



The State of New Hampshire
Department of Environmental Services

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Robert R. Scott, Commissioner

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May 31, 2023

His Excellency, Governor Christopher T. Sununu
and the Honorable Council
State House
Concord, NH 03301

REQUESTED ACTION

Authorize the New Hampshire Department of Environmental Services (NHDES) to enter into a Memorandum of Understanding (MOU) with the New Hampshire Department of Transportation (NHDOT) (VC #312243-B001) in the amount of \$2,876,442 to complete the *NH Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts* in the Towns of Stratham and Rye, NH, effective as of July 1, 2023 through March 31, 2027, upon Governor and Council approval. 100% Federal Funds.

Funding is available in the following account. Funding for FY24 is contingent upon continuing appropriation and availability of funds.

03-44-44-442010-6363-085-588596	<u>FY 2024</u>
Dept. Environmental Services, Coastal Resilience Infrastructure, Inter-Agency Transfers out of Federal Funds	\$2,876,442

EXPLANATION

NHDES is requesting approval of a Memorandum of Understanding (MOU) between the NH Department of Transportation (NHDOT) and NHDES to provide NHDOT with federal funds to complete the *NH Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts* in the Towns of Stratham and Rye, NH (the project). The objective of the funding request is to replace three undersized tidal culverts. This project will maintain the continuity and safety of transportation, while simultaneously managing the effects of sea level rise, storm surge, and extreme precipitation events and minimizing detrimental effects of road infrastructure on sensitive tidal wetlands.

This federal funding opportunity is made available by National Oceanic and Atmospheric Administration (NOAA) through the Coastal Zone Management (CZM) Habitat Protection and Restoration grant funded under the Infrastructure Investment and Jobs Act, which specifically enables approved coastal programs to protect and restore ecologically significant habitats within the nation's coastal zone, including conserving lands that protect coastal habitat or lands that play a critical role in helping coastal communities build resilience to storms, flooding, inundation, erosion, tsunamis, sea level rise and other hazards affecting the U.S. coastlines.

His Excellency, Governor Christopher T. Sununu
and The Honorable Council

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High priority tidal crossings were identified through the NH Resilient Tidal Crossings Project, which from 2016 to 2018, created and implemented the NH Tidal Crossing Assessment Protocol at the 118 tidal crossings. Each site was scored for ecosystem compatibility, flood resilience, and structure condition, of which the three chosen for the project were ranked the highest priority. The total project budget is \$2,876,442. The attached MOU between NHDES and NHDOT will provide for the completion of project tasks.

In the event that Federal funds become no longer available, General funds will not be requested to support this program.

This agreement has been approved by the Attorney General's Office as to form, substance and execution.

We respectfully request your approval.



Robert R. Scott, Commissioner

State of New Hampshire

Interagency Memorandum of Understanding

Between the Department of Environmental Services and Department of Transportation for the project entitled: "NH Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts"

Whereas, the Department of Environmental Services [**AGENCY 1**] is a duly constituted agency or branch of government of the State of New Hampshire.

Whereas, the Department of Transportation [**AGENCY 2**] is a duly constituted agency or branch of government of the State of New Hampshire.

Whereas, pursuant to RSA 21-0 the Department of Environmental Services [**AGENCY 1**] was established to be responsible for the following general functions: water pollution control, water supply protection, regulation of waste disposal, maintenance of state-owned dams, inspection of dams, flood control, and air pollution control.

Whereas, pursuant to RSA 485-I, the New Hampshire Coastal Program was established within the Department of Environmental Services to encourage and assist state and federal agencies and coastal zone municipalities in the sustainable use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and esthetic values as well as the needs for compatible economic development.

Whereas, pursuant to RSA 21-L, the Department of Transportation [**AGENCY 2**] was established to be responsible for the planning, developing, and maintaining a state transportation network which will provide for safe and convenient movement of people and goods throughout the state by means of a system of highways, railroads, air service, mass transit, and other practicable modes of transportation, in order to support state growth and economic development and promote the general welfare of the citizens of the state.

Whereas, **AGENCY 1** and **AGENCY 2** collaborated between 2019 and 2022 to advance design, engineering, and permitting for the upgraded replacement of (3) tidal stream crossings on State owned roads in the Towns of Rye and Stratham.

Whereas, in October 2022, **AGENCY 1** and **AGENCY 2** collaborated on a grant application in the amount of \$2,988,122 to the: "National Oceanic and Atmospheric Administration (NOAA) - Coastal Zone Management (CZM) Habitat Protection and Restoration Infrastructure Investment and Jobs Act (IIJA) Competition" to replace (3) tidal stream crossings on State owned roads in the Towns of Rye and Stratham.

Whereas, **AGENCY 1**, acting through the New Hampshire Coastal Program, was awarded \$2,988,122 on April 1, 2023 and seeks to pass-through \$2,876,442 of the federal funds available to enable **AGENCY 2** to replace (3) tidal stream crossings on State owned roads in the Towns of Rye and Stratham.

Whereas, **AGENCY 2** desires to utilize federal funding made available from **AGENCY 1** for the upgraded replacement of (3) tidal stream crossings on State owned roads in the Towns of Rye and Stratham.

NOW, THEREFORE, the parties enter into this Memorandum of Understanding to their mutual benefit, the benefit of the State and in furtherance constitutional or statutory authority and objectives.

1. The NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES [AGENCY 1] agrees to:

- A. Pay AGENCY 2 the amount of \$2,876,442 for the services described in the attached MOU Exhibit B, which is hereby incorporated by reference.

Execute the following if Box 1., A is checked: Payment shall be provided from [IDENTIFY FUND]: 03-44-44-442010-6363-085-588596

- B. Perform the services described in the attached MOU Exhibit B, which is hereby incorporated by reference.

2. The NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION [AGENCY 2] agrees to:

- A. Pay AGENCY 2 the amount of _____ for the services described in the attached MOU Exhibit A, which is hereby incorporated by reference.

Execute the following if Box 1., A is checked: Payment shall be provided from [IDENTIFY FUND]:

- B. Perform the services described in the attached MOU Exhibit B, which is hereby incorporated by reference.

3. The method of payment and payment amount for the above-referenced services, if any is required, is described in the attached MOU Exhibit C such exhibit being hereby incorporated by reference.

4. All obligations hereunder are contingent upon the availability and continued appropriation of funds. The agencies shall not be required to transfer funds from any other account in the event that funds are reduced or unavailable.

5. The Memorandum of Understanding is effective on July 1, 2023 and upon Governor & Council approval until [DATE]: March 31, 2027

6. This Memorandum of Understanding may be amended by an instrument in writing signed by both parties. Either party may terminate this agreement by providing written notice to the other party at least [NUMBER] 60 days prior to termination.

7. The Parties agree that the obligations, agreements and promises made under this Memorandum of Understanding are not intended to be legally binding on the Parties and are not legally enforceable.

8. Disputes arising under this Memorandum of Understanding which cannot be resolved between the agencies shall be referred to the New Hampshire Department of Justice for review and resolution.

9. This Agreement shall be construed in accordance with the laws of the State of New Hampshire.
10. The parties hereto do not intend to benefit any third parties and this Memorandum of Understanding shall not be construed to confer any such benefit.
11. In the event any of the provisions of this Memorandum of Understanding are held to be contrary to any state or federal law, the remaining provisions of this Memorandum of Understanding will remain in full force and effect.
12. This Memorandum of Understanding, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire Memorandum of Understanding and understandings between the parties, and supersedes all prior Memoranda of Understanding and understandings relating hereto.
13. Nothing herein shall be construed as a waiver of sovereign immunity, such immunity being hereby specifically preserved.

14. FOR AGENCY 1 [Name of Agency]: DEPARTMENT OF ENVIRONMENTAL SERVICES



Date: 6/1/23

Robert R. Scott, Commissioner, Department of Environmental Services

Robert R Scott

Robert R. Scott, Commissioner, Department of Environmental Services (print)

15. FOR AGENCY 2 [Name of Agency]: DEPARTMENT OF TRANSPORTATION



Date: 5/31/23

William J. Cass, Commissioner, Department of Transportation [signature]

William Cass

William J. Cass, Commissioner, Department of Transportation [print]

Approved by the New Hampshire Department of Justice for form, substance, and execution:

By: 

[Name of Assistant Attorney General]

On: 6/1/2023

[Date]

Approved by the Governor and Executive Council

By: _____

On: _____

[Date]

Exhibit A Special Provisions

Federal Funds paid under this agreement are from a Contract Agreement to the State from the US Department of Commerce (DOC), National Oceanic and Atmospheric Administration under CFDA # 11.473 All applicable requirements, regulations, provisions, terms and conditions of this Federal Contract Agreement are hereby adopted in full force and effect to the relationship between AGENCY 1 and AGENCY 2.

In addition to the General Provisions of Paragraph 1 through 24, the following provisions as required by federal regulations apply to this Agreement:

I) **Nondiscrimination.** The Contractor shall comply with 15 CFR part 8 which prohibits discrimination under any program or activity receiving DOC assistance on the basis of race, color, national origin, gender or handicap, and 15 CFR part 20 which prohibits discrimination based on age.

II) **Financial management.** *The Contractor shall comply with 2 CFR part 200 Subpart D and the specific standards regarding financial reporting, accounting records, internal control, budget control, allowable cost, source documentation, and cash management outlined therein.*

III) **Allowable costs.** All costs charged to this Agreement shall be eligible, necessary, and reasonable for performing the tasks outlined in the approved project scope of services. The costs, including match, shall be incurred during the period of performance of the project, and shall be allowable, meaning that the costs must conform to specific federal requirements detailed in 2 CFR part 200 Subpart E.

IV) **Matching funds.** All matching funds contributed by the Contractor shall conform to the same laws, regulations, and Contract conditions as the federal funds in the Agreement and referenced in 2 CFR part 200 Subpart E.

V) **Property Management.** The Contractor shall comply with the property management and procedures detailed in 2 CFR Part 200 Subpart D.

VI) **Debarment and Suspension.** The Contractor shall comply with 2 CFR Part 200 Subpart C. By signing and submitting the Agreement, the Contractor certifies that they have not been debarred or suspended by a government agency. The Contractor will not make any award or permit any award (subcontract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension.

VII) **Procurement.** When purchasing goods or services with contract or match funds, the Contractor shall comply with procurement regulations as detailed in 2 CFR Part 200 Subpart D which include procurement standards, competition, methods of procurement, contract cost and price, agency review, bonding requirements, and contract provisions.

a. **Assignment of Subcontracts.** The Contractor shall not assign, or otherwise transfer any interest in this contract without the prior written consent of the Contract Owner and the State.

b. **Subcontracts.** The Contractor shall:

i. Ensure that every subcontract includes provisions for compliance with Federal and State standards applicable to the contract;

ii. Ensure that every subcontract includes any clauses required by Federal statute and executive orders and their implementing regulations; and

iii. Ensure that subcontractors are aware of requirements imposed upon them by State and Federal statutes and regulations.

VIII) **Participation by Disadvantaged Business Enterprises.** The Contractor shall comply with the terms of 2 CFR Part 200 Subpart D, which requires that organizations conduct a competitive procurement process making a good faith effort to utilize goods and services provided by disadvantaged businesses.

IX) **New Restrictions on Lobbying: Interim Final Rule.** The Contractor shall comply with the terms of 15 CFR part 28 and 2 CFR Part 200 Subpart E which prohibit the use of federal Contract funds to influence (or attempt to influence) a federal employee, and requires the submission of Standard Form LLL ("Disclosure of Lobbying Activities") if nonfederal funds have been used to influence (or attempt to influence) a federal employee.

X) **Drug-Free Workplace.** The Contractor shall comply with the terms of 2 CFR part 1329 which require that as a condition of the Agreement, certification that they maintain a drug-free workplace. By signing and submitting the Agreement, the Contractor certifies that he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity associated with the Agreement.

XI) **Bonding requirements.** The Contractor shall comply with 2 CFR Part 200 Subpart D for construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold (currently \$150,000), the minimum requirements shall be as follows:

- a. A bid guarantee from each bidder equivalent to five percent of the bid price. The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.
- b. A performance bond on the part of the contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.
- c. A payment bond on the part of the contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

XII) **Federal Funding Accountability and Transparency Act (FFATA).** The Contractor shall comply with the terms of the FFATA by providing NHDES with their Unique Entity Identifier (UEI) number, and all applicable Executive Compensation Data information as required under the FFATA.

- The UEI number for Department of Transportation is: DMA7LGZ3RMT1

Exhibit B
Scope of Services

Project Title: NH Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts

Project Goal: The primary goal of this project is to replace (3) undersized tidal culverts on State roads in the Towns of Stratham and Rye, NH to maintain continuity of public transportation to safely and reliably convey all people, goods and services throughout coastal communities, while simultaneously managing the predicted effects of climate change and minimizing detrimental effects of road infrastructure on sensitive tidal wetlands. These high priority tidal crossings were identified through the NH Resilient Tidal Crossings Project, which from 2016 to 2018, created and implemented the NH Tidal Crossing Assessment Protocol at the 118 tidal crossings in NH and scored each site for ecosystem compatibility, flood resilience, and structure condition.

AGENCY 1 and AGENCY 2 agree to collaborate on the performance of federal grant #NA23NOS4730117 from the National Oceanic Atmospheric Administration for the work described in the proposal entitled "NHCZM IJA Competitive: Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts" and associated SF 424-A forms that were submitted on 10/28/2022 and revised on 02/10/2023, 3/22/2023 and 3/30/2023, which are provided in Attachment A of this MOU, incorporated into this agreement by reference, and as summarized in the scope of services below.

TASKS 1. COMPLETE FINAL DESIGNS & PERMITTING (STRATHAM EAST & STRATHAM WEST), AND TASK 2. COMPLETE FINAL DESIGNS & PERMITTING (RYE)

Timeframe: 7/1/23 – 12/31/24

Roles: NHDOT will work with consultant, CMA Engineers, for final design services for the Stratham and Rye contracts. CMA was selected for preliminary design through performance-based selection criteria. CMA performed well through the preliminary design, alternatives selection, and creating draft permit documents. CMA would be selected to continue final design of construction plans and complete the permit process. Project Manager, Kirk Mudgett, Chief of the Specialty Section at NHDOT will oversee project development for NHDOT including oversight of the subcontract to CMA as well as design progress among various sections of NHDOT, including Bureau of Highway Design, Bureau of Right of Way, Bureau of Environment, Bureau of Traffic, Bureau of Construction, and District 6 Maintenance. The level of effort, cost, and role descriptions of each NHDOT personnel contributing to project development is described in the Budget Narrative. Principal Investigator, Kevin Lucey, Habitat Coordinator at the NHDES Coastal Program will review progress designs to ensure that environmental criteria of certain project elements are optimized. Kevin will also coordinate with CMA, NHDOT Bureau of Environment, and NHDES Wetlands Bureau on Tier 4 permitting, the Coastal Functional Assessment, Coastal Vulnerability Analysis, and compliance with National Environmental Policy Act. Kevin will provide coordination among natural resource agencies, as needed, regarding permitting and technical design criteria.

Description of Activities for Tasks 1 and 2

a. Complete Engineering

- i. 60% Slope and Drain Submission
 - ii. 75% PPSE Submission
 - iii. 100% PSE Submission
 - iv. Final Contract Submission
- b. Complete Permitting
 - i. Submit standard permit application to NHDES
 - ii. National Environmental Policy Act
 - iii. Conduct necessary public meetings
- c. Right of Way
 - i. Draft Plans
 - ii. Final Plans
 - iii. Acquisitions (Easements)
 - iv. Recording any Permanent Easements
- d. Utility Coordination
 - i. Utility Verification
 - ii. Utility Relocation Plans
 - iii. Perform Relocations

Milestone and Dates of Completion:

- By 07/01/23, execute subaward to NHDOT
- By 3/31/24, Complete 100% Design Plans
- By 6/30/24, Provide any permanent easement or land rights to NOAA for review
- By 6/30/24, secure all necessary permits
- By 09/30/24, have final plans and permits in-hand

Outcome and Dates of Completion

- By 12/31/24, (3) state owned tidal culverts readied for the construction phase

List of Final Products

- (2) final engineering plan sets complete
- (2) final permit document sets
- (2) Sets of Construction Specifications
- Any easement of land rights acquired

Performance Measures

- Permit Sets Complete Y/N
- Engineering Plan Sets Complete Y/N
- Convene Public Meetings 4

TASKS 3 IMPLEMENT TIDAL CULVERT REPLACEMENT (STRATHAM), AND

TASK 4: IMPLEMENT TIDAL CULVERT REPLACEMENT (RYE)

Timeframe: 10/01/24 - 3/31/26

Roles: NHDOT will advertise the construction contracts for Rye and Stratham in Fall 2024 and evaluate bids in accordance with their standard procurement processes. NHDOT will then contract subaward grant funds to the qualified low bidder. Project Manager, Kirk Mudgett, Chief of the Specialty Section at NHDOT will coordinate with the Bureau of Construction, Bureau of Traffic, and District 6 Maintenance on the construction planning. NHDOT will conduct construction engineering, including onsite oversight and evaluation of payment requests from the contractor.

The Stratham Project will proceed through construction first, followed by the site in Rye. Squamscott Road will be closed through the duration of the construction project. Due to a residential dwelling

located in between Stratham East and West, the tandem culvert replacement project will be implemented 1 culvert at a time to allow resident egress from the side where construction is not occurring. NHDOT and the Town of Rye are considering a complete closure of Route 1A for a 2 week period in Fall 2025.

Description of Activities For Task 3 and Task 4

- a. Relocate utilities (Rye only)
- b. Install erosion controls and water diversion
- c. Remove existing culvert
- d. Install new box culvert
- e. Remove 2nd culvert and install 2nd culvert (at Stratham only)
- f. Site clean up/permanent erosion controls

Milestone and Dates of Completion:

- By 01/15/25, select construction contractor
- By 04/01/25, Issue Notice to Proceed
- By 3/31/26, substantial completion declared
- By 03/31/26, End of grant performance period.

Outcome and Dates of Completion

- By 03/31/26, (3) state owned tidal culverts replaced with upgraded structures

List of Final Products

- (2) Requests for Proposals
- (2) Construction Contracts
- (2) Notice to Proceed and Substantial Completion Forms
- (2) As-Built Surveys

Performance Measures

- Construction Contracts Executed Y/N
- Notices to Proceed issued Y/N
- Substantial Completion Declared Y/N
- As-Built Complete Y/N

TASK 5. PROJECT MANAGEMENT, MONITORING, AND REPORTING

Roles: Two sections (Accounting and Coastal Program) of NHDES will oversee the overall performance of the grant. Funding is requested to support NHDES Accounting Department's oversight of the grant award, including processing payment requests and performing necessary financial reporting and audit requirements. With leveraged federal funding, NHCP will perform all other grant management, monitoring, and compliance requirements. NHCP will convene semi-annual project team meetings to coordinate tasks and reporting. NHCP will compile updates from the project team and submit (7) semi-annual performance progress reports and one comprehensive final report to NOAA.

NHCP will utilize leveraged in-kind resources to take primary responsibility for guiding and enacting the monitoring of the Stratham and Rye projects. As a deliverable for this grant, NHCP staff will create a Monitoring Plan by 12/31/23 that will describe the project goals, performance metrics, criteria (baseline condition/restoration target), monitoring parameters, and methodologies. The Monitoring Plan will likely be comprised of multiple components, including: 1) As-Built Survey completed by the construction contractor, 2) NOAA NMFS' Tier 1 Implementation Monitoring for fish passage and water level, 3) Re-survey of the restoration sites with NH Tidal Crossing Assessment Protocol, and 4) Field measurement of monitoring parameters specific to tidal wetland. The monitoring parameters for evaluation of tidal

wetlands may include: a) water surface elevation, b) porewater salinity, c) cross sections/ longitudinal profile, d) evaluation of landscape-level changes with geospatial mapping. From the time that the monitoring plan is published, the work plan includes approximately 18 months to enable the project team to adequately characterize the pre-implementation condition prior to the start of the construction projects. NHCP proposes to take advantage of the additional year (months 37-48) of grant performance to monitor and characterize the post implementation condition. During the year 1 post project monitoring, we expect to capture certain physical changes created by the new culvert (e.g changes in channel parameters and water level), but we don't expect to see changes of biological parameters (e.g plant community) after less than a year. NHCP will provide a report that summarizes pre-and post project monitoring and characterizes any initial effects. Beyond the 4 year grant performance period, these projects will be added to the NH Marsh Monitors data set, which includes 13 salt marsh restoration project that have been monitored since 2000.

The performance of the elements of the Monitoring Plan will be completed by multiple entities across the project duration. NHCP will serve as a central point of contact and repository for all data that could be used to inform monitoring. To the extent possible, certain monitoring parameters will be included as part of the normal functioning of the engineering and construction contracts. The proposed \$75,000 of contractual costs that are allocated to monitoring will enable NHDES to work with the selected design engineering teams, as well as to competitively procure technical services to complete various monitoring elements. For instance, NHCP may hire a consultant to measure and analyze water level, which, for instance, NHCP will combine with the as-built survey completed by the contractor. The details how the monitoring will be performed will be determined when the Monitoring Plan is being created.

Timeframe: 4/1/23 – 03/31/27

Description of Activities for Task 5

- a. Complete Semi Annual Reports
- b. Convene Project Status Meetings
- c. Create Monitoring Plan and Conduct Pre-Monitoring
- d. Prepare and Submit Final Report
- e. Conduct Post Project Monitoring (to occur during the period 04/01/26 – 3/31/27)

Milestone and Dates of Completion:

- By 12/31/23, Complete Monitoring Plan and Detailed Monitoring Budget
- Submit progress report every April 30 & October 31 through 2027.
- Conduct Pre Monitoring in 2024, 2025, By 03/31/26, submit final report
- By 3/31/27, submit final post project monitoring report

Outcome and Dates of Completion

- By 12/31/23, Project Implementation and Effectiveness Monitoring Metrics Established.
- By 03/31/26, Grant products and outcomes are achieved on schedule and within budget.
- By 3/31/27, Post conditions have been evaluated, compared to pre-conditions, and preliminary effects characterized.

List of Final Products

- (7) Semi Annual Reports
- (7) Project Status Meeting Notes
- (1) Monitoring Plan
- (1) Pre-Monitoring Report
- (1) Final Grant Report and Monitoring Report

- (1) Post Project Monitoring Report

Performance Measures

- Tier 1 Performance Metrics established & measured Y/N
- # Years of Pre-Restoration Data 2
- # Years of Post Restoration Data 1

Funding credit and ADA Compliance: All final work products and outreach materials shall include the NOAA, NHDES and NHCP logos and shall state that "This project was funded, in part, by NOAA's Office for Coastal Management under the Coastal Zone Management Act in conjunction with the New Hampshire Department of Environmental Services Coastal Program." All final work products must meet the applicable Americans with Disabilities Act (ADA) Title II Regulations to the extent practicable and shall be guided by best practices outlined in the Revised Section 508 Standards of the Rehabilitation Act and the Web Content Accessibility Guidelines (WCAG). At minimum, final work products shall include sans-serif fonts, underlined and descriptive text links, color best practices, captions for audio and video content, headers in tables, images with alt text, gender-neutral text, and consideration of the Plain Writing Act. Examples of final work products and outreach materials include, but are not limited to, project reports, press releases, newsletter articles, websites, videos and signage.

Exhibit C
Method of Payment and Contract Price

The Department of Environmental Service will pay to Department of Transportation the total reimbursable program costs in accordance with the following requirements:

Reimbursement requests for program costs shall be made by the Department of Transportation using a payment request form as supplied by Department of Environmental Services, which shall be completed and signed by the Department of Transportation. The payment request form shall be accompanied by proper supporting documentation in the amount of each requested disbursement and required matching funds. Documentation of reimbursable costs may include invoices for supplies, equipment, services, contractual services, and a report of personnel, travel and indirect costs. For projects that demonstrate progress solely through the submission of interim progress reports, payments shall be made upon receipt, review and approval of the interim progress report and accompanying payment request form. Payments shall be made to the Contractor no more frequently than monthly.

The total reimbursement shall not exceed \$2,876,442.

Attachment A

- Financial Assistance Award (CD-450)
- Special Award Conditions
- Grant Application Narrative
- Budget Narrative
- SF424A (NHDES)
- SF424A (NH DOT)
- Project Logic Model

FORM CD-450
(REV 10/18)

U. S. DEPARTMENT OF COMMERCE

FINANCIAL ASSISTANCE AWARD

GRANT COOPERATIVE AGREEMENT

RECIPIENT NAME
ENVIRONMENTAL SERVICES, NEW HAMPSHIRE DEPARTMENT OF

FEDERAL AWARD ID NUMBER

NA23NOS4730117

PERIOD OF PERFORMANCE

04/01/2023-03/31/2027

STREET ADDRESS

29 HAZEN DR

FEDERAL SHARE OF COST

\$2,988,122.00

CITY, STATE, ZIP CODE

CONCORD NH 03301-6510

RECIPIENT SHARE OF COST

\$0.00

AUTHORITY

Infrastructure Investment and Jobs Act, Public Law 117-58, and Coastal Zone Management Act section 307A (16 U.S.C. 1456-1) and 310 (16 U.S.C. 1456c)

TOTAL ESTIMATED COST

\$2,988,122.00

CFDA NO. AND NAME

11.473 Office for Coastal Management

PROJECT TITLE

NHCZM IJA Competitive: Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts

This Award Document (Form CD-450) signed by the Grants Officer constitutes an obligation of Federal funding. By signing this Form CD-450, the Recipient agrees to comply with the Award provisions checked below and attached. Upon acceptance by the Recipient, the Form CD-450 must be signed by an authorized representative of the Recipient and returned to the Grants Officer. If not signed and returned without modification by the Recipient within 30 days of receipt, the Grants Officer may unilaterally withdraw this Award offer and de-obligate the funds.

DEPARTMENT OF COMMERCE FINANCIAL ASSISTANCE STANDARD TERMS AND CONDITIONS

R & D AWARD

FEDERAL-WIDE RESEARCH TERMS AND CONDITIONS, AS ADOPTED BY THE DEPT. OF COMMERCE

BUREAU SPECIFIC ADMINISTRATIVE STANDARD AWARD CONDITIONS

SPECIFIC AWARD CONDITIONS

LINE ITEM BUDGET

2 CFR PART 200, UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS, AS ADOPTED PURSUANT TO 2 CFR § 1327.101

48 CFR PART 31, CONTRACT COST PRINCIPLES AND PROCEDURES

DEPARTMENT OF COMMERCE PRE-AWARD NOTIFICATION REQUIREMENTS FOR GRANTS AND COOPERATIVE AGREEMENTS (REF: 79 FR78390)

MULTI-YEAR AWARD, PLEASE SEE THE MULTI-YEAR SPECIFIC AWARD CONDITION.

OTHER(S):

This award is being made under competitive Funding Opportunity Number NOAA-NOS-OCM-2022-2007458 posted at Grants.gov on 06/28/2022.

SIGNATURE OF DEPARTMENT OF COMMERCE GRANTS OFFICER

Jewel Linzey

DATE

04/03/2023

PRINTED NAME, PRINTED TITLE AND SIGNATURE OF AUTHORIZED RECIPIENT OFFICIAL

Susan Carlson

DATE

04/19/2023

Specific Award Conditions

Award Number: NA23NOS4730117
Amendment Number: 0

1) New Award SAC

This award number NA23NOS4730117, to ENVIRONMENTAL SERVICES, NEW HAMPSHIRE DEPARTMENT OF supports the work described in the Recipient's proposal entitled "NHCZM IIA Competitive: Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts" 10/28/2022 and revised SF-424-A on 02/10/2023, 3/22/2023 and 3/30/2023 which are incorporated into the award by reference. Where the terms of the award and proposal differ, the terms of the award shall prevail.

2) Post Award NEPA Review Process

National Environmental Policy Act (NEPA) Requirements for Change of Scope: Under Department of Commerce Standard Terms and Conditions § G.04.a., the Recipient is required to identify to NOAA any impact the award will have on the quality of the human environment, and assist NOAA in complying with NEPA and associated environmental laws and policies. For any tasks or sub-tasks with a Special Award Condition attached requiring further NOAA Office for Coastal Management review prior to full approval, the Office for Coastal Management will review these tasks to determine the appropriate level of National Environmental Policy Act analysis, and if additional information is necessary.

If the scope of an award amendment has changed from the original grant scope (e.g., funding is being awarded for additional construction not originally considered), then NOAA will consider if the change implicates the National Environmental Policy Act even if it was considered in the original award of the grant. A Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement may be prepared for grant amendments, depending on scope of the amendment and what type of analysis is appropriate. For additional grant cycle steps, such as the release of funds, cost extensions, and other administrative steps that do not change the scope of the original grant award where NEPA was conducted, a NEPA review will not need to be conducted again.

NOAA may require additional information to fulfill post award NEPA and environmental compliance review requirements. If NOAA determines that an environmental assessment is required, applicants may also be required to assist in drafting the assessment. Applicants may also be required to cooperate with NOAA in identifying and implementing feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal.

Any permanent easement or land rights acquired under this award must be submitted to NOAA for review before acquisition.

3) Cooperative Agreement Specific Award Condition

This award is a cooperative agreement as described in 2 C.F.R. § 200.1, meaning that the NOAA is "substantially involved" in the project. NOAA's participation involves the following:

NOAA Office for Coastal Management (OCM) staff will provide technical assistance and guidance to the Recipient and participate in programmatic activities beyond normal stewardship responsibilities in the administration of the award. OCM staff will closely monitor the award, and in its discretion, may review or monitor local programs for which the Recipient remains responsible. NOAA will collaborate and coordinate with the recipient on the project, and/or provide training on project-related matters to project staff, and provide assistance in the management and technical performance of the project activities. NOAA may require milestones before subsequent stages of the project may continue. NOAA may limit the recipient's discretion with respect to the scope of work, organizational structure, staffing, mode of operations, and other management processes, which will be coupled with close monitoring of operational involvement during performance.

4) Supplemental Reporting Guidance

This Special Award Condition supplements reporting requirements in 2 C.F.R. §§ 200.328-200.330, the Department of Commerce Standard Terms and Conditions and NOAA Administrative Standard Award Conditions.

Format: Performance reports shall address the subject areas specified in "Office for Coastal Management, FY 2022 Infrastructure Competitive Funding Performance Report Guidelines", which is available from the NOAA Office for Coastal Management and may be attached to this award.

5) Programmatic Special Award Conditions

A. Implementing Project Activities: The recipient shall comply, and must require each contractor or subcontractor to comply, with all applicable Federal, state, and local laws and regulations.

B. Field Work: The applicant must ensure that any field work will be conducted in accordance with appropriate Federal, state and local laws and will follow recognized best practices for minimizing impacts to the human and natural environment.

C. Safety: The Recipient is responsible for safety in the project, including the safety of project personnel, associates, visitors, and volunteers. In addition, for any Self-Contained Underwater Breathing Apparatus (SCUBA) diving activities in a project, it is the responsibility of the Recipient to ensure that SCUBA divers are certified to a level commensurate with the type and conditions of the diving activity being undertaken. Furthermore, it is the responsibility of the Recipient to ensure that any SCUBA diving activities under this award meet, at a minimum, all applicable Federal, State, and local laws and regulations pertaining to the type of SCUBA diving being undertaken.

D. Uncrewed Aircraft Systems: If this project involves Uncrewed Aircraft Systems (UAS or drone technology), the Recipient is responsible for coordinating with the Federal Program Officer regarding any applicable policies and standards in NOAA's Office of Marine and Aviation Operations (OMAO) Handbook (June 2022, and any updates). See <https://www.oma.noaa.gov/learn/aircraft-operations/aircraft/uncrewed-aircraft-systems>. In addition, for any UAS activities in a project, it is the responsibility of the Recipient to ensure it has complied with applicable federal/state/local laws and have the appropriate permits in hand prior to conducting drone operation.

E. Funding Acknowledgement Sign

For each property restored or acquired under the award, the Recipient shall cause to be erected at the property a permanent plaque or sign satisfactory to NOAA that identifies the project and credits the "National Oceanic and Atmospheric Administration through the Bipartisan Infrastructure Law" as a funding source.

The Recipient's final project report shall include photographs of the sign installed at the property as evidence that this award condition has been met.

F. Required Use of American Iron, Steel, Manufactured Products, and Construction Materials

If applicable, and pursuant to the Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. No. 117-58, which includes the Build America, Buy America (BABA) Act, Pub. L. No. 117-58, §§ 70901-52 and OMB M-22-11, recipients of an award of Federal financial assistance from the Department of Commerce (DOC) are hereby notified that none of the funds provided under any award in this program may be used for a project for infrastructure unless: (1) all iron and steel used in the project are produced in the United States—this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States; (2) all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation; and (3) all construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States. The Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently affixed to the infrastructure project.

Waivers: When necessary, recipients may apply for, and DOC may grant, a waiver from these requirements. DOC will notify the recipient for information on the process for requesting a waiver from these requirements. When DOC has made a determination that one of the following exceptions applies, the awarding official may waive the application of the domestic content procurement preference in any case in which DOC determines that: a. applying the domestic content procurement preference would be inconsistent with the public interest; b. the types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or c. the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent. A request to waive the application of the domestic content procurement preference must be in writing. DOC will provide instructions on the format, contents, and supporting materials required for any waiver request. Waiver requests are subject to public comment periods of no less than 15 days and must be reviewed by the U.S. Made in America Office. There may be instances where an award qualifies, in whole or in part, for an existing waiver described at whitehouse.gov/omb/management/made-in-america.

Definitions:

“Construction materials” includes an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives—that is or consists primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinyl chloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall.

“Domestic content procurement preference” means all iron and steel used in the project are produced in the United States; the manufactured products used in the project are produced in the United States; or the construction materials used in the project are produced in the United States.

“Infrastructure” includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property. Infrastructure includes facilities that generate, transport, and distribute energy.

“Project” means the construction, alteration, maintenance, or repair of infrastructure in the United States. -- 1 Excludes cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives. 2 IIIJA, § 70917(c)(1).

Implementation of Domestic Sourcing Requirements

Prior to initiation of any construction that may arise in any award under this program, the Recipient will be required to inform the NOAA Grants Officer and the Federal Program Officer whether it is using iron, steel, manufactured products, or construction materials as described in the above policy on Required Use of American Iron, Steel, Manufactured Products, and Construction Materials. In addition, the Recipient will be required to inform the NOAA Grants Officer and the Federal Program Officer whether those materials are produced or manufactured in the United States, or alternatively, it is requesting one or more waivers, as described in this announcement. The Recipient will be required to coordinate with NOAA regarding its compliance with this policy.

6) Funding Restriction for Tasks 3 & 4 (Culvert Implementation)

The environmental review and consultation was not completed for activities under Tasks 3 and 4 (Culvert Implementation) by the time the final award file needed to be submitted to obligate funds. The Recipient is not authorized to expend federal funds in the amount of \$2,486,744 until NOS demonstrates compliance with applicable environmental laws and regulations by providing appropriate documentation within the final award file. At this time, there is no action or requirement that needs to be completed by the Recipient. Once this Specific Award Condition has been released by NOAA, the Recipient is authorized to expend federal funds in the amount of \$2,486,744 to complete Tasks 3 and 4, unless there are other conditions placed on the award that would restrict this expenditure of funds.

7) Funding Restriction for Task 5 (Monitoring)

Task 5 was not sufficiently defined for the National Ocean Service to perform an environmental review by the time the final award file needed to be submitted to obligate funds. Also, the recipient did not provide a detailed budget for the monitoring subcontract that will support work under Task 5 (Monitoring). In addition, the Recipient provided a data management plan for monitoring data that will be collected under Task 5 (Monitoring) but NOAA was unable to complete its review of the data management plan by the time the final award file needed to be submitted to NOAA's Grants Office to obligate funds. The Recipient is not authorized to expend federal funds in the amount of \$75,000 for Task 5 (Monitoring) until: 1) the recipient provides information of the monitoring parameters and methods that will be used and any additional information requested to satisfy requirements for National Environmental Policy Act (NEPA) and environmental consultation; 2) the recipient provides a detailed budget for the monitoring subcontract; and 3) NOAA approves the data management plan and provides appropriate documentation within the final award file. Once this Specific Award Condition has been released by NOAA, the Recipient is authorized to expend federal funds in the amount of \$75,000 to complete Task 5, unless there are other conditions placed on the award that would restrict this expenditure of funds.

Due Date: 09/01/2024

1 TITLE PAGE (PROPOSAL COVER SHEET)

a. **Project Title:** NH Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts

b. **Type of Project:** Habitat Restoration

c. **Proposed Project Start and End Dates:** 04/01/2023 – 3/31/27

d. **Applicant Information:**

- **Recipient Name:**

New Hampshire Department of Environmental Services- Coastal Program
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Total Federal Funding Request: \$2,988,122

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2. PROJECT SUMMARY

a. **Project Name/title:** NH Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts

b. **Requested Funding:** \$2,988,122

c. **Brief Project Summary:**

The objective of this funding request is to replace (3) undersized tidal culverts on State roads in the Towns of Stratham and Rye, N.H. These high priority tidal crossings were identified through the NH Resilient Tidal Crossings Project, which from 2016 to 2018, created and implemented the NH Tidal Crossing Assessment Protocol at the 118 tidal crossings in NH and scored each site for ecosystem compatibility, flood resilience, and structure condition. In 2019, with funding from NFWF National Coastal Resilience Grant (ID# 62525) and NOAA Project of Special Merit (NA20NOS4190110), The Nature Conservancy (TNC) and NH Coastal Program (NHCP) worked to advance a pipeline of projects for implementation by conducting alternative analysis, design, and permitting at 5 of the highest priority tidal crossing sites in NH. TNC created new partnerships with New Hampshire Department of Transportation (NHDOT), the Towns of North Hampton and Seabrook and hired consulting engineers to prepare designs and permits. The subject of this funding request will advance 3 of the 5 tidal crossing projects that are currently under development through to restoration project implementation. The (3) tidal culverts selected for this funding opportunity are owned by NHDOT and will be executed as 2 projects (2 culverts in Stratham, 1 culvert in Rye).

-**STRATHAM EAST AND WEST:** The (2) subject tidal culverts in Stratham are located along Squamscott Road at 2 separate tidal wetland crossings that are part of Chapman's Landing Salt Marsh, a high priority breeding area for salt marsh sparrow. The 18" round concrete culverts were assessed in 2018 and determined to be tidal restrictions. The proposed replacement projects will significantly increase hydraulic opening by upgrading culvert size from 18" inches round to an 8'W x 7'H box at each crossing.

-**RYE:** The subject tidal culvert in Rye, NH is located on NH Route 1A where it traverses through Awcomin Salt Marsh and around Rye Harbor. The existing 3.5' W x 7' H culvert was assessed in 2018 and was determined to be: in poor condition, undersized in both width and height dimensions, a moderate tidal restriction, and has high upstream salt marsh migration potential. The proposed replacement project will maintain existing culvert and road height and increase structure width from 3.5 ft to 15ft. The project incorporates an adaptive pathway design by enabling road raising in the future.

The Project Team (NHDOT, NHDES, TNC, CMA Engineers, Streamworks) has proceeded through alternative analysis, preliminary design, and pre-permitting consultations for the Stratham and Rye projects. To determine the preferred alternative for each site, the Project Team evaluated existing rainfall runoff and tidal regimes, as well as climate change parameters including, sea level rise, increased precipitation and salt marsh migration. The preferred culvert sizing for both sites is designed to accommodate bankfull flows and will be constructed with natural stream channel material through the bottom of tidal culvert. The project benefits include: reduce/eliminate tidal restriction, improve organism passage, prevent channel scour, enable marsh migration, and reduce risk of road flooding during rainfall events. The Stratham and Rye projects were presented to NH Natural Resources Agency Coordination Committee meeting on April 20, 2022. The project design plans were positively received by all state and federal agencies. The Project Team received confirmation from NHDES Wetlands Bureau that the proposed plans will satisfy the new Tier 4 stream crossing rules, as well as indication that the projects will be categorized as "restoration" due to the proactive goals and due to the project support and funding that is being provided by TNC, NHCP, and NOAA. Public hearings with municipalities were held on October 13, 2022 for Stratham and October 24th, 2022 for Rye (see attached municipal letters of support). The projects are currently undergoing NEPA review by the NH Department of Transportation, per their existing process through Lead Federal Agency, Federal Highways Administration.

3 PROJECT DESCRIPTION

There are approximately 120 tidal stream crossings in New Hampshire. A tidal crossing is a culvert, bridge, or tide gate associated with a road or other form of crossing infrastructure that conveys tidal flow or is located at the head of tide. There are relatively few tidal crossings in NH when compared to 21,000 freshwater crossings in the state, but they play a critical role for the ecological integrity of aquatic systems at both the estuary and watershed scales. For example, tidal crossings often restrict tidal flows thus altering hydrology, sediment movement, salinity, and plant species composition of tidal marshes. Tidal restrictions ultimately affect the ability for salt marsh systems to build in elevation and migrate upstream with rising sea levels. Tidal crossings can also block migratory fish from accessing critical upstream habitats. From a community resiliency perspective, tidal crossings are necessary to safely and reliably convey people, goods and services throughout coastal communities; however, this infrastructure is increasingly at risk from flooding and erosion with rising sea levels and more frequent and intense storm events.

Working in partnership with the NH Department of Transportation (NHDOT), the NH Coastal Program (NHCP) at the NH Department of Environmental Services (NHDES) is requesting funding from National Oceanic Atmospheric Administration – Office for Coastal Management’s Grant Program through the Infrastructure Investment and Jobs Act (NOAA OCM IIA) for the culminating phase of the Resilient Tidal Crossing Project. The Proposed Project will complete final engineering and permitting at 3 high priority-state owned tidal culverts and proactively replace the existing culverts at these sites with upgraded alternatives to achieve beneficial outcomes for ecosystem and infrastructure resiliency. The sites proposed for grant funding are described immediately below.

Squamscott Road at Chapman’s Landing Salt Marsh, Stratham, N.H. Defined by NHDOT as a “Tier 4 Road,” Squamscott Road is “Local Connector” that provides travel between and within communities. Squamscott Road provides access to residential properties and serves as a shortcut between NH 108 and NH 33. Within a 0.3 mile segment, Squamscott Road has 3 tidal wetland crossings, 2 of which are the subject of this request. The (2) tidal crossings that are the subject of this request (Stratham East #113, and Stratham West #114) are both 18” round reinforced concrete pipes that are located in proximity to one another and convey two independent and unnamed tributaries/tidal wetland systems below Squamscott Road to the Chapman’s Landing Salt Marsh along the Squamscott River. The western end of Squamscott Road is identified in Stratham’s hazard mitigation plan as a flood hazard during severe (>2”) storm events, and Squamscott Road is a designated emergency access/evacuation route. Located many miles inland within the Great Bay watershed, this road segment is not expected to be immediately vulnerable to sea level rise. The Seacoast Transportation Corridor Vulnerability Analysis, published in 2022, determined that Squamscott Road won’t be regularly impacted until the 4 ft of sea level rise scenario.

The subject tidal culverts are located near the head-of-tide and have brackish tidal wetland both upstream and downstream of the road. Both crossings are tidal restrictions, with effects on upstream marsh vegetation due to poor drainage seaward and limited tidal flushing. Stratham East is affected by an obstruction in the channel located 75 ft downstream of the road that causes a 2 ft high perch in the channel profile, which not only restricts bi-directional tidal flow, but also backwaters the culvert and the upstream wetland. Chapman’s Landing Salt Marsh is identified as a high priority conservation area by NH Fish and Game Department (NHFGD) for linkages to salt marsh sparrow habitat. In fact, according to the NH Audubon Society, the Chapman’s Landing Salt Marsh complex is the primary place in the State of N.H for Nelson’s and Saltmarsh Sparrows. Chapman’s Landing Salt Marsh is also within the boundaries of

the Great Bay National Estuarine Research Reserve (GBNERR). The proposed tidal crossing replacement projects on Squamscott Road are surrounded by conservation land. Downstream of Squamscott Road, a significant portion of the tidal wetlands and agricultural lands are permanently conserved with easements with NHFGD. Upstream of Squamscott Road, a significant area of the wetlands and forested uplands are privately conserved as open space through the Chisholm Farm subdivision easement.

Design goals for Stratham East and Stratham West are to replace aging infrastructure with crossing structures that minimizes future flood risk, eliminate tidal restrictions, enable upstream marsh migration, and benefit organism passage and wildlife habitat. The selected alternative at Stratham East and West will increase culvert size from 18 in pipes to 8 ft W x 7 ft H concrete box culverts with simulated stream bed through the structure. As part of this project, the obstruction at Stratham East will be removed and the channel re-graded to the new culvert invert. The removal of the channel obstruction is a critical component of the project that in combination with a new culvert will restore a more natural tidal hydroperiod to the upstream wetland. The (2) culverts on Squamscott Road will be implemented as 1 project- achieving economies of scale and efficiencies in process.

NH Route 1A at Awcomin Salt Marsh, Rye Harbor, Rye New Hampshire: NH Route 1A is a secondary roadway that provides a vital north-south transportation link on the immediate coast and is essential to coastal communities for access, safety, livability, recreation and for the continued viability of coastal tourist economy. NH Route 1A is a designated emergency access/evacuation route and is the primary access to New Hampshire's most popular beaches, tourist amenities, active working waterfronts, as well as tourist lodging, local businesses, and residential neighborhoods. Defined by NHDOT as a "Tier 3 Road," NH Route 1A/ Ocean Boulevard is a "Regional Transportation Corridor" that provides travel within regions, access to statewide corridors, and supports moderate traffic volumes at moderate speeds. While the roadway averages between about 2,000-9,000 vehicles per day over the course of the year, peak summer season volumes are generally double those values and can approach 20,000 vehicles per day in some areas. Route 1A in this location also provides the southern approach to Rye Harbor, which supports commercial and recreational uses. Nearby Rye Harbor State Park, situated at the mouth of the Harbor, is a well used public access point for picnicking and other coastal uses.

Nearly 2 miles of NH Route 1A traverses across Awcomin Salt Marsh/ barrier beach and around Rye Harbor. The proximity to the immediate coastline makes this roadway vulnerable to extreme weather events, storm surges, flooding, coastal erosion. This site is identified as flood prone at MHHW with a 1% storm surge under existing condition and already experiences closures due to tidal flooding including recently during Nor'easter events on January 4, 2018 and March 2, 2018. At Awcomin Marsh/Rye Harbor, tidal flows and freshwater discharge are conveyed beneath Route 1A through 3 separate tidal crossings. The tidal crossing that is the subject of this request conveys tidal flow to and from the southern tributary of Awcomin Salt Marsh and drains rainfall runoff from a 1,000 acre upstream watershed that includes freshwater wetland, upland forest, and low lying development. During storm events, the culvert also conveys ocean water generated from overtopping at Jenness Beach – to the south. The culvert site was assessed in 2018 and was determined to be: in poor condition, undersized in both width and height dimensions, a moderate tidal restriction, and has high upstream salt marsh migration potential. Awcomin has been the epicenter of tidal habitat restoration in NH for the past 30 years, supporting 6 previous tidal culvert restoration projects and 3 phases of dredge spoil removal from the marsh plain. This proposed project continues a NH tradition of pro-actively intervening in coastal infrastructure decisions to ensure that our limited tidal habitats and the functions and values they provide are sustained for future generations.

Design goals for the Rye Project are to replace a poor condition crossing, enhance coastal resilience by addressing longer-term sea level rise and storm related flooding, eliminate tidal restrictions, enable upstream marsh migration, and benefit organism passage and wildlife habitat. The selected alternative at Rye Harbor will replace the existing 3.5' W x 7' H grant block culvert with a 15' W x 7' H, 3-sided concrete box on footings. Although there are no near term plans to raise the elevation of Route 1A, the subject culvert is designed to enable raising the highway in the future.

a. Relevance to Program Priorities

This Project is being submitted for consideration under the HABITAT RESTORATION category. The HABITAT RESTORATION category is appropriate because the Project will result in on-the-ground replacement of (3) tidal stream crossings on State Roads that are specifically designed to immediately benefit tidal wetlands and organism passage as well as to provide hydraulic conditions to minimize road flooding under existing and under future conditions, as well as enhance marsh migration.

1. Benefits to the Program

The 3 tidal culverts proposed for replacement with funding from NOAA CZM IIA have been determined by a state-wide assessment and prioritization to be the highest replacement priorities in the State of NH, when considering both infrastructure and ecosystem management objectives. This funding proposal is the result of a 'Pipeline' of restoration project development and planning that was enabled in 2018 by a National Coastal Resilience Grant (NCRG) from the National Fish and Wildlife Foundation (NFWF). In 2019, TNC began the process to advance 5 tidal culvert sites through project planning as part of 1 overall project. This dedicated attention to the practice of tidal crossing design has helped to: 1) achieve consistency throughout the modeling and design processes, 2) demonstrate process of conducting alternative analysis using climate change parameters, and 3) test new regulatory standards for tidal stream crossing replacement. Enacting the culminating phase of the Resilient Tidal Crossings Project will provide an achievable and effective standard for tidal crossing design upon which future design processes in NH will seek to achieve.

2. Ecosystem Benefits of the Project

The 3 tidal culverts selected for this Project adhere to the Habitat Restoration criteria of this grant program in the following ways:

- Determined by NHDES and TNC to be highest priority tidal culvert replacement projects in the NH.
- The proposed culvert sites will benefit tidal wetland habitats that support a diversity of birds, plant, and fish species within Awcomin Salt Marsh and Chapman's Landing Salt Marsh, which have been focal areas for restoration and conservation among local, state, and federal agencies.
- Will restore tidal wetlands and associated functions and values by minimizing adverse effects of tidal stream crossing infrastructure on: hydroperiod, channel scour, organism passage, tidal wetland plants.
- Will restore hydrologic connections between habitats that improve ecosystem function and establish conditions for coastal habitats to respond to sea level rise. Table 1 shows existing and predicted future salt marsh areas upstream of the tidal stream crossings.
- By evaluating project success through implementation and project effectiveness monitoring.

Table 1. Marsh Migration Predictions at Rye and Stratham in 2075 with 2m of sea level rise in 2100.			
	EXISTING ACREAGE	2075 ACREAGE (6.6' slr)	DELTA
RYE	34.1	96.5	+62.4
STRATHAM (EAST)	1.49	9.22	+7.73
STRATHAM (WEST)	2.95	13.9	+10.95
SUM	38.54	119.6	+81.08

3. Intended benefits to the region/local community in Improving Resilience

As is required by NHDES Wetlands Bureau for projects with proposed impacts to tidal waters in NH, the (3) tidal culverts that are the subject of this funding request evaluated sea level rise and climate change effects on the proposed tidal culvert performance (See Table 2).

	RYE		STRATHAM (EAST & WEST)	
RAINFALL	50 + 100 Year Peak Flow			
CLIMATE CHANGE RAINFALL	Add 15% to Peak Flow			
EXISTING TIDE LEVELS	Great Diurnal Tide Range (MHHW-MLLW)			
COASTAL STORMS	50 + 100 Year Storm Surge			
SEA LEVEL RISE SCENARIO	5.3 ft at 2100		3.8 ft at 2100	
FLOOD RISK TOLERANCE	Low Flood Risk Tolerance		Medium Flood Risk Tolerance	
HYDRAULIC MODEL TYPE	SRH-D2		1D HEC-RAS, v5.07	
EXISTING STRUCTURE	3.5'x7'	Existing Structure	1.5' round	Existing Structure
ALTERNATIVES ANALYZED	3.5'x7'	In-kind Replacement	1.5'	In-kind Replacement
	9.0'x 7'	Upstream Structure	8'x7'	1.2 x Bankfull Width
	15' x 7'	Bankfull Width	14'x7'	2.2 x Bankfull Width
	18' x 7'	1.2 x Bankfull Width	6'x7'	With Log Removal
PREFERRED ALTERNATIVE	15'x 7'	3 sided pre-cast box	8'x7'	4 sided pre-cast box
	-natural stream bed through structure		-simulate natural stream bed within culvert. 5' opening height	
	-No proposed change to road height. -New structure is designed to accommodate an additional 2 ft of road fill in the future		-No proposed changes to road height. -Insufficient substrate (marine clay) to raise road -With new culverts, roadway only overtops at 2100.	

During the design process, the Project Team used the latest climate science and flood risk guidance, including "New Hampshire Coastal Flood Risk Summary Part 1: Science" and "New Hampshire Coastal Flood Risk Summary- Part 2: Guidance for Using Scientific Projections." The 2020 NH Flood Risk Guidance published relative sea level rise estimates and associated probabilities, which enabled the NH Project Team to consider tolerance for flood risk over the design life of the structure to determine a particular sea level rise scenario for a proposed project. Interestingly, the NH Project Team selected different sea level rise scenarios for the tidal crossing sites in Rye and Stratham. The Rye site evaluated 5.3 ft sea level rise by 2100; whereas the Stratham sites evaluated 3.8 ft of sea level rise by 2100. The rationale for selecting 2 different sea level rise scenarios reflects the geographic setting, drivers of flooding, and criticality of the roads at the 2 selected sites.

The Rye site is on the Atlantic Coast and is already affected by storm surge flooding, which will only worsen as sea level rise accelerates and coastal storms become more intense in the future. The proposed tidal stream crossing at Route 1A in Rye is sized to accommodate existing rainfall runoff and tidal conditions. The modeling shows that peak water surface elevation is ultimately determined not by

culvert sizing but rather the ocean overtopping of the nearby road and beaches. While there are no plans to raise the Route 1A roadway or associated connector roads, the proposed culvert structure is designed to accommodate raising the road by 2 ft. One of the primary takeaways from the detailed hydraulic modeling is that the effects of increasing water elevations at Route 1A will necessitate decisions on raising or abandonment/removal of the roadway within the design life of any culvert replacement.

The Stratham sites, on the other hand, are located 19 miles inland (as the water flows) within Great Bay, at the head of tide of a large tidal wetland complex. The inland setting of Squamscott Road in Stratham creates an environment with limited tidal effect and a corresponding tidal wetland plant community that is dominated by brackish species both upstream and downstream of the road. Under existing conditions, flood risk at the Stratham sites is driven by the inability of the undersized culverts to convey rainfall runoff. The proposed larger culverts will help to eliminate flooding at Squamscott road during all scenarios; however, over time the drivers of flooding will switch from freshwater dominated flooding to tidal flooding. Raising Squamscott Road was evaluated; however, it is not recommended due to poor subsurface conditions (marine clay) that are not suitable for carrying the weight of additional road fill. The combination of road criticality, delayed sea level rise effects, and cost/feasibility of dealing with subsurface conditions contributed to the decision of not preparing for increases in road height through this culvert replacement project.

b. Goals and Objective(s)

The goals and objectives of this funding request are:

1. **GOAL 1:** The primary goal of this project to replace 3 undersized tidal culverts on State roads in the Towns of Stratham and Rye, NH to maintain continuity of public transportation to safely and reliably convey all people, goods and services throughout coastal communities, while simultaneously managing the predicted effects of climate change and minimizing detrimental effects of road infrastructure on sensitive tidal wetlands.
 - 1.1. **OBJECTIVE 1 (STRATHAM EAST):** Objective 1 will replace an undersized 18" round concrete culvert at tidal wetland crossing (NHCP ID #113) along Squamscott Road with a 8' x 7', 4-sided concrete box culvert that is designed to achieve Tier 4 regulatory design targets as well as the ecosystem and coastal resilience outcomes described in Table 4. The Stratham East project will also entail restoration of the tidal channel downstream of Squamscott Road.
 - 1.2. **OBJECTIVE 2 (STRATHAM WEST):** Objective 2 will replace an undersized 18" round concrete culvert at tidal wetland crossing (NHCP ID#114) along Squamscott Road with a 8' x 7', 4-sided concrete box culvert that is designed to achieve Tier 4 regulatory design targets and achieve the ecosystem and coastal resilience outcomes described in Table 4.
 - 1.3. **OBJECTIVE 3 (RYE):** Objective 3 will replace the undersized tidal stream crossing on Route 1A at Rye Harbor with a 3.5' x 7' granite culvert with a 15' x 7', 3-sided pre-cast concrete box that is designed to achieve regulatory targets as well as the ecosystem and coastal resilience outcomes described in Table 4.
2. **GOAL 2:** Leverage tidal crossing partnership between NHDES and NHDOT to enhance resilience planning for coastal transportation networks.
 - 2.1. **OBJECTIVE 4:** Enact Memorandum of Agreement between NHDES and NHDOT to formalize roles and responsibilities and budget for subaward from NOAA.
 - 2.2. **OBJECTIVE 5:** For the benefit of future public hearings for this project, NHCP proposes to coordinate in advance with the Climate Adaptation Workgroup to consider different forms of engagement to capture community voices that might not otherwise be heard. This additional

stakeholder engagement will be performed by NHCP and CAW partners with leveraged in-kind resources and by harnessing and amplifying the work of other on-going projects.

- 2.3. OBJECTIVE 6: Enhance NHDES/NHDOT coordination around: understanding coastal flood risk, incorporating climate science into infrastructure design, and considerations for incorporating equity and inclusion into state resiliency plans.
3. GOAL 3: Understand restoration and resilience outcomes of restoration projects through monitoring.
 - 3.1. OBJECTIVE 7: Develop Monitoring Plan to adequately assess project outcomes.
 - 3.2. OBJECTIVE 8: Conduct Pre and Post Monitoring to analyze change in conditions over time.
 - 3.3. OBJECTIVE 9: Evaluate Post Construction Conditions to determine if performance criteria were achieved and additional adaptive interventions are required

c. Background (Technical Need and Past Performance)

Tidal stream crossings have been a priority at NHCP for decades. During the peak of NH's salt marsh restoration era (1994 - 2013), NHCP worked with partners to pro-actively upgrade 15 tidal stream crossing structures with alternatives that restored tidal flow to 600 acres of salt marsh. As sea level rise science became more accessible, management objectives for tidal stream crossing management necessitated consideration from a community and ecosystem resilience lens. To accomplish this shift in perspective, NHCP leveraged Section 309 of the Coastal Zone Management Act to achieve "program change" throughout several aspects of tidal stream crossing management, as described below

PROGRAM CHANGE #1 - NEW POLICY for TIDAL STREAM CROSSINGS:

PROPOSED: 2010, ACHIEVED: 2019

Prior to 2019, the State of NH lacked specific regulatory requirements to guide tidal stream crossing replacement. While there were general targets that NHDES personnel utilized to inform regulatory decisions for tidal crossings, there was no formal guidance or requirements for design considerations, data inputs, or design outcomes of proposed tidal stream crossing projects. In the absence of any guiding doctrine, individual tidal stream crossing projects lacked the necessary constraints to consistently achieve NH Statute 482-A:1: "to protect and preserve its submerged lands under tidal and fresh waters and its wetlands..."

Recognizing a gap in tidal stream crossing administrative rule, in the "2010 Section 309 Assessment and Strategy", NHCP proposed a Wetland Strategy to "Adapt Freshwater Stream Crossing Design Criteria for Tidal Crossings." Over the next several years, NHCP staff reviewed literature, conducted interviews with Northeast states to determine how they regulate the repair and replacement of tidal stream crossings, and coordinated with relevant partners to identify potential solutions. In 2014, NHCP issued a memo to NHDES Wetlands Bureau entitled: "Considerations for Incorporating Tidal Stream Crossings into NHDES Wetlands Bureau Regulation." While the recommendations were well received, amending administrative rule wasn't on the near-term workplan for NHDES Wetlands Bureau.

By 2017, a critical mass of policy changes for tidal permitting were being considered by NHDES, which led to the largest rule re-write since the 1990s. NHCP worked with Wetlands Bureau to incorporate tidal crossing replacement recommendations into existing NHDES rule structure for culvert replacement. Entitled as Tiers 1, 2, or 3, freshwater culvert replacement projects are regulated on a hierarchy of increasing regulatory and engineering requirements based on a corresponding increase of watershed size and river complexity. Tier 3 crossings, for instance, are stream crossings with watersheds greater than 500 acres and require the most stringent regulations. Permits for Tier 3 crossings require stamped

engineering plans and must be designed to pass the 100 year 24 hour precipitation event, among other geomorphic and biological compatibility standards.

In December 2019, NHDES Wetland Bureau promulgated "Tier 4" standards, which created new regulatory design criteria for the replacement/repair of culverts and bridges affected by tidal flow. Tier 4 crossings requires similar levels of engineering and environmental due diligence as Tier 3 site, except with a particular focus on tidal information. The Tier 4 rules state that tidal crossings shall be designed: to be of sufficient size to accommodate the 100-Year 24-hour design storm, to prevent a restriction of tidal flows, to account for channel morphology, and to consider sea level rise.

The (3) tidal stream crossings proposed for funding from NOAA OCM IJA are the first tidal crossings to be considered under the new rules; providing an opportunity to pro-actively demonstrate best practice though all phases of project development.

PROGRAM CHANGE #2 – PRORITIZE TIDAL CROSSINGS FOR COMMUNITY AND ECOSYSTEM RESILIENCE

PROPOSED: 2016, ACHIEVED: 2019

As described in the section above, NHCP didn't immediately achieve policy changes regarding the replacement of tidal crossings. Because NH still lacked guiding regulations for tidal stream crossing replacement in 2015, NHCP proposed a Wetland Strategy in the 2016 - Section 309 Assessment and Strategy "to improve design and permitting outcomes of the replacement and/or construction of new road crossings in tidal environments in New Hampshire's Coastal Zone through non-regulatory approaches", which led to a highly effective, multi-phase partnership between NOAA Office of Coastal Zone Management, NHCP, and TNC to improve tidal stream crossing management in NH.

Phase 1 (2015-2017): NH Tidal Protocol Development: While an assessment protocol for freshwater stream crossings had been deployed at over 7,000 culverts and bridges throughout NH, in 2015 there was not an applicable and comprehensive assessment protocol for culverts and bridges in the tidal environment. Recognizing alignment in organizational priorities, in 2015 TNC received a grant from NHCP (FFY13 NOAA) to advance engineering designs at the tidal culvert at Bay Road and Lubberland Creek and to create a tidal stream crossing assessment protocol that was specific to NH's environment and to the management needs of NH's coastal zone communities.

Central to the NH tidal protocol development process was stakeholder engagement. TNC used grant funding to conduct literature review of available tidal crossing assessment protocols as well as convene a local advisory committee comprised NHCP, NHDES, NH Department of Transportation, and NH Fish and Game Department in 2015. The NHCP grant also enabled the Project Team to convene regional experts to provide guidance on considerations for a tidal culvert assessment protocol. On September 10, 2015, approximately 45 regional partners attended a Tidal Crossing Assessment workshop in Portsmouth, NH. The workshop was convened by partners including Northeast Regional Ocean Council, Gulf of Maine Council on the Marine Environment, North Atlantic Landscape Conservation Cooperative, TNC and the NHCP. The purpose of the workshop was to share information regarding jurisdictional efforts on developing protocols for assessing tidal crossings and to enhance understanding of how management questions can be addressed through tidal crossing assessments. The workshop agenda included: overview of management questions, roundtable of tidal crossing initiatives underway, overview and discussion of potential evaluation criteria and their relevant assessment parameters. Workshop participants also provided input in breakout groups on the draft NH Tidal Protocol. One of the biggest takeaways from workshop participants was to create an assessment protocol that served multiple management objectives, including ecosystem health, flood risk and crossing condition. In this way, NHCP management of tidal crossings expanded from solely managing for ecosystem health to the

inclusion of community resilience parameters. The NH's Tidal Crossing Assessment Protocol, published by TNC in 2017, establishes criteria to evaluate tidal crossings based on the following scores: structure condition, degree of flood risk to the roadway, degree of flood risk to the crossing structure, crossing effect on aquatic organism passage, crossing effect on salt marsh vegetation, crossing restriction of tidal flow in and out of the salt marsh, potential for salt marsh to move inland with sea level rise, and potential adverse upstream impacts of restoring full tidal flow.

Phase 2 (2018-2019): Assessment and Prioritization: In 2018, NHCP was awarded a NOAA Project of Special Merit grant (FFY17 PSM: \$187,000), which enabled NHCP to work with TNC and UNH to implement the NH Tidal Protocol at all tidal crossings in NH. Field data collection was performed by a two person field crew hired by NHCP. Data collected in the field was uploaded via Collector for ArcGIS to the Statewide Asset Database Exchange (SADES); where a specific module for Tidal Stream Crossings was built and continues to be maintained by the University of New Hampshire Technology Transfer (T2) through a partnership with NHDOT. The field crew performed a relative elevation survey at each of the 118 sites, which captured elevations of key site features and field indicators. TNC provided detailed quality control throughout the field season and conducted final analysis. The NH Resilient Tidal Crossing report, published in 2019, allows users to prioritize tidal crossing replacement based on 15 scores.

Phase 3 Advancing the Project Pipeline (2019-Current): After all tidal crossings in NH were assessed and scored according to the NH Tidal Crossing Assessment Protocol in 2018, TNC received a National Coastal Resilience Grant (NCRG) from the National Fish and Wildlife Federation (NFWF) for the project entitled: "Advancing high priority tidal cross replacements across NH's coastal zone for NH communities and ecosystems." The grant enabled TNC to create a shortlist of high priority tidal crossing replacement sites and "develop partnerships with motivated communities to undertake full design and engineering at five resilient tidal crossings." In the spring of 2019, TNC reached out to local and state road managers to explore interest in partnering on subsequent phases of project planning. After 6-8 months of discussions, TNC and NHCP successfully established new partnerships with the Town of Seabrook for addressing a tidal restriction at South Main Street, with the Town of North Hampton for addressing the tidal restriction at Philbrick Pond Salt Marsh, and with NHDOT for the sites in Stratham and Rye. In late 2019, TNC issued multiple Requests for Proposals for engineering services and consultants were selected by the beginning of 2020. Engineering field surveys began in Spring of 2020; however, the overall project schedule was affected and delayed by the COVID19 pandemic.

The phase 3 project was supplemented with funding from NOAA -Project of Special Merit grant (FFY20), which among other things enables NHCP to collaborate with the Phase 3 Project Teams, NHDES Wetland Bureau staff to create guidance and conduct outreach for the new Tier 4 Tidal Stream Crossing standards. The new permitting provisions present important opportunities for improving coastal management, but guidance is needed to ensure permit applicants understand the new rules and follow rigorous processes consistent with the intent of the rules. In particular, funding from PSM 20 (project end date: 3/31/23) will use real-life examples from Rye, Stratham and Seabrook to provide guidance around hydrology and hydraulics (H&H), fish passage, geomorphic compatibility, as well as incorporating sea level rise and increases in storm frequency and intensity into alternative analyses and subsequent design phases.

d. Equity and Inclusion Statement

This culvert replacement project focuses on maintaining continuity of public transportation to safely and reliably convey all people, goods and services throughout coastal communities, while simultaneously managing the predicted effects of climate change and minimizing detrimental effects of road

infrastructure on sensitive tidal wetlands. This project seeks to optimize road and wetland resilience for the benefit of many and will not cause adverse effects to vulnerable and underserved communities.

Involving Communities and Mutually Beneficial Partnerships: The project team invested several years in the development of prioritization criteria that address local community concerns (flooding, infrastructure condition) as well as identify potential adverse impacts of restoring tidal hydrology, which through the Phase 3 site selection process highlighted projects with high potential for flood mitigation benefits and low potential for adverse effect.

As a publicly funded civil works project focused on state-owned infrastructure located on lands and waters that are held in the public trust, there are multiple obligations of State and Federal agencies to perform stakeholder engagement throughout the project planning process, including NHDOT public hearings, abutter notifications required through NHDES permitting process, as well as coordination with consulting parties through Section 106 of National Historic Preservation Act (NHPA). During the NHDOT public hearings, citizens and public officials have been provided an opportunity to ask questions and share their thoughts regarding existing deficiencies to ensure that the project decisions meet public transportation needs and community goals, and to protect and enhance the environment. NHDOT assures that these projects will be administered according to the requirements of Title VI of the Civil Rights Act of 1964 and all related statutes to ensure nondiscrimination. In future public hearings, NHCP proposes to coordinate in advance with the Climate Adaptation Workgroup to consider different forms of engagement and outreach to capture voices that may not otherwise be heard.

Addressing Vulnerabilities and Disproportionate Impacts: Much like the improvements in tidal crossing assessment, policy, and design that were achieved by NHCP over time through intentional programming, NHCP is committed to incorporating Diversity, Equity Inclusion, Justice, And Accessibility (DEIJA) concepts into existing and future programs; however, NHCP is still in the beginning stages of developing this programming. The examples below demonstrate consideration of the social, environmental, and economic impacts of the project that collectively, although certainly not exclusively, contribute to the well-being of local communities.

-MAINTAINING COASTAL ACCESS: In terms of public access to the Atlantic Ocean, Route 1A is the thread that connects a series of State Parks along the coast including, Odiorne Point, Wallis Sands, Rye Harbor, Jenness Beach, North Hampton State Beach, and Hampton Harbor; providing coastal access to hundreds of thousands of visitors per year. Table 4 shows increasing visitation from 2018 to 2021; reflecting a general observation that more people were accessing open spaces along the NH Seacoast during the COVID19 Pandemic. While the Park system provides a diversity of coastal access experiences, NH Route 1A itself provides miles of opportunity to access the ocean. While the upgraded culvert at Awcomin Salt Marsh will help to sustain functionality of Route 1A throughout the majority of its design life, the design and engineering for the Phase 3 Resilient Tidal Crossings Project demonstrated that sea level rise poses an existential crisis to NH Route 1A. The planning process also demonstrated the complexity, costs, and organizational demands that will be necessary to raise roads in response to sea level rise, not to mention the adverse environmental effects that are likely to occur. However, if NH loses Route 1A to sea level rise, the Granite State also stands lose access to the coast through our state park system.

2018	224,042
2019	243,672
2020	292,236
2021	290,152
2022	280,389

-SUSTAINING WORKING WATERFRONT: The project will enhance the resilience of the road transportation network at the southern approach to Rye Harbor. According to the Rye Board of Selectman in May 2019, the annual impact for Rye Harbor is \$5,048,248. Rye Harbor is important to the Town of Rye and for the State of NH because of its economic impact as well as its coastal dependent work force related to commercial fishing, charters, whale watching, and associated industries that are important to NH Seacoast culture and sense of place.

-EXISTENCE VALUE OF TIDAL WETLANDS: The Sea Level Affecting Marshes Model (SLAMM) shows that 6.6 ft sea level rise scenario by 2100 shows 95% loss of salt marsh in Hampton. This project seeks to install adequately sized culverts at the Stratham and Rye sites to enhance/restore salt marsh resilience, which is a long term investment in functions and value that tidal wetlands provide, including flood storage, wave attenuation, carbon storage, nutrient removal, fish habitat. When we lose salt marsh, we also lose dependent species as well as the building blocks of the nearshore coastal environment and fishery. By sustaining the existence of salt marsh, this project also aims to create inter-generational equity through the preservation of the functions and values that tidal wetlands provide to society.

Otherwise Benefit, Support, or Engage with Underserved Communities. NHCP staff commit to using the opportunity created by the NOAA OCM IJA to expand on this Resilient Tidal Crossings Project and enact meaningful intra-department coordination between NHDES and NHDOT to describe, identify, and engage underserved communities in the conversation about resilient transportation planning.

e. Partnerships and Networks

As described in Section C. Background (above), stakeholder engagement was a central component in the development of the NH Tidal Crossing Assessment Protocol, including coordination among local and regional experts. The "Phase 3- Advancing the Project Pipeline", enabled TNC and NHCP to bring new partners onto the team, including the Town of North Hampton, Town of Seabrook, and NHDOT.

In a unique collaboration for the State of New Hampshire, NHDOT agreed to empower TNC to perform project development on their behalf, provided that minimum procurement, oversight, and design standards were achieved. In January 2020, TNC competitively procured technical services from engineering/ environmental consulting firms to advance design, engineering, and permitting at the Rye and Stratham sites. CMA Engineers was selected to perform the alternative analysis and preliminary design at the NHDOT sites. CMA teamed with sub-consultant Streamworks to perform the hydrology and hydraulic analysis. Streamworks is owned and operated by Dr. Tom Ballestero, UNH Engineering Professor and author of the NH Stream Crossing Guidelines, published in 2009.

While the primary project outcome will improve ecosystem and community resilience on coastal transportation corridors, the grant will also support an emerging collaboration between NHDES and NHDOT and will enable state agency personnel to work together on high priority and innovative designs as well as establish processes to enact a collective response to the challenges of climate change and sea level rise.

The Principal Investigator and coordinator for this grant is Kevin Lucey, Habitat Coordinator at the NHDES Coastal Program. Kevin has 20 years of professional experience in habitat restoration, including 16 years at NHCP focused on: salt marsh assessment, invasive plant management, dam removal, and culvert assessment and prioritization. The Principal Investigator for the sub-award to NHDOT is Kirk Mudgett, Chief of Specialty Section within the Bureau of Highway Design. Kirk has 26 years of professional experience as a transportation engineer, including 20 years at NHDOT focused on highway design.

f. Approach

The NH Resilient Tidal Crossings Project (Phase 4) is focused on five tasks: 1) Complete Final Designs and Permitting (Stratham East and West), 2) Complete Final Designs and Permitting (Rye), 3) Implement Tidal Culvert Replacement (Stratham East and West), 4) Implement Tidal Culvert Replacement (Rye), and 5) Project Management, Monitoring, Reporting.

Upon award notification, NHDES will dedicate in-kind time to initiate and coordinate processes to accept NOAA grant funds and enact a subaward with NHDOT. Upon the April 1, 2023 effective date of the grant award, NHDES will submit a request to NH State Fiscal Committee to accept and expend NOAA funds. Concurrently with NH Fiscal Committee review, NHDES and NHDOT will enter into a Memorandum of Agreement (MOA) through NH's Governor and Executive Council (G&C) to codify the scope and budget for the proposed sub-award for design and construction. NHDES and NHDOT expect to proceed with the Work Plan (below) in July 2023.

WORKPLAN

TASKS 1. COMPLETE FINAL DESIGNS & PERMITTING (STRATHAM EAST & STRATHAM WEST), AND

TASK 2. COMPLETE FINAL DESIGNS & PERMITTING (RYE)

Timeframe: 7/1/23 – 12/31/24

Roles: NHDOT will work with consultant, CMA Engineers, for final design services for the Stratham and Rye contracts. CMA was selected for preliminary design through performance-based selection criteria. CMA performed well through the preliminary design, alternatives selection, and creating draft permit documents. CMA would be selected to continue final design of construction plans and complete the permit process. Principal Investigator, Kirk Mudgett, Chief of the Specialty Section at NHDOT will oversee project development for NHDOT including oversight of the subcontract to CMA as well as design progress among various sections of NHDOT, including Bureau of Highway Design, Bureau of Rights of Way, Bureau of Environment, Bureau of Traffic, and District 6 Maintenance. The level of effort, cost, and role descriptions of each NHDOT personnel contributing to project development is described the Budget Narrative. Principal Investigator, Kevin Lucey, Habitat Coordinator at the NHDES Coastal Program will review progress designs to ensure that environmental criteria of certain project elements are optimized. Kevin will also coordinate with CMA, NHDOT Environment Bureau, and NHDES Wetlands Bureau on Tier 4 permitting, the Coastal Functional Assessment, Coastal Vulnerability Analysis, and compliance with National Environmental Policy Act. Kevin will provide coordination among natural resource agencies, as needed, regarding permitting and technical design criteria.

Description of Activities for Tasks 1 and 2

- a. Complete Engineering
 - i. 60% Slope and Drain Submission
 - ii. 75% PPSE Submission
 - iii. 100% PSE Submission
 - iv. Final Contract Submission
- b. Complete Permitting
 - i. Submit standard permit application to NHDES
 - ii. National Environmental Policy Act
 - iii. Conduct necessary public meetings
- c. Right of Way
 - i. Draft Plans
 - ii. Final Plans
 - iii. Acquisitions (Easements)

- iv. Recording any Permanent Easements
- d. Utility Coordination
 - i. Utility Verification
 - ii. Utility Relocation Plans
 - iii. Perform Relocations

Milestone and Dates of Completion:

- By 07/01/23, execute subaward to NHDOT
- By 3/31/24, Complete 100% Design Plans
- By 6/30/24, Provide any permanent easement or land rights to NOAA for review
- By 6/30/24, secure all necessary permits
- By 09/30/24, have final plans and permits in-hand

Outcome and Dates of Completion

- By 12/31/24, (3) state owned tidal culverts readied for the construction phase

List of Final Products

- (2) final engineering plan sets complete
- (2) final permit document sets
- (2) Sets of Construction Specifications
- Any easement of land rights acquired

Performance Measures

- Permit Sets Complete Y/N
- Engineering Plan Sets Complete Y/N
- Convene Public Meetings 4

TASKS 3 IMPLEMENT TIDAL CULVERT REPLACEMENT (STRATHAM), AND

TASK 4: IMPLEMENT TIDAL CULVERT REPLACEMENT (RYE)

Timeframe: 10/01/24 - 3/31/26

Roles: NHDOT will advertise the construction contracts for Rye and Stratham in Fall 2024 and evaluate bids in accordance with their standard procurement processes. NHDOT will then contract subaward grant funds to the qualified low bidder. Principal Investigator, Kirk Mudgett, Chief of the Specialty Section at NHDOT will coordinate Bureau of Construction, Bureau of Traffic, and District 6 Maintenance on the construction planning. NHDOT will conduct construction engineering, including onsite oversight and evaluation of payment requests from the contractor.

The Stratham Project will proceed through construction first, followed by the site in Rye. Squamscott Road will be closed through the duration of the construction project. Due to a residential dwelling located in between Stratham East and West, the tandem culvert replacement project will be implemented 1 culvert at a time to allow resident egress from the side where construction is not occurring. NHDOT and the Town of Rye are considering a complete closure of Route 1A for a 2 week period in Fall 2025.

Description of Activities For Task 3 and Task 4

- a. Relocate utilities (Rye only)
- b. Install erosion controls and water diversion
- c. Remove existing culvert
- d. Install new box culvert
- e. Remove 2nd culvert and install 2nd culvert (at Stratham only)
- f. Site clean up/permanent erosion controls

Milestone and Dates of Completion:

- By 01/15/25, select construction contractor
- By 04/01/25, Issue Notice to Proceed
- By 3/31/26, substantial completion declared
- By 03/31/26, End of grant performance period.

Outcome and Dates of Completion

- By 03/31/26, (3) state owned tidal culverts replaced with upgraded structures

List of Final Products

- (2) Requests for Proposals
- (2) Construction Contracts
- (2) Notice to Proceed and Substantial Completion Forms
- (2) As-Built Surveys

Performance Measures

- Construction Contracts Executed Y/N
- Notices to Proceed issued Y/N
- Substantial Completion Declared Y/N
- As-Built Complete Y/N

TASK 5. PROJECT MANAGEMENT, MONITORING, AND REPORTING

Roles: Two sections (Accounting and Coastal Program) of NHDES will oversee the overall performance of the grant. Funding is requested to support NHDES Accounting Department’s oversight of the grant award, including processing payment requests and performing necessary financial reporting and audit requirements. With leveraged federal funding, NHCP will perform all other grant management, monitoring, and compliance requirements. NHCP will convene semi-annual project team meetings to coordinate tasks and reporting. NHCP will compile updates from the project team and submit (7) semi-annual performance progress reports and one comprehensive final report to NOAA.

NHCP will utilize leveraged in-kind resources to take primary responsibility for guiding and enacting the monitoring of the Stratham and Rye projects. As a deliverable for this grant, NHCP staff will create a Monitoring Plan by 12/31/23 that will describe the project goals, performance metrics, criteria (baseline condition/restoration target), monitoring parameters, and methodologies. The Monitoring Plan will likely be comprised of multiple components, including: 1) As-Built Survey completed by the construction contractor, 2) NOAA NMFS’ Tier 1 Implementation Monitoring for fish passage and water level, 3) Re-survey of the restoration sites with NH Tidal Crossing Assessment Protocol, and 4) Field measurement of monitoring parameters specific to tidal wetland. The monitoring parameters for evaluation of tidal wetlands may include: a) water surface elevation, b) porewater salinity, c) cross sections/ longitudinal profile, d) evaluation of landscape-level changes with geospatial mapping. From the time that the monitoring plan is published, the work plan includes approximately 18 months to enable the project team to adequately characterize the pre-implementation condition prior to the start of the construction projects. NHCP proposes to take advantage of the additional year (months 37-48) of grant performance to monitor and characterize the post implementation condition. During the year 1 post project monitoring, we expect to capture certain physical changes created by the new culvert (e.g changes in channel parameters and water level), but we don’t expect to see changes of biological parameters (e.g plant community) after less than a year. NHCP will provide a report that summarizes pre-and post project monitoring and characterizes any initial effects. Beyond the 4 year grant performance period, these projects will be added to the NH Marsh Monitors data set, which includes 13 salt marsh restoration project that have been monitored since 2000.

The performance of the elements of the Monitoring Plan will be completed by multiple entities across the project duration. NHCP will serve as a central point of contact and repository for all data that could be used to inform monitoring. To the extent possible, certain monitoring parameters will be included as part of the normal functioning of the engineering and construction contracts. The proposed \$75,000 of contractual costs that are allocated to monitoring will enable NHDES to work with the selected design engineering teams, as well as to competitively procure technical services to complete various monitoring elements. For instance, NHCP may hire a consultant to measure and analyze water level, which, for instance, NHCP will combine with the as-built survey completed by the contractor. The details how the monitoring will be performed will be determined when the Monitoring Plan is being created.

Timeframe: 4/1/23 – 03/31/27

Description of Activities for Task 5

- a. Complete Semi Annual Reports
- b. Convene Project Status Meetings
- c. Create Monitoring Plan and Conduct Pre-Monitoring
- d. Prepare and Submit Final Report
- e. Conduct Post Project Monitoring (to occur during the period 04/01/26 – 3/31/27)

Milestone and Dates of Completion:

- By 12/31/23, Complete Monitoring Plan and Detailed Monitoring Budget
- Submit progress report every April 30 & October 31 through 2027.
- Conduct Pre Monitoring in 2024, 2025, By 03/31/26, submit final report
- By 3/31/27, submit final post project monitoring report

Outcome and Dates of Completion

- By 12/31/23, Project Implementation and Effectiveness Monitoring Metrics Established.
- By 03/31/26, Grant products and outcomes are achieved on schedule and within budget.
- By 3/31/27, Post conditions have been evaluated, compared to pre-conditions, and preliminary effects characterized.

List of Final Products

- (7) Semi Annual Reports
- (7) Project Status Meeting Notes
- (1) Monitoring Plan
- (1) Pre-Monitoring Report
- (1) Final Grant Report and Monitoring Report
- (1) Post Project Monitoring Report

Performance Measures

- | | |
|-----------------------------------------------------|-----|
| - Tier 1 Performance Metrics established & measured | Y/N |
| - # Years of Pre-Restoration Data | 2 |
| - # Years of Post Restoration Data | 1 |

g. Outcomes or Products

OUTCOMES: The NH Tidal Crossing Assessment Protocol determined that there are no less than 12 distinct and measurable criteria for evaluating tidal crossing compatibility within the adjacent landscape and road system, which NHCP will use to help determine restoration and resilience outcomes of tidal crossing upgrades. Due to the unique conditions at each site, the (3) tidal culvert replacement projects are expected to have slight differences in immediate and long term outcomes. For instance, culvert upgrade and channel restoration at Stratham East is expected to have an immediate benefit to the hydroperiod of the upstream wetland and corresponding beneficial effect on native plant community;

however, proposed community resilience outcomes in Stratham relative are fewer due to cost and feasibility relative to the road’s criticality and vulnerability to sea level rise. In contrast, the beneficial outcomes for tidal wetlands expected in Rye are long term whereas the community resilience benefits are designed to have immediate and mid-term outcomes. Another important consideration for any tidal restoration project is that restoration and resilience outcomes are typically achieved by degree. For instance, we know that the existing culvert at Rye does not restrict upstream tide heights, but we also know that the site exhibits other indicators of restriction such as accelerated velocities through the narrow structure which has corresponding effect on channel scour and fish passage.

	STRATHAM EAST	STRATHAM WEST	RYE
1. Improve Organism Passage	✓	✓	✓
2. Enable Salt Marsh Migration	✓	✓	✓
3. Re-Introduce Normal Tidal Exchange	✓		
4. Minimize Tidal Restriction	✓	✓	✓
5. Reduce Channel and Bank Scour	✓	✓	✓
6. Reduce Road Flooding from rainfall runoff	✓	✓	✓
7. Enable Adaptative Pathway for future SLR			✓

PRODUCTS:

- | | |
|------------------------------------|--------------------------------------|
| 1. Final Engineering Plan Sets (2) | 10. Semi-Annual Reports (7) |
| 2. Final Permit Sets (2) | 11. Project Status Meeting Notes (6) |
| 3. Construction Specifications (2) | 12. Monitoring Plan (1) |
| 4. Any Easements/Rights Acquired | 13. Pre-Monitoring Report (1) |
| 5. Request for Proposal (2) | 14. Monitoring Report (1) |
| 6. Construction Contracts (2) | 15. Final Performance Report (1) |
| 7. Notice to Proceed (2) | 16. Post Monitoring Report (1) |
| 8. Substantial Completion (2) | |
| 9. As-Built Surveys (2) | |

h. Milestone Schedule

See Section F. Approach (above) for a list of dates of completion for products and outcomes. See Appendix D for Logic Model that conveys Project Schedule for Tasks, Activities, Outcomes, Products, Milestones, and Performance Measures.

4. BUDGET NARRATIVE AND JUSTIFICATION

OVERALL BUDGET BY FEDERAL CATEGORY

Item	Federal	Non-federal	Match Type	Total
Personnel	\$20,000			\$20,000
Fringe	\$10,654			\$10,654
Equipment				
Travel				
Supplies				
Sub-Contractual	\$2,951,442			\$2,951,442
Construction				
Other	\$4,827			\$4,827
Indirect	\$1,199			\$1,199
TOTAL	\$2,988,122			\$2,988,122

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES \$2,988,122

PERSONNEL: \$20,000

NHDES is requesting funding to support personnel costs of the financial administration of the grant. NHDES Accounting Department costs to administer the grant are as follows:

Business Administrator III, Shelia Ireland: This position will oversee the financial administration of the grant. Shelia will dedicate 1.4 % time across 4 years for a total of \$3,990.

Position Title – Name	Salary	% Time	# Months	\$ Amount
BUSINESS ADMIN III, SHELIA IRELAND	\$67,509	1.47%	48	\$3,990

Accountant IV, Stephanie Lessard: This position will provide support to financial administrator. Stephanie will dedicate 3.75% time across 4 years for a total of \$7,961.

Position Title – Name	Salary	% Time	# Months	\$ Amount
ACCOUNTANT IV, STEPHANIE LESSARD	\$53,040	3.75	48	\$7,961

Accountant II, Jennifer Day: This position will provide support with reimbursements. Jennifer will dedicate 3.7% time across 4 years for a total of \$8,049.

Position Title – Name	Salary	% Time	# Months	\$ Amount
ACCOUNTANT II, JENNIFER DAY	\$53,659	3.7	48	\$8,049

FRINGE: \$10,654

NHDES applies a benefit rate of 49.7% and additional fringe rate of 3.57% applied to personnel. Charges for each full time employee are calculated by multiplying the benefit rate by their total salary. Benefits include medical, dental, life insurance, FICA, and retirement benefits. Additional fringe benefits include cost of living adjustments and post-retirement benefits.

Position Title – Name	Salary	% Rate	\$ Amount
BUSINESS ADMIN III, SHELIA IRELAND	\$ 3,990	53.27%	\$2,125.5
ACCOUNTANT IV, STEPHANIE LESSARD	7,961	53.27%	\$4,240.8
ACCOUNTANT II, JENNIFER DAY	8,049	53.27%	\$4,287.7
TOTAL FRINGE BENEFITS			\$10,654

SUBCONTRACTUAL: \$2,951,442

NHDES will pass-through 96% of the proposed grant award amount to NH Department of Transportation while maintaining responsibility for the execution of the overall award; ensuring that all performance requirements are achieved, including reporting and monitoring. In addition, NHDES anticipates hiring consulting services through a competitive procurement process to perform technical aspects of the monitoring plan at the multiple restoration sites.

- SUBAWARD 1:
 - \$2,876,442 to NHDOT for final design and construction
 - See subaward budget detail below
- SUBAWARD 2:
 - \$75,000 for contractual services (TBD) to assist with comprehensive monitoring. The proposed \$75,000 of contractual costs that are allocated to monitoring will enable NHDES to work with the selected design engineering teams, as well as to competitively procure technical services to complete various monitoring elements. The details of how the monitoring will be performed and exactly how the \$75,000 will be expended will be determined when the Monitoring Plan is being created by December 31, 2023.
- TOTAL CONTRACTUAL:
 - \$2,876,442 + \$75,000 = \$2,951,442

OTHER: \$4,827

Other NHDES costs include:

- Audit set-aside amount of 0.1% (1/10%) of total grant award amount: \$2,988
 - $0.001 * \$2,988,122 = \$2,988$
- Direct Administrative Service (DAS) charge of 6% of payroll and fringe: \$1,837
 - $0.06 * \$30,034 = \$1,839$

INDIRECT: \$1,199

The NHDES Indirect Cost Rate of 3.91% is applied to total personnel and fringe benefits:

- $(\$20,000 + \$10,654) * 0.0391 = \$1,199$

LEVERAGED FUNDING: NHDES Coastal Program will provide day-to-day project participation, technical review of draft submittals, agency team coordination, grant administration, stakeholder engagement/communications/ outreach, and monitoring over the 4-year project duration. NHDES Coastal Program is not requesting grant funding for personnel/fringe from this grant program to provide this detailed level of project management and engagement to achieve project success. NHDES Coastal Program estimates that over the 4-year grant period we will provide a total of \$93,324 of informal leveraged federal funding. The source funds for this leveraged project management will be from NOAA Office for Coastal Management. Below is an estimate of level of effort and associated value of project management services that will be provided by Kevin Lucey.

LEVERAGED PERSONNEL

ENV IV – Kevin Lucey This position will serve as the technical subject matter expert for the project and will be responsible for overseeing all project activities. K. Lucey will dedicate approximately 10% of his time over 12 months, for a total of \$3,912.

Position Title – Name	Salary	% Time	# Months	\$ Amount
ENV IV - Kevin Lucey	\$76,110	10%	12	\$ 15,222

LEVERAGED FRINGE

ENV IV – Kevin Lucey NHDES applies a benefit rate of 49.7% and additional fringe rate of 3.57% applied to personnel.

Position Title – Name	Salary	% Rate	\$ Amount
ENV IV - Kevin Lucey	\$ 15,222	53.27%	\$8,109

CALCULATION OF LEVERAGED PERSONNEL AND FRINGE

Personnel + Fringe = (\$15,222+\$8,109=\$23,331)*4 years = \$93,324 of informal leveraged funding over the 4 year project duration.

a. Name of the Subrecipient

NHDES Coastal Program will grant a subaward in the amount **\$2,876,442** to the **New Hampshire Department of Transportation** to perform the primary tasks (1-4) of the proposed project. As owner of the subject tidal stream crossing structures and roadways in Rye and Stratham, NHDOT is the only entity with authority to oversee the final design and permitting as well as implement the construction projects.

- *Name of Sub Recipient:* New Hampshire Department of Transportation
- *Primary Place of Subaward Performance:* 7 Hazen Drive, Concord, NH 03301
- *Congressional District of Subaward Performance:* NH-2
- *Congressional District of Primary Place of Performance:* NH-1

b. Period of Performance for Sub-Award: 07/1/2023 - 03/31/2026

c. Scope of Work for Sub-Award

TASK 1: Complete Final Designs & Permitting (STRATHAM)

Expected Cost: \$194,955

Timeframe: April 1, 2023- December 31, 2024

- a. Complete engineering
- b. Complete permitting
- c. Right of Way
- d. Utility Coordination

TASK 2: Complete Final Designs & Permitting (RYE)

Expected Cost: \$194,703

Timeframe: April 1, 2023- December 31, 2024

- a. Complete engineering
- b. Complete permitting
- c. Right of Way
- d. Utility Coordination

TASK 3: Implement Tidal Culvert Replacement (STRATHAM)

Expected Cost: \$1,115,060

Timeframe: January 1, 2025- March 31, 2026

- a. Install erosion controls and water diversion
- b. Remove 1st existing culvert
- c. Construct 1st box culvert
- d. Remove 2nd culvert
- e. Construct 2nd culvert
- f. Site clean up/permanent erosion controls

TASK 4: Implement Tidal Culvert Replacement (RYE)

Expected Cost: \$1,371,684

Timeframe: January 1, 2025- March 31, 2026

- a. Relocate utilities
- b. Install erosion controls
- c. Remove existing box culvert
- d. Construct new box culvert
- e. Site clean up/permanent erosion controls

d. **Criteria for Measuring Accountability-** (Intentionally left blank – per guidance from NOAA OCM)

e. **Itemized Budget**

BUDGET BY FEDERAL CATEGORY FOR SUBAWARD #1 WITH NHDOT

Item	Federal	Non-federal	Match Type	Total
Personnel	\$167,949			\$167,949
Fringe	\$124,365			\$124,365
Equipment				\$0
Travel	\$1,134			\$1,134
Supplies				\$0
Sub-Contractual	\$2,297,500			\$2,297,500
Construction				\$0
Other	\$24,000			\$24,000
Indirect	\$261,495			\$261,495
TOTAL	\$2,876,442			\$2,876,442

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT): \$2,876,442

PERSONNEL- \$167,949

NHDOT personnel will assume responsibility for the final engineering and permitting steps of advancing preliminary designs and draft permit applications to final plans and permits. NHDOT personnel will also provide construction engineering and oversight during the implementation phase of the project. Detailed descriptions of NHDOT personnel contributing to the project are listed on page 15. Level of effort, pay rates, and costs for NHDOT personnel are listed by Task in the personnel and fringe calculation tables below.

PERSONNEL CALCULATIONS**TASK 1 –Complete Final Designs and Permitting at Squamscott Road
(Stratham 43001)**

Project Phase & Position Title	Estimated Person	Hourly Wage	Hrs	Hourly Charges
Slope and Drain Submittal				
Project Manager	K. Mudgett	47.64	8	\$381.12
Senior Engineer	Vacant	43.51	12	\$522.12
Group Leader	T. Mallette	41.56	40	\$1,662.40
Project Engineer	G. Ravelli	27.92	32	\$893.44

Invoicing Consultant				
Admin Assistant	Vacant	28.80	8	\$230.40
Project Manager	K. Mudgett	47.64	16	\$762.24

Public Meeting				
Admin Assistant	Vacant	28.80	10	\$288.00
Project Manager	K. Mudgett	47.64	24	\$1,143.36
Senior Engineer	Vacant	43.51	16	\$696.16
Group Leader	T. Mallette	41.56	6	\$249.36

PPS&E Submittal				
Project Manager	K. Mudgett	47.64	12	\$571.68
Senior Engineer	Vacant	43.51	16	\$696.16
Group Leader	T. Mallette	41.56	40	\$1,662.40
Project Engineer	G. Ravelli	27.92	60	\$1,675.20
Const (DCE)	Nicki	51.94	10	\$519.40
Dist (DME)	Brian S.	54.10	4	\$216.40

Right of Way Plan Review				
ROW Engineer	TBD	37.75	24	\$906.00
Chief ROW Agent	D. Rae	36.20	10	\$362.00

PSE Submittal				
Project Manager	K. Mudgett	47.64	10	\$476.40
Senior Engineer	Vacant	43.51	6	\$261.06
Group Leader	T. Mallette	41.56	40	\$1,662.40
Project Engineer	G. Ravelli	27.92	30	\$837.60
Const (DCE)	N. Hunter	51.94	14	\$727.16
Specs Chief	L. Bennett-Crouch	33.16	14	\$464.24
Traffic Engineer	J. Mathews	41.74	12	\$500.85
Dist (DME)	B. Schutt	54.10	4	\$216.40

100% Submittal				
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Project Manager	K. Mudgett	47.64	4	\$190.56
Senior Engineer	Vacant	43.51	2	\$87.02
Group Leader	T. Mallette	41.56	16	\$664.96
Project Engineer	G. Ravelli	27.92	6	\$167.52
Specs Chief	L. Bennett-Crouch	33.16	40	\$1,326.41

Coord Meetings w/consultant				
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Project Manager	K. Mudgett	47.64	3	\$142.92
Senior Engineer	Vacant	43.51	5	\$217.55
Group Leader	T. Mallette	41.56	3	\$124.68

Environmental - Natural Resources Review				
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Env Manager	R. Martin	37.75	12	\$453.00
Chief of Mgmt	J. Evans	41.56	2	\$83.12
Wetl Prg Mngr	A. O'Sullivan	41.56	1	\$41.56
Cult. Res. Mngr	J. Edelman	39.44	4	\$157.76

Environmental - Permitting				
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Env Manager	R. Martin	37.75	24	\$906.00
	A. O'Sullivan	41.56	16	\$664.90
	J. Evans	41.56	1	\$41.56
	T. Mallette	41.56	4	\$166.24
	G. Ravelli	27.92	4	\$111.68
Historic	R. Martin	37.75	4	\$151.00
Cultural	R. Martin	37.75	1	\$37.75
Air Quality	R. Martin	37.75	0.5	\$18.88
Contam	R. Martin	37.75	0.5	\$18.88
Issues	R. Martin	37.75	2	\$75.50
Water Qual	R. Martin	37.75	0.5	\$18.88
Endang Spec	R. Martin	37.75	0.5	\$18.88

Utilities				
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Coordinator	B. McCrea	30.42	60.00	\$1,825.20
Senior Util. Eng.	J. Roseboom	41.56	40.00	\$1,662.26

ROW Phase				
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Incidentals	E. Sargent	37.75	24	\$906.00
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Acquisitions				
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Senior (Chip)	Vacant	37.74	32.00	\$1,207.77
	D. Rae	36.20	4.00	\$144.80
	J. Libbey	19.96	4.00	\$79.84
	L. Davies	45.51	4.00	\$182.04
	S. Donnelley	31.74	30.00	\$952.20

TASK 1: Total Personnel

Hourly Tot

\$31,431

PERSONNEL CALCULATIONS				
TASK 2 – Complete Final Designs & Permitting at Route 1A				
(RYE 43002)				
Project Phase & Position Title	Estimated Person	Hourly Wage	Hrs	Hourly Charges
Slope and Drain Submittal				
Project Manager	K. Mudgett	47.64	12	\$571.68
Senior Engineer	Vacant	43.51	16	\$696.16
Group Leader	T. Mallette	41.56	48	\$1,994.88
Project Engineer	G. Ravelli	27.92	40	\$1,116.80
Invoicing Consultant				
Admin Assistant	Vacant	28.80	8	\$230.40
Project Manager	K. Mudgett	47.64	16	\$762.24
Public Meeting				
Admin Assistant	Vacant	28.80	10	\$288.00
Project Manager	K. Mudgett	47.64	32	\$1,524.48
Senior Engineer	Vacant	43.51	16	\$696.16
Group Leader	T. Mallette	41.56	8	\$332.48
PPS&E Submittal				
Project Manager	K. Mudgett	47.64	8	\$381.12
Senior Engineer	Vacant	43.51	14	\$609.14
Group Leader	T. Mallette	41.56	36	\$1,496.16
Project Engineer	G. Ravelli	27.92	48	\$1,340.16
Const (DCE)	Nicki	51.94	8	\$415.52
Dist (DME)	Brian S.	54.10	2	\$108.20
Right of Way Plan Review				
ROW Engineer	TBD	37.75	18	\$679.50
Chief ROW Agent	D. Rae	36.20	8	\$289.60
PSE Submittal				
Project Manager	K. Mudgett	47.64	12	\$571.68
Senior Engineer	Vacant	43.51	6	\$261.06
Group Leader	T. Mallette	41.56	48	\$1,994.88
Project Engineer	G. Ravelli	27.92	36	\$1,005.12
Const (DCE)	N. Hunter	51.94	12	\$623.28
Specs Chief	L. Bennett-Crouch	33.16	16	\$530.56
Traffic Engineer	J. Mathews	41.74	12	\$500.85
Dist (DME)	B. Schutt	54.10	4	\$216.40

100% Submittal				
Project Manager	K. Mudgett	47.64	4	\$190.56
Senior Engineer	Vacant	43.51	2	\$87.02
Group Leader	T. Mallette	41.56	16	\$664.96
Project Engineer	G. Ravelli	27.92	6	\$167.52
Specs Chief	L. Bennett-Crouch	33.16	32	\$1,061.13

Coord Meetings w/consultant				
Project Manager	K. Mudgett	47.64	3	\$142.92
Senior Engineer	Vacant	43.51	5	\$217.55
Group Leader	T. Mallette	41.56	3	\$124.68

Environmental - Natural Resources Review				
Env Manager	R. Martin	37.75	14	\$528.50
Chief of Mgmt	J. Evans	41.56	2	\$83.12
Wetl Prg Mngr	A. O'Sullivan	41.56	1	\$41.56
Cult. Res. Mngr	J. Edelman	39.44	4	\$157.76

Environmental - Permitting				
Env Manager	R. Martin	37.75	32	\$1,208.00
	A. O'Sullivan	41.56	24	\$997.36
	J. Evans	41.56	2	\$83.12
	T. Mallette	41.56	4	\$166.24
	G. Ravelli	27.92	4	\$111.68
Historic	R. Martin	37.75	8	\$302.00
Cultural	R. Martin	37.75	4	\$151.00
Air Quality	R. Martin	37.75	0.5	\$18.88
Contam	R. Martin	37.75	0.5	\$18.88
Issues	R. Martin	37.75	2	\$75.50
Water Qual	R. Martin	37.75	0.5	\$18.88
Endang Spec	R. Martin	37.75	0.5	\$18.88

Utilities				
Coordinator	B. McCrea	30.42	34.00	\$1,034.28
Senior Util. Eng.	J. Roseboom	41.56	24.00	\$997.36

ROW Phase				
Incidentals	E. Sargant	37.75	20	\$755.00

Acquisitions				
Senior (Chip)	Vacant	37.74	35.00	\$1,321.00
	D. Rae	36.20	4.00	\$144.80
	J. Libbey	19.96	2.00	\$39.92
	L. Davies	45.51	2.00	\$91.02

	S. Donnelley	31.74	32.00	\$1,015.68
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TASK 2: Total Personnel **Hourly Tot**
\$31,273

PERSONNEL CALCULATIONS

TASK 3 – Implement Tidal Culvert Replacement at Squamscott Road (STRATHAM 43001)

Construction Phase (CE)				
Dist Const Eng	N. Hunter	51.94	72	\$3,740
Contract Admin.	TBD	41.56	720	\$29,923
Const Eng.	TBD	32.00	720	\$23,040

TASK 3 Total Personnel **Hourly Tot**
\$56,703

PERSONNEL CALCULATIONS

TASK 4 – Implement Tidal Culvert Replacement at Route 1A (RYE 43002)

Construction Phase (CE)				
Dist Const Eng	N. Hunter	51.94	48	\$2,493
Contract Admin.	TBD	41.56	800	\$33,248
Const Eng.	TBD	32.00	400	\$12,800

TASK 4 Total Personnel **Hourly Tot**
\$48,541

FRINGE BENEFITS: \$124,365

The NHDOT fringe benefit rate of 74.05% is applied to direct hourly rates. Benefits include vacation leave, sick leave, social security, medicare, unemployment, workers comp, medical, dental, life insurance, and retirement benefits.

FRINGE CALCULATIONS

TASK 1 – Complete Final Designs and Permitting at Squamscott Road (Stratham 43001)

Project Phase & Position Title	Estimated Person	Hourly Wage	Hrs	Fringe	Fringe Charges
Slope and Drain Submittal					
Project Manager	K. Mudgett	47.64	8	\$35.28	\$282.22
Senior Engineer	Vacant	43.51	12	\$32.22	\$386.63
Group Leader	T. Mallette	41.56	40	\$30.78	\$1,231.01
Project Engineer	G. Ravelli	27.92	32	\$20.67	\$661.59

Invoicing Consultant					
Admin Assistant	Vacant	28.80	8	\$21.33	\$170.61
Project Manager	K. Mudgett	47.64	16	\$35.28	\$564.44

Public Meeting

Admin Assistant	Vacant	28.80	10	\$21.33	\$213.26
Project Manager	K. Mudgett	47.64	24	\$35.28	\$846.66
Senior Engineer	Vacant	43.51	16	\$32.22	\$515.51
Group Leader	T. Mallette	41.56	6	\$30.78	\$184.65

PPS&E Submittal					
Project Manager	K. Mudgett	47.64	12	\$35.28	\$423.33
Senior Engineer	Vacant	43.51	16	\$32.22	\$515.51
Group Leader	T. Mallette	41.56	40	\$30.78	\$1,231.01
Project Engineer	G. Ravelli	27.92	60	\$20.67	\$1,240.49
Const (DCE)	Nicki	51.94	10	\$38.46	\$384.62
Dist (DME)	Brian S.	54.10	4	\$40.06	\$160.24

Right of Way Plan Review					
ROW Engineer	TBD	37.75	24	\$27.95	\$670.89
Chief ROW Agent	D. Rae	36.20	10	\$26.81	\$268.06

PSE Submittal					
Project Manager	K. Mudgett	47.64	10	\$35.28	\$352.77
Senior Engineer	Vacant	43.51	6	\$32.22	\$193.31
Group Leader	T. Mallette	41.56	40	\$30.78	\$1,231.01
Project Engineer	G. Ravelli	27.92	30	\$20.67	\$620.24
Const (DCE)	N. Hunter	51.94	14	\$38.46	\$538.46
Specs Chief	L. Bennett-Crouch	33.16	14	\$24.56	\$343.77
Traffic Engineer	J. Mathews	41.74	12	\$30.91	\$370.88
Dist (DME)	B. Schutt	54.10	4	\$40.06	\$160.24

100% Submittal					
Project Manager	K. Mudgett	47.64	4	\$35.28	\$141.11
Senior Engineer	Vacant	43.51	2	\$32.22	\$64.44
Group Leader	T. Mallette	41.56	16	\$30.78	\$492.40
Project Engineer	G. Ravelli	27.92	6	\$20.67	\$124.05
Specs Chief	L. Bennett-Crouch	33.16	40	\$24.56	\$982.21

Coord Meetings w/consultant					
Project Manager	K. Mudgett	47.64	3	\$35.28	\$105.83
Senior Engineer	Vacant	43.51	5	\$32.22	\$161.10
Group Leader	T. Mallette	41.56	3	\$30.78	\$92.33

Environmental - Natural Resources Review					
Env Manager	R. Martin	37.75	12	\$27.95	\$335.45
Chief of Mgmt	J. Evans	41.56	2	\$30.78	\$61.55
Wetl Prg Mngr	A. O'Sullivan	41.56	1	\$30.77	\$30.77
Cult. Res. Mngr	J. Edelman	39.44	4	\$29.21	\$116.82

Environmental - Permitting					
Env Manager	R. Martin	37.75	24	\$27.95	\$670.89
	A. O'Sullivan	41.56	16	\$30.77	\$492.36
	J. Evans	41.56	1	\$30.78	\$30.78
	T. Mallette	41.56	4	\$30.78	\$123.10
	G. Ravelli	27.92	4	\$20.67	\$82.70
Historic	R. Martin	37.75	4	\$27.95	\$111.82
Cultural	R. Martin	37.75	1	\$27.95	\$27.95
Air Quality	R. Martin	37.75	0.5	\$27.95	\$13.98
Contam	R. Martin	37.75	0.5	\$27.95	\$13.98
Issues	R. Martin	37.75	2	\$27.95	\$55.91
Water Qual	R. Martin	37.75	0.5	\$27.95	\$13.98
Endang Spec	R. Martin	37.75	0.5	\$27.95	\$13.98

Utilities					
Coordinator	B. McCrea	30.42	60.00	\$22.53	\$1,351.56
Senior Util. Eng.	J. Roseboom	41.56	40.00	\$30.77	\$1,230.90

ROW Phase					
Incidentals	E. Sargent	37.75	24	\$27.95	\$670.89

Acquisitions					
Senior (Chip)	Vacant	37.74	32.00	\$27.95	\$894.35
	D. Rae	36.20	4.00	\$26.81	\$107.22
	J. Libbey	19.96	4.00	\$14.78	\$59.12
	L. Davies	45.51	4.00	\$33.70	\$134.80
	S. Donnelley	31.74	30.00	\$23.50	\$705.10

TASK 1 - Total Fringe

Fringe Tot

\$23,275

FRINGE CALCULATIONS

**TASK 2 - Complete Final Designs & Permitting at Route 1A
(RYE 43002)**

Project Phase & Position Title	Estimated Person	Hourly Wage	Hrs	Fringe	Fringe Charges
Slope and Drain Submittal					
Project Manager	K. Mudgett	47.64	12	\$35.28	\$423.33
Senior Engineer	Vacant	43.51	16	\$32.22	\$515.51
Group Leader	T. Mallette	41.56	48	\$30.78	\$1,477.21
Project Engineer	G. Ravelli	27.92	40	\$20.67	\$826.99

Invoicing Consultant					
Admin Assistant	Vacant	28.80	8	\$21.33	\$170.61
Project Manager	K. Mudgett	47.64	16	\$35.28	\$564.44

Public Meeting					
Admin Assistant	Vacant	28.80	10	\$21.33	\$213.26
Project Manager	K. Mudgett	47.64	32	\$35.28	\$1,128.88
Senior Engineer	Vacant	43.51	16	\$32.22	\$515.51
Group Leader	T. Mallette	41.56	8	\$30.78	\$246.20

PPS&E Submittal					
Project Manager	K. Mudgett	47.64	8	\$35.28	\$282.22
Senior Engineer	Vacant	43.51	14	\$32.22	\$451.07
Group Leader	T. Mallette	41.56	36	\$30.78	\$1,107.91
Project Engineer	G. Ravelli	27.92	48	\$20.67	\$992.39
Const (DCE)	Nicki	51.94	8	\$38.46	\$307.69
Dist (DME)	Brian S.	54.10	2	\$40.06	\$80.12

Right of Way Plan Review					
ROW Engineer	TBD	37.75	18	\$27.95	\$503.17
Chief ROW Agent	D. Rae	36.20	8	\$26.81	\$214.45

PSE Submittal					
Project Manager	K. Mudgett	47.64	12	\$35.28	\$423.33
Senior Engineer	Vacant	43.51	6	\$32.22	\$193.31
Group Leader	T. Mallette	41.56	48	\$30.78	\$1,477.21
Project Engineer	G. Ravelli	27.92	36	\$20.67	\$744.29
Const (DCE)	N. Hunter	51.94	12	\$38.46	\$461.54
Specs Chief	L. Bennett-Crouch	33.16	16	\$24.56	\$392.88
Traffic Engineer	J. Mathews	41.74	12	\$30.91	\$370.88
Dist (DME)	B. Schutt	54.10	4	\$40.06	\$160.24

100% Submittal					
Project Manager	K. Mudgett	47.64	4	\$35.28	\$141.11
Senior Engineer	Vacant	43.51	2	\$32.22	\$64.44
Group Leader	T. Mallette	41.56	16	\$30.78	\$492.40
Project Engineer	G. Ravelli	27.92	6	\$20.67	\$124.05
Specs Chief	L. Bennett-Crouch	33.16	32	\$24.56	\$785.77

Coord Meetings w/consultant					
Project Manager	K. Mudgett	47.64	3	\$35.28	\$105.83
Senior Engineer	Vacant	43.51	5	\$32.22	\$161.10
Group Leader	T. Mallette	41.56	3	\$30.78	\$92.33

Environmental - Natural Resources Review					
Env Manager	R. Martin	37.75	14	\$27.95	\$391.35
Chief of Mgmt	J. Evans	41.56	2	\$30.78	\$61.55

Wetl Prg Mngr	A. O'Sullivan	41.56	1	\$30.77	\$30.77
Cult. Res. Mngr	J. Edelman	39.44	4	\$29.21	\$116.82
Environmental - Permitting					
Env Manager	R. Martin	37.75	32	\$27.95	\$894.52
	A. O'Sullivan	41.56	24	\$30.77	\$738.54
	J. Evans	41.56	2	\$30.78	\$61.55
	T. Mallette	41.56	4	\$30.78	\$123.10
	G. Ravelli	27.92	4	\$20.67	\$82.70
Historic	R. Martin	37.75	8	\$27.95	\$223.63
Cultural	R. Martin	37.75	4	\$27.95	\$111.82
Air Quality	R. Martin	37.75	0.5	\$27.95	\$13.98
Contam	R. Martin	37.75	0.5	\$27.95	\$13.98
Issues	R. Martin	37.75	2	\$27.95	\$55.91
Water Qual	R. Martin	37.75	0.5	\$27.95	\$13.98
Endang Spec	R. Martin	37.75	0.5	\$27.95	\$13.98

Utilities					
Coordinator	B. McCrea	30.42	34.00	\$22.53	\$765.88
Senior Util. Eng.	J. Roseboom	41.56	24.00	\$30.77	\$738.54

ROW Phase					
Incidentals	E. Sargent	37.75	20	\$27.95	\$559.08

Acquisitions					
Senior (Chip)	Vacant	37.74	35.00	\$27.95	\$978.20
	D. Rae	36.20	4.00	\$26.81	\$107.22
	J. Libbey	19.96	2.00	\$14.78	\$29.56
	L. Davies	45.51	2.00	\$33.70	\$67.40
	S. Donnelley	31.74	32.00	\$23.50	\$752.11

TASK 2 Total Fringe

Fringe Tot

\$23,158

FRINGE CALCULATIONS

TASK 3—Implement Tidal Culvert Replacement at Squamscott Road (Stratham 43001)

Construction Phase (CE)					
Dist Const Eng	N. Hunter	51.94	72	\$38.46	\$2,769
Contract Admin.	TBD	41.56	720	\$30.78	\$22,158
Const Eng.	TBD	32.00	720	\$23.70	\$17,061

TASK 3 Total Fringe

Fringe Tot

\$41,988

FRINGE CALCULATIONS

TASK 4 - Implement Tidal Culvert Replacement at Route 1A (RYE 43002)

Construction Phase (CE)					
Dist Const Eng	N. Hunter	51.94	48	\$38.46	\$1,846
Contract Admin.	TBD	41.56	800	\$30.78	\$24,620
Const Eng.	TBD	32.00	400	\$23.70	\$9,478

TASK 4 Total Fringe

**Fringe Tot
\$35,944**

TRAVEL: \$1,134

Per NOTICE 2023-234 from the Internal Revenue Service that was issued on December 29, 2022, the IRS states that beginning January 1, 2023, the standard mileage rate will be \$0.65.5 cents per mile. In the travel budget below, NHDOT proposes a mileage rate of \$0.65, which is slightly lower than the approved IRS rate. See IRS announcement attached.

4 field trips - split between both sites - 2 ROW, 2 Design
 1 public meeting, each project, 2 cars per meeting, 110 mi round trip to Concord
 estimating rate to increase to \$0.65/mi

	Stratham - Task 2			Rye - Task 1		
	Miles	Rate/mi	Dollars	Miles	Rate/mi	Dollars
Field Review - 2 ROW, 2 Design	432	\$0.65	\$280.80	440	\$0.65	\$286.00
Pub Mtg - 2 cars	432	\$0.65	\$280.80	440	\$0.65	\$286.00
	Subtotal Task 2 - Stratham			Subtotal Task 1 - Rye		
			\$562			\$572
	Total Travel			\$ 1,134		

CONTRACTUAL: \$2,297,500

NHDOT will pass through an estimated \$220,000 to CMA Engineers for final design services of the two contracts Rye 43002, and Stratham 43001, \$110,000 for each Task. CMA was selected for preliminary design through performance-based selection criteria. They performed well through the preliminary design, alternatives selection, and creating draft permit documents. They would be selected to continue final design of construction plans and complete the permit process. NHDOT will pass through an estimated \$2,077,500 to the low bidders in the two separate construction bid contracts, Rye 43002, and Stratham 43001. Inspection of pre-cast concrete structures (box culverts) can often be a contractual cost. Construction engineering and oversight will be performed by NHDOT, the costs for which are reflected in personnel/fringe for tasks 3 and 4.

Contractual Costs - Construction Phase	Stratham 43001	Rye 43002	Total
Bid Items	\$900,000	\$1,152,500	\$2,052,500
Inspection - Concrete	\$15,000	\$10,000	\$25,000
Construction Subtotals	\$915,000	\$1,162,500	\$2,077,500

Task 1	Stratham (Design/Permitting)	\$110,000
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Task 2	Rye (Design/Permitting)	\$110,000
Task 3	Stratham (Implementation)	\$915,000
Task 4	Rye (Implementation)	\$1,162,500
TOTAL CONTRACTUAL COSTS (NHDOT)		\$2,297,500

OTHER: \$24,000

Rights of Way (ROW) Acquisition Payment – NHDOT estimates payments for temporary construction easements for water diversion, construction access, and perhaps temporary widening.

Construction Phase	Task 1 - Rye	Task 2 - Stratham	Total
ROW Acquisition	\$12,000	\$12,000	\$24,000

TOTAL DIRECT CHARGES: \$2,614,947

- **Stratham:** Direct charges include Personnel (\$88,134), Fringe Benefits (\$65,263), Travel (562), Contractual (\$1,025,000), and Other (\$12,000) for a total of **\$1,190,959**
- **Rye:** Direct charges include Personnel (\$79,814), Fringe Benefits (\$59,103), Travel (\$572), Contractual (\$1,272,500), and Other (\$12,000) for a total of **\$1,423,988**

INDIRECT CHARGES: \$261,495

- **Stratham:** Indirect Cost Rate of 10% is applied to total Direct Charges: 10% * \$1,186,459 = **\$119,096.**
- **Rye:** Indirect Cost Rate of 10% is applied to total Direct Charges: 10% * \$1,419,489 = **\$142,399.**

TOTALS – DIRECT AND INDIRECT CHARGES: \$2,876,442

- **Stratham:** The total direct and indirect charges: \$1,190,959+\$119,096 = **\$1,310,055**
- **Rye:** The total direct and indirect charges: \$1,423,988+\$142,399 = **\$1,566,387**

NHDOT STAFF CONTRIBUTING TO PROJECT DELIVERY

BUREAU OF HIGHWAY DESIGN

SPECIALTY SECTION CHIEF – K. Mudgett (LG 32): This position will serve as the project manager for the projects, overseeing invoices, project costs, providing direction for the project and reviewing major elements of design.

SENIOR ENGINEER – TBD (LG 30): This position will serve as the lead engineer. Reviewing major submissions, supervising CE IV and CE III. Coordinating and leading internal and external presentations. Coordinating with supporting bureaus and sections (ROW, Utility, Construction, Environment). Maintaining schedule and internal submissions are completed on time.

GROUP LEADER (CE IV) – T. Mallette (LG 27): This position will serve as a design engineer. Reviewing elements of design of plan submissions. Coordinating and providing internal submissions to assisting bureaus and sections.

PROJECT ENGINEER – G. Ravelli (LG 24): This position will serve as junior engineer. Reviewing basic design elements of submissions.

ADMINISTRATIVE ASSISTANT – TBD (LG ?): This position will assist with invoicing and public meeting set up.

SENIOR UTILITY ENGINEER – J. Roseboom (LG 30): This position will review major elements of utility coordination and relocation. Review of relocation design major elements.

UTILITY ENGINEER/COORDINATOR – B. McCrea (LG 22): This position will coordinate with utility companies for verification and relocation. Review of relocation design.

SPECIFICATIONS CHIEF – L. Bennett-Crouch (LG 27): This position will be reviewing Construction Proposal documents and coordinating with those bureaus, consultants, and sections responsible for them.

SECRETARY – J. Libbey (LG 11): Manages payment and other deliverables regarding easement payment and recording.

BUREAU OF ENVIRONMENT

CHIEF OF PROJECT MANAGEMENT SECTION – J. Evans (LG 29): This position will review major elements of permit review.

WETLANDS PROGRAM MANAGER – A. O’Sullivan (LG 27): This position will review the wetland permit application and coordinate any additional review needed.

SENIOR ENVIRONMENTAL MANAGER – R. Martin (LG 27): This position will coordinate environmental review. Review of wetland, shoreland and army corp. permits. Coordination and review of internal natural resource and cultural resource meetings.

CULTURAL RESOURCES MANAGER – J. Edelman (LG 27): This position researches cultural aspects to determine any impacts during environmental review.

BUREAU OF CONSTRUCTION

DISTRICT CONSTRUCTION ENGINEER (DCE) – N. Hunter (LG 32): This position will review major design submissions for constructability issues. Full review of the Construction Proposal documents and specifications. Bi-weekly field reviews are expected during construction and kickoff.

CONTRACT ADMINISTRATOR (CA) – TBD (LG 27): This position will handle day to day construction field review, approvals, invoicing, contract approvals, revisions.

CONSTRUCTION ENGINEER – TBD (LG 24): This position will support the CA in day to day construction field review and approvals.

BUREAU OF TRAFFIC

TRAFFIC OPERATIONS ENGINEER – J. Mathews (LG 27): This position will review design of traffic, signing, pavement marking, and traffic control elements.

DISTRICT MAINTENANCE

DISTRICT MAINTENANCE ENGINEER (DME) – B. Schutt (LG 33): This position will review major design submissions for maintainability, traffic control, and other elements.

BUREAU OF RIGHT-OF-WAY

LAND TITLE SUPERVISOR – E. Sargent (LG 25): This position will research existing ROW and parcel boundaries and form ROW that will be recordable for easement purposes.

CHIEF ROW AGENT – D. Rae (LG 27): Supervises Agents and schedules. Handles high level negotiation tasks.

ROW AGENT – S. Donnelley (LG 22): This position coordinates easement discussion and need and negotiates cost and payment.

ROW AGENT SUPERVISOR – (TBD) (LG 29): This position will handle high level ROW coordination, review of easement language.

CHIEF APPRAISER – L. Davies (LG 31): This position will supervise appraisers that establish property value for consideration of easement payment.

ROW APPRAISER – (TBD) (LG 20): This position will establish property value for consideration of easement payment.

BUDGET INFORMATION - Non-Construction Programs

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1 NH CZM IIJA-YR1	11.473			398,519.00		398,519.00
2 NH CZM IIJA-YR2	11.473			1,253,049.00		1,253,049.00
3 NH CZM IIJA-YR3	11.473			1,253,049.00		1,253,049.00
4 NH CZM IIJA-YR4	11.473			83,505.00		83,505.00
5 Totals				\$2,988,122.00	\$0.00	\$2,988,122.00

SECTION B - BUDGET CATEGORY

6. Object Class Categories	GRANTS PROGRAM, FUNCTION OR ACTIVITY				TOTALS
	YR1 NH CZM IIJA	YR2 NH CZM IIJA	YR3 NH CZM IIJA	YR4 NH CZM IIJA	(5)
a. Personnel	5,000	5,000	5,000	5,000	20,000
b. Fringe Benefits	2,663	2,664	2,664	2,663	10,654
c. Travel	0	0	0	0	0
d. Equipment	0	0	0	0	0
e. Supplies	0	0	0	0	0
f. Contractual	389,698	1,243,372	1,243,372	75,000	2,951,442
g. Construction	0	0	0	0	0
h. Other	858	1,712	1,712	543	4,827
i. Total Direct Charges (sum of 6a -6h)	398,219	1,252,749	1,252,749	83,206	2,986,923
j. Indirect Charges	300	300	300	299	1,199
k. TOTALS (Sum of 6i - 6j)	398,519	1,253,049	1,253,049	83,505	2,988,122

7. Program Income					\$0.00
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SECTION C - NON-FEDERAL RESOURCES

a. Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8				
9				
10				
11				

12 TOTAL (sum of 8 - 11)				
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SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13 Federal	\$398,519.00	\$100,000.00	\$100,000.00	\$100,000.00	\$98,519.00
14 Non-Federal					
15 TOTAL (sum of lines 13 and 14)	\$398,519.00	\$100,000.00	\$100,000.00	\$100,000.00	\$98,519.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT				
a. Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16				
17 NH CZM I IJA-YR2	1,253,049.00			
18 NH CZM I IJA-YR3		1,253,049.00		
19 NH CZM I IJA-YR4			83,505.00	
20 TOTAL (sum of lines 16 - 19)	\$1,253,049.00	\$1,253,049.00	\$83,505.00	

SECTION F - OTHER BUDGET INFORMATION	
21 Direct Charges	22. Indirect Charges 3.91% (USEPA Negotiated)
23 Remarks	

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Sheila Ireland
 2/9/2023

BUDGET INFORMATION - Non-Construction Programs

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1 NHDOT IIJA-YR1	11.473			389,698.00		389,698.00
2 NHDOT IIJA-YR2	11.473			1,243,372.00		1,243,372.00
3 NHDOT IIJA-YR3	11.473			1,243,372.00		1,243,372.00
4				0.00		0.00
5 Totals				\$2,876,442.00	\$0.00	\$2,876,442.00

SECTION B - BUDGET CATEGORY

6. Object Class Categories	GRANTS PROGRAM, FUNCTION OR ACTIVITY			TOTALS
	YR1 NHDOT IIJA	YR2 NHDOT IIJA	YR3 NHDOT IIJA	(5)
a. Personnel	62,705	52,622	52,622	167,949
b. Fringe Benefits	46,433	38,966	38,966	124,365
c. Travel	1,134	0	0	1,134
d. Equipment	0	0	0	0
e. Supplies	0	0	0	0
f. Contractual	220,000	1,038,750	1,038,750	2,297,500
g. Construction	0	0	0	0
h. Other	24,000	0	0	24,000
i. Total Direct Charges (sum of 6a -6h)	354,271	1,130,338	1,130,338	2,614,947
j. Indirect Charges	35,427	113,034	113,034	261,495
k. TOTALS (Sum of 6i - 6j)	389,698	1,243,372	1,243,372	2,876,442

7. Program Income					\$0.00
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SECTION C - NON-FEDERAL RESOURCES

a. Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8				
9				
10				
11				

12 TOTAL (sum of 8 - 11)				
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SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13 Federal	\$389,698.00	\$100,000.00	\$100,000.00	\$100,000.00	\$89,698.00
14 Non-Federal					
15 TOTAL (sum of lines 13 and 14)	\$389,698.00	\$100,000.00	\$100,000.00	\$100,000.00	\$89,698.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT					
a. Grant Program	FUTURE FUNDING PERIODS (Years)				
	(b) First	(c) Second	(d) Third	(e) Fourth	
16					
17 NHDOT IIJA-YR2	1,243,372.00				
18 NHDOT IIJA-YR3		1,243,372.00			
19					
20 TOTAL (sum of lines 16 - 19)	\$1,243,372.00	\$1,243,372.00		\$0.00	

SECTION F - OTHER BUDGET INFORMATION	
21 Direct Charges	22. Indirect Charges 10%
23 Remarks	

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Sheila Ireland
 2/9/2023

Logic Model for "NH Resilient Tidal Crossings Project-Building Resilience through Upgraded Replacements of High Priority Tidal Culverts," showing schedule, products, outcomes, milestones and performance measures for tasks and activities. Green text indicates changes enacted during the 2/9/23 proposal resubmit.

Task	Activities	Schedule of Activities (04/01/2023 - 3/31/27)																	Products	Outcomes	Milestone	Performance Measure	
		2023				2024				2025				2026				27				Measures	Target
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
TASKS 1. COMPLETE FINAL DESIGNS & PERMITTING (STRATHAM EAST & STRATHAM WEST), AND TASK 2. COMPLETE FINAL DESIGNS & PERMITTING (RYE)	a. Complete Engineering																		(2) Final engineering plan sets	By 12/31/24, (3) state owned tidal culverts readied for the construction phase	By 07/01/23, execute subaward to NHDOT	Permit Sets Complete	Y/N
	b. Complete Permitting																		(2) Final permit document sets		By 3/31/24, Complete 100% Design Plans	Engineering Plan Sets Complete	Y/N
	c. Secure Right of Way																		(2) Sets of Construction Specifications		By 06/30/24, secure all necessary permits	Convene Public Meetings	6
	d. Utility Coordination																		Any easements or land rights acquired		By 06/30/24, provide any permanent easements or land rights acquired to NOAA for review		
																					By 09/30/24, have final plans and permits in hand		
TASK 3 IMPLEMENT TIDAL CULVERT REPLACEMENT (STRATHAM) TASK 4: IMPLEMENT TIDAL CULVERT REPLACEMENT (RYE)	a. Procure Contractors																		(2) Requests for Proposals	By 3/31/26, (3) state owned tidal culverts replaced with upgraded structures	By 01/15/25, select construction contractor	Construction Contracts Executed	Y/N
	b. Install Stratham East & West																		(2) Construction Contracts		By 04/01/25, issue Notice to Proceed	Notices to Proceed Issued	Y/N
	c. Install Rye																		(2) Notice to Proceed and Substantial Completion Forms		By 03/31/26, substantial completion declared	Substantial completion Declared	Y/N
																			(2) As-Built Surveys		By 03/31/26, Easements for NHDOT subaward are closed out	As-Built Complete	Y/N
TASK 5. PROJECT MANAGEMENT, MONITORING, AND REPORTING	a. Complete Semi Annual Reports																		(7) Semi Annual Reports	By 12/31/23, Project Implementation and Effectiveness Metrics Established	Submit progress report every April 30th & October 31	Tier 1 Performance Metrics established & measured	Y/N
	b. Convene Project Status Meetings																		(6) Project Status Meeting Notes		By 12/31/23, Complete Monitoring Plan and Detailed Monitoring Budget	# years of pre-restoration data	2
	c. Create Monitoring Plan and Conduct Pre-Monitoring																		(1) Monitoring Plan (1) Pre-Monitoring Report	By 03/31/26, Grant products and outcomes are achieved on schedule and within budget.	Pre-Monitoring conducted in 2024, 2025	# year of post restoration data	1
	d. Prepare and Submit Final Report																		(1) Final Grant Report		By 03/31/26, submit final grant report		
	e. Conduct Post Project Monitoring																			(1) Post-Monitoring Report	By 3/31/27, Post conditions have been evaluated, compared to pre-conditions, and preliminary effects characterized.		