New Hampshire DOT
Department of Transportation

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

40

William Cass, P.E.
Commissioner

David Rodrigue, P.E.
Assistant Commissioner
Andre Briere, Colonel, USAF (RET)
Deputy Commissioner

Bureau of Highway Design
September 21, 2023

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

REQUESTED ACTION

1. Authorize the Department of Transportation to amend Contract #4011681 with Vanasse Hangen Brustlin, Inc., Bedford, NH, Vendor #174584, to perform final design to address transportation system needs at a new I-93 Exit 4A and along NH Route 102 in the towns of Derry and Londonderry, by extending the completion date from May 31, 2025, to October 31, 2025, effective upon Governor and Council approval. The original Agreement was approved by Governor and Council on April 7, 2021.

2. Further authorize the Department to increase the fee by $2,456,466.01 from $10,837,567.26 to $13,294,033.27, effective upon Governor and Council approval. 100% Federal Funds.

Funds to support this request are available in the following account in State FY 2024:

	FY 2024
04-096-96-963515-3054	
Consolidated Federal Aid	
046-500464	
Gen Consultants Non-Benefit	$2,456,466.01

EXPLANATION

On April 7, 2021, the Governor and Council authorized the subject agreement (Item # 18; copy of Resolution attached) in the amount of $10,837,567.26 to perform final design. The objective of the project is to address transportation system needs along NH Route 102 in the Towns of Derry and Londonderry, by constructing an alternate route which includes a new interchange, Exit 4A, on Interstate 93 (1-93), approximately one mile north of Exit 4 and a new connector road.

The purpose of this amendment is to increase the contract amount by $2,456,466.01 and additional time to perform shop drawing reviews and additional work for design efforts that were not identified in the original scope of work such as additional: BMP designs, work on the rail trail alternatives, right-of-way design alternatives to address property owner concerns (i.e., parking), geotechnical efforts, utility work, environmental analysis, section 106 consultation efforts, revised retaining wall lengths, revised intersection layouts, additional public meetings/participation, and additional project administration associated with a longer duration

project. The work is approximately 45% complete and of the original $10,837,576.26 amount for this contract there is a balance of approximately $6,042,957.80 remaining (100% Federal Funds).

This Agreement has been approved by the Attorney General as to form and execution. The Department has verified that the necessary funds are available. Copies of the fully-executed Agreement are on file at the Secretary of State's Office and the Department of Administrative Services, and subsequent to Governor and Council approval will be on file at the Department of Transportation.

It is respectfully requested that authority be given to amend this Agreement for consulting services as outlined above.

Sincerely,

William J. Cass, P.E.
Commissioner

Attachments

New Hampshire DOT
Department of Transportation

William Cass, P.E.
Commissioner

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

David Rodrigue, P.E.
Assistant Commissioner
Andre Briere, Colonel, USAF (RET)
Deputy Commissioner

Bureau of Highway Design
Room 200
Tel: (603) 271-1592
Fax: (603) 271-7025

DERRY-LONDONDERRY
IM-0931(201)
13065 SERIES
Fee and Time Amendment
(Agreement Dated March 15, 2021)

September 15, 2023

Peter Clary, PE
Vanasse Hangen Brustlin, Inc.
2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532

Dear Mr. Clary:

This letter amends Article I, and Article II in the above-referenced Agreement.

Article I, Section K (Date of Completion) is being amended to extend the date of completion. The original and amended dates are as follows:

Original Completion Date	May 31, 2025
By this letter, amended to	October 31, 2025

Article II, Section A (General Fee) is being amended to increase the total amount payable under this Agreement by $2,456,466.01 as payment for additional services by Vanasse Hangen Brustlin, Inc. for additional effort associated with the Amendment #1 ($128,612.55) and Amendment #2 ($2,327,853.46). Amendment #1 includes construction services, such as shop drawing reviews, for the Derry-Londonderry 13065A project. Amendment #2 applies to the 13065, 13065B and 13065C projects and includes work for design efforts that were not identified in the original scope of work such as additional: BMP designs, work on the rail trail alternatives, right-of-way design alternatives to address property owner concerns (i.e., parking), geotechnical efforts, utility work, environmental analysis, section 106 consultation efforts, revised retaining wall lengths, revised intersection layouts, additional public meetings/participation, and additional project administration associated with a longer duration project.

The portion of Article II, Section A (General Fee) specifying the dates for the fee and manhour estimates is being amended to read as follows:

"The total amount to be paid under this AGREEMENT shall not exceed $13,294,033.27, the sum of the amounts shown in Article II, Section B (which amount is based on the CONSULTANT'S fee and manhour estimates of March 15, 2021; September 2, 2022 and July 19, 2023)..."

Furthermore, this fee increase revises the amounts in Article II, Section B (Summary of Fees) as follows:

- Increases the estimated amount of (1) actual CONSULTANT'S salaries, costs applicable to actual salaries by $644,800.70, from $1,610,752.24 to $2,255,552.94.

- Increases the estimated amount of (2) actual CONSULTANT'S salary burden (indirect) and administrative costs attributable to overhead by $1,042,578.25, from $2,604,425.30 to $3,647,003.55.

- Increases the amount of (3) fixed fee to cover profit and non-reimbursed costs by $168,737.90, from $421,517.75 to $590,255.65.

- Does not change the estimated amount of (4) reimbursement for direct, out-of-pocket expenses, which remains at $435,574.00.

- Increases the amount of (5) reimbursement for actual cost of subconsultant firms by $600,349.17, from $5,765,297.97 to $6,365,647.14.

  McFarland-Johnson, Inc. from $972,587.90 to $1,517,385.55
  GZA GeoEnvironmental from $730,637.76 to $786,189.28
  KCI Technologies remains $330,234.63
  O.R. Colan Associates remains $3,731,837.68

Also, the first sentence in paragraph 1 of Article II, Section C (Limitation of Costs) is being amended to read as follows:

"Costs incurred against this AGREEMENT shall not exceed $13,294,033.27, unless otherwise authorized."

The above additional work revises the total amount payable under this Agreement, which increases by $2,456,466.01, from $10,837,567.26 to $13,294,033.27 by this amendment.

This amendment becomes effective upon approval by the Governor and Council.

Sincerely,

Wendy A. Johnson, P.E.
Project Manager

Approved: William J. Oldenburg, P.E.
Director of Project Development

We concur in the above Amendment.

VANASSE HANGEN BRUSTLIN, INC.

By: _____

Title: Chief Operating Officer

AGREEMENT AMENDMENT

DERRY-LONDONDERRY, IM-0931(201), 13065

VANASSE HANGEN BRUSTLIN, INC.

IN WITNESS WHEREOF the parties hereto have executed this amended AGREEMENT on the day and year first above written.

Consultant

WITNESS TO THE CONSULTANT

By: _____

_____

Dated: 9/18/2023

CONSULTANT

By: _____

Chief Operating Officer (Title)

Dated: 9/18/2023

Department of Transportation

WITNESS TO THE STATE OF NEW HAMPSHIRE

By: _____

_____

Dated: 10/2/23

THE STATE OF NEW HAMPSHIRE

By: _____

Director of Project Development

for DOT COMMISSIONER

Dated: 10/2/23

Attorney General

This is to certify that the above-amended AGREEMENT has been reviewed by this office and is approved as to form and execution.

Dated: 10/4/2023

By: Samuel Burgess

Assistant Attorney General

Secretary of State

This is to certify that the GOVERNOR AND COUNCIL on _____ approved this amended AGREEMENT.

Dated: _____

Attest:

By: _____

Secretary of State

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 VANASSE HANGEN BRUSTLIN, INC. is a Massachusetts Profit Corporation registered to transact business in New Hampshire on December 11, 1986. 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: 104275

Certificate Number: 0006322625

IN TESTIMONY WHEREOF,

I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire, this 18th day of September A.D. 2023.

David M. Scanlan

Secretary of State

VANASSE HANGEN BRUSTLIN, INC.

Certificate of Vote

DERRY-LONDONDERRY
IM-0931(201)
13065 SERIES

I, Robert M. Dubinsky, hereby certify that I am the duly elected Clerk of Vanasse Hangen Brustlin, Inc.

I hereby certify the following is a true copy of Vote taken at a meeting of the Board of Directors of the Corporation, duly called and held on January 25, 2023, at which a quorum of the Board was present and voting.

VOTED:

That William R. Ashworth II is Chief Operating Officer for Vanasse Hangen Brustlin, Inc. and is hereby authorized to execute professional services contracts, proposals and amendments in the name and behalf of Vanasse Hangen Brustlin, Inc., and affix its corporate seal thereto; and such execution of any professional service contract, proposal or amendment in this company's name on its behalf under seal of the company, shall be valid and binding upon this company.

I hereby certify that said vote has not been amended or repealed and remains in full force and effect as of this date, and that William R. Ashworth II is Chief Operating Officer for this Corporation.

ATTEST:

Date: 9/18/2023

Clerk

(Corporate Seal)

VANASSE HANGEN BRUSTLIN, INC.
1986

VANAS-1 OP ID: SW

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 09/18/2023

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
781-245-5400
Poole Professional B&B of MA
107 Audubon Rd, #2, Ste 305
Wakefield, MA 01880
Christopher A. Poole

CONTACT NAME: Christopher A. Poole
PHONE (A/C, No, Ext): 781-245-5400 FAX (A/C, No): 781-245-5463
E-MAIL ADDRESS: cpoole@poolepl.com

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	National Fire Ins Co Hartford	20478
INSURER B:	Transportation Insurance Co.	20494
INSURER C:	The Continental Ins Co.	35289
INSURER D:	Continental Casualty Company	20443
INSURER E:	XL Specialty Insurance Company	37885
INSURER F:		

INSURED
Vanasse Hangen Brustlin, Inc.
VHB Eng Surveying Landscape Arch & Geology PC
VHB Eng NC PC; Vanasse Hangen Brustlin LLC
VHB Metro DC LLC; Brinkerhoff Env Services Inc.
Survey Eng Resources LLC
PO Box 9151 Watertown, MA 02471

COVERAGES CERTIFICATE NUMBER: 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 X Blanket Waiver GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	X	X	6018141932 NO DEDUCTIBLE INCL XCU COVERAGE	05/01/2023	05/01/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG ValPapers	$ 1,000,000 $ 1,000,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $ 1,500,000
B	AUTOMOBILE LIABILITY X ANY AUTO X OWNED AUTOS ONLY X SCHEDULED AUTOS X HIRED AUTOS ONLY X NON-OWNED AUTOS ONLY	X	X	6018203376	05/01/2023	05/01/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) Medical Expense	$ 1,000,000 $ $ $ $ 5,000
C	X UMBRELLA LIAB X OCCUR X EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000	X	X	6018203362 FOLLOWS FORM	05/01/2023	05/01/2024	EACH OCCURRENCE AGGREGATE	$ 14,000,000 $ 14,000,000 $
D B	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	X	6017185236 7033851844 - CALIFORNIA	05/01/2023 05/01/2023	05/01/2024 05/01/2024	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
E	Arch/Eng Prof Liab Incl Pollution			DPR5015789 FULL PRIOR ACTS	07/19/2023	07/19/2024	Per Claim 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)

Project:
Derry-Londonderry, IM-0931(201), 13065
Deductible: $50,000
See Attached

CERTIFICATE HOLDER NHDOT-1

New Hampshire Department
of Transportation
John O. Morton Building
7 Hazen Drive, P.O. Box 483
Concord, NH 03302

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

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Project:
Derry-Londonderry, IM-0931(201), 13065

New Hampshire Department of Transportation is included as additional insured per written contract under the general, auto, and umbrella liability policies subject to same terms and conditions. Coverage is primary and non-contributory. Waiver of subrogation applies to indicated policies in favor of additional insured. 30 day notice of cancellation except 10 day notice for non-payment of premium.

New Hampshire DOT
Department of Transportation

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

William Cass, P.E.
Commissioner

David Rodrigue, P.E.
Assistant Commissioner

Andre Briere
Deputy Commissioner

DERRY-LONDONDERRY
13065 Series
IM-0931(201)
(I-93 Exit 4A Interchange and Connecting Roadway)

Bureau of Highway Design
Room 200
Tel: (603) 271-2171
Fax: (603) 271-7025

August 9, 2023
Revised: September 7, 2023

Mr. Patrick Bauer
Division Administrator
Federal Highway Administration – NH Division
J.C. Cleveland Federal Building
53 Pleasant Street, Suite 2200
Concord, NH 03301

ATTN: Yamilee Volcy, Engineering and Operations Team Leader

RE: VHB Task Assignment – Request for Approval
I-93 Exit 4A Amendment #2

Dear Mr. Bauer:

This correspondence requests FHWA approval of a scope and fee proposal submitted by Vanasse Hangen Brustlin Inc. (VHB), dated July 19, 2023, identified as Amendment #2: Additional Scope of Work, and the overall costs associated with the contract modification. **The final proposal includes 17,475 hours and a total cost of $2,327,853.46 including direct expenses and fixed fee.** It is the intent to complete this work through the Derry-Londonderry series of projects; this amendment utilizes the cost plus agreement style in the current agreement. As a part of this amendment, the contract completion date is also extended from May 31, 2025 to October 31, 2025.

The final proposal includes work efforts by individual projects:

Project	Hours	Direct Labor	Fee (with Overhead and Fixed Fee)
13065A	0	$0	$0
13065B	6,038	$273,291.50	$822,929.01
13065C	10,252	$472,658.97	$1,362,544.79
13065	1,185	$49,461.60	$142,379.67
Total	17,475	$795,412.07	$2,327,853.46

VHB submitted an individual scope of work for design efforts that were not identified in the original scope of work such as additional: BMP designs, work on the rail trail alternatives, right-of-way design alternatives to address property owner concerns (i.e., parking), geotechnical efforts, utility work, environmental analysis, section 106 consultation efforts, revised retaining wall lengths, revised intersection layouts, additional public meetings/participation, and additional project administration associated with a longer duration project.

The Bureaus of Highway Design, Bridge Design, Right-of-Way, Materials & Research, and Environment all reviewed and revised the scope presented by VHB. Once final revisions to the scope were made, the Department completed an Independent Government Estimate (IGE) for the work efforts. The NHDOT IGE was 11,289 hours at $1,391,540.46 compared to the proposal by VHB of 19,045 hours at $2,562,127.27. The major differences in effort were related to the 13065B and 13065C projects. Through negotiations it was determined the Department underestimated many items. These negotiations resulted in the final proposal dated July 19, 2023 consisting of 17,475 hours and $2,327,853.46 including direct expenses and fixed fee.

The following provides a summary of the tasks and negotiations by project:

1. **13065A:**

   There are no changes to the 13065A project as part of this amendment.

2. **13065B:**

   a. Section C: Geotechnical (Hours = 224)

      i. The original scope did not include stream bed sampling that is required for permitting and scour analysis at the Shield's Brook Bridge.

      ii. Through geotechnical investigations it was determined that the original scope estimated 10% of the project would need to account for bedrock, the percentage of the project with bedrock is actually closer to 70%. This added bedrock required additional test borings, additional cross section; rock sections are at 25 foot intervals versus non-rock sections that are at 50 foot intervals, meaning there are twice as many sections needed for 60% more of the project than in the original scope of work. This effort requires a 3D model be created of the rock surface, similar to an existing ground model.

      iii. Additional BMPs are needed to meet water quality standards. This requires design work, additional borings, monitoring wells and groundwater sampling.

      iv. Negotiation: The Department IGE assumed the modeling and drafting work for the additional cross sections would be completed by GZA, however, the IGE inadvertently accounted for these hours in both Section C and Section K.1, however all work will be performed by VHB and is accounted for in section K.1. The remaining hours VHB proposed are reasonable for the GZA portion of the effort; no additional negotiations were required.

   b. Section D: Environmental (Hours = 689)

i. Environmental Commitment Tracking is required on a monthly basis to ensure that all commitments are met; this produces a final synopsis of all commitments, and how they were addressed. As the project duration will be extended, and some additional commitments have been added such as newly identified threatened and endangered species, and PFAS, additional time is needed for this effort.

ii. Through environmental investigations it was determined that a Groundwater Discharge Permit Application will be required based on the presence of previously unidentified areas of contamination, including PFAS.

iii. Due to changes in the Shield's Brook rail trail alternative additional efforts are needed for a NEPA written reevaluation including added cultural and natural resource agency meetings and coordination.

iv. Negotiation:

1. Additional work effort was originally anticipated for another acoustic survey for the federally listed Northern Long Eared Bat. During the scope and fee negotiations additional coordination with the US Fish and Wildlife Services indicated this would not be necessary as the original acoustic study was within the necessary time frames and would not need to be redone, therefore this effort was removed from the fee.

2. NHDOT underestimated the effort required for the Groundwater Discharge Permit. During the negotiation, it became clear that there would be additional efforts related to PFAS and dewatering guidelines than were anticipated at the time of the IGE.

3. For the NEPA reevaluation NHDOT presumed the existing graphics would be updated/revised for the evaluation, reducing the required effort, whereas MJ anticipated new graphics would need to be created, it was concluded to use the existing graphics with modifications.

c. Section F: Final Design (Hours = 1,782)

i. Added work captured under this section includes:

1. A necessary change at the intersection of High Street and Folsom Road to make the fourth leg of the intersection (to the north) a Town Road versus a direct entry into a private parcel.

2. A proposed lane use change on Franklin Street Extension to accommodate access into a private drive, this includes adjustments to the traffic analysis.

3. A necessary redesign near Parcel 80 due to changed conditions. This parcel has been redeveloped since the original scope. This changes lane use and drive configurations in this area.

4. This work includes the rail trail optimization, added BMPs with the associated design work, and plan changes as a result of the property owner ROW negotiations (i.e., revised parking lot payouts to minimize the loss of parking/use of the sites).

5. Additional team meetings based the contract extension.

ii. Negotiation: The IGE and VHB's estimate were similar, therefore VHB's hours were used.

d. Section G: Utilities (Hours = 75)

i. This task under the original scope was to be performed by VHB, however, MJ should be the consultant to perform these tasks. There is also added effort for this work as the original scope required a 2D model, but this needs to be a 3D model.

ii. Negotiation: MJ overestimated this activity.

e. Section H: Public Participation (Hours = 108)

i. This task includes time for added meeting and added staff to attend future meetings. The public meetings for this project have been well attended and more staff from different disciplines (i.e., Bridge, Environment, ROW) would assist in providing timely responses and better public involvement.

ii. Negotiation: VHB overestimated the efforts required for the additional staff and the preparation for the meetings as the preparation, aside from preparing multiple plan viewing stations remains constant, therefore their hours were reduced.

f. Section J: Work Schedules and Progress Reports (Hours = 312)

i. This work includes time needed as a result of the contract extension.

ii. Negotiation: The Department underestimate the amount of effort needed to be expended by VHB for subconsultant coordination.

g. Section K.1: Roadway Design Submissions (Hours = 2,032)

i. This added work is needed to accommodate the drafting/modeling work based on design revisions associated with Sections C through Section J above.

ii. Other added work captured under this section includes additional efforts associated with the rail trail optimization, added BMPs with the associated design work, and plan changes as a result of the property owner ROW negotiations (i.e., revised parking lot payouts to minimize the loss of parking/use of the sites). This also adds additional team meetings based on the extension of the contract end date.

iii. Negotiation: The IGE and VHB's estimate were similar, therefore VHB's hours were used.

h. Section K.2: Bridge Design Submissions (Hours = 816)

i. This section outlines added work for the Shield's Brook Bridge including updates to vertical clearance and geometry. This section also considers all needed changes to the retaining wall designs.

ii. Negotiation: The Department underestimated this task and the level of effort required to make the final adjustments to the Shield's Brook Bridge and the retaining walls along with subconsultant management. VHB also over estimated time to perform some tasks, including QC.

i. Overall: 13065B Summary (Hours = 6,038)

NHDOT IGE		VHB Proposal		Negotiated Fee	
Hours	Fee	Hours	Fee	Hours	Fee
5,513	$730,102.10	6,935	$942,963.18	6,038	$822,929.01

3. **13065C:**

a. Section C: Geotechnical (Hours = 186)

i. The original scope did not include stream bed sampling that is required for permitting and scour analysis at the Tributary E Bridge.

ii. Through geotechnical investigations it was determined that the original scope estimated 10% of the project would need to account for bedrock, the percentage of the project with bedrock is actually closer to 40%. This added bedrock required additional test borings, additional cross section; rock sections are at 25 foot intervals versus non-rock sections that are at 50 foot intervals, meaning there are twice as many sections needed for 30% more of the project than in the original scope of work. This effort requires a 3D model be created of the rock surface, similar to an existing ground model.

iii. Additional BMPs are needed to meet water quality standards. This requires design work, additional borings, monitoring wells and groundwater sampling.

iv. Negotiation: The Department IGE assumed the modeling and drafting work for the additional cross sections would be completed by GZA, however, the IGE inadvertently accounted for these hours in both Section C and Section K.1, however all work will be performed by VHB and is accounted for in section K.1. The remaining hours VHB proposed are reasonable for the GZA portion of the effort; no additional negotiations were required.

b. Section D: Environmental (Hours = 694)

i. Additional work effort is needed for an acoustic survey for the federally listed Northern Long Eared Bat.

ii. Environmental Commitment Tracking is required on a monthly basis to ensure that all commitments are met; this produces a final synopsis of all commitments, and how they were addressed. As the project duration will be extended, and some additional commitments have been added such as newly identified threatened and endangered species, and PFAS, additional time is needed for this effort.

iii. Through environmental investigations it was determined that a Groundwater Discharge Permit Application will be required based on the presence of previously unidentified areas of contamination, including PFAS.

iv. Negotiation: NHDOT underestimated the effort required for the Groundwater Discharge Permit. During scope and fee negotiation, it became clear that there would be additional efforts related to PFAS and dewatering guidelines than were anticipated at the time of the IGE.

c. Section F: Final Design (Hours = 716)

i. Added work captured under this section includes additional efforts associated with:

1. Optimizing the vertical and horizontal alignment to balance cuts and fills.

2. Additional team meetings based on the extension of the contract end date.

ii. Negotiation: The Department underestimated the level of effort needed to optimize the horizontal and vertical alignments.

d. Section G: Utilities (Hours = 336)

i. This task is to create 3D models for the proposed water and sewer that the Town is constructing privately prior to the 13065C project construction, these lines are under active design through the Town's Engineer. This information will also need to be added to the cross sections.

ii. Negotiation: The Department and VHB discussed the effort and met with the Town. Although the Department underestimated this activity, VHB also overestimated this activity.

e. Section H: Public Participation (Hours = 120)

i. This task includes time for added meeting and added staff to attend future meetings. The public meetings for this project have been well attended and more staff from different disciplines (i.e., Bridge, Environment, ROW) would assist in providing timely responses to aid in better public involvement.

ii. Negotiation: The Department underestimated this task.

f. Section J: Work Schedules and Progress Reports (Hours = 252)

i. This work includes time needed as a result of the contract extension.

ii. Negotiation: The Department underestimate the amount of effort needed to be expended by VHB for sub consultant coordination.

g. Section K.1: Roadway Design Submissions (Hours = 7,536)

i. This added work is needed to accommodate the drafting/modeling work based on design revisions associated with Sections C through Section J above.

ii. Other added work captured under this section includes additional efforts associated with added BMPs with the associated design work, and plan changes as a result of the property owner ROW negotiations (i.e., revised parking lot payouts to minimize the loss of parking/use of the sites).

iii. Negotiation: The Department underestimated the level of work anticipated by VHB, some of the larger differences are associated with CADD work, cross section development, submission preparation, and submission QC.

h. Section K.2: Bridge Design Submissions (Hours = 412)

i. This section outlines added work for the Tributary E Bridge including accommodating the Town of Derry's proposed water line.

ii. Negotiation: The Department underestimated the level of effort required to accommodate the water line including any geotechnical coordination.

i. Overall: 13065C Summary (Hours = 10,252)

NHDOT IGE		VHB Proposal		Negotiated Fee	
Hours	Fee	Hours	Fee	Hours	Fee
4,491	$526,590.18	10,925	$1,476,784.42	10,252	$1,362,544.79

4. 13065:

a. Section E: ROW Boundary Survey (Hours = 1,185)

i. Some parcels require additional historical research to validate the title and record deeds.

ii. There are several properties that require full property surveys as the proposed impacts (acquisitions) run along a property line.

iii. Negotiation: The IGE and VHB's estimate were similar, therefore VHB's hours were used.

A full list of the NHDOT IGE, VHB Fee and Negotiated Fee is enclosed.

The work effort contained in the proposal is commensurate with the **$2,327,853.46** total cost detailed. **With your approval, I will issue a notice to proceed for this work.**

Please contact me at 603-271-3909 or via e-mail at wendy.a.johnson@dot.nh.gov if you have any questions or need any additional information to approve this assignment.

Sincerely,

Wendy A. Johnson, P.E.
Project Manager

WAJ/waj

Attachments: NHDOT IGE dated June 30, 2023
VHB Fee dated July 5, 2023
Negotiated Fee dated July 19, 2023
VHB Final Scope dated July 19, 2023
NHDOT and VHB fee Comparison Including Negotiated Totals

s:\highway-design\(towns)\derry\13065\agreement\part b\amendment #2\fhwa rfa_vhb amend 2rev_090723.docx

U.S. Department of Transportation
Federal Highway Administration

New Hampshire Division

53 Pleasant Street, Suite 2200
Concord, NH 03301
(603) 228-0417

September 16, 2022

In Reply Refer To:
HDA-NH

Ms. Victoria F. Sheehan
Commissioner
New Hampshire Department of Transportation
7 Hazen Drive
Concord, NH 03302-0483

Attn: Ms. Wendy Johnson

Subject: VHB Task Assignment – Request for Approval
I-93 Exit 4A Construction Services
DERRY-LONDONDERRY
13065A-A005(073)

Dear Commissioner Sheehan:

FHWA is in receipt of your letter requesting approval of a scope and fee proposal for Vanasse Hangen Brustin Inc. (VHB), for activities identified as Construction Services. VHB scope of work for construction services include shop drawings reviews, construction support services, overhead sign structures designs and continued website services.

We have reviewed the scope and fee proposal documentation and hereby approve your request. We note that this is a fixed fee agreement including direct expenses and the total cost should not exceed $128,612.55 for 1050 hours except by approved amendment.

Please contact me at 603-410-4842 or Yamilee.Volcy@dot.gov with any questions.

Sincerely,

YAMILEE P VOLCY Digitally signed by YAMILEE P VOLCY
Date: 2022.09.16 13:34:07 -04'00'

Yamilée P. Volcy
Engineering & Operations Supervisor

MAR24'21 AM10:49 RCVD 18 Jam

New Hampshire DOT Department of Transportation

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

Bureau of Highway Design
March 22, 2021

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

REQUESTED ACTION

Authorize the Department of Transportation to enter into an Agreement with Vanasse Hangen Brustlin, Inc., of Bedford, NH, Vendor #174584, for an amount not to exceed $10,837,567.26, to perform final design to address transportation system needs along NH Route 102 in the Towns of Derry and Londonderry, by constructing an alternate route which includes a new interchange, Exit 4A, on Interstate 93 (I-93) approximately one mile north of Exit 4 and a new connector road, effective upon Governor and Council approval through May 31, 2025. 100% Federal Funds.

Funds to support this request are available in the following account in State FY 2021 and is contingent upon the availability and continued appropriation of funds in State FY 2022, State FY 2023 and State FY 2024, with the ability to adjust encumbrances between State Fiscal Years through the Budget Office if needed and justified:

04-096-96-963515-3054	FY 2021	FY 2022	FY 2023	FY 2024
Consolidated Federal Aid				
046-500464				
Gen Consultants Non-Benefit	$7,753,567.26	$2,084,000.00	$500,000.00	$500,000.00

EXPLANATION

The Department now requires professional engineering, environmental, and right-of-way services to acquire all remaining ROW needs and complete final design. NH Route 102 is a congested area serving a vital role in the economy of this region, the purpose of the project is to reduce congestion and improve safety along NH Route 102 from I-93 easterly through downtown Derry and to promote economic vitality in the Derry-Londonderry area. This project is currently included in the State's Ten-Year Transportation Improvement Plan (Derry-Londonderry 13065).

Preliminary design services were performed by Fuss and O'Neill, Inc. of Manchester, NH (formerly known as CLD Consulting Engineers, Inc.) and were paid by the Towns of Derry and Londonderry. The preliminary design phase selected a preferred alternative, developed an approved Environmental Impact Statement, and received approval for layout by a Special Committee Public Hearing.

The consultant selection process employed by the Department for this qualifications-based contract is in accordance with RSAs 21-I:22, 21-I:22-c, 21-I:22-d, 228:4 and 228:5-a, and all applicable Federal laws and the Department's "Policies and Procedures for Consultant Contract Procurement, Management, and Administration" dated August 25, 2017. The Department's Consultant Selection Committee is a standing committee that meets regularly to administer the process and make determinations. The Committee is comprised of the Assistant Director of Project Development (Chair), the Chief Project Manager, the Administrators of the Bureaus of Highway Design, Bridge Design, Environment, and Materials and Research, and the Municipal Highways Engineer.

The consultant selection process for this qualifications-based contract was initiated through a request for Statements of Qualifications as part of the design-build services for Derry-Londonderry, Interstate 93 Exit 4A. The assignment was listed as a "Project Soliciting for Interest" on the Department's website on January 16, 2019 asking for Requests for Qualifications from qualified firms. The submitted statements of the firms for qualifications and were ultimately deemed qualified to submit proposals on the project through their experience, staffing and resources. In an effort to expedite the delivery of construction projects, the three design teams involved with the Design-Build proposal submissions were shortlisted by the Consultant Selection Committee on November 19, 2020 for this final design contract for consideration and approval by the Assistant Commissioner. Upon receipt of that approval, the three shortlisted firms were notified on November 25, 2020 through a technical "Request for Proposal" (RFP).

The three (3) short-listed firms are as follows:

Consultant Firm	***Office Location***
AECOM Technical Services, Inc.	**Manchester, NH**
Hoyle, Tanner & Associates, Inc.	**Manchester, NH**
Vanasse Hangen Brustlin, Inc.	**Bedford, NH**

Committee members individually rated the firms on January 14, 2021 using a written ballot to score each firm on the basis of comprehension of the assignment, clarity of the proposal, capacity to perform in a timely manner, quality and experience of the project manager and the team, previous performance, and overall suitability for the assignment. (A compilation of the completed individual rating ballots and the ranking summary form is attached.) The individual rankings were then totaled to provide an overall ranking of the three firms, and the Committee's ranking was submitted to the Assistant Commissioner for consideration and approval. Upon receipt of that approval, the short listed firms were notified of the results and the highest-ranking firm was asked to submit a fee proposal for negotiations.

The firm of Vanasse Hangen Brustlin, Inc. is recommended for this contract. This firm has an excellent reputation and has demonstrated their capability to perform the required services. Background information on this firm is attached.

Vanasse Hangen Brustlin, Inc. has agreed to furnish the professional engineering services for an amount not to exceed $10,837,567.26. This is a reasonable fee and is commensurate with the complexity of the project and the scope of the engineering and technical services to be furnished. This project funding is 100% Federal Funds.

This Agreement (Derry-Londonderry 13065) has been approved by the Attorney General as to form and execution. The Department has verified that the necessary funds are available. Copies of the fully-executed Agreement are on file at the Secretary of State's Office and the Department of Administrative

Services, and subsequent to Governor and Council approval will be on file at the Department of Transportation.

It is respectfully requested that authority be given to enter into an Agreement for consulting services as outlined above.

Sincerely,

Victoria F. Sheehan
Commissioner

Attachments

V2

								TOTAL	RANK
AECOM Technical Services, Inc.	2	3	2	2	3	2	3	17	3
Hoyle Tanner & Associates, Inc.	3	2	3	3	2	3	2	18	2
VHB, Inc.	1	1	1	1	1	1	1	7	1

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations		Scoring of Firms			
Derry-Londonderry 13065 Exit 4A		WEIGHT	AECOM Technical Services, Inc.	Hoyle Tanner & Associates, Inc.	VHB, Inc.
Comprehension of the Assignment		20%	18%	17%	19%
Clarity of the Proposal		20%	18%	17%	19%
Capacity to Perform in a Timely Manner		20%	18%	18%	17%
Quality & Experience of Project Manager/Team		20%	17%	16%	18%
Previous Performance		10%	9%	9%	9%
Overall Suitability for the Assignment		10%	9%	9%	9%
Total:		100%	89%	87%	91%

Ranking of Firms: 1. VHB, Inc.
2. AECOM Technical Services, Inc.
3. Hoyle Tanner & Associates, Inc.

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations		Scoring of Firms							
Derry-Londonderry 13065		WEIGHT	AECOM	HTA	VHB	[illegible]	[illegible]	[illegible]	
Comprehension of the Assignment		20%	17%	19%	19%				
Clarity of the Proposal		20%	16%	16%	19%				
Capacity to Perform in a Timely Manner		20%	17%	17%	18%				
Quality & Experience of Project Manager/Team		20%	17%	16%	16%				
Previous Performance		10%	7%	9%	9%				
Overall Suitability for the Assignment		10%	7%	9%	9%				
Total		100%	81%	87%	92%	0%	0%	0%	0%

Ranking of Firms: 1. VHB
2. HTA
3. AECOM
4.
5.
6.
7.
8.
9.

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations		Scoring of Firms			
Derry-Londonderry 13065 Exit 4A		WEIGHT	AECOM Technical Services, Inc.	Hoyle Tanner & Associates, Inc.	VHB, Inc.
Comprehension of the Assignment		20%	20%	20%	20%
Clarity of the Proposal		20%	17%	19%	19%
Capacity to Perform in a Timely Manner		20%	18%	19%	19%
Quality & Experience of Project Manager/Team		20%	16%	15%	18%
Previous Performance		10%	7%	8%	9%
Overall Suitability for the Assignment		10%	8%	9%	10%
Total:		100%	86%	90%	95%

Ranking of Firms: 1. VHB, Inc.
2. Hoyle Tanner & Associates, Inc.
3. AECOM Technical Services, Inc.

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations		Scoring of Firms			
Derry-Londonderry 13065 Exit 4A		WEIGHT	AECOM Technical Services, Inc.	Hoyle Tanner & Associates, Inc.	VHB, Inc.
Comprehension of the Assignment		20%	18%	18%	19%
Clarity of the Proposal		20%	17%	18%	19%
Capacity to Perform in a Timely Manner		20%	16%	16%	18%
Quality & Experience of Project Manager/Team		20%	17%	16%	17%
Previous Performance		10%	8%	8%	9%
Overall Suitability for the Assignment		10%	9%	8%	8%
Total:		100%	85%	84%	90%

Ranking of Firms: 1. VHB, Inc.
2. AECOM Technical Services, Inc.
3. Hoyle Tanner & Associates, Inc.

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations		Scoring of Firms			
Derry-Londonderry 13065 Exit 4A		WEIGHT	AECOM Technical Services, Inc.	Hoyle Tanner & Associates, Inc.	VHB, Inc.
Comprehension of the Assignment		20%	17%	12%	18%
Clarity of the Proposal		20%	15%	15%	18%
Capacity to Perform in a Timely Manner		20%	15%	15%	18%
Quality & Experience of Project Manager/Team		20%	15%	15%	15%
Previous Performance		10%	7%	7%	7%
Overall Suitability for the Assignment		10%	8%	7%	8%
Total:		100%	77%	71%	84%

Ranking of Firms: 1. VHB, Inc.
2. AECOM Technical Services, Inc.
3. Hoyle Tanner & Associates, Inc.

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations		Scoring of Firms			
Derry-Londonderry 13065 Exit 4A		WEIGHT	AECOM Technical Services, Inc.	Hoyle Tanner & Associates, Inc.	VHB, Inc.
Comprehension of the Assignment		20%	18%	17%	20%
Clarity of the Proposal		20%	17%	16%	19%
Capacity to Perform in a Timely Manner		20%	17%	16%	19%
Quality & Experience of Project Manager/Team		20%	17%	16%	19%
Previous Performance		10%	9%	8%	10%
Overall Suitability for the Assignment		10%	9%	8%	10%
Total:		100%	87%	81%	97%

Ranking of Firms: 1. VHB, Inc.
2. AECOM Technical Services, Inc.
3. Hoyle Tanner & Associates, Inc.

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations		Scoring of Firms			
Derry-Londonderry 13065 Exit 4A		[illegible]	AECOM Technical Services, Inc.	Hoyle Tanner & Associates, Inc.	VHB, Inc.
Comprehension of the Assignment		20%	16%	17%	18%
Clarity of the Proposal		20%	14%	16%	18%
Capacity to Perform in a Timely Manner		20%	17%	18%	16%
Quality & Experience of Project Manager/Team		20%	15%	16%	20%
Previous Performance		10%	8%	7%	9%
Overall Suitability for the Assignment		10%	9%	8%	8%
Total:		100%	79%	82%	89%

Ranking of Firms: 1. VHB, Inc.
2. Hoyle Tanner & Associates, Inc.
3. AECOM Technical Services, Inc.

TABLE OF CONTENTS

PREAMBLE

ARTICLE I - DESCRIPTION OF PROFESSIONAL SERVICES TO BE RENDERED 2
- A. LOCATION AND DESCRIPTION OF PROJECT 2
- B. SCOPE OF WORK (GENERAL) 5
- C. SCOPE OF WORK (GEOTECHNICAL) 5
- D. SCOPE OF WORK (ENVIRONMENTAL) 8
- E. SCOPE OF WORK (ROW) 25
- F. SCOPE OF WORK (FINAL DESIGN) 36
- G. SCOPE OF WORK (UTILITIES) 43
- H. SCOPE OF WORK (PUBLIC PARTICIPATION) 44
- I. MATERIAL FURNISHED BY THE DEPARTMENT OF TRANSPORTATION 45
- J. WORK SCHEDULE AND PROGRESS REPORTS 47
- K. SUBMISSION OF REPORTS, PLANS AND DOCUMENTS 47
  - 1. ROADWAY DESIGN SUBMISSIONS 49
    - a. PFAS Handling Determination - Roadway 49
    - b. Right-of-Way Updates 50
    - c. Preliminary Plan Submission 50
    - d. Slope and Drain Plans - Roadway 52
    - e. Wetland Impact Plans 53
    - f. Utility Plans 54
    - g. Preliminary PS&E - Roadway 54
    - h. PS&E - Roadway 55
  - 2. BRIDGE DESIGN SUBMISSIONS 56
    - a. TS&L - Bridge 57
    - b. Boring Layout - Bridge 57
    - c. Preliminary Plans - Bridge 57
    - d. Preliminary PS&E - Bridge 58
    - e. PS&E - Bridge 58
  - 3. DELIVERABLES 58
- L. SCOPE OF WORK (CONSTRUCTION SUPPORT SERVICES) 61
- M. DATE OF COMPLETION 61

ARTICLE II - COST PLUS FIXED FEE COMPENSATION OF CONSULTANT 62
- A. GENERAL FEE 62
- B. LIMITATION OF COSTS 63
- C. PAYMENTS 64

ARTICLE III - GENERAL PROVISIONS 66
- A. HEARINGS, ETC. 66
- B. CONTRACT PROPOSALS 66

ARTICLE IV - STANDARD PROVISIONS 67
- A. STANDARD SPECIFICATIONS 67
- B. REVIEW BY STATE AND FHWA - CONFERENCES - INSPECTIONS 67

C. EXTENT OF CONTRACT 67
1. Contingent Nature of Agreement 67
2. Termination 67
D. REVISIONS TO REPORTS, PLANS OR DOCUMENTS 68
E. ADDITIONAL SERVICES 69
F. OWNERSHIP OF PLANS 69
G. SUBLETTING 70
H. GENERAL COMPLIANCE WITH LAWS, ETC. 70
I. BROKERAGE 70
J. CONTRACTUAL RELATIONS 71
1. Independent Contractor 71
2. Claims and Indemnification 71
3. Insurance 71
4. No Third-Party Rights 72
5. Construction of Agreement 72
K. AGREEMENT MODIFICATION 72
L. EXTENSION OF COMPLETION DATE(S) 73
M. TITLE VI (NONDISCRIMINATION OF FEDERALLY-ASSISTED PROGRAMS) COMPLIANCE 73
N. DISADVANTAGED BUSINESS ENTERPRISE POLICY AGREEMENT REQUIREMENTS 75
1. Policy 75
2. Disadvantaged Business Enterprise (DBE) Obligation 75
3. Sanctions for Non-Compliance 75
O. DOCUMENTATION 75
P. CLEAN AIR AND WATER ACTS 75

ATTACHMENTS

ATTACHMENT A – SPECIAL CONTRACT PROVISIONS FOR COVID-19
1. CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS, ETC.
2. CONSULTANT DISCLOSURE STATEMENT FOR PREPARATION OF ENVIRONMENTAL EVALUATIONS
3. CERTIFICATION OF CONSULTANT/SUBCONSULTANT
4. CERTIFICATION OF STATE DEPARTMENT OF TRANSPORTATION
5. CERTIFICATION FOR FEDERAL-AID CONTRACTS EXCEEDING $100,000 IN FEDERAL FUNDS
6. CERTIFICATION OF GOOD STANDING
7. CERTIFICATION OF INSURANCE
8. CERTIFICATION OF AUTHORITY / VOTE
9. SIGNATURE PAGE

DERRY-LONDONDERRY
IM-0931(201)
13065

AGREEMENT
FOR PROFESSIONAL SERVICES

PREAMBLE

THIS AGREEMENT made this 19th day of March in the year 2021 by and between the STATE OF NEW HAMPSHIRE, hereinafter referred to as the STATE, acting by and through its COMMISSIONER OF THE DEPARTMENT OF TRANSPORTATION, hereinafter referred to as the COMMISSIONER, acting under Chapter 228 of the Revised Statutes Annotated, and Vanasse Hangen Brustlin, Inc., with principal place of business at 101 Walnut Street, in the City of Watertown, Commonwealth of Massachusetts, and New Hampshire Regional Office at 2 Bedford Farms Drive, Suite 200, in the City of Bedford, State of New Hampshire, hereinafter referred to as the CONSULTANT, witnesses that:

The Department of Transportation, State of New Hampshire, hereinafter referred to as the DEPARTMENT, proposes to perform final design to address transportation system needs by means of a new interchange, Exit 4A, on I-93 in the Town of Londonderry, located approximately one-mile north of Exit 4 in Londonderry. Approximately a one-mile long connector road will be designed on a new alignment to tie into the existing roadway network at Folsom Road, in the Town of Derry. Roadway widening and intersection improvements along Folsom Road and Tsienneto Road will be required from the intersection of North High Street to NH Route 102. The proposed project corridor extends from I-93 easterly approximately 3.2 miles to the intersection of Tsienneto Road and NH Route 102/Chester Road. This alternate route will aim to promote economic vitality in the Derry-Londonderry area, reduce congestion and improve safety along Tsienneto Road and NH Route 102 from I-93 easterly through downtown Derry to the intersection of Tsienneto Road and NH Route 102/Chester Road.

The DEPARTMENT requires professional services for development of final design, recordable Right-of-Way Layout plan set, right-of-way acquisitions, contract plans, specifications, special provisions, and estimates of quantities and costs, as well as supporting environmental permitting and public involvement assistance. These services are outlined in this AGREEMENT and a fee proposal dated March 11, 2021.

This AGREEMENT becomes effective upon approval by the Governor and Executive Council.

ARTICLE I

ARTICLE I - DESCRIPTION OF PROFESSIONAL SERVICES TO BE RENDERED

NOW THEREFORE, in consideration of the undertakings of the parties hereinafter set forth, the DEPARTMENT hereby engages the CONSULTANT, who agrees to render services to the DEPARTMENT which shall include, but not be restricted to, the following items, in accordance with conditions and terms hereinafter set forth:

A. LOCATION AND DESCRIPTION OF PROJECT

This project involves construction of a new interchange on I-93 in the Town of Londonderry, approximately one-mile north of Exit 4. The new interchange would only provide access to and from the east side of I-93. A connector roadway approximately 1-mile in length would be built on new alignment from the new interchange to Folsom Road, near the intersection of North High Street and Madden Road, in the Town of Derry. Folsom Road, and subsequently Tsienneto Road, would be upgraded, and the intersections would be improved. In total, the proposed project corridor from I-93 easterly to the intersection of Tsienneto Road and NH Route 102/Chester Road would be approximately 3.2 miles. NH Route 102 work will extend approximately 700 feet southwest of, and 1500 feet northeast of Tsienneto Road intersection. Intersecting roadways along the connector road, Folsom Road, Tsienneto Road, and NH Route 102 will require improvement and the Base Technical Concept (BTC, dated July 14, 2020) depicts preliminary limits of work. In addition to advancing the preliminary design completed (by OTHERS) to develop the BTC, the CONSULTANT shall evaluate Alternative Technical Concepts (ATCs) from the Design-Build proposal process for possible adoption into the final design. The following concepts, developed by the three DB designers (VHB, AECOM, and HTA) will be included in the evaluation of the final design:

- VHB ATC #1 – Diverging Diamond Interchange (DDI)
- VHB ATC #2 – Interchange / Connector Road Profile Revisions
- VHB ATC #4 – Interchange Bridge Substructure (Crash barrier in lieu of pile supported abutments)
- VHB ATC #5 – Rail Trail Underpass at Shields Brook
- VHB ATC #6 – Shields Brook Bridge Pre-Stressed Box-Beam
- VHB ATC #9 – Diamond Interchange Intersection Improvements (if DDI is not progressed)
- VHB ATC #10 – Rail Trail Vertical Clearance
- VHB ATC #11 / AECOM ATC #1– Reclaimed Asphalt Base
- VHB ATC #14/15 – Shields Brook Micro-piles/Drilled Shafts
- AECOM ATC #2 – Revised Intersection Lane Configuration at Route 102/Tsienneto Road
- HTA ATC #2 – Rail Trail Tunnel Skew and Profile Change (if VHB ATC #5 is not progressed)
- HTA ATC #4 – Shields Brook Skew/Superstructure/Layout Revisions
- HTA ATC #6 – Folsom Rd. Single EB Turn Lane at NH Route 28

ARTICLE I

The CONSULTANT will include in its ATC evaluation the DEPARTMENT's ATC acceptance conditions provided to each DB consultant in memo's dated August 5, 2020.

The CONSULTANT will be responsible for review of constructability and phasing for project breakout; however, the project is anticipated to be broken into three design and construction contracts with approximate limits as follows:

- Contract 13065A: Interchange at Exit 4A of I-93, noise barriers, and the Connector Road easterly to the Londonderry/Derry town line.
- Contract 13065B: Londonderry/Derry Town Line extending easterly, approximately 800' east of the Tsienneto Road and Pinkerton Street intersection.
- Contract 13065C: Vicinity of the Tsienneto Road and Pinkerton Street intersection up to, and inclusive of, NH Route 102.

Some of the existing highway features and conditions to be aware of include the following:

- The Limited Access Right-of-Way (LAROW) layout along I-93 will be as shown on the BTC and will extend down the new connector road approximately 500 feet to where it will transition to Controlled Access Right-of-Way (CAROW). CAROW will continue along the connector road until the tie into the existing Town of Derry Right-of-Way (ROW). Four points of access opposite each other (2 on the north side and 2 on the south side) forming four-way intersections are granted through the CAROW. The four access point locations have not been determined and will require coordination with the Town of Londonderry to determine the status of land use approval for the adjacent property. The DEPARTMENT will be responsible for coordination with the Town of Londonderry, and all design associated with these access points will be developed and provided by OTHERS.
- Special considerations for the drainage design shall take into account MS4 compliance.
- A design was provided for the Trolley Car Lane Stream relocation work included in the Wetland Permit RFMI response dated 4-30-2020. This design required hydraulic modeling and a Net Balance of Flood Storage analysis that uses B1670 (existing basin requiring modification for use in interchange treatment), B1012 (new basin for 4A), and the expansion of an existing basin on Seasons Lane to obtain additional flood storage lost by the encroachment of the I-93 Northbound (NB) on ramp and noise barrier embankments. Further refinements in this area may require additional analysis. These designs shall be required to meet permitting requirements further detailed in this scope of work such as those established by the US Army Corp of Engineers, the New Hampshire Water Division/Shoreland Program, and the New Hampshire Wetlands Bureau.
- The CONSULTANT shall be responsible for the design of all bridges (Interchange over I-93,

Connector Road over the Rail Trail, Folsom Road over Shields Brook, and Tsienneto Road over Tributary E).

- Permanent Intelligent Transportation Systems (ITS) technologies will be designed by the CONSULTANT including incorporation of the ITS design into the plan set (cross sections and plan details) and items and quantities into the appropriate summary tables.
- Temporary (Smart Work Zones) ITS technologies will be designed by the CONSULTANT for inclusion into the plan set including items and quantities in the appropriate summary tables.
- Developing traffic control plan sequencing recommendations will be an important service provided by the CONSULTANT that will need to be in near final format as part of the Slope and Drain submission.
- The CONSULTANT shall be responsible for completing the Traffic Management Plan (TMP) and updates to the TMP as the project progresses.
- The CONSULTANT shall be responsible to adhere to all existing environmental permits.
- The CONSULTANT shall be responsible to perform traffic designs including pavement markings, sign design, overhead sign design, signal design and the Construction signs and warning device package (including tables). Traffic designs shall include any Special Provisions and Prosecution of Work narrative associated with the design.
- The CONSULTANT shall be responsible to design the location, estimated footing size and type, and evaluate the constructability of overhead sign structures.
- The CONSULTANT shall review existing geotechnical information performed by the DEPARTMENT and the CONSULTANT shall be responsible for any additional needed geotechnical investigations and geotechnical services including the pavement structure design. Average Daily Load values shall be provided by the DEPARTMENT to supplement pavement structure calculations.
- The CONSULTANT shall be responsible for Subsurface Utility Engineering (SUE) to an appropriate level to adequately ascertain the location and size of impacted utilities. The DEPARTMENT anticipates performing any needed utility coordination. The design of relocations for impacted sewer and water facilities in the Town of Derry shall be performed by OTHERS. The utility locations and relocations shall be incorporated into the Contract documents by the CONSULTANT.
- The CONSULTANT shall be responsible to provide abstracting (title work) services, acquisitions services and recordable Right-of-Way (ROW) Layout Plans for Contracts B and C. The ROW plans and acquisitions for Contract A will be completed by OTHERS. Further description is in Section E.

- The CONSULTANT shall provide website and public involvement services for Contracts A, B and C.

The interchange work will require the evaluation of new and existing features along I-93 to include, but not be limited to, guardrail, I-93 pavement thickness and profile, traffic signs, and existing stormwater treatment area access. Final design of noise barriers along I-93 will be required. The overall project includes four new bridges: Interchange over I-93, Connector Road over the Rail Trail, Folsom Road over Shields Brook, and Tsienneto Road over Tributary E.

B. SCOPE OF WORK (GENERAL)

The goal of this project is to complete the final design and ROW acquisitions for the preferred alternative and to create contract plans that are consistent with the completed Public Hearing Plan with updates, the new plan is to be referred to as the Base Technical Concept (BTC) dated July 14, 2020 and Final Environmental Impact Statement and Record of Decision. The CONSULTANT will incorporate/analyze the Alternative Technical Concepts (ATCs) as described in Section A – Location and Description of Project.

The CONSULTANT will be required to complete some environmental documentation, as identified below and will be required to apply for any environmental permit amendments, as required, as detailed in this scope of work.

The design shall consider temporary and permanent erosion control measures and Best Management Practices (BMPs) to minimize environmental impacts consistent with current New Hampshire Department of Environmental Services (NHDES) regulations and guidelines contained in the NH Stormwater Manual and the EPA's Construction General Permit (CGP) for stormwater discharges associated with construction activity and in the Small Municipal Separate Storm Sewer System (MS4) Permit.

The design shall consider temporary and permanent traffic control measures including highway signs, and traffic design (pavement markings, signs, and signals).

The CONSULTANT shall incorporate into the design plans any DEPARTMENT provided materials and designs including, but not limited to, lighting and utility relocations.

The CONSULTANT is responsible for preparing all meeting minutes for which they are in attendance.

C. SCOPE OF WORK (GEOTECHNICAL)

The DEPARTMENT has completed partial geotechnical investigations for the project. The CONSULTANT will be required to review the DEPARTMENT provided information and the CONSULTANT will be responsible for any additional geotechnical investigations and related operations for the project including

borings, test pits and pavement cores.

The CONSULTANTS boring program shall supplement the previously completed geotechnical investigations so combined they include, at a minimum:

1. Roadways - A minimum of one test boring per 200 feet shall be performed at uninvestigated portions each major roadway. (Except Tsienneto Road, see specific requirements below)
2. Bridge Substructures- A minimum of two test borings per substructure, one at each end, performed at each uninvestigated substructure.
3. Minor structures or bridge like structures - At buried box culvert structures with wingwalls, a minimum of one test boring shall be performed at each uninvestigated wingwall location
4. Retaining Walls - A minimum of two test borings shall be performed at each uninvestigated retaining wall location.
5. Rock Sections - Sections of rock, primarily along the proposed Connector Road, will be further investigated using geophysical data collection in combination with existing boring information.
6. Signal Mast Arm Foundations – A minimum of one test boring shall be performed at each uninvestigated signal mast arm location.
7. Closed Circuit Television Pole Foundation – A minimum of one test boring shall be performed at each uninvestigated closed-circuit television pole foundation.
8. Soundwall Foundations - A minimum of one test boring per 300 feet shall be performed at uninvestigated portions of each soundwall.
9. Overhead Sign Structure Foundations – A minimum of one test boring shall be performed at each uninvestigated overhead sign structure foundation.
10. BMPs – Investigations shall follow the requirements in the NHDOT Infiltration Testing requirements, which will be provided.
11. Ground survey will be conducted to obtain coordinates and elevations for each boring. Up to 152 borings are assumed to be surveyed.

Additionally, the CONSULTANT shall perform a boring and sampling program for Tsienneto Road (from Pinkerton Street to NH Route 102) to be used in assessing the suitability for re-use of the existing pavement structure. The sampling program shall include the following:

1. Asphalt coring with base course sampling to a depth of at least 4 feet to evaluate existing pavement thickness and base and subbase materials. The asphalt coring shall be conducted with a 6-inch diameter core barrel and the base course sampling shall be conducted with a 3-in split spoon.

2. Locations should be spaced at a maximum of 500-foot intervals and alternate between east/west travel lanes.
3. In areas where shoulders are greater than 4 feet, a companion core shall be taken to assess the shoulder pavement thickness and base course materials.
4. A laboratory testing program to confirm visual-manual soil classifications and for use in evaluating pavement subgrade and structure foundation characteristics, and assessing frost-susceptibility, and potential for reuse of the excavated materials. The program will include 100 washed gradation analyses, 30 gradation with hydrometer analyses, 100 moisture content analyses, 16 Atterberg Limit determinations on soil samples, and 6 unconfined compressive strength and modulus tests on bedrock cores.

The CONSULTANT shall provide a completed geotechnical report and pavement/subbase recommendations for each contract. The information provided by the CONSULTANT shall include:

1. GPS coordinates, and/or station and offset location as well as ground surface elevation information, for proposed exploration locations that are deemed necessary to complete the final design. The DEPARTMENT will review the CONSULTANTS proposed exploration plan prior to implementing.
2. The CONSULTANT shall deliver 11"x17" sized plans with completed exploration locations plotted for roadway Projects and other locations upon request of the DEPARTMENT. Exploration symbols used shall be standard DEPARTMENT symbols for test borings, test pits, hand augers, and groundwater monitoring wells. The plans should be titled 'Subsurface Exploration Plan'. Each individual plan sheet should be numbered and include the total number of pages in the plan set along with match lines for consecutive plan sheets. Location information in GPS coordinates, or station and offset format, will be provided by the CONSULTANT. The plan sheets should include property and ROW boundaries, elevation contours, the proposed improvements and alignment, and enough existing detail to readily identify the area. The CONSULTANT will create the plan sheets with the information shown above and will then submit the plans to the DEPARTMENT for comment. The DEPARTMENT will then return the sheets to the CONSULTANT for inclusion of any markups. The CONSULTANT shall then incorporate the completed sheets into the geotechnical report. Upon completion of the plans, the CONSULTANT shall furnish back-up CADD, GIS and gINT files as appropriate.
3. The CONSULTANT shall take periodic measurements of newly installed and any previously installed groundwater monitoring wells. It is assumed there will be 8 BMPs with 2 monitoring wells installed at each location. The DEPARTMENT has installed 9 monitoring wells as shown in the

geotechnical data report. The groundwater elevations at each of these new wells will be taken at least four times and up to a total of eight times during the duration of this contract where at least two readings will be taken during high ground water (spring) and at least two during low ground water (summer). The DEPARTMENT will provide keys to existing monitoring wells and any monitoring data completed prior to the CONSULTANT receiving notice to proceed. Decommissioning of monitoring wells is not included in this AGREEMENT and will be part of the construction phase services.

4. Provide paper and/or electronic copies of project plans and cross sections as needed to review geotechnical assessments and evaluations of design features.
5. The CONSULTANT shall be responsible for cross sections at intermediate stationing intervals (e.g. 25-foot) based on rock lines determined by the CONSULTANT. The CONSULTANT shall be required to interpolate for all intermediate stationing. It is assumed that no more than 10% of the project cross sections will include rock lines.

D. SCOPE OF WORK (ENVIRONMENTAL)

The CONSULTANT shall be responsible for:

1. Data Collection, Environmental Analysis, and Design Support:

The resource identification was completed under the FEIS/ROD prepared for the Derry-Londonderry Exit 4A project. To maintain previously obtained environmental permits, the CONSULTANT shall be responsible for any additional effort that may be needed for the resources listed below to identify additional impacts, potential measures to minimize or mitigate impacts, and proposed enhancements as a result of the final design of the Project. Resources to be identified and updated as needed include:

a. Water-Based Resources:

1) Groundwater: The CONSULTANT shall update and provide data regarding aquifers, wellhead protection areas and public water supplies within, adjacent to, or down gradient of the Project Area based on appropriate sources such as the GRANIT GIS database, NHDES mapping, inventory data, municipal data or municipal mapping. The CONSULTANT shall verify this information, and if resource information has changed, the CONSULTANT will describe these resources in terms of their current and potential use and their relative proximity and potential hydrological connection to the project area. Contaminants and Per- and Polyfluoroalkyl Substances (PFAS) related groundwater mapping will be performed by the CONSULTANT for up to five known sites affected by the project (see related tasks below). Any changes will be documented within the Engineering Report.

2) Surface Waters: Data regarding existing surface waters and water quality will be reviewed and updated as necessary. The CONSULTANT will review the most recently approved State 303(d) list to identify any listed water quality impairments and TMDLs within the project area and identify discharges to those waterbodies. The CONSULTANT shall compile existing TMDL implementation plans, watershed management plans and active water quality data to identify any specific pollutants of concern or waterbody specific stormwater treatment requirements to address relevant permits including: Alteration of Terrain (AoT), the EPA NPDES for Small Municipal Separate Storm Sewers (MS4) and the Construction General Permit (CGP). The CONSULTANT shall compile existing water quality data from NHDES' 303(d) list to characterize existing conditions in the receiving water.
3) Stream Relocation Design Support: The CONSULTANT shall be responsible for final design of the Trolley Car Lane Stream/Wheeler Brook tributary to meet or exceed the April 2020 Trolley Car Lane Stream Relocation Plan. The CONSULTANT assumes the most up-to-date final design of the Trolley Car Lane Stream Relocation Plan will be provided in CAD/D. In completing this task, the CONSULTANT will prepare planning, analysis and preparation of design plans for the Trolly Brook stream restoration and up to three (3) ephemeral/intermittent stream relocations as listed by the Standard Dredge and Fill Wetland Application *Table 3: Exit 4A Stream Permanent Impact Summary*. This task will include the review of existing watershed assessment data; limited stream assessments using NHDES Env-Wt 900 and natural channel design principles as guided by US Forest Service Technical Note TN-102.3, "Guidance for Stream Restoration," survey and mapping to supplement existing data; basic hydrologic and hydraulic modeling; and preparation of design plans through construction drawings. The work will consist of the stream reconstruction and realignment aimed to provide a natural stream geometry through profile, alignment, and cross section design.
4) Tributary E Design Support: The wetland upstream of the Tributary E bridge carrying Tsienneto Road over Tributary E is a prime wetland (B-12) and the reduction of impacts in this area shall be investigated during final design. Field investigations to collect additional water quality data are not anticipated. The design will be reviewed and adjusted to ensure that upstream wetland hydrology is preserved without adversely impacting upstream or downstream aquatic organism passage.
5) Stormwater: The CONSULTANT will review and evaluate the previous project-wide

stormwater treatment analysis completed in the previously cancelled Design-Build procurement phase. Utilizing the work completed by OTHERS in the previously cancelled Design-Build procurement as a starting point, the CONSULTANT will evaluate the proposed stormwater discharge locations, BMP types, and the various design assumptions that affect the treatment potential, including the roadway profiles, anticipated soil and topographic conditions, drainage patterns and available right-of-way space. This shall include preparation of a Technical Memorandum that summarizes the results of a pavement runoff area analysis (including enhanced plans showing the associated drainage areas) to determine the percent of the pavement treated prior to discharge and the volume (water quality volume) for the proposed condition and selected alternative to determine the size and placement of structural BMPs. BMP placement and type will be compliant with current AoT and MS4 requirements and will take into consideration: soil conditions, depth to bedrock, groundwater tables, wellhead protection areas, drinking water protections, groundwater protections, and the proximity to the project's stormwater discharge points. It is not anticipated that field sampling of surface waters will be needed.

The CONSULTANT shall document the findings of the stormwater treatment analysis, including the assumptions and the rationale used in determining which alternatives are feasible and practical, and the benefits and implications of implementing these alternatives for treatment. In addition, once comments are received on the Slope and Drain submissions, the CONSULTANT shall provide a final memorandum documenting the amount and level of treatment attained, and review with the DEPARTMENT. The CONSULTANT shall provide administrative documentation for compliance with the effluent limitations as specified in Part 2.3.6 of the MS4 permit and comply with condition E-8 of the Water Quality Certification. The CONSULTANT stormwater design will meet either the water quality volume retention criteria or the specified total suspended solids, total phosphorus and total nitrogen removal efficiencies detailed in Part 2.3.6 of the MS4 permit. It is anticipated that the Department will be responsible for the submittal of documentation and coordination with NHDES to comply with condition E-8 of the Water Quality Certificate and in addressing any of NHDES' comments following review of the documents.

The Consultant will develop a Technical Memorandum that outlines the likely responsible party (i.e., Department versus municipality) for future inspection and maintenance of post-construction stormwater BMPs based on their location. Preparation of a Stormwater BMP Inspection and Maintenance (I&M) Plan is not anticipated as each

responsible party will rely on their own existing stormwater BMP I&M plans to comply with Condition E-11 of the Final 401 WQC. Preparation of a Turbidity Monitoring and Reporting Plan (TMRP) will also not be done under this design contract as it is anticipated this will be done as part of a future construction services contract in order to comply with Condition E-11 of the Final 401 WQC. It is also assumed that a Construction Stormwater Pollution Prevention Plan (SWPPP) will be developed by OTHERS for the construction contractor.

6) Floodplains: Federal Emergency Management Agency (FEMA) floodplain and floodway information will be updated, if necessary, based on appropriate sources such as previously developed and approved floodplain impact calculations and any mitigation commitments developed as part of the FEIS/ROD and display this data on project mapping. The DEPARTMENT has determined that the preliminary design of the structure carrying Folsom Road over Shields Brook and the structure carrying Tsienneto Road over Tributary E both will require Letters of Map Revision (LOMR), but are not anticipated to require Conditional Letters of Map Revision (CLOMR). The CONSULTANT will coordinate with the municipalities, NH Floodplain Coordinator, ACOE, and FEMA regarding proposed impacts within the flood hazard areas. Any LOMR required for this project will be completed under a separate agreement.

7) Wetlands: Wetlands were delineated by the DEPARTMENT and are identified in Wetland Plans dated February 7, 2020. The CONSULTANT will update and delineate, as necessary due to the final design changes, any additional wetlands and streams, including ordinary high water and top of bank, to be impacted beyond these delineated areas. The CONSULTANT will determine their functions and values based on state and federal criteria and will collect field data sufficient to document the delineation, including photographs. All updated wetland boundaries will require GPS-located flagging and preparation of wetland determination forms and functional assessment forms. If access to private property is required, landowners will be notified by the DEPARTMENT. The CONSULTANT will survey wetland flagging using a GPS unit with sub-meter accuracy, except that stream resources (TOB and OHW) will be located by ground survey. For budgeting purposes, it is assumed that no more than 400 wetland flags and up to 80 TOB and OHW flags would be required to supplement existing delineations. This delineation will include noting any features such as invasive species, disturbed areas, or uncommon wetland types such as bogs or vernal pools. This information will be provided in plan format and in a wetland evaluation and functional assessment report that is stamped by a Certified Wetland Scientist (CWS)

with a current NH certification. The report will include the location of the wetlands and features, classifications of wetlands present within the project area, descriptions of each wetland's hydrology, soils and vegetation, a flagging number system of each delineated wetland and feature, photographs, functions and values (including the Wetlands Function-Value Evaluation Form from the Highway Methodology Workbook Supplement), Wetland Determination Data Plot Forms with paired upland and wetland data plots, and the results of the stream crossing assessments (completed in Section D.6). No additional formal mitigation design work is anticipated. Design of wetland creation/restoration mitigation sites, if needed, will be completed under a separate agreement. The CONSULTANT will discuss sites with the DEPARTMENT before meeting with resource agencies to present and discuss them.

8) Stream Crossings: The DEPARTMENT has completed preliminary design for the structures carrying Folsom Road over Shields Brook and Tsienneto Road over Tributary E that meet the applicable NHDES Env-Wt 900 rules. The CONSULTANT shall complete stream crossing assessment field data collection for the remaining eleven (11) streams identified as Tier 1, 2, and 3 within the project area for which impacts are anticipated in accordance with the NHDES Wetland Rules, effective December 15, 2019 and revisions, and any applicable NHDOT field data collection forms. The DEPARTMENT has identified ten Tier 1, one Tier 2, and two Tier 3 (Shields Brook and Tributary E) streams. The stream assessments shall extend a minimum 100' upstream and downstream of the crossing. Data and survey to be provided by the CONSULTANT shall include a longitudinal profile through the crossing with relative inlet and outlet invert elevations and upstream and downstream streambed elevations. The CONSULTANT shall prepare bridge and culvert reports for all Tier 2 and 3 stream crossings. The CONSULTANT shall prepare culvert memorandum including backup calculations for all Tier 1 stream crossings. This report shall include the detailed calculations and electronic and printed copies of the computer software input and output files, as well as a discussion about hydrologic and hydraulic analysis and reasons for the design recommendations.

b. Land-Based Resources:

1) Public and Conserved Lands: No public and conserved lands impacts or evaluations are assumed to be needed.

2) Section 4(f) Resources: The project impacts 0.02 acres of the Rider Field property, a 21-

acre Section 4(f) resource owned by the Town of Derry that includes athletic fields, parking facilities, and undeveloped land. The CONSULTANT final design shall account for the relocation of the mailbox, stonewalls, vegetation and signage for the Upper Room Family Resource Center. None of the recreational facilities are anticipated to be impacted.

3) Section 6(f) Resources: No Section 6(f) impacts or evaluations are assumed to be needed.

c. Rare, Threatened and Endangered (RTE) Species:

1) Wildlife Habitat Study and Report Env-Wq 1503.19(h): The CONSULTANT, in coordination with the DEPARTMENT, will demonstrate that the project complies with Env-Wq 1503.19(h), in that the project has been designed in a manner that the project cannot reasonably be expected to jeopardize the continued existence of threatened and endangered species, or result in the destruction or modification of designated critical habitats. A wildlife habitat study and report will be completed by the CONSULTANT in the format of the template of the Threatened and Endangered Wildlife and Habitat Assessment available on the NHDES website. The CONSULTANT will ensure that the study and report are completed by a qualified individual.

2) Monarch Butterfly Conservation Measures: The monarch butterfly has become a candidate for listing under the Endangered Species Act (ESA). The USFWS will review the monarch's status each year until resources are available to begin developing a proposal to list the monarch as threatened or endangered under the ESA. The candidate status of the monarch does not provide protection under the Endangered Species Act, and no further coordination with the USFWS is required at this time. Monarch habitat includes non-forested, non-shrubby areas where there is potential for nectar species (flowering plants) and/or milkweed plants, including, but not limited to, regularly or semi-regularly mowed areas within the ROW and where a clear zone is maintained. USFWS and FHWA encourage incorporating conservation measures for candidate species into projects when it is practicable to do so. The CONSULTANT will work with the DEPARTMENT to identify whether the project can support conservation measures for monarchs and will incorporate these measures into the final design plans if determined practicable.

Rare, Threatened and Endangered Plant Species: Rare, threatened and endangered plant species information will be updated by the CONSULTANT. The DEPARTMENT has previously coordinated with the NH Natural Heritage Bureau resulting in the identification and subsequent search for the potential presence or suitable habitats within the project

footprint for the state-endangered Nuttall's reed grass. The DEPARTMENT has completed this search and Nuttall's reed grass was not identified within the limits of the project. It is assumed no mitigation design or plan, such as a plant relocation plan or replacement planting, will be necessary. If any such plant mitigation plans or mitigation are deemed necessary due to updated information, they will be completed by OTHERS.

3) Rare, Threatened and Endangered Wildlife Species: The DEPARTMENT has identified the following state-listed wildlife species may occur within the project: Blanding's turtle (state endangered), spotted turtle (state endangered), Northern black racer (state threatened), New England Cottontail (state endangered), smooth green snake (species of special concern) and Jefferson/Blue-spotted salamander complex (tracked) species. Threatened and endangered wildlife species information will be updated. The CONSULTANT shall coordinate the final design with Fish and Game (NHF&G) to confirm and identify any necessary avoidance measures for these species. The CONSULTANT will coordinate with NHF&G regarding the construction schedule and potential hibernacula impacts and/or needed conservation measures.

The CONSULTANT shall request and updated IPaC Species List. The previous list contained only the northern long-eared bat. Studies conducted in August 2016 found no presence of the Federally listed Northern Long-Eared Bat (NLEB). The CONSULTANT will be responsible for conducting an updated acoustical survey for the NLEB. Based on recent guidance from the USFWS, it is assumed that the bridge/structure assessment form to determine the presence of the NLEB at the Shields Brook and Tributary E culverts will be unnecessary since these existing structures are considered culverts and not structures. The survey will be completed in accordance with the most current USFWS Summer Survey Guidelines. The CONSULTANT will prepare a simple survey plan that will include a map locating anticipated detector deployment locations, a brief summary of proposed survey equipment and methodology, and resumes and qualifications of individuals who will be involved in completing the acoustic survey. The survey plan will be provided to the DEPARTMENT for submission to USFWS. Upon approval of the survey plan, the CONSULTANT will complete the survey, which is anticipated to require up to 4 trips to the project area for detector deployment and retrieval. Weather conditions will be monitored and recorded using the nearest NOAA weather station, or similar source of weather data, to ensure that appropriate weather conditions exist for at least 3 detector nights. All data collection and required fieldwork shall be completed between May 15th and August 15th.

The CONSULTANT will process acoustic data using two auto-classification programs, at least one of which is on the USFWS approved list and at least one of which is a full-spectrum automated identification program. For each detector site/night for which either auto-classification program reports an MLE of <0.05 for NLEB or any State listed species, the CONSULTANT will complete a qualitative analysis for high frequency files. High frequency calls will be vetted until calls from the target species are identified. The CONSULTANT will prepare an Acoustic Survey Report in accordance with the USFWS Survey Guidelines and will coordinate with NHDOT on review and approval of a draft report prior to finalizing. The final report will be provided to the DEPARTMENT in PDF format. The CONSULTANT will also provide the raw survey data to the DEPARTMENT on an external hard drive. If a qualitative analysis is required, the report will include a comparison of the results of each acoustic ID program by site and night and a detailed analysis of calls from any site/night where a program(s) considered for NLEB or any State listed species presence likely, including justification for rejecting any program results. The CONSULTANT will also complete the USFWS reporting spreadsheet.

The CONSULTANT shall assist the DEPARTMENT in consulting with the USFWS and the NHF&G on the results of the acoustic survey. This assistance includes the preparation/modification of any forms or visuals to be submitted to either the USFWS or NHF&G. All requests/submittals and direct coordination with the USFWS will be handled by the DEPARTMENT while coordination with NHF&G will be handled by the CONSULTANT. The CONSULTANT will complete an IPaC determination key to confirm compliance under the FHWA/FRA/FTA Programmatic Consultation for Transportation Projects Affecting NLEB or Indiana Bat, which will be submitted to the USFWS by the DEPARTMENT. The CONSULTANT shall incorporate provisions in the plans and specifications to protect rare, threatened or endangered wildlife species from impacts during construction to the degree possible. If impacts cannot be avoided, the CONSULTANT shall coordinate with NHF&G regarding impacts and mitigation. It is assumed no mitigation design or plan, such as a wildlife relocation plan, will be necessary. If any such wildlife mitigation plans or mitigation are deemed necessary, they will be completed by OTHERS.

4) Rare, Threatened & Endangered (RTE) Meetings: For the purposes of this scope it is anticipated that up to four meetings/conference calls will be necessary with USFWS, NHNHB, NHF&G, and/or any other agency deemed necessary to coordinate regarding rare, threatened or endangered species within the project area. These meetings will be at the

discretion of the DEPARTMENT and will be set up by the CONSULTANT. The CONSULTANT will be responsible for supplying support graphics, making presentations and preparing meeting minutes. These meetings would be in addition to those noted below under Agency Coordination.

d. Cultural Resources (Historic): Cultural resources have been identified within the project limits and the project has been found to have No Adverse Effect on three historic properties, and an Adverse Effect on the Manchester-Lawrence Railroad Historic District, which is eligible for listing in the National Register of Historic Places. Mitigation is provided in the form of an interpretive sign panel, provided by OTHERS, and suitable aesthetic treatment for the Rail Trail under pass structure. The CONSULTANT will be responsible, in consultation with the Town of Derry and the DEPARTMENT, for the incorporation of lighting and faux-stone concrete treatment to the Rail Trail underpass headwalls. It is assumed the effect determination will not change and no additional historic resource effort is required. The CONSULTANT will be responsible for additional coordination with NHDOT, FHWA, and NHDHR for any final design modifications that increase or alter the impacts to historic resources listed or eligible for listing on the National Register of Historic Places than those identified in the FEIS/ROD.

e. Cultural Resources (Stonewalls): The DEPARTMENT has evaluated individual stonewalls that were determined as qualifying for reconstruction, as described on the individual Stonewall Rating sheets available on the project website. The DEPARTMENT has identified eighteen (18) stonewalls that need to be evaluated by the CONSULTANT in consultation with the DEPARTMENT for feasibility of reconstruction. Additionally, five stonewalls require the input of the property owner to complete the Stonewall Rating to determine if they qualify for reconstruction. The CONSULTANT will be responsible for the coordination with property owners, in consultation with the DEPARTMENT, as well as the evaluation of the supplied Stonewall Rating information. Documentation of the impacted substantive above ground architectural features (historic stone retaining walls) at 30 Tsienneto Road will be conducted by the CONSULTANT, in consultation with the DEPARTMENT and NHDHR. Avoidance and impact minimization measures to these retaining walls are to be evaluated.

f. Cultural Resources (Archaeology): The DEPARTMENT has completed Phase 1B archaeological testing at three locations. The DEPARTMENT does not anticipate additional explorations will be required, provided the project footprint remains within that of the Base Technical Concept.

g. Noise: The noise analysis conducted as part of the FEIS/ROS (*FEIS/ROD Appendix E - Noise Technical Report – I-93 Exit 4A Technical Report*) and the associated FHWA Traffic Noise Model

(TNM 2.5) which were prepared for this project identified three barriers; two discontinuous barriers in the Trolley Car Lane neighborhood with a combined length of approximately 2,700 feet and an average height of approximately 13.5'feet along I-93 southbound and a single barrier in the Seasons Lane neighborhood of approximately 3,000 feet in length along I-93 northbound. The CONSULTANT shall identify the need to modify the design of these preliminary barrier designs to accommodate for any changes during final design. The CONSULTANT shall advance the acoustic design of all noise barriers based on the final highway design and proposed grading to provide more detailed information on the noise barrier locations, lengths and heights. The CONSULTANT shall verify that the noise reductions at each of the benefitted receptors identified in the FEIS/ROD have been achieved by the CONSULTANT's final barrier designs. The results of this analysis shall be summarized in at least one final design barrier memorandum for submittal with the noise barrier design plans. A draft of the noise barrier design plans shall be submitted with the draft of the final design noise report.

In conducting these tasks the CONSULTANT shall demonstrate compliance with the FHWA Procedures for Abatement of Highway Traffic Noise and Construction Noise (23 CFR 772) and the DEPARTMENT's current version of the *Policy and Procedural Guidelines for the Assessment and Abatement of Highway Traffic Noise for Type I & II Highway Projects* (the Noise Policy).

h. Invasive Species: The CONSULTANT shall delineate the location of invasive species, in conjunction with other project field investigations, within the project limits. General locations and names will be identified within the project limits, and detailed mapping will be provided and NHDOT Invasive Species Types included in the project plans.

i. Contaminated Properties: The DEPARTMENT has completed, and will provide to the CONSULTANT, Phase II and/or Phase I Environmental Site Assessments (ESAs) on five sites within the project. The ESAs have identified five sites requiring additional characterization and delineation of heavy metals, total petroleum hydrocarbon, polyaromatic hydrocarbon and/or Per- and Polyfluoroalkyl Substances (PFAS). These sites include 3 Manchester Road, 20 Folsom Road, 6, 8, and 10 Folsom Road all impacted by PFAS.

j. Environmental Site Assessment – This effort, to be performed by the CONSULTANT, will satisfy the information requirement listed under Section Env-Or 606.04 of the New Hampshire Code of Administrative Rules; it is consistent with the initial stage of environmental due diligence customary for the transfer of commercial property and is a component of a Site Investigation Report as defined under Env-Or 606.03. The scope of activities included in this task are specified to meet the following objectives:

- Assess for presence of "Recognized Environmental Conditions" (RECs) on properties to be acquired in support of the Project or on nearby properties where environmental conditions have the potential to impact properties to be acquired. The assessment is intended to support the landowner, contiguous property owner, or bona fide prospective purchaser limitations on Comprehensive Environmental Response and Compensation Liability Act (CERCLA) liability. Note that a prior review of records and site reconnaissance were completed but these activities must be performed within 180 days of acquisition to qualify for the limitations on CERCLA liability.
- Identify the potential presence of contaminated media (i.e., soil and groundwater) that may require management (i.e., worker and public health and safety planning; avoiding the potential spread of contaminated media; and identifying appropriate reuse, containment, and disposal options) during Project construction.

Proposed environmental site assessment activities are summarized below.

1) Updated Records Review: review of environmental records, including an environmental database search report acquired from Environmental Data Resources (EDR), as well as the web-based NHDES OneStop database. The updated records review will include accessing the OneStop database to identify any new information posted within the vicinity of the Project since the last review, and acquisition/review of an updated EDR report. The CONSULTANT will also review historical documents (e.g., Sanborn Fire Insurance maps, aerial photographs, USGS mapping, etc.) and readily available land ownership records to develop a history of previous land uses of the properties to be acquired and surrounding area.
2) Site Reconnaissance: The CONSULTANT shall perform an exterior reconnaissance of the Project area to observe surficial conditions that may indicate a REC (i.e., the release or potential release of petroleum and/or hazardous substances). The CONSULTANT shall perform a site visit to identify observable changes in exterior conditions within the project area and on abutting properties that may be indicative of a potential release(s). If accessible, an interior tour of buildings that are present on property to be acquired for the project will be included in the reconnaissance. Interviews with past and present owners and occupants: To the extent that individuals with existing and prior knowledge of land use are available, The CONSULTANT will conduct interviews to obtain information that may indicate the potential for RECs to be present on the properties to be acquired.

3) Evaluation and Phase I ESA Report Preparation: The CONSULTANT shall prepare a Phase I Environmental Site Assessment Report that complies with ASTM Standard E1527-13 for up to six (6) properties, modified Phase I ESA reports will also be prepared for partial acquisition properties, as requested by NHDOT. Up to 50 partial acquisitions are expected to require some level of Phase I investigation; a corridor-level report will be compiled as appropriate. The reports will include documentation of the activities performed, the findings, and an opinion as to the potential presence of RECs within the properties to be acquired. The reports, and overall assessment, will be prepared under the oversight of a qualified Environmental Professional who will sign the report acknowledging that the assessment was performed in conformance with the standards and practices set forth in 40 CFR Part 312. The reports will be provided in draft form to NHDOT for review prior to finalization.

4) Project Logistical Support: In consideration of the environmental site assessment findings, The CONSULTANT will support project-related logistical planning efforts, such as the identification of water wells (e.g., supply, monitoring) located within proposed construction areas and associated decommissioning requirements. The CONSULTANT will also review plans for project-associated geotechnical investigations to identify borings/areas where contaminated soil and groundwater are anticipated to be encountered during the investigation. The CONSULTANT will identify activities where environmental screening and sampling can be combined with the geotechnical exploration program.

5) Sampling: Sampling and analysis of soil to be excavated as part of the Project may be recommended in areas where the Phase I ESA activities identify the potential presence of contaminated media to support development of a Soil and Groundwater Management Plan, to be reviewed and approved by NHDES prior to inclusion in Contract Documents. Exploration and testing may also be proposed to identify whether contaminants have potentially migrated from sites with documented environmental conditions onto property to be acquired by the project. Pre-characterization (i.e., representative sampling and chemical analysis) of soil that is intended to be disposed off-site or re-used as part of the project will also be needed. While specific recommendations will be based on the findings of activities described below and Project design considerations, general activities anticipated under this task are as follows:

6) Field Work Planning: The CONSULTANT shall prepare a pre-characterization work plan that details the scope of the recommended investigation. The CONSULTANT shall provide the work plan to NHDOT's Bureau of Environment Contamination Program for approval prior to beginning field work. The CONSULTANT shall conduct a pre-site visit to mark proposed

subsurface exploration locations prior to notifying local utilities companies (via Dig Safe®) of the intrusive activities in accordance with applicable state Underground Utility Damage Prevention Program regulations.

7) Field Sampling and Laboratory Analysis of Environmental Samples: The CONSULTANT shall retain a State of New Hampshire-licensed environmental drilling subcontractor to assist with the advancement of soil borings and collection of environmental samples (i.e., soil and groundwater). Samples will be collected for chemical analysis of constituents of concerns identified by the activities described above and/or as needed for waste profiling purposes.

8) Evaluation & Reporting: Results of laboratory analyses will be tabulated and compared to relevant NHDES criteria for soil and groundwater quality. The CONSULTANT shall compile the analytical data and documentation into a summary report for NHDOT's review. Any soil or groundwater data requiring NHDES notification will immediately be provided to NHDOT Bureau of Environment. The report will include a description of the work completed, a summary of the results of the analytical data relative to established standards, and discussion of findings. The report will be provided in draft form to NHDOT for review prior to finalization.

k. Soil and Groundwater Management Planning – The CONSULTANT shall prepare a Soil and Groundwater Management Plan for each contract for use during the design. The Plan will describe best management practices (BMPs) that will be implemented to reduce potential for exposure of workers and the public to known or assumed contaminated environmental media and maintain conditions that are protective of human health and the environment. In developing the plan, the CONSULTANT will:

- Assess the potential for generation of limited reuse soil (LRS) or other contaminated media (soil or groundwater);
- Provide estimated quantities of the impacted environmental media requiring handling/management, delineated by Project stationing and shown on Figures developed for the SGMP; and
- Identify management strategies for these media, including potential stockpile/storage locations and reuse/disposal options, as applicable.

Consideration will be given to environmental media that may contain invasive species and whether the Project can be classified as an LRS de minimis activity. The Plan will be provided in draft form to NHDOT and NHDES for review prior to finalization.

l. Heavy Metal/TPH/PAH Soil: The CONSULTANT shall estimate the quantity of impacted Soil

to be generated during construction by phase as applicable. The CONSULTANT shall determine and provide locations on the plans for potential temporary on-site re-use locations and stockpile locations for excavated impacted soil. The CONSULTANT will be responsible for assisting the Department in obtaining any permits or waivers required by NHDOT or NHDES to maintain the soils within the site.

m. Per- and Polyfluoroalkyl Substances (PFAS): The project area contains two sites, as defined in the ESAs as containing PFAS in both the soil and/or groundwater. The CONSULTANT shall quantify, in coordination with the DEPARTMENT, phasing and reuse of PFAS materials within the project corridor and shall incorporate this into the Plan set. The CONSULTANT will be responsible to estimate soil and groundwater quantities (excavation amounts above and below the groundwater table). It is intended that as much of the PFAS soil is reused on site as possible. This may require iterations of the design or creative solutions to reuse the materials on site. See Section K.1.a – Submission of Reports, Plans and Documents for additional detail on this task.

n. Construction Impacts: The CONSULTANT shall review potential construction impacts on the natural, cultural, and socio-economic resources present within the project area, as described in the FEIS/ROD. The CONSULTANT will determine whether additional construction impacts are likely. The CONSULTANT will incorporate appropriate mitigation measures, within the limits of this Scope of Work, into final design plans. These may include diversions during construction; erosion and sediment control; air, noise, and dust pollution; and special measures that may be needed to protect water quality.

o. Visual Resources: The CONSULTANT may be required to design mitigation related to visual impacts (minimal plantings). This is assumed to take the form of landscaping measures at certain locations such as BMPs.

2. Environmental Commitment Tracking: The CONSULTANT shall review the FEIS/ROD with particular attention paid to the environmental commitments noted in Section 4 of the ROD and Chapter 4 of the FEIS, and update all resources described below, which are required to meet the commitments within the Project Area and ensure compliance with the Derry-Londonderry Exit 4A FEIS/ROD and permits already obtained by the DEPARTMENT. The CONSULTANT shall be responsible for creating an environmental commitment matrix. This matrix, shall at a minimum, list all environmental commitments for the project, how the commitment is being met, and the project in which the commitment applies. The CONSULTANT shall update and submit this matrix to the DEPARTMENT bi-monthly. The CONSULTANT shall include a narrative summary of progress with each bimonthly

submission and as part of the Slope & Drain, PPS&E, PS&E, and final contract drawings submittals.

3. Agency Coordination: The CONSULTANT will attend up to three (3) of the DEPARTMENT's monthly Natural Resource Agency meetings, including coordinating and attending two (2) field meetings with the agencies to review resource impacts. The CONSULTANT will also attend up to two (2) of the DEPARTMENT's monthly Cultural Resource meetings with the NH Division of Historical Resources to discuss findings. The CONSULTANT will also attend up to four (4) meetings to review the draft soils and groundwater management plan with NHDES. The CONSULTANT will be responsible for supplying support graphics, making presentations and preparing meeting minutes.

4. Environmental Impacts of Proposed Alternative: The CONSULTANT shall update impacts to wetlands, surface waters, floodplains and floodways within the Project at the Slope and Drain submission. The CONSULTANT shall describe how those changes affect permits and proposed mitigation measures in a memorandum.

5. Water Quality: The CONSULTANT shall design and prepare the permanent erosion control plans and water quality features consistent with AoT (Wq-Env 1500) regulations, the MS4 Permits, and utilize the NH Stormwater Manual as guidance. Temporary erosion control for the project shall be designed by OTHERS during construction of the project. However, erosion control plans shall be completed during final design of the project (see details below) such that quantities can be included in the Contract Plans. Permanent water quality features shall be shown at the Slope and Drain plan submission with design backup calculations complete. The CONSULTANT shall furnish conceptual design calculations with Q2, Q10, Q25, Q50 flows and water quality volumes. Site locations, estimated areas, and design elevations shall be proposed in detail sufficient enough to complete geotechnical investigations of each site. Any monitoring of the groundwater levels for the purposes of design of stormwater BMPs is anticipated to be done by the Geotechnical subconsultant. In addition, the CONSULTANT will evaluate the feasibility of using infiltration measures as necessary, if additional treatment is required to meet the MS4 treatment standards. The CONSULTANT shall be responsible for:

   a. The potential for additional environmental impacts will be evaluated with respect to any proposed changes in stormwater BMP locations, design or related drainage infrastructure relative to the Base Technical Concept. The effort involved with the actual drainage design and stormwater calculations are included Tasks F and K of this Agreement.
   b. The need and feasibility of using infiltration measures to enhance stormwater treatment or provide groundwater recharge will be evaluated based on the available geotechnical information

developed by OTHERS. If such measures are determined feasible and prudent, and if additional stormwater treatment is considered necessary based on the preliminary results of the stormwater treatment analysis conducted under Task 1.a.5 above, recommendations will be included in the Task 1.a.5 Technical Memorandum for Department consideration with respect to possible incorporation into the final design.

c. Water quality treatment measures (i.e., treatment basins and swales) designed under Tasks F and K will be reviewed to assess consistency with the latest version of NHDES Alteration of Terrain (AoT) regulations and the NH Stormwater Manual. The effort required to prepare the NHDES BMP worksheets is included in Task F of this work scope and will submitted as part of the Drainage Report.

d. The erosion control plans will be reviewed by a wetland scientist to ensure that the plans conform to the NHDES Wetland Rules as described in Section D.5 (Permitting).

e. Chloride Monitoring Plan: Consistent with the ROD issued for the Project, a Chloride Monitoring Plan will be developed to outline the sampling and testing protocols to conduct continuous monitoring of chloride levels at a designated location in Beaver Brook downstream of the project for a period of 5 years. The Plan will describe timing, location and quality control procedures as well as the thresholds of concern used to determine project compliance and the reporting procedures to relevant stakeholders. It is assumed that the development of this Plan will occur under Contract A, and that the DEPARTMENT will be responsible for all coordination with NHDES.

f. Chloride Monitoring Field Work and Reporting: This task involves the actual chloride monitoring at one downstream location in Beaver Brook consistent with the ROD. The level of effort includes 48 months of monitoring including equipment setup, calibration, data collection, and data transfer to the Department. The details regarding the potential start date and monitoring location is expected to be determined following the approval of the Chloride Monitoring Plan developed under the preceding task. Data analysis or report preparation is not anticipated to be needed under this task.

6. Permitting: The following permits have been issued to the DEPARTMENT based on the Base Technical Concept. The CONSULTANT shall be responsible for developing technical analysis in support of any necessary amendments or updates to previously obtained permits, and will coordinate with the DEPARTMENT to file such materials with the appropriate agencies as necessary.

a. Wetlands Permit/Dredge and Fill Application and plans: The project has been issued a wetland

permit, issued May 05, 2020, NHDES file #2018-03134. The CONSULTANT will review permit conditions and incorporate conditions in final design. The CONSULTANT will complete a final design of Trolley Car Lane Stream/Wheeler Brook relocation that is in accordance with the Trolley Car Stream Relocation plan and narrative dated April 2020.

b. NHDES Shoreland Permit: The DEPARTMENT was issued the Shoreland Permit by Notification on February 19, 2020. No additional effort is assumed for this scope.

c. US Army Corps of Engineers Section 404 Permit: The DEPARTMENT was issued the US Army Corps of Engineers Permit – NAE-2005-03061 on August 5, 2020. The CONSULTANT is made aware of the NHDES issued water quality certification appended to this permit. In addition to compliance with this permit, the CONSULTANT is made aware of, and is responsible for, requirements set forth in condition E-8 of the Water Quality Certificate.

d. Permitting Follow-Up Services: The CONSULTANT in consultation with the DEPARTMENT will assess all permits and approvals received by the DEPARTMENT on the BTC to evaluate their appropriateness as they relate to their validity with the current project and on any foreseeable changes in rules and/or regulations. The CONSULTANT will assist the DEPARTMENT in securing additional environmental approvals as necessary. Follow-up and liaison efforts are sometimes required to respond to specific comments and concerns raised by regulatory agencies following plan submissions. Work under this task will include:

   i. Attendance and presentation at up to two (2) additional Coordination Meetings with NHDES and ACOE, organized by the DEPARTMENT.
   ii. Preparation of responses to agency review comments.
   iii. Minor plan revisions/additions.
   iv. Revisions to the application.

7. NEPA Written Reevaluation: The project was previously analyzed pursuant to the National Environmental Policy Act (NEPA), with a combined FEIS/ROD issued in February 2020. However, the final design effort may include revision of the Selected Alternative (i.e., the Base Technical Concept) to incorporate certain Alternative Technical Concepts (ATCs). Such ATCs may include revisions of the Exit 4A Interchange geometry, revisions to the Shield Brook crossing, or other substantial modifications. Therefore, if needed, VHB will complete a NEPA written reevaluation of the proposed project based on the revised project design. The written reevaluation will discuss elements of the project design which differ relative to the Selected Alternative discussed in the FEIS/ROD. The reevaluation will also report on the status of the environmental commitments made in the FEIS/ROD and will recommend any

necessary new commitments or existing commitments that should be modified or are no longer applicable due to project changes. The written reevaluation will be formatted as a brief report, assumed to be on the order of 15-50 pages with no more than 10 figures, depending on the scope of the design revisions. Once this reevaluation is finalized by the project team in collaboration with FHWA, the agency will decide, in accordance with the guidance provided at 23 CFR 771.130, whether a SEIS is required. A SEIS will not be required if this written reevaluation demonstrates "a lessening of adverse environmental impacts...without causing other environmental impacts that are significant and were not evaluated in the EIS" [23 CFR 771.130(b)(1)]. It is assumed that the scope of this reevaluation will not require new or updated modeling, design, or regulatory coordination (aside from additional coordination with FHWA) not described elsewhere in this scope of work.

E. SCOPE OF WORK (ROW)

1. Breakdown of Responsibilities:

   a. Existing Rights-of-Way: The DEPARTMENT, through OTHERS, has completed and recorded an Existing Right-of-Way Plan set for the project footprint within the Town of Derry. The DEPARTMENT will prepare and record an Existing Right-of-Way Layout Plan set for the project footprint along I-93. The CONSULTANT shall be responsible for incorporating the existing ROW into the construction plans and the ROW Layout Plan set.

   Contract A: The DEPARTMENT/OTHERS will be responsible for developing a ROW Layout Plan set and acquiring the ROW for Contract A along I-93 with the exception of the connector road. The DEPARTMENT will begin this process prior to award of this contract, and as such, the CONSULTANT shall complete all design work within the established limits. The new alignment for the connector road through the parcels owned by Hyrax Derry Partners and Pillsbury Realty Development, to be referred to as Woodmont Commons, require further finalization of design to a level suitable for acquisitions to be finalized. The CONSULTANT will conduct boundary surveys on four parcels where the proposed alignment of the connector road will be located. These parcels are identified as Map 10-46, 48, 49 and 50 and comprise of approximately 163 acres. The CONSULTANT shall be responsible for development of recordable ROW Layout Plan set through these parcels for the DEPARTMENT's use in finalizing the ROW for Contract A. The CONSULTANT shall prioritize the design of the connector road and ROW Layout Plan set to not adversely affect the advertisement of the project. The CONSULTANT shall be responsible for incorporating ROW layout plans for roadway sections into a final ROW layout plan that depicts the existing and new ROW

alignments and acquired properties and easements suitable to be recorded at the Registry of Deeds for the entire length of the work under this contract as one submittal.

Contracts B and C: The CONSULTANT will conduct ROW and Boundary research necessary to determine the location of relevant property lines for impacts not adjoining to an existing roadway corridor. ie: Connector Road and off-location stormwater treatment areas. Perform field work and boundary analysis to produce boundary surveys for properties that have proposed impacts not adjacent to the existing roadway corridor. It is assumed that up to 165 parcels will be impacted. Create a Final ROW Layout Plan set depicting project impacts and acquired ROW and easements for the entire project area. The plan set will be prepared in accordance with RSA 478:1a and RSA 230.32, and will be recorded at the Rockingham County Registry of Deeds.

It is understood that the DEPARTMENT intends to convey out remaining portions of land on the parcels that will have full acquisitions. To support this task, the CONSULTANT will conduct boundary surveys on up to 16 parcels. The parcels include 14, 16, 29, 39, 40, 62, 63, 66, 67, 68, 71 & 72 shown on the BTC General Plans. The boundary plans will depict the remaining land not used for the project and will be prepared in accordance with RSA 478:1a and will be recorded at the Rockingham County Registry of Deeds.

The CONSULTANT shall be responsible for development of the ROW Layout Plan set and acquisition plans for Contracts B and C. The CONSULTANT shall be responsible for performing all necessary Right-of-Way services and acquisitions for Contracts B and C. Including, but not limited to, title abstracting for impacted parcels, waiver valuation (with DEPARTMENT approval), appraisals, negotiations, closings, relocations, preparation of Notices of Offer and Declarations of Takings, ROW cost estimates, ROW schedule, and design development. The CONSULTANT shall submit to the DEPARTMENT for review and approval completed appraisals, as NHDOT is responsible for approval of the estimate of just compensation, and ROW Layout Plan set prior to accepting the submission of any offer packets. The CONSULTANT will submit to the DEPARTMENT for review and approval all condemnation packets. The DEPARTMENT will be responsible for completing the condemnation process, but the CONSULTANT shall be responsible to provide the necessary documents required to support this responsibility. The CONSULTANT shall be required to complete, document and retain in compliance with all applicable laws, including the Uniform Act, and the rules and regulations implementing the Uniform Act for all project ROW activities. The CONSULTANT shall provide the DEPARTMENT a complete copy of all records upon

completion of acquisitions activities for each impacted parcel. The CONSULTANT shall be responsible for the creation, implementation, and updating of matrix or spreadsheet depicting ROW parcel acquisitions statuses. This matrix shall be submitted and updated monthly with invoicing.

Standards: The CONSULTANT shall be responsible for compliance with all applicable State and Federal Laws and the practices, guidelines, procedures, and methods contained in, but not limited to, the most current version of the following standards as they pertain to ROW:

i. 23CFR Parts 635, 710, and 810 Right of Way and Real Estate; Final Rule

ii. 49 CFR Part 24 Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs; Final Rule (The Uniform Act), as amended

iii. Chapter 124-A of the NH Revised Statutes "Relocation Assistance and Real Property Acquisition"

iv. Chapter 230 of the NH Revised Statutes Annotated "State Highways"

v. Chapter 478:1-a of the NH Revised Statutes "Recording of Plats" which requires a New Hampshire Licensed Land Surveyor (LLS)

vi. Chapter 498-A of the NH Revised Statutes Annotated, i.e., "Eminent Domain Procedure Act"

vii. NHDOT ROW Manual, Revised December 19, 2018

viii. NHDOT Survey Technical Standards Manual dated November 13, 2017.

ix. NHDOT CAD/D Procedures and Requirements.

x. NH Bar Association Title Standards

xi. Uniform Standards of Professional Appraisal Practice (USPAP).

xii. NHDOT Stonewall Policy

xiii. Uniform Appraisal Standards for Federal Land Acquisitions (commonly referred to as the "Yellow Book")

xiv. NHDOT Pro Rata Appraisal Policy

2. NHDOT Review Timeframes

1 Submittals	2 Level of Review	3 Submittal Schedule	4 NHDOT Action Time
A: PRELIMINARY ACTIVITIES			
Project ROW Property Owner List	Approval		21 calendar days
NHDOT Introduction Letter	Approval		21 calendar days
B. SURVEY, RIGHT OF WAY LAYOUT PLANS, AND TITLE			
Base Plan Preparation	Approval	Prior to submitting first ROW Offer Packet and updated as needed	20 calendar days
ROW Layout Plan set	Approval	Part of the acquisition survey documents; 1. Approval prior to appraisal. 2. Final ROW Layout Plan set at conclusion of ROW acquisition	1. 21 calendar days 2. 21 calendar days
General Plan	For Information	Part of the Acquisition Survey Documents	21 calendar days
ROW CADD files	For information	Prior to submitting first ROW Offer Packet and updated as needed	N/A
Title reports	Review and comment	For each impacted property where property right will be acquired and updated as needed prior to making an offer or acquiring title through agreement or condemnation	Review period is same as Submittal in which Title Report is included
Final title abstract report	Review and comment	Submitted for each parcel upon completion of acquisition activities	21 calendar days
Boundary Surveys for impacted properties not adjacent to existing roadway corridor	Approval	Prior to submitting first ROW Offer Packet and updated as needed	21 calendar days
C. APPRAISAL, ACQUISITION, ADMINISTRATIVE SETTLEMENT, RELOCATION,			

ARTICLE I

1 Submittals	2 Level of Review	3 Submittal Schedule	4 NHDOT Action Time
CONDEMNATION, PAYMENT			
Request for Valuation Waiver(s)	Approval	List of parcels meeting criteria for valuation waiver within 20 days of approval of ROW Layout Plan set	21 calendar days
Valuation Waiver	Approval	Prior to submitting Offer Packet	21 calendar days
Appraisal Reports	Approval	Appraisals must be reviewed and approved by NHDOT prior to ROW Offer Packet submittals	20 business days; maximum of 10 appraisals in 20 business days; additional 10 business days for unusual nature appraisal
Updated Appraisals	Approval	As requested	20 business days; maximum of 10 appraisals in 20 business days; additional 10 business days for unusual nature appraisal
ROW Offer Packets	Approval	Prior to delivery of the offer to the property owner	15 business days; maximum of 20 Offer/Condemnation Packets in 15 business days; additional 10 business days for packets of unusual nature
Administrative Settlement Packet	Approval	As necessary	10 business days; maximum of 5 each (20 collectively) of Payment, Relocation, Condemnation, Admin Settlement, and Closing Packets; additional 10 days for packets of unusual nature
Relocation Assistance Packets	Approval	As necessary	10 business days; maximum of 5 each (20 collectively) of Payment, Relocation, Condemnation, Admin Settlement, and Closing Packets; additional 10 days for packets of unusual nature
Closing Packets	Approval	A minimum of 24 hours prior to closing	10 business days; maximum of 5 each (20 collectively) of Payment, Relocation,

ARTICLE I

1 Submittals	2 Level of Review	3 Submittal Schedule	4 NHDOT Action Time
			Condemnation, Admin Settlement, and Closing Packets; additional 10 days for packets of unusual nature
Condemnation Packets	Approval	As required by NHDOT	30 business days; maximum of 20 Offer/Condemnation Packets in 30 business days; additional 10 business days for packets of unusual nature
Exhibits, transcripts, and photos associated with condemnation	Review and comment	As required by Attorney General's Office	21 calendar days
All specific reports and supporting documentation during acquisition process	Approval	1. Together with any ROW Submittals, and as required by NHDOT 2. Final reports and supporting documentation to be provided upon completion of acquisition activities for each impacted parcel	1. Approval time will be the same as the ROW Submittal of which the report or documentation is a part; 2. 21 calendar days
Payment Requests	Approval	As needed	For Payment packet request approval: 10 business days; maximum of 5 each (20 collectively) of Payment, Relocation, Admin Settlement, and Closing Packets; additional 10 days for packets of unusual nature; Payment processing times: Below $5,000 is 3 weeks, $5,000 and above is 6 to 8 weeks

3. Survey

- General: The CONSULTANT shall provide all land surveying and mapping services necessary to support ROW acquisition and design to complete the Work in conformance with this Contract, the NHDOT's Survey Manual, NHDOT Standard Specifications, the New Hampshire Land Surveyors Association "Ethics and Standards", and any local agency requirements. All land surveying services shall be performed under the supervision of a NH Licensed Land Surveyor.

  The CONSULTANT and the Land Surveyor in charge shall bear sole responsibility for the accuracy of additional survey data used in the Design. The CONSULTANT shall review existing survey data and determine the requirements for updating or extending the existing survey and mapping data, as well as the requirements for new and additional survey and mapping data. The CONSULTANT shall be responsible for the final precision and accuracy of all survey and mapping work for which the CONSULTANT has performed. All field notes are to be recorded in Field Survey Notebooks that will be turned over to the DEPARTMENT at the end of the Project.

  The CONSULTANT shall employ a survey manager to be responsible for all right of entry, control surveys, topographic surveys, and all other surveying work necessary to produce accurate Record Drawings. Except for the initial survey control data furnished by NHDOT, all calculations, surveying and measuring required for setting and maintaining the necessary lines and grades shall be performed by the CONSULTANT.

- Right-of-Entry: The CONSULTANT shall send courtesy notifications prior to entering any private property outside the ROW consistent with DEPARTMENT practices.

- Survey Services: Survey documents shall be a part of the design documents and shall include:

  i. A horizontal and vertical coordinate listing, monument description, and location description of all primary and secondary survey control points installed, marked, and referenced along with a listing of the existing control used to create the installed control points.

  ii. Survey notes, plans, and calculations completed as the work progresses and all originals and two copies of each survey document;

  iii. Original diary forms and related original survey record keeping; and

- Survey by NHDOT: In performing surveys for other adjoining projects, the DEPARTMENT may need to verify and check the CONSULTANT's survey work. The CONSULTANT shall

coordinate with the developer of the adjoining project regarding planned construction activities. The CONSULTANT shall notify NHDOT within two business days if NHDOT stakes and marks are altered or disturbed

- Units: All survey Work shall be performed using the US Survey Foot and shall be on the NH State Plan datum, being North American Datum 1983 (NAD83) with the 2011 correction. -
- Survey Control Requirements: The CONSULTANT shall ensure that all surveying conforms to all applicable surveying laws and regulations, the NHDOT Survey Manual, the requirements of the New Hampshire Board of Land Surveyors Association, "Ethics and Standards", and the standard practices for work performed for the NHDOT. The CONSULTANT shall ensure that any person in charge of a survey field party is proficient in the technical aspects of surveying. The CONSULTANT shall establish and maintain additional survey control as needed until the final ROW monumentation for the project has been set.

  The CONSULTANT shall tie any additional horizontal and vertical control for the Project, including for final ROW monumentation, to the Primary or Secondary control network. If the CONSULTANT chooses to use GPS methods, the CONSULTANT shall meet the accuracy of the appropriate level of survey as defined in the NHDOT Survey Manual and the New Hampshire Land Surveyors Association, "Ethics and Standards".

  All survey control points shall be set and/or verified by a Licensed NH Land Surveyor. Monuments shall be installed as directed by the most current edition of the NHDOT Survey Manual. The CONSULTANT shall replace all existing survey monuments and control points disturbed or destroyed. The CONSULTANT shall make all survey computations and observations necessary to establish the exact position of all other control points based on the primary control provided. The CONSULTANT shall deliver to NHDOT a listing of all primary and secondary control coordinate values, original computations, survey notes, and other records, including GPS observations and analysis made by the CONSULTANT as the data are available.

- Horizontal Control: All horizontal data for the Project shall be in the New Hampshire State Plane Coordinate System (SPCS) on the North American Datum of 1983(2011). Horizontal survey shall meet minimum NHDOT survey accuracy requirements (1 in 15,000).

- Vertical Control: Vertical control for the Project shall be established on the North American Vertical Datum of 1988, US Survey Feet, (NAVD88).

  Vertical survey shall meet minimum Third-order, Class I survey accuracy and Procedures (0.05ft(2.0mm) X $\sqrt{\text{distance in miles}}$)

ARTICLE I

Existing photogrammetric survey of the I-93 corridor and I-93 proposed design information for NHDOT Contract 14633D and 14633I is based upon vertical datum NGVD1929. Field survey and proposed design for the Exit 4A connector road corridor is on vertical datum NAVD88. NGVD1929 is 0.68' higher than datum NAVD1988 in this area. The BTC proposed Exit 4A profile reflects a vertical datum station equation at Sta. 1008+00. All proposed design for the Exit 4A interchange, including the overpass and ramps, west of Sta. 1008+00 is based upon vertical datum NGVD1929. All proposed design for the remainder of the project east of Sta. 1008+00 is based upon NAVD1988. The vertical datum discrepancy has been addressed by the DEPARTMENT collecting new ground survey of the I-93 corridor based on the NAVD 1988 vertical datum.

- Survey Data Analysis and Adjustment: All control point used for data gathering and stake out, including photo control, shall be analyzed and adjusted by the method of least squares. Residuals should not exceed equipment specifications. Resected control points are adjusted for horizontal position by least squares before they are to be used in the field. Primary Project control acquired by GPS must adhere to 0.03' or less than 95% confidence circle accuracy. Primary Project control acquired by total station by way of traverse must adhere to 1 : 20,000 or less. Refer to the NHDOT Department of Transportation Survey Technical Standards Manual last revised April 2018 for specifics. Raw closures and post adjustment reports are required of all data dumps are a required deliverable.
- ROW Monuments: Upon final submittal of the ROW documents to the DEPARTMENT, the CONSULTANT shall set; using permanent and stable monuments as defined in Section 663.17 of the General Rules of Procedures and Practices of the New Hampshire Board of Professional Land Surveying (TBPLS), all significant points along all ROW lines of the Project including the following:

    a) Points of curvature (PCs)
    b) Points of tangency (PTs)
    c) Points of intersection (PIs)
    d) Points of compound curvature (PCCs)
    e) Points of reverse curvature (PRCs)
    f) All intersecting crossroad ROW lines with the ROW line. These monuments shall be 3/4-inch iron rods, driven just below surface level, capped by a NHDOT-labeled aluminum cap (rod-and-cap monument)

g) All beginning and ending points of control of access (denied) lines

Upon completion of the ROW acquisition and all construction work, such that the final ROW monuments are not at risk of being lines will not be disturbed by construction activities related to this project, the CONSULTANT shall verify that all rod-and-cap monuments located shown to be set on the final ROW Right-of-Way Layout Plan set line at all points of curvature (PCs), points of tangency (PTs), points of intersection (PIs), points of compound curvature (PCCs), and points of reverse curvature (PRCs) are set and are in undisturbed and in good condition. The CONSULTANT shall set rod and cap monuments on the ROW lines at intervals not to exceed 1,500 feet. These "on-line" monuments must be shown on the Final recordable Right-of-Way Layout Plan set. The CONSULTANT shall reset all disturbed ROW monuments in reference to the appropriate x, y, z data. The CONSULTANT shall have the financial responsibility of purchasing all materials, supplies, and other items necessary for proper the required survey monumentation of this project.

- Survey Records and Reports: The CONSULTANT must use an Electronic Field Book (EFB) to collect and store raw survey data. The use of an EFB to collect and store raw data shall follow the procedures described in the NHDOT's Survey Manual. The CONSULTANT shall preserve original raw data and document any changes or corrections made to field data, such as station name, height of instrument, target heights and offsets, and adjustments. The CONSULTANT shall also preserve raw and corrected field data in hardcopy output forms in a similar manner to conventional field book preservation. Field survey data and sketches that cannot be efficiently recorded in the electronic field book shall be recorded in a field notebook and stored with copies of the electronic data. All field notes shall be recorded in a permanently bound book. (Loose leaf field notes will not be allowed.) The CONSULTANT shall deliver copies of any or all field notebooks to NHDOT upon request.
- Survey Notebook Data: Field Survey data and sketches which cannot be efficiently recorded in the EFB should be recorded in a Field Survey Notebook furnished by the CONSULTANT and stored with copies of electronic data.

ARTICLE I

- Electronic Deliverable: All collected survey data and the Digital Terrain Model (DTM) created shall be and submitted to the department in .dgn format only. In addition, a digital copy of the recorded Final ROW Layout Plan set is to be submitted to the NHDOT Bureau of ROW. The documents produced by the surveyor, or the surveyor's subcontractors, are the property of the DEPARTMENT, and release of any such document must be approved by the DEPARTMENT.
- Permanent Survey Control Network: The CONSULTANT shall notify the NHDOT Survey Section at 603-271-3222 in advance of the removal of any existing survey control.

ARTICLE I

F. SCOPE OF WORK (FINAL DESIGN)

The scope of work proposed by this AGREEMENT includes:

1. Data Collection: The CONSULTANT shall collect any new and pertinent information that may be available within the Project limits. The CONSULTANT shall conduct a field review of the project area to identify key engineering controls, topographic features, natural and cultural constraints, and land uses that could have a bearing on the design. It is assumed that topographic surveys for Contracts B and C have already been completed. The CONSULTANT will supplement the prior surveys with rim and invert elevations as well as pipe types and sizes and direction of sewer and drain lines. This data will be added to the base plans.
2. Base Plan Preparation: The CONSULTANT shall update all design files created during the design-build proposal process, that are deemed necessary for the final design effort, to the new MicroStation Connect and OpenRoads Designer format. The DEPARTMENT will convert all files completed during BTC development by OTHERS, including all existing base plans, and BTC Design files. The CONSULTANT shall field verify the project as a priority and perform any necessary survey, and associated processing, that is necessary.

   The base plan shall be appropriately enhanced for display purposes at technical and public meetings and in documents prepared for the final design. Wetlands mapping, invasive species mapping, and mapping for other applicable environmental resources (including historic properties and districts, floodplains/floodways, contaminated properties, surface waters, areas sensitive to air quality and noise impacts), as well as Right-of-Way and utility information, shall be superimposed on the base plan by the CONSULTANT, as directed by the DEPARTMENT.

   - The CONSULTANT shall develop plans at the scale of 1" = 50' for Contract A, and at a Scale of 1"=20' for Contracts B and C, unless otherwise noted.
   - The CONSULTANT shall produce intersection, signal, and ramp gore grading plans for the Construction plans at a scale of 1" = 20'.
3. During Final design the CONSULTANT will refine the construction alignment(s), grades and intersection layouts of the proposed roadway(s) as shown on the base technical concept dated July 14, 2020, as well as ATCs described in Section A. The CONSULTANT shall investigate potential modifications in alignment, grades, and intersection layouts with the intent of reducing project impacts and costs. The alignments and grades of all other areas of the project shall remain very similar to those developed during the Part A design phase.
4. The design and preparation of contract plans for construction of the roadway, structures, traffic

control plans, construction phasing plans, noise barriers, layout and design of overhead sign structures, drainage facilities (including best management practices for permanent and temporary erosion and sedimentation control, water quality features and stormwater detention), retaining walls (assume 10 walls along Tsienneto Road) landscaping plans in accordance with the policy and procedures of the DEPARTMENT and the provisions of this AGREEMENT. .

5. The preparation of any specifications for work not included in the current standard specifications of the DEPARTMENT.
6. The preparation of any computations, estimates and documents for the required submissions to the DEPARTMENT, Federal Highway Administration, and/or any other STATE or Federal agency that are required.
7. Drainage Design: The project will include up to 8 new BMPs, modification of 4 existing BMPs as well as the design of up to 8 vegetated treatment swales. Design flow volumes to existing BMPs may require modifications to the existing closed drainage system to redirect flows associated with the additional impervious areas. The CONSULTANT will conduct a field walk with the DEPARTMENT to evaluate the condition of any existing drainage structures to remain. The CONSULTANT will be responsible to analyze the existing drainage system to verify adequate condition and capacity for the proposed flows and recommend modifications or replacement as appropriate. The closed drainage design within the Town of Derry requires a 25-year design storm, however the CONSULTANT will evaluate the cost savings, and viability, of using a 10-year design storm for Town of Derry closed drainage systems. To accomplish this, during the Slope and Drain design development, CONSULTANT will size pipes and structures for the 10- and 25-year design storm and create an itemized cost comparison to assess which design storm is appropriate to advance drainage design. CONSULTANT will assist DEPARTMENT in coordinating with the Town of Derry to determine required design storm.
8. Bridge Hydraulic Studies and Final Hydraulic Report: The CONSULTANT shall be responsible for updating of bridge hydrologic and hydraulic reports and analyses completed by OTHERS to support the design and future condition for Shields Brook and Tributary E to account for final design refinements including final hydraulic reports for Shields Brook and Tributary E. The preliminary designs for bridges at Shields Brook and Tributary E do not require a CLOMR, however, the hydraulic reports should be prepared in accordance with the NHDOT Bridge Design Manual (Section 2.7) with consideration for FEMA requirements, as a LOMR is needed and is to be completed by OTHERS. The report will be based on the existing and proposed designs, including grading of the structure. It will verify the

preliminary hydraulic opening and grading of the structure. This may include the development or updating of HEC-RAS model to support the design. The CONSULTANT shall be responsible for final estimates of impacts to flood storage and final design of flood storage mitigation to compensate for flood storage impacts, including the incorporation of minimization methods to further reduce impacts. Additional survey data and field investigation, if required, of the hydraulic reach shall be performed by the CONSULTANT. The consultant will conduct on the ground survey to support bridge study and final hydraulic report. Two days of field work is assumed for this task.

9. Scour analyses will be prepared for Shields Brook and Tributary E as per the NHDOT Bridge Manual.

10. Signs, Pavement Markings and Traffic Signals:

    a. The CONSULTANT shall provide an existing sign inventory in a Microsoft Excel spreadsheet including photographs, sign sizes, sign support types, sign support foundation types (where feasible), condition, installation date (if known or located on sign) and the location of all existing roadway signs along the project.

    b. The CONSULTANT shall be responsible for the design of all permanent signs (including all post, ground-mounted, and overhead bridge and structure-mounted signs) in the contract plans.

    c. The CONSULTANT shall be responsible for the design and layout of all permanent and temporary overhead signs. It is assumed that seven (7) new cantilever structures, one (1) new overhead structure, and one (1) bridge mounted sign are required in Contract A. An elevation view or "stick diagram" as per the NHDOT Design Manual is required for use by the Contractor in designing the overhead sign structure. The CONSULTANT shall estimate the size and type of sign structure foundation. These estimates will be based on the available geotechnical information and similar projects. The consultant will conduct ground spot survey verification for up to two proposed sign locations. The survey limits will include the right shoulder and along the slope to 20 feet outside the edge of pavement/guardrail for a length of 50 feet along the roadway. One day of field work is assumed for this task.

       The quantity and location of structures will be as required by the current DEPARTMENT approved edition (at the time this agreement was executed) of the Manual of Uniform Traffic Control Devices (MUTCD).

    d. Any sign or sign structure that exceeds 15 years of age at the time of completion of project construction will need to be updated to meet the MUTCD.

e. The CONSULTANT shall be responsible for the development of the permanent construction sign and warning device package including Smart Work Zone Devices. The signs and locations, including identifying the location of overhead sign structures, shall be shown on the Traffic Control Plans by phase.

f. All signing on the plans shall be closely coordinated with the location of guardrail installations, steep slopes, aerial and underground utility locations (including street lights) and drainage system locations to avoid conflicts and to determine which support system will be required to install the signs. The CONSULTANT will be responsible to identify all conflicts and to make necessary adjustments to highway signing.

g. The CONSULTANT shall be responsible for the design and incorporation of all pavement marking layouts, item numbers, item descriptions, and quantities.

h. The CONSULTANT shall be responsible for the design and incorporation of all traffic signals, including temporary traffic signals. This shall include layouts, traffic signal coordination plans, and traffic signal interconnection, including fiber, to permanent adjacent signals necessary to facilitate the design. Signal locations are as shown on the BTC. The CONSULTANT will be responsible evaluation of temporary signal requirements as part of the traffic control plans.

i. The CONSULTANT shall include all necessary quantities and summary tables in the contract plans for items listed in above in this section.

11. Noise Barriers: The CONSULTANT shall use the NHDOT standard details and plans in conjunction with their noise model to develop and provide the appropriate noise barrier layout and height. This shall include providing design information on each barrier utilizing the NHDOT standard tables, a separate profile view of each barrier, and layout information on a separate plan view. The barriers shall also be shown on the roadway cross sections. Along I-93 Northbound, north of the NB on-ramp, an area where no roadway work is required, separate cross sections are not required. The noise barrier plans shall also include the current NHDOT standard details in the Construction Plan set.

12. The CONSULTANT shall design all supporting bridge members for utilities and ITS infrastructure that traverse any bridge structure.

13. The CONSULTANT shall incorporate utility relocations and lighting designs by OTHERS. The CONSULTANT shall conduct Subsurface Utility Engineering (SUE), as defined in Section G-2, for incorporation into the contract plans. All utility data, existing and proposed, shall be reviewed by the CONSULTANT for constructability and to check for impacts to traffic control.

14. Construction cost estimates for each major submission (Slope & Drain, PPS&E, and PS&E)

shall be submitted with a full explanation of all major cost changes from the previous submission.

15. ITS: ITS design, special provisions, quantities, summaries and cost estimate shall be designed by the CONSULTANT including incorporation of the design into the plans and cross sections.
    a. The CONSULTANT shall be responsible for the design of a new closed-circuit television (CCTV) camera to be installed on the overhead sign structure (OHSS) located at approximately STA 1010+00, RT. This CCTV system shall be connected to the existing I-93 corridor backbone fiber optic cable using fiber strands #5 and #6 (blue tube).
    b. The CONSULTANT shall be responsible for the design of a new motor vehicle detection sensor (MVDS) to be installed on the existing CCTV tower along I-93 northbound at STA 1658+25, RT.
    c. The CONSULTANT shall develop fiber optic connection plans to connect the Exit 4A traffic signals to the existing I-93 corridor backbone fiber optic cable using fiber strands #49 through #60 (slate tube).
    d. The CONSULTANT shall develop a Smart Work Zone for the I-93 corridor associated with the construction of the new interchange.
16. Presentation Plans: The CONSULTANT shall prepare updated colored presentation plans at each formal submission as defined below. This is in addition to the informational meetings.
17. Technical Reports: The CONSULTANT shall prepare technical reports, as necessary, throughout the duration of the project to document and summarize relevant technical data. This includes, but is not limited to: Engineering Reports, Design Reports, stormwater reports, Geotechnical Reports, Pavement Design Reports, and Bridge Hydraulic Reports. The intent is to support the design through documentation of critical design decisions with technical reports and supporting material.
18. Engineering Report: The CONSULTANT shall update the Formal Engineering Report, previously done by OTHERS, at each submission to document the existing conditions within the project, and to summarize the design decisions and engineering details of the proposed action. Any rejected alternatives should also be documented to explain the justification for their rejection. This shall be finalized and submitted prior to the PS&E submission.
19. Design Exceptions: Design exceptions, if required, will be completed by the CONSULTANT. For the purpose of budgeting it is assumed Contracts A and B will each require one formal design exception and Contract C will require two formal design exceptions.

20. Over the Shoulder Meetings: It is expected that over the course of the project Over the Shoulder Meetings will be held through the duration of the design. These are informal meetings that will take place to discuss a variety of project issues that may include resource constraints, schedule, design issues, cost issues, MS4 requirements, and comment lists. These meetings will include the CONSULTANT and the DEPARTMENT. It is assumed one OTS meeting per design phase submission, per project, is included.
21. Project Management Meetings: It is expected that over the course of the project, Project Management Meetings will be held at least bi-monthly through the duration of the design. It is anticipated that 24 meetings will be conducted throughout the duration of the project. These are informal meetings including the NHDOT, and the CONSULTANT. They will take place to discuss a variety of project management issues, such as ROW status, outstanding issues, and design schedule. The CONSULTANT shall be responsible for meeting minutes.
22. Traffic Management Plan (TMP). The project was determined to be Significant level 1 and requires a project wide Traffic Management Plan. The CONSULTANT shall be responsible for development of the Traffic Management Plan for incorporation with the Slope and Drain submission. The CONSULTANT should anticipate attending the DEPARTMENT'S Traffic Control Committee meetings (assume seven) throughout the project. The CONSULTANT shall update the TMP as necessary and should assume six total updates (two per Project).

The engineering design shall take into consideration factors affecting the cost of the construction, such as foundation problems, earthwork quantities, erosion and sediment control, water quality treatment issues, construction phasing and complexity, utilities affected, environmental, construction materials, etc. During all phases of design, the CONSULTANT shall make a continuous effort to identify and minimize impacts on existing and proposed utilities, environmental resources, and private property.

The CONSULTANT shall, when requested by the DEPARTMENT, render such assistance as required, including the preparation and explanation of sketches and plans for, or at, any meetings or conferences held by the DEPARTMENT. Meeting notes and conference report memos shall be the responsibility of the CONSULTANT.

The CONSULTANT shall submit for review, as requested, progress prints (black line) showing general design, grades, special details, and cross sections. Paper prints shall be submitted upon request for soils studies, right-of-way use, evaluation of utility impacts, evaluation of hazardous materials, and other purposes.

All horizontal alignment notes, including traverse line notes furnished by the DEPARTMENT, shall be computed by the CONSULTANT to include coordinates.

ARTICLE I

Data from survey notes shall be transcribed and plotted on base plans, profiles and cross sections as required, if not furnished by the DEPARTMENT as described below.

Designs shall conform to the current standards, specifications, policies and guidelines enumerated in the Federal Aid Policy Guide, Subchapter G, Part 625, or to 23 Code of Federal Regulations, Part 625 and the DEPARTMENT's Design Manual, and Standard Plans for Road Construction (2010) or as updated on the Department's website, except as approved.

Multiple visits to the site shall be made during the design to visually observe and detect changed field conditions and additional surveys, using the Department's feature naming convention will be performed by the CONSULTANT upon agreement with the DEPARTMENT. The CONSULTANT shall be responsible for the incorporation of these files into the current detail base plans and digital terrain models (DTM). The incorporation of additional survey information shall include all drafting, labeling, and detailing. The CONSULTANT is responsible to field check the detail of all additional survey requests. Additional surveys may be required throughout the design process, and the CONSULTANT shall modify the design, as necessary, based on the updated survey information.

The CONSULTANT shall examine elements of design that may affect aerial and underground utilities. Elements may include horizontal and vertical alignments, typical sections, drainage pipes and structures, traffic control, earthwork utilization, along with soil suitability. Any conflict between design elements and utilities shall be identified and brought to the immediate attention of the DEPARTMENT. A special effort shall be made by the CONSULTANT to modify proposed drainage features or the design in order to avoid conflicts with underground utilities during all subsequent design phases.

All plotting, drafting and calculations performed by the CONSULTANT shall be independently checked by members of the CONSULTANT's staff other than those who performed the original work. The work of each stage submission (including quantity estimates) shall have been appropriately checked.

The CONSULTANT shall verify all computations and design calculations. When directed, the CONSULTANT will provide all study plans, work plans, alternate studies, and estimates indexed in accordance with DEPARTMENT procedures.

The CONSULTANT's Licensed Professional Engineer stamp for the State of New Hampshire shall appear on the contract plans and reports prepared by the CONSULTANT that will be submitted to the DEPARTMENT. Stamps shall be those of the professional engineers who prepared the plans and reports or under whose direct supervisory control they were prepared.

G. SCOPE OF WORK (UTILITIES)

The utility coordination for this project will be performed by the DEPARTMENT and will be provided to the CONSULTANT in either paper or digital format.

1. Utility Coordination Support: It is anticipated that documents provided will be in paper format and will require the CONSULTANT to draft them onto the contract plans and cross sections. The CONSULTANT will be responsible for additional Subsurface Utility Engineering (SUE) investigations to a Quality level appropriate for the utility to ascertain the location of the existing utility.
2. Subsurface Utility Engineering: The CONSULTANT will provide a minimum of Quality Level D project wide, to supplement a review of the utility documents provided by the DEPARTMENT. The DEPARTMENT will provide the CONSULTANT with a utility contact list as established by the DEPARTMENT:
    a. The CONSULTANT shall provide a minimum of Quality Level C project wide.
    b. The CONSULTANT shall provide a minimum Quality Level B on Madden Road, Folsom Road, NH 28, Tsienneto Road between NH28 and NH 28 Bypass, and NH 28 Bypass. The CONSULTANT shall provide up to 40,000 linear feet and ten (10) interior vault dimensions for the Quality Level B effort.
    c. The CONSULTANT shall provide up to thirty five (35) Quality Level A test holes where potential conflicts exist with the roadway structural box and drainage facilities. The DEPARTMENT will review proposed locations prior to work being performed.
    d. The CONSULTANT will conduct on the ground field survey to locate all surface utilities and utility markings throughout the corridor. This data will be post-processed and updated in the base drawings.
3. Sewer and Water Relocation Design: The design of replacement sewer and water facilities in the Town of Derry requiring adjustment/relocation necessary to accommodate the project is not included in this agreement and will be provided by OTHERS. Such Municipal utility relocations (e.g., sewer and/or water), approved by the DEPARTMENT, shall be included, into the contract plans, cross sections, summary sheets and cost estimate.

For all other utilities, the CONSULTANT shall incorporate onto the contract plans the existing utility locations and utility relocations, as designed by the individual utility owner. Participating and Non-participating utility relocation items shall be kept independent from each other and separate from the highway and/or bridge items in the estimates submitted. The DEPARTMENT will provide the unit item number(s) and unit price(s) to be used for the utility relocations.

ARTICLE I

H. SCOPE OF WORK (PUBLIC PARTICIPATION)

The CONSULTANT shall support the public participation process that enhances the DEPARTMENT's "Public Involvement Process for New Hampshire Transportation Improvement Projects". The CONSULTANT shall prepare presentation graphics, handouts and supporting displays for public participation and posting to the Project's website and be available to make presentations and prepare Conference Reports. Specific tasks include:

1. Public Involvement Plan: The CONSULTANT will develop a Public Involvement Plan outlining all elements of the tasks listed below. The plan will include a detailed schedule of all activities. The Plan will be reviewed with any necessary changes at all major project (corridor wide) milestones and Plan submittals.
2. Public Relations Representative: The CONSULTANT will be responsible to supply a public relations representative to assist with project duties such as email distributions (NHDOT to provide initial contact list based on previous project outreach), public inquiries, website, public involvement plan, newsletters, etc.
3. Public Officials/Public Informational Meetings: It is anticipated that up to six Public Meetings will be held to involve the public and other interested parties in the project development process. These Public Meetings will focus on the proposed action, project status updates, schedule, construction phasing and construction impacts. The CONSULTANT will prepare informational handouts and presentation materials and assist with presentations as needed. The CONSULTANT will document meeting proceedings in the form of Conference Reports for posting to the Project's website. The first two meetings will be virtual using Zoom, the subsequent meetings will hybrid Zoom/in-person, if COVID-19 conditions permit.
4. Newsletter: The CONSULTANT shall develop a corridor-wide Project Newsletter for distribution to stakeholders, project abutters, resource agencies and others as determined necessary by the DEPARTMENT. The CONSULTANT shall prepare content for two editions of the newsletter yearly. The final newsletter is to be provided in an electronic format (PDF) to the DEPARTMENT who will make any necessary copies. The DEPARTMENT will distribute the Project Newsletters and the CONSULTANT will post it to the Project's website. Each newsletter will be color and limited to three 11" x 17" sheets double sided that can be folded in half so that when they are printed, they provide a "book" type format.
5. Project Fact Sheets: The CONSULTANT will prepare up to eight Project Fact Sheets. Fact Sheets will outline key project details, key milestones, project objectives and other significant milestones of the project, while listing appropriate opportunities for public involvement.

Once created these Fact Sheets will be reviewed and updated at least twice per year.

a. The Project Fact Sheets will be color and limited to one sheet (8.5" x 11") double-sided.

b. The DEPARTMENT will print copies for distribution; the CONSULTANT will post the Project Fact Sheets to the Project's website. Materials developed by the consultant will be ADA section 508 compliant for posting on the website.

6. Website: The CONSULTANT shall develop and maintain a project website—for dissemination of project information. Project information may include items such as Conference Reports, publicly available project reports and documents, and a schedule. The CONSULTANT shall provide the content necessary for regular updates to the website, including but not limited to: Fact Sheets, Newsletters, Design Plans, Conference Reports, and traffic control phasing during construction. During design the website will be updated at significant milestones and at a minimum on a quarterly basis. During the construction phase, which will be completed under separate agreement, the website will be updated at a minimum of a monthly basis or for significant traffic pattern changes and construction status updates. Upon project completion, the CONSULTANT will provide the website files to the DEPARTMENT for their permanent record.

I. MATERIAL FURNISHED BY THE DEPARTMENT OF TRANSPORTATION

The DEPARTMENT will furnish the following data to the CONSULTANT:

1. Electronic files in US Customary Units of the following information in accordance with the DEPARTMENT's CAD/D Procedures and Requirements for incorporation onto the plans by the CONSULTANT:

a. All existing survey and baseline data, field notes, and note reductions in the format outlined in the DEPARTMENT's CAD/D Procedures and Requirements in effect at the time of execution of this AGREEMENT. An electronic ground model shall be provided, along with all existing information that can be used to create a model in the format of ASCII point file, or SDR data files.

b. Electronic preliminary horizontal and vertical alignments for the project limits as envisioned. This data will be in MicroStation Connect and OpenRoads Designer format and coordinate (x, y, z) data (ASCII) format, in accordance with the DEPARTMENT's CAD/D Procedures and Requirements in effect at the time of execution of this AGREEMENT.

c. Any additional surveys of adjacent parcels, mitigation sites, wetland boundaries, or

other pertinent information deemed necessary and processed by the DEPARTMENT. Incorporation of this information into the digital terrain model and plans shall be the responsibility of the CONSULTANT.

d. Upon request of the CONSULTANT electronic object cell files in MicroStation format of roadway typical cross sections features and standard detail sheets shall be provided, if available from the DEPARTMENT's CAD/D library in accordance with the DEPARTMENT's CAD/D Procedures and Requirements in effect at the time of execution of this AGREEMENT.

e. Electronic drawings in MicroStation format of the existing underground utilities, if provided to the DEPARTMENT by the utility. The CONSULTANT shall be prepared to provide an electronic copy of preliminary base plans to the DEPARTMENT for use by the utilities. The CONSULTANT shall be responsible for the incorporation of this information provided onto the plans, in accordance with the DEPARTMENT's CAD/D Procedures and Requirements in effect at the time of execution of this AGREEMENT.

f. Available topographical mapping within the project area shall be provided along with any pertinent electronic supporting information, that may include survey field notes, ASCII point file, or SDR data files. Incorporation of this supplemental information into the digital terrain model and base plan shall be the responsibility of the CONSULTANT.

2. Paper copies of the following information:

   a. When available any existing and proposed information outlined in Article I.I.1.a. through f. above provided in electronic format for verification by the CONSULTANT.

   b. Any additional information (e.g., utilities) when not available electronically for the CONSULTANT to incorporate onto the plans in accordance with the DEPARTMENT's CAD/D Procedures and Requirements.

3. Right-of-Way data: The DEPARTMENT will provide an existing Right-of-Way Plan set for the project footprint within the Town of Derry and for the project footprint along I-93. This will include legacy alignments, existing right-of-way layout, property lines at tax map level, current property owners, and any other applicable abstracting information in MicroStation format for incorporation onto the plans by the CONSULTANT.

4. Plans of prior highway and bridge construction projects within the project limits, when available. The CONSULTANT shall be responsible for incorporation of the pertinent data.

5. Existing geotechnical investigations and recommendations, when available. The DEPARTMENT will not perform any additional geotechnical investigations.

6. Necessary traffic counts and crash data, as previously collected by the DEPARTMENT, no new data will be collected.
7. Conceptual design and final layout of highway lighting, both temporary and permanent. The CONSULTANT shall be responsible for incorporating the design and layout into the project documents and for recommending adjustments required to avoid conflicts.
8. Although not provided by the DEPARTMENT, additional information can be found on the project's website: https://www.nh.gov/dot/projects/derrylondonderry13065/index.htm

J. WORK SCHEDULE AND PROGRESS REPORTS

The CONSULTANT shall promptly begin performance of the services designated in the Contract upon receipt from the DEPARTMENT of a Notice to Proceed. The CONSULTANT shall complete these services without delay unless unable to do so for causes out of the CONSULTANT's control.

The CONSULTANT's sequence of operation and performance of the work under the terms of this AGREEMENT shall be varied at the direction of the DEPARTMENT in order to give priority to critical areas so that schedules and other STATE commitments, either present or future, can be met.

The CONSULTANT shall develop a design schedule in Microsoft Project format. This schedule shall indicate the status (remaining duration and percent complete) of all major design tasks for each Project and shall be submitted on a monthly basis as part of the invoicing procedures (see Section J). If no invoice is prepared for the month, the design schedule is still required unless work has been halted on the project at the direction of the DEPARTMENT.

The CONSULTANT shall report progress to the DEPARTMENT in conjunction with the DEPARTMENT's Standardized Invoicing process. Invoices shall be submitted for each month that there has been more than $10,000 in cumulative billable work since the last invoice, or at least quarterly. For months with no progress, or less than $10,000 cumulative work since the last invoice, the CONSULTANT shall submit a status report briefly describing the reasons for little or no progress.

K. SUBMISSION OF REPORTS, PLANS AND DOCUMENTS

During the prosecution of this AGREEMENT, the CONSULTANT shall prepare and submit to the DEPARTMENT separate submissions as described hereinafter. All work submitted by the CONSULTANT to the DEPARTMENT shall be in US Customary units.

With each submission the CONSULTANT shall submit an updated Engineering Report and a Design Report with a design narrative describing the design issues. The report shall include reference materials and version used, design criteria and controls, specific items and issues of interest, design calculations (e.g. superelevation, guardrail, etc.), drainage information (including back-up

calculations, MS4 compliance, and a copy of the drainage software model), and an updated construction cost estimate. In addition, the report shall include anticipated or outstanding issues and the CONSULTANT's recommendations. All issues shall be noted as to whether the CONSULTANT believes the issue is within the scope of work as described in Article I. Meetings between the CONSULTANT and the DEPARTMENT, shall be held for submissions transmittals to discuss design issues and recommendations and to review comment resolutions after the submission is reviewed by the Department. These meetings are considered part of the process/advancement and will not be tasked out individually.

The CONSULTANT shall supplement each submission with such paper and electronic copies of MicroStation drawings, illustrations, and descriptive matter as are necessary to facilitate a comprehensive understanding and review of proposed concepts.

All plan drawings, including size of sheets, lettering, symbols and scale of said drawings, shall conform to the requirements and standards of the DEPARTMENT. Any and all CAD/D-related work completed during the course of this project shall be performed in conformance with the DEPARTMENT's CAD/D Procedures and Requirements in effect at the time of execution of this AGREEMENT. In addition, the CONSULTANT's final submission shall include hard copy of plans, reports, etc. as well as electronic CAD/D or GIS files. The CAD/D files shall consist of the base plans with enhancements in MicroStation format, using DEPARTMENT naming conventions, line styles and character styles. The CONSULTANT shall also furnish a coordinate summary of all survey control points with a corresponding plot of controls and alignments, including all curve data superimposed over the plan detail.

In addition to the final reproducible plans being furnished as noted herein, the CONSULTANT shall provide electronic file copies of all highway project plan sheets with real State plane coordinates (as applicable), including, but not limited to, final quantity sheets, typical section detail sheets and detail sheets, general plans and profiles, traffic signal sheets, and, cross sections. An electronic file of the entire project's final design shall be submitted in an "uncut" format showing all design features in real State plane coordinate system in true north orientation. The final electronic files shall be indexed with file name, description of the contents of the file and project sheet number as applicable. Any plans (e.g. quantity summary sheets) produced from a spreadsheet (e.g. Excel, or equivalent) shall be submitted in ASCII file or format suitable for incorporation into Microsoft Office or the current DEPARTMENT software. The final Special Provisions(s) and other documents, as requested, shall be submitted in both electronic format (Microsoft Word-compatible) and hard copy. The CONSULTANT shall also be prepared to submit separate electronic files of all alignments, bound locations and other project features, as requested, in a format acceptable to the

DEPARTMENT, throughout the design contract. The CONSULTANT shall also provide a hard copy of all proposed alignments establishing 50-foot minimum station interval and curve control points with associated State plane coordinates (x, y, z).

1. Roadway Design Submissions: It is assumed there will be a total of three separate construction contracts. Each submittal below will be provided for each construction contract.

   The CONSULTANT shall provide sets of roll plans (for all plan sets including traffic control plans) for each submission. Each submission shall also include two bound copies of all reports to be included in each submission. For each submission, the CONSULTANT shall include summary sheets for all items and shall follow the general guidelines shown in the sample plans in the design manual. An electronic copy of all spreadsheets shall be submitted (for each estimate and submission).

   It is anticipated that informal submittals of some design elements during the initial part of this phase will be needed to ensure the design controls and the design are progressing. Informal submissions may be necessary to assess design decisions before progress is made. It is anticipated this early coordination will be an iterative process.

   The plan submissions for roadway design shall follow the procedures outlined below. Quantity estimates, quantity calculations, summary sheets, design calculations, narratives and special provisions for design elements not performed by the CONSULTANT shall be provided by OTHERS to the CONSULTANT in an appropriate format for inclusion in the respective submissions noted below:

a. PFAS Handling Determination – Roadway: Prior to beginning the Slope and Drain phase, the CONSULTANT will develop a conceptual plan to handle the excavation of soil material containing Per- and Polyfluoroalkyl substances (PFAS). This plan will consist of conceptual plans, spreadsheets, and a narrative delineating the dispensation of the material and where it is to be placed. All plans will be developed on 11" x 17" sheets. The intent is to provide a plan for the disposition of PFAS contaminated materials that will guide the preparation of the Slope and Drain plans. Detailed design of drainage or other roadway elements is not included in this work task. The OpenRoads files developed by OTHERS in the Part A process will be used extensively to modify the existing roadway side slope templates (and by extension the cross sections) to develop cut and fill quantities. This effort is envisioned to be a coarse level analysis, but one that provides enough information to attempt to utilize all earthwork quantities within the project limits. The CONSULTANT will analyze and categorize the earthwork according to the PFAS contamination level), as well as taking into

account heavy metal contamination and LRS considerations. The CONSULTANT will analyze earthwork in approximately 100' increments in order to provide data on the availability of opportunities to minimize excavation or maximize embankment.

b. Right-of-Way Updates: The CONSULTANT shall update the proposed right-of-way lines based on changes that occur during the Right-of-Way acquisition process. For Contract A the information will be provided by the DEPARTMENT. The DEPARTMENT will provide any changes that occur as part of the negotiation with the property owners along with a copy of the executed deed. The changes will be provided in Microstation files or simple mark-up drawings that are easily transferred to the current design files.

The CONSULTANT shall be responsible for development of the ROW Layout Plan set and acquisition plans for Contracts B and C. The Department will approve the ROW layout and authorize the CONSULTANT to proceed in developing ROW layout plans. The CONSULTANT shall submit draft ROW layout plans to the DEPARTMENT to review prior to finalizing ROW layout plans.

c. Preliminary Plan Submission – Roadway: This submission is intended to update the Base Technical Concept with any line and grade modification resulting from an incorporated ATC or design change that significantly modifies the BTC. The submission shall consist of up to five sets of roll plans showing slope lines, approximate drainage-system details and drainage features, and proposed right-of-way lines, including drainage, slope and/or construction easements as well as a comparison between to the BTC. This submission will be based on a complete review of the material furnished by the DEPARTMENT and developed and/or supplemented by the existing information with the CONSULTANT, particularly in regard to the proposed design criteria, predicted traffic, preliminary soil data, expected Best Management Practices for erosion- and sedimentation-control and water-quality issues, conceptual traffic control and topography of the project area, the CONSULTANT shall prepare and submit to the DEPARTMENT plans cross-sections and other applicable plan sheets showing:

1) The recommended horizontal and vertical alignment of all necessary roadway construction including local roads, and ramps.

2) All roadway cross-sections at 50-foot intervals (except 25-foot intervals in rock areas), which shall be plotted with the top line of the template of the proposed roadway cross-sections shown. The CONSULTANT shall recognize that additional geotechnical information may be required and, therefore, this submission may need to

be recut and reordered for subsequent submissions when soils/ledge information is made available.

3) Proposed pavement layouts and major control elements.

4) The alignment (horizontal and vertical) of major diversions or construction phases that will have significant implications for the project in the final design. Critical cross-sections (with superelevations) shall be developed and labeled by phases to assist in the assessment of the conceptual traffic-control phasing and conceptual location of overhead-sign structures.

5) Conceptual Best Management Practices for water-quality structures shall be shown with approximated flows. A presentation and narrative will be required to explain the concept for approval.

6) Recommended water-quality treatment.

7) Roll plans shall show where match lines are anticipated for future cut sheets.

8) Preliminary typical sections with top-line template.

9) Proposed limits and recommendations for letting the construction under separate contracts, including cost estimates, areas of overlap, maintenance of traffic, drainage, etc.

10) Proposed right-of-way layout with bounds.

The following issues, at a minimum, shall also be considered in the development of the above-mentioned plans:

1) Conceptual Traffic Control Plan and construction phasing.
2) New Hampshire Dredge and Fill Application
3) Conceptual design for mitigation areas and summary of wetland impacts.
4) Earthwork balances
5) Potential closed drainage/underdrain outlets, and cover over drainage structures.
6) Right-of-way involvement.
7) Potential conflicts with major utilities.

This submission shall be supplemented with such conceptual drawings, illustrations and descriptive matter as are necessary to facilitate a comprehensive review of both the proposed design and the feasibility of construction, and the coordination with the design of bridges or other structures. This shall include profiles and cross-sections, particularly where clearance and setbacks may be issues.

The estimates for this submission shall be reasonably itemized to cover roadways, structures, drainage and other construction items as well as costs of utility changes to be financed by the STATE.

For development of the proposed right-of-way lines, sight-distance review and the assessment of environmental impacts, it shall be necessary that all templates be plotted to develop slope lines. This shall require computation and submission of pavement-superelevation calculations. Rounding of slopes shall be considered in developing slope lines, but plotted cross-section templates do not need to have roundings shown at this submission. Guardrail calculations shall also be submitted.

d. Slope and Drain Plans – Roadway: This submission shall consist of up to five sets of paper roll or cut sheet plans showing slope lines, drainage system details and drainage features; along with draft proposed Right-of-Way lines, showing drainage, slope and/or construction easements. The Slope and Drain Plans shall include typical sections, roll plan views (as a minimum), profiles, guardrail locations, existing utilities and cross-sections with complete template plotted. Appropriate references will be shown on the plans relative to drainage design (e.g. inverts, pipe type / size) to assist with the review of the drainage design and the backup drainage calculations. All temporary drainage features shall have backup calculations submitted with each submission. The submission shall be supplemented with a list of utility conflicts that could not be avoided during the design. Complete BMP designs for permanent erosion and sedimentation control features and water-quality appurtenances shall be shown accompanied with backup calculations. The backup calculations shall also include a narrative, mapping and computations addressing pre-construction and post-construction (and post-development, if applicable) drainage conditions and applicable drainage control features. Two bound copies of the drainage-computation and narrative book(s), including temporary drainage, shall be submitted with all backup drainage calculations illustrated and referenced to each drainage appurtenance shown on the drainage design.

At this time, a field inspection shall be held with the DEPARTMENT. Indicated design changes or corrections that will be incorporated into the plans for the Preliminary PS&E submission. Any indicated revisions to fit actual field conditions, including corrections to the Right-of-Way requirements, shall be made by the CONSULTANT.

Also with the Slope and Drain submission, the CONSULTANT shall submit, at a minimum, roll plans of the Traffic Control Plans in near-final form showing temporary slopes, lane uses and widths, overhead sign structures, temporary guardrail and barrier locations,

temporary drainage, temporary easements, temporary alignments and profiles as needed, ramp locations, side road diversions, etc.), and diversion cross-sections and superelevations with backup calculations. The CONSULTANT shall indicate all traffic assignments at interchanges and intersections together with the turning movement volumes on the plans based on traffic information provided by the DEPARTMENT. Construction phasing shall be in near final format and shall be shown on the traffic control plans with narratives for each phase. The CONSULTANT shall also submit a conceptual construction schedule (in MS Project), showing the phased construction (with time frames) and utility relocation time frames (provided by the DEPARTMENT), for review and comment by the DEPARTMENT.

The CONSULTANT shall provide the design of the noise barrier plan with this submission and at the same time as the draft final design noise report.

The CONSULTANT shall revise the Traffic Management Plan (TMP) for the project and plans for the construction phasing, traffic control, temporary drainage and water-quality commitments for each contract. This could also include collecting, analyzing and summarizing data used in monitoring TMP activities.

At this submission, an itemized construction estimate shall be prepared and submitted by the CONSULTANT (two bound copies) based on the best information and design features shown in this submission relative to the anticipated construction including any diversions or temporary widenings.

At this submission, CONSULTANT will provide independent evaluation of key cost and constructability elements including independent review of high-risk construction phasing and traffic control items associated with the roadway and bridge efforts.

e. Wetland Impact Plans: Following incorporation of the DEPARTMENT's comments on the Slope and Drain Submission, the CONSULTANT shall update Wetland Impact plans (in cut sheet format) showing permanent and temporary impacts for inclusion within the amendments to the existing wetland permit. The level of effort for this task assumes the wetland impact plans prepared during the Part A design are provided by the DEPARTMENT for updating by the CONSULTANT. These areas shall be hatched or colored according to the DEPARTMENT's standards. Accompanying these plans, the CONSULTANT shall provide an updated tabulated impact summary showing wetland identification numbers, areas of fill or dredged volumes in the temporary and permanent conditions for the final build-out for this project.

f. Utility Plans: Following review of the Slope and Drain submission, the CONSULTANT shall incorporate DEPARTMENT comments into the design layout and assemble the plans into a cut sheet format. The CONSULTANT shall then furnish up to ten sets of cut sheet plans (paper prints) of front sheet, plans, profiles, traffic control plans, and up to five sets of cross-sections, and updated construction schedule, and a list of revised utility conflicts by utility type for use by the Design Services Section. The CONSULTANT shall also submit separate electronic files of this information, in a format acceptable to the DEPARTMENT, in conformance with the DEPARTMENT's CAD/D Procedures and Requirements. This submission plan set is intended to facilitate the identification of the scope of work required by various utilities to comply with the planned construction. The plans are intended to reflect the near-final design of drainage systems with all appurtenances, erosion and sedimentation-control features, other structures, right-of-way lines (proposed permanent and temporary, and existing), curbing, pavement layout, slope limits, guardrail, final template plotted on cross-sections, diversions and diversion cross-sections, traffic control issues with construction phasing, underdrain, clearing and grubbing limits, fencing requirements, lighting (provided by NHDOT) and ITS conduit. Also, the plans shall reflect all existing detail, existing drainage and existing utilities. All final design notes may not be necessary, but the scope of construction shall be evident to the reviewing utilities. Copies of this plan set will be forwarded to the Design Services Section for review. Comments will be returned to the CONSULTANT to finalize the plans prior to the formal submission for relocations. The plans shall show the status of the design prior to preparation of the Preliminary PS&E submission.

g. Preliminary PS&E (PPS&E) – Roadway: Upon approval in writing by the DEPARTMENT of the Slope and Drain submission, the CONSULTANT shall proceed to prepare and submit to the DEPARTMENT for approval the PPS&E submission which shall consist of three sets of plans (paper prints) of preliminary contract drawings, draft special provisions for items for which current specifications are not available from the DEPARTMENT, and a Preliminary PS&E estimate of quantities and costs. The plans shall include title sheet, typical sections, all plan sheets (of all plan sets), profile sheets, curb and pavement marking layout plans, ITS infrastructure, complete traffic control plans (with a conceptual construction schedule) including one set of roll plans, cross-section sheets and necessary detail sheets. Also, seeding and grading plans shall be included. Landscaping, if required, will be designed by the DEPARTMENT and incorporated into the Plan set by the CONSULTANT. Quantity Summary sheets shall be submitted. All item summary boxes for drainage, clearing and

grubbing, earthwork, surfacing and select materials, curbing, guardrail, traffic signs, construction signs and warning devices, pavement markings, conduit and pull boxes, ITS components, landscaping and slope protection, bounds, fencing, delineation and witness markers and other items that are nearly complete shall be shown and note line-entries completed. Rounding and totals are not required. Item summary boxes of expected work, not listed above, shall be included and shown without line-entries completed. In developing the plans to the Preliminary PS&E stage, the DEPARTMENT will require an estimate of the quantities, expected unit costs, and total costs prepared in the form and manner prescribed by the DEPARTMENT for the Preliminary PS&E submission. Roadway items shall be kept separate from bridge items. Two bound copies of the quantity calculations shall be furnished with the estimate. The plans shall reflect all comments from the Slope and Drain submission, ROW layout plans and utility plans and issues that appear during final design. The plans shall incorporate proposed utility relocations or improvements. Plans incorporating proposed utility relocations shall be provided for review by the Department when requested during preparation of the submission. Two bound copies of the drainage computations book (as revised based on Slope and Drain comments) including MS4 compliance, as well as temporary drainage computations.

CONSULTANT will also provide independent review of key construction phasing and traffic control items associated with the selected roadway effort along with a general independent review of high-risk constructability items for each contract.

h. PS&E – Roadway: Upon approval in writing by the DEPARTMENT of the Preliminary PS&E submission, the CONSULTANT shall proceed to prepare and submit to the DEPARTMENT for approval the PS&E submission, which shall consist of three complete sets of paper prints of construction plans including one set of roll plans (for all plan sets including the traffic control plans), two bound copies of the revised quantities book, Engineering Report, proof of a three-way check, proof of an "Apples and Oranges" check and a PS&E estimate. The PS&E submission shall have had complete final and "three-way" checks performed by the CONSULTANT. In addition, two bound copies of the design report, and two updated copies of the drainage report. Special Provisions shall be submitted in electronic format (Microsoft Word-compatible) for all items not in the Standard Specifications for Road and Bridge Construction of the STATE and for which a current special provision is not available (assume ten). This submission shall include any final edits necessary to make this a complete and final submission ready for contract plans and bidding.

Final contract plans and documents shall reflect all comments resulting from the PS&E

review. The CONSULTANT shall be prepared to incorporate all comments, furnish drafting services for omissions found and generally assist the DEPARTMENT in finalizing the contract plans. If changes are requested to be made to the CONSULTANT's plans by the DEPARTMENT, the CONSULTANT shall be prepared to update the corresponding electronic files and submit them to the DEPARTMENT. The final contract plans submitted shall include up to three sets of paper prints. Also, all CONSULTANT backup documents shall be resubmitted, as necessary, to reflect the final PS&E and final contract plan conditions, including the conceptual construction schedule.

The final contract plans shall include:

1) Front sheet.
2) Symbols sheets.
3) Typical sections of improvement.
4) Summary-of-quantities sheets.
5) Detail sheets, special sheets, and drainage note sheets as required.
6) Profile and Plan sheets.
7) Cross-section sheets.

Each of the plan sheets shall be labeled with its corresponding electronic file name.

2. Bridge Design Submissions: The content, completeness and scales for all drawings shall be as approved by the DEPARTMENT and shall be such as to portray the placement and positioning of components and surfaces and the general appearance of the structural units. Large-scale details shall be employed as directed for congested areas or connections between components.

The CONSULTANT shall perform a load-rating analysis for each bridge using the appropriate AASHTO Method, or as directed by the DEPARTMENT, to be submitted on a form provided by the DEPARTMENT.

The phases for the development of the project are as follows, unless approved otherwise during scope development between the Department and the Consultant:

- TS&L – updates due to ATC adoption as needed
- Boring Layout
- Preliminary Plans (40%-50% complete)
- Preliminary PS&E Plans (80% complete)
- PS&E Plans (95% complete)

ARTICLE I

a. TSL (Type-Span-Location) Studies: The alignments and profiles developed during the preliminary design of the highway portion of the project will, after approval of the preliminary highway plans by the DEPARTMENT, serve as a base for determining the types of structures that may be utilized and the arrangement of the structure and its components with respect to span lengths, clearances, alignments, etc., which may affect the interface between the bridge and the highway or other features at the bridge location. These "other" features may include existing bridges, drainage facilities, buildings, streets, utilities, etc., or new structures and roadways, ramps, etc., that will be part of the project.

Existing TSL study plans shall be updated for each bridge based on the review of ATCs (listed in Section A) showing the selected structure and shall include the plan, elevation, and typical bridge section. The plan and elevation shall generally be drawn to a scale as approved by the DEPARTMENT and shall accurately portray the location and size of the structural components, pavement and slope lines, center and grade lines, vertical and horizontal clearances, etc. The typical bridge section shall portray the components of the superstructure, materials of construction, beam spacing and locations, and dimensions of pavement, curbs, etc.

b. Boring Layout: Following the review and acceptance of the TSL Study by the DEPARTMENT, a boring layout plan shall be prepared for the bridge, the layout being based on the approved TSL Plan if required due to a bridge change due to an ATC being implemented. This proposed boring layout plan shall be submitted to the DEPARTMENT for approval.

The results of the subsurface explorations shall be plotted, indicating the materials encountered (by description and blow counts), water table, approximate construction elevations, etc. These subsurface data sheets shall be further developed for inclusion in the preliminary and final contract plans.

c., Preliminary Plans – Bridge: The preliminary plans will build on the TS&L submission presented in the BTC. The preliminary plans will be developed following the guidelines and checklist provided in the NHDOT Bridge Design Manual. Estimates of itemized quantities shall be prepared for all materials of construction. Upon completion of this plan submission, copies of the plans shall be submitted to the DEPARTMENT for review and comment, the plans at this stage representing about 40%-50% completion. This package shall also include backup quantity calculations for the estimate and the preliminary hydraulic and scour reports. (completed under Task F.8, minor revisions and coordination included under this task).

d. Preliminary PS&E – Bridge: This design shall incorporate revisions, if any, in the Preliminary Plans as previously approved by the DEPARTMENT. The plan and elevation, survey plan, and profiles, as submitted for the Preliminary Plans, shall be refined as necessary and shall become a part of the final contract plans. Estimates of itemized quantities shall be prepared for all materials of construction and shall be tabulated on the plans and summarized for each bridge. Upon completion of this plan submission, copies of the plans shall be submitted to the DEPARTMENT with the PPS&E Roadway Plans for review and comment, the plans at this stage representing about 80% completion. This package shall also include backup quantity calculations for the estimate and the final hydraulic and scour reports (completed under Task F.8, minor revisions and coordination included under this task).

e. PS&E – Bridge: Comments resulting from the DEPARTMENT's review of the Preliminary PS&E submission shall be incorporated into the design and contract plans. The CONSULTANT shall complete all requirements in the contract plans section of the NHDOT Bridge Manual. The estimate of itemized quantities shall be completed and tabulated, and the reinforcing bar schedules shall be completed. Comments resulting from the DEPARTMENT's review of the PS&E submission shall be incorporated into the design and contract plans. The CONSULTANT shall be prepared to incorporate all comments, furnish drafting services for omissions found and generally assist the DEPARTMENT in finalizing the contract plans. Form 4 as required by the NHDOT Bridge Manual shall also be developed for review and approval.

3. Deliverables:

a. Electronic Transfer of Data: The DEPARTMENT requires the following to ensure compatibility with software used by the DEPARTMENT and to ensure the efficient and timely exchange of computer files between the DEPARTMENT and the CONSULTANT.

All files submitted must be fully compatible with the formats listed in this document without any conversion or editing by the DEPARTMENT. Any files requiring conversion and/or editing by the DEPARTMENT will not be accepted. All files shall be virus free. All files shall use the DEPARTMENT's file naming convention.

b. Computer Aided Design/Drafting (CAD/D) files: All CAD/D files shall be in accordance with the Deliverable Requirements described in the DEPARTMENT's CAD/D Procedures and Requirements in effect at the time this AGREEMENT was executed, or any later version. All files submitted must be fully compatible with the current version of MicroStation being

used by the DEPARTMENT. (The DEPARTMENT's CAD/D Procedures and Requirements document can be found on the CAD/D website by following the "Downloads" link at www.nh.gov/dot/cadd/.)

c. Approved action deliverables: The CONSULTANT's final submission shall include hard copies of plans, as well as electronic CAD/D files. The CAD/D files shall consist of the base plans with enhancements in MicroStation format, using DEPARTMENT naming conventions, line styles and character styles. The CAD/D files shall also contain a proposed 3D top line model, complete out to the slope limits. The model shall include existing and proposed surfaces developed in OpenRoads Designer format for use by the construction contractor. At a minimum the model shall match the proposed design for:

- All pavement work (edge of pavement to edge of pavement) and;
- Slope work out to the match with existing ground with the exception of:
  - i. Complicated slopes associated with culverts and water quality measures that are detailed with other methods
  - ii. Simple driveway matches

d. Word Processing, Spreadsheet, and Database Files: For each Phase, all relevant files shall be provided in a format fully compatible, as appropriate, with the following:

- Word Processing: Microsoft Word 2010 or NHDOT compatible version
- Spreadsheets: Microsoft Excel 2010 or NHDOT compatible version
- Databases: Microsoft Access 2003 or NHDOT compatible version

These specifications will be updated as necessary to reflect changes in DEPARTMENT software such as adding new software or updating to new versions of existing software. In such instances, the CONSULTANT will be promptly notified.

e. Computer File Exchange Media: Electronic files shall be exchanged between the DEPARTMENT and the CONSULTANT using the following media as appropriate for Windows Operating Systems:

- FTP: Files posted to the DEPARTMENT's FTP site can be actual size or compressed. Contact the Project Manager for instructions for accessing the FTP site.
- Compact Disc (CD): Files on CD(s) should be actual size, not compressed.
- USB Flash Drive: Files on flash should be actual size, not compressed.
- DVD: Files on DVD(s) should be actual size, not compressed.
- E-mail: Files 20 MB or smaller may be transferred via e-mail. If compressed, the files should be self-extracting and encrypted based on content.

f. Copies: The CONSULTANT shall provide hard (paper) and electronic copies of the

deliverables for each Phase of Work. For all deliverables, provide electronic copies in two electronic versions: an electronic version in the original electronic file format (i.e., MicroStation (*.dgn), Microsoft Word (*.docx), Microsoft Excel (*.xlsx), etc.) and an electronic version in Adobe Acrobat (*.pdf) file format.

g. Website:

- Website Content: All external NHDOT websites created for this project shall meet the ADA Section 508 requirements as stated in the NH DoIT Website Standards. Those standards are outlined in https://www.nh.gov/doit/vendor/documents/nh-website-standards.pdf
- Website Documents: All documents posted to a website created for this project, or that are submitted to be posted to a NHDOT website, shall meet ADA Section 508 accessibility requirements. A checklist for document compliance is provided in https://www.section508.gov/content/build/create-accessible-documents (go to second link down under "Checklists").

h. Electronic Deliverables: Upon completion of the AGREEMENT, the CONSULTANT shall turn over all documentation used in the development of the Design and Plans. The following list is a guide to what electronic information is expected to be returned from the design Consultants to NHDOT for final storage. Note that it is not intended to be an all-inclusive (complete) listing of contract deliverables, as there may be contract specific information/documents associated with specialty work, unusual circumstances, or new technology, etc., that is not listed below. The intent is that all electronic documents developed for and associated with a particular project be submitted to the Department as part of the final deliverables.

- CAD/D File Information: See the Department's CAD/D Procedures and Requirements documentation for more (detailed) information relative to this element. CAD/D file data (both reference files and cut sheets for Highway and Bridge) shall include the following.
  1) Include any files from sub-consultants (including traffic signals, retaining walls, ROW plans, mitigation sites, noise barriers, etc.).
  2) Plotting references needed to re-produce project cut-sheets including sheet numbering (include final project .pcf file, pen-tables, etc.).
  3) Files used to number the project cut sheets (project .pcf file, pen tables, etc.).
  4) Final embellished presentation plan.
- Project Journal File: See the Department's CAD/D Procedures and Requirements

documentation for more (detailed) information relative to this element.

1) Care shall be taken to prepare a complete Project Journal File outlining all files and descriptions used on the project. In addition to the cut-sheet definitions, all cut sheet models need to be included so the sheets can be reproduced.
2) Plotting needs to be included to provide any necessary guidance on how the sheets are to be plotted at the correct scale. Include any pen-tables used in the project.
3) Complete index of all 3D model surfaces provided and what they are used for.
4) Index of all alignments used on the project (with appropriate feature names) and descriptions.

L. SCOPE OF WORK (CONSTRUCTION SUPPORT SERVICES)

If a contract for construction of the project, or part of it, is entered into within two years after completion by the CONSULTANT of the services outlined in Articles I, III and IV, the CONSULTANT, at the CONSULTANT's sole expense, shall render services to the DEPARTMENT, including, but not restricted to, the following:

1. Construction

   When required by the DEPARTMENT during the construction of the project, the CONSULTANT shall:

   a. Correct and resolve errors and/or omissions, due to the CONSULTANT's own negligence, within the contract plans and specifications found during construction.
   b. Render interpretations, as necessary, of the contract plans and specifications and submit recommendations for necessary modifications in either or both and, upon approval of recommendations by the DEPARTMENT, revise the contract plans and specifications to cover same and prepare other detailed drawings as may be needed to supplement the contract plans in order to permit the proper completion of the project. This work effort, if required, will be deemed additional services, subject to an adjustment in the fee.

M. DATE OF COMPLETION

In accordance with the Governor and Council Resolution authorizing this AGREEMENT, the date of completion for the professional services rendered under this AGREEMENT is May 31, 2025. Completion of construction support services shall be in accordance with Article I-L - Construction Support Services.

ARTICLE II

ARTICLE II - COST PLUS FIXED FEE COMPENSATION OF CONSULTANT

A. GENERAL FEE

In consideration of the terms and obligations of this AGREEMENT, the STATE, through the DEPARTMENT, hereby agrees to pay and the CONSULTANT agrees to accept as full compensation for all services rendered to the satisfaction of the DEPARTMENT under this AGREEMENT, an amount equal to the sum of the following costs:

1) Actual salaries* approved by the DEPARTMENT paid to technical and other employees by the CONSULTANT, including salaries to principals, for the time such employees are directly utilized on work necessary to fulfill the terms of this AGREEMENT.

   *In accordance with DEPARTMENT policy, the maximum direct-labor rate allowed for all positions under this AGREEMENT, including subconsultants, shall be $60.00 per hour unless a waiver to the salary cap has been specifically approved for specialty services. A waived rate shall remain fixed at that rate for the life of the AGREEMENT unless a subsequent waiver is requested and approved.

   An overtime premium of one and one half times the direct labor rate for non-exempt employees working beyond the standard 40 hours per workweek may be allowed for special circumstances when approved by the DEPARTMENT in writing in advance. The overhead portion of non-exempt employees' salary rates shall not be adjusted. Engineers are not eligible for overtime premium rates.

   Direct salary costs are estimated at: $1,610,752.24

2) Overhead costs applicable to the direct salary costs. The audited indirect cost rate, as submitted to and approved by the DEPARTMENT, will be applied to the direct salary costs. The CONSULTANT'S audited indirect cost rate for fiscal year ending December 31, 2019, which expires June 30, 2021, 161.69%, shall be used for invoicing for the life of the AGREEMENT.

   Overhead costs are estimated at: $2,604,425.30

3) A fixed fee amount based on the estimated risk to be borne by the CONSULTANT [maximum 10.00% of Labor Costs (including overhead costs)] for profit and non-reimbursed costs.

   The fixed fee is: $421,517.75

ARTICLE II

4) Reimbursement for direct expenses, including, but not limited to, subconsultants with a subcontract value of less than $200,000, printing, reproductions and travel not included in normal overhead expenses. The reimbursable costs for mileage and for per diem (lodging and meals) shall be that allowed by the CONSULTANT'S established policy but shall not exceed that allowed in the Federal Acquisition Regulations (Subpart 31.205-46) and in the Federal Travel Regulation. Mileage and per diem costs shall be subject to approval by the DEPARTMENT. Subconsultants with a subcontract value of less than $200,000 shall be invoiced as direct expenses and require individual invoices.

Direct expenses are estimated at: $435,574.00

5) Reimbursement for actual cost of subconsultants is estimated as follows:

McFarland-Johnson, Inc.	$972,587.90
GZA GeoEnvironmental	$730,637.76
KCI Technologies	$330,234.63
O.R. Colan Associates	$3,731,837.68
AGREEMENT NOT-TO-EXCEED TOTAL	**$10,837,567.26**

The amount payable under categories 1), 2), 4), and 5) may be reallocated within the not-to-exceed total upon mutual agreement of the DEPARTMENT and the CONSULTANT. Reallocations shall be properly documented for Final Audit purposes, but do not require a formal amendment.

The total amount to be paid under this AGREEMENT shall not exceed $10,837,567.26 the sum of the amounts shown in Article II, Section A (which amount is based on the CONSULTANTS fee and manhour estimates of March 15, 2021), except by agreement of all parties made after supplemental negotiations and documented by a formal amendment to the AGREEMENT. Should circumstances beyond the control of the CONSULTANT require extension of the time of completion more than one (1) year, the general fee may be renegotiated and documented by a formal amendment to the AGREEMENT; however, the fixed fee (b) shall not change for reasons of work duration alone. The fixed fee (b) shall only change when there has been a significant increase or decrease in the scope of work outlined in this AGREEMENT.

B. LIMITATION OF COSTS

1. Costs incurred against this AGREEMENT shall not exceed the total amount specified in Article II, Section A unless otherwise authorized. The CONSULTANT shall give the DEPARTMENT a ninety (90)-day written notice when it appears that this limit will be exceeded.

2. It is expected that the total cost to the STATE shall be the not-to-exceed amount specified in Article II, Section A, and the CONSULTANT agrees to use best efforts to perform the work specified in the AGREEMENT and all obligations under this contract within this not-to-exceed amount.
3. The STATE shall not be obligated to reimburse the CONSULTANT for costs incurred in excess of the not-to-exceed amount specified in Article II, Section A.
4. Changes to the scope of work shall not be considered an authorization to the CONSULTANT to exceed the not-to-exceed amount specified in Article II, Section A.

C. **PAYMENTS**

Monthly payments on account of services rendered under this AGREEMENT may be made upon submission of invoices by the CONSULTANT to the DEPARTMENT. The CONSULTANT shall follow the DEPARTMENT'S Standardized Invoicing format. The fixed fee shall be invoiced during the billing period based upon the overall percent complete calculated within the approved progress report found in the DEPARTMENT'S Standardized Invoicing. Invoices shall be submitted for each month that there has been more than $10,000 in cumulative billable work since the last invoice, and at least quarterly.

Actual salaries paid and the indirect cost rate shown in Article II, Section A, shall be used until such time as true costs of salary burden and overhead are fixed by Final Audit. At that time, payments shall be adjusted to agree with the indirect cost rates as determined by Final Audit for the period in which the work was performed, as approved by the DEPARTMENT.

D. **ANNUAL INDIRECT COST RATE SUBMISSIONS**

The CONSULTANT and all subconsultants with a subcontract value of $200,000 or greater shall submit their audited indirect cost rate and related documents annually for the life of this AGREEMENT as follows:

To comply with the Federal Acquisition Requisitions (FAR), the CONSULTANT'S Indirect Cost Rate Audit must meet the following requirements:

- Be conducted by an independent Certified Public Accountant (CPA), a Federal government agency, or another state transportation agency.
- Be conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS) issued by the U.S. Government Accountability Office (GAO) and with the cost principles and procedures set forth in Part 31 of the FAR.
- Follow the guidance of the most recent American Association of State Highway Transportation Officials Uniform Audit and Accounting Guide for Audits of Architectural and Engineering Consulting Firms (AASHTO Audit Guide).

ARTICLE II

In addition to the Indirect Cost Rate Audit, CONSULTANTS shall submit the following documentation:

- AASHTO Internal Control Questionnaire (ICQ) for Consulting Engineers form with the required attachments.
- Certification of Final Indirect Costs as required pursuant to 23 CFR 172.11 and FHWA Order 4470.1A.
- Complete copy of the CONSULTANT'S annual audited financial statements.
- Analysis of reasonableness of executive compensation as outlined in the AASHTO Audit Guide.
- Cognizant letter, if available.
- A listing of all contracts, with dollar amounts, the CONSULTANT has currently with the DEPARTMENT as a prime consultant or subconsultant.

Annual indirect cost rate submissions are due within 6 months of the CONSULTANT'S fiscal year end and shall be submitted to the DEPARTMENT'S Internal Audit Office electronically to DOT-InternalAudit@dot.nh.gov or in writing.

E. RECORDS, REPORTS, AND FINAL AUDIT

The CONSULTANT shall maintain adequate cost records for all work performed under this AGREEMENT. All records and other evidence pertaining to cost incurred shall be made available at all reasonable times during the AGREEMENT period and for three (3) years from the date of final expenditure report for examination by the STATE, Federal Highway Administration, or other authorized representatives of the Federal Government, and copies thereof shall be furnished if requested. Applicable cost principles are contained in the Federal Acquisition Regulations (FAR) in Title 48 of the Code of Federal Regulations (Subpart 31.2 and Subpart 31.105).

The DEPARTMENT shall have the right, at the time of Final Audit, to review all items charged on this project. If, in the opinion of the DEPARTMENT, such payment is unreasonable, the CONSULTANT shall be required to justify such payment or payments before they will be approved as direct or indirect costs. All costs as described in Article II Section A.1 through A.5 are to be determined by actual records kept during the term of the AGREEMENT, which are subject to Final Audit by the STATE and Federal Governments. The final payment, and all partial payments made, may be adjusted to conform to this Final Audit. In no case will any adjustments exceed the not-to-exceed amount specified in Article II, Section A. All Subconsultant costs may also be subject to Final Audit by the STATE and Federal Governments.

ARTICLE III - GENERAL PROVISIONS

A. HEARINGS, ETC.

(Not applicable to this AGREEMENT)

B. CONTRACT PROPOSALS

After the CONSULTANT has furnished to the DEPARTMENT contract drawings, special provisions, specifications, and estimate of quantities and unit cost by items, the DEPARTMENT will prepare the documents for receipt of proposals from construction contractors and for execution of a construction contract or contracts.

ARTICLE IV - STANDARD PROVISIONS

A. STANDARD SPECIFICATIONS

The CONSULTANT agrees to follow the provisions of the Design Manuals, Standard Specifications for Road and Bridge Construction, and Standard Plans for Road and Bridge Construction of the DEPARTMENT; A Policy on Geometric Design of Highways and Streets and LRFD Bridge Design Specifications of the American Association of State Highway and Transportation Officials (AASHTO), and amendments thereto, and/or other professional codes or standards applicable to the services to be performed under this AGREEMENT. When a publication (including interim publications) is specified, it refers to the most recent date of issue in effect at the time of execution of this AGREEMENT.

B. REVIEW BY STATE AND FHWA - CONFERENCES - INSPECTIONS

It is mutually agreed that all portions of the work covered by this AGREEMENT shall be subject to the inspection by duly-authorized representatives of the STATE and Federal Highway Administration, United States Department of Transportation, at such time or times as the STATE or Federal Highway Administration deems appropriate.

The location of the office where the work will be available for inspection by STATE and Federal Highway Administration representatives is 2 Bedford Farms Drive, Suite 200, in the City of Bedford, State of New Hampshire.

It is further mutually agreed that any party, including the duly-authorized representatives of the Federal Highway Administration, may request and obtain conferences, visits to the site, and inspection of the work at any reasonable time.

C. EXTENT OF CONTRACT

1. Contingent Nature of AGREEMENT

   Notwithstanding anything in this AGREEMENT to the contrary, all obligations of the STATE, including, without limitation, the continuance of payments, are contingent upon the availability and continued appropriation of funds, and in no event shall the STATE be liable for any payments in excess of such available appropriated funds. In the event of a reduction or termination of those funds, the STATE shall have the right to terminate this AGREEMENT.

2. Termination

   The DEPARTMENT shall have the right at any time, and for any cause, to terminate the work required of the CONSULTANT by this AGREEMENT by written notice of such termination provided to the CONSULTANT by the DEPARTMENT, and, in the event of such a termination of this AGREEMENT without fault on the part of the CONSULTANT, the CONSULTANT shall be entitled to compensation for all work theretofore satisfactorily performed, pursuant to this AGREEMENT, such compensation to be fixed, insofar as possible, based upon the work

performed prior to termination. If no contract or contracts for construction of the project contemplated by this AGREEMENT is (are) entered into within two (2) years after satisfactory completion of the services outlined in Article I, all of the services contemplated by this AGREEMENT shall be deemed to have been completed.

It shall be a breach of this AGREEMENT if the CONSULTANT shall fail to render timely the services required under this AGREEMENT, in accordance with sound professional principles and practices, to the reasonable satisfaction of the DEPARTMENT, or shall be in such financial condition as to be unable to pay its just debts as they accrue, or shall make an assignment for the benefit of creditors, or shall be involved in any proceeding, voluntary or involuntary, resulting in the appointment of a receiver or trustee over its affairs, or shall become dissolved for any cause. In the event of the happening of any one or more of the foregoing contingencies, or upon the substantial breach of any other provisions of this AGREEMENT by the CONSULTANT, its officers, agents, employees, and subconsultants, the DEPARTMENT shall have the absolute right and option to terminate this AGREEMENT forthwith, and, in addition, may have and maintain any legal or equitable remedy against the CONSULTANT for its loss and damages resulting from such breach or breaches of this AGREEMENT; provided, however, that as to all plans, drawings, tracings, estimates, specifications, reports, proposals, sketches, diagrams, and calculations, together with all material and data theretofore furnished to the DEPARTMENT by the CONSULTANT, of a satisfactory nature in accordance with this AGREEMENT, which plans, drawings, tracings, etc., are of use to the DEPARTMENT, the CONSULTANT shall be entitled to a credit, based on the contract rate for the work so performed in a satisfactory manner and of use and benefit to the DEPARTMENT.

D. <u>REVISIONS TO REPORTS, PLANS OR DOCUMENTS</u>

The CONSULTANT shall perform such additional work as may be necessary to correct errors in the work required under the AGREEMENT caused by errors and omissions by the CONSULTANT without undue delays and without additional cost to the DEPARTMENT.

Furthermore, prior to final approval of plans, specifications, estimates, reports, or documents by the DEPARTMENT, the CONSULTANT shall make such revisions of them as directed by the DEPARTMENT, without additional compensation therefor, except as hereinafter provided:

1. If, after its written approval thereof, the DEPARTMENT shall require changes to the plans or documents that revise engineering or other factors specifically approved, thereby necessitating revisions of the contract plans or documents, or,
2. When applicable, if during the term of this AGREEMENT, a revision of the alignment is ordered by the DEPARTMENT to the extent that the revised alignment will lie completely or partially

outside the limit of the survey data plotted by the CONSULTANT (this does not apply to those adjustments and refinements to the alignments anticipated under the scope of work), or,

3. If, after approval by the DEPARTMENT of the final contract plans or documents, the CONSULTANT shall be ordered in writing by the DEPARTMENT to make revisions, or to perform services other than those necessary to adapt said plans, reports, or documents to conditions observed during field inspections and encountered during construction; the CONSULTANT shall be entitled to compensation therefor in accordance with Article II, Section A, such compensation to be in addition to the fee specified in Article II, Section A, for its original work on the plans, reports or documents.

E. ADDITIONAL SERVICES

If, during the term of this AGREEMENT, additional professional services are required due to a revision in the limits of the project, or it becomes necessary to perform services not anticipated during negotiation, the DEPARTMENT may, in writing, order the CONSULTANT to perform such services, and the CONSULTANT shall be paid a fee in accordance with the provisions of Article II, Section A.

If, during the term of this AGREEMENT, additional professional services are performed by the CONSULTANT due to the fact that data furnished by the DEPARTMENT are not usable or applicable, the STATE will, upon written approval by the DEPARTMENT, reimburse the CONSULTANT for such additional design services in accordance with the provisions of Article II, Section A.

If additional services are performed by the CONSULTANT through its own acts, which are not usable or applicable to this project, the cost of such additional services shall not be reimbursable.

F. OWNERSHIP OF PLANS

All data, plans, drawings, tracings, estimates, specifications, proposals, sketches, diagrams, calculations, reports, or other documents collected, prepared, or undertaken either manually or electronically by the CONSULTANT under the provisions of this AGREEMENT, immediately shall become the property of the DEPARTMENT, and, when completed, shall bear the CONSULTANT'S endorsement. The CONSULTANT shall surrender to the DEPARTMENT, upon demand at any time, or submit to its inspection, any data, plan, drawing, tracing, estimate, specification, proposal, sketch, diagram, calculation, report, or document which shall have been collected, prepared, or undertaken by the CONSULTANT pursuant to this AGREEMENT, or shall have been hitherto furnished to the CONSULTANT by the DEPARTMENT. The CONSULTANT shall have the right, with the written approval of the DEPARTMENT, to use any of the data prepared by it and hitherto delivered to the DEPARTMENT at any later stage of the project contemplated by this AGREEMENT.

ARTICLE IV

G. SUBLETTING

The CONSULTANT shall not sublet, assign or transfer any part of the CONSULTANT'S services or obligations under this AGREEMENT without the prior approval and written consent of the DEPARTMENT.

All subcontracts shall be in writing and those exceeding $10,000 shall contain all provisions of this AGREEMENT, including "Certification of CONSULTANT/Subconsultant". For subconsultants working on design, hazardous materials, geotechnical services, etc., the minimum limits of their professional liability (errors and omissions) insurance coverage shall be not less than $2,000,000 in the aggregate, with a deductible of not more than $75,000. For subconsultant contracts with less risk, e.g., wetland evaluations, materials inspection and testing, structural steel fabrication inspection, underwater bridge inspection, research, bridge deck condition surveys, land surveying, mapping, noise studies, air-quality studies, etc., the minimum limits of their professional liability (errors and omissions) insurance coverage shall be not less than $1,500,000 in the aggregate, with a deductible of not more than $50,000. For subconsultant contracts with no risk, e.g., archaeology, cultural resources, data gathering, traffic counting etc., professional liability insurance shall not be required. Subconsultants completing field exploration for geotechnical, hazardous materials/environmental, and subsurface exploration shall also have pollution liability insurance coverage not less than $2,000,000 in the aggregate, with a deductible of not more than $75,000. If coverage is claims made, the period to report claims shall extend for not less than three years from the date of substantial completion of the construction contract. A copy of each subcontract shall be submitted for the DEPARTMENT'S files.

H. GENERAL COMPLIANCE WITH LAWS, ETC.

The CONSULTANT shall comply with all Federal, STATE, and local laws and ordinances applicable to any of the work involved in this AGREEMENT and shall conform to the requirements and standards of STATE, municipal, railroad, and utility agencies whose facilities and services may be affected by the construction of this project. The services shall be performed so as to cause minimum interruption to said facilities and services.

I. BROKERAGE

The CONSULTANT warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT, to solicit or secure this Contract, and that it has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, the STATE shall have the right to annul this Contract without liability, or, at its discretion, to

deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

J. CONTRACTUAL RELATIONS

1. Independent Contractor

   The CONSULTANT agrees that its relation to the STATE is as an independent contractor and not as an agent or employee of the STATE.

2. Claims and Indemnification

   a. Non-Professional Liability Indemnification

      The CONSULTANT agrees to defend, indemnify and hold harmless the STATE and all of its officers, agents, and employees from and against any and all claims, liabilities, or suits arising from (or which may be claimed to arise from) any (i) acts or omissions of the CONSULTANT or its subconsultants in the performance of this AGREEMENT allegedly resulting in property damage or bodily injury, and/or, (ii) misconduct or wrongdoing of the CONSULTANT or its subconsultants in the performance of this AGREEMENT.

   b. Professional Liability Indemnification

      The CONSULTANT agrees to indemnify and hold harmless the STATE and all of its officers, agents, and employees from and against any and all claims, liabilities, or suits arising from (or which may be claimed to arise from) any negligent acts or omissions of the CONSULTANT or its subconsultants in the performance of professional services covered by this AGREEMENT.

   c. These covenants shall survive the termination of the AGREEMENT. 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 by the STATE.

3. Insurance

   a. Required Coverage

      The CONSULTANT shall, at its sole expense, obtain and maintain in force the following insurance:

      1. Commercial or comprehensive general liability insurance, including contractual coverage, for all claims of bodily injury, death, or property damage, in policy amounts of not less than $250,000 per occurrence and $2,000,000 in the aggregate (STATE to be named as an additional insured); and
      2. comprehensive automobile liability insurance covering all motor vehicles, including owned, hired, borrowed, and non-owned vehicles, for all claims of bodily injury, death,

or property damage, in policy amounts of not less than $500,000 combined single limit; and

3. professional liability (errors and omissions) insurance coverage of not less than $2,000,000 in the aggregate. If coverage is claims made, the period to report claims shall extend for not less than three years from the date of substantial completion of the construction contract. No retention (deductible) shall be more than $75,000; and
4. workers' compensation and employer's liability insurance as required by law.

b. Proof of Insurance

The policies described in paragraph (a) of this section and Section G shall be in the standard form employed in the STATE, issued by underwriters licensed or approved by the Department of Insurance of the STATE. Each policy shall contain a clause prohibiting cancellation or modifications of the policy earlier than 30 days, or 10 days in cases of non-payment of premium, after written notice thereof has been received by the STATE. The CONSULTANT shall provide to the STATE a certificate of insurance evidencing the required coverages, retention (deductible), and cancellation clause prior to submittal of the AGREEMENT to Governor and Council for approval and shall have a continuing duty to provide new certificates of insurance as the policies are amended or renewed.

4. No Third-Party Rights

It is not intended by any of the provisions of the AGREEMENT to make the public, or any member thereof, a third-party beneficiary of the AGREEMENT, or to authorize anyone not a party to this AGREEMENT to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Contract. The duties, obligations, and responsibilities of the parties to this AGREEMENT with respect to third parties shall remain as imposed by law. No portion of this AGREEMENT shall be understood to be a waiver of the STATE'S sovereign immunity.

5. Construction of AGREEMENT

This AGREEMENT is executed in a number of counterparts, each of which is an original and constitutes the entire AGREEMENT between the parties. This AGREEMENT shall be construed according to the laws of the STATE.

K. AGREEMENT MODIFICATION

The assignment of the CONSULTANT, generally established by the scope of work in this AGREEMENT, shall not be modified in any way without prior approval of the Governor and Council.

ARTICLE IV

L. EXTENSION OF COMPLETION DATE(S)

If, during the course of the work, the CONSULTANT anticipates that one or more of the completion dates specified in this AGREEMENT cannot be met, it shall be the CONSULTANT'S responsibility to notify the DEPARTMENT in writing at least ninety (90) days prior to the completion date(s) in question. The CONSULTANT shall state the reasons that a completion date(s) cannot be met and request a revised date(s) for consideration by the DEPARTMENT.

M. TITLE VI (NONDISCRIMINATION OF FEDERALLY-ASSISTED PROGRAMS) COMPLIANCE

During the performance of this AGREEMENT, the CONSULTANT, for itself, its assignees and successors in interest agrees as follows:

(1) Compliance with Regulations: The CONSULTANT shall comply with Title VI of the Civil Rights Act of 1964 regulations relative to nondiscrimination in federally-assisted programs of the DEPARTMENT, such regulations entitled Title 49 Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the REGULATIONS), and which are herein incorporated by reference and made a part of this AGREEMENT.

(2) Nondiscrimination: The CONSULTANT, with regard to the work performed by it during the AGREEMENT, shall not discriminate on the grounds of race, color, religion, age, sex, handicap, sexual orientation, or national origin in the selection and retention of subconsultants, including procurements of materials and leases of equipment specific to this project. The CONSULTANT shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the REGULATIONS, including employment practices when the AGREEMENT covers a program set forth in Appendix B of the REGULATIONS.

(3) Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the CONSULTANT for work to be performed under a subcontract, including procurements of materials or leases of equipment specific to the project, each potential subconsultant or supplier shall be notified by the CONSULTANT of the CONSULTANT'S obligations under this AGREEMENT and the REGULATIONS relative to nondiscrimination on the grounds of race, color, religion, age, sex, handicap, sexual orientation, or national origin.

(4) Information and Reports: The CONSULTANT shall provide all information and reports required by the REGULATIONS or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by the DEPARTMENT or the Federal Highway Administration to be pertinent to ascertain compliance with such REGULATIONS, orders and instructions. Where any information required of a

CONSULTANT is in the exclusive possession of another who fails or refuses to furnish this information, the CONSULTANT shall so certify to the DEPARTMENT or the Federal Highway Administration, as appropriate, and shall set forth what efforts it has made to obtain the information.

(5) Sanctions for Noncompliance: In the event of the CONSULTANT'S noncompliance with nondiscrimination provisions of this AGREEMENT, the DEPARTMENT shall impose sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

(a) withholding of payments to the CONSULTANT under the AGREEMENT until the CONSULTANT complies; and/or

(b) cancellation, termination, or suspension of the AGREEMENT, in whole or in part.

(6) The CONSULTANT shall take such action with respect to any subcontract or procurement as the DEPARTMENT or the Federal Highway Administration may direct as a means of enforcing such provisions, including sanctions for noncompliance, provided, however, that in the event a CONSULTANT becomes involved in, or is threatened with, litigation with a subconsultant or supplier as a result of such direction, the CONSULTANT may request the DEPARTMENT to enter into such litigation to protect the interests of the STATE, and, in addition, the CONSULTANT may request the United States to enter into such litigation to protect the interests of the United States.

(7) 23 CFR 710.405(b) and Executive Order 11246 entitled "Equal Employment Opportunity," as amended by Executive Order 11375 and as supplemented in Department of Labor REGULATIONS (41 CFR Part 60), shall be applicable to this AGREEMENT and any subagreements hereunder.

(8) Incorporation of Provisions: The CONSULTANT shall include the provisions of paragraphs (1) through (7) in every subcontract, including procurements of materials and leases of equipment specific to the project, unless exempt by the REGULATIONS, or directives issued pursuant thereto.

In accordance with EXECUTIVE ORDER 11246, the DEPARTMENT has the authority and responsibility to notify the Office of Federal Contract Compliance Programs of the United States Department of Labor if they become aware of any possible violations of Executive Order 11246 and 41 CFR Part 60. The Office of Federal Contract Compliance Programs is solely responsible for determining compliance with Executive Order 11246 and 41 CFR Part 60 and the CONSULTANT should contact them regarding related compliance issues.

ARTICLE IV

N. DISADVANTAGED BUSINESS ENTERPRISE POLICY REQUIREMENTS

1. Policy. It is the policy of the United States Department of Transportation (USDOT) to ensure nondiscriminatory opportunity for Disadvantaged Business Enterprises (DBE's), as defined in 49 Code of Federal Regulations (CFR) Part 26, to participate in the performance of agreements and any subagreements financed in whole or in part with Federal funds. Consequently, the DBE requirements of 49 CFR Part 26 apply to this AGREEMENT.
2. Disadvantaged Business Enterprise (DBE) Obligation. The STATE and its CONSULTANTS agree to ensure nondiscriminatory opportunity for disadvantaged business enterprises, as defined in 49 CFR Part 26, to participate in the performance of agreements and any subagreements financed in whole or in part with Federal funds. In this regard, the STATE and its CONSULTANTS shall take all necessary and reasonable steps in accordance with 49 CFR Part 26 to ensure that disadvantaged business enterprises have the opportunity to compete for and perform work specified in the agreements. The STATE and its CONSULTANTS shall not discriminate on the basis of race, color, religion, age, sex, handicap, sexual orientation, or national origin in the award and performance of agreements financed in whole or in part with Federal funds.
3. Sanctions for Non-Compliance. The CONSULTANT is hereby advised that failure of the CONSULTANT, or any Subconsultant performing work under this AGREEMENT, to carry out the requirements set forth in paragraphs 1 and 2 above, shall constitute a breach of agreement and, after the notification of the United States Department of Transportation, may result in termination of this AGREEMENT by the STATE or such remedy as the STATE deems appropriate.

O. DOCUMENTATION

The CONSULTANT shall document the results of the work to the satisfaction of the DEPARTMENT and the Federal Highway Administration. This shall include preparation of progress reports, plans, specifications, and estimates and similar evidences of attainment of objectives called for in this AGREEMENT.

P. CLEAN AIR AND WATER ACTS

If the amount of the AGREEMENT or subcontract thereunder exceeds $100,000, the CONSULTANT or subconsultant shall comply with applicable standards, orders, or requirements issued under Section 306 of the Federal Clean Air Act (43 U.S.C. 1857(h), Section 508 of the Federal Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15), which prohibit the use under non-exempt Federal contracts, grants, or loans of facilities included on the EPA List of Violating Facilities. The CONSULTANT or subconsultant shall report violations to the

ARTICLE IV

FHWA and to the U. S. Environmental Protection Agency Assistant Administrator for Enforcement (EN-329).

Attachment 1

CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS

The CONSULTANT X, proposed subconsultant ____, hereby certifies that it has X, has not ____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Order 11246 and that it has X, has not ____, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Vanasse Hangen Brustlin, Inc.
(Company)

By: _____ MRB

Sr. Vice President
(Title)

Date: 3/15/2021

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1), and must be submitted by consultants and proposed subconsultants only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally, only contracts or subcontracts of $10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime consultants and subconsultants who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such consultant submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

(Revised: June, 1980) NOTE: TO BE COMPLETED BY CONSULTANT WHEN SIGNING AGREEMENT.

Attachment 2

CONSULTANT DISCLOSURE STATEMENT
FOR PREPARATION OF
ENVIRONMENTAL EVALUATIONS

I hereby affirm that I have read and reviewed the Council on Environmental Quality (CEQ) regulation [40 CFR 1506.5(C)] and related guidance issued by CEQ and that pursuant thereto this firm has no financial or other interest in the outcome of this project.

I further hereby affirm that the information provided herein is true and correct and acknowledge that any knowingly false statement or false representation as to any material part contained herein may subject me to a fine and/or imprisonment, pursuant to pertinent provisions of the United States Code.

3/15/2021 _____ (Date)

_____ (Signature) MRB

Attachment 3

CERTIFICATION OF CONSULTANT/SUBCONSULTANT

I hereby certify that I am the Senior Vice President and duly-authorized representative of the firm of Vanasse Hangen Brustlin, Inc., and that neither I nor the above firm I here represent has:

(a) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above CONSULTANT) to solicit or secure this Contract,

(b) agreed, as an express or implied condition for obtaining this Contract, to employ or retain the services of any firm or person in connection with carrying out the Contract, or

(c) paid, or agreed to pay, to any firm, organization or person (other than a bona fide employee working solely for me or the above CONSULTANT) any fee, contribution, donation or consideration of any kind for, or in connection with, procuring or carrying out the Contract:

I/WE do also, under penalty of perjury under the laws of the United States, certify that, except as noted below, the company or any person associated therewith in the capacity of (owner, partner, director, officer, principal investigator, project director, manager, auditor, or any position involving the administration of Federal funds): (a) is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency; (b) has not been suspended, debarred, voluntarily excluded or determined ineligibility by any Federal agency within the past three years; (c) does not have a proposed debarment pending; and (d) has not been indicted, convicted or had a civil judgment rendered against (it) by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

except as here expressly stated (if any):

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, indicate below to whom it applies, the initiating agency, and dates of action. Providing false information may result in criminal prosecution or administrative sanctions.

I acknowledge that this certificate is to be furnished to the State Department of Transportation and the Federal Highway Administration, U. S. Department of Transportation, in connection with this Contract involving participation of Federal-aid highway funds, and is subject to applicable State and Federal laws, both criminal and civil.

3/15/2021 (Date)

(Signature) MRB

Attachment 4

CERTIFICATION OF STATE DEPARTMENT OF TRANSPORTATION

I hereby certify that I am the Director of Project Development of the Department of Transportation of the State of New Hampshire, and the above consulting firm or its representatives has not been required, directly or indirectly, as an express or implied condition in connection with obtaining or carrying out this Contract, to:

(a) employ or retain, or agree to employ or retain, any firm or person, or

(b) pay, or agree to pay, to any firm, person, or organization, any fee, contribution, donation, or consideration of any kind:

except as here expressly stated (if any):

March 19, 2021
(Date)

(Signature)

Attachment 5

CERTIFICATION FOR FEDERAL-AID CONTRACTS EXCEEDING $100,000 IN FEDERAL FUNDS

The prospective participant certifies, by signing and submitting this agreement, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower-tier subcontracts which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

Attachment 6

IN WITNESS WHEREOF the parties hereto have executed this AGREEMENT on the day and year first above written.

Consultant

WITNESS TO THE CONSULTANT

By: _____

Dated: 3/15/2021

CONSULTANT

By: _____ MRB

Senior Vice President

(TITLE)

Dated: 3/15/21

Department of Transportation

WITNESS TO THE STATE OF NEW HAMPSHIRE

By: Phyllis C. Jouvelakas

THE STATE OF NEW HAMPSHIRE

By: _____

Director of Project Development

DOT COMMISSIONER

Dated: March 19, 2021

Dated: March 19, 2021

Attorney General

This is to certify that the above AGREEMENT has been reviewed by this office and is approved as to form and execution.

Dated: 3/23/2021

By: Allison B. Groenstein

Assistant Attorney General

Secretary of State

This is to certify that the GOVERNOR AND COUNCIL on _____ approved this AGREEMENT.

Dated: _____

Attest:

By: _____

Secretary of State

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State of New Hampshire

Department of State

CERTIFICATE

I, William M. Gardner, Secretary of State of the State of New Hampshire, do hereby certify that VANASSE HANGEN BRUSTLIN, INC. is a Massachusetts Profit Corporation registered to transact business in New Hampshire on December 11, 1986. 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: 104275

Certificate Number: 0005290847

IN TESTIMONY WHEREOF,
I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire, this 15th day of March A.D. 2021.

William M. Gardner
Secretary of State

VANASSE HANGEN BRUSTLIN, INC.

Certificate of Vote

DERRY-LONDONDERRY
IM-0931(201)
13065

I, Robert M. Dubinsky, hereby certify that I am the duly elected Clerk of Vanasse Hangen Brustlin, Inc.

I hereby certify the following is a true copy of Vote taken at a meeting of the Board of Directors of the Corporation, duly called and held on January 27, 2021, at which a quorum of the Board was present and voting.

VOTED:

That Thomas W. Jackmin is Senior Vice President for Vanasse Hangen Brustlin, Inc. and is hereby authorized to execute professional services contracts, proposals and amendments in the name and behalf of Vanasse Hangen Brustlin, Inc., and affix its corporate seal thereto; and such execution of any professional service contract, proposal or amendment in this company's name on its behalf under seal of the company, shall be valid and binding upon this company.

I hereby certify that said vote has not been amended or repealed and remains in full force and effect as of this date, and that Thomas W. Jackmin is Senior Vice President for this Corporation.

ATTEST:

Date: 3/15/2021

Clerk

(Corporate Seal)

VANASSE HANGEN BRUSTLIN, INC.
1986

VANAS-1

OP ID: CL

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 03/15/2021

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
781-245-5400
Poole Professional B&B of MA
107 Audubon Rd, #2, Ste 305
Wakefield, MA 01880
Christopher A. Poole

CONTACT NAME: Christopher A. Poole
PHONE (A/C, No, Ext): 781-245-5400 FAX (A/C, No): 781-245-5463
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Transportation Insurance Co	20494
INSURER B: Continental Insurance Company	35289
INSURER C: Continental Casualty Company	20443
INSURER D: XL Specialty Insurance Company	37885
INSURER E:	
INSURER F:	

INSURED
Vanasse Hangen Brustlin, Inc.
VHB Eng Surveying Landscape
Arch & Geology PC; VHB Eng NC PC
Vanasse Hangen Brustlin LLC, VHB Metro DC LLC
Brinkerhoff Env Services Inc.
PO Box 9151
Watertown, MA 02471

COVERAGES CERTIFICATE NUMBER: 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 X Blanket Waiver GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:	X	X	6018141932 NO DEDUCTIBLE INCL XCU COVERAGE	05/01/2020	05/01/2021	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
B	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY X SCHEDULED AUTOS X HIRED AUTOS ONLY X NON-OWNED AUTOS ONLY X 1501873 MA SAFETY NOH	X	X	6018203376	05/01/2020	05/01/2021	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $ $
B	X UMBRELLA LIAB X OCCUR X EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000	X	X	6018203382 FOLLOWS FORM	05/01/2020	05/01/2021	EACH OCCURRENCE AGGREGATE	$ 14,000,000 $ 14,000,000 $
C	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	X	6017185236	05/01/2020	05/01/2021	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
D	Arch/Eng Prof Liab Incl Pollution Liab			DPR9962765 FULL PRIOR ACTS	07/19/2020	07/19/2021	Per Claim 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)

Project:
Derry-Londonderry, IM-0931(201), 13065
Deductible: $50,000
See Attached

CERTIFICATE HOLDER

NHDOT-1

New Hampshire Department
of Transportation
John O. Morton Building
7 Hazen Drive, P.O. Box 483
Concord, NH 03302

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

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NOTEPAD:	HOLDER CODE NHDOT-1	VANAS-1	PAGE 2
	INSURED'S NAME Vanasse Hangen Brustlin, Inc.	OP ID: CL	Date 03/15/2021

Project:
Derry-Londonderry, IM-0931(201), 13065

New Hampshire Department of Transportation is included as additional insured per written contract under the general, auto, and umbrella liability policies subject to same terms and conditions. Coverage is primary and non-contributory. Waiver of subrogation applies to indicated policies in favor of additional insured. 30 day notice of cancellation except 10 day notice for non-payment of premium.