

**Contract No. 20180234  
Amendment No. 2**

**City of Springfield Contract Tracer Log**

**INSTRUCTIONS:** Upon receipt, please initial and write in the date of receipt on this Tracer form. When your department has approved and signed the blanket contract, please initial and date in the forwarding section and deliver to the next department.

DEPARTMENT	DATE RECEIVED		DATE FORWARDED TO NEXT DEPT.	
	Initials	Date	Initials	Date
Office of Procurement	TGT	10/28/19	TGT	10/28/19
Capital Assets	JL	11/11/19	JK	11/11/19
City Comptroller	HL	11.12.19	HL	11.12.19
Law	PF	11.13.19	PF	11.13.19
CAFO	mm	11.14.19	mm	11.19.19
Mayor	CG	11/19/19	CG	11/19/19
Office of Procurement	TGT	11/20/19	TGT	11/20/19

Vendor No.: **6824**    Contract Number: **20180234**    Amend Amt.: **\$543,380.00**

Amend Date: **9/26/19**    Contract. Date: **9/1/17**    Expiration Date:

Requisition No.:                      P.O. No:                      Acct No:  
**20006836**    **26451811.530165-64516**

Vendor Name: **GZA Geo-Environmental Inc.**

Contract Purpose: **CONSULTING SERVICES FOR HYDRO PLANT AT WATERSHOPS**

Requesting Dept.: **DCAC**

TYPE OF DOCUMENT (Please select at least one):

New                       Amendment                       Extension                       Renewal

**AMENDMENT No. 2 TO CITY CONTRACT NO: 20180234  
CONSULTING SERVICES FOR HYDRO PLANT AT WATERSHOPS**

WHEREAS, on or about September 1, 2017, the **CITY OF SPRINGFIELD**, a municipal corporation within the County of Hampden, Commonwealth of Massachusetts, with its principal offices at 36 Court Street, Springfield, Massachusetts 01103, acting by and through its Director of Capital Asset Construction, with approval from its Mayor, and **GZA ENVIRONMENTAL** (hereafter the "Engineer"), a corporation with a business mailing address at **1350 Main Street, Suite 1400, Springfield, MA 01103** (hereinafter called the "Designer") entered into a Contract Agreement referred to as **City Contract No. 20180234** (the "Agreement"), to provide Professional Designer/Consulting Services for the Watershops Pond Hydropower Design; and

WHEREAS, the City retained the services of the Designer on the terms and conditions set forth in this Agreement and the DESIGNER has agreed to accept such retainer after being selected as the top ranked proposer from the City's Request for Proposals Qualifications performed pursuant to MGL Ch. 7C § 38-44; and

WHEREAS, the original agreement was executed for an amount not to exceed One Hundred Ninety Six Thousand Dollars and 00/100 (\$196,000.00), and the City now wishes to extend the scope of services and corresponding contract value to include additional scopes of service not included in the original Agreement that include a feasibility study, and other Phase II scopes of service that will address the future programmatic needs and services of the residents of the City of Springfield, (the additional scope of services is attached as **Exhibit A** to this Amendment); and

WHEREAS, the City and the Engineer had previously negotiated and executed **Amendment No. 1** to the Agreement, which increased the scope of services and corresponding contract compensation amount to an updated not to exceed amount of Two Hundred Sixty Four Thousand Two Hundred Dollars and 00/100 (\$264,200.00) for all scopes of work; and

WHEREAS, due to in project scope and a need for an increased level of services required, the City and the Engineer have now agreed to modify the scope and cost of the services contained in the Agreement through this **Amendment No. 2**;

NOW THEREFORE, in consideration of the mutual covenants contained herein, the parties hereto mutually agree to amend the Agreement as follows:

1. ARTICLE I, SCOPE OF SERVICES, is amended by adding/modifying the following scope of services:

- i. Task 1- Review of Existing Information/field Review-  
Deliverable- Reports of Field Report Meetings  
(\$2,560.00)

ii. Task 2- Field Investigations

2.1 Geotechnical Investigations

2.2 Underwater Investigations

Deliverables-

Borings Log

Subsurface Investigation Summary

Logs of Subsequent Piezometer Readings

Underwater Dive Reports

(\$93,990.00)

iii. Task 3- Studies and Computations

3.1 Dam Stability Analysis

3.2 Inflow Design Flood Determination

Deliverables

Existing and Final Dam Stability Calculations

Dam Stability Summary

PMF Study

Hydrology and Hydraulics Report

(\$56,960.00)

iv. Task 4- Design of Improvements

4.1 50% Design

4.2 90% Design

4.3 100% Design

Deliverables

50% Drawings and Docs

90% Drawings and Doc

100% Drawings and Docs

(\$114,420.00)

v. Task 5- Permitting

5.1 MEPA Review

5.2 Chapter 253 Permit

5.3 WPA Permitting

5.4 Section 106 PNF Permitting

5.5 USACE 404

5.6 MADEP Section 401

Deliverables

Permit Application Packages

(\$42,310.00)

vi. Task 6- Bidding Assistance

Deliverables

Electronic Project Manuals and Drawings  
Answers to Bidders Questions  
Bid Addendum Documents  
Recommendation of Bid Award

(\$7,560.00)

vii. Designer Services During Construction

7.1 Meeting Attendance

7.2 Submittal Review and RFI review

7.3 Completion Review

Deliverables

Comments to Contractor Submittals  
Correspondence to Contractor RFI's  
Weekly Field Reports  
Construction Completion Report  
Permit Completion Reports

(\$72,860.00)

viii. Engineering Related Construction Observation/Resident Engineer

Deliverables

Weekly Field Reports

(\$100,140.00)

ix. Permit Mandated Wetlands Related Compliance Monitoring

Deliverables

Electronic and Hard Copy Reports

(14,060.00)

x. Closeout Reporting/ Record Drawings/ Post Construction Inspection and Report

10.1 Closeout Reporting

10.2 Record Drawings

10.3 Post Construction Inspection and Report

Deliverables

253 Close out Documents

Record Drawings Prints (3 sets)  
Inspection Reports

(\$9,010.00)

xi. Operations and Maintenance Manual Training

11.1 Operations and Maintenance Manual  
Deliverables

Three Hard Copies of Training Documentation  
Two Copies of Manual

(\$7,960.00)

xii. Emergency Action Plan Update

12.1 Kickoff Meeting and Review of Information  
12.2 Format EAP  
12.3 Affected Resident Contact Information  
12.4 EAP Orientation Meetings  
Deliverables

EAP update Draft and Docs

(\$14, 210.00)

xiii. Misc. Meetings and Tasks

(\$7,340.00)

All additional tasks, including timelines for completion and complete descriptions, are described in the attached **Exhibit A**.

2. ARTICLE IV, COMPENSATION, is amended by increasing the total financial obligation of the City by **Five Hundred Forty Three Thousand Three Hundred Eighty Dollars and 00/100 (\$543,380.00)**, making the new total compensation available under the agreement **Eight Hundred Seven Thousand DFive Hundred Eighty Dollars and 00/100 (\$807,580.00)**. These changes are reflected for the costs of the additional Tasks 1-13, as well as other scope increases and modifications described in the attached **Exhibit A**.

3. Engineer is to be bound to all of the additional terms, conditions, covenants, and obligations as described in the attached **Exhibit A**, which is incorporated herein by reference.

3. Except as specifically modified and amended by the provisions of this Amendment No. 2, all other terms, provisions, requirements and specifications

contained in the Agreement shall remain the same and in full force and effect.

**Signature page to follow**

IN WITNESS WHEREOF, the CITY OF SPRINGFIELD, acting by and through the Director of DCAC, with the approval of its Mayor, and the Consultant, have executed this Amendment No. 2 to the Agreement on the day and year the same is signed by all necessary parties, on the latest date listed below.

THE CONSULTANT,  
GZA Environmental:

By: [Signature]  
Its: Vice President  
Date signed: 10/25/2019

Approved:  
[Signature]  
Office of Procurement

THE CITY OF SPRINGFIELD:

Approved: [Signature]  
Executive Director, DCAC

llw Approved as to Appropriation:  
[Signature] <sup>11/2/19</sup>  
Comptroller, Deputy  
org job #  
26451811-53010564516  
Increase: \$543,380.-

Approved as to Form:  
[Signature]  
City Solicitor

Reviewed:  
[Signature]  
CAFO, deputy

APPROVED:  
[Signature]  
DOMENIC J. SARNO  
MAYOR  
Date signed: 11/19/19

# Exhibit A





Known for excellence.  
Built on trust.

GEOTECHNICAL

ENVIRONMENTAL

ECOLOGICAL

WATER

CONSTRUCTION  
MANAGEMENT

1350 Main Street  
Suite 1400  
Springfield, MA 01103  
T: 413.726.2100  
F: 413.737.2249  
www.gza.com



September 23, 2019  
15.P000132.20

Peter J. Garvey, Director  
City of Springfield - Department of Capital Asset Construction (DCAC)  
36 Court Street, Room 312  
Springfield, MA 01103

Re: Proposal for Continued Professional Consulting Services  
Design, Permitting, & Designer Services During Construction for  
Resiliency Improvements at Watershops Pond Dam  
HUD NDRC Grant  
Springfield, MA

Dear Mr. Garvey:

GZA GeoEnvironmental, Inc. (GZA) is pleased to submit to the City of Springfield (the City, DCAC) this Proposal for continued professional consulting services to provide engineering design, permitting, and designer services during construction for the proposed **Resiliency Improvements at Watershops Pond Dam** (the Project). This Proposal is made pursuant to the City's request, which follows GZA's completion of the *Renewables Feasibility Report*, February 25, 2019, and US Department of Housing and Urban Development's (HUD) August 19, 2019, Substantial Amendment Approval letter.

The Project was outlined within the "*Renewables Feasibility Report – Part C: Memorandum Regarding Resiliency Improvements at Watershops Pond Dam*," which provided an AACE Class 4 cost opinion for the resilience upgrades independently from the costs for re-implementation of hydropower at the dam. The *Part C Memorandum* provided a description of the improvements and the engineering design and permitting requirements, all of which have been further detailed and expanded upon in the Scope of Services proposed herein.

#### SCOPE OF SERVICES

GZA proposes the following Scope of Services, which will build upon the previously-completed work to support accomplishment of the Project goals.

#### TASK 1. REVIEW OF EXISTING INFORMATION / FIELD REVIEW

GZA will review inspection reports and associated documentation for the Watershops Pond Dam, including the pertinent information assembled within the *Renewables Feasibility Report*. GZA will summarize the deficiencies that will be addressed as part of the resiliency and rehabilitation improvements and discuss these with the City.

GZA will meet City representatives at the site to review the design goals and elements of the proposed Resiliency Improvements at Watershops Pond Dam. Discussions will include deficiency improvements, responsibilities, overall sequence and schedule of tasks, and information to be gathered.



Based on the findings of prior periodic inspection reports, discussions with the City of Springfield, and the findings and recommendations of the "Renewables Feasibility Report – Part A.," GZA envisions a program of improvements including:

- Repair or replacement of the existing operator platform and walkway
- Repair or replacement of existing railings and the installation of hazard warning signage
- Installation of new security fencing at critical access points
- Replacement of the two (2) existing sluice gates and their appurtenant features
- Permanent closure of the two penstock openings at the right abutment of the dam
- Replacement of the existing bascule gate, including all operating mechanisms and control systems, and provisions for adequately conveying the Inflow Design Flood to the extent practicable
- Replacement electrical service which does not require entry into privately-owned buildings for access
- General masonry repairs to the downstream training walls owned by the City of Springfield, and the right upstream training wall from the dam to the upstream iron bridge.
- Replacement of the upstream left training wall and including provision of a wider access route capable of supporting vehicular traffic
- Vegetation and tree removal and control
- As necessary, angled tie-down anchors in the downstream dam face

This proposal for services is founded on the above-listed plan of resiliency improvements. These goals and project elements will be discussed at the field review meeting. GZA's Scope of Services and fee proposal assume that none of the various permitting agencies will require that a fish ladder be incorporated into the Project. Our judgement at the present time is that the risk of a fish ladder requirement is very low.

#### Task 1. Deliverables:

1. GZA will produce a Report of Field Review Meeting, itemizing discussion topics and identifying action items for the various parties.

#### **TASK 2. FIELD INVESTIGATIONS**

##### Task 2.1. Geotechnical Investigations:

GZA's "Renewables Feasibility Report – Part A" evaluated the feasibility of a potential hydropower facility at Watershops Pond Dam and included several development studies and related recommendations for further investigation where warranted. A detailed preliminary analysis to assess the gravity (sliding and overturning) stability of Watershops Pond Dam was conducted, based on assumed conditions unconfirmed by field investigations, which were beyond the feasibility study's scope. Using assumed values, the dam did not meet all required factors of safety against sliding failure.

Under this Task, GZA will complete a limited field exploration program and instrumentation installation program to obtain site specific information about the Watershops Pond Dam and its foundation. GZA will engage a drilling subcontractor to perform up to six (6) days of drilling at the dam. We anticipate performing up to four (4) test borings / corings at the dam itself. The field exploration program will consist of bedrock investigations including the collection of samples through the downstream apron to analyze the concrete / bedrock foundation interface. If the core samples



are able to capture the dam/bedrock interface, laboratory direct shear tests will be performed on the samples to obtain a better estimate of the in-situ foundation strength parameters. The instrumentation program will include of the installation of up to two (2) piezometers at the dam. The piezometers will provide a detailed profile of hydrostatic pressure at the dam / subsurface interface.

In addition to work at the dam, GZA will also perform up to three (3) days of drilling and completing up to two (2) test borings from within Watershops Pond, along the upstream left training wall, from the iron bridge to the dam. Access to the dam's left abutment and to the hinged crest (Bascule-type) gate control house on the left abutment is via the top of the left upstream training wall, which is about five feet wide with no handrail on the water side. This wall and cap are in very poor condition and have been identified as needing repair/replacement. A new wall, positioned 4-6 feet waterward, would allow for future vehicular access to the left abutment and gate house. We note that repairs to the right upstream training wall appear to require work upward from the normal water mark, and geotechnical information is not currently believed to be necessary for that work.

GZA will provide a field representative on site to coordinate and observe the borings, classify the soil, rock, and concrete samples and prepare boring logs. Water levels will be measured in the piezometers and in the borings during and upon completion of the drilling, with follow-up confirmatory readings. The exploration locations will be measured upon completion. The data obtained from the geotechnical investigations will inform the remaining tasks and design development of the project goals.

GZA will collect up to two (2) supplementary sediment samples from underwater areas anticipated to be excavated (dredged) during the work. These samples will be collected and analyzed at a MA-certified laboratory for the suite of parameters required under Massachusetts regulation at 314 CMR 9.00 (Water Quality Certification / dredging regulations).

#### Task 2.2. Underwater Investigations:

The two (2) 48" x 48" sluice gates and frames were investigated by commercial dive team in 2004, over 15 years ago. The divers "... found the gate stems, gates, and guides were covered in about one half (1/2) inch of hard crustaceous rust. Silt and debris on the bottom was almost at the bottom of the gate." At the present time, GZA recommend the design investigations plan to conduct a second, contemporary underwater inspection. It is anticipated that the two sluice gates, frames, operators, and stems will all be improved by direct replacement of these components. It may become evident during the progress of our work and in discussions and coordination with gate manufacturers and vendors that the underwater investigations may become evident; notwithstanding, we have included a task and budget place keeper in the Scope of Services and proposed fee.

#### Task 2. Deliverables:

1. Boring Logs (included as appendix to Design Report).
2. Subsurface investigation summary section within Design Report.
3. Logs of subsequent piezometer readings.
4. Underwater Dive Report, if completed.

### **TASK 3. STUDIES AND COMPUTATIONS**

#### Task 3.1. Dam Stability Analyses:

Watershops Pond Dam is a concrete/masonry gravity structure with a 105 ft long concrete ogee spillway, brick masonry upstream face, and maximum structural height of 33 ft. Its stability is developed based on its mass, its construction,



and its incorporation into the existing foundation materials. Preliminary studies conducted as part of the "*Renewables Feasibility Report – Part A*" indicated that the dam does not meet minimum factors of safety against failure by sliding under several loading scenarios, assuming no cohesion between the dam and its bedrock foundation or only minimal interface friction angles. The geotechnical information obtained under Task 2 will enable new stability calculations based on actual, rather than assumed, values.

The two-dimensional (2D) stability analysis models for Watershops Pond Dam will be reviewed and updated as necessary by incorporating the new input data from the geotechnical information obtained under Task 2, and substituting actual measured parameters rather than the assumed values utilized in the preliminary geotechnical analysis. The preliminary stability analyses were performed based on FERC requirements under the assumption that hydropower would be implemented. Because that is no longer the case, the analyses will be performed to confirm dam performance in accordance with the Massachusetts Dam Safety Regulations at 302 CMR 10.00.

If inadequate factors of safety are still indicated for the 2D analyses, GZA will conduct a pseudo-3D analysis using the site-specific parameters, and if the results of both the 2D and 3D analytical analyses using data collected from the exploration program yield calculated factors of safety below the required values, further refinement of the stability model may be warranted. GZA will conduct a three-dimensional finite element method (FEM) of analysis if warranted to ensure the design of improvements will consider rational and realistic performance criteria.

If the additional, more refined, analyses still indicate inadequate factors of safety at Watershops Pond Dam, a number of structural rehabilitation measures will be considered and evaluated to address the insufficient site conditions. If sliding remains the failure mode with the lowest factors of safety, a number of angled tie-down anchors in the downstream face of the dam would provide additional resisting force to both overturning and sliding of the Dam in all loading cases. Constructing a more prominent formed concrete shear key wedge at the downstream toe of the dam would again provide additional resisting force to sliding of Watershops Pond Dam in the case that additional analyses indicate insufficient factors of safety persist. These and other alternatives will be considered for inclusion in the overall program of improvements.

As the design of the improvements progresses, GZA will continue to update the stability models to reflect the loading requirements of the improvements. For instance, if the hydraulic analyses indicate replacement of the Bascule gate with a taller gate in order to increase spillway capacity, these changes will be incorporated into the stability models.

### Task 3.2. Inflow Design Flood Determination:

GZA performed a Probable Maximum Flood (PMF) Study as a part of the "*Renewables Feasibility Report – Part A*." GZA also performed an incremental consequence analysis (ICA) in accordance with FERC guidelines to *Selecting and Accommodating Inflow Design Floods for Dams* to determine the inflow design flood for Watershops Pond Dam. The USACE Hydrological Engineering Center – River Analysis System (HEC-RAS) Version 5.0 model was used by GZA to simulate the hypothetical failure of Watershops Pond Dam and flood wave routing along the Mill River in accordance with FERC guidelines.

As stated in the MA Dam Safety Regulations, a flood less than the regulation-specified flood may be adopted as the site inflow design flood (IDF) in situations where the consequences of dam failure are inconsequential on top of inundation which would be expected as a result of natural flood flows larger than the selected IDF (i.e., the consequences of dam failure have no adverse consequences beyond those of the substantial impacts resulting from natural flood flows). In GZA's opinion, under FERC guidelines, the appropriate IDF for Watershops Pond Dam is 30% of the PMF. GZA will re-visit this determination and confirm its appropriateness under MA Dam Safety Regulations. We will re-package the hydrologic and hydraulic reports and documentation for inclusion in the Design Report discussed in subsequent tasks of this Scope of Services.



Task 3. Deliverables:

1. Existing and Final Design Dam Stability Calculations (included as appendix to Design Report).
2. Dam Stability summary section of Design Report.
3. PMF Study, HEC-RAS input data and model results, IDF determination, and calculations (included as appendix to Design Report).
4. Hydrology and Hydraulics summary section of Design Report.

**TASK 4. DESIGN OF IMPROVEMENTS**

Task 4.1. 50% Design:

GZA will develop design drawings for the Resiliency Improvements at Watershops Pond Dam. Drawings will first be prepared to a 50± percent level and presented to the City for review. Drawings at this level will be intended to describe the full extent and intent of the project to the City and other stakeholders. These drawings will include sufficient detail for much of the permitting, except for the development of the Chapter 253 Dam Safety Permit, which requires 100% drawings. The drawings will demonstrate that the various project elements can be built in coordination with each other and within the overall Project budget and schedule limitations. An appropriate level opinion of probable construction cost will be prepared. Following input from the City, GZA will advance the drawings to the next level. We anticipate the following plan sheets to be necessary:

- A. Title Sheet;
- B. General Notes;
- C. Existing Conditions Plan and Resource Area Delineation (survey was previously completed in support of the *Renewables Feasibility Report*);
- D. Sediment, Erosion, and Water Control Plan;
- E. Final Conditions Plan;
- F. Sections;
- G. General Details (2-3 sheets);
- H. Bascule Gate Replacement Drawings and Details (10-12 sheets); and
- I. Electrical Plan.

GZA will schedule a review meeting with Eversource regarding the existing and proposed electrical service at the dam and will coordinate the electrical work with the 50% drawings.

If possible, the 50% Design drawings will be used to accompany some of the various permitting applications detailed in other Tasks.

Task 4.2. 90% Design:

GZA's designs for the Resiliency Improvements will be advanced to the 90 percent level, incorporating City input and further development of vendor-supplied items such as the sluice gates and the bascule gate. The opinion of probable construction cost will be updated. Draft technical specifications for all work will be prepared to accompany the 90% drawings.



**Task 4.3. 100% Design:**

Following City input, GZA will finalize the drawings and technical specifications. GZA will coordinate with the City Department of Procurement to assist in the development of bid-ready drawings and specifications. We assume unit pricing and method specifications will be utilized. GZA envisions that specifications under Divisions 1, 2, 3, 4, 5, 10, and 26 (as per CSI standard format) will be necessary. A final opinion of probable construction cost will be provided. We anticipate using the City's administrative front-end documents and other forms as may be required and provided by the City. GZA will edit the upfront portion of the bid package including the information for Bidders, as necessary for the Project. GZA will prepare a Form for Bid which will describe the Pay Item and Pay Item quantities on the project and provide a format for bidders to submit bid prices. These documents will be included in the 100-percent submission.

**Task 4. Deliverables:**

1. 50 percent Drawings and accompanying Engineer's Opinion of Probable Construction Cost (2 hard copy sets + .pdf versions).
2. 90 percent Drawings, Draft Technical Specifications, and accompanying Engineer's Opinion of Probable Construction Cost (2 hard copy sets + .pdf versions).
3. 100 percent Drawings, Final Specifications, and Final Engineer's Opinion of Probable Construction Cost (2 hard copy sets + .pdf versions).

**TASK 5. PERMITTING**

GZA will prepare permit applications and required accompanying documents on behalf of the City of Springfield for required construction permits for the Resiliency Improvements at Watershops Pond Dam. The 50-percent level plans for improvements will be used for the permit applications. Some applications may require more advanced drawings in the 75-90% range. Regardless, GZA will prepare and file permit applications as soon as possible. GZA's Scope of Services and fee proposal assumes that none of the various permitting agencies will require that a fish ladder be incorporated into the Project. Our judgement at the present time is that the risk of a fish ladder requirement is very low.

We anticipate the following permits will be required for the Resiliency Improvements at Watershops Pond Dam:

**Task 5.1. Massachusetts Environmental Policy Act (MEPA) review:**

The Massachusetts Environmental Policy Act (MEPA; G.L. c. 30, §61-§62H) and its associated regulations (301 CMR 11.00) established a review process for projects that are undertaken by Agencies of the Commonwealth or require permits and/or financing from Agencies of the Commonwealth. A project is subject to MEPA review if it equals or exceeds any of the MEPA thresholds. MEPA review is intended to inform the Proponent and each Participating Agency, to maximize consistency between Agency actions, and to facilitate coordination of all environmental and development review and permitting processes of the Commonwealth. The need for a MEPA filing (either Environmental Notification and/or Environmental Impact Report) is determined by examining the project in relation to thresholds provided in the regulations. A request for determination can be submitted to the MEPA office for an official ruling.

The review thresholds are related to direct alteration of land, creation of impervious area, and other changes in land use, impacts to habitat of state-listed species under M.G.L. c. 131A, alteration of wetlands, water withdrawals, wastewater generation, transportation, air emissions, solid and hazardous waste, demolition/destruction of historic resources listed in the State Register of Historic Places or in the Inventory of Historic and Archaeological Assets of the Commonwealth, and projects within Areas of Critical Environmental Concern. Review thresholds related to the alteration of wetlands and waterways, creation of impervious cover, and dredging are expected to trigger the need for formal review under MEPA.



GZA's Scope of Services and fee proposal assume that preparation and filing of an Environmental Notification Form (ENF) or Exanded ENF (EENF) will be required under MEPA, but that an Environmental Impact Report (EIR) will not be required. GZA will prepare the ENF and accompanying documentation, submit the ENF to MEPA and the required distribution list, and will make an informal presentation at the required MEPA site visit.

Task 5.2. Chapter 253 Dam Safety Repair Permit (Office of Dam Safety):

GZA will prepare the required Chapter 253 application for authorization from the Office of Dam Safety to make the repairs and Improvements to the Dam. GZA will prepare a comprehensive Design Report that will be used to support this permit application.

Task 5.3. Wetland Protection Act (WPA) Notice of Intent (Springfield Conservation Commission / MADEP):

GZA will prepare a Notice of Intent (NOI) requesting a full Order of Conditions authorizing the improvements to the Dam. The NOI will discuss impacts to resource areas and proposed mitigative efforts, and compliance with the Springfield Wetlands Ordinance. The application will be filed with the City of Springfield's Conservation Commission and the MADEP – Western Regional offices. "Limited project status" will be sought. GZA will attend one (1) informal pre-permit meeting to review the proposed Project with the Conservation Commission agent. The submittal will include notice to abutters and publication in the local newspaper in accordance with local procedures and State regulations. We assumed that we will need to make one (1) public presentation as part of the NOI process. Processing of an appeal, if required, is not a part of this scope.

Task 5.4. Section 106 Project Notification Form (PNF - Massachusetts Historical Commission):

Because the project will require a state permit (Chapter 253), a Project Notification Form (PNF) will need to be filed with the Massachusetts Historical Commission. GZA will prepare the PNF. We will report any historic information which is available, but we will not perform any special research. GZA's role will be to complete the form in the proper format, provide maps, photos, and figures, and reproduce the documentation. We have assumed that no special historical documentation, studies, or mitigation will be necessary—our understanding is that the State Historical Preservation Officer has reviewed the project, in conjunction with HUD's review, and has not indicated the need for any special studies or investigations.

Task 5.5. U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 Permit:

Based upon our currently-envisioned scope of the Project, we anticipate that the work will be eligible for authorization under the Pre-Construction Notification (PCN) provisions of the USACE's Massachusetts General Permit (GP) 1, "Maintenance." We assume that an Individual 404 permit will not be required. GZA will prepare and submit the PCN and accompanying documentation on the City's behalf.

Task 5.6. Clean Water Act Section 401 Water Quality Certification (MADEP):

At this time, GZA assumes that the work may result in greater than 5,000 square feet cumulatively of land under water (temporary and permanent impacts), as well as minor dredging/repositioning of material; and thus, GZA will prepare and submit an application for Water Quality Certification for the Project. GZA will attempt, if possible, to provide for a final design which allows the Order of Conditions to serve as the Water Quality Certificate. If this strategy is successful, it will likely greatly expedite permitting and reduce overall permitting costs. Within Task 2.1, GZA has included a modest budget for the potential collection and analysis of up to two additional sediment samples in addition to those collected and analyzed under the *Renewables Feasibility Report – Part A*. GZA will respond to questions from MADEP submitted during permitting.



GZA believes the following permits are not required for the restoration of the dam:

Chapter 91 Waterways Office Notification Letter (MassDEP) – GZA has preliminarily reviewed the project in reference to Massachusetts Waterways Regulations. It is our opinion that any proposed activities at the dam do not require a Chapter 91 license or permit, as per the provisions contained 310 CMR 9.05(3)(g)(4) of the Chapter 91 regulations. The resilience improvements are anticipated to be generally within the current footprint of the dam and will not adversely affect navigation. However, it is noted that this structure is unlikely to have been specifically licensed in the past, and DEP may take this opportunity to request the City obtain a license. At this stage, GZA proposes to only to prepare and submit a notification letter to the DEP Waterways office.

EPA's NPDES Construction General Permit - While the area of disturbance is not currently anticipated to exceed one acre, GZA recommends that the City require the construction contractor to prepare Stormwater Pollution Prevention Plan (SWPPP) and file a Notice of Intent for coverage under the EPA's NPDES Construction General Permit, should the final Project disturbance area (including access and staging) exceed one acre.

Local Permits - Other than the NOI from the Springfield Conservation Commission, we have assumed that no other local permits will be required for the Project. If building permits are required for the bascule gate work, we assume these will be obtained by the contractor.

GZA will provide work start notifications as required by the issued permits.

Permit requirements for the dam restoration will be revisited during the course of the Project, and we will notify the City if additional permits are determined to be necessary, to mutually agree upon an appropriate scope and budget to develop the applications and supporting documentation.

GZA has budgeted for up to \$2,500 in direct costs related to the permitting efforts, as may be required for permit application notification and advertising costs, permit application fees, recording costs, and certified mailing charges.

#### Task 5. Deliverables:

1. Permit application packages as required for above-referenced permits (1 additional hard copy + .pdf version for City records for each permit).

#### **TASK 6. BIDDING ASSISTANCE**

GZA assumes that the City will notify the Central Register and obtain prevailing wage rates for Massachusetts and Davis-Bacon Act. City will arrange for and run the announcement in the local paper.

GZA will provide the City with up to three (3) hard copies of the completed Project Drawings and Contract and Technical Specifications (Project Manual) and electronic (PDF) versions for City's distribution to bidders. GZA will attend and conduct a pre-bid meeting at the Site, prepare written responses to Bidder questions, develop one round of bid addendum, as necessary, evaluate the bids received, and make a written recommendation for Project award.

#### Task 6. Deliverables:

1. Electronic (.pdf) and three (3) hard copies of the completed Project Drawings and Project Manual.
2. Responses to Bidder questions.
3. Bid Addendum documents.





4. Recommendation for Bid Award.

**TASK 7. DESIGNER SERVICES DURING CONSTRUCTION**

GZA will provide the City with Designer Services During Construction (DSDC). In general, these services will involve a GZA Project Manager attending project meetings, responding to contractor Requests for Information (RFIs), reviewing contractor submittals for conformance to the contract documents, and issuance of supplemental instructions. An assumed level of effort (without major unexpected conditions) has been used to prepare the budget estimate. Included in the estimate is GZA project management time and the efforts of the GZA Principal-in-Charge in overseeing the Project as a whole. In conjunction with field observation as may be provided by the City and our reliance on their observations and assessments of conformance to the drawings and specifications, these services will allow GZA to function as the Engineer-of-Record for the Project.

**Task 7.1. Meeting Attendance:**

A GZA Senior Project Manager or other senior personnel under their direct control will attend up to twenty (20) project meetings at the site on behalf of the City, including:

- The Project Kick-off Meeting will be used to discuss the contractor schedule, submittals, RFIs, and resident engineering (note that resident engineer services are not included in this proposal).
- The Project Close out meeting will serve as the Punch List walk through to view the Site with the City and the Contractor to discuss any unresolved issues.
- Routine Construction Progress Meetings will be held at the site as necessary to review contractor's progress, conditions at the site, and prior to the start of any significant or otherwise important stages of construction. We have assumed an active construction period of 12 months, with meetings averaging once per two weeks.

GZA will take photographs of the Site during each Site walk held in conjunction with each meeting. GZA will prepare and distribute meeting minutes from each meeting. The meetings will be attended by GZA's Senior Project Manager or designated qualified staff. For budgeting purposes, we have assumed a 3/4 day per meeting (a total of 120 hours) for the GZA Senior Project Manager for meeting attendance, one-way travel, and preparation of meeting minutes.

**Task 7.2. Review of Contractor Submittals and Requests for Information:**

GZA will provide technical review of Contractor's shop drawings, test results of materials, review samples and other submissions related to the proposed construction as necessary for compliance with the Project Drawings and Specifications. Our scope and fee estimate assume only one round of re-submittals. We will process and respond to submittal correspondence from the Contractor. Correspondence received from the contractor(s) will be reviewed by our staff relative to the specifications and the Project permits. GZA will provide a written response to submittals received from the Contractor with recommendation to the City to accept, accept with modifications, or reject the submittal. GZA correspondence will be sent to the City, with copy to the Contractor.

GZA will provide a Senior Project Manager or designated qualified staff on a part-time basis (assuming an average of 3± hours per week for 52 weeks for a total of 180 hours) to provide liaison with the City and the Contractor, to review submittals, and to respond to RFIs or other questions from project partners. An additional 0.5± hours of Principal time per week (for a total of 25 hours) have been budgeted. In the event of questions regarding potential changed conditions or other issues, which might have contractual implications, the questions will be discussed with the City to determine whether any action is necessary and within the project scope, and the associated cost implications. GZA will develop technical recommendations in a timely manner to address unanticipated conditions, if encountered. GZA will issue a written response to the City with our opinion as to the appropriate resolution of questions or unexpected conditions.



**Task 7.3. Completion Review:**

As construction work nears substantial completion, GZA will review the Contractor's "As-built" plans, in cooperation with the City and its Resident Engineer. GZA will assist the City and its Resident Engineer in preparing a "punch-list" containing items for completion prior to close-out of the phase. If requested, GZA will assist with the preparation of a Certificate of Substantial Completion at the end of construction for the purpose of assisting with authorization of final payment to the Contractor. GZA will prepare a final completion report, which will include Contractor-prepared "as built" and "record" drawings. GZA will also assist with the preparation of Certificates of Completion as required by the various permits.

Neither the professional activities of GZA, nor the presence of GZA's employees and/or subcontractors will be construed by any party to imply that GZA has any responsibility for any Contractor's methods of work performance, procedures, superintendence, sequencing of operations, or safety in, on or about the project site. The City agrees to make evident in their agreement with contractors that neither the presence of GZA's field representative nor any observation or testing by GZA will excuse him/her for defects discovered in his/her work.

With respect to site safety, GZA will be responsible solely for the on-site activities of its own employees and subcontractors, and this responsibility will not be construed to relieve City and City's own contractors from their obligations to maintain a safe project site. The City agrees that City's own contractor is solely responsible for project site safety, and warrants that: (1) this intent will be made evident in the City's agreement with their contractor; and (2) City will require GZA to be named as an Additional Insured under their contractor's general liability insurance policy.

**Task 7. Deliverables:**

1. Comments to Contractor Submittals.
2. Correspondence to Contractor Requests for Information (RFIs), as needed.
3. Weekly field reports submitted in .pdf format.
4. Construction completion report (two hard copies and .pdf)
5. Permit Completion Reports, as needed

**TASK 8. ENGINEERING-RELATED CONSTRUCTION OBSERVATION / RESIDENT ENGINEER**

GZA will provide assistance to the City by providing a GZA field representative to observe the construction of the Resiliency Improvements to Watershops Pond Dam. We are providing a description of our services under this Task for the City's information. We have also provided an estimated budget assuming an equivalent construction duration of twenty (20) weeks requiring 40 hours per week of observation. In reality, it is envisioned that many weeks will require less than 40 hours of observation, and that the calendar period requiring observation will exceed 20 weeks.

The GZA Resident Engineer will be on-site to monitor and document construction for compliance with project drawings and specifications. GZA's Resident Engineer will also coordinate the services of the quality testing agency (engaged directly by the City) to perform compaction testing, obtain concrete cylinders, inspect rebar, etc. The GZA Resident Engineer will observe and document conditions at the site. The GZA Resident Engineer will also observe contractor activities to make note of conformance with the drawings, specifications, and design intent. In the event that changed conditions, or a non-conformance is observed, the GZA Resident Engineer will inform the Contractor and the City and will document conditions. The GZA Resident Engineer will document contractor activities and pay item quantities and will maintain a daily observations log and prepare a weekly summary report with photographs. The GZA Resident Engineer will maintain close communications with the GZA Project Manager and Principal Engineer and the City, as necessary.



Our resident engineering effort also includes management time for Principal and Senior Project Manager involvement, (responding to questions from the field, review of field reports, coordination, etc.), currently budgeted at 24 hours and 80 hours, respectively.

GZA's total level of Resident Engineering is highly dependent on the Contractor's efficiency and quality of work and climate, factors which are entirely outside of GZA's control. Additionally, the Massachusetts Chapter 253 Dam Safety Permit (to be issued based on final drawings and permit application) will dictate the minimum-required level of construction observation. Thus, our level-of-effort for Task 8. Resident Engineering is based on many assumptions, including our experience with similar dam rehabilitation and improvement projects. To summarize, GZA's schedule of values for Task 8. is based on the following:

GZA Labor Category:	Total hours assumed:
Principal Engineer	4
Assoc. Principal Engineer	20
Senior Project Manager	80
Engineer II	800
Administrative	8

Task 8. Deliverables:

1. Weekly field reports, submitted in .pdf format.

**TASK 9. PERMIT-MANDATED WETLANDS-RELATED COMPLIANCE MONITORING**

In addition to the engineering monitoring required by the Chapter 253 Dam Safety Permit described in other Tasks, GZA will provide the anticipated monitoring and evaluations as required by the environmental permits issued by the regulatory agencies. Specifically:

GZA will provide the services of a qualified Compliance Monitor, as is expected to be required by the WQC. This individual or those under their specific care and direction will be acceptable to the Springfield Conservation Commission, the MADEP, and the USACE and will have adequate and relevant education, training, and/or experience to understand and perform the duties required.

GZA will provide an Engineer / Environmental Scientist or equivalent on a part-time basis (assuming an average of 3 hours per week for 20 weeks for a total of 60 hours) to provide these services. An additional 0.5 hours of Associate Principal time per week (for a total of 10 hours) and an additional 1.0 hours of Senior Environmental Specialist time per week (for a total of 20 hours) have been budgeted for responding to questions from the field and review of field reports.

Task 9. Deliverables:

1. Electronic and hard copies of all monitoring reports and submittals to permitting agencies.

**TASK 10. CLOSE-OUT REPORTING / RECORD DRAWINGS / POST-CONSTRUCTION INSPECTION AND REPORT**

Task 10.1. Close-out Reporting:

GZA will submit closeout documentation as required by the Chapter 253 Dam Safety permit.



**Task 10.2. Record Drawings:**

Based on the Resident Engineer's field notes and Contractor's red-lined "As-built" drawing submittals, GZA will compile Contractor as-built drawings, construction records and sketches prepared throughout the construction period, identifying changes to the Contract Documents.

**Task 10.3. Post-Construction Inspection and Report:**

Massachusetts law (M.G.L. c.253, §44) and the Chapter 253 Dam Safety Permit for the Project requires the dam owner to perform a visual inspection of their dam immediately following a major construction or rehabilitation program. This post-construction "Phase I" inspection must be performed by a Massachusetts-registered professional civil engineer. The primary objective of the inspection is to observe and document the surficial conditions at the dam and render an opinion concerning maintenance measures, repairs, improvements, monitoring and/or investigations that may be judged necessary to address any deficiencies identified during the inspection. GZA's inspection and resulting report will follow the format established by the Commissioner of the Massachusetts Department of Conservation and Recreation (MADCR) and will be filed with the Massachusetts Office of Dam Safety (ODS). The formal field inspections will be performed during good weather conditions to allow unimpeded visual observation of the dam. Our inspection will be conducted by a two-person team with at least one member being a Massachusetts-registered Professional Engineer.

**Task 10. Deliverables:**

1. Hard copies and .pdf files of all documentation submitted to the Office of Dam Safety for Chapter 253 permit close-out.
2. Three (3) sets of Record Drawings prints to be furnished to the City, and GZA will provide PDF and AutoCAD .dwg files of all Record Drawings to the City. Record drawing will be completed no later than 60 days after project completion.
3. GZA will submit two, bound, original copies of the completed inspection report (stamped by a Massachusetts P.E.) along with one electronic copy of the report in PDF format to the City. We will also submit to the MADCR - Office of Dam Safety, on the City's behalf, the following: one, stapled, double-sided, color copy of the inspection report; an electronic copy of the complete report in unlocked, searchable PDF (compatible with Adobe Reader Version 6.0 or later) for-format; and an electronic copy of the completed Excel inspection checklist worksheet file using the latest DCR-prescribed format. Electronic files will be provided via our file transfer system to MADCR and the City.

**TASK 11. OPERATIONS AND MAINTENANCE MANUAL & TRAINING**

**Task 11.1. Operations and Maintenance (O&M) Manual:**

At the current time, an Operations and Maintenance (O&M) Manual for Watershops Pond Dam does not exist. GZA will prepare an O&M Manual for Watershops Pond Dam based on the final design of the dam rehabilitation. The O&M manual will include recommendations and procedures for monitoring of existing instrumentation as well as routine spillway and outlet operations, spillway sluice gate monitoring using the Project-installed instrumentation, drawdown procedures, and vegetative maintenance procedures and frequency. The O&M manual will also include recommendations for emergency operations prior to and during flooding events and routine dam safety monitoring procedures and frequency for the dam caretaker including forms for recording observations.

**Task 11.2. Training:**

GZA will coordinate and participate in vendor training of City staff for the operation of the replacement bascule gate atop the Improved Watershops Pond Dam.



Task 11. Deliverables:

1. Three (3) hard copies and .pdf files of all training documentation and manufacturer's operating manuals and product information.
2. GZA will submit two, bound, original copies of the O&M Manual along with one electronic copy of the report in PDF format to the City. We will also submit to the MADCR - Office of Dam Safety, on the City's behalf, an electronic copy of the complete report in unlocked, searchable PDF (compatible with Adobe Reader Version 6.0 or later).

**TASK 12. EMERGENCY ACTION PLAN UPDATE**

As a Large, High-hazard potential structure, the Watershops Pond Dam is required to have an Emergency Action Plan. The existing EAP for Watershops Pond Dam was prepared in October 2007. The EAP serves as a guide to emergency responders in the event of a dam emergency or failure. The mandated EAP format has changed since 2007, and to the best of our knowledge, the EAP has not been updated since 2007, although annual updates are required by regulation. Under this task, GZA will prepare a new EAP based on the final configuration of the Watershops Pond Dam

Task 12.1. Kickoff Meeting and Review of Information:

GZA will participate in a meeting with appropriate staff from the City of Springfield Department of Parks, Buildings, and Recreation Management (DPBRM), Department of Capital Asset Construction (DCAC), Emergency Management, Police and Fire Departments, and any other City departments, as appropriate and as determined by the DPBRM. Prior to the meeting, GZA will provide, via email, an electronic PDF copy of the 2007 EAP to each party for their review. GZA will coordinate with DPBRM staff to arrange the meeting date, time, and place and will facilitate the meeting.

The objective of the meeting will be to review the existing October 2007 EAP with the emergency managers from the City, and to solicit comments on the EAP, specifically, the roles and responsibilities and communication procedures presented in the 2007 EAP. The information gained during this meeting will be of primary importance in creating the new EAP. Also, to be discussed are required changes in the format of the EAP. We have assumed that the meeting will be attended by one GZA Principal-level dam engineer and one GZA Project Manager-level engineer.

Task 12.2. Format EAP According to FEMA 64 and New EAP:

An ODS requirement which was established subsequent to the preparation of the 2007 EAP is that all EAPs more closely follow the template outlined in Section II, Suggested EAP Format of the "Federal Guidelines for Dam Safety: Emergency Action Planning for Dam Owners" (FEMA 64) so that all EAPs are a uniform format. GZA will build upon the information contained in the existing 2007 EAP and reformat the new EAP to follow the required template outlined in the referenced FEMA document/format.

Based upon the information gained during Task 12.1. and subsequent research, GZA will update the contact information contained within the EAP. GZA will also update the roles and responsibilities sections, as appropriate.

GZA will incorporate the dam breach analyses and simulations prepared in support of preparation of the *Renewables Feasibility Report* and will create new inundation maps. One round of comments from MEMA, ODS, and the City is included in this scope.

GZA will coordinate with the Emergency Manager(s) of the City to review, sign, and return an acceptance form contained in the updated EAP.



**Task 12.3. Affected Downstream Resident Contact Information:**

As per the DCR regulations, a separate Appendix containing a listing of downstream residents within the dam breach floodplain must also be included in the new EAP. Based upon GZA's conversations with ODS and guidance provided on their website, if the impacted towns have a Reverse 911 or similar type of notification system, or if door-to-door notifications or broadcast announcements are made, a listing of addresses is typically sufficient to meet this requirement. If the towns intend to use other notification methods that require the knowledge of phone numbers, then a listing of the telephone numbers of the impacted properties should be developed and incorporated within the updated EAP.

GZA is aware that the City has a Reverse 911 system for emergency notification to residents; thus, GZA will update the list of downstream property addresses, as appropriate, based on the inundation mapping contained in the 2007 EAP. GZA assumes that the City's Assessor's GIS system will be utilized to verify addresses. A listing of phone numbers will not be included.

**Task 12.4. EAP Orientation Meeting:**

After GZA has produced the new EAP, we will facilitate an EAP Orientation Meeting with the pertinent representatives of the City to review the document. An EAP Orientation Meeting is not required by ODS but can provide for a better understanding of the annual updates required and responsibilities in an emergency. GZA will provide a Senior level dam engineer and a Project Manager level engineer to facilitate the meeting to be held at a City office. We have assumed that the City will invite those personnel that are anticipated to be directly involved in the activation of the EAP and arrange a meeting date, time, and place. We have assumed that the meeting will require up to ½ day to complete.

The objective of the EAP Orientation Meeting will be to introduce the concepts discussed in the new EAP, including a discussion of the responsibilities of the City, and their response to a hypothetical dam safety emergency at the dam. The notification flowcharts and the inundation maps will be presented. The EAP Orientation Meeting will be based upon the final EAP, and any modifications to the EAP requested by the City as a result of the meeting are not included in our scope of work.

**Task 12. Deliverables:**

1. GZA will provide a single paper copy of the draft EAP Update in a 3-ring binder along with a pdf copy to the City, ODS, and MEMA for review and comment (three total copies). We will provide additional digital copies of the EAP to departments in City upon the request of DPBRM. The electronic copies for MEMA and PDS will also include the electronic files used to generate the inundation mapping as part of the dam breach model (GIS shape files, etc.), as required in the Order from ODS.
2. For the final EAP Update, digital copies and a total of three paper copies have been included in our scope and budget (i.e., one copy each to the City, MEMA, and ODS). GZA will also provide MEMA and the City with a shapefile (.shp) of the inundation area for the dam.
3. GZA will provide an electronic copy of the EAP Update (i.e., pdf on either USB drive or CD) to the Police Department, Fire Department, Emergency Management, and Department of Public Works in the City). The electronic copy of the EAP Update will be accompanied by a letter explaining what is contained on the media and notifying the individual that if they wish to obtain a hard copy they may request one from the City.

**TASK 13. MISCELLANEOUS MEETINGS AND TASKS**

GZA will prepare for, attend, and present at miscellaneous meetings, such as City Council or neighborhood council



meetings, as specifically requested by the City. In addition, GZA will provide unanticipated professional services related to the Project as specifically requested by the City. Such services will be consistent with the services typically provided by GZA or its subcontractors in the performance of services related to similar projects, and may include the services of a Licensed Site Professional or specialized subconsultant. GZA will participate in NDRC Grant discussions. A generalized budget has been included for this somewhat indeterminate task. GZA can prepare budget estimates for identified subtasks when requested.

**SCHEDULE**

GZA will schedule the described work immediately upon receipt of an Accepted Proposal and amended City of Springfield Contract Agreement and associated Purchase Order. We will maintain regular communication with the City and its NDRC Grant implementation team so that issues and concerns are addressed on a timely basis.

The *Renewables Feasibility Report – Part C* included a Tentative Project Schedule, attached to this Proposal. At the present time, GZA anticipates this schedule is a reasonable guide for the progress of the Project going forward, assuming we receive a Notice to Proceed in early October.

**PRICE PROPOSAL AND BASIS OF BILLINGS**

GZA’s Scope of Services and Price Proposal are based upon our review of the recommended Scope of Services, our team’s familiarity with providing similar or related services to municipalities and other public agencies, and our team’s specific knowledge of the Project Site and its history.

GZA proposes to provide the total scope of services described above, Tasks 1 – 13, on a lump sum (fixed price) billing basis amount of \$543,380.00. As an approximate schedule of values, the lump sum fee is detailed in Table 1 below. The proposed lump sum fee represents our best current estimate of the level of effort which will be needed to complete the anticipated and proposed Scope of Services and is based on a level of participation by GZA personnel plus subcontractor/vendor costs and applicable expenses as shown on **Attachment A – Fee Derivation Worksheet**, which represents our present judgment as to the level of effort required. We note that the hourly rates used in our Fee Derivation Worksheet are the same as GZA’s rates under our existing City Contract No. 20180234.

TABLE 1. PROPOSAL BUDGET / SCHEDULE OF VALUES		
Task #	Description	Cost
1	REVIEW OF EXISTING INFORMATION / FIELD REVIEW	\$2,560
2	FIELD INVESTIGATIONS	\$93,990
3	STUDIES AND COMPUTATIONS	\$56,960
4	DESIGN OF IMPROVEMENTS	\$114,420
5	PERMITTING	\$42,310
6	BIDDING ASSISTANCE	\$7,560
7	DESIGNER SERVICES DURING CONSTRUCTION	\$72,860
8	ENGINEERING-RELATED CONSTR. OBSERVATION / RESIDENT ENGINEER	\$100,140
9	PERMIT-MANDATED WETLANDS-RELATED COMPLIANCE MONITORING	\$14,060
10	CLOSE-OUT REPORTING / RECORD DWGS / PH I INSPECTION & REPORT	\$9,010



11	OPERATIONS AND MAINTENANCE MANUAL & TRAINING	\$7,960
12	EMERGENCY ACTION PLAN UPDATE	\$14,210
13	MISCELLANEOUS MEETINGS AND TASKS	\$7,340
<b>Total</b>		<b>\$543,380</b>

GZA will prepare its invoices to the City providing such information and documentation as required by GZA's City of Springfield Contract No. 20180234.

**CONDITIONS OF ENGAGEMENT**

GZA assumes the work of this Proposal will essentially be a change order to our existing City of Springfield Contract No. 20180234, and that a Contract Amendment will incorporate this new work.

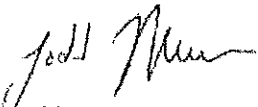
**ACCEPTANCE**

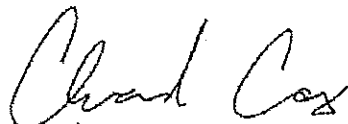
Acceptance of this Proposal may be indicated by providing GZA with a Notice to Proceed, with a specific amendment to our existing Contract No. 20180234 and new or modified Purchase Order to follow. This proposal is valid for a period of 30 days from the date of issue.

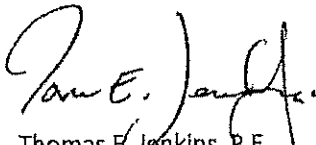
Thank you for this opportunity to propose our continued services to the City of Springfield on this exciting Project. We are of course available to address any questions you may have—please contact Todd Monson at (781) 278-5742 / [todd.monson@gza.com](mailto:todd.monson@gza.com), or Tom Jenkins at (413) 726-2121 / [thomas.jenkins@gza.com](mailto:thomas.jenkins@gza.com), at your convenience.

Sincerely,

**GZA GEOENVIRONMENTAL, INC.**

  
 Todd E. Monson, P.E.  
 Project Manager

  
 Chad W. Cox, P.E.  
 Consultant / Reviewer

  
 Thomas E. Jenkins, P.E.  
 Principal-In-Charge

Attachments: Attachment A – Fee Derivation Worksheet (September 23, 2018)  
 Attachment C-B – Tentative Project Schedule (from *Renewables Feasibility Report – Part C*, Feb 2019)



## Attachment A - Fee Derivation Worksheet

Resiliency Improvements at Watersheds Pond Dam - 15.P000132.20

City of Springfield

September 23, 2019

Task	Description	Senior Principal Engineer/ Env. Sci.		Assoc. Principal Engineer/ Env. Sci.		Senior Project Engineer/ Env. Sci.		Assistant Project Engineer/ Env. Sci.		Eng/ Env. Sci. II	Sr. CAD Drafter	Drafter	Admin	Subcontractors	Lab. & Expenses	TASK TOTAL	USE THESE FIGURES IN THE SCHEDULE OF VALUES:
		0.0	0.0	4.0	8.0	8.0	8.0	0.0	0.0								
1	REVIEW OF EXISTING INFORMATION / FIELD REVIEW	0.0	0.0	4.0	8.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0	1.0	\$0	\$204	\$2,560.40	\$2,560
2	FIELD INVESTIGATIONS	0.0	5.0	9.0	22.0	0.0	0.0	0.0	0.0	102.0	0.0	0.0	12.0	\$86,962	\$7,113	\$93,992.70	\$93,990
3	STUDIES AND COMPUTATIONS	2.0	10.0	20.0	48.0	48.0	176.0	64.0	0.0	0.0	16.0	20.0	20.0	\$0	\$2,304	\$56,963.80	\$56,960
4	DESIGN OF IMPROVEMENTS	2.0	24.0	54.0	216.0	28.0	156.0	52.0	0.0	180.0	40.0	16.0	16.0	\$0	\$5,101	\$114,420.60	\$114,420
5	PERMITTING	0.0	8.0	24.0	42.0	4.0	88.0	12.0	0.0	8.0	40.0	8.0	26.0	\$0	\$5,375	\$42,305.40	\$42,310
6	BIDDING ASSISTANCE	0.0	2.0	8.0	16.0	0.0	0.0	4.0	0.0	0.0	8.0	0.0	4.0	\$0	\$835	\$7,565.35	\$7,560
7	DESIGNER SERVICES DURING CONSTRUCTION	0.0	5.0	26.0	312.0	0.0	4.0	0.0	0.0	20.0	0.0	40.0	40.0	\$0	\$5,442	\$72,861.60	\$72,860
8	ENGINEERING-RELATED CONSTRUCTION OBSERVATION / RESIDENT ENGINEER	0.0	4.0	20.0	80.0	0.0	0.0	0.0	0.0	800.0	0.0	0.0	8.0	\$0	\$4,161	\$100,141.30	\$100,140
9	PERMIT-MANDATED WETLANDS-RELATED COMPLIANCE MONITORING	0.0	0.0	4.0	28.0	0.0	20.0	40.0	0.0	0.0	0.0	0.0	4.0	\$0	\$1,278	\$14,065.40	\$14,080
10	CLOSE-OUT REPORTING / RECORD DRAWINGS / POST-CONSTRUCTION INSPECTION AND REPORT	0.0	2.0	8.0	12.0	0.0	0.0	24.0	0.0	0.0	12.0	4.0	4.0	\$0	\$713	\$9,013.00	\$9,010
11	OPERATIONS AND MAINTENANCE MANUAL & TRAINING	0.0	1.0	4.0	16.0	0.0	8.0	16.0	0.0	4.0	4.0	0.0	4.0	\$0	\$578	\$7,668.40	\$7,960
12	EMERGENCY ACTION PLAN UPDATE	0.0	2.0	8.0	6.0	24.0	8.0	24.0	0.0	0.0	0.0	24.0	4.0	\$0	\$1,222	\$14,211.70	\$14,210
13	MISCELLANEOUS MEETINGS AND TASKS	0.0	0.0	16.0	8.0	0.0	8.0	0.0	0.0	0.0	0.0	8.0	4.0	\$0	\$383	\$7,342.90	\$7,340
		4.0	63.0	209.0	814.0	104.0	478.0	298.0	910.0	232.0	108.0	147.0	147.0	\$65,962	\$34,706	\$34,706	\$34,706
		Subtotal	\$1,040	\$15,120	\$45,100	\$142,450	\$15,600	\$59,750	\$24,780	\$86,450	\$27,940	\$10,260	\$11,025	\$65,260	\$34,706	\$34,706	\$34,706
		Subtotal, Labor			\$439,415												
		Vendors, Subcontractors, Lab. & Expenses			\$103,967												
		Total Budget			\$543,382												
		SAY			\$543,380												

Hourly rate per OZA City Contract No. 20180234.

ATTACHMENT C-B

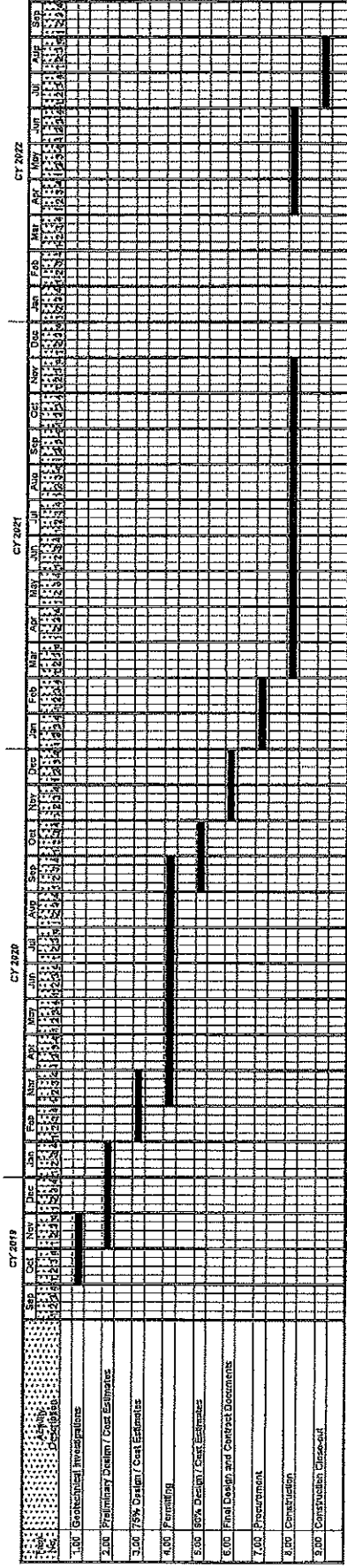
TENTATIVE PROJECT SCHEDULE

Resiliency Improvements at Watersheds Pond Dam  
Springfield, Massachusetts

February, 2019

16.0166625.10

GZA



- Notes
1. The above schedule is predicated on anticipated procurement and design schedules on or before October 1, 2019.
  2. We have assumed up to a two week turnaround time for laboratory services.
  3. We have assumed a Client review time of two weeks for draft documents.
  4. At this time, geotechnical drilling availability does not appear to be an issue with the above schedule.



INTEROFFICE MEMORANDUM

DEPARTMENT: Capital Asset ATTENTION: DEPARTMENT HEAD

FROM: OFFICE OF PROCUREMENT (OOP)

53A  
V# 6824

SUBJECT: REQUEST TO AMEND AN EXISTING CONTRACT

CONTRACT NO. 20180234

DESCRIPTION: consulting svces for hydro plant workshops

DATE: 9/26/19

CC: LAUREN STABILO, CHIEF FINANCIAL OFFICER

The contract noted above needs to be amended as follows:

Increase the amount of contract by: \$	<u>543,380</u>	Orig contract: \$ 196,000
Decrease the amount of contract by: \$	_____	Amendment #1 \$ 68,200
Original Contract Amount: \$	<u>196,000</u>	Amendment #2 - \$ 543,800
Adjusted contract amount: \$	<u>807,580</u>	Total adj. \$ <u>807,580</u>

Dept. Head Signature: [Signature]

If there are any questions or concerns please contact the Office of Procurement at 7845.

PLEASE RETURN THIS COMPLETED FORM TO THE OFFICE OF PROCUREMENT.

The Office of Procurement will notify the Department of the status of the request and when finalized a Change Order will be generated by the Department and forwarded to the Office of Procurement for processing.

[Handwritten signature]

10/28/2019 10:30 | CITY OF SPRINGFIELD  
 ttheocles | CONTRACT CHANGE ORDER REPORT

CONTRACT # 20180234 | Vendor 6824 | Name GZA GEONVIRONMENTAL INC | Entry Dt 10/28/19 | Journal

Enforcement Method: Not to Exceed

YEAR	AMOUNT
2020	543,380.00
TOTAL	543,380.00

\*\* END OF REPORT - Generated by Theo Theocles \*\*



Bill To  
 COMMUNITY DEVELOPMENT  
 1600 EAST COLUMBUS AVE  
 SPRINGFIELD, MA  
 01103

Requisition 20006836-00 FY 2020

Acct No:  
 26451811-530105-64516  
 Review:  
 Buyer: lpl  
 Status: Released

Vendor  
 GZA GEOENVIRONMENTAL INC  
 ONE FINANCIAL PLAZA  
 1350 MAIN STREET STE 1400  
 SPRINGFIELD, MA 01103  
 Tel#413-726-2100  
 Fax 9-1-413-732-1249

Ship To  
 DISASTER RECOVERY  
 1600 EAST COLUMBUS AVENUE  
 2ND FLOOR  
 SPRINGFIELD, MA 01103  
 TQUAGLIATO@SPRINGFIELDCITYHALL.COM

Delivery Reference  
 TINA QUAGLIATO SULLIVAN

Date Ordered	Vendor Number	Date Required	Ship Via	Terms	Department
10/30/19	006824				COMMUNITY DEVELOPMENT

LN	Description / Account	Qty	Unit Price	Net Price
General Notes				
001	AMENDMENT #2 CONTRACT 20180234 PENDING CDBG-NDR AMENDMENT #2/C#20180234 - HYDRO PLANT AT WATERSHOPS CONSULTING SERVICES	1.00 EACH	543380.00000	543380.00
1	26451811-530105-64516		543380.00	

Ship To  
 COMMUNITY DEVELOPMENT  
 1600 EAST COLUMBUS AVE  
 SPRINGFIELD, MA 01103  
 Delivery Reference  
 TINA QUAGLIATO SULLIVAN

Requisition Link

Requisition Total 543380.00

\*\*\*\*\* General Ledger Summary Section \*\*\*\*\*

Account	Amount	Remaining Budget
26451811-530105-64516	543380.00	3871980.00
CDBG-NDR-CLEAN & REDUNDENT ENR PROFESSIONAL SERVICES		

\*\*\*\*\* Approval/Conversion Info \*\*\*\*\*

Activity	Date	Clerk	Comment
Approved	10/30/19	Amanda Pham	Auto approved by: cak
Approved	10/30/19	Cathy Buono	
Approved	10/31/19	Hamediah Mohamed	