



## HWA GEOSCIENCES INC.

*Geotechnical & Pavement Engineering • Hydrogeology • Geoenvironmental • Inspection & Testing*

November 19, 2014

HWA Proposal No. 2014-P177-21

ESA

5309 Shilshole Avenue NW

Suite 200

Seattle, Washington 98107

Attention: Lisa Adolfson

Regarding: **GEOTECHNICAL SERVICES**  
**CHEASTY GREENSPACE MOUNTAIN BIKE TRAIL**  
**SEATTLE, WASHINGTON**

Dear Lisa,

HWA GeoSciences Inc. (HWA) is pleased to present this proposal for geotechnical engineering services for the proposed Cheasty Greenspace Mountain Bike Trail project in Seattle, Washington.

We understand that the Seattle Parks Department is proposing to construct a mountain bike trail within the Cheasty Greenspace area. This proposed loop trail is a pilot project to be implemented by volunteers with some assistance from parks staff. The trail is to provide mountain bike and walking experience for users of all ages. The trail alignment is currently not set but is expected to traverse several steep slope areas with evidence of past slope instability. It is our understanding that the Parks department would like an evaluation of the subsurface soils and geologic hazards along the trail alignment once it is determined. Therefore, HWA proposes the following scope of work;

### SCOPE OF WORK

1. HWA will review all readily available geotechnical information from the vicinity of the proposed project. This will include a review of the existing geotechnical report for the project site (Stantec, November 2014), available geologic maps, online databases, and HWA's library of geotechnical explorations to provide insight into the site soil conditions.
2. HWA will complete a one day site reconnaissance of the proposed trail alignment to identify areas requiring further study and explorations. The site reconnaissance will include the visual and near surface evaluation of steep slopes and areas of instability in the vicinity of the proposed trail alignment. During this site reconnaissance HWA will stake the location of proposed explorations and coordinate one-call utility locates.

21312 30th Drive SE

Suite 110

Bothell, WA 98021.7010

Tel: 425.774.0106

Fax: 425.774.2714

[www.hwageo.com](http://www.hwageo.com)

3. After utility locates are done, HWA will complete one day of field explorations consisting of shallow hand borings and associated Dynamic Cone Penetrometer (DCP) tests at the previously identified area of interest. These explorations will be conducted by a licensed geologist to identify the existing site soils and their geometry.
4. Laboratory testing will be conducted on representative soil samples obtained from the borings explorations to determine engineering and index properties of the site soils. Laboratory tests will include natural moisture content and grain size distribution.
5. HWA will conduct geotechnical engineering analyses with respect to the proposed trail alignment. These analyses will include evaluation of slope stability, erosion potential, and suitability of subgrade soils to support at-grade and boardwalk trail sections.
6. HWA will attend one meeting with the design team to discuss the results of our field explorations and analysis. We assume that this meeting will take place at the Seattle Parks Department offices.
7. We will prepare a draft geotechnical engineering report summarizing the results of our investigation, and presenting our conclusions and recommendations. We will finalize our report after receiving any review comments from the design team.
8. HWA will provide project management and correspondence with the design team as necessary. We will provide progress reports with each monthly invoice, upon request.

#### **ASSUMPTIONS**

- The exploration locations will be identified by tapping from known locations and surveyed by others if required.
- The City will obtain/provide permission and permits to access the proposed exploration locations.
- No contaminated soils testing will be completed.

#### **SCHEDULE**

We are prepared to begin work on this project immediately upon your authorization to proceed. A 1 to 2-week scheduling period will be required to schedule our explorations. Our draft report can be completed within 3 weeks of completion of our field work.

### **COST ESTIMATE**

Based on our understanding of the project and assumed site conditions, we propose to provide the above geotechnical engineering scope of services on a time and materials basis not to exceed **\$11,681**. However, if during the project unexpected conditions are revealed that require alteration of our work scope, or the Client or Owner request analyses and evaluations which would require a level of effort beyond the scope of our proposed study and budget, we will contact you immediately to discuss any necessary modifications to our scope of services and/or budget estimate. A summary of our estimated costs are presented on the attached spreadsheet.

Our scope of services does not include evaluation of the potential presence and/or concentrations of contaminated and/or hazardous materials on site, nor within the ground water at the site location.

Our scope of work also excludes construction inspection services. We anticipate that these services would include observation and testing of site earthwork and foundation preparation; pavement base material acceptance and testing; and PCC and/or HMA inspection and testing. As the design is developed, we will work with Perteet and the project team to determine the appropriate scope of during-construction support and testing.



We appreciate the opportunity to present this proposal for services on this project. If you have any questions regarding this proposal, or need additional information, please do not hesitate to contact us.

Sincerely,  
HWA GeoSciences Inc.

A handwritten signature in cursive script that reads "Donald J. Huling".

Donald J. Huling, P.E.  
Geotechnical Engineer, Principal

Project Cost Estimate

Geotechnical Engineering Services

Project: Cheasty Greenspace Mountain Bike Trail  
Client: Seattle Parks Department  
Subconsultant: H HWA GEOSCIENCES, INC.  
PM: Donald Huling, P.E.

WORK TASK DESCRIPTION	Principal \$72.00	Geotechnical Engineer VI \$48.08	Geotechnical Engineer IV \$45.67	Geotechnical Engineer I \$25.48	Geologist V \$31.39	CADD \$22.07	Clerical \$20.82	Total Task Hours	Direct Salary Costs
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	Collect and review available geotechnical data			1	3				4	\$ 122
	Site reconnaissance and utility locates			1	8	8			17	\$ 501
	Conduct field explorations (one day of hand explorations)			1	10	10			21	\$ 614
	Generate exploration logs				4				4	\$ 102
	Engineering Analysis			6	12				18	\$ 580
	Draft geotechnical report	1	1	4	10		2	1	19	\$ 623
	Attend Project meeting (one meeting)			4	4				8	\$ 285
	Final geotechnical report	1	1	2	4		1	1	10	\$ 356
	Project and contract management			10					10	\$ 457
Total Hours		2	2	29	55	18	3	2	111	
Total Dollars (Direct Salary Cost)		\$144	\$96	\$1,324	\$1,401	\$565	\$66	\$42		\$ 3,639

LABORATORY TESTING ESTIMATE:

TEST	Est. No. Tests	Unit Test Cost	Total Cost
Grain Size Analysis	4	\$90	\$360
Moisture content	4	\$18	\$72
LABORATORY TOTAL:			\$432

ESTIMATED DIRECT EXPENSES:

Mileage @ .56/mile	\$150
Laboratory Testing	\$432
	\$582

LABOR EXPENSE:

Direct Salary	\$3,639
Overhead @ 175.00% of DSC	\$6,368.01
Fixed Fee @ 30% of DSC	\$1,091.66

TOTAL LABOR EXPENSE: \$11,099

PROJECT TOTALS AND SUMMARY:

Total Labor		\$11,099
Direct Expenses		\$582

ESTIMATED PROJECT TOTAL: \$11,681