The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

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May 7, 2024

His Excellency, Governor Christopher T. Sununu
and The Honorable Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the Department of Environmental Services (NHDES) to **Retroactively** amend an agreement (PO #1079911) with Gannett Fleming, Inc., (VC #167251-R001), of Harrisburg, PA (Gannett Fleming) to prepare a Supplemental Watershed Plan (SWP) for four flood control dams in the Souhegan River Watershed located in the Town of Temple – Sites 12A South and 12A North Dike (Senator Charles W. Tobey Dam), Site 25B (General James Miller Dam), and Site 26 (Timberdoodle Dam), by extending the end date to September 30, 2025 from March 31, 2024, and increasing the agreement amount by $69,930 to $1,067,906 from $997,976, effective as of March 31, 2024 through September 30, 2025 upon Governor and Council approval. The original agreement was approved by Governor & Council on May 19, 2021, Item #75 and amendment 1 was approved January 18, 2023, Item #69. 100% Federal Funds.

Funds are available in the account listed below.

	FY 2024
03-44-44-442010-5421-046-500463	$69,930.00

Dept. of Environmental Services, Dam Assessment and Rehabilitation, Contracts for Program Services

EXPLANATION

This request to extend the end date of the contract with Gannett Fleming is **Retroactive** because NHDES anticipated additional funding from Natural Resources Conservation Service (NRCS) prior to the approved end date of the agreement with Gannett Fleming. However, delays primarily related to the need for federal agencies to provide planned emergency budgets in the event of government shutdowns pushed back the issuance of a Notice of Award for additional funding. NHDES received a grant from NRCS in September 2019 to prepare a Supplemental Watershed Plan (SWP) for four flood control dams in the Souhegan River Watershed. NHDES established an agreement with Gannett Fleming to prepare the SWP. Both the grant and the agreement were amended in January 2023 to provide funding for additional work requested by NRCS not specifically related to the SWP. Over a year into the project, NHDES received notice from NRCS that a No-Action Alternative analysis was needed for the SWP, a task that was not included in the original approved scope of work. NHDES negotiated an amendment to the grant with NRCS for additional funding, however, the Notice of Award from NRCS to provide the additional funding for a No-Action Alternative analysis was not received until after the approved end date of the agreement with Gannett Fleming. NHDES now seeks **Retroactive** approval to extend the end date and increase the amount of the agreement with this request.

Gannett Fleming has agreed to perform the work specified in the amendment under the negotiated terms and conditions of the original agreement. To date, $801,316.80 has been spent of the contract amount of $997,976.00.

The amendment has been approved by the Office of the Attorney General as to form, execution, and content. We respectfully request your approval.

Robert R. Scott, Commissioner

AMENDMENT #2
TO AGREEMENT BETWEEN THE
NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
AND
GANNETT FLEMING, INC.

PROFESSIONAL SERVICES – SUPPLEMENTAL WATERSHED PLAN AND ENVIRONMENTAL ASSESSMENTS FOR FOUR FLOOD CONTROL DAMS IN THE SOUHEGAN RIVER WATERSHED

WHEREAS State of New Hampshire Department of Environmental Services ("NHDES") entered into a grant agreement with the Natural Resources Conservation Service ("NRCS") in September 2019, in part to provide a Supplemental Watershed Plan and Environmental Assessments ("SWP-EA") for four flood control dams in Temple within the Souhegan River Watershed.

WHEREAS NHDES has entered into an Agreement with Gannett Fleming, Inc., in the amount of $974,000.00 for professional engineering services for the preparation of a SWP-EA for the four flood control dams in the Souhegan River Watershed (Souhegan Sites 12A North, 12A South, 25B, and 26) from May 19, 2021 through March 31, 2024, which was approved by Governor and Council on May 19, 2021, as Item #75.

WHEREAS NHDES and Gannett Fleming, Inc., executed an Amendment 1 to the Agreement to provide an additional $23,976 to use the Agreement for a NRCS Dam Assessment for the Baker River Flood Control Dam – Site 2 with funding from NRCS, which was approved by Governor and Council on January 18, 2023, as Item #69.

WHEREAS NHDES has received approval for additional funding from NRCS under the same Grant Agreement as the SWP-EA for the purpose of providing funds to prepare a No-Action Alternative Analysis, a task that was not included in the initial scope of work from NRCS.

WHEREAS NHDES seeks to amend the Agreement to provide an additional $69,930 to use for a No-Action Alternative Analysis with funding from NRCS and to extend the end date of the Agreement from March 31, 2024 to September 30, 2025.

WHEREAS Gannett Fleming, Inc. has agreed to the proposed changes to the amended Agreement.

NOW THEREFORE, amend the original Agreement between NHDES and Gannett Fleming, Inc., as approved by Governor and Council on May 19, 2021, as Item #75 and amended on January 18, 2023, as Item #69 in the following manner:

Change section 1.7 (Completion Date) in the General Provisions of the Agreement to read: September 30, 2025.

Change section 1.8 (Price Limitation) in the General Provisions of the Agreement to read: $1,067,906.

Revise Exhibit B: SCOPE OF WORK to include the following additional sentence at the end of the current paragraph: The "SCOPE OF WORK AND ASSUMPTIONS, Souhegan River Watershed Plan-Environmental Document, Flood Control Dam Sites 12A North, 12A South, 25B, and 26" shall also include pages B1 through B3, for the preparation of a No-Action Alternative.

Revise the "SCOPE OF WORK AND ASSUMPTIONS Souhegan River Watershed Plan-Environmental Document Flood Control Dam Sites 12A North, 12A South, 25B, and 26", referenced in Exhibit B, to include pages B1 through B3.

Revise Exhibit C: CONTRACT PRICE AND METHOD OF PAYMENT, first sentence, to read: The total cost of the Agreement shall be a lump sum, not to exceed $1,067,906.

All other conditions outlined in the contract shall remain in effect.

Robert R. Scott, Commissioner
Department of Environmental Services

Amanda Hess, P.E. CFM, Vice President
Gannett Fleming, Inc.

Melissa Fales
Assistant Attorney General
Department of Justice
(as to form, substance, and execution)

Amendment to
SCOPE OF WORK AND ASSUMPTIONS
Souhegan River Watershed Plan-Environmental Document
Flood Control Dam Sites 12A North, 12A South, 25B, and 26

For The Preparation Of A No-Action Alternative
April 24, 2024

SCOPE OF WORK

Task 1. Redevelop No-Action Alternative

In 2022 the NRCS National Watershed Management Center issued revised guidance on evaluating No-Action alternatives on dam rehabilitation projects via National Instruction Title 390; Part 303. As a result, the No Action analysis for the Souhegan River dams, which was initiated under the previous guidance, needs to be revised under the new guidance.

The No-Action alternative will assume that no work beyond routine operation and maintenance will be undertaken by the local sponsor, until such time that the dams are expected to fail. The dams will be assumed to operate under the existing performance until the recurrence rainfall event is reached that is expected to result in a dam breach under the existing conditions. For flood events larger than the expected breach event, downstream damages will be computed assuming flood storage provided from the dams removed scenario. This will be accomplished through the following subtasks:

Subtask 1A. Determine Breach Flood Event: A range of frequency storm events up to the 1,000-year event will be incorporated into the previously developed SITES model for the dams to assess potential for an Auxiliary Spillway (ASW) breach for each event. Soil properties from the SITES model will remain unchanged for this analysis. An iterative approach will be used to determine the minimum rainfall depth (within 0.5" of rainfall depth) that results in a breach. After the minimum rainfall depth causing failure is estimated, NOAA Atlas 14 rainfall frequency data will be used to estimate the recurrence (i.e., "x"-year event). It will be assumed that all four dams fail during the most frequent storm which creates a failure at one of the dams.

Subtask 1B. Develop Breach Hydrograph: Empirical methods defined in NRCS TR-60 will be used to estimate the peak breach discharge for the breach event identified. Computations will assume the breach occurs at the maximum flood pool elevation. Breach parameters within the previously developed HEC-RAS model will be calibrated until a peak flow rate similar to the computed TR-60 breach peak discharge is attained.

Subtask 1C. Update Hydraulic Model: The previously completed HEC-RAS model will be used to compute flood characteristics downstream resulting from the breach event. Inflow hydrographs will be input into the HEC-RAS model using methods consistent with prior modeling scenarios. Modifications to modeling parameters will be made on an as-needed basis to ensure the HEC-RAS model successfully computes the breach scenario. These modifications are assumed to be limited to computation parameter adjustments or minor changes to the geometry file, i.e., minimal interpolated cross or adjustment to ineffective areas due to instabilities at unique extreme flows.

Contractor Initials AJH
Date 4/25/2024

Subtask 1D. Estimated Repair Costs: Repair costs of the ASW will be computed for events less severe than the breach event. The SITES analysis described above will be used to determine which events that ASW damage is anticipated. The volume of eroded material from the ASW will be estimated using the area of erosion along the longitudinal profile from the SITES model multiplied by the width of the ASW. The eroded volume will be used to estimate repair costs by multiplying the estimated volume by an assumed unit cost (per cubic yard). An additional percentage will be applied to the unit cost for unaccounted for costs and engineering/administrative costs.
Costs associated with emergency response during and after the breach event and remediation costs resulting from the breach will be discussed. If available, data from historic dam failures may be used to estimate costs associated with a dam failure; otherwise, a qualitative discussion will be provided.

Subtask 1E. Estimate Downstream Floodplain: The prior completed HEC-RAS model will be used to simulate the breach event and extract pertinent data for the economic analysis. Data will be compatible for use with ArcGIS.

Subtask 1F. Documentation: The No-Action Alternative analysis will be summarized in Appendix D of the Plan-EA. The report will document engineering methods, assumptions, and results. Figures will be generated as necessary.

Task 2. Revised Economic Analysis

Damages will be calculated for the revised No-Action Alternative. The following subtasks will be completed.

Subtask 2A. Calculate Damages for the No-Action Alternative: The breach floodplain will be characterized to determine impacts to structures and infrastructure. This will include a review of the breach floodplain characteristics to estimate potential impacts downstream. The HEC-FIA model will be updated to include the No-Action breach scenario and flood damages will be computed downstream. Methods will be consistent with the original scope of work.

Impacts of the loss of water supply at Site 12A under a breach scenario will be quantified using publicly available data and coordination with stakeholders.

Subtask 2B. Documentation: The draft Economic analysis section of Appendix D will be updated to include the revised No-Action Alternative analysis and assumptions. The update will include mapping to show the revised No-Action Alternative.

Subtask 2C. Appendix C-Support Maps: Inundation maps will be added for the No-Action Alternative, and an aquatic resources impact map will be developed for the No-Action alternative. Mapping will be consistent formatting with the original scope of work.

Contractor Initials AJH
Date 4/25/2024

SCHEDULE

The NRCS National Watershed Management Center has issued revised guidance on evaluating the No-Action alternatives on dam rehabilitation projects. Gaining an understanding of the new guidance, obtaining NCRS concurrence of an acceptable approach, and the actual performance of the work will impact the schedule of the Souhegan River supplemental watershed plan and environmental assessment project. Gannett Fleming respectfully requests a 1-year extension, resulting in a project completion date of September 30, 2025.

COST

The work as described herein for Amendment #2, shall be performed for a lump sum amount of $69,930.00.

Contractor Initials AJH
Date 4/25/2024

EXHIBIT B: SCOPE OF WORK

Gannett Fleming, Inc. shall perform the tasks as described in the attached detailed proposal titled "SCOPE OF WORK AND ASSUMPTIONS, Souhegan River Watershed Plan-Environmental Document, Flood Control Dam Sites 12A North, 12A South, 25B, and 26", submitted by Gannett Fleming, Inc., dated March 2021. The "SCOPE OF WORK AND ASSUMPTIONS, Souhegan River Watershed Plan-Environmental Document, Flood Control Dam Sites 12A North, 12A South, 25B, and 26" shall also include pages B1 through B3, for the preparation of a No-Action Alternative.

Contractor Initials AJH
Date 4/25/2024

EXHIBIT C: CONTRACT PRICE AND METHOD OF PAYMENT

The total cost of the Agreement shall be a lump sum, not to exceed $1,067,906. All services shall be performed to the satisfaction of DES before payment is made. All payments shall be made upon receipt and approval of stated outputs and upon receipt of an associated invoice. The billing is to be done on a monthly basis as a percentage completion of tasks as per the work program detailed in Exhibit B. Table B-1 in the proposal attachment of Exhibit B provides a detailed breakdown of costs for the project. Hourly labor rates (i.e. fully loaded) are based on direct labor rates with an effective multiplier of 2.86.

DES agrees to pay the invoices as submitted by the Contractor. Invoices are subject to the approval of the Contract Officer before payment is processed.

Contractor Initials AJH
Date 4/25/2024

State of New Hampshire

Department of State

CERTIFICATE

I, David M. Scanlan, Secretary of State of the State of New Hampshire, do hereby certify that GANNETT FLEMING, INC. is a Delaware Profit Corporation registered to transact business in New Hampshire on November 09, 1992. 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: **182077**

Certificate Number: **0006659270**

IN TESTIMONY WHEREOF,

I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire, this 4th day of April A.D. 2024.

David M. Scanlan

Secretary of State

GANNETT FLEMING

Gannett Fleming, Inc.
207 Senate Avenue
Camp Hill, PA 17011
P 717.763.7211 | F 717.763.8150

CERTIFICATION

I, LEA A. SCHMOLZE, certify that I am Assistant Secretary of Gannett Fleming, Inc., a corporation duly organized and existing under the laws of the State of Delaware, and hereby further certify that the Gannett Fleming, Inc. Board of Directors:

By Unanimous Written Consent in lieu of a Meeting of the Board of Directors, effective June 22, 2023:

RESOLVED, that the following be elected as officer of Gannett Fleming, Inc., to hold their office for such terms and shall exercise such powers and perform such duties as determined by the Board of Directors and the Bylaws:

AMANDA J. HESS VICE PRESIDENT

By Unanimous Written Consent in lieu of a Meeting of the Board of Directors, effective December 20, 2022:

RESOLVED, that a duly elected VICE PRESIDENT shall have signing authority to execute bids, bonds, contracts, and other documents in the name and on behalf of the Corporation and represent the Corporation in official matters for work and services.

Said resolutions have not been amended or rescinded and remain in full force and effect as of this date.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Corporation this 6th day of February 2024.

Gannett Fleming, Inc. CORPORATE SEAL Delaware 1989

LEA A. SCHMOLZE, Assistant Secretary

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/7/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Gunn-Mowery
P.O. Box 900
Camp Hill PA 17001-0900

CONTACT NAME: Fir Le
PHONE (A/C, No, Ext): 717-761-4600, Ext. 3715 | FAX (A/C, No): 717-761-6159
E-MAIL ADDRESS: Fle@GunnMowery.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : PA Manufacturers Indemnity Co.	41424
INSURER B : PA Manufacturers' Assoc Ins Co.	12262
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED 6895
Gannett Fleming, Inc.
207 Senate Ave.
Camp Hill, PA 17011-2316

COVERAGES CERTIFICATE NUMBER: 610116364 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY	Y	Y	3024012907384A	2/1/2024	2/1/2025	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
	X Contractual Liab						MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY	Y	Y	1524012907384A	2/1/2024	2/1/2025	COMBINED SINGLE LIMIT (Ea accident)	$ 2,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB / OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB / CLAIMS-MADE						AGGREGATE	$
	DED / RETENTION $							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY		Y	2024012907384A	2/1/2024	2/1/2025	X PER STATUTE / OTH-ER	
	ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N	N/A					E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Blanket Additional Insured applies per written contract.
068856 SWP-EA within the Souhegan River Watershed.
The following are covered as Additional Insureds for General Liability and Automobile Liability policies as per written contract: State of New Hampshire Department of Environmental Services. Thirty (30) day notice of cancellation applies except for non-payment of premium, which is ten (10) days per policy language.

CERTIFICATE HOLDER

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
29 HAZEN DRIVE
P. O. BOX 95
CONCORD NH 03302

CANCELLATION 90

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Jennie E. Barton

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DEC16'22 PM 2:53 RCVD

The State of New Hampshire

NHDES **Department of Environmental Services**

Robert R. Scott, Commissioner

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November 28, 2022

His Excellency, Governor Christopher T. Sununu
and The Honorable Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the Department of Environmental Services (NHDES) to execute an amendment to an Agreement (PO #1079911) with Gannett Fleming, Inc., (VC #167251-B001), Harrisburg, PA, by increasing the contract by $23,976, to $997,976 from $974,000, to perform an assessment of the Baker River Flood Control Dam Site 2 located in Warren, NH, effective upon Governor & Council approval through March 31, 2024. The original contract was approved by Governor & Council on May 19, 2021 as Item #75. Funding is 100% Federal Funds.

Funds are available in the account listed below.

	FY 2023
03-44-44-442010-5421-102-500731	$23,976.00

Dept. of Environmental Services, Dam Assessment and Rehabilitation, Contracts for Program Services

EXPLANATION

The amendment is for engineering services to be provided under the agreement for completion of a Dam Assessment for the Baker River Flood Control Dam Site 2. The original agreement with Gannett Fleming, Inc. was funded by a grant from the U.S. Natural Resources Conservation Service (NRCS), to prepare a Supplemental Watershed Plan for four dams in the Souhegan River Watershed. NHDES and NRCS recently agreed to an amendment to that grant, which provides additional funding specifically for a Dam Assessment of the Baker River Flood Control Dam Site 2. NHDES proposes to amend the agreement to include the additional funds to prepare the Dam Assessment.

Gannett Fleming, Inc., has agreed to perform the work specified in the amendment under the negotiated terms and conditions of the original agreement. To date, $668,341 has been spent of the original contract amount of $974,000.

The total charges to this contract shall not exceed $997,976.00. The amendment has been approved by the Office of the Attorney General as to form, execution, and content.

We respectfully request your approval.

Robert R. Scott, Commissioner

www.des.nh.gov
29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-2513 • Fax: 271-5171 TDD Access: Relay NH 1-800-735-2964

AMENDMENT #1
TO
AGREEMENT
BETWEEN THE
NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
AND
GANNETT FLEMING, INC.

PROFESSIONAL SERVICES – SUPPLEMENTAL WATERSHED PLAN AND ENVIRONMENTAL ASSESSMENTS FOR FOUR FLOOD CONTROL DAMS IN THE SOUHEGAN RIVER WATERSHED

WHEREAS NHDES entered into a grant agreement with the Natural Resources Conservation Service ("NRCS") in September 2019, in part to provide a Supplemental Watershed Plan and Environmental Assessments ("SWP-EA") for four flood control dams in Temple within the Souhegan River Watershed.

WHEREAS the State of New Hampshire Department of Environmental Services ("NHDES") has entered into an Agreement with Gannett Fleming, Inc. in the amount of $974,000.00 for professional engineering services for the preparation of a SWP-EA for the four flood control dams in the Souhegan River Watershed (Souhegan Sites 12A North, 12A South, 25B, and 26) from May 19, 2021 through March 31, 2024, which was approved by Governor and Council on May 19, 2021, as Item #75.

WHEREAS NHDES has received approval for additional funding from NRCS under the same Grant Agreement as the SWP-EA for the purpose of providing funds to prepare a Dam Assessment for the Baker River Flood Control Dam – Site 2.

WHEREAS NHDES seeks to amend the Agreement to provide an additional $23,976 to use the Agreement for a NRCS Dam Assessment for the Baker River Flood Control Dam – Sites 2 with funding from NRCS.

WHEREAS Gannett Fleming, Inc. has agreed to the proposed changes to the amended Agreement.

NOW THEREFORE, amend the original Agreement between NHDES and Gannett Fleming, Inc. as approved by Governor and Council on May 19, 2021, as Item #75 in the following manner:

Change section 1.8 (Price Limitation) in the General Provisions of the Agreement to read: $997,976.

All other conditions outlined in the contract shall remain in effect.

Robert R. Scott, Commissioner
Department of Environmental Services

Amanda Hess, P.E. CFM, Vice President
Gannett Fleming, Inc.

12/13/2022
Assistant Attorney General
Department of Justice
(as to form, substance, and execution)

State of New Hampshire
Department of State

CERTIFICATE

I, David M. Scanlan, Secretary of State of the State of New Hampshire, do hereby certify that GANNETT FLEMING, INC. is a Delaware Profit Corporation registered to transact business in New Hampshire on November 09, 1992. 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: 182077
Certificate Number: 0005840070

IN TESTIMONY WHEREOF,
I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire, this 5th day of August A.D. 2022.

David M. Scanlan
Secretary of State

GANNETT FLEMING

CERTIFICATION

I, LEA A. SCHMOLZE, certify that I am Assistant Secretary of Gannett Fleming, Inc., a corporation duly organized and existing under the laws of the State of Delaware; and hereby further certify as follows:

The Gannett Fleming, Inc. Board of Directors, at a regularly called meeting of the Board of Directors held on June 22, 2022, at which a quorum was present, by a unanimous vote:

RESOLVED, that the following person be elected as indicated:

AMANDA J. HESS VICE PRESIDENT

In accordance with the Bylaws of the Corporation, a VICE PRESIDENT is hereby authorized to, among other things, execute bids, contracts, bonds and other documents in the name and on behalf of the Corporation, and to represent the Corporation in official matters for work and services as may be requested, and such execution of any bid, contract, bonds and other documents in the Corporation's name and on its behalf shall be valid and binding upon the Corporation.

Said resolution has not been amended or rescinded and remains in full force and effect as of this date.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Corporation this 5th day of August 2022.

LEA A. SCHMOLZE, Assistant Secretary

Gannett Fleming, Inc. CORPORATE SEAL Delaware 1989

Gannett Fleming, Inc.
207 Senate Avenue • Camp Hill, PA 17011-2316
t: 717.763.7211 • f: 717.763.8150
www.gannettfleming.com

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 1/30/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Gunn-Mowery
P.O. Box 900
Camp Hill PA 17001-0900

CONTACT NAME: Janice Bolton
PHONE (A/C, No, Ext): 717-761-4600, Ext. 3031 FAX (A/C, No): 717-761-6159
E-MAIL ADDRESS: JBolton@GunnMowery.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : PA Manufacturers Indemnity Co.	41424
INSURER B : Indemnity Ins Co of North America	43575
INSURER C : Markel American Insurance Company	28932
INSURER D :	
INSURER E :	
INSURER F :	

INSURED 8895
Gannett Fleming, Inc.
207 Senate Ave.
Camp Hill, PA 17011-2316

COVERAGES CERTIFICATE NUMBER: 1705580950 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY	Y	Y	3022012907384A	2/1/2022	2/1/2023	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
	X Contractual Liab						MED EXP (Any one person)	$ 10,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY	$ 1,000,000
	POLICY X PRO-JECT LOC						GENERAL AGGREGATE	$ 2,000,000
	OTHER:						PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
A	AUTOMOBILE LIABILITY	Y	Y	1522012907384	2/1/2022	2/1/2023	COMBINED SINGLE LIMIT (Ea accident)	$ 2,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
B	X UMBRELLA LIAB X OCCUR	Y	Y	N11004507005	2/1/2022	2/1/2023	EACH OCCURRENCE	$ 5,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ 5,000,000
	DED X RETENTION $ 10,000							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N	N / A	Y	2022012907384A	2/1/2022	2/1/2023	X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH)						E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Excess Liability	Y	Y	MKLM1EUE100477	2/1/2022	2/1/2023	Each Occurrence Aggregate	5,000,000 5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Blanket Additional Insured applies per written contract.
063935 As needed Engineering and Technical Support Services. The following are considered as Additional Insureds for General Liability policy as per written contract: New Hampshire Department of Environmental Services.

CERTIFICATE HOLDER

NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES
DAM BUREAU
29 HAZEN DRIVE
PO BOX 95
CONCORD NJ 03302-0095

CANCELLATION 90

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Janice E. Bolton

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ACORD

CERTIFICATE OF LIABILITY INSURANCE

6/1/2023

DATE (MM/DD/YYYY) 5/26/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Lockton Companies
444 W. 47th Street, Suite 900
Kansas City MO 64112-1906
(816) 960-9000
kctsu@lockton.com

CONTACT NAME:
PHONE (A/C, No, Ext):
FAX (A/C, No):
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Continental Casualty Company	20443
INSURER B : Lexington Insurance Company	19437
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
1361922 GANNETT FLEMING, INC.
207 SENATE AVENUE
CAMP HILL PA 17011-2316

COVERAGES + CERTIFICATE NUMBER: 15097470 REVISION NUMBER: XXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC OTHER:			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ XXXXXXX
							MED EXP (Any one person)	$ XXXXXXX
							PERSONAL & ADV INJURY	$ XXXXXXX
							GENERAL AGGREGATE	$ XXXXXXX
							PRODUCTS - COMP/OP AGG	$ XXXXXXX
								$
	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident)	$ XXXXXXX
							BODILY INJURY (Per person)	$ XXXXXXX
							BODILY INJURY (Per accident)	$ XXXXXXX
							PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$ XXXXXXX
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
							AGGREGATE	$ XXXXXXX
								$ XXXXXXX
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		NOT APPLICABLE			PER STATUTE OTH-ER	
							E.L. EACH ACCIDENT	$ XXXXXXX
							E.L. DISEASE - EA EMPLOYEE	$ XXXXXXX
							E.L. DISEASE - POLICY LIMIT	$ XXXXXXX
A B	PROFESSIONAL LIABILITY	N	N	AEH 591957881. 31565612.	6/1/2022 6/1/2022	6/1/2023 6/1/2023	$10,000,000 PER CLAIM; $10,000,000 AGGREGATE	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
063935 As Needed Engineering and Technical Support Services

CERTIFICATE HOLDER

15097470
NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
DAM BUREAU
29 HAZEN DRIVE
PO BOX 95
CONCORD NH 03302-0095

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Joseph M Agnello

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The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

PO 10799911

April 15, 2021

His Excellency, Governor Christopher T. Sununu
and The Honorable Council
State House
Concord, New Hampshire 03301

APPROVED G & C
DATE 19 May 2021
ITEM # 75

REQUESTED ACTION

Authorize the Department of Environmental Services ("NHDES") to enter into an Agreement with Gannett Fleming, Inc., (Vendor Code #167251-B001), Harrisburg, PA, in an amount not-to-exceed $974,000.00 to provide engineering services for the preparation of a Supplemental Watershed Plan and Environmental Assessments ("SWP-EA") for four flood control dams in Temple within the Souhegan River Watershed (Souhegan Sites 12A North, 12A South, 25B, and 26), effective upon Governor & Executive Council approval through March 31, 2024. Funding is 100% Federal Funds.

Funds are available in the account listed below.

WU 11700711

FY 2021
03-44-44-442010-5421-102-500731 $974,000.00 RQ211542
Dept. of Environmental Services, Dam Assessment and Rehabilitation, Contracts for Program Services

EXPLANATION

NHDES is responsible for the maintenance, repair and reconstruction of all state owned dams per NH RSA 482:55-57. The Souhegan Site 12A North, 12A South, 25B, and 26 Dams were originally constructed by the federal Natural Resources Conservation Service ("NRCS") between 1965 and 1967 under the authority of Public Law 566. The State of New Hamsphire was the local sponsor for the project and assumed ownership of the dam following construction. In 2016, NHDES completed Rehabilitation Assessment Reports for all four of these dams, with funding from NRCS. The Rehabilitation Assessment Reports documented that all of the dams fail to meet NRCS safety and performance standards. Specifically, during their design floods, all four dams would experience early activation of the auxiliary spillway, potential breaching of the auxiliary spillway and overtopping. The combined estimated Population at Risk downstream of these four dams is over 18,500 people.

The dams need to be modified to meet current dam safety standards. Significant funding assistance for modification of the dams (all engineering costs and 65% of the construction costs) will be available from NRCS under the Watershed Rehabilitation Program (PL 106-472) upon the completion and approval of a SWP-EA.

The purpose of this contract is to prepare the SWP-EA for the four Souhegan River Watershed Dams to allow the construction of the needed modifications to proceed. NHDES was awarded a cooperative grant and agreement from NRCS in September 2019 to, in part, contract with a qualified engineering consulting firm to prepare the SWP and EAs.

The procurement process for this Agreement, further detailed in Attachment A, was conducted in accordance with NH RSA 21-I:22. In March 2020, NHDES posted a Request for Qualifications ("RFQ") for a qualified engineering consulting firm to

perform the work. The RFQ was posted on the Department of Administrative Services and the NHDES websites. Responses were received from the following five firms, which were all deemed qualified:

- Pare Corporation - Foxboro, MA
- DDK Engineering-JV - Randolph, VT
- GZA GeoEnvironmental, Inc. - Bedford, NH
- Gannett Fleming, Inc. – Harrisburg, PA
- Schnabel Engineering – Clifton Park, NY

The selection committee reviewed the responses to the RFQ from the five qualified firms, and chose three firms; Gannett Fleming, DDK Engineering-JV, and Schnabel Engineering; to interview for the project. The firms were ranked based on the presentations and responses to questions at the interviews with respect to their proposed approach to responding to the requirements specified in the draft Statement of Work from NRCS; professional experience in the preparation of SWP-EAs for NRCS projects; professional experience completing evaluation worksheets; and, demonstrated effectiveness conducting presentations/meetings in person and on-line. A majority of the selection committee selected Gannett Fleming, Inc., as the most qualified for providing the engineering services needed for the project. NHDES has negotiated terms and conditions for the services to be provided for a lump sum, not-to-exceed cost for this Agreement with Gannett Fleming, Inc.

The total charges to this contract shall not exceed $974,000.00. The Agreement has been approved by the Office of the Attorney General as to form, execution, and content.

We respectfully request your approval.

Robert R. Scott, Commissioner

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 Department of Environmental Services		1.2 State Agency Address 29 Hazen Drive – PO Box 95 Concord NH 03302-0095	
1.3 Contractor Name Gannett Fleming, Inc.		1.4 Contractor Address 207 Senate Avenue Camp Hill, PA 17011	
1.5 Contractor Phone Number (717) 309-6471	1.6 Account Number 03-044-442010-5421-102-500731	1.7 Completion Date March 31, 2024	1.8 Price Limitation $974,000.00
1.9 Contracting Officer for State Agency James W. Gallagher, Jr., P.E.		1.10 State Agency Telephone Number (603) 271-1961	
1.11 Contractor Signature Date: 3/30/2021		1.12 Name and Title of Contractor Signatory Amanda Hess, P.E., CFM, Vice President	
1.13 State Agency Signature Date: 4/16/21		1.14 Name and Title of State Agency Signatory Robert R. Scott, Commissioner	

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: (K. Allen Brooks) On: 4/30/21

1.17 Approval by the Governor and Executive Council *(if applicable)*

G&C Item number: G&C Meeting Date:

Contractor Initials AJH
Date 3/30/2021

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 1.17, 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 1.13 ("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 provided 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 AJH
Date 3/30/2011

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 AJH

Date 3/20/2014

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.

Contractor Initials AJH
Date 2021

EXHIBIT A: SPECIAL PROVISIONS

1. Amend paragraph 2 of the Agreement by adding the following after the last sentence:

   "Contractor shall perform the Services in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession, practicing in similar time and circumstances ("Standard of Care")."

2. Amend paragraph 8.1.1 of the Agreement to read as follows:

   "failure to perform the Services, satisfactorily or on schedule, consistent with the Standard of Care."

3. Amend paragraph 13 of the Agreement to read as follows:

   "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 negligent errors, acts or omission of the Contractor, or subcontractors, including reckless or intentional misconduct. 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."

Contractor Initials AJH
Date 3/30/2021

March 2021

SCOPE OF WORK AND ASSUMPTIONS
Souhegan River Watershed Plan-Environmental Document
Flood Control Dam Sites 12A North, 12A South, 25B, and 26

This Scope of Work is intended to meet the goals and objectives for Dam Sites 12A North, 12A South, 25B and 26, located within the Souhegan River watershed in Hillsborough County, New Hampshire. This scope of work and the various assumptions made to develop the scope of work were accepted by NHDES and NRCS in February 2021. A detailed spreadsheet showing the tasks that are needed to successfully complete the planning study and the cost per task is provided in Attachment A. The contract end date is March 31, 2024.

KEY ASSUMPTIONS

The following are key assumptions which have been made in the preparation of this scope and fee proposal to allow the Plan-ED to be prepared within the available funding amount. Additional assumptions are provided throughout the proposed scope of work.

1. The Watershed Plan and Environmental Documents (ED) will evaluate all four dams as a single analysis unit, for most aspects of the project, such as economics, hydrology and hydraulics, and environmental resource impacts.
2. The level of NEPA documentation is assumed to be an Environmental Assessment.
3. The hydrologic and hydraulic analysis performed by Gannett Fleming and documented in the 2016 Rehabilitation Assessment Reports for each dam are adequate to support the preparation of the Plan-ED. The only hydraulic analysis proposed as part of this proposed scope of work involves updates to the SITES analysis and evaluating downstream impacts with and without the dams in place, as described herein.
4. Video inspection of the submerged portion of each low-level outlet structure will be performed by use of a swimmer ROV. A dive crew will not be used.
5. To facilitate the video inspection of each principal spillway structure, NHDES will either lower each reservoir or allow the orifice which sets normal pool to be boarded shut to eliminate/reduce flow through the principal spillway to allow the inspection to proceed in the dry.
6. Property boundary surveys and surveys of downstream impact areas are not required.
7. It is our understanding that a conservation release is being considered for Site 12A. This scope and fee proposal does not include a safe yield study and it is assumed that the volume of water needed to be stored for a conservation release will be provided to the Gannett Fleming team.
8. NHDES will facilitate securing access to each dam site and properties needed for surveys, geotechnical investigations, and site visits.
9. A Subsurface Investigation Plan will not be required for any of the sites and permits will not be required to perform the geotechnical field investigations.

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10. NHDES will be able to provide various services associated with the geotechnical investigation plan, including but not limited to, providing a backhoe for performing test pits, surveying of completed piezometers, and manual reading of piezometers.
11. Refer to the various sections of this proposed scope of work for additional assumptions.

PLAN OF WORK AND PROJECT SCHEDULE

Gannett Fleming will develop a plan of work and project schedule to complete the tasks listed within the proposed scope of work. Gannett Fleming will identify areas of concern, if any, associated with the project schedule and the contract end date of March 31, 2024 (NRCS project completion date of September 30, 2024). Both the plan of work and project schedule will be prepared and submitted to NHDES prior to the Phase 1 Project Kickoff Meeting.

1.0 DATA COLLECTION

In order to evaluate maintenance needs and whether the structures (Flood Control Dam Sites 12A North, 12A South, 25B and 26) comply with current NRCS and State requirements, an accurate depiction of the existing site conditions is needed. Gannett Fleming proposes a visual inspection of each dam, a video inspection of the principal spillway/toe drain systems, a topographic field survey of each dam, and a bathymetric/sediment survey of each reservoir to assess the existing site conditions. Technical files will be compiled and summarized within the Investigations and Analysis (I&A) section of the Plan-ED. The following provides a description of each activity.

1.1 Field Surveys and Mapping

Topographic Surveys: Gannett Fleming will utilize in-house surveyors to perform a topographic survey of each dam site. Detailed field surveys of each dam site will include establishment of horizontal and vertical control, detailed topographic data, locating all above-ground structures at the site, and stakeout for geotechnical investigations. The detailed topographic data collected at each dam site will include the dam crest, the weir crest of the principal spillway, the orifice invert which sets normal pool (if applicable), the crest of the auxiliary spillway control section, the invert of the toe drain discharge locations, and the invert of the principal spillway outlet conduit. Detailed topographic field surveys will not exceed the survey boundary for each dam shown as the red boundary on the attached aerial photographs (refer to Attachment B).

Horizontal and vertical control will be established using Leica Survey Grade GPS. Horizontal datum for will be NAD83 (2011), Geoid 18, New Hampshire State Plane Coordinates. Vertical Datum will be NAVD88.

This scope and fee provided herein for topographic surveys is based on the following assumptions:

- The information used as part of the 2016 Site Assessments to develop downstream inundation mapping is adequate for this purpose. Consequently, no downstream cross sections, culverts or bridges will be surveyed as part of this work.
- Property surveys are not included.

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- Survey of downstream impact areas and first floor and adjacent grade elevations for structures downstream of the dam within the dam breach envelope, and structures which may be impacted by the reservoir pool, are not required for the economic analysis and are not included in this scope and fee proposal.

Bathymetric and Sediment Depth Surveys: Gannett Fleming will perform a bathymetric/sediment survey of each reservoir to estimate the top and bottom elevation of accumulated sediment. Gannett Fleming will perform a survey of the current reservoir bottom using a duel frequency echosounder for estimating the top and bottom elevation of the sediment layer, if present. Cross sections of the reservoir will be taken at regular intervals for the entire length of each reservoir as needed to develop an adequate representation of the reservoir bottom. Additional cross sections may be taken near the dam to ensure the dam embankment toe and upstream slope is picked up. Due to limitations associated with the dual frequency echosounder, manual sediment probes may be used to estimate the bottom of sediment in areas of shallow water. The location and number of manual probes will be determined in the field. If relatively uniform sediment depths are being observed, the spacing between manual probes may be increased. As a cost savings measure, the edge of water will be incorporated using available LiDAR and will not be field surveyed. The bathymetric survey will be conducted using a Jon boat with an outboard motor. All watercraft safety items (life jackets, throw ring, etc.) will be in the boat at all times. Fuel for the outboard motor will be contained in a 3-gallon portable fuel tank inside the jon boat. Floating absorbent rags will be on board in case fuel is discharged from the motor into the water. Gannett Fleming caries general liability insurance for accidental pollution occurrences and a pollution liability policy with a $10,000,000 limit. Detailed bathymetric field surveys will not exceed the survey boundary for each dam shown as the yellow boundary on the attached aerial photographs (refer to **Attachment B**).

A difference map showing the depth of sediment deposits within the reservoir will be developed by comparing the surveyed top and bottom of sediment surfaces. The difference map will estimate the total amount of sediment within the reservoir and will provide a visual representation showing areas of high and low sediment accumulation. The calculated volume of accumulated sediment will be used to derive the historic annual sedimentation rate. For the purpose of this planning study and evaluating the future sediment storage volume of each structure, it will be assumed that future annual sedimentation rates will be the same as past annual sedimentation rates. No additional calculations or estimation of future sedimentation rates will be performed.

Assumptions: This scope and fee for bathymetric/sediment surveys is based on the following assumptions:

- It is assumed there is no vegetation in the reservoirs that will inhibit the use of depth sounding equipment. The presence of vegetation would require the use of traditional rod surveying techniques which would increase surveying time and associated costs.
- Sediment quality sampling is not included.
- If needed to complete the planning study, best available LiDAR or other topographic data will be used to obtain the reservoir volume above the normal pool.

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1.2 Visual Inspection of Each Dam

Visual Inspection: Gannett Fleming will perform a visual inspection of each dam and its appurtenant structures. Observations made during the visual inspections will be documented on a Dam Inspection Checklist (NRCS Form WV-ENG-105) along with a collection of photographs which depict the site conditions at the time of the inspection. A separate dam inspection checklist and a summary of maintenance needs will be prepared for each dam.

As a cost savings measure, it is assumed that the visual inspection will coincide with the video inspection of the principal spillway outlet structures, allowing Gannett Fleming to utilize its onsite personnel to coordinate with and oversee the video inspection activities of our subcontractor.

Riser Structure Seismic Stability: The Site 12, Site 25B and Site 26 dams are all located within six miles of each other and are within the same seismic region. Consequently, as a cost savings measure, a seismic stability analysis will be performed on one representative riser. The Site 12A South riser is the shortest of the three structures at 21.4 feet high with approximately 75 percent of the riser embedded within the dam embankment. Sites 25B and 26 have similar riser structures at 40.4 and 50.3 feet in height with 23 percent and 33 percent, respectively, of each riser embedded within the dam embankment. As a worst-case scenario, the riser structure seismic stability analysis will be performed for the Site 26 riser and the results will be assumed to be similar for Site 25B. Depending on the results, a similar analysis may be recommended for Site 12A during the preliminary/final design phases. The Site 26 principal spillway riser structure will be evaluated for global stability when subjected to seismic loads in combination with hydrodynamic and buoyant forces from water in the reservoir. Seismic loads will be determined using U.S. Army Corps of Engineers criteria.

1.3 Video Inspection of Principal Spillway and Toe Drain Structures

Gannett Fleming and/or its subcontractor will perform a visual and video inspection of the principal spillway and toe drain systems at each dam. Specifically, the video inspections will include the following:

Principal Spillway Riser and Outlet Conduits (Sites 12A South, 25B and 26): For each dam, a visual inspection of the riser exterior and a manned entry of the riser interior will be performed and the 30-inch diameter principal spillway conduit will be inspected with a CCTV pipe crawler and camera system. The diameter of the principal spillway conduits would accommodate a confined space inspection if determined to be appropriate in the field.

Low-Level Dewatering Systems (Sites 12A South, 25B and 26): Each principal spillway riser structure contains a low-level lake drain comprised of a pipe extending from the bottom of the riser upstream into the reservoir where an inlet structure is located. Each low-level lake drain is controlled by a valve within the riser structure. The Gannett Fleming team will attempt to locate and inspect the upstream intake structure by use of a swimmer remote operated vehicle (ROV). The presence of sediment, debris, trash racks, murky water, etc. may limit the results of this inspection and no guarantee is made to the ability to visually inspect the entirety of the low-level dewatering systems.

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Low-Level Dewatering System (Site 12A North): According to as-built drawings, the Site 12A North low-level dewatering system consists of a 16-inch-diameter pipe which is controlled by a submerged gate on the upstream end of the pipe. This pipe will be inspected by use of a CCTV pipe crawler and camera system with entry from the exposed downstream end of the pipe. The Gannett Fleming team will attempt to locate and inspect the upstream controlling valve by use of a swimmer ROV. The presence of sediment, debris, trash racks, murky water, etc. may limit the results of this inspection and no guarantee is made to the ability to visually inspect the submerged portion of this system.

Embankment Toe Drain Systems (Sites 12A North, 25B and 26): The embankment toe drain pipes will be inspected with a CCTV pipe crawler system. As-built drawings indicate the drain pipe material is either corrugated metal or asbestos-cement and the toe drain layouts contain sharp bends. The presence of bends, jagged metal, and unknown obstructions could obstruct the CCTV pipe crawler and limit the extent of the toe drain inspection. If difficulties are encountered, a push camera system will be used in an attempt to advance the video inspection as far as possible; however, no guarantee is made to the ability to video inspect the entirety of the toe drain systems.

A brief technical memorandum will be prepared summarizing the video inspection results and the inspection videos will be provided to NHDES on thumb drive(s) or via other electronic transmission means.

Assumptions: This scope and fee for the video inspection of the principal spillway and toe drain structures surveys is based on the following assumptions:

- NHDES will either lower each reservoir prior to the site inspection or allow the principal riser structures to be temporarily boarded shut to reduce/eliminate flow through the riser as needed to allow the internal inspections to occur in a dry, or relatively dry environment. Gannett Fleming will not operate the low-level lake drains.
- As a cost savings measure, underwater inspections will be performed by use of a swimmer remote operated vehicle (ROV). A dive crew will not be used. It is understood that sediment levels, debris, water clarity and the presence of trash racks may limit the inspection results of the swimmer ROV.
- Camera access into the toe drains may require the existing animal guards to be partially or completely removed. Following the completion of the toe drain inspection, animal guards which were modified will be repaired/replaced with similar components.

2.0 HYDROLOGIC AND HYDRAULIC ANALYSIS

Gannett Fleming will perform hydrologic and hydraulic analysis and prepare documentation of analysis in support of the Supplemental Watershed Plan. These analyses will include:

Floodplain Analysis: As part of the 2016 Dam Assessments, Gannett Fleming prepared hydraulic models of the downstream reach in support of hazard potential classification and dam breach inundation maps. The HEC-RAS hydraulic model was based on LiDAR terrain data. To support the Supplemental Watershed Plan, Gannett Fleming will use the previously developed hydraulic model to evaluate downstream flooding for a range of events (including the 100-year flood, 500-year flood, and up to four

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smaller flood events). Discharges in the model will represent both with dam conditions (with all dams) and without dam conditions (without all dams). Floodplains will be mapped and hydraulic parameters will be used for economic analysis.

SITES Analysis: As part of the 2016 Dam Assessments, Gannett Fleming prepared a SITES model to evaluate watershed response and hydraulic performance of the dam for design events. The SITES model was also used to evaluate the integrity of the auxiliary spillways. To support the Supplemental Watershed Plan, Gannet Fleming will update the SITES models based on updated auxiliary spillway material properties and subsurface stratification, if needed, informed by subsurface exploration performed as part of this Plan-ED. The results will be used to refine the conceptual design of the rehabilitation.

3.0 GEOTECHNICAL EXPLORATION AND ANALYSIS

3.1 Introduction

Geotechnical aspects of the planning studies will be focused on analyses required in NRCS Technical Release 210-60, Earth Dams and Reservoirs (March 2019). Geotechnical explorations will be conducted with the goal of obtaining subsurface data and characterizing the subsurface to the extent necessary to identify deficiencies and support development of rehabilitation alternatives. Geotechnical analyses will specifically focus on recommendations provided in the Initial Assessment Reports for these four dams completed by Gannett Fleming in 2016. These geotechnical recommendations included soil and rock sampling, field permeability testing and laboratory testing. Specific recommendations included:

A. Shear strength testing of embankment and foundation soils;

B. Embankment slope stability analyses;

C. Embankment and foundation seepage assessments, including an evaluation of observed seepage, the potential for uncontrolled/unfiltered seepage, and groundwater influences;

D. Filter compatibility of drainage aggregates and compatibility between embankment and foundation soils;

E. Susceptibility of the embankment and spillway structures to liquefaction under seismic loading;

F. Televise existing toe drain pipes to assess condition and performance (refer to Scope Item 3.1); and

G. Assess piezometer monitoring needs for the embankment and foundation. Design and install piezometers at appropriate locations.

3.2 Geotechnical Exploration

A geotechnical subsurface exploration program will be performed at each of the four dams. Existing and new data will be used in the planning level engineering assessments, including seepage, stability and SITES integrity analysis. The exploration program will generally consist of test pits and test borings. Boring and

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test pit location plans are included in Attachment D. Summary tables of estimated boring depths and field testing at each dam are also included in Attachment D. Total estimated drilling footage is 792 feet (including 10% contingency). The footage quantities of soil sampling and rock coring are based on assumed top of rock elevations estimated using the As-Built Drawings.

Gannett Fleming will provide one qualified, trained geotechnical engineer or geologist on site full-time during all subsurface exploration work. Field bedrock permeability testing and Casagrande piezometer construction will be performed, as well as laboratory testing of soil and rock samples collected during the exploration program. The scope of the exploration program will be customized to each site to explore identified design concerns, deficiencies, and areas of poor performance. Subsurface data in the embankment, foundation and auxiliary spillway will be collected to perform the required geotechnical planning level analyses. Piezometer installation will commence immediately after boreholes have reached total depth as part of a continuous process. If a borehole will not have a piezometer installed, it will be tremie grouted full-depth to the surface with cement-bentonite grout.

The subsurface exploration will consist of the following components:

- Two or three borings at one cross-section near the maximum height of each dam. These borings will be located at the upstream slope, crest, and downstream toe of each earth embankment at Sites 25B, 26 and 12A North. Two borings at Site 12A South will be located at the crest and downstream toe because the upstream slope appears inaccessible and the embankment is homogeneous according to the as-built drawings. Continuous standard penetration test sampling will be performed in these borings using a 3-inch outside diameter split spoon sampler with a 300-pound hammer and an 18-inch drop. Soils will be classified in the field using ASTM D2488, and descriptions will conform with the Bureau of Reclamation Engineering Geology Field Manual (1998) and NRCS 210 NEH 631, Geology, Chapter 3, Engineering Classification of Earth Materials (2012). Undisturbed thin-walled tube samples will also be obtained in accordance with ASTM D1587 in embankment and foundation materials, as appropriate. Rock will be continuously sampled in select borings by coring with wireline NQ3 triple tube equipment. The Rock Quality Designation (RQD) will be measured in accordance with ASTM D6032. A minimum of 15 feet of rock coring will be performed in borings where pressure testing is proposed. Bedrock pressure testing will be performed to measure hydraulic conductivity.

- One boring with continuous soil and rock sampling will be drilled at each of the three auxiliary spillways and will extend to the valley floor. Continuous standard penetration test sampling using a 2-inch outside diameter split spoon sampler, 140-pound hammer with a 30-drop will be conducted. Rock will be continuously sampled using wireline NQ3 triple tube coring equipment. A minimum of two test pits will be also be performed in each auxiliary spillway. Note that the depth to bedrock is unknown at Site 12A South Dam.

- Dual-nested piezometers will be installed in each crest boring at all four dams. The upper piezometer will be installed in the embankment or the shallow foundation layer, while the lower piezometer will be installed in foundation layers that may include bedrock. A single piezometer will be installed in the downstream toe boring at each of the four dams.

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- Laboratory testing of soil and rock samples will be completed by GeoStructures located in King of Prussia, PA and/or Navarro & Wright, located in Camp Hill, PA. Anticipated soil laboratory testing includes soil classification, sieve and hydrometer analysis, Atterberg limits, specific gravity, unit weight, crumb testing, and triaxial shear consolidated, undrained strength testing with pore pressures monitored. Strength testing of soils located within the auxiliary spillway is not anticipated. Anticipated bedrock laboratory testing includes unit weight and unconfined compressive strength. A summary table of proposed geotechnical laboratory testing is included in Attachment D.

3.3 Geotechnical Analysis

The geotechnical exploration program data and results will be used for geotechnical analysis of the embankment, foundation and auxiliary spillway at the four Souhegan sites. Geotechnical engineering analysis will focus on the geotechnical recommendations provided in the 2016 Initial Assessment Reports for these dams and summarized above.

Shear Strength Testing: Shear strength and unit weight of embankment and foundation soils will be estimated in accordance with TR-60 using laboratory shear strength testing, unit weight testing, engineering correlations, and engineering judgment. Foundation soil or rock from different dams or sites that appear to be similar may be grouped together. Two sets of three specimens will be tested at each dam in consolidated, undrained (CU) triaxial shear with pore pressures monitored. One set of three specimens will be undisturbed or remolded samples of embankment fill. Selection of specimens for the second set of CU shear tests will be determined based on conditions encountered. Strength and unit weight parameters will be used for slope stability analysis and riser structure stability, if needed. Unconfined compressive strength testing of bedrock will also be performed.

Embankment Slope Stability: Slope stability of the upstream and downstream embankment slopes will be completed in accordance with TR-60. Construction, end-of-construction, and pseudo-static slope stability cases will not be evaluated for the planning study. Phreatic levels used in the stability analyses will be based on water levels obtained in the borings or piezometers, and no seepage analyses will be performed during the planning study.

Seepage Assessments: Permeability of site soils will be estimated using correlations to grain-size, and permeability of bedrock will be estimated using field testing. Phreatic surfaces for steady state conditions at normal pool will be determined using piezometer data and flow net approximation methods in accordance with TR-60. The phreatic surface for the flood surcharge loading condition will be estimated using Casagrande procedures in accordance with TR-60. Detailed seepage analyses will be performed during future design phases. It is assumed that NHDES will collect and report piezometer phreatic elevation data to GF.

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The geotechnical engineer or geologist who observes the subsurface exploration program will perform reconnaissance of existing seepage conditions in the area of the borings and in the tailwater area. Observations of changing seepage conditions will be reported.

Filter Compatibility: Based on the as-built drawings and evaluations presented in the respective 2016 Initial Assessment Reports, the existing seepage collection systems at all four dams include filter aggregates that are not likely to meet current NRCS filter design requirements. Additional deficiencies in the existing features of these dams include lack of properly-designed filter diaphragms around penetrating conduits, the existence of anti-seepage collars, and the use of corrugated metal pipes or no drain pipes in drain systems. It is assumed that new filter and drain collection features will be required at all four sites and will be included in future design phases.

Laboratory test gradations of the embankment and foundation soils from each dam will be obtained and will be qualitatively evaluated for relative compatibility. Qualitative assessment of compatibility between embankment fill and foundation soils will be performed using aggregate gradation plots from the new laboratory testing. Detailed compatibility evaluations between embankment zones and foundation soil layers will be completed during future design phases.

Liquefaction Susceptibility: One seismic site assessment will be completed in accordance with TR-60 and applied to each of the three sites. The seismic site assessment will consist of estimation of the peak ground acceleration for the appropriate design earthquake event return period. The consequence of a seismic failure and corresponding design earthquake return period will be determined in accordance with Figure 4-1 in TR-60.

A limited quantitative liquefaction analysis will be completed at each site using penetration testing data from saturated, loose to very loose embankment and foundation soils identified in the planning study borings. Recommendations will be provided for future liquefaction analyses, dynamic stability analyses, or seismic deformation analyses to be performed during preliminary or final design.

Televise Existing Toe Drain Pipes: The existing toe drain pipes will be video inspected by a subcontractor concurrently with video inspection of the principal spillway conduits and low-level outlet conduits. This work is described in more detail in Item 1.3.

Assess Piezometer Monitoring Needs: Piezometers will be installed at each dam to provide data for slope stability analyses and for future seepage assessments. It is assumed that NHDES will provide surveyed coordinates and elevations of the piezometers. It is also assumed that NHDES will monitor the piezometers at a minimum frequency of weekly for the first month and monthly thereafter and provide collected piezometer water level elevations to GF for use in analyses. The need for additional piezometers may be re-evaluated during future design phases.

3.4 Auxiliary Spillway Erodibility Parameters

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Geotechnical analyses will also include detailed analysis of auxiliary spillway soil and rock erodibility parameters for use in refined SITES analyses as was recommended in the 2016 Rehabilitation Assessment Reports. Data obtained from existing and new borings, test pits, and laboratory testing will be used to develop a representative geologic profile of the most erodible section through the auxiliary spillway. Headcut erodibility index (kh) values for critical soil and bedrock layers will be estimated using site specific data and the tables and equations set forth in NEH 628, Chapter 52 (*Field Procedures Guide for the Headcut Erodibility Index*).

Site 26 Dam: Auxiliary spillway erodibility SITES analysis results were reported in the Initial Assessment Report (GF, 2016). Sensitivity analyses indicated that the model results, including whether the spillway does or does not breach during the 24-hour freeboard hydrograph (FBH), were sensitive to the soil properties of the glacial till layer consisting of silty sand (SM).

Site 25B Dam: Auxiliary spillway erodibility SITES analysis results were reported in the Initial Assessment Report (GF, 2016). Results indicate significant erosion of the downstream end of the ASW and a breach of the spillway crest during passage of the 6-hour FBH and the 24-hour FBH. At the time of the breach for the 24-hour FBH, the headcut at the crest was 9.4 feet deep. Therefore, new SITES analyses will be focused on the soils in the top 10 feet. All soil and rock layers will be considered.

Site 12A South Dam: Auxiliary spillway erodibility SITES analysis results were reported in the Initial Assessment Report (GF, 2016). Results indicate significant damage the downstream end of the ASW and a breach of the spillway crest during passage of both the 6-hour FBH and the 24-hour FBH. At the time of the breach for the 24-hour FBH, the headcut at the crest was 26.4 feet deep. Results of all geotechnical analyses will be detailed and summarized, and geotechnical conclusions and recommendations will be provided for use in the alternative evaluation.

3.5 Geotechnical Assumptions

This scope and fee provided herein for geotechnical exploration and analysis is based on the following assumptions:

1. It is assumed that NHDES will provide access to the dam sites and properties needed for surveys, site visits and all subsurface exploration activities.
2. For the subsurface exploration, it is assumed that:

   2.a A Subsurface Investigation Plan will not be required for any of the sites and permits will not be required to perform the geotechnical field investigations.

   2.b NHDES will provide a backhoe with operator or a mini-excavator with operator for excavation of test pits up to 10 feet deep. It is assumed that approximately six test pits will be excavated, and this work will take one day.

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2.c NHDES will construct benches on the upstream slopes of Site 25B, 26 and 12A North Dams to allow safe drilling of boreholes on slopes using a track-mounted drill rig.

2.d NHDES will survey as-drilled boring and piezometer locations and provide records to GF.

2.e NHDES will monitor piezometers weekly for the first month and monthly thereafter, and provide water level elevations to GF.

2.f Existing drain aggregates will not be sampled due to difficulty of intercepting drains and abandoning boreholes that encounter drains. As-built records of drain aggregate gradations will be used for compatibility assessments.

2.g The subsurface exploration program will be completed in no more than 29 working days.

2.h Additional borings will be required for future rehabilitation design.

3. For the laboratory testing, it is assumed that shear strength testing for the planning studies will consist of triaxial consolidated, undrained (CU) shear testing with pore pressures monitored. No direct shear or triaxial unconsolidated, undrained (UU) testing will be performed for the planning studies. If these strength tests are required for rehabilitation design, they will be performed during future design phases.

4. For the geotechnical analyses, it is assumed that:

4.a Foundation soil or rock from different dams or sites that appear to be similar may be grouped together.

4.b Detailed seepage modeling will not be performed for the planning study. Seepage modeling will be performed during future design phases when additional piezometer data is available for calibration and rehabilitation alternatives are selected.

4.c It is assumed that new filter and drain collection features will be required at all four sites and will be included in future design phases. Detailed compatibility evaluations between embankment zones and foundation soil layers will be completed during future design phases.

4.d One seismic site assessment will be performed to determine the peak ground acceleration (PGA) for the design earthquake event, and this PGA will be applied to each of the three sites.

4.e Seismic evaluations will be limited to liquefaction screening (no deformation analysis, pseudo-static slope stability, etc.). Liquefaction screening will be performed at each dam using the penetration test data from the proposed borings.

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4.0 ENVIRONMENTAL INVESTIGATIONS

4.1 Baseline Existing Conditions and Natural Resource Impact Assessment

Gannett Fleming will compile existing natural resource information from a variety of available resources to document baseline existing conditions of the watershed study area. Information and resources are available from various federal, state, and local sources. The team will review available resources to gather information on the environmental setting including: topography, climate, soils, geology, groundwater, land-use (i.e. farmlands), FEMA floodplains, wetlands, flora and fauna, terrestrial and aquatic habitats, water quality, and invasive species.

The Gannett Fleming team will supplement the literature resource review of baseline conditions with field evaluations that will record site observations and obtain current photographs. In addition to the compilation of baseline existing conditions, Gannett Fleming will characterize and assess impacts generated by proposed project alternatives to each respective resource. This information will be compiled and presented in the natural resource discussion of the Watershed Assessment.

4.2 Identification, Delineation, and Description of Wetlands and Waterways

Gannett Fleming with subconsultant West Environmental Inc. will conduct a field investigation to identify and delineate waterways and wetlands in each of the study areas that could be temporarily and/or permanently impacted from project activities. The team includes a certified New Hampshire Wetland Delineator, Senior Professional Wetland Scientists (SPWS), Professional Wetland Scientists (PWS), ecologists and biologists.

The environmental study areas will be limited to areas immediately surrounding the reservoirs that may be disturbed as part of the project including access routes, staging areas, and laydown areas. Environmental surveys will not exceed the boundary for each dam as shown on the aerial mapping within **Attachment C**. Wetland delineation fieldwork may be conducted at any time of year except when snow cover and frozen ground prohibits a detailed investigation.

Field methods to identify and delineate palustrine wetland boundaries will be in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0, U.S. Army Corps of Engineers, January 2012*. Wetland habitats will be assigned a Cowardin classification (1977). Mapping of the boundary flags will utilize GPS technology with sub-meter accuracy. Data points and boundary lines will be plotted on project drawings. Wetland function and value assessments will be conducted using the methods outlined in *The Highway Methodology Workbook Supplement, Wetland Functions and Values, A Descriptive Approach, USACE New England District* (NEDEP-360-1-30a 1995) and *Method for Inventorying and Evaluating Freshwater Wetlands in New Hampshire, dated December 2015*.

The results of the wetlands and waterways field work will be presented in a report for use by the project designers and sponsors to evaluate potential impacts and prepare for a pre-application meeting with the regulatory agencies. The Wetland Identification and Delineation Report will include a description of the project study area, background information, investigation methods used, wetland datasheets, photo logs,

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site mapping, tabularized coordinates of mapped features, and function and value sheets. This information will be used to evaluate project alternatives and support future permit applications.

4.3 Protected Species Coordination

Gannett Fleming will coordinate with federal and state agencies to determine if protected species or their habitats occur in or within range of the project study areas. The results of the initial coordination efforts will result in an understanding of potential project impacts, assist in impact avoidance planning, and provide key information on future permitting efforts and identify the need for detailed surveys and consultations.

Gannett Fleming will initiate protected species coordination at the federal level with the United States Fish & Wildlife Service (FWS) through the Information for Planning and Consultation (IPaC) online project review system and generated an official species list for each study area. The official species list will identify federally protected species that may occur in or within range of the project areas. Gannett Fleming will follow the New England Field Office's Endangered Species Consultation process, as needed.

Gannett Fleming will initiate protected species review at the state level with the Natural Heritage Bureau (NHB) through the online NHB Data Check online tool. NHB Data Check will identify potential species conflicts within the project study area and/or adjacent areas that would require further review by NHB ecological information specialists. Coordination efforts will be led by Gannett Fleming's team of certified ecologists, botanists, and wildlife biologists.

The results of the coordination efforts to identify potential conflicts with protected species or their habitats will be documented as part of the Watershed Plan-ED. Species information sheets, mapping and potential impact avoidance measures will be noted as recommendations in the conclusion section. The need for additional studies and surveys will be identified for future planning considerations and permitting efforts.

4.4 Cultural Resources

Gannett Fleming will utilize the cultural resources support of Public Archaeology Laboratory (PAL) to identify and describe cultural resources that may be present within the project study areas. PAL will serve as a subconsultant to Gannett Fleming.

Gannett Fleming and PAL will generate a Request for Project Review (RPR) submittal along with a Phase I Archaeological Assessment according to the New Hampshire state guidelines. The Phase IA Archaeological Assessment Report will follow the guidelines established by the National Park Service in the Recovery of Scientific, Prehistoric, Historic, and Archeological Data (36 CFR Part 66 Appendix A) and DHR's Generalized Guidelines for Research and Reporting: Scope of Work for Proposed Dam Removals Pertaining to Historical and Archaeological Resources and the New Hampshire Division of Historical Resources Archaeological Standards and Guidelines.

The RPR will require project team coordination to evaluate the study areas and observe site features that may be disturbed as part of the project. Detailed research of available resources will include the pre- and post-contact cultural, historical, engineering, architectural, and environmental contexts in the study

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area. A pedestrian field survey is needed to view the study area and obtain current photographs to support the RPR. The RPR including the Phase I Archaeological Assessment will be submitted to Department of Historical Resources (DHR) for their review.

4.5 Drainage Area Evaluation - Sediment Contamination Study

Gannett Fleming will conduct a cursory level review of land-use practices in the watershed to identify the potential for contaminated sediments in each study area that may need further characterization. Gannett Fleming will conduct a past and present land-use evaluation of the drainage areas of each study area to identify sources of residential, industrial, agricultural, and/or military practices that may have contributed to sediment contamination issues.

This inquiry into a drainage area assessment to identify potential contaminant sources will assist in future planning and permitting efforts by identifying possible concerns for the handling, dewatering and final disposal of dredged sediments. The drainage area evaluation for sediment contamination issues is a literature exercise and will generate figures and a technical memorandum to identify and explain land-use feature and the potential contaminants that could occur in reservoir sediments. A field sediment sampling plan and laboratory analyses of reservoir sediments are not included in this scope.

4.6 Mitigation Opportunities

Gannett Fleming will identify mitigation options available to each project area should potential permanent impacts require future mitigation plans as part of future permit applications. Gannett Fleming will identify opportunities for wetland and stream mitigation to identify the most effective way to satisfy mitigation requirements. Although mitigation may not be required, Gannett Fleming will identify the mitigation options that are available as part of the assessment.

Mitigation options may include the ability to compensate for impacts within the existing project area through the restoration and/or habitat enhancements of existing natural features on the site. Gannett Fleming will investigate if credits are available for purchase to utilize a local bank. Gannett Fleming will also investigate if opportunities exist in the watershed for a wetland or stream creation or enhancement project.

4.7 Anticipated Permit Outlines

Gannett Fleming will prepare a permit outline to identify a list of permits that may be needed to implement the conceptual design plans. Gannett Fleming will coordinate with the New Hampshire Department of Environmental Services, Dam Bureau and anticipates that a request for an amendment/modification to the existing dam permit will serve to authorize the project. Additional coordination with the United States Army Corps of Engineers may be required to obtain federal authorization of the project. Gannett Fleming will identify the potential impacts of the project and identify the federal and state permits needed to support future applications. The preparation and submission of permit applications are not included in the scope.

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5.0 ECONOMIC ANALYSIS

GF will prepare a benefit-cost analysis in support of the Watershed Plan-ED. The analysis will be prepared in accordance with:

- *National Watershed Program Manual* (2018)
- *Principles and Requirements for Federal Investments in Water Resources* (2013) and *Interagency Guidelines* (2014) (PR&G)
- *Guidance for Conducting Analyses under the PR&G for Water and Land Related Resources Implementation Studies and Federal Water Resources Investments (2017)*
- *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies* (P&G) (1983)
- *National Resource Economics Handbook (2012)*

Gannett Fleming will use the USACE's HEC-FIA (Flood Impact Analysis) software (version 3.0) to quantify the expected flood damages to structures under the alternatives retained for detailed study.

Gannett Fleming will use the results of hydraulic modeling, including flood depth, arrival time and duration grids, in conjunction with GIS-based tax assessment data, aerial photography, GIS data layers, and GIS land use data as input for HEC-FIA. The value of large institutional structures not captured in the tax assessment data will be estimated on a square foot basis using Marshall and Swift valuation commercial cost database. It is assumed that an economics field view will not be required.

Flood damages will be modeled for the 500-year, 100-year, and up to four flood events of greater frequency. Elevations will be based on a bare earth terrain developed from the collected Digital Elevation Model (DEM) data, with a standard height added to approximate finished floor elevation for structures.

Gannett Fleming will calculate other benefit categories using spreadsheet analysis. Other monetized benefit categories will consist of: 1) damages to transportation and utility infrastructure, 2) the administrative cost savings to the National Flood Insurance Program (NFIP) from a reduction in the number of properties that must participate under each alternative, 3) water supply, where applicable, and 4) recreation, where applicable.

Gannett Fleming will calculate net economic benefits and a benefit-cost ratio for each alternative retained for detailed study using the federal water project discount rate, and work with NHDES to determine the National Economic Efficiency (NEE) alternative.

It is assumed that ecosystem service benefits will be identified qualitatively. These non-monetized benefits will be used along with the benefit-cost ratio to assist in identifying the preferred alternative, in accordance with the PR&G guiding principles.

The economic analysis will be summarized in the Plan-ED Investigation and Analysis, including study area inventory, methodology, results and discussion. GF will prepare the economics-related Watershed Plan/EA tables required by NRCS and formatted according to NRCS guidelines.

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6.0 FORMULATION AND EVALUATION OF ALTERNATIVES

Alternatives will be developed to address the identified deficiencies. Alternatives may consist of: (1) dam rehabilitation alternative(s) to address the identified deficiencies, and (2) a non-structural alternative (e.g., identifying structures in the downstream protected area that could be either relocated or floodproofed). The Future without Federal Investment (FWOFI) alternative will be developed as a baseline for comparison of alternatives. In accordance with PR&G, the environmentally preferred alternative and locally preferred alternative will be identified, in coordination with the Sponsors and NRCS. It is noted that some alternatives may not be developed in detail. Only those alternatives that NRCS and the Sponsors determine to be viable will be retained for detailed study (up to two alternatives are assumed for detailed study). Lesser amounts of detail will be needed for those preliminary alternatives deemed to be nonviable. Based on an initial project review, it is assumed that a decommissioning alternative will not be retained for detailed study.

Conceptual/preliminary sketches will be provided for each alternative to be evaluated in detail. These will include simple, one (1) or two (2) sheet illustrations for structural rehabilitation alternatives (i.e. widen the auxiliary spillway, raise or lower the dam embankment, modify the dam embankment, etc.). Detailed design is not included as part of the alternatives evaluation. An Engineer's Opinion of Probable Construction Costs will be prepared for each alternative retained for detailed study.

7.0 PROJECT MEETINGS AND PUBLIC PARTICIPATION PLAN

In coordination with NHDES, GF will prepare and implement a public participation plan (PPP) in conformance with Title 400 General Manual Part 400. The PPP will include a comprehensive mailing list of stakeholders and outline planned agency consultation. Results of stakeholder and public participation will be documented in the Plan-ED.

GF will participate in the following meetings at each phase of the project:

- Phase 1 Project kickoff meeting
- Phase 1 Public and agency scoping meeting
- Phase 1 Review meeting
- Phase 2 Comparison of Alternatives Meeting
- Public meeting during Plan-ED comment period
- Phase 4 Final Plan-ED Review meeting

In addition, the GF project manager and assistant project manager will attend monthly project update teleconferences. The frequency of teleconferences may be reduced depending on the type and amount of work being performed at that time. Other technical staff will attend on an as needed basis.

GF will provide logistical support, meeting facilitation, and technical support for the scoping meeting and Plan-ED review public meeting. Gannett Fleming will identify potential public meeting dates and virtual platforms for NHDES review. Gannett Fleming will develop announcements of the public meetings for publishing in local media and the NHDES website.

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Gannett Fleming will be prepared to lead the scoping and public review meetings or provide support to NHDES, as desired. GF will record the presentation and post on the internet for asynchronous public access.

8.0 NEPA COMPLIANCE

NEPA compliance will follow the procedures of the NRCS General Manual Title 190, Ecological Services, Part 410 (Compliance with NEPA) and Part 610 (National Environmental Compliance Handbook).

8.1 Scoping

GF will lead scoping activities to solicit the concerns of project sponsors, regulatory agencies and the public. GF will develop a Scoping package (project information, background data and mapping) to support early formal requests for comments and concerns from stakeholder agencies (federal, state and local). This request for comments will also invite stakeholders to the public scoping meeting (see SOW Section 7.0 Public Meetings and Public Participation Plan).

Gannett Fleming will summarize the results of the scoping process and strategies for incorporating key concerns into the NEPA process. Gannett Fleming will complete the NRCS worksheet (Form NRCS-CPA-52, updated November 2019) in accordance with NWPM Part 501.20. We will complete sections A through P and coordinate the review and the determination of the NEPA finding with NHDES and NRCS. The finding will confirm the level of NEPA documentation required for the project.

8.2 Purpose and Need

Based on the current dam assessment reports and results of scoping, Gannett Fleming will develop a project purpose statement and define project needs.

8.3 Alternatives Analysis Documentation

The alternatives analysis process will comply with the guidance of Section 610.67 of the NRCS National Environmental Compliance Handbook Section (GM Title 190, Part 610) and Section 501.37 of the National Watershed Program Manual.

Gannett Fleming will document the alternatives analysis in the Plan-ED including the range of alternatives considered, criteria for the evaluation of preliminary alternatives, and description of alternatives retained for detailed study. Preliminary alternatives to be considered consist of:

- No Action/Future Without Federal Investment (FWOFI)
- Non-Structural Alternative
- Locally Preferred Alternative
- Environmentally Preferred Alternative

GF will identify which of the alternatives represents the National Economic Efficiency (NEE) Alternative, and which represents the socially preferred alternative.

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8.4 Social Impact Assessment

Gannett Fleming will identify community characteristics within the study area based on publicly available sources and communications with community leaders and the public during scoping. Impacts to community characteristics, including: 1) demographic trends, 2) visual and aesthetic resources, 3) existing and future land use patterns, 4) community services and facilities, and 5) public health and safety, will be assessed for each alternative retained for detailed study.

If applicable, potential displacements will be identified and the policies and procedures for relocation, relocation assistance, and right-of-way acquisitions will be described, including compliance with the Federal Uniform Relocation Assistance and Real Property Acquisitions Policies Act.

GF will perform a qualitative assessment of noise, air quality and hazards materials effects of the proposed action, provided these issues are identified as relevant during the scoping process. Known hazardous materials or locations of concern would be identified through searches of applicable U.S. EPA and state databases.

8.5 Environmental Justice

Gannett Fleming will identify potential populations afforded consideration and protection under Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, using U.S. Census Bureau data and consultation with community officials. If environmental justice populations are present, Gannett Fleming will tailor public involvement activities, including early project scoping, to encourage participation by minority or low income populations. Gannett Fleming will assess potential direct, indirect and cumulative impacts of the alternatives retained for detailed study in accordance with the EO.

8.6 NEPA Compliance Documentation

GF will prepare a Watershed Plan- Environmental Document in accordance with Part 501.31 of the National Watershed Program Manual. The Plan-ED will evaluate the four structures as a single analysis unit. The documentation and review process will be as follows:

- GF will prepare a public notice of intent to prepare a Watershed Plan-ED and facilitate the publication of the notice in local media, and the NHDES website.
- The pre-draft Plan-ED will be prepared in Adobe PDF format and provided to NHDES for review and comment.
- GF will address comments from NHDES and prepare the Draft Plan-ED for NRCS state-level review.
- GF will address comments from New Hampshire NRCS and revise the Draft Plan-ED for submittal to the NRCS National Water Management Center.
- GF will address comments from the NRCS NWMC and prepare the plan for public dissemination.
- In coordination with NHDES, Gannett Fleming will make the Draft Plan-ED electronically accessible to stakeholder agencies and the public for the public comment period.
- GF will address comments from stakeholders and the public at the conclusion of the public comment period and prepare the Final Plan-ED and Finding of No Significant Impact (FONSI).

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- In coordination with NHDES, Gannett Fleming will make the Final Plan-ED and FONSI electronically accessible to stakeholder agencies and the public.

9.0 DELIVERABLES

The following deliverables are anticipated during each phase of work:

PHASE	DELIVERABLE
Phase I	Plan of Work
	Public Participation Plan
	Summary of Initial Investigations, presented at Phase I review meeting *(materials to include site map, dam inspection checklists, and results of topographic, bathymetric and sediment depth surveys, video inspections, SITES analysis, geotechnical analysis and testing, and environmental investigations)*
Phase II	Draft sections of Plan-EA summarizing resource data *(including mapping)*
Phase III	Draft alternatives, presented at Phase II Comparison of Alternatives Meeting *(materials to include narratives, cost estimates, preliminary drawings)*
Phase IV	Preliminary Plan-ED for NHDES/NH NRCS review *(including agency coordination results, permit outline, and mitigation options)*
	Draft Plan-EA for NRCS NWMC review
	Final Plan-EA and FONSI
	Administrative and technical project files *(including completed NRCS worksheet Form NRCS-CPA-52)*

Contractor Initials AJH
Date 3/30/2021

ATTACHMENT A
FEE AND HOUR BREAKDOWN

Contractor Initials AJH
Date 3/30/2021

TABLE B
New Hampshire Department of E
Supplemental Watershed Plan and Environmental Documen
Estimated Lev
Planning

Item and Task Descriptions	Total Cost	Subtotal Labor	Subtotal Subconsultant & Expenses	Subtotal Hours	S Project Principal
			2021 Rates (Direct)		$84.83
			2021 Rates (Burdened)		$211.21
			2022 Rates (3% Increase)		$219.35
5.0 Economic Analysis					
a. Quantify flood protection benefits under alternatives retained for detailed study (ARDS)	$24,249.71	$24,249.71	$0.00	180	0
b. Determine recreation and water supply benefits under ARDS	$9,061.45	$9,061.45	$0.00	66	0
c. Calculate net economic benefits and benefit-cost ratio for ARDS	$10,337.98	$10,337.98	$0.00	76	0
d. Calculate National Flood Insurance Program savings under ARDS	$3,956.64	$3,956.64	$0.00	32	0
e. Determine National Economic Efficiency (NEE) alternative	$3,828.80	$3,828.80	$0.00	26	0
f. Summarize results in Plan/EA, create P&G, PR&G tables and address relevant comments	$20,101.57	$20,101.57	$0.00	156	0
Total Estimated Effort - Item 5.0	$71,536.15	$71,536.15	$0.00	536	0
6.0 Alternatives Analysis					
a. Identify and Prioritize Dam Rehabilitation Alternatives	$28,461.69	$28,461.69	$0.00	206	8
b. Determine Preferred Alternative	$5,934.61	$5,934.61	$0.00	32	4
c. Conceptual Design and Cost Estimate	$35,768.48	$35,768.48	$0.00	266	2
d. Summarize Findings	$13,433.13	$13,433.13	$0.00	86	2
Total Estimated Effort - Item 6.0	$83,597.91	$83,597.91	$0.00	590	16
7.0 Public and Agency Meetings (Assume all Meetings by Teleconference)					
7.1 Public Participation Plan					
a. Public Scoping Meeting (including prep, logistics, minutes)	$8,040.60	$8,040.60	$0.00	60	0
b. Public Meeting to Present Results of Planning Study (including prep, logistics, minutes)	$7,274.81	$7,274.81	$0.00	52	0
7.2 Agency/Client Meetings					
a. Initial Kickoff Meeting	$1,643.30	$1,643.30	$0.00	10	0
b. Monthly Update Conference Meetings (Assume 24)	$16,974.44	$16,974.44	$0.00	104	0
c. Phase 1 review meeting	$1,898.53	$1,898.53	$0.00	14	0
d. Phase 2 Comparison of Alternatives meeting	$1,898.53	$1,898.53	$0.00	14	0
e. Phase 4 Final Plan-ED review meeting	$1,898.53	$1,898.53	$0.00	14	0
Total Estimated Effort - Item 7.0	$39,628.73	$39,628.73	$0.00	268	0
8.0 NEPA Compliance					
a. Public and Agency Scoping and Coordination	$11,231.11	$11,231.11	$0.00	80	0
b. Purpose and Needs	$4,849.70	$4,849.70	$0.00	34	0
c. Alternatives Analysis	$9,444.29	$9,444.29	$0.00	68	0
d. Social and Human Impact Assessment	$9,572.13	$9,572.13	$0.00	74	0
e. Environmental Justice	$2,935.50	$2,935.50	$0.00	24	0
f. Watershed Plan/NEPA Compliance Documentation	$36,214.98	$36,214.98	$0.00	286	2
Total Estimated Effort - Item 8.0	$74,247.72	$74,247.72	$0.00	566	2
Total Planning Phase for Four Dams in the Souhegan Watershed	$974,000.00	$706,875.74	$267,124.26	5429	22

B-1

onmental Services - Plan of Work

the Rehabilitation of Four Dams in the Souhegan Watershed

Effort by Task

el Efforts

gory		Project								Support								
	Senior Technical Expert	Project Engineer	Engineer Scientist V	Engineer Scientist IV	Engineer Scientist III	Engineer Scientist II	Engineer Scientist I	GIS Analyst II	GIS Analyst I	Technician II	Technician I	Landscape Architect	Prof. Surveyor	Surveyor	Admin. PM Assistant	Clerical	Subconsultant Costs	Expenses
25	$76.00	$86.94	$67.63	$55.79	$50.20	$44.83	$38.85	$44.63	$27.89	$33.47	$27.89	$33.47	$38.85	$33.47	$38.85	$33.47		
26	$223.34	$191.45	$191.71	$158.56	$143.57	$127.84	$111.66	$127.84	$79.77	$95.72	$79.77	$95.72	$111.66	$95.72	$111.66	$95.72		
91	$230.00	$197.10	$197.46	$164.33	$147.86	$131.47	$115.03	$131.47	$82.16	$98.60	$82.16	$98.60	$115.03	$98.60	$115.03	$98.60		
0	0	60	0	0	16	0	0	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	0	40	0	0	10	0	0	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	0	100	0	0	26	0	0	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	0	4	0	0	0	0	0	0	0	56	0	0	60	60	0	0	$0.00	$4,906.41
0	0	16	0	0	0	16	0	0	0	64	0	0	24	0	0	0	$0.00	$0.00
0	0	4	0	0	0	8	0	0	0	0	0	0	16	8	0	0	$0.00	$0.00
0	0	4	0	0	0	54	0	0	0	0	0	0	0	0	0	0	$0.00	$1,499.05
0	0	4	0	0	0	40	0	0	0	6	0	0	0	0	0	8	$0.00	$0.00
0	0	8	0	30	0	0	0	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	0	4	0	0	0	60	0	0	0	0	0	0	0	0	0	0	$19,000.00	$0.00
0	0	44	0	30	0	178	0	0	0	126	0	0	100	68	0	8	$19,000.00	$8,405.46
4	0	8	0	0	80	0	0	0	0	0	0	0	0	0	0	0	$0.00	$0.00
1	0	4	0	0	40	24	0	0	0	0	0	0	0	0	0	0	$0.00	$0.00
2	0	2	0	0	16	8	0	0	0	0	20	0	0	0	0	0	$0.00	$0.00
7	0	14	0	0	136	32	0	0	0	0	20	0	0	0	0	0	$0.00	$0.00
0	4	0	40	0	0	0	396	0	0	0	4	0	0	0	0	0	$178,900.00	$10,597.80
0	8	0	28	0	0	0	60	0	0	0	12	0	0	0	0	0	$20,400.00	$216.00
0	0	0	9	0	0	0	63	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	8	0	16	0	0	0	120	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	0	0	16	0	0	0	16	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	16	0	44	0	0	0	224	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	8	0	48	0	0	0	240	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	8	0	46	0	0	0	190	0	0	0	12	0	0	0	0	16	$0.00	$0.00
0	52	0	247	0	0	0	1309	0	0	0	28	0	0	0	0	16	$189,300.00	$10,813.80
0	0	0	0	0	50	24	492	0	0	0	0	0	0	0	0	0	$12,000.00	$4,992.00
0	0	0	0	0	16	0	48	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	0	0	0	0	24	0	32	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	$13,625.00	$988.00
0	0	0	0	0	32	0	50	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	0	0	0	0	8	0	44	0	0	0	0	0	0	0	0	0	$0.00	$0.00
0	0	0	0	0	20	0	68	0	0	0	0	0	0	0	0	0	$0.00	$0.00
9	0	0	0	0	166	24	734	0	0	0	0	0	0	0	0	0	$25,625.00	$5,980.00

ATTACHMENT B
LIMITS OF TOPOGRAPHIC AND BATHYMETRIC SURVEYS

Contractor Initials AJH
Date 3/30/2021

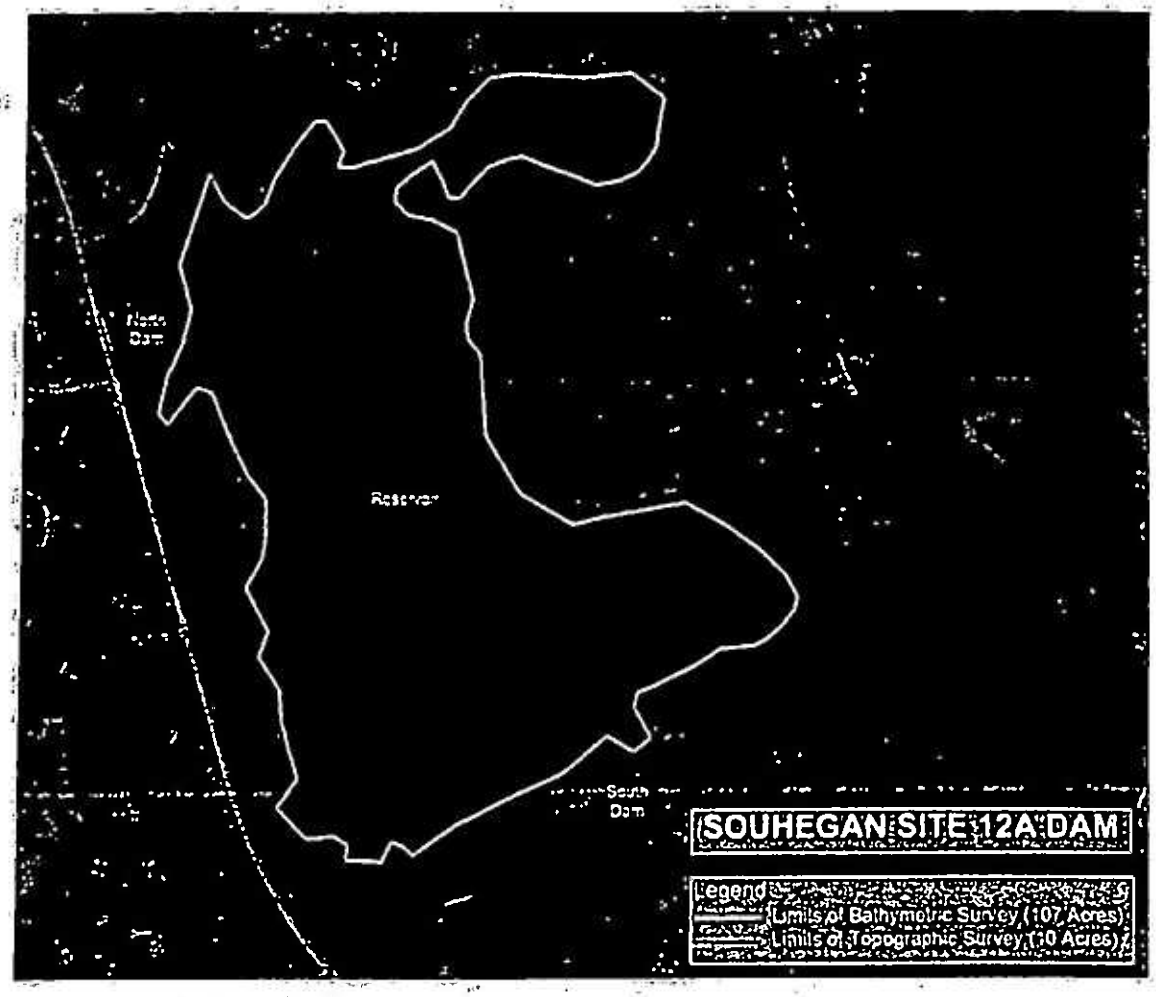


Figure 8-1. Topographic & Bathymetric Survey Limits for Site 12A

Contractor Initials AJH
Date 3/30/2021

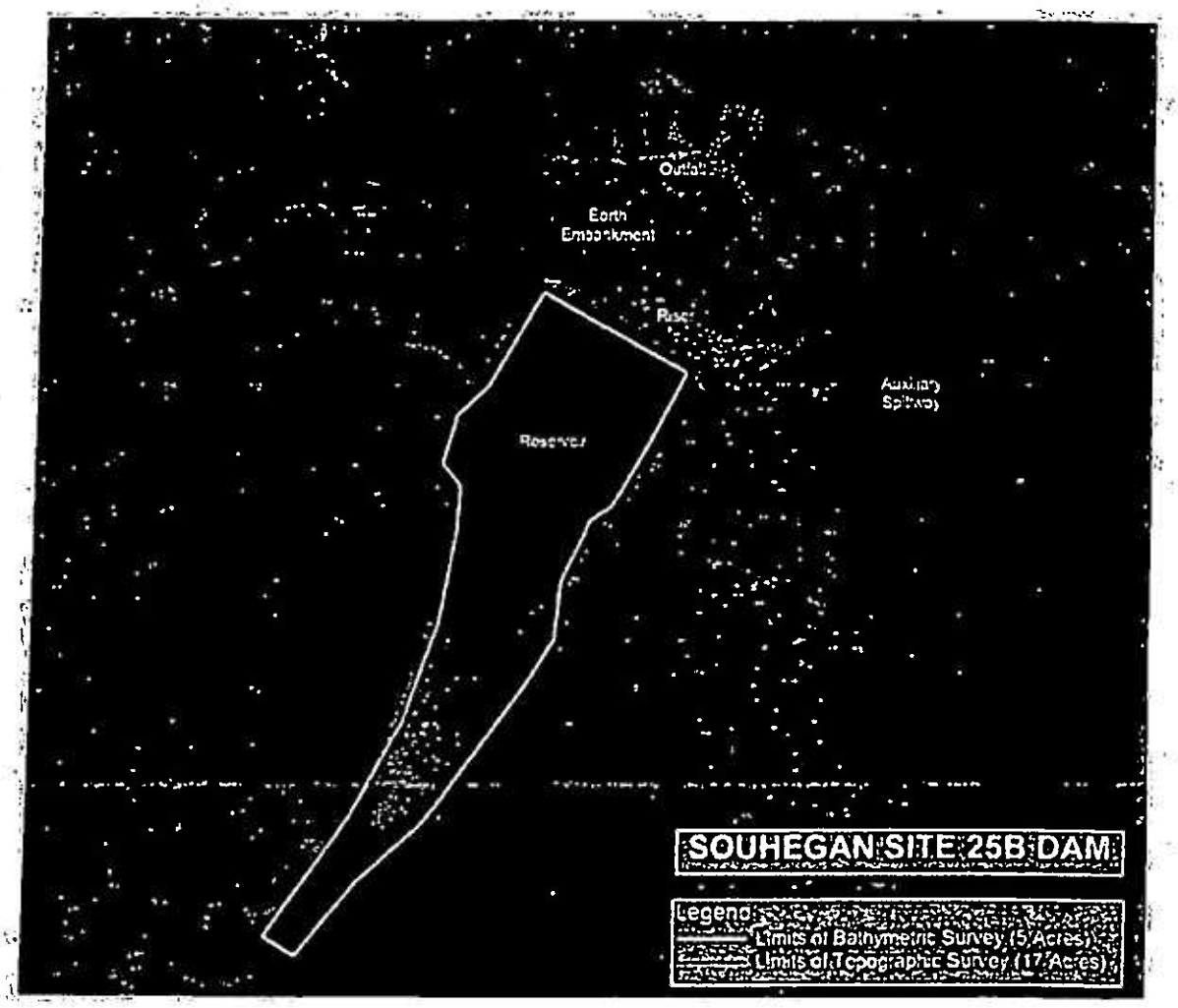


Figure B-2. Topographic & Bathymetric Survey Limits for Site 25B

Contractor Initials AJH
Date 3/30/2021

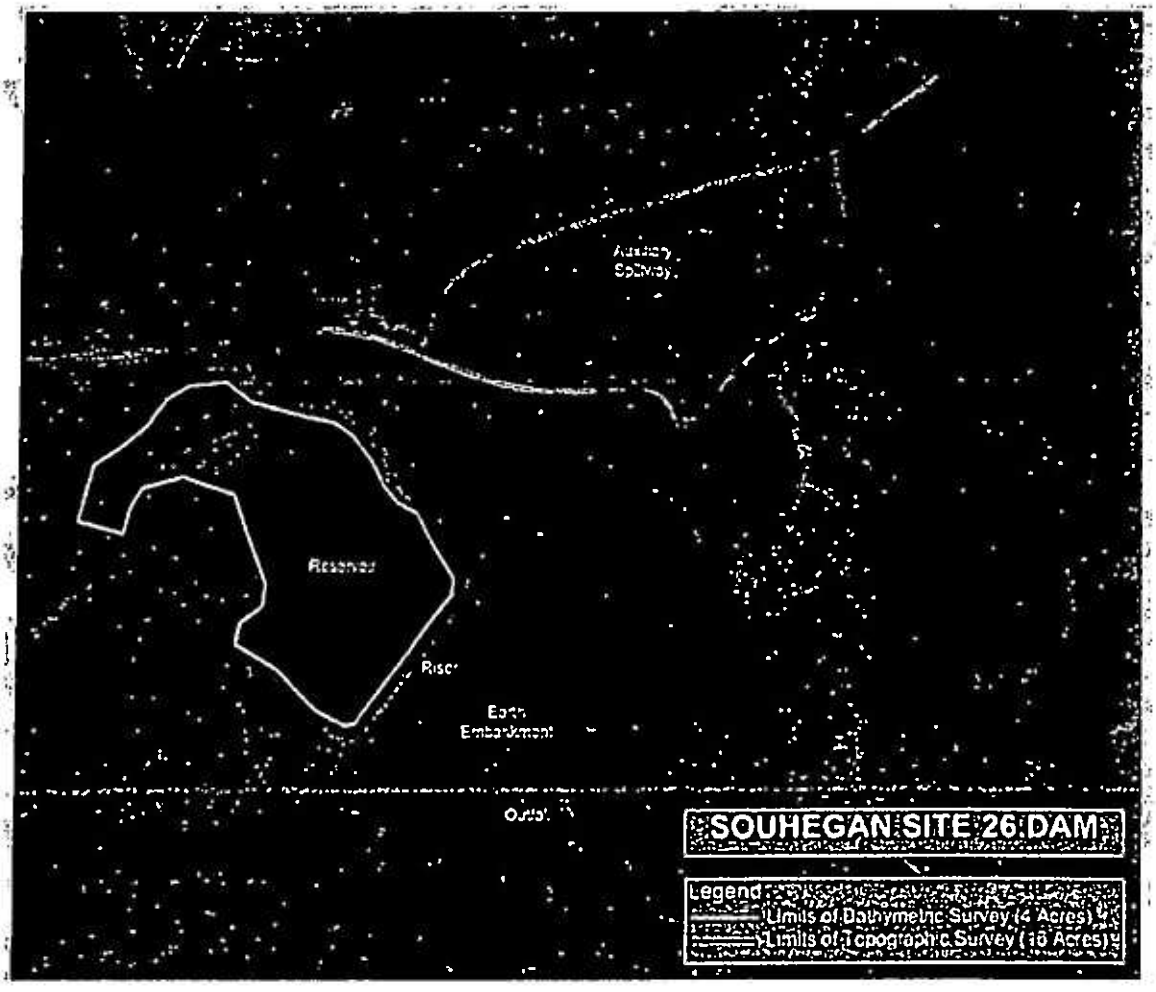


Figure B-3. Topographic & Bathymetric Survey Limits for Site 26

Contractor Initials AJH
Date 3/30/2021

ATTACHMENT C
LIMITS OF ENVIRONMENTAL FIELD INVESTIGATIONS

Contractor Initials AJH
Date 3/30/2021

FIGURE C-1
PROJECT LOCATION AND STUDY AREA MAP

SOUHEGAN RIVER SITE 12A NORTH & SOUTH DAMS

New Hampshire Department of Environmental Services

Supplemental Watershed Plan and Environmental Document for the Rehabilitation of Four Dams in Souhegan Watershed

Town of Temple, Hillsborough County, New Hampshire

Legend
Project Study Areas
Streams

1 inch = 600 feet
600 300 0 600 Feet

N W E S

Gannett Fleming

Contractor Initials AJH
Date 3/30/2021

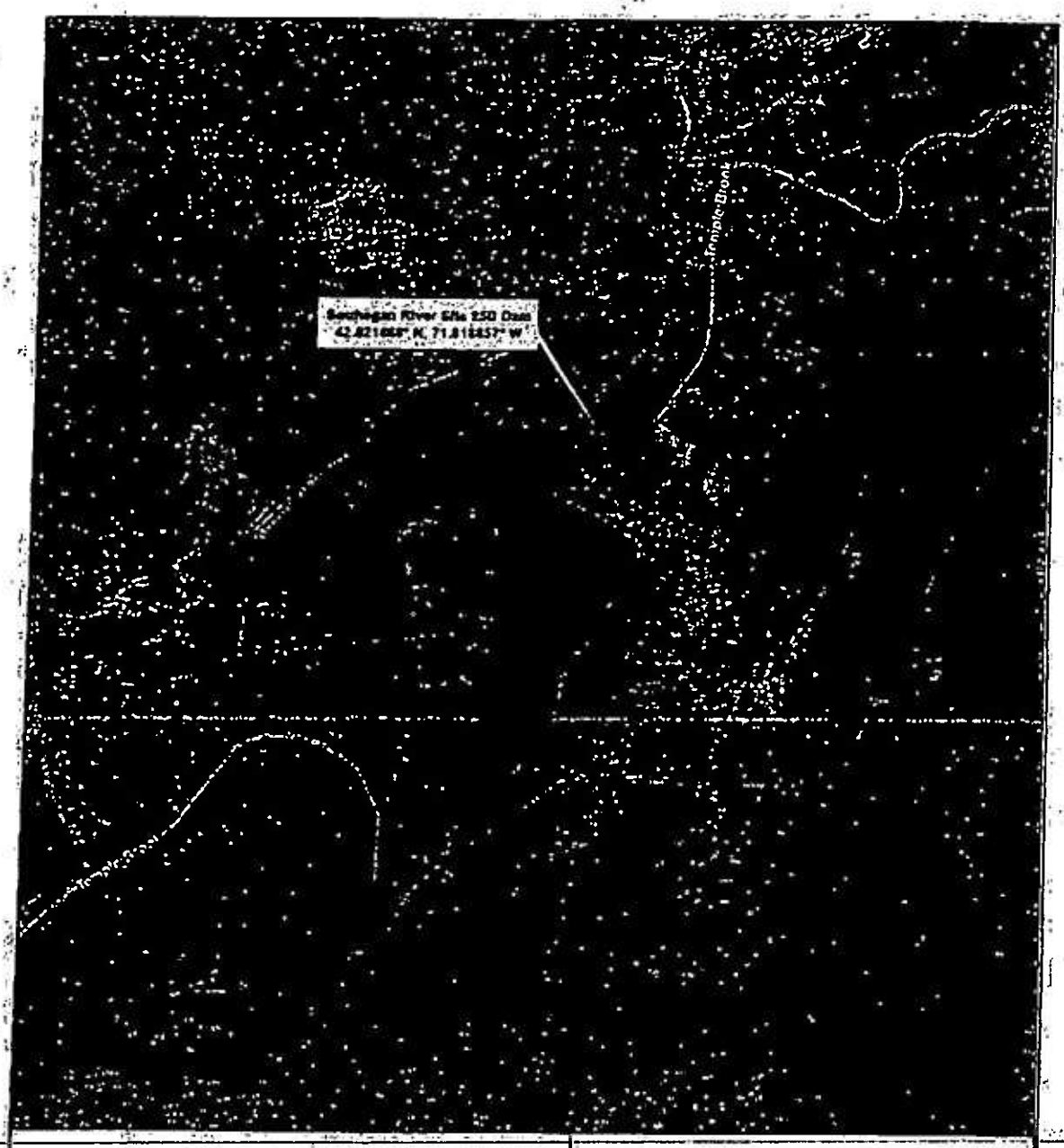


FIGURE C-2
PROJECT LOCATION AND STUDY AREA MAP

SOUHEGAN RIVER SITE 25B DAM

New Hampshire Department of Environmental Services

Supplemental Watershed Plan and Environmental Document for the Rehabilitation of Four Dams in Souhegan Watershed

Town of Temple, Hillsborough County, New Hampshire

Legend
Project Study Area
Streams

1 inch = 400 feet
400 200 0 400 Feet

Gannett Fleming

N W E S

Contractor Initials AJH
Date 3/30/2021

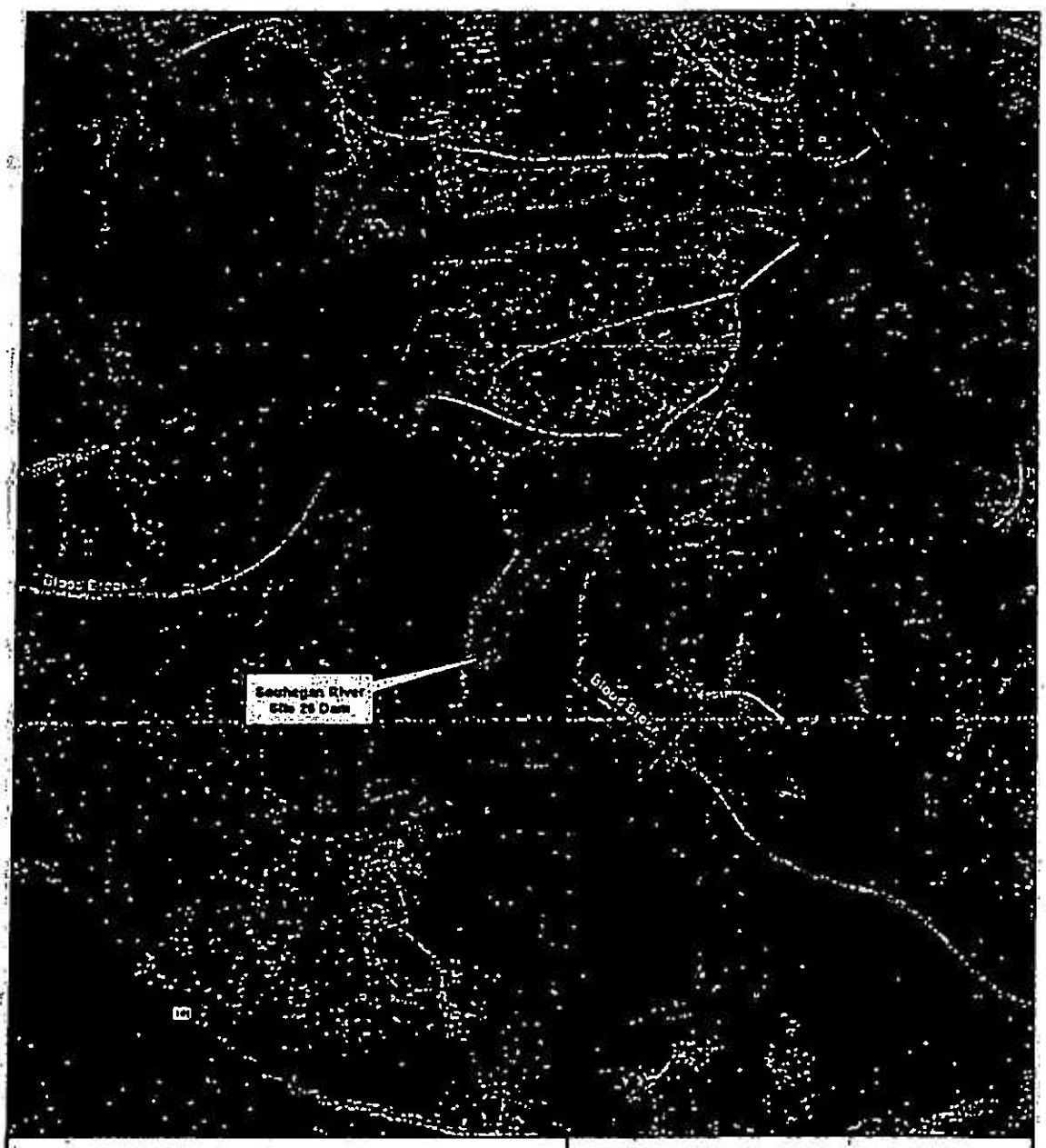


FIGURE C-3
PROJECT LOCATION AND STUDY AREA MAP

SOUHEGAN RIVER SITE 26 DAM

New Hampshire Department of Environmental Services

Supplemental Watershed Plan and Environmental Document for the Rehabilitation of Four Dams in Souhegan Watershed

Town of Temple, Hillsborough County, New Hampshire

Legend
Project Study Area
Streams

1 inch = 400 feet
400 200 0 400 Feet

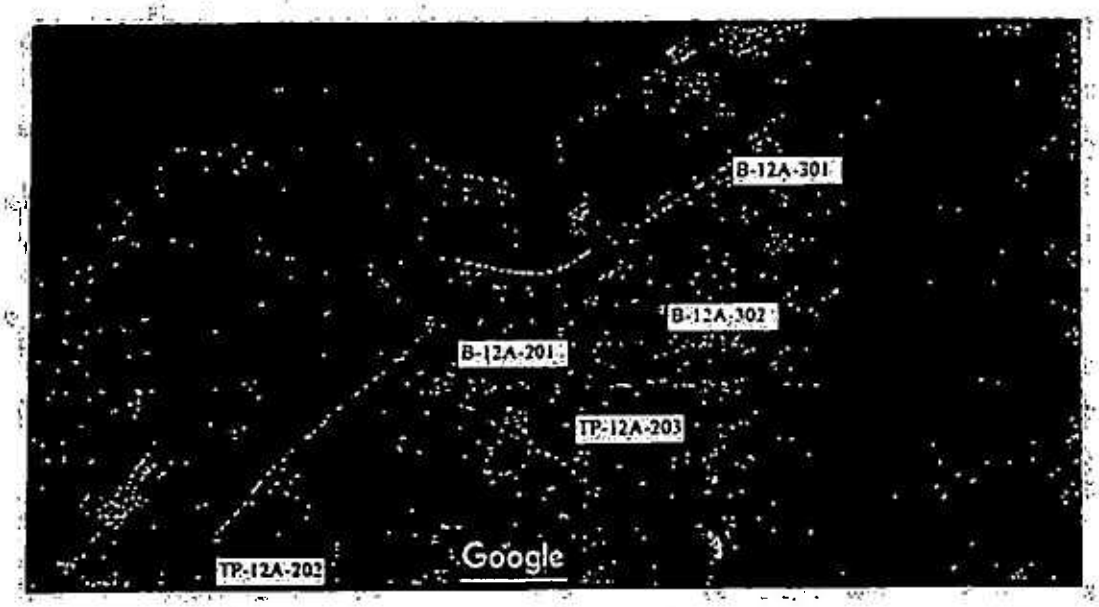
Gannett Fleming

N W E S

Contractor Initials AJH
Date 3/30/2021

ATTACHMENT D
PROPOSED GEOTECHNICAL SUBSURFACE EXPLORATION PROGRAM

Contractor Initials AJH
Date 3/30/2021



○ Boring with Piezometer(s)
○ Boring
□ Test Pit

Figure D-1. Proposed Geotechnical Subsurface Exploration Program for Site 12A South

○ Boring with Piezometer(s)
○ Boring

Figure D-2. Proposed Geotechnical Subsurface Exploration Program for Site 12A North

Contractor Initials AJH
Date 3/30/2021

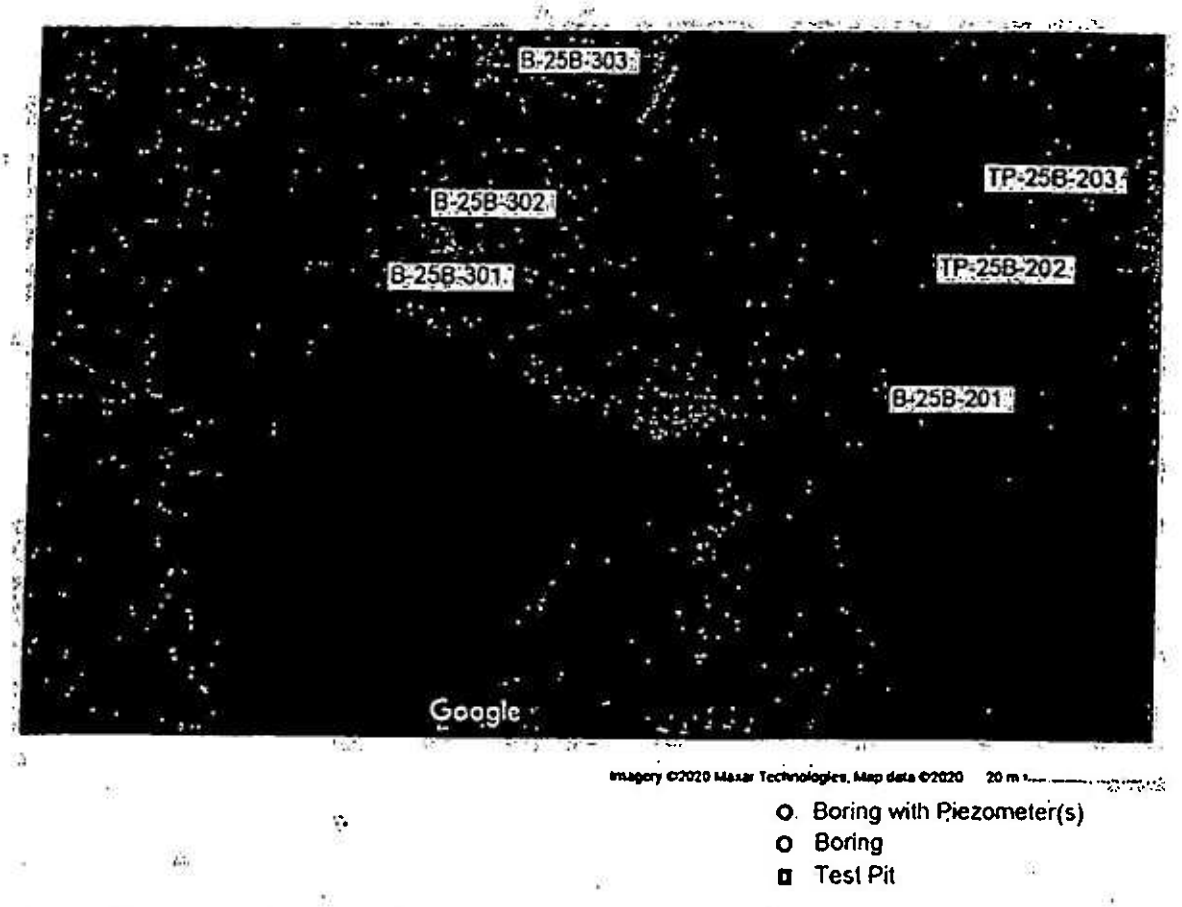
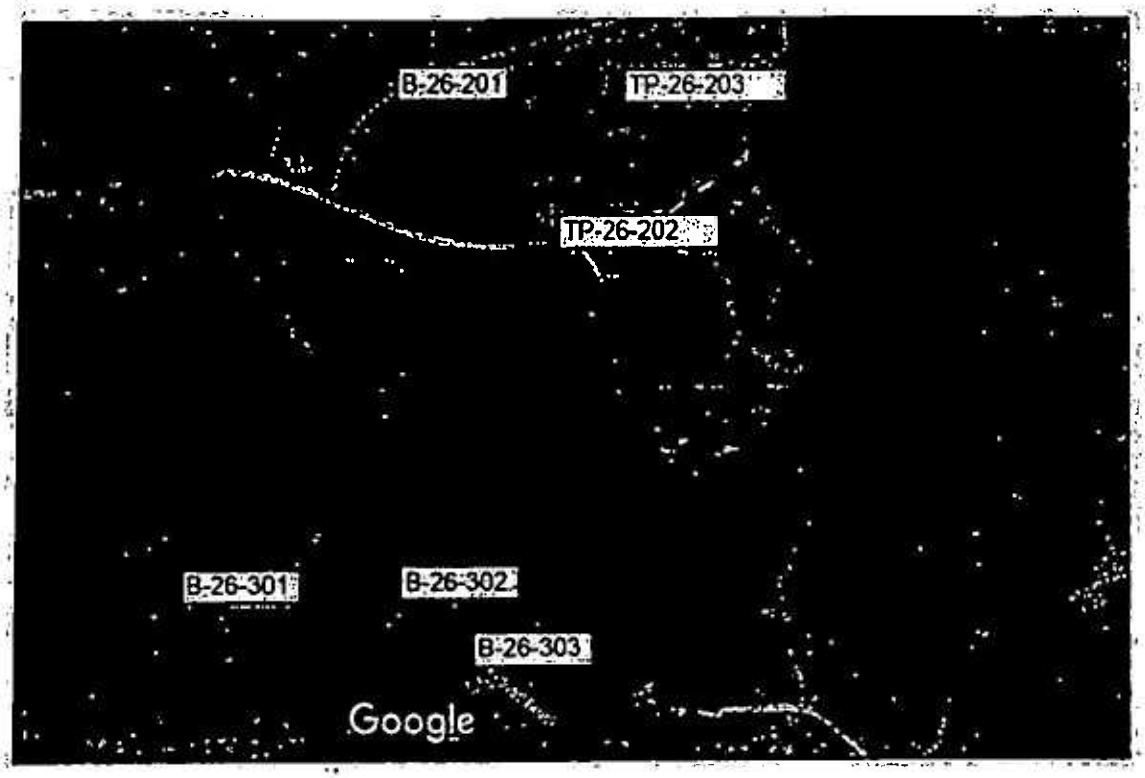


Figure D-3. Proposed Geotechnical Subsurface Exploration Program for Site 25B

Contractor Initials AJH
Date 3/30/2021



Imagery ©2020 Maxar Technologies, USDA Farm Service Agency, Map data ©2020 100 ft

- o Boring with Piezometer(s)
- o Boring
- ◘ Test Pit

Figure D-4. Proposed Geotechnical Subsurface Exploration Program for Site 26

Contractor Initials AJH
Date 3/30/2021

Table 1: Summary of Proposed Schedule of Drilling

*Most Table Entries Include 10% Contingency

March 2021

Site	Total Boring Depth (feet)	Total Test Pit Depth (feet)	Drilling: Continuous Sampling 3" Split Spoon (feet)	Drilling: Continuous Sampling 2" Split Spoon (feet)	Drilling: Triple Tube Rock Coring (feet)	Shelby Tubes (each)	Rock Permeability Testing (hours)	Grout (LF)	Piezometer Installation: Piezometers (each)	Piezometer Installation: Riser Pipe LF	Piezometer Installation: Sand LF	Piezometer Installation: Bentonite LF	Piezometer Installation: Protective Casing (each)
Site 25B	196	12	103	10	84	7	3	141	3	146	17	39	2
Site 26	292	13	184	37	72	7	3	176	3	236	17	99	2
Site 12A South	164	20	124	30	11	6	0	69	3	128	17	80	2
Site 12A North	140	0	91	0	50	7	4	87	3	139	17	37	2
Total	792	45	502	77	217	27	10	473	12	649	68	255	8

Contractor Initials AJH

Date 3/30/2021

Table 2: Site 25B Dam Proposed Drilling Schedule

Boring / Test Pit No.	Approx. Ground Elevation (feet)	Approx. Bedrock Elevation (feet)	Total Boring Depth (feet)	Total Test Pit Depth (feet)	Drilling: Continuous Sampling 3" Split Spoon (feet)	Drilling: Continuous Sampling 2" Split Spoon (feet)	Drilling: Triple Tube Rock Coring (feet)	Drilling: Shelby Tubes (each)	Rock Permeability Testing (hours)	Grout (LF)	Piezometer Installation: Piezometers (each)	Piezometer Installation: Riser Pipe LF	Piezometer Installation: Sand LF	Piezometer Installation: Bentonite LF	Piezometer Installation: Protective Casing (each)
B-25B-301	789	750	39	[illegible]	39	0	0	3	0	39	0	0	0	0	0
B-25B-302	802.5	750.5	67	[illegible]	52	0	15	2	1	27	2	114	10	30	1
B-25B-303	752	750	17	[illegible]	2	0	15	1	1	7	1	18	5	5	1
B-25B-201	802.5	793.5	55	[illegible]	0	9	46	0	0	55	0	0	0	0	0
TP-25B-202	799	792	[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TP-25B-203	796	791	[illegible]	5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Subtotal			178	12	93	9	76	6	2	128	3	132	15	35	2
Contingency 10%			18	[illegible]	10	1	8	1	1	13	0	14	2	4	0
Total	[illegible]	[illegible]	196	12	103	10	84	7	3	141	3	146	17	39	2

Notes:

1. All holes to be drilled with augers.
2. A split spoon must be driven prior to and immediately after pushing a Shelby tube
3. Competent rock is described as Rec. >95% and RQD >50%.
4. Tremie pipe will be installed upon completion of drilling to monitor 24-hour groundwater level. (Applicable to holes without piezos.)
5. Borings will be grouted by tremie pipe.
6. Grout shall be a cement/benonite slurry consisting of 8 gallons or water, 5 lbs of bentonite and 94 lb bag of Portland cement
7. Each Piezometer will be installed in 5 feet of sand with 3 feet minimum of bentonite above the sand.
8. Assumes 2 foot piezometer screen
9. Protective Casing minimum I.D. is 6 inches.

Contractor Initials AJH
Date 3/30/2021

Table 3: Site 26 Dam Proposed Drilling Schedule

March 2021

Boring / Test Pit No.	Approx. Ground Elevation (feet)	Approx. Bedrock Elevation (feet)	Total Boring Depth (feet)	Total Test Pit Depth (feet)	Drilling: Continuous Sampling 3" Split Spoon (feet)	Drilling: Continuous Sampling 2" Split Spoon (feet)	Drilling: Triple Tube Rock Coring (feet)	Drilling: Shelby Tubes (each)	Drilling: Rock Permeability Testing (hours)	Drilling: Grout (LF)	Piezometer Installation: Piezometers (each)	Piezometer Installation: Riser Pipe LF	Piezometer Installation: Sand LF	Piezometer Installation: Bentonite LF	Piezometer Installation: Protective Casing (each)
B-26-301	890	837	53		53	0	0	3	0	53	0	0	0	0	0
B-26-302	929	833	111		96	0	15	2	1	16	2	196	10	85	1
B-26-303	855	837	33		18	0	15	1	1	23	1	18	5	5	1
B-26-201	923	890	68		0	33	35	0		68					0
TP-26-202	923	920		3											
TP-26-203	919	890		10											
Subtotal			265	13	167	33	65	6	2	160	3	214	15	90	2
Contingency 10%			27		17	4	7	1	1	16	0	22	2	9	0
Total			292	13	184	37	72	7	3	176	3	236	17	99	2

Notes:

1. All holes to be drilled with augers.
2. A split spoon must be driven prior to and immediately after pushing a Shelby tube
3. Competent rock is described as Rec. >95% and RQD >50%.
4. Tremie pipe will be installed upon completion of drilling to monitor 24-hour groundwater level. (Applicable to holes without piezos.)
5. Borings will be grouted by tremie pipe.
6. Grout shall be a cement/benonite slurry consisting of 8 gallons or water, 5 lbs of bentonite and 94 lb bag of Portland cement
7. Each Piezometer will be installed in 5 feet of sand with 3 feet minimum of bentonite above the sand.
8. Assumes 2 foot piezometer screen
9. Protective Casing minimum I.D. is 6 inches.

Contractor Initials A.Jit
Date 3/30/2021

Table 4: Site 12A South Dam Proposed Drilling Schedule

Boring / Test Pit No.	Approx. Ground Elevation (feet)	Approx. Bedrock Elevation see note 10 (feet)	Total Boring Depth (feet)	Total Test Pit Depth (feet)	Drilling: Continuous Sampling 3" Split Spoon (feet)	Drilling: Continuous Sampling 2" Split Spoon (feet)	Drilling: Triple Tube Rock Coring (feet)	Shelby Tubes (each)	Rock Permeability Testing (hours)	Grout (LF)	Piezometer Installation: Piezometers (each)	Piezometer Installation: Riser Pipe LF	Piezometer Installation: Sand LF	Piezometer Installation: Bentonite LF	Piezometer Installation: Protective Casing (each)
B-12A-301	879.5	812.5	72		67		5	3	0	20	2	88	10	42	1
B-12A-302	857.5	812.5	50		45		5	2	0	15	1	28	5	30	1
B-12A-201	873		27			27		0		27					
TP-12A-202	873	NA		10											
TP-12A-203	871	NA		10											
Subtotal			149	20	112	27	10	5	0	62	3	116	15	72	2
Contingency 10%			15		12	3	1	1	0	7	0	12	2	8	0
Total			164	20	124	30	11	6	0	69	3	128	17	80	2

Notes:

1. All holes to be drilled with augers.
2. A split spoon must be driven prior to and immediately after pushing a Shelby tube
3. Competent rock is described as Rec. >95% and RQD >50%.
4. Tremie pipe will be installed upon completion of drilling to monitor 24-hour groundwater level. (Applicable to holes without piezos.)
5. Borings will be grouted by tremie pipe.
6. Grout shall be a cement/benonite slurry consisting of 8 gallons or water, 5 lbs of bentonite and 94 lb bag of Portland cement
7. Each Piezometer will be installed in 5 feet of sand with 3 feet minimum of bentonite above the sand.
8. Assumes 2 foot piezometer screen
9. Protective Casing minimum I.D. is 6 inches.
10. Assumed Approx. Rock elevation could not be confirmed using the as-built drawings (deepest boring was to El. 819 and bedrock was not encoutnered)

Contractor Initials AJH
Date 3/30/2021

Table 5: Site 12A North Dam Proposed Drilling Schedule

March 2021

Boring / Test Pit No.	Approx. Ground Elevation (feet)	Approx. Bedrock Elevation (feet)	Total Boring Depth (feet)	Total Test Pit Depth (feet)	Drilling: Continuous Sampling 3" Split Spoon (feet)	Drilling: Triple Tube Rock Coring (feet)	Shelby Tubes (each)	Rock Permeability Testing (hours)	Grout (LF)	Piezometer Installation: Piezometers (each)	Piezometer Installation: Riser Pipe LF	Piezometer Installation: Sand LF	Piezometer Installation: Bentonite LF	Piezometer Installation: Protective Casing (each)
B-12A-311	865.5	840	40.5	[illegible]	25.5	15	2	1	40.5	0	0	0	0	0
B-12A-312	879.5	840	54.5	[illegible]	39.5	15	3	1	14.5	2	93	10	30	1
B-12A-313	857	840	32	[illegible]	17	15	1	1	24	1	33	5	3	1
Subtotal	[illegible]	[illegible]	127	0	82	45	6	3	79	3	126	15	33	2
Contingency 10%			13	[illegible]	9	5	1	1	8	0	13	2	4	0
Total	[illegible]	[illegible]	140	0	91	50	7	4	87	3	139	17	37	2

Notes:

1. All holes to be drilled with augers.
2. A split spoon must be driven prior to and immediately after pushing a Shelby tube
3. Competent rock is described as Rec. >95% and RQD >50%.
4. Tremie pipe will be installed upon completion of drilling to monitor 24-hour groundwater level. (Applicable to holes without piezos.)
5. Borings will be grouted by tremie pipe.
6. Grout shall be a cement/benonite slurry consisting of 8 gallons or water, 5 lbs of bentonite and 94 lb bag of Portland cement
7. Each Piezometer will be installed in 5 feet of sand with 3 feet minimum of bentonite above the sand.
8. Assumes 2 foot piezometer screen
9. Protective Casing minimum I.D. is 6 inches.

Contractor Initials AJH
Date 3/30/2021

Table 6: Summary of Proposed Geotechnical Laboratory Testing

March 2021

Item	Unit	Estimated Quantities (subject to change)				
		Site 25B	Site 26	12A North	12A South	Total
Water content	EA	8	10	10	12	40
Sieve analysis	EA	8	10	10	12	40
Hydrometer	EA	8	10	10	12	40
Atterberg Limits	EA	4	4	5	6	19
Specific Gravity	EA	2	2	2	2	8
Consolidated, Undrained Triaxial Shear w/ pore pressures measured	(Set of 3 specimens)	2	2	2	2	8
ASW Classifications	EA	2	2	0	2	6
Rock UCS	EA	3	3	2	3	11
Crumb test	EA	4	5	5	6	20
Unit weight	EA	7	7	7	7	28
Proctor Test	EA	1	1	1	1	4

Contractor Initials AJH
Date 3/30/2021

EXHIBIT B: SCOPE OF WORK

Gannett Fleming, Inc. shall perform the tasks as described in the attached detailed proposal titled "SCOPE OF WORK AND ASSUMPTIONS, Souhegan River Watershed Plan-Environmental Document, Flood Control Dam Sites 12A North, 12A South, 25B, and 26", submitted by Gannett Fleming, Inc., dated March 2021.

Contractor Initials AJH
Date 3/30/2021

EXHIBIT C: CONTRACT PRICE AND METHOD OF PAYMENT

The total cost of the Agreement shall be a lump sum, not to exceed $974,000. All services shall be performed to the satisfaction of DES before payment is made. All payments shall be made upon receipt and approval of stated outputs and upon receipt of an associated invoice. The billing is to be done on a monthly basis as a percentage completion of tasks as per the work program detailed in Exhibit B. Table B-1 in the proposal attachment of Exhibit B provides a detailed breakdown of costs for the project. Hourly labor rates (i.e. fully loaded) are based on direct labor rates with an effective multiplier of 2.86.

DES agrees to pay the invoices as submitted by the Contractor. Invoices are subject to the approval of the Contract Officer before payment is processed.

Contractor Initials AJH
Date 3/30/2021

Gannett Fleming

Excellence Delivered As Promised

CERTIFICATION

I, LEA A. SCHMOLZE, certify that I am an Assistant Secretary of Gannett Fleming Inc., a corporation duly organized and existing under the laws of the State of Delaware, do hereby further certify as follows:

The Gannett Fleming Inc. Board of Directors, at a regularly called meeting of the Board of Directors held on June 18, 2020, at which a quorum was present, by a unanimous vote:

RESOLVED, that the following person be elected as indicated:

AMANDA J. HESS VICE PRESIDENT

In accordance with the Bylaws of the Corporation, a VICE PRESIDENT is hereby authorized to, among other things, execute bids, contracts, bonds and other documents in the name and on behalf of the Corporation, and to represent the Corporation in official matters for work and services as may be requested, and such execution of any bid, contract, bonds and other documents in the Corporation's name and on its behalf shall be valid and binding upon the Corporation.

Said resolution has not been amended or rescinded and remains in full force and effect as of this date.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Corporation this 18th day of March 2021.

LEA A. SCHMOLZE, Assistant Secretary

Gannett Fleming, Inc. CORPORATE SEAL Delaware 1969

Gannett Fleming, Inc.
P.O. Box 67100 • Harrisburg, PA 17106-7100 | 207 Senate Avenue • Camp Hill, PA 17011-2316
t: 717.763.7211 • f: 717.763.8150
www.gannettfleming.com

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 GANNETT FLEMING, INC. is a Delaware Profit Corporation registered to transact business in New Hampshire on November 09, 1992. 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: 182077

Certificate Number: 0005336405

IN TESTIMONY WHEREOF,
I hereto set my hand and cause to be affixed
the Seal of the State of New Hampshire,
this 1st day of April A.D. 2021.

William M. Gardner
Secretary of State

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 1/26/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Gunn-Mowery
P.O. Box 900
Camp Hill PA 17001-0900

CONTACT NAME: Janice Bolton
PHONE (A/C, No, Ext): 717-761-4600, Ext. 3031 FAX (A/C, No): 717-761-6159
E-MAIL ADDRESS: JBolton@GunnMowery.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: PA Manufacturers Indemnity Co.	41424
INSURER B: Indemnity Ins Co of North America	43575
INSURER C: Market American Insurance Company	28932
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
Gannett Fleming, Inc.
207 Senate Ave.
Camp Hill, PA 17011-2316

COVERAGES CERTIFICATE NUMBER: 741111919 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X Contractual Liab GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:	Y	Y	3021012907384A	2/1/2021	2/1/2022	EACH OCCURRENCE	$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
							MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 2,000,000
							PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY	Y	Y	1521012907384	2/1/2021	2/1/2022	COMBINED SINGLE LIMIT (Ea accident)	$ 2,000,000
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000	Y	Y	N110045070034	2/1/2021	2/1/2022	EACH OCCURRENCE	$ 5,000,000
							AGGREGATE	$ 5,000,000
								$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	2021012907384A	2/1/2021	2/1/2022	X PER STATUTE OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Excess Liability	Y	Y	MKLM1EUE100362	2/1/2021	2/1/2022	Each Occurrence Aggregate	5,000,000 5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Blanket Additional Insured applies per written contract.
1004-063935 As needed Engineering and Technical Support Services. The following are considered as Additional Insureds for General Liability policy as per written contract: New Hampshire Department of Environmental Services.

CERTIFICATE HOLDER

NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES
DAM BUREAU
29 HAZEN DRIVE
P.O. BOX 95
CONCORD NJ 03302-0095

CANCELLATION 90

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Janice E. Bolton

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ACORD

CERTIFICATE OF LIABILITY INSURANCE

6/1/2021

DATE (MM/DD/YYYY): 5/14/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Lockton Companies
444 W. 47th Street, Suite 900
Kansas City MO 64112-1906
(816) 960-9000

CONTACT NAME:
PHONE (A/C, No, Ext):
FAX (A/C, No):
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Lexington Insurance Company	19437
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
1361922 GANNETT FLEMING, INC.
207 SENATE AVENUE
CAMP HILL PA 17011-2316

COVERAGES + CERTIFICATE NUMBER: 15097470 REVISION NUMBER: XXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC OTHER:			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ XXXXXXX
							MED EXP (Any one person)	$ XXXXXXX
							PERSONAL & ADV INJURY	$ XXXXXXX
							GENERAL AGGREGATE	$ XXXXXXX
							PRODUCTS - COMP/OP AGG	$ XXXXXXX
								$
	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident)	$ XXXXXXX
							BODILY INJURY (Per person)	$ XXXXXXX
							BODILY INJURY (Per accident)	$ XXXXXXX
							PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$ XXXXXXX
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
							AGGREGATE	$ XXXXXXX
								$ XXXXXXX
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N/A If yes, describe under DESCRIPTION OF OPERATIONS below			NOT APPLICABLE			PER STATUTE OTH-ER	
							E.L. EACH ACCIDENT	$ XXXXXXX
							E.L. DISEASE - EA EMPLOYEE	$ XXXXXXX
							E.L. DISEASE - POLICY LIMIT	$ XXXXXXX
A	PROFESSIONAL LIABILITY	N	N	20720848	6/1/2020	6/1/2021	$10,000,000 PER CLAIM; $10,000,000 AGGREGATE	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
1004-063935 As needed Engineering and Technical Support Services.

CERTIFICATE HOLDER

15097470
NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
DAM BUREAU
P. O. BOX 95, 29 HAZEN DRIVE
CONCORD NH 03302-0095

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Jayli M Arelle

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ATTACHMENT A
Procurement Process

The procurement process for this Agreement was conducted in accordance with RSA 21-I:22. In March 2020, NHDES posted on the Department of Administrative Services and the NHDES websites a Request For Qualifications (RFQ) from professional consultants for preparation of a Supplemental Watershed Plan-Environmental Assessment (SWP-EA) to National Resource Conservation Service (NRCS) standards for four flood control dams in the Souhegan River Watershed.

The following five firms responded to the RFQ:

- Pare Corporation - Foxboro, MA
- DDK Engineering-JV - Randolph, VT
- GZA GeoEnvironmental, Inc. - Bedford, NH
- Gannett Fleming, Inc. – Harrisburg, PA
- Schnabel Engineering – Clifton Park, NY

An internal NHDES selection committee reviewed and ranked the responses to the RFQ. The committee consisted of James Gallagher, Jr., P.E., the Chief Engineer for the Dam Bureau with more than 40 years of experience with dam design, contracting, construction and safety; Daniel Mattaini, P.E., Administrator of the Operations & Maintenance Section of the Dam Bureau who has over 30 years of experience as an engineer for hydrologic and dam related projects for the U.S. Geological Survey and the Dam Bureau; Corey Clark P.E., the Administrator of the Engineering & Construction Section of the Dam Bureau who has more than 15 years of experience as a geotechnical engineer and oversees the design engineering and construction sections of the Dam Bureau; Steve Doyon, P.E., Administrator of the Dam Safety Section of the Dam Bureau, who has over 30 years of experience in dam safety and operations; and Kent R. Finemore, P.E., Assistant Chief Engineer of the Dam Bureau, who has over 25 years of experience as an engineer for civil design and construction. Three of the five firms that submitted qualifications packages demonstrated substantial experience with NRCS SWP projects. The committee established a short-list of firms to complete an in-person interview based on criteria provided by the team. The short-list of firms who received, and accepted, an invitation to submit a draft Statement of Work and take part in a virtual interview included:

- DDK Engineering-JV - Randolph, VT
- Schnabel Engineering - Clifton Park, NY
- Gannett Fleming, Inc. – Harrisburg, PA

In preparation for the interviews, the short-list firms were given a copy of Guidelines for Developing a Statement of Work for a SWP-EA for Dam Rehabilitation provided by the NRCS and details for the schedule for submittal and assessment criteria for a draft Statement of Work. Each short-list firm provided proposals in response to the Draft Task Orders to the committee prior to the interviews. DES conducted virtual interviews of each firm in August 2020.

Members of the selection committee reviewed the draft Statements of Work, conducted the interviews, and ranked the three firms. Rankings were based on:

- Proposed Approach Responding to the Requirements Specified in the Draft Statement of Work
- Professional Experience Preparing NRCS SWPs and EAs
- Professional Experience Completing Evaluation Worksheets
- Demonstrated Effectiveness Conducting Presentations/Meetings In Person and On-Line

The firm ranked first by the majority of the members of the Selection Committee would be the selected firm with whom NHDES would negotiate a final scope of work and price.

A scoring summary is provided in Table AT-1. As shown in the summary, four of five members of the Selection Committee chose Gannett Fleming, Inc., and they were selected. Following the selection, NHDES, in consultation with NRCS New Hampshire State Conservationist, commenced negotiations with Gannett Fleming, Inc., to establish a fee schedule for the Statement of Work as approved by NHDES and NRCS. The negotiated fees are fair and reasonable for the approved Statement of Work.

Table AT-1
Firm Rankings

Consultant Firm	Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Final Rank
Gannett Fleming, Inc.	1	1	1	1	2	1
Schnabel Engineering	2	3	3	3	3	3
DDK Engineering-JV	3	2	2	2	1	2