

27 July, 2017

Mr. Dan Weitzel
Director of Public Works
City of Manzanita
36730 Highway 101
Manzanita, OR 97130

Subject: **Water System Seismic Resiliency Study**

Dear Mr. Weitzel:

We are pleased to present this proposal for the water system seismic resiliency study. The objective is to conduct a big picture review and identify seismic vulnerabilities in your water system, with particular focus on the existing reservoirs. We will recommend improvements that will enhance seismic resilience.

PROJECT UNDERSTANDING

Our understanding of the project is as follows:

- The City of Manzanita is susceptible to tsunami inundation in addition to seismic activity. Tsunami inundation may render the water supply wells and some transmission main inoperable, as well as contaminate the water supply. The City currently has two groundwater wells in operation, and is planning for a third.
- There are three existing water reservoirs of varying age, size, and material. Of highest interest to the City is to assess the seismic vulnerability of Reservoir #1, the welded steel reservoir. Reservoirs #2 and #3 will be assessed at an observational level.
- There may be an issue with the ability of the reservoirs to hydraulically provide emergency storage, particularly for Reservoir #3.

SCOPE OF SERVICES

Task 1 – Project Management

Task 1.1 – Project Administration – Includes project correspondence, contract management, invoicing, budgeting, and scheduling.

Task 1.2 – Meetings – Includes two meetings or site visits in Manzanita.

Task 1 Deliverables: Invoicing, Project updates, Project schedule

Task 2 – Background and Research

Task 2.1 – Review Available Background Information – Review the water masterplan for relevant information or for capital projects that could be affected by this project. Discuss relevant background information with City staff.

Task 2.2 – Research Applicable Resiliency Guidance – Research applicable resiliency guidance such as the Oregon Resiliency Plan, as well as other guidance about tsunami inundation.

Task 2.3 – Benchmark Best Practices – Research documents or previous projects that can be used to benchmark best practices for water system and reservoir resiliency planning.

Task 2 Deliverables: none

Task 3 – Analysis

Task 3.1 – Vulnerability Assessment – Assess the vulnerability of the groundwater wells, transmission mains, and reservoirs with regard to seismic and tsunami conditions. A focused assessment will be conducted toward the structural integrity of Reservoir #1, the welded steel reservoir.

Task 3.2 – Assess Reservoir Elevations – Conduct a basic assessment of the hydraulic interaction between the three reservoirs and identify any potential problems with their ability to provide emergency storage.

Task 3.3 – Recommendations for System Upgrades – Based on the vulnerability assessment and reservoir elevation assessment, provide recommendations with the aim to enhance seismic resiliency of the system. A high level construction cost range will be provided for the upgrades.

Task 3 Deliverables: none

Task 4 – Seismic Resiliency Report

Task 4.1 – Draft Report – Provide draft report that summarizes water system vulnerabilities and recommendations. Participate in a review meeting at the City.

Task 4.2 – Final Report – Provide a final report incorporating City review comments.

Task 4 Deliverables: Draft Report, Final Report

Assumptions

1. This assessment will be conducted at a birds-eye level, and based on information available in the water masterplan and from City staff. Hydraulic modeling or calculations, and structural modeling or calculations, are beyond the scope of this effort.
2. Seismic and tsunami events are highly unpredictable in timing and intensity. BergerABAM cannot provide any guarantee that these recommendations will protect the infrastructure in these events.
3. Part of seismic resiliency includes planning for liquefaction or slope failure, which may also impact the water infrastructure. This type of planning can only be completed by a geotechnical engineer, which is not part of this scope.
4. It is not the intent of this study to provide a recovery plan for the repair and restoration of infrastructure, nor to define how the population will access potable water after a natural disaster.

SCHEDULE

The schedule for these tasks is estimated to be no longer than 12 weeks including City review. BergerABAM will provide a proposed project schedule after Notice to Proceed is given.

FEE ESTIMATE

We propose a do-not-exceed budget of \$20,000. This fee will be accrued on a time and materials basis according to the BergerABAM standard terms and conditions.

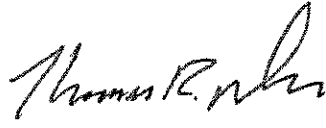
If you agree with this proposal, please sign in the space provided below and return to us electronically or in hardcopy form. Make one copy for your files.

Thank you for the opportunity to provide this proposal and we look forward to working with you. Should you have any questions or comments about this proposal, please call me at 503/872-4121 or email me at dan.johnston@abam.com.

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Sincerely,
BergerABAM Inc.


Dan Johnston, PE
Project Manager


Tom Wilcox, PE
Vice President

Attachments: Standard Terms and Conditions

**ACCEPTED BY
CITY OF MANZANITA**

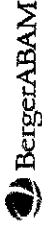
Signature

Name (Printed)

Title

Date

- FEE ESTIMATE -



Title: Water System Resiliency Study

Date: 7/27/2017

TASK	TASK DESCRIPTION	Principal	Project Manager	Project Engineer	Structural Engineer	Dept Coordinator	Word Processing	Rounded Totals
1	Project Management							
1.1	Project Administration		20					\$5,479.00
1.2	Meetings		8					\$1,392.00
2	Background and Research		12					\$2,087.00
2.1	Review Background Information		2	20				\$2,821.00
2.2	Research Resiliency Guidance		2	8				\$1,337.00
2.3	Benchmark Best Practices		4	4				\$495.00
3	Analysis		8	8				\$989.00
3.1	Vulnerability Assessment		6	32	8			\$6,355.00
3.2	Assess Reservoir Elevations		2	12	4			\$2,509.00
3.3	Recommendations for Upgrades		2	8				\$1,337.00
4	Seismic Resiliency Report		2	12	4			\$2,509.00
4.1	Draft Report	1	10	40		1	1	\$7,094.00
4.2	Final Report		8	32		1	1	\$5,491.00
4.3	QA/QC	1	2	8				\$1,337.00
	Expenses							\$266.00
	Mileage							\$251.00
	Misc Expenses							\$201.00
	TOTAL FEE	\$265	\$6,607	\$11,371	\$1,355	\$68	\$77	\$20,000.00

STANDARD TERMS AND CONDITIONS

BILLINGS

Lump-sum jobs are billed according to agreed-upon milestones, on a percent-of-completion basis. Time and expense jobs are invoiced in accordance with the labor and other costs incurred in performing the work. Personnel are billed at a rate that includes labor overhead and an allowance for profit. Project-related expenses are billed at cost or use rate plus 10 percent (10%).

PAYMENT SCHEDULE

Invoices are submitted monthly for services performed during the prior month and are due upon receipt. If Client fails to make any payment due BergerABAM for services and expenses within thirty (30) days after receipt of BergerABAM's statement therefore, the amounts due shall bear interest, at the prevailing legal rate from said thirtieth day. In addition, BergerABAM may, after giving seven (7) days written notice to Client, suspend services under this Agreement until BergerABAM has been paid in full all amounts due for services, expenses, and charges. Attorneys' fees and other costs incurred in collecting a delinquent amount will also be charged. Late or nonpayment of fees is cause for immediate termination by BergerABAM.

CHANGED CONDITIONS

Should conditions of the work change so as to materially affect the level of effort or the time required, then equitable adjustments to fee and schedule shall be made. BergerABAM will notify Client when a changed condition becomes apparent. Failure of Client to provide a timely and equitable adjustment is cause for termination by BergerABAM.

In the event that government jurisdictions, at any level, legislate new taxes or administratively interpret existing regulations such that additional taxes apply to this work, this shall be cause for an equitable adjustment of the contract fee in recognition of the increased taxation.

TERMINATION

Either Client or BergerABAM may terminate this contract at any time, upon fourteen (14) days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.

In the event of termination of this Agreement, BergerABAM shall be paid for all services rendered up to the date of termination, and shall be paid for all unpaid Additional Services and unpaid Reimbursable Expenses incurred up to the date of termination, and shall be paid for all termination expenses. Upon termination, BergerABAM will close the job in an orderly fashion and Client shall pay BergerABAM for its reasonable closing costs.

PROJECT RELATIONS

BergerABAM shall not direct or supervise Contractor or other third parties and will not act as Client's agent. Contractor and/or Client is solely responsible for the means and methods of

construction, including job-site safety. BergerABAM is responsible solely for the negligent acts and omissions of its own employees, agents, and subconsultants. BergerABAM is not responsible for the negligent acts or omissions of others, against which Client will defend and indemnify BergerABAM.

BERGERABAM PERSONNEL AT CONSTRUCTION SITE

The presence of BergerABAM personnel at a construction site, whether as on-site representatives or otherwise, shall not make BergerABAM in any way responsible for those duties that belong to the Client and/or the Construction Contractors or other entities, and does not relieve the Construction Contractors or any other entities of their obligations, duties, and responsibilities, including, but not limited to, all construction methods, means, techniques, sequences, and procedures necessary for coordinating all portions of the construction work in accordance with the contract documents, and any health or safety precautions required by the work.

BergerABAM's site responsibilities are limited solely to the activities of BergerABAM and BergerABAM employees on site. These responsibilities shall not be inferred by any party to mean that BergerABAM has responsibility for site safety. Safety in, on, or about the site is the sole and exclusive responsibility of the contractor alone. The contractor's methods of work performance, techniques, superintendence of the contractor's employees, sequencing of construction, and procedures necessary for coordinating all portions of the construction work in accordance with the contract documents are also the sole and exclusive responsibilities of the contractor alone.

Client warrants that: (1) the Construction Contractor's responsibilities will be made clear in Client's agreement with the Contractor; (2) Client's agreement with the Contractor shall require the Contractor to indemnify, defend, and hold Client and BergerABAM harmless from any claim or liability for injury or loss arising from Client's or BergerABAM's alleged failure to exercise site safety responsibility; and (3) Client's agreement with the Contractor shall require the Contractor to make Client and BergerABAM additional insureds under the contractor's general liability insurance policy, which insurance protection shall be primary protection for Client and BergerABAM.

Given the foregoing, Client also shall, to the fullest extent permitted by law, waive any claim against BergerABAM and indemnify, defend, and hold BergerABAM harmless from any claim or liability for injury or loss arising from BergerABAM's alleged failure to exercise site safety responsibility. Client also shall compensate BergerABAM for any time spent or expenses incurred by BergerABAM in defense of any such claim. Such compensation shall be based upon BergerABAM's prevailing fee schedule and expense reimbursement policy. (The term "any claim" used in this provision means "any claim in contract, tort, or statute alleging negligence, errors, omissions, strict liability, statutory liability, breach of contract, breach of warranty, negligent misrepresentation, or other acts giving rise to liability.")

SUPPORTING SUBCONSULTANTS

BergerABAM works on a continuing basis with a group of selected specialized subconsultants as required to balance peak staffing requirements and provide specialized expertise for scheduled workload. BergerABAM reserves the right to make assignments to these firms, including, but not limited to, routine word processing, drafting, civil and structural engineering, and environmental work. Work by these firms is performed under the oversight of the BergerABAM project manager and is subject to BergerABAM quality review. Services performed by subconsultants will be billed to client by BergerABAM at actual costs plus 10 percent (10%). If requested, BergerABAM will make information on collaborating subconsultants available for client review.

LOANED EMPLOYEES FROM AFFILIATE COMPANIES

BergerABAM is a member of The Louis Berger Group, Inc., one of the largest consulting engineering organizations in the world. BergerABAM reserves the right to supplement in-house project staff with loaned employees from The Louis Berger Group, Inc. Unless otherwise specifically defined, any added costs associated with the use of these employees will be handled internal to BergerABAM and clients will be charged at BergerABAM standard rates for the grade and/or skill level of employees involved.

USE OF OWNER-SPECIFIED CONSULTANTS OR CONTRACTORS

BergerABAM will comply with Client's directives in utilizing services of owner-specified consultants on the project. The liability of BergerABAM arising from the work of such subconsultants will be limited to proceeds available from the subconsultants' insurance(s) to the extent permitted by law.

HAZARDOUS WASTE

Client warrants that, to their knowledge and belief, there are no hazardous materials or substances (as defined by applicable law and regulation) associated with the work. Discovery of such will constitute, at BergerABAM's option, either a changed condition or cause for termination by BergerABAM. Following discovery, Client shall take all measures needed to protect health and safety. Client shall comply with all applicable laws and regulations and will make all required notifications.

DATA DOCUMENTS AND RECORDS

BergerABAM shall be entitled to rely upon the accuracy and completeness of all data furnished by Client to BergerABAM that is used by BergerABAM in providing services under this Agreement.

REUSE OF DOCUMENTS

All documents prepared by or furnished by BergerABAM pursuant to this Agreement are instruments of service in respect of the Project. They are BergerABAM's property. Client may make and retain copies of information for reference in connection with the Project by Client and others; however, such documents are not intended or represented to be suitable for reuse by

Client or others upon modifications of the Project or on any other project. Any reuse without written verification or adaptation by BergerABAM for the specific purpose intended will be at Client's sole risk and without liability or legal exposure to BergerABAM, and Client shall indemnify and hold harmless BergerABAM, its officers, directors, agents, and employees from all claims, damages, losses, and expenses, including attorney's fees arising out of or resulting there from. Any such verification or adaptation of drawings will entitle BergerABAM to further compensation at rates to be agreed upon by Client and BergerABAM.

USE OF ELECTRONIC DATA

The use of any electronic data associated with this project is restricted to the original site and project for which it was prepared. Unless otherwise specifically agreed, information contained in transmitted electronic files is proprietary and is to be used only as an aid toward the successful completion of this project.

Electronic copies of drawings shall not be interpreted to be true-scale documents of the proposed work. If these drawing files are being altered by another party as part of an effort to generate as-built drawings or for any other purpose, BergerABAM accepts no liability and/or responsibility for the accuracy of these as-built or other documents. In addition, all drawing information contained in transferred electronic files, including, but not limited to, symbol libraries, blocks, details, etc. may not be reproduced, sold, distributed, or utilized in any form on any other project or by anyone else.

BergerABAM has provided the data contained in any electronic files solely for the Client's convenience and/or benefit. Reuse or reproduction of transmitted electronic data for any other purpose or party for which the material was not strictly intended, is prohibited, as BergerABAM retains all copyright and other legal interest in the material. The recipient of transferred electronic data recognizes and acknowledges that the use of such data will be at their sole risk and without any liability or legal exposure to BergerABAM.

No warranties of any nature, whether express or implied, shall attach to the electronic media or information contained thereon. Furthermore, recipient of transferred electronic data hereby releases and shall, to the fullest extent permitted by law, defend, indemnify, and hold harmless BergerABAM from any and all claims, damages, losses, and expenses (Claims), including attorney's fees arising out, or resulting from the use of such transferred electronic data, including, but not limited to, Claims involving the completeness or accuracy of any data or information contained on the transferred electronic files.

INSURANCE

BergerABAM shall procure and maintain the following insurance: worker's compensation and employer's liability insurance, comprehensive general liability insurance, and professional liability insurance.

Within the limits and coverage of this insurance, BergerABAM will indemnify Client against loss or liability arising solely from the negligent acts or omissions of BergerABAM's employees, agents, and subconsultants.

Client agrees to require BergerABAM to be named as an additional insured for all insurance policies carried by Contractors, Subcontractors, Client, and Suppliers on which Client has been or will be named as an insured or additional insured.

Notwithstanding any other provisions in this Agreement, nothing shall be construed or enforced so as to void, negate, or adversely affect any otherwise applicable insurance held by any party to this Agreement.

OPINIONS OF COST, FINANCIAL CONSIDERATIONS, AND SCHEDULES

In providing financial analyses or opinions of cost, economic feasibility, and scheduling for the Project, BergerABAM has no control over costs or prices of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures; market conditions; time or quality of performance by third parties; quality, type, management, or direction of operating personnel; or other economic and operational factors that may materially affect the ultimate Project cost or schedule. Therefore, BergerABAM makes no warranty that the Client's actual Project costs, financial conditions, economic feasibility, or schedules will not vary from BergerABAM's opinions, analyses, projections, or estimates.

PROFESSIONAL PRACTICES

BergerABAM intends to perform the work it has agreed to do with the thoroughness and competence usual to the engineering profession at the time and place of performance. No other representation, either expressed or implied, will be construed from BergerABAM's proposal, contract, or work. Should BergerABAM certify anything with respect to the work, the certification will be considered a professional opinion and not a warranty.

LIABILITY

Regardless of the presence or absence of insurance coverage, BergerABAM shall not be liable for loss or damage associated with delays beyond BergerABAM's control, or for loss of earnings, loss of use or other incidental or consequential damages suffered by Client or others, however caused. BergerABAM's liability hereunder, whether in tort or in contract, for any cause of action shall be limited as follows: (1) for insured liabilities arising out of BergerABAM's negligence, to the amount of insurance then available to fund any settlement, award, or verdict; and (2) for uninsured liabilities, to 50 percent (50%) of the fee earned (not to exceed \$1 million) by BergerABAM under this Agreement. Client further agrees that, to the fullest extent permitted by law, no shareholder, officer, director, partner, principal, or employee of BergerABAM shall have personal liability under any provision of this Agreement, or for any matter in connection with the services provided. Client expressly agrees to this limitation of liability.

Client shall, at BergerABAM's option, defend BergerABAM against third-party claims arising from the work. Regardless of whether BergerABAM exercises this option, Client shall pay BergerABAM for damages, cost of defense, and expenses arising out of such claims (including reasonable charges at standard billing rates for time spent by BergerABAM personnel in connection with the claims) at the time they are incurred. At the conclusion of litigation, BergerABAM will reimburse Client for those payments, in proportion to BergerABAM's relative negligence as determined by law.

DISPUTES

Should a dispute arise, Client will continue to pay BergerABAM's regular invoices. No offset or deduction will be made. Every effort will be made to resolve the dispute as expeditiously as possible. First, the parties will attempt to resolve the matter directly. Failing this, the matter will be submitted for mediation, which will be conducted in a manner mutually acceptable. The cost of mediation will be borne equally by the parties. If mediation is not successful, the dispute will be resolved in a court of competent jurisdiction. The venue will be federal or state court, located in King County, Washington.

In the event a claim by Client is not proved (the judgment is less than BergerABAM's prior settlement offer), Client shall pay BergerABAM for legal fees and other costs of defense. Costs include reasonable charges at standard billing rates for time spent by BergerABAM personnel in connection with the dispute. In the event of a dispute between third parties or between Client and third parties, where BergerABAM is required to assist (as in giving depositions), Client will pay BergerABAM at standard billing rates for time and expenses.

FORCE MAJURE

Neither party shall hold the other party responsible for damages or delay in performance caused by acts of God, strikes, lockouts, accidents, or other events beyond the control of the other or the other's employees and agents.

CONTROLLING LAW

Law for this Agreement will be the internal law for the State of Washington, USA.