

## **Exhibit A – Amended Scope of Work**

The original contract scope of work for this project consisted of Task 1 and an alternatives analysis for the Geneva Reservoir portion of the project. That alternatives analysis was started and preliminary design concepts and costs were developed. Coordination with the funding agency revealed that Alternative 2 is not feasible from a funding perspective. So the alternatives analysis was cut short, and the project is proceeding with Alternative 1.

The attachments describe Task 2 work items, structural and geotechnical seismic evaluations to inform detailed structural design. Structural evaluation is to be completed by our Subconsultant Peterson Structural Engineers, and the geotechnical evaluation is to be completed by our Subconsultant GeoEngineers. Also addressed is a credit for unused Task 1 fee. Detailed structural design of seismic retrofits will be informed by these evaluations and will follow as a future contract amendment.

**Lake Whatcom Water and Sewer District (LWWSD)**  
**Geneva Reservoir and Sudden Valley WTP - Seismic Evaluation**

Prepared by: Brian Smith, PE, Wilson Engineering, LLC  
 Prepared for: Greg Nicoll, PE, LWWSD  
 Project Number: 2024-031 Task 2: Seismic Evaluation  
 Date: 22-Oct-24

Task Description	Direct Expenses (Including 8% Subconsultant Markup)	Principal Engineer	Senior Engineer	Engineer IV	Engineer II	Senior CAD Design Technician	Clerical	
Rate (\$/hr) =	L.S.	\$215	\$202	\$192	\$162	\$146	\$103	
<b>Task 2: Seismic Evaluation</b>								
- 2.1: Structural seismic evaluation (see Tasks 1-5 of attached Peterson scope), with subconsultant coordination and two virtual meetings	\$ 41,688	4	4	24				\$ 47,964.00
- 2.2: Structural Optional Task Item 2b, float investigation (see attached), with subconsultant coordination	\$ 2,376			3				\$ 2,952.00
- 2.3: Geotechnical engineering services (see Tasks 100-300 of attached Geongineers scope), with subconsultant coordination	\$ 66,096	2	2	12				\$ 69,234.00
<b>Sub-Total</b>	<b>\$ 110,160</b>	<b>6</b>	<b>6</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>\$ 120,150.00</b>
<b>Credit for unused scope from Task 1</b>								<b>\$ (36,237.75)</b>
<b>Total Authorized Additional Budget</b>								<b>\$ 83,912.25</b>

Assumptions:  
 1) See attached subconsultant scope and fee proposals for additional details



Lynnwood Office  
12121 Harbour Reach Dr.  
Suite 110  
Mukilteo, WA 98275  
253.830.2140

September 25, 2024

Brian Smith, PE  
Wilson Engineering, LLC  
805 Dupont Street, Suite 7  
Bellingham, WA 98225  
(360) 773-6100

Project #: 2402-0013

RE: **Lake Whatcom Water and Sewer District Seismic Upgrades – Scope and Fee Proposal – Rev 3  
Phase 1 – Seismic Evaluation**

Dear Brian-

Thank you for the opportunity to provide structural engineering services for Phase 1 of the Lake Whatcom Water and Sewer District (LWWSD) Geneva Reservoir and Sudden Valley Water Treatment Plant (SVWTP) Pump House seismic evaluation and retrofit project. Peterson Structural Engineers (PSE) understands the subject project is being funded through a Federal Emergency Management Agency (FEMA) Hazard Mitigation program. Phase 1 of the project includes a seismic evaluation of the existing Geneva Reservoir located in Geneva, WA and the SVWTP Pump House located in Bellingham, WA.

Based on previous conversations and review of historical information made available to PSE, PSE understands that the Geneva Reservoir is a 0.52 Million-Gallon (MG) welded steel reservoir constructed in 1979. The subject reservoir has an approximate diameter of 52-feet, shell height of 32-feet 8-inches, and an overflow height of 32-feet. The shell is anchored to a reinforced concrete ringwall footing by (12) steel plate anchors. Historical project documents indicate that the design was performed per the American Water Works Association 1984 D-100 Standard for Welded Steel Tanks for Water Storage (AWWA D100-84). PSE understands that the subject reservoir was evaluated by BHC Consultants in 2016 using AWWA D100-11. Deficiencies noted in the BHC evaluation include the reservoir anchorage, ringwall footing, and overturning/stability. Phase 1 of this project includes performing an updated structural condition assessment and seismic evaluation to the current standard in effect, AWWA D100-21. PSE will generate a report to summarize findings from the evaluation as well as present conceptual-level options for repairs and retrofit.

Based on previous conversations and review of historical information made available to PSE, PSE understands that the SVWTP Pump House was constructed circa 1993 and consists of reinforced masonry walls, a timber-framed roof, and a shallow reinforced concrete foundation. In 2020-2021 Gray and Osborn performed a Tier 3 seismic evaluation per the American Society of Civil Engineers (ASCE) 41-13, Standard for Seismic Evaluation and Retrofit of Existing Buildings, which identified structural and nonstructural seismic deficiencies and potential retrofit solutions. PSE will perform an updated Tier 3 seismic evaluation to ASCE 41-17, such that retrofit designs may be developed in Phase 2 of the project to satisfy current Building Code and permitting requirements.

Following the completion of the evaluation, PSE will generate a report to summarize findings from the evaluation as well as present conceptual-level options for repairs and retrofits.

Note that the scope of services outlined herein is limited to Phase 1 of the project. PSE understands that Phase 2 of the project may include seismic retrofit design for the Geneva Reservoir and the SVWTP Pump House. Services for Phase 2 will be performed under a separate proposal.

### Proposed Project Scope

PSE proposes the following scope of work for **Phase 1**:

1. **Review of Historical Records** – Review of historical and as-built information provided by the client and/or owner. This includes, but may not be limited to, reporting from prior structural evaluations and condition assessments, original construction documents, and other historical records.
2. **Geneva Reservoir Seismic Evaluation**
  - a. **Site Visit and Condition Assessment** – Perform a site visit to gather information and observe existing conditions. Review of existing conditions will be based on a visual, nondestructive evaluation. Exterior conditions of the reservoir will be reviewed where visible from the ground and the roof. The underside of the reservoir roof will be viewed through the roof hatch without entering the reservoir, unless a float investigation is performed per the **Optional Task 2b** below. PSE understands that the reservoir will not be drained in advance of the visual evaluation. PSE will require safe access to the roof.
  - b. **[OPTIONAL] Float Investigation - \$2,200** – Performance of site visit to float the interior of the tank in an inflatable raft to observe the condition of the roof framing and underside of the roof plate.
    - i. Assumes float investigation will be performed on the same day as Task 2a. If a separate site visit is desired, additional fees may apply.
    - ii. Assumes the tank will be filled to a level roughly 3-ft below the top of the shell to allow for close-up investigation of roof elements.
    - iii. District shall fulfill all confined space entry requirements including but not limited to permits, ventilation, and air quality monitors as required.
    - iv. PSE will provide raft and accessories, and our own personal safety, flotation, and sanitation equipment. Two PSE personnel are required for float investigations.
  - c. **Seismic Evaluation** – Perform a seismic evaluation per AWWA D100-21 to identify structural deficiencies.
3. **SVWTP Pump House Seismic Evaluation**
  - a. **Site Visit and Condition Assessment** – Perform a site visit to gather information and observe existing conditions. Review of existing conditions will be based on a visual, nondestructive evaluation.

- b. **ASCE 41-17 Tier 3 Seismic Evaluation** – Perform a systematic Tier 3 seismic evaluation per ASCE 41-17 for structural and nonstructural elements. The basis of evaluation is assumed to be as follows:

- i. Purpose of Evaluation: *Voluntary Mitigation*, as defined by Appendix B of ASCE 41-17, as part of the FEMA Hazard Mitigation Program. PSE understands that the retrofits have not been mandated by legislative action or triggered by change in risk category or occupancy.
- ii. Risk Category: IV
- iii. Performance Objective Levels and Seismic Hazards:

Systems	BSE-1N <sup>1</sup> Seismic Hazard Level
Structural Performance Objective Level	Immediate Occupancy
Nonstructural Performance Objective Level	Operational

<sup>1</sup>BSE-1N is equivalent to 2/3 of the Risk-Targeted Maximum Considered Earthquake (MCE<sub>R</sub>) per ASCE 7 at the site.

- c. **Limitations of Evaluation:**

- i. PSE’s evaluation is limited to the as-built and other historical information provided by the client as well as information gathered during a visual, nondestructive evaluation.
- ii. Evaluation of fire suppression systems included in ASCE 41-17 are beyond PSE’s scope of work.
- iii. Evaluation of geotechnical-related seismic hazards included in ASCE 41-17, including liquefaction, slope failure, and surface fault rupture, are beyond PSE’s scope of work.

- 4. **Evaluation Reporting** – Generate a report stamped by a Structural Engineer licensed in the State of Washington to include the following:

- a. **Seismic Deficiencies** – Summarize findings from the completed site visits and seismic evaluations for the Geneva Reservoir and the SVWTP Pump House. Reporting will summarize seismic deficiencies of the primary structural elements. General conditions including damages, coating, or surface issues will be reported where observed and understood to potentially affect the structural performance of the tank. However, evaluations of the coating and non-structural appurtenances for the reservoir are beyond PSE’s scope of work.
- b. **Seismic Retrofit/Repair Concepts** – Develop conceptual-level repairs and retrofits to mitigate seismic deficiencies identified in PSE’s evaluation. If determined to be appropriate, a retrofit priority matrix and associated discussion may be included to highlight elements most impactful to global seismic performance.
- c. **Retrofit Cost Estimates** – Generate Rough Order of Magnitude (ROM) cost estimates for retrofit concepts based on values from the latest RS Means and our experience with similar work. For the Geneva Reservoir, estimates will be for the structural elements only and will not include costs for coatings, appurtenances, or other non-structural elements.

- 5. **Phase 2 Planning Workshop** – Participation in a planning workshop for Phase 2 to review evaluation findings with the client and owner.

Specifically excluded from Phase 1 of this proposal is generation of construction/retrofit drawings and structural specifications. Phase 2 services, which may include seismic retrofit design for the Geneva Reservoir and the SVWTP Pump House, will be scoped separately. Additional items specifically excluded from this proposal include destructive testing, client-initiated evaluation criteria changes after PSE has begun design, design and/or construction schedules, project and/or structural specifications, site civil (including but not limited to grading, drainage improvements, utility protection and ancillary piping), architectural (including but not limited to egress, clearances, waterproofing and flashing), and mechanical/electrical/plumbing element design and coordination. Permit, bid, and construction support are also specifically excluded.

PSE understands geotechnical investigations and subsequent reporting will be provided by GeoEngineers for both structures. At the time of this scoping, the investigations and reporting have not been completed. For the purpose of this evaluation, the geotechnical and seismic design criteria will be per the forthcoming geotechnical reports generated by GeoEngineers. Design criteria not addressed by the geotechnical reports will be assumed as allowed per the pertinent building code or coordinated with GeoEngineers.

### Proposed Fee and Schedule

Based upon the scope above, we have generated a fee estimate as follows:

- Task Items 1-5: \$38,400 with estimated project expenses of \$200, for a total of \$38,600.
  - Note: Task Item 2b excluded
- [Optional] Task Item 2b: \$2,100 with estimated project expenses of \$100, for a total of \$2,200.

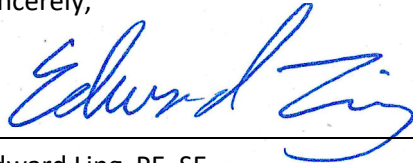
Payments may be made by ACH, check, or credit card. Credit card payments will incur a 3% processing fee. Project expenses will be billed at cost plus 10%. Invoices will be submitted at the beginning of the month for structural services performed in the previous month. Should revisions to this scope and fee proposal be affected by pending information or scope changes, we will apprise you of that situation before proceeding. Please note that the fee stated above is based solely on an estimate of the time to be expended to complete the scope items defined above. Changes or additions to the defined scope could result in additional fees. PSE will require an amended PO/TO or alternate client official notification before beginning work on design changes or modifications.

The above proposal has been generated assuming that the structural engineering services are to be initiated within a six-month period from the proposal date and substantially completed within twelve months of the proposal date. If the schedule of work exceeds the projected time, we reserve the right to revise our fee estimate accordingly.

Wilson Engineering, LLC

Thank you again for including us and we look forward to working with you on this project. Please call if you have any questions.

Sincerely,



9/25/2024

Edward Ling, PE, SE

Date

Firm Principal

Peterson Structural Engineers, Inc.

Sent via email to Brian Smith on 9/25/2024 <bsmith@wilsonengineering.com>

## PETERSON STRUCTURAL ENGINEERS

### *2024 Hourly Rates*

<b>Principal-in-Charge</b>	<i>\$284</i>
<b>Principal</b>	<i>\$272</i>
<b>Senior Associate</b>	<i>\$260</i>
<b>Associate</b>	<i>\$253</i>
<b>Senior Project Manager</b>	<i>\$247</i>
<b>Senior Structural Engineer</b>	<i>\$247</i>
<b>Project Manager</b>	<i>\$230</i>
<b>Structural Engineer</b>	<i>\$227</i>
<b>Associate Project Manager</b>	<i>\$215</i>
<b>Senior Project Engineer</b>	<i>\$204</i>
<b>Project Engineer</b>	<i>\$198</i>
<b>Staff Engineer</b>	<i>\$193</i>
<b>Staff Designer</b>	<i>\$187</i>
<b>CADD Drafting</b>	<i>\$153</i>
<b>Administrative</b>	<i>\$142</i>

- *Vehicle mileage will be billed at current U.S. General Services Administration allowable rates and periodically adjusted according to federal updates*
- *Direct expenses will be billed at cost plus 10%*



September 24, 2024

Wilson Engineering, LLC  
805 Dupont Street, Suite 7  
Bellingham, Washington 98225

Attention: Brian Smith, PE

Subject: Proposal  
Geotechnical Engineering Services  
LWWSO Geneva Reservoir and Sudden Valley WTP Pump House  
Bellingham, Washington  
File No. 0430-017-00

## Introduction

GeoEngineers, Inc. (GeoEngineers) is pleased to present this proposal to provide geotechnical engineering services for the proposed retrofits to the Geneva Reservoir and the Sudden Valley Water Treatment Plant (WTP) Pump House for the Lake Whatcom Water and Sewer District (LWWSO) located in the Sudden Valley area of Bellingham. This submittal is based on discussions with representatives of Wilson Engineering, LLC (Wilson) and Peterson Structural Engineers (PSE), previous information and reports provided by Wilson and PSE of the originally built structures, our knowledge of the area, and our previous experience on similar projects.

Our understanding of the two structures to be retrofitted is outlined below:

- The Geneva Reservoir was built in 1979 just northeast of the intersection of Lakeview Street and 8<sup>th</sup> Street, consisting of a 32.7-foot steel tank with an approximate diameter of 52 feet. The tank is supported on a concrete ringwall foundation with steel plate anchors embedded into the concrete. Based on a seismic vulnerability assessment conducted, the following inadequacies were established: inadequate foundation support and inadequate factor of safety against overturning. Based on geologic mapping, the site is mapped as sedimentary rock, Chuckanut Formation which may have a thin mantle of undifferentiated glacial deposits. Where present, the bedrock unit is anticipated to provide adequate bearing for support of the water tank; however, liquefaction hazards from the overlying undifferentiated glacial deposits may need to be addressed.
- The Sudden Valley WTP Pump House is a one-story concrete building that is partially below-grade, located on Morning Beach Drive, one mile northeast of the intersection of Lake Whatcom Boulevard and Marigold Drive. Based on a seismic evaluation conducted for the building, it was recommended that LWWSO conduct a seismic retrofit. Based on geologic mapping, the site is mapped as sedimentary rock, Chuckanut Formation which may have a thin mantle of undifferentiated glacial deposits. Where present, the bedrock unit is anticipated to provide adequate bearing for support of the pump house, however, liquefaction hazards from the overlying undifferentiated glacial deposits may need to be addressed. No previous site explorations were available for this structure.

## Scope of Services

Our purpose and scope of geotechnical engineering services include review of existing information, completion of a site-specific subsurface exploration program to characterize subsurface soil and groundwater conditions, completion of geotechnical design, and preparation of a geotechnical engineering report summarizing conclusions and recommendations for retrofitting both the reservoir and the pump house, along with associated earthwork and other site development features. Upon request, a site-specific response analysis can be completed. Specifically, our scope of services will include the following detailed tasks:

### TASK 100. GEOTECHNICAL FIELD INVESTIGATION

- Review existing information in the vicinity of the site including available geotechnical, geologic, and project documentation (plans and construction records) for each site.
- Perform an initial site visit to mark exploration locations. As required by state law, we will then contact the state “dial-before-you-dig” contractor number to clear utility locations prior to the explorations; however, they do not check on-site utilities and locating the on-site utilities is the responsibility of the owner. We have included the cost of a subcontracted private utility locate service in our scope to identify locations of unmarked or unknown private utilities (e.g., electrical for light poles). GeoEngineers does not assume liability for any damage or losses related to encountering buried utilities that have been incorrectly located or were not located at all.
- Drill one boring at each site location (up to 40 feet below ground surface at each site or 80 feet of drilling total). Two borings with the same drill footage may be completed if bedrock is encountered at shallow depths. We will subcontract a driller with a small track-mounted drill rig for one day. The subsurface explorations will be observed by one of our field technicians under the direct supervision of our geotechnical engineers on a full-time basis. Our representative will obtain samples of the various soils encountered, classify the materials and maintain a detailed log of each exploration. The soil samples will be sealed and returned to our laboratory for additional examination and laboratory testing, as appropriate.
  - We assume the drill cuttings may be dispersed and left on-site.
- Evaluate pertinent physical and engineering characteristics of the site soils based on laboratory tests completed on samples obtained from the borings. The laboratory tests will include moisture content, grain-size distribution, percent fine content and Atterberg limits as appropriate. We have included the cost for two sulfate tests to evaluate sulfate levels in select soil samples near the surface.
- Complete site-specific shear wave velocity measurements in coordination with the design team at the site locations. Shear wave velocity measurements will be completed by a geophysical consultant subcontracted to GeoEngineers.

### TASK 200. GEOTECHNICAL ANALYSIS AND REPORTING

1. For each site, complete the following analyses:
  - a. Description of site conditions including detailed subsurface soil and groundwater conditions encountered based on results of the previous and new field explorations and geotechnical laboratory analysis.

- b. Evaluation of geologic hazards, including liquefaction potential, estimated liquefaction induced subsidence, fault rupture and landslide/slope stability, as appropriate.
  - c. Seismic design criteria based on American Water Works Association (AWWA) and American Society of Civil Engineers (ASCE) 7-22 including soil profile type, spectral response accelerations, seismic coefficients, site class and seismic use group. The Geneva Reservoir retrofits will be designed as a new structure using ASCE 7-22, whereas the Sudden Valley WTP Pump House retrofits will be designed under ASCE 41-17 using the seismic hazard level BSE-1N.
  - d. Complete review of local scenario earthquakes in the 2014 Building Seismic Safety Council (BSSC) catalog (Boulder Creek fault and Devils Mountain fault). Provide recommendations for additional seismic analysis if warranted.
  - e. Recommend allowable bearing pressure and estimates of total and differential settlement, based on loading provided for new/modified structure foundation elements.
2. Lateral passive earth pressures and coefficient of friction values for the existing reservoirs and foundations. Lateral earth pressures, including static and seismic values for partially buried foundation elements.
  3. Present a summary of our findings and recommendations of both sites in a single comprehensive written report with supporting site plan, boring logs and other applicable figures.

### **TASK 300. SITE-SPECIFIC RESPONSE ANALYSIS (ADD-ALTERNATIVE)**

A site-specific response analysis will be completed at sites requested by the design team. Conditions that may require site-specific response analyses are sites where potentially liquefiable soils are present or sites with taller tanks. Our scope of services for each site evaluated under this task includes:

1. Develop representative seismic soil profiles based on new and existing geotechnical and geophysical information.
2. Complete a site-specific probabilistic seismic hazard analysis (PSHA) based on the USGS seismic source characterization model to develop the firm-ground or rock outcrop uniform hazard response spectrum for the maximum considered earthquake (MCE) hazard level. Should ASCE 41 govern the structure at the site, we will complete the PSHA for the seismic hazard levels specified in ASCE 41 for that structure.
3. Complete a site-specific response analysis in support of developing a site-specific response spectrum for use in design. The site response analysis will be completed per ASCE 7 Chapter 21. We assume the design earthquake is the ASCE 7 risk-targeted maximum considered earthquake (MCER) event (i.e., 1 percent probability of collapse in 50 years). Should ASCE 41 govern the structure at the site, we will complete the site-specific response analyses for the seismic hazard levels specified in ASCE 41 for that structure.
4. Provide a written report which will be included as an appendix in our Task 200 comprehensive report, presenting our conclusions and recommendations regarding the performance-based seismic design.

## Schedule, Terms and Budget

GeoEngineers is available to begin work on this project immediately following receipt of a signed agreement. Our specialty driller is typically scheduled 4 to 6 weeks in advance. We can complete the laboratory testing within 2 weeks of completion of the drilling. We can provide LWWSD and Wilson with preliminary design information as soon as it becomes available after laboratory testing. If this schedule does not meet your needs, please contact us regarding any modifications that will allow you to meet your time schedule.

We propose to complete the above-described services on a time-and-expense basis in accordance with our attached 2024 Schedule of Charges and terms of our Mutual Services Agreement with Wilson Engineering, LLC dated March 12, 2010 and addendum dated April 15, 2021 and will be authorized under separate task authorization. We estimate that our fees will be in general accordance with the breakdown in Table 1 below. We will only invoice for those services performed. We will not exceed this authorized budget without written authorization.

**TABLE 1. PROJECT SCOPE AND ESTIMATED FEE SUMMARY**

DESCRIPTION OF TASK	ESTIMATED FEE
<b>Task 100 – Geotechnical Field Investigation</b>	
Review Available Information and Project Setup	\$ 1,050
Field Coordination, Utility Locate and Subcontractor Coordination	\$ 1,000
GeoEngineers Field Labor and Expenses	\$ 1,950
Subcontracted Private Utility Locate	\$ 600
Subcontracted Driller	\$ 6,350
Review Samples and Log Preparation	\$ 900
Laboratory Testing (including sulfate testing)	\$ 1,600
Geophysical Testing (including coordination and field support for two sites)	\$ 7,250
<b>Task 100 Total</b>	<b>\$ 20,700</b>
<b>Task 200 – Geotechnical Analysis and Reporting</b>	
Engineering Analyses	\$ 2,500
Geotechnical Report Preparation (Draft and Final)	\$ 2,600
Project Management, Meetings, and Coordination	\$ 1,400
<b>Task 200 Total</b>	<b>\$ 6,500</b>
<b>Total (Tasks 100 and 200)</b>	<b>\$ 27,200</b>
<b>Task 300 – Site-Specific Response Analysis (Add-Alternative)</b>	
Site Response Analysis and Reporting (Geneva Reservoir Site)	\$ 17,000
Site Response Analysis and Reporting (Sudden Valley WTP Pump House Site)	\$ 17,000
<b>Task 300 Total (If both sites are analyzed)</b>	<b>\$ 34,000</b>
<b>Total (Tasks 100, 200 and 300)</b>	<b>\$ 61,200</b>


We will invoice only for the services provided. We will not exceed our estimated fee unless conditions require a change in our scope of services. We will not proceed with a change in our scope of services without prior authorization.


There are no intended third-party beneficiaries arising from the services described in this proposal and no party other than the party executing this proposal shall have the right to legally rely on the product of our services without prior written permission of GeoEngineers.

This proposal is valid for a period of 60 days commencing from the first date listed above and subject to renegotiation by GeoEngineers, Inc., after the expiration date.

We appreciate the opportunity to present this scope of services and look forward to working with you on this project. Please call if you have questions.

Sincerely,  
GeoEngineers, Inc.

  
Piradeepan Uthayakumar, EIT  
Staff Geotechnical Engineer

  
Sean W. Cool, PE  
Principal Geotechnical Engineer

JJC:PU:SWC:nl:mce

Attachments:

Schedule of Charges – Bellingham 2024

One copy submitted electronically

Proprietary Notice: The contents of this document are proprietary to GeoEngineers, Inc. and are intended solely for use by our clients and their design teams to evaluate GeoEngineers' capabilities and understanding of project requirements as they relate to performing the services proposed for a specific project. Copies of this document or its contents may not be disclosed to any other parties without the written consent of GeoEngineers.

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## Schedule of Charges - 2024

### COMPENSATION

Our compensation will be determined on the basis of time and expenses in accordance with the following schedule unless a lump sum amount is so indicated in the proposal or services agreement. Current rates are:

<b>PROFESSIONAL STAFF</b>		
Staff 1 Scientist	\$	135/hour
Staff 1 Engineer	\$	139/hour
Staff 2 Scientist	\$	148/hour
Staff 2 Engineer	\$	154/hour
Staff 3 Scientist	\$	174/hour
Staff 3 Engineer	\$	179/hour
Project Engineer/Scientist 1	\$	202/hour
Project Engineer/Scientist 2	\$	207/hour
Senior Engineer/Scientist 1	\$	219/hour
Senior Engineer/Scientist 2	\$	241/hour
Associate	\$	275/hour
Principal	\$	292/hour
Senior Principal	\$	332/hour
<b>TECHNICAL SUPPORT STAFF</b>		
Administrator 1	\$	91/hour
Administrator 2	\$	103/hour
Administrator 3	\$	115/hour
CAD Technician	\$	112/hour
CAD Designer	\$	131/hour
Senior CAD Designer	\$	157/hour
GIS Analyst	\$	148/hour
Senior GIS Analyst	\$	164/hour
GIS Coordinator	\$	179/hour
*Technician	\$	98/hour
*Senior Technician	\$	110/hour
*Lead Technician	\$	122/hour
Environmental Database Manager	\$	202/hour
Health and Safety Specialist	\$	135/hour
Health and Safety Manager	\$	202/hour

\*Hours in excess of 8 hours in a day or 40 hours in a week will be charged at one and one-half times the hourly rates listed above.

Contracted professional and technical services will be charged at the applicable hourly rates listed above. Staff time spent providing expert services in disputes, mediation, arbitration and litigation will be billed at one and one-half times the above rates. Time spent in either local or inter-city travel, when travel is in the interest of this contract, will be charged in accordance with the foregoing schedule. A surcharge may be applied to night and weekend work. See proposal for details.

Rates for data storage and web-based access will be provided on a project-specific basis.

EQUIPMENT		
Air Quality Equipment, per day	\$	210.00
Air Sparging Field Test, per day	\$	525.00
Construction Monitoring Equipment	\$	30.00
Continuous Recording Data Logger, per day	\$	350.00
Environmental Exploration Equipment, per day	\$	165.00
Field Data Acquisition Equipment (Field Tablet), per day	\$	55.00
Field Water Quality Testing Equipment, per day (1 day min.)	\$	90.00
Gas Detection and Oxygen Meters, per day (1 day min.)	\$	105.00
Generator, per day (1 day min.)	\$	105.00
Geotechnical Exploration Equipment, per day	\$	145.00
Groundwater Development and Sampling Pumps, per day (1 day min.)	\$	120.00
Groundwater Monitoring Equipment, per day	\$	250.00
Nuclear Density Gauge, per hour (4 hour daily min.)	\$	15.00
pH Probe/Meter, per day	\$	20.00
Rock/slope Fall Protection/Rigging Equipment, per day	\$	700.00
Single Channel Data Logger, per logger, per day (1 day min.)	\$	110.00
Slope Indicator, per day (1 day min.)	\$	210.00
Survey equipment, Porter sampling gear and Dynamic cone sounding equipment, per day	\$	50.00
Vapor Extraction Field Test, per day	\$	530.00
Vehicle usage, per mile, or \$30/half-day, whichever is greater	\$	.65
Vehicle - 4-wheel drive truck, per day (1 day min.)	\$	90.00
Water Disposal Equipment, per use, per day	\$	55.00
Water Quality Equipment, per day	\$	140.00

Specialized and miscellaneous field equipment not listed above will be quoted on a project-specific basis.

## OTHER SERVICES, SUPPLIES AND SPECIAL TAXES

Charges for services, equipment, supplies and facilities not furnished in accordance with the above schedule, and any unusual items of expense not customarily incurred in our normal operations, are charged at cost plus 15 percent. This includes shipping charges, subsistence, transportation, printing and reproduction, miscellaneous supplies and rentals, surveying services, drilling equipment, construction equipment, watercraft, aircraft, and special insurance which may be required. Taxes required by local jurisdictions for projects in specific geographic areas will be charged to projects at direct cost.

Per diem may be charged in lieu of subsistence and lodging.

Routinely used field supplies stocked in-house by GeoEngineers, at current rates, list available upon request.

In-house testing for geotechnical soil characteristics at current rates, list available upon request.

### Associated Project Costs (APC)

Associated Project Costs (APC) equal to six percent (6%) of professional fees will be assessed. This fee allows GeoEngineers to invest in the necessary infrastructure to ensure we provide our clients with the latest technological and data security standards. The investments include maintaining and advancing technical tools and platforms across all aspects of our business, and strengthening our defenses against cyber threats to ensure data remains secure. These costs are not included in our hourly rates or direct expenses.

**All rates are subject to change upon notification.**