

Macallen Dam Abutments and Outlet Structure Rehabilitation Project
Newmarket, NH
ADDENDUM NO. 1

To: All Prospective Bidders
Macallen Dam Abutments and Outlet Structure Rehabilitation Project

Location: Macallen Dam, Newmarket, NH

From: Todd E. Monson – GZA GeoEnvironmental, Inc.
Chad W. Cox – GZA GeoEnvironmental, Inc.

Re: **Addendum No. 1**

Date: March 22, 2019

Please find the following **ADDENDUM NO. 1** for the Macallen Dam Abutments and Outlet Structure Rehabilitation Project which is to be included as part of the Contract Documents thereof.

General Bidders shall acknowledge receipt of this **Addendum No. 1** by checking the appropriate box on Sheet 2 of the Bid Form.

Please note bids are due **Monday, April 22, 2019 at 10:00 AM (EST)**. Bids are to be received at the following location:

Town of Newmarket, New Hampshire
Town Hall, Facilities Office
186 Main Street
Newmarket, New Hampshire 03857
Attention: Greg Marles –Director of Facilities

Item #1: Contract Specification 00300 – BID FORM

REPLACE pages 1 through 6 of Section 00300 of the Contract Documents with the updated Bid Form pages 1 through 8 provided as **Attachment A** to **Addendum No. 1**.

Item #2: Contract Specification 01950 – MEASUREMENT AND PAYMENT

ADD Section 01950 – Measurement and Payment of the Contract Documents provided as **Attachment B** to **Addendum No. 1**.

Item #3: Contract – SCHEDULE OF VALUES

REPLACE the Schedule of Values in the Contract Documents with the updated Schedule of Values provided as **Attachment C** to **Addendum No. 1**.

End of Addendum No. 1

ATTACHMENT A
SECTION 00300 - BID FORM

Name of Bidder: _____

**BID FORM
SHEET 1 OF 8
MACALLEN DAM – ABUTMENTS AND OUTLET STRUCTURE REHABILITATION
TOWN OF NEWMARKET, NEW HAMPSHIRE**

NAME OF BIDDER: _____

COMPANY ADDRESS: _____

CONTACT PERSON: _____

PHONE NUMBER: _____

E-MAIL ADDRESS: _____

DATE SUBMITTED: _____

Sealed bids must be submitted on this form and the following table. Bids submitted on any other form will not be considered valid. This Bid and the attached Contract Documents is submitted to:

Town of Newmarket
Attention: Greg Marles
Town Hall, Facilities Department
186 Main Street
Newmarket, New Hampshire 03857

Sealed bids must be received by **Monday, April 22, 2019 at 10:00am EST**. Postmarks will not be considered. All bids will be publicly opened and read at the above address, date and time. Prices are to include any delivery charges unless otherwise specified. All offers are subject to the Specifications of this Contract. This bid may be extended for up to an additional thirty (30) calendar days (beyond the period set forth below) at the request of the Town.

Does the ownership or stock holders have relatives currently employed by the Town of Newmarket or the Newmarket School District?

Yes _____ No _____ If yes: please indicate the Relationship _____

Name of Bidder: _____

**BID FORM
SHEET 2 OF 8
MACALLEN DAM – ABUTMENTS AND OUTLET STRUCTURE REHABILITATION
TOWN OF NEWMARKET, NEW HAMPSHIRE**

Bidder proposes to furnish all materials and complete the Scope of Work described in general in these Bid Documents and more specifically as described in the Technical Specifications and as illustrated on the Contract Drawings for the sum of:

Total Base Bid Price Items 1 through 39:

(Words)

(Numerals)

The following Addenda have been issued and acknowledged (please check all that apply):

☐ None ☐ No. 1 ☐ No. 2 ☐ No. 3 ☐ No. 4 ☐ No. 5 ☐ No. 6

Bidder hereby agrees that requests for progress payments will be made on the basis of unit quantity or percentage of work complete by item for the items listed on the Schedule of Values, which follow on the proceeding pages of this Bid Form. Bidder shall complete the Schedule of Values as part of the bid process. Bidder agrees that percentages of work completed are subject to approval by the Owner or his authorized representative and that the decision of the Owner regarding the percentage completed will be the sole basis for progress payments.

Bidder hereby agrees that the Terms and Conditions of the Agreement under which the work will be executed will be those as specified and agreed to in the Contract Documents and the Form of Agreement between the Town of Newmarket, New Hampshire (Owner, Project Owner, Town) and the Contractor.

The Bidder acknowledges that the Owner may, at its sole discretion, elect to direct the implementation of the Optional Items.

Signature of
Person Legally Authorized
to Enter into Contractual
Agreement For Bidder

Printed or Typed Name

Printed or Typed Name
of Company
or Corporation

Date Signed

Name of Bidder: _____

BID FORM
SHEET 3 OF 8
MACALLEN DAM – ABUTMENTS AND OUTLET STRUCTURE REHABILITATION
TOWN OF NEWMARKET, NEW HAMPSHIRE

Bid Item Description – BASE BID	<u>Technical Specification Reference</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price (\$)</u>	<u>Extended Price (\$)</u>
For more complete description see: Summary of Work (Section 01010), Technical Specifications, & Drawings and Details					
1. As-Built Drawings	01055	1	LS		
2. Vibration and Movement Monitoring	01436	1	LS		
3. Temporary Facilities and Controls	01500	1	LS		
4. Temporary Erosion and Sedimentation Controls	01560	1	LS		
5. Gate Structure and Left Abutment Temporary Water Control and Temporary Cofferdams	01560, 01565, 02170	1	LS		
6. Right Abutment Temporary Water Control and Temporary Cofferdams	01560, 01565, 02170	1	LS		
7. Temporary Traffic and Access Controls	01570	1	LS		
8. Site Restoration	01740, 02525, 02930	1	LS		
9. Mobilization and Demobilization	01900	1	LS		
10. Demolition of Existing Gate Structure and Other Left Abutment Structures	02065	1	LS		
11. Demolition of Structures at the Right Abutment	02065	1	LS		
12. Right Abutment Chain-link Fence and Gates	02444	1	LS		
13. Pneumatic Gate and Appurtenances	11288	1	LS		
14. Subsurface Vault for Gate Controls	03605	1	LS		
15. Support of Excavation for Subsurface Vault for Gate Controls	02200	1	LS		

Name of Bidder: _____

BID FORM
SHEET 4 OF 8
MACALLEN DAM – ABUTMENTS AND OUTLET STRUCTURE REHABILITATION
TOWN OF NEWMARKET, NEW HAMPSHIRE

Bid Item Description – BASE BID	<u>Technical Specification Reference</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price (\$)</u>	<u>Extended Price (\$)</u>
For more complete description see: Summary of Work (Section 01010), Technical Specifications, & Drawings and Details					
16. Cast-in-place Reinforced Concrete for Gate Structure, Slab, and Left Abutment	03300, 03305, 03346	1	LS		
17. Cast-in-place Reinforced Concrete for Right Abutment Wall	03300, 03305, 03346	1	LS		
18. Precast Concrete Gravity Retaining Wall (Contractor Designed)	02832	1	LS		
19. Mechanically Stabilized Earth Wall (Contractor Designed)	02832	1	LS		
20. Clearing, Grubbing, Stripping, and Tree Removal	02110	1	LS		
21. Portable Davit Crane and Cable Winch	14321	1	LS		
22. Electric Work – General Provisions	16100	1	LS		
23. Lighting	16550	1	LS		
24. Dam Instrumentation – Staff Gage & Survey Monument	02015	1	LS		
25. Furnish and Install Rip Rap	02270	1	LS		
26. Furnish, Placement, and Compaction of Off-Site Low Permeability Fill	02200	1	LS		
27. Alleyway along Durham Book Exchange Building (53 Main Street)	02200	1	LS		
28. Concrete Surface Repair of Right Abutment Wall	03300, 03305, 03346	1	LS		
29. Remote Data Acquisition and Reporting System for the Pneumatic Crest Gate	--	1	LS		
30. Esthetic Improvements to the Subsurface Vault for Gate Controls (allowance)	--	1	LS		

Name of Bidder: _____

BID FORM
SHEET 5 OF 8
MACALLEN DAM – ABUTMENTS AND OUTLET STRUCTURE REHABILITATION
TOWN OF NEWMARKET, NEW HAMPSHIRE

Bid Item Description – BASE BID	<u>Technical Specification Reference</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price (\$)</u>	<u>Extended Price (\$)</u>
For more complete description see: Summary of Work (Section 01010), Technical Specifications, & Drawings and Details					
31. Furnish and Install Additional Riprap	02270	20	Ton		
32. Crushed Stone Bedding	02270	200	Ton		
33. Off-Site Disposal of Excess Sediment and Debris	02200	100	Ton		
34. Off-Site Disposal of Excess On-Site Soil	02200	50	Ton		
35. Repointing Masonry Joints	04510	350	SF		
36. Unreinforced Concrete for Left Side Mud Mat	01565, 02170	200	CY		
37. Cementitious Concrete or Grout for Void Filling of Right Abutment Wall	--	50	CY		
38. Common Excavation (as needed)	02200	20	CY		
39. Archeological Assistance (as needed)	--	5	Day		
BASE BID TOTAL			\$		
BASE BID TOTAL (IN WORDS):					

Name of Bidder: _____

BID FORM
SHEET 6 OF 8
MACALLEN DAM – ABUTMENTS AND OUTLET STRUCTURE REHABILITATION
TOWN OF NEWMARKET, NEW HAMPSHIRE

REPRESENTATIONS AND CERTIFICATIONS

In submitting this Bid, Bidder represents that Bidder has examined or is familiar with the Site and locality where the Work is to be performed; the federal, state, county, and local laws, project permits and ordinances, rules and regulations; the conditions affecting cost, progress or performance of the work; and has made such independent investigations as the Bidder deems necessary.

The bidder has made an assessment of his/her resources and agrees to be contractually bound to deliver his/her portion of the work on the schedule submitted with his/her bid.

This Bid is genuine and not made in the interest of, or on behalf of any undisclosed person, firm, or corporation.

The Bid Price stated herein includes the cost of all of the Work, including labor, equipment, and materials, which is required or implied by the scope of services and contract specifications or drawings or which may be inferred therefrom, and which is customarily provided in furnishing a complete and finished work of its kind. Further, any and all alterations, modifications, and adjustments to the Work that are reasonably foreseeable or customarily encountered in providing services of the kind required by the Contract, will be performed without additional compensation.

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

(Name and Title of person signing bid)

(Signature)

(Company)

(Date)

(Address)

(phone number)

(e-mail)

(Company Seal) Attest: _____

Name of Bidder: _____

**BID FORM
SHEET 7 OF 8
MACALLEN DAM – ABUTMENTS AND OUTLET STRUCTURE REHABILITATION
TOWN OF NEWMARKET, NEW HAMPSHIRE**

CERTIFICATE OF NON-COLLUSION

The undersigned as Bidder certifies under penalties of perjury that this Bid has been made and submitted good faith and without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, business, joint ventures, partnership, corporation or other organization, entity or group of individuals.

Signature/Title

Name of Business

CERTIFICATE OF DEBARMENT

The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the state.

Signature/Title

Name of Business

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION CERTIFICATION

The undersigned agrees that if he/she is selected as the contractor, he/she will comply with the provisions of all relevant occupational safety and health laws and regulations. The undersigned certifies, under penalties of perjury, that he/she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

Signature/Title

Name of Business

Name of Bidder: _____

**BID FORM
SHEET 8 OF 8**

**MACALLEN DAM – ABUTMENTS AND OUTLET STRUCTURE REHABILITATION
TOWN OF NEWMARKET, NEW HAMPSHIRE**

CERTIFICATE AS TO CORPORATE BIDDER

At a meeting of the Board of Directors of the _____ (Name of Corporation) duly called and held on _____ (Date) at which a quorum was present, and acting throughout, the following vote was duly adopted:

VOTED: That _____ (Name of Individual)

the _____ (Title) of the Corporation, hereby is authorized to affix the Corporate Seal, sign and deliver in the name and on behalf of the Corporation, bids, proposals, contracts, bills of sale, conditional sale agreements, chattel mortgages, leases, bonds, applications, affidavits, certificates, and any other similar documents required in connection with the sale of the Corporation's products to any purchaser, including assignments and satisfactions of any such documents.

Any and all applications, affidavits, statements, certificates, and similar documents required by law in connection with the licensing of the Corporation or its representatives for the sale, distribution, and servicing of its commercial products.

The authority is hereby delegated and shall be exercised by the aforesaid person in connection with the duties as

_____ of _____
(Title) (Name of Corporation)

and not otherwise.

ATTEST: _____ DATE: _____

NOTE: This form must be completed if the Contractor is a corporation.

ATTACHMENT B
SECTION 01950 – MEASUREMENT AND PAYMENT

**SECTION 01950
MEASUREMENT AND PAYMENT**

PART 1 - GENERAL

1.01 PAY ITEMS AND UNITS

The payment items for the Work of this contract shall be as shown in this Section. Pay items shall have the corresponding unit of measurement for the Work of that item, as shown in this Section and on the Bid Form. Payment for all pay items shall be at the corresponding price shown on the Bid Form.

1.02 GENERAL

The Bid Form has an entry for each item on which payment will be made (i.e. Schedule of Values). No other allowance of any kind will be made unless specifically provided/stipulated in the Contract.

Each unit and lump-sum price stated on the Bid Form shall constitute full compensation as specified herein for each item of work complete in accordance with the Contract Drawings and Specifications. The unit and lump sum prices shall be inclusive of the full scope of the work for each item, including all labor, tools, materials, transportation, fuel, equipment, incidentals, mobilization/demobilization, and any other costs necessary to complete the work of the Pay Item.

1.03 GUARANTEE AND WARRANTY

The Contractor guarantees all equipment against defective materials and workmanship for a period of **one year from the date of Final Acceptance**, unless otherwise specified, and shall provide in his purchase orders with the suppliers that they agree to guarantee all equipment against defective materials and workmanship for a period of **one year from the date of Final Acceptance** or such longer period as may be specified. During the maintenance and guarantee period, the suppliers shall be responsible to the Contractor to promptly repair, replace, restore, or rebuild, as the Owner may determine, any furnished equipment in which defects of materials or workmanship may appear or to which damage may occur because of such defects. The Contractor shall also submit to the Owner a certified copy of the Supplier's Guarantee for the equipment furnished against defective materials and workmanship prior to receiving any payment, which Guarantee shall also include the Owner as a guaranteed party.

1.04 RELATED PROVISIONS

- A. Payments to Contractor: Refer to Standard General Conditions, Supplemental General Conditions, and Form of Agreement.
- B. Changes in Contract Price: Standard General Conditions and Supplemental General Conditions.
- C. Schedule of Values: Refer to General Conditions, Supplementary Conditions, and Schedule of Values.

Macallen Dam – Abutments and Outlet Structure Rehabilitation

1.05 LUMP SUM QUANTITIES

- A. No measurement shall be made of work, materials, or other quantities involved in provision or construction of Pay Items listed on the Bid Form as being Lump Sum quantities. Payment for the scope of the work specified for each Lump Sum Pay Item shall include all labor, tools, materials, equipment, fuel, supplies, overhead, profit, and incidentals.

1.06 LUMP SUM CONTRACT ITEMS

The following lump sum contract items shall be included in the Contractor's total bid for this Contract.

A. Pay Item No. 1 – As-Built Drawings

- 1. No measurement shall be made for Pay Item No. 1 which has been provided on the Bid Form as a Lump Sum.
- 2. Pay Item No. 1 shall include all measures, including all labor, materials, equipment and incidentals, to produce and submit any and all As-Built Drawings for the Work performed at the Project Site. Deliverables for Pay Item No. 1 shall also include all as-Built markups and a final conditions survey.
- 3. The work and materials shall be in accordance with Specification Section 01055 – As-Built Drawings.
- 4. Payment for the scope of the work for As-Built Drawings specified herein shall be paid for at the applicable lump sum price for Item No. 1 stated on the Bid Form.

B. Pay Item No. 2 – Vibration and Movement Monitoring

- 1. No measurement shall be made for Pay Item No. 2 which has been provided on the Bid Form as a Lump Sum.
- 2. Pay Item No. 2 shall include all labor, materials, equipment and incidental costs to provide pre- and post-construction surveys, establish and install monitoring points, crack gauges, and seismographs, provide continuous monitoring, provide periodic reporting and record keeping as specified, and provide notification any remedial actions for threshold exceedances as necessary.
- 3. The work and materials shall be in accordance with Specification Section 01436 – Vibration and Movement Limits and Monitoring.
- 4. Payment for the scope of the work specified herein shall be paid for at the applicable Lump Sum price for Item No. 2 on the Bid Form.

C. Pay Item No. 3 – Temporary Facilities and Controls

- 1. No measurement shall be made for Pay Item No. 3 which has been provided on the Bid Form as a Lump Sum.

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2. Pay Item No. 3 shall include Temporary Facilities and Controls including, but not limited to, sanitary facilities, utilities, drinking water, and temporary field offices. Pay Item No. 3 shall also include all labor, materials, equipment and incidentals and mobilization/demobilization costs to provide, install, maintain, and remove Temporary Facilities and Controls, including tree protection, associated with the work of this Contract.
3. The work and materials shall be in accordance with Specification Section 01500 – Temporary Facilities and Controls and the Contract Drawings.
4. Payment for the scope of the work specified herein, shall be paid for at the applicable Lump Sum price for Item No. 3 on the Bid Form. Partial Payment for this item shall be provided as follows: Sixty percent (60%) of lump sum bid price upon completion of installation and approval by the Resident Engineer. Following the satisfactory completion of work, forty percent (40%) of lump sum bid price will be paid upon removal and cleanup of the Temporary Facilities and Controls.

D. Pay Item No. 4: Temporary Erosion and Sedimentation Controls

1. No measurement shall be made for Pay Item No. 4 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 4 shall include all labor, materials, equipment and incidentals and mobilization/demobilization costs to provide, install, maintain, and remove Temporary Erosion and Sedimentation Control measures and Best Management Practices (BMPs), including but not limited to silt fence, turbidity curtains, pumped water filter bags, compost filter socks, and stabilized construction site entrance. This work shall also include the monitoring, cleaning, maintenance, and repair/replacement of all installed temporary erosion controls and BMPs; and their proper removal and disposal at the completion of the Work at the Site. Pay Item No. 4 shall also include the development of a Flood Emergency Response Plan.
3. The work and materials shall be in accordance with Specification Section 01560 – Temporary Sediment and Erosion Control and the Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable unit price for Item No. 4 stated on the Bid Form. Partial Payment for this item shall be provided as follows: Sixty percent (60%) of lump sum bid price upon completion of installation and approval by the Engineer and permitting agencies/representatives having jurisdiction. Following the satisfactory completion of work, forty percent (40%) of lump sum bid price will be paid upon removal and cleanup of Temporary Erosion and Sedimentation Controls.

E. Pay Item No. 5: Gate Structure and Left Abutment Temporary Water Control and Temporary Cofferdams

1. No measurement shall be made for Pay Item No. 5 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 5 shall include all labor, materials, equipment, testing, monitoring, incidentals and mobilization/demobilization costs to provide Gate Structure and

Macallen Dam – Abutments and Outlet Structure Rehabilitation

Left Abutment Temporary Water Control and Temporary Cofferdams for all phases of the work. Pay Item No. 5 shall also include all measures utilized to temporarily remove water from within work areas of the left abutment and gate structure including, but not limited to, pumps, hoses, poly sheeting for sand bags, “Super Sacs” or other temporary cofferdam materials as approved for use by the Engineer, and temporary power for pumps and temporary staff gauges or water elevation measuring points.

3. The work and materials shall be in accordance with the Contract Drawings, Specification Section 01565 – Temporary Water Control and with Specification Section 02170 – Temporary Cofferdams. Treatment of discharge water shall be in accordance with Specification Section 01560 – Temporary Sediment and Erosion Control.
4. Payment for the scope of the work specified herein, to provide Gate Structure and Left Abutment Temporary Water Control and Temporary Cofferdams associated with the work of this Contract, including temporary surface water control, and treatment of all discharge water as necessary, shall be paid for at the applicable Lump Sum price for Item No. 5 stated on the Bid Form. Payment for this item shall be on the basis of sixty percent (60%) of the lump sum bid price payable after initial deployment of the Gate Structure and Left Abutment Temporary Water Control and Temporary Cofferdams and forty percent (40%) after substantial completion of the work and removal of all temporary materials.

F. Pay Item No. 6: Right Abutment Temporary Water Control and Temporary Cofferdams

1. No measurement shall be made for Pay Item No. 6 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 6 shall include all labor, materials, equipment, testing, monitoring, incidentals and mobilization/demobilization costs to provide Right Abutment Temporary Water Control and Temporary Cofferdams for all phases of the work. Pay Item No. 6 shall also include all measures utilized to temporarily remove water from within work areas of the right abutment including, but not limited to, pumps, hoses, poly sheeting for sand bags, “Super Sacs” or other temporary cofferdam materials, and temporary power for pumps and temporary staff gauges or water elevation measuring points.
3. The work and materials shall be in accordance with the Contract Drawings, Specification Section 01565 – Temporary Water Control and with Specification Section 02170 – Temporary Cofferdams. Treatment of discharge water shall be in accordance with Specification Section 01560 – Temporary Sediment and Erosion Control.
4. Payment for the scope of the work specified herein, to provide Right Abutment Temporary Water Control and Temporary Cofferdams associated with the work of this Contract, including temporary surface water control, and treatment of all discharge water as necessary, shall be paid for at the applicable Lump Sum price for Item No. 6 stated on the Bid Form. Payment for this item shall be on the basis of sixty percent (60%) of the lump sum bid price payable after initial deployment of the Right Abutment Temporary Water Control and Temporary Cofferdams and

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forty percent (40%) after substantial completion of the work and removal of all temporary materials.

G. Pay Item No. 7: Temporary Traffic and Access Controls

1. No measurement shall be made for Pay Item No. 7 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 7 shall include all labor, materials, equipment, incidentals, and mobilization/demobilization costs to install, maintain, and remove Temporary Access and Traffic Controls associated with the work of this Contract, including staging areas, parking areas, and public and private ways accessing the site. Pay Item No. 7 shall also include all necessary work and materials, such as safety fencing, to delineate and exclude construction work from designated areas to protect above and below ground structures, such as the underground storage tanks.
3. The work and materials shall be in accordance with Specification Section 01570 – Temporary Access and Traffic Control.
4. Payment for the scope of the work specified herein shall be paid for at the applicable Lump Sum price for Item No. 7 stated on the Bid Form.

H. Pay Item No. 8: Site Restoration

1. No measurement shall be made for Pay Item No.8 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 8 shall include all labor, materials, equipment, supplies, personnel, incidentals and costs to restore areas in and around the project site to pre-construction conditions or better, including staging areas, parking areas, and public or private ways accessing the site and any damage done to abutting properties, as well as asphalt berm curbing along Penstock Way. Pay Item No. 8 shall also include all labor, equipment, supplies and materials for loaming (on-site topsoil or imported loam), seeding, revegetating, and related items specifically at the right abutment and any other areas disturbed by the construction. Pay Item No. 8 shall also include the furnishing of all labor, tools, equipment and materials and performance of all operations in connection with the construction, restoration, and/or repairs of asphalt-paved areas within the work area. Reuse of stripped topsoil or loam shall be paid for under Pay Item No. 8. Pay Item No. 8 shall also include removal and resetting of the flag pole and base along the left abutment as well as removal and replacement-in-kind of the plaque at the fish ladder along the right abutment. Pay Item No. 8 shall also include removal (as necessary) and resetting of the irrigation system equipment along the left abutment. Pay Item No. 8 shall also include installation of asphalt curbing along Penstock Way, as well as removal and replacement-in-kind of granite curbing along the left abutment.
3. Pay Item No. 8 shall also include all labor, materials, equipment and incidentals to remove, replace-in-kind or furnish and install the Ornamental Aluminum Handrails and Railings along the left abutment.

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4. The work and materials shall be in accordance with Specification Section 01740 – Site Restoration, Section 02525 – Bituminous Concrete Paving, Section 02930 – Loaming, Seeding, and Revegetation, Section 05730 – Ornamental Aluminum Handrails and Railings, and the Contract Drawings.
5. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 8 stated on the Bid Form.

I. Pay Item No. 9: Mobilization and Demobilization

1. No measurement shall be made for Pay Item No. 9 which has been provided on the Bid Form as a Lump Sum.
2. The work and materials shall be in accordance with Specification Section 01900 – Mobilization/Demobilization.
3. Pay Item No. 9 will include full compensation for Mobilization and Demobilization costs associated with the Work of the Contract, including any costs associated with emergency demobilization and re-mobilization due to inclement weather or flood conditions. Mobilization/demobilization costs for all work under the Contract not specifically addressed herein shall be considered incidental, and the costs for such shall be included as part of the work of that Section (and included in the respective Bid Form Lump Sum price items) and/or as part of the work of this Contract. The bid price for Pay Item No. 9 shall not exceed five percent (5%) of the total contract bid price.
4. Partial payments for Pay Item No. 9 shall be provided as follows: Sixty percent (60%) of lump sum bid price upon completion of mobilization. Following the satisfactory completion of work, forty percent (40%) of lump sum bid price will be paid upon completion of demobilization as approved by the Engineer.
5. All costs associated with required bonds, insurances, and permits shall be included in the lump sum cost for Mobilization and Demobilization.
6. Where the Specifications are silent on Payment for work specified under an individual specification Section, it is understood that Payment will be made as part of the lump sum price for Pay Item No. 9.

J. Pay Item No. 10: Demolition of Existing Gate Structure and Other Left Abutment Structures

1. No measurement shall be made for Pay Item No. 10 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 10 shall include all labor, materials, equipment, supplies, personnel, incidentals, and costs for saw cutting, dismantling, demolition, removal, and lawful off-site disposal of the existing gate structure and other left abutment structures associated with the Work. Such other left abutment structures include, but are not limited to, the top courses of granite block along the pier, the existing concrete slab above the granite block wall, and portions of the existing left abutment wall. Pay Item No. 10 shall also include all work, materials, labor, and other costs associated

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with design, installation, and removal of any temporary earth support systems, rigging systems, containment systems, or other means and methods required during dismantling, demolition, and/or removal of existing dam features/structures associated with the existing gate structure and left abutment work. Pay Item No. 10 shall also include salvage and transport of up to three (3) timber slide gates and operators if directed by the Owner.

3. The work and materials shall be in accordance with Specification Section 02065 – Saw Cutting, Dismantling, Demolition, and Removal of Existing Structure and Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 10 stated on the Bid Form.

K. Pay Item No. 11: Demolition of Structures at the Right Abutment

1. No measurement shall be made for Pay Item No. 11 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 11 shall include all labor, materials, equipment, supplies, personnel, incidentals, and costs for saw cutting, dismantling, demolition, removal, and lawful off-site disposal of right abutment structures, including the parapet wall and deteriorated concrete facing along the existing right abutment wall. Pay Item No. 11 shall also include all work, materials, labor, and other costs associated with design, installation, and removal of any temporary earth support systems, rigging systems, containment systems, or other means and methods required during dismantling, demolition, and/or removal of the right abutment structures.
3. Pay Item No. 11 shall also include all labor, materials, equipment, supplies, personnel, and incidentals required to inspect the condition of the cast-iron outlet conduit at the right abutment and for abandonment with a minimum of a 3-foot concrete plug.
4. The work and materials shall be in accordance with Specification Section 02065 – Saw Cutting, Dismantling, Demolition, and Removal of Existing Structure and Contract Drawings.
5. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 11 stated on the Bid Form.

L. Pay Item No. 12: Right Abutment Chain-link Fence and Gates

1. No measurement shall be made for Pay Item No. 12 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 19 shall include all labor, materials, equipment and incidentals to furnish and install the Right Abutment Chain-link Fence and Gates at the site, including gates at access points along Penstock way and at the fish ladder.
3. The work and materials shall be in accordance with Specification Section 02444 – Chain Link Fence and Gates and the Contract Drawings.

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4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 12 stated on the Bid Form.

M. Pay Item No. 13: Pneumatic Crest Gate and Appurtenances

1. No measurement shall be made for Pay Item No. 13 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 13 shall include all labor, materials, equipment, supplies, personnel and incidentals required for the design, procurement, manufacture, delivery, and installation of a fully functional pneumatic crest gate system including steel gate panels, reinforced rubber air bladders, anchor bolts, abutment plates, heaters, seals, clamp casting and associated embeds, air supply pipe, electrical control panel, mechanical control panel, compressed air equipment and motor, gate controls, sensors, sensor housings and cabling, water control systems, and other associated equipment, supplies, and tools. Pay Item No. 13 shall also include preparation of all final details, drawings, technical specifications, OEM documentation, and warranty for the Pneumatic Crest Gate and Appurtenances to be coordinated with the manufacturer during the procurement process. Pay Item No. 13 shall also include all labor, materials, equipment and incidentals for testing, commissioning and certification of the Pneumatic Crest Gate and Appurtenances. Pay Item No. 13 shall also include the pneumatic crest gate manufacturer's technical advisor to be on site during installation and testing as well as to provide operator training to the Owner. Pay Item No. 13 shall also include all trenching, excavation, and furnishing, placement, and compaction of trench backfill necessary to run conduits from the pneumatic crest gate to the Subsurface Vault for Gate Controls
3. The work and materials shall be in accordance with Specification Section 11288 – Pneumatic Gate System, Contract Drawings, and Contract Documents to be coordinated with the gate manufacturer during procurement.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 13 stated on the Bid Form. Partial payments for Pay Item No. 13 shall be provided as follows: Forty percent (40%) of lump sum bid price upon completion of the submittal review and approval process through procurement of the pneumatic gate. Upon delivery of the pneumatic gate and all appurtenances to the site, Twenty percent (20%) of lump sum bid price will be paid upon delivery of the pneumatic gate and all appurtenances to the site pending approval of the Resident Engineer. Thirty percent (30%) of lump sum bid price will be paid upon erection, installation, testing, certification and acceptance by the Engineer and Owner. Ten percent (10%) of lump sum bid price will be paid upon successful completion of the operator training and instruction pending approval by the Resident Engineer.

N. Pay Item No. 14: Subsurface Vault for Gate Controls

1. No measurement shall be made for Pay Item No. 14 which has been provided on the Bid Form as a Lump Sum.

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2. Pay Item No. 14 shall include all labor, materials, equipment, supplies, personnel and incidentals required to procure and install the watertight precast concrete vault, hatch cover, frame and lock, ship ladder, interior lighting system, sump and pump, and heater and vent fan. Pay Item No. 14 shall include development of any necessary conduit openings and installation of water tight seals within the concrete vault.
3. The work and materials shall be in accordance with Specification Section 03605 – Precast Concrete Vault and the Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 14 stated on the Bid Form.

O. Pay Item No. 15: Support of Excavation for Subsurface Vault for Gate Controls

1. No measurement shall be made for Pay Item No. 15 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 15 shall include all labor, materials, equipment, supplies, personnel and incidentals required to excavate exploratory test pits within the vicinity of the Subsurface Vault for Gate Controls and excavation within and adjacent to the limits of the support of excavation. Pay Item No. 15 shall also include all labor, materials, equipment, supplies, personnel and incidentals required to install and maintain a system of supports, including piling, shoring, anchoring, fastening, and placement of concrete to allow for the installation of the Subsurface Control Vault. Pay Item No. 15 shall also include mobilization/demobilization of a piling drill rig (as necessary). Pay Item No. 15 shall also include all work, labor, materials, equipment, supplies, personnel and incidentals required for the legal disposal of excavated material (as necessary) generated by the excavation, disposal of surface water and groundwater (as necessary), proper backfilling of the excavation post installation of the Subsurface Vault for Gate Controls, protection of adjacent structures and utilities within the limits of the work, and site restoration within the limits of the work.
3. The work and materials shall be in accordance with the Contract Drawings, Sheets S-10 and S-11, and Specification Section 02200 – Earthwork.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 15 stated on the Bid Form.

P. Pay Item No. 16: Cast-in-place Reinforced Concrete for Gate Structure, Slab, and Left Abutment

1. No measurement shall be made for Pay Item No. 16 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 16 shall include all labor, materials, equipment, supplies, personnel and incidentals required to furnish, place, and finish Cast-in-place Reinforced Concrete for Gate Structure, Slab, and Left Abutment including, but not limited to concrete cap/curb on the retaining wall, concrete facing on the granite pier, new concrete abutment, and downstream slab. Pay Item No. 16 shall also include all

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labor, materials, equipment, supplies, personnel and incidentals required to furnish, install, and inspect reinforcing steel for the Cast-in-place Reinforced Concrete for Gate Structure, Slab, and Left Abutment. Pay Item No. 16 shall also include all cleaning and preparation of existing surfaces, furnishing and placement of bonding agent (as required), and drilling and installation of dowels and anchors. Pay Item No. 16 shall also include any quality insurance testing or inspection, required per the specifications, for the Cast-in-place Reinforced Concrete for Gate Structure, Slab, and Left Abutment.

3. The work and materials shall be in accordance with Specification Section 03300 – Reinforced Cast-In-Place Concrete, Section 03305 – Concrete Testing, Section 03346 – Concrete Finishing, Curing, and Repairs, and the Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 16 stated on the Bid Form.

Q. Pay Item No. 17: Cast-in-place Reinforced Concrete for Right Abutment Wall

1. No measurement shall be made for Pay Item No. 17 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 17 shall include all labor, materials, equipment, supplies, personnel and incidentals required to furnish, place, and finish Cast-in-place Reinforced Concrete for Right Abutment Wall, including the stairs for the fish ladder. Pay Item No. 17 shall also include all labor, materials, equipment, supplies, personnel and incidentals required to furnish, install, and inspect reinforcing steel for the Cast-in-place Reinforced Concrete for Right Abutment Wall. Pay Item No. 17 shall also include any quality insurance testing or inspection, required per the specifications, for the Cast-in-place Reinforced Concrete for Right Abutment Wall. Pay Item No. 17 shall also include all excavation for the wall, subgrade preparation, furnishing, placement and compaction of bedding, backfill, and drainage materials.
3. Pay Item No. 17 shall also include all labor, materials, equipment, supplies, personnel and incidentals required to design, furnish, and install the Contractor designed Reinforced Ground Supporting Wall behind the cast-in-place wall section at the davit crane. Pay Item No. 17 shall also include all excavation for the Reinforced Ground Supporting Wall, subgrade preparation, furnishing, placement and compaction of bedding, backfill, and drainage materials and geotextiles.
4. The work and materials shall be in accordance with Specification Section 03300 – Reinforced Cast-In-Place Concrete, Section 03305 – Concrete Testing, Section 03346 – Concrete Finishing, Curing, and Repairs, and the Contract Drawings.
5. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 17 stated on the Bid Form.

R. Pay Item No. 18: Precast Concrete Gravity Retaining Wall (Contractor Designed)

1. No measurement shall be made for Pay Item No. 18 which has been provided on the Bid Form as a Lump Sum.

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2. Pay Item No. 18 shall include all labor, materials, equipment, supplies, personnel and incidentals required to design, furnish, and install the Precast Concrete Gravity Retaining Wall (Contractor Designed), including stairs to the alleyway. Pay Item No. 18 shall also include all excavation for the wall, subgrade preparation, furnishing, placement and compaction of bedding, backfill, and drainage materials, and furnishing and placement of geotextile materials. This wall is the structure that runs parallel to the Durham Book Exchange Building (53 Main Street) alleyway.
3. The work and materials shall be in accordance with Specification Section 02832 – Contractor Designed Retaining Walls and the Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 18 stated on the Bid Form.

S. Pay Item No. 19: Mechanically Stabilized Earth Wall (Contractor Designed)

1. No measurement shall be made for Pay Item No. 19 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 19 shall include all labor, materials, equipment, supplies, personnel and incidentals required to design, furnish, and install the Mechanically Stabilized Earth Wall (Contractor Designed). Pay Item No. 19 shall also include all excavation for the wall, subgrade preparation, furnishing, placement and compaction of bedding, backfill, and drainage materials. Pay Item No. 19 shall also include furnishing and installing facing panels and geogrid materials. This wall is the structure along the eastern edge of the right abutment running northward from the fish ladder upstream.
3. The work and materials shall be in accordance with Specification Section 02832 – Contractor Designed Retaining Walls and the Contract Drawings .
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 19 stated on the Bid Form.

T. Pay Item No. 20: Clearing, Grubbing, Stripping, and Tree Removal

1. No measurement shall be made for Pay Item No. 20 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 20 shall include all labor, material, tools and equipment to perform all operations necessary to cut and clear trees and brush, remove surficial debris, grub up primary roots and surficial stones, clear the designated areas indicated in the Contract Drawings, and strip and stockpile organic topsoil prior to excavation work. Pay Item No. 20 shall also include clearing, grubbing, removal, stockpiling, and lawful off-site disposal of all vegetation, roots, and surficial debris from proposed areas of construction within the Site boundaries. Reuse of stripped topsoil shall be paid for under Pay Item No. 8 – Site Restoration.

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3. The work and materials shall be in accordance with Specification Section 02110 – Clearing, Grubbing, and Stripping.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 20 stated on the Bid Form.

U. Pay Item No. 21: Portable Davit Crane and Cable Winch

1. No measurement shall be made for Pay Item No. 21 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 21 shall include all labor, materials, equipment, supplies, personnel, attachment hardware, and incidentals required to furnish, install, and test a Portable Davit Crane and Cable Winch system.
3. The work and materials shall be in accordance with Specification Section 14321 – Portable Davit Crane and Cable Winch.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 21 stated on the Bid Form.

V. Pay Item No. 22: Electric Work – General Provisions

1. No measurement shall be made for Pay Item No. 22 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 22 shall include all labor, materials, equipment, supplies, personnel and incidentals required to design the electrical supply, metering, protection, distribution and other systems necessary to operate the electrical loads. Pay Item No. 22 shall also include installation of all electrical supply, metering, protection, distribution and other necessary systems for the pneumatic gate and other systems and equipment in the Subsurface Control Vault. Pay Item No. 22 shall also include all coordination with the local utilities and interconnection with utility lines necessary to complete the work. Pay Item No. 22 shall also include all necessary electrical panels, meters and associated appurtenances, as well as electrical supply and other necessary systems for the Subsurface Vault for Gate Controls. Pay Item No. 22 shall also include all trenching, excavation, and furnishing, placement, and compaction of trench backfill necessary for running conduits from local utilities to the Subsurface Vault for Gate Controls.
3. The work and materials shall be in accordance with Specification Section 16100 – Electrical Work – General Provisions.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 22 stated on the Bid Form.

W. Pay Item No. 23: Lighting

1. No measurement shall be made for Pay Item No. 23 which has been provided on the Bid Form as a Lump Sum.

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2. Pay Item No. 23 shall include all work, operations, equipment, materials, personnel, and incidentals for removal and replacement-in-kind of the existing decorative light pole and appurtenant systems adjacent to the work to be conducted along the left abutment of the dam.
3. The work and materials shall be in accordance with Specification Section 16550 – Lighting.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 23 stated on the Bid Form.

X. Pay Item No. 24: Dam Instrumentation – Staff Gage & Survey Monument

1. No measurement shall be made for Pay Item No. 24 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 24 shall include all work, labor, equipment, materials, personnel, and incidentals associated with one (1) Dam Instrumentation – Staff Gage including a full height gage, number plates, and fasteners, and one (1) permanent Dam Instrumentation – Survey Monument, including the brass cap and base.
3. The work and materials shall be in accordance with Specification Section 02015 – Dam Instrumentation.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 24 stated on the Bid Form.

Y. Pay Item No. 25: Furnish and Install Rip-Rap

1. No measurement shall be made for Pay Item No. 25 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 25 shall include all labor, materials, equipment and incidentals and mobilization/demobilization costs to furnish, store, and place new riprap along the right embankment as indicated on the Contract Drawings.
3. The work and materials shall be in accordance with Specification Section 02270 – Stone and Riprap and the Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 25 stated on the Bid Form.

Z. Pay Item No. 26: Furnish, Placement and Compaction of Off-Site Low Permeability Fill

1. No measurement shall be made for Pay Item No. 26 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 26 shall include all labor, materials, equipment and incidentals, including handling, placement, compaction, shaping, grading, and testing of new Off-Site Low Permeability Fill to raise the right embankment in areas that are not part of the wall systems outlined in Pay Item Nos. 17, 18, and 19.

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3. The work and materials shall be in accordance with Specification Section 02200 – Earthwork and the Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 26 stated on the Bid Form.

AA. Pay Item No. 27: Alleyway along Durham Book Exchange Building (53 Main Street)

1. No measurement shall be made for Pay Item No. 27 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 27 shall include all labor, materials, equipment and incidentals to furnish, place, and compact Pervious Crushed Stone Paving and Crushed Stone for Alleyway along Durham Book Exchange Building (53 Main Street), including any placement of geotextiles. Pay Item No. 27 shall also include the all labor, materials, equipment and incidentals to furnish and install drainage and scuppers down the alleyway. Pay Item No. 27 shall also include resetting the air conditioning units onto a new concrete pad along the alleyway.
3. The work and materials shall be in accordance with Specification Section 02200 – Earthwork and the Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 26 stated on the Bid Form.

BB. Pay Item No. 28: Concrete Surface Repair of Right Abutment Wall

1. No measurement shall be made for Pay Item No. 28 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 28 shall include all labor, materials, equipment, supplies, personnel and accessories, weather protection, and all other incidental items required to provide Concrete Surface Repair of the Right Abutment Wall. Pay Item No. 28 shall also include all cleaning and preparation of existing surfaces, furnishing and placement of bonding agent (as required), drilling and installation of dowels, and forming, placement of concrete.
3. The work and materials shall be in accordance with Specification Section 03300 – Reinforced Cast-In-Place Concrete, Section 03305 – Concrete Testing, Section 03346 – Concrete Finishing, Curing, and Repairs, and the Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 28 stated on the Bid Form.

CC. Pay Item No. 29: Remote Data Acquisition and Reporting System for the Pneumatic Crest Gate

1. No measurement shall be made for Pay Item No. 29 which has been provided on the Bid Form as a Lump Sum.

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2. Pay Item No. 29 shall include all labor, materials, equipment, supplies, personnel and accessories, and all other incidental items required to provide a Remote Data Acquisition and Reporting System for the Pneumatic Crest Gate.
3. The work and materials shall be in accordance with Specification Section 11288 – Pneumatic Gate System and the Contract Drawings.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 29 stated on the Bid Form.

DD. Pay Item No. 30: Aesthetic Improvements to the Subsurface Vault for Gate Controls (allowance)

1. No measurement shall be made for Pay Item No. 30 which has been provided on the Bid Form as a Lump Sum.
2. Pay Item No. 30 shall include all labor, materials, equipment, supplies, personnel, and incidentals required to provide Aesthetic Improvement of the Subsurface Vault for Gate Controls as directed by the Resident Engineer and Owner. Such improvement may include architectural facing and/or landscaping.
3. The work and materials shall be in accordance with the direction of the Resident Engineer and Owner.
4. Payment for the scope of the work specified herein shall be paid for at the applicable lump sum price for Item No. 30 stated on the Bid Form.

1.07 UNIT PRICE ITEM QUANTITIES

- A. Quantities provided in the Bid Form for unit pay item quantities represent the Owner's and Resident Engineer's estimate based on available measurements and record drawings. Actual quantities may vary. The Contractor shall be paid on the basis of the actual, in place quantity for each Pay Item.
- B. Lengths, areas and volumes shall be computed as per the methodology described. Quantities may be more or less than the estimated quantity shown on the Bid Form.
- C. The total price paid for each item listed below may be more or less than the total shown on the Bid Form based on the measured, in-place quantity and the unit price bid for each item on the Bid Form. The total price of the project, as listed on the Bid Form, will therefore be increased or reduced based on the actual, in-place quantities.

1.08 UNIT PRICE CONTRACT ITEMS

The following unit price items shall be included in the total bid for this Contract.

- A. Pay Item No. 31: Furnish and Install Additional Riprap

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1. Under Pay Item No. 31, the Contractor shall furnish and install new riprap at the site. The work and materials shall be in accordance with Specification Section 02270 – Stone and Riprap.
2. Measurement for payment to Furnish and Install Additional Riprap, shall be made on the basis of actual quantities of new riprap placed measured in Tons in excess of the lump sum quantity from Pay Item No. 31. Certified weight slips shall be submitted to the Resident Engineer for approval and no payment shall be made for quantities not approved and countersigned by the Resident Engineer.
3. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs to store and place riprap, shall be paid for at the applicable unit price for Item No. 31 stated on the Bid Form.

B. Pay Item No. 32: Crushed Stone Bedding

1. Under Pay Item No. 32, the Contractor shall furnish and install crushed stone bedding beneath new riprap and for use of developing the working pad on the right abutment as directed by the Resident Engineer. The work and materials shall be in accordance with Specification Section 02270 – Stone and Riprap.
2. Measurement for payment of Crushed Stone Bedding shall be made on the basis of actual quantities of crushed stone measured in Tons. Certified weight slips shall be submitted to the Resident Engineer for approval and no payment shall be made for quantities not approved and countersigned by the Resident Engineer.
3. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs to store and place Crushed Stone Bedding and shall be paid for at the applicable unit price for Item No. 32 stated on the Bid Forms.

C. Pay Item No. 33: Off-Site Disposal of Excess Sediment and Debris

1. Under Pay Item No. 33, the Contractor shall transport and lawfully dispose of all excess sediment and debris material removed from site in accordance with all state, local, and federal laws if it is determined by the Owner or the Resident Engineer that the material may not be spread on site. The work and materials shall be in accordance with Specification Section 02200 – Earthwork.
2. Measurement of the Off-Site Disposal of Excess Sediment and Debris shall be on a basis of the actual volume of sediment removed from the site and disposed of, in accordance with all state, local, and federal laws, measured in Tons. Measurement shall be made by certified weight slips provided to the Resident Engineer.
3. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs for off-site disposal of excess material and shall be paid for at the applicable unit price for Item No. 33 stated on the Bid Form.

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D. Pay Item No. 34: Off-Site Disposal of Excess On-Site Soil

1. Under Pay Item No. 34, the Contractor shall transport and lawfully dispose of all excess soil (such as Common Fill) removed from site in accordance with all state, local, and federal laws if it is determined by the Owner or the Resident Engineer that the material may not be re-used on site. This includes disposal of excess soil separate and in addition to those materials anticipated for removal including at the retaining walls and the subsurface vault. This includes disposal of materials beyond the lines and grades shown on the plans. The work and materials shall be in accordance with Specification Section 02200 – Earthwork.
2. Measurement of the Off-Site Disposal of On-Site Soil shall be on a basis of the actual volume of soil removed from the site and disposed of, in accordance with all state, local, and federal laws, measured in Tons. Measurement shall be made by certified weight slips provided to the Resident Engineer.
3. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and mobilization/demobilization costs for off-site disposal of excess material and shall be paid for at the applicable unit price for Item No. 34 stated on the Bid Form.

E. Pay Item No. 35: Repointing Masonry Joints

1. Under Pay Item No. 35, the Contractor shall provide materials, equipment, and labor necessary to inspect the left upstream granite masonry wall and portions of the right existing masonry wall along the north side (as needed). Also, under Pay Item No. 35, the Contractor shall provide all labor, materials, equipment and incidentals to clean, re-point and repair the granite masonry joints with cement mortar. Pay Item No. 35 shall also include installation of weepholes, as necessary. The work and materials shall be in accordance with Specification Section 04510 – Repointing Masonry Joints.
2. The quantity of Repointing Masonry Joints, in square feet of wall, to be measured for payment under this Item will be the square feet of wall of Repointing Masonry Joints installed and accepted by the Owner and Resident Engineer. Measurement shall be made by taping, or by other methods mutually accepted by the Owner, Resident Engineer and the Contractor. No payment shall be made for quantities not approved and countersigned by the Resident Engineer. No separate payments shall be made for mortar or backer materials.
3. Payment for Repointing Masonry Joints shall be made at the Contract unit price bid per square feet (SF) for Item No. 35. This price shall constitute full compensation for providing all labor, equipment, and materials necessary to perform the Work as specified herein.

F. Pay Item No. 36: Unreinforced Concrete for Left Side Mud Mat

1. Under Pay Item No. 36, the Contractor shall furnish, transport, form, install, and place Unreinforced Concrete for Left Side Mud Mat upstream of the existing gate structure. The work and materials shall be in accordance with the Contract

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Drawings, Specification Section 01565 – Temporary Water Control and with Specification Section 02170 – Temporary Cofferdams.

2. Measurement for payment of Unreinforced Concrete for Left Side Mud Mat shall be made on the basis of actual quantities of concrete in Cubic Yards. Certified slips or trip tickets shall be submitted to the Resident Engineer for approval and no payment shall be made for quantities not approved and countersigned by the Resident Engineer.
3. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals and furnish, transport, form, install, and place Unreinforced Concrete for Left Side Mud Mat and shall be paid for at the applicable unit price for Item No. 36 stated on the Bid Forms.

G. Pay Item No. 37: Cementitious Concrete or Grout for Void Filling of Right Abutment Wall

1. Under Pay Item No. 37, the Contractor shall furnish, transport, form, install, and place Cementitious Concrete or Grout for Void Filling of Right Abutment. The work and materials shall be in accordance with the Contract Drawings and Specifications.
2. Measurement for payment of Cementitious Concrete or Grout for Void Filling of Right Abutment Wall shall be made on the basis of actual quantities of cementitious concrete or grout in Cubic Yards. Certified slips or trip tickets shall be submitted to the Resident Engineer for approval and no payment shall be made for quantities not approved and countersigned by the Resident Engineer.
3. Payment for the scope of the work specified herein, including all labor, materials (including grout bags if necessary), equipment and incidentals and furnish, transport, form, install, and place Cementitious Concrete or Grout for Void Filling of Right Abutment Wall and shall be paid for at the applicable unit price for Item No. 37 stated on the Bid Forms.

H. Pay Item No. 38: Common Excavation (as needed)

1. Under Pay Item No. 38, the Contractor shall provide all labor materials, equipment and incidentals to excavate soils (as needed) across the site that has not been anticipated beyond stripping, and excavation associated with each wall system, raising of the embankment, trenching for utilities, or excavation for the Subsurface Vault for Gate Controls, which have all been under other Pay Items.
2. Measurement for payment of Common Excavation (as needed) shall be on a basis of the actual volume of soil excavated, measured in Cubic Yards. Measurement shall be made by taping, or by other methods mutually accepted by the Owner, Resident Engineer and the Contractor. No payment shall be made for quantities not approved and countersigned by the Resident Engineer.
3. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals for Common Excavation (as needed) and shall be paid for at the applicable unit price for Item No. 38 stated on the Bid Forms.

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I. Pay Item No. 39: Archeological Assistance (as needed)

1. Under Pay Item No. 39, the Contractor shall provide all labor materials, equipment and incidentals, and mobilization/demobilization costs to provide Archeological Assistance for inspection of the existing historic timber cribbing and any other archaeological oversight deemed necessary by local, state, or Federal entities or as directed by the Resident Engineer and Owner.
2. Measurement for the work of Archeological Assistance shall be made on the basis of time spent in this activity, in Days. Each day shall be a standard 8-hour work day. Partial days will be rounded up.
3. Payment for the scope of the work specified herein, including all labor, materials, equipment and incidentals for Archeological Assistance shall be paid for at the applicable unit price for Item No. 39 stated on the Bid Forms.

1.11 INCIDENTAL WORK

The Contractor shall do all work and pay all costs of cutting, protecting, supporting, maintaining, relocating and restoring all surface, sub-surface, or overhead structures, and all other property, including pipes, conduits, ducts, tubes, channels and appurtenances, public or private, in the vicinity and at the site of the work (except such which by law, franchise, permit, contract, consent or agreement the owner thereof is required to protect, support, maintain, relocate or restore), repairing the same if damaged and restoring to their original condition all areas disturbed. The Contractor shall do all work and pay all costs of protecting, supporting, maintaining, relocating, replacing, and restoring all property and equipment owned by the Owner and/or adjacent public and private properties, roads, and structures. No measurement or payment shall be made for incidental work.

1.12 PROGRESS PAYMENTS AND RETAINAGE

- A. Progress payments will be made as per the Payment Provisions of the Contract.
- B. A retainage from each invoice shall be made by the Owner as per the Payment Provisions of the Contract.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 MEASUREMENT OF UNIT PRICE ITEMS

- A. Payment for quantities based on length, area, or volume shall be made ONLY to the lines and grades shown on the Contract Drawings, unless specifically approved by the Owner. No measurement for payment of work or materials beyond the design lines and grades shall be made without such additional work being pre-approved by the Owner.
- B. Measurements shall be made jointly by the Contractor and the Resident Engineer. The Contractor and Owner's Engineer shall together make the relative measurements and jointly record the appropriate quantity. In the event of a discrepancy or disagreement, the Contractor and the Engineer shall immediately take action to reconcile the quantity

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measurement. Quantity measurements made in the absence of the Engineer are subject to rejection.

- C. Linear and area measurements shall be made on a planar basis except in cases when slopes exceed 1 horizontal to 1 vertical, in which case measurement shall be made parallel to the feature being measured. Volume measurements shall be made with a tape to determine the area and general height (or depth) of the volume being measured. In the event that a shape is irregular, “average end” method shall be used to compute the volume.
- D. Following the completion of concrete removal to the final depths for each repair area, the Contractor, accompanied by the Engineer shall take measurements of the dimensions (length, width, and/or depth as needed) of the prepared area. Measurements shall be made using a convenient and accurate method such as tape, level, transit, etc. Concrete repair areas and volumes shall be measured prior to the start of forming and pouring concrete repairs. The computation of a concrete repair volume, when required, shall be determined by geometrically computing using average end area measurement.
- E. In the event of an authorized field modification to the Work or an acknowledged changed condition, determination of actual dimensions shall be made by the Engineer with assistance from the Contractor, as requested by the Owner. Calculations of quantities from field measurements shall be performed by the Engineer using usual and customary methods. The Contractor may make independent measurements and estimates of quantities. In such an event, the Contractor shall provide the Owner with all information, data, documentations, and calculations used to compute pay item quantities. In the event of a discrepancy between the quantity computed by the Contractor and the Engineer, the Contractor and the Owner shall meet in an effort to resolve the discrepancy. If no resolution is obtained, the dispute will be handled as per the terms of the Contract.

*** * * END OF SECTION * * ***

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ATTACHMENT C
SCHEDULE OF VALUES

Macallen Dam – Abutments and Outlet Structure Rehabilitation

SCHEDULE OF VALUES

Pay Item Description – BASE BID	<u>Technical Specification Reference</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price (\$)</u>	<u>Extended Price (\$)</u>
For more complete description see: Summary of Work (Section 01010), Technical Specifications, & Drawings and Details					
1. As-Built Drawings	01055	1	LS		
2. Vibration and Movement Monitoring	01436	1	LS		
3. Temporary Facilities and Controls	01500	1	LS		
4. Temporary Erosion and Sedimentation Controls	01560	1	LS		
5. Gate Structure and Left Abutment Temporary Water Control and Temporary Cofferdams	01560, 01565, 02170	1	LS		
6. Right Abutment Temporary Water Control and Temporary Cofferdams	01560, 01565, 02170	1	LS		
7. Temporary Traffic and Access Controls	01570	1	LS		
8. Site Restoration	01740, 02525, 02930	1	LS		
9. Mobilization and Demobilization	01900	1	LS		
10. Demolition of Existing Gate Structure and Other Left Abutment Structures	02065	1	LS		
11. Demolition of Structures at the Right Abutment	02065	1	LS		
12. Right Abutment Chain-link Fence and Gates	02444	1	LS		
13. Pneumatic Gate and Appurtenances	11288	1	LS		
14. Subsurface Vault for Gate Controls	03605	1	LS		
15. Support of Excavation for Subsurface Vault for Gate Controls	02200	1	LS		
16. Cast-in-place Reinforced Concrete for Gate Structure, Slab, and Left Abutment	03300, 03305, 03346	1	LS		

Macallen Dam – Abutments and Outlet Structure Rehabilitation

Pay Item Description – BASE BID	<u>Technical Specification Reference</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price (\$)</u>	<u>Extended Price (\$)</u>
For more complete description see: Summary of Work (Section 01010), Technical Specifications, & Drawings and Details					
17. Cast-in-place Reinforced Concrete for Right Abutment Wall	03300, 03305, 03346	1	LS		
18. Precast Concrete Gravity Retaining Wall (Contractor Designed)	02832	1	LS		
19. Mechanically Stabilized Earth Wall (Contractor Designed)	02832	1	LS		
20. Clearing, Grubbing, Stripping, and Tree Removal	02110	1	LS		
21. Portable Davit Crane and Cable Winch	14321	1	LS		
22. Electric Work – General Provisions	16100	1	LS		
23. Lighting	16550	1	LS		
24. Dam Instrumentation – Staff Gage & Survey Monument	02015	1	LS		
25. Furnish and Install Rip Rap	02270	1	LS		
26. Furnish, Placement, and Compaction of Off-Site Low Permeability Fill	02200	1	LS		
27. Alleyway along Durham Book Exchange Building (53 Main Street)	02200	1	LS		
28. Concrete Surface Repair of Right Abutment Wall	03300, 03305, 03346	1	LS		
29. Remote Data Acquisition and Reporting System for the Pneumatic Crest Gate	--	1	LS		
30. Esthetic Improvements to the Subsurface Vault for Gate Controls (allowance)	--	1	LS		
31. Furnish and Install Additional Riprap	02270	20	Ton		
32. Crushed Stone Bedding	02270	200	Ton		
33. Off-Site Disposal of Excess Sediment and Debris	02200	100	Ton		
34. Off-Site Disposal of Excess On-Site Soil	02200	50	Ton		

Macallen Dam – Abutments and Outlet Structure Rehabilitation

Pay Item Description – BASE BID	<u>Technical Specification Reference</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price (\$)</u>	<u>Extended Price (\$)</u>
For more complete description see: Summary of Work (Section 01010), Technical Specifications, & Drawings and Details					
35. Repointing Masonry Joints	04510	350	SF		
36. Unreinforced Concrete for Left Side Mud Mat	01565, 02170	200	CY		
37. Cementitious Concrete or Grout for Void Filling of Right Abutment Wall	--	50	CY		
38. Common Excavation (as needed)	02200	20	CY		
39. Archeological Assistance (as needed)	--	5	Day		
BASE BID TOTAL			\$		
BASE BID TOTAL (IN WORDS):					

MAXIMUM OBLIGATED CONTRACT PRICE:

\$ _____

(in words): _____