

POSSIBLE MOTION

I MOVE TO approve Ordinance 2018-09 on
second and final reading.

Note: second reading of this ordinance was postponed at the April 24th meeting.



City and Borough of Sitka

100 Lincoln Street • Sitka, Alaska 99835

MEMORANDUM

To: Mayor Hunter and Assembly Members

From: Keith Brady, Municipal Administrator

Reviewed: Brian Hanson, Municipal Attorney *BCH*
Michael Harmon, Public Works Director *MH*

Date: 4/10/18

Subject: Landslide Study regarding Keet Gooshi Heen & Sitka High School

Executive Summary

Legal and Public Works have recommended a completion of our own debris flow hazard/risk study. This study, as presented in the attached proposal, will specifically focus on the facility locations of: water tank, Keet Gooshi Heen elementary school, CBS recreation fields, and Sitka High School.

First and foremost, we have a responsibility to ensure the safety of the children and staff at the schools, then to the facilities. By doing our own study we have the ability to manage the timeliness, quality, and accuracy of the findings. The findings will help us know if there are any significant risk/cost implications so we can then plan accordingly.

Protocol is being addressed for such weather events, of high wind and heavy rain, which could cause concern for parents and staff.

The August 2016 proposal from Shannon & Wilson, Inc from August 2016 consists of two phases. Phase 1: scope of work is included in the attachment. Phase 2: consists of services to design the protective measures to people and facilities. The scope and cost of Phase 2 will depend on the conclusions and decisions from Phase 1.

Recommendation

Approval of ordinance 2018-09 appropriating \$75,000 for the in-depth landslide study.

Fiscal Note

\$75,000 will come from the General Fund working capital.



ALASKA
CALIFORNIA
COLORADO
FLORIDA
MISSOURI
OREGON
WASHINGTON
WASHINGTON DC METRO
WISCONSIN

August 31, 2016

Mr. Dan Tadic, PE
City and Borough of Sitka
100 Lincoln Street
Sitka, AK 99835

**RE: PROPOSAL FOR DEBRIS FLOW HAZARD/RISK ANALYSIS
AND CONCEPTUAL DESIGN OF PROTECTIVE WORKS,
GAVAN HILL PUBLIC FACILITIES, SITKA, ALASKA**

Dear Mr. Tadic:

This proposal presents our scope of services and related cost estimate to perform a debris flow hazard and risk analysis, and develop conceptual designs of protective works for public facilities adjacent to Gavan Hill in Sitka, Alaska. The limits of the study area are from the City and Borough of Sitka (CBS) water tank east of Georgeson Loop southward to Sitka High School. This area includes the slope east of Keet Gooshi Heen elementary school, CBS recreation fields, and the Sitka High School.

As a follow-up to geotechnical studies on the South Kramer Avenue debris flow, and at the request of CBS, Shannon & Wilson, Inc. (Shannon & Wilson) recently completed a desktop assessment of the potential for a debris flow to impact Keet Gooshi Heen elementary. The assessment was performed using two geotechnical studies from the 1980s for the school and the adjacent landfill closure (now the recreation fields), and recent Light Detection and Ranging (LiDAR) images of the area. Shannon & Wilson concluded and orally reported to CBS that Keen Gooshi Heen elementary was likely at moderate risk for damage by a debris flow from a chute on Gavan Hill.

For this study, CBS requested that we evaluate all of the public facilities along the toe of Gavan Hill. These facilities include: water standpipe, Keet Gooshi Heen elementary school, CBS recreation fields, and Sitka High School. The purposes of our services would be to identify debris flow hazards on the Gavan Hill slopes, evaluate the risk to the facilities listed above, and provide concepts for protecting facilities, if necessary. These services would be accomplished in Phase 1. We understand that we would work closely and coordinate our work with you as the CBS supervisor.

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SEATTLE, WASHINGTON 98103-8636
206-632-8020 FAX: 206-695-6777
www.shannonwilson.com

21-2-62657-001

The bulk of our services will be performed by Chris Robertson, PE, and Bill Laprade. They would be assisted by other Shannon & Wilson professionals for debris flow and geographic information system analyses.

Phase 2 would consist of services to design the protective measures for the public facilities along the toe of Gavan Hill. The scope and cost of Phase 2 will depend on the conclusions of Phase 1 and the type(s) of protective works if required; therefore, we have not provided them in this proposal.

PROPOSED SCOPE OF SERVICES FOR PHASE 1

We propose to perform this Phase 1 scope of services in four stages.

1. Desktop Studies
 - Review existing topographic data and aerial photographs that may be available from CBS.
 - Review historical aerial photographs that may be helpful in mapping debris flow chutes.
 - Prepare hillshade and contour maps from new LiDAR data for preliminary analysis and for field use.
 - Review Gavan Hill geophysical information obtained by Alaska Division of Geological and Geophysical Surveys
2. Field Reconnaissance
 - Prepare for and travel for fieldwork.
 - Perform a field reconnaissance at Gavan Hill (assume four days for Chris Robertson and Bill Laprade).
 - Attend a meeting with CBS staff to report observations and preliminary results.
3. Analyses and Report
 - Debris flow analyses
 - Risk zonation
 - Conceptual protective works, options analysis, and costs
 - Draft Report
 - Final Report

4. CBS Presentation – Two-day visit to Sitka to make presentations of the report to CBS staff and Assembly (other groups, as required), and discuss Phase 2 preferences and services.

PLANNING-LEVEL OPINION OF PROBABLE CONSTRUCTION COST

Shannon & Wilson will develop a planning-level opinion of probable construction cost for debris flow mitigation alternatives, which will be based on approximate unit costs and be presented with the results of our geotechnical studies described previously. The purpose of providing a planning level of probable construction cost is for the CBS to use in deciding whether to design and construct one or more of the alternatives we develop in our study.

Our approach for estimating planning-level probable costs to construct the work will be based solely upon our experience with construction on similar projects, and contractor and supplier information. Our estimates of probable construction costs will include a number of assumptions as to actual conditions that will be encountered. These assumptions include decisions that other design professionals and government agency personnel may make during design and permitting, the means and methods of construction the Contractor will employ, the Contractor's techniques in determining price and market conditions at the time, and other factors over which we have no control. Given the assumptions that must be made, Shannon & Wilson cannot guarantee the accuracy of the estimate of probable construction costs.

Shannon & Wilson is not a construction cost estimator or construction contractor, nor should our rendering of an opinion of probable construction costs be considered equivalent to the nature and extent of services a construction cost estimator or contractor would provide.

SCHEDULE AND COST ESTIMATE

Based on our current schedule, we can start this project in early October. We understand that CBS's goal is to complete this assessment by the end of December. This goal will be met. We estimate that the above stages of the work will take the following approximate time periods, excluding review time by CBS:

- Desktop Studies – two weeks
- Field Reconnaissance – one week
- Analysis and Report – four weeks
- CBS Presentation – one week

Mr. Dan Tadic, PE
City and Borough of Sitka
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SHANNON & WILSON, INC.

We estimate the fee for our services presented above will be about \$73,000 (see enclosed fee estimate). We will not exceed with your written permission.

ADDITIONAL SERVICES

Our scope of service does not include the following:

- We assume you will secure permission for us to access the site for performing the reconnaissance.
- Any environmental assessment or evaluation regarding the presence or absence of threatened or endangered species or wetlands. We have environmental engineers and scientists who could assist you with these services if required.
- Final design recommendations for debris flow mitigation measures.
- Permitting activities.
- Civil engineering, including surveying, grading plans, utility relocations, paving, etc.

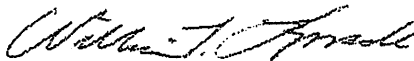
CLOSURE

We assume that you will issue a contract for our services. Please make this proposal part of that contract. Shannon & Wilson has prepared the enclosed, "Important Information About Your Geotechnical/Environmental Proposal," to assist you and other is in understanding the use and limitations of our proposals.

We appreciate the opportunity to assist you with this project. Please call me 206-695-6891 if you have any questions about this proposal or if we may be of further service to you.

Sincerely,

SHANNON & WILSON, INC.



William T. Laprade
Senior Vice President

WTL:CAR/wtl

Enc: Fee Estimate (2 pages)
Important Information About Your Geotechnical/Environmental Proposal

JOB COST ESTIMATE

				Proposal No.:	21-2-62657	
				Project:	Keet Gooshi-HS \$	
				Client:	City of Sitka	
				By:	WTL	8/30/2016
			Rate	Quantity	Subtotal	Subtotal
KEET GOOSHI HEEN-HIGH SCHOOL HAZARD ANALYSIS						
Desktop Studies						
	Principals	245	/hr	30	hr	\$7,350
	Sr. Geologist	145	/hr	10	hr	\$1,450
	GIS Analyst	110	/hr	20	hr	\$2,200
	WorD Processing	95	/hr	2	hr	\$190
	Reproduction	95	/hr	2	hr	\$190
Subtotal						\$11,380
Field Reconnaissance						
	Principals	245	/hr	90	hr	\$22,050
Reimbursables						
	Air Fare	800	ea	2	ea	\$1,600
	Hotel	185	/day	8	days	\$1,480
	Parking	30	/day	10	days	\$300
	Board	60	/day	9	days	\$540
Subtotal						\$25,970
Analysis						
	Principals	245	/hr	8	hr	\$1,960
	Sr. Geologist	145	/hr	24	hr	\$3,480
	GIS Analyst	110	/hr	20	hr	\$2,200
Subtotal						\$7,640
Draft Report						
	Principals	245	/hr	40	hr	\$9,800
	Sr. Geologist	145	/hr	10	hr	\$1,450
	GIS Analyst	110	/hr	10	hr	\$1,100
	CAD	100	/hr	4	hr	\$400
	Work Processing	95	/hr	2	hr	\$190
	Reproduction	95	/hr	2	hr	\$190
Subtotal						\$13,130
Final Report						
	Principal	245	/hr	8	hr	\$1,960
	Geologist	100	/hr	4	hr	\$400
	CAD	100	/hr	2	hr	\$200
	Work Processing	95	/hr	.1	hr	\$95
	Reproduction	95	/hr	2	hr	\$190
Subtotal						\$2,845
Sitka Meeting						
	Principals	245	/hr	40	hr	\$9,800

JOB COST ESTIMATE

				Proposal No.:	21-2-62657	
				Project:	Keet Gooshi-HS \$	
				Client:	City of Sitka	
				By:	WTL	8/30/2016
				Rate	Quantity	Subtotal
Reimbursables						
	Air Fare	800	ea	2	ea	\$1,600
	Hotel	185	/day	2	days	\$370
	Parking	30	/day	3	days	\$90
	Board	60	/day	3	days	\$180
Subtotal						\$12,040
TOTAL						\$73,005



SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Attachment to and part of Proposal 21-2-62657-001

Date: August 31, 2016
To: Mr. Dan Tadic, PE
City and Borough of Sitka

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL PROPOSAL

More construction problems are caused by site subsurface conditions than any other factor. The following suggestions and observations are offered to help you manage your risks.

HAVE REALISTIC EXPECTATIONS.

If you have never before dealt with geotechnical or environmental issues, you should recognize that site exploration identifies actual subsurface conditions at those points where samples are taken, at the time they are taken. The data derived are extrapolated by the consultant, who then applies judgment to render an opinion about overall subsurface conditions; their reaction to construction activity; appropriate design of foundations, slopes, impoundments, and recovery wells; and other construction and/or remediation elements. Even under optimal circumstances, actual conditions may differ from those inferred to exist, because no consultant, no matter how qualified, and no subsurface program, no matter how comprehensive, can reveal what is hidden by earth, rock, and time.

DEVELOP THE SUBSURFACE EXPLORATION PLAN WITH CARE.

The nature of subsurface explorations—the types, quantities, and locations of procedures used—in large measure determines the effectiveness of the geotechnical/environmental report and the design based upon it. The more comprehensive a subsurface exploration and testing program, the more information it provides to the consultant, helping to reduce the risk of unanticipated conditions and the attendant risk of costly delays and disputes. Even the cost of subsurface construction may be lowered.

Developing a proper subsurface exploration plan is a basic element of geotechnical/environmental design, which should be accomplished jointly by the consultant and the client (or designated professional representatives). This helps the parties involved recognize mutual concerns and makes the client aware of the technical options available. Clients who develop a subsurface exploration plan without the involvement and concurrence of a consultant may be required to assume responsibility and liability for the plan's adequacy.

READ GENERAL CONDITIONS CAREFULLY.

Most consultants include standard general contract conditions in their proposals. One of the general conditions most commonly employed is to limit the consulting firm's liability. Known as a "risk allocation" or "limitation of liability," this approach helps prevent problems at the beginning and establishes a fair and reasonable framework for handling them, should they arise.

Various other elements of general conditions delineate your consultant's responsibilities. These are used to help eliminate confusion and misunderstandings, thereby helping all parties recognize who is responsible for different tasks. In all cases, read your consultant's general conditions carefully and ask any questions you may have.

HAVE YOUR CONSULTANT WORK WITH OTHER DESIGN PROFESSIONALS.

Costly problems can occur when other design professionals develop their plans based on misinterpretations of a consultant's report. To help avoid misinterpretations, retain your consultant to work with other project design professionals who are affected by the geotechnical/environmental report. This allows a consultant to explain report implications to design professionals affected by them, and to review their plans and specifications so that issues can be dealt with adequately. Although some other design professionals may be familiar with geotechnical/environmental concerns, none knows as much about them as a competent consultant.

OBTAIN CONSTRUCTION MONITORING SERVICES.

Most experienced clients also retain their consultant to serve during the construction phase of their projects. Involvement during the construction phase is particularly important because this permits the consultant to be on hand quickly to evaluate unanticipated conditions, to conduct additional tests if required, and when necessary, to recommend alternative solutions to problems. The consultant can also monitor the geotechnical/environmental work performed by contractors. It is essential to recognize that the construction recommendations included in a report are preliminary, because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site.

Because actual subsurface conditions can be discerned only during earthwork and/or drilling, design consultants need to observe those conditions in order to provide their recommendations. Only the consultant who prepares the report is fully familiar with the background information needed to determine whether or not the report's recommendations are valid. The consultant submitting the report cannot assume responsibility or liability for the adequacy of preliminary recommendations if another party is retained to observe construction.

REALIZE THAT ENVIRONMENTAL ISSUES MAY NOT HAVE BEEN ADDRESSED.

If you have requested only a geotechnical engineering proposal, it will not include services needed to evaluate the likelihood of contamination by hazardous materials or other pollutants. Given the liabilities involved, it is prudent practice to always have a site reviewed from an environmental viewpoint. A consultant cannot be responsible for failing to detect contaminants when the services needed to perform that function are not being provided.

ONE OF THE OBLIGATIONS OF YOUR CONSULTANT IS TO PROTECT THE SAFETY, PROPERTY, AND WELFARE OF THE PUBLIC.

A geotechnical/environmental investigation will sometimes disclose the existence of conditions that may endanger the safety, health, property, or welfare of the public. Your consultant may be obligated under rules of professional conduct, or statutory or common law, to notify you and others of these conditions.

RELY ON YOUR CONSULTANT FOR ADDITIONAL ASSISTANCE.

Your consulting firm is familiar with several techniques and approaches that can be used to help reduce risk exposure for all parties to a construction project, from design through construction. Ask your consultant, not only about geotechnical and environmental issues, but others as well, to learn about approaches that may be of genuine benefit.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland