue a Change Order for signatures of Owner and Contractor on Change Order form [EJCDC C-941, form included at end of Part 3].

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Work Change Directive: Engineer may issue a Work Change Directive on [EJCDC Document C-940]. A Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. A Construction Change Directive contains a complete description of change in the Work. It also designates a method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 13
SPECIAL CONDITIONS**PART 1 GENERAL****1.1 DEFINITIONS**

- A. “Owner” – The Town of Falmouth
- B. “Engineer” or “Resident Project Representative” – Inter-Fluve and Stimson Associates, see Design Drawings

1.2 PRECONSTRUCTION CONFERENCE

- A. A preconstruction conference shall be held at the project site within 2 weeks after award of the Contract. Owner will notify the Contractor as to the date and time of the conference upon contract award. Contractor’s Project Manager and Project Superintendent, Owner’s technical representative, Engineer, and Contractor’s Subcontractor Representatives shall attend. Project design intent, materials requirements, construction approach and sequencing, materials sources, construction methods, and scheduling will be reviewed and any questions or procedures will be clarified.
- B. The agenda of the preconstruction meeting shall incorporate the following items:
 - 1. Distribution and discussion of:
 - a) List of Subcontractors
 - b) Projected Construction Schedules
 - 2. Critical work sequencing
 - 3. Project coordination:
 - a) Designation of responsible personnel
 - 4. Procedures and processing of the following:
 - a) Submittals
 - b) Work Change Directives
 - c) Requests for Information
 - d) Deactivation Requests
 - e) Change Orders

- f) Applications for Payment
- 5. Permit Requirements
- 6. Adequacy of distribution of Contract Documents.
- 7. Procedures for maintaining Record Documents.
- 8. Use of premises:
 - a) Office, work, and storage areas
 - b) Owner's requirements
- 9. Construction facilities and construction aids.
- 10. Temporary utilities
- 11. Safety and first-aid procedures
- 12. Housekeeping procedures

1.3 ACCESS AND SEQUENCING CONSTRAINTS AND DEPENDENCIES

- A. Access to the project site shall be off of Hatchville Road as shown on the Drawings.

1.4 AIR, LAND AND WATER POLLUTION

- A. The Contractor is advised that several permits have been obtained for the Project included in Appendix A of the Specifications. The Contractor is fully responsible for complying with terms and conditions of these permits.
- B. The Contractor is responsible for submitting an application for and receiving coverage under the USEPA's NPDES General Permit for Stormwater Discharges from Construction Activities for this project. See also 31 25 00 - Erosion, Pollution and Water Control.
- C. Pollution of natural resources of air, land and water by operations under this Contract shall be prevented, controlled, and abated in accordance with the rules, regulations, and standards adopted and established by the Massachusetts Department of Environmental Protection, the United States Environmental Protection Agency and in accordance with the permits included in Appendix A of the Specifications.
- D. The Contractor shall furnish, install, and maintain temporary and permanent erosion and sediment control as described in 31 25 00 – Erosion, Pollution and Water Control and shown in the Drawings, in accordance with the provisions of

US EPA's NPDES General Permit for Stormwater Discharges from Construction Activities.

- E. The Contractor shall apply for and receive coverage under the above-mentioned permit by submitting a Notice of Intent for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit, coordinating Owner signatures, paying the application fee, and implementing the permit.
- F. The Contractor shall be solely responsible for complying with the requirements of the General Permit.
- G. The Contractor shall be responsible for providing all inspections, documentation, record keeping, maintenance, remedial actions, repairs required by the permit. All inspections, maintenance, and records required in the General Permit shall be the sole responsibility of the Contractor. The word "Permittee" in these referenced paragraphs shall mean "Contractor". Standard forms for logging all required inspection and maintenance activities shall be used by the Contractor. All inspection and maintenance forms used on this Project shall be turned over to the Engineer in accordance with the inspection schedule outlined in the General Permit.
- H. The Contractor shall have all logs, documentation, inspection reports on site for Engineer's review and shall post the permit on site. The Contractor shall immediately rectify any shortcomings noted by the Engineer. All meetings with the state agencies or any local authority shall be attended by both the Engineer and the Contractor or their representatives. No work required by said entities, and for which the Contractor would request additional compensation, shall be started without approval from the Engineer. No work required by said entities and for which the changes will impact the design or requirements of the Contract documents or impact traffic shall be started without approval from the Engineer.
- I. The Contractor shall immediately notify the Engineer of any site visits by Permitting Authorities performed in accordance with US EPA's NPDES General Permit for Stormwater Discharges from Construction Activities.
- J. If the Contractor fails to perform the requirements as listed in the applicable permits, the Engineer will issue a Work Order detailing the required action. The Contractor shall start the required action within twenty-four (24) hours of receipt of the Work Order and continue the required action until the Project is brought into compliance with the permit. Failure to perform the required action as specified, shall subject the Contractor to a \$1,000/calendar day deduction.
- K. The Contractor shall review and abide by the instructions contained in the permit package. The Contractor shall indemnify and hold the Owner harmless for any fines or sanctions caused by the Contractor's actions or inactions regarding compliance with the permit or erosion control provisions of the Contract Documents.

1.5 PROJECT SIGNS

- A. Furnish and install Contractor's standard sign approved by Owner.
 - 1. Install in location approved by Owner.
- B. Prior to any construction activity, including access, the Contractor shall install a project information sign near the staging area adjacent to Hatchville Road.
 - 1. The sign layout shall be provided to the Owner for review by the Contractor in electronic format of a quality suitable for printing.
 - 2. The sign shall be produced and erected utilizing durable materials and methods of construction to withstand all weather conditions and potential inundation.
- C. Prior to any construction activity, including access, a sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words, "Massachusetts Department of Environmental Protection [or, "MassDEP"] File Number 025-4902".
- D. Signs not listed in this Specification permitted only upon approval of Owner.

1.6 SUBMITTALS

- A. Construction Schedule
 - 1. Prior to the preconstruction conference, the Contractor shall submit to the Engineer and Owner a schedule illustrating in bar chart form the anticipated commencement date and duration of each of the major work tasks. The schedule should address the phasing of construction in a manner that will provide good project coordination. The Contractor will be required to update or modify the written construction schedule as necessary to accurately reflect the rate and progress on the project.
- B. Itemized list of Mobilization Costs (Section 01 71 13- Mobilization and Demobilization)
- C. Construction Operations Plan (Section 01 71 13- Mobilization and Demobilization)
 - 1. Traffic Control Plan (Section 01 55 26- Traffic Control)
 - 2. Control of Water Plan (Section 31 25 00- Erosion, Pollution and Water Control)
 - 3. Spill Prevention Plan (Section 31 25 00- Erosion, Pollution and Water Control)

- 4. Final Draft of the Storm Water Pollution Prevention Plan (Section 31 25 00- Erosion, Pollution and Water Control)

- D. Materials Submittals are required for the following items:
 - 1. Coir Fabrics (Section 31 23 00 – Earthwork)
 - 2. Riffle Aggregate (Section 31 23 00 – Earthwork)
 - 3. Large Wood Logs, Vertical Timber Piles, and Rootwads (Section 31 22 00 – Large Wood)
 - 4. Seed Mixes (Section 32 90 00 – Site Plantings)
 - 5. Containerized Plants (Section 32 90 00 – Site Plantings)
 - 6. Metal Fabrications Shop Drawings and Welders Certification (Section 05 55 00 – Metal Fabrications)
 - 7. Heavy Timber (Section 06 13 00 – Heavy Timber)
 - 8. Wood Decking Shop Drawings and Certificates (Section 06 15 00 – Wood Decking)
 - 9. Stabilized Aggregate (Section 32 15 43 – Stabilized Aggregate)

- E. Planting Operations Plan (Section 32 90 00 – Site Plantings)

- F. 3-Year Plant Maintenance Plan (Section 32 90 00 – Site Plantings)

- G. Invasive Plant Management Plan (Section 32 90 00 – Site Plantings)

- H. The Contractor shall make the following submittals to the Owner and the Engineer for their evaluation consistent with the timing indicated below:

Submittal	Required Timing and Description
Construction Schedule	Submitted with bid, with revised schedule five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
Construction Operations Plan	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
Itemized List of Mobilization Costs	At pre-construction conference.
Traffic Control Plan	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.

Control of Water Plan	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
Storm Water Pollution Prevention Plan (SWPPP)	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
Spill Prevention Plan	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
Materials Certifications	Accepted submittal required prior to delivery of material to site or implementation of method.
Planting Operations Plan	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
3-Year Plant Maintenance Plan	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.
Invasive Plant Management Plan	Five (5) days prior to pre-construction conference, Subject to approval of the Falmouth Conservation Commission.

1.7 SURVEY CONTROL

- A. Survey control has been established at the site as noted on the Drawings. All subsequent surveying needed for or incidental to the layout or construction staking shall be the responsibility of the Contractor. Stakes and markers shall be provided by the Contractor as necessary to control the work and assure construction is in conformance to the Drawings and Specifications, and as otherwise directed by the Engineer. Following staking of the Work, the Engineer may make field-based adjustments to the layout as necessary to meet current site conditions. Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various Contract items of work involved and no additional compensation will be made therefore.

1.8 DUST AND SPILL CONTROL

- A. The Contractor shall at all times limit migration of dust away from the project site by means of sweeping, sprinkling or other approved methods. The Contractor shall be responsible for the alleviation or prevention of dust nuisance caused by his own operations. In order to minimize traffic hazards and public nuisance arising out of the Contractor's operations, Contractor shall ensure that adjacent properties and improved surfaces of surrounding streets stay free and clean of silt, tracked mud, dust, etc., coming from or in any way related to construction. At a minimum, such cleanup shall occur prior to termination of each day's work. The Engineer may determine that such a traffic hazard or public nuisance requires an immediate cleanup. Such immediate corrective measures shall be at the expense of the Contractor. Full compensation for any water or other method used for dust and spill control required of this section, shall be considered as included in the

prices paid for the various Contract items of work involved and no additional compensation will be allowed therefore.

1.9 CONTRACTOR'S SUPERINTENDENT'S FIELD OFFICE

- A. Equipment: Cell phone and sanitary facilities.
- B. Maintain complete field file of shop drawings, Permits, Operations and Maintenance Manuals, posted Contract Drawings and Specifications, and other files of field operations including provisions for maintaining "As Recorded Drawings."

1.10 DRAWINGS AND CONTRACT DOCUMENTS FOR CONTRACTOR USE

- A. One copy of the Contract Documents in portable document format (PDF) and one hard copy of the Contract Drawings will be provided to the Contractor.
- B. The Contractor shall pick up all "no-charge" documents within 14 days from date of Notice to Proceed.

1.11 ORDER OF CONSTRUCTION AND CONSTRUCTION SCHEDULE

- A. The submitted construction schedule shall account for schedule of subcontracts and include proper sequence of construction, various crafts, purchasing time, submittals approval, material delivery, and similar time-consuming factors. Show in schedule as a minimum, earliest starting, earliest completion, latest starting, latest finish, and free and total float for each task or item. Evaluate schedule not less than weekly. Update, correct, and rerun schedule and submit to Engineer to show rescheduling necessary to reflect true job conditions. When shortening of various time intervals is necessary to correct for behind schedule conditions, indicate steps to implement and accomplish work in shortest schedule. Information shall be submitted to Engineer in writing with revised schedule. Contractor shall refer to the construction sequence provided in the Drawings.
- B. If Contractor does not take necessary action to accomplish work according to schedule, he may be ordered by the Engineer in writing to take necessary and timely action to improve work progress. Order may require increased work forces, extra equipment, extra shifts or other action as necessary. Should Contractor refuse or neglect to take such action authorized, under provisions of this contract, Owner may take necessary actions including, but not necessarily limited to, withholding of payment and termination of contract.

1.12 PROJECT MEETINGS

- A. The Engineer shall conduct construction meetings involving:
 - 1. Contractor's project manager

2. Contractor's project superintendent
 3. Owner's designated representative(s)
 4. Engineer's designated representative(s)
 5. Contractor's subcontractors as appropriate to the work in progress
 6. Local, state, and federal agency staff as appropriate to the work in progress
- B. The Engineer shall conduct meetings weekly.
- C. The Engineer shall take meeting minutes and submit copies of meeting minutes to participants and designated recipients identified at the Preconstruction Conference. Corrections, additions or deletions to the minutes shall be noted and addressed at the following meeting.
- D. The Engineer shall schedule meetings for most convenient time frame.
- E. The Engineer shall have available at each meeting full chronological file of all previous meeting minutes.

1.13 SPECIAL CONSIDERATIONS

- A. Contractor shall be responsible for negotiations of any waivers or alternate arrangements required to enable transportation of materials to the site.
- B. Contractor shall maintain conditions of access road to site such that access is not hindered as the result of construction related deterioration.
- C. Contractor shall note the following time-of-year restrictions included in the permits in Appendix A:
1. In-water, silt-producing work is prohibited from March 15th through June 30th and September 1st through November 15th.
 2. No in-water work shall commence until receipt of any pending permits.
- D. Contractor shall monitor weather forecasts and water levels to protect equipment and site from high water and flooding.

1.14 HISTORICAL AND ARCHAEOLOGICAL

- A. The Contractor is advised that the project area potentially contains archaeological or historical objects that may have significance from a historical or scientific standpoint.

- B. If during the course of construction, evidence of deposits of historical or archaeological interest is found, the Contractor shall cease operations affecting the find and shall notify the Engineer. No further disturbance of the deposits shall ensue until the Contractor has been notified by the Engineer that the Contractor may proceed.
- C. The Contractor's schedule shall anticipate up to two (2) working days of delays in the event that evidence of deposits of historical or archaeological interest is found. This 2-day cumulative delay is already anticipated in the completion date/working days and no additional time will be allowed. All work and consequential delay costs for this required schedule flexibility shall be considered incidental to the Contract and no additional measurement or payment will be made. In the event that archaeological materials are encountered that necessitate changed conditions, or if the cumulative delay is greater than two (2) working days, then compensation to the Contractor for lost time or changes in construction resulting from the find shall be determined in accordance with changed or extra work provisions of the Contract Documents.

1.15 ADDRESSES

- A. All notices and letters, and communications directed to Owner shall be addressed and delivered to the Town of Falmouth, Engineering Division of the Department of Public Works, Attn: Jim McLoughlin; james.mcloughlin@falmouthmass.gov; 508-457-2543, Ext. 3104; 416 Gifford Street, Falmouth, MA 02540. Notice shall also be sent via email when any hard copies of documents are sent to the Owner via a postal service.
- B. All notices, letters and communication directed to Engineer shall be addressed and delivered to Inter-Fluve, 220 Concord Ave., 2nd Floor, Cambridge, MA 02138 or in electronic format to Nick Nelson at Inter-Fluve, nelson@interfluve.com.
- C. The business addresses of Contractor given in the Bid Form and Contractor's office at the site of the Work are hereby designated as the places to which all notices, letters, and other communication to Contractor will be delivered.
- D. Either Owner, Contractor, or Engineer may change its address at any time by an instrument in writing delivered to the other two.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

Section 014339 – Mock-Ups

1. Furnish and install mock-ups suitable to illustrate finish colors, materials and methods of construction. Maintain mock-ups as standard of colors, patterns, materials, performance and workmanship for entire project.
2. Procedures: Provide mock-ups and field samples of finishes at project as required by individual Specification Sections.
 - a. Mock-ups may, with Landscape Architect's permission, be used in final, completed work.
 - b. Landscape Architect may reject, or withhold action on mock-ups requiring coordination with other mock-ups until related mock-ups are constructed and reviewed by Landscape Architect.
3. Contractor shall erect field samples and mock-ups at the Project "Mock-Up Site", at location acceptable to Landscape Architect. Size of individual mock-up shall be as specified in individual Specification Section.
4. Contractor's Preparation of Mock-ups: Contractor shall, at no additional cost, prepare and redo mockups as necessary until approved by the Landscape Architect.
 - a. Modify and customize mock-ups as required to show interface with adjacent work and attachment to structures or building.
5. Mock-Up Schedule
 - a. Mock-ups shall be completed for Landscape Architect's examination at least 15 days prior to scheduled start of construction or fabrication, as applicable for each type of work, unless otherwise specified.
 - b. Contractor shall be responsible for all mock-ups required under each individual specification section.

END OF SECTION

SECTION 01 71 13
MOBILIZATION AND DEMOBILIZATION

PART 1 GENERAL

1.1 MOBILIZATION

- A. Mobilization shall consist of preparatory work and operations performed by the Contractor, including, but not limited to, those necessary for the transportation and movement of personnel, traffic control, equipment, supplies, and incidentals to and from the project site; for necessary permits, submittals, notifications and other documentation; for the establishment of all offices and other facilities necessary for work on the project; for premium on contract bonds; for insurance for the Contract; and for other work and operations that must be performed or costs incurred before beginning Work on the various items on the project site and after the Work is completed.
- B. Mobilization shall also include the construction of temporary access ways; temporary crossings needed to complete the Work; temporary fencing; and the necessary preparatory work required to allow for the safe and stable movement of all vehicles that are required to construct the improvements shown.
- C. Mobilization costs for subcontracted work shall be considered to be included.

1.2 DEMOBILIZATION

- A. Demobilization shall consist of work and operations necessary to disband all mobilized items and clean up the site. The removal of all temporary access ways, signs, temporary fencing, and temporary facilities or works and the restoration of surfaces to an equal or better than existing condition shall also be included as part of Demobilization.
- B. Demobilization costs for subcontracted work shall be considered to be included.

1.3 SUBMITTALS

- A. Itemized list of Mobilization costs.
- B. Construction Operations Plan
 - 1. Prior to the preconstruction conference, the Contractor shall submit to the Engineer and Owner a Construction Operations Plan (COP) that adheres to all permits and permit conditions. The plan will detail the Contractor's approach to the project, including the temporary access design, updated construction sequencing plan, Control of Water Plan, Stormwater Pollution Prevention Plan, Spill Prevention Plan, Traffic Control Plan, and other details related to the Contractor's anticipated means and methods.

The Construction Operations Plan shall be reviewed by the Engineer. The Contractor shall not mobilize equipment to the site before the Construction Operations Plan is reviewed by the Engineer and accepted by the Owner. The Contractor shall not mobilize equipment before all pre-construction permit conditions are met.

2. Construction Schedule – The Contractor shall provide a final intended construction schedule for review, to be included in the COP.
3. Control of Water Plan – The Contractor shall describe through narrative and figures the approach to the required stream diversion, local dewatering, and erosion and turbidity control measures, including sequencing and intended means and methods. The Contractor shall demonstrate the anticipated capacities of water conveyance measures used for stream diversion and demonstrate that the planned capacities are adequate for the anticipated streamflow during the period of construction. Refer to Section 31 25 00 – Erosion, Pollution, and Water Control.
4. Storm Water Pollution Prevention Plan (SWPPP)– The Contractor shall include the SWPPP in the COP. The SWPPP shall include a Spill Prevention Plan. The SWPPP shall include the information required for compliance with the EPA NPDES Construction General Permit. Refer to Section 31 25 00 – Erosion, Pollution, and Water Control.
5. Traffic Control Plan – The Contractor shall provide an intended traffic control plan to ensure site and public safety associated with movement of equipment, materials, and forces entering and exiting the site and to promote general awareness of the construction activity in the Town, to be included in the COP.

PART 2 PRODUCTS

2.1 MATERIALS

- A. As part of Mobilization, the Contractor shall provide safe storage for materials intended for the Work until such materials have been incorporated in the completed project.

PART 3 EXECUTION

3.1 SITE PREPARATION AND SCHEDULING

- A. Contractor shall provide a billboard for displaying the project permits.
- B. The Contractor shall adhere to all time-of-year (TOY) restrictions set forth in the project permits, including all in-water work associated with the channel restoration. Work may continue in these areas during the TOY restrictions if full

fish passage is provided around the work area and sediment releases to the active channel is limited.

END OF SECTION

SECTION 02 40 00
DEMOLITION**PART 1 GENERAL****1.1 SUMMARY**

- A. Work under this section includes:
 - 1. Demolition, removal, and off-site disposal including, but not limited to existing culverts; water control structures; concrete, masonry, metal, irrigation facilities, pipes, fittings, or appurtenances; and/or other surface or subsurface structures within the project limits, as indicated on the Drawings or otherwise exposed during construction activities.

PART 2 PRODUCTS (NOT USED)**PART 3 EXECUTION****3.1 DEMOLITION**

- A. All components of site features to be demolished shall be removed and disposed of offsite in accordance with all applicable rules and regulations.
- B. Use of explosives or burning as a means of demolition will not be allowed.
- C. The Contractor shall perform the demolition in a controlled manner, with due regard to the safety and preservation of the public, pedestrians, resident wildlife, onsite personnel, adjacent natural resources, and its own forces.
- D. The Contractor shall use demolition methods that will allow complete removal of demolition debris from the site. The Contractor shall prevent demolition debris or dust from entering areas outside of the limits of disturbance as shown on the Drawings.
- E. The Contractor shall use demolition methods that will not result in degradation or impairment of the existing natural resources and/or environmental qualities, including but not limited to water, soil or air quality.
- F. The Contractor shall perform breaking and debris-size-reduction as necessary for loading into transport vehicles and offsite disposal.
- G. All structures slated for removal shall be removed in their entirety, leaving the native grade exposed. If the resulting grade conditions are deemed unsuitable by the Engineer, excavate and remove a minimum of 1.0 foot below grade and replace with approved material.

END OF SECTION

DIVISION 05 – METALS

Section 055500 - Metal Fabrications

1. Metal fabrications, including ornamental metal work, shall include but not be limited to:
 1. River Crossing Brackets and Supports
 2. Metal handrails and railings.
 3. Supports, brackets, fasteners and other metalwork indicated.
2. Shop Drawings: Submit shop drawings of work showing size and thickness of each member, type of material, method of connection and assembly. Show dimensions, clearances, anchorages, relationships to surrounding work, coatings, and other pertinent details of fabrication and installation.
 - a. Show profiles, reinforcing, fasteners, and any accessories.
 - b. Indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.
3. Welders Certification: Provide certifications, signed by Contractor, certifying that welders employed at project comply with requirements specified under AWS D1.1 and AWS D1.2.
4. Steel: Provide products and materials of new stock, free from defects, and of best commercial quality for each intended purpose.
 - a. Steel Plates, Shapes, and Bars: ASTM A 36.
 - b. Steel Tubing: ASTM A 500 or A 501, hot or cold rolled, as required for design loading.
 - c. Steel Pipe: ASTM A 53, schedule 40, Type S (seamless), black except where galvanized is indicated, Grade A for cold-bending.
 - d. Steel Sheet: ASTM A 366, A 570, or A 611, grade required for design loading.
 - e. Steel Bars for Gratings: ASTM A 569 or ASTM A 36.
 - f. Wire Rod for Grating Cross Bars: ASTM A 510.
5. Weathered Steel: Provide products and materials of new stock, free from defects, and of best commercial quality for each intended purpose.
 - a. Plates and rolled sections shall be a high-strength, low-alloy, atmospheric-corrosion-resistant structural steel, Grade 50 with a minimum yield stress of 50 ksi (345 MPa) conforming to ASTM A 588.
 - b. Pipes and tubes shall be ASTM A 872.
 - c. High-strength bolts shall conform to ASTM A 325 Type 3.
6. Below Grade Coating: shall be Targuard Coal Tar Epoxy, a high build, polyamide epoxy heavy duty structural coal tar coating conforming to Corps of Engineers Formula C-200a and SSPC Paint 16 Specification, manufactured by Sherwin Williams, Tel. 1-800-524-5979, or approved equal.
7. Finishes:
 - a. Steel:
 1. General: Shop prime work to greatest extent possible, except those items indicated to be embedded in concrete, and those items indicated to receive fireproofing. Field touch-up shop applied coatings after installation.

- a. Prepare work for shop priming in compliance with SSPC SP6.
- b. Provide 1 mil dry film thickness of rust inhibitive primer over properly prepared, non-galvanized and/or non-fireproofed surfaces. Provide two coats with 2 mils total dry film thickness for surfaces which are inaccessible after assembly or erection.
- c. Touch-Up for Galvanized Surfaces: Touch-up damaged or abraded galvanized surfaces with products equal to one of the following:
 1. Cold Galvanizing Compound; ZRC.
 2. Speedhide Galvanized Steel Paint; PPG.
 3. Series 90-93 Zinc-Rich Primer; Tnemec.
2. Galvanizing: Hot-dip galvanize exterior metal fabrications in compliance with ASTM A 123, ASTM A 153, or ASTM A 386. Provide minimum 1.5 oz./ft² zinc coating. Galvanize after fabrication.
- b. Anchor Bolts: ASTM F 1554, Grade 55. Provide hot-dip or mechanically deposited, zinc-coated anchor bolts where item being fastened is indicated to be galvanized.
 1. Anchor bolts, bolts smaller than 5/8 in., and fasteners shall be steel castings conforming to ASTM A 307. Bolts larger than 5/8 in. shall conform to ASTM A 325.
- c. Cast-in-Place Anchors in Concrete: Anchors capable of sustaining, without failure, a load equal to four times the load imposed, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
 1. Threaded or wedge type; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, hot-dip galvanized per ASTM A 153/A 153M.
- d. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with hex nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.
- e. Stainless-Steel Bolts and Nuts: Regular hexagon-head annealed stainless-steel bolts, nuts and, where indicated, flat washers; ASTM F 593 (ASTM F 738M) for bolts and ASTM F 594 (ASTM F 836M) for nuts, Alloy Group 2 (A4).
- f. Expansion Anchors: Anchor bolt and sleeve assembly with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
 1. Material for Anchors in Exterior Locations: Alloy Group [1 (A1)] [2 (A4)] stainless-steel bolts complying with ASTM F 593 (ASTM F 738M) and nuts complying with ASTM F 594 (ASTM F 836M).
 2. Acceptable Manufacturers: Kwik-Bolt 3 by Hilti, Inc., TruBolt Wedge Anchor by ITW Red Head, Power-Stud by Powers Fasteners, or equal.

- g. Provide exposed fastenings of same material and finish as metal to which applied, unless otherwise noted.

8. Fabrication:

- a. Fabricate work of this Section to be straight, plumb, level and square, and to sizes, shapes and profiles indicated on approved shop drawings. Ease exposed edges. Cut, reinforce, drill and tap metal work as required for proper assembly.
 - 1. Fabricate miscellaneous supports, brackets, braces and the like required to fully complete the work.
 - 2. Obtain loading requirements from suppliers of work to be supported. Design and support systems with a safety factor of at least 6 unless otherwise indicated.
 - 3. Allow for thermal movement resulting from 100°F change in ambient temperature.
 - 4. Shear and punch metals accurately. Remove burrs.
 - 5. Ease exposed edges to a radius of approximately 1/32 in., unless indicated otherwise. Form bent corners to smallest radius possible without causing grain separation or impairing work.
 - 6. Remove sharp or rough areas on exposed traffic surfaces.
 - 7. Weld seams continuously. Spot welding is permitted for temporary welding only.
- b. Work Exposed to View: For work exposed to view, select materials with special care. Provide materials which are smooth and free of blemishes such as pits, roller marks, trade names, scale and roughness. Fabricate work with uniform hairline joints. Form welded joints and seams continuously. Grind welds flush to be smooth after painting. For exposed fasteners, use hex head bolts or Phillips head machine screws.
 - 1. Galvanizing: Hot-dip galvanize exterior metal fabrications, items located in exterior wall assemblies, and other items indicated to be galvanized, in compliance with ASTM A 123, ASTM A 153, or ASTM A 386. Provide minimum 1.5 oz./ft.2 zinc coating. Galvanize after fabrication.
 - 2. Handrails and Guardrails: Conform to ASTM E 985 for design and engineering for structural performance based on testing performed in accordance with ASTM E 894 and ASTM E 935, using load and deflection values specified below. Design and fabricate handrails and guardrails to support 50 lb. per linear foot uniform load and 200 lb. concentrated load, located at any point to cause greatest stress horizontally or vertically. Load conditions do not act concurrently. Design maximum deflection of any member under load conditions shall not exceed L/360.
 - 3. Miscellaneous Framing and Supports: Fabricate miscellaneous framing and support to adequately support live and dead loads with a safety factor of 5. Provide necessary anchors, inserts, and fasteners.
 - a. Cut, drill, and tap units to receive hardware, hangers and similar items.

- b. Coordinate loading and attachment requirements for miscellaneous framing and supports with manufacturers of items being supported.
9. Welding rods: Conform to AWS Standards and recommendations of welding rod manufacturer.
10. Grout for Exterior Applications: Provide Factory-packaged, non-shrink, non-staining, hydraulic controlled expansion cement formulation for mixing with water at project site. Provide formulation that is resistant to erosion from water exposure without need for protection by a sealer or waterproof coating. Provide Super Por-Rok, Erosion-Resistant Anchoring Cement, manufactured by Minwax Construction Products Division, or equal as approved by Landscape Architect.
11. Materials and workmanship shall conform to applicable standards including ANSI, ASTM, and NAAMM. Exterior metal work shall be hot-dip galvanized after fabrication in accordance with ASTM A 123.
12. Miscellaneous Framing and Supports: Fabricate miscellaneous framing and supports to adequately support live and dead loads with a safety factor of 5. Provide necessary anchors, inserts, and fasteners. Fabricate support system to carry entire load of work being supported to structure above. Do not transfer any loads to ceiling systems.
 - a. Cut, drill, and tap units to receive hardware, hangers and similar items.
 - b. Coordinate loading and attachment requirements for miscellaneous framing and supports with manufacturers of items being supported.
13. Miscellaneous Bearing and Leveling Plate Fabrication: Provide miscellaneous loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Fabricate units flat, free from warps or twists, and of required thickness and bearing area. Drill plates to receive anchor bolts as required.

END OF SECTION

DIVISION 6 - WOOD AND PLASTICS

SECTION 061000 – Rough Carpentry

1. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - a. Wood blocking, cants, and nailers.
 - b. Plywood backing panels.
 - c. Rooftop equipment bases and support curbs.
2. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
3. Factory mark each piece of lumber with grade stamp of grading agency. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber. Provide dressed lumber, S4S, unless otherwise indicated. Provide dry lumber with 15 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.
4. Preservative Treatment by Pressure Process: AWPA C2 (lumber) and AWPA C9 (plywood), except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX). Preservative Chemicals acceptable to authorities having jurisdiction and not containing arsenate.
5. Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - a. Where carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
 - b. Nails, Wire, Brads, and Staples: FS FF-N-105.
 - c. Power-Driven Fasteners: CABO NER-272.
 - d. Wood Screws: ASME B18.6.1.
 - e. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
 - f. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.
6. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.

7. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
8. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.
9. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
10. Countersink fastener heads on exposed carpentry work and fill holes with wood filler.
11. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.

END OF SECTION

SECTION 061300 – Heavy Timber

1. Contractor shall submit Manufacturer Qualifications.
 - a. Acceptable Manufacturer: Weyerhaeuser 810 Whittington Ave. Hot Springs, AR 71902
Phone: 501-624-8100 Web: <https://www.weyerhaeuser.com/>
2. Treated Parallam Plus PSL
3. Lumber Grading Rules: WCLB (GR).
4. Wood Preservative (Pressure Treatment): AWPA Standard U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.
5. Ensure that foundations and other support fabrications are installed in correct locations and anchored securely.
6. Set members level and plumb, unless designated otherwise in the drawings, in correct position.
7. Make provisions for sufficient temporary bracing to maintain positioning of poles safe, plumb, and in alignment as noted until completion of erection and installation of permanent bracing.
8. Cutting: Avoid extra cutting after fabrication. Where field fitting is unavoidable, comply with requirements for shop fabrication.
 - a. Where preservative-treated members must be cut during erection, apply a field-treatment preservative to comply with AWPA T1.
 - b. Replace damaged pole construction if repairs are not approved by Architect.
 - c. Repair damaged pole construction and finishes after completing erection.
9. Brush apply one coats of preservative treatment on wood in contact with cementitious materials and roofing and related metal flashings. Apply preservative treatment in accordance with manufacturer's instructions. Treat site-sawn ends. Repair damaged surfaces and finishes after completing erection. Replace damaged construction if repairs are not approved by Architect

END OF SECTION

Section 061500 – Wood Decking

1. Provide all equipment and materials, and do all work necessary to furnish and install the wood decking and framing lumber, as indicated on the Drawings and as specified herein.
2. Submit shop drawings indicating profiles, sizes, connection attachments, and types of fasteners.
3. Certificates: Submit certificates of grading, treatment, and conformance to specified standards. Certifications shall conform to AWPB LP-22 Paragraph 5.
4. Lumber shall bear the grade-trademark of the association under the rules or standards of which they were produced. Grade trademarks shall conform to the rule or standard under which the material is produced, including requirements for qualifications and authority of the inspection organization, usage of authorized identification, and information included in the identification.
 - a. Grades specified are the minimum acceptable. Lumber grades shall be determined in accordance with ASTM D 245.
 - b. Lumber shall bear the grade mark of an American Lumber Standards Committee, Board of Review-approved agency. Lumber shall conform to USDC PS 20.
 - c. Lumber shall bear a mark of mill identification.
5. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":
 1. Dimension lumber framing.
 2. Decking lumber
 3. Miscellaneous lumber.
6. Framing Lumber – Pressure Treated:
 - a. Lumber shall be of sound stock, new, straight, of consistent size, free of stains and mildew, and kiln dried to a moisture content of not more than 19%, by weight. Wood members shall be selected for best possible appearance from the grade of stock specified.
 - b. Lumber shall be surfaced four sides (S4S) and shall bear the grade and trademark of the association under whose rules it is produced, and a mark of mill identification.
 1. Structural Lumber: shall be Southern Yellow Pine, Hem Fir or Douglas Fir, Structural Joists and Planks, No. 1 Grade with "Fb" = 1200 psi, or better.
 - c. Timber Posts: Balsam fir, Douglas fir-larch, Douglas fir-larch (North), eastern hemlock tamarack (North), hem-fir, southern pine, western hemlock, or western hemlock (North); No. 2, NeLMA, NLGA, SPIB, WCLIB, or WWPA.
 - d. Round Wood Poles: Clean-peeled wood poles complying with ASTM D 3200; with at least 80 percent of inner bark removed and with knots and limbs cut flush with the surface.
 - e. Wood nailers, curbs, furring, blocking, etc., shall be kiln-dried Construction Grade or No. 2 and Better Common Hem-Fir. Moisture content shall not exceed 19% by weight.
7. Wood Preservative Treatment:
 - a. Pressure Type Preservative: Wolman® E copper azole; provided by Arch Treatment Technologies, Inc., 1955 Lake Park Drive, Suite 250 Smyrna, GA 30080; Tel:770.801.6600;E-mail: info@wolmanizedwood.com • Web: www.wolmanizedwood.com, or approved equal.
 1. Lumber shall be pressure treated with copper azole, conforming to AWPB P5, and AWPB Standard C1. Retention shall be CBA-A, at least .41 lb. of dry salts per cu. ft. of wood; specified standard for agriculture, farm use, building construction material,

- fences, highway material and decks in contact with the ground. Supply certificate of treatment to Architect.
2. Treatment: In accordance with the requirements of AWPA Standard C1 and in accordance with the following standards for indicated end uses:
 - a. Lumber: C2.
 3. Treated wood shall be redried before installation to a moisture content of 19% or less and all field cuts shall be brush treated with the preservative material in accordance with AWPA M4.
 4. Under no circumstances shall creosote, copper sulfate, or mercuric chloride preservative be used.
8. Tolerances:
- a. Allowable imperfections defined as Small drying cracks, small end splits (less than 5/32 in. in width), that do not impair strength of the material or fastening. Discoloration caused by weathering or chemical reaction. Bow or twist which can be removed using normal installation methods and tools.
 - b. Not Allowable Imperfections defined as Longitudinal heart cracks, internal cracks, firm or soft sap wood, fungi affects - (blue to gray, brown to red, white to yellow, or incipient decay). Bow or twist which cannot be removed using normal installation methods and tools.
 - c. Moisture Content: Air-dried to a moisture content of 12%.
 - d. Lumber Grade: Lumber shall be graded as per "Iron Woods Premium-CAH (Premium Clear All Heart) Grading Rules", defined as follows:

Lumber shall be graded both faces and both edges.
Lumber shall be straight grained and parallel cut without heart center.
Lumber shall be all heartwood, no sapwood allowed.
Lumber shall be in sound condition, free from worm holes or knots.

END OF SECTION

SECTION 31 10 00
CLEARING AND GRUBBING

PART 1 GENERAL

1.1 SUMMARY

- A. Clearing and Grubbing shall consist of:
1. Clearing and grubbing operations as required to install the work shown on the Drawings.
 2. Salvage, stockpile, and onsite management of vegetation as described below.
 3. Management of noxious and/or invasive vegetative species prior to substantial construction completion as described below and in Section 32 90 00 Site Plantings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PREPARATION

- A. Protect existing surface and subsurface features on-site and adjacent to site as follows:
1. Protect existing vegetation and infrastructure that do not interfere with the Work as well as those indicated to remain in place with barricades, coverings, or other types of protection necessary to prevent damages.
 2. Protect and maintain bench marks, monuments or other established reference points and property corners. If disturbed or destroyed, replace at Contractor's expense to full satisfaction of the Engineer and controlling agency.
 3. Verify location of utilities. Omission or inclusion of utility items in the Drawings does not constitute non-existence or definite location. Secure and examine local utility records for location data and call Dig Safe at 1-888-DIG-SAFE (1-888-344-7233).
 - a) Take necessary precautions to protect existing utilities from damage due to any construction activity.
 - b) Repair damages to utility items at Contractor's expense.

- c) In case of damage, notify Engineer at once so required protective measures may be taken.
 4. Maintain free of damage, existing sidewalks, structures, and pavement, not indicated to be removed. Any item known or unknown or not properly located that is inadvertently damaged shall be repaired to original condition. All repairs to be made and paid for by Contractor.
 5. Provide full access to public and private premises, fire hydrants, street crossings, sidewalks and other points as designated by Engineer to prevent interruption of travel.
 6. Maintain stockpiles and excavations in such a manner to prevent inconvenience or damage to structures on-site or on adjoining property. Do not smother trees by stockpiling construction materials or excavated materials within drip line.
 7. Avoid foot or vehicular traffic or parking of vehicles within drip line.
 8. Avoid surcharge or excavation procedures which can result in heaving, caving, or slides.
- B. Repair or replace trees and vegetation damaged by construction operations. If trees or vegetation that have not been identified for removal and reuse or disposal become damaged, as determined by the Owner, during the course of the work, the Contractor shall initiate the following remedial actions, as appropriate, at no cost to the Owner.
1. Repair to be performed by Arborist certified by the Massachusetts Certified Arborists (MCA) program.
 2. Remove trees which cannot be repaired or restored to full growth status.
 3. Replace removed trees with new trees of minimum 4-inch caliper.

3.2 SITE CLEARING

- A. Clearing and Grubbing shall be limited to extents of Earthwork and limits of the access alignments and staging areas as indicated on the Drawings. Contractor and Engineer shall review and confirm the limits of Clearing and Grubbing prior to commencement of the Work, and shall clearly mark woody vegetation and trees to be maintained, to be removed, and to be salvaged as part of the clearing operation.
1. Remove and grub trees, shrubs, brush, downed timber, rotten wood, heavy growth of grass and weeds, vines, rubbish, and debris within the limits of excavation.

- B. All trees, root wads, and branches removed during construction, unless specified otherwise, are to be salvaged, stockpiled, and managed by the Contractor as described above.
1. Non-invasive trees with boles greater than 10 feet long and 4 inches dbh marked for clearing shall be salvaged and evaluated for use as Large Wood as shown on the Drawings. Trees shall be salvaged with rootwads intact. See Section 31 22 00 Large Wood.
 2. Non-invasive trees and other non-invasive woody vegetation marked for clearing not designated for reuse as Large Wood shall be classified as Slash. The material shall be salvaged and used in locations indicated on the Drawings and in Section 31 22 00 Large Wood. Slash shall be stockpiled in piles proximal to their eventual location of installation.
- C. The Contractor shall control noxious and/or invasive vegetative species including, but not limited to, Autumn Olive (*Elaeagnus umbellata*), Black Locust (*Robinia pseudoacacia*), Norway Maple (*Acer platanoides*), Sycamore Maple (*Acer pseudoplatanus*), Gray Willow (*Salix cinerea*), Glossy Buckthorn (*Frangula alnus*), Black Swallowwort (*Cynanchum louiseae*), Oriental Bittersweet (*Celastrus orbiculatus*), Porcelainberry (*Ampelopsis glandulosa*), English Ivy (*Hedera helix*), Japanese Honeysuckle (*Lonicera japonica*), Japanese Barberry (*Berberis thunbergii*), Multiflora Rose (*Rosa multiflora*), Winged Euonymus (*Euonymus alatus*), Morrow's Honeysuckle (*Lonicera morrowii*), Border Privet (*Ligustrum obtusifolium*) and other privets, Lesser periwinkle (*Vinca minor*), Spotted Knapweed (*Centaurea biebersteinii*), Garlic Mustard (*Alliaria petiolate*), Yellow Sweet Clover (*Melilotus officianalis*), Purple Loosestrife (*Lythrum salicaria*), Common Reed (*Phragmites australis*), as well as aggressive native species, including Speckled Alder (*Alnus incana*) and Sweetgale (*Myrica gale*) within the Limits of Disturbance as shown on the Drawings and/or any additional disturbed areas using integrated pest management principles consisting of mechanical, biological, and chemical controls that shall be outlined in the Invasive Species Management Plan or as designated by the Engineer. Controlling invasive vegetative species consists of killing and removing invasives by chemical, mechanical, and hand methods. Poison Ivy (*Toxicodendron radicans*) shall also be controlled from the top of the bog berm bank to the landward side of berm road for public safety. Noxious and/or invasive vegetative species shall be removed and/or treated using methods that minimize the potential for mobilization and/or propagation off site. Dispose of the vegetative material in accordance with applicable regulations. See Section 32 90 00 Site Plantings for details. The Contractor shall salvage and stockpile cleared debris designated for reuse.
- D. Slash material shall be incorporated in Large Wood placements as indicated on the Drawings. Excess slash may be spread over floodplain areas during grading operations. See Section 31 22 00 Large Wood.

- E. All trees not removed in clearing and grubbing operations shall be protected from root and bark damage, soil compaction, and smothering of roots and trunks.
- F. Disposal of Waste Materials:
 - 1. Cleared materials and waste materials not designated for reuse shall be disposed of off-site by the Contractor in accordance with applicable regulations.
 - 2. Burning, as a means of waste disposal, is not permitted.

3.3 FIELD QUALITY CONTROL

- A. Upon completion of the site clearing and prior to substantial construction completion, obtain acceptance of the extent of clearing and invasive species management from the Engineer and Owner.

END OF SECTION

SECTION 31 22 00
LARGE WOOD**PART 1 GENERAL****1.1 SUMMARY**

- A. Work under this section includes:
1. The installation of Contractor-Supplied Large Wood Material including Logs, Logs with Rootwads, Vertical Timber Piles, Salvaged Saplings, and Slash for habitat and bank treatments. These items may be collectively referred to as Large Wood in this Section. Work shall require excavating, placing Large Wood in streambanks and on the ground surface, burying logs, and backfilling, implemented as a field-set item constructed with locations and orientations coordinated with on-site Engineer at time of construction.
- B. Large Wood will be placed in three typical installations:
1. Large Wood Complexes which generally consist of arrangements of Logs, Logs with Rootwads, and Slash as depicted on the Construction Drawings that will span the existing river channel to form the proposed channel bank.
 2. Large Wood Bank Treatments, including Large Wood Treatment Types A, B, and C, which generally consists of arrangements of Salvaged Saplings, Logs, Logs with Rootwads, Slash, and Vertical Timber Piles as depicted on the Construction Drawings that will be buried in the bank and partially protrude from the bank into the stream. Placement shall be through excavating trenches or pushing the woody material directly into the soil.
 3. Salvaged Large Wood materials used as Slash placed on the former bog surface and not associated with Large Wood Complexes or Large Wood Bank Treatments (Treatment Types A through C). Placement shall be through excavating trenches and pushing large wood into the bog surface.

1.2 SUBMITTALS

- A. Submit intended source for Contractor-supplied Large Wood, with detail on the source location, sizes, and species.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Logs and Vertical Timber Piles shall be supplied by the Contractor or salvaged onsite by the Contractor and shall be white pine, cedar, oak, or other pre-approved species, at least 20 feet in length measured from base to top. Diameter at breast height shall be a minimum of 12 inches.
- B. Logs with Rootwads shall be supplied by the Contractor or salvaged onsite by the Contractor and shall be white pine, cedar, oak, or equivalent, at least 20 feet in length measured from top of the rootwad where it meets the trunk to the tip of the attached bole. Diameter at breast height shall be a minimum of 12 inches. Rootwads shall be a minimum of 3 feet in diameter and 75% of the total rootwad mass must be present.
- C. Salvaged Saplings shall consist of a whole tree salvaged onsite during Clearing and Grubbing for use in the project. Salvaged Saplings shall have branches and root fans intact. Salvaged Trees shall consist of Owner Representative-identified trees harvested from the project site, with branches and the root fan intact, or tipped in place. Salvaged Saplings shall be 10 to 15 feet in length and a minimum of 4 inches diameter at breast height.
- D. Slash shall be trees and other woody vegetation less than 12 inches diameter at breast height supplied by the Contractor or salvaged onsite during Clearing and Grubbing for use in the project.
- E. Large Wood shall be recently harvested or in a 100% rot- and insect-free condition.

PART 3 EXECUTION

3.1 PREPARATION

- A. Care should be taken when handling Large Wood to minimize damage such as abrasion, splitting, crushing, and shearing to the tree trunk and roots.
- B. Large Wood should be cleaned of secondary branches. The secondary branches will be salvaged for use as Slash as directed by the Engineer.

3.2 INSTALLATION

- A. The general location of Large Wood is shown schematically on the Drawings but shall be installed through a field-set approach with the final positions, orientations, and configurations to be coordinated with on-site Engineer at the time of construction.

1. Excavate as necessary to place Large Wood while minimizing disturbance to existing or prepared grades. Shape, trim, and finish grades to allow for placement of Large Wood as shown on the Drawings.
 2. Place Large Wood and Slash where required in final configuration per the Drawings and after consultation with Engineer.
 3. The estimated quantities of Large Wood to be installed in the project work are listed on the Drawings. The final distribution and locations of Large Wood may be modified by the Engineer in the field.
 4. To facilitate efficient movement and installation of Large Wood, the Contractor shall provide a track excavator with a hydraulic thumb attachment.
 5. Vertical Timber Piles shall be driven at least 50% of the length of the pile beneath the final grade. Other key pieces of Large Wood Materials, including Logs and Logs with Rootwads shall be installed in contact with the upstream side of the Vertical Timber Piles prior to backfilling.
 6. Any equipment or methods which result in regular or repeated damage to the Vertical Timber Piles during driving or is detrimental to the pull-out capacity of Vertical Timber Piles already driven, will be rejected by the Engineer.
 7. Slash shall be securely ballasted by and beneath log structures as shown on the Drawings and per consultation with the Engineer.
- B. Bank Treatments
1. Large Wood will be placed after excavation to required subgrade. Bank treatment will consist of several logs which will be buried in the bank and partially protrude from the bank. Placement shall be through excavating trenches or pushing logs directly into the soil.
- C. Slash installation throughout the former bog surface and edges of open water
1. Slash placed outside of the channel, on the bog surface and the edges of open water shall be partially buried, and/or wedged under Large Wood as shown on the Drawings to minimize movement during high flow events.

END OF SECTION

SECTION 31 23 00
EARTHWORK**PART 1 GENERAL****1.1 SUMMARY**

- A. Work under this section includes:
1. Earthwork associated with channel, bog, wetland, and pond grading.
 2. Earthwork associated with removal of berms and filling of ditches.
 3. Riffle construction with Riffle Aggregate at the locations indicated on the Drawings.
 4. Installation of Surface Fabric.
 5. Microtopography grading.
 6. Excavation and backfill for site structures and utilities.
 7. Placement and compaction of fill.

1.2 SUBMITTALS

- A. Surface Fabric: Prior to ordering, provide Certificates of Compliance for all materials required for fabrication and installation, including Woven Coir Fabric, Non-Woven Coir Fabric, Wood Stakes, and Wood Staples, certifying that each material complies with, or exceeds, specific requirements referenced below.
- B. Riffle Aggregate material test results:
1. Gradation
 2. Specific gravity
 3. Absorption
 4. Abrasion

PART 2 PRODUCTS**2.1 MATERIALS**

- A. Sand Soil: shall be granular material that is exhumed from the bog surface and from the former streambed surface during excavation and deemed acceptable for reuse in project construction by the Engineer. Sand Soil shall generally be sand,

free of chemical contaminants, stumps, and other deleterious materials. Sand Soil shall be stockpiled for eventual use by the Contractor as a component of Salvaged Fill for backfilling and grading operations.

- B. Organic Soil: shall be fine material composed of peat or organics, with mineral soil present in smaller amounts, exhumed from the bog during excavation and deemed acceptable for reuse in project construction by the Engineer. Organic Soil shall free of chemical contaminants, stumps, and other deleterious materials. Organic Soil shall be stockpiled for eventual use by the Contractor as a component of Salvaged Fill for backfilling and grading operations.
- C. Salvaged Fill: shall be soil material combined from Sand Soil and Organic Soil excavated from within project footprint that is deemed acceptable for reuse in project construction by the Engineer, including Fill within the project limits, and construction of streambanks. Salvaged Fill shall generally be a well-blended mix of equal parts Sand Soil and Organic Soil, free of chemical contaminants, stumps, other deleterious materials, and rocks or organic material greater than 2 inches in diameter. Salvaged Fill shall be blended as needed, and/or stockpiled for eventual use by the Contractor for backfilling and grading operations.
- D. Native Substrate: shall be granular gravel and coarse sand material that is exhumed from the former streambed surface during excavation and deemed acceptable for reuse in project construction by the Engineer, including as a supplement to imported Riffle Aggregate. Native Substrate shall generally be gravels blended with sand and/or cobbles, free of organics, chemical contaminants, stumps, and other deleterious materials. When identified, Native Substrate shall be stockpiled for eventual use by the Contractor.
- E. Controlled Density Fill (CDF) Material: shall be Type 1 (Very Flowable, Non Excavatable) material conforming to section M4.08.0 of the Massachusetts Department of Transportation – Highway Division Standard Specifications for Highways and Bridges (Current Edition).
- F. All other excavation shall be unclassified, including highly saturated and muck soils. Soft or saturated soils to be reused or spoiled shall be stockpiled on site for drying in such a manner to minimize drying time. Erosion control measures must be implemented to prevent soil loss from stockpiles.
- G. The Contractor is advised of the following:
 - 1. The existing abandoned cranberry bogs include a sand layer that is approximately 1 to 3 feet thick overlaying soft, saturated peat with a typical thickness that ranges up to approximately 15 feet. Variations from these general trends will be encountered, and should be expected and managed in execution of the Work.

2. The Contractor shall employ measures and specialized equipment necessary to work efficiently given the soils and moisture conditions.

H. Riffle Aggregate

1. Shall be rounded, hard, durable, resistant to weathering and to water action, and be free from overburden, spoil, shale, structural defects and organic material. The least dimension of any piece of stone shall not be less than one-third its greatest dimension. Unless otherwise approved, the materials shall meet the following quality requirements:

Quality Requirements	
Test and Method	Specification Limits
Apparent Specific Gravity, AASHTO T 85, min	2.65
Absorption, AASHTO T 85, % max	3.0
Abrasion, AASHTO T 96, % max/500 rev	35

2. Riffle Aggregate installed in place shall form a compact and consolidated streambed with limited void space, free from segregation of stone sizes. Riffle Aggregate shall meet the gradation listed below:

Riffle Aggregate		
% Passing Weight Basis	Median Diameter (inches)	
	Minimum	Maximum
100	5.9	6.9
84	4.8	5.5
50	3.5	4.0
32	1.8	2.1
16	0.7	0.8
5	0.1	0.1

I. Surface Fabric

1. Non-woven Coir Fabric: The inner (non-woven) layer of coir fabric used in Surface Fabric shall be 100% biodegradable coconut fiber mat as reviewed and accepted by the Engineer. The fabric shall be delivered in roll widths as specified below. The fabric shall meet the following criteria:

<u>Parameter</u>	<u>Procedure/Test</u>	<u>Criterion</u>
Thickness	ASTM D6525	0.23 inches
Transverse Direction Tensile Strength	ASTM D6818	145.2 pounds per foot
Transverse Direction Elongation	ASTM D6818	12.9%
Machine Direction Tensile Strength	ASTM D6818	206.4 pounds per foot

Machine Direction Elongation	ASTM D6818	15.3%
Mass/Unit Area	ASTM D6475	9.79 ounces per square yard
Roll Width	Measured	6 feet - 8 inches
Roll Length	Measured	108 feet

2. Woven Coir Fabric: The outer (woven) layer used in Surface Fabric consists of woven coir fabric that shall be a high strength 700 Weight (100% coconut fiber), continuously woven mat (i.e., without seams). The fabric shall meet the following criteria:

<u>Parameter</u>	<u>Procedure/Test</u>	<u>Criterion</u>
Thickness	ASTM D5199	0.35 inches
Tensile Strength (wide width, dry)	ASTM D4595	1512 pounds per foot x 1032 pounds per foot
Mass per unit area (min)	ASTM D5261	20.6 ounces per square yard
Open Area	Measured	50%, maximum
Roll Width	Measured	13.1 feet
Roll Length	Measured	165 feet

3. The coir fabrics shall consist of 100% biodegradable materials. Nylon, plastic, or other non-biodegradable fiber material in any of the coir fabrics is not acceptable.
 4. Each roll of coir fabric shall be packaged individually in a suitable sheet, wrapper, or container to protect the fabric from damage due to ultraviolet light, moisture, and mud during normal storage and handling.
 5. Each roll of coir fabric shall be identified with a tag or label securely affixed to the outside of the roll on one end. The label shall include the manufacturer or supplier, the style number, and the roll and lot numbers.
 6. Store all coir fabrics elevated off the ground and ensure that they are adequately covered to protect the material from damage. Protect coir fabrics from sharp objects which may damage the fabric. Coir fabrics damaged during transport, storage or placement shall be replaced at the Contractors expense.
- J. Wood Stakes: Wood Stakes shall be used to anchor all coir fabrics. Wood Stakes shall be wooden stakes solid and free of knots or defects. Wood Stakes shall be 18 inches in length. Wood Stakes shall be wedge shaped with a minimum equivalent diameter equal to 1.5 inches at the top and should come to a point at the bottom. Wood Stakes should be constructed by cutting a standard grade nominal 2" x 4" lumber lengthwise along the diagonal to create wedge shaped stakes, or by some other method resulting in a stake of dimensions accepted by the Engineer.
- K. Wood Staples: Wood Staples shall be used in a supplemental manner after fabrics have been secured with Wood Stakes in spot areas to eliminate slack in fabric installation, and to ensure the fabrics are securely held in contact with the underlying soil. Wood Staples shall be 12 inches in length, untreated wooden

staples solid and free of knots or defects. Pre-approved: North American Green EcoSTAKES (12-inch) are pre-approved.

- L. Seed: See Section 32 90 00 – Site Plantings.

PART 3 EXECUTION

3.1 PROTECTION AND SITE PREPARATION

- A. Perform all Earthwork in strict compliance with the Stormwater Pollution Prevention Plan and the Control of Water Plan. See Section 31 25 00 Erosion, Pollution and Water Control.
1. Excavation performed above the waterline shall proceed such that excavation spoils are carried away from the water, or otherwise collected and contained before being allowed to contact surface waters.
 2. Protect existing surface and subsurface features on-site and adjacent to site as follows:
 - a) Provide barricades, coverings, or other types of protection necessary to prevent damage to existing items indicated to remain in place.
 - b) Protect and maintain bench marks, monuments or other established reference points and property corners. If disturbed or destroyed, replace at own expense to full satisfaction of Engineer and controlling agency.
 3. Verify location of utilities. Omission or inclusion of utility items does not constitute non-existence or definite location. Secure and examine local utility records for location data.
 - a) Take necessary precautions to protect existing utilities from damage due to any construction activity.
 - b) Repair damages to utility items at Contractor's expense.
 - c) In case of damage, notify Engineer at once so required protective measures may be taken.
- B. Maintain free of damage, existing sidewalks, structures, and pavement, not indicated to be removed. Any item known or unknown or not properly located that is inadvertently damaged shall be repaired to original condition. All repairs to be made and paid for by Contractor.
- C. Provide full access to public and private premises, fire hydrants, street crossings, sidewalks and other points as designated by Engineer to prevent serious interruption of travel.

- D. Maintain stockpiles and excavations in such a manner to prevent inconvenience or damage to structures on-site or on adjoining property.
- E. Avoid surcharge or excavation procedures which can result in heaving, caving, or slides.
- F. Salvageable Items: Carefully remove items to be salvaged, and maintain unless otherwise directed.
- G. Dispose of waste materials off-site according to applicable laws, regulations, and permits.
- H. Burning, as a means of waste disposal, is not permitted.

3.2 SITE EXCAVATION AND GRADING

- A. The work includes all operations in connection with excavation, borrow, construction of fills and embankments, rough grading, and disposal of excess materials required to attain the finish lines and grades as shown on the Drawings.
- B. Perform as required in the Drawings:
 - 1. The Drawings may indicate existing grade, subgrade and finished grade required for construction of project. Perform layout work, including staking the new channel alignment, pond extents and all other layout work necessary for the completion of the Work. Replace property corner markers to original location if disturbed or destroyed.
 - 2. Protection of finish grade: During construction, shape and drain embankment and excavations. Maintain ditches and drains to provide drainage at all times. Protect graded areas against action of elements prior to acceptance of work. Reestablish grade where settlement or erosion occurs.
 - 3. Varying soil moisture contents will be encountered during the excavation. The Contractor shall be equipped to handle excavation with moisture content ranging from dry to very wet during excavation, handling, loading, transport and disposal. See 31 25 00 Erosion, Pollution and Water Control for limitations on spillage over the access route in the Project site and along haul routes on public roads.
 - 4. Excavated material deemed acceptable for use as Sand Soil, Organic Soil, Native Substrate and/or Salvaged Fill by the Engineer shall be stockpiled, managed, and eventually placed to complete the Work as depicted in the Drawings and these Specifications, or as indicated.

5. Excavations performed shall be contained with silt fences, sand-filled bulk bags or other means to prevent excavated material from entering surface waters.
 6. Engineer provides acceptance to begin excavations following inspection of erosion control measures.
 7. Excavate to elevations and dimensions indicated or specified.
 8. Removal of obstructions and undesirable materials in excavation includes, but is not necessarily limited to, removal of old foundations, existing construction, logs, riprap, and any other materials which may be concealed beneath the waterline or present grade, as required to perform the Work as indicated on the Drawings. If undesirable material and obstructions are encountered during excavation, remove material and replace with appropriate fill material (See Demolition 02 41 00).
 9. Do not carry excavations beyond that shown on the Drawings. No extra compensation will be made to Contractor for excavation beyond the grades shown on the Drawings without prior approval by the Engineer.
 10. Final grading of the bog surface shall result in a variable, disturbed surface condition. Final grading of the bog surfaces will include the creation of humps and depressions of varying size and depth, deviating up to +/- 1-foot from the grades shown in the Drawings. Microtopography Grading is a field-set item to be accomplished with the input of the Engineer at the time of construction, and is not depicted through design lines and grades in the Drawings.
 - a) Excavating, ripping, ploughing and/or harrowing excavated and/or undisturbed bog surfaces, in conjunction with channel and wetland construction and other excavation.
 11. Shoring: Shore, sheet pile, slope, or brace excavations as required to prevent them from collapsing. Remove shoring as backfilling progresses but only when banks are stable and safe from caving or collapse.
 12. Drainage: Control grading so that ground is pitched to prevent water from running into areas beyond the limits of Work. Provide pumping required keeping excavated spaces clear of water during construction as required to facilitate excavation progress. Discharge of pumped water shall be in strict compliance with the Control of Water Plan. See Section 31 25 00 Erosion, Pollution and Water Control.
- C. Construct fills as required by the Drawings:

1. Construct embankments and fills at locations and to lines and grades indicated. Completed fill shall correspond to shape of typical cross section or contour indicated regardless of method used to show shape, size, and extent of line and grade of completed work.
2. Provide approved fill material from salvaged onsite sources. Salvaged Fill shall be as defined in this section, free of large roots, debris, trash or other deleterious substances, and have no particles greater than 3 inches in the maximum dimension. Salvaged Fill material should be accepted by the Engineer as suitable prior to installation in the Work.
3. Any existing channel fill should be done preferentially with Native Substrate, except when filling the channel bed to achieve design lines and grades for Riffle construction. In these areas, Riffle Aggregate shall be used to fill the channel bed.
4. Do not place Salvaged Fill material in layers greater than 8-inch loose thickness. Place layers horizontally and compact each layer prior to placing additional fill.
5. Compact as required to obtain consolidated ground surface as field adjusted and in coordination with the Engineer. Control moisture for each layer necessary to meet compaction requirements. The 6 inches of soil below the finished grade in backfill areas shall be scarified.

D. Riffle Construction

1. Do not carry the excavation for the channel shape deeper than the subgrade indicated by the riffle thickness shown on the Drawings. Excavation carried below subgrade shall be replaced with Native Substrate or Riffle Aggregate as indicated by Engineer. The Contractor shall bear all costs for correcting over excavated areas.
2. The finished subgrade will be reviewed by the Engineer and approved prior to placement of Riffle Aggregate.
3. Riffle Aggregate shall be placed to form designated sections of the proposed Riffles as indicated on the Drawings. Riffle Aggregate shall be placed to match the design grades shown on the Drawings.
4. Native Substrate exhumed from the former streambed surface during excavation shall be stockpiled and reused as determined by the Engineer.
5. Place Riffle Aggregate such that the constructed river bed forms a well-mixed, consolidated streambed, avoiding segregation between particle sizes within the specified gradation. Place Riffle Material in lifts not exceeding 9 inches in thickness. Consolidate each lift by tamping with the

excavator bucket or vibratory plate compactor. Water jet each lift after consolidation, prior to placement of subsequent lifts.

6. Grade tolerance for Riffle Aggregate is +0.2 feet (no under), when considering the neat line across the installed materials.

3.3 INSTALLATION OF SURFACE FABRIC

- A. Surface Fabric shall be installed along disturbed banks and ground as shown on the Drawings.
 1. The subgrade for Surface Fabric shall be graded to a smooth condition free from depressions and protruding rocks, sticks, and other debris which may prevent a smooth application or that may damage the fabric. Care shall be taken to remove all objects that would interfere with application or damage the coir fabrics.
 2. Apply Seed per Section 32 90 00 - Site Plantings to the prepared subgrade prior to placement of coir fabrics.
 3. Key trench the edge of fabric at the top of the bank as shown on the Drawings. Place Wood Stakes in the key trench, pound flush with finished grade. The location of the key trenches shall be coordinated with the Engineer in the field at the time of construction.
 4. Place Wood Stakes and Wood Staples as shown on the Drawings.
 5. Place woven coir fabrics on top of the underlying nonwoven fabrics as shown on the Drawings. Anchor the fabrics with Wood Stakes and Wood Staples as shown on the Drawings. It is not required to anchor the nonwoven and woven fabrics individually Wood Stakes and Wood Staples shall be inserted through both layers of coir fabrics.
 6. Wood Stakes and Wood Staples shall be eased between the fibers of the woven coir fabric. Cutting the woven coir fabric to place the Wood Stakes is not allowed.
 7. Damaged coir fabric shall be repaired or replaced. If damaged coir fabric has a tear of 6 inches or smaller, scrap fabric may be placed beneath damaged woven coir fabric such that it extends 24 inches beyond the damaged area in all directions. Stake around the tear with 4 Wood Stakes on 12-inch centers. Coir fabrics with tears greater than 6 inches shall be removed and replaced at the Contractor's expense.
 8. Following completion of each Surface Fabric bank installation, review the installation for areas of loose fabric or locations of voids between fabric and soil. Secure these areas with supplemental Wood Stakes or Wood

Staples to ensure that fabrics are tight and in solid contact with the underlying soil. The Engineer will review fabric staking in identified areas of loose fabric or voids. If additional staking/stapling is necessary, the Contractor shall perform the corrective action at no expense to the Owner.

9. Maintenance: Seed placed in Surface Fabric treatment areas shall be watered by the Contractor in accordance with Section 32 90 00 - Site Plantings.

3.4 FIELD QUALITY CONTROL

- A. The Contractor shall verify that all design grades have been achieved per the Drawings. The Engineer will review finished areas of grading and check for conformance with the Drawings.
 1. Each compacted fill layer shall be subject to visual inspection and acceptance by the Engineer.
 2. Should any compaction lift or subgrade visual inspection fail to meet Specification requirements, the Contractor shall perform corrective work as necessary.
 3. Contractor shall pay for all costs associated with corrective work and retesting resulting from failing compaction density tests.

3.5 EARTHWORK TOLERANCES

- A. Slope Grading
 1. When completed, the average plane of the slopes shall conform to the slopes indicated on the Drawings, and no point on the completed slopes shall vary from the designated plane by more than 0.5 feet measured at right angles to the slope.
- B. Channel Grading
 1. When completed, channel grades shall conform to the grades indicated on the Drawings. The grading tolerance for the channel bed is +0.2 feet (no minus) difference from planned finish grades at Riffles and +/- 0.2 feet in all other areas.
- C. Bog Surface Grading
 1. Tolerances for grading of the bog surface shall be +/- 0.5 feet from grades shown on the Drawings.

END OF SECTION

SECTION 31 25 00
EROSION, POLLUTION AND WATER CONTROL

PART 1 GENERAL

1.1 SUMMARY

- A. Work under this section addresses:
1. Minimizing the pollution of air, water, or land; control of noise, the disposal of solid waste materials, and protection of deposits of historical or archaeological interest.
 2. Employing and utilizing environmental protection methods, and complying with all local, state, and federal regulations and permits.
- B. Work under this section includes:
1. Providing construction operations that avoid or minimize damage to adjacent or resident natural resources, avoid or minimize air and noise pollution, and otherwise prevent environmental impacts.
 2. Dewatering, stream diversion, or other practices for control of water, and other best management practices such as silt fence, turbidity curtains, oil absorbing booms, bulk bags and other erosion control measures for erosion and pollution control necessary for work on the project.

1.2 QUALITY ASSURANCE

- A. Referenced Standards:
1. Erosion, Pollution, and Water Control shall be performed in accordance with the permits and their requirements (See Appendix A).
 2. Massachusetts Department of Environmental Protection Erosion and Sediment Control Guidelines for Urban and Suburban Areas – latest edition.
 3. United States EPA NPDES Construction General Permit Stormwater Design Standards – latest edition.

1.3 SUBMITTALS

- A. Storm Water Pollution Prevention Plan (SWPPP) developed in accordance with the requirements of the EPA NPDES Construction General Permit. (See Section 01 71 13 – Mobilization and Demobilization). This plan shall also be submitted as

part of the Construction Operations Plan (See Section 01 71 13 – Mobilization and Demobilization).

- B. Control of Water Plan must be submitted to the project Engineer and Owner for acceptance. The plan must be accepted prior to the commencement of Work. This includes management of active flows and/or management of localized water within the construction area. This plan shall be submitted as part of the Construction Operations Plan (See Section 01 71 13 - Mobilization and Demobilization).
- C. Spill Prevention Plan designed to avoid stream impacts from hazardous chemicals, such as diesel fuel, oil, lubricants, and other hazardous materials shall be submitted as part of the Construction Operations Plan (See Section 01 71 13 – Mobilization and Demobilization).

PART 2 PRODUCTS

2.1 EQUIPMENT

- A. Earthwork shall be completed in conditions free of actively-flowing water. If necessary, diversion and bypass of in-stream flows shall use temporary dams, gravity or pumped diversion pipelines or open conveyances, and upland discharge or other methods.
- B. Dewatering from the work area may include the use of sump pumps, temporary pipelines for water movement, rock or gravel placement, and other methods.

2.2 MATERIALS

- A. Oil absorbent booms
 - 1. Shall be 5-inch diameter, minimum, and constructed of an outer mesh that encapsulates oil absorbent filler material.
 - 2. Shall be capable of absorbing all hydrocarbons including, oil, gasoline, diesel and lubricating oils.
 - 3. Shall not sink when saturated with oil.
- B. Silt Fence shall be provided as required to protect surface water quality and comply with all applicable permits. Care shall be taken to maintain the silt fence in a functional condition at all times during the construction period.
- C. Erosion control fabric
 - 1. Erosion control blanket shall be North American Green (NAG) style C125BN 100% biodegradable coconut fiber mat or equivalent. This material shall meet or exceed the following criteria:

<u>Parameter</u>	<u>Procedure/Test</u>	<u>Criterion</u>
Thickness	ASTM D6525	0.23 inches
Transverse Direction Tensile Strength	ASTM D6818	145.2 pounds per foot
Transverse Direction Elongation	ASTM D6818	12.9%
Machine Direction Tensile Strength	ASTM D6818	206.4 pounds per foot
Machine Direction Elongation	ASTM D6818	15.3%
Mass/Unit Area	ASTM D6475	9.79 ounces per square yard
Roll Width	Measured	6 feet - 8 inches
Roll Length	Measured	108 feet

- D. Wattles shall be 9-inch diameter, 7-pound density North American Green style 08CN7 100% biodegradable coconut fiber coir or excelsior wattles (logs) or equivalent. The wattles should meet or exceed the following criteria:

<u>Parameter</u>	<u>Criterion</u>
Density	7 lbs/ft ³
Flow Velocity	5 ft/sec
Diameter	8 inches
Standard Length	10 feet

- E. Wood Stakes and Wood Staples

1. Wood Stakes shall be used to anchor all coir fabrics. Stakes shall be wooden stakes solid and free of knots or defects. Stakes shall be 18" in length. Stakes shall be wedge shaped with a minimum equivalent diameter equal to 1.5" at the top and should come to a point at the bottom. Stakes should be constructed by cutting a standard grade 2" x 4" lumber lengthwise along the diagonal to create wedge shaped stakes, or by some other method resulting in a stake of dimensions approved by the Owner's Representative.
2. Wood staples shall be used in a supplemental manner after fabrics have been secured with wood stakes in spot areas to eliminate slack in fabric installation, and to ensure the fabrics are securely held in contact with the underlying soil. Staples shall be 12 inches in length, untreated wooden staples solid and free of knots or defects.

- F. Seed

1. Refer to Section 32 90 00 – Site Plantings.

PART 3 EXECUTION

3.1 CONSTRUCTION

- A. The Contractor shall provide all equipment, documentation (including the Stormwater Pollution Prevention Plans (SWPPP)), and personnel to maintain compliance with the USEPA NPDES Construction General Permit. Refer to 01 71 13 Mobilization and Demobilization.
- B. No work requiring erosion control shall commence until the SWPPP has been accepted by the Engineer.
- C. The Contractor shall furnish, install, maintain and remove erosion and sediment control devices as shown in the Drawings, or as otherwise required to prevent the discharge of sediment or sediment-laden to protected resources or the active flowing stream.
- D. If any of the installed measures require repair or are rendered ineffective during construction, these measures shall be replaced or repaired by the Contractor and brought back to effective condition at no extra cost.
- E. The Contractor shall adhere to all time-of-year (TOY) restrictions set forth in the project permits.

3.2 PROTECTION OF PROPERTY

- A. Land Protection:
 - 1. Except for any work or storage area and access routes specifically assigned for the use of the Contractor, the areas outside the limits of construction shall be preserved in their present condition. Contractor shall confine his activities to areas defined for work as shown on the Drawings.
 - 2. Manage and control all borrow areas, work or storage areas, access routes and embankments to prevent water or sediment from entering nearby water or land adjacent to the work site.
 - 3. Restore all disturbed areas including borrow and haul areas and establish permanent type of locally adaptive vegetative cover.
 - 4. Unless Earthwork is immediately paved or surfaced, protect all side slopes and backslopes immediately upon completion of final grading.
 - 5. Plan and execute Earthwork in a manner to minimize duration of exposure of unprotected soils.
 - 6. Except for areas designated in the Drawings to be cleared, the Contractor shall not deface, injure or destroy trees and vegetation, nor remove, cut, or

disturb them without approval of the Resident Project Representative. Any damage caused by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the Contractor's expense.

7. Silt fence shall be installed on an as-needed basis prior to clearing and grubbing to control sediment from leaving the project limits. The Contractor may submit alternate methods of establishing perimeter sediment control in locations where silt fence installation is deemed impractical or problematic. The Contractor shall not make this substitution without prior acceptance of the Engineer.
8. The Contractor shall be responsible for the removal of temporary erosion control devices once the project is completed.
9. Disturbed areas, as shown in the Drawings, shall be seeded and mulched according to the planting plan as soon as practical after completion of grading operations, but within the period specified for germination of seed.

B. Project Access, Staging and Storage Areas

1. Access corridor and potential staging and storage areas are shown on the Drawings. The Contractor shall be responsible for any repairs, replacement or payment required to return any vegetation, structures, grading or other facilities disturbed in the course of this project by the Contractor, his employees or subcontractors, to the same condition as existed before the project was started. Such repairs, replacement or payment shall be at the Contractor's expense.

C. Haul Routes

1. The Contractor is required to determine and observe any restrictions placed on travel over public or private roads.
2. The Contractor shall be responsible for any repairs, replacement or payment required to return public or private roads damaged in the course of this project by the Contractor, his employees or subcontractors, to the same condition as existed before the project was started. Such repairs, replacement or payment shall be at the Contractor's expense.
3. The Contractor shall be responsible for limiting spillage of spoils and other impacts from passage of haul vehicles and other operations to comply with road use requirements and to ensure a safe operating environment.

3.3 FLOW MANAGEMENT

- A. Earthwork shall be completed in conditions free of actively-flowing water.
- B. The Contractor shall perform dewatering in excavations and other work locations to facilitate completion of the work.
- C. Water control shall follow these specifications, all applicable regulations, and all permit conditions.
- D. The Contractor shall provide all equipment and materials necessary for water control. The Contractor shall have sufficient pumping and other equipment and machinery in good working condition and shall have competent workers for the operation of the pumping equipment. Adequate standby equipment shall be kept available to ensure efficient operation and maintenance of diversions during power failure.
- E. The Contractor shall provide all equipment and personnel to implement the Control of Water Plan. Refer to 01 71 13 Mobilization and Demobilization.
- F. The Contractor is advised that the project area may be subject to groundwater recharge resulting in saturated soil conditions.
- G. Fish shall be excluded and removed from the worksite before any instream work is started (with the exception of cofferdam installation and dewatering) using standard protocols, in concurrence with all applicable regulations and permits, and these Specifications.
- H. Fish rescue: Fish shall be rescued from residual pools by the Owner following any diversion of streamflow that will dewater the main channel. Fish will be collected via seining, nets or hand capture and removed to the main channel downstream. The Contractor shall notify the Owner and Engineer one week prior to diversion of streamflow to allow for coordination of fish rescue teams. Contractor shall sequence operations following diversion to allow adequate time to complete the fish relocation.
- I. If active flow re-enters the excluded work area prior to completion of work in each zone, fish rescue will need to be repeated following the same procedure as the initial diversion and fish rescue.
- J. Active flows shall be diverted around the active work area during construction of the new channel. This diversion system shall remain passable for fish throughout the duration of the work.
- K. Provide drainage for the site grading at all times. Divert surface runoff from excavations and trenches.

- L. Contractor shall maintain standby diversion and dewatering equipment on the job site.
- M. Discharge of a temporary bypass system, if necessary, must be accomplished in a way that does not cause erosion or turbidity downstream of the project site.
- N. Control of surface runoff shall include operations adequate to bypass, divert, or remove all flowing water.
- O. Utilize methods necessary to effectively prevent erosion and control of sedimentation and include the following:
 - 1. Retardation: Mechanically retard rate of runoff by construction of diversion ditches, terraces, and berms. Divert runoff to protect drainage courses.
 - 2. Protect side and backslopes as soon as rough grading is complete by accelerated growth of permanent vegetation, temporary vegetation, mulching or netting.
 - 3. Remove temporary protection prior to final grading operations.

3.4 EROSION AND POLLUTION CONTROL

- A. Erosion Control measures shall be in place prior to any ground disturbing activity on the site.
- B. The Contractor shall perform erosion control for the duration of the Contract. The Contractor may use the measures specified and shown in the Drawings, or alternative measures of the Contractor's own design to ensure satisfactory performance and that the erosion control requirements of all applicable permits are met.
- C. Wattles shall be placed to control rill erosion on an as-needed basis.
- D. Fully biodegradable erosion control blanket shall be secured on slopes steeper than 3:1, not including streambanks which are covered under other provisions.
- E. Dust Control:
 - 1. No construction activity shall take place without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne so that it remains visible beyond the limits of construction. Reasonable measures may include paving, frequent road cleaning, planting vegetative groundcover and the application of water.
 - 2. Utilize methods and practices of construction to eliminate dust in full observance of agency regulations.

3. The Engineer will determine the effectiveness of the dust control program and may request the Contractor to provide additional measures, at no additional cost to the Owner.
- F. Solid Waste Disposal:
1. Collect solid waste on a daily basis.
 2. Provide disposal of solid waste to an approved solid waste disposal site.
- G. Control of Chemical Waste:
1. Store and dispose of chemical wastes in accordance with all applicable regulations.
 2. Employ best management practices for equipment fueling and operation, including stationary equipment, to prevent discharge of pollution to the environment.
 3. Take special measures to prevent chemicals, fuels, oils, greases, herbicides, and insecticides from entering drainage ways.
 4. Do not allow water used in onsite material processing, concrete curing, cleanup, and other waste waters to enter drainage way(s) or stream(s).
- H. Burning:
1. Do not burn material on site.
- I. Control of Noise:
1. Contractor shall control noise according to all local, state, federal, and trade requirements.

3.5 REMOVAL OF FACILITIES AND SUPPLIES

- A. Following the conclusion of project construction and upon approval of the Owner's Representative, the flow management and erosion control facilities and materials shall be removed, and the areas impacted by these operations shall be restored to their original condition. Materials used in flow diversion and erosion control activity shall become property of the Contractor and removed from the site at the Contractor's sole expense.
- B. Completion of Work:
1. Upon completion of work, leave area in a clean, natural-looking condition.

2. Ensure all indications of temporary construction and activities incidental to construction of required permanent work are removed upon completion of work.
3. Grade, fill and seal all disturbed area. Disturbed areas, as shown in the Drawings, shall be seeded and mulched according to Section 32 90 00 Site Plantings.
4. Upon completion of work, perform project clean-up activities. Remove all materials and dispose of off-site in accordance with applicable regulations. Engineer shall review project clean-up. Project clean-up is not considered complete until the Engineer accepts the work.

END OF SECTION

SECTION 32 90 00
SITE PLANTINGS**PART 1 GENERAL****1.1 SUMMARY**

- A. Work shall include, acquisition, storage, installation, and maintenance of seed, mulch, tree, and plant stock in accordance with these Specifications and as shown on the Drawings or as otherwise accepted by the Engineer.
- B. Work shall include the removal and proper disposal of invasive plants, through manual, mechanical, and/or chemical means, in accordance with these specifications and as shown on the Drawings or as otherwise accepted by the Engineer.
- C. Work shall include all equipment, labor, materials, and technical expertise to perform the activities required during the Warranty period. Refer to Section 3.6 Quality Control and Assurance.

1.2 REFERENCED STANDARDS

- A. Seeding shall be performed in accordance with the provisions of
 - 1. American Water Works Association (AWWA)
 - 2. Standard Methods of the Association of Official Agricultural Chemists.
 - 3. United States Department of Agriculture, (USDA):
 - a) Federal Seed Act.
- B. Tree and Shrub Planting shall be performed in accordance with the provisions of
 - 1. American Standard for Nursery Stock (ASNS).
- C. Invasive Plant Management and Herbicide Application shall be performed in accordance with the provisions of
 - 1. 333 CMR Pesticide Board
 - 2. 310 CMR 10.00 Wetlands Protections

1.3 SUBMITTALS

- A. Submittals shall be prepared and submitted in accordance with Specification 01 35 13 – Special Conditions.

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- B. Materials Certifications for Seed Mixes and Container Plants.
- C. Planting Operations Plan
1. The Contractor shall submit
 - a) A final plant list for approval by the Owner and Falmouth Conservation Commission. Any adjustments or substitutions in plants species, sizes, container types, or quantities, shall be approved by the Engineer.
 - b) A time schedule for approval by the Owner and Falmouth Conservation Commission indicating dates for commencement and completion of delivery of plants to the site, storage and handling of planting materials, and installation of the plants and seed to indicate the start of the Warranty period.
 - c) Certificate of compliance showing where the plants were grown and listing all transplant, age or size as specified, grade and quantity.
- D. 3-Year Plant Maintenance Plan
1. The Contractor shall submit a 3-year Plant Maintenance Plan to be reviewed by the Engineer and accepted by the Owner and Falmouth Conservation Commission. This Maintenance Plan will address the maintenance of the installed vegetation to achieve the minimum guarantee requirements outlined in Section 3.6.E. and Section 3.6.F. of this Specification. The Maintenance Plan shall consider the provision of a prior approved water source, materials to be used for irrigation, methods for protection against animal browse, and a schedule for site maintenance inspections and activities.
- E. Invasive Plant Management Plan
1. The Contractor shall submit an Invasive Plant Management Plan to be reviewed by the Engineer and approved by the Owner and Falmouth Conservation Commission. This Management Plan shall describe all materials and methods for the initial removal and treatment of invasive species to be completed before substantial construction completion as well as the follow-up invasive species management to be completed during the three years following substantial construction completion.
 2. The Plan shall specify dates for commencement and completion of the Invasive Plant Management Plan, a schedule for Invasive Plant Management activities, all materials and methods for proper treatment and disposal of invasive plant species according to local and state guidelines, methods for minimizing spread of existing invasive species in the project

area, and methods for limiting introduction of invasive species to the project area.

PART 2 PRODUCTS

2.1 PLANT MATERIALS

A. SEED

1. Seed mix for Transitional Seeding Zone shall be New England Wetland Plants New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites or equivalent. Application rate is 70 PLS lb/acre.
2. Seed mix for seeding under surface fabric shall be New England Wetland Plants New England Wetmix or equivalent. Application rate is 36 PLS lb/acre.
3. Seed mix for Upland Seeding Zone shall be New England Wetland Plants New England Erosion Control/Restoration Mix for Dry Sites or equivalent. Application rate is 70 PLS lb/acre.
4. Additional cover crop shall consist of oats or winter wheat at a rate of 20lb PLS per acre in addition to the native seed mix.
5. The delivered seed mix shall be healthy and vigorous and free of noxious weed seeds. Any adjustments or substitutions in seed species or composition shall be reviewed by the Engineer. Seeds that have become wet, moldy, or otherwise damaged, or do not meet the Specifications shall be legally disposed of offsite and replaced at Contractor's expense.
6. Any seed mixes other than listed above must meet prior written approval by the Engineer or Engineer.
7. All seed mixes must follow these requirements for inspection and acceptance. Each bag of seed delivered shall be clearly labeled including the following information.
 - a) The common name genus, species and subspecies (when applicable).
 - b) The amount of Pure Live Seed (PLS) pounds of each species in each seed mix.
 - c) The total delivered weight, in pounds, of each seed mix.
 - d) The state and county of origin of each species of seed used in mixes.

- e) The name and address of the seed supplier.

B. MULCH

1. Mulch shall be seedless and weed-free straw mulch. Hay is not acceptable. The straw shall be accompanied by the certification, labels, and/or marking twine at the time of delivery to the project site. Straw delivered to the project without such information may be rejected at the Engineer's discretion and removed from the project site by the Contractor at no cost to the Owner.

C. PLANT MATERIALS

1. All plants shall be species native to Massachusetts and nursery grown in accordance with good horticultural practices. Plant materials shall be healthy, vigorous, well-rooted, well branched, densely foliated when in leaf, free of disease and insects (eggs or larvae) and established in the container in which they are growing. They shall have tops of good quality and be in a healthy growing condition.
2. Plant materials must originate no more than 100 miles from the project site, unless approved by the Engineer.
3. Immediately upon delivery and until installation, plant material shall be shaded and watered to ensure that the plants remain alive and healthy. The Contractor shall store plants in a shaded on-site location and kept moist throughout the entire storage and installation period. A thorough watering is required every 24 hours. Plants should not be stored on-site for more than 2 weeks.
4. All plants shall be inspected by the Engineer prior to installation.

D. IMPORTED CONTAINERIZED PLANTS (FURNISH AND INSTALL)

1. Containerized plants shall be used in areas designated for re-vegetation as shown on the Drawings. Containerized plants shall be supplied by the Contractor and shall include shrub and tree seedlings.
2. Plant materials shall be healthy and vigorous with well-developed root systems. Containerized plants shall be well established in the container with a root system sufficiently developed to retain their shape and hold together when removed from the container. Plants shall not be pot-bound, nor have kinked, circling or bent roots.
3. Containers shall be sufficiently rigid to hold the root mass during propagation and protect it during shipping. The dimensions of containers shall be pre-approved by the Engineer.

4. Potted stock shall conform to American Standard for Nursery Stock guidelines for caliper versus container size (ASNS Z60.1-2004).
5. Imported Contractor Furnish and Install Plant Quantities as shown. Distribution will be clumped and randomized and approved by the Engineer prior to installation.
6. Container plants shall be as listed in the table below:

<i>Latin Name</i>	Common Name	Wetland Status	Size	Deciduous Wetland Planting Zone Qty	Atlantic White Cedar Swamp Planting Zone Qty	Total Quantity
TREES						
<i>Ilex opaca</i>	American holly	FACU	2-gal	30		30
<i>Nyssa sylvatica</i>	Black gum / tupelo	FACU	2-gal	85		85
<i>Nyssa sylvatica</i>	Black gum / tupelo	FACU	5-gal	50		50
<i>Chamaecyparis thoides</i>	Atlantic white cedar	OBL	2-gal		300	300
<i>Acer rubrum</i>	Red maple	FAC	2-gal	100		100
<i>Betula populifolia</i>	Gray birch	FAC	2-gal	100		100
<i>Quercus bicolor</i>	Swamp white oak	FACW	2-gal	85		85
	Total Trees			450	300	750
SHRUBS						
<i>Lindera benzoin</i>	Spicebush	FACW	1-gal	100		100
<i>Sambucus nigra</i>	Black elderberry	FACW	1-gal	50		50
<i>Clethra alnifolia</i>	Sweet pepperbush	FAC	1-gal	100	50	150
<i>Rhododendron viscosum</i>	Swamp azalea	FACW	1-gal	100	25	125
<i>Ilex verticillata</i>	Winterberry holly	FACW	1-gal	100		100
<i>Ilex glabra</i>	Inkberry	FACW	1-gal	100	50	150
<i>Vaccinium corymbosum</i>	Highbush blueberry	FACW	1-gal	100	25	125
	Total Shrubs			650	150	800

E. HERBICIDE

1. Broad-spectrum, non-selective herbicide shall be used to eliminate undesirable woody and herbaceous vegetation in wetland areas. Herbicide shall be approved for use in aquatic areas. Herbicide shall be reviewed and approved by Engineer prior to use.

PART 3 EXECUTION

3.1 SEED

- A. Apply Seed at the rate provided in these Specifications
- B. Seeding Within Surface Fabric:
 1. Dry seed shall be broadcast under the coir fabric at densities according to these Specifications.
 2. Do not walk on seeded areas after germination period has commenced.

- C. Seeding (All Disturbed Areas):
1. Dry seed shall be broadcast for all areas. Seed may be broadcast mechanically or by hand. Seed application method must be pre-approved by the Engineer. Hydroseeding is preferred for areas with slopes steeper than 3:1.
 2. Care of Seeded Areas. All seeded areas shall be protected and maintained throughout the construction of the project and until the work is accepted. No construction traffic will be allowed over a seeded or planted area once the seed and erosion control measures have been completed. Foot traffic shall be minimized; workers shall travel along completed banks only in designated areas. Any damage to seeded areas caused by construction traffic or construction activities shall be repaired and re-seeded at no cost to the Owner.
 3. The seed shall be broadcast under erosion control measures.
 4. Seed shall not be installed when the ground is snow covered.
- D. Re-Seeding:
1. Dry seed shall be broadcast on re-seeding areas in densities specified above for disturbed areas.

3.2 MULCHING

- A. Straw mulch shall be applied at 2 tons (4000lb) per acre; no mulch shall be applied on the Surface Fabric.
- B. Disturbed areas, as shown in the Drawings, shall be seeded and mulched as soon as practical after completion of grading operations, but within the period specified for germination of seed.
- C. Mulch shall be applied over areas disturbed during construction that will not be covered by fabric treatment, and around tree and shrub installations.
- D. Mulching:
1. The Mulch shall be placed on the same date the seed is applied to the extent practicable.
 2. Mulch shall be placed over seeded areas not covered by fabric.

3.3 PLANTING

- A. Planting shall occur in areas as shown on the Drawings.

-
- B. Planting shall not be permitted during the following conditions unless otherwise approved:
1. Temperatures less than 32 degrees Fahrenheit
 2. Temperatures greater than 90 degrees Fahrenheit
 3. Wind velocities greater than 20 mph.
- C. The Engineer may suspend planting work if the Engineer determines that weather conditions could damage plant material even if the material is handled in accordance with this Contract. The Engineer may suspend planting work at any time if the Engineer determines that Contractor is not handling plants or planting in accordance with these Specifications.
- D. Apply water as needed during and after planting to meet the warranty period survival criteria.
- E. Immediately prior to installation of all woody plants, all soil, erosion control fabric, or other material within one foot of the woody plants shall be thoroughly watered with 0.15 gallon per square foot.
- F. Containerized plants:
1. Planting hole size: Pits shall be 3 times the width of the rootball or plant container. Depth of the pits shall correspond to the height of the rootball, measured from the bottom to the lower extent of the root flare, ensuring that the root flare will not be covered. The sides and bottom of pit shall be scarified to prevent glazed soils.
 2. Subsurface conditions: The Engineer shall be notified immediately of all subsurface drainage or soil conditions which the Contractor shall consider detrimental to growth or survival of plant material. Contractor shall state condition and submit proposal for correction, including the cost of the correction. No work shall be performed on the affected portion until approval of the correction method is obtained from the Owner in writing.
 3. Small cuts may be made in the coir fabric to allow for plant installation. Cuts shall be a single slit no longer than 6 inches and parallel to the riverbank and shall be sealed with stakes, sewing or other means as approved by the Engineer.
 4. Immediately prior to planting containerized plant material, the root-earth mass shall receive three vertical cuts, each spaced equidistant about the perimeter. Each cut, about 1/2-inch deep, shall begin at the top of the root-earth mass and continue to the bottom.

5. Containers shall be separated from the plant immediately prior to planting to prevent desiccation of the roots. All plants shall be set approximately plumb and to a depth sufficient for the top of the root mass to be even with the soil surface. Topsoil shall then be filled in around the root mass to half the depth, tamped to remove all air pockets and thoroughly watered, after which the remainder of the topsoil shall be placed. Earth saucers or water basins shall then be provided and the plant thoroughly watered.
 6. Planting locations shall be in accordance with the Drawing. Some plants will be concentrated in near-bank regions. Exact planting locations will be determined by the Engineer in the field.
- G. Prevention of invasive species infestation: Prior to planting or seeding, all personnel must ensure that equipment, clothing and footwear is clean and free of seeds. Equipment and personnel may be subject to inspection prior to site entry.
- H. Irrigation:
1. Immediately prior to the installation of all Container Plants, apply water to all soil that contacts the plants. Apply water at a rate of 0.15 gallon per square foot.
 2. All plants shall be watered during planting and all plants shall be watered at least twice each week during weeks where the average daily temperature exceeds 55 degrees (F) and when precipitation during the same week has been less than 1 inch, as determined by local National Weather Service data.
 3. Watering shall be sufficient to provide moist soil to a depth of 6 inches, as determined by the Engineer. If soil is sufficiently moist, as determined by the Engineer, the required watering may be reduced.
 4. Trees or shrubs planted after October 15 shall be thoroughly watered at the time of planting, after which, subsequent watering will not be required until April 1 of the following year.
 5. The Contractor shall maintain a watering log for all plants installed on the project, indicating dates of watering and weather events. Log shall be submitted for final payment.
 6. In case of drought, this plan may be altered in coordination with the Engineer.
 7. All plants shall be watered during planting and all plants shall be watered at least twice each week during weeks where the average daily temperature exceeds 55 degrees (F) and when precipitation is less than 1 inch, as determined by local National Weather Service data.

3.4 TREE AND SHRUB PROTECTION

- A. Rodent Protection
 - 1. Rodent Protection shall be 15” solid biodegradable rodent guard.
 - 2. Rodent Protection must be dug into the ground 6 inches to prevent voles burrowing beneath the plastic.
 - 3. Rodent Protection will be installed on all trees and shrubs.
- B. Other – trees and shrubs shall be protected in a sufficient manner to achieve the minimum guarantee requirements through the Warranty Period as described in Section 3.6 Quality Control and Assurance.

3.5 INVASIVE PLANT MANAGEMENT

- A. The Contractor shall control noxious and/or invasive vegetative species including, but not limited to, Autumn Olive (*Elaeagnus umbellata*), Black Locust (*Robinia pseudoacacia*), Norway Maple (*Acer platanoides*), Sycamore Maple (*Acer pseudoplatanus*), Gray Willow (*Salix cinerea*), Glossy Buckthorn (*Frangula alnus*), Black Swallowwort (*Cynanchum louiseae*), Oriental Bittersweet (*Celastrus orbiculatus*), Porcelainberry (*Ampelopsis glandulosa*), English Ivy (*Hedera helix*), Japanese Honeysuckle (*Lonicera japonica*), Japanese Barberry (*Berberis thunbergii*), Multiflora Rose (*Rosa multiflora*), Winged Euonymus (*Euonymus alatus*), Morrow’s Honeysuckle (*Lonicera morrowii*), Border Privet (*Ligustrum obtusifolium*) and other privets, Lesser periwinkle (*Vinca minor*), Spotted Knapweed (*Centaurea biebersteinii*), Garlic Mustard (*Alliaria petiolate*), Yellow Sweet Clover (*Melilotus officianalis*), Purple Loosestrife (*Lythrum salicaria*), Common Reed (*Phragmites australis*), as well as aggressive native species, including Speckled Alder (*Alnus incana*) and Sweetgale (*Myrica gale*) within the Limits of Disturbance as shown on the Drawings and/or any additional disturbed areas using integrated pest management principles consisting of mechanical, biological, and chemical controls that shall be outlined in the Invasive Plant Management Plan or as designated by the Engineer. Controlling invasives consists of killing and removing invasives by chemical, mechanical, and hand methods. Poison Ivy (*Toxicodendron radicans*) shall also be controlled from the top of the bog berm bank to the landward side of berm road for public safety. Noxious and/or invasive vegetative species shall be removed and/or treated using methods that minimize the potential for mobilization and/or propagation off site.
- B. Chemical Pesticides
 - 1. Chemical pesticides include, but are not restricted to, any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, including but not limited to, insecticides, herbicides, fungicides, adjuvants, and additives, including plant regulators, defoliants

and desiccants. The Contractor shall apply chemical pesticides in accordance with the label recommendations, local sensitive area ordinances, and Massachusetts State Department of Agriculture laws and regulations. Only those pesticides listed in the table Herbicides Approved for Use on MassDOT Rights of Way and accepted as part of the Weed and Pest Control Plan or by written authorization from the Engineer may be used (<https://www.mass.gov/service-details/rights-of-way-sensitive-area-materials-list>).

2. The applicator shall be licensed by the State of Massachusetts as a Commercial Applicator. All chemical pesticides shall be delivered to the job site in the original containers, or if pre-mixed off-site, a certification of the components and formulation from the supplier is required.
3. The Contractor shall ensure confinement of the chemicals within the designated areas. The use of spray chemical pesticides shall require the use of anti-drift and activating agents and a spray pattern indicator unless otherwise allowed by the Engineer.
4. The Contractor shall assume all responsibility for rendering any area unsatisfactory for planting by reason of chemical application. Damage to adjacent areas shall be repaired to the satisfaction of the Engineer or the property owner at no additional cost to the Owner.
5. Install warning signs to alert public of herbicide use. Include, at a minimum, the following on the sign: chemicals applied, date applied, re-entry date, other information required by the product label, other information required by local regulations. Remove signage once herbicide applied areas are safe to use again.
6. Herbicide application shall be performed in accordance with manufacturer's recommendations and shall follow at least a 12-hour dry period with no precipitation or dew, with temperatures above 50 degrees Fahrenheit and wind less than 3 miles per hour.

C. Disposal

1. Invasive plants removed as part of this work shall be disposed in accordance with MassDOT 2024 Standard Specifications Section 101.63 and applicable regulations.

3.6 QUALITY CONTROL AND ASSURANCE

- A. The Contractor shall provide all equipment, labor, materials, and technical expertise to perform the activities described in the 3-year Plant Maintenance Plan including, but not limited to, installing, maintaining, and irrigating site plantings

through the completion of the project, demobilization, and during the Warranty period.

B. Warranty:

1. The Warranty period shall extend for three years. The Warranty period shall begin immediately following plant and seed installation.
2. The Warranty shall include maintenance of the planting and seeding areas as described in the approved 3-year Plant Maintenance Plan and as described in Section 3.6.E. and 3.6.F. of this specification.

C. 3-year Plant Maintenance Plan:

1. The Contractor shall submit a 3-year Plant Maintenance Plan to be reviewed by the Engineer and accepted by the Owner and Falmouth Conservation Commission. This Maintenance Plan will address the maintenance of the installed vegetation to achieve the minimum guarantee requirements outlined in Section 3.6.D. and Section 3.6.E. of this Specification. The Maintenance Plan shall consider the provision of a prior approved water source, materials to be used for irrigation, methods for protection against animal browse, and a schedule for site maintenance inspections and activities.
2. Vegetation maintenance in the planted and seeded areas will be the sole responsibility of the Contractor during the Warranty period and shall be detailed in the 3-year Plant Maintenance Plan.

D. Invasive Plant Management Plan:

1. The Contractor shall submit an Invasive Plant Management Plan to be reviewed by the Engineer and approved by the Owner and Falmouth Conservation Commission. This Management Plan shall describe all materials and methods for the initial removal and treatment of invasive species to be completed before substantial construction completion as well as the follow-up invasive species management to be completed during the three years following substantial construction completion.
2. The Plan shall specify dates for commencement and completion of the Invasive Plant Management Plan, a schedule for Invasive Plant Management activities, all materials and methods for proper treatment and disposal of invasive plant species according to local and state guidelines, methods for minimizing spread of existing invasive species in the project area, and methods for limiting introduction of invasive species to the project area.

3. Upon completion of initial removal and treatment of invasive species before substantial construction completion, Contractor shall request and obtain acceptance of extent and success of invasive species removal from Engineer, Owner, and Falmouth Conservation Commission.
 4. Contractor shall manage invasive plant species for three years following substantial construction completion in accordance with the Invasive Species Management Plan and this specification.
- E. Seeded Areas: Minimum guarantee requirements
1. Seeded areas guarantee: Areas that do not meet seed success criteria for native seed mix establishment on July 1st after the installation date shall be re-seeded during the first available seeding period, as determined by the Owner. Re-seeding shall be performed at the Contractor's expense, and in conformance with these specifications.
 2. Seeding success criteria: The Owner will conduct surveys to verify seeding success. An area will be considered satisfactory if it meets the following criteria:
 - a) A minimum of 80 percent intended vegetative cover (noxious weeds and undesirable non-native species will not be considered to be intended vegetation);
 - b) Not more than 10% of the seeded area with bare spots larger than 1 square foot; and
 - c) Vegetation in healthy condition.
- F. Tree and Shrub Plant stock: Minimum guarantee requirements
1. Tree and Shrub guarantee: The Contractor shall replace all container plants judged by the Owner, within 1-, 2- and 3- years of the installation date, to be dead or in less than vigorous health. Plant replacements shall be of the same species, quality and size as originally installed, or with substitutes pre-approved in writing by the Owner. Replanting shall be performed at no cost to Owner.
 2. Replanting shall be conducted according to the original planting Specifications.
 3. The Owner will conduct inspections at 1-, 2- and 3-year dates following installation date and will notify Contractor of plants needing replacement.

4. Replanting must be conducted within 30 days of notification during acceptable planting periods (March – June, Sept. – Nov.). Deviations from this plan must be pre-approved in writing by the Owner.

End of Section

Section 321543 – Stabilized Aggregate

1. Provide all equipment and materials, and do all work necessary to construct the aggregate surfacing with stabilizer material, including aggregate base and edging, as indicated on the Drawings and as specified.
2. Submit for Landscape Architect's approval:
 - a. 1 lb. sample of crushed stone aggregate material (stone dust) demonstrating material gradation and color.
3. Submit for Landscape Architect's approval manufacturer's product data of aluminum edging.
4. Mockups: Build mockups for each item of stabilized aggregate required to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for the completed Work, including same base construction and contiguous work as indicated:
 - a. Build mockups in the location and of the size as directed by Landscape Architect.
 - b. Demonstrate the proposed range of aesthetic effects and workmanship.
 - c. Obtain Landscape Architect's approval of mockups before starting bluestone installation.
 - d. Demolish and remove mockups when directed.
5. Base Course: Material for aggregate base course shall be gravel borrow, consisting of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings and deleterious material.
 - a. Material shall conform to MHD Specifications Section M1.03.0, with less than 8% by weight passing the No. 200 sieve.

<u>Sieve Size</u>	<u>Percent passing</u>
1/2 in.	50-85
No. 4	40-75
No. 50	8-28
No. 200	0-10

1. Maximum size of stone shall be 2 in. (type c) for gravel base 6 in. thick or less, and 3 in. (type b) for gravel base greater than 6 in. thick.
6. Filter fabric shall be a non-woven polypropylene fabric made specifically for use in subsurface drainage structures equal to Mirafi 140N, manufactured by Tencate, 365 South Holland Drive, Pendergrass, GA 30567; Tel 800 685 9990; Tel 706 693 2226; Fax 706 693 4400; www.mirafi.com, or approved equal.
7. Surfacing material shall sand and crushed stone consisting of inert materials that are hard and durable, with stone free from surface coatings and deleterious materials. Contractor shall submit material gradation results to Stabilizer Solutions, Inc. and provide written approval by Stabilizer Solutions, Inc. to Landscape Architect. Gradation requirements shall be as follows:

<u>Sieve Size</u>	<u>% Passing by Weight</u>
1/2 in.	95 - 100
3/8 in.	90 - 100
No. 4	65 - 80

No. 8	48 - 63
No. 16	40 - 49
No. 30	30 - 40
No. 50	20 - 27
No. 100	10 - 18
No. 200	10 - 12

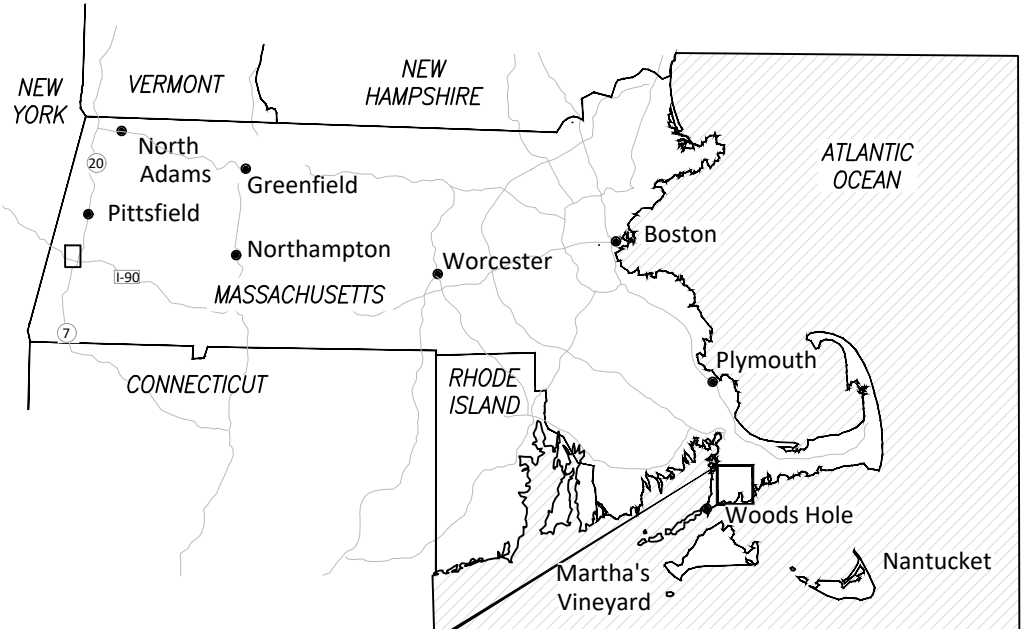
- a. Color will be selected by Architect.
 - b. The sand equivalent shall be in the range of 35-55. The R-value shall be a minimum of 71. ASTM testing shall be used for the sand equivalent and R-value determination.
 - c. Dense graded crushed stone base shall be furnished and installed as required and specified to a 6" compaction depth.
8. Stabilizer additive shall be Organic Lock, a patented powdered binder made from a renewable plant resource and specialized proprietary additives manufactured by Organic-Lock, 2100 Bloor Street W, Suite 6191, Toronto, ON Canada M6S 1M7; Tel. 866-628-3709; or approved equal.
1. Material shall be provided by supplier pre-mixed with crushed aggregate material specified herein.
9. Aggregate base course for paving and the spreading, grading, and compaction methods employed shall conform to standard requirements for usual base course of this type for first class road work.
- a. Compaction of aggregate base shall be to 95% of maximum density as determined by ASTM D 1557. Stone greater than 2 in. shall be excluded from course.
 - b. Width of base course shall be greater than the width of crushed aggregate paving, if continuous lateral support is provided during rolling, and shall extend at least 2 x base thickness beyond edge of the course above, if not so supported.
10. Crushed aggregate material shall be thoroughly and uniformly mixed with stabilizer material, and spread evenly over the base in 2 in. maximum lifts, rolled with a 3 to 5 ton steel-wheeled roller, and compacted to 95% of maximum density as determined by ASTM D 1557.
- a. Crushed aggregate surface shall be spread only after excavation and construction work which might injure them have been completed. Damage caused during construction shall be repaired before acceptance.
1. Variations in smoothness of finished crushed aggregate surface shall be less than or equal to 1/4 in. when tested with a 10 ft. straightedge, applied both parallel to and at right angles to centerline of crushed aggregate surface areas. Irregularities exceeding these amounts or which retain water on surface shall be corrected by removing defective work and replacing with new material conforming to this specification.

END OF SECTION

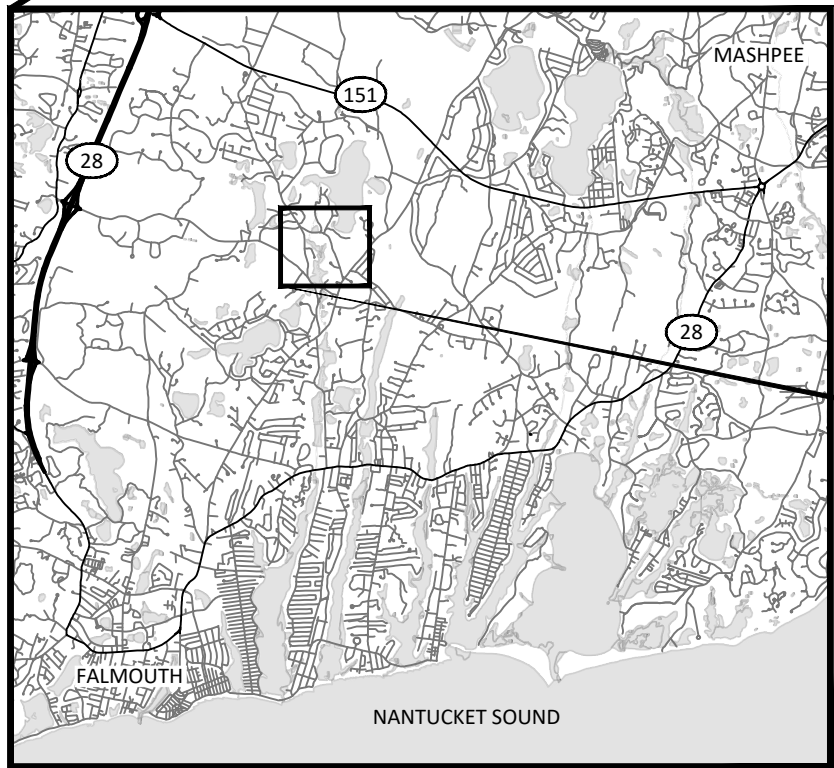
UPPER COONAMESSETT RIVER RESTORATION

ISSUED FOR CONSTRUCTION

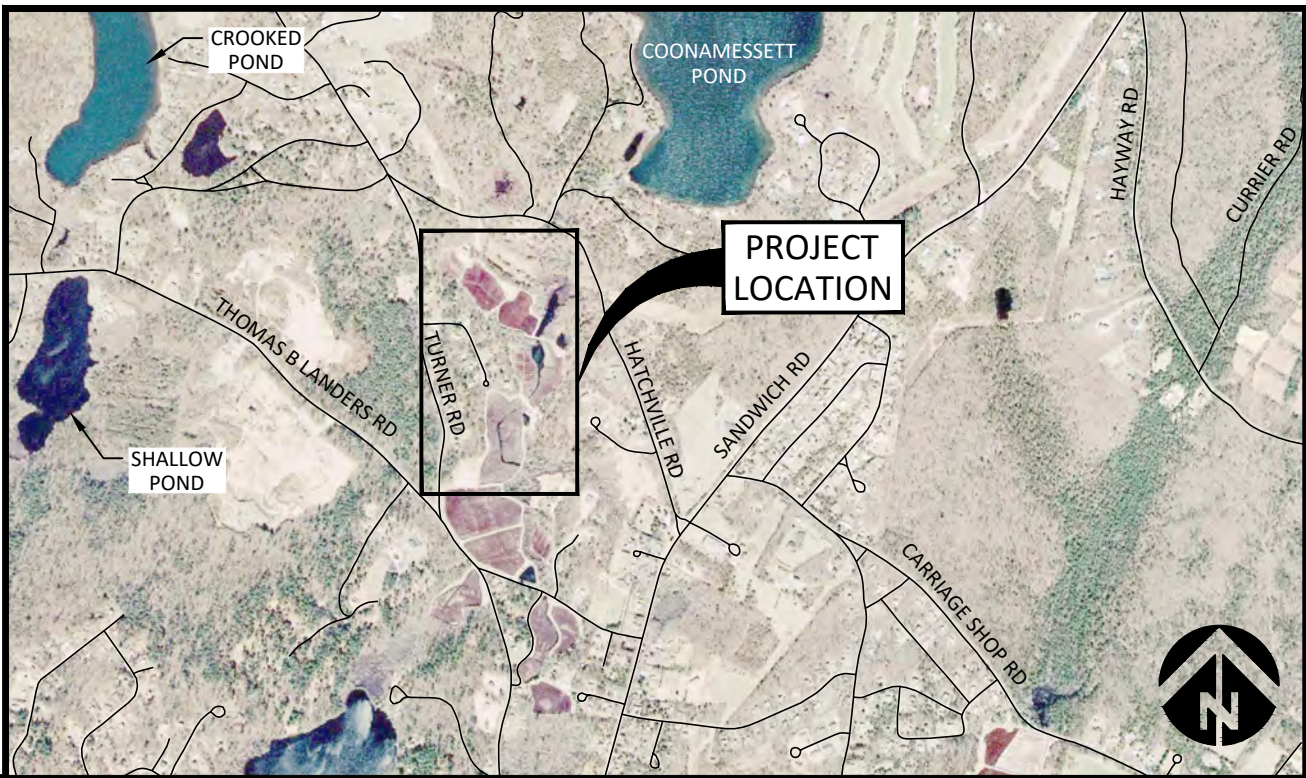
TOWN OF FALMOUTH, MASSACHUSETTS
OCTOBER 2024



LOCATION MAP
STATE OF MASSACHUSETTS
NOT TO SCALE



VICINITY MAP
NOT TO SCALE



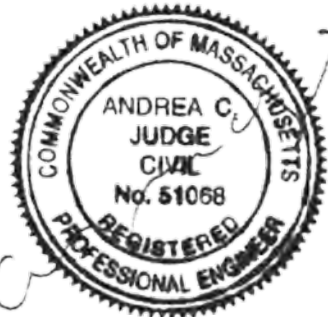
SITE MAP
NOT TO SCALE

PROJECT LOCATION:

LATITUDE: 41°36'36 N
LONGITUDE: 70°34' W
WATERBODY: COONAMESSETT RIVER

Sheet List Table	
Sheet Number	Sheet Title
1	COVER - LOCATION MAP AND SHEET LIST
2	EXISTING CONDITIONS PLAN & PROFILE AND SURVEY CONTROL
3	SITE PLAN, SHEET INDEX, ACCESS AND STAGING
4	GRADING AND TREATMENT PLAN - CELLS A & B
5	PROFILE AND SECTIONS - CELLS A & B
6	GRADING AND TREATMENT PLAN - CELLS C & D
7	PROFILE & SECTIONS - CELLS C, D & BROAD RIVER
8	SECTIONS - CELL D
9	GRADING AND TREATMENT PLAN - CELL E
10	PROFILE AND SECTIONS - CELL E
11	CROSS SECTIONS AT CELLS A, B, & D BERMS
12	TYPICAL DETAILS - LARGE WOOD TREATMENT A
13	TYPICAL DETAILS - LARGE WOOD TREATMENT B
14	TYPICAL DETAILS - LARGE WOOD TREATMENT C
15	TYPICAL DETAILS - MICROTOPOGRAPHY, CHANNEL FILL & LW COMPLEX
16	PLANTING ZONES
17	PERMITTING INFORMATION RESOURCE AREAS - EXISTING CONDITIONS
18	PERMITTING INFORMATION RESOURCE AREAS - PROPOSED CONDITIONS
L1.0	SITE PLAN
L2.0	CROSSING 1 PLAN & SECTION
L2.1	CROSSING 2 PLAN & SECTION
L2.2	CROSSING 3 PLAN & SECTION
L2.3	CROSSING 4 PLAN & SECTION
L3.0	DETAILS
L3.1	DETAILS

ISSUED FOR CONSTRUCTION



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NO.	BY	DATE	REVISION DESCRIPTION
3	AJ	10/10/24	ISSUED FOR CONSTRUCTION
2	KD	06/28/24	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

APPROVED	DESIGNED	CHECKED
AJ	KK, SS	NN
10/02/2023		210507
DATE		PROJECT

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

220 Concord Avenue, 2nd Floor
Cambridge, MA 02138
617.714.5537
www.interfluve.com

COVER - LOCATION MAP AND SHEET LIST

SHEET
1 of 18

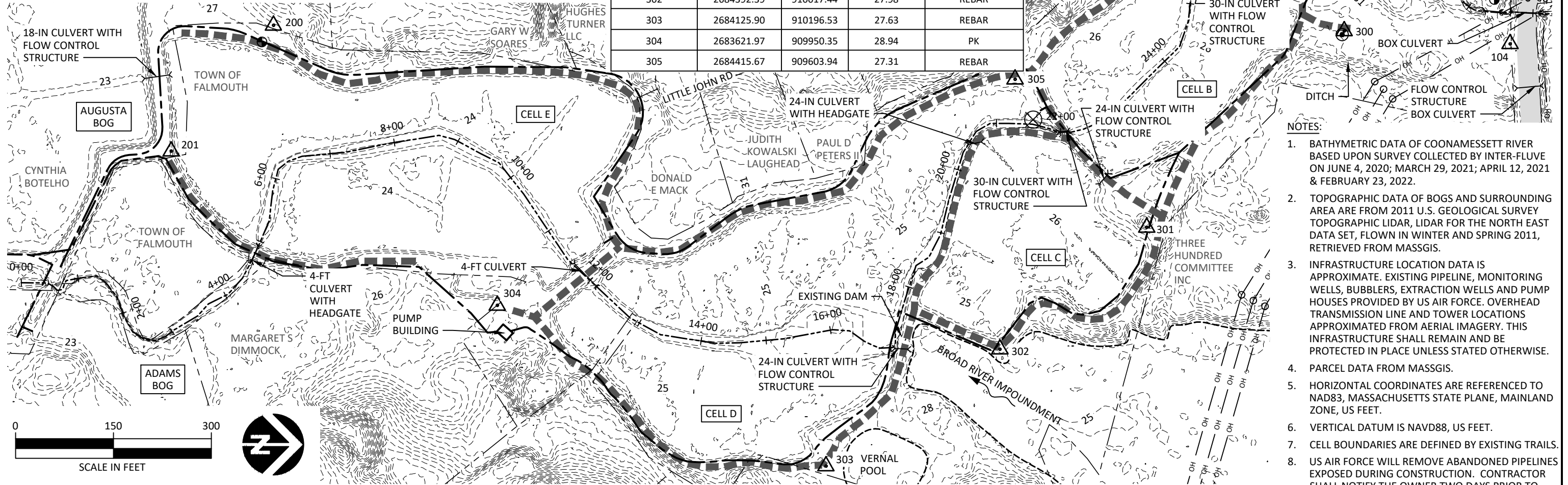
LEGEND

- 25--- EXISTING CONTOURS (1 FT)
- TAXLOTS
- 10+00 EXISTING ALIGNMENT AND STATIONING - COONAMESSETT RIVER
- █ EXISTING TRAIL
- EXISTING PIPELINE
- AQUATIC FEATURE (APPROX EXTENT)
- OH OH OVERHEAD TRANSMISSION LINES AND TOWERS

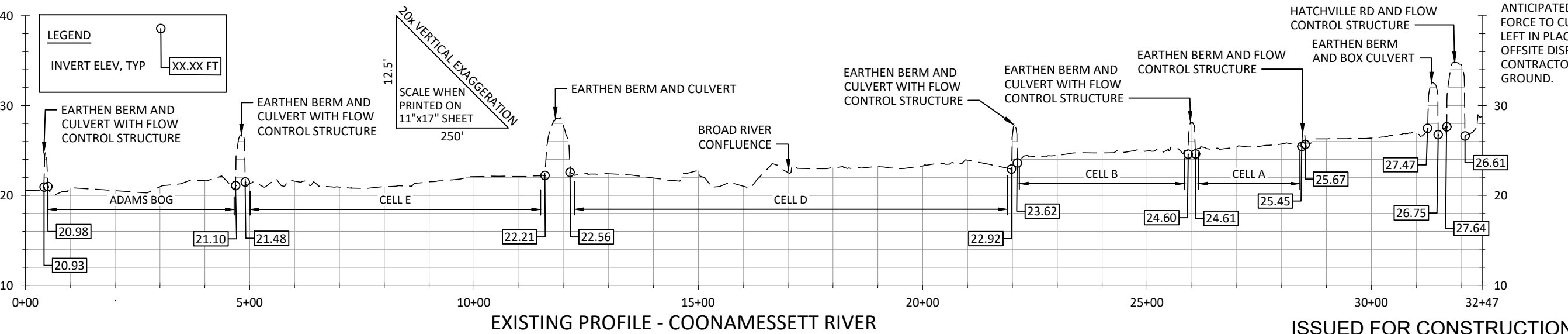
- ⊕ EXISTING MONITORING WELL
- ⊗ EXISTING BUBBLER
- ⊙ EXISTING EXTRACTION WELL
- △ SURVEY CONTROL POINT

SURVEY CONTROL POINTS

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
103	2685192.66	909449.67	39.06	PK
104	2685174.44	909549.62	33.89	PK
200	2683278.93	909521.22	28.91	REBAR
201	2683122.32	909713.99	27.16	REBAR
300	2684920.15	909529.93	32.70	PK
301	2684617.48	909830.86	30.09	REBAR
302	2684392.39	910017.44	27.98	REBAR
303	2684125.90	910196.53	27.63	REBAR
304	2683621.97	909950.35	28.94	PK
305	2684415.67	909603.94	27.31	REBAR



- NOTES:**
- BATHYMETRIC DATA OF COONAMESSETT RIVER BASED UPON SURVEY COLLECTED BY INTER-FLUVE ON JUNE 4, 2020; MARCH 29, 2021; APRIL 12, 2021 & FEBRUARY 23, 2022.
 - TOPOGRAPHIC DATA OF BOGS AND SURROUNDING AREA ARE FROM 2011 U.S. GEOLOGICAL SURVEY TOPOGRAPHIC LIDAR, LIDAR FOR THE NORTH EAST DATA SET, FLOWN IN WINTER AND SPRING 2011, RETRIEVED FROM MASSGIS.
 - INFRASTRUCTURE LOCATION DATA IS APPROXIMATE. EXISTING PIPELINE, MONITORING WELLS, BUBBLERS, EXTRACTION WELLS AND PUMP HOUSES PROVIDED BY US AIR FORCE. OVERHEAD TRANSMISSION LINE AND TOWER LOCATIONS APPROXIMATED FROM AERIAL IMAGERY. THIS INFRASTRUCTURE SHALL REMAIN AND BE PROTECTED IN PLACE UNLESS STATED OTHERWISE.
 - PARCEL DATA FROM MASSGIS.
 - HORIZONTAL COORDINATES ARE REFERENCED TO NAD83, MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FEET.
 - VERTICAL DATUM IS NAVD88, US FEET.
 - CELL BOUNDARIES ARE DEFINED BY EXISTING TRAILS.
 - US AIR FORCE WILL REMOVE ABANDONED PIPELINES EXPOSED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER TWO DAYS PRIOR TO ANTICIPATED PIPE EXPOSURE TO ALLOW THE US AIR FORCE TO CUT THE PIPE, CAP THE REMAINING PIPE LEFT IN PLACE, AND REMOVE THE PIPE TO AN OFFSITE DISPOSAL LOCATION ONCE THE CONTRACTOR HAS EXTRACTED THE PIPE FROM THE GROUND.



EXISTING PROFILE - COONAMESSETT RIVER

ISSUED FOR CONSTRUCTION

M:\ProjectFiles\Active\UpperCoonamessett_MA_2021\Drawings\UpperCoonamessett_D.dwg - eschulz - 10/11/24

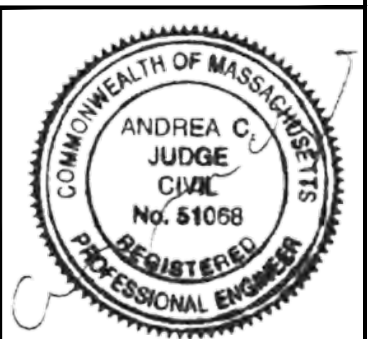
NO.	BY	DATE	REVISION DESCRIPTION
3	AJ	10/10/24	ISSUED FOR CONSTRUCTION
2	KD	06/28/24	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

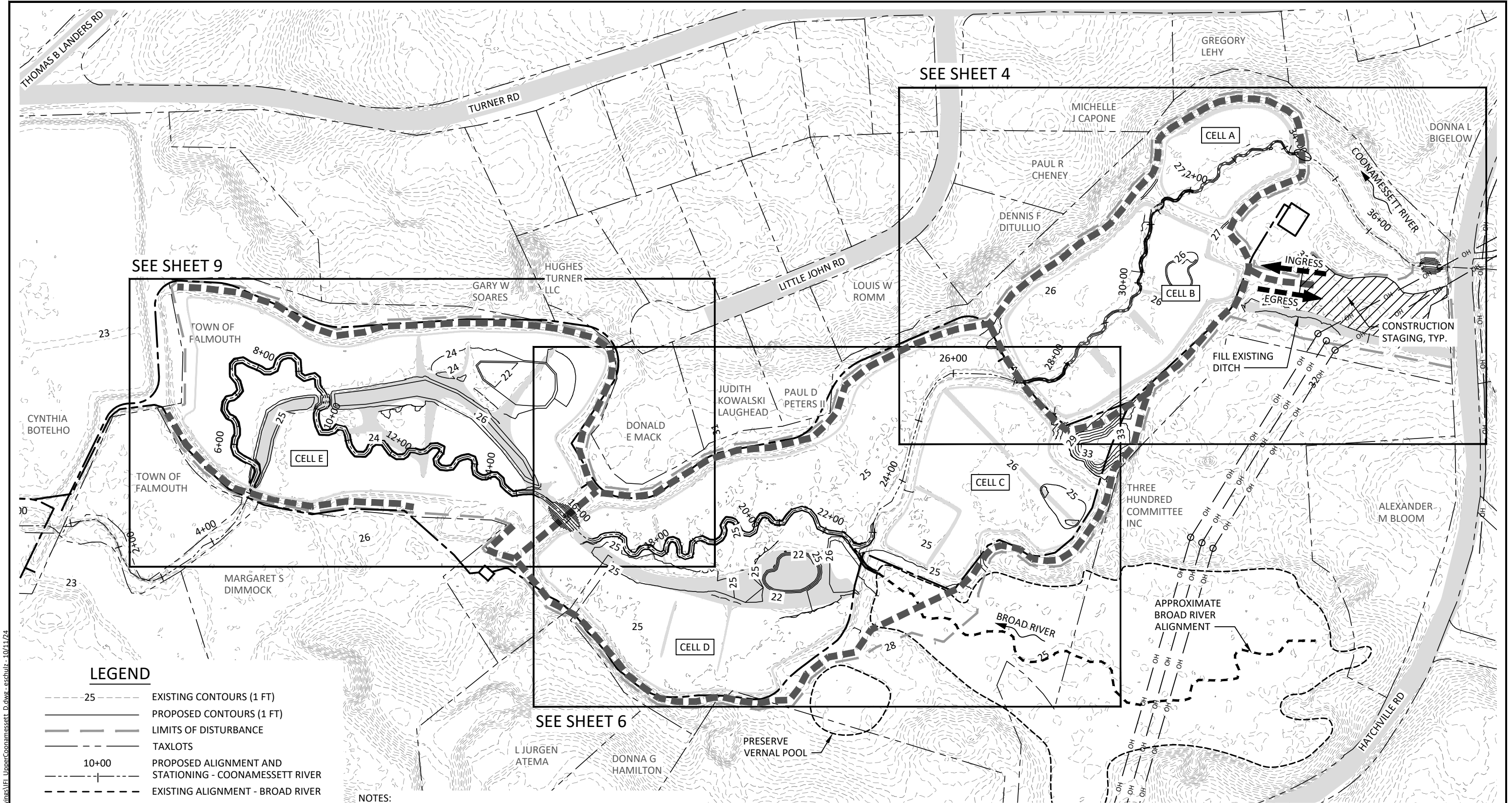
APPROVED	DATE	PROJECT
NS	10/02/2023	210507
KK, SS		
NN		

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN TOWN OF FALMOUTH, MASSACHUSETTS

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EXISTING CONDITIONS PLAN & PROFILE AND SURVEY CONTROL





LEGEND

- 25 --- EXISTING CONTOURS (1 FT)
- PROPOSED CONTOURS (1 FT)
- LIMITS OF DISTURBANCE
- TAXLOTS
- 10+00 PROPOSED ALIGNMENT AND STATIONING - COONAMESSETT RIVER
- EXISTING ALIGNMENT - BROAD RIVER
- EXISTING PIPELINE
- TEMPORARY CONSTRUCTION ACCESS AND PERMANENT PEDESTRIAN TRAIL
- STAGING AREA
- AQUATIC FEATURE (APPROX EXTENT)
- OH OH OVERHEAD TRANSMISSION LINES AND TOWERS
- AREA OF FILL

NOTES:

1. SEE SHEETS 12 - 14 FOR LARGE WOOD TREATMENT DETAILS.
2. SEE DETAIL 1, SHEET 15 FOR MICROTOPOGRAPHY DETAILS.
3. US AIR FORCE WILL REMOVE ABANDONED PIPELINES EXPOSED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER TWO DAYS PRIOR TO ANTICIPATED PIPE EXPOSURE TO ALLOW THE US AIR FORCE TO CUT THE PIPE, CAP THE REMAINING PIPE LEFT IN PLACE, AND REMOVE THE PIPE TO AN OFFSITE DISPOSAL LOCATION ONCE THE CONTRACTOR HAS EXTRACTED THE PIPE FROM THE GROUND.



ISSUED FOR CONSTRUCTION

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NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
AJ	10/02/2023	210507
APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN TOWN OF FALMOUTH, MASSACHUSETTS



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SITE PLAN, SHEET INDEX, ACCESS AND STAGING

SHEET
3 of 18

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NOTES:

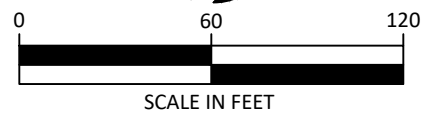
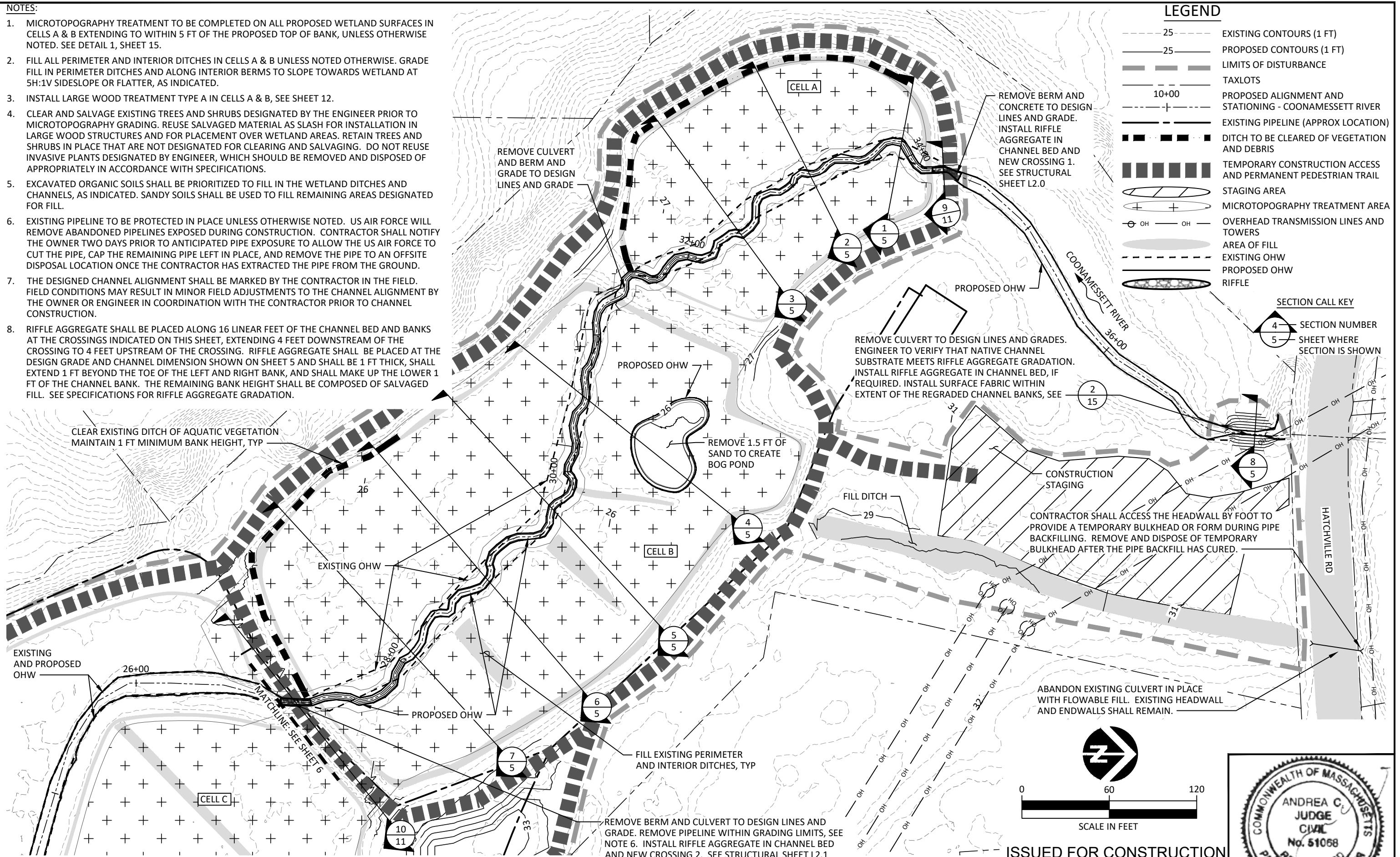
- MICROTOPOGRAPHY TREATMENT TO BE COMPLETED ON ALL PROPOSED WETLAND SURFACES IN CELLS A & B EXTENDING TO WITHIN 5 FT OF THE PROPOSED TOP OF BANK, UNLESS OTHERWISE NOTED. SEE DETAIL 1, SHEET 15.
- FILL ALL PERIMETER AND INTERIOR DITCHES IN CELLS A & B UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDESLOPE OR FLATTER, AS INDICATED.
- INSTALL LARGE WOOD TREATMENT TYPE A IN CELLS A & B, SEE SHEET 12.
- CLEAR AND SALVAGE EXISTING TREES AND SHRUBS DESIGNATED BY THE ENGINEER PRIOR TO MICROTOPOGRAPHY GRADING. REUSE SALVAGED MATERIAL AS SLASH FOR INSTALLATION IN LARGE WOOD STRUCTURES AND FOR PLACEMENT OVER WETLAND AREAS. RETAIN TREES AND SHRUBS IN PLACE THAT ARE NOT DESIGNATED FOR CLEARING AND SALVAGING. DO NOT REUSE INVASIVE PLANTS DESIGNATED BY ENGINEER, WHICH SHOULD BE REMOVED AND DISPOSED OF APPROPRIATELY IN ACCORDANCE WITH SPECIFICATIONS.
- EXCAVATED ORGANIC SOILS SHALL BE PRIORITIZED TO FILL IN THE WETLAND DITCHES AND CHANNELS, AS INDICATED. SANDY SOILS SHALL BE USED TO FILL REMAINING AREAS DESIGNATED FOR FILL.
- EXISTING PIPELINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. US AIR FORCE WILL REMOVE ABANDONED PIPELINES EXPOSED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER TWO DAYS PRIOR TO ANTICIPATED PIPE EXPOSURE TO ALLOW THE US AIR FORCE TO CUT THE PIPE, CAP THE REMAINING PIPE LEFT IN PLACE, AND REMOVE THE PIPE TO AN OFFSITE DISPOSAL LOCATION ONCE THE CONTRACTOR HAS EXTRACTED THE PIPE FROM THE GROUND.
- THE DESIGNED CHANNEL ALIGNMENT SHALL BE MARKED BY THE CONTRACTOR IN THE FIELD. FIELD CONDITIONS MAY RESULT IN MINOR FIELD ADJUSTMENTS TO THE CHANNEL ALIGNMENT BY THE OWNER OR ENGINEER IN COORDINATION WITH THE CONTRACTOR PRIOR TO CHANNEL CONSTRUCTION.
- RIFFLE AGGREGATE SHALL BE PLACED ALONG 16 LINEAR FEET OF THE CHANNEL BED AND BANKS AT THE CROSSINGS INDICATED ON THIS SHEET, EXTENDING 4 FEET DOWNSTREAM OF THE CROSSING TO 4 FEET UPSTREAM OF THE CROSSING. RIFFLE AGGREGATE SHALL BE PLACED AT THE DESIGN GRADE AND CHANNEL DIMENSION SHOWN ON SHEET 5 AND SHALL BE 1 FT THICK, SHALL EXTEND 1 FT BEYOND THE TOE OF THE LEFT AND RIGHT BANK, AND SHALL MAKE UP THE LOWER 1 FT OF THE CHANNEL BANK. THE REMAINING BANK HEIGHT SHALL BE COMPOSED OF SALVAGED FILL. SEE SPECIFICATIONS FOR RIFFLE AGGREGATE GRADATION.

LEGEND

- 25' EXISTING CONTOURS (1 FT)
- 25' PROPOSED CONTOURS (1 FT)
- LIMITS OF DISTURBANCE
- TAXLOTS
- 10+00 PROPOSED ALIGNMENT AND STATIONING - COONAMESSETT RIVER
- EXISTING PIPELINE (APPROX LOCATION)
- DITCH TO BE CLEARED OF VEGETATION AND DEBRIS
- TEMPORARY CONSTRUCTION ACCESS AND PERMANENT PEDESTRIAN TRAIL
- STAGING AREA
- MICROTOPOGRAPHY TREATMENT AREA
- OVERHEAD TRANSMISSION LINES AND TOWERS
- AREA OF FILL
- EXISTING OHW
- PROPOSED OHW
- RIFFLE

SECTION CALL KEY

- SECTION NUMBER
- SHEET WHERE SECTION IS SHOWN



ISSUED FOR CONSTRUCTION



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NO.	BY	DATE	REVISION DESCRIPTION
3	AJ	10/10/24	ISSUED FOR CONSTRUCTION
2	KD	06/28/24	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

APPROVED	DATE	PROJECT
NS DRAWN	KK, SS DESIGNED	NN CHECKED
AJ	10/02/2023	210507

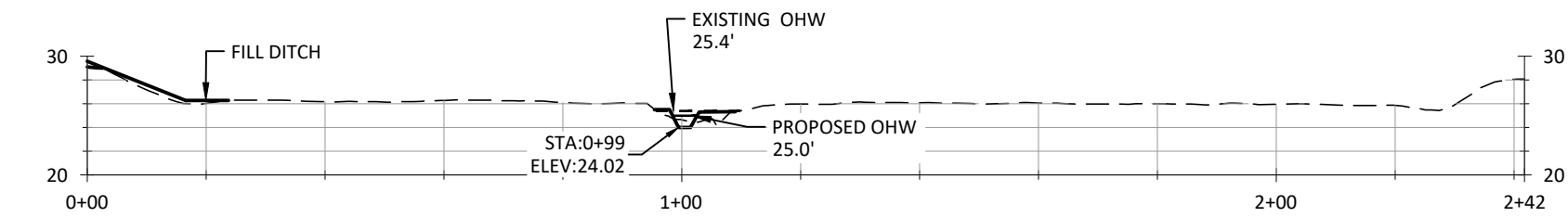
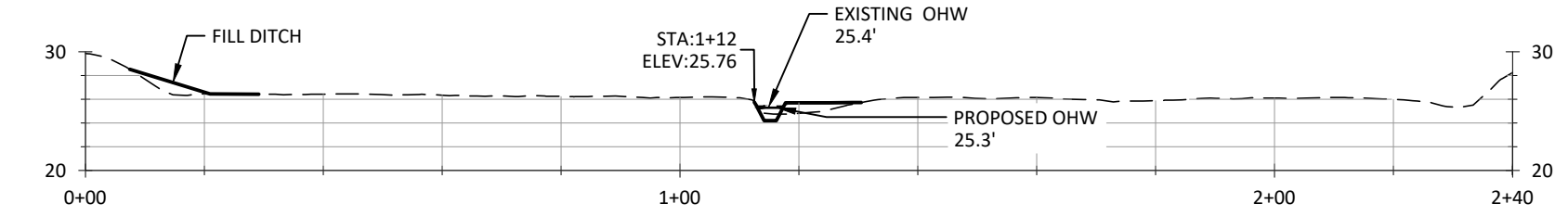
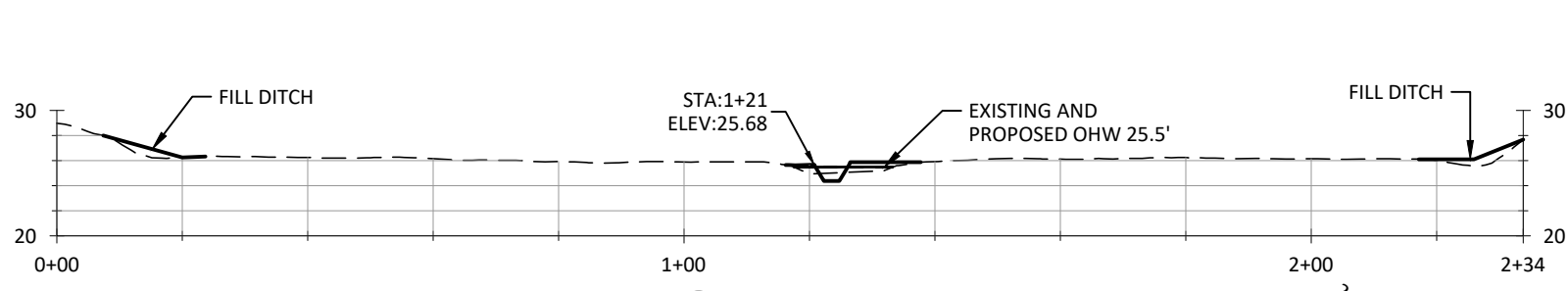
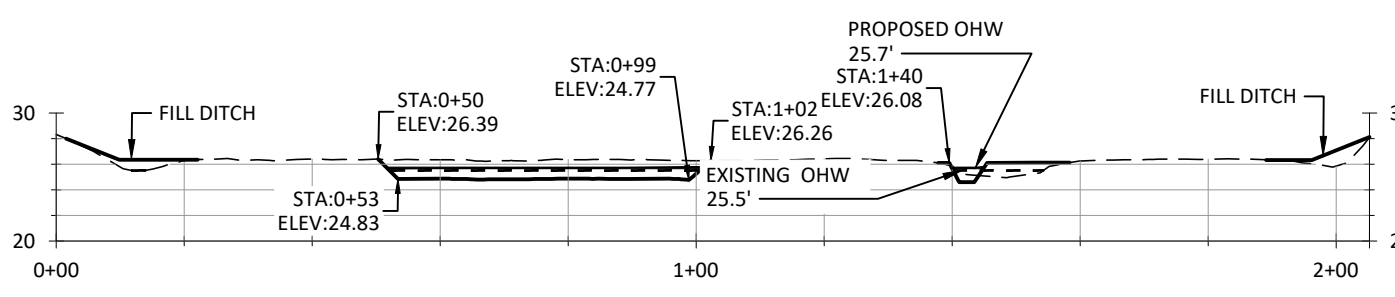
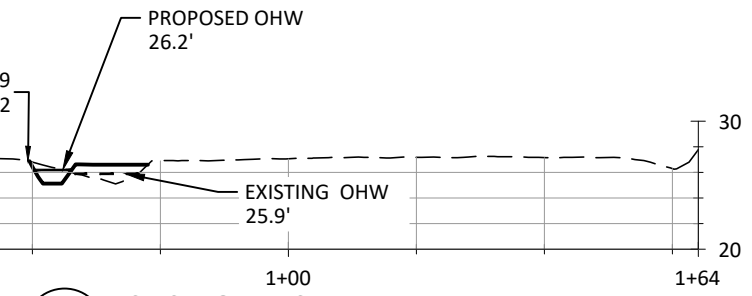
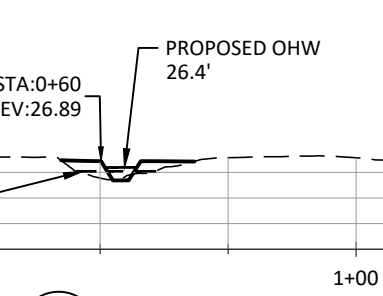
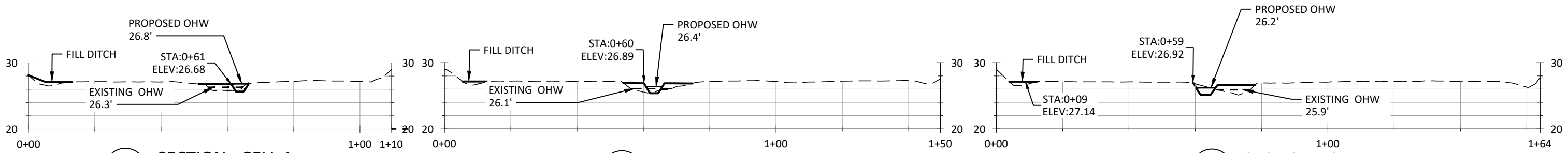
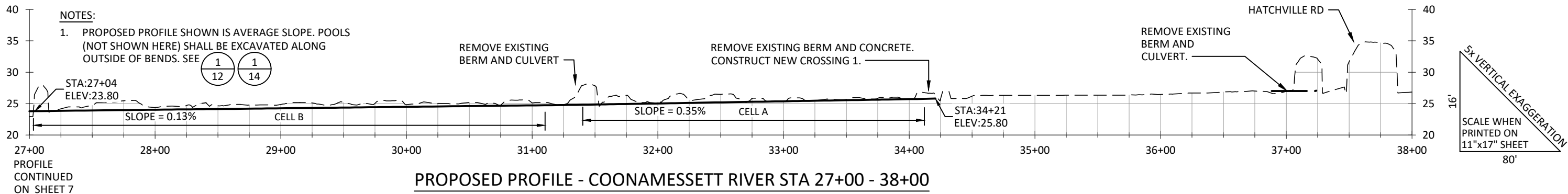
UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN TOWN OF FALMOUTH, MASSACHUSETTS



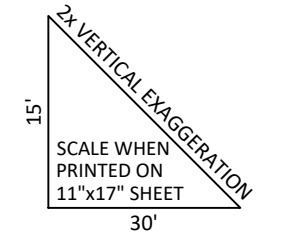
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GRADING AND TREATMENT PLAN - CELLS A & B

SHEET
4 OF 18

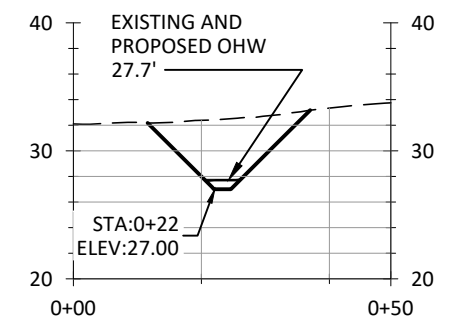


- NOTES:**
- SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.
 - TYPICAL CHANNEL DIMENSIONS: BOTTOM WIDTH = 2 FT; BANK HEIGHT = 1.5 FT; BANK SLOPE = 1H:1V
 - CHANNEL GEOMETRY IS CREATED BY LARGE WOOD INSTALLATION. SEE (1/12)
 - FILL ALL PERIMETER AND INTERIOR DITCHES IN CELLS A & B UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDE SLOPE OR FLATTER, AS INDICATED.



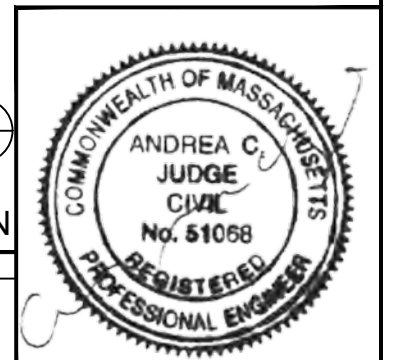
LEGEND

- EXISTING GROUND
- PROPOSED GROUND
- - - EXISTING OHW
- PROPOSED OHW



- NOTES:**
- MATCH CHANNEL WIDTH TO CHANNEL WIDTH UPSTREAM AND DOWNSTREAM.
 - MATCH BANK SLOPE TO THAT UPSTREAM AND DOWNSTREAM.
 - INSTALL SURFACE FABRIC ON GRADED CHANNEL BANKS SEE (2/15)

ISSUED FOR CONSTRUCTION



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NO.	BY	DATE	REVISION DESCRIPTION
3	AJ	10/10/24	ISSUED FOR CONSTRUCTION
2	KD	06/28/24	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

APPROVED	DATE	PROJECT
NS	10/02/2023	210507
KK, SS		
NN		

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN TOWN OF FALMOUTH, MASSACHUSETTS

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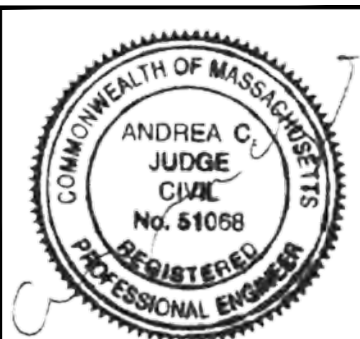
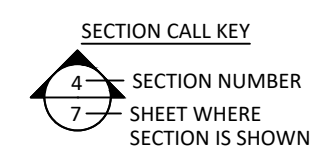
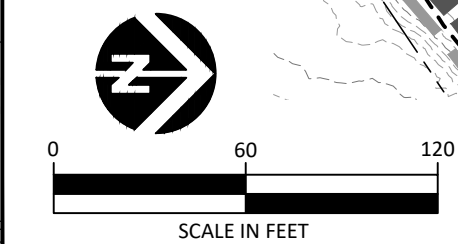
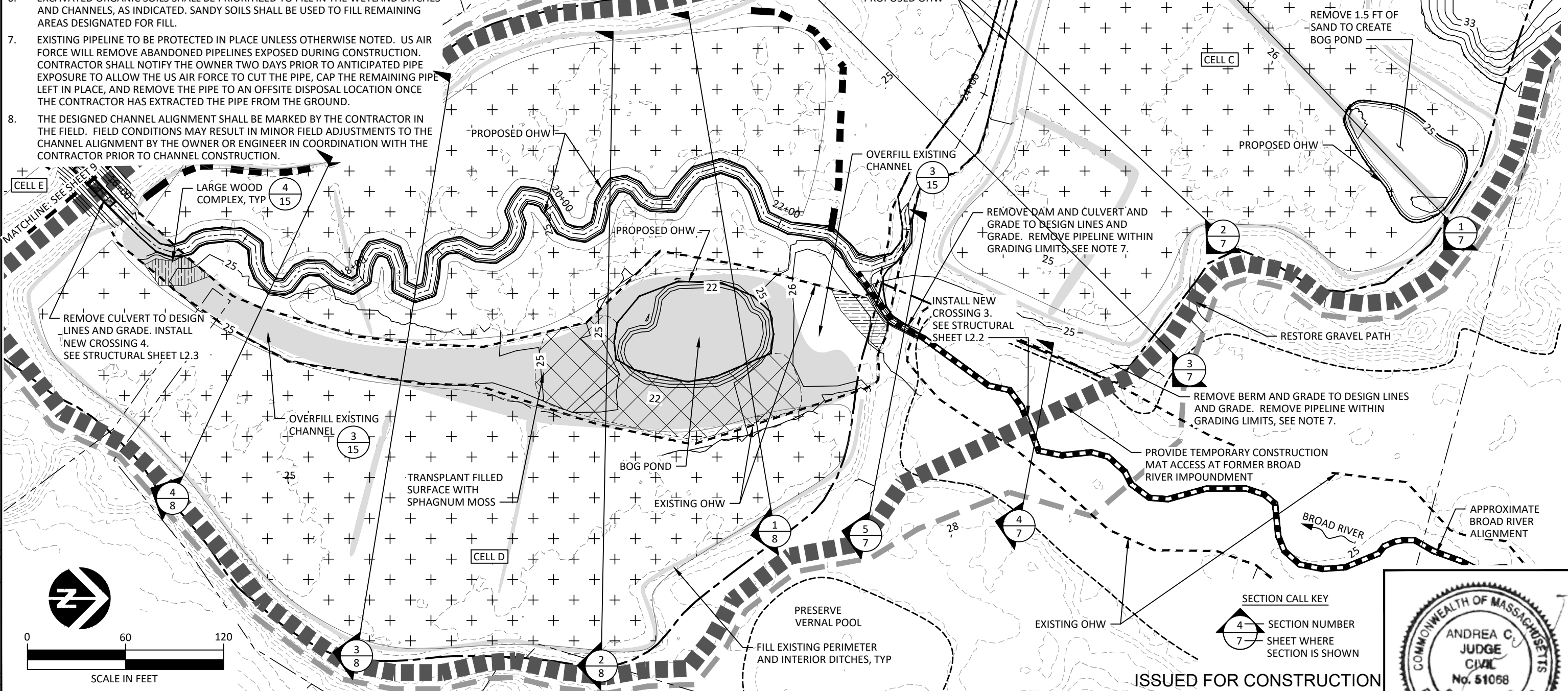
PROFILE AND SECTIONS - CELLS A & B

NOTES:

- MICROTOPOGRAPHY TREATMENT TO BE COMPLETED ON ALL PROPOSED WETLAND SURFACES IN CELLS C & D EXTENDING TO WITHIN 5 FT OF THE PROPOSED TOP OF BANK, UNLESS OTHERWISE INDICATED. SEE DETAIL 1, SHEET 15.
- FILL ALL PERIMETER AND INTERIOR DITCHES IN CELLS C & D UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDESLOPE OR FLATTER, AS INDICATED.
- FILL EXISTING CHANNEL, WHERE INDICATED, 1 FT ABOVE TOP OF BANK AND SLOPE SIDES 2H:1V TO EXISTING.
- INSTALL LARGE WOOD TREATMENT TYPE B IN CELL D FROM STATION 27+00 TO STATION 23+00 (SEE SHEET 13) AND LARGE WOOD TREATMENT TYPE C IN CELL D STATION 23+00 TO STATION 16+00 (SEE SHEET 14).
- CLEAR AND SALVAGE EXISTING TREES AND SHRUBS DESIGNATED BY THE ENGINEER PRIOR TO MICROTOPOGRAPHY GRADING. REUSE SALVAGED MATERIAL AS SLASH FOR INSTALLATION IN LARGE WOOD STRUCTURES AND FOR PLACEMENT OVER WETLAND AREAS. RETAIN TREES AND SHRUBS IN PLACE THAT ARE NOT DESIGNATED FOR CLEARING AND SALVAGING. DO NOT REUSE INVASIVE PLANTS DESIGNATED BY ENGINEER, WHICH SHOULD BE REMOVED AND DISPOSED OF APPROPRIATELY IN ACCORDANCE WITH SPECIFICATIONS.
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- THE DESIGNED CHANNEL ALIGNMENT SHALL BE MARKED BY THE CONTRACTOR IN THE FIELD. FIELD CONDITIONS MAY RESULT IN MINOR FIELD ADJUSTMENTS TO THE CHANNEL ALIGNMENT BY THE OWNER OR ENGINEER IN COORDINATION WITH THE CONTRACTOR PRIOR TO CHANNEL CONSTRUCTION.

LEGEND

- 25 --- EXISTING CONTOURS (1 FT)
- 25 — PROPOSED CONTOURS (1 FT)
- 10+00 --- TAXLOTS
- PROPOSED ALIGNMENT AND STATIONING - COONAMESSETT RIVER
- EXISTING PIPELINE (APPROX LOCATION)
- DITCH TO BE CLEARED OF VEGETATION AND DEBRIS
- TEMPORARY CONSTRUCTION ACCESS AND PERMANENT PEDESTRIAN TRAIL
- EXISTING OHW
- PROPOSED OHW
- RIFFLE
- MICROTOPOGRAPHY TREATMENT AREA
- SPHAGNUM MOSS TRANSPLANTING AREA
- LARGE WOOD COMPLEX
- AQUATIC FEATURE (APPROX EXTENT)
- AREA OF FILL



NO.	BY	DATE	REVISION DESCRIPTION
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1	MB	10/04/23	ISSUED FOR PERMITTING

APPROVED	DATE	PROJECT
NS	10/02/2023	210507
KK, SS		
NN		

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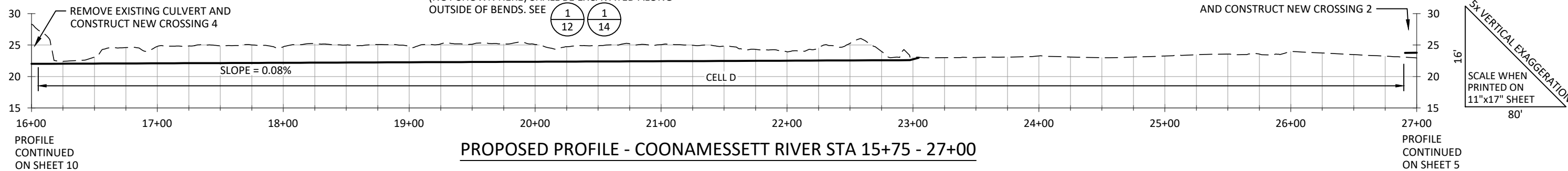
GRADING AND TREATMENT PLAN - CELLS C & D

SHEET
6 OF 18

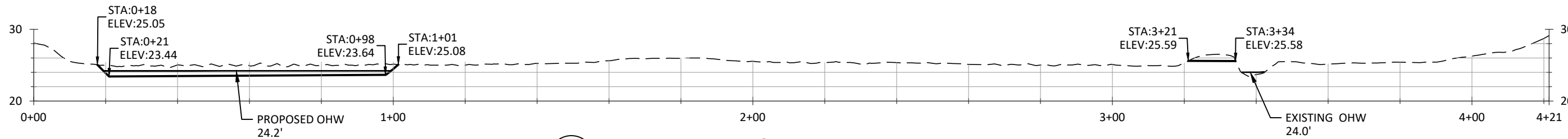
ISSUED FOR CONSTRUCTION

NOTES:

1. PROPOSED PROFILE SHOWN IS AVERAGE SLOPE. POOLS (NOT SHOWN HERE) SHALL BE EXCAVATED ALONG OUTSIDE OF BENDS. SEE (1/12) (1/14)

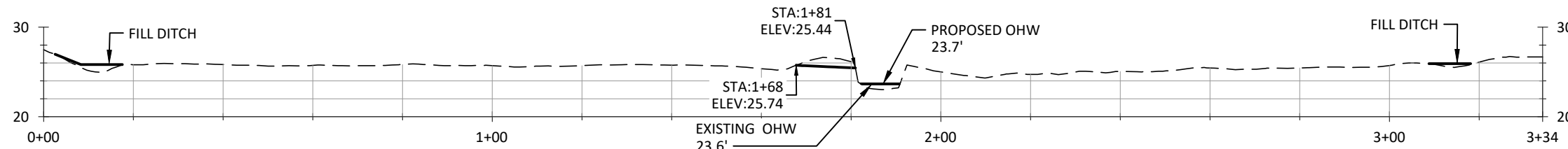


PROPOSED PROFILE - COONAMESSETT RIVER STA 15+75 - 27+00

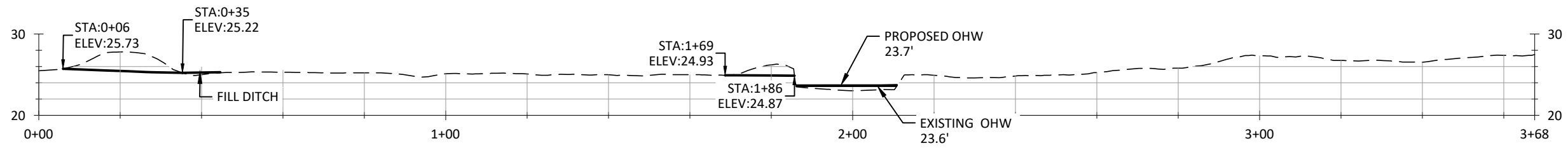


1 SECTION - CELL C & D
7 STA 25+59

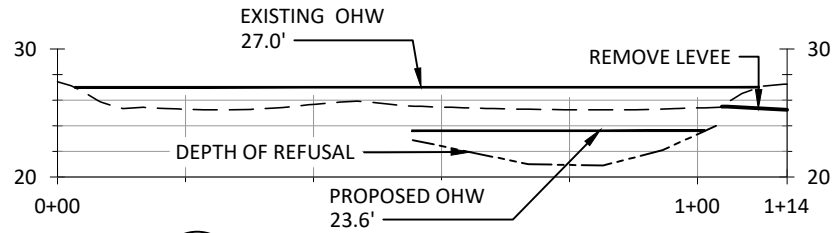
- NOTES:
1. SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.
 2. FILL ALL PERIMETER AND INTERIOR DITCHES IN CELLS C & D UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDE SLOPE OR FLATTER, AS INDICATED.



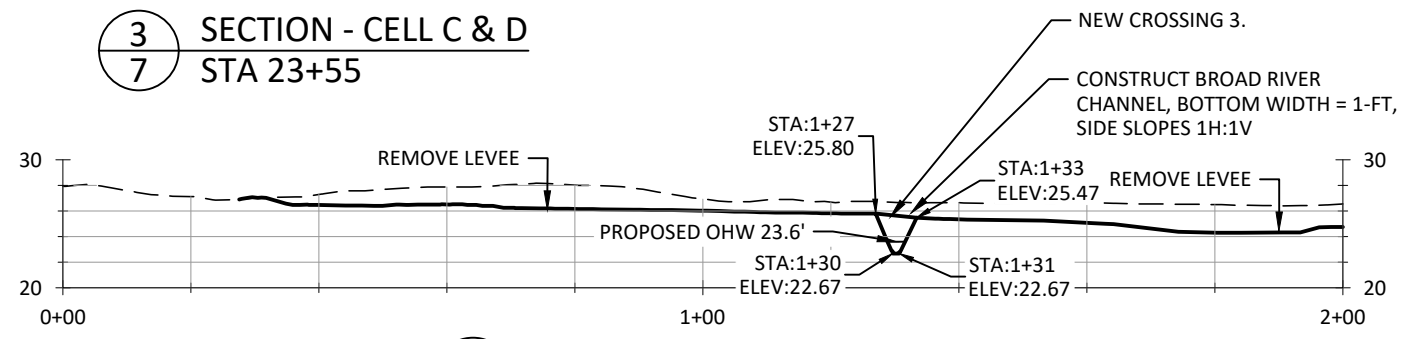
2 SECTION - CELL C & D
7 STA 24+29



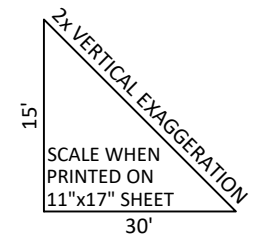
3 SECTION - CELL C & D
7 STA 23+55



4 SECTION - BROAD RIVER
7

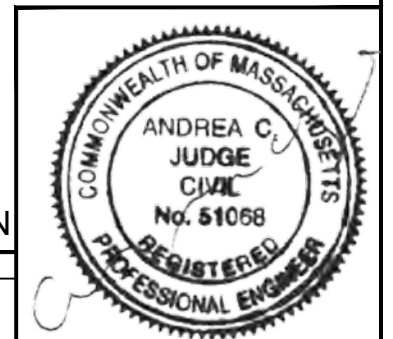


5 SECTION - BROAD RIVER
7



LEGEND

- - - - - EXISTING GROUND
- PROPOSED GROUND
- - - - - DEPTH OF REFUSAL
- - - - - EXISTING OHW
- PROPOSED OHW



ISSUED FOR CONSTRUCTION

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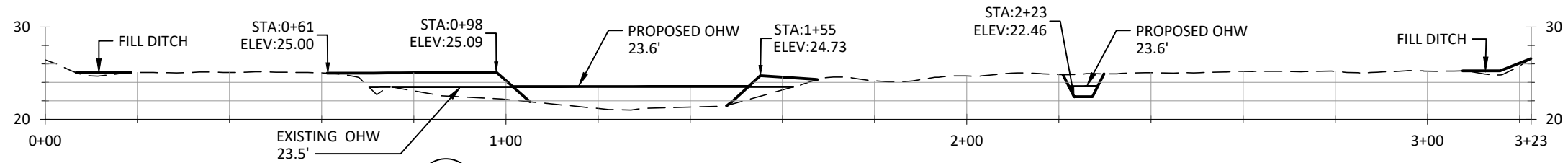
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2	KD	06/28/24	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
AJ	10/02/2023	210507
APPROVED	DATE	PROJECT

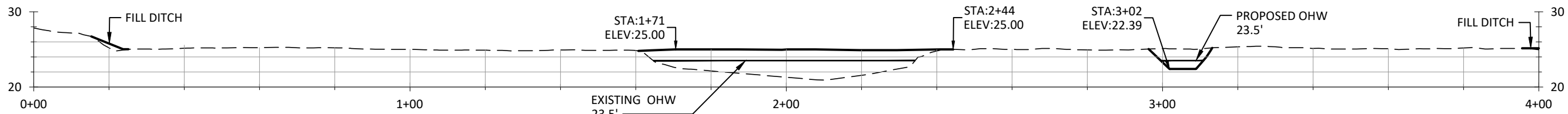
UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN TOWN OF FALMOUTH, MASSACHUSETTS

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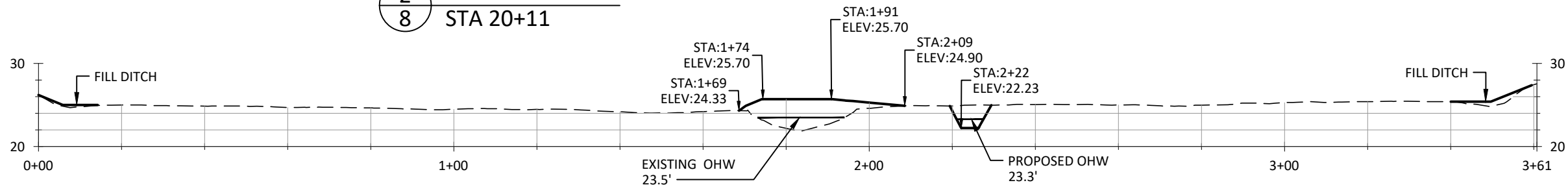
PROFILE & SECTIONS - CELLS C, D & BROAD RIVER



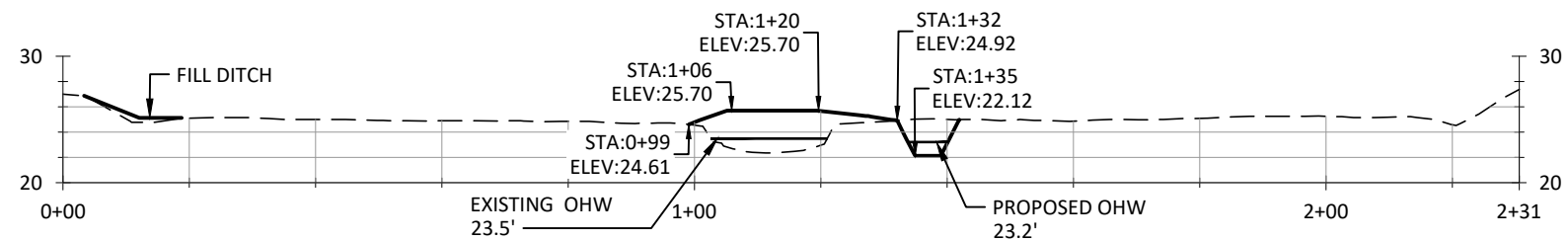
1 SECTION - CELL D
8 STA 21+30



2 SECTION - CELL D
8 STA 20+11



3 SECTION - CELL D
8 STA 18+53



4 SECTION - CELL D
8 STA 17+23

2x VERTICAL EXAGGERATION
15'
SCALE WHEN PRINTED ON 11"x17" SHEET
30'

LEGEND

- EXISTING GROUND
- PROPOSED GROUND
- - - EXISTING OHW
- PROPOSED OHW

NOTES:

1. SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.
2. TYPICAL CHANNEL DIMENSIONS: BOTTOM WIDTH = 4 FT; BANK SLOPE = 1H:1V
3. LARGE WOOD TREATMENT TYPE C, SEE $\frac{1}{14}$
4. FILL ALL PERIMETER AND INTERIOR DITCHES IN CELL D UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDE SLOPE OR FLATTER, AS INDICATED.

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3	AJ	10/10/24	ISSUED FOR CONSTRUCTION
2	KD	06/28/24	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

APPROVED	DATE	PROJECT
NS	10/02/2023	210507
KK, SS		
NN		

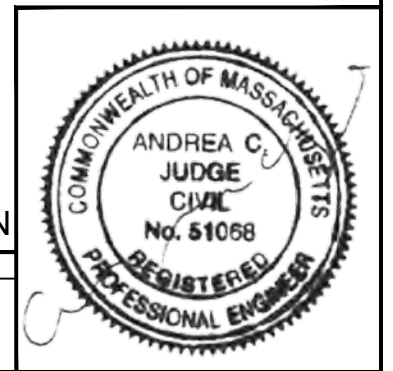
UPPER COONAMESSETT RIVER
RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

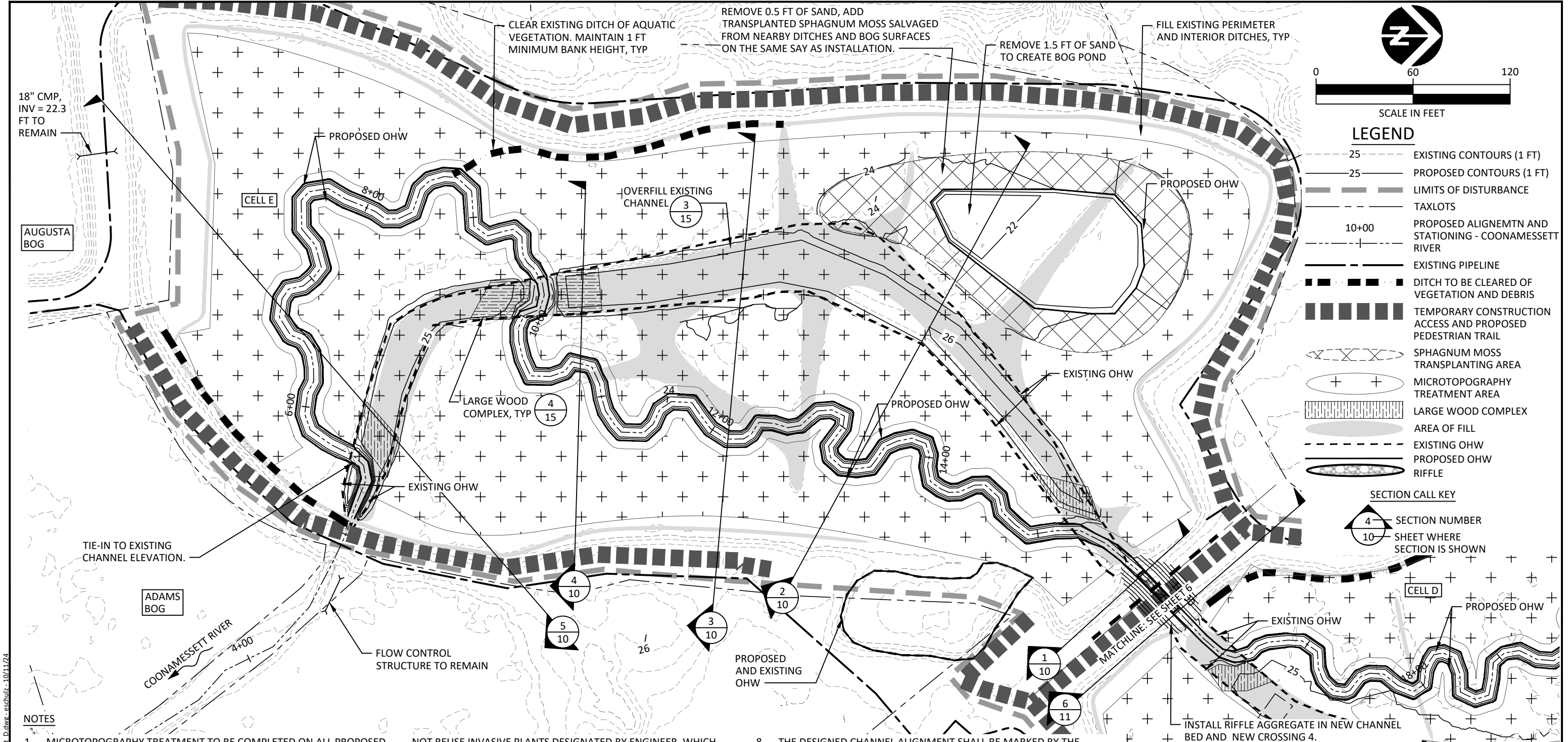


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SECTIONS - CELL D

SHEET
8 OF 18





LEGEND

- 25 --- EXISTING CONTOURS (1 FT)
- 25 --- PROPOSED CONTOURS (1 FT)
- --- LIMITS OF DISTURBANCE
- --- TAXLOTS
- 10+00 --- PROPOSED ALIGNMENT AND STATIONING - COONAMESSETT RIVER
- --- EXISTING PIPELINE
- --- DITCH TO BE CLEARED OF VEGETATION AND DEBRIS
- --- TEMPORARY CONSTRUCTION ACCESS AND PROPOSED PEDESTRIAN TRAIL
- --- SPHAGNUM MOSS TRANSPLANTING AREA
- --- MICROTOPOGRAPHY TREATMENT AREA
- --- LARGE WOOD COMPLEX
- --- AREA OF FILL
- --- EXISTING OHW
- --- PROPOSED OHW
- --- RIFFLE

SECTION CALL KEY

- 4 --- SECTION NUMBER
- 10 --- SHEET WHERE SECTION IS SHOWN

- NOTES**
1. MICROTOPOGRAPHY TREATMENT TO BE COMPLETED ON ALL PROPOSED WETLAND SURFACES IN CELL E EXTENDING TO WITHIN 5 FT OF THE PROPOSED TOP OF BANK, UNLESS NOTED OTHERWISE. SEE DETAIL 1, SHEET 15.
 2. FILL ALL PERIMETER AND INTERIOR DITCHES IN CELL E UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDESLOPE OR FLATTER, 7, AS INDICATED.
 3. FILL EXISTING CHANNEL, WHERE INDICATED, 1 FT ABOVE TOP OF BANK AND SLOPE SIDES 2H:1V TO EXISTING.
 4. INSTALL LARGE WOOD TREATMENT TYPE C IN CELL E, SEE SHEET 14.
 5. CLEAR AND SALVAGE EXISTING TREES AND SHRUBS DESIGNATED BY THE ENGINEER PRIOR TO MICROTOPOGRAPHY GRADING. REUSE SALVAGED MATERIAL FOR INSTALLATION IN LARGE WOOD STRUCTURES AND FOR PLACEMENT OVER WETLAND AREAS. RETAIN TREES AND SHRUBS IN PLACE THAT ARE NOT DESIGNATED FOR CLEARING AND SALVAGING. DO NOT REUSE INVASIVE PLANTS DESIGNATED BY ENGINEER, WHICH SHOULD BE REMOVED AND DISPOSED OF APPROPRIATELY IN ACCORDANCE WITH SPECIFICATIONS.
 6. EXCAVATED ORGANIC SOILS SHALL BE PRIORITIZED TO FILL IN THE WETLAND DITCHES AND CHANNELS, AS INDICATED. SANDY SOILS SHALL BE USED TO FILL REMAINING AREAS DESIGNATED FOR FILL.
 7. EXISTING PIPELINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. US AIR FORCE WILL REMOVE ABANDONED PIPELINES EXPOSED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER TWO DAYS PRIOR TO ANTICIPATED PIPE EXPOSURE TO ALLOW THE US AIR FORCE TO CUT THE PIPE, CAP THE REMAINING PIPE LEFT IN PLACE, AND REMOVE THE PIPE TO AN OFFSITE DISPOSAL LOCATION ONCE THE CONTRACTOR HAS EXTRACTED THE PIPE FROM THE GROUND.
 8. THE DESIGNED CHANNEL ALIGNMENT SHALL BE MARKED BY THE CONTRACTOR IN THE FIELD. FIELD CONDITIONS MAY RESULT IN MINOR FIELD ADJUSTMENTS TO THE CHANNEL ALIGNMENT BY THE OWNER OR ENGINEER IN COORDINATION WITH THE CONTRACTOR PRIOR TO CHANNEL CONSTRUCTION.
 9. RIFFLE AGGREGATE SHALL BE PLACED ALONG 16 LINEAR FEET OF THE CHANNEL BED AND BANKS AT THE CROSSINGS INDICATED ON THIS SHEET, EXTENDING 4 FEET DOWNSTREAM OF THE CROSSING TO 4 FEET UPSTREAM OF THE CROSSING. RIFFLE AGGREGATE SHALL BE PLACED AT THE DESIGN GRADE AND CHANNEL DIMENSION SHOWN ON SHEET 11 AND SHALL BE 1 FOOT THICK, SHALL EXTEND 1 FOOT BEYOND THE TOE OF THE LEFT AND RIGHT BANK, AND SHALL MAKE UP THE LOWER 1 FOOT OF THE CHANNEL BANK. THE REMAINING BANK HEIGHT SHALL BE COMPOSED OF SALVAGED FILL. SEE SPECIFICATIONS FOR RIFFLE AGGREGATE GRADATION.

18" CMP, INV = 22.3 FT TO REMAIN

AUGUSTA BOG

CELL E

PROPOSED OHW

OVERFILL EXISTING CHANNEL

REMOVE 0.5 FT OF SAND, ADD TRANSPLANTED SPHAGNUM MOSS SALVAGED FROM NEARBY DITCHES AND BOG SURFACES ON THE SAME DAY AS INSTALLATION.

REMOVE 1.5 FT OF SAND TO CREATE BOG POND

FILL EXISTING PERIMETER AND INTERIOR DITCHES, TYP

ADAMS BOG

COONAMESSETT RIVER

TIE-IN TO EXISTING CHANNEL ELEVATION.

FLOW CONTROL STRUCTURE TO REMAIN

PROPOSED AND EXISTING OHW

INSTALL RIFFLE AGGREGATE IN NEW CHANNEL BED AND NEW CROSSING 4. SEE STRUCTURAL SHEET L2.3

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APPROVED	DATE	PROJECT
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AJ	10/02/2023	210507

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN TOWN OF FALMOUTH, MASSACHUSETTS

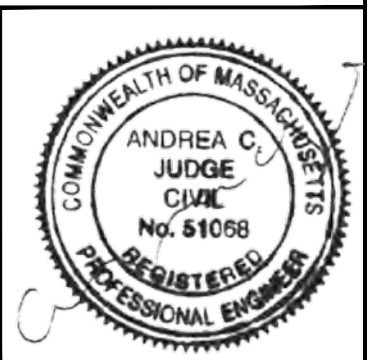


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GRADING AND TREATMENT PLAN - CELL E

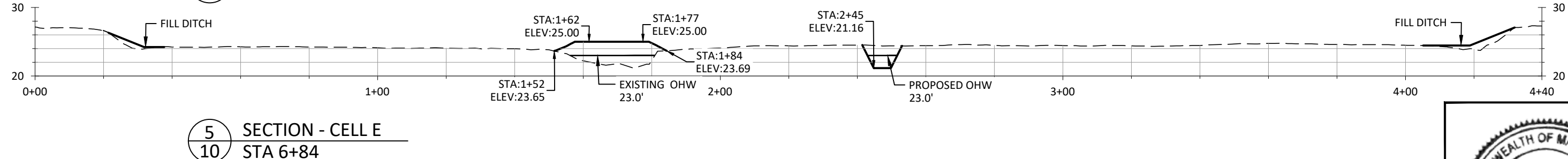
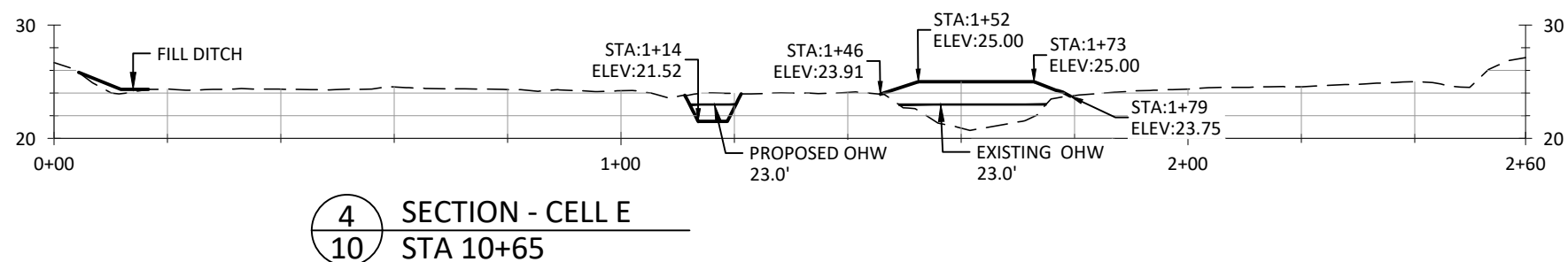
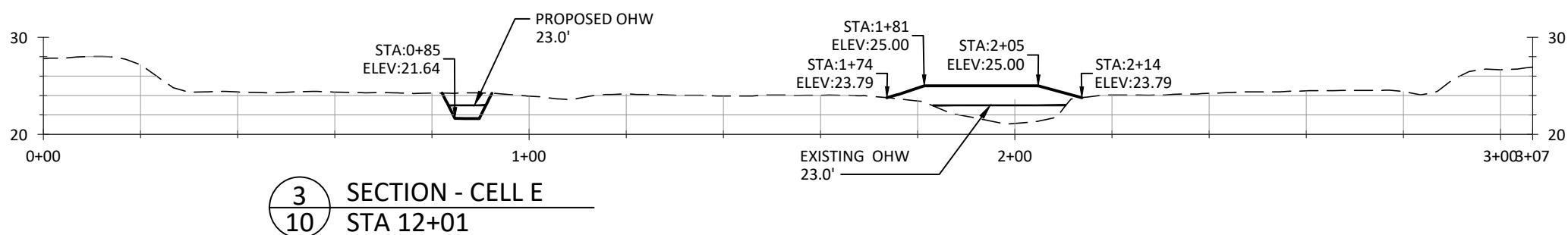
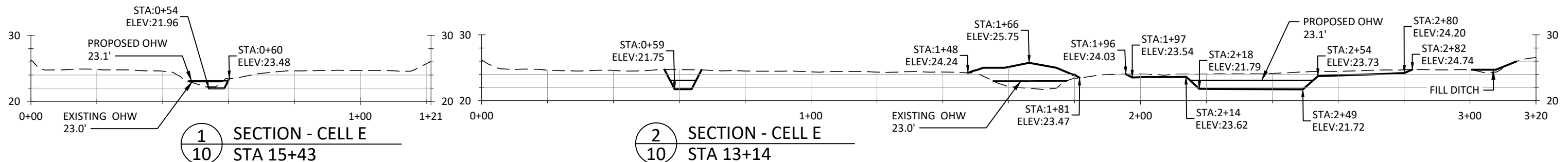
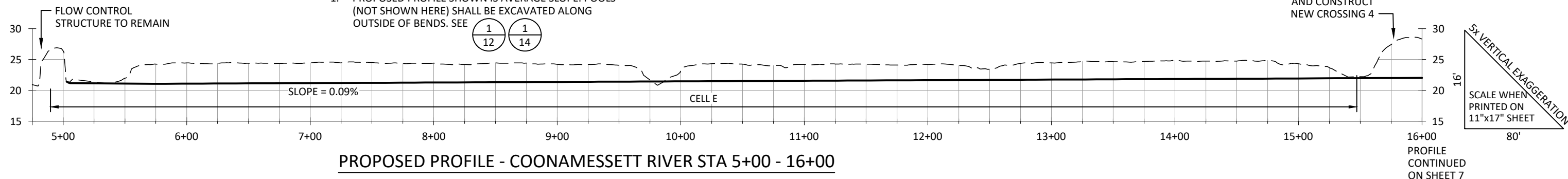
SHEET
9 OF 18

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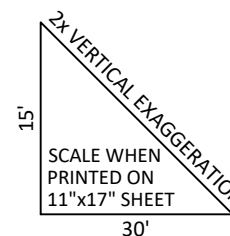
NOTES:

1. PROPOSED PROFILE SHOWN IS AVERAGE SLOPE. POOLS (NOT SHOWN HERE) SHALL BE EXCAVATED ALONG OUTSIDE OF BENDS. SEE $\frac{1}{12}$ $\frac{1}{14}$



NOTES:

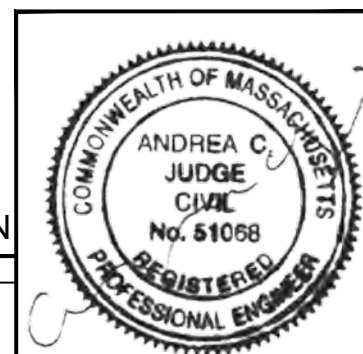
1. SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.
2. TYPICAL CHANNEL DIMENSIONS : BOTTOM WIDTH = 5 FT; BANK SLOPE = 1H:1V
3. LARGE WOOD TREATMENT TYPE C, SEE $\frac{1}{14}$
4. FILL ALL PERIMETER AND INTERIOR DITCHES IN CELL E UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDE SLOPE OR FLATTER, AS INDICATED.



LEGEND

- EXISTING GROUND
- PROPOSED GROUND
- - - EXISTING OHW
- PROPOSED OHW

ISSUED FOR CONSTRUCTION



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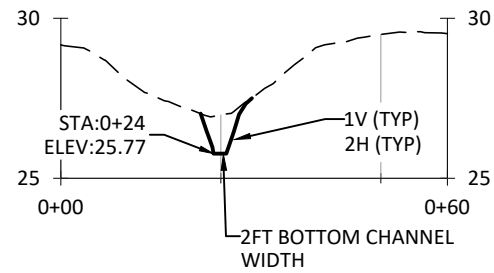
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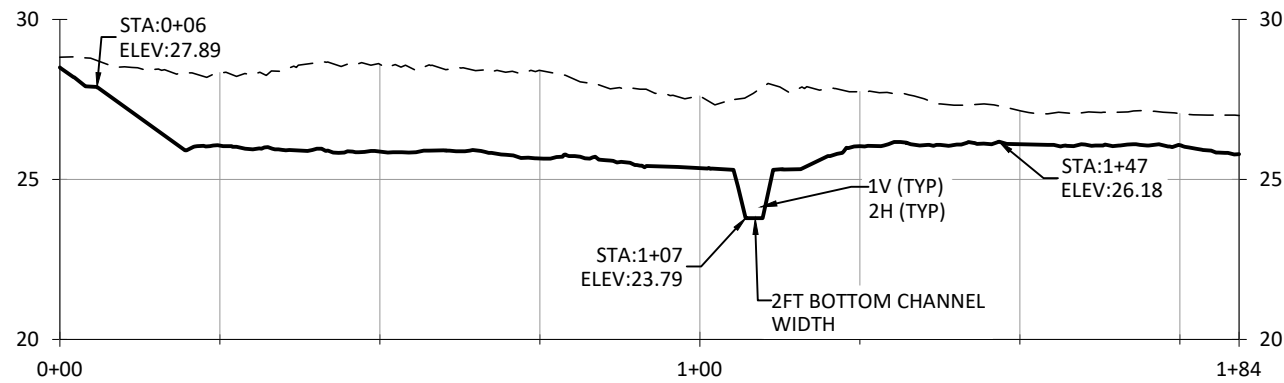
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PROFILE AND SECTIONS - CELL E

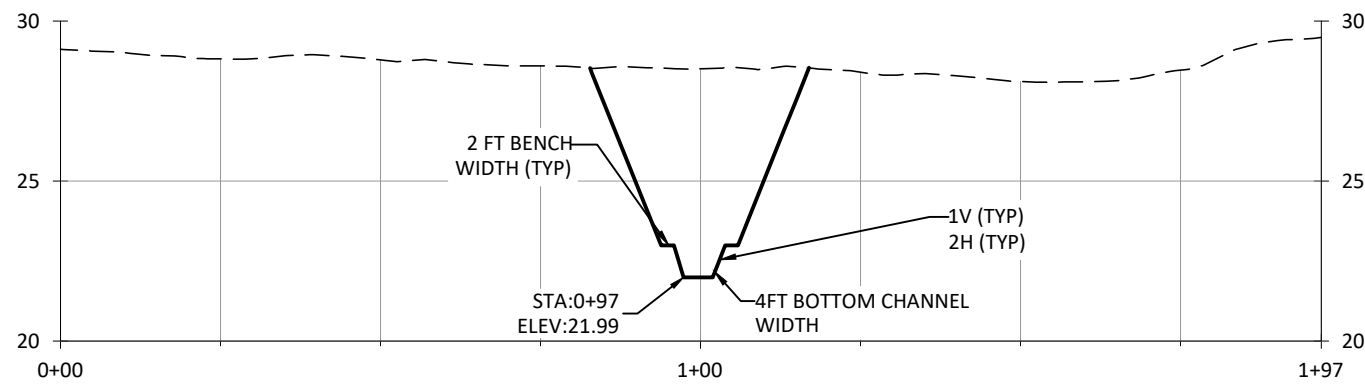
SHEET
10 OF 18



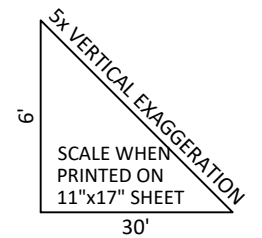
9 CROSSING 1 SECTION - CELL A UPSTREAM AT BERM
11 STA 34+08



10 CROSSING 2 SECTION - CELL B DOWNSTREAM AT BERM
11 STA 26+99



6 CROSSING 4 SECTION - CELL D DOWNSTREAM AT BERM
11 STA 15+74

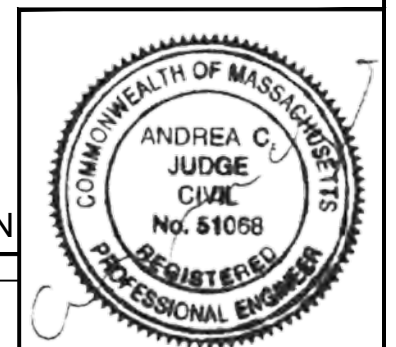


LEGEND

- EXISTING GROUND
- PROPOSED GROUND

NOTES:

1. SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.
2. PROVIDE A GRADUAL TRANSITION FROM RIFFLE AGGREGATE AT CROSSING TO UPSTREAM AND DOWNSTREAM SLOPES.



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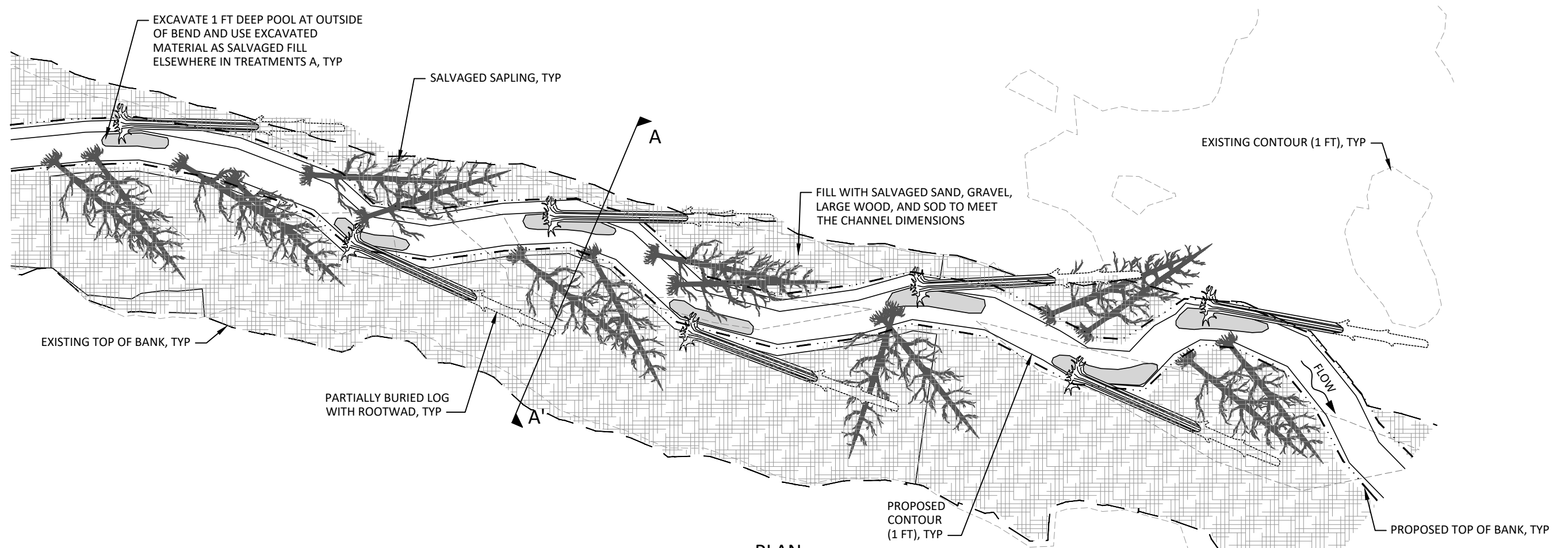
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DRAWN	DESIGNED	CHECKED
AJ	10/02/2023	210507
APPROVED	DATE	PROJECT

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 TOWN OF FALMOUTH, MASSACHUSETTS

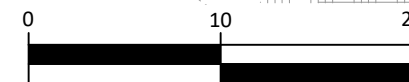
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CROSS SECTIONS AT CELLS
 A, B, & D BERMS

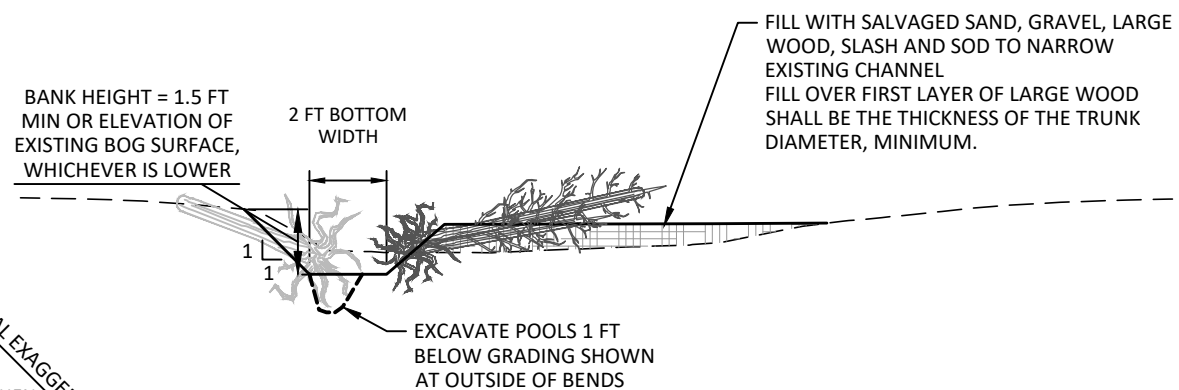
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PLAN



SCALE IN FEET



SECTION A - A'

1x VERTICAL EXAGGERATION
SCALE WHEN PRINTED ON 11"x17" SHEET
5'
5'

NOTES:

1. LARGE WOOD TREATMENT TYPE A SHALL BE IMPLEMENTED IN BOG CELLS A & B (STA 34+20 TO STA 26+90).
2. LARGE WOOD TREATMENT TYPE A ELEMENTS:
 - 66 SAPPLINGS
 - 33 LOGS WITH ROOTWADS
3. SOD TO BE SALVAGED FROM THE BOG SURFACE NOT CLOSER THAN 5 FT FROM THE EXISTING TOP OF BANK AND WITHIN REACH OF THE EXCAVATOR WHEN PERFORMING THE CHANNEL CONSTRUCTION.
4. CHANNEL FILL SEQUENCING: A) PLACE LARGE WOOD. B) USE SALVAGED SAND AND GRAVEL TO FILL THE AREAS AROUND AND UNDER THE LARGE WOOD UP TO HALF OF THE FILL HEIGHT. C) PLACE SALVAGED SOD ON TOP OF THE FILL AND LARGE WOOD TO ACHIEVE THE DESIGN ELEVATION.
5. LARGE WOOD IS FIELD SET ITEM TO BE COMPLETED WITH ONSITE OBSERVATION AND DIRECT INPUT FROM THE ENGINEER ON INSTALLATION DETAILS, CONFIGURATIONS, AND ADJUSTMENTS NEEDED TO CONFORM THE WORK TO DESIGN INTENT, BASED ON CONDITIONS AT THE TIME OF CONSTRUCTION.

1 LARGE WOOD TREATMENT TYPE A
12 BOG CELLS A & B (STA 26+90 TO STA 34+20)

ISSUED FOR CONSTRUCTION



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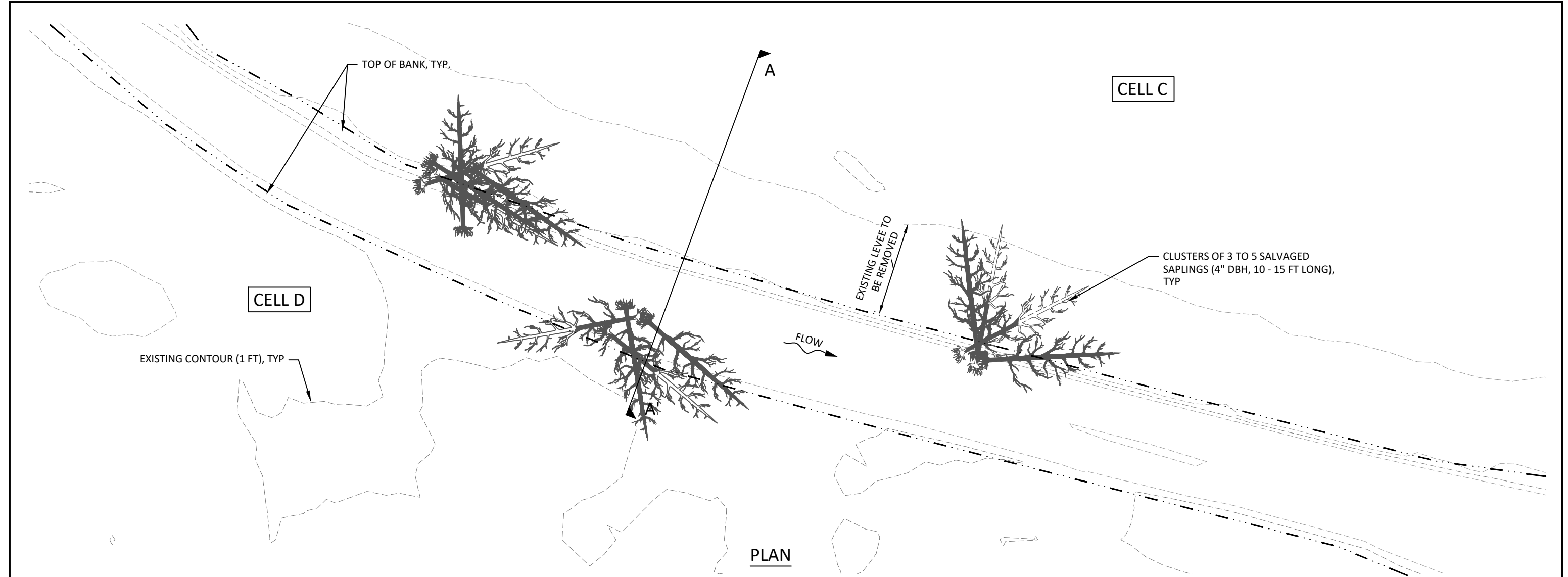
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UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

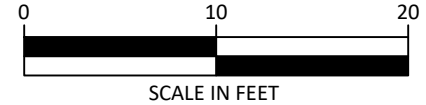
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TYPICAL DETAILS - LARGE WOOD TREATMENT A

SHEET
12 OF 18

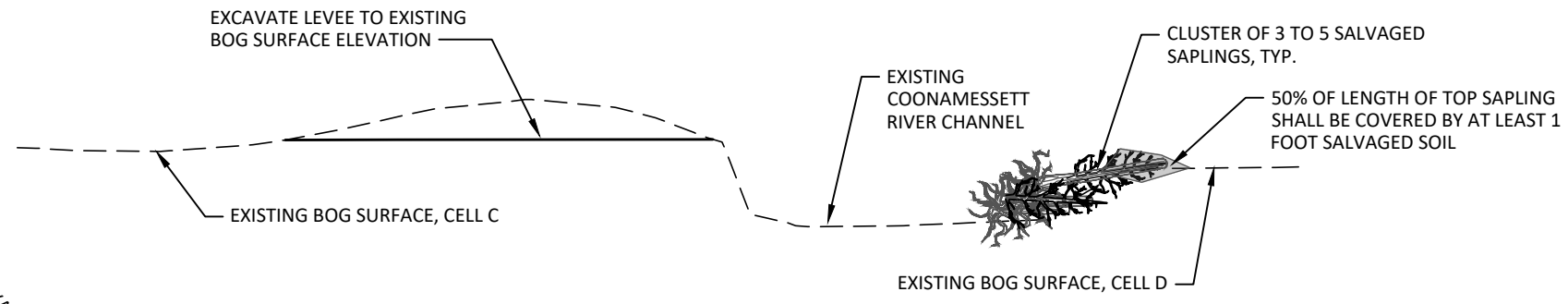


PLAN

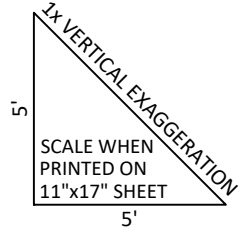


NOTES:

1. LARGE WOOD TREATMENT TYPE B SHALL BE IMPLEMENTED IN BOG CELL D UPSTREAM OF BROAD RIVER CONFLUENCE (STA 23+00 TO STA 26+90).
2. BETWEEN 6 AND 10 CLUSTERS OF 3 TO 5 SALVAGED SAPPLINGS SHALL BE INSTALLED IN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
3. LARGE WOOD TREATMENT TYPE B ELEMENTS:
 - 40 SAPPLINGS
4. LARGE WOOD IS FIELD SET ITEM TO BE COMPLETED WITH ONSITE OBSERVATION AND DIRECT INPUT FROM THE ENGINEER ON INSTALLATION DETAILS, CONFIGURATIONS, AND ADJUSTMENTS NEEDED TO CONFORM THE WORK TO DESIGN INTENT, BASED ON CONDITIONS AT THE TIME OF CONSTRUCTION.

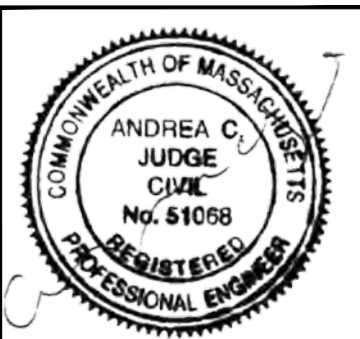


SECTION A - A'



1 LARGE WOOD TREATMENT TYPE B
13 BOG CELL D (STA 23+00 TO 26+90)

ISSUED FOR CONSTRUCTION



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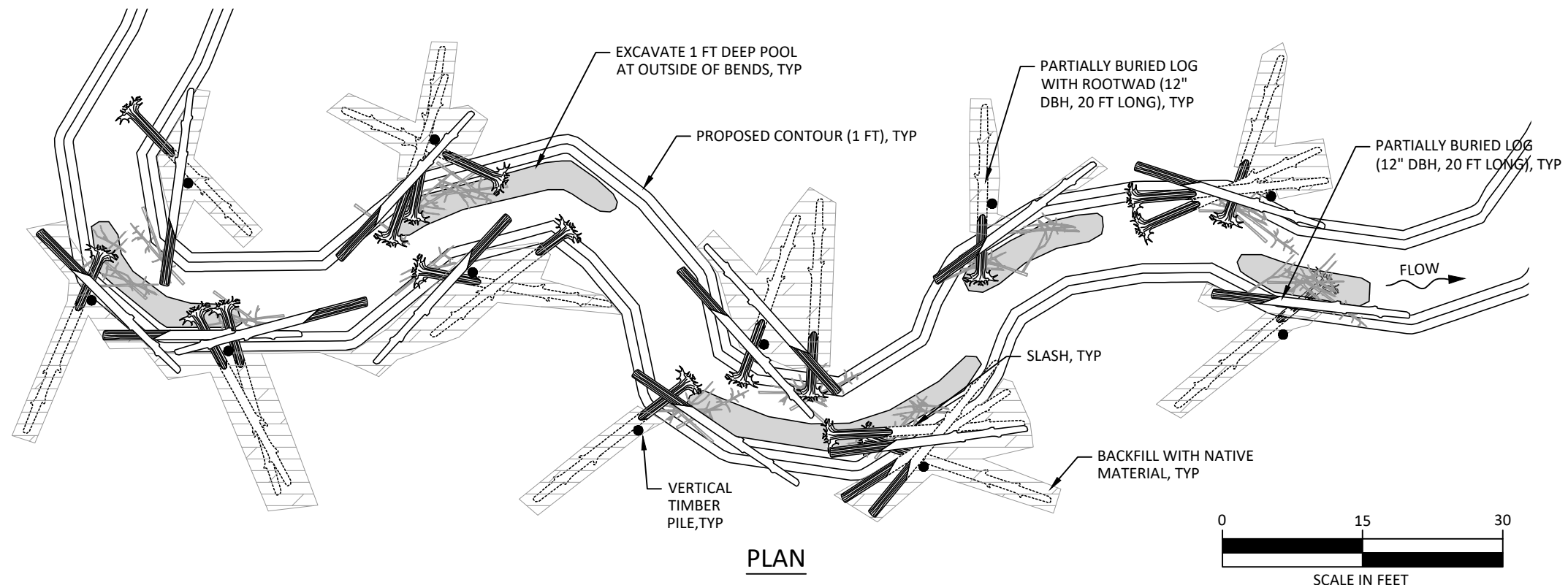
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AJ	10/02/2023	210507

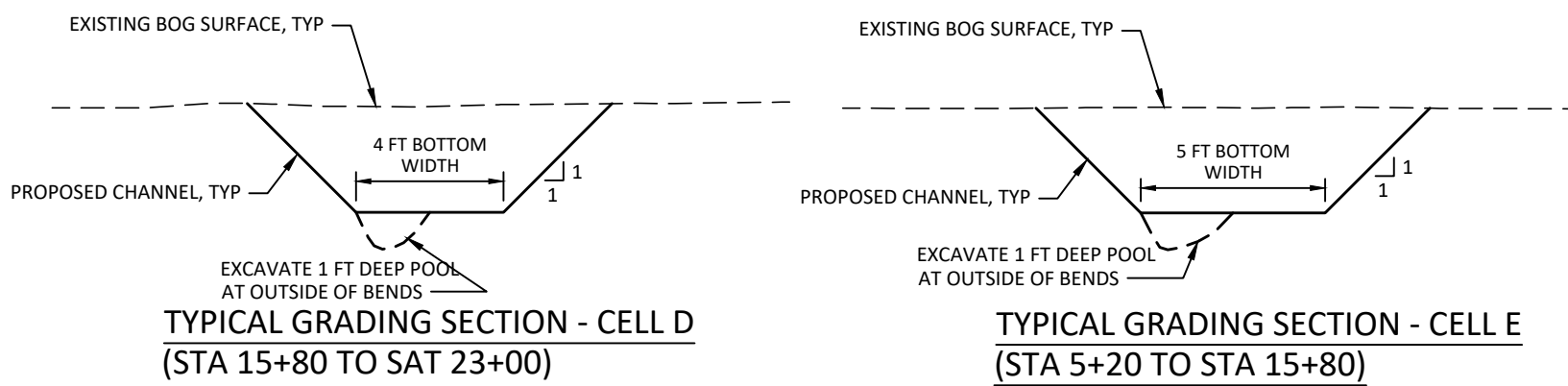
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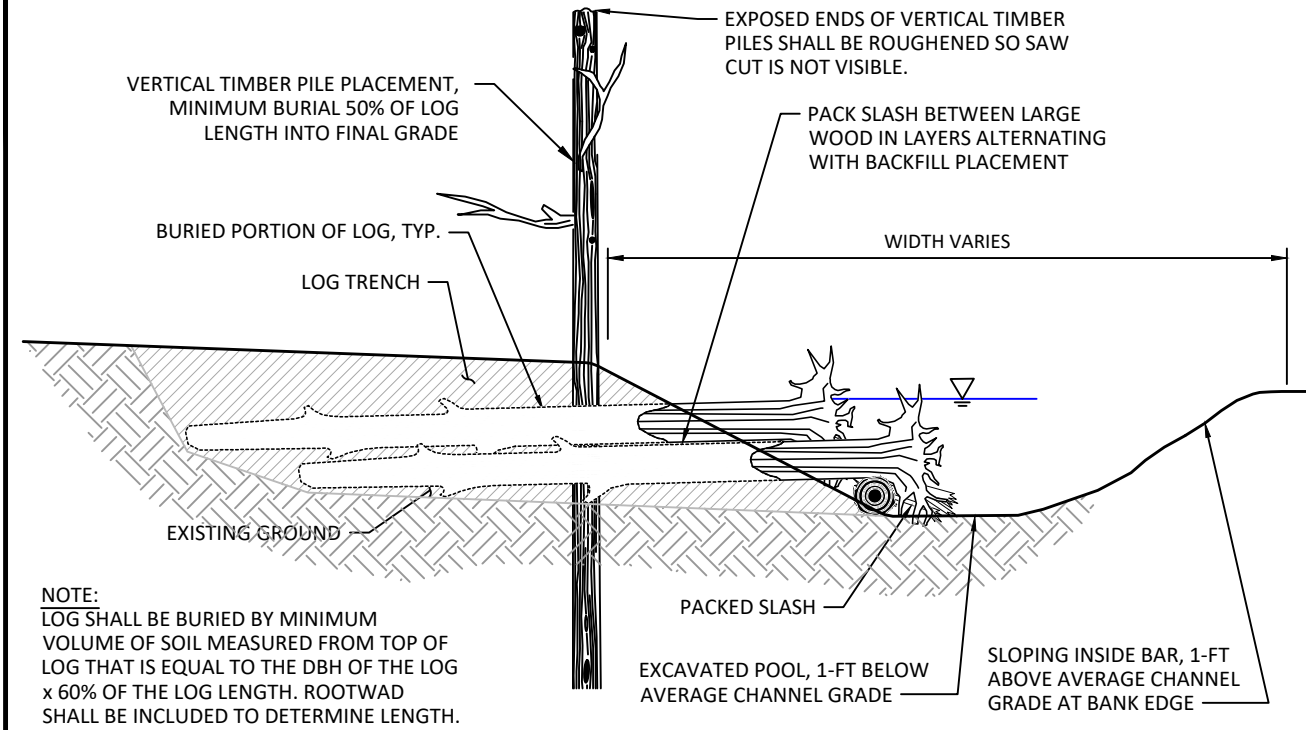
TYPICAL DETAILS - LARGE WOOD TREATMENT B



- NOTES:**
- LARGE WOOD TREATMENT TYPE C SHALL BE IMPLEMENTED IN BOG CELLS D DOWNSTREAM OF BROAD RIVER CONFLUENCE (STA 15+80 TO STA 23+00) AND CELL E.
 - LARGE WOOD TREATMENT TYPE C ELEMENTS:
 - 146 LOGS
 - 146 VERTICAL TIMBER PILES
 - 220 LOGS WITH ROOTWADS
 - 200 CY SLASH
 - LARGE WOOD IS FIELD SET ITEM TO BE COMPLETED WITH ONSITE OBSERVATION AND DIRECT INPUT FROM THE ENGINEER ON INSTALLATION DETAILS, CONFIGURATIONS, AND ADJUSTMENTS NEEDED TO CONFORM THE WORK TO DESIGN INTENT, BASED ON CONDITIONS AT THE TIME OF CONSTRUCTION.



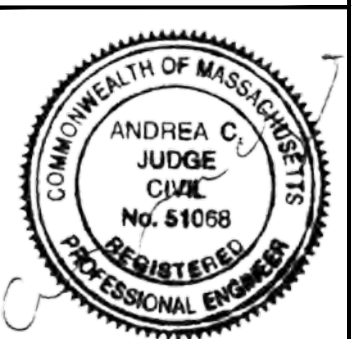
1
14 LARGE WOOD TREATMENT TYPE C
BOG CELL D (STA 15+80 TO STA 23+00) & BOG CELL E



2
14 TYPICAL SECTION
MAIN CHANNEL LARGE WOOD BANK TREATMENT

5x VERTICAL EXAGGERATION
SCALE WHEN PRINTED ON 11"x17" SHEET
5'

ISSUED FOR CONSTRUCTION



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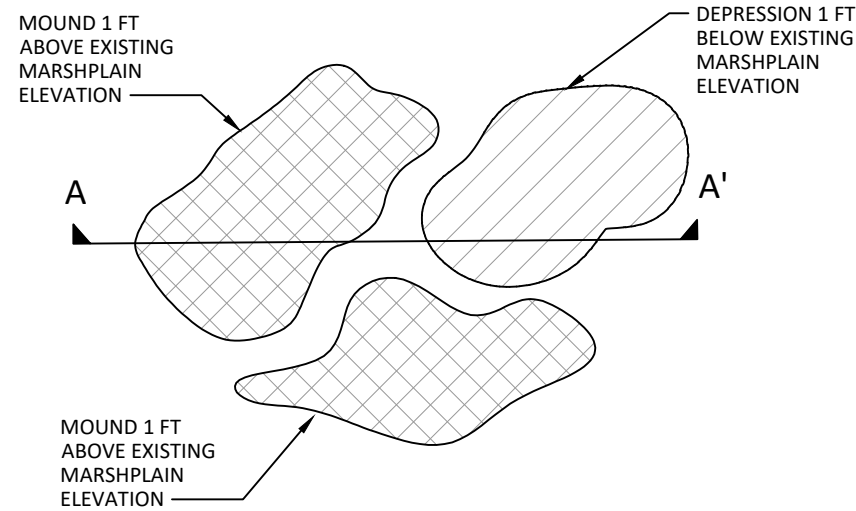
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TYPICAL DETAILS - LARGE WOOD TREATMENT C

SHEET
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PLAN

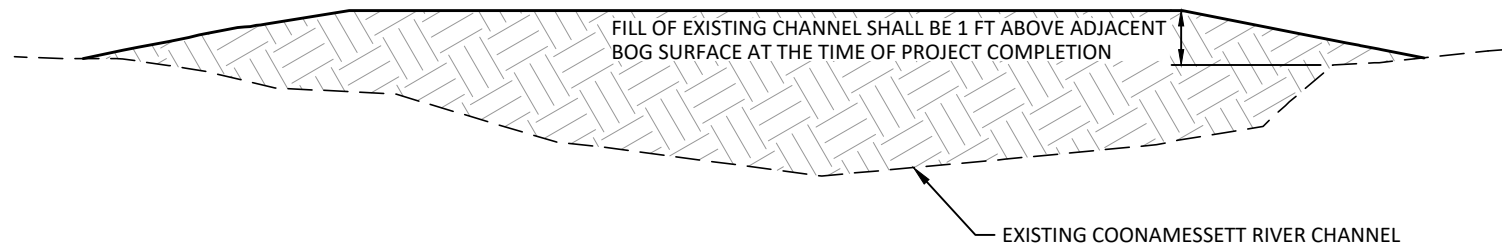


SECTION A-A'

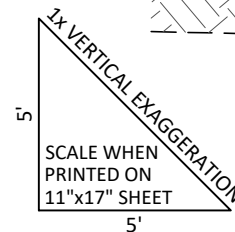
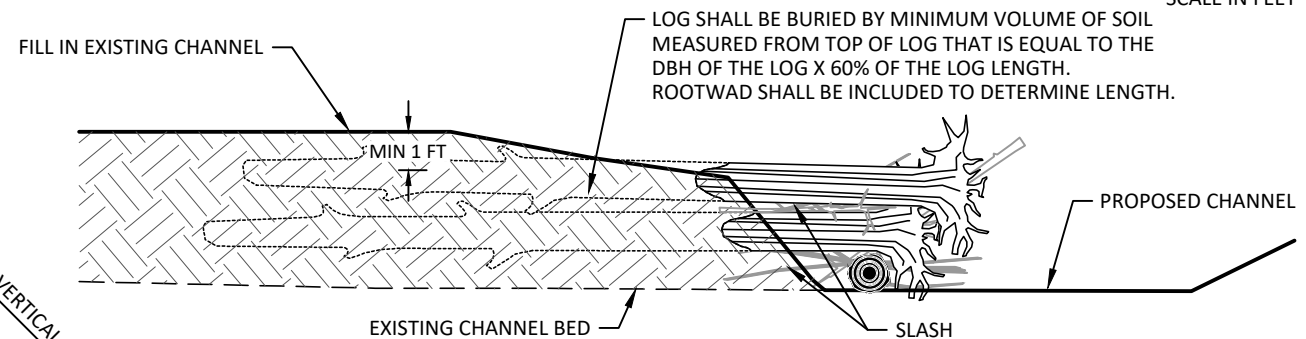
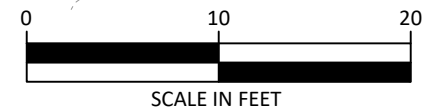
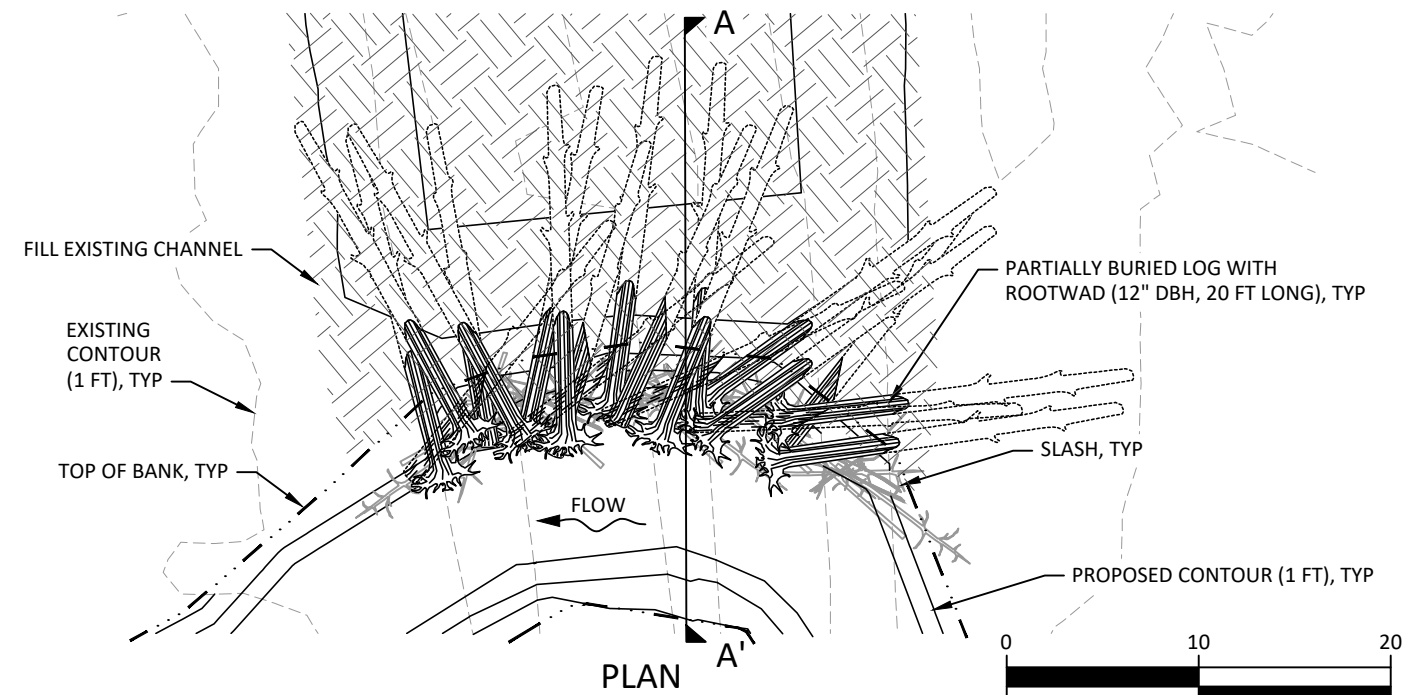
1
15 MICROTOPOGRAPHY
NOT TO SCALE

NOTES:

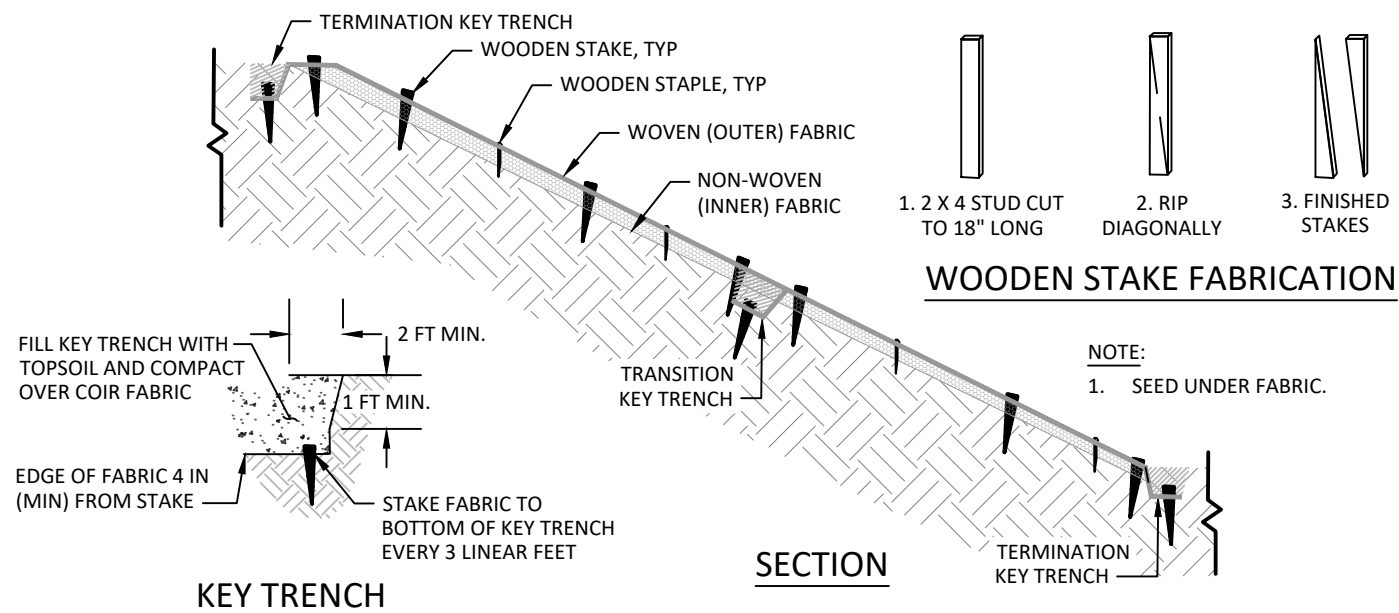
1. CONFIGURATION OF MOUNDS AND DEPRESSIONS WILL VARY DEPENDING ON EXISTING VEGETATION AND ACCESS CONSIDERATIONS.
2. TOPOGRAPHIC MOUNDS AND DEPRESSIONS ARE INTENDED TO MIMIC NATURAL MARSHPLAIN MICROTOPOGRAPHY. MOUNDS SHALL BE SHAPED TO MIMIC MARSHPLAIN HUMMOCKS CREATED BY NATIVE SHRUBS, HERBACEOUS PLANTS, AND CONIFER NURSE LOGS.
3. TYPICAL DIMENSIONS OF MOUNDS AND DEPRESSIONS ARE APPROXIMATELY 5 FT TO 20 FT ACROSS.



3
15 CHANNEL FILL
NOT TO SCALE



4
15 LARGE WOOD COMPLEX
ISSUED FOR CONSTRUCTION



2
15 SURFACE FABRIC
NOT TO SCALE

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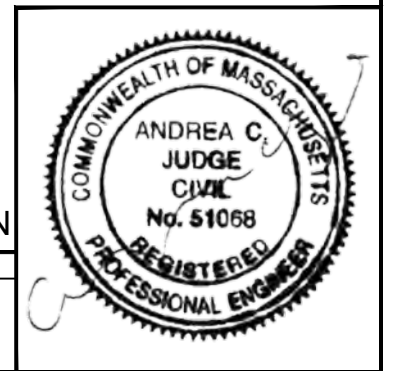
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APPROVED	DATE	PROJECT

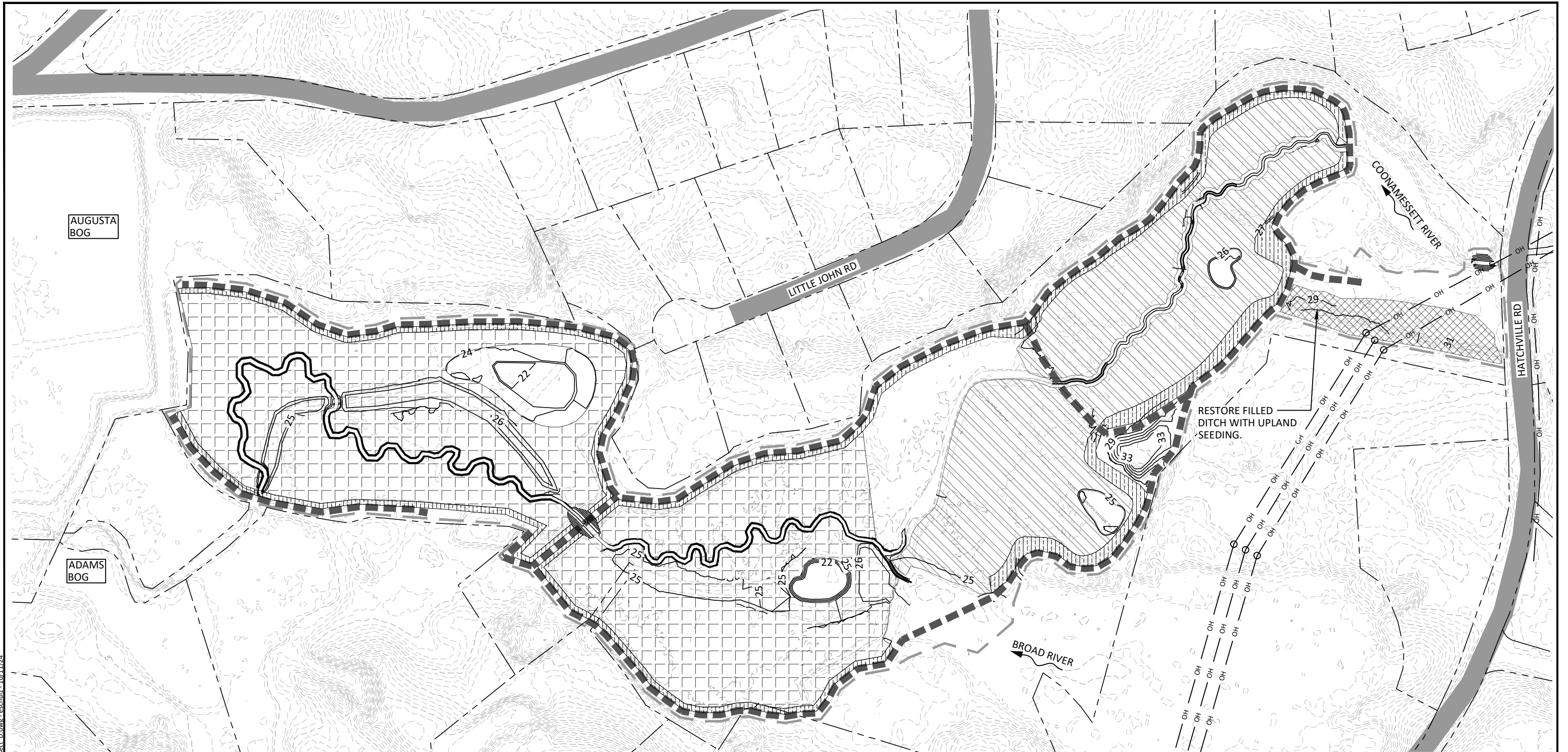
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TYPICAL DETAILS - MICROTOPOGRAPHY, CHANNEL FILL & LW COMPLEX

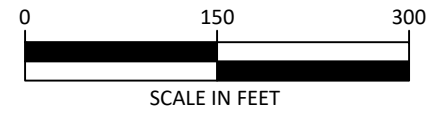
SHEET
15 OF 18





LEGEND

- EXISTING CONTOURS (1 FT)
- PROPOSED CONTOURS (1 FT)
- - - LIMITS OF DISTURBANCE
- - - TAXLOTS
- ▀▀▀ PEDESTRIAN TRAIL
- ⊕ OH — OH OVERHEAD TRANSMISSION LINES AND TOWERS
- ▨ TRANSITIONAL SEEDING ZONE
- ▧ DECIDUOUS WETLAND PLANTING ZONE
- ▩ ATLANTIC WHITE CEDAR SWAMP PLANTING ZONE
- ▩ UPLAND SEEDING ZONE



ISSUED FOR CONSTRUCTION

NO.	BY	DATE	REVISION DESCRIPTION
3	AJ	10/10/24	ISSUED FOR CONSTRUCTION
2	KD	06/28/24	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

APPROVED	DATE	PROJECT
NS DRAWN	KK, SS DESIGNED	NN CHECKED
AJ	10/02/2023	210507

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

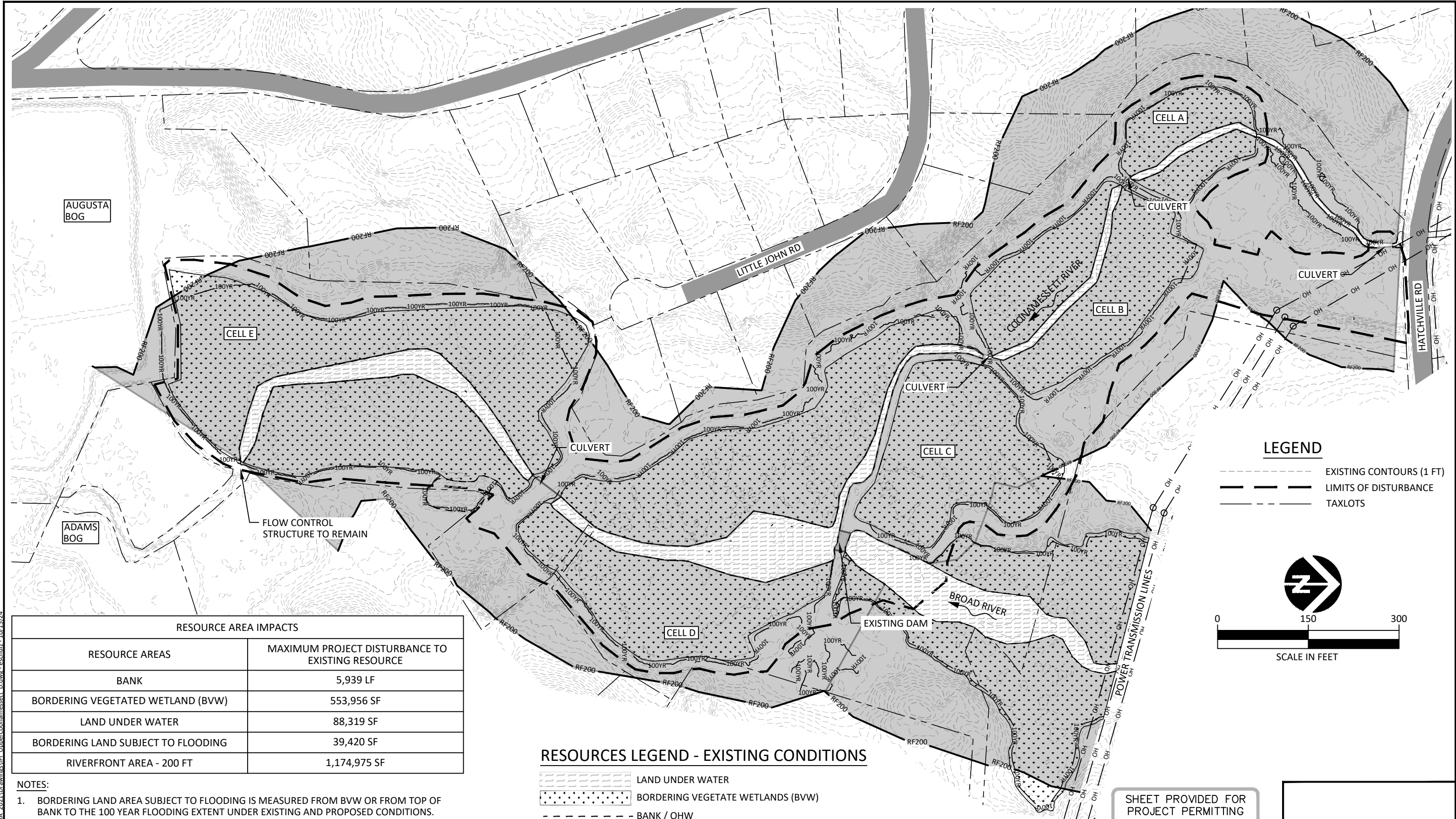


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PLANTING ZONES

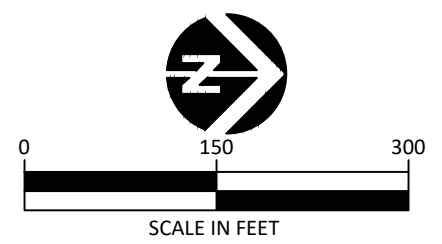
SHEET
16 OF 18

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LEGEND

- EXISTING CONTOURS (1 FT)
- LIMITS OF DISTURBANCE
- TAXLOTS



RESOURCE AREA IMPACTS	
RESOURCE AREAS	MAXIMUM PROJECT DISTURBANCE TO EXISTING RESOURCE
BANK	5,939 LF
BORDERING VEGETATED WETLAND (BVW)	553,956 SF
LAND UNDER WATER	88,319 SF
BORDERING LAND SUBJECT TO FLOODING	39,420 SF
RIVERFRONT AREA - 200 FT	1,174,975 SF

RESOURCES LEGEND - EXISTING CONDITIONS

- LAND UNDER WATER
- BORDERING VEGETATE WETLANDS (BVW)
- BANK / OHW
- 200' RIVERFRONT BUFFER
- 100YR 100 YEAR FLOOD INUNDATION (BASED ON HYDRAULIC MODEL)

NOTES:

- BORDERING LAND AREA SUBJECT TO FLOODING IS MEASURED FROM BVW OR FROM TOP OF BANK TO THE 100 YEAR FLOODING EXTENT UNDER EXISTING AND PROPOSED CONDITIONS.
- RESOURCE AREA IMPACTS INCLUDE THOSE ASSOCIATED WITH THE UPPER COONAMESSETT AND THE BROAD RIVER IMPONDMENT. FOR THE UPPER COONAMESSETT, THESE ARE MEASURED BETWEEN HATCHVILLE RD AND THE FLOW CONTROL STRUCTURE TO REMAIN UPSTREAM OF ADAM'S BOG. FOR THE BROAD RIVER IMPONDMENT, THESE ARE MEASURED BETWEEN THE POWER TRANSMISSION LINES AND THE EXISTING DAM.

SHEET PROVIDED FOR PROJECT PERMITTING ONLY. NOT FOR USE IN PROJECT CONSTRUCTION.

ISSUED FOR CONSTRUCTION

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1	MB	10/04/23	ISSUED FOR PERMITTING

APPROVED	DATE	PROJECT
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AJ	10/02/2023	210507

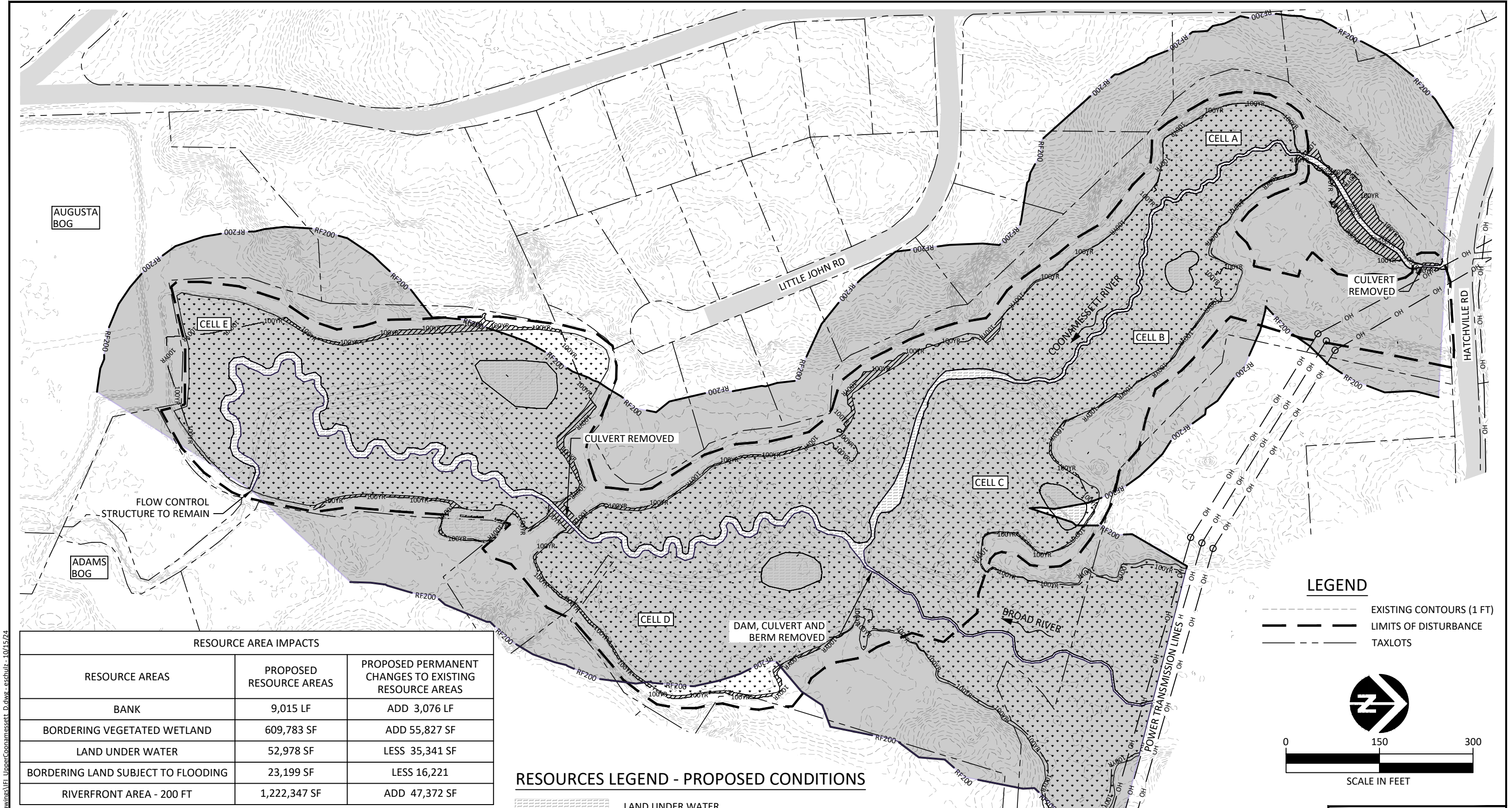
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TOWN OF FALMOUTH, MASSACHUSETTS



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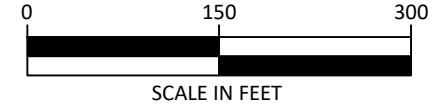
PERMITTING INFORMATION
RESOURCE AREAS - EXISTING CONDITIONS

SHEET
17 OF 18



LEGEND

- - - - - EXISTING CONTOURS (1 FT)
- — — — — LIMITS OF DISTURBANCE
- - - - - TAXLOTS



RESOURCE AREA IMPACTS		
RESOURCE AREAS	PROPOSED RESOURCE AREAS	PROPOSED PERMANENT CHANGES TO EXISTING RESOURCE AREAS
BANK	9,015 LF	ADD 3,076 LF
BORDERING VEGETATED WETLAND	609,783 SF	ADD 55,827 SF
LAND UNDER WATER	52,978 SF	LESS 35,341 SF
BORDERING LAND SUBJECT TO FLOODING	23,199 SF	LESS 16,221
RIVERFRONT AREA - 200 FT	1,222,347 SF	ADD 47,372 SF

RESOURCES LEGEND - PROPOSED CONDITIONS

	LAND UNDER WATER
	BORDERING VEGETATE WETLANDS (BVW)
	BANK / OHW
	200' RIVERFRONT BUFFER
	100 YEAR FLOOD INUNDATION (BASED ON HYDRAULIC MODEL)

NOTES:

- BORDERING LAND AREA SUBJECT TO FLOODING IS MEASURED FROM BVW OR FROM TOP OF BANK TO THE 100 YEAR FLOODING EXTENT UNDER EXISTING AND PROPOSED CONDITIONS.
- RESOURCE AREA IMPACTS INCLUDE THOSE ASSOCIATED WITH THE UPPER COONAMESSETT AND THE BROAD RIVER IMPOUNDMENT. FOR THE UPPER COONAMESSETT, THESE ARE MEASURED BETWEEN HATCHVILLE RD AND THE FLOW CONTROL STRUCTURE TO REMAIN UPSTREAM OF ADAM'S BOG. FOR THE BROAD RIVER IMPOUNDMENT, THESE ARE MEASURED BETWEEN THE POWER TRANSMISSION LINES AND THE EXISTING DAM.

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NS	10/02/2023	210507
KK, SS		
NN		

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN TOWN OF FALMOUTH, MASSACHUSETTS



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PERMITTING INFORMATION
RESOURCE AREAS - PROPOSED CONDITIONS

SHEET
18 OF 18

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UPPER COONAMESSETT RIVER WETLAND COMPLEX RESTORATION PROJECT

TOWN OF FALMOUTH
Falmouth, MA 02536

CONSTRUCTION DOCUMENT
June 05, 2024

DRAWING LIST

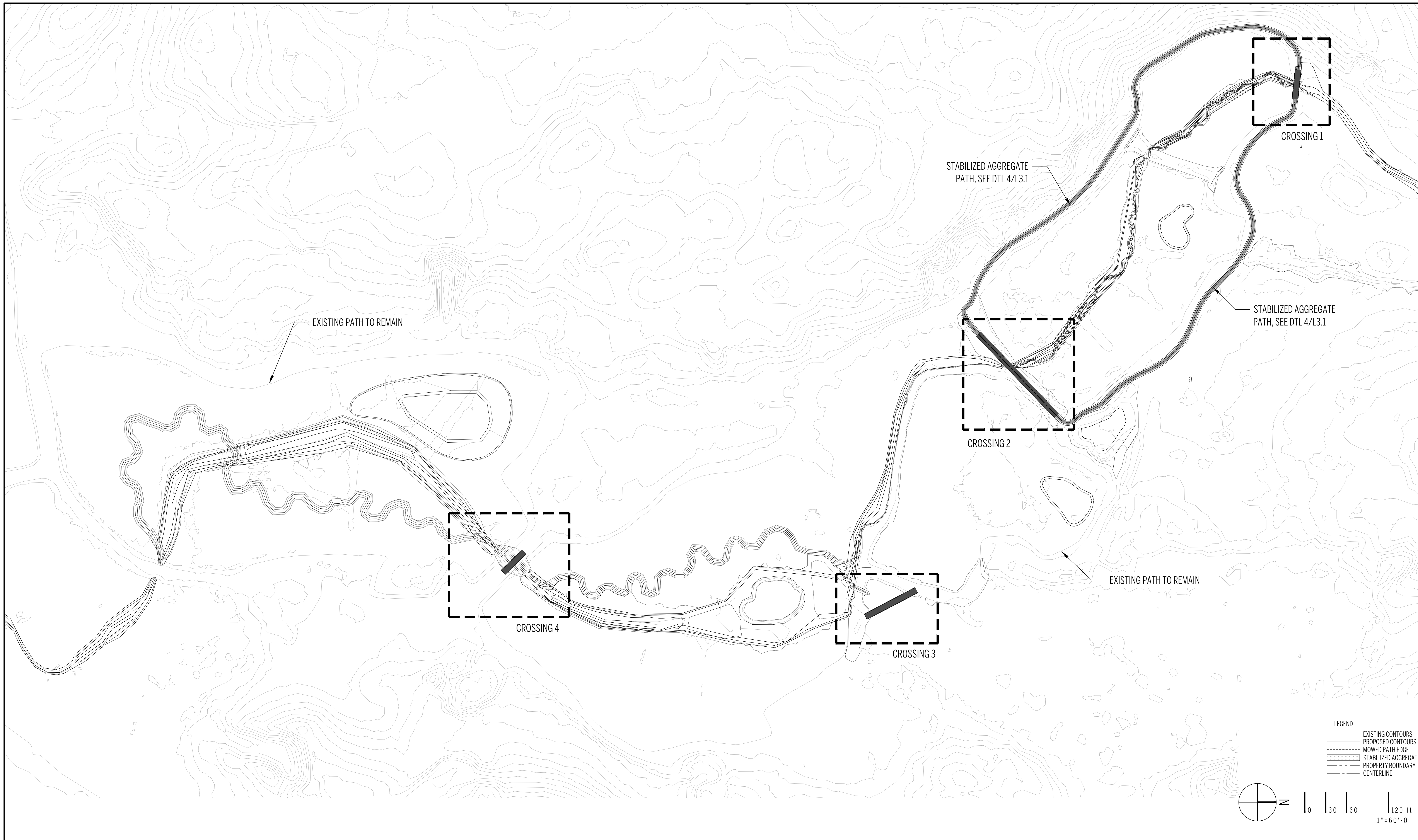
L1.0 SITE PLAN
L2.0 CROSSING 1 PLAN & SECTION
L2.1 CROSSING 2 PLAN & SECTION
L2.2 CROSSING 3 PLAN & SECTION
L2.3 CROSSING 4 PLAN & SECTION
L3.0 DETAILS
L3.1 DETAILS

ABBREVIATIONS

@	AT	EW	EACH WAY	PA	PLANTING AREA
ARCH	ARCHITECT	FEE	FINISH FLOOR ELEVATION	±	PLUS OR MINUS
B&B	BALL AND BURLAP	FG	FINISH GRADE	PC	POINT OF CURVATURE
BC	BOTTOM OF CURB	FOC	FACE OF CURB	PERF	PERFORATED
BLDG	BUILDING	FOW	FACE OF WALL	POB	POINT OF BEGINNING
BIT CONC	BITUMINOUS CONCRETE	FS	FINISH SURFACE	POC	POINT OF CONNECTION
BOC	BACK OF CURB	GALV	GALVANIZED	PSI	POUNDS PER SQUARE INCH
BS	BOTTOM OF STEP	GB	GRADE BREAK	PT	POINT OF TANGENCY
CAL	CALIPER	HH	HANDHOLE	R	RADIUS
CB	CATCH BASIN	HORIZ	HORIZONTAL	ROW	RIGHT OF WAY
CJ	CONTROL JOINT	HP	HIGH POINT	SJ	SCORE JOINT
CIP	CAST IN PLACE	ID	INSIDE DIAMETER	SQ	SQUARE
CL	CENTER LINE	INV	INVERT	SS	STAINLESS STEEL
CLR	CLEARANCE	JT	JOINT	STRUC	STRUCTURAL
CO	CLEAN OUT	LAND	LANDSCAPE	STD	STANDARD
COL	COLUMN	LN	LAWN	STL	STEEL
CONC	CONCRETE	LONGIT	LONGITUDINAL	T&B	TOP AND BOTTOM
CONT	CONTINUOUS	LOW	LIMIT OF WORK	TC	TOP OF CURB
Ø	DIAMETER	LP	LOW POINT	TD	TRENCH DRAIN
DN	DOWN	LT	LIGHT POLE	TFG	TOP OF FOOTING
DTL	DETAIL	MH	MANHOLE	TS	TOP OF STEP
DWG/S	DRAWING/S	MAX	MAXIMUM	TYP	TYPICAL
EA	EACH	MFTR	MANUFACTURER	UON	UNLESS OTHERWISE NOTED
EJ	EXPANSION JOINT	MIN	MINIMUM	VEH	VEHICULAR
ELECT	ELECTRICAL	NIC	NOT IN CONTRACT	VERT	VERTICAL
ELEV	ELEVATION	NTS	NOT TO SCALE	VIF	VERIFY IN FIELD
EOP	EDGE OF PAVEMENT	OC	ON CENTER	W/	WITH
EQ	EQUAL	OD	OUTSIDE DIAMETER		

STEPHEN STIMSON ASSOCIATES
LANDSCAPE ARCHITECTS, INC.
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PH (617) 876-8960

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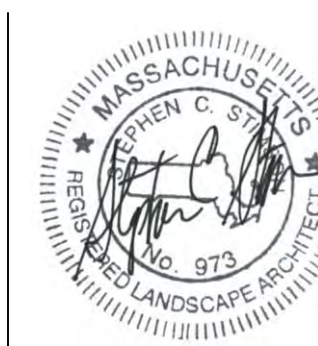
STRUCTURAL ENGINEER
 RSE ASSOCIATES, INC.
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ENVIRONMENTAL ENGINEER
 INTER-FLUVE
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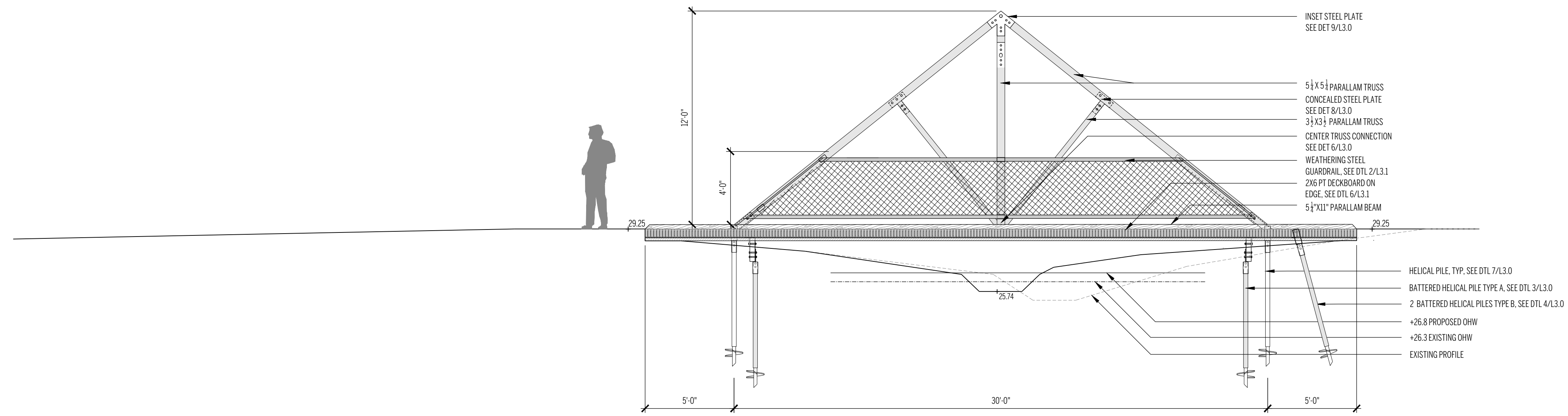
UPPER COONAMESSETT RIVER RESTORATION PROJECT
 FALMOUTH, MA

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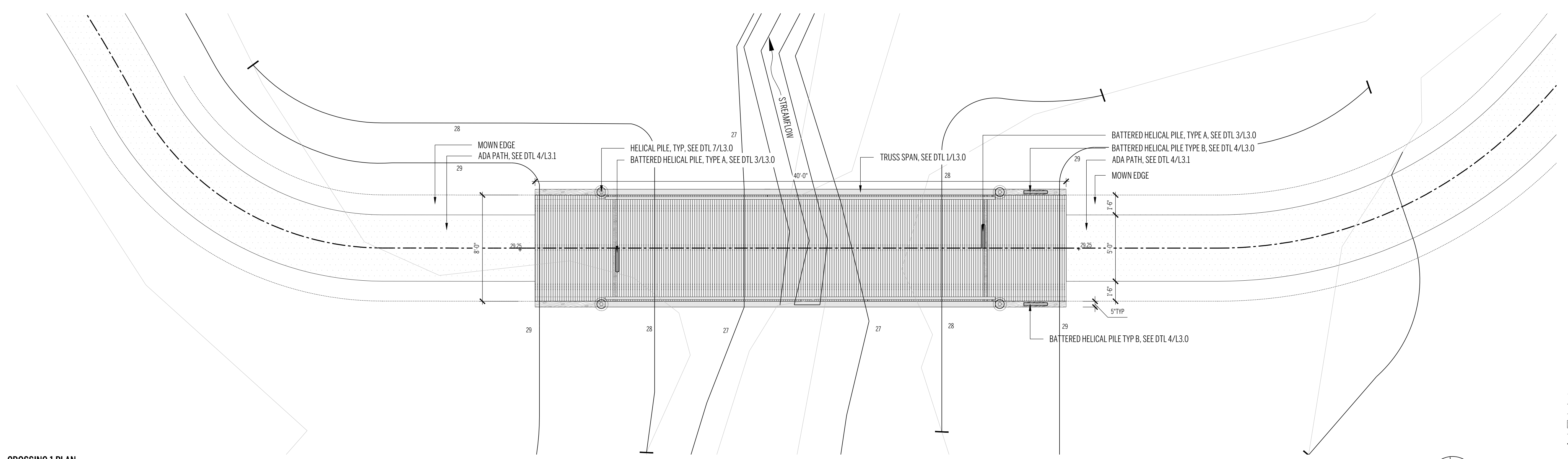
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 DATE
 06.05.2024
 DRAWN BY
 DN, SC
 REVIEWED BY
 JW



SITE PLAN
 CONSTRUCTION DOCUMENTS | **L1.0**

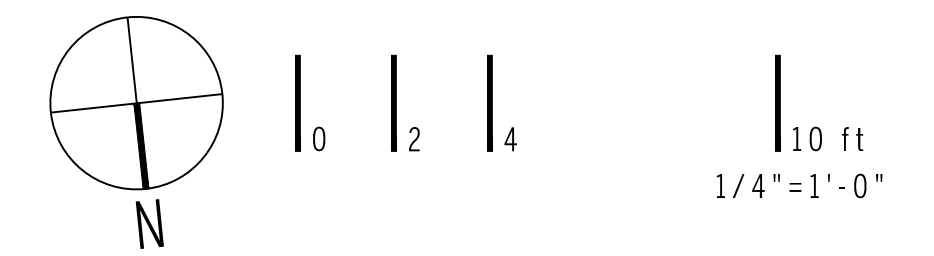


2 CROSSING 1 SECTION FACING DOWNSTREAM
1/4" = 1'-0"

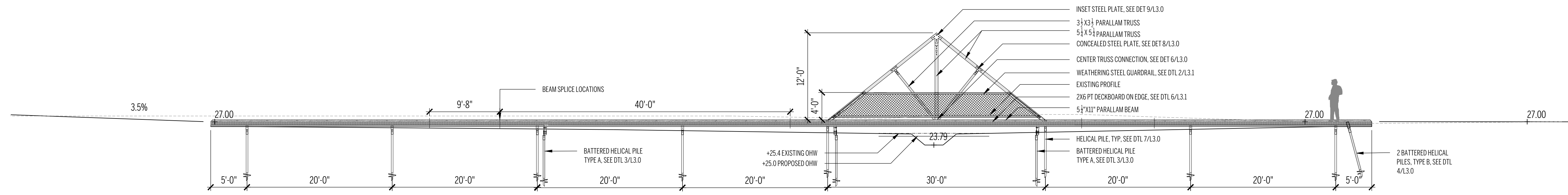


1 CROSSING 1 PLAN
1/4" = 1'-0"

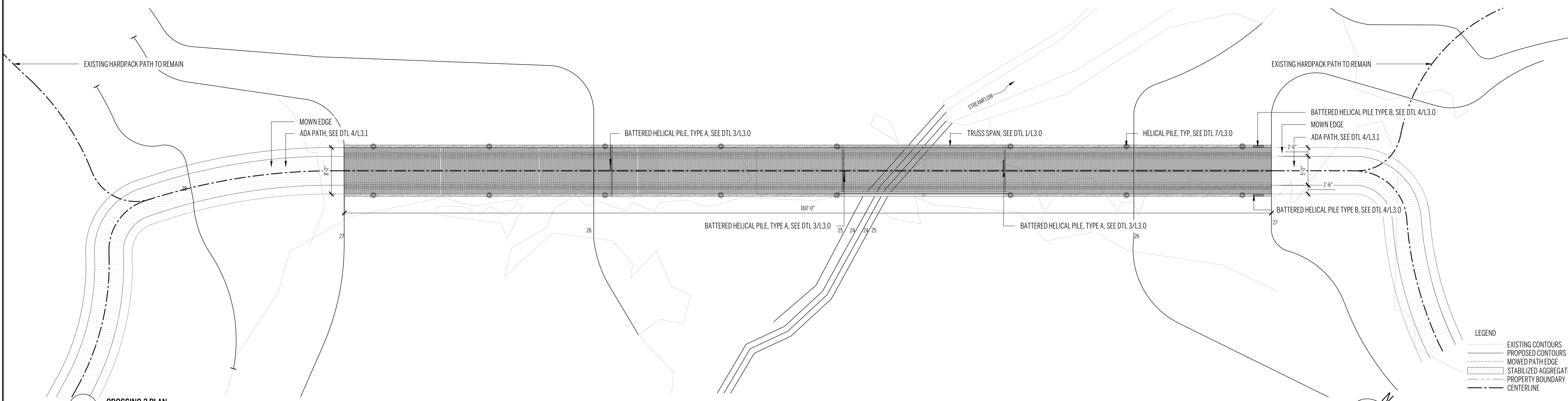
LEGEND
 ——— EXISTING CONTOURS
 - - - - PROPOSED CONTOURS
 - - - - MOWED PATH EDGE
 [Hatched] STABILIZED AGGREGATE
 - - - - PROPERTY BOUNDARY
 - - - - CENTERLINE



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2 CROSSING 2 SECTION FACING DOWNSTREAM
1/8" = 1'-0"



1 CROSSING 2 PLAN
1/8" = 1'-0"

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- MOWN PATH EDGE
- STABILIZED AGGREGATE
- PROPERTY BOUNDARY
- CENTERLINE

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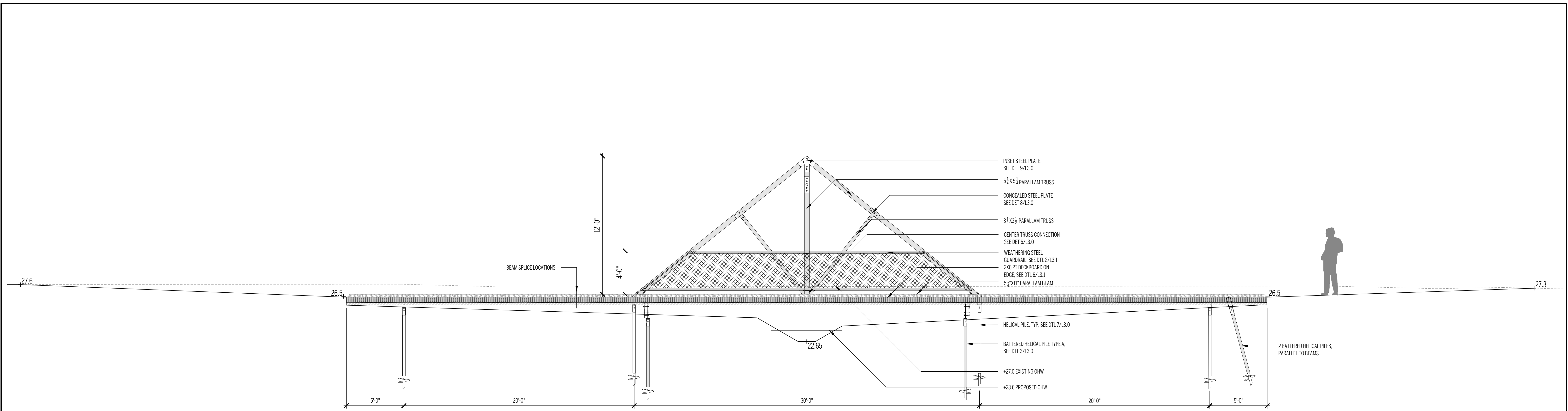
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FALMOUTH, MA

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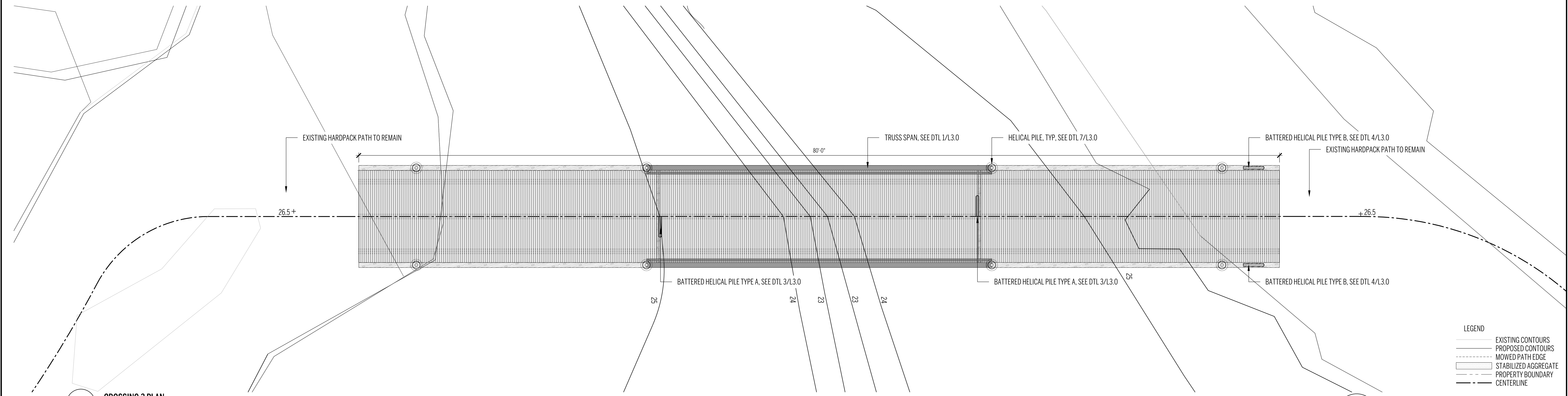
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DATE 06.05.2024
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CROSSING 2 PLAN & SECTION
CONSTRUCTION DOCUMENTS | **L2.1**



2 CROSSING 3 SECTION FACING DOWNSTREAM
1/4" = 1'-0"



1 CROSSING 3 PLAN
1/4" = 1'-0"

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CAMBRIDGE, MA 02138
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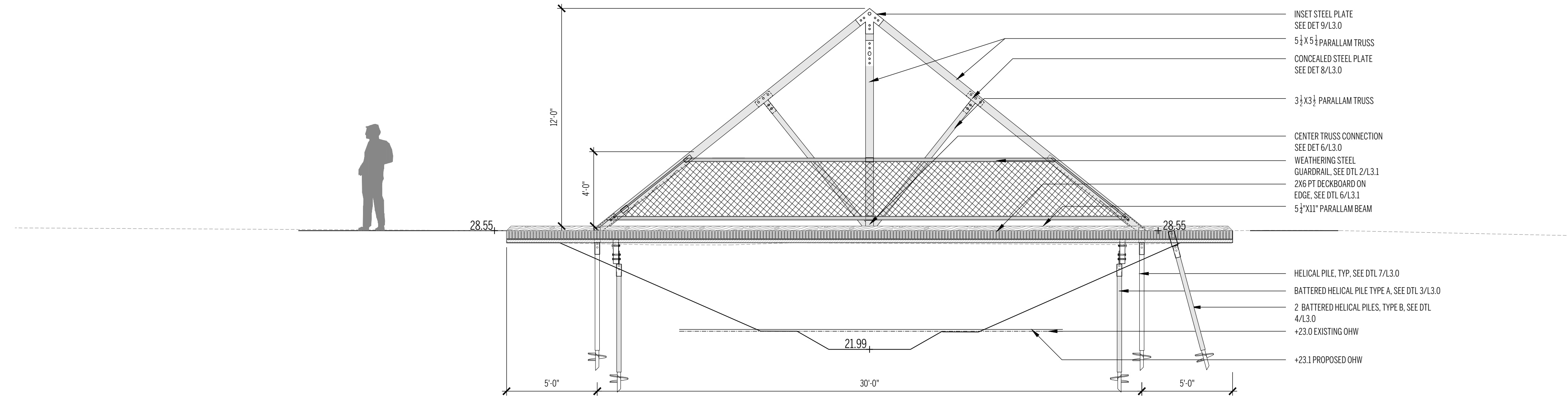
**UPPER COONAMESSETT RIVER
RESTORATION PROJECT**
FALMOUTH, MA

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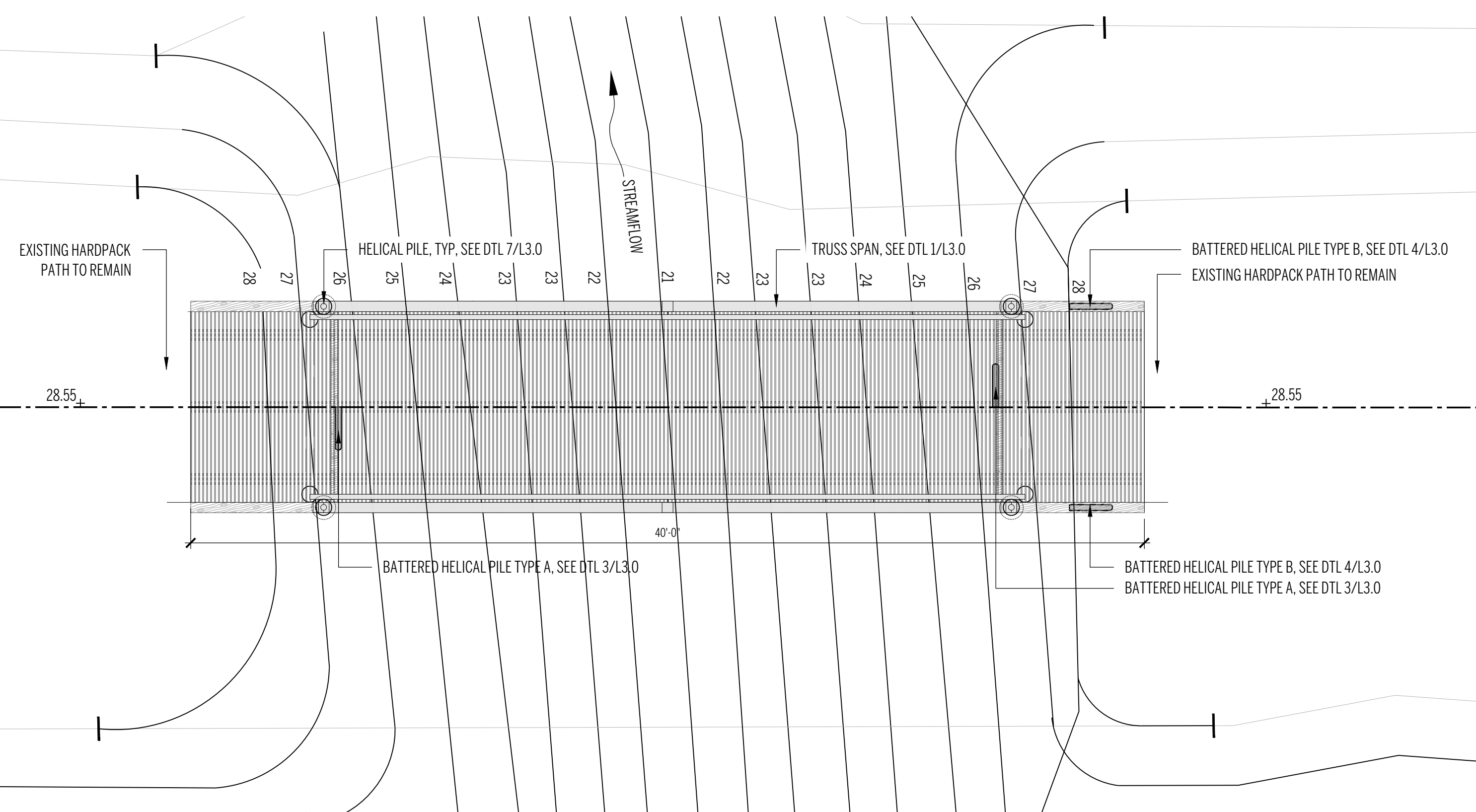
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AS SHOWN
DATE
06.05.2024
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**CROSSING 3
PLAN & SECTION**
CONSTRUCTION DOCUMENTS | **L2.2**

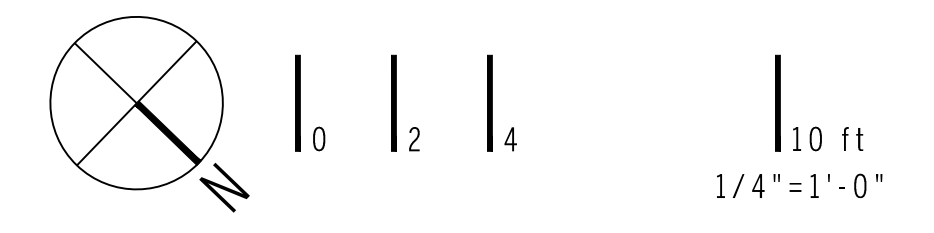


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1/4" = 1'-0"

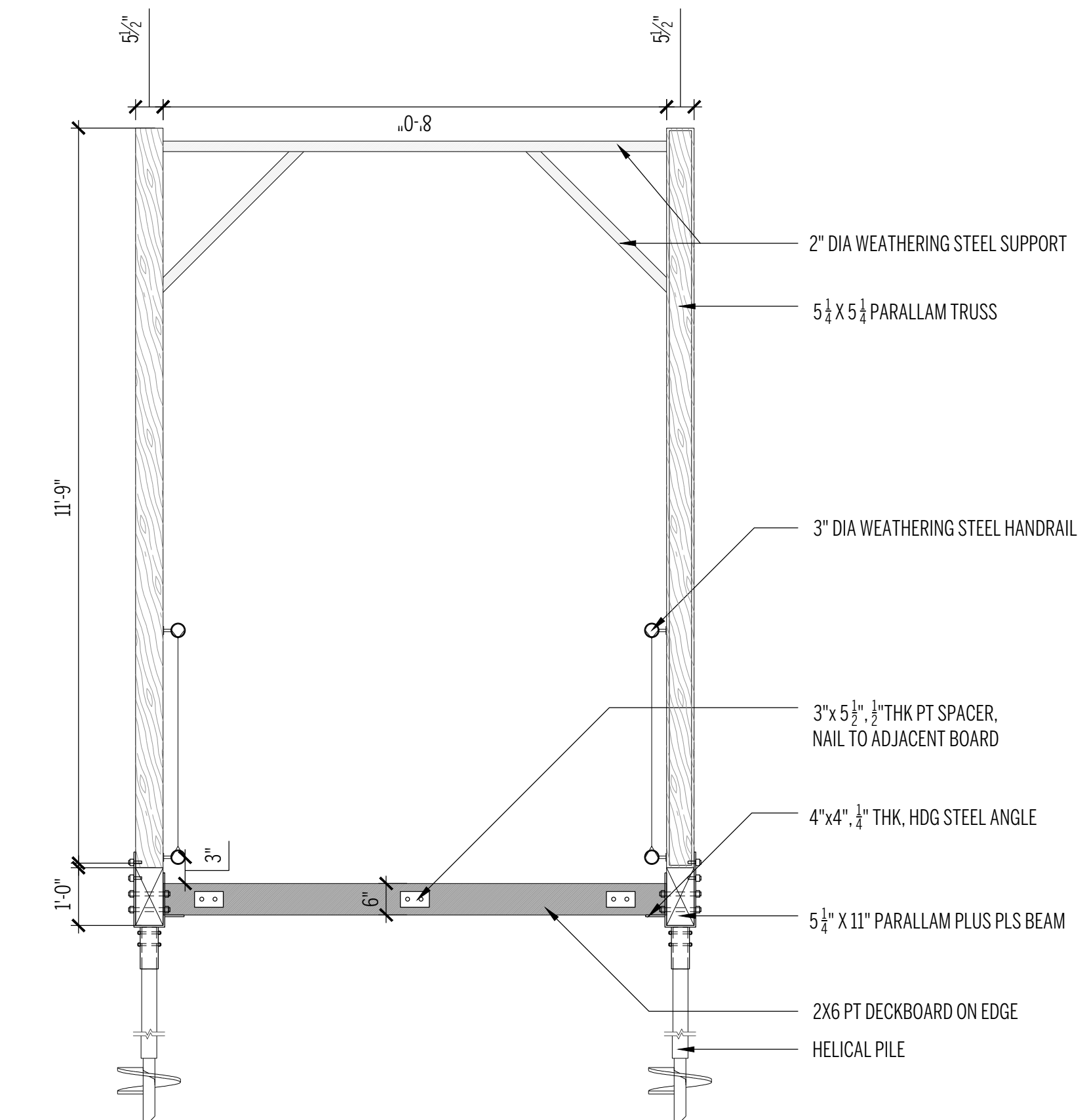
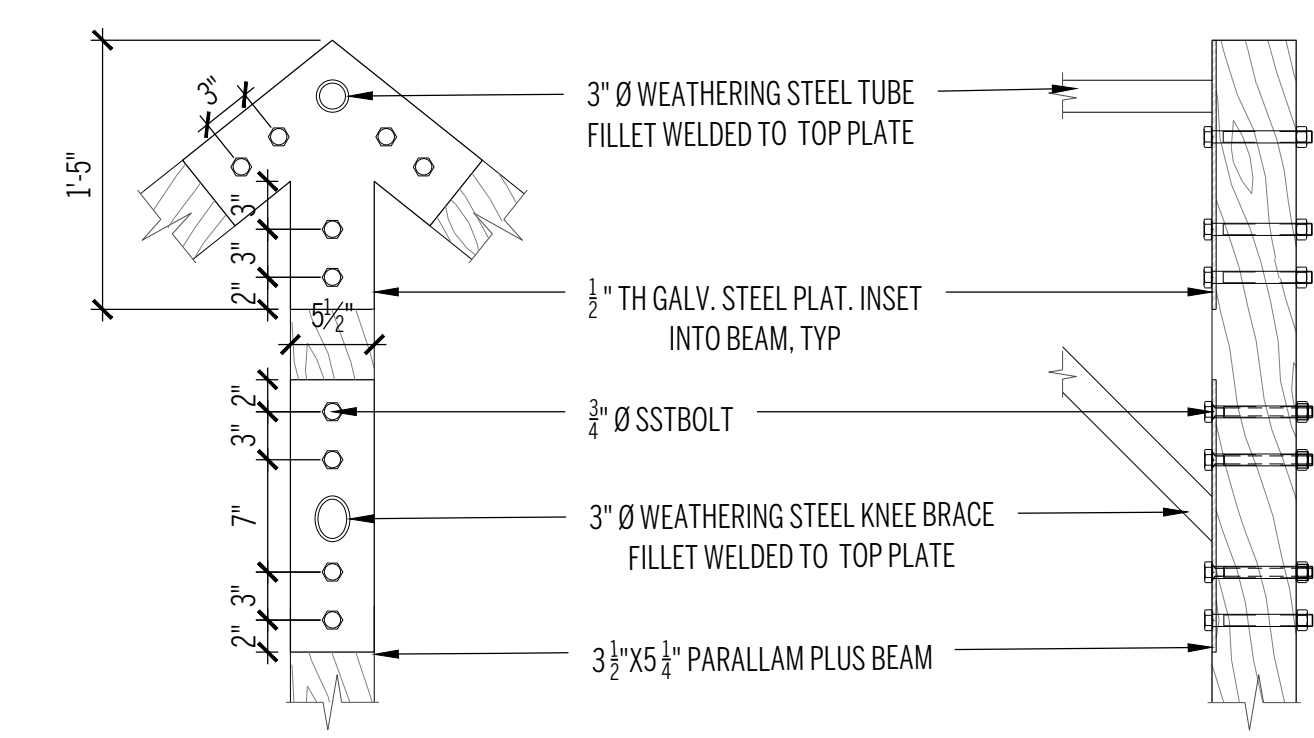
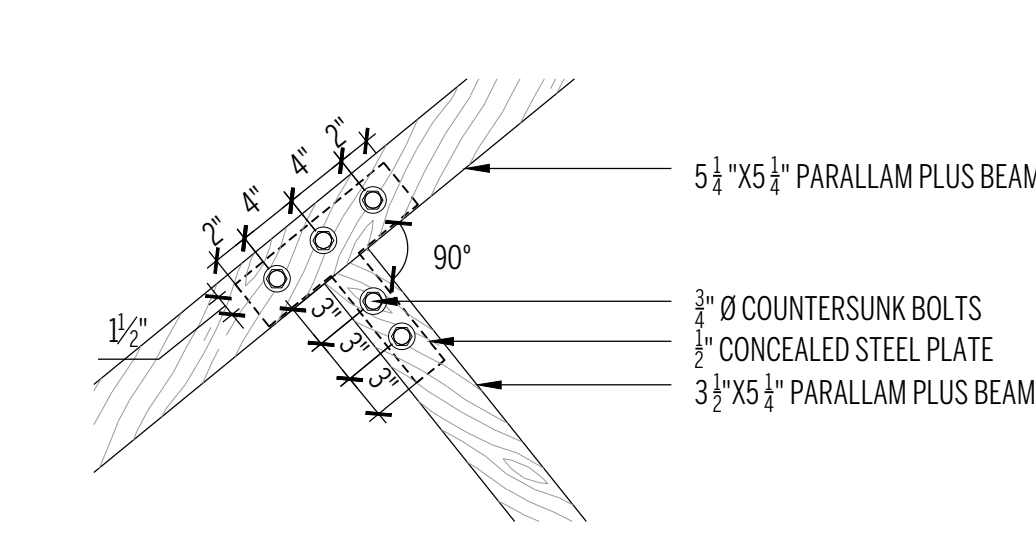
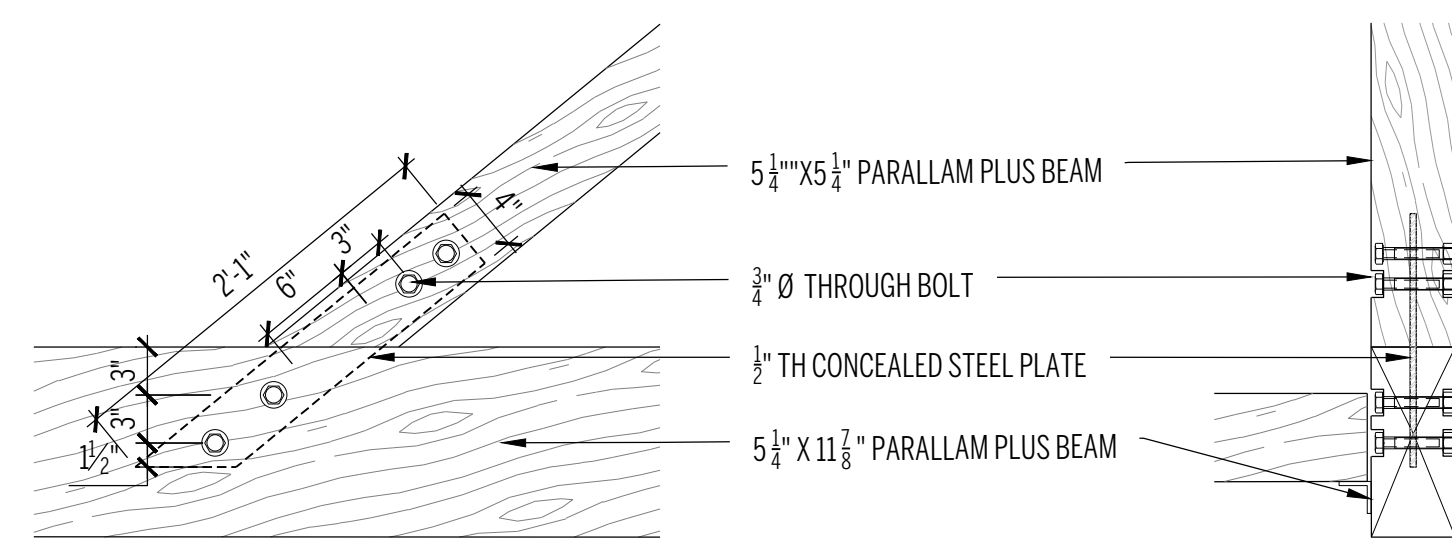


1 CROSSING 4 PLAN
1/4" = 1'-0"

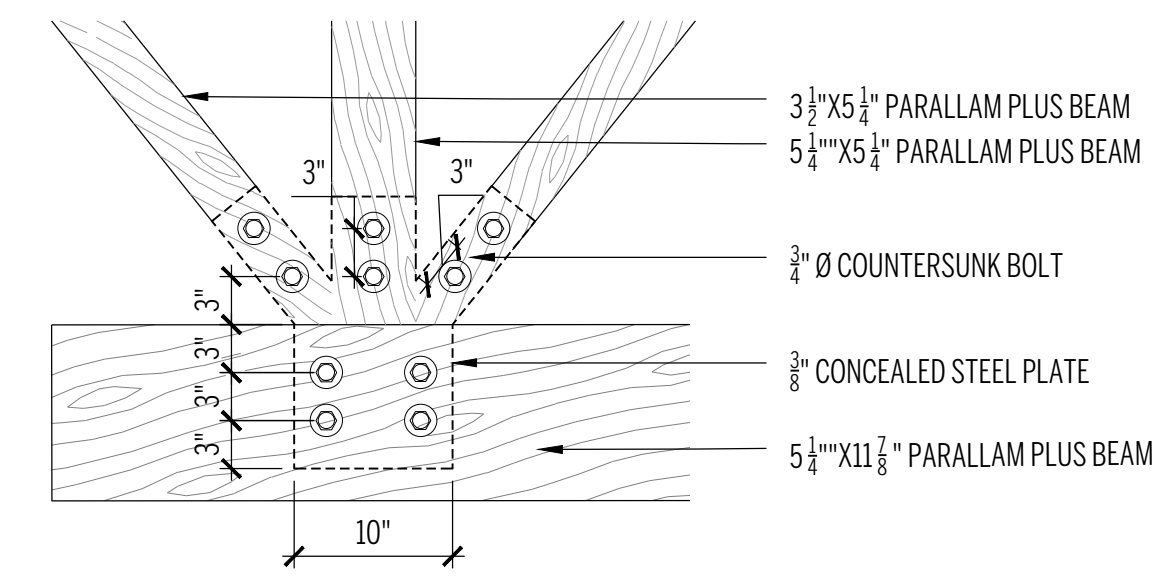
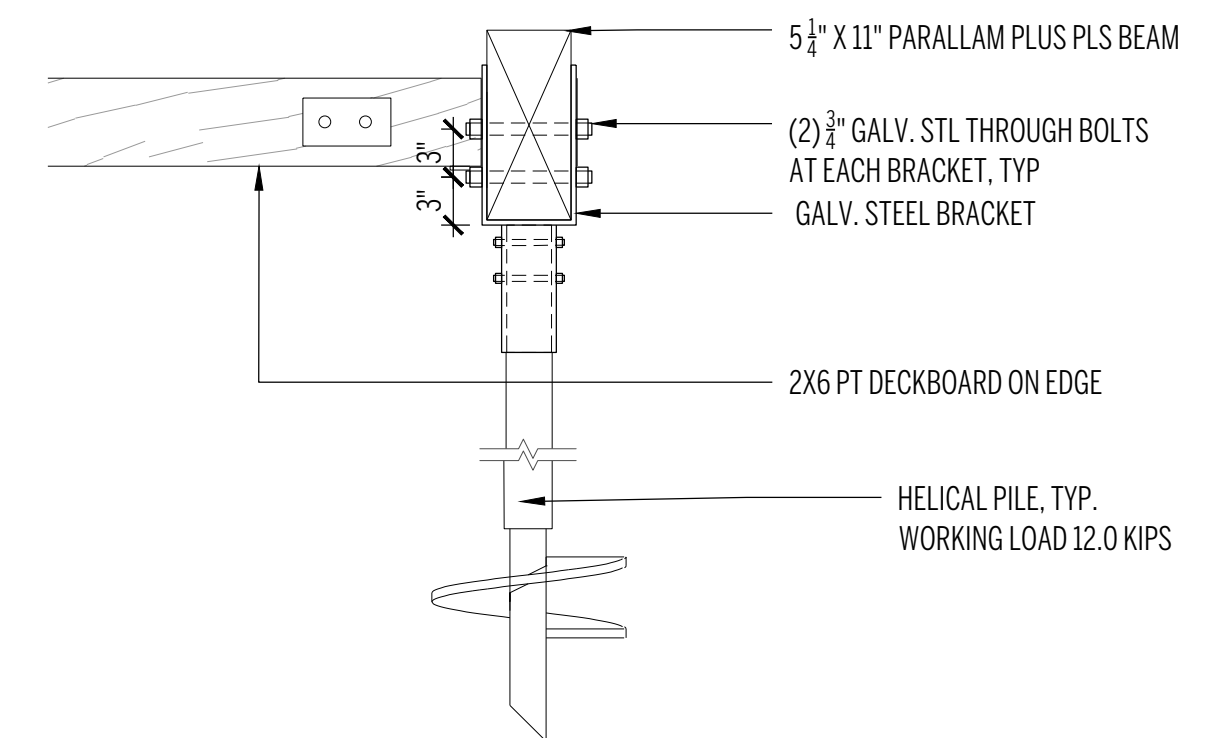
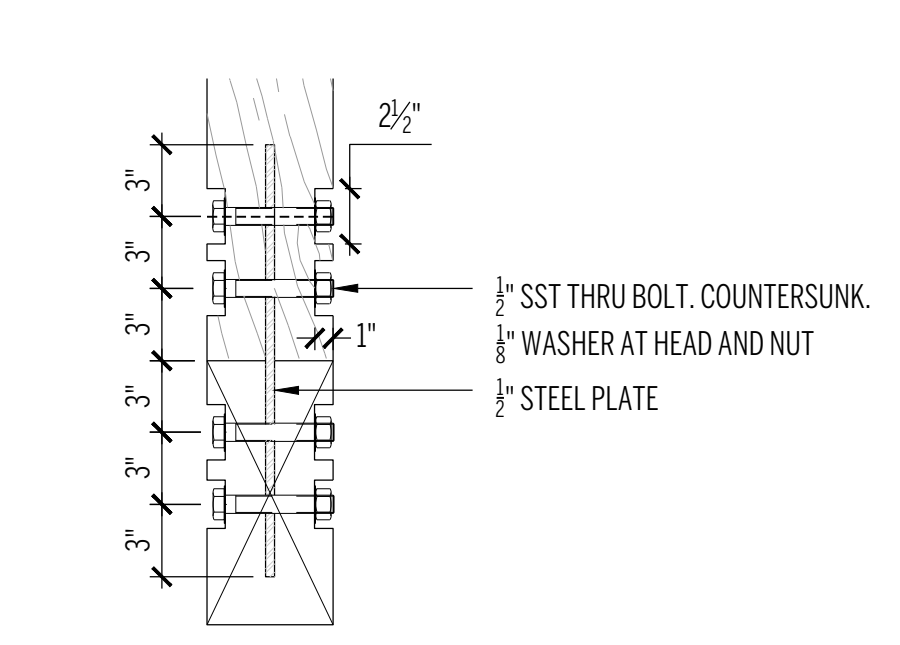
- LEGEND
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - MOWED PATH EDGE
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 - - - CENTERLINE



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9 TRUSS CONNECTIONS
1" = 1'-0"

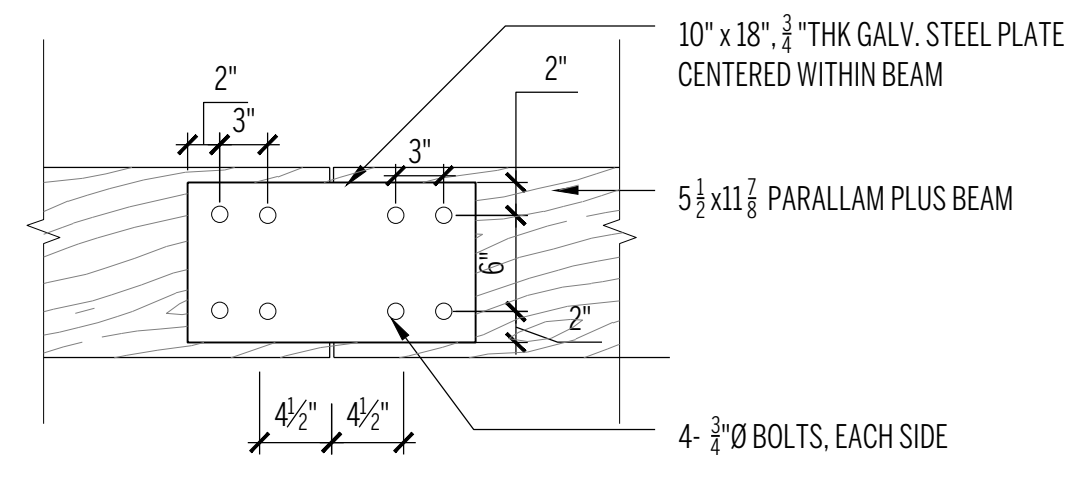
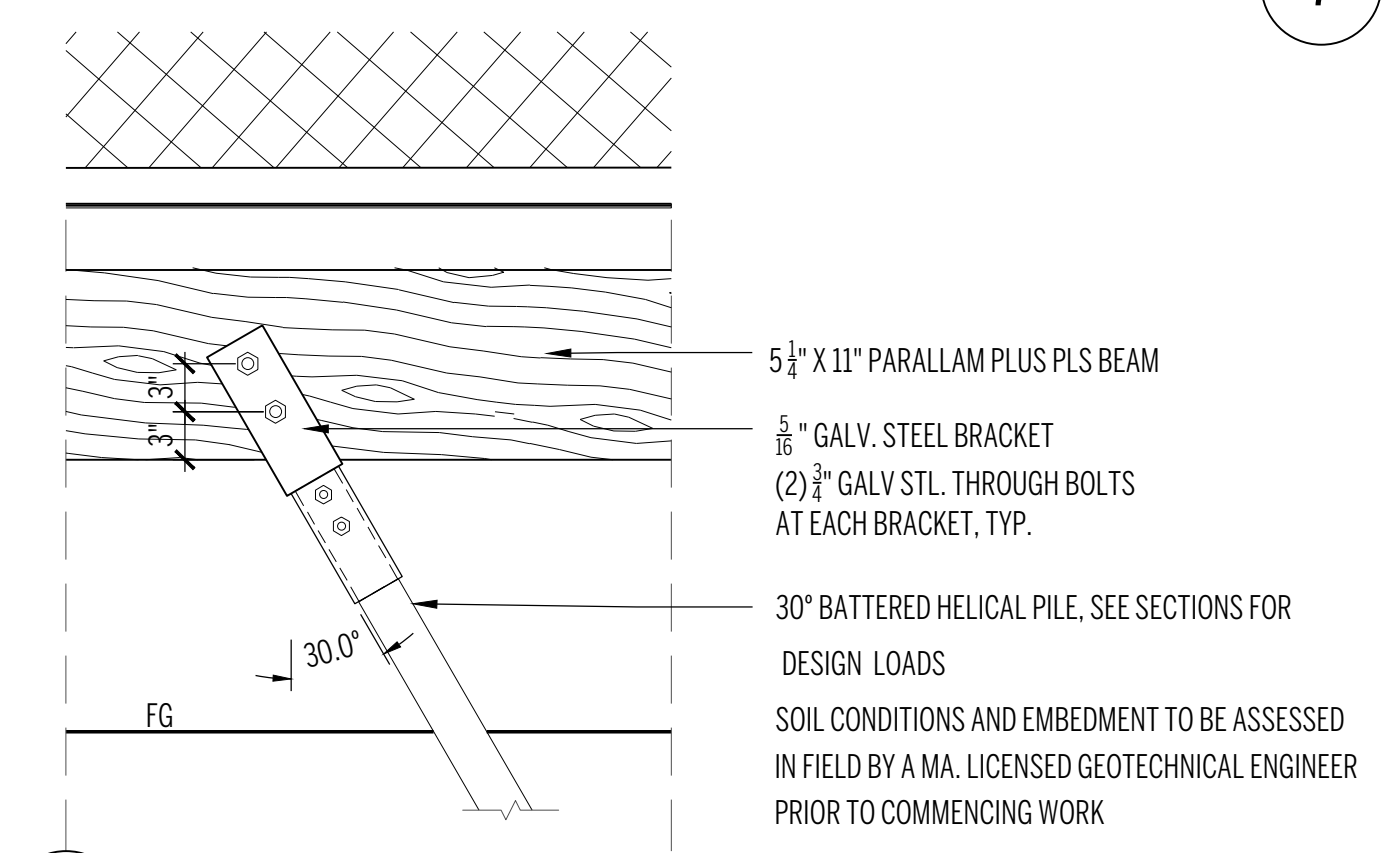


8 CONCEALED PLATE CONNECTION- TYP
1 1/2" = 1'-0"

7 HELICAL PILE SECTION
1" = 1'-0"

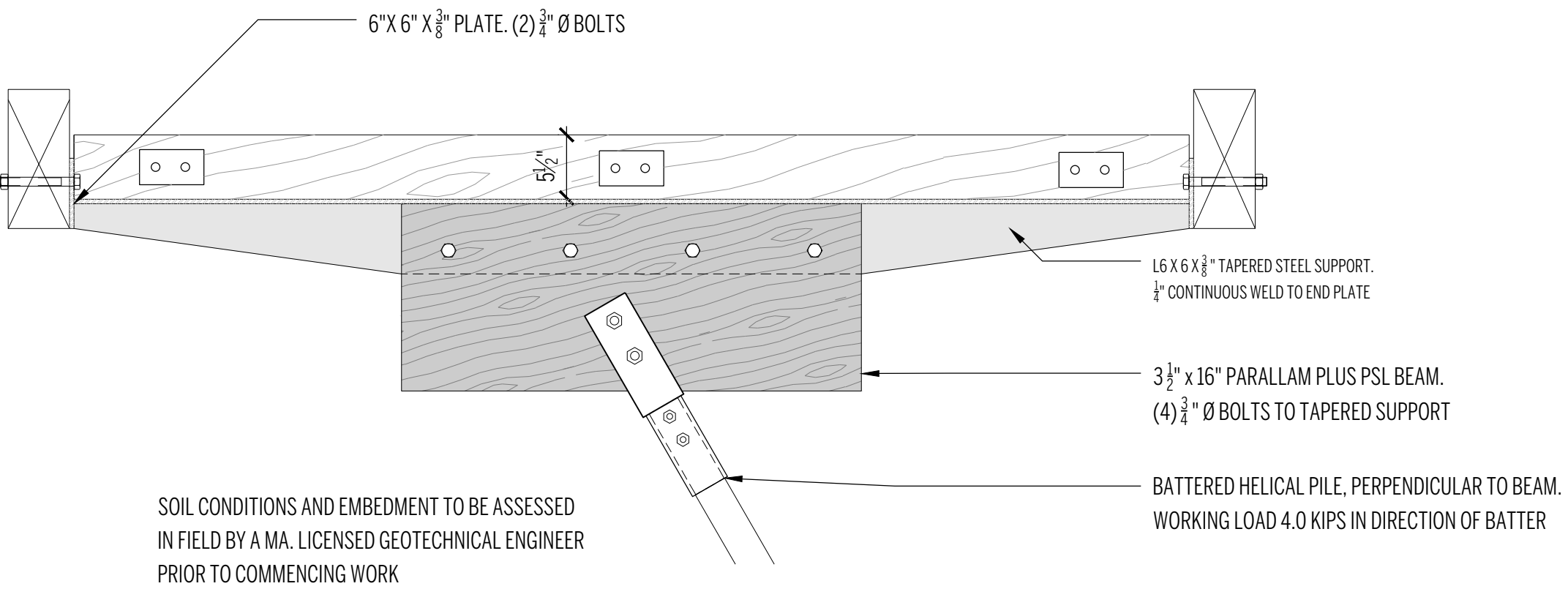
6 CENTER TRUSS CONNECTION
1" = 1'-0"

2 BRIDGE SPAN
1/2" = 1'-0"

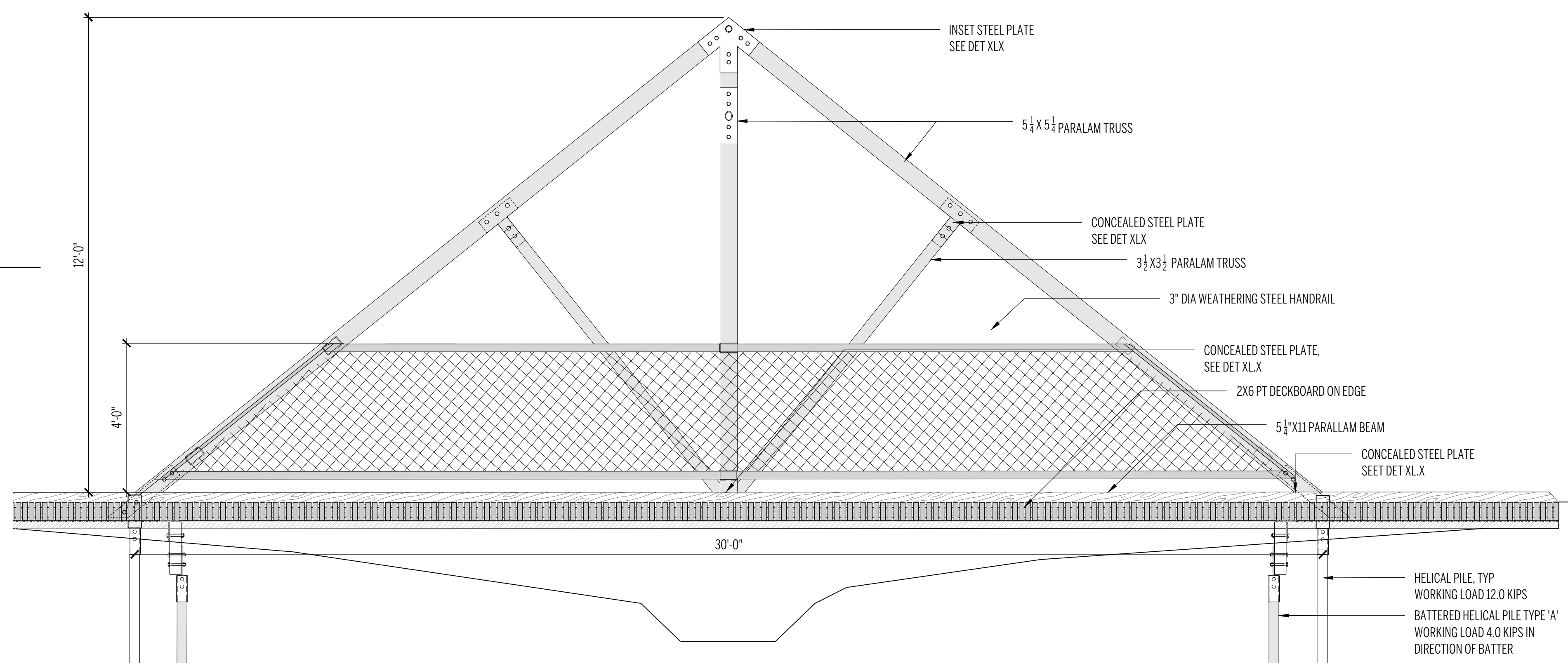


4 BATTERED PILE 'B'
1/2" = 1'-0"

5 CONCEALED BEAM SPLICE
1" = 1'-0"



3 BATTERED PILE 'A'
1/2" = 1'-0"



1 BRIDGE SPAN
1/2" = 1'-0"

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ENVIRONMENTAL ENGINEER

INTER-FLUVE

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UPPER COONAMESSETT RIVER RESTORATION PROJECT
FALMOUTH, MA

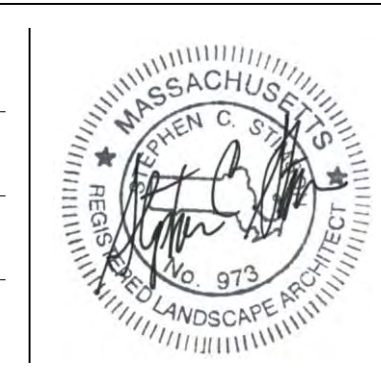
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SCALE

DATE
06.05.2024

DRAWN BY
DN, SC

REVIEWED BY
JW



DETAILS

CONSTRUCTION DOCUMENTS

L3.0

STRUCTURAL NOTES

GENERAL

1. ALL STRUCTURAL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE MASSACHUSETTS BUILDING CODE.

FOUNDATION

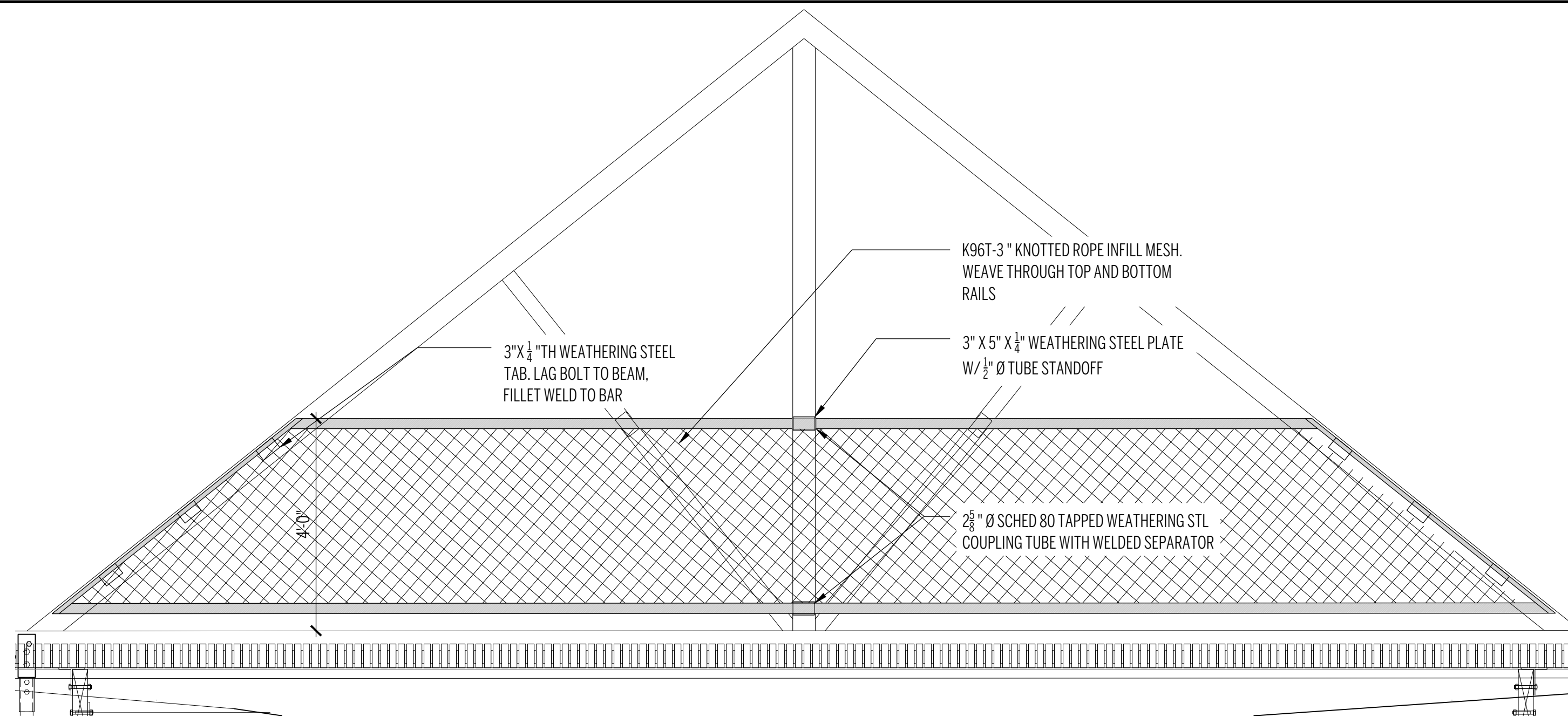
1. SEE DRAWINGS FOR UNFACTORED PILE DESIGN LOADS. PILE DESIGN TO BE CARRIED OUT BY A GEOTECHNICAL ENGINEER LICENSED IN MASSACHUSETTS. SUBMIT PILE DESIGN FOR APPROVAL.

STRUCTURAL STEEL

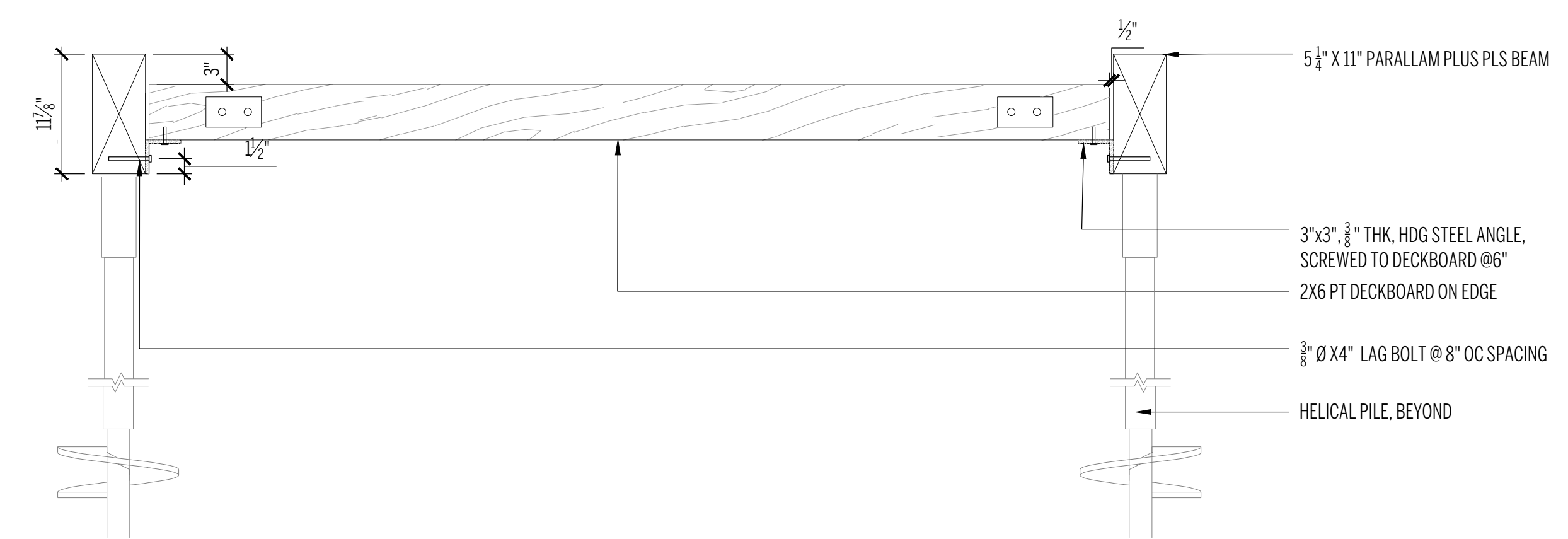
1. STEEL CONNECTION BOLTS TO BE ASTM A325. ANCHOR BOLTS TO BE ASTM A307.
2. STEEL CONNECTIONS TO BE $\frac{3}{16}$ " CONTINUOUS FILLET WELD UNLESS OTHERWISE NOTED ON PLAN.
3. BOLT HOLES IN STEEL TO BE $\frac{1}{16}$ " LARGER IN DIAMETER THAN THE NOMINAL SIZE OF BOLTS USED.
4. ALL CONNECTION HARDWARE TO BE HOT DIPPED GALVANIZED.

WOOD CONSTRUCTION

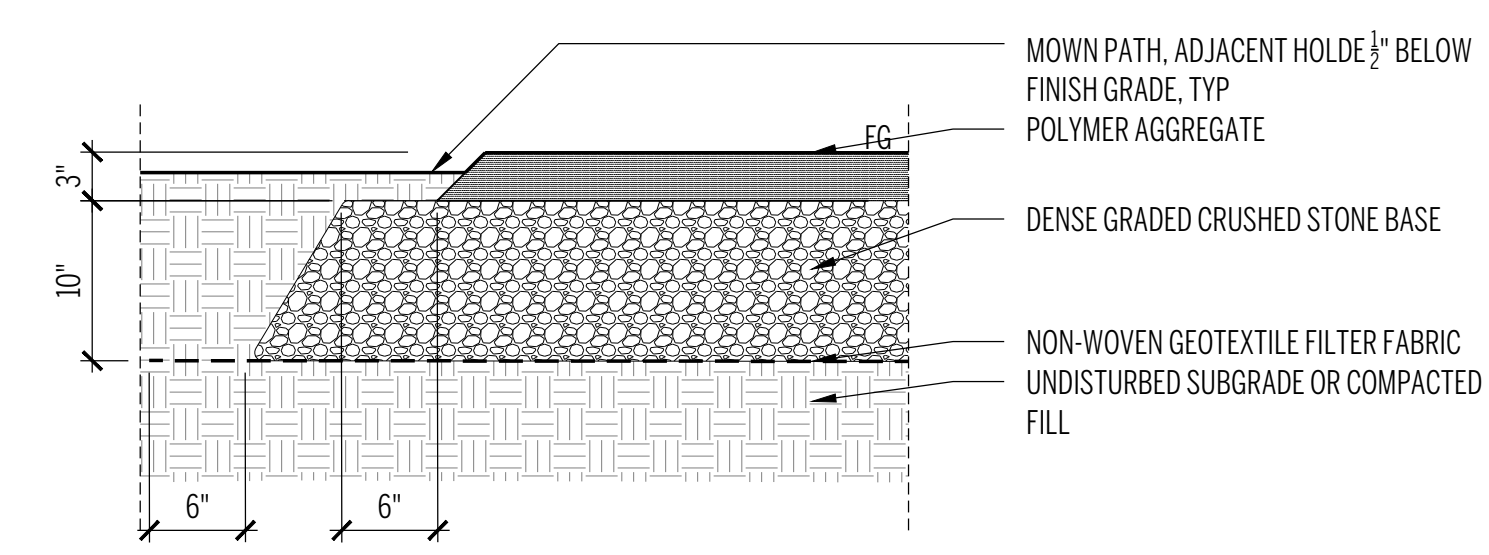
1. TIMBER TO BE SPF NO. 2 OR BETTER UNLESS NOTED.
2. ALL EXTERIOR TIMBER TO BE PRESSURE TREATED.
3. PROVIDE SIMPSON JOIST HANGERS WHERE JOISTS ARE SUPPORTED BY BEAMS.
4. UNLESS OTHERWISE NOTED, PROVIDE SIMPSON CONNECTORS AT BEAM/BEAM CONNECTIONS. DETAILS TO BE IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS. ALTERNATIVELY, PROVIDE BOLTED CONNECTIONS USING $\frac{3}{8}$ " THICK STEEL ANGLES WITH MIN. 4" EDGE DISTANCE AND SPACING.
5. PROVIDE $\frac{1}{4}$ " STEEL BRACKETS TO CONNECT WOOD BEAMS TO STEEL CHANNELS
6. MAXIMUM NAIL OR SCREW SPACING TO BE 6" FOR DECK FASTENING.
7. MAXIMUM MOISTURE CONTENT TO BE 19%.
8. ALL EXTERIOR BOLTS, NAILS AND HARDWARE TO BE HOT DIPPED GALVANIZED.



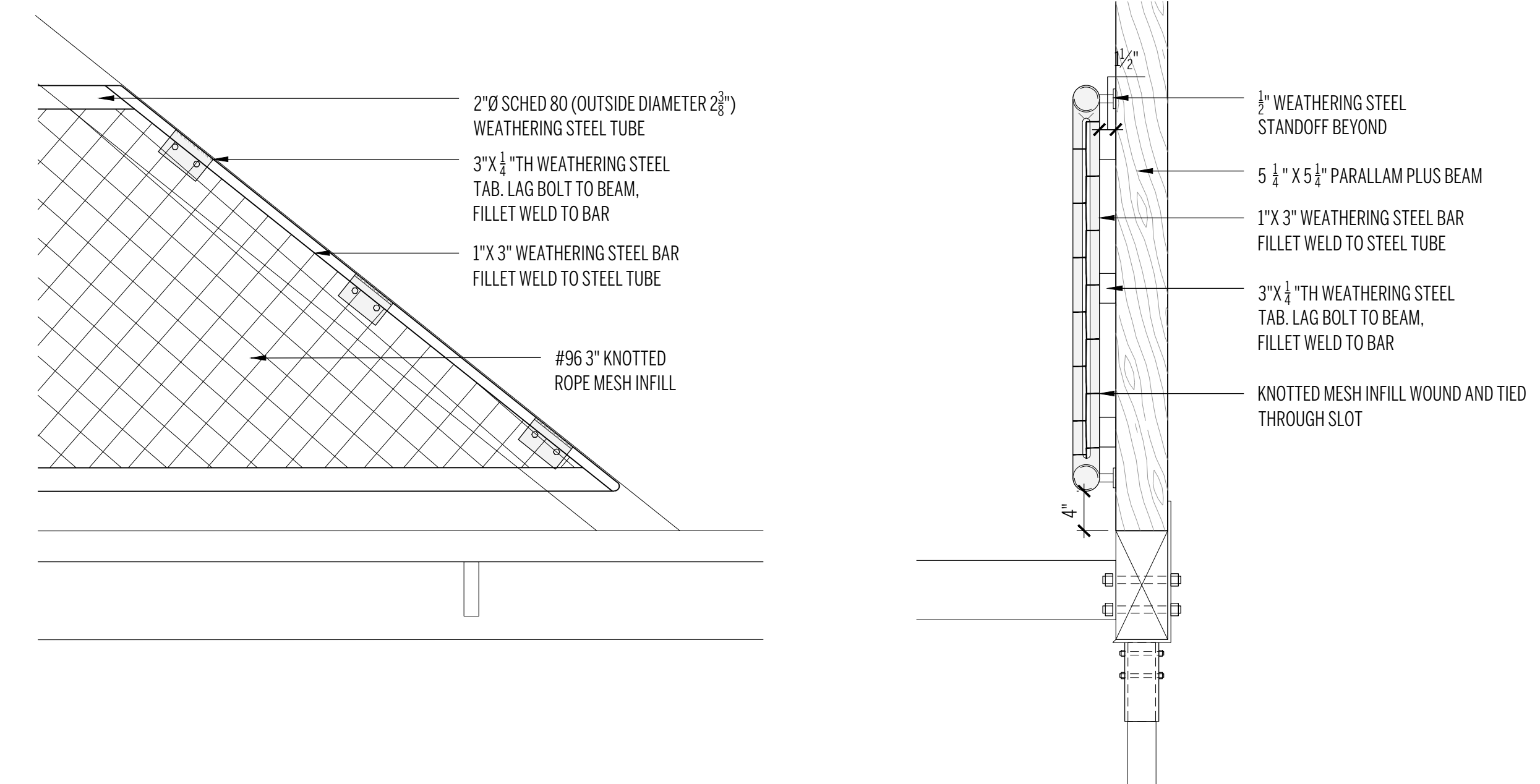
5 GUARDRAIL ELEVATION
1/4" = 1'-0"



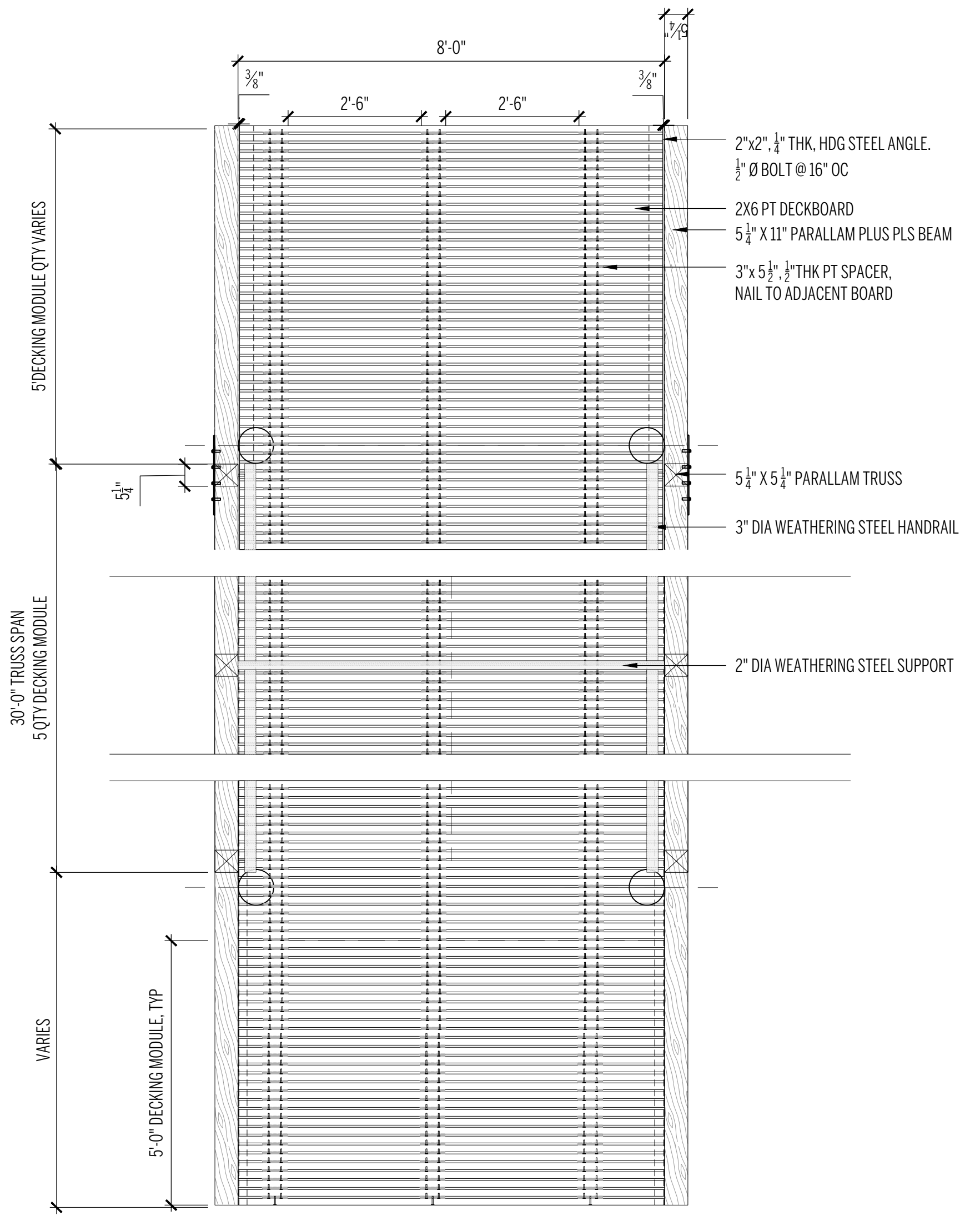
6 DECKING CROSS SECTION
1" = 1'-0"



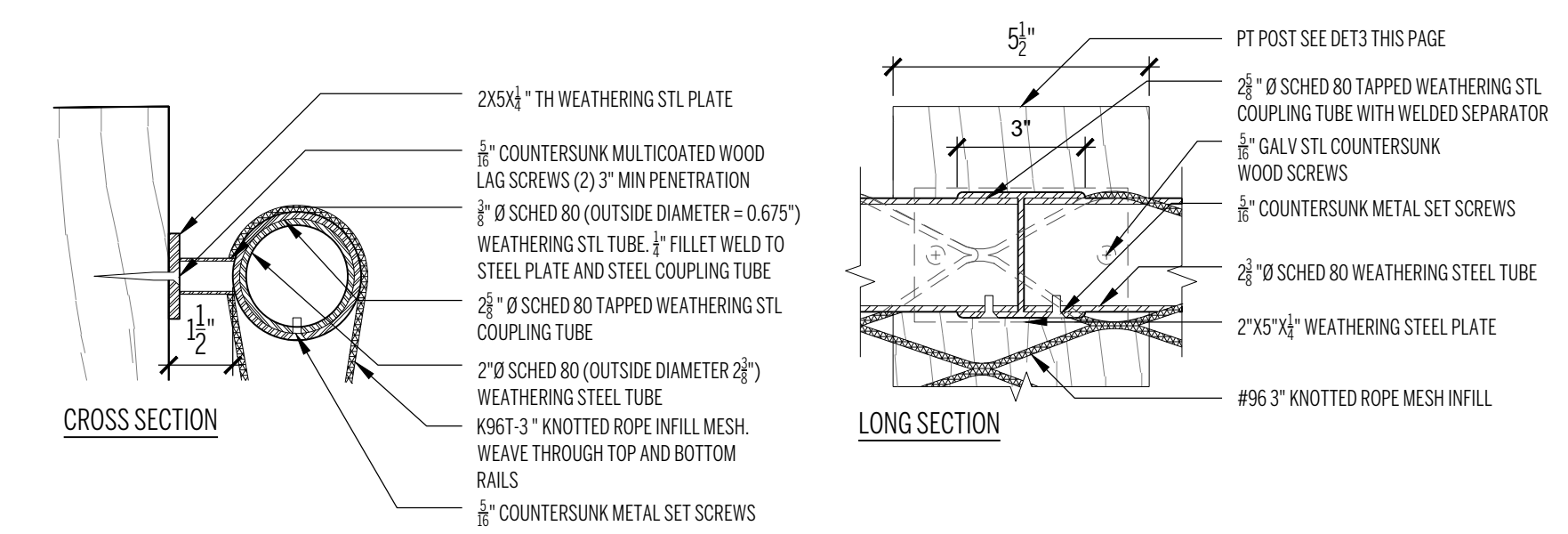
4 ADA PATHWAY
1" = 1'-0"



2 WEATHERING STEEL GUARDRAIL
1" = 1'-0"



1 DECKING PLAN
1/2" = 1'-0"



3 GUARDRAIL
3" = 1'-0"

UPPER COONAMESSETT RIVER RESTORATION PROJECT
FALMOUTH, MA

<p>LANDSCAPE ARCHITECT</p> <p>STIMSON</p> <p>STEPHEN STIMSON ASSOCIATES LANDSCAPE ARCHITECTS, INC.</p> <p>288 NORFOLK STREET CAMBRIDGE, MA 02139 T 617 876 8960</p> <p>2 MOUNTAIN ROAD PRINCETON, MA 01541 T 978 464 5200</p> <p>STIMSONSTUDIO.COM</p>	<p>STRUCTURAL ENGINEER</p> <p>RSE ASSOCIATES, INC.</p> <p>63 PLEASANT STREET SUITE 200 WATERTOWN, MA 02472 T 617 926 9300</p>	<p>ENVIRONMENTAL ENGINEER</p> <p>INTER-FLUVE</p> <p>220 CONCORD AVENUE, 2ND FLOOR CAMBRIDGE, MA 02138 T 617 714 5537</p>
---	---	--

ISSUE	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		

SCALE
DATE 06.05.2024
DRAWN BY DN, SC
REVIEWED BY JW



DETAILS

CONSTRUCTION DOCUMENTS

L3.1

SECTION XVI

ORDER OF CONDITIONS AND RELATED PERMITS

All work to comply with the Town of Falmouth Conservation Commission Order of
Conditions and Related Permits



FALMOUTH CONSERVATION COMMISSION

59 Town Hall Square, Falmouth, Massachusetts 02540

(508) 495-7445

January 5, 2024

Town of Falmouth
59 Town Hall Square
Falmouth, MA 02540

RE: 170 Hatchville Road & 30 Hunky Dory Farm Road, Falmouth, MA
DEP# 25-4902

Dear Town of Falmouth,

Enclosed please find a copy of the Order of Conditions. Please obtain the plan of reference for your approved project from your representative. This Order is valid for three years from its date of issuance. The original permit will need to be registered at the Registry of Deeds. Proof of Recording must be submitted to the Conservation Commission office.

Please read the Order of Conditions and Plan carefully and refer to them often. Your contractor must have a copy of the Order of Conditions and the Conservation Permit posted on-site throughout the duration of the project. As the property owner it is ultimately your responsibility to ensure that work be done according to all Standard and Special Conditions and according to the Plan of Reference. If you decide to sell your property, please transfer the Order and the Plan of Reference to the new owner.

When all work under the approved permit, including landscaping, has been completed on the project, the proper procedure is for your representative (the engineer) to apply to the Conservation Commission for a Certificate of Compliance. The engineer must submit a signed statement that all work has been completed according to the Plan of Reference and noting any deviation from the plan. The representative (engineer) is the point of contact with the Conservation Commission and should coordinate with you throughout the duration of the project until a Certificate of Compliance is issued. Your representative will register the Certificate of Compliance in the Registry of Deeds. Proof of Recording must be submitted to the Conservation Commission office.

Thank you for taking the time to read this letter. By complying with the Wetland Protection Act and the Falmouth Wetland Bylaw and Regulations you are helping to maintain a high quality of life for yourself and others in the Town of Falmouth.

Sincerely,

Jennifer L. Lincoln
Conservation Administrator

CC: Horsley Witten Group



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5A – Restoration Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
25-4902
MassDEP File #

Falmouth
City/Town

A. General Information

Please note: this form has been modified with added space to accommodate the Registry of Deeds Requirements

1. From: Falmouth
Conservation Commission

2. This issuance is for (check one):

- a. Restoration Order of Conditions b. Amended Restoration Order of Conditions

3. To: Applicant:

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

a. First Name _____ b. Last Name _____
Town of Falmouth
c. Organization _____
59 Town Hall Square
d. Mailing Address _____
Falmouth MA 02540
e. City/Town _____ f. State _____ g. Zip Code _____

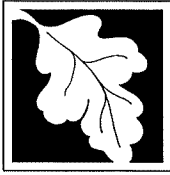


4. Property Owner (if different from applicant):

a. First Name _____ b. Last Name _____
c. Organization _____
d. Mailing Address _____
e. City/Town _____ f. State _____ g. Zip Code _____

5. Project Location:

170 Hatchville Road and 30 Hunky Dory Falmouth
Farm Road b. City/Town _____
17 01 019 000 and 21 06 011 001
c. Assessors Map/Plat Number _____ d. Parcel/Lot Number _____



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5A – Restoration Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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Falmouth
City/Town

A. General Information (cont.)

Latitude and Longitude, if known: 41.67037 -70.57239
d. Latitude (in decimal) e. Longitude (in decimal)

Note: If the Ecological Restoration Project involves work on a stream crossing, baseline photo-points that capture longitudinal views of the crossing inlet, the crossing outlet and the upstream and downstream channel beds during low flow conditions. The latitude and longitude coordinates of the photo-points shall be included in the baseline data.

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

Barnstable
a. County b. Certificate Number (if registered land)
02071 0189
c. Book d. Page

7. Dates: 9/13/2023 10/18/2023 1/5/2024
a. Date Ecological Restoration NOI Filed b. Date Public Hearing Closed c. Issuance Date

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):

Upper Coonamessett River 75% Design
a. Plan Title b. Prepared By Michael Burke, PE
Inter-fluve c. Signed and Stamped by
9/7/2023 1" = 150'
d. Final Revision Date e. Scale

f. Additional Plan or Document Title g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the Ecological Restoration Notice of Intent described in Section A and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

- a. Public Water Supply
- b. Private Water Supply
- c. Groundwater Supply
- d. Flood Control
- e. Storm Damage Prevention
- f. Prevention of Pollution
- g. Land Containing Shellfish
- h. Fisheries
- i. Wildlife Habitat



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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B. Findings (cont.)

2. This Commission hereby finds the project, as proposed, is an Ecological Restoration Project for:

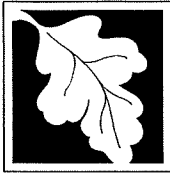
- Dam Removal
- Freshwater Stream Crossing Repair and Replacement
- Stream Daylighting
- Tidal Restoration
- Rare Species Habitat Restoration
- Restoring Fish Passageways

Approved subject to:

The following conditions are required in accordance with the Ecological Restoration eligibility criteria 310 CMR 10.13 (1) through (7) and performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Ecological Restoration Notice of Intent for the project described in Section A. The General Conditions in Section C and Special Conditions checked in Section D are incorporated into this Restoration Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Ecological Restoration Notice of Intent, these conditions shall control.

Denied because:

The proposed work does not meet the eligibility criteria in 310 CMR 10.13(1) through (7). Therefore, work on this project may not go forward unless and until a new Notice of Intent (WPA Form 3 or 3A) is submitted and a Final Order of Conditions (WPA Form 5 or 5A) has been issued. The Commission has determined that following the eligibility criteria have NOT been met.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5A – Restoration Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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Falmouth
City/Town

B. Findings (cont.)

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input checked="" type="checkbox"/> Bank	5,539 a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. <input checked="" type="checkbox"/> Bordering Vegetated Wetland	559,739 a. square feet	b. square feet	c. square feet	d. square feet
6. <input checked="" type="checkbox"/> Land Under Waterbodies and Waterways	52,978 a. square feet	b. square feet	c. square feet	d. square feet
	e. c/y dredged	f. c/y dredged		
7. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	-23,199 a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. <input checked="" type="checkbox"/> Riverfront Area	47,372 a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input type="checkbox"/> Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Note: No armoring of a Coastal Dune or Barrier Beach is permitted. Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	a. square feet	b. square feet	c. nourishment	d. nourishment



Massachusetts Department of Environmental Protection
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WPA Form 5A – Restoration Order of
Conditions

Provided by MassDEP:
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 City/Town

B. Findings (cont.)

- | | | | | |
|--|----------------|----------------|------------------|------------------|
| 14. <input type="checkbox"/> Coastal Dunes | _____ | _____ | _____ <i>c/y</i> | _____ <i>c/y</i> |
| | a. square feet | b. square feet | c. nourishment | d. nourishment |

Note: No armoring of a Coastal Dune or Barrier Beach is permitted.

- | | | | | |
|--|----------------|----------------|----------------|----------------|
| 15. <input type="checkbox"/> Coastal Banks | _____ | _____ | | |
| | a. linear feet | b. linear feet | | |
| 16. <input type="checkbox"/> Rocky Intertidal Shores | _____ | _____ | | |
| | a. square feet | b. square feet | | |
| 17. <input type="checkbox"/> Salt Marshes | _____ | _____ | _____ | _____ |
| | a. square feet | b. square feet | c. square feet | d. square feet |
| 18. <input type="checkbox"/> Land Under Salt Ponds | _____ | _____ | | |
| | a. square feet | b. square feet | | |

_____ *c/y* dredged _____ *c/y* dredged

- | | | | | |
|--|----------------|----------------|----------------|----------------|
| 19. <input type="checkbox"/> Land Containing Shellfish | _____ | _____ | _____ | _____ |
| | a. square feet | b. square feet | c. square feet | d. square feet |

20. Fish Runs
- Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above

68
 _____ *c/y* dredged _____ *c/y* dredged

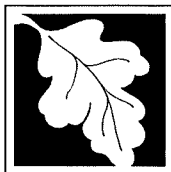
- | | | | | |
|--|----------------|----------------|--|--|
| 21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage | _____ | _____ | | |
| | a. square feet | b. square feet | | |

- | | | | | | | |
|--|-------------------|-------------------|----------------|----------------|-------|-------|
| 22. <input type="checkbox"/> Riverfront Area | _____ | _____ | | | | |
| | a. total sq. feet | b. total sq. feet | | | | |
| Sq ft within 100 ft | _____ | _____ | _____ | _____ | _____ | _____ |
| | c. square feet | d. square feet | e. square feet | f. square feet | | |
| Sq ft between 100-200 ft | _____ | _____ | _____ | _____ | _____ | _____ |
| | g. square feet | h. square feet | i. square feet | j. square feet | | |

- | | | | |
|---|-----------------------|------------------------------|--|
| 23. <input type="checkbox"/> Restoration/Enhancement *: | _____ | _____ | _____ |
| | a. square feet of BVW | b. square feet of salt marsh | c. square feet of other wetland resource areas |

- | | | |
|--|-----------------------------------|---|
| 24. <input type="checkbox"/> Stream Crossing(s): | _____ | _____ |
| | a. number of new stream crossings | b. number of replacement stream crossings |

* If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here



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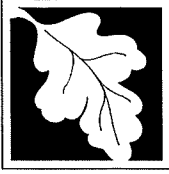
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C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Restoration Order of
2. The Restoration Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Restoration Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Restoration Order unless either of the following apply:
 - a. the work is a maintenance dredging project as provided for in the Act; or
 - b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Restoration Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Restoration Order.
5. This Restoration Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Restoration Order.
6. If this Restoration Order constitutes an Amended Restoration Order of Conditions, this Amended Restoration Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Restoration Order will expire on _____ unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Restoration Order is not final until all administrative appeal periods from this Restoration Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Restoration Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Restoration Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Restoration Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Restoration Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

“Massachusetts Department of Environmental Protection” [or, “MassDEP”]
“File Number 25-4902”
11. Where the Department of Environmental Protection is requested to issue a Superseding Restoration Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Restoration Order at reasonable hours to evaluate compliance with the conditions stated in this Restoration Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Restoration Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Restoration Order and to any contractor or other person performing work conditioned by this Restoration Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Restoration Order.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

General Conditions for all Ecological Restoration Projects

19. The project shall be conducted in accordance with any preliminary written determination obtained from the Natural Heritage and Endangered Species Program as set forth in 310 CMR 10.11(2) and any time of year restrictions or other conditions recommended in writing by the Division of Marine Fisheries (for projects in coastal Resource Areas) and the Division of Fisheries and Wildlife (for projects in inland Resource Areas) as set forth in 310 CMR 10.11(3), (4) and (5).
20. The applicant shall implement the plan submitted with the Notice of Intent as approved by the Issuing Authority to prevent and control invasive species.
21. If the project involves the dredging of 100 cubic yards or more in a Resource Area or dredging of any amount in an Outstanding Resource Water, the dredging and Dredged Material management shall be performed in accordance with the Water Quality Certification submitted with the Notice of Intent.
22. If the project involves infrastructure, the owner shall operate and maintain the infrastructure in accordance with the operation and maintenance plan submitted with the Notice of Intent as approved by the Issuing Authority. Implementation of the operation and maintenance plan as approved by the Issuing Authority shall be a continuing condition that shall be set forth in the Certificate of Compliance.
23. The work associated with this Order (the "Project")
 - (1) is subject to the Massachusetts Stormwater Standards
 - (2) is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
 - i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;



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City/Town

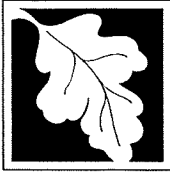
C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;
 - iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;
 - v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

- c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:
 - i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and
 - ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

- d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

- e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Restoration Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

**WPA Form 5A – Restoration Order of
Conditions**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

25-4902

MassDEP File #

Falmouth

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.
- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Restoration Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5A – Restoration Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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Falmouth
City/Town

D. Special Conditions for Ecological Restoration Projects

Dam Removal

This project involves dam removal and the following special conditions shall apply in addition to the general conditions set forth in 310 CMR 10.14(1):

- a) An as-built plan and a written statement from a registered professional engineer or other environmental professional expert in ecological restoration certifying substantial compliance with the design plan and construction specifications approved in the Restoration Order of Conditions shall be submitted to the Issuing Authority within 90 days of completion of the dam removal.
- b) The applicant shall monitor the dam removal site during the first two years following completion of the dam removal. Said monitoring shall include a topographic survey of the longitudinal profile and stream cross-sections from downstream of the former dam through the upstream end of the former impoundment. The survey reference point shall comprise a permanent marker or recoverable survey point with known coordinates, such as a fixed point shown on the as-built plan, an existing bench mark, or a new benchmark. That marker should be identified or referenced on the plans and on the as-built plans. The applicant shall establish at least two photo-points for pre- and post-restoration monitoring at the dam removal site. At least one photo-point location shall be chosen to document a view of the dam pre-restoration and to document the same site after the dam is removed. A second location shall be chosen to document a view of the impoundment pre- and post-restoration. Photos shall be taken for two years after the dam removal is completed.
- c) The applicant shall submit a report detailing the results of this monitoring within six months of the completion of the two year post-construction monitoring period, or within 30 months after the dam removal is complete whichever is sooner. The report shall include a comparison of post-restoration survey data with pre-restoration survey data as illustrated by the photos taken during the monitoring period.

Freshwater Stream Crossing Repair and Replacement Projects

The project involves one or more freshwater crossing repair or replacement and the following special conditions in addition to the general conditions apply:

- a) An as-built plan and/or a written statement from a registered professional engineer or other environmental professional expert in ecological restoration certifying substantial compliance with the design plans and construction specifications approved in the Restoration Order of Conditions shall be completed within 90 days of completion of construction. The as-built plan shall include the dimensions of the structure, the invert elevation of the upstream and downstream ends of the structure and the road or other surface elevation above the structure.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5A – Restoration Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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25-4902

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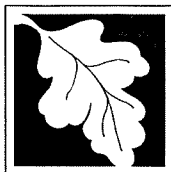
D. Special Conditions for Ecological Restoration Projects (cont.)

- b) The applicant shall monitor the site by collecting sufficient data within 12 months after construction is complete to evaluate the effect of the structure. At a minimum, when a Certificate of Compliance is requested, the applicant shall provide post-construction photo-points that capture longitudinal views of the crossing inlet, the crossing outlet and the upstream and downstream channel beds during low flow conditions. The photo-points shall be located at the same geographic photo-point latitude and longitude coordinates as required in the Notice of Intent per 310 CMR 10.12(1)(n). The applicant shall submit a report to the Issuing Authority detailing the results of this monitoring within 18 months after construction is complete. The report shall include a comparison of the post-restoration data with pre-restoration data.

Stream Daylighting

The project involves stream daylighting and the following special conditions in addition to the general conditions apply:

- a) An as-built plan and a written statement from a registered professional engineer or other environmental professional expert in ecological restoration certifying substantial compliance with the design plan and construction specifications approved in the Restoration Order of Conditions shall be submitted to the Issuing Authority within 90 days of completion of the project. At a minimum, when a Certificate of Compliance is requested, the applicant shall provide post-construction photo-points that capture longitudinal views of the upstream and downstream channel beds of the daylighted reach during low flow conditions.
- b) The applicant shall conduct photo-point monitoring by establishing at least three photo-points for pre- and post-restoration monitoring at the stream daylighting site. One photo-point location shall be chosen to document the upstream end of the site and one photo-point location shall be chosen to document the downstream end of the site. A third photo-point shall be chosen to document conditions in the restored channel. Photos shall be taken during high flow and low (summer) flow of each year during the two years following completion of the project.
- c) Within 30 months after the completion of the project, the applicant shall submit a report describing the ecological changes observed at the project site during the two years following completion of the project, as illustrated by the photos.



Massachusetts Department of Environmental Protection
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D. Special Conditions for Ecological Restoration Projects (cont.)

Tidal Restoration Projects

The project involves restoration of tidal influence and the following special conditions in addition to the general conditions apply:

- a) If the project is a culvert or bridge replacement or repair project, an as-built plan and a written statement from a registered professional engineer or other environmental professional expert in ecological restoration certifying substantial compliance with the design plans and construction specifications approved in the Restoration Order of Conditions shall be submitted to the Issuing Authority within 90 days of completion of construction. The as-built plan shall include the dimensions of the structure, the invert elevation of the upstream and downstream ends of the structure and the road or other surface elevation above the structure.
- b) The applicant shall monitor pre- and post-construction tidal conditions upstream and downstream of the tidal restriction with water level readings measured at an interval no greater than every 10 minutes over a minimum of a one-week period that includes a spring tide. Pre- and post-construction water level readings shall be taken at approximately the same locations and shall be referenced to the same vertical elevation datum. The applicant shall prepare a report detailing the results of this monitoring within 12 months after construction is complete. The report shall include and compare pre- and post-construction tidal elevation monitoring data to assess attainment of the project's predicted post-restoration tidal conditions.

Rare Species Habitat Restoration

The project is a Rare Species Habitat Restoration Project and in addition to the general conditions the following special conditions apply:

- a) An as-built plan and a written statement from a registered professional engineer or other environmental professional expert in ecological restoration certifying substantial compliance with the design plan, construction specifications, and the Habitat Management Plan submitted with the Notice of Intent as approved in the Restoration Order of Conditions shall be submitted to the Issuing Authority within 90 days of completion of the project.
- b) The applicant shall establish at least two photo-points for pre- and post-restoration monitoring at the project site. Photos shall be taken for two years after construction is complete. Within 30 months of completion of the project, the applicant shall submit to the Issuing Authority a report describing the ecological changes observed at the project site as illustrated by the photos.



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**WPA Form 5A – Restoration Order of
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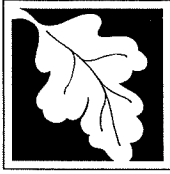
City/Town

D. Special Conditions for Ecological Restoration Projects (cont.)

Fish Passageway Restoration

The project involves the repair or replacement of a fish passageway and in addition to the general conditions the following special conditions:

- a) The property owner is responsible for maintaining and repairing the fishway in good condition so that it will support safe and efficient fish passage in accordance with an operation and maintenance plan approved by the Division of Marine Fisheries. This requirement is a continuing condition that shall be set forth in the Certificate of Compliance.
- b) a post-construction project summary using surveys, a narrative and photographs as needed, that confirm the fishway slope and entrance and exit elevations shall be submitted to and approved by the Division of Marine Fisheries, prior to submittal of a request for a Certificate of Compliance.



Massachusetts Department of Environmental Protection
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**WPA Form 5A – Restoration Order of
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E. Findings Under Municipal Wetlands Bylaw or Ordinance

- 1. Is a municipal wetlands bylaw or ordinance applicable? Yes No
- 2. The Falmouth Conservation Commission hereby finds (check one that applies):
 - a. that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

1. Municipal Ordinance or Bylaw	2. Citation
---------------------------------	-------------

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

<u>Falmouth Wetlands Bylaw / Regulations</u>	<u>CH 235 / FWR</u>
1. Municipal Ordinance or Bylaw	<u>10.00</u>

- 3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):



FALMOUTH CONSERVATION COMMISSION

59 Town Hall Square, Falmouth, Massachusetts 02540
(508) 495-7445

Town of Falmouth
Upper Coonamessett River
170 Hatchville Road and 30 Hunky Dory Farm Road, Falmouth, MA
DEP # 25-4902

FINDINGS

1. The Town of Falmouth proposes to restore the upper Coonamessett River cranberry bogs into a more naturally functioning river system under an Ecological Restoration Order of Conditions.
2. The project includes modifying the existing channel by narrowing the channel and making it more sinuous, adding large wood along the channel banks and in the pool to increase habitat, removing four (4) berms, 4 undersized culverts and the Broad River Dam and installing stream crossings that meet current standards, create microtopography on the bog surfaces, remove excess sand, plant native vegetation, and improve existing recreational conditions by constructing footbridges and boardwalks.
3. Resource areas onsite and within 100 feet of the proposed project include Riverfront Area, Coastal Banks, Land Under Waterbodies, Bordering Vegetated Wetland, Isolated Land Subject to Flooding, and Resource Area Buffer.

INTERESTS

1. Storm Damage Prevention
2. Flood Control
3. Prevention of Pollution
4. Protection of Private and Public Water Supply
5. Protection of Groundwater Supply
6. Protection of Fisheries
7. Protection of Wildlife Habitat

STANDARD CONDITIONS

1. Permission is granted to the Town of Falmouth, Upper Coonamessett River, 170 Hatchville Road and 30 Hunky Dory Farm Road, Falmouth, MA, to modify the existing channel, add large wood, remove berms,

and replace culverts, create microtopography, and plant native vegetation according to the narrative Horsley and Witten dated September 2023 and plan prepared by Inter-Fluve dated September 7, 2023 and entitled "Upper Coonamessett River 75% Design" (Sheet 1-18) and subject to the following Standard and Special Conditions.

2. This Order is issued pursuant to Mass. General Laws, Chapter 131, sec. 40, the Wetlands Protection Act and Chapter 235 of the Code of Falmouth the Wetlands Bylaw. The Wetlands By-law is more stringent than the Wetlands Protection Act as permitted by that Act. The Conservation Commission reserves the right to impose additional or other conditions to protect the Interests of the Massachusetts Wetlands Protection Act and Falmouth Wetlands Bylaw.
3. The determinations of the Falmouth Conservation Commission are made solely to determine issues arising under the Massachusetts Wetlands Protection Act and the Town of Falmouth Wetlands By-Law, and are therefore concerned exclusively with the question whether any proposed activity will have an adverse effect on the wetlands resource interests listed in the applicable statutes, regulations, by-laws and rules. Nothing contained in this determination is intended in any way to grant to any person any title, easement, or other interest in lands, public or private, and the Falmouth Conservation Commission is without legal authority to make any grant of title, easement or other property interest, or to make any determination of property interests. See Tindley v. D.E.Q.E. 10 Mass. App. Ct. 623 (1980).
4. Any work taking place prior to all administrative and legal appeal periods expiring or during the pendency of any such appeal is at the risk of the applicant and/or owner of the property. At the risk of means that should an administrative agency or court find this order and permit were granted in error, all work will have to be restored to its original condition (at the time work was instituted) at the expense of the applicant and/or owner.
5. Issuance of the Order of Conditions does not relieve the permittee from obtaining all other necessary municipal, county, state or federal permits, permission or other approvals required.
6. By the acceptance and recording of this Order, the applicant hereby grants the commission and its duly authorized agents the right to enter onto the land governed by this Order to examine the project and ensure Compliance. Such visits shall be made in a reasonable manner. The Conservation Commission as well as its staff and agents have the authority to issue an Enforcement Order if work does not comply with the terms or intent of the conditions contained herein or the plans herein referenced.
7. The Order of Conditions expires three (3) years from the original date of issuance. Any Amendments to the Order of Conditions **do not** extend the Original Order. You may request an Extension to the original Order of Conditions, in writing, at least 30 days prior to the expiration. Unless otherwise specified, all Conditions cited herein will apply to any and all Amendments to this Order of Conditions.
8. Prior to any work commencing:
 - a. Proof of recording of this Order of Conditions at the Barnstable County Registry of Deeds must be received by the Conservation Commission.
 - b. At least 10 days advance **written** notification shall be provided to the Conservation Commission.

- c. Copies of any other permits and licenses including building permit, special permit, variances, and Chapter 91 license shall be submitted to Conservation Commission.
 - d. The DEP File Number shall be posted on a sign on the street side of the lot and maintained in a visible condition throughout the project. A copy of this Order of Conditions is to be posted onsite, to be maintained in a visible location and condition throughout the project. Copies of this Order of Conditions are also to be provided to all outside contractors, to be kept onsite during work at all times.
 - e. The Limit of Work must be installed prior to any work, excavation, construction or clearing of vegetation, in order to prevent damage to the Interests of the Act and Bylaw. The Limit of Work shall consist of a single row of staked strawbale/silt fencing.
9. The construction site is to be cleaned daily to remove any loose debris and permitted cuttings offsite. Any fill or excavated material not required to backfill and grade to the approved plan of reference shall be immediately removed offsite or to an appropriate upland location noted on the plans.
10. The applicant shall use all means to effectively prevent erosion into the wetland or other Resource Area and to encourage the growth of protective vegetation.
11. Any other proposed activities (alteration, fill, excavation, or removal of vegetation) within any Resource Area or within 100 feet of any Resource Area will require that the applicant obtain all necessary permits from the Conservation Commission.
12. Before work can begin (i.e. clearing or construction) the Town of Falmouth Conservation Commission Contractor Form is to be submitted to the Conservation Department, identifying the General Contractor (GC) and other responsible parties and signed by the GC and all other responsible parties confirming that the signatories thereto have read and understand the Order of Conditions and that they jointly and severally take responsibility for compliance with the OOC on site during the life of the project. These documents shall be submitted with the ten (10) day start work notification required by Standard Condition #8(b).
13. Any changes to the plan of record noted in Standard Condition 1 above, no matter how minor in scope, including, but not restricted to, changes in the building footprint and appendages such as decks, addition and/or modification of accessory structures, changes in landscape features such as patios, retaining walls, plantings, removal of vegetation, the modification of finished grades, etc. require that the applicant obtain the permission of the Conservation Commission *before* undertaking the modified work. Depending on the scope of the change, said permission may be obtained by filing for an Administrative Approval, an amended Order of Conditions, or entirely new Notice of Intent. Failure to comply with this condition may subject the applicant to an enforcement order and/or fines.
14. This Order of Conditions will not be fully complied with unless and until a duly executed Certificate of Compliance is recorded or registered, as appropriate, in Barnstable Registry of Deeds. If this Order is based on a professionally rendered drawing then a letter must be submitted from an engineer or architect certifying full compliance and any deviation from the approved plans, as well as, an "Existing Conditions" plan. This plan shall include ALL structure and landscape features including patios, retaining walls, ornamental plantings, native plantings, AC units, steps, outdoor showers, walkways, etc. Any mitigation trees for the project shall be located and identified to species. Any mitigation shrubs for

the project shall be delineated on the plan, labeled as “native buffer shrubs” and the final square footage noted. A request for a Certificate of Compliance shall be made in writing immediately following completion of all work including permanently stabilizing the site with vegetation.

SPECIAL CONDITIONS

1. Prior to the commencement of work a pre-construction meeting shall take place onsite to review construction methodology, limit of work and access, staging areas, additional conditions, and timeline.
2. Prior to the pre-construction meeting the chosen contractor will submit a work plan, to be approved by the Commission, detailing mobilization, water control, new channel construction, floodplain grading, dam removal, erosion and sedimentation controls, invasive species removal and management plan, planting plan, and demobilization.
3. The applicant shall have an Environmental Monitor (approved by the Commission) onsite weekly to oversee the project. The EM shall report to the Commission weekly on the progress of the project and any issues of concern and corrective actions taken. The EM shall immediately notify the Conservation Department of any matter that requires the Commissions attention.
4. The EM shall meet with the Commission staff prior to the start of the project to outline the parameters of the reports and shall be available to the Commission to answer any questions or concerns during the span of the project.
5. All effort shall be taken to avoid erosion, siltation, and sedimentation into the river system once relocated.
6. A copy of the bid package and all supporting documentation shall be submitted to the Commission for review prior to obtaining responses. The Commission reserves the right to request changes to the bid documents in order to protect the interests of the Wetlands Protection Act and Falmouth Wetlands Bylaw.
7. The applicant shall abide by all Time of Year (TOY) restrictions recommended by the Division of Marine Fisheries for the project.
8. All disturbed area shall be stabilized immediately. Any area that cannot be stabilized within 30 days shall be stabilized using a method agreed upon by the Commission.
9. Any stockpiled material must be enclosed with an erosion control barrier to prevent erosion or siltation migrating into the resource areas.
10. No construction machinery shall be stored overnight in the wetland area.
11. A monitoring plan shall be submitted outlining future monitoring parameters and timelines. This plan shall be approved by the Conservation Commission.

12. The Commission reserves the right to impose any additional conditions throughout the project timeline to protect the resource areas from adverse impacts.
13. No Certificate of Compliance will be issued until the entire project is completed and the site is permanently stabilized with vegetation.

VOTE AUTHORIZING SIGNATURES OF COMMISSIONERS

In accordance with the unanimous vote of the Falmouth Conservation Commission, Jennifer L. Lincoln, Conservation Administrator is authorized to sign on behalf of each individual Commissioner as reflected in the recorded Land Court Document: 1,393,706 dated 04-03-2020 9:24 Barnstable Land Court Registry



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5A – Restoration Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
25-4902
MassDEP File #

Falmouth
City/Town

F. Signatures

This Restoration Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

1/5/2024
1. Date of Issuance

Please indicate the number of members who will sign this form.
This Restoration Order must be signed by a majority of the Conservation Commission.

4
2. Number of Signers

The Restoration Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office and the property owner, if different from applicant.

Signatures:

Jamie Matthews - Jennifer Lynch, Administrator
Kevin O'Brien - Jennifer Lynch
Christy Boyd - Jennifer Lynch
Steve Patten - Jennifer Lynch

by hand delivery on

by certified mail, return receipt requested, on

Date _____

1/5/2024
Date

9589 0710 5270 0570 60923

For Signature Authorization see
Doc: 1,393,706
BARNSTABLE LAND COURT REGISTRY



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5A – Restoration Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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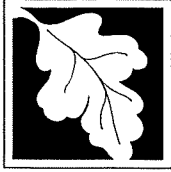
City/Town

G. Appeals

The applicant, the owner, any person aggrieved by this Restoration Order, any owner of land abutting the land subject to this Restoration Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Restoration Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Restoration Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Restoration Order of Conditions associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Restoration Order, or providing written information to the Department prior to issuance of a Superseding Restoration Order.

The request shall state clearly and concisely how the project permitted under the Restoration Order which is being appealed does or does not meet the eligibility criteria in 310 CMR 10.13(1) and the relevant provisions of 310 CMR 10.13(2) through (7). To the extent that the Restoration Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5A – Restoration Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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H. Recording Information

Prior to commencement of work, this Restoration Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Restoration Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Restoration Order. In the case of registered land, this Restoration Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Restoration Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Conservation Commission

Please be advised that the Restoration Order of Conditions for the Project at:

Project Location

MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

For

Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Restoration Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
**Request for Departmental Action Fee
Transmittal Form**

DEP File Number:

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

1. Location of Project

a. Street Address

b. City/Town, Zip

c. Check number

d. Fee amount

2. Person or party making request (if appropriate, name the citizen group's representative):

Name

Mailing Address

City/Town

State

Zip Code

Phone Number

Fax Number (if applicable)

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

Name

Mailing Address

City/Town

State

Zip Code

Phone Number

Fax Number (if applicable)

4. DEP File Number:

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

**B. Instructions**

1. When the Departmental action request is for (check one):

- Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
- Superseding Determination of Applicability – Fee: \$120
- Superseding Order of Resource Area Delineation – Fee: \$120



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:

Request for Departmental Action Fee Transmittal Form

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Instructions (cont.)

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <http://www.mass.gov/eea/agencies/massdep/about/contacts/>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.



The Commonwealth of Massachusetts

Division of Marine Fisheries

(617) 626-1520 | www.mass.gov/marinefisheries



MAURA T. HEALEY
Governor

KIMBERLEY DRISCOLL
Lt. Governor

REBECCA L. TEPPER
Secretary

THOMAS K. O'SHEA
Commissioner

DANIEL J. MCKIERNAN
Director

October 18, 2023

Falmouth Conservation Commission
Town Hall
59 Town Hall Square
Falmouth, MA 02540

Dear Commissioners:

The Division of Marine Fisheries (MA DMF) has reviewed the Ecological Restoration Notice of Intent by the Town of Falmouth for the Upper Coonamessett River Ecological Restoration Project on the Coonamessett River in the Town of Falmouth. Proposed restoration work would focus on five former cranberry bog cells totaling approximately 10.8 acres along the upper Coonamessett River between Hatchville Road and Thomas B. Landers Road. Project goals include improvements to fish passage, water quality, aquatic habitat, ecological diversity, and recreational opportunities. Proposed work includes channel modifications in Cells A and B, habitat creation within Cell C (addition of large wood structures), and creation of new, narrower stream channels in Cells D and E. Large wood structures will be added to channel pools in the form of logs, saplings, slash, and vertical timber piles for habitat enhancement. Undersized culverts, berms, and the Broad River Dam would all be removed as part of the restoration effort to enhance fish passage and water flow. Additional project elements include microtopography creation, sand removal, native vegetation plantings, and improvements to recreational access (e.g., addition of footbridges and boardwalks). Existing marine fisheries resources and habitat and approaches for avoiding or minimizing impacts to these resources during construction are outlined in the following paragraphs.

The Coonamessett River provides habitat for a variety of diadromous fish species. River herring (alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*)), white perch (*Morone americana*), and American eel (*Anguilla rostrata*) all occupy this system [1].

MA DMF comments on the written determination for this ecological restoration project are as follows:

1. The project will occur within a coastal waterbody with a restricted time of year (TOY).
2. The proposed project does require a TOY restriction. The TOY restriction recommendations are **March 15 to June 30** and **September 1 to November 15** for in-water, silt-producing work [2].
3. The project may affect a diadromous fish run as identified in the current MassGIS data on diadromous fish distribution in Massachusetts [1].

4. As presented, the NOI plans propose to improve fish passage. This restoration project will require a Division of Marine Fisheries Fishway Construction permit. MA DMF will further review the proposed restoration design with regards to diadromous fish passage through that permit application.

The proposed project will restore riverine habitat and enhance existing diadromous fish habitat by removing existing barriers to fish passage and restoring habitat characteristics. This restoration project should have a net positive effect on existing diadromous fish habitat.

Questions regarding this review may be directed to John Logan in our New Bedford office at john.logan@mass.gov.

Sincerely,



John Logan, Ph.D.
Fisheries Habitat Specialist

cc: Neal Price, Horsley Witten Group, Inc.
Patrice Bordonaro, CZM
Amanda Davis, Malik Neron, Kara Falvey, John Sheppard, Brad Chase, DMF

References

1. MA DMF. MassGIS Data: Diadromous Fish. <https://www.mass.gov/info-details/massgis-data-diadromous-fish>. Accessed February 8, 2023. 2023.
2. Evans NT, Ford KH, Chase BC, Sheppard J. Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts. Massachusetts Division of Marine Fisheries Technical Report, TR-47. <https://www.mass.gov/doc/time-of-year-recommendations-tr-47/download>. Accessed September 29, 2021. 2011.

JL/mn



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

April 4, 2024

Regulatory Division
File Number: NAE-2015-01274

Mark Kasprzyk
Town of Falmouth
59 Town Hall Square
Falmouth, MA 02540
Sent by email: mark.kasprzyk@falmouthma.gov

Dear Mr. Kasprzyk:

The U.S. Army Corps of Engineers (USACE) has reviewed your application to discharge up to 2,717.3 cubic yards (CY) of fill material into no more than 10.3353 acres of waters of the U.S., including wetlands, in order to restore a retired cranberry bog complex along the Upper Coonamessett River to more naturally functioning streams and wetlands. The project will span five areas ("Cells A through E") containing the Coonamessett River, ponded areas, and wetland areas.

In Cells A and B, the channel will be made more narrow and sinuous through the placement of large wood and vegetated mats harvested from the bog surfaces. In Cells D and E, a new, narrower and more sinuous channel will be constructed. Material resultant from the new channel excavation will be used to partially fill the existing channel. Up to 1,750 CY of fill material will be placed within 1.5670 acres below the existing ordinary high water (OHW) mark of the river for channel narrowing and sinuosity. In Cell C, the river channel will not be changed except for the placement of large wood for habitat creation.

Up to 8.2 acres of the bog surface will receive treatment to create small scale topographic complexity, including filling ditches and turning over the surface of the bog and roughening it into pits and mounds.

Upstream of Cell A, a berm and concrete will be removed, and up to 3.5 CY of riffle aggregate fill will be placed within 65 square feet (0.0015-acre) below the OHW mark. Downstream of Cell B, a berm and culvert will be removed, and up to 3.5 CY of riffle aggregate fill will be placed within 64 square feet (0.0015-acre) below the OHW mark. Downstream of Cell D, a culvert will be removed, and up to 5.3 CY of riffle aggregate fill will be placed within 112 square feet (0.0026-acre) below the OHW mark.

Additionally, sand removal will occur where deeper peat exists to create shallow ponds which are intended to restore wetter soil conditions and aquatic vegetation, and

provide habitat for turtles, ducks, and other species. Up to 955 CY of material will be graded in up to 0.5627-acre of wetlands to create these ponds within Cells B, C, D, and E.

This project is located at Latitude 41.61037° N., Longitude 70.57239° W., 170 Hatchville Road, Falmouth, Massachusetts. The work will be conducted in accordance with the enclosed plans, sheets 1 – 18, dated November 2023.

Based on the information that you have provided, we verify that the activity is authorized under General Permit # 10, Aquatic Habitat Restoration, Enhancement, and Establishment Activities of the June 2, 2023, federal permit known as the Massachusetts General Permits (GPs). The GPs are available at <https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Massachusetts-General-Permit>.

Please review the enclosed GP carefully, in particular the general conditions, and ensure that you and all personnel performing work authorized by the GP are fully aware of and comply with its terms and conditions. A copy of the GP and this verification letter shall be available at the work site as required by General Condition 17. You must complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work. You must comply with the following special conditions:

1. Only native species of vegetation will be planted, and invasive species will be controlled within the restoration site.
2. No in-water silt generating work will occur from March 15 – June 30, and from September 1 – November 15, of any given year to protect migrating diadromous species.

This authorization expires on June 1, 2028. You must commence or have under contract to commence the work authorized herein by June 1, 2028, and complete the work by June 1, 2029. If not, you must contact this office to determine the need for further authorization and we recommend you contact us *before* the work authorized herein expires. Please contact us immediately if you change the plans or construction methods for work within our jurisdiction as we must approve any changes before you undertake them. Performing work within our jurisdiction that is not specifically authorized by this determination or failing to comply with the special condition(s) provided above or all the terms and conditions of the GP may subject you to the enforcement provisions of our regulations.

This authorization does not obviate the need to obtain other federal, state, or local authorizations required by law. Applicants are responsible for applying for and obtaining any other approvals.

Your project is located within, or may affect resources within, the coastal zone. The Massachusetts Office of Coastal Zone Management (CZM) has already determined that no further Federal Consistency Review is required.

We continually strive to improve our customer service. To better serve you, we would appreciate your completing our Customer Service Survey located at <https://regulatory.ops.usace.army.mil/customer-service-survey>.

Please contact Roberta Budnik of my staff at roberta.k.budnik@usace.army.mil or (978) 318-8766 if you have any questions.

Sincerely,

Ruthann Brien

for Paul M. Maniccia
Chief, Massachusetts Branch
Regulatory Division

Enclosures

cc:

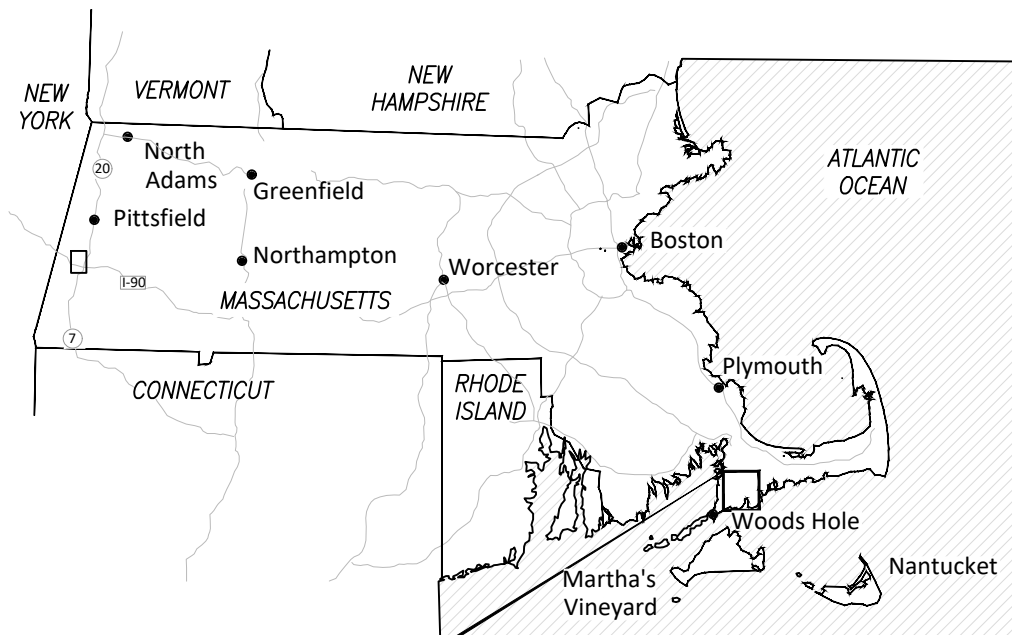
Neal Price, Horsley Witten Group, Inc.
Casey Chatelain, Horsley Witten Group, Inc.
Ed Reiner, EPA
Rachel Croy, EPA
Sabrina Pereira, NMFS
David Robinson, BUAR
Falmouth ConCom

nprice@horsleywitten.com
cchatelain@horsleywitten.com
reiner.ed@epa.gov
croy.rachel@epa.gov
sabrina.pereira@noaa.gov
david.s.robinson@mass.gov
concom@falmouthma.gov

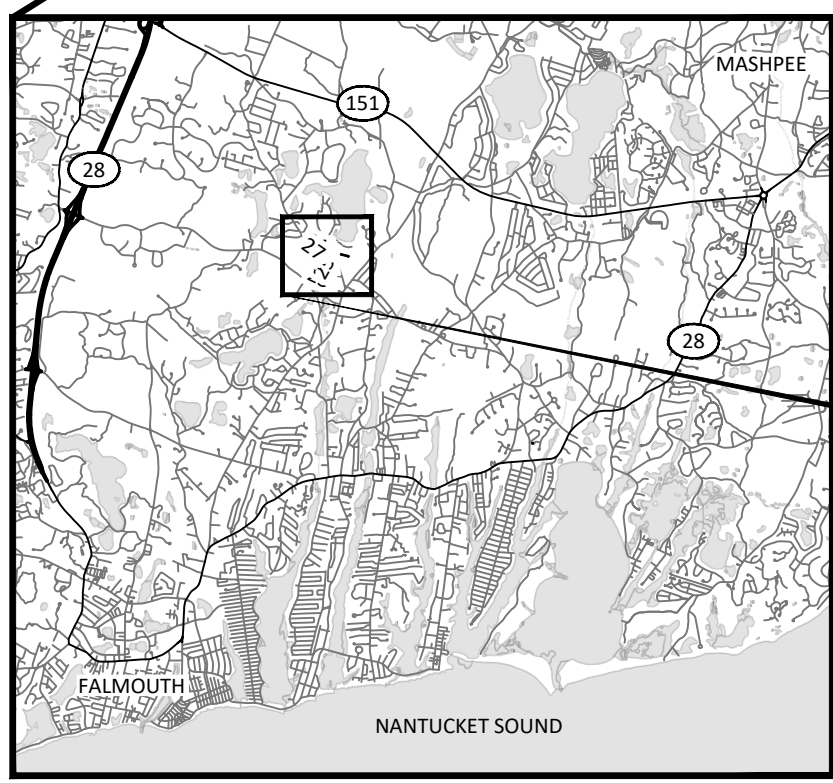
UPPER COONAMESSETT RIVER RESTORATION

ISSUED FOR CONSTRUCTION

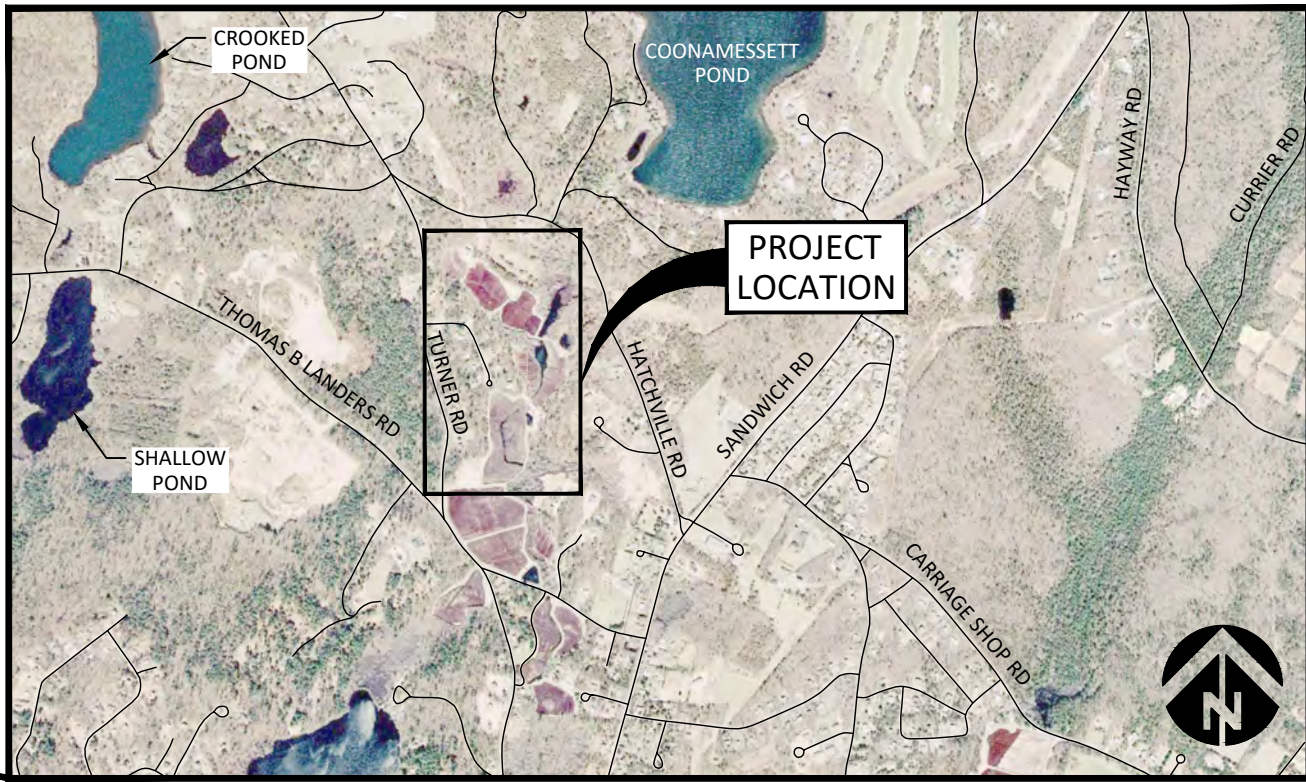
TOWN OF FALMOUTH, MASSACHUSETTS
NOVEMBER 2023



LOCATION MAP
STATE OF MASSACHUSETTS
NOT TO SCALE



VICINITY MAP
NOT TO SCALE



SITE MAP
NOT TO SCALE

PROJECT LOCATION:

LATITUDE: 41°36'36 N
LONGITUDE: 70°34' W
WATERBODY: COONAMESSETT RIVER

SHEET LIST:

- 1 COVER - LOCATION MAP AND SHEET LIST
- 2 EXISTING CONDITIONS PLAN & PROFILE AND SURVEY CONTROL
- 3 SITE PLAN, SHEET INDEX, ACCESS AND STAGING
- 4 GRADING AND TREATMENT PLAN - CELLS A & B
- 5 PROFILE AND SECTIONS - CELLS A & B
- 6 GRADING AND TREATMENT PLAN - CELLS C & D
- 7 PROFILE & SECTIONS - CELLS C, D & BROAD RIVER
- 8 SECTIONS - CELL D
- 9 GRADING AND TREATMENT PLAN - CELL E
- 10 PROFILE AND SECTIONS - CELL E
- 11 TYPICAL DETAILS - LARGE WOOD TREATMENT A
- 12 TYPICAL DETAILS - LARGE WOOD TREATMENT B
- 13 TYPICAL DETAILS - LARGE WOOD TREATMENT C
- 14 TYPICAL DETAILS - MICROTPOGRAPHY, CHANNEL FILL & LW COMPLEX
- 15 PLANTING ZONES
- 16 PERMITTING INFORMATION RESOURCE AREAS - EXISTING CONDITIONS
- 17 PERMITTING INFORMATION RESOURCE AREAS - PROPOSED CONDITIONS

ISSUED FOR CONSTRUCTION



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NO.	BY	DATE	REVISION DESCRIPTION
2	KD	11/30/23	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

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COVER - LOCATION MAP AND SHEET LIST

SHEET
1 OF 18

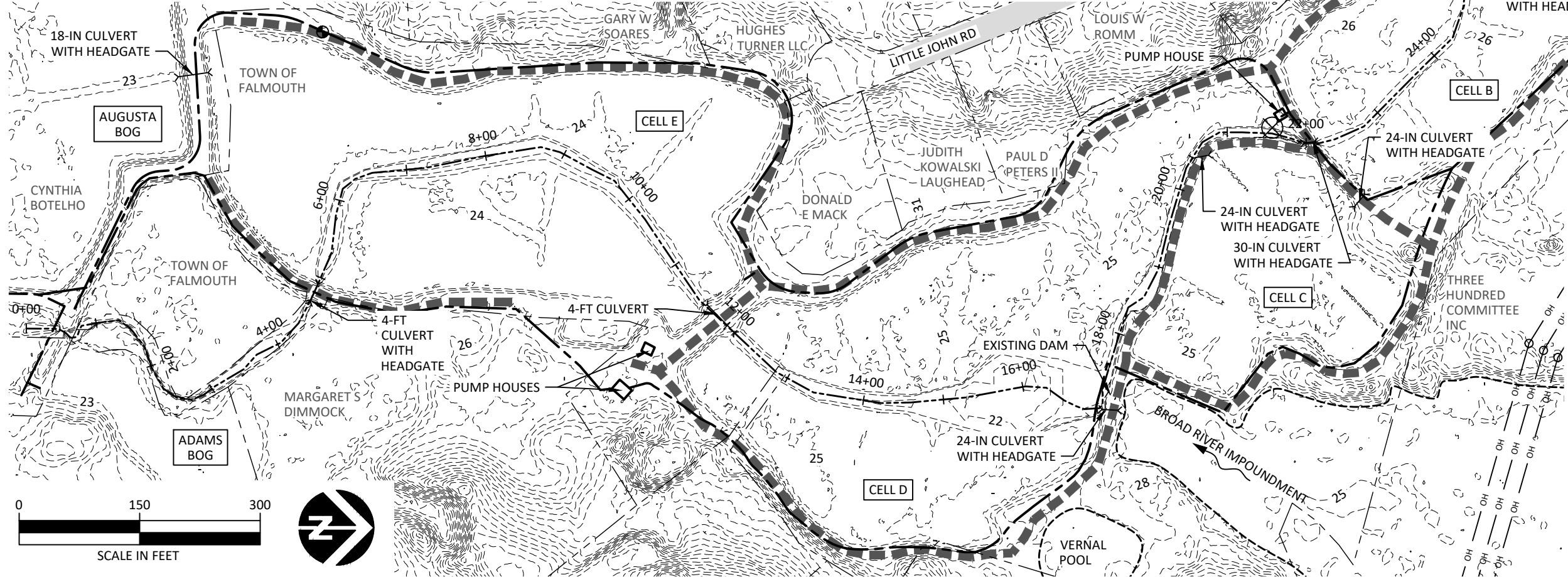
LEGEND

- 25 --- EXISTING CONTOURS (1 FT)
- TAXLOTS
- 10+00 EXISTING ALIGNMENT AND STATIONING - COONAMESSETT RIVER
- █ EXISTING TRAIL
- EXISTING PIPELINE
- AQUATIC FEATURE (APPROX EXTENT)
- OH OH OVERHEAD TRANSMISSION LINES AND TOWERS

- EXISTING MONITORING WELL
- ⊗ EXISTING BUBBLER
- ⊙ EXISTING EXTRACTION WELL
- △ SURVEY CONTROL POINT

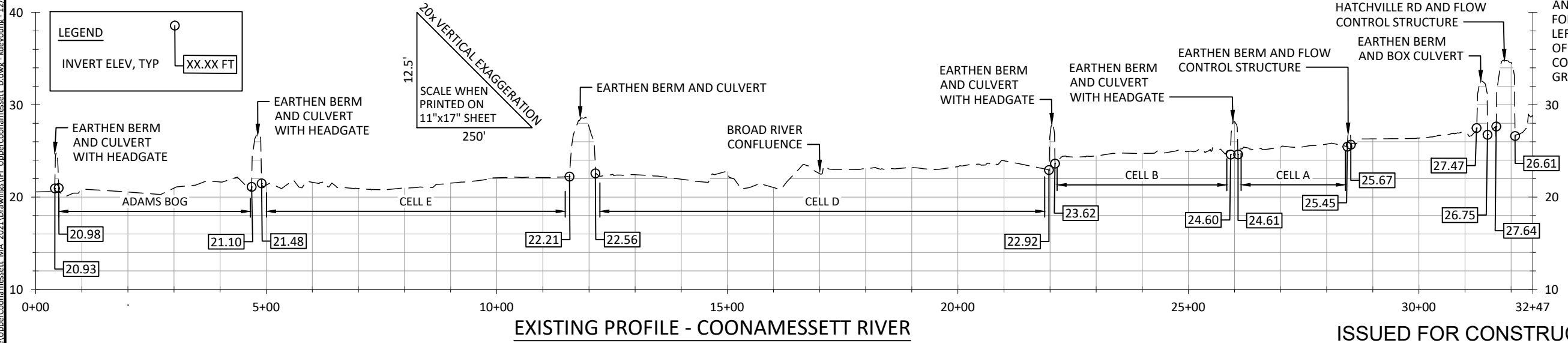
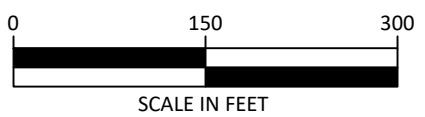
SURVEY CONTROL POINTS

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	2684840.63	909441.14	30.63	REBAR
103	2685192.66	909449.67	39.06	NAIL
104	2685174.45	909549.62	33.85	NAIL
200	2683279.00	909521.25	28.83	REBAR
201	2683122.26	909714.02	27.29	REBAR
202	2684623.37	909753.15	30.05	REBAR



NOTES:

- BATHYMETRIC DATA OF COONAMESSETT RIVER BASED UPON SURVEY COLLECTED BY INTER-FLUVE ON JUNE 4, 2020; MARCH 29, 2021; APRIL 12, 2021 & FEBRUARY 23, 2022.
- TOPOGRAPHIC DATA OF BOGS AND SURROUNDING AREA ARE FROM 2011 U.S. GEOLOGICAL SURVEY TOPOGRAPHIC LIDAR, LIDAR FOR THE NORTH EAST DATA SET, FLOWN IN WINTER AND SPRING 2011, RETRIEVED FROM MASSGIS.
- INFRASTRUCTURE LOCATION DATA IS APPROXIMATE. EXISTING PIPELINE, MONITORING WELLS, BUBBLERS, EXTRACTION WELLS AND PUMP HOUSES PROVIDED BY US AIR FORCE. OVERHEAD TRANSMISSION LINE AND TOWER LOCATIONS APPROXIMATED FROM AERIAL IMAGERY. THIS INFRASTRUCTURE SHALL REMAIN AND BE PROTECTED IN PLACE UNLESS STATED OTHERWISE.
- PARCEL DATA FROM MASSGIS.
- HORIZONTAL COORDINATES ARE REFERENCED TO NAD83, MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FEET.
- VERTICAL DATUM IS NAVD88, US FEET.
- CELL BOUNDARIES ARE DEFINED BY EXISTING TRAILS.
- US AIR FORCE WILL REMOVE ABANDONED PIPELINES EXPOSED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER TWO DAYS PRIOR TO ANTICIPATED PIPE EXPOSURE TO ALLOW THE US AIR FORCE TO CUT THE PIPE, CAP THE REMAINING PIPE LEFT IN PLACE, AND REMOVE THE PIPE TO AN OFFSITE DISPOSAL LOCATION ONCE THE CONTRACTOR HAS EXTRACTED THE PIPE FROM THE GROUND.



EXISTING PROFILE - COONAMESSETT RIVER

ISSUED FOR CONSTRUCTION



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NO.	BY	DATE	REVISION DESCRIPTION
2	KD	11/30/23	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

APPROVED	DATE	PROJECT
NS	10/02/2023	210507
KK, SS		
NN		

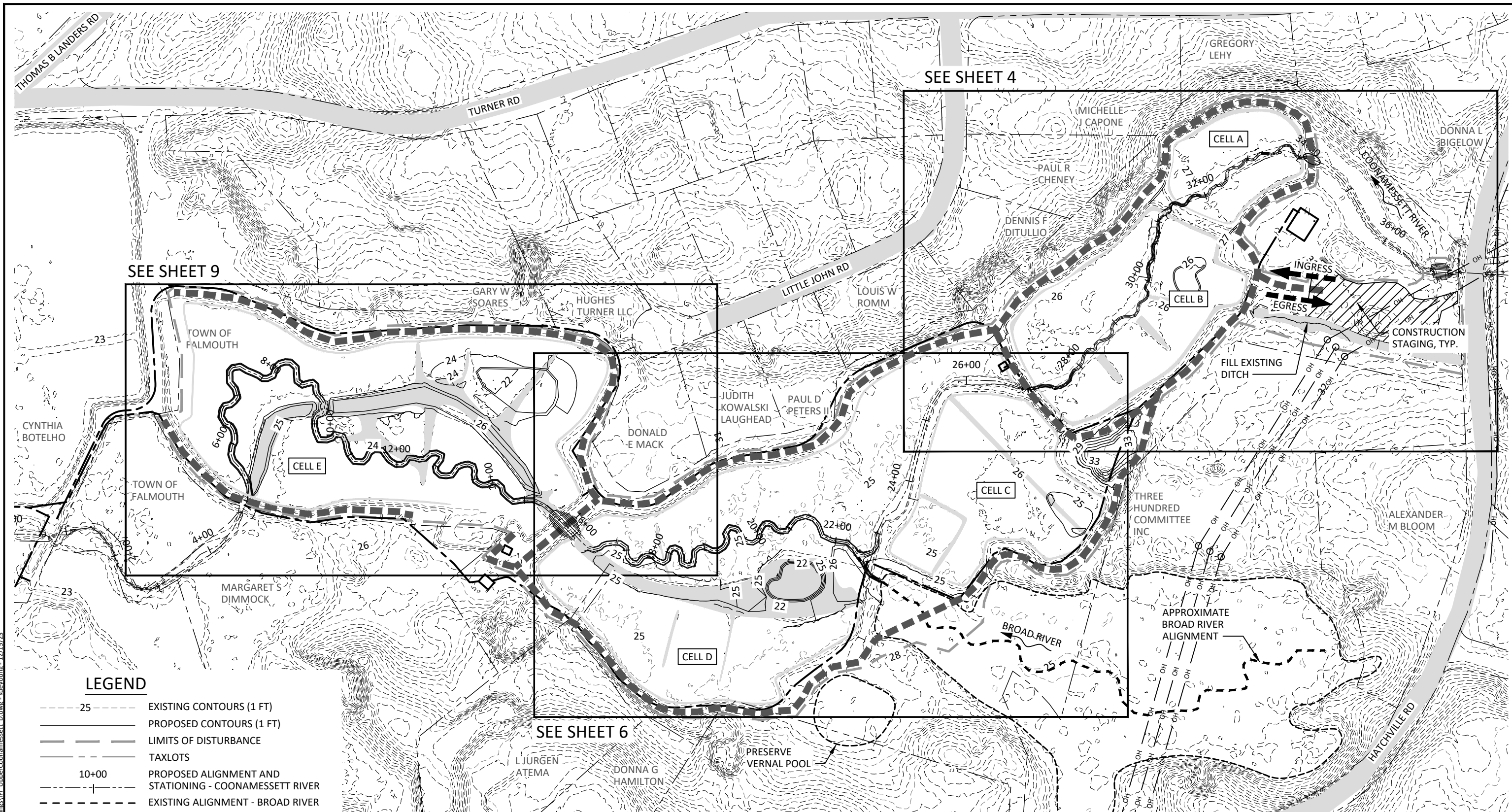
UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN TOWN OF FALMOUTH, MASSACHUSETTS



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EXISTING CONDITIONS PLAN & PROFILE AND SURVEY CONTROL

SHEET
2 OF 18



SEE SHEET 9

SEE SHEET 4

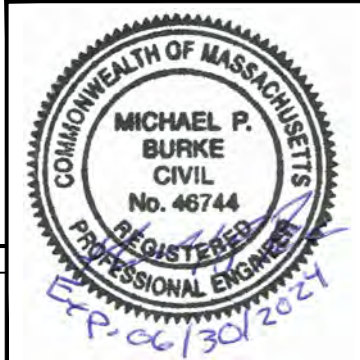
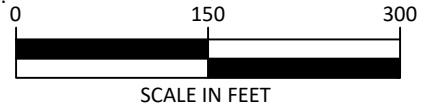
SEE SHEET 6

LEGEND

- 25 EXISTING CONTOURS (1 FT)
- PROPOSED CONTOURS (1 FT)
- LIMITS OF DISTURBANCE
- TAXLOTS
- 10+00 PROPOSED ALIGNMENT AND STATIONING - COONAMESSETT RIVER
- EXISTING ALIGNMENT - BROAD RIVER
- EXISTING PIPELINE
- TEMPORARY CONSTRUCTION ACCESS AND PERMANENT PEDESTRIAN TRAIL
- STAGING AREA
- AQUATIC FEATURE (APPROX EXTENT)
- OVERHEAD TRANSMISSION LINES AND TOWERS
- AREA OF FILL

NOTES:

1. SEE SHEETS 12 - 14 FOR LARGE WOOD TREATMENT DETAILS.
2. SEE DETAIL 1, SHEET 15 FOR MICROTOPOGRAPHY DETAILS.
3. EXISTING PIPELINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.



ISSUED FOR CONSTRUCTION

NO.	BY	DATE	REVISION DESCRIPTION
2	KD	11/30/23	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

APPROVED	DATE	PROJECT
NS DRAWN	KK, SS DESIGNED	NN CHECKED
	10/02/2023	210507

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS



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SITE PLAN, SHEET INDEX, ACCESS AND STAGING

SHEET
3 OF 18

N:\ProjectFiles_Active\UpperCoonamessett_MA_2021\Drawings\UpperCoonamessett_D.dwg - kdevoung - 12/15/23

NOTES:

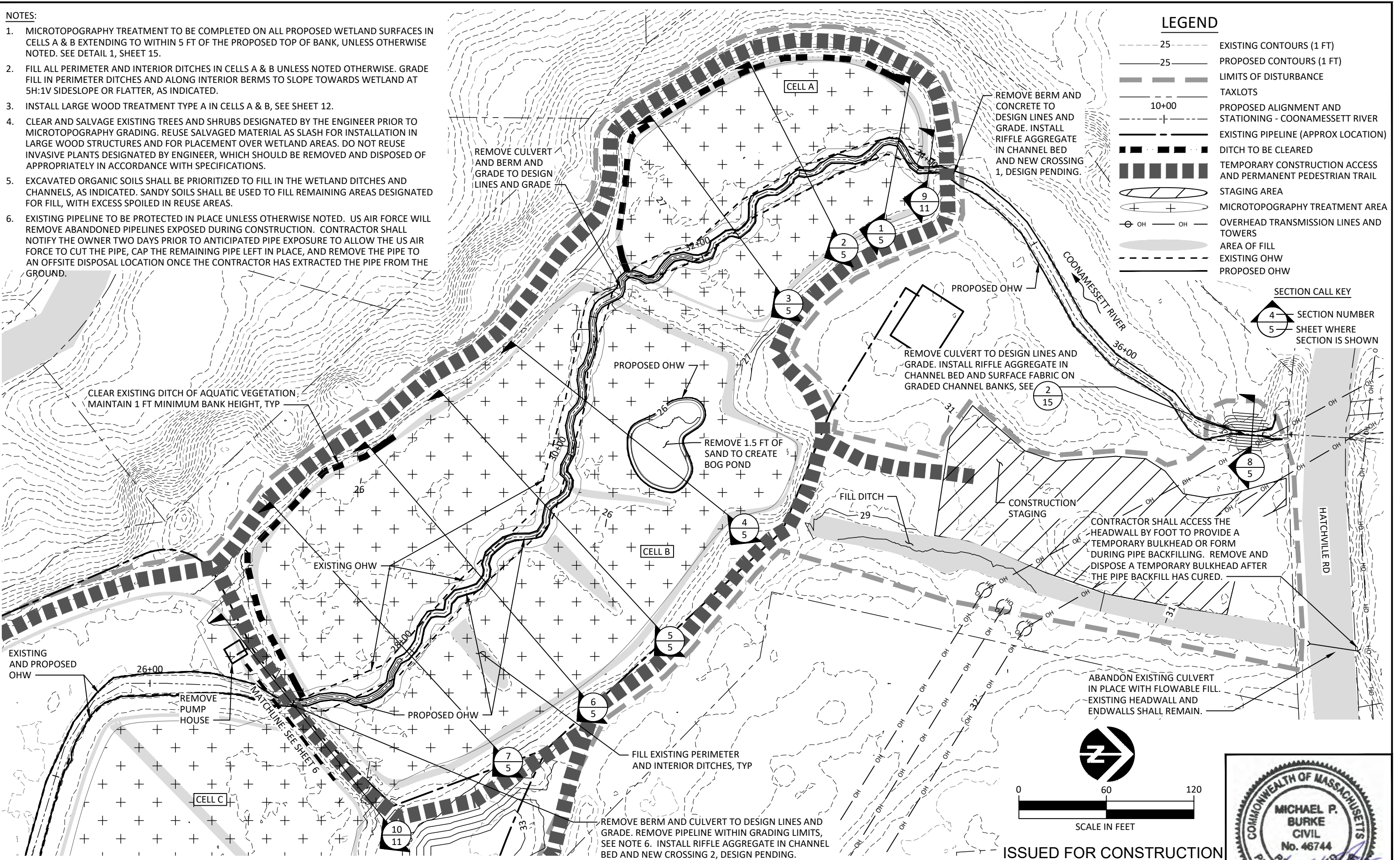
1. MICROTOPOGRAPHY TREATMENT TO BE COMPLETED ON ALL PROPOSED WETLAND SURFACES IN CELLS A & B EXTENDING TO WITHIN 5 FT OF THE PROPOSED TOP OF BANK, UNLESS OTHERWISE NOTED. SEE DETAIL 1, SHEET 15.
2. FILL ALL PERIMETER AND INTERIOR DITCHES IN CELLS A & B UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDESLOPE OR FLATTER, AS INDICATED.
3. INSTALL LARGE WOOD TREATMENT TYPE A IN CELLS A & B, SEE SHEET 12.
4. CLEAR AND SALVAGE EXISTING TREES AND SHRUBS DESIGNATED BY THE ENGINEER PRIOR TO MICROTOPOGRAPHY GRADING. REUSE SALVAGED MATERIAL AS SLASH FOR INSTALLATION IN LARGE WOOD STRUCTURES AND FOR PLACEMENT OVER WETLAND AREAS. DO NOT REUSE INVASIVE PLANTS DESIGNATED BY ENGINEER, WHICH SHOULD BE REMOVED AND DISPOSED OF APPROPRIATELY IN ACCORDANCE WITH SPECIFICATIONS.
5. EXCAVATED ORGANIC SOILS SHALL BE PRIORITIZED TO FILL IN THE WETLAND DITCHES AND CHANNELS, AS INDICATED. SANDY SOILS SHALL BE USED TO FILL REMAINING AREAS DESIGNATED FOR FILL, WITH EXCESS SPOILED IN REUSE AREAS.
6. EXISTING PIPELINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. US AIR FORCE WILL REMOVE ABANDONED PIPELINES EXPOSED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER TWO DAYS PRIOR TO ANTICIPATED PIPE EXPOSURE TO ALLOW THE US AIR FORCE TO CUT THE PIPE, CAP THE REMAINING PIPE LEFT IN PLACE, AND REMOVE THE PIPE TO AN OFFSITE DISPOSAL LOCATION ONCE THE CONTRACTOR HAS EXTRACTED THE PIPE FROM THE GROUND.

LEGEND

- 25 --- EXISTING CONTOURS (1 FT)
- 25 — PROPOSED CONTOURS (1 FT)
- --- LIMITS OF DISTURBANCE
- --- TAXLOTS
- 10+00 PROPOSED ALIGNMENT AND STATIONING - COONAMESSETT RIVER
- +--- EXISTING PIPELINE (APPROX LOCATION)
- +--- DITCH TO BE CLEARED
- +--- TEMPORARY CONSTRUCTION ACCESS AND PERMANENT PEDESTRIAN TRAIL
- +--- STAGING AREA
- +--- MICROTOPOGRAPHY TREATMENT AREA
- OH OH OVERHEAD TRANSMISSION LINES AND TOWERS
- +--- AREA OF FILL
- +--- EXISTING OHW
- +--- PROPOSED OHW

SECTION CALL KEY

- 4 SECTION NUMBER
- 5 SHEET WHERE SECTION IS SHOWN



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NO.	BY	DATE	REVISION DESCRIPTION
2	KD	11/30/23	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT


UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS



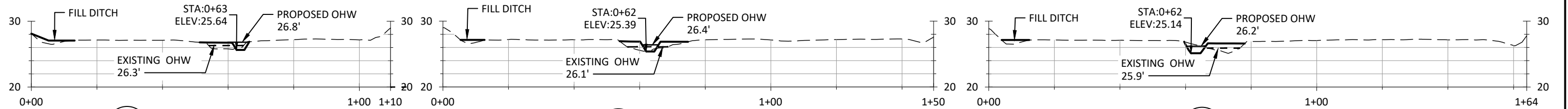
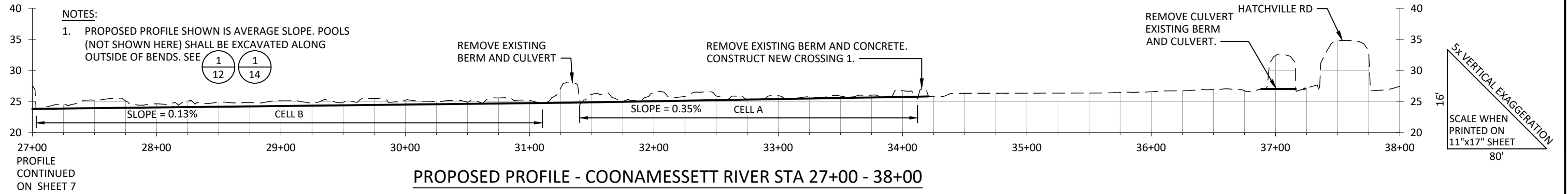
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GRADING AND TREATMENT PLAN - CELLS A & B

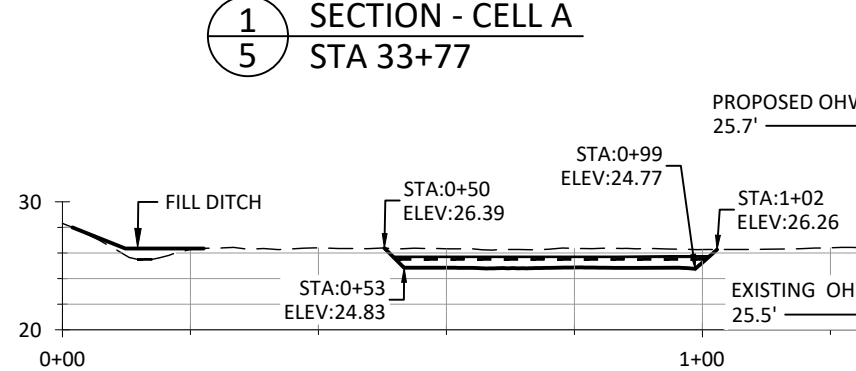
SHEET
4 OF 18



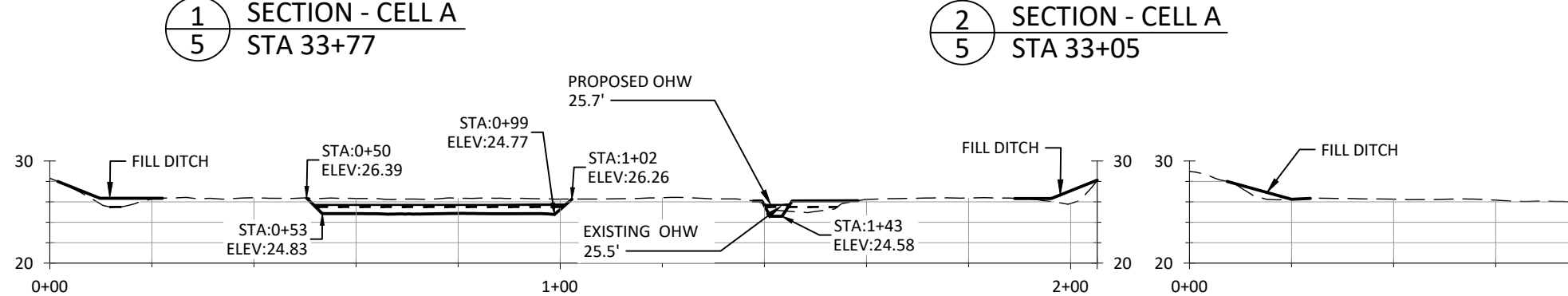
ISSUED FOR CONSTRUCTION



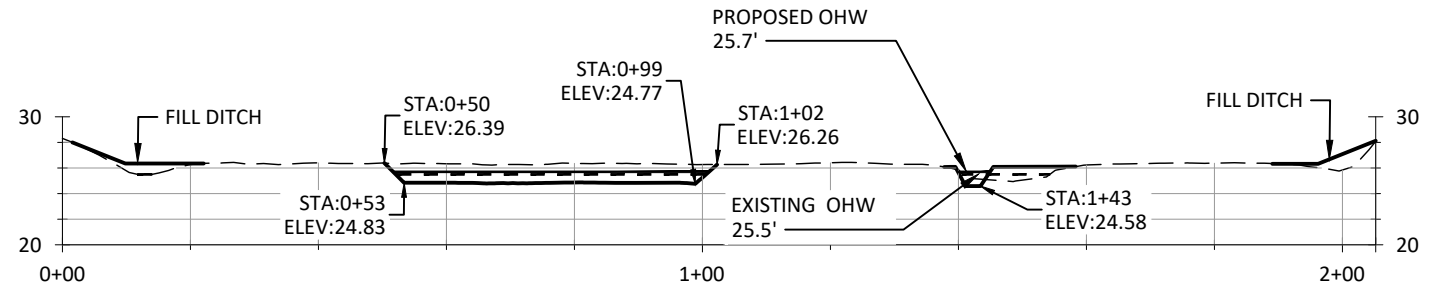
1 SECTION - CELL A
5 STA 33+05



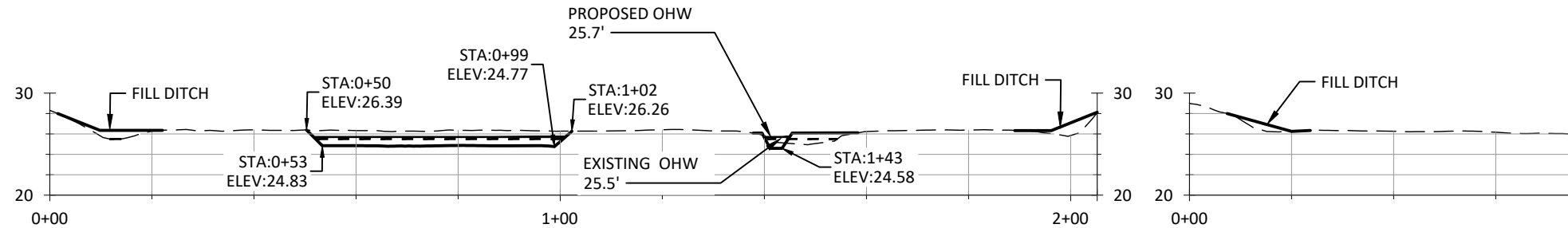
2 SECTION - CELL A
5 STA 32+31



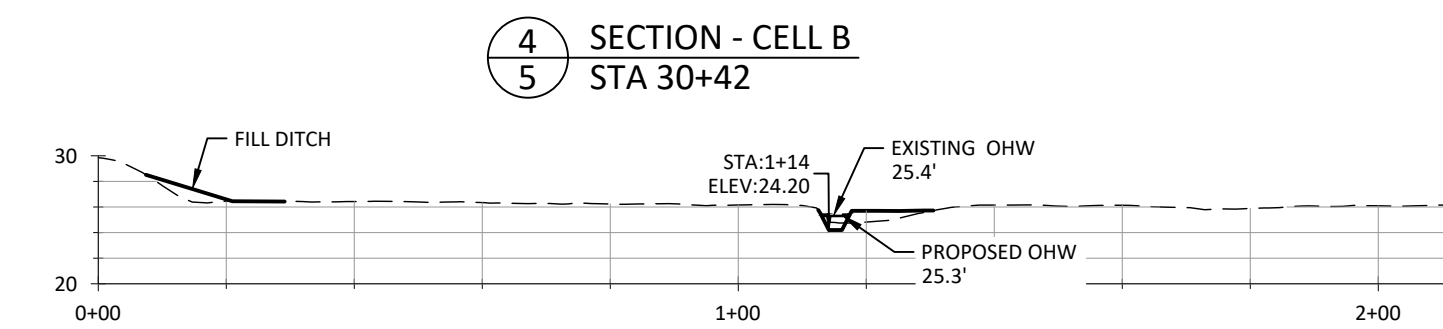
3 SECTION - CELL A
5 STA 30+42



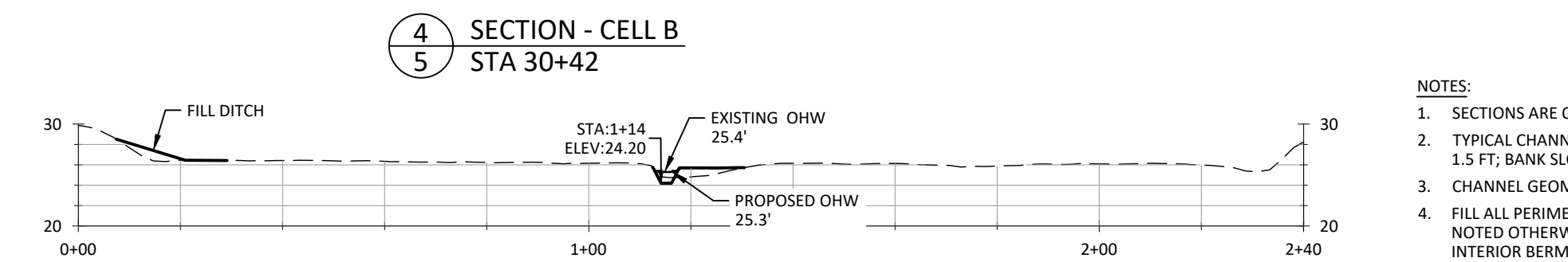
4 SECTION - CELL B
5 STA 29+54



5 SECTION - CELL B
5 STA 28+77

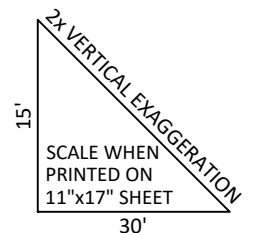


6 SECTION - CELL B
5 STA 27+97



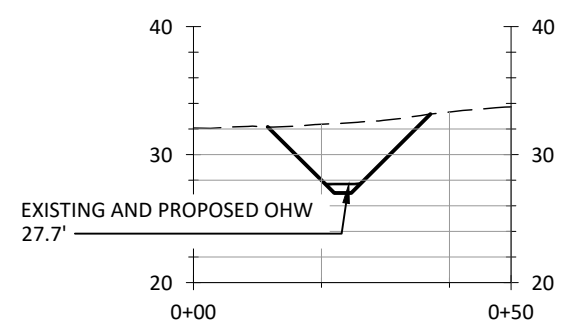
7 SECTION - CULVERT REMOVAL
5 STA 37+09

- NOTES:
- SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.
 - TYPICAL CHANNEL DIMENSIONS: BOTTOM WIDTH = 2 FT; BANK HEIGHT = 1.5 FT; BANK SLOPE = 1H:1V
 - CHANNEL GEOMETRY IS CREATED BY LARGE WOOD INSTALLATION. SEE 1/12
 - FILL ALL PERIMETER AND INTERIOR DITCHES IN CELLS A & B UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDE SLOPE OR FLATTER, AS INDICATED.



LEGEND

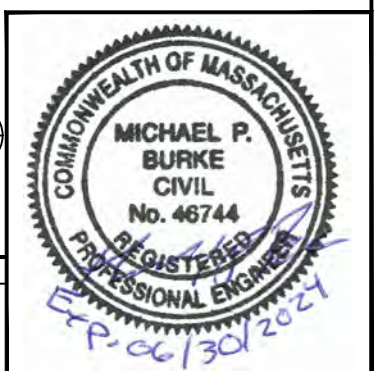
- EXISTING GROUND
- PROPOSED GROUND
- - - EXISTING OHW
- PROPOSED OHW



8 SECTION - CULVERT REMOVAL
5 STA 37+09

- NOTES:
- MATCH CHANNEL WIDTH TO CHANNEL WIDTH UPSTREAM AND DOWNSTREAM.
 - MATCH BANK SLOPE TO THAT UPSTREAM AND DOWNSTREAM.
 - INSTALL SURFACE FABRIC ON GRADED CHANNEL BANKS SEE 2/15

ISSUED FOR CONSTRUCTION



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NO.	BY	DATE	REVISION DESCRIPTION
2	KD	11/30/23	ISSUED FOR CONSTRUCTION
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APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

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PROFILE AND SECTIONS - CELLS A & B

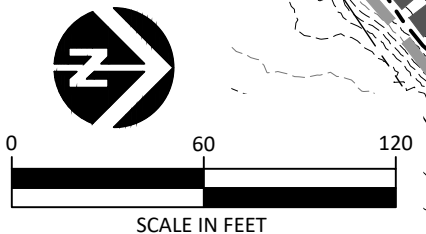
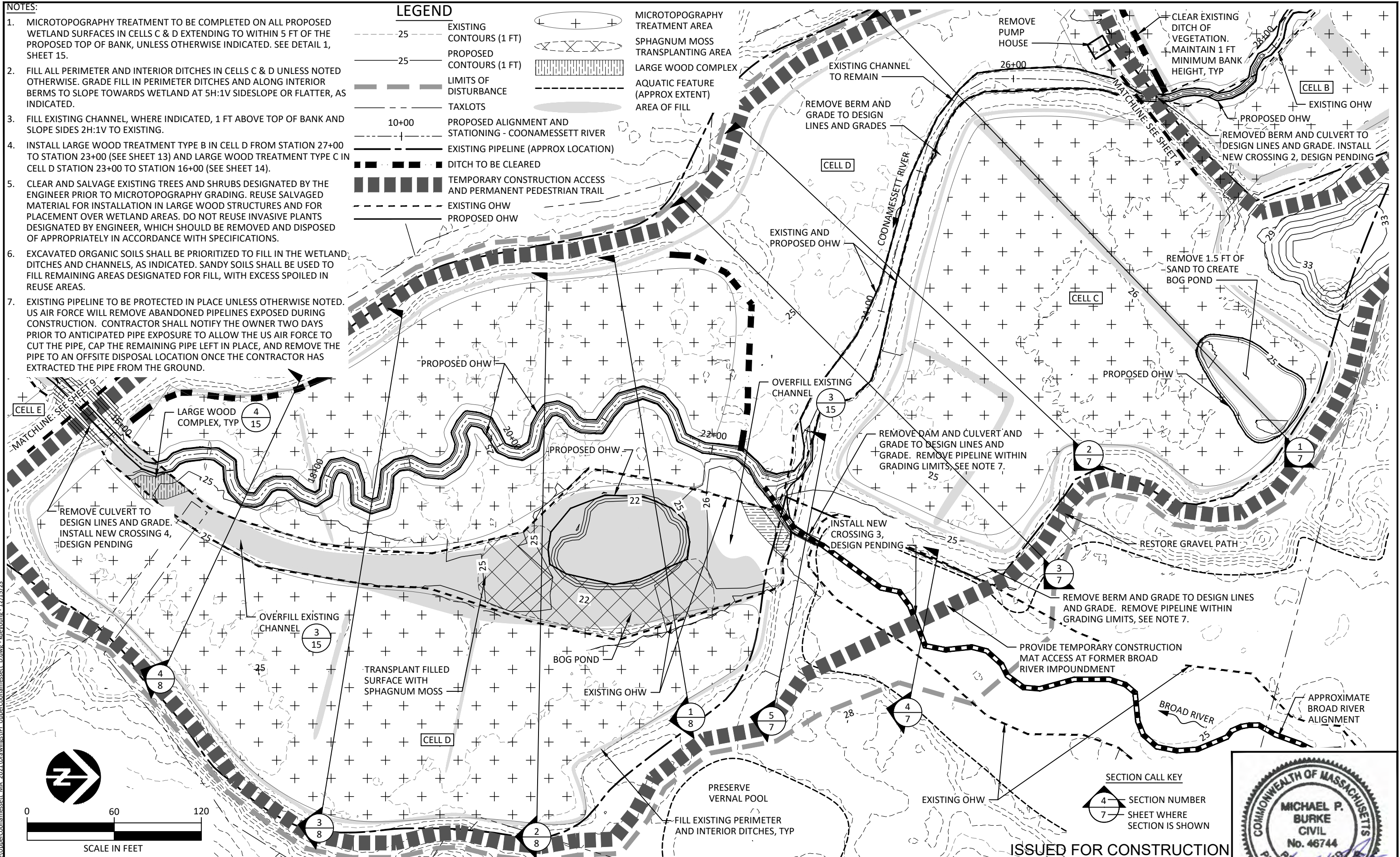
SHEET
5 OF 18

NOTES:

- MICROTOPOGRAPHY TREATMENT TO BE COMPLETED ON ALL PROPOSED WETLAND SURFACES IN CELLS C & D EXTENDING TO WITHIN 5 FT OF THE PROPOSED TOP OF BANK, UNLESS OTHERWISE INDICATED. SEE DETAIL 1, SHEET 15.
- FILL ALL PERIMETER AND INTERIOR DITCHES IN CELLS C & D UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDESLOPE OR FLATTER, AS INDICATED.
- FILL EXISTING CHANNEL, WHERE INDICATED, 1 FT ABOVE TOP OF BANK AND SLOPE SIDES 2H:1V TO EXISTING.
- INSTALL LARGE WOOD TREATMENT TYPE B IN CELL D FROM STATION 27+00 TO STATION 23+00 (SEE SHEET 13) AND LARGE WOOD TREATMENT TYPE C IN CELL D STATION 23+00 TO STATION 16+00 (SEE SHEET 14).
- CLEAR AND SALVAGE EXISTING TREES AND SHRUBS DESIGNATED BY THE ENGINEER PRIOR TO MICROTOPOGRAPHY GRADING. REUSE SALVAGED MATERIAL FOR INSTALLATION IN LARGE WOOD STRUCTURES AND FOR PLACEMENT OVER WETLAND AREAS. DO NOT REUSE INVASIVE PLANTS DESIGNATED BY ENGINEER, WHICH SHOULD BE REMOVED AND DISPOSED OF APPROPRIATELY IN ACCORDANCE WITH SPECIFICATIONS.
- EXCAVATED ORGANIC SOILS SHALL BE PRIORITIZED TO FILL IN THE WETLAND DITCHES AND CHANNELS, AS INDICATED. SANDY SOILS SHALL BE USED TO FILL REMAINING AREAS DESIGNATED FOR FILL, WITH EXCESS SPOILED IN REUSE AREAS.
- EXISTING PIPELINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. US AIR FORCE WILL REMOVE ABANDONED PIPELINES EXPOSED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER TWO DAYS PRIOR TO ANTICIPATED PIPE EXPOSURE TO ALLOW THE US AIR FORCE TO CUT THE PIPE, CAP THE REMAINING PIPE LEFT IN PLACE, AND REMOVE THE PIPE TO AN OFFSITE DISPOSAL LOCATION ONCE THE CONTRACTOR HAS EXTRACTED THE PIPE FROM THE GROUND.

LEGEND

- - - 25	EXISTING CONTOURS (1 FT)		MICROTOPOGRAPHY TREATMENT AREA
- - - 25	PROPOSED CONTOURS (1 FT)		SPHAGNUM MOSS TRANSPLANTING AREA
- - -	LIMITS OF DISTURBANCE		LARGE WOOD COMPLEX
- - -	TAXLOTS		AQUATIC FEATURE (APPROX EXTENT)
- - -	PROPOSED ALIGNMENT AND STATIONING - COONAMESSETT RIVER		AREA OF FILL
- - -	EXISTING PIPELINE (APPROX LOCATION)		
- - -	DITCH TO BE CLEARED		
- - -	TEMPORARY CONSTRUCTION ACCESS AND PERMANENT PEDESTRIAN TRAIL		
- - -	EXISTING OHW		
- - -	PROPOSED OHW		



SECTION CALL KEY

	SECTION NUMBER
	SHEET WHERE SECTION IS SHOWN

ISSUED FOR CONSTRUCTION

COMMONWEALTH OF MASSACHUSETTS
MICHAEL P. BURKE
 CIVIL
 No. 46744
 REGISTERED
 PROFESSIONAL ENGINEER
 EXP. 06/30/2024

NO.	BY	DATE	REVISION DESCRIPTION
2	KD	11/30/23	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
 TOWN OF FALMOUTH, MASSACHUSETTS

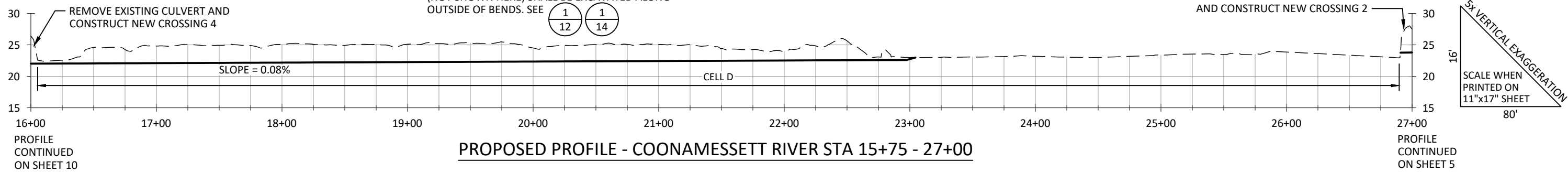
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GRADING AND TREATMENT PLAN - CELLS C & D

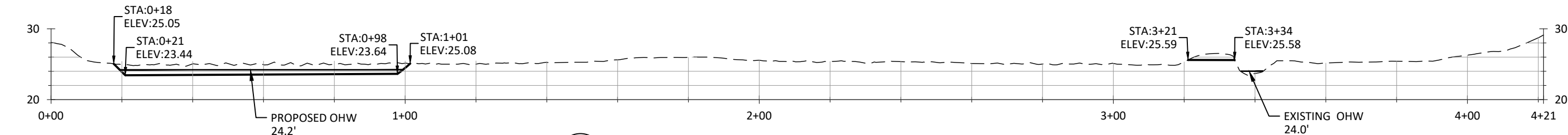
SHEET
6 OF 18

NOTES:

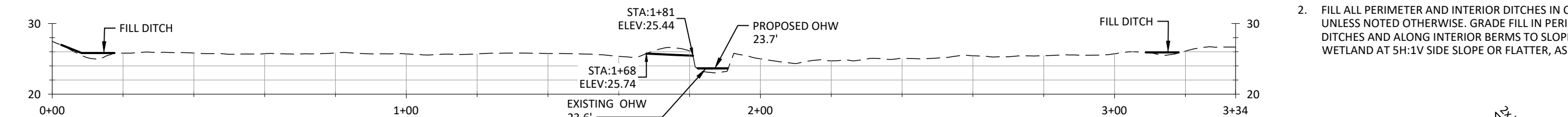
- PROPOSED PROFILE SHOWN IS AVERAGE SLOPE. POOLS (NOT SHOWN HERE) SHALL BE EXCAVATED ALONG OUTSIDE OF BENDS. SEE 1/12 1/14



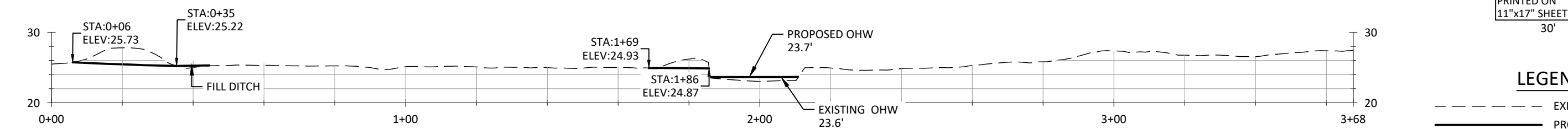
PROPOSED PROFILE - COONAMESSETT RIVER STA 15+75 - 27+00



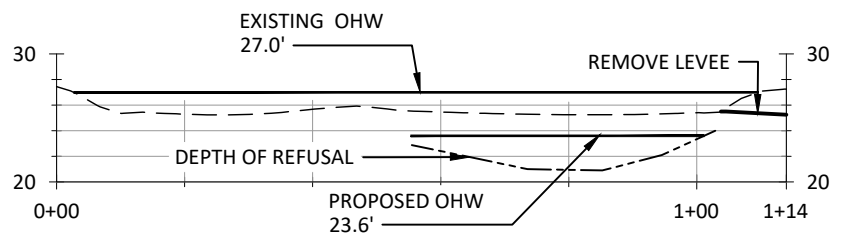
1 SECTION - CELL C & D
7 STA 25+59



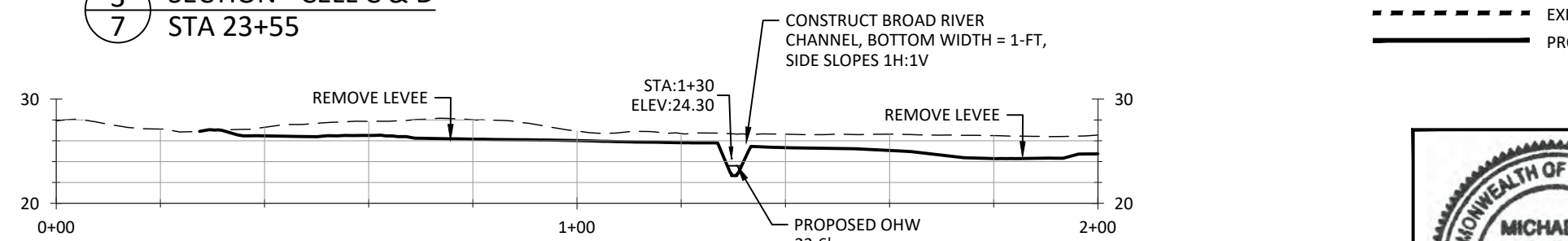
2 SECTION - CELL C & D
7 STA 24+29



3 SECTION - CELL C & D
7 STA 23+55

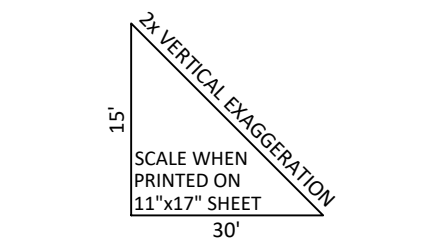


4 SECTION - BROAD RIVER
7



5 SECTION - BROAD RIVER
7

- NOTES:
- SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.
 - FILL ALL PERIMETER AND INTERIOR DITCHES IN CELLS C & D UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDE SLOPE OR FLATTER, AS INDICATED.



LEGEND

- EXISTING GROUND
- PROPOSED GROUND
- - - DEPTH OF REFUSAL
- - - EXISTING OHW
- PROPOSED OHW



ISSUED FOR CONSTRUCTION

N:\Projects\Files\Active\UpperCoonamessett, MA 2021\Drawings\UpperCoonamessett, D.dwg - kdevoung - 12/15/23

NO.	BY	DATE	REVISION DESCRIPTION
2	KD	11/30/23	ISSUED FOR CONSTRUCTION
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NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

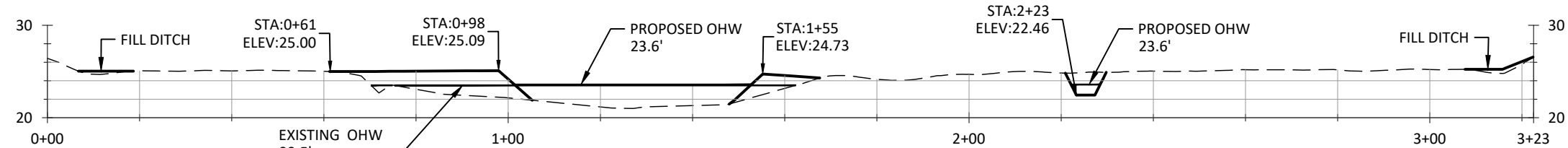
UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

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617.714.5537
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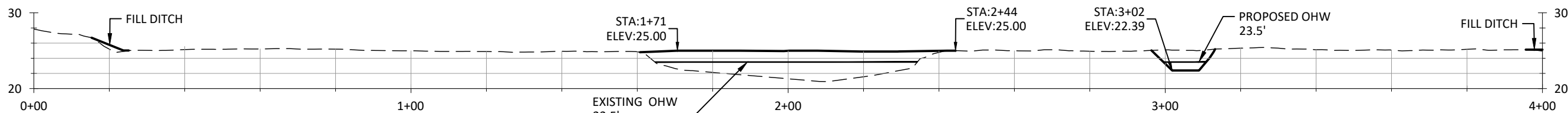
PROFILE & SECTIONS - CELLS C, D & BROAD RIVER

SHEET
7 OF 18

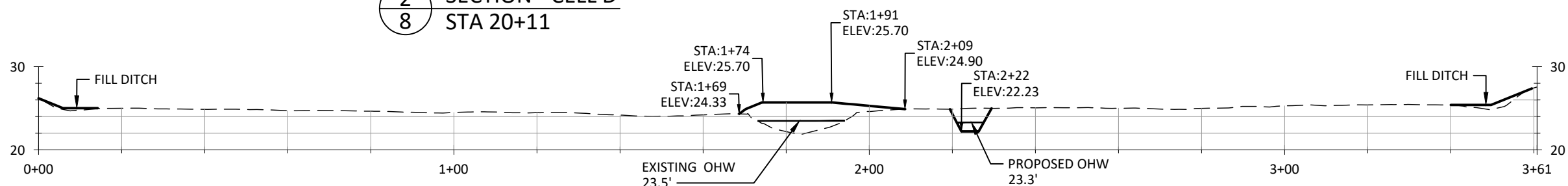
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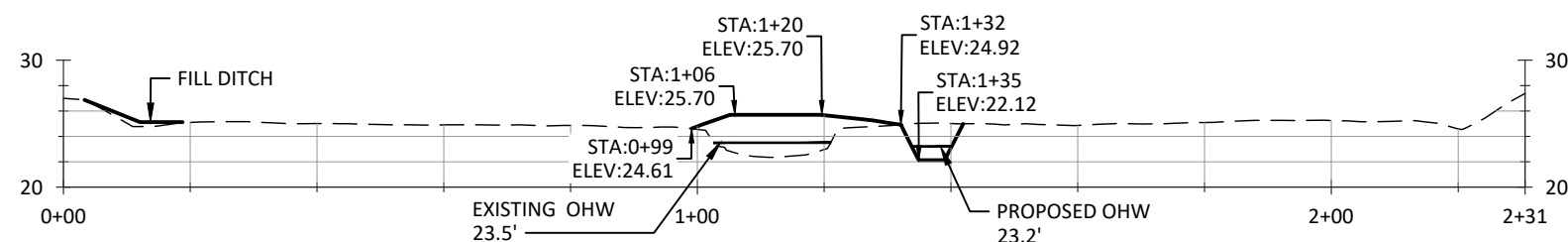
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8 SECTION - CELL D
STA 21+30



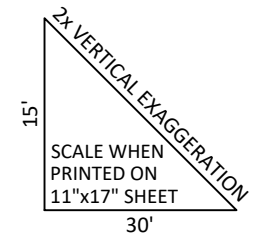
2
8 SECTION - CELL D
STA 20+11



3
8 SECTION - CELL D
STA 18+53



4
8 SECTION - CELL D
STA 17+23



LEGEND

- EXISTING GROUND
- PROPOSED GROUND
- - - EXISTING OHW
- PROPOSED OHW

NOTES:

1. SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.
2. TYPICAL CHANNEL DIMENSIONS: BOTTOM WIDTH = 4 FT; BANK SLOPE = 1H:1V
3. LARGE WOOD TREATMENT TYPE C, SEE **1**/**14**
4. FILL ALL PERIMETER AND INTERIOR DITCHES IN CELL D UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDE SLOPE OR FLATTER, AS INDICATED.

ISSUED FOR CONSTRUCTION



NO.	BY	DATE	REVISION DESCRIPTION
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1	MB	10/04/23	ISSUED FOR PERMITTING

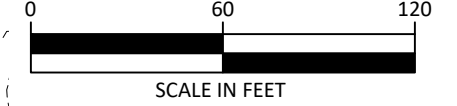
NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER
RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

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SECTIONS - CELL D

SHEET
8 OF 18

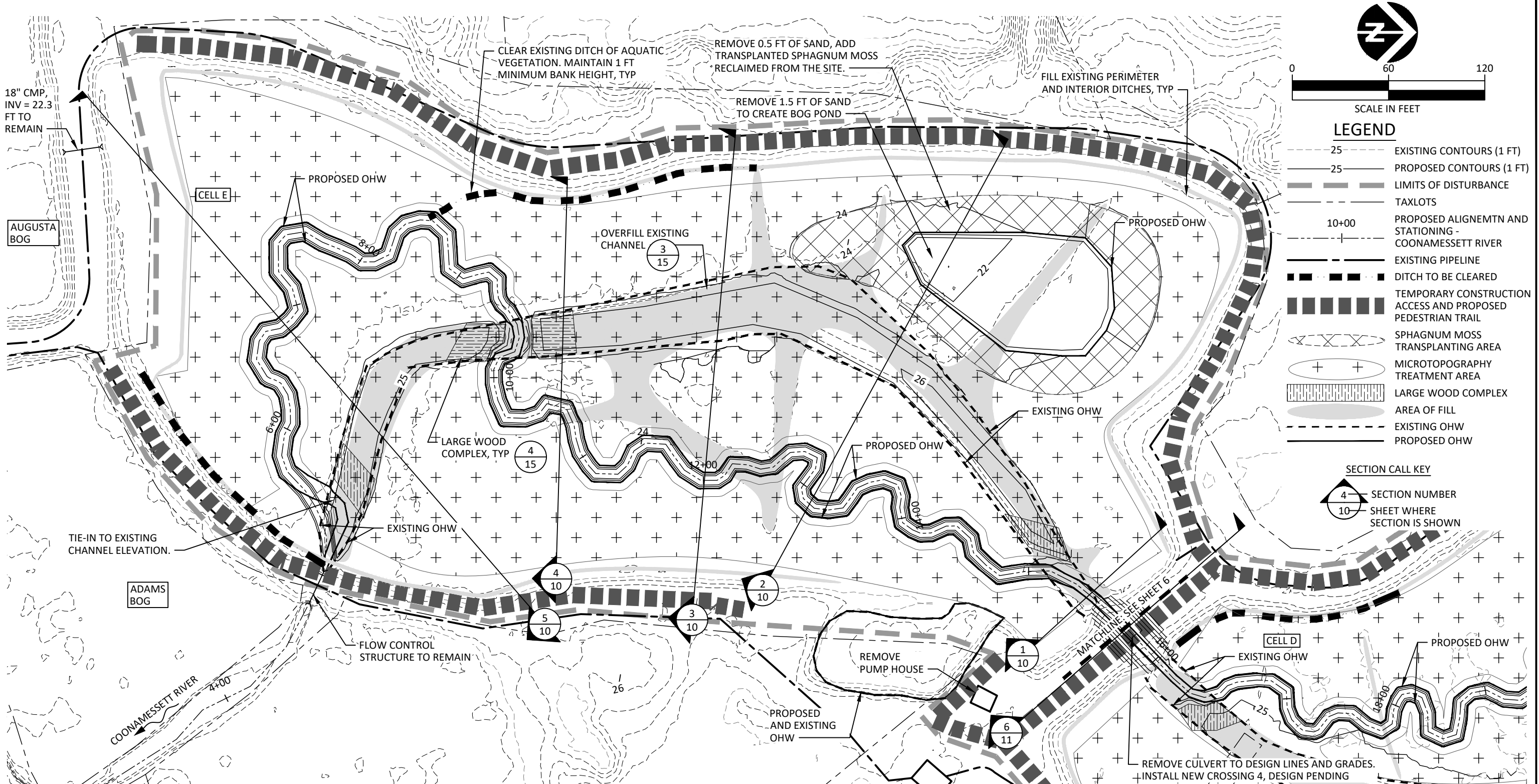


LEGEND

- - - 25 - - - EXISTING CONTOURS (1 FT)
- - - 25 - - - PROPOSED CONTOURS (1 FT)
- - - - - LIMITS OF DISTURBANCE
- - - - - TAXLOTS
- 10+00 - - - - - PROPOSED ALIGNMENT AND STATIONING - COONAMESSETT RIVER
- - - - - EXISTING PIPELINE
- - - - - DITCH TO BE CLEARED
- - - - - TEMPORARY CONSTRUCTION ACCESS AND PROPOSED PEDESTRIAN TRAIL
- - - - - SPHAGNUM MOSS TRANSPLANTING AREA
- - - - - MICROTOPOGRAPHY TREATMENT AREA
- - - - - LARGE WOOD COMPLEX
- - - - - AREA OF FILL
- - - - - EXISTING OHW
- - - - - PROPOSED OHW

SECTION CALL KEY

- 4 - SECTION NUMBER
- 10 - SHEET WHERE SECTION IS SHOWN



NOTES:

1. MICROTOPOGRAPHY TREATMENT TO BE COMPLETED ON ALL PROPOSED WETLAND SURFACES IN CELL E EXTENDING TO WITHIN 5 FT OF THE PROPOSED TOP OF BANK, UNLESS NOTED OTHERWISE. SEE DETAIL 1, SHEET 15.
2. FILL ALL PERIMETER AND INTERIOR DITCHES IN CELL E UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDESLOPE OR FLATTER, AS INDICATED.
3. FILL EXISTING CHANNEL, WHERE INDICATED, 1 FT ABOVE TOP OF BANK AND SLOPE SIDES 2H:1V TO EXISTING.
4. INSTALL LARGE WOOD TREATMENT TYPE C IN CELL E, SEE SHEET 14.
5. CLEAR AND SALVAGE EXISTING TREES AND SHRUBS DESIGNATED BY THE ENGINEER PRIOR TO MICROTOPOGRAPHY GRADING. REUSE SALVAGED MATERIAL FOR INSTALLATION IN LARGE WOOD STRUCTURES AND FOR PLACEMENT OVER WETLAND AREAS. DO NOT REUSE INVASIVE PLANTS DESIGNATED BY ENGINEER, WHICH SHOULD BE REMOVED AND DISPOSED OF APPROPRIATELY IN ACCORDANCE WITH SPECIFICATIONS.
6. EXCAVATED ORGANIC SOILS SHALL BE PRIORITIZED TO FILL IN THE WETLAND DITCHES AND CHANNELS, AS INDICATED. SANDY SOILS SHALL BE USED TO FILL REMAINING AREAS DESIGNATED FOR FILL, WITH EXCESS SPOILED IN REUSE AREAS.
7. EXISTING PIPELINE TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. US AIR FORCE WILL REMOVE ABANDONED PIPELINES EXPOSED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER TWO DAYS PRIOR TO ANTICIPATED PIPE EXPOSURE TO ALLOW THE US AIR FORCE TO CUT THE PIPE, CAP THE REMAINING PIPE LEFT IN PLACE, AND REMOVE THE PIPE TO AN OFFSITE DISPOSAL LOCATION ONCE THE CONTRACTOR HAS EXTRACTED THE PIPE FROM THE GROUND.

ISSUED FOR CONSTRUCTION



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NO.	BY	DATE	REVISION DESCRIPTION
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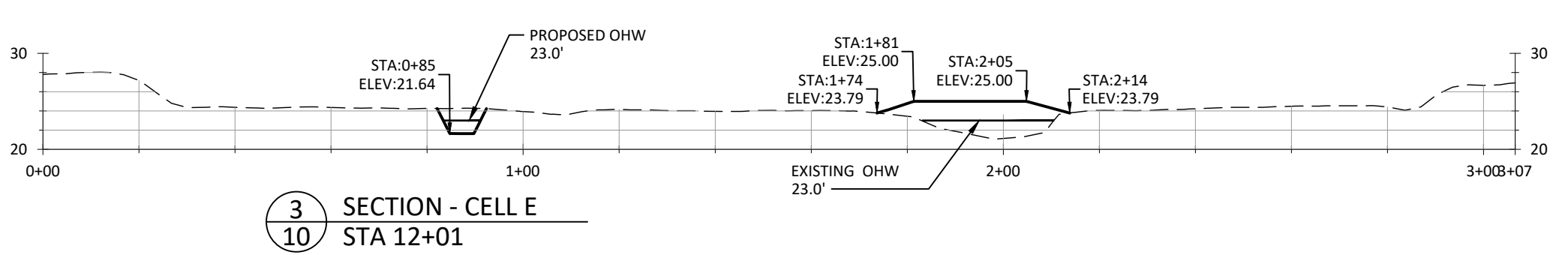
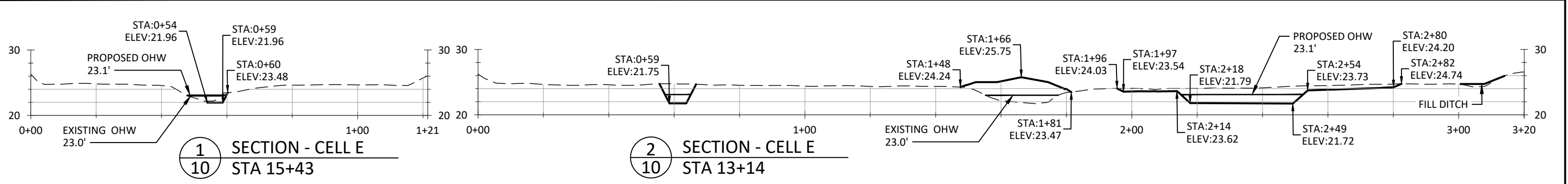
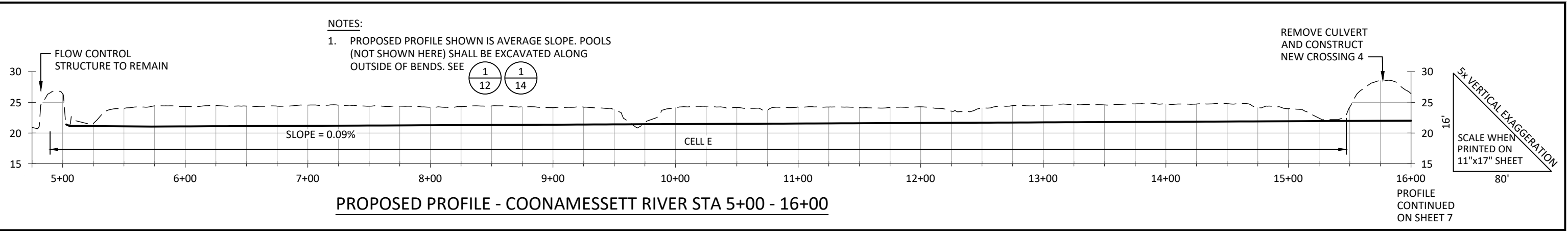
NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

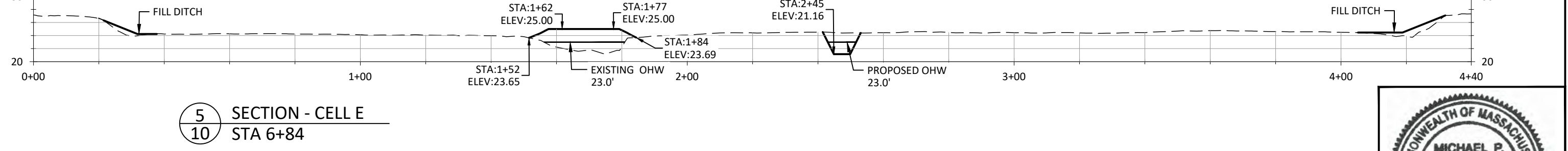
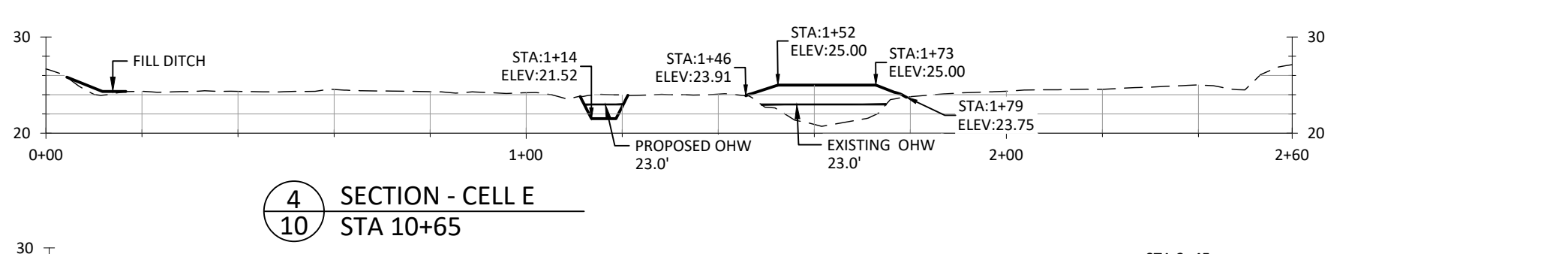
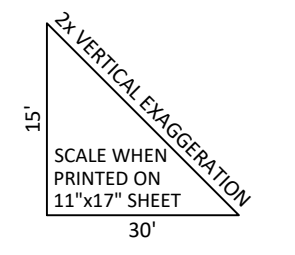
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GRADING AND TREATMENT
PLAN - CELL E

SHEET
9 OF 18



- NOTES:**
- SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.
 - TYPICAL CHANNEL DIMENSIONS : BOTTOM WIDTH = 5 FT; BANK SLOPE = 1H:1V
 - LARGE WOOD TREATMENT TYPE C, SEE $\frac{1}{14}$
 - FILL ALL PERIMETER AND INTERIOR DITCHES IN CELL E UNLESS NOTED OTHERWISE. GRADE FILL IN PERIMETER DITCHES AND ALONG INTERIOR BERMS TO SLOPE TOWARDS WETLAND AT 5H:1V SIDE SLOPE OR FLATTER, AS INDICATED.



ISSUED FOR CONSTRUCTION

NO.	BY	DATE	REVISION DESCRIPTION
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1	MB	10/04/23	ISSUED FOR PERMITTING

NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

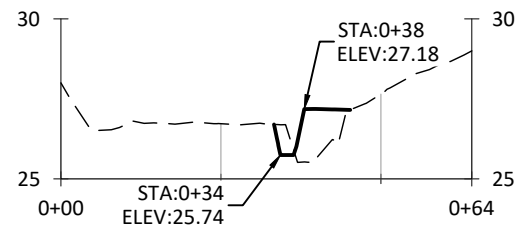
UPPER COONAMESSETT RIVER
RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS



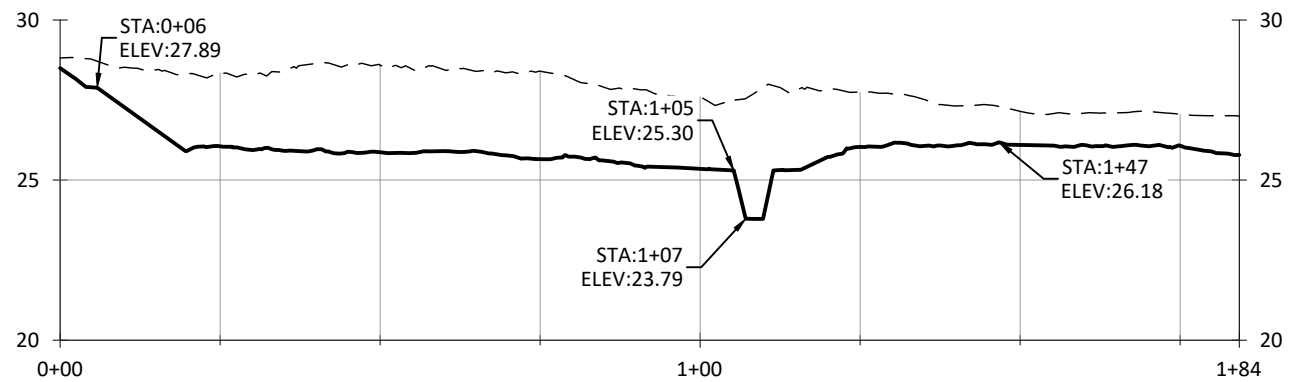
PROFILE AND SECTIONS - CELL E

SHEET
10 OF 18

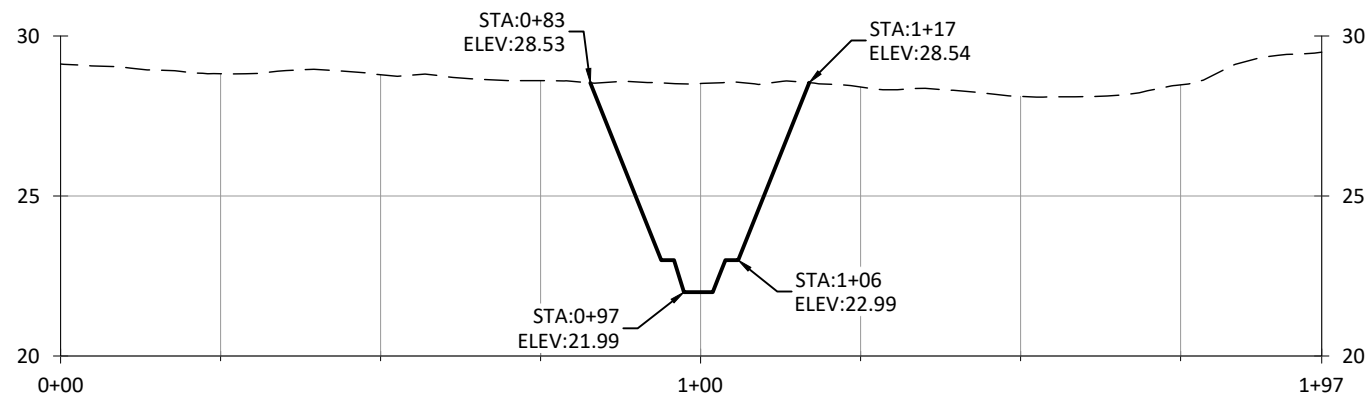
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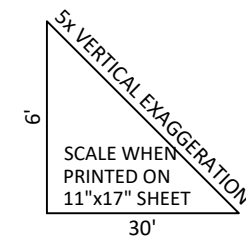
9 SECTION - CELL A UPSTREAM AT BERM
11 STA 34+08



10 SECTION - CELL B DOWNSTREAM AT BERM
11 STA 26+99



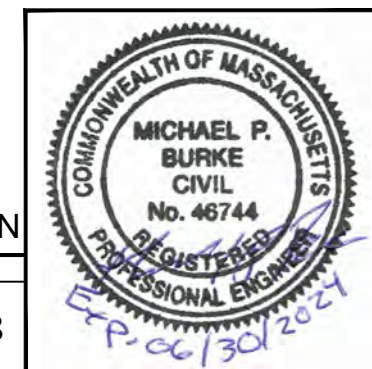
6 SECTION - CELL D DOWNSTREAM AT BERM
11 STA 15+74



LEGEND

- EXISTING GROUND
- PROPOSED GROUND

- NOTES:**
- SECTIONS ARE ORIENTED TO FACE DOWNSTREAM.



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2	KD	11/30/23	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER
RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

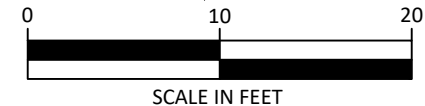
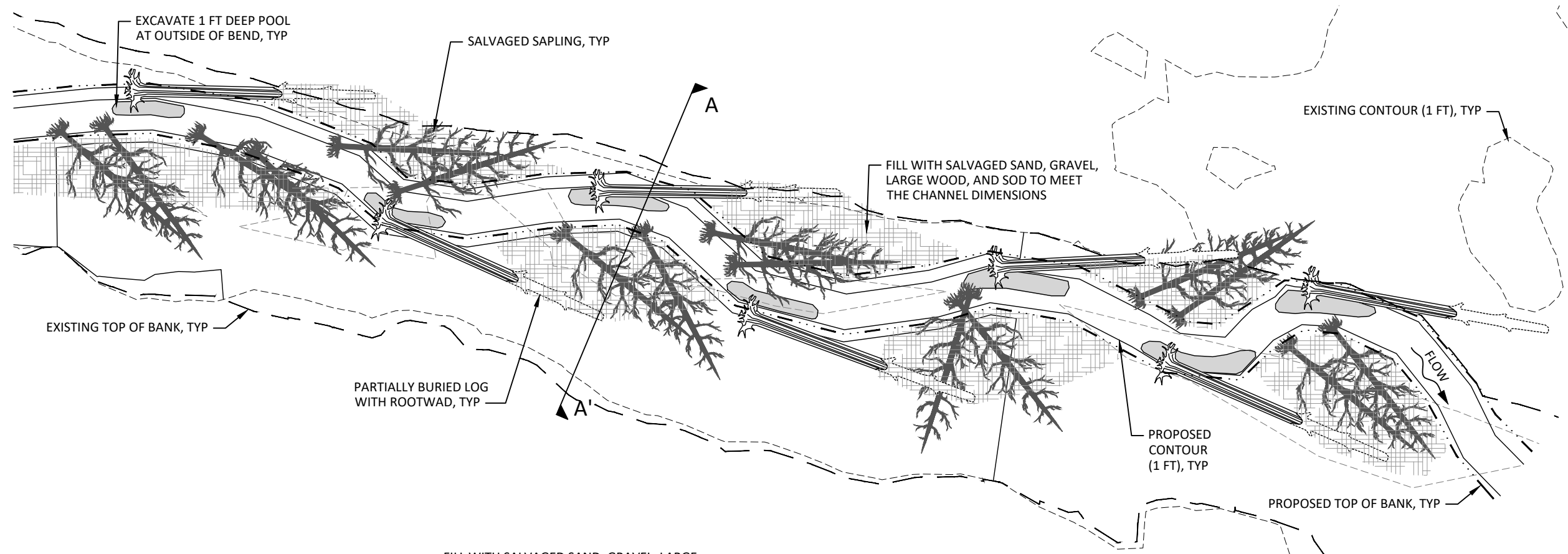


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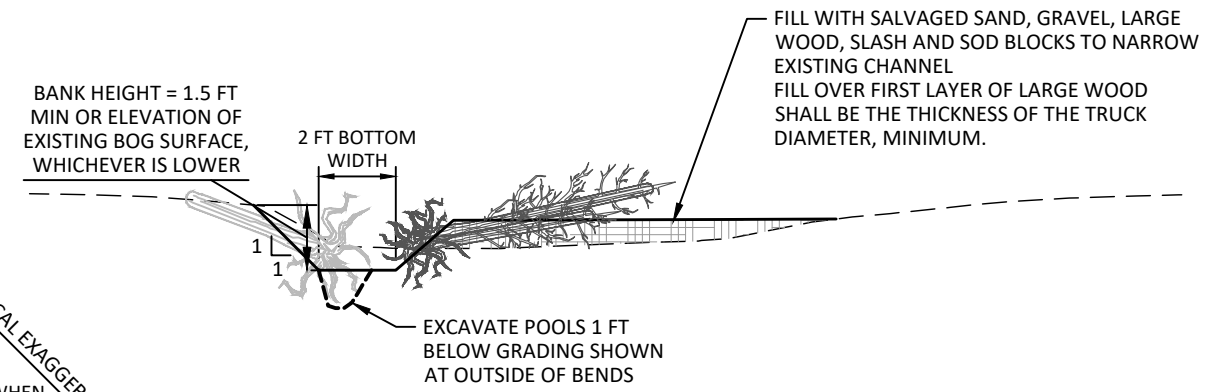
CROSS SECTIONS AT CELLS
A, B, AND D BERMS

SHEET
11 OF 18

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PLAN



SECTION A - A'

NOTES:

1. LARGE WOOD TREATMENT TYPE A SHALL BE IMPLEMENTED IN BOG CELLS A & B (STA 34+20 TO STA 26+90).
2. LARGE WOOD TREATMENT TYPE A ELEMENTS:
 - 66 SAPLINGS
 - 33 LOGS WITH ROOTWADS
3. SOD TO BE SALVAGED FROM THE BOG SURFACE NOT CLOSER THAN 5 FT FROM THE EXISTING TOP OF BANK AND WITHIN REACH OF THE EXCAVATOR WHEN PERFORMING THE CHANNEL CONSTRUCTION.
4. CHANNEL FILL SEQUENCING: A) PLACE LARGE WOOD. B) USE SALVAGED SAND AND GRAVEL TO FILL THE AREAS AROUND AND UNDER THE LARGE WOOD UP TO HALF OF THE FILL HEIGHT. C) PLACE SALVAGED SOD ON TOP OF THE FILL AND LARGE WOOD TO ACHIEVE THE DESIGN ELEVATION.

1 LARGE WOOD TREATMENT TYPE A
12 BOG CELLS A & B (STA 26+90 TO STA 34+20)

ISSUED FOR CONSTRUCTION



NO.	BY	DATE	REVISION DESCRIPTION
2	KD	11/30/23	ISSUED FOR CONSTRUCTION
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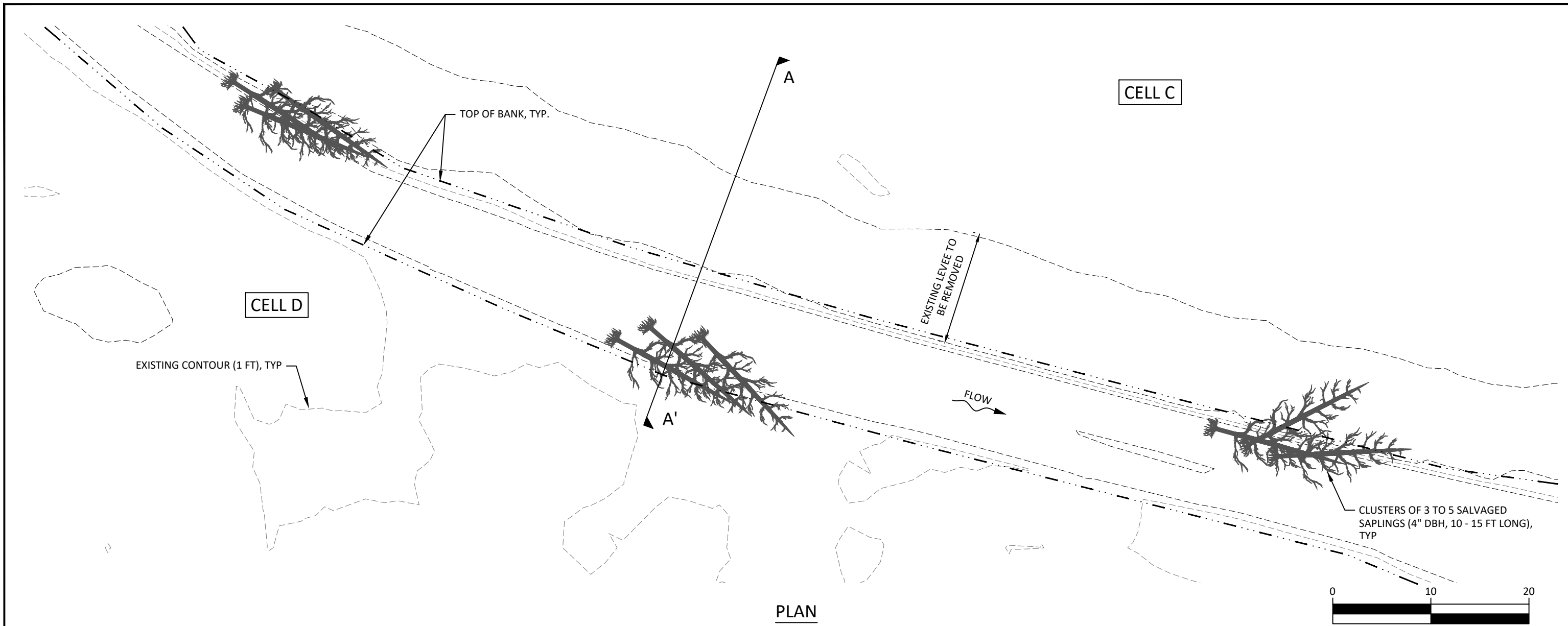
NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

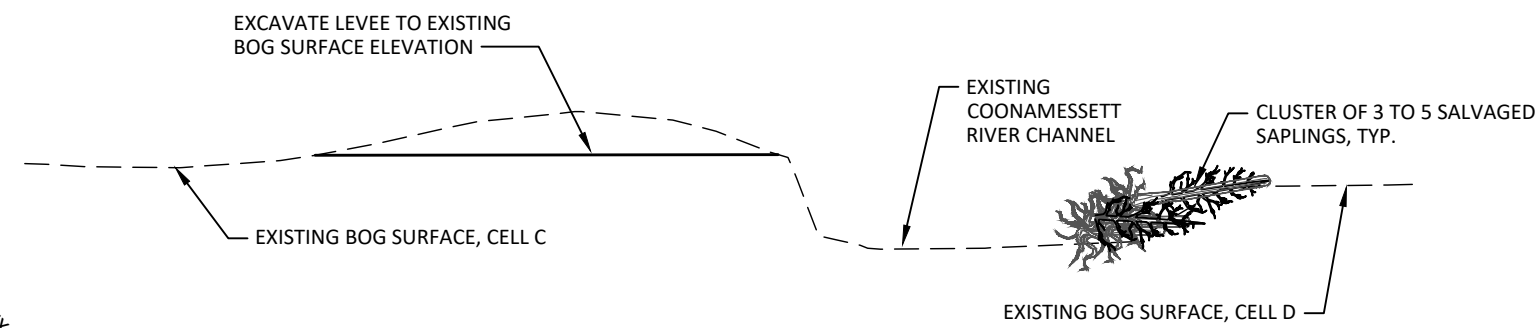
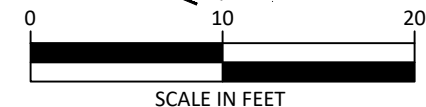
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TYPICAL DETAILS - LARGE WOOD TREATMENT A

SHEET
12 OF 18



PLAN



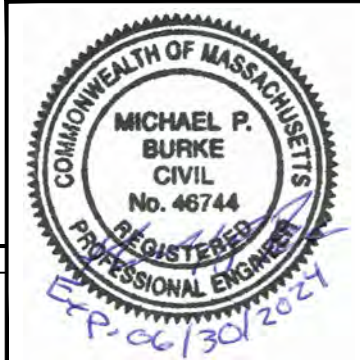
SECTION A - A'

NOTES:

1. LARGE WOOD TREATMENT TYPE B SHALL BE IMPLEMENTED IN BOG CELL D UPSTREAM OF BROAD RIVER CONFLUENCE (STA 23+00 TO STA 26+90).
2. BETWEEN 6 AND 10 CLUSTERS OF 3 TO 5 SALVAGED SAPLINGS SHALL BE INSTALLED IN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
3. LARGE WOOD TREATMENT TYPE B ELEMENTS:
 - 40 SAPLINGS

1
13 LARGE WOOD TREATMENT TYPE B
BOG CELL D (STA 23+00 TO 26+90)

ISSUED FOR CONSTRUCTION



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2	KD	11/30/23	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

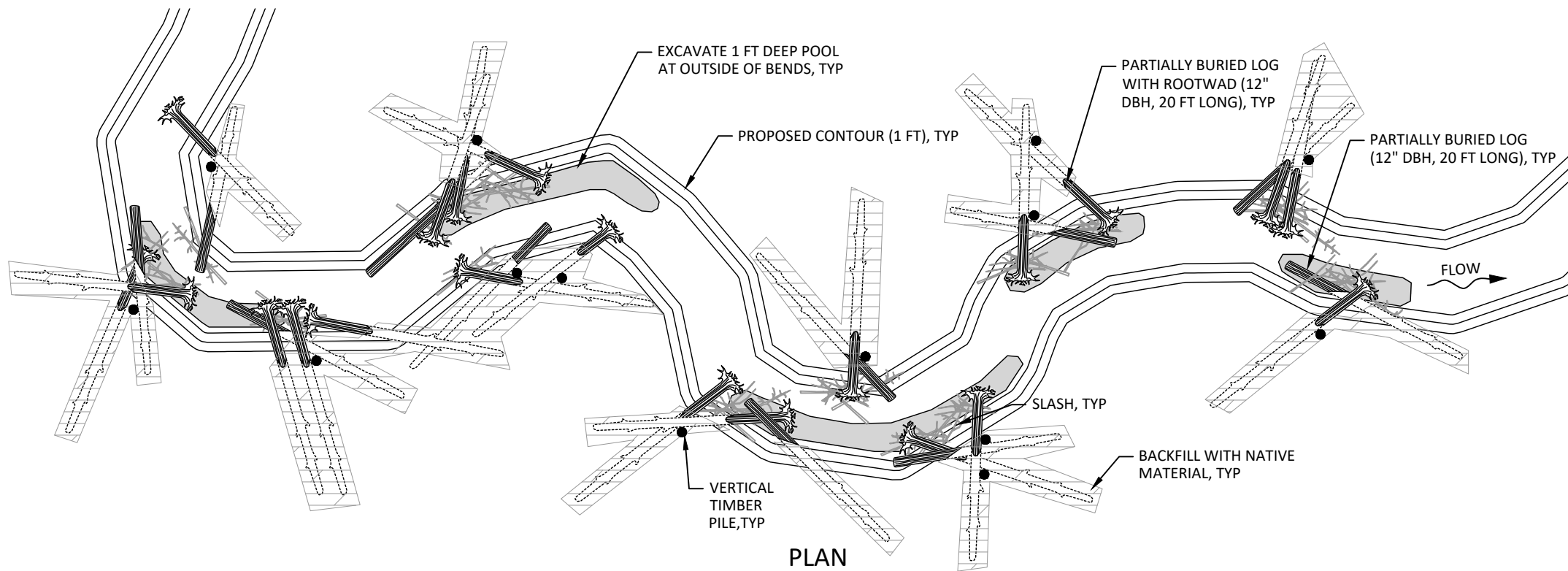
NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER
RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

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TYPICAL DETAILS - LARGE WOOD
TREATMENT B

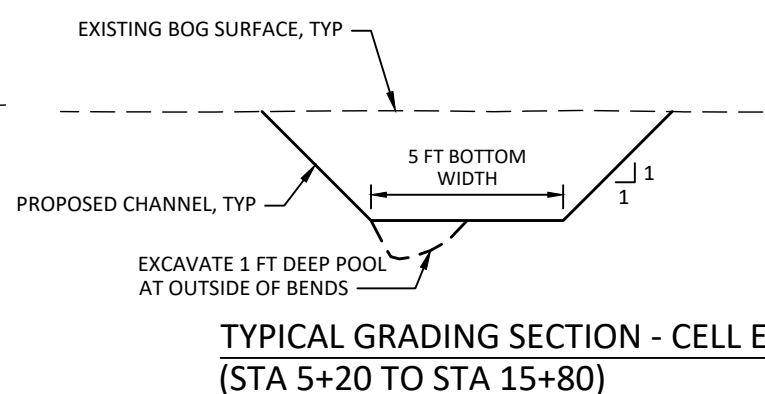
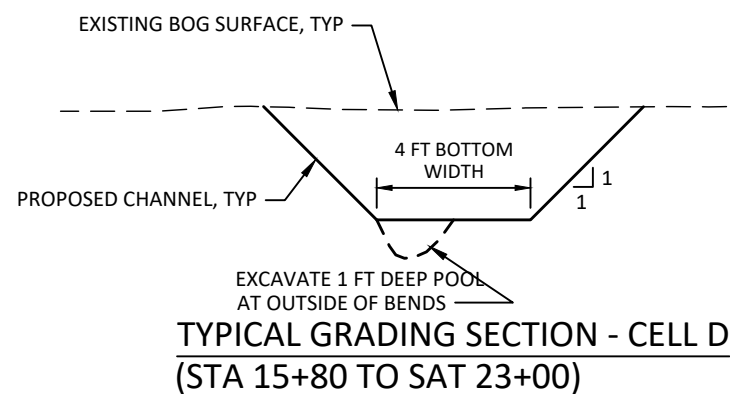
SHEET
13 OF 18



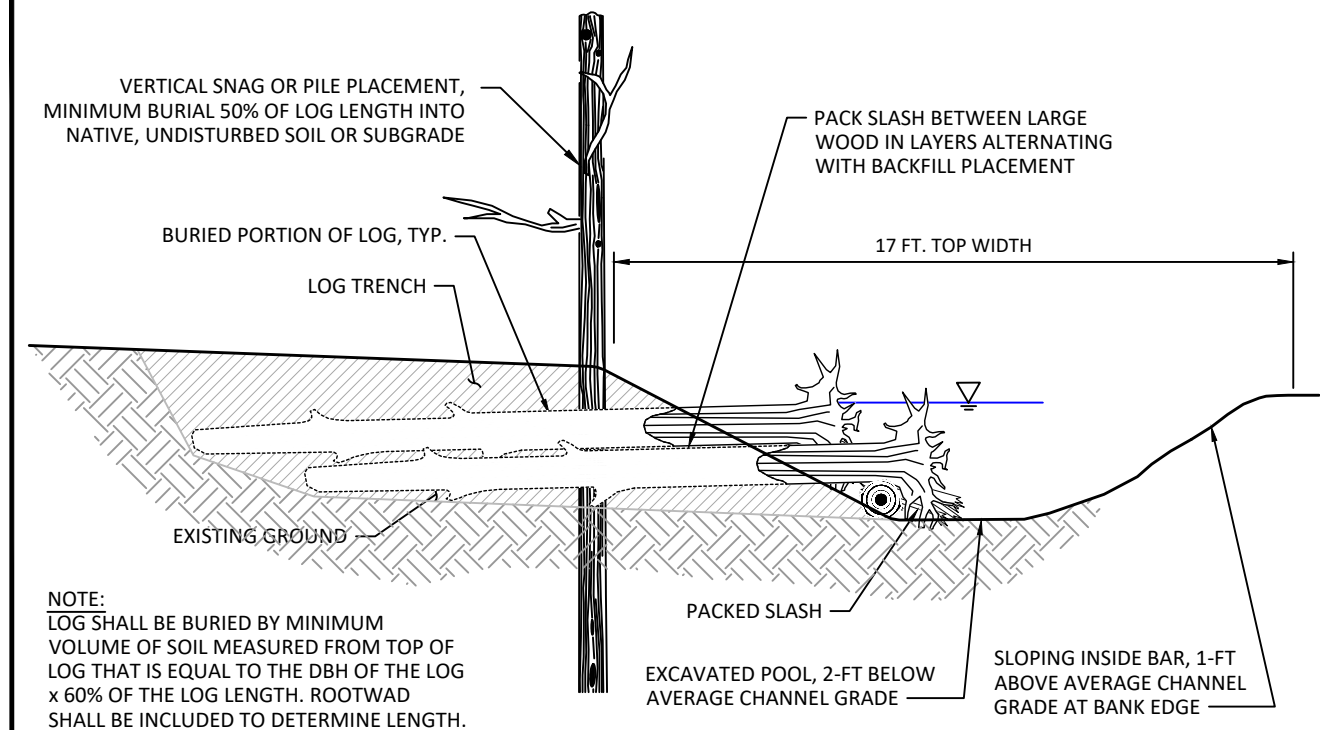
NOTES:

1. LARGE WOOD TREATMENT TYPE C SHALL BE IMPLEMENTED IN BOG CELLS D DOWNSTREAM OF BROAD RIVER CONFLUENCE (STA 15+80 TO STA 23+00) AND CELL E.
2. LARGE WOOD TREATMENT TYPE C ELEMENTS:
 - 146 LOGS
 - 146 VERTICAL TIMBER PILES
 - 220 LOGS WITH ROOTWADS
 - 200 CY SLASH

PLAN



1
14 LARGE WOOD TREATMENT TYPE C
BOG CELL D (STA 15+80 TO STA 23+00) & BOG CELL E

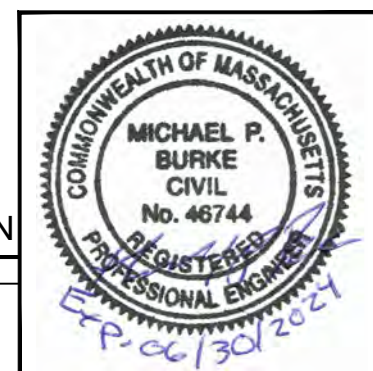


NOTE:
LOG SHALL BE BURIED BY MINIMUM VOLUME OF SOIL MEASURED FROM TOP OF LOG THAT IS EQUAL TO THE DBH OF THE LOG x 60% OF THE LOG LENGTH. ROOTWAD SHALL BE INCLUDED TO DETERMINE LENGTH.

5x VERTICAL EXAGGERATION
SCALE WHEN PRINTED ON 11"x17" SHEET
5'

2
14 TYPICAL SECTION
MAIN CHANNEL LARGE WOOD BANK TREATMENT

ISSUED FOR CONSTRUCTION



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NO.	BY	DATE	REVISION DESCRIPTION
2	KD	11/30/23	ISSUED FOR CONSTRUCTION
1	MB	10/04/23	ISSUED FOR PERMITTING

NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

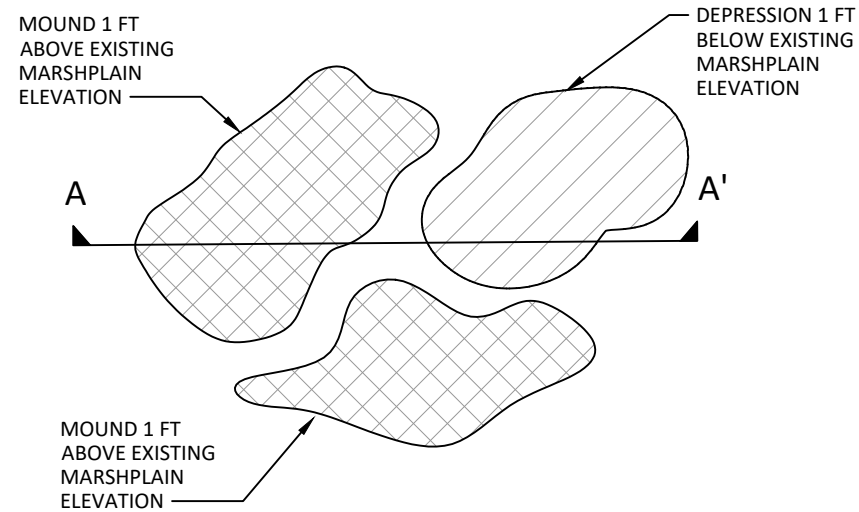
UPPER COONAMESSETT RIVER
RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS



220 Concord Avenue, 2nd Floor
Cambridge, MA 02138
617.714.5537
www.interfluve.com

TYPICAL DETAILS - LARGE WOOD
TREATMENT C

SHEET
14 OF 18



PLAN

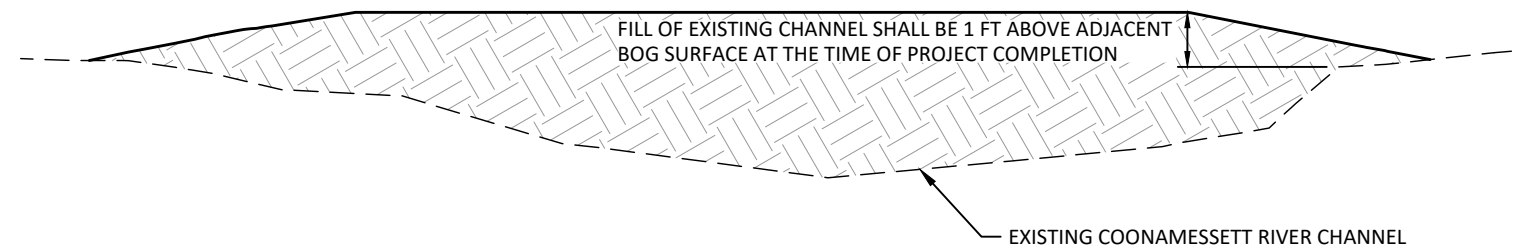


SECTION

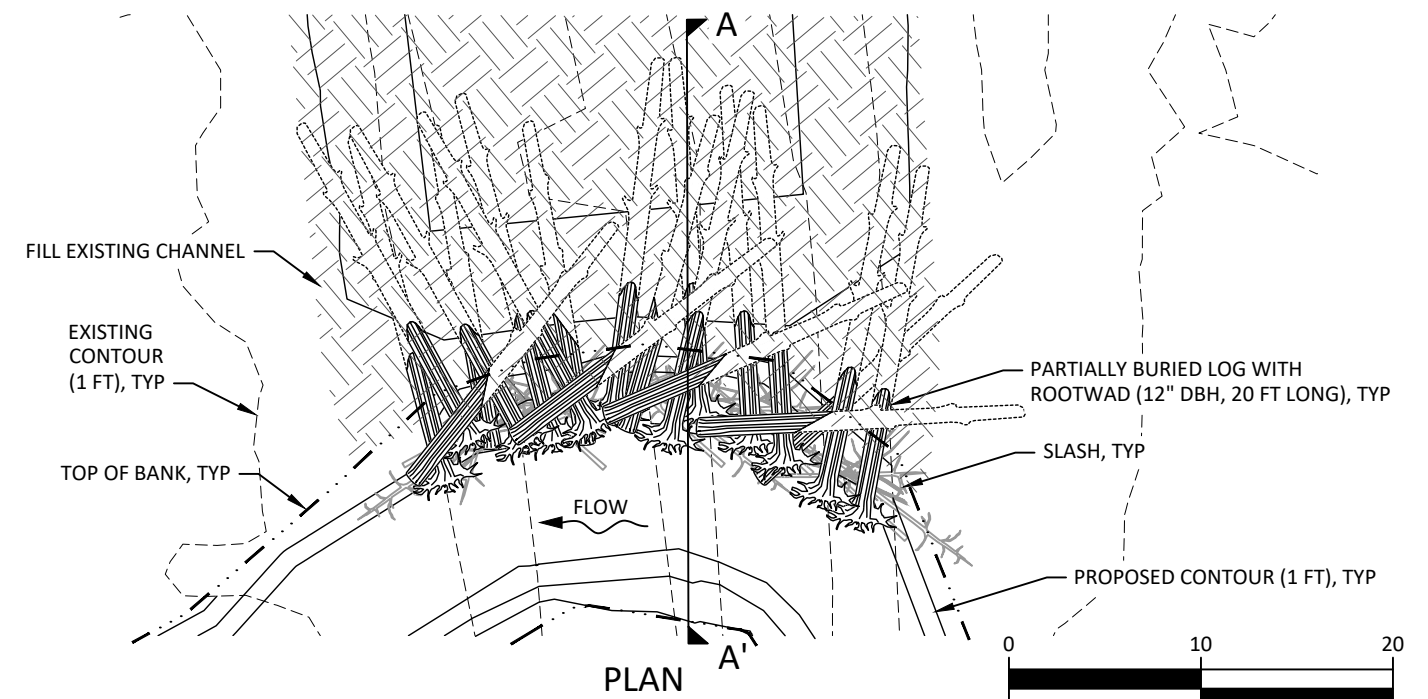
1
15 **MICROTOPOGRAPHY**
NOT TO SCALE

NOTES:

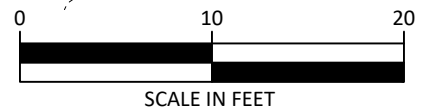
1. CONFIGURATION OF MOUNDS AND DEPRESSIONS WILL VARY DEPENDING ON EXISTING VEGETATION AND ACCESS CONSIDERATIONS.
2. TOPOGRAPHIC MOUNDS AND DEPRESSIONS ARE INTENDED TO MIMIC NATURAL MARSHPLAIN MICROTOPOGRAPHY. MOUNDS SHALL BE SHAPED TO MIMIC MARSHPLAIN HUMMOCKS CREATED BY NATIVE SHRUBS, HERBACEOUS PLANTS, AND CONIFER NURSE LOGS.
3. TYPICAL DIMENSIONS OF MOUNDS AND DEPRESSIONS ARE APPROXIMATELY 5 FT TO 20 FT ACROSS.



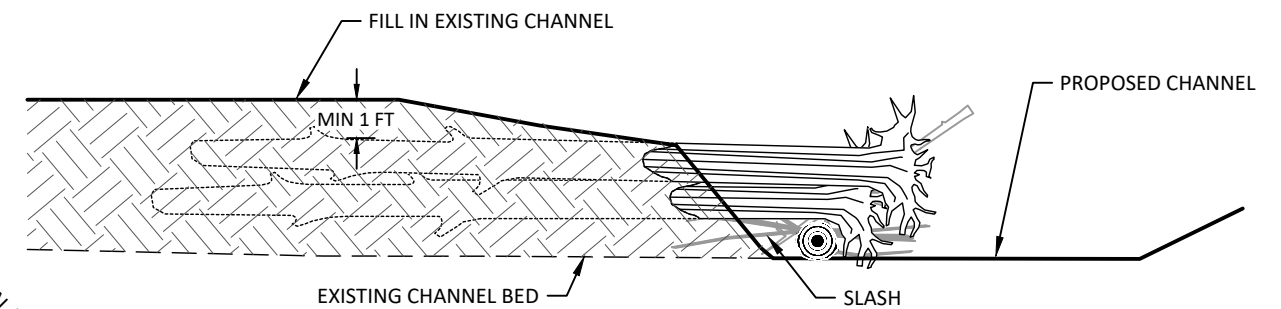
3
15 **CHANNEL FILL**
NOT TO SCALE



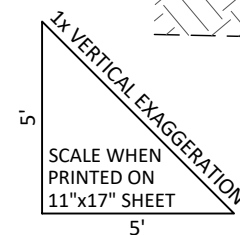
PLAN



SCALE IN FEET

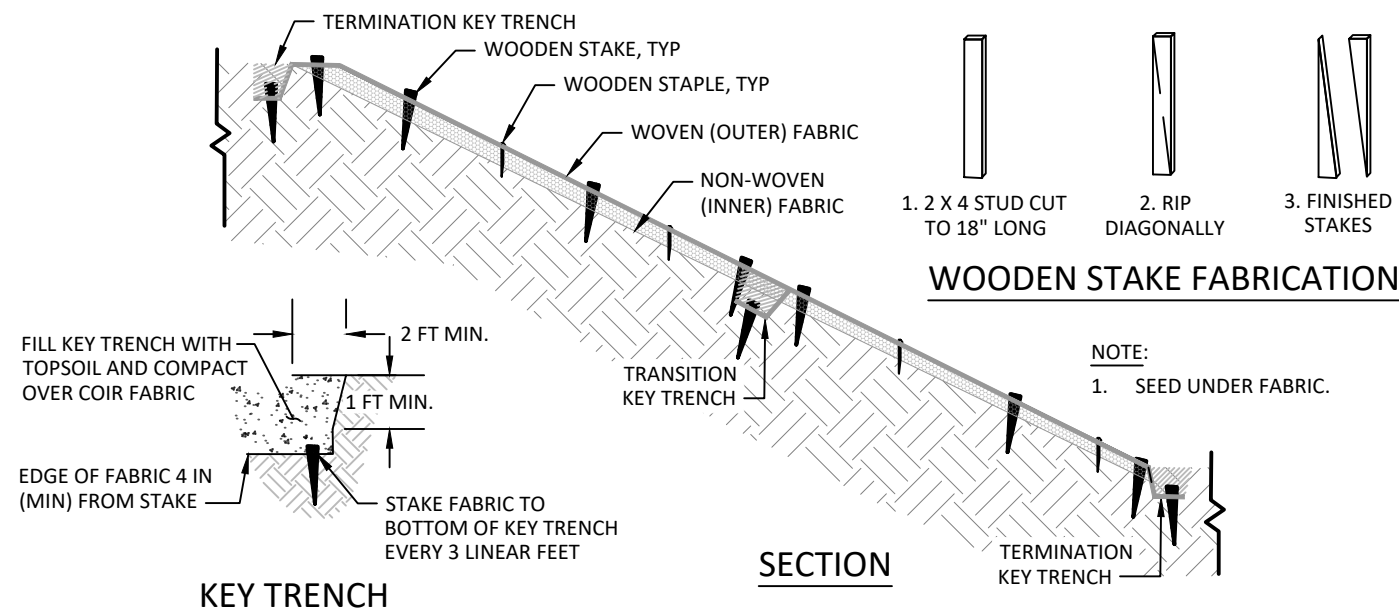


SECTION A - A'



5'
SCALE WHEN PRINTED ON 11"x17" SHEET
5'

4
15 **LARGE WOOD COMPLEX**
ISSUED FOR CONSTRUCTION



WOODEN STAKE FABRICATION

NOTE:

1. SEED UNDER FABRIC.

SECTION

2
15 **SURFACE FABRIC**
NOT TO SCALE

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NO.	BY	DATE	REVISION DESCRIPTION
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1	MB	10/04/23	ISSUED FOR PERMITTING

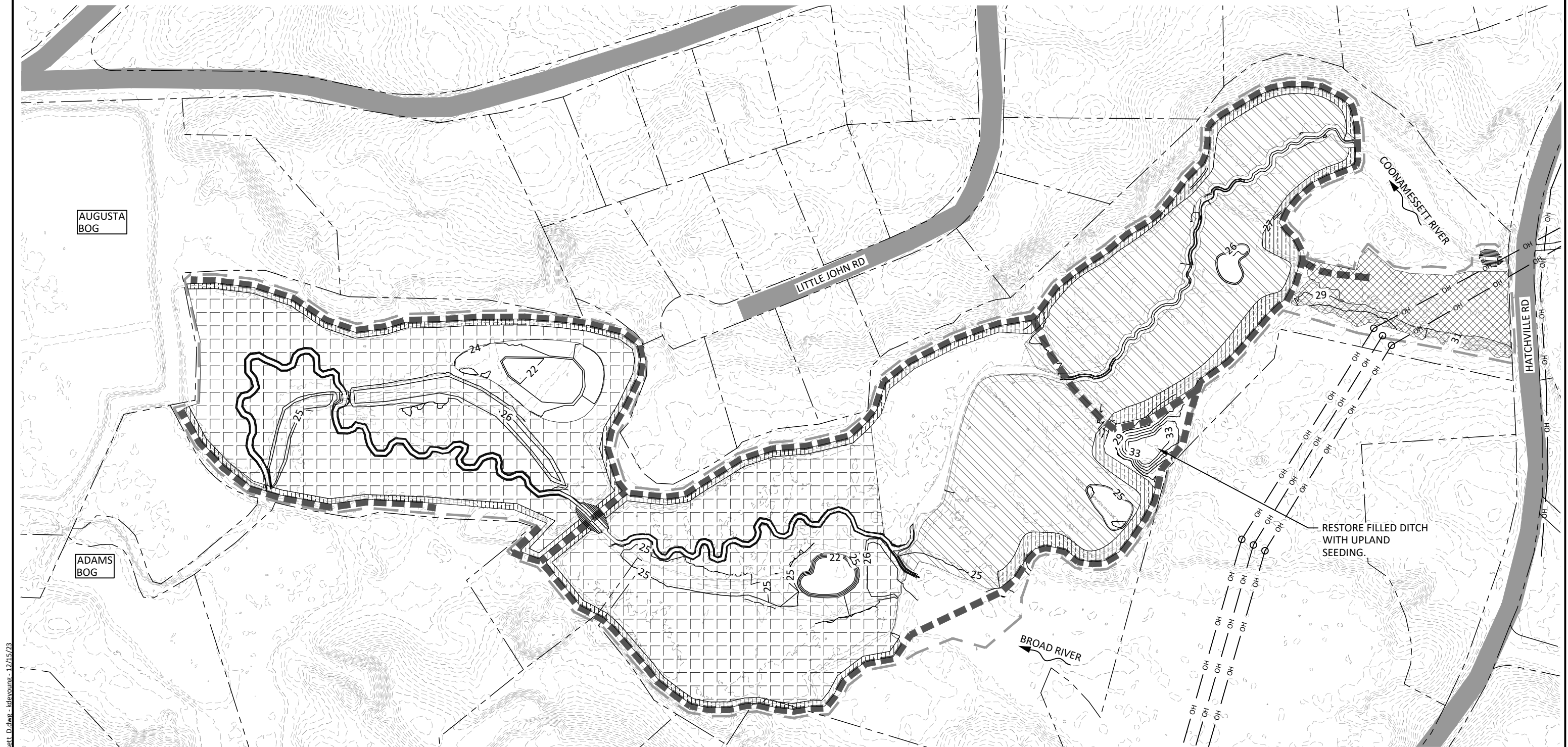
NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
--	10/02/2023	210507
APPROVED	DATE	PROJECT

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

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Cambridge, MA 02138
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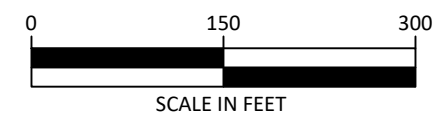
TYPICAL DETAILS -
MICROTOPOGRAPHY, CHANNEL FILL & LW COMPLEX

SHEET
15 OF 18



LEGEND

- EXISTING CONTOURS (1 FT)
- PROPOSED CONTOURS (1 FT)
- - - LIMITS OF DISTURBANCE
- - - TAXLOTS
- ▬ PEDESTRIAN TRAIL
- ⊕ OH — OH — OVERHEAD TRANSMISSION LINES AND TOWERS
- ▨ TRANSITIONAL SEEDING ZONE
- ▧ DECIDUOUS WETLAND PLANTING ZONE
- ▩ ATLANTIC WHITE CEDAR SWAMP PLANTING ZONE
- UPLAND SEEDING ZONE



ISSUED FOR CONSTRUCTION



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APPROVED	DATE	PROJECT
NS DRAWN	KK, SS DESIGNED	NN CHECKED
--	10/02/2023	210507

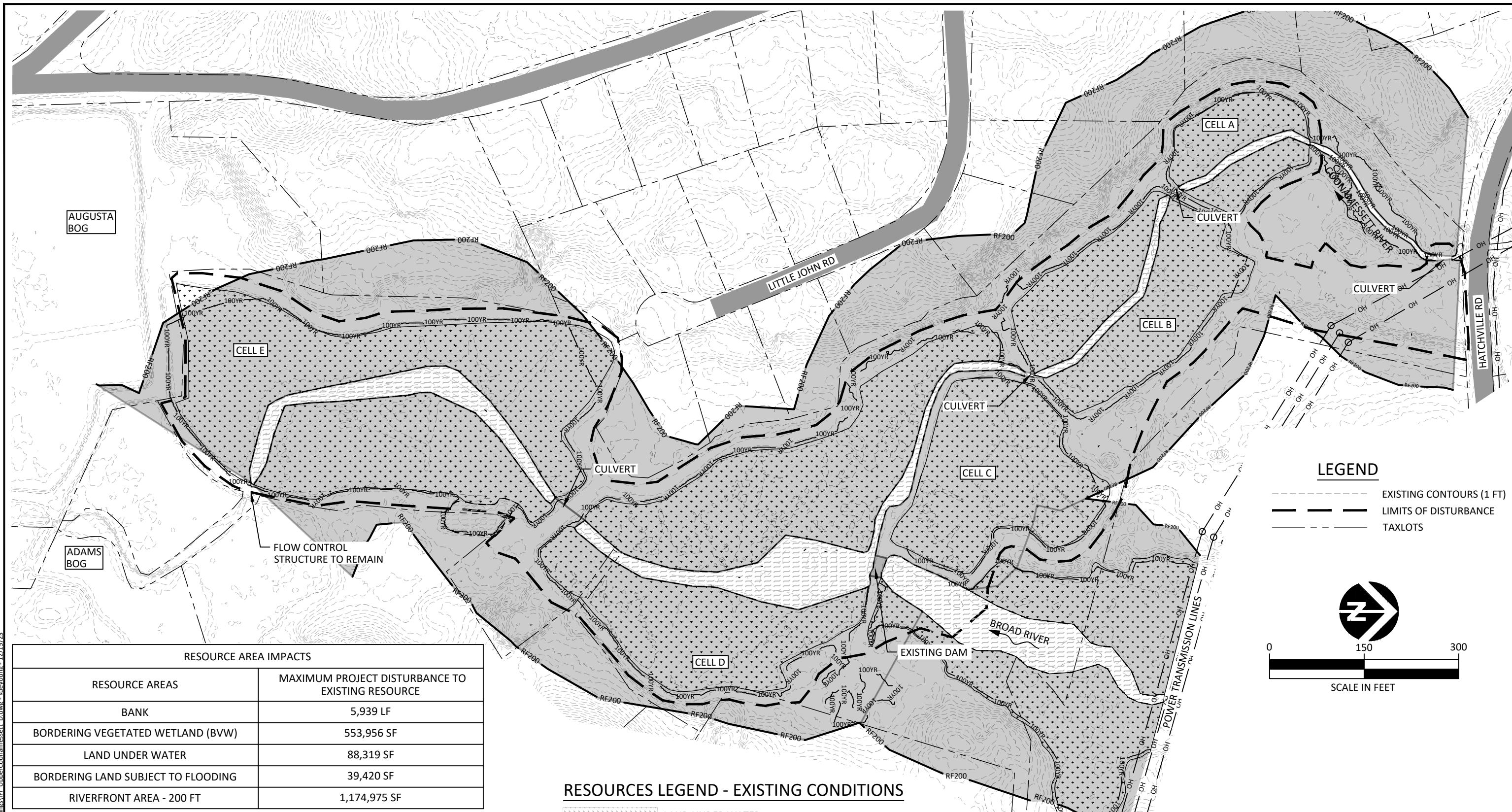
**UPPER COONAMESSETT RIVER
RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS**



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Cambridge, MA 02138
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PLANTING ZONES

SHEET
16 OF 18



LEGEND

- EXISTING CONTOURS (1 FT)
- LIMITS OF DISTURBANCE
- TAXLOTS

0 150 300
SCALE IN FEET

RESOURCE AREA IMPACTS	
RESOURCE AREAS	MAXIMUM PROJECT DISTURBANCE TO EXISTING RESOURCE
BANK	5,939 LF
BORDERING VEGETATED WETLAND (BVW)	553,956 SF
LAND UNDER WATER	88,319 SF
BORDERING LAND SUBJECT TO FLOODING	39,420 SF
RIVERFRONT AREA - 200 FT	1,174,975 SF

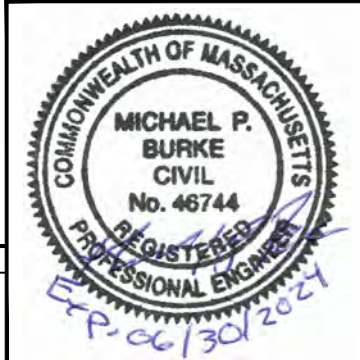
RESOURCES LEGEND - EXISTING CONDITIONS

- LAND UNDER WATER
- BORDERING VEGETATE WETLANDS (BVW)
- BANK / OHW
- 200' RIVERFRONT BUFFER
- 100YR 100 YEAR FLOOD INUNDATION (BASED ON HYDRAULIC MODEL)

NOTES:

- BORDERING LAND AREA SUBJECT TO FLOODING IS MEASURED FROM BVW OR FROM TOP OF BANK TO THE 100 YEAR FLOODING EXTENT UNDER EXISTING AND PROPOSED CONDITIONS.
- RESOURCE AREA IMPACTS INCLUDE THOSE ASSOCIATED WITH THE UPPER COONAMESSETT AND THE BROAD RIVER IMPOUNDMENT. FOR THE UPPER COONAMESSETT, THESE ARE MEASURED BETWEEN HATCHVILLE RD AND THE FLOW CONTROL STRUCTURE TO REMAIN UPSTREAM OF ADAM'S BOG. FOR THE BROAD RIVER IMPOUNDMENT, THESE ARE MEASURED BETWEEN THE POWER TRANSMISSION LINES AND THE EXISTING DAM.

SHEET PROVIDED FOR PROJECT PERMITTING ONLY. NOT FOR USE IN PROJECT CONSTRUCTION.



ISSUED FOR CONSTRUCTION

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NS	KK, SS	NN
DRAWN	DESIGNED	CHECKED
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APPROVED	DATE	PROJECT

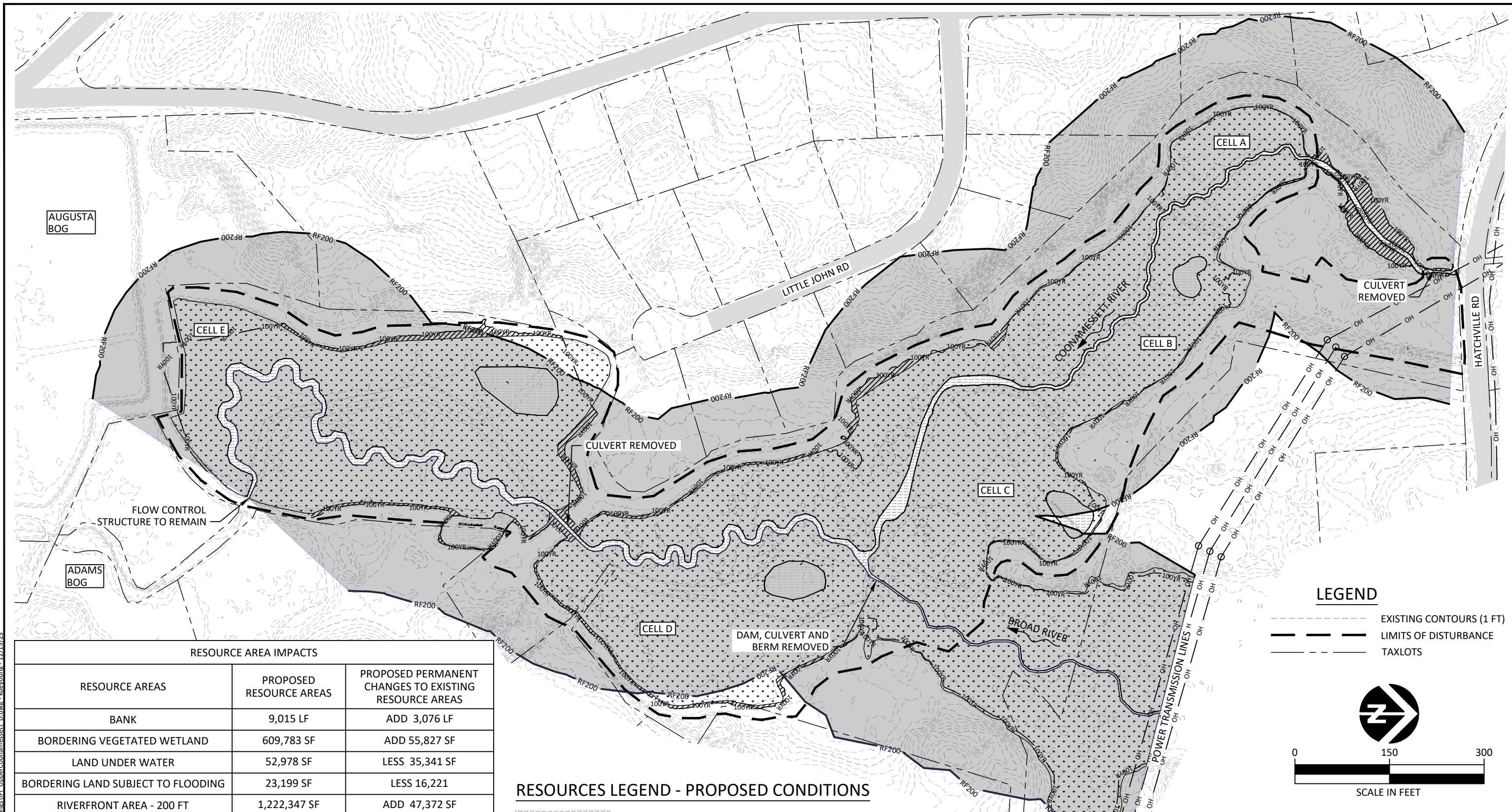
UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN
TOWN OF FALMOUTH, MASSACHUSETTS

220 Concord Avenue, 2nd Floor
Cambridge, MA 02138
617.714.5537
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PERMITTING INFORMATION
RESOURCE AREAS - EXISTING CONDITIONS

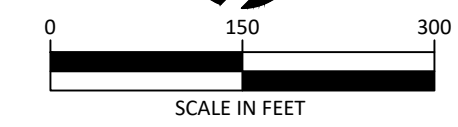
SHEET
17 OF 18

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LEGEND

- EXISTING CONTOURS (1 FT)
- LIMITS OF DISTURBANCE
- TAXLOTS



RESOURCES LEGEND - PROPOSED CONDITIONS

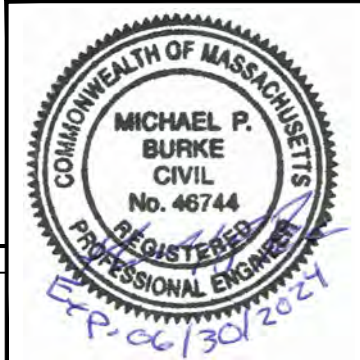
- LAND UNDER WATER
- BORDERING VEGETATE WETLANDS (BVW)
- BANK / OHW
- 200' RIVERFRONT BUFFER
- 100 YEAR FLOOD INUNDATION (BASED ON HYDRAULIC MODEL)

RESOURCE AREA IMPACTS		
RESOURCE AREAS	PROPOSED RESOURCE AREAS	PROPOSED PERMANENT CHANGES TO EXISTING RESOURCE AREAS
BANK	9,015 LF	ADD 3,076 LF
BORDERING VEGETATED WETLAND	609,783 SF	ADD 55,827 SF
LAND UNDER WATER	52,978 SF	LESS 35,341 SF
BORDERING LAND SUBJECT TO FLOODING	23,199 SF	LESS 16,221
RIVERFRONT AREA - 200 FT	1,222,347 SF	ADD 47,372 SF

NOTES:

- BORDERING LAND AREA SUBJECT TO FLOODING IS MEASURED FROM BVW OR FROM TOP OF BANK TO THE 100 YEAR FLOODING EXTENT UNDER EXISTING AND PROPOSED CONDITIONS.
- RESOURCE AREA IMPACTS INCLUDE THOSE ASSOCIATED WITH THE UPPER COONAMESSETT AND THE BROAD RIVER IMPOUNDMENT. FOR THE UPPER COONAMESSETT, THESE ARE MEASURED BETWEEN HATCHVILLE RD AND THE FLOW CONTROL STRUCTURE TO REMAIN UPSTREAM OF ADAM'S BOG. FOR THE BROAD RIVER IMPOUNDMENT, THESE ARE MEASURED BETWEEN THE POWER TRANSMISSION LINES AND THE EXISTING DAM.

SHEET PROVIDED FOR PROJECT PERMITTING ONLY. NOT FOR USE IN PROJECT CONSTRUCTION.



ISSUED FOR CONSTRUCTION

PERMITTING INFORMATION

RESOURCE AREAS - PROPOSED CONDITIONS

SHEET 18 OF 18

UPPER COONAMESSETT RIVER RESTORATION-100% DESIGN TOWN OF FALMOUTH, MASSACHUSETTS



NO.	BY	DATE	REVISION DESCRIPTION	APPROVED	DATE	PROJECT
2	KD	11/30/23	ISSUED FOR CONSTRUCTION	NS		
1	MB	10/04/23	ISSUED FOR PERMITTING	KK, SS	10/02/2023	210507
				NN		CHECKED

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**US Army Corps
of Engineers**®
New England District

COMPLIANCE CERTIFICATION FORM

(Minimum Notice: Permittee must sign and return notification
within one month of the completion of work.)

Permit Number: NAE-2015-01274

Project Manager: Roberta Budnik

Name of Permittee: Town of Falmouth

Permit Issuance Date: April 2, 2024

Please sign this certification and return it to our office upon completion of the activity.

```

*****
* E-MAIL TO: cenae-r-ma@usace.army.mil; or *
* * *
* MAIL TO: Massachusetts Section *
* Regulatory Division *
* U.S. Army Corps of Engineers, New England District *
* 696 Virginia Road *
* Concord, MA 01742-2751 *
*****

```

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

Printed Name

Date of Work Completion

() _____
Telephone Number

() _____
Telephone Number

The Commonwealth of Massachusetts



No. WW01-0000432

Whereas, Town of Falmouth

of -- Falmouth -- in the County of -- Barnstable -- and Commonwealth aforesaid, has applied to the Department of Environmental Protection for license to -- remove water control structures, establishment of a new river channel through retired cranberry bogs, filling of agricultural ditches, improvement dredging and the construction and maintenance of river crossings --

and has submitted plans of the same; and whereas due notice of said application, ~~and of the time and place fixed for a hearing thereon~~, has been given, as required by law, to the -- Select Board -- of the -- Town of Falmouth. --

NOW, said Department, having heard all parties desiring to be heard, and having fully considered said application, hereby, subject to the approval of the Governor, authorizes and licenses the said

-- Town of Falmouth --, subject to the provisions of the ninety-first chapter of the General Laws, and of all laws which are or may be in force applicable thereto, to -- remove water control structures, establishment of a new river channel through retired cranberry bogs, filling of agricultural ditches, improvement dredging and the construction and maintenance of river crossings --

in and over the waters of the -- Coonamessett River -- at -- 170 Hatchville Road -- in the -- Town of Falmouth -- and in accordance with the locations shown and details indicated on the accompanying DEP License Plan No. WW01-0000432 (10 sheets).

The structures hereby authorized shall be limited to the following use(s): to provide public access to waterfront open space for passive recreational purposes.

This license is issued for an unlimited term in accordance with 310 CMR 9.15(1)(c).

Special Waterways Conditions:

1. In accordance with any license condition, easement, or other public right of lateral passage that exists in the area of the subject property lying between the high water mark, the Licensee shall allow the public in the exercise of such rights to pass freely around or over all structures within such area. Nothing in this condition shall be construed as preventing the Licensee from excluding the public from portions of said structure(s) or property not intended for lateral passage.
2. All work authorized herein shall be completed within five (5) years of the date of license issuance. Said construction period may be extended by the Department for one or more one year periods without public notice, provided that the Applicant submits to the Department, thirty (30) days prior to the expiration of said construction period, a written request to extend the period and provides an adequate justification for said extension.
3. Within sixty (60) days of completion of the licensed project, the Licensee shall request, in writing, that the Department issue a Certificate of Compliance in accordance with 310 CMR 9.19. The request shall be accompanied by a certification by a registered professional engineer licensed in the Commonwealth that the project was completed in accordance with the License.

Special Dredge Conditions:

1. Dredging activities shall be performed by mechanical methods.
2. The volume of dredge material shall not exceed 99 cubic yards during any dredge event.
3. Dredge material shall be dewatered on-site. All of the material shall be beneficially reused at various locations on the project site pursuant to the plans, dated May 20, 2024.
4. Maintenance dredging may be performed for a period often (10) years subsequent to the date of issuance of this license.
5. To protect the sensitive life stages of diadromous fish, no in-water, silt-producing work shall take place from March 15th to June 30th or from September 1st to November 15th of any year.

Duplicate of said plan, number WW01-0000432 is on file in the office of said Department, and original of said plan accompanies this License, and is to be referred to as a part hereof

STANDARD WATERWAYS LICENSE CONDITIONS

1. Acceptance of this Waterways License shall constitute an agreement by the Licensee to conform with all terms and conditions stated herein.
 2. This License is granted upon the express condition that any and all other applicable authorizations necessitated due to the provisions hereof shall be secured by the Licensee prior to the commencement of any activity or use authorized pursuant to this License.
 3. Any change in use or any substantial structural alteration of any structure or fill authorized herein shall require the issuance by the Department of a new Waterways License in accordance with the provisions and procedures established in Chapter 91 of the Massachusetts General Laws. Any unauthorized substantial change in use or unauthorized substantial structural alteration of any structure or fill authorized herein shall render this Waterways License void.
 4. This Waterways License shall be revocable by the Department for noncompliance with the terms and conditions set forth herein. This license may be revoked after the Department has given written notice of the alleged noncompliance to the Licensee and those persons who have filed a written request for such notice with the Department and afforded them a reasonable opportunity to correct said noncompliance. Failure to correct said noncompliance after the issuance of a written notice by the Department shall render this Waterways License void and the Commonwealth may proceed to remove or cause removal of any structure or fill authorized herein at the expense of the Licensee, its successors and assigns as an unauthorized and unlawful structure and/or fill.
 5. The structures and/or fill authorized herein shall be maintained in good repair and in accordance with the terms and conditions stated herein and the details indicated on the accompanying license plans.
 6. Nothing in this Waterways License shall be construed as authorizing encroachment in, on or over property not owned or controlled by the Licensee, except with the written consent of the owner or owners thereof.
 7. This Waterways License is granted subject to all applicable Federal, State, County, and Municipal laws, ordinances and regulations including but not limited to a valid final Order of Conditions issued pursuant to the Wetlands Protection Act, G.L. Chapter 131, s.40.
 8. This Waterways License is granted upon the express condition that the use of the structures and/or fill authorized hereby shall be in strict conformance with all applicable requirements and authorizations of the MassDEP.
 9. This License authorizes structure(s) and/or fill on:
 - Private Tidelands. In accordance with the public easement that exists by law on private tidelands, the licensee shall allow the public to use and to pass freely upon the area of the subject property lying between the high and low water marks, for the purposes of fishing, fowling, navigation, and the natural derivatives thereof.
 - Commonwealth Tidelands. The Licensee shall not restrict the public's right to use and to pass freely, for any lawful purpose, upon lands lying seaward of the low water mark. Said lands are held in trust by the Commonwealth for the benefit of the public.
 - a Great Pond of the Commonwealth. The Licensee shall not restrict the public's right to use and to pass freely upon lands lying seaward of the high water mark for any lawful purpose.
 - Navigable River and Streams. The Licensee shall not restrict the public's right to use and to pass freely, for any lawful purpose, in the waterway.
- No restriction on the exercise of these public rights shall be imposed unless otherwise expressly provided in this license.
10. Unless otherwise expressly provided by this license, the licensee shall not limit the hours of availability of any areas of the subject property designated for public passage, nor place any gates, fences, or other structures on such areas in a manner that would impede or discourage the free flow of pedestrian movement thereon.

The amount of tide-water displaced by the work hereby authorized has been ascertained by said Department, and compensation thereof has been made by the said -- Town of Falmouth -- by paying into the Treasury of the Commonwealth -- zero dollars and zero cents (\$ 0.00) -- for each cubic yard so displaced, being the amount hereby assessed by said Department. (0 cy = \$ 0.00)

Nothing in this License shall be so construed as to impair the legal rights of any person.

This License shall be void unless the same and the accompanying plan are recorded within 60 days from the date hereof, in the Registry of Deeds for the County of Barnstable.

IN WITNESS WHEREAS, said Department of Environmental Protection have hereunto set their hands this 2nd day of October in the year two thousand twenty-four.

for Program Chief Blair Caffrey

Department of Environmental Protection

Commissioner William

THE COMMONWEALTH OF MASSACHUSETTS

This license is approved in consideration of the payment into the treasury of the Commonwealth by-the said -- Town of Falmouth --

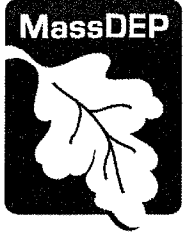
of the further sum of -- zero dollars and zero cents (\$0.00) --

the amount determined by the Governor as a just and equitable charge for rights and privileges hereby granted in the land of the Commonwealth.

BOSTON,

Approved by the Governor.

Ma. T. Healy
Governor



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

Oct. 2, 2024

Town of Falmouth
c/o Horsley Witten Group, Inc.
Attn: Casey Chatelain
90 Route 6A
Sandwich, MA 02563

RE: ISSUANCE OF CHAPTER 91 WATERWAYS LICENSE
Waterways License Application No. 24-WW01-0030-APP, License No. WW01-0000432
Town of Falmouth, Coonamessett River, 170 Hatchville Road, Falmouth

Dear Sir or Madam,

The Department of Environmental Protection hereby issues the above-referenced Waterways License, enclosed, authorizing you to perform certain activities pursuant to M.G.L. c. 91, the Public Waterfront Act and its regulations 310 CMR 9.00. Any change in use or alteration of any structure or fill not authorized by this license may render this license void.

This License is not final until all administrative appeal periods from this License have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed. The appeal period is for twenty-one (21) days. No work shall be undertaken until the License has become final and has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property

RECORDING OF THE LICENSE

This License must be recorded at the Registry of Deeds or, if registered land, with the Land Registration Office within sixty (60) days from the date of license issuance. In the case of recorded land, the License shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the project is located. In the case of the registered land, the License shall be noted on the Land Court Certificate of Title of the owner of the land upon which the project is located. **Failure to record this license within sixty (60) days of the date of issuance will render this license void pursuant to 310 CMR 9.18.**

Upon recording the License and Plan, you must notify the Department by accessing your Authorization record at <https://eplace.eea.mass.gov/citizenaccess> and entering the recording information. Instructions for entering recording information may be found at: <https://www.mass.gov/doc/eplace-waterways-recording-information-amendment/download>. Failure to notify the Department of the recording of this License is a violation of 310 CMR 9.00.

REQUEST CERTIFICATE OF COMPLIANCE

Pursuant to 310 CMR 9.19, once the proposed project is completed you must file a Request for a Certificate of Compliance form, BRP WW05, within sixty (60) days of completion but in no event later than five (5) years from the License's issuance date. The license for any project for which such a request is not filed and certificate issued may be revoked pursuant to 310 CMR 9.26.

NOTICE OF APPEAL RIGHTS

Who has the right to appeal?

The following persons shall have the right to an adjudicatory hearing concerning this decision by the Department to grant or deny a license or permit, in accordance with 310 CMR 9.17(1): (a) an applicant who has demonstrated property rights in the lands in question, or which is a public agency; (b) any person aggrieved by the decision of the Department to grant a license or permit who has submitted written comments within the public comment period; (c) ten (10) residents of the Commonwealth who, pursuant to M.G.L. c. 30A, § 10A, have submitted comments within the public comment period with at least 5 of the 10 residents residing in the municipality(s) in which the license or permitted activity is located. The appeal shall clearly and specifically state the facts and grounds for the appeal and the relief sought, and each appealing resident shall file an affidavit stating the intent to be part of the group and to be represented by its authorized representative; (d) the municipal official in the affected municipality who has submitted written comments within the public comment period; and (e) CZM, for any project identified in 310 CMR 9.13(2) (a) for CZM participation or, in an Ocean Sanctuary, if it has filed a notice of participation within the public comment period.

How can I request an adjudicatory hearing?

A person requesting an adjudicatory hearing must submit a "Notice of Claim" to the Department, with a copy of the MassDEP Transmittal Form and including the detail specified below, within twenty-one (21) days of the date of issuance of this decision. The MassDEP Fee Transmittal Form is available at the following website: <https://www.mass.gov/doc/adjudicatory-hearing-fee-transmittal-form/download>. The Notice of Claim must be made in writing and sent by certified mail or hand delivery to:

MassDEP Office of Appeals and Dispute Resolution
Case Administrator
100 Cambridge Street, Suite 900
Boston, MA 02114

A copy of the complete Notice of Claim must be sent at the same time by certified mail or hand delivery to: (1) the applicant, (2) the municipal official of the city or town where the project is located, and (3) the issuing office of the MassDEP, which in this case is located at:

MassDEP Waterways Regulation Program
20 Riverside Drive
Lakeville, MA 02347

The MassDEP Fee Transmittal Form and a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100) must be mailed to:

**Waterways License Application No. 24-WW01-0030-APP, License No. WW01-0000432
Town of Falmouth, Coonamessett River, 170 Hatchville Road, Falmouth**

Mass. Department of Environmental Protection
Commonwealth Master Lockbox
P.O. Box 4062
Boston, Massachusetts 02211

What information must be included in the hearing request?

Pursuant to 310 CMR 9.17(3), any Notice of Claim requesting an adjudicatory hearing must include the following information:

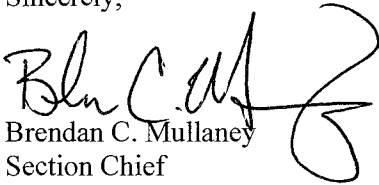
- (a) the MassDEP Waterways Application File Number;
- (b) the complete name, address, fax number and telephone number of the applicant;
- (c) the address of the project;
- (d) the complete name, address, fax number, and telephone number of the party filing the request and, if represented by counsel, the name, address, fax number, and phone number of the attorney;
- (e) if claiming to be a person aggrieved, the specific facts that demonstrate that the party satisfies the definition of "aggrieved person" found in 310 CMR 9.02;
- (f) a clear statement that a formal adjudicatory hearing is being requested;
- (g) a clear statement of the facts which are the grounds for the proceedings, the specific objections to the MassDEP's written decision, and the relief sought through the adjudicatory hearing, including specifically the changes desired in the final written decision; and
- (h) a statement that a copy of the request has been sent to: the applicant and the municipal official of the city or town where the project is located.

Dismissal of request

The request for appeal will be dismissed if the filing fee is not paid, unless the appellant is exempt or is granted a waiver. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory hearing filing fee pursuant to 310 CMR 4.06(2) for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file an affidavit setting forth the facts believed to support the claim of undue financial hardship together with the hearing request as provided above.

Please feel free to contact Cally Harper of the Wetlands and Waterways Program, (617) 549-3598 or cally.harper@mass.gov, if you have any questions pertaining to the Chapter 91 License.

Sincerely,


Brendan C. Mullaney
Section Chief
Waterways Program

cc: w/enc. Daniel J. Padien, Waterways Program Chief, DEP Boston
Office of Coastal Zone Management
Falmouth Harbormaster
Falmouth Conservation Commission
Mark Kasprzyk, Town of Falmouth
Jurgen Atema

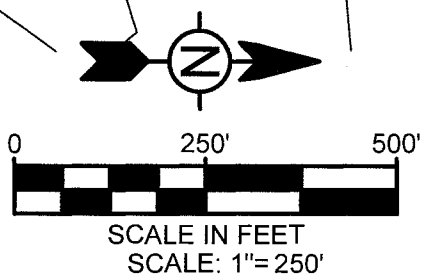
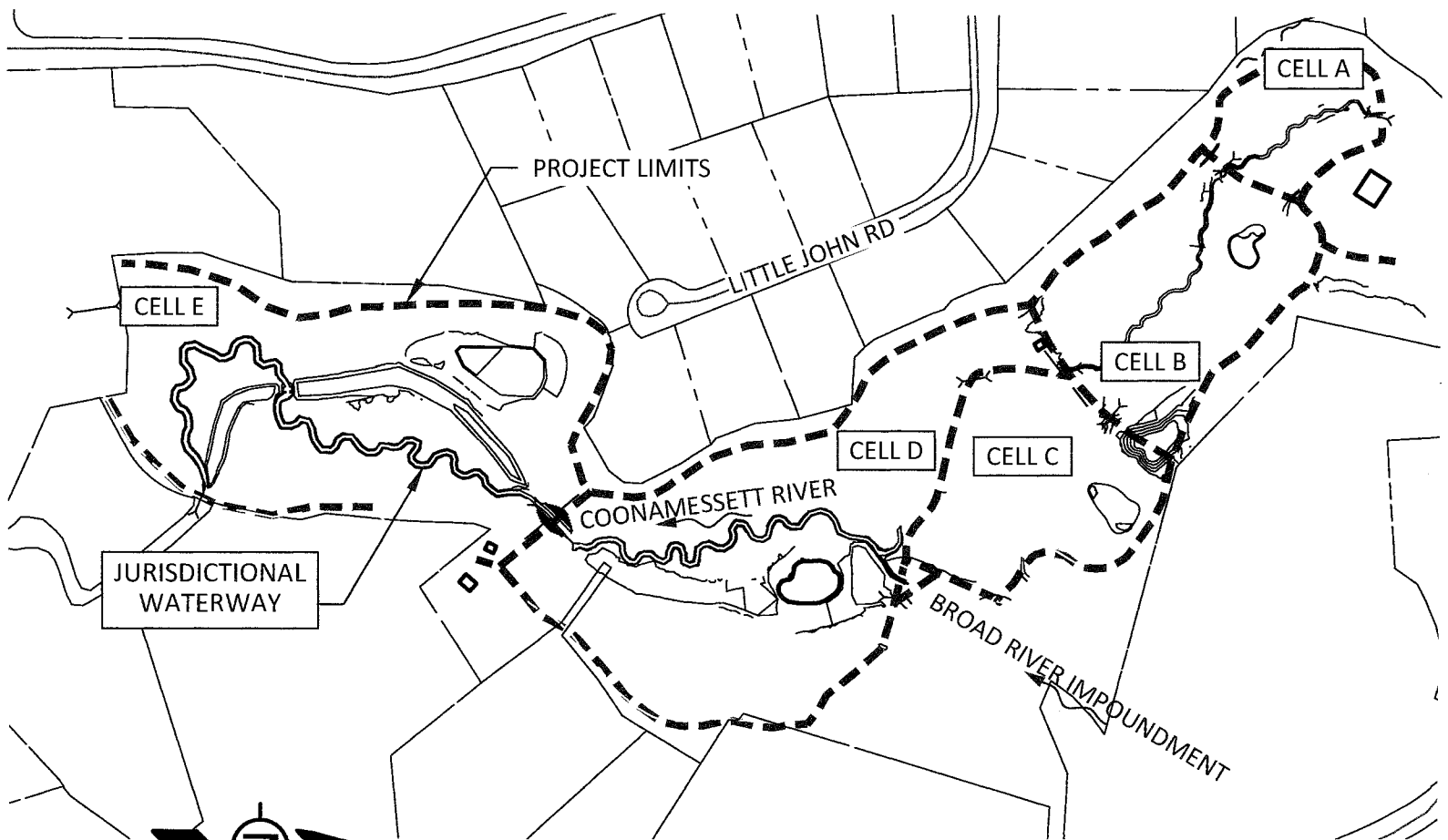
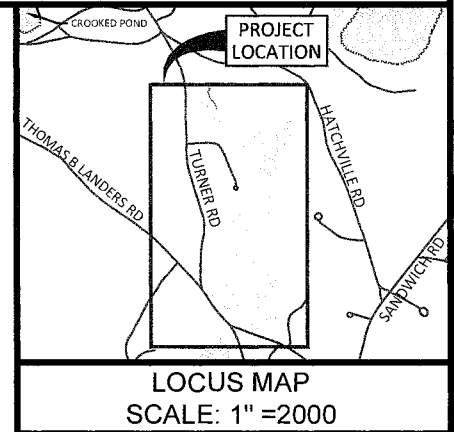
I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

A. Judge
NAME

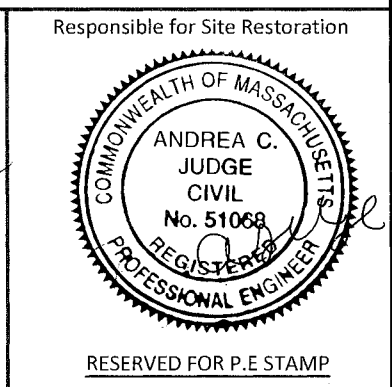
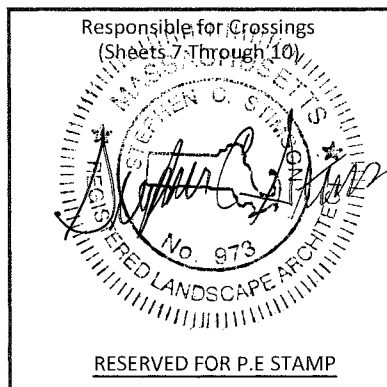
8/16/2024
DATE

DRAWING INDEX

SHEET	TITLE
1	COVER SHEET-SITE MAP & INDEX
2	EXISTING AND PROPOSED ORDINARY HIGH WATER, CELLS D AND E
3	EXISTING AND PROPOSED ORDINARY HIGH WATER, CELLS A-C
4	SECTION VIEWS: ORDINARY HIGH WATER
5	SECTION VIEWS: ORDINARY HIGH WATER
6	TYPICAL SECTION DETAILS
7	CROSSING 1
8	CROSSING 2
9	CROSSING 3
10	CROSSING 4



HORIZONTAL DATUM: NAD83 MASSACHUSETTS STATE PLANES, MAINLAND ZONE, US FOOT
 VERTICAL DATUM: NAVD88
 170 HATCHVILLE RD AND 30 HUNKY DORY FARM RD
 FALMOUTH, MA 02540



NN,MB
 CHECKED
 5/20/24
 DATE
 AJ
 APPROVED



COVER SHEET
 SHEET 1 OF 10
 MAY 20, 2024

LICENSE PLAN NO. WWD1-0000432
 Approved by Department of Environmental Protection of Massachusetts

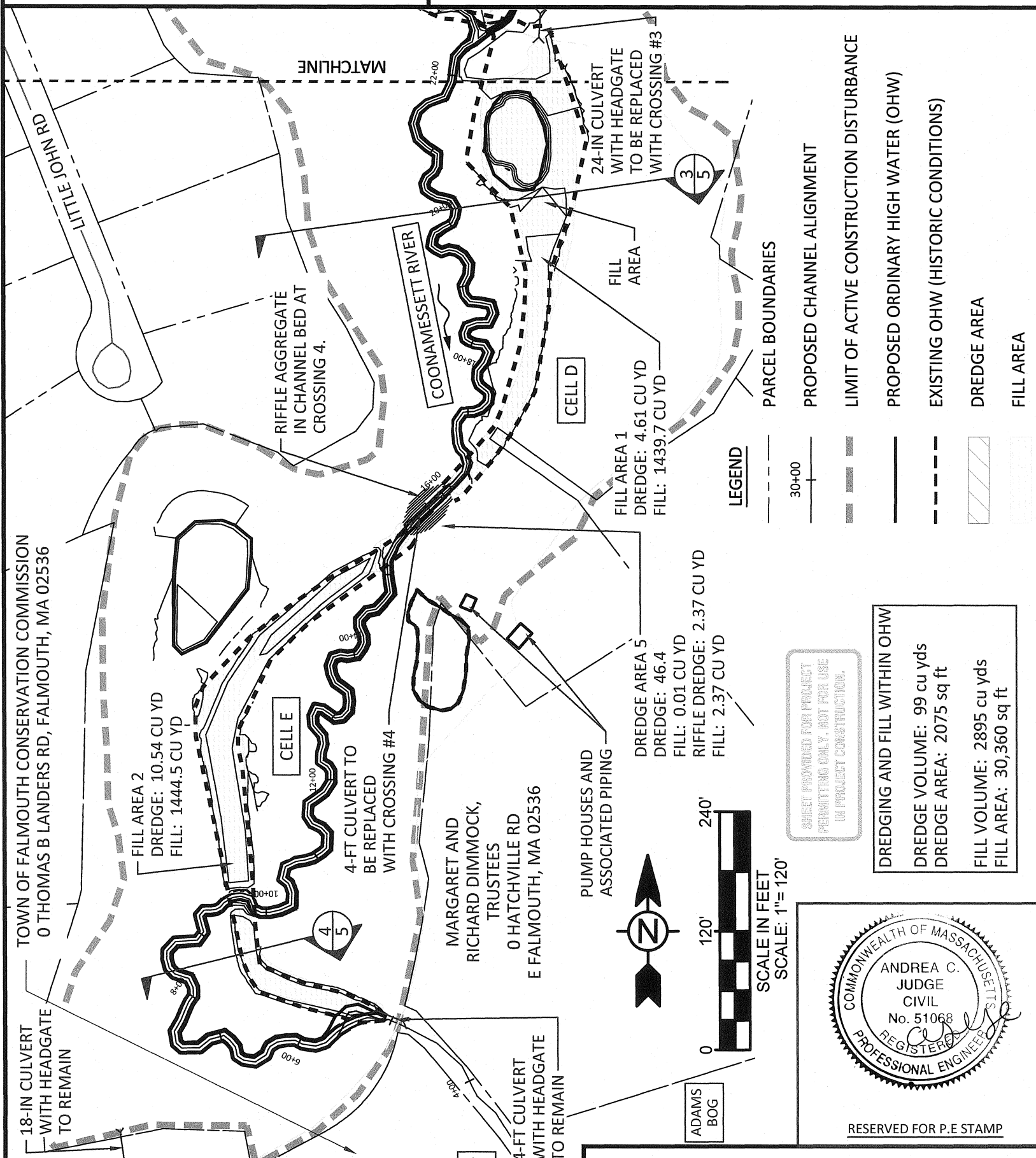
[Signature]
 October 2, 2024

PLAN ACCOMPANYING PETITION OF THE TOWN OF FALMOUTH TO DREDGE AND FILL THE NON-TIDAL WATERS AND MODIFY WATER CONTROL STRUCTURES IN THE COONAMESSETT RIVER FOR THE UPPER COONAMESSETT RIVER RESTORATION PROJECT AT FALMOUTH, BARNSTABLE COUNTY, MASSACHUSETTS

I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

Asize
NAME

8/16/2024
DATE



TOWN OF FALMOUTH CONSERVATION COMMISSION
0 THOMAS B LANDERS RD, FALMOUTH, MA 02536

MARGARET AND RICHARD DIMMOCK, TRUSTEES
0 HATCHVILLE RD
E FALMOUTH, MA 02536

SHEET PROVIDED FOR PROJECT PERMITTING ONLY. NOT FOR USE IN PROJECT CONSTRUCTION.

DREDGING AND FILL WITHIN OHW
DREDGE VOLUME: 99 cu yds
DREDGE AREA: 2075 sq ft
FILL VOLUME: 2895 cu yds
FILL AREA: 30,360 sq ft



RESERVED FOR P.E STAMP

TAXLOT AND LANDOWNER INFORMATION OBTAINED BY MASSACHUSETTS INTERACTIVE PROPERTY MAP.
[HTTPS://WWW.MASS.GOV/INFO-DETAILS/MASSACHUSETTS-INTERACTIVE-PROPERTY-MAP](https://www.mass.gov/info-details/massachusetts-interactive-property-map)

NN,MB
CHECKED
5/20/24
DATE
AJ
APPROVED



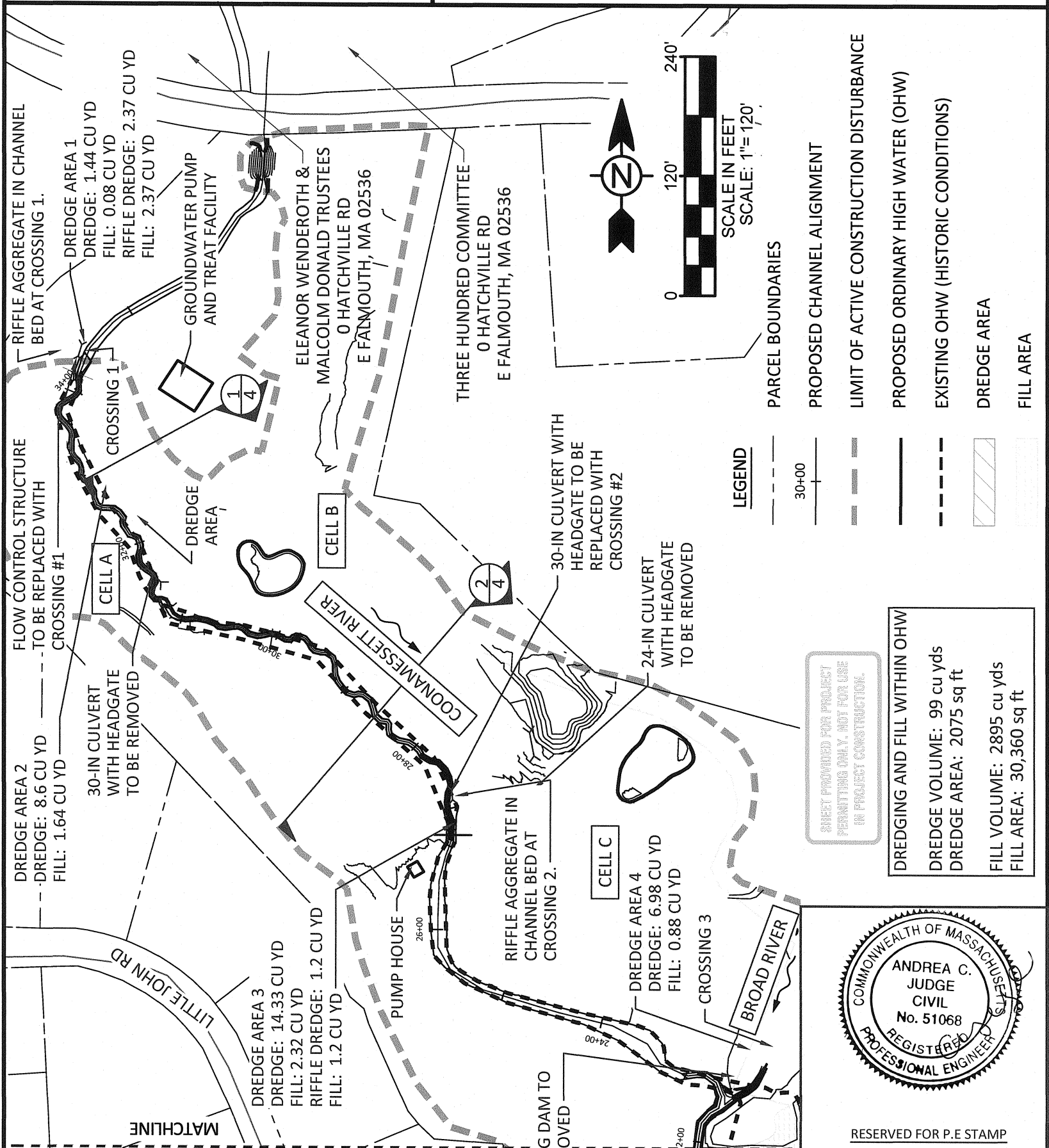
EXISTING AND PROPOSED ORDINARY HIGH WATER, CELLS D AND E
SHEET 2 OF 10
MAY 20, 2024

LICENSE PLAN NO. WWA1-0000432
Approved by Department of Environmental Protection
Date: October 2, 2024

I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

Asensy
NAME

8/16/2024
DATE



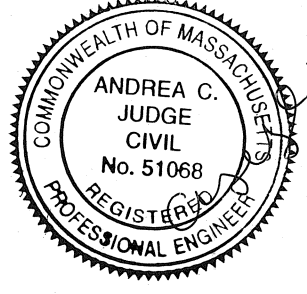
TAXLOT AND LANDOWNER INFORMATION OBTAINED BY MASSACHUSETTS INTERACTIVE PROPERTY MAP. [HTTPS://WWW.MASS.GOV/INFO-DETAILS/MASSACHUSETTS-INTERACTIVE-PROPERTY-MAP](https://www.mass.gov/info-details/massachusetts-interactive-property-map)

NN,MB
CHECKED
5/20/24
DATE
AJ
APPROVED



EXISTING AND PROPOSED ORDINARY HIGH WATER, CELLS A-C
SHEET 3 OF 10
MAY 20, 2024

LICENSE PLAN NO. WW01-0000432
Approved by Department of Environmental Protection
Date: October 2, 2024

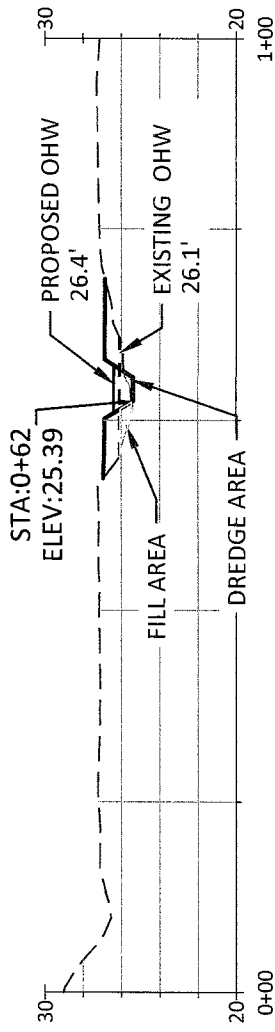


RESERVED FOR P.E. STAMP

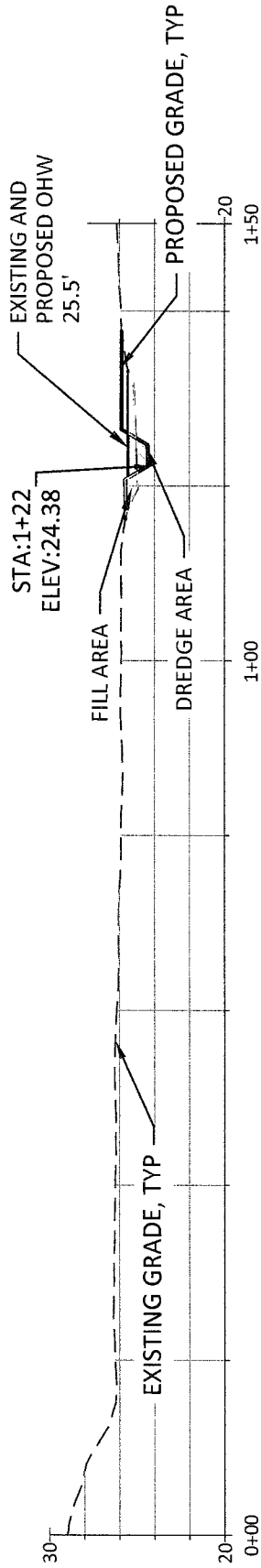
I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

Carly
NAME

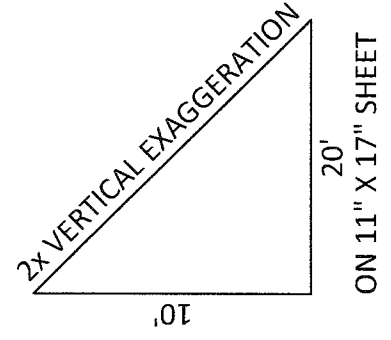
8/16/2024
DATE



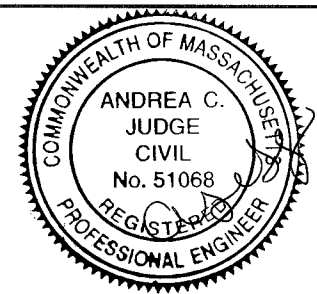
1 SECTION - CELL A
4 STA 33+05



2 SECTION - CELL B
4 STA 29+54



- LEGEND**
- PROPOSED ORDINARY HIGH WATER (OHW)
 - - - EXISTING OHW (HISTORIC CONDITIONS)
 - ▨ DREDGE AREA
 - FILL AREA



RESERVED FOR P.E STAMP

NN,MB
CHECKED
5/20/24
DATE
AJ
APPROVED



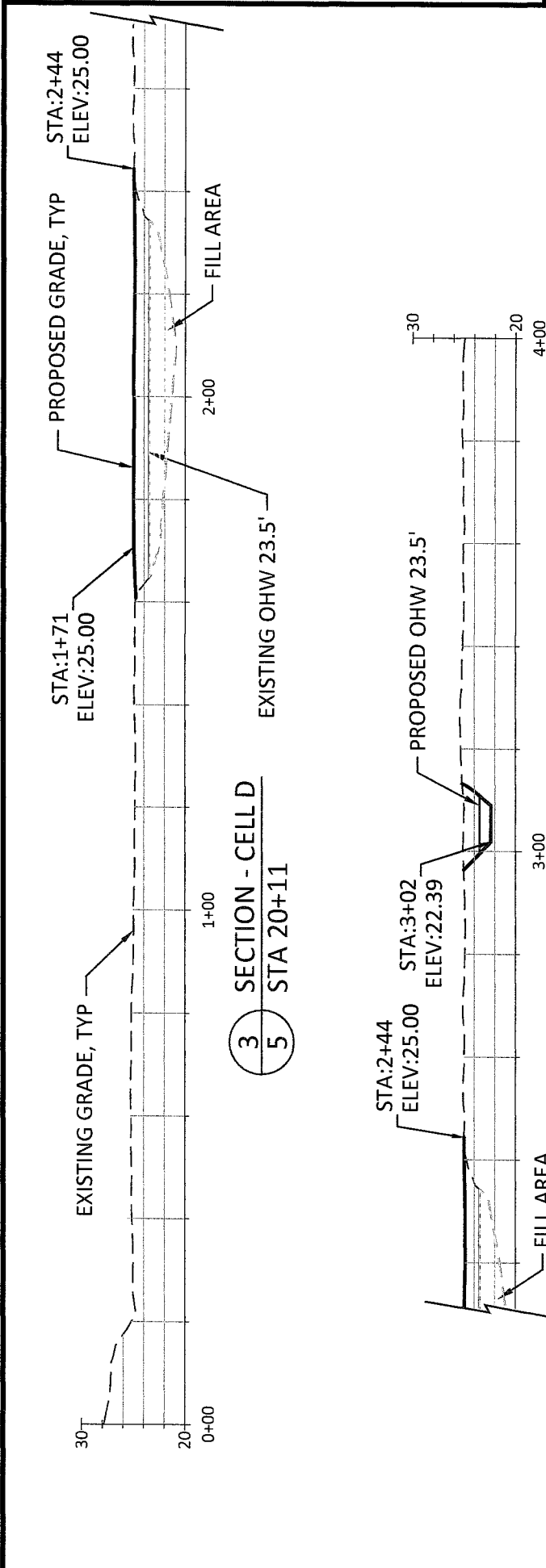
**SECTION VIEWS:
ORDINARY HIGH WATER**
SHEET 4 OF 10
MAY 20, 2024

LICENSE PLAN NO. *Ww01-0000432*
Approved by Department of Environmental Protection
Date: *October 21, 2024*

I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

Aljose
NAME

8/16/2024
DATE

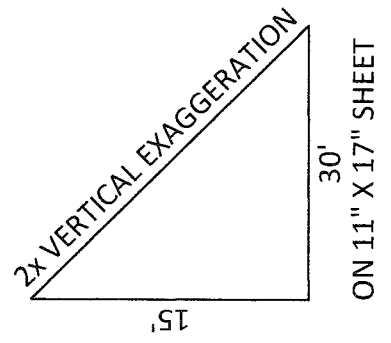


3 SECTION - CELL D CONTINUED
5 STA 20+11

4 SECTION - CELL E
5 STA 12+01

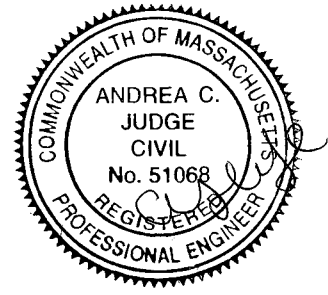
3 SECTION - CELL D CONTINUED
5 STA 20+11

4 SECTION - CELL E
5 STA 12+01



EMPTY PROPOSED FOR PROJECT
PLANNING & ONLY NOT FOR USE
IN PROJECT CONSTRUCTION

- LEGEND
- PROPOSED ORDINARY HIGH WATER (OHW)
 - - - EXISTING OHW (HISTORIC CONDITIONS)
 - ▨ DREDGE AREA
 - ▩ FILL AREA



RESERVED FOR P.E. STAMP

NN,MB
CHECKED
5/20/24
DATE
AJ
APPROVED



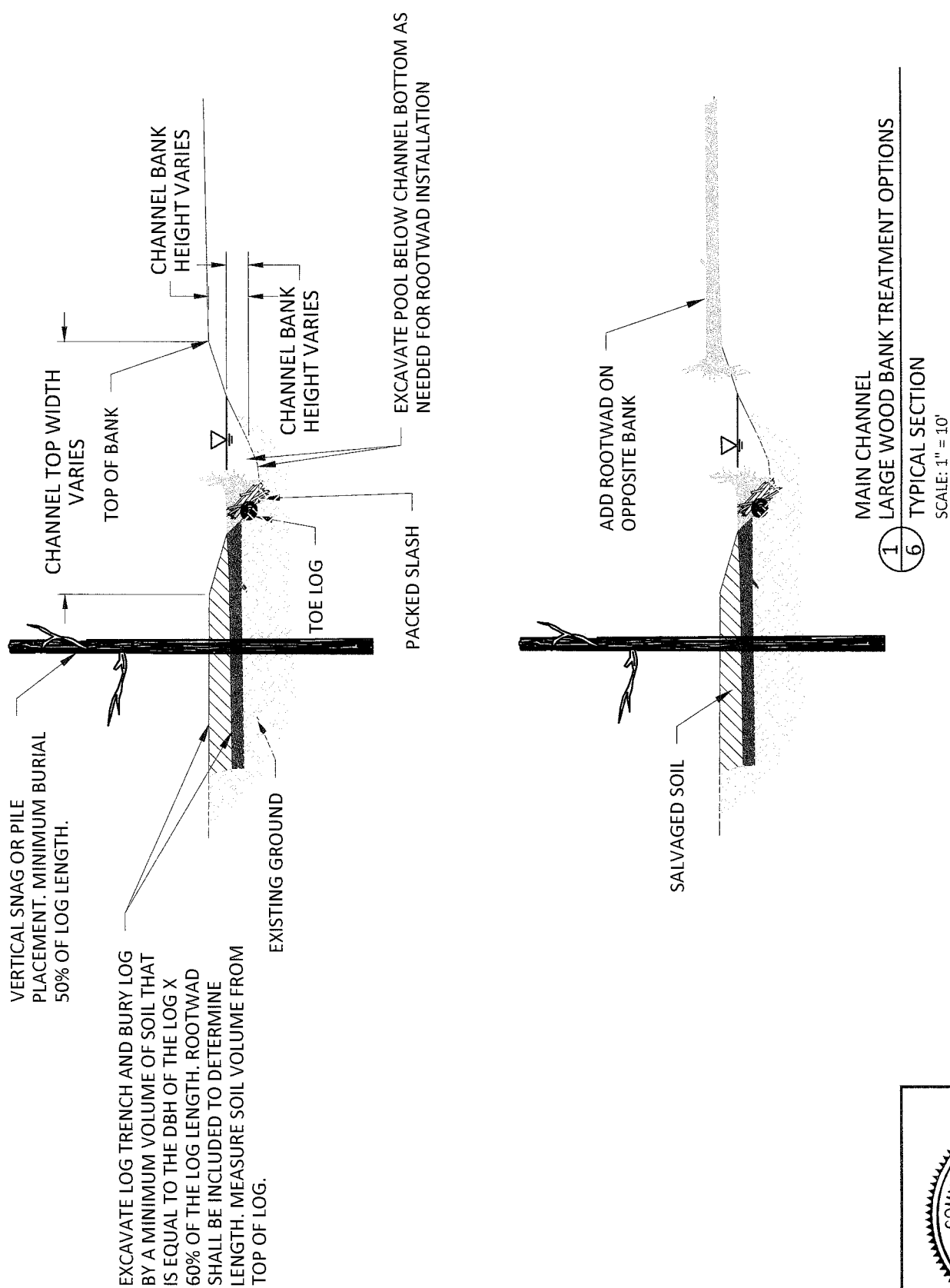
SECTION VIEWS:
ORDINARY HIGH WATER
SHEET 5 OF 10
MAY 20, 2024

LICENSE PLAN NO. WW01-000432
Approved by Department of Environmental Protection
Date: October 2, 2024

I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

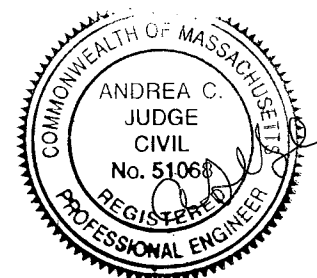
Caruse
NAME

8/16/2024
DATE



SEE PLAN FOR TREATMENT
PERFORM ONLY THE WORK
AS INDICATED

RESERVED FOR P.E. STAMP



NN,MB
CHECKED
5/20/24
DATE
AJ
APPROVED

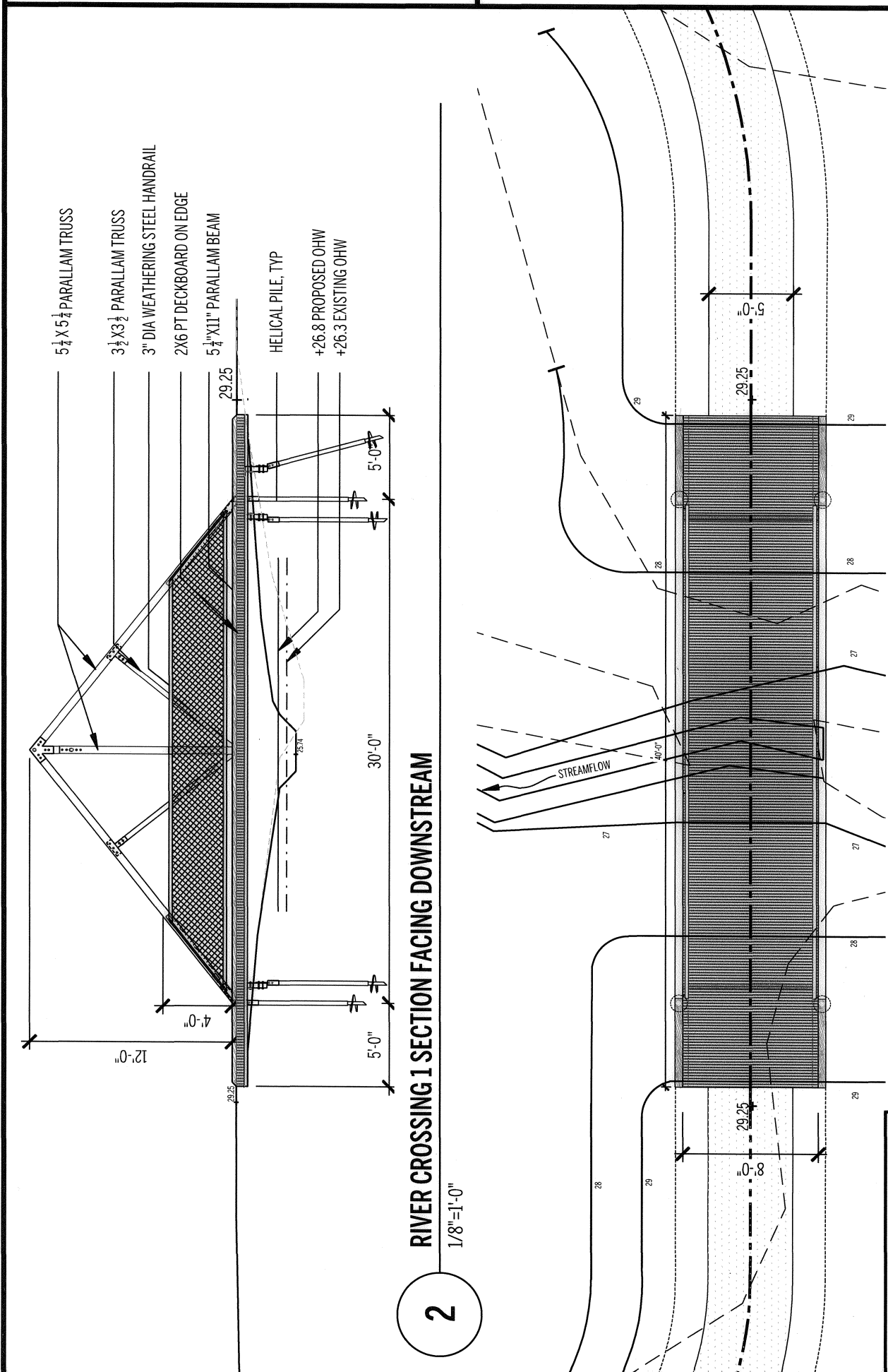


TYPICAL SECTION DETAILS
SHEET 6 OF 10
MAY 20, 2024

LICENSE PLAN NO. WW01-0000432
Approved by Department of Environmental Protection
Date: October 2, 2024

I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

[Signature] 8/20/24
 NAME DATE



LEGEND

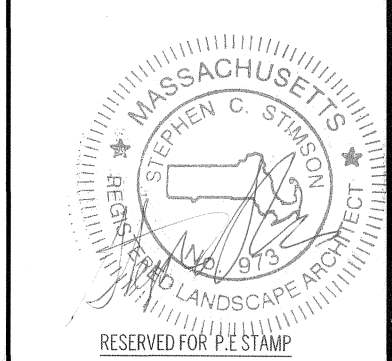
- EXISTING CONTOURS
- PROPOSED CONTOURS
- MOWED PATH EDGE
- STABILIZED AGGREGATE
- CENTERLINE

1 RIVER CROSSING 1 PLAN
 1/8"=1'-0"

2 RIVER CROSSING 1 SECTION FACING DOWNSTREAM
 1/8"=1'-0"

0 8 16
 SCALE IN FEET
 SCALE: 1"=8'-0"

N



DN, SC
 CHECKED
 5/20/24
 DATE
 JW
 APPROVED

STIMSON
 STEPHEN STIMSON ASSOCIATES LANDSCAPE ARCHITECTS, INC.
 288 NORFOLK STREET CAMBRIDGE, MA 02139
 71 GATES ROAD PRINCETON, MA 01541
 T 617 876 8960 T 978 464 5200
 STIMSONSTUDIO.COM

**CROSSING 1
 PLAN & SECTION
 SHEET 7 OF 10
 MAY 20, 2024**

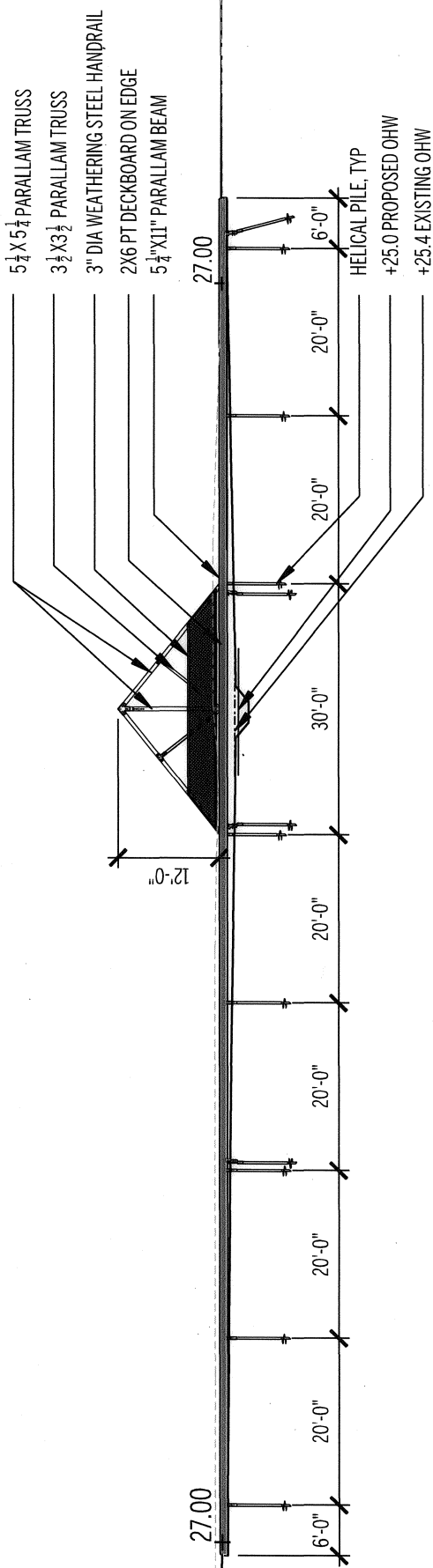
LICENSE PLAN NO. WW01-0000432
 Approved by Department of Environmental Protection
 Date: October 2, 2024

I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

NAME

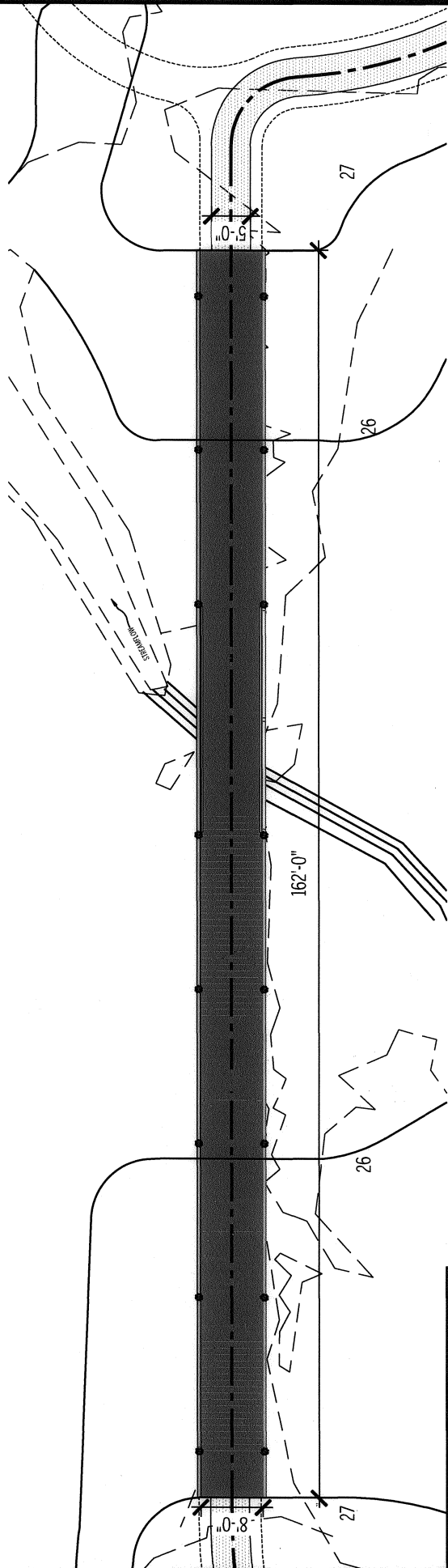
DATE

Stephen C. Stimson 8/20/24



2 RIVER CROSSING 2 SECTION FACING DOWNSTREAM

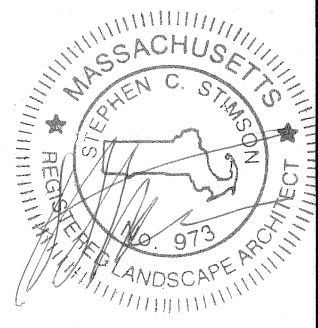
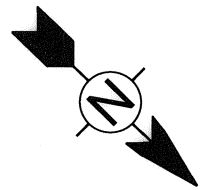
1"=20'-0"



1 RIVER CROSSING 2 PLAN

1"=20'-0"

- LEGEND
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - MOWED PATH EDGE
 - STABILIZED AGGREGATE
 - CENTERLINE



RESERVED FOR P.E. STAMP

DN, SC
CHECKED
5/20/24
DATE
JW
APPROVED

STIMSON

STEPHEN STIMSON ASSOCIATES LANDSCAPE ARCHITECTS, INC.
288 NORFOLK STREET 71 GATES ROAD
CAMBRIDGE, MA 02139 PRINCETON, MA 01541
T 617 876 8960 T 978 464 5200
STIMSONSTUDIO.COM

**CROSSING 2
PLAN & SECTION
SHEET 8 OF 10
MAY 20, 2024**

LICENSE PLAN NO. WWD1-0000432
Approved by Department of Environmental Protection
Date: *October 2, 2024*

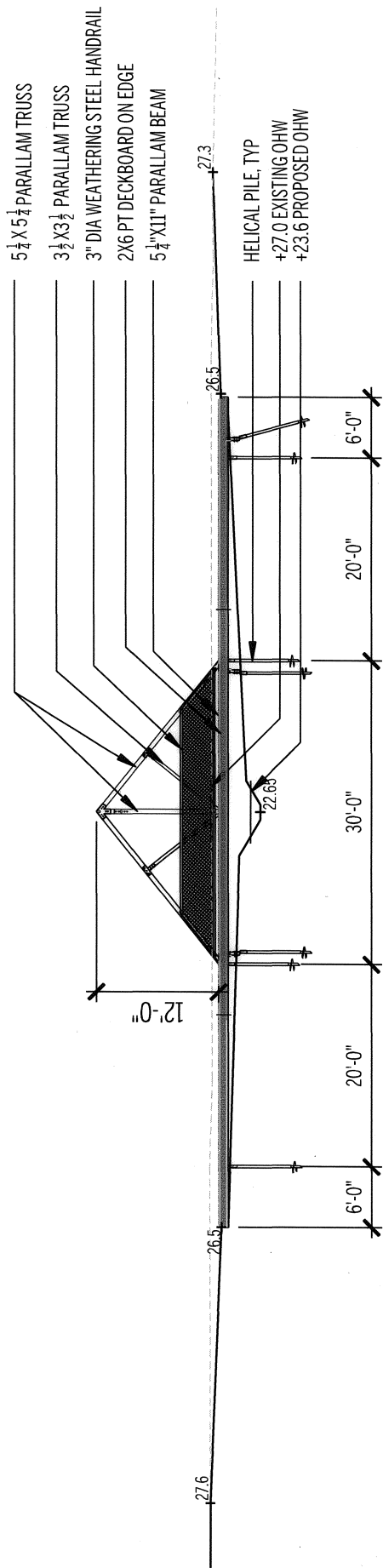
I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

[Handwritten Signature]

8/20/24

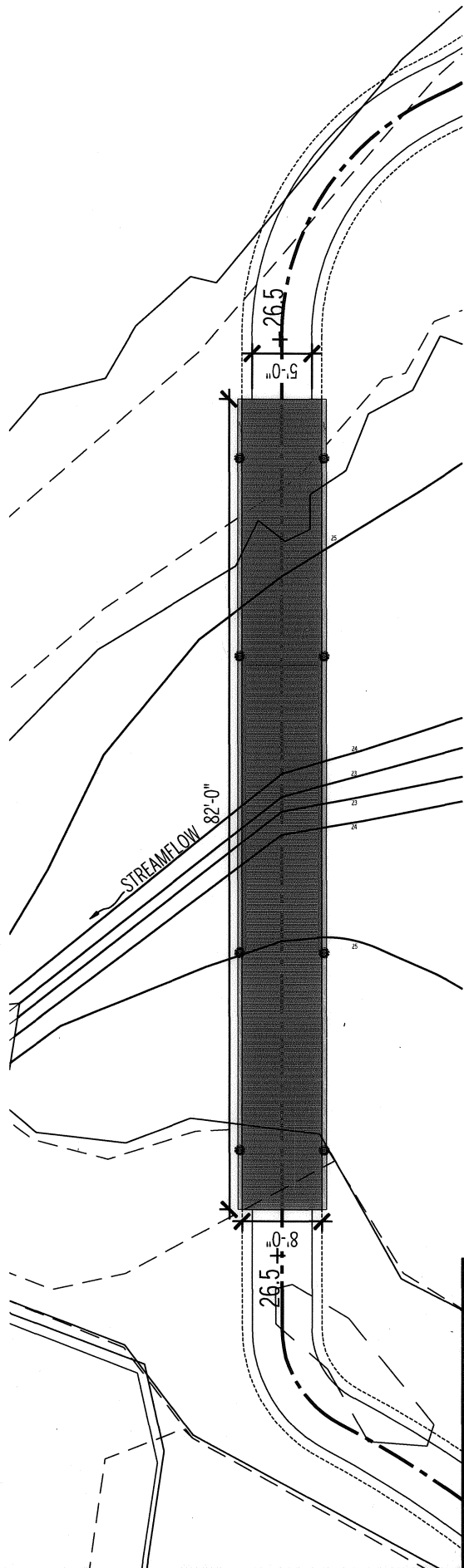
NAME

DATE



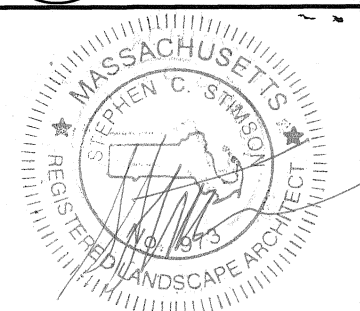
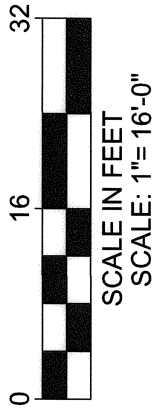
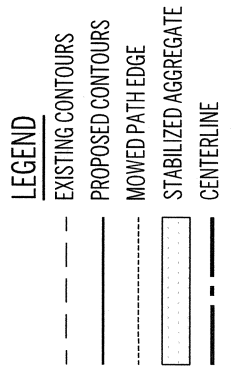
RIVER CROSSING 3 SECTION FACING DOWNSTREAM
1/16"=1'-0"

2



RIVER CROSSING 3 PLAN
1/16"=1'-0"

1



RESERVED FOR P.E. STAMP

DN, SC
CHECKED
5/20/24
DATE
JW
APPROVED

STIMSON
STEPHEN STIMSON ASSOCIATES LANDSCAPE ARCHITECTS, INC.
288 NORFOLK STREET CAMBRIDGE, MA 02139 T 617 876 8960
71 GATES ROAD PRINCETON, MA 01541 T 978 464 5200
STIMSONSTUDIO.COM

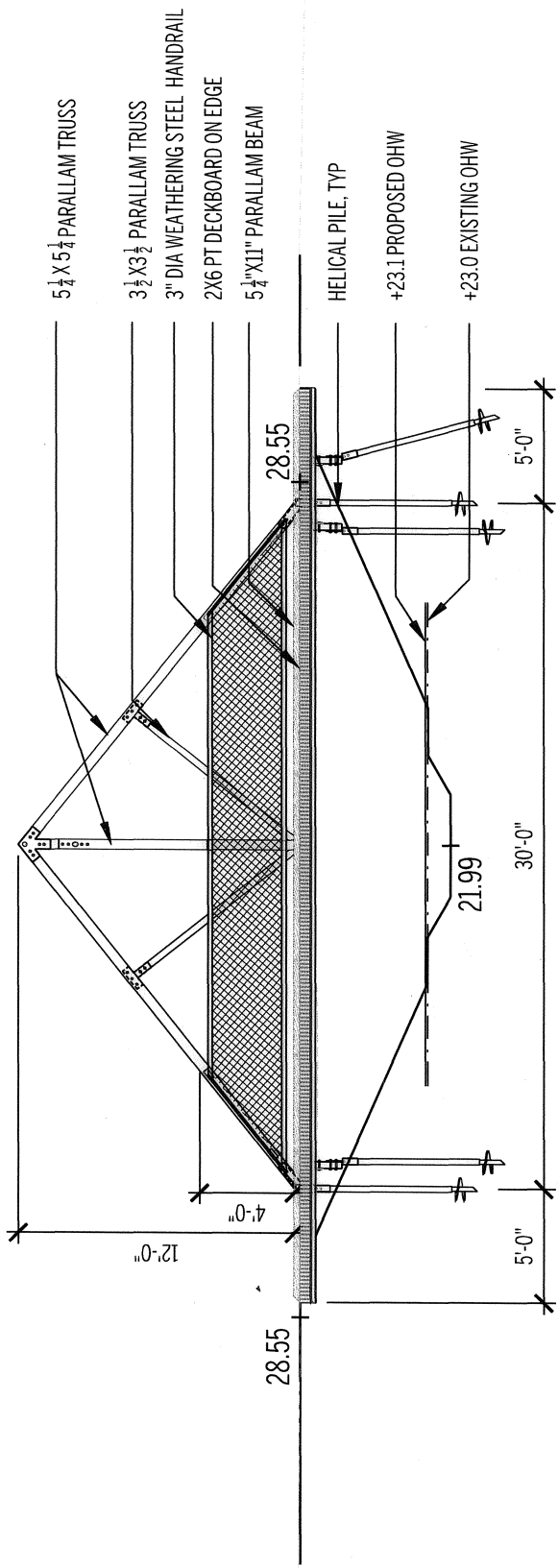
**CROSSING 3
PLAN & SECTION
SHEET 9 OF 10
MAY 20, 2024**

LICENSE PLAN NO. WW01-0000432
Approved by Department of Environmental Protection
Date: October 2, 2024

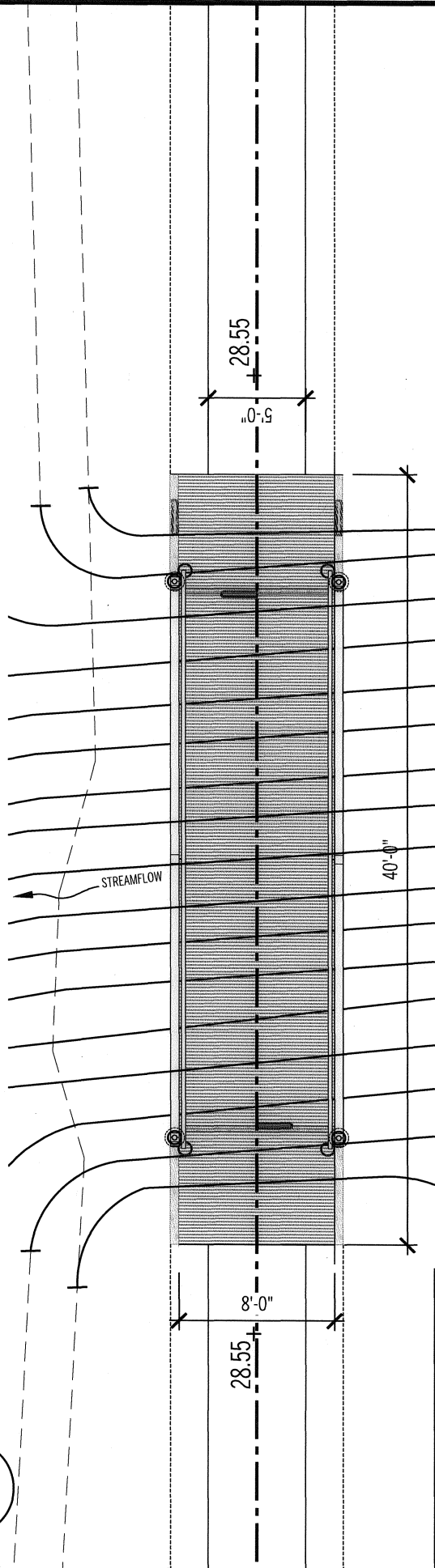
I CERTIFY THAT THIS PLAN, AS PREPARED, CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

Steph Stimson
 NAME

8/20/24
 DATE

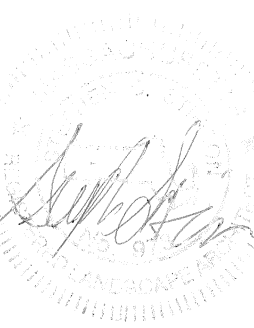
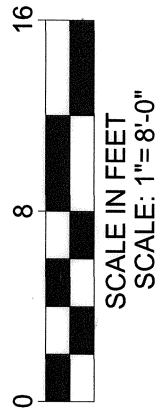
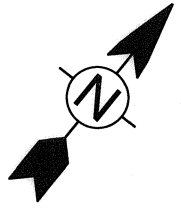


2 RIVER CROSSING 4 SECTION FACING DOWNSTREAM
 1/8"=1'-0"



1 RIVER CROSSING 4 PLAN
 1/8"=1'-0"

- LEGEND
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - MOWED PATH EDGE
 - STABILIZED AGGREGATE
 - CENTERLINE



RESERVED FOR P.E. STAMP

DN, SC
 CHECKED
 5/20/24
 DATE
 JW
 APPROVED

STIMSON
 STEPHEN STIMSON ASSOCIATES LANDSCAPE ARCHITECTS, INC.
 288 NORFOLK STREET CAMBRIDGE, MA 02139
 71 GATES ROAD PRINCETON, MA 01541
 T 617 876 8960 T 978 464 5200
 STIMSONSTUDIO.COM

**CROSSING 4
 PLAN & SECTION**
 SHEET 10 OF 10
 MAY 20, 2024

LICENSE PLAN NO. WW01-0000432
 Approved by Department of Environmental Protection
 Date: October 2, 2024

SECTION XVII

STATEMENT OF BIDDER'S QUALIFICATIONS

This form must be supplied with Bid for the Bid to be considered complete.

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. Add additional/separate sheets if necessary.

1. Name of Bidder

2. Permanent Main Office Address

3. Form of Entity

4. When and Where was the Company Organized

5. How many years has the Company been engaged in the contracting business under its present name; also state names and dates of previous firm names, if any.

6. General character of work performed by your company.

7. List any subcontractors whom you would expect to use during the completion of the Project. Please identify the firm or individual who will be completing the work on the following aspects of the project (include Name, Permanent Address, and Phone Number):

The Town of Falmouth reserves the right to disallow any subcontractor.

8. Identify and describe at least five similar construction projects performed in the last five years and provide up-to-date references and contact information for those projects. Extra sheets and Pictures may be included in the description of the projects. These projects described shall include the satisfactory execution of all the primary tasks for this project
 - a. Compliance with strict environmental regulations in and around water bodies
 - b. Implementation and maintenance of erosion control measures
 - c. Stream diversion and dewatering
 - d. Minor structure demolition
 - e. Grading operations and materials management in wetland and saturated soils
 - f. Excavation and construction of stream channels and streambanks, including instream habitat work and large wood structures
 - g. Establishment of native grasses, forbs, shrubs, and trees

9. Have you ever failed to complete any work awarded to you? ___(no) ___(yes). If so, where and why?

10. Have you ever defaulted on a contract? ___(no) ___(yes). If so, where and why?

11. Have you ever failed to complete a project in the time allotment according to the Contract Documents? ___(no) ___(yes). If so, where and why?

12. List your key personnel, such as project superintendent and foreman available for this contract. If subcontractors will be used, list the lead contact for each phase of the project.

Dated at _____ this _____ day of _____, 20____.

Name of Bidder _____.

By _____.

Title _____.

State of _____

County of _____

_____ being duly sworn, deposes and says that the

Bidder is _____ of _____
(Name of Organization)

And answers to the foregoing questions and all statements contained therein are true and correct.

Sworn to before me this _____ day of _____, 20____.

Notary of Public

My Commission expires: _____

Upper Coonamessett River Restoration and Trails and Crossings Construction
Contractor References

Bidder: _____ Date: _____

Contractor is to provide references for construction projects of similar scope. Each reference should include project name and location, contact person and contact phone numbers, a description of the work, and approximate installed cost of the project.

1. Project Name _____ Location _____
Contact Person _____ Phone _____
Email _____
Installed Cost _____
Project Description _____

2. Project Name _____ Location _____
Contact Person _____ Phone _____
Email _____
Installed Cost _____
Project Description _____

3. Project Name _____ Location _____
Contact Person _____ Phone _____
Email _____
Installed Cost _____
Project Description _____

4. Project Name _____ Location _____
Contact Person _____ Phone _____
Email _____
Installed Cost _____
Project Description _____

5. Project Name _____ Location _____
Contact Person _____ Phone _____
Email _____
Installed Cost _____
Project Description _____
