



New Hampshire Fish and Game Department

HEADQUARTERS: 11 Hazen Drive, Concord, NH 03301-6500
(603) 271-3421
FAX (603) 271-1438

www.WildNH.com
e-mail: info@wildlife.nh.gov
TDD Access: Relay NH 1-800-735-2964

November 4, 2021

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

Requested Action

Authorize the New Hampshire Fish and Game Department to enter into a contract with HDR Engineering, Inc. (Vendor Code #169983), Manchester, NH, in the amount of \$940,053 to conduct the Powder Mill Fish Hatchery Feasibility Study effective upon Governor and Council approval through June 30, 2023. 100% Federal Funds.

03-75-75-752020-24XX INLAND FISHERIES MANAGEMENT-ARPA Fish Hatchery Feasibility Study

Funding will be available in account ARPA Fish Hatchery Feasibility Study, contingent upon Fiscal Committee and Governor and Council approval of the \$1,000,000 accept and expend item (see explanation for more details), as follows;

20-07500-24XX0000-046-500464 Consultants

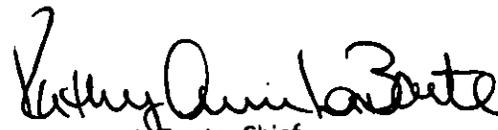
FY 2022
\$940,053

Explanation

This contract request is a companion item to, and contingent on, the approval of the \$1,000,000 accept and expend request of American Rescue Plan (ARP) State and Local Fiscal Recovery Funds (FRF) by the Fiscal Committee on November 19, 2021 and the Governor and Council on November 22, 2021. The study will take a holistic approach to evaluation of the Powder Mill Fish Hatchery to achieve compliance with its new NPDES Permit. The evaluation will not only include hatchery modernization for facility operational efficiency, but solids handling improvements and effluent treatment as well. Pilot studies of treatment systems are anticipated to be required to confirm the treatment technology selected is sufficient to consistently comply with the low phosphorus limit in the NPDES permit.

Respectfully submitted,


Scott R. Mason
Executive Director


Kathy Ann LaBonte, Chief
Business Division

Final Interview Score Summary for Powder Mill Fish Hatchery Feasibility Study

CANDIDATE FIRM	Possible Score	HDR	DuBois and King	EA Engineering Science	Geosyntec
Business Documents Present					
CWSRF (per Dennis G, NA)	Y/N	Y	Y	N	N
Request for Qualifications Criteria - REVIEWER					
Tim Buzinski	100	89	59	70	67
Dianne Timmins	100	100	88	81	92
Scott Mason	100	100	70	85	95
Matt Pehrson	100	89	59	49	76
Average Total	115	94.5	69	71.3	82.5
Rank		1		3	2

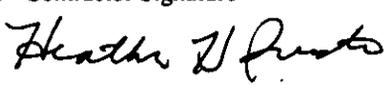
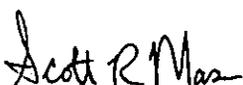
Notice: This agreement and all of its attachments shall become public upon submission to Governor and Executive Council for approval. Any information that is private, confidential or proprietary must be clearly identified to the agency and agreed to in writing prior to signing the contract.

AGREEMENT

The State of New Hampshire and the Contractor hereby mutually agree as follows:

GENERAL PROVISIONS

1. IDENTIFICATION.

1.1 State Agency Name NH Fish and Game Department		1.2 State Agency Address 11 Hazen Drive, Concord, NH 03301	
1.3 Contractor Name HDR Engineering, Inc.		1.4 Contractor Address 250 Commercial St., Manchester, NH 03101	
1.5 Contractor Phone Number (603) 391-0900	1.6 Account Number 7500 24XX0000 046 5 500464	1.7 Completion Date June 30, 2023	1.8 Price Limitation \$940,053
1.9 Contracting Officer for State Agency Scott R. Mason, Executive Director		1.10 State Agency Telephone Number (603)-271-1134	
1.11 Contractor Signature  Date: 11/1/21		1.12 Name and Title of Contractor Signatory Heather H. Ivester, Area Manager – Associate Vice President	
1.13 State Agency Signature  Date: 11/4/21		1.14 Name and Title of State Agency Signatory Scott R. Mason, Executive Director	
1.15 Approval by the N.H. Department of Administration, Division of Personnel (if applicable) By: _____ Director, On: _____			
1.16 Approval by the Attorney General (Form, Substance and Execution) (if applicable)  By: Christopher G. Aslin, Senior Asst. Attorney General On: 11/4/21			
1.17 Approval by the Governor and Executive Council (if applicable) G&C Item number: _____ G&C Meeting Date: _____			

2. SERVICES TO BE PERFORMED. The State of New Hampshire, acting through the agency identified in block 1.1 ("State"), engages contractor identified in block 1.3 ("Contractor") to perform, and the Contractor shall perform, the work or sale of goods, or both, identified and more particularly described in the attached EXHIBIT B which is incorporated herein by reference ("Services").

3. EFFECTIVE DATE/COMPLETION OF SERVICES.

3.1 Notwithstanding any provision of this Agreement to the contrary, and subject to the approval of the Governor and Executive Council of the State of New Hampshire, if applicable, this Agreement, and all obligations of the parties hereunder, shall become effective on the date the Governor and Executive Council approve this Agreement as indicated in block 1.18, unless no such approval is required, in which case the Agreement shall become effective on the date the Agreement is signed by the State Agency as shown in block 1.14 ("Effective Date").

3.2 If the Contractor commences the Services prior to the Effective Date, all Services performed by the Contractor prior to the Effective Date shall be performed at the sole risk of the Contractor, and in the event that this Agreement does not become effective, the State shall have no liability to the Contractor, including without limitation, any obligation to pay the Contractor for any costs incurred or Services performed. Contractor must complete all Services by the Completion Date specified in block 1.7.

4. CONDITIONAL NATURE OF AGREEMENT.

Notwithstanding any provision of this Agreement to the contrary, all obligations of the State hereunder, including, without limitation, the continuance of payments hereunder, are contingent upon the availability and continued appropriation of funds affected by any state or federal legislative or executive action that reduces, eliminates or otherwise modifies the appropriation or availability of funding for this Agreement and the Scope for Services provide in EXHIBIT B, in whole or in part. In no event shall the State be liable for any payments hereunder in excess of such available appropriated funds. In the event of a reduction or termination of appropriated funds, the State shall have the right to withhold payment until such funds become available, if ever, and shall have the right to reduce or terminate the Services under this Agreement immediately upon giving the Contractor notice of such reduction or termination. The State shall not be required to transfer funds from any other account or source to the Account identified in block 1.6 in the event funds in that Account are reduced or unavailable.

5. CONTRACT PRICE/PRICE LIMITATION/ PAYMENT.

5.1 The contract price, method of payment, and terms of payment are identified and more particularly described in EXHIBIT C which is incorporated herein by reference.

5.2 The payment by the State of the contract price shall be the only and the complete reimbursement to the Contractor for all expenses, of whatever nature incurred by the Contractor in the performance hereof, and shall be the only and the complete

compensation to the Contractor for the Services. The State shall have no liability to the Contractor other than the contract price.

5.3 The State reserves the right to offset from any amounts otherwise payable to the Contractor under this Agreement those liquidated amounts required or permitted by N.H. RSA 80:7 through RSA 80:7-c or any other provision of law.

5.4 Notwithstanding any provision in this Agreement to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments authorized, or actually made hereunder, exceed the Price Limitation set forth in block 1.8.

6. COMPLIANCE BY CONTRACTOR WITH LAWS AND REGULATIONS/ EQUAL EMPLOYMENT OPPORTUNITY.

6.1 In connection with the performance of the Services, the Contractor shall comply with all applicable statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal employment opportunity laws. In addition, if this Agreement is funded in any part by monies of the United States, the Contractor shall comply with all federal executive orders, rules, regulations and statutes, and with any rules, regulations and guidelines as the State or the United States issue to implement these regulations. The Contractor shall also comply with all applicable intellectual property laws.

6.2 During the term of this Agreement, the Contractor shall not discriminate against employees or applicants for employment because of race, color, religion, creed, age, sex, handicap, sexual orientation, or national origin and will take affirmative action to prevent such discrimination.

6.3 The Contractor agrees to permit the State or United States access to any of the Contractor's books, records and accounts for the purpose of ascertaining compliance with all rules, regulations and orders, and the covenants, terms and conditions of this Agreement.

7. PERSONNEL.

7.1 The Contractor shall at its own expense provide all personnel necessary to perform the Services. The Contractor warrants that all personnel engaged in the Services shall be qualified to perform the Services, and shall be properly licensed and otherwise authorized to do so under all applicable laws.

7.2 Unless otherwise authorized in writing, during the term of this Agreement, and for a period of six (6) months after the Completion Date in block 1.7, the Contractor shall not hire, and shall not permit any subcontractor or other person, firm or corporation with whom it is engaged in a combined effort to perform the Services to hire, any person who is a State employee or official, who is materially involved in the procurement, administration or performance of this Agreement. This provision shall survive termination of this Agreement.

7.3 The Contracting Officer specified in block 1.9, or his or her successor, shall be the State's representative. In the event of any dispute concerning the interpretation of this Agreement, the Contracting Officer's decision shall be final for the State.

Contractor Initials THP
Date 11/1/21

8. EVENT OF DEFAULT/REMEDIES.

8.1 Any one or more of the following acts or omissions of the Contractor shall constitute an event of default hereunder ("Event of Default"):

- 8.1.1 failure to perform the Services satisfactorily or on schedule;
- 8.1.2 failure to submit any report required hereunder; and/or
- 8.1.3 failure to perform any other covenant, term or condition of this Agreement.

8.2 Upon the occurrence of any Event of Default, the State may take any one, or more, or all, of the following actions:

8.2.1 give the Contractor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) days from the date of the notice; and if the Event of Default is not timely cured, terminate this Agreement, effective two (2) days after giving the Contractor notice of termination;

8.2.2 give the Contractor a written notice specifying the Event of Default and suspending all payments to be made under this Agreement and ordering that the portion of the contract price which would otherwise accrue to the Contractor during the period from the date of such notice until such time as the State determines that the Contractor has cured the Event of Default shall never be paid to the Contractor;

8.2.3 give the Contractor a written notice specifying the Event of Default and set off against any other obligations the State may owe to the Contractor any damages the State suffers by reason of any Event of Default; and/or

8.2.4 give the Contractor a written notice specifying the Event of Default, treat the Agreement as breached, terminate the Agreement and pursue any of its remedies at law or in equity, or both.

8.3. No failure by the State to enforce any provisions hereof after any Event of Default shall be deemed a waiver of its rights with regard to that Event of Default, or any subsequent Event of Default. No express failure to enforce any Event of Default shall be deemed a waiver of the right of the State to enforce each and all of the provisions hereof upon any further or other Event of Default on the part of the Contractor.

9. TERMINATION.

9.1 Notwithstanding paragraph 8, the State may, at its sole discretion, terminate the Agreement for any reason, in whole or in part, by thirty (30) days written notice to the Contractor that the State is exercising its option to terminate the Agreement.

9.2 In the event of an early termination of this Agreement for any reason other than the completion of the Services, the Contractor shall, at the State's discretion, deliver to the Contracting Officer, not later than fifteen (15) days after the date of termination, a report ("Termination Report") describing in detail all Services performed, and the contract price earned, to and including the date of termination. The form, subject matter, content, and number of copies of the Termination Report shall be identical to those of any Final Report described in the attached EXHIBIT B. In addition, at the State's discretion, the Contractor shall, within 15 days of notice of early termination, develop and

submit to the State a Transition Plan for services under the Agreement.

10. DATA/ACCESS/CONFIDENTIALITY/PRESERVATION.

10.1 As used in this Agreement, the word "data" shall mean all information and things developed or obtained during the performance of, or acquired or developed by reason of, this Agreement, including, but not limited to, all studies, reports, files, formulae, surveys, maps, charts, sound recordings, video recordings, pictorial reproductions, drawings, analyses, graphic representations, computer programs, computer printouts, notes, letters, memoranda, papers, and documents, all whether finished or unfinished.

10.2 All data and any property which has been received from the State or purchased with funds provided for that purpose under this Agreement, shall be the property of the State, and shall be returned to the State upon demand or upon termination of this Agreement for any reason.

10.3 Confidentiality of data shall be governed by N.H. RSA chapter 91-A or other existing law. Disclosure of data requires prior written approval of the State.

11. CONTRACTOR'S RELATION TO THE STATE. In the performance of this Agreement the Contractor is in all respects an independent contractor, and is neither an agent nor an employee of the State. Neither the Contractor nor any of its officers, employees, agents or members shall have authority to bind the State or receive any benefits, workers' compensation or other emoluments provided by the State to its employees.

12. ASSIGNMENT/DELEGATION/SUBCONTRACTS.

12.1 The Contractor shall not assign, or otherwise transfer any interest in this Agreement without the prior written notice, which shall be provided to the State at least fifteen (15) days prior to the assignment, and a written consent of the State. For purposes of this paragraph, a Change of Control shall constitute assignment. "Change of Control" means (a) merger, consolidation, or a transaction or series of related transactions in which a third party, together with its affiliates, becomes the direct or indirect owner of fifty percent (50%) or more of the voting shares or similar equity interests, or combined voting power of the Contractor, or (b) the sale of all or substantially all of the assets of the Contractor.

12.2 None of the Services shall be subcontracted by the Contractor without prior written notice and consent of the State. The State is entitled to copies of all subcontracts and assignment agreements and shall not be bound by any provisions contained in a subcontract or an assignment agreement to which it is not a party.

13. INDEMNIFICATION. Unless otherwise exempted by law, the Contractor shall indemnify and hold harmless the State, its officers and employees, from and against any and all claims, liabilities and costs for any personal injury or property damages, patent or copyright infringement, or other claims asserted against the State, its officers or employees, which arise out of (or which may be claimed to arise out of) the acts or omission of the

Contractor Initials HNR
Date 11/1/24

Contractor, or subcontractors, including but not limited to the negligence, reckless or intentional conduct. The State shall not be liable for any costs incurred by the Contractor arising under this paragraph 13. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State. This covenant in paragraph 13 shall survive the termination of this Agreement.

14. INSURANCE.

14.1 The Contractor shall, at its sole expense, obtain and continuously maintain in force, and shall require any subcontractor or assignee to obtain and maintain in force, the following insurance:

14.1.1 commercial general liability insurance against all claims of bodily injury, death or property damage, in amounts of not less than \$1,000,000 per occurrence and \$2,000,000 aggregate or excess; and

14.1.2 special cause of loss coverage form covering all property subject to subparagraph 10.2 herein, in an amount not less than 80% of the whole replacement value of the property.

14.2 The policies described in subparagraph 14.1 herein shall be on policy forms and endorsements approved for use in the State of New Hampshire by the N.H. Department of Insurance, and issued by insurers licensed in the State of New Hampshire.

14.3 The Contractor shall furnish to the Contracting Officer identified in block 1.9, or his or her successor, a certificate(s) of insurance for all insurance required under this Agreement. Contractor shall also furnish to the Contracting Officer identified in block 1.9, or his or her successor, certificate(s) of insurance for all renewal(s) of insurance required under this Agreement no later than ten (10) days prior to the expiration date of each insurance policy. The certificate(s) of insurance and any renewals thereof shall be attached and are incorporated herein by reference.

15. WORKERS' COMPENSATION.

15.1 By signing this agreement, the Contractor agrees, certifies and warrants that the Contractor is in compliance with or exempt from, the requirements of N.H. RSA chapter 281-A ("*Workers' Compensation*").

15.2 To the extent the Contractor is subject to the requirements of N.H. RSA chapter 281-A, Contractor shall maintain, and require any subcontractor or assignee to secure and maintain, payment of Workers' Compensation in connection with activities which the person proposes to undertake pursuant to this Agreement. The Contractor shall furnish the Contracting Officer identified in block 1.9, or his or her successor, proof of Workers' Compensation in the manner described in N.H. RSA chapter 281-A and any applicable renewal(s) thereof, which shall be attached and are incorporated herein by reference. The State shall not be responsible for payment of any Workers' Compensation premiums or for any other claim or benefit for Contractor, or any subcontractor or employee of Contractor, which might arise under applicable State of New Hampshire Workers' Compensation laws in connection with the performance of the Services under this Agreement.

16. **NOTICE.** Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given in blocks 1.2 and 1.4, herein.

17. **AMENDMENT.** This Agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto and only after approval of such amendment, waiver or discharge by the Governor and Executive Council of the State of New Hampshire unless no such approval is required under the circumstances pursuant to State law, rule or policy.

18. **CHOICE OF LAW AND FORUM.** This Agreement shall be governed, interpreted and construed in accordance with the laws of the State of New Hampshire, and is binding upon and inures to the benefit of the parties and their respective successors and assigns. The wording used in this Agreement is the wording chosen by the parties to express their mutual intent, and no rule of construction shall be applied against or in favor of any party. Any actions arising out of this Agreement shall be brought and maintained in New Hampshire Superior Court which shall have exclusive jurisdiction thereof.

19. **CONFLICTING TERMS.** In the event of a conflict between the terms of this P-37 form (as modified in EXHIBIT A) and/or attachments and amendment thereof, the terms of the P-37 (as modified in EXHIBIT A) shall control.

20. **THIRD PARTIES.** The parties hereto do not intend to benefit any third parties and this Agreement shall not be construed to confer any such benefit.

21. **HEADINGS.** The headings throughout the Agreement are for reference purposes only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Agreement.

22. **SPECIAL PROVISIONS.** Additional or modifying provisions set forth in the attached EXHIBIT A are incorporated herein by reference.

23. **SEVERABILITY.** In the event any of the provisions of this Agreement are held by a court of competent jurisdiction to be contrary to any state or federal law, the remaining provisions of this Agreement will remain in full force and effect.

24. **ENTIRE AGREEMENT.** This Agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire agreement and understanding between the parties, and supersedes all prior agreements and understandings with respect to the subject matter hereof.

EXHIBIT A

SPECIAL PROVISIONS: AMENDMENTS TO AGREEMENT (Form P-37)

POWDER MILL FISH HATCHERY FEASIBILITY STUDY

7. PERSONNEL

Replace 7.2 with the following:

7.2 During the term of this Agreement, and for a period of six (6) months thereafter, neither party shall knowingly solicit for employment, technical or professional employees of the other party who have been directly involved in the activities covered by this Agreement without prior written approval of the other party. This clause shall not restrict in any way the right of either party to solicit generally in the media for sought after personnel, nor does it restrict employees of either party from pursuing on their own initiative employment opportunities with the other party.

10. DATA/ACCESS/CONFIDENTIALITY/PRESERVATION

Amend 10.2 to include:

10.2.1 Any reuse or modification of such Data for purposes other than intended by the Contractor in its scope of services shall be at the State's sole risk and without liability to the Contractor.

13. INDEMNIFICATION

Amend Paragraph 13, first sentence by:

- Delete "the acts or omission of the Contractor, or subcontractors, including but not limited to the negligence, reckless or intentional conduct." And replace with "the negligent acts or omission, recklessness or international misconduct of the Contractor, or subcontractors."

14. INSURANCE

Amend 14.1 to include:

14.1.3 professional liability insurance claims made form, in amounts of \$1,000,000 per claim and \$2,000,000 annual aggregate.

14.1.4 The State of New Hampshire Fish and Game Department shall be named as Certificate holder. The Contractor shall, at its sole expense, obtain and maintain in force, and shall require any sub-contractor of assignee to obtain and maintain in force the insurance required in this section, for the benefit of the State.

Handwritten initials and date:
JHC
11/1/21

25. COVID PANDEMIC CONDITIONS

Amend Form P-37 to include a new section:

25. COVID PANDEMIC CONDITIONS

25.1 The Contractor acknowledges and agrees that this Agreement was entered into following the coronavirus disease 2019 (COVID-19) outbreak. The Contractor agrees that to the extent the COVID-19 outbreak, or any federal, state or local orders, regulations, rules, restrictions, or emergency declarations relating to COVID-19, disrupt, delay, or otherwise impact the Scope of Services to be performed by the Contractor as set forth in EXHIBIT B of this Agreement, any such disruption, delay, or other impact was foreseeable at the time this Agreement was entered into by the Parties and does not excuse the Contractor's performance under this Agreement. The Contractor agrees that any such impact, including any disruption to supply chains, workforce reductions, delays or interruptions in performance, or other effects on businesses, are not the fault of the State and the Contractor may not seek damages against the State for any such impacts.

If the Contractor experiences or anticipates any such COVID-19-related impacts to this Agreement, the Contractor shall immediately notify the Contracting Officer. In the event of any COVID-19-related impact or anticipated impact to this Agreement, the Contracting Officer shall have the right to temporarily modify, substitute, or decrease the Services, without the approval of the Governor and Executive Council, upon giving written notice to the Contractor. The State's right to modify includes, but is not limited to, the right to modify service priorities, including how and when Services are delivered, and expenditure requirements under this Agreement so as to achieve compliance therewith, provided such modifications are within the Scope of Services and cost limitations of this Agreement. By exercising any of the rights described within this subsection, the State does not waive any of its right under this Agreement.

In the event that a modification by the State under this subsection would result in a reduction of Services that cannot be supplemented during the remaining term of this Agreement with either replacement or substituted services of substantially similar value, the Parties shall submit an amendment to this Agreement with a commensurate reduction in the price. In order to facilitate reconciliation of services performed under this Agreement, the Contractor shall submit weekly reports detailing the following for any service not fully performed pursuant to the terms of the Agreement:

- (a) The services required to be performed under the terms of this Agreement as written;
- (b) The services actually performed;
- (c) Any replacement or substituted services performed with reference to the associated unperformed contracted services.

JHQ
11/1/21

EXHIBIT B

SCOPE OF SERVICES

POWDER MILL FISH HATCHERY FEASIBILITY STUDY

Project Summary

The tasks below represent a holistic approach to evaluation of the Powder Mill Fish Hatchery to achieve compliance with its new NPDES Permit. The evaluation will not only include hatchery modernization for facility operational efficiency, but solids handling improvements and effluent treatment as well. Pilot studies of treatment systems are anticipated to be required to confirm the treatment technology selected is sufficient to consistently comply with the low phosphorus limit in the NPDES permit.

Due to the anticipated cost of a new effluent treatment system, as well as the need to increase production at other State Hatcheries to meet fish production goals during the construction phase of the Powder Mill improvements, this study will also encompass the other NHFGD State Hatcheries. Other State Hatcheries will be evaluated to determine how capacity may be increased on a short or long-term basis. By reviewing the entire production system less costly options for permit compliance at Powder Mill may surface and provide for the most beneficial investments within the State hatchery system.

Summary of Tasks

Tasks are defined and described in detail in the pages that follow and organized as listed here:

- Task 1 – Project Management
- Task 2 – Collection and Review of Existing Data
- Task 3 – Current and Future Production Goals
- Task 4 – Existing Facilities Evaluation
- Task 5 – Source Water and Effluent Characterization
- Task 6 – Hatchery Modernization Evaluation
- Task 7 – Effluent Treatment and Solids Handling Technology Review
- Task 8 – Pilot/Bench Testing Protocol Development
- Task 9 – Pilot/Bench Testing Execution Assistance, Evaluation, and Reporting
- Task 10 – Evaluation of Statewide Upgrade Alternatives
- Task 11 – Powder Mill Fish Hatchery Feasibility Study and Statewide Facility Planning Final Report

Tasks 2, 4, and 6 are tasks performed for each of the State's six (6) hatcheries. Tasks 5, and 7 will only be undertaken at Powder Mill and Berlin hatcheries. Task 10 takes all the recommended improvements at each facility and their costs into consideration as well as their upgraded production capacities and combines the upgrades in different implementation scenarios to determine the most cost effective

*JRP
10/1/21*

way to meet production goals.

Summary of Deliverables

The deliverables for the Tasks presented in this document will be as outlined below:

- NHFGD Statewide Stocking and Production Plan (Task 3)
- Tech Memo: Existing Conditions and Facility Evaluations (Task 2,4)
- Sampling and Analysis Plan (Task 5)
- Tech Memo: Source Water and Effluent Characterization and Treatment Technology Review (Task 5, 7)
- Tech Memo: Hatchery Modernization Evaluations (Task 6)
- Sampling, Analysis, and Monitoring Plan (Task 8)
- Pilot/Bench Test Protocol (Task 8)
- Tech Memo: Pilot/Bench Testing Results and Evaluation (Task 9)
- Tech Memo: Evaluation of Statewide Alternatives (Task 10)
- Powder Mill Fish Hatchery Feasibility Study and Statewide Facility Planning Final Report (Task 11)

Technical memorandums will be used to report on the work for each listed task, allow NHFGD to review and provide written comments, and document major decisions made during the project.

Summary of Final Report

It is the intent that a final report on the Powder Mill Feasibility Study will be compiled at the completion of the project that will summarize important information from each technical memorandums. The final report will include key findings from the following deliverables, and serve as the hatchery's facility plan:

- Tech Memo: Existing Conditions and Facility Evaluation (Task 2,4)
- NHFGD Statewide Stocking and Production Plan (Task 3)
- Tech Memo: Source Water and Effluent Characterization (Task 5)
- Tech Memo: Hatchery Modernization Evaluation (Task 6)
- Tech Memo: Pilot/Bench Testing Results and Recommendations (Task 9)
- Tech Memo: Development and Evaluation of Systemwide Alternatives (Task 10)

Fee Summary

A detailed breakdown of manhours is presented within as well as a detailed breakdown of estimated costs associated with laboratory services and pilot unit rentals/operations. Overall, the breakdown between labor, laboratory services, and pilot expenses are as follows.

ZLH
11/19/21

Fee Breakdown

HDR Labor	\$ 562,305
Travel/Printing/Meals	\$ 18,460
Laboratory/Pilot Vendor/Subconsultant	\$ 359,288
Total	\$ 940,053

Proposed Schedule

A proposed schedule is included at the end of this document. This schedule assumes a kickoff meeting and site visits in early November. The sampling period for source water and effluent characterization is shown as occurring in November/December. Pilot testing, if necessary, is scheduled to occur next February, March, and April.

Final reporting will occur in December 2022. All interim submittal dates in the attached schedule are approximate and may need to shift to reflect task interdependencies. As such, it is important to recognize that availability of pilot units may have a significant impact on the schedule. Limited availability of pilot units, manpower shortages, and supply chain issues may exacerbate this issue.

If the schedule can be maintained, final reporting will include updating/finalizing the Statewide Stocking and Production Plan and the facility plans for all other hatcheries. This is to incorporate any necessary improvements that will occur to the other hatcheries as part of the Powder Mill Hatchery Upgrade Project. These recommendations will not be available until the system-wide evaluation has been completed to determine how to meet the new effluent limits at Powder Mill in the most economical fashion or for providing additional production capacity while Powder Mill is under construction.

JHR
11/1/21

Task 1 – Project Management

Objective: Provide management activities including planning, organizing and monitoring tasks, quality control, coordination with NHFGD and other management activities.

HDR Activities:

- Budget, schedule and invoice management.
- QC reviews of project deliverables.
- Progress reporting.

Task Deliverables:

- Monthly invoicing, including project status.
- Meeting agendas and minutes (pdf).
- Monthly progress meetings.

Key Understandings:

- Invoicing procedures will be HDR standard invoicing based on Cost Plus Fixed Fee. A status report, with a brief description of services provided during the billing period and services anticipated in the next month, will be included with each invoice along with documentation required per contract.

Planned Meetings:

- Monthly Progress Meetings will be held to report progress, discuss alternatives with NHFGD, request information, and receive feedback.

**Information/ Services
Provided By Others:**

- NHFGD to review and approve monthly invoices.

Task 2 – Collection and Review of Existing Data

Objective: Collect and review existing information including fish production data, fish feed usage, lime addition for pH buffering, effluent data, NPDES permit conditions, Best Management Practices (BMP) Plan for total suspended solids (TSS) and phosphorus, NHFGD historical data and facility layouts. This effort includes all six State hatcheries.

HDR Activities:

- Conduct a three (3) day onsite evaluation of the existing hatchery facilities with NHFGD staff. The purpose of the facility visits is to review existing conditions, discuss production, and outline operational requirements.
- Provide a request for information to NHFGD to include required hatchery information including:
 - Three years of influent and effluent water quality data including items such as flow rate, temperature, and as available – P, PO4-P, TDS, TSS, ammonia, pH.
 - Hydraulic profile of facility, if available.
 - Rearing unit flow and operational information.
 - Fish production (pounds and number of fish) and monthly feed fed in pounds.
 - Fish food nutrition labels for each feed type utilized. Primary information is protein content and phosphorous content in the feed.
 - Facility operational and production costs.
- Review information provided by NHFGD to understand existing conditions.
- Update of existing site plans.
- Evaluate current NPDES permit conditions affecting future fish production and effluent treatment operations.
- Identify additional sampling needs to close data gaps, if required.
- Evaluate BMP and provide recommendations for further improvements.
- Prepare written summary of the findings of this task. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Draft and Final Technical Memorandum (in conjunction with Task 4):
 - Existing Conditions and Facility Evaluations

Key Understandings:

- Update of existing site plans will be made simply from documentation during the field inspections to illustrate updates and expansion potential. cursory confirmation of items shown on the plans will be made during site visits. Pond, building outlines and additional outdoor rearing units will be shown. Where existing data is available, the location of property limits, water lines and drain lines will be included. This will build upon information and drawings already in HDR's possession from previous work. Site plans will be updated using AutoCAD.
- Technical Memorandum will be developed in conjunction with Task 4.
- Planned site visits at these facilities will occur separately from those required as part of Task 4.
- All flow, loading, water quality data, fish production, monthly feed in pounds, and facility operational costs will be provided in MS Excel format.
- Deliverables will be provided electronically in PDF format only. Hard copies will not be provided.

Planned Meetings:

- Total of six (6) on-site meetings, one at each facility, over the course of three consecutive days.

**Information/ Services
Provided By Others:**

- NHFGD to provide historic operations data in MS Excel format. Items may include:
 - Fish production records
 - Fish feed data
 - Measured flow rates
 - Water quality data

Task 3 – Summary of Current and Future Production Goals

Objective: Document existing hatchery production goals as well as determine goals for the next 20-year period with the assistance of NHFGD. Documentation and review of current and future production goals is required to confirm that goals are agreed to as they will impact hatchery modernizations and effluent treatment if required. Develop bioprogramming model and calibrate with influent and effluent water quality characteristics.

HDR Activities:

- Review historical fish production records (past three to five years).
- Obtain and review stocking information related to Powder Mill (past three to five years).
- Determine maximum production capability based on existing hatchery infrastructure.
- Meet with NHFGD to discuss current and future production and stocking strategy initiatives specifically related to Powder Mill.
- Evaluate NHFGD current and future production and stocking strategy and develop possible alternatives or improvements.
- Meet with NHFGD to discuss new alternatives or improvements.
- Update stocking area graphics for current and future conditions.
- Develop and calibrate bioprogramming models.
- Prepare written summary of the findings of this task. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Draft and Final Report:
 - NHFGD Statewide Stocking and Production Plan

Key Understandings:

- Biological fish production models will be utilized to estimate pounds, numbers, flow rates and metabolic waste parameters associated with varying levels of fish production. The data will be utilized to evaluate effluent pollutant concentrations under various production scenarios.

Bioprogramming model for Powder Mill and Berlin will be calibrated utilizing data from Task 2 and Task 5, as appropriate.

Bioprogramming model for all other hatcheries will be calibrated utilizing data from Task 2.

- Model results will be provided to NHFGD at the conclusion of the project for future use.
- Deliverables will be provided electronically in PDF format. Two (2) hard copies of each of the final NHFGD Statewide Stocking and Production Plan will be provided.

Planned Meetings:

- Meetings will be held in combination with monthly progress meetings.

**Information/ Services
Provided By Others:**

- NHFGD to provide historic and future stocking information in MS Excel format.

Task 4 – Existing Facilities Evaluation

Objective: Evaluate existing facilities to determine improvements to existing process systems to continue reliable hatchery operation over the next 20-year timeframe. The results of this evaluation will be used to inform subsequent hatchery modernization planning.

HDR Activities:

- Conduct a rapid condition assessment site visit with NHFGD staff and up to 5 HDR staff/engineers. Disciplines may include PM, architect, structural, hatchery process mechanical/biologist, HVAC/plumbing, and electrical engineers.
- Review improvements required to building facilities, structures, HVAC/plumbing, electrical and control systems, access/trucking circulation, and other facility needs with NHFGD staff.
- Review available information on the project including record drawings.
- Identify areas that do not meet applicable codes and criteria for structural, architectural, electrical, and mechanical design.
- Evaluate existing building facilities, structures, process and HVAC/plumbing mechanical systems, access/trucking circulation and other facility needs to document existing conditions and determine improvements necessary for existing facilities to continue to provide reliable and efficient service.
- Prepare written summary of the findings of this task. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Draft and Final Technical Memorandum (in conjunction with Task 2):
 - Existing Conditions and Facility Evaluation

Key Understandings:

- Improvements will not be recommended to existing facilities under this task due to the intent to modernize each hatchery. Only after hatchery modernization alternatives have been developed will recommendations for improvements of existing facilities be made based on the portion of the existing facility to be reused as part of each alternative.
- No material testing or sampling is included, only visual inspection will be performed.

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- Planned site visits for these facilities will occur separately from those required in Task 2.
- Deliverables will be provided electronically in PDF format. Hard copies will not be provided.

Planned Meetings:

- Total of five (6) on-site meetings, one at each facility, over the course of three consecutive days.

Information/ Services
Provided By Others:

- NHFGD to provide record drawings of facilities that are available.

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Task 5 – Source Water and Effluent Characterization – Powder Mill and Berlin

Objective: Evaluate hatchery source water and wastewater effluent quality. Of particular importance is phosphorus speciation in source water and effluent, solid fractions, and dissolved fractions (reactive and non-reactive).

HDR Activities:

- Develop a written Sampling and Analysis Plan (SAP) that outlines the objectives, study design, measurement quality objectives, standard operating procedures, analytical methods, and quality control aspects of the sampling.
- Coordinate study monitoring logistics with NHFGD and the analytical laboratory.
- Manage the incoming data and verify data quality (qualifying data, per the SAP).
- Review and evaluate the hatchery source water and wastewater effluent quality information to inform the effluent treatment technology review (Task 7).
- Prepare written summary of the findings of this task. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Sampling and Analysis Plan
- Draft and Final Technical Memorandum (in conjunction with Task 7):
 - Source Water and Effluent Characterization and Treatment Technology Review

Key Understandings:

- The Powder Mill Fish Hatchery staff will collect the water quality samples and ship them to the analytical laboratory, per the SAP.
- Costs associated with some sampling and certain water analysis tests are the responsibility of NHFGD.
- An allowance for composite sampler rental and certain highly technical water quality analysis costs are included as budgetary

numbers in the engineering fee. Actual cost incurred by HDR will be invoiced per the terms in Exhibit C.

- Deliverables will be provided electronically in PDF format only.

Planned Meetings:

- Meetings will be held in combination with monthly progress meetings.

Information/ Services
Provided By Others:

- A specialty laboratory will receive, analyze, and provide analytical results to HDR and NHFGD.

Task 6 – Hatchery Modernization Evaluation

Objective: Develop and evaluate alternatives for hatchery modernization to meet current and projected fish production needs. Hatchery modernization alternatives will focus on ways to further reduce solids and phosphorus waste loads but may also include: opportunities to recycle or reduce water usage; additions to existing or new hatchery buildings to meet future production goals; additions or expansions of support systems; hatchery fish culture train solids collection/conveyance and solids storage/concentration.

Visitor Centers are also included in this evaluation. Alternatives for improvements to the visitor center and show ponds at Powder Mill will also be developed and evaluated. All other visitor centers will be evaluated for improvements to meet ADA and State Fire Marshal recommendations only.

HDR Activities:

- Develop conceptual alternatives for hatchery modernization and expansion, including:
 - Water Saving Improvements (circular rearing tanks and recirculating aquaculture systems)
 - Fish Waste Solids Handling
 - Predator Protection
 - Pathogen and Biosecurity Requirements
- Review hatchery modernization/expansion alternatives at a high level based on a developed list of positives and negatives. Assist NHFGD in selection of two facility alternatives for further evaluation.
- Perform evaluation of chosen hatchery modernization/expansion alternatives:
 - Develop conceptual level hatchery modernization layouts.
 - Develop concept level opinion of probable construction cost
 - Update bioprogramming model based on alternatives and develop estimated effluent pollutant loads for each alternative.
 - Develop concept level estimated operational cost changes resulting from each alternative.
 - Develop total present worth cost for each alternative.
- Develop two conceptual alternatives for Powder Mill Visitor Center and show pond improvements and assist NHFGD in selection of final visitor center and show pond alternative. Perform an evaluation of alternatives including:
 - Develop conceptual level feature layouts.

- Develop concept level opinion of probable construction cost.
- Develop concept level operational costs for each alternative.
- Develop total present worth cost for each alternative.

- Determine improvements to meet ADA and State Marshal recommendations at all other Visitor Centers.

- Brief descriptions of the proposed hatchery modernization and enhanced visitor features will be developed for documentation of the conceptual level design assumptions utilized.

- Prepare written summary of the findings of this task. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Draft and Final Technical Memorandum:
 - Hatchery Modernization Evaluation

Key Understandings:

- Conceptual alternatives may be all new facilities or a mixture of new facilities and rehabilitation of existing infrastructure (part of Task 4).

- Concept level layouts will be developed in AutoCAD or BIM/3D Graphical software.

- Conceptual cost estimates will be prepared to the standards of an Association for the Advancement of Cost Engineering (AACE) International Class 4 estimate.

- Concept operational cost of each alternative will not include a formal evaluation of existing operational costs, only compare calculated operational cost increases or decreases as compared to current operational costs.

- Total present worth cost will be based on 20 years.

- Deliverables will be provided electronically in PDF format only.

Planned Meetings:

- Meetings will be held in combination with monthly progress meetings.

Information/ Services
Provided By Others:

- N/A

Task 7 – Effluent Treatment and Solids Handling Technology Review

Objective: Perform a review of applicable technologies for hatchery effluent treatment. Develop and evaluate alternatives for effluent treatment, hatchery solids handling effluent, and handling and disposal of effluent treatment solids. Effluent treatment technologies to be reviewed may include chemical addition/precipitation, clarification/sedimentation, filtration, and advanced treatment (adsorption, ion exchange, reverse osmosis). This task is to be completed for Powder Mill and Berlin only.

HDR Activities:

- Review and determine applicable technologies for hatchery effluent treatment based on the phosphorus speciation results.
 - sNRP < 5 µg/L (chemical sequestration of PO-P + filtration)
 - sNRP > 10 µg/L (chemical sequestration of PO-P + filtration + sNRP removal)
- Perform a preliminary screening of applicable hatchery effluent treatment technologies based on a developed list of project goals. Assist NHFGD in selection of facility alternatives for further evaluation. Effluent streams from fish hatchery solids handling, and solids disposal will be considered for technology screening purposes.
- Perform a more comprehensive evaluation of chosen effluent treatment technology alternatives for potential application.
 - Effluent streams from fish hatchery solids handling, and solids disposal will be fully developed for evaluation.
 - Develop conceptual level layouts of proposed treatment processes.
 - Develop concept level opinion of probable construction cost
 - Develop concept level estimated operational cost changes resulting from each alternative.
 - Develop total present worth cost for each alternative.
- Perform a multi-criteria decision analysis based on team developed criteria, ratings, and scoring to rank developed treatment alternatives. Assist NHFGD in final selection of technologies to bench test or pilot
- Prepare written summary of the findings of this task. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Draft and Final Technical Memorandum (in conjunction with Task 5):
 - Source Water and Effluent Characterization and Treatment Technology Review

Key Understandings:

- This effort focuses on Powder Mill and Berlin Hatcheries only.
- Preliminary screening of applicable hatchery effluent treatment technologies will be based on a list of project goals and operational needs. Effluent streams from fish hatchery solids handling, and solids disposal will be considered for technology screening purposes.
- Up to three different types of effluent treatment technologies/alternatives will be chosen for further evaluation after preliminary screening. These three alternatives will include technologies suitable for both Powder Mill and Berlin.
- Up to two effluent treatment technologies/alternatives will be chosen for bench scale testing or pilot studies.
- Deliverables will be provided electronically in PDF format only.

Planned Meetings:

- Meetings will be held in combination with monthly progress meetings.

Information/ Services
Provided By Others:

- N/A

Task 8 –Pilot/Bench Test Protocol Development

Objective: Develop pilot and/or bench test protocol for up to three treatment technologies.

HDR Activities:

- Contact vendors to secure installed skid mounted technology pilot.
- Develop a written Sampling, Analysis, and Monitoring Plan (SAMP) that outlines the objectives, study design, measurement quality objectives, standard operating procedures, analytical methods, onsite monitoring requirements and quality control aspects of the testing, sampling, and monitoring.
- Develop data entry table for documentation of sampling, analysis, and monitoring information collected during the duration of the bench/pilot testing.
- Develop list of system requirements for pilot (i.e. space, power, data, etc). Develop drawings/schematics for new temporary piping to direct hatchery effluent to pilot and from pilot; power supply for pilot.
- Develop pilot schedule.
- Determine anticipated costs associated with each pilot study. Anticipated costs may include piping modifications, power supply improvements, pilot unit rental and operational expenses, sampling and analysis costs.
- Selection of a pilot vendor to provide and install pilot including all plumbing and electrical work required for pilot to properly function.
- Prepare written Pilot/Bench Test Protocol. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Sampling, Analysis, and Monitoring Plan
- Pilot/Bench Test Protocol

Key Understandings:

- Pilot is anticipated to be skid mounted requiring only power, data, as well as conveyance to and from the unit. All required process chemicals will be vendor furnished.
- HDR is acting solely as a pass-through with respect to the Work Order for the Pilots and required services performed under its Agreement with NHFGD, and HDR will have no responsibility or liability for any services performed under such Work Order. As a result, NHFGD agrees to look solely to the Pilot Vendor (HDR's vendor, hereinafter referred to as "Vendor") for any indemnification related to any claims arising or alleged to arise out of this Work Order, and NHFGD further agrees to release and hold HDR harmless from any and all such claims, liabilities and causes of action of NHFGD, its contractors or any third parties arising out of or resulting from, in whole or in part, the services performed by Vendor under the proposed Work Order. In the event Vendor does not provide NHFGD such indemnification, HDR agrees to allow NHFGD the right of subrogation against Vendor with respect to such claims.
- An allowance for composite sampler rental and certain highly technical water quality analysis costs are included as budgetary numbers in the engineering fee. Actual cost incurred by HDR will be invoiced per the terms in Exhibit C.
- Pilot/Bench testing needs vary based on the levels of sNRP found in the effluent. For fee development purposes, we are assuming sNRP is >5mg/L, necessitating the use of bench testing to be conservative.
- Deliverables will be provided electronically in PDF/Excel format only.

Planned Meetings:

- Meetings will be held in combination with monthly progress meetings.

**Information/ Services
Provided By Others:**

- A specialty laboratory team will assist in development of the SAMP.

Task 9 – Pilot/Bench Test Execution Assistance, Evaluation, and Reporting

Objective: Execution of the pilot and/or bench tests. Analyze sampling and monitoring results to determine technology performance. Based on pilot/bench test results, update multi-criteria decision analysis determine final selection of technologies for implementation at Powder Mill to meet new NPDES effluent phosphorous requirements.

HDR Activities:

- Oversight of installation and removal of skid mounted pilot units by a Vendor, including conveyance of effluent to and from and power supply.
- Field Engineering during pilot operations.
- Coordinate study monitoring logistics with NHFGD and the analytical laboratory.
- Manage the incoming data and verify data quality (qualifying data, per the SAMP).
- Coordinate biweekly calls with NHFGD for the duration of pilot testing to discuss operational issues, testing results, and NHFGD staff observations.
- Review and evaluate the sampling and monitoring results to determine technology performance.
- Based on performance of pilot testing, update multi-criteria decision analysis performed in Task 7. Assist NHFGD in final selection of treatment alternatives.
- Prepare written summary of the findings of this task. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Draft and Final Technical Memorandum:
 - Pilot/Bench Testing Results and Evaluation

Key Understandings:

- The Powder Mill Fish Hatchery staff will collect the water quality samples and ship them to the analytical laboratory and collect operational monitoring data per the SAMP. Operation of the pilot will be by pilot manufacturer.

- Pilot units are anticipated to be skid mounted requiring only power, data, as well as water conveyance to and from the unit, all to be provided by the Vendor. All required process chemicals will be vendor furnished.
- Costs associated with some sampling and certain water analysis tests are the responsibility of NHFGD.
- An allowance for costs associated with installed pilots including rental, installation/removal, and operational expenses has been included as budgetary numbers in the engineering fee and will be performed by a Vendor to HDR. Actual cost incurred by HDR will be invoiced per the terms in Exhibit C.
- The allowances for anticipated costs to be incurred by HDR has been done for the sake of estimation of the cost of services required by others. The number of pilots required, are currently unknown, but assumed to be a total of 4 units. Once these details are known, HDR will solicit quotes from vendors to perform the necessary services. HDR will coordinate contracts with these service providers through our internal legal department to obtain a contract with these providers that indemnifies HDR for the work performed. Actual cost incurred by HDR will be invoiced per the terms in Exhibit C.
- Pilot/Bench testing needs vary based on the levels of sNRP found in the effluent. For fee development purposes, we are assuming sNRP is >5mg/L, necessitating the use of bench testing to be conservative.
- All vendor activities will be performed by a licensed, insured contractor in the State of New Hampshire.
- Deliverables will be provided electronically in PDF/Excel format only.

Planned Meetings:

- Bi-weekly progress calls will be conducted during the duration of bench/pilot testing for close coordination and reporting.
- Pre- and Post-Pilot Workshops

Information/ Services
Provided By Others:

New Hampshire Fish and Game Department
Powder Mill Fish Hatchery Feasibility Study
HDR Engineering, Inc.

- A specialty laboratory team will receive, analyze, and provide analytical results to HDR and NHFGD.

Task 10 – Evaluation of System Wide Upgrade Alternatives

Objective: Review final hatchery modernization and effluent treatment alternatives and make final system improvement selections. Determine required construction schedule and any required construction sequencing or phasing of the improvements to result in the least amount of disruption possible to hatchery operations. Develop strategies to continue production during construction to the highest extent possible.

HDR Activities:

- Develop and evaluate up to five (5) statewide alternatives based on estimated \$/lb produced and determine most cost-effective solutions for meeting the goals of the Statewide Stocking and Production Plan.
- Facilitate Final Alternatives Workshop to present results of alternative analysis and receive NHFGD feedback. Make final recommendation and assist NHFGD in final alternative selection.
- Update evaluation of selected alternatives:
 - Update process schematic.
 - Update effluent treatment layouts.
 - Update monitoring and staffing requirements.
 - Update opinion of probable construction cost.
 - Update operational and maintenance requirements.
 - Update total present worth cost for each alternative.
- Determine required construction schedule and any required construction sequencing or phasing of the improvements. Develop strategies to continue production at Powder Mill during construction to the highest extent possible.
- Brief descriptions of the final overall hatchery modernization alternatives combined with effluent treatment alternatives will be developed for documentation of the conceptual level design assumptions utilized.
- Prepare written summary of the findings of this task. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Draft and Final Technical Memorandum:
 - Evaluation of Statewide Alternatives

Key Understandings:

- Deliverables will be provided electronically in PDF/Excel format only.

Planned Meetings:

- Meetings will be held in combination with monthly progress meetings.

Information/ Services
Provided By Others:

- N/A

Task 11 – Powder Mill Fish Hatchery Feasibility Study and Statewide Facility Planning Final Report

Objective: Document key findings from all tasks performed. Documentation will be used for regulatory reporting/approval and to ensure that hatchery modernizations and effluent treatment evaluations and final selections are described in a single document.

HDR Activities:

- Prepare written summary of the entire feasibility study effort, based on technical memorandums previously developed. Receive and incorporate NHFGD feedback.

Task Deliverables:

- Draft and Final Report:
 - Powder Mill Fish Hatchery Feasibility Study and Statewide Facility Planning Final Report

Key Understandings:

- Only key findings and recommendations will be incorporated into the Final Report.
- Deliverables will be provided electronically in PDF format. Two (2) hard copies of Final Report will be provided.

Planned Meetings:

- Meetings will be held in combination with monthly progress meetings.

Information/ Services Provided By Others:

- N/A

**Budget Development Details
Costs Associated with Sub-Consultants and Vendors to HDR**

HDR has developed a budgetary allowance for water analysis only for the sake of estimation of the cost of these services. Many factors could modify the required number of samples, including but not limited to the desire to sample side streams that may be impactful to the project, inconsistent or questionable analysis results requiring further investigation, and the number of pilots required. NHFGD agrees to reimburse HDR for the full cost of these services. HDR will only bill NHFGD based on the actual number of samples analyzed, regardless of the budget allowances developed in the pages that follow, these allowances are merely used to provide an estimation of the water analysis costs as they are understood at the current time.

An allowance for pilot vendors, composite sampler rental, and certain analysis costs are included as budgetary numbers in the engineering fee. HDR is providing budgetary numbers only for the sake of estimation of the cost of services required by others. The number of pilots required, nor their electrical and piping details are not currently known. Once these details are known, HDR will solicit quotes from vendors to perform the necessary services. HDR will coordinate contracts with these service providers through our internal legal department to obtain a contract with these providers that indemnifies HDR for the work performed. Any construction activities will be performed by a licensed, insured contractor.

These costs will be incurred by HDR to be reimbursed by NHFGD.

Task 5 - Characterization Sampling	\$ 23,348
Task 8 - Subconsultant	\$ 2,640
Task 9 - Pilot Vendor	\$ 209,200
Task 9 - Pilot Sampling	\$ 124,080
Total Sub-Consultant/Vendor Budget	\$ 359,288

The details of how these budgets were estimated as provided in the sections below.

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Task 5 – Source Water and Effluent Characterization – Powder Mill and Berlin

- Assume three (3) composite samples for influent and effluent.
- Assume five (5) grab samples for side stream characterization that may impact peak loadings to treatment system.
- Phosphorous testing will be conducted at a specialty lab while all other testing will be conducted at a standard commercial laboratory.
- Including 30% contingency to account for unknowns.

Estimated Number of Samples for Phosphorous Testing

Composite	INF	EFF	Side streams
TP	3	6	5
PO4-P	3	6	5
sTP	3	6	5

Cost per Sample

TP	\$ 150	\$ 150	\$ 150
PO4-P	\$ 150	\$ 150	\$ 150
sTP	\$ 150	\$ 150	\$ 150

Extended Sampling Costs

TP	\$ 450	\$ 900	\$ 750
PO4-P	\$ 450	\$ 900	\$ 750
sTP	\$ 450	\$ 900	\$ 750

Subtotal	\$ 1,350	\$ 2,700	\$ 2,250
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Subtotal per Facility	\$ 6,300
# Facilities	2
Subtotal	\$ 12,600
HDR Admin & Liability at 10%	\$ 1,260
Shipping	\$ 2,000
Contingency @ 30%	\$ 4,758
Total Budget for Phosphorous Testing	\$ 20,618

Estimated Number of Samples at Commercial Laboratory

Composite	INF	EFF	Side streams
TSS	3	6	5
pH	3	6	5
Alk	3	6	5
Turbidity	3	6	5
COD	3	6	5

Cost per Sample

TSS	\$ 10	\$ 10	\$ 10
pH*	\$ -	\$ -	\$ -
Alk	\$ 25	\$ 25	\$ 25
Turbidity	\$ 15	\$ 15	\$ 15
COD	\$ 25	\$ 25	\$ 25

Extended Sampling Costs

TSS	\$ 30	\$ 60	\$ 50
pH*	\$ -	\$ -	\$ -
Alk	\$ 75	\$ 150	\$ 125
Turbidity	\$ 45	\$ 90	\$ 75
COD	\$ 75	\$ 150	\$ 125

Subtotal	\$ 225	\$ 450	\$ 375
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* pH to be performed onsite by NHFGD Staff

Subtotal per Facility	\$ 1,050
# Facilities	2
Subtotal	\$ 2,100
Contingency @ 30%	\$ 630
Total Budget for Commercial Laboratory	\$ 2,730

Task 5 Summary of Laboratory Costs

Total Budget for Phosphorous Testing	\$ 20,618
Total Budget for Commercial Laboratory	\$ 2,730
Task 5 Total Laboratory Budget	\$ 23,348

Task 8 – Pilot/Bench Test Protocol Development

- Assume 8 hours of time by April Gu, PhD at \$300 per hour with added ten percent (10%) to cover administrative expenses and vicarious liability for a total of \$2,640.

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Task 9 – Pilot/Bench Test Execution Assistance, Evaluation, and Reporting

	Reactive and Particulate Phosphorous Removal Requirements	Soluble non-reactive phosphorus (sNRP) > 5 mg/L Removal Requirements
Assumptions	two technologies will be pilot tested for removal of reactive and particulate phosphorus	two technologies will be bench tested for removal of soluble non-reactive phosphorus
Candidate Technologies	Ballasted flocculation + ultra-filtration Flocculation and sedimentation followed by ultra-filtration Ultra-filtration with chemical sludge inventory	Adsorption granular activated carbon ion-exchange Reverse osmosis
Duration¹	4 weeks – 8 weeks	
Pilot requirements	Power: 240 V 3 phase, 30 amp or less feed flow < 50 gpm Drain < 200 gpm	N/A
Pilot/Bench Testing Provider	Pilot Vendor to install/removal	Vendor
Pilot Operation³	Vendor application engineers will startup and operate pilot units for the duration of the pilot 5 days per week including travel time. Cost will be included in pilot contract. HDR field engineer will collect samples and monitor performance 3 coordination calls (30 min each) per week to review performance, discuss operational changes <ul style="list-style-type: none"> - Field engineer - PM - Senior Process Engineer 	
Pilot removal	Vendor will remove as part of Pilot unit cost	
Sampling and Monitoring²	grab and composite samples will be collected throughout the day from influent, effluent and waste streams samples will be preserved and delivered to lab Thursday afternoon for analysis on Friday and result by Monday AM. This requires a fridge large enough to store 100 x 500 mL bottles Composite Sampler will be rented for INF and each pilot effluent Drain/reject samples will be grab composites sampling equipment (bottles, funnels etc.) need to be P-residual-free) Field engineer will monitor pilot units	By Pilot Vendor

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	and record instrument readings, sampling times, and general observations. Pilot monitoring form will be provided	
	1 local HDR field engineer 5 days per week	
Pilot workshops ⁸	1 x pre-pilot (8 hrs) 1x post pilot (4 hrs)	
Costs		
Pilot Vendor		2 Pilots @ \$64,000 ea 2 Bench Tests @ \$10,000
Composite Sampler rental		3 x \$1000
Sampling supplies ⁷		\$2,000
Sample Refrigerator		\$500
Field Engineer ⁴		N/A
Team Calls		24 hr
Pilot Report		120 hr

¹ testing technologies for sNRP removal requires effluent from the upstream pilot performing at the desired level. Therefore, we budget 4 weeks for Option 1 and 8 weeks for Option 2.

² we will need quick turnaround on the samples so results from one week can inform operational adjustments the next week.

³ Application engineers may not be necessary for all technologies. The main advantage is that they will not have a learning curve so it saves time.

⁴ For Scenario 1, 4 hours a day would be enough, but somebody would be there all day and do other things in between (i.e. start writing the report).

⁵ Not used.

⁶ not used.

⁷ that includes sampling bottles, shipping coolers, packing ice, preservation chemicals, field filtration equipment (200 mL syringes, syringe filters, electric caulking gun).

⁸ pre-pilot would cover sampling plan, operation strategy etc, post pilot, any training and include Field and process engineer in the field as well as PM, vendor application engineer, and owner. Post-pilot can be remote to present and discuss results.

Estimated Pilot Costs

	Cost
Composite Sampler Rental	\$ 3,000
Sampling Supplies	\$ 2,000
Pilot/Bench Test Vendor	\$ 153,000
Sample Refrigerator	\$ 500
Subtotal	\$ 158,500
Contingency @ 20%	\$ 31,700
HDR Admin & Liability at 10%	\$ 19,020
Total Budget	\$ 209,220

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Estimated Number of Samples

	Reactive and Particulate Phosphorus				
	INF	Pilot 1 EFF	Pilot 1 Drain	Pilot 2 EFF	Pilot 2 Drain
	C	C	GC	C	GC
TP	5	5		5	
PO4-P	5	5		5	
sTP	5	5		5	

sNRP > 5 mg/L	
Pilot 1 EFF	Pilot 1 EFF
C	C
5	5
5	5
5	5

Cost per Sample

TP	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150
PO4-P	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150
sTP	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150

\$ 150	\$ 150
\$ 150	\$ 150
\$ 150	\$ 150

Extended Sampling Costs

TP	\$ 750	\$ 750		\$ 750	
PO4-P	\$ 750	\$ 750		\$ 750	
sTP	\$ 750	\$ 750		\$ 750	

\$ 750	\$ 750
\$ 750	\$ 750
\$ 750	\$ 750

Total	\$ 2,250	\$ 2,250	\$ -	\$ 2,250	\$ -
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\$ 2,250	\$ 2,250
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Estimated Sampling Costs

Total Analytical Costs	\$ 90,000
Shipping	\$ 4,000
Contingency @ 20%	\$ 18,800
HDR Admin & Liability at 10%	\$ 11,280
Total Budget	\$ 124,080

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EXHIBIT C

TERMS OF PAYMENT

POWDER MILL FISH HATCHERY FEASIBILITY STUDY

The consultant shall receive payment for services rendered in accordance with the following schedule:

1. CONTRACT PRICE

The Contractor hereby agrees to provide professional services in complete compliance with the terms and conditions specified in Exhibit B for an amount up to and not to exceed a price of \$940,053; this figure shall not be considered a guaranteed or minimum figure; however it shall be considered a maximum figure from the effective date through the expiration date as indicated in Form P-37 Block 1.7.

2. PRICING STRUCTURE

Compensation for Contractor's services under this Agreement shall be on the basis of Time and Materials. Time and Materials shall mean actual labor hours at the rates included in the rate table attached, to be paid as total compensation for each hour an employee works on the project, plus Reimbursable Expenses.

HDR Fee schedule – See Attached

HDR scope of work table – See Attached.

3. INVOICE

Itemized invoices shall be submitted on a monthly basis for the job/services that were completed the previous period. The payment requests for services rendered shall be compiled using the rates shown on the Consultant's fee schedule listed in 2. Pricing structure. Included with the invoice shall include a copy of the Consultant's fee schedule, a summary of work completed, timesheet documents, summary or future proposed work shall be included with each request for services rendered.

Contractor shall be paid within 30 days after receipt of properly documented invoice and acceptance of the work to the State's satisfaction.

Contractor will retain receipts for reimbursable expenses in general accordance with Internal Revenue Service rules pertaining to the support of expenditures for income tax purposes. Receipts will be available for inspection by the State's auditors upon request.

If the State disputes any items in Contractor's invoice for any reason, including the lack of supporting documentation, the State may temporarily delete the disputed item and pay the remaining amount of the invoice. The State will promptly notify Contractor of the

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dispute and request clarification and/or correction. After any dispute has been settled, Contractor will include the disputed item on a subsequent, regularly scheduled invoice, or on a special invoice for the disputed item only.

4. PAYMENT

Payments may be made via ACH or P-Card. Use the following link to enroll with the State Treasury for ACH payments: <https://www.nh.gov/treasury>

5. REIMBURSIBLES

Reimbursable Expense shall mean the actual expenses incurred directly or indirectly in connection with the Project for transportation travel, subconsultants, subcontractors, technology charges, telephone, telex, shipping and express, and other incurred expense. Contractor will add ten percent (10%) to invoices received by Contractor from subconsultants and subcontractors to cover administrative expenses and vicarious liability.

Lodging, meals, and incidentals will be reimbursed at current U.S. General Services Administration Per Diem Rates as shown in Table C-1. Mileage will be reimbursed at current IRS standard mileage rates.

6. CHANGES

The parties agree that no change or modification to this Agreement, or any attachments hereto, shall have any force or effect unless the change is reduced to writing, dated, and made part of this Agreement. The execution of the change shall be authorized and signed in the same manner as this Agreement. Adjustments in the period of services and in compensation shall be in accordance with applicable paragraphs and sections of this Agreement. Any proposed fees by Contractor are estimates to perform the services required to complete the project as Contractor understands it to be defined. For those projects involving conceptual or process development services, activities often are not fully definable in the initial planning. In any event, as the project progresses, the facts developed may dictate a change in the services to be performed, which may alter the scope. Contractor will inform the State of such situations so that changes in scope and adjustments to the time of performance and compensation can be made as required. If such change, additional services, or suspension of services results in an increase or decrease in the cost of or time required for performance of the services, the State shall seek approval of an amendment to the Agreement pursuant to Paragraph 17 thereof. Any change in project cost of time of performance will require an amendment approved by Governor and Council.

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Table C-1 U.S. General Services Administration
FY 2022 Per Diem Rates for New Hampshire*

Lodging by month (excluding taxes) | October 2021 - September 2022

Cities not appearing below may be located within a county for which rates are listed. To determine what county a city is located in, visit the National Association of Counties (NACo) website (a non-federal website).

Filter Results...

Primary Destination	County	2021 Oct	Nov	Dec	2022 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Concord	Merrimack	\$111	\$111	\$111	\$111	\$111	\$111	\$111	\$111	\$111	\$111	\$111	\$111
Conway	Carroll	\$132	\$132	\$132	\$132	\$132	\$116	\$116	\$116	\$116	\$155	\$155	\$132
Durham	Strafford	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$137	\$137	\$110
Laconia	Belknap	\$149	\$122	\$122	\$122	\$122	\$122	\$122	\$122	\$149	\$149	\$149	\$149
Lebanon / Lincoln / West Lebanon	Grafton	\$141	\$141	\$141	\$141	\$141	\$141	\$141	\$141	\$141	\$141	\$141	\$141
Manchester	Hillsborough	\$124	\$124	\$124	\$124	\$124	\$111	\$111	\$124	\$124	\$124	\$124	\$124
Portsmouth	Rockingham	\$145	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$163	\$163	\$145
Standard Rate	Applies for all locations without specified rates	\$96	\$96	\$96	\$96	\$96	\$96	\$96	\$96	\$96	\$96	\$96	\$96

Meals & Incidentals (M&IE) Breakdown

Use this table to find the following information for federal employee travel:

M&IE Total - the full daily amount received for a single calendar day of travel when that day is neither the first nor last day of travel.

Breakfast, lunch, dinner, incidentals - Separate amounts for meals and incidentals. M&IE Total = Breakfast + Lunch + Dinner + Incidentals. Sometimes meal amounts must be deducted from trip voucher. See More Information.

First & last day of travel - amount received on the first and last day of travel and equals 75% of total M&IE.

Filter Results...

Primary Destination	County	M&IE Total	Continental Breakfast/Breakfast	Lunch	Dinner	Incidental Expenses	First & Last Day of Travel
Concord	Merrimack	\$64	\$14	\$16	\$29	\$5	\$48.00
Conway	Carroll	\$69	\$16	\$17	\$31	\$5	\$51.75
Durham	Strafford	\$59	\$13	\$15	\$26	\$5	\$44.25
Laconia	Belknap	\$64	\$14	\$16	\$29	\$5	\$48.00
Lebanon / Lincoln / West Lebanon	Grafton	\$59	\$13	\$15	\$26	\$5	\$44.25
Manchester	Hillsborough	\$64	\$14	\$16	\$29	\$5	\$48.00
Portsmouth	Rockingham	\$64	\$14	\$16	\$29	\$5	\$48.00
Standard Rate	Applies for all locations without specified rates	\$59	\$13	\$15	\$26	\$5	\$44.25

*Source: https://www.gsa.gov/travel/plan-book/per-diem-rates/per-diem-rates-lookup/?action=perdiems_report&state=NH&fiscal_year=2022&zip=&city= accessed 10/15/21.

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EXHIBIT D

FEDERAL AWARD INFORMATION AND COMPLIANCES

This contract is funded, in part, with Federal funds through one or more grants from the

STATE OF NEW HAMPSHIRE STATE AND LOCAL FISCAL RECOVERY FUNDS FEDERAL REQUIREMENTS

This Agreement is funded under a grant to the State of New Hampshire and subsequently through the New Hampshire Department of Environmental Services (NHDES) as approved by the Governor and Executive Council on June 8, 2021 from the federal government through the American Rescue Plan Act of 2021 (ARPA), with the source of funds being the State and Local Fiscal Recovery Funds (SLFRF) identified under the Catalog of Federal Domestic Assistance (CFDA) number #21.027. This grant award is subaward of SLFRF funds and any and all compliance requirements for use of SLFRF funds are applicable.

DUNS NUMBER: The Subrecipient must obtain a Data Universal Numbering System (DUNS) number. The federal government has adopted the use of DUNS numbers to track how federal grant money is allocated. DUNS numbers identify your organization. A DUNS number may be obtained by visiting <http://fedgov.dnb.com/webform/>.

SAM REGISTRATION: The Subrecipient must have an active registration with the System for Award Management (SAM) (<https://www.sam.gov>).

ACH DIRECT DEPOSIT: The Subrecipient must have a bank account enabled for Automated Clearing House (ACH) direct deposit.

GENERALLY ACCEPTED ACCOUNTING PROCEDURES: The Subrecipient shall maintain project accounts in accordance with the Generally Accepted Accounting Principles (GAAP), including standards relating to the reporting of infrastructure assets as issued by the Governmental Accounting Standards Board (GASB). The full text of Governmental Accounting Reporting Standards is available through the GASB website at: <http://www.gasb.org>

SINGLE AUDIT REQUIREMENTS: Subrecipients that expend more than \$750,000 in Federal awards during their fiscal year will be subject to an audit under the Single Audit Act and its implementing regulation at 2 CFR Part 200, Subpart F regarding audit requirements. For-profit entities that receive State and Local Fiscal Recovery Funds (SLFRF) subawards are not subject to Single Audit Requirements. However, they are subject to other audits as deemed necessary by authorized governmental entities including Treasury, the Government Accountability Office, the Pandemic Relief Accountability Committee (PRAC) and the Treasury's Office of Inspector General (OIG). Subrecipients may also refer to the Office of Management and Budget (OMB) Compliance Supplements for audits of federal funds and related guidance and the Federal Audit Clearinghouse to see examples and single audit submissions.

CIVIL RIGHTS COMPLIANCE: Subrecipients of Federal financial assistance from the Treasury are required to meet legal requirements relating to nondiscrimination and nondiscriminatory use of

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Federal funds. Those requirements include ensuring that entities receiving Federal financial assistance from the Treasury do not deny benefits or services, or otherwise discriminate on the basis of race, color, national origin (including limited English proficiency), disability, age, or sex (including sexual orientation and gender identity), in accordance with the following authorities: Title VI of the Civil Rights Act of 1964 (Title VI) Public Law 88-352, 42 U.S.C. 2000d-1 et seq., and the Department's implementing regulations, 31 CFR part 22; Section 504 of the Rehabilitation Act of 1973 (Section 504), Public Law 93-112, as amended by Public Law 93-516, 29 U.S.C. 794; Title IX of the Education Amendments of 1972 (Title IX), 20 U.S.C. 1681 et seq., and the Department's implementing regulations, 31 CFR part 28; Age Discrimination Act of 1975, Public Law 94-135, 42 U.S.C. 6101 et seq., and the Department implementing regulations at 31 CFR part 23.

In order to carry out its enforcement responsibilities under Title VI of the Civil Rights Act, NHDES may collect and review information from Subrecipients to ascertain their compliance with the applicable requirements before and after providing financial assistance. Treasury's implementing regulations, 31 CFR part 22, and the Department of Justice (DOJ) regulations, Coordination of Non-discrimination in Federally Assisted Programs, 28 CFR part 42, provide for the collection of data and information from recipients and Subrecipients (see 28 CFR 42.406). Treasury may request that recipients submit data for post-award compliance reviews, including information such as a narrative describing their Title VI compliance status.

PERIOD OF PERFORMANCE: All funds are subject to statutory requirements that they must be used for costs incurred by the recipient during the period that begins on March 3, 2021, and ends on December 31, 2024, and that award funds for the financial obligations incurred by December 31, 2024 must be expended by December 31, 2026. Any funds not used must be returned to Treasury.

PROCUREMENT, SUSPENSION AND DEBARMENT: Recipients are responsible for ensuring that any procurement using SLFRF funds, or payments under procurement contracts using such funds are consistent with the procurement standards set forth in the Uniform Guidance at 2 CFR 200.317 through 2 CFR 200.327, as applicable. The Uniform Guidance establishes in 2 CFR 200.319 that all procurement transactions for property or services must be conducted in a manner providing full and open competition, consistent with standards outlined in 2 CFR 200.320, which allows for non-competitive procurements only in circumstances where at least one of the conditions below is true: the item is below the micro-purchase threshold; the item is only available from a single source; the public exigency or emergency will not permit a delay from publicizing a competitive solicitation; or after solicitation of a number of sources, competition is determined inadequate. Subrecipients must have and use documented procurement procedures that are consistent with the standards outlined in 2 CFR 200.317 through 2 CFR 200.320.

Subrecipient shall fully comply with Subpart C of 2 C.F.R. Part 180 entitled, "Responsibilities of Participants Regarding Transactions Doing Business With Other Persons," as implemented and supplemented by 2 C.F.R. Part 1532. Subrecipient is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 2 C.F.R. Part 180, entitled "Covered Transactions," and 2 C.F.R. § 1532.220, includes a term or condition requiring compliance with 2 C.F.R. Part 180, Subpart C. Subrecipient is responsible for further requiring the inclusion of a similar term and condition in any subsequent lower tier covered transactions. Subrecipient acknowledges that failing to disclose

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the information required under 2 C.F.R. § 180.335 to the EPA office that is entering into the transaction with the recipient may result in the delay or negation of this assistance agreement, or pursuance of administrative remedies, including suspension and debarment. Subrecipients may access the System for Award Management (SAM) exclusion list at <https://sam.gov/SAM/> to determine whether an entity or individual is presently excluded or disqualified.

By entering into this agreement, the Subrecipient certifies that the Subrecipient is not debarred or suspended. Furthermore, the Subrecipient certifies that no part of this contract will be subcontracted to a debarred or suspended person or firm.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT:

This term and condition implements 2 CFR 200.216 and is effective for obligations and expenditures of EPA financial assistance funding on or after 8/13/2020. As required by 2 CFR 200.216, EPA recipients and Subrecipients, including borrowers under EPA funded revolving loan fund programs, are prohibited from obligating or expending loan or grant funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities). Recipients, Subrecipients, and borrowers also may not use EPA funds to purchase:

- a. For the purpose of public safety, security of government facilities, physical security surveillance of critical Page 4 of 29 infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- b. Telecommunications or video surveillance services provided by such entities or using such equipment.
- c. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Consistent with 2 CFR 200.471, costs incurred for telecommunications and video surveillance services or equipment such as phones, internet, video surveillance, and cloud servers are allowable except for the following circumstances:

- a. Obligating or expending EPA funds for covered telecommunications and video surveillance services or equipment or services as described in 2 CFR 200.216 to:

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- (1) Procure or obtain, extend or renew a contract to procure or obtain;
- (2) Enter into a contract (or extend or renew a contract) to procure; or
- (3) Obtain the equipment, services, or systems. Certain prohibited equipment, systems, or services, including equipment, systems, or services produced or provided by entities identified in section 889, are recorded in the System for Award Management exclusion list which can be found at <https://www.sam.gov/SAM/pages/public/index.jsf>

FEDERAL REQUIREMENTS APPLICABLE TO ARPA INFRASTRUCTURE PROJECTS OVER \$10M

WAGE RATE REQUIREMENTS (DAVIS-BACON):

The Subrecipient agrees to include in all agreements to provide assistance for the construction of treatment works carried out in whole or in part with such assistance made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.), or with such assistance made available under section 205(m) of that Act (33 U.S.C. 1285(m)), or both, a term and condition requiring compliance with the requirements of section 513 of that Act (33 U.S.C. 1372) in all procurement contracts and sub-grants, and require that Subrecipients, procurement contractors and sub-grantees include such a term and condition in subcontracts and other lower tiered transactions. All contracts and subcontracts for the construction of treatment works carried out in whole or in part with assistance made available as stated herein shall insert in full in any contract in excess of \$2,000 the contract clauses as attached hereto entitled "Wage Rate Requirements Under The Clean Water Act, Section 513 and the Safe Drinking Water Act,

Contractor Initials:

Date:

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EXHIBIT E
NEW HAMPSHIRE FISH AND GAME DEPARTMENT
CONSULTANT SELECTION PROCEDURE
TOTAL HOURLY RATE FORM

POSITION TITLE (1) AND TEAM MEMBER NAME (2)	RESPONSIBILITIES (1) AND PERFORMANCE LEVEL (2)	SALARY RATE	OVERHEAD %	FEE %	TOTAL RATE/HR	FOR CONSULTANT COMMITTEE USE ONLY
1. Architect 2. Chris Bree	1. Responsible for planning and design of new or existing buildings in support of hatchery operations and visitor center. 2. Intermediate level - 10 years experience and registered Architect in NY.	\$ 59.11	1,4731	10%	\$ 160.82	
1. Sr. Architect 2. Michael Baskin	1. Responsible for guiding architects and providing QC relative to architecture. 2. Senior level - 43 years experience and registered Architect in NH, RI, MA.	\$ 98.02	1,4731	10%	\$ 266.66	
1. Environmental Specialist 2. Shilpa Sen	1. Responsible for wetland delineation and environmental permitting if required. 2. Intermediate level - 13 years experience. PhD in Ecology.	\$ 42.50	1,4731	10%	\$ 115.63	
1. Sr. Environmental Specialist 2. Brett Battaglia	1. Responsible for guiding environmental specialists and providing QC relative to environmental issues. 2. Senior level - 29 years experience and registered Professional Wetlands Scientist (PWS); Certified Professional in Erosion and Sediment Control; and Certified Wetland Scientist in NH.	\$ 52.27	1,4731	10%	\$ 142.20	
1. Sr. Technician 2. Larry Travis	1. Responsible for developing preliminary and final plans completely in the CADD system. Responsible for working with survey personnel to produce base plans from electronic field data. 2. Senior level - 32 years experience. Proficient in CAD and BIM.	\$ 41.97	1,4731	10%	\$ 114.19	
1. Technician 2. Cory Anderson	1. Responsible for developing preliminary and final plans completely in the CADD system. Responsible for working with survey personnel to produce base plans from electronic field data. 2. Intermediate level - 14 years experience. Proficient in CAD.	\$ 35.48	1,4731	10%	\$ 98.53	
1. Administrative 2. Shelley Rand	1. Responsible for providing secretarial support as necessary. 2. Senior level - 36 years experience.	\$ 37.79	1,4731	10%	\$ 102.82	

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**NEW HAMPSHIRE FISH AND GAME DEPARTMENT
CONSULTANT SELECTION PROCEDURE
TOTAL HOURLY RATE FORM**

POSITION TITLE (1) AND TEAM MEMBER NAME (2)	RESPONSIBILITIES (1) AND PERFORMANCE LEVEL (2)	SALARY RATE	OVERHEAD %	FEE %	TOTAL RATE/HR	FOR CONSULTANT COMMITTEE USE ONLY
1. Project Principal 2. Heather Ivester	1. Responsible for providing project team with operational support and management. Duties also include ensuring client satisfaction and project oversight. 2. Senior level - 26 years experience and registered P.E. in State of MA, RI.	\$ 137.51	1.4731	10%	\$ 374.00	
1. Project Manager 2. Rebecca Elwood	1. Responsible for entire "Powder Mill Fish Hatchery Feasibility Study" project. Duties include all aspects of project management. Responsible for advanced and detailed design. 2. Senior level - 18 years experience and registered P.E. in State of NH, MA, NY, MO, IL.	\$ 74.90	1.4731	10%	\$ 204.02	
1. Technical Advisor 3. JB Neethling, PhD	1. Responsible for providing high level technical guidance on phosphorus speciation testing of source water and effluent and phosphorus removal technologies. 3. Senior level - 42 years experience and registered P.E. in State of CA, NV.	\$ 148.72	1.4731	10%	\$ 404.50	
1. QA/QC Manager 2. Jason Hill	1. Responsible for providing high level technical guidance on phosphorus speciation testing of source water and effluent and phosphorus removal technologies. 2. Senior level - 24 years experience and registered P.E. in WA, OR, UT, AK, ID, FL and Canada	\$ 81.95	1.4731	10%	\$ 222.95	
1. Technical Lead-Effluent Treatment 2. Mario Benisch	1. Responsible for leading effluent treatment investigation, including phosphorus speciation testing of source water and effluent, review of phosphorus removal technologies, recommendations of technologies for pilot study, development of pilot study, interpretation of pilot study data. 2. Senior level - 31 years experience and registered P.E. in OR.	\$ 74.43	1.4731	10%	\$ 202.49	
1. Technical Lead-Fisheries 2. Matt Cochran	1. Responsible for leading hatchery investigation and modernization design, including review of state stocking strategies, development of hatchery biological model from operational descriptions and characterization results, modernization planning and design. 2. Senior level - 25 years experience, Master of Science	\$ 82.18	1.4731	10%	\$ 223.51	
1. Wastewater Engineer 2. Jacob Metch, PhD	1. Responsible for analysis of phosphorus speciation testing of source water and effluent, review of phosphorus removal technologies, recommendations of technologies for pilot study, development of pilot study, interpretation of pilot study data. 2. Intermediate level - 8 years experience and registered P.E. in State of PA.	\$ 50.40	1.4731	10%	\$ 137.11	
1. Sr. Fisheries Biologist 2. Brian McClrath	1. Responsible for analysis of state stocking strategies, development of hatchery biological model. 2. Staff level - 2 years of experience, Master of Science	\$ 53.83	1.4731	10%	\$ 146.44	
1. Fisheries Biologist 2. Barylee McLaughlin	1. Responsible for analysis of state stocking strategies, development of hatchery biological model. 2. Staff level - 2 years of experience, Master of Science	\$ 25.50	1.4731	10%	\$ 69.37	
1. Jr. Process Mechanical Engineer 2. Elle Tavesol	1. Responsible for analysis and design of mechanical equipment associated with hatchery and effluent treatment processes. 2. Staff level - 3 years of experience and registered Engineer in Training in State of NH.	\$ 33.64	1.4731	10%	\$ 91.53	
1. Process Mechanical Engineer 2. Jeff Chandler	1. Responsible for analysis and design of mechanical equipment associated with hatchery and effluent treatment processes. 2. Intermediate level - 23 years experience and registered P.E. in State of IL, WA, OH, MO and ME	\$ 81.70	1.4731	10%	\$ 187.80	
1. Sr. Process Mechanical Engineer 2. Troy Telema	1. Responsible for guiding process mechanical engineers and providing QC relative to hatchery mechanical equipment and processes. 2. Senior level - 31 years experience and registered P.E. in IL, VA, GA, WV, VT, IA, NC, CT, MA and MO	\$ 70.36	1.4731	10%	\$ 191.40	
1. Operability 2. Chris Melnowski	1. Responsible for review of proposed pilot technologies for ease of operability, providing pilot operational support when required. 2. Senior level - 35 years experience and and registered P.E. in OK, TX, licensed water treatment plant operator in State of TX; and licensed wastewater treatment plant operator in State of TX.	\$ 102.14	1.4731	10%	\$ 277.80	
1. Mechanical Engineer - HVAC/Plumbing 2. David Spencer	1. Responsible for HVAC/Plumbing planning and design associated with new or existing buildings. 2. Intermediate level - 11 years experience and and registered P.E. in NC, NY.	\$ 66.84	1.4731	10%	\$ 181.30	
1. Sr. Mechanical Engineer - HVAC/Plumbing 2. Mike Whalen	1. Responsible for guiding mechanical engineers and providing QC relative to HVAC/Plumbing portions of the project. 2. Senior level - 17 years experience and registered P.E. in NY, NJ, MI, CA.	\$ 98.91	1.4731	10%	\$ 263.83	
1. Fire/Life Safety Engineer 2. Michael Shumperl	1. Responsible for determining fire safety codes and requirements, planning and design of fire safety requirements. 2. Intermediate level - 20 years experience and registered P.E. in NH, AR, NE, IN, MT, OR, AL, IL, KB, OK.	\$ 55.90	1.4731	10%	\$ 152.07	
1. Sr. Fire/Life Safety Engineer 2. Zachary Bachsmaler	1. Responsible for guiding Fire/Life Safety engineers and providing QC relative to Fire/Life Safety portions of the project. 2. Senior level - 19 years experience and registered P.E. in NE, ND, IA, WA, VA.	\$ 87.44	1.4731	10%	\$ 237.88	
1. Structural Engineer 2. Jared Peterson	1. Responsible for structural engineering planning and design including tanks, building foundations, and other structures. 2. Staff level - 4 years of experience and registered P.E. in NH.	\$ 37.73	1.4731	10%	\$ 102.85	
1. Sr. Structural Engineer 2. Bruce Bradley	1. Responsible for guiding structural engineers and providing QC relative to structural portions of the project. 2. Senior level - 8 years experience and registered P.E. in FL, AR, GA, WV, IL, SD, MI, VA, VT, WI, MN, HI, CT, ME, NC, OH, WA, OK	\$ 75.71	1.4731	10%	\$ 205.97	
1. Sr. Structural Engineer 3. Steve Boyington	1. Responsible for guiding structural engineers and providing QC relative to structural portions of the project. 2. Senior level - 30 years experience and registered P.E. in State of NH, VT.	\$ 66.00	1.4731	10%	\$ 179.55	
1. Electrical Engineer 2. Andrew Kaner	1. Responsible for electrical engineering planning and design including, power supply, backup power, power distribution, and instrumentation and control. 2. Staff level - 11 years of experience and registered "Professional" status in MN, GA and CT	\$ 47.26	1.4731	10%	\$ 128.56	
1. Sr. Electrical Engineer 2. Shawn Howell	1. Responsible for guiding electrical engineers and providing QC relative to electrical engineering portions of the project. 2. Senior level - 20 years experience and registered P.E. in MI, MT, NE, WI.	\$ 65.27	1.4731	10%	\$ 177.56	
1. Jr. ChW/Site Engineer 2. Kenneth Howe	1. Responsible for site planning relative to new or modified structures, buildings, or treatment processes. Works closely with project team to determine site drainage, roadway, parking, and other required needs. 2. Intermediate level - 9 years of experience, BS CEM Engineering.	\$ 40.46	1.4731	10%	\$ 110.08	
1. Sr. ChW/Site Engineer 2. Arthur Bonney	1. Responsible for guiding chW/Site engineers and providing QC relative to site planning. 2. Intermediate level - 18 years experience and registered P.E. in MA.	\$ 59.87	1.4731	10%	\$ 162.88	
1. Sr. ChW/Site Engineer 3. Roch Larochete	1. Responsible for guiding chW/Site engineers and providing QC relative to site planning. 3. Senior level - 34 years experience and registered P.E. in NH, ME, MA, VT.	\$ 86.08	1.4731	10%	\$ 236.61	

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State of New Hampshire

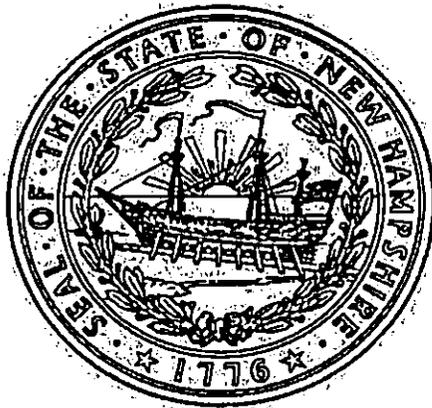
Department of State

CERTIFICATE

I, William M. Gardner, Secretary of State of the State of New Hampshire, do hereby certify that HDR ENGINEERING, INC. is a Nebraska Profit Corporation registered to transact business in New Hampshire on June 17, 1985. I further certify that all fees and documents required by the Secretary of State's office have been received and is in good standing as far as this office is concerned.

Business ID: 84977

Certificate Number: 0005419147



IN TESTIMONY WHEREOF,

I hereto set my hand and cause to be affixed
the Seal of the State of New Hampshire,
this 9th day of August A.D. 2021.

A handwritten signature in black ink, appearing to read "Wm Gardner".

William M. Gardner
Secretary of State



Corporate Resolution – Certification of Vote

I, **Elizabeth C. Buell**, hereby certify that I am duly elected Assistant Secretary of HDR Engineering, Inc. I hereby certify the following is a true copy of a vote taken at a meeting of the Board of Directors/shareholders, duly called and held on November 19, 2020, by Consent and Agreement ~~at which a quorum of the Directors/shareholders were present and voting.~~

VOTED: That Heather Ivester, Associate Vice President, is duly authorized to enter into contracts or agreements on behalf of HDR Engineering, Inc. with the State of New Hampshire and any of its agencies or departments and further is authorized to execute any documents which may in his/her judgment be desirable or necessary to effect the purpose of this vote.

I hereby certify that said vote has not been amended or repealed and remains in full force and effect as of the date of the contract to which this certificate is attached. This authority **remains valid for thirty (30) days** from the date of this Corporate Resolution. I further certify that it is understood that the State of New Hampshire will rely on this certificate as evidence that the person(s) listed above currently occupy the position(s) indicated and that they have full authority to bind the corporation. To the extent that there are any limits on the authority of any listed individual to bind the corporation in contracts with the State of New Hampshire, all such limitations are expressly stated herein.

DATED: 11-02-2021

ATTEST: *Elizabeth C. Buell*

Elizabeth C. Buell, Assistant Secretary



AGENCY CUSTOMER ID: _____

LOC #: _____



ADDITIONAL REMARKS SCHEDULE

Page 2 of 2

AGENCY Willis Towers Watson Midwest, Inc.		NAMED INSURED HDR Engineering, Inc. 1917 South 67th Street Omaha, NE 68106	
POLICY NUMBER See Page 1		EFFECTIVE DATE: See Page 1	
CARRIER See Page 1	NAIC CODE See Page 1		

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: 25 FORM TITLE: Certificate of Liability Insurance

Project Description: POWDER MILL FISH HATCHERY FEASIBILITY STUDY