

# Council Business Meeting

October 15, 2019

<b>Agenda Item</b>	Award of a Professional Services Contract; Dam Safety Engineering	
<b>From</b>	Scott Fleury PE	Deputy Public Works Director
<b>Contact</b>	<a href="mailto:Scott.fleury@ashland.or.us">Scott.fleury@ashland.or.us</a> ; (541) 552-2142	

## **SUMMARY**

Before the Council is an award of a professional services contract with GEI consultants for the Dam Safety Project as defined and approved in the City's capital improvement program. This contract is for phase 1, alternatives analysis and preliminary engineering for a cost not to exceed, \$299,684

## **POLICIES, PLANS & GOALS SUPPORTED**

City Council Goals:

Essential Service-Drinking Water System

Emergency Preparedness

Address Climate Change

Climate Energy Action Plan:

**Natural Systems:** Air, water, and ecosystem health, including opportunities to reduce emissions and prepare for climate change through improved resource conservation and ecosystem management.

**Strategy NS-2: Manage and conserve community water resources**

Continue to leverage resources to develop and/or enhance Value Services

Department Goals:

- Maintain existing infrastructure to meet regulatory requirements and minimize life-cycle costs
- Deliver timely life cycle capital improvement projects
- Maintain and improve infrastructure that enhances the economic vitality of the community
- Evaluate all city infrastructure regarding planning management and financial resources

## **PREVIOUS COUNCIL ACTION**

The Council has taken numerous previous actions to support Dam Safety including approvals of professional services contracts to analyze all aspects of Hosler Dam and approving the 2020/21 Biennium Budget which included appropriations for dam safety improvements. The last formal action was approval of a professional services contract at the June 5, 2018 Business Meeting with Cornforth Consultants to perform the Eighth Independent Consultant Inspection of the facility.

## **BACKGROUND AND ADDITIONAL INFORMATION**

Hosler Dam is operated by the Department of Public Works. Hosler Dam is a concrete arch dam on Ashland Creek that impounds the City's raw water supply in Reeder Reservoir. Hosler Dam was constructed in 1928. In addition to Hosler Dam there are two small concrete diversion dams at the upper end of the reservoir across the East and West Forks of Ashland Creek that predate Hosler Dam.

The City generates hydroelectric power at the power house located with the water treatment plant approximately 4,200 feet north of Hosler Dam. The power house is operated by the City's Electric Department. The City being a purveyor of hydroelectric power falls under the regulatory oversight of the Federal Energy Regulatory Commission (FERC) Part 12. The Part 12 contains five subparts A-E that detail requirements a licensee must follow to ensure the safe operation of the system and provide protection for the

residents of Ashland. Maintenance and improvement actions for Hosler Dam and associated appurtenances evolve from Part 12D-Inspections and as required by FERC.

**Part 12D-Inspection by Independent Consultant**

Part 12D requires the City hire an independent inspection consultant every five years to perform a formal inspection of the facility and detail findings in a final report. This consultant must be approved by FERC before they can perform any inspection and analysis duties associated with the project. At the June 5, 2018 Business Meeting, Council awarded a professional services contract to Cornforth Consultants to perform the Eighth Independent Consultant Inspection. The formal inspection with Cornforth, FERC and City staff occurred in September of 2018. The independent review also requires the potential failure modes (PFM) of Hosler Dam to be formally evaluated and revised as necessary in direct coordination with FERC at a PFM workshop after the inspection. The Eighth Inspection report was finalized in December of 2018 and transmitted to FERC for review.

A major point of emphasis from FERC with respect to the PFM update is the potential erosivity of the left abutment under defined maximum flood loading conditions. FERC has requested the City develop a plan and schedule to address the erosivity concern. FERC has also requested the City review additional dam features for improvement, including evaluation of the spillway, spillway structures and dam piping penetrations. In order to mitigate the risk associated with this failure mode and address other dam maintenance concerns, staff drafted a Qualifications Based Solicitation (QBS) to formally solicit engineering services for the development of final plans, specifications and estimates to mitigate safety concerns. The project is broken into three distinct phases, preliminary engineering/alternatives analysis, final engineering and construction administration. The contract before Council as attachment #1 *is only for preliminary engineering*. Final engineering, construction administration and a formal construction contract will be brought forth at a dates to be determined once preliminary engineering is completed and *FERC approval* on solutions has been obtained.

The **purpose** of this project is the continued protection of the City’s drinking water system through development of specific safety improvements for the Hosler Dam project as required by independent review. The project was formally solicited on the Oregon Procurement Information Network (ORPIN) on June 6, 2019 and responses were received on July 9, 2019. Proposals were submitted by Hatch, HDR Engineering Inc., GEI Consultants, and Schnabel Engineering. The proposals were graded by Kevin Caldwell, Senior Engineering Project Manager, Chance Metcalf, Engineering Project Manager, Ciara Marshall, Water Resources Technician, and Scott Fleury PE, Deputy Public Works Director.

The results of the scoring are as follows:

CONSULTANT	TOTAL SCORE	RANK
GEI Consultants	381	1
Hatch	368	2
Schnabel Engineering	354	3
HDR Engineering Inc.	353	4

After scoring was completed, all consultants were informed of the City’s intent to begin scope and fee negotiations with GEI Consultants. Through several formal discussions a final scope and fee was agreed upon in concept by the City and GEI. This scope and fee is part of attachment #1 and for the preliminary engineering phase only.

Staff expects to complete the phase 1 portion five months after notice to proceed is given to GEI Consultants. After completion of the preliminary engineering phase staff expects to bring a contract for final engineering before Council.

### **FISCAL IMPACTS**

The proposed fee for the preliminary engineering phase is \$299,684. The planning level project total estimate of \$4,800,000 was approved and is part of the city's current capital improvement program. The engineering phases are meant to be completed within the current biennium and construction is anticipated to start in the first year of the next biennium. Additional project costs are associated with engineering staff time to manage the project throughout its duration.

### **STAFF RECOMMENDATION**

Staff recommends approval of the professional services contract with GEI Consultants for Dam Safety Improvements.

### **ACTIONS, OPTIONS & POTENTIAL MOTIONS**

1. I move to approve a Legal Department approved professional services contract with the attached scope of services with GEI Consultants for preliminary engineering of dam safety improvements in the amount of \$299,684.
2. I move to direct staff to perform a new solicitation.
3. I move to add or modify scope of services (add modification).

### **REFERENCES & ATTACHMENTS**

Attachment 1: GEI Consultants Scope and Fee for Preliminary Engineering

Attachment 2: Dam Safety Improvements-Capital Improvement Program Data Sheet

September 27, 2019

Consulting  
Engineers and  
Scientists

Scott A. Fleury, PE  
Deputy Public Works Director  
City of Ashland, Public Works - Engineering  
20 East Main Street  
Ashland, OR 97520

**Subject: Proposal for Hosler Dam Safety Improvements – FERC Project 1107-OR  
Jackson County, Oregon**

Dear Mr. Fleury:

GEI Consultants, Inc. (GEI) is submitting this scope and cost estimate to the City of Ashland (City) for preliminary engineering services related to Dam Safety Improvements at Hosler Dam (Phase 1). This proposal is based on the services as outlined in the Request for Proposal (RFP) issued June 6, 2019; as well as, a site visit and conversations with Scott Fleury and Kevin Caldwell on August 28, 2019 at the City's office.

## SCOPE OF SERVICES

The following task descriptions summarize our proposed scope of services for the respective tasks. The task structure is based on the RFP and discussion with the City during our meeting on August 28, 2019. The below scope assumes that no additional studies will be required to inform the dam safety design improvements. In addition, unless otherwise noted, the City's review time for "draft" deliverables will be two weeks. Draft deliverables will be sent to the City in "native" format in order for the City to combine comments and edits into a single document for GEI's use. Final deliverables will be sent in both "native" and ".pdf" formats.

### Task 1 – Background Review

This task is a critical first step of the Phase 1 portion of this project and will form the basis of our analyses and recommendations. Critical documents that will be reviewed will include but not limited to:

- Independent Consultant Reports
- Supporting Technical Information Documents (STIDs)
- Potential Failure Mode Analyses (PMFAs)
- Geologic Studies
- Erosivity Studies
- Cultural Resources Records Search
- Biological Resources Online Database Review
- Stability Analyses
- Lidar and Bathymetry
- As-built Information

Many of these documents as well as several other pieces of background data were provided to GEI via an electronic share file site between August 27<sup>th</sup> and 29<sup>th</sup> 2019. Based on the documents provided, we have estimated the level of effort for our staff to review these documents. We will have the various discipline leads review their respective discipline sections of each report, as appropriate, as well as the Project Manager and

Deputy Project Manager reviewing all the reports. If additional documents are available for review, we will review which may require additional hours to complete the review.

**Deliverables:** Based on our review of the existing information, we will prepare a short draft letter report describing the documents reviewed, the pertinent information gathered from our review and an outline of issues that would be pertinent to an alternative analysis. We will incorporate the City's comments, as appropriate, and finalize the letter report.

### Task 2 – Develop Preliminary Alternatives

Based on the results of our review of existing information under Task 1, we will develop preliminary alternatives to mitigate the left abutment erosion, hydrologic inadequacies, and safety and operational improvements. Specifically, we will develop preliminary alternatives for the following (listed in descending order of our proposed level of effort):

- Left Abutment Erosion
- Spillway and Spillway Structure
- Access along the crest of the dam
- Intake tower
- Twenty-four- (24-) inch-diameter and 60-inch-diameter dam non-operating dam penetrations

The intent of this task is to consider and develop all appropriate viable mitigation alternatives to a conceptual screening level. Based on our initial review of the information and our discussions with the City, we anticipate the number of conceptual screening alternatives to mitigate or improve the bulleted items above will be about 15 to 20 alternatives. Some alternatives may mitigate more than one of the bulleted items above.

We will present a high-level breakdown of these alternatives to the City early in this task to allow the City to review and evaluate if the proposed alternatives require further work by GEI. After the City's review and any additional development of the accepted alternative, we will present these alternatives in the Workshop described in Task 3. Additional alternatives from the workshop will be included in our overall development of alternatives.

Once the preliminary alternatives from GEI and the workshop are screened through the criteria accepted during the Task 3 workshop, the top two or three alternatives for each of the bulleted items above will be further developed to 5% design level (i.e. a total of about 8-10 alternatives).

We will also conduct a screening-level environmental review during this task to evaluate the alternatives developed to assess the major environmental risks. The results of our environmental review of the information gathered during Task 1 will be used to determine if there are sensitive resources which may be impacted by the alternatives. This review will inform the alternatives selection process and focus the environmental work in the areas where there may be issues. Because the dam is older than 50-years, impacts and concerns of the State Historic Preservation Officer (SHPO) will also be considered.

For the work described under this task, we have assumed that the existing background data is sufficient to generate meaningful design alternatives without encountering critical data gaps. If critical gaps are encountered, the City will negotiate a contract amendment with GEI for additional work, as needed.

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**Deliverables:** We will present the results of our work and summarize our preliminary and top 2-3 mitigation alternatives in a letter report to you for your review and comment. We will incorporate the City's comments, as appropriate, and finalize the letter.

### Task 3 – Alternatives Workshop

Based on our discussions with the City, we have added a 1-day workshop to the scope to present to the City's staff the various alternatives developed under Task 2. We consider this workshop an important step to incorporate ideas from the City's staff, particularly treatment, operation and maintenance staff who have a keen understanding of the site limitations. We anticipate the City's staff will provide additional alternatives and assist in the development of the criteria used for the screening of the various alternatives.

We have assumed the workshop be held at the City's office. However, if preferred, GEI can host the workshop in our Portland Office. In previous project work we have included FERC and other regulators during this step. We will work with the City to determine if it is advantageous to engage with FERC at this step in the design process.

We have assumed five (5) GEI staff will be present at the workshop (Hall, Gutierrez, Monaghan, Slack, and Gillin). In addition, we will also have Phil Martin as a constructability specialist and Bryan Hayes (YEI Engineering) as a mechanical and electrical valve specialist. We also recommend the workshop be facilitated for efficiency and effectiveness given the limited time for the meeting. We recommend the workshop be facilitated by Ellen Cross with Strategy Driver Incorporated (SDI) who will be subcontracted under GEI. Ms. Cross will help develop with GEI and the City a scoring criteria that can be used during the workshop.

We have included three (3) GEI staff who are familiar with environmental and cultural concerns to call into the meeting during critical times. Pending the preliminary environmental screening and conversations with FERC, it could also be beneficial to invite staff from the DHAC office of FERC.

After completion of the workshop, we will prepare a report summarizing the points presented in the workshop, the ranking of the alternatives presented, and the action items developed. We will provide a draft Workshop Report for the City's review and will incorporate the City's comments, as appropriate, into the final Workshop Report.

**Deliverables:** One-day facilitated workshop, with a Draft and Final Workshop Report.

### Task 4 – Develop AACE Level 4 Cost Estimate for Alternatives

Important to any capital improvement project are the anticipated construction costs. The top 2-3 alternatives for each bulleted items (i.e. a total of 8-10 alternatives) in Task 2 will be developed to a 5% design level and will have a Level 4 AACE cost estimate performed under Task 4. These cost estimates will be useful in selecting the alternative(s) to be carried through to the 30% design (Task 5). We anticipate from 8-10 cost estimates will be prepared for the 8-10 alternatives developed to a 5% design level.

**Deliverables:** A draft and final technical memoranda providing the approach and results of our Level 4 cost estimates for the alternatives considered.

### Task 5 – Develop 30% Design and AACE Level 3 Cost Estimate for Alternative(s)

Following the workshop (Task 3) and the development of the top 2-3 alternatives for the bulleted items under Task 2, the alternatives will be screened through the criteria set forth under the workshop. The selected alternative for each of the bulleted items under Task 2 will be carried through to 30% design and the associated AACE Level 3 cost estimate. We anticipate the following analyses will be needed for each selected alternative, as appropriate, and at the City's discretion:

- Hydrologic Inadequacy and Left Abutment Erosion:
  - Hydrology analysis
  - Hydraulic analysis
  - Geological analysis
  - Erodibility analysis
- Spillway, Spillway Structure, Intake Tower and Penetrations
  - Spillway stability analysis
  - Intake tower analysis
  - Structural evaluation of the penetrations
  - Mechanical and electrical evaluation of the existing valves

We have assumed that much of the analyses shown above have been completed previously by others and will be available for our use. However, there are several analyses that we will need to perform due to implementation of a specific alternative. For example, for an alternative that changes the spillway configuration, we will need to perform hydraulic analyses of the new spillway system. Until we complete Task 1 and understand the analyses performed to-date and until we know which alternatives will likely be considered for the 30% design, we do not know which of the analyses listed above will be performed by GEI. However, for cost-estimating purposes, we have assumed a reasonable level of effort will be required to complete the analyses. The cost estimated in Task 5 may need to be modified once we are near commencement of this task (Task 5).

For the preparation of the plans, the plan set prepared will include an alternative/improvement for left abutment erosion, spillway, spillway structure, intake tower, the 24- and 60-inch diameter dam penetrations, and improvements for access across the dam crest. It will be important to coordinate with FERC during this effort to ensure to the best of our abilities that our design alternative(s) are agreeable to FERC.

The work performed under Task 5 will be presented in a 30% design package which will include the following:

- Basis of Design Report (30%)
- Plans (30%)
- Specifications – List of specifications to be used for the project (30%)
- Cost Estimate – AACE Level 3 (30%)

**Deliverables:** The design package will be provided as a “draft” to the City for review. The final 30% design package will incorporate the City's comments, as appropriate. We have assumed 3 weeks for the City to review the 30% design package. For the final deliverable, we will provide three hard copies with the “native” and “.pdf” electronic files uploaded through a secure server.

### Task 6 – Coordinate with FERC For Review of Alternatives and Improvements

Coordinating with FERC will be ongoing through Tasks 2 to 5. Maintaining good communication with FERC throughout the design process will be important to ensure efficiency of our design process. We proposed that communications with FERC be informal and not be in writing to FERC until the City and FERC are agreeable to a selected approach/alternative/improvement. Our experience has shown that this approach provides a more effective and efficient process for the ultimate FERC-approval for this project.

FERC-approval may involve two branches of FERC- Dam Safety and Inspections (D2SI) (from the Regional office in Portland) and the Division of Hydropower Administration and Compliance (DHAC) (from the office in Washington, D. C.). D2SI will take the lead on engineering reviews; DHAC will manage environmental compliance. FERC may require a license amendment for the selected alternative. However, the amount of work required to apply for and receive a license amendment is highly variable depending on the specifics of the project. We are familiar with the license amendment process and we will work with FERC to understand their requirements, and we will work with you to reduce compliance needs and costs whenever possible.

We have budgeted 40 hours for our FERC Licensing specialist to assist the City with your FERC compliance needs.

**Deliverables:** We will prepare meeting notes for the City following all significant communications with FERC.

### Task 7 – Permit Assistance

The level of environmental compliance required for the Project will depend upon the specific alternative selected. This task will involve reviewing all the required Federal, State and local approvals and permits necessary to perform the improvements to the site and forecasting the schedule and permit cost implications for each permit. Our permit specialists will be engaged at the concept design screening level (Tasks 2, 3 and 4), as well as during the 30% design (Task 5) to identify any special permit considerations that the alternative(s) could encounter. This early engagement in the permitting considerations will allow us and the City to anticipate the impacts the permits will have during the construction of the approved designs.

**Deliverables:** We will provide a short letter detailing the required permits for this project with the anticipated timeline and permit cost. We will provide this letter to you in draft form near the completion of Task 2 with revisions as Task 4 and 5 are completed. The final letter will be provided after incorporating the City's comments, as appropriate, once Task 5 is near completion.

### Task 8 – National Historic Preservation Act Consultation Assistance

Section 106 of the National Historic Preservation Act requires FERC to consult with the Oregon State Historic Preservation Office (SHPO) regarding historic and pre-historic resources. The dam was constructed in 1928 – 1929 and is potentially historically significant. We understand that an architectural historian has not performed an evaluation of the site. We further understand that the City has relationships with local architectural historians that have worked with the local SHPO officer. We have found our existing working relationships between SHPO can be invaluable to the timeliness of the historic preservation process for this project. We have included some effort for GEI's registered professional historian to assist with this process as needed. We have assumed a total of 24 -hours each for our archeologist and architectural historian to assist

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with project impact assessments and historic property evaluations, as well as coordination with FERC and SHPO.

**Deliverables:** This task is intended to provide as-needed support for City staff and does not include delivery of a specific work product.

### Task 9 – Obtain Final Approval from FERC On Preferred Alternatives

By the time we are seeking final approval from FERC to move from the 30% design to generating final PS&E documentation (Phase 2), our intention is that FERC is abundantly familiar with our design goals of the project. We have several key staff that have the expertise in this FERC process who have existing working relationships with FERC representatives in the Portland office.

**Deliverables:** We will prepare meeting notes for the City following all significant communications with FERC.

### Task 10 – Project Management

Critical to the success of any project is project management. Within this task we have budgeted a 1-hour-long monthly call between GEI and the City and have assumed this first phase of work (i.e. Tasks 1-9) will have a duration of five (5) months. We have included four (4) GEI staff in each meeting, as we anticipate having various technical staff participate depending on the stage of work we are engaged in. We have also included within this task general project management time.

**Deliverables:** Where appropriate, meeting notes will be provided to the City.

## ESTIMATED SCHEDULE

Following the City's review and approval of the tasks described above, and the City of Ashland's City Council Board approval, we will commence Task 1 immediately. We intend to have our Workshop with the City (Task 3) within three (3) months of authorization and have our final 30% PS&E package delivered to FERC for final approval two (2) months following the workshop. Pending the timing of authorization, the schedule may be impacted by the holiday season and response time from FERC. This schedule also assumes there are no data gaps that warrant additional studies to complete the design.

## KEY PERSONNEL

For this project, GEI will use a variety of technical staff that will vary based on the given technical objective. All work performed for this project will be overseen by the Project Manager, Craig Hall, PE, GE. Listed below are key staff and their associated practice area(s). Individual resumes can be furnished upon your request. These staff are included as appropriate on the attached cost estimate table. Additional staff personnel may be needed as required.

Craig Hall, PE, GE – Project Manager – Dam Safety Engineer  
David Gutierrez, PE – Principal in Charge: Dam Safety Engineer, FERC Licensing  
Chris Slack, RG CEG SPRAT 1 – Deputy Project Manager – Senior Engineering Geologist  
Mike Monaghan, PE – Senior Engineer: Structural Design and Analysis  
Mike Walker, PE – Senior Engineer: Quality Control  
Chad Masching, PE, SPRAT 1– Senior Engineer: Structural Design and Cost Estimation  
Nick Miller PE – Senior Engineer: Hydraulic Design Engineer and Cost Estimation  
Ginger Gillin – Senior Scientist: FERC Licensing  
Cory Miyamoto PE – Senior Engineer: Dam Safety, FERC Licensing  
Madeline Bowen RH – Senior Architectural Historian: SHPO  
Denise Jurich, RPA – Senior Archeologist  
Mark Ashenfelter - Biologist  
Isabelle Rawlings PE – Project Engineer: Dam Safety, Design Engineer  
Ben Liu EIT – Staff Engineer: CADD

Our team also includes the following subconsultants who will assist GEI in the relevant scope outlined above:

- YEI Engineering: Mechanical and Electrical Valve Specialist
- Phil Martin: Constructability Specialist
- Strategy Driver, Incorporated: Facilitation services under Task 3

## PROJECT FEE

We propose to perform the various tasks on a time-and-materials basis for an estimated not-to-exceed cost. If additional services are required or requested beyond those described above, they will be performed on a time and expense basis in accordance with the attached Fee Schedule. The City will be notified of any additional services for concurrence prior to them being performed. Our estimated costs for the above tasks are \$299,684 and are detailed in the attached table. The estimated fees for the services proposed by our subconsultants are presented under “ODC” (Other Direct Costs) in Table 1. The fees shown include GEI’s 15% mark-up.

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We will submit monthly invoices which detail the work scope completed and labor/expense effort. The attached Fee Schedule will apply to additional services not included in the scope of this proposal but authorized by the City. If this proposal is acceptable to you, we will commence work upon acceptance by the City Council and an authorized contract and notice to proceed is provided.

We look forward to the opportunity to work with the City on these important dam safety improvements that will have a significant impact on the safety of Hosler Dam and the associated reliability of the raw drinking water and the safety of the City of Ashland residents.

Should you have any questions or require additional information, please do not hesitate to contact either Craig Hall at 510.224.6242 ([chall@geiconsultants.com](mailto:chall@geiconsultants.com)) or Chris Slack at 503-342-3782 ([cslack@geiconsultants.com](mailto:cslack@geiconsultants.com)).

Very truly yours,

**GEI Consultants, Inc.**



Craig Hall, PE, GE  
Vice President – Project Manager



Christopher Slack, RG, CEG  
Senior Engineering Geologist – Deputy Project  
Manager

cc: David Gutierrez

Attachments:  
Cost Estimate  
2018 Standard Fee Schedule

**Attachment A-1  
Labor and Direct Cost Estimate  
2014 FERC P12D Inspections**

Task No.	Description	Labor Estimates														Total Estimate						
		Grade 8		Grade 7		Grade 6		Grade 5		Grade 4		Grade 3		Grade 2						Admin		
		Hrs	\$275	Hrs	\$245	Hrs	\$206	Hrs	\$181	Hrs	\$154	Hrs	\$137	Hrs	\$125	Hrs	\$102	Hrs	Labor	ODC	Total	
1	Background Review																					
	- Review documents, sort by subject and relevance	20	\$5,500	16	\$3,920	8	\$1,648	24	\$4,344			16	\$2,192			8	\$816	92	\$18,420		\$18,420	
	- Biological Resources Online Database Review	2	\$550			12	\$2,472					8	\$1,096					22	\$4,118	\$ 500	\$4,618	
	- Cultural Resources Records Search	2	\$550			12	\$2,472	12	\$2,172									26	\$5,194	\$ 500	\$5,694	
	- Letter Report	8	\$2,200	4	\$980	4	\$824	20	\$3,620									36	\$7,624		\$7,624	
																		Task 1 subtotal		\$36,356		
2	Develop Preliminary Alternatives (assume 15 alternatives total), including five percent (5%) design for top 2-3 alternatives/improvement.																					
	- Mitigate/minimize left abutment erosivity	12	\$3,300	16	\$3,920	12	\$2,472	16	\$2,896									56	\$12,588		\$12,588	
	- Improve access over crest	8	\$2,200	8	\$1,960	4	\$824	16	\$2,896									36	\$7,880		\$7,880	
	- Spillway/spillway structure	12	\$3,300	24	\$5,880	4	\$824	32	\$5,792									72	\$15,796		\$15,796	
	- Intake tower	8	\$2,200	16	\$3,920	4	\$824	24	\$4,344									52	\$11,288		\$11,288	
	- 24" and 60" penetrations (ODC for YEI)	8	\$2,200	16	\$3,920	4	\$824	16	\$2,896									44	\$9,840	\$ 3,000	\$12,840	
	- Biological and Cultural Resource input	4	\$1,100			16	\$3,296	8	\$1,448			8	\$1,096					36	\$6,940		\$6,940	
	- Alternative Summary Report for the 2-3 alternative/improvement (assume 10 alternatives total)	24	\$6,600	16	\$3,920	8	\$1,648	24	\$4,344						4	\$408		76	\$16,920		\$16,920	
																	Task 2 subtotal		\$84,252			
3	Alternatives Workshop																					
	- Workshop Preparation	4	\$1,100	4	\$980	8	\$1,648					8	\$1,096					24	\$4,824		\$4,824	
	- Workshop GEI staff (assumes 1-day workshop with 5 staff)	36	\$9,900	12	\$2,940	20	\$4,120	4	\$724									72	\$17,684	\$ 3,000	\$20,684	
	- Workshop: YEI (M&E), FirstMark (Constructability)																			\$ 6,000	\$6,000	
	- Workshop: Strategy Driver, Inc. (Facilitator)																			\$ 6,000	\$6,000	
	- Reporting	12	\$3,300	8	\$1,960	12	\$2,472	20	\$3,620									52	\$11,352		\$11,352	
																	Task 3 subtotal		\$48,860			
4	Develop AACE Level 4 Cost Estimate for Alternatives																					
	- Develop Level 4 Cost for top 2-3 alternatives for each improvement (assume 8-10 alternatives cost estimates)	4	\$1,100	24	\$5,880													28	\$6,980	\$ 1,400	\$8,380	
	- Teleconference with City to select preferred alternative for 30% design (4 hr conf call)	12	\$3,300	4	\$980	4	\$824	4	\$724									24	\$5,828		\$5,828	
	- Report	4	\$1,100	8	\$1,960	4	\$824	16	\$2,896									32	\$6,780		\$6,780	
																	Task 4 subtotal		\$20,988			
5	Develop 30% Design and AACE Level 3 Cost Estimate (1 alternative)																					
	- Basic Design Report (30%)	12	\$3,300	16	\$3,920	8	\$1,648	32	\$5,792						8	\$816		76	\$15,476		\$15,476	
	- Plans (30%) [10 sheets assumed]	16	\$4,400	32	\$7,840	20	\$4,120	40	\$7,240					40	\$5,000			148	\$28,600		\$28,600	
	- Specifications - List of Specifications (30%) (ODC for YEI)	8	\$2,200	8	\$1,960			16	\$2,896									32	\$7,056	\$ 6,000	\$13,056	
	- Cost Estimate - AACE Level 3 (30%) (ODC for YEI and FirstMark)	12	\$3,300	24	\$5,880													36	\$9,180	\$ 3,500	\$12,680	
																	Task 5 subtotal		\$69,812			
6	Coordination with FERC for Review of Alternatives																					
	- Contacting FERC throughout	32	\$8,800															32	\$8,800		\$8,800	
	- Documenting FERC correspondences	8	\$2,200			4	\$824											12	\$3,024		\$3,024	
																	Task 6 subtotal		\$11,824			
7	Permit Assistance																					
	- Permit Review	8	\$2,200			24	\$4,944								8	\$816		40	\$7,960		\$7,960	
																	Task 7 subtotal		\$7,960			
8	National Historic Preservation Act Consultation Assistance																					
	- Archeologist	2	\$550			24	\$4,944											26	\$5,494		\$5,494	
	- Architectural Historian	2	\$550			24	\$4,944											26	\$5,494		\$5,494	
																	Task 8 subtotal		\$5,494			
9	Project Management																					
	- Monthly Calls 1 hr/month for 5 months (Hall, Gutierrez, Monaghan, and Slack participate)	10	\$2,750	5	\$1,225	5	\$1,030											20	\$5,005		\$5,005	
	- General PM (5 month duration: 2 hrs/month for Slack; 1 hr/month for Hall)	5	\$1,375			10	\$2,060								2	\$204		17	\$3,639		\$3,639	
																	Task 9 subtotal		\$8,644			
		295	\$ 81,125	261	\$ 63,945	255	\$52,530	324	\$ 58,644			40	\$5,480	40	\$5,000	30	\$ 3,060	1245	\$ 269,784	\$ 29,900	\$ -	\$ 299,684

**Notes**

- 1) The above costs are based on GEI 2018 standard fee schedule.
- 2) Cost estimating for evaluating Preliminary and top 2-3 alternatives for each improvement assumes a total of 15 improvements for preliminary and a total of 8-10 alternatives after screening.
- 3) Cost estimating for preparation of plans assumes a typical plan set of 10 sheets. If additional sheets are needed, the level of effort & cost for this work may require an increase.

**FEE SCHEDULE**

<u>Personnel Category</u>	<i>Hourly Billing Rate</i> \$ per hour
Staff Professional – Grade 1	\$ 113
Staff Professional – Grade 2	\$ 125
Project Professional – Grade 3	\$ 137
Project Professional – Grade 4	\$ 154
Senior Professional – Grade 5	\$ 181
Senior Professional – Grade 6	\$ 206
Senior Professional – Grade 7	\$ 245
Senior Consultant – Grade 8	\$ 275
Senior Consultant – Grade 9	\$ 335
Senior Principal – Grade 10	\$ 335
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Senior CADD Drafter and Designer	\$ 137
CADD Drafter / Designer and Senior Technician	\$ 125
Field Professional	\$ 103
Technician, Word Processor, Administrative Staff	\$ 102
<u>Office Aide</u>	<u>\$ 80</u>

These rates are billed for both regular and overtime hours in all categories. Rates will increase up to 5% annually, at GEI’s option, for all contracts that extend beyond twelve (12) months after the date of the contract. Rates for Deposition and Testimony are increased 1.5 times.

**OTHER PROJECT COSTS**

**Subconsultants, Subcontractors and Other Project Expenses** - All costs for subconsultants, subcontractors and other project expenses will be billed at cost plus a 15% service charge. Examples of such expenses ordinarily charged to projects are subcontractors; subconsultants: chemical laboratory charges; rented or leased field and laboratory equipment; outside printing and reproduction; communications and mailing charges; reproduction expenses; shipping costs for samples and equipment; disposal of samples; rental vehicles; fares for travel on public carriers; special fees for insurance certificates, permits, licenses, etc.; fees for restoration of paving or land due to field exploration, etc.; state sales and use taxes and state taxes on GEI fees.

**Billing Rates for Specialized Technical Computer Programs** – Computer usage for specialized technical programs will be billed at a flat rate of \$10.00 per hour in addition to the labor required to operate the computer.

**Field and Laboratory Equipment Billing Rates** – GEI-owned field and laboratory equipment such as pumps, sampling equipment, monitoring instrumentation, field density equipment, portable gas chromatographs, etc. will be billed at a daily, weekly, or monthly rate, as needed for the project. Expendable supplies are billed at a unit rate.

**Transportation and Subsistence** - Automobile expenses for GEI or employee owned cars will be charged at the rate per mile set by the Internal Revenue Service for tax purposes plus tolls and parking charges or at a day rate negotiated for each project. When required for a project, four-wheel drive vehicles owned by GEI or the employees will be billed at a daily rate appropriate for those vehicles. Per diem living costs for personnel on assignment away from their home office will be negotiated for each project.

**PAYMENT TERMS**

Invoices will be submitted monthly or upon completion of a specified scope of service, as described in the accompanying contract (proposal, project, or agreement document that is signed and dated by GEI and CLIENT).

Payment is due upon receipt of the invoice. Interest will accrue at the rate of 1% of the invoice amount per month, for amounts that remain unpaid more than 30 days after the invoice date. All payments will be made by either check or electronic transfer to the address specified by GEI and will include reference to GEI’s invoice number.

# water supply fund

## Dam Safety Improvements

Total Project Cost: **\$4,800,000 (est)**

Proj #: TBD

Duration: 4-5 years

	Prior Yrs	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Expenses:							
Design		\$300,000	\$500,000				
Construction				\$2,000,000	\$2,000,000		
Revenues:							
Fees		\$112,500	\$187,500	\$750,000	\$750,000		
SDCs (25%)		\$37,500	\$62,500	\$250,000	\$250,000		
Grant							
Other		\$150,000	\$250,000	\$1,000,000	\$1,000,000		

“Other”: The Electric Fund typically pays for 50% of FERC required improvements.

The proportional SDC allocation will be reviewed during completion of the Water Master Plan.

Anticipated Long Term Expenses: Staff time for management of improvement and maintenance projects. Life cycle replacement of infrastructure associated with the Dam, including valves, waterlines, stairs, walkways, security cameras and telecommunications items.

### Description:

The City recently completed its Federal Energy Regulatory Commission (FERC) Part 12 inspection of Hosler Dam and associated appurtenances. The Part 12 inspection and associated Potential Failure Modes Analysis Update (PFMA) details areas of concern with respect to the dam and what is defined as an uncontrolled release of water. The major point of emphasis with respect to the PFMA update from FERCs perspective is the potential erosivity of the left abutment under defined flood loading conditions. FERC will require the City to develop a plan and schedule to address the erosivity issue during the biennium. Other dam improvements will include evaluation of the spillway and spillway structures and dam piping penetrations.

