SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

June 11, 2023

Mr. Brad Ryan
Municipality of Skagway
PO Box 415
700 Spring Street
Skagway, Alaska 99840

RE: PROPOSAL FOR 100% DESIGN SERVICES, ROCK SLOPE MITIGATION, RAILROAD DOCK LANDSLIDE, SKAGWAY, ALASKA

Dear Mr. Ryan:

We are pleased to submit herein our proposal and estimated costs for providing design services for the above referenced project. Shannon & Wilson has provided slope assessment services and overseen the installation of short term rockfall protection measures on the south chute of the main slide feature on the north end of the White Pass & Yukon Route Railway (WPYR) Dock in Skagway, Alaska. We have also updated instrumentation for monitoring movement of the unstable rock mass at the top of the slope feature and are currently providing instrumentation monitoring services during the summer tourism season. The measures being taken to date have been sufficient to allow for full operation of the WPYR Dock during the 2023 season, however additional work needs to be conducted to provide a permanent solution for mitigating the long term, large failure hazard that still exists above the dock. You have indicated that we provide a design scope and fee estimate to excavate the unstable slide mass and stabilize the remaining backslope above the WPYR Dock.

SCOPE OF SERVICES

In general, our scope of work includes design of full excavation and backslope stabilization of the main slide feature above the north end of the WPYR Dock. The scope of work included herein is based on the work S&W has conducted to date as well as observations made before and during rock short term rockfall hazard mitigation activities undertaken in the winter season of 2022/2023. We understand that the current method of funding for design and construction has yet to be determined but that options including private,

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Municipal, State, and Federal (or a combination of these sources) are all being considered. Several overarching assumptions have been made in the development of this proposal:

- If Federal funding is pursued/obtained, the construction will fall under a Categorical Exclusion in the permitting process.
- All work will take place on MOS property.
- The construction work will take place over multiple seasons and a staged design will be required.
- All access to the site will be gained through existing trails (with no improvements to the trails to be made) and equipment will be mobilized to the top of the slope using helicopter support.
- All excavation material will be sent down the slope and no debris disposal will be conducted in the upland areas above the slope.
- Submarine slope stability at the toe of the slope will not need to be addressed due to incremental excavation and debris removal during construction.
- Debris removal will be included in our design, but the debris disposal area and design will be determined by others.
- Alterations to the WPYR dock that are determined to be needed (e.g. removal/replacement of deck panels, repairs to the dock structure, etc. will be performed by others.

DESIGN SERVICES

The design effort for this task will be led by Shannon & Wilson with support from HDR. To date, the S&W/HDR team has completed 10% plans and an engineer's cost estimate for the slope mitigation plan. The design will advance this design to a Pre-PS&E Review Document phase (estimated 65% design level) and then preparation of Final PS&E Documents (100% design level) with follow-on support for RFP development and assistance during bidding. The list of design deliverables and descriptions are provided on the attached HDR scope narrative. The effort and progression of the design process is outlined on the attached summary cost estimate and scope narrative by HDR. The majority of the work will be conducted by S&W and HDR and we have included minor support from Lounsbury &

Associates for desktop surveyor support if needed. The generalized roles and responsibilities for S&W and HDR are described below:

Shannon & Wilson:

- Overall project management and coordination between subcontractors and the MOS.
- Engineer in Responsible Charge.
- Geotechnical and slope stability analysis.
- Development of design recommendations for rock and waste rock excavations, slope stabilization, rockfall mitigation repairs and improvements, catchment requirements, instrumentation repairs/mitigation, construction sequencing, and other technical aspects of the design.
- Assisting with development of design plans, specifications, and engineer's estimate.
- Assisting with development of completion documents.
- Conducting permitting activities for construction.
- Assisting HDR with construction RFP development and other bidding assistance services.

HDR:

- Leading the development of plans, specifications, and engineer's estimate.
- Development of the erosion & Sediment Control Plan (ESCP).
- Leading the RFP development and assistance during bidding efforts.

While this project is a relatively straight forward earthwork project, there are many factors that complicate the design process. We anticipate that a significant amount of effort will be needed during the design process to evaluate impacts to current rockfall mitigation and instrumentation features and plan for how those features will be maintained during and after the various construction steps. We will also need to consider impacts to facilities at the base of the slope and develop plans to reduce damages to these facilities in the design process. This effort will require a significant amount of coordination between the design

team, the MOS, the WPYR, and other stakeholders that could be effected. Further design consideration will be needed to develop a staged approach that will draw the project out over more than one winter construction season.

The design development activities are described in the scope narrative developed by HDR. We envision that the geotechnical services to be rendered during design will include a range of activities to including on-site and desktop analysis. We plan to conduct a site visit to complement observations made during our 2022 summer season surface reconnaissance. The site visit is needed to observe conditions that have been uncovered by natural slides and significant scaling that has occurred since our prior reconnaissance which was limited in the main slide area due to concerns of worker safety. The fieldwork will include detailed rock structure observations in slide path areas that were not safe to access in the 2022 summer season and confirm our assumptions of unstable rock mass geometry and kinematic assessment of the upper slope area.

Geotechnical analysis will be conducted to evaluate slope stability for the final and intermediate slope conditions, develop design criteria for stabilization, and evaluate rockfall conditions and mitigation needs for the final configuration and intermediate construction steps. It is important to note that our analysis and evaluation will include a wider area than just the south chute of the main slide as slope geometry will change significantly during construction and we will need to evaluate the entire width of the slope between the south and north chutes of the main slide.

Our effort will also include an evaluation of the existing instrumentation and how construction efforts will impact the system. We envision that a plan/design for adjustments to the instrumentation system layout will need to be part of the design to ensure that the instrumentation system continues monitoring the slope to the greatest extent practicable.

PERMITTING

This environmental permitting scope of services is based on our understanding that the landslide repair approach will consist of loosening material through mechanical, blasting, or manual methods, allowing the material to fall to the toe of the slide where it will be captured to the extent possible. Construction is expected to occur over three summer seasons. We understand that improvements to the existing rock capture system will likely be required, that a large quantity of rock material will fall into the Taiya Inlet, and that it will not be removed.

Our environmental permitting scope of services for this project will consist of performing the following tasks:

Site Visit

We understand that the slide area, including the headscarp, has changed significantly since our visit in October 2022. Therefore, we will complete an site visit during the 2023 summer season to document the existing conditions at the base of the slope at the Taiya Inlet (location of rockfall), area of rock catchment system improvements, and the area of slope reshaping disturbance at the landslide headscarp. The collected information is necessary to accurately describe the existing habitat and perform the impacts analysis in the Biological Assessment and to complete permit applications, as described below. Our site visit scope will consist of the following:

- Document vegetation communities, fish and wildlife habitat condition, and dominant plant species within 100 feet of the headscarp disturbance area, the rockfall area, and the rock catchment system improvement area.

Clean Water Act Section 404 and Section 10 Permits

The quantity of rockfall debris that will fall into the Taiya Inlet would require Corps Clean Water Act (CWA) Section 404 and Section 10 permits. We will prepare the *Application for Department of the Army Permit* form and associated Corps-required drawings in application for the Corps permits. The Section 404 Individual Permit requires a 30-day public comment period. If comments are received, the Corps will look to the Municipality to provide responses. We don't anticipate extensive public comments and have included up to 8 hours of time to assist the Municipality in providing responses to public comments.

Assumptions:

- Response to public comments is limited to a maximum of 8 hours.

Deliverables:

- Draft application
- Final application
- Response to public comments (email potential text to Municipality for inclusion in formal letter on Municipality's letterhead)

Biological Assessment

A Biological Assessment (BA) is required to evaluate potential impacts to listed species under the federal Endangered Species Act (ESA) and essential fish habitat (EFH) protected under the Magnuson-Stevens Fishery Conservation and Management Act. Based on our current understanding of project elements, we believe that the project will support a "May Affect, Not Likely to Adversely Affect" and/or "No Effect" determinations for currently listed species and EFH and will avoid formal consultation with the Services (U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration's National Marine Fisheries Service). If it is determined that the proposed project may adversely affect ESA-listed species or EFH or a new species is listed which changes our anticipated effects determination for the project, we will need to amend our scope of services and cost estimate.

Assumptions:

- Project impacts will result in "May Affect, Not Likely to Adversely Affect" and/or "No Effect" determinations for EFH and federally listed species as of June 2023.

Deliverables:

- Draft Biological Assessment
- Final Biological Assessment

Alternatives Analysis

As part of the Corps Section 404 Individual Permit process, S&W will prepare an alternatives analysis that describes the pros and cons of the considered alternatives. The analysis will develop an argument that supports the Corps' Least Environmentally Damaging Practicable Alternative (LEDPA) determination that is required for the Individual Permit. Typically, the Corps writes the LEDPA using the applicant's alternatives analysis.

Assumption:

- The design team will provide necessary details of the alternatives to support development of the analysis.

Deliverables:

- Draft Alternatives Analysis
- Final Alternatives Analysis

CWA Section 401 Water Quality Certification

The project will also require a CWA Section 401 Individual Water Quality Certification from the Alaska Department of Environmental Conservation (ADEC), which also includes a 30-day public review period. We will complete the CWA 401 Prefiling Meeting Request form and the CWA 401 Certification Request for submittal to ADEC through ADEC's Environmental Data Monitoring System (EDMS). The Individual 401 process occurs concurrently with the Corps permit process and ADEC requires submittal of the Corps permit application and associated drawings. If comments are received following the public comment period, ADEC will look to the Municipality to provide responses. We have included up to 8 hours of time to assist the Municipality in providing responses to public comments.

Assumption:

- Response to public comments is limited to a maximum of 8 hours.
- A Water Quality Monitoring and Protection Plan or similar documentation will not be required.

Deliverables:

- CWA 401 Prefiling Meeting Request form
- CWA 401 Certification Request
- Response to public comments (email potential text to City for inclusion in formal letter on Municipality's letterhead)

No-Rise Analysis

The portion of the Taiya Inlet near the project (and proposed rockfall placement) is mapped as Zone A6 on FEMA flood map panel 025011 H-1. This indicates that there are existing FEMA "Effective" hydrologic and hydraulic models for the area, likely completed in March 1977. Upon inspection of the mapping, it appears likely that the area of proposed rock fill is in a backwater zone of the Skagway River and is suspected to be within ineffective flow areas. If this is the case, the project will result in a No-Rise condition. Shannon & Wilson will obtain the Effective model, update it to current modeling software, and perform the No-Rise analysis to FEMA MT-2 standards.

Assumptions:

- LiDAR and/or topographic survey are available for the project area.

- The Effective FEMA model will be made available by the State or the National FEMA Library

Deliverables:

- No-Rise certification report stamped by AK Professional Engineer
- Zipped modeling files.

Alaska Pollutant Discharge Elimination System, Construction General Permit

If the project's earth disturbance footprint is greater than 1 acre, an Alaska Pollutant Discharge Elimination System Construction General Permit will be required. The permit is administered by ADEC and requires the preparation of a project-specific Stormwater Pollution and Prevention Plan (SWPPP) and the preparation and submittal of the Notice of Intent.

Assumptions:

- Application to ADEC for the APDES and NOI will be made through the ADEC's e-NOI system within ADEC's EDMS. The e-NOI system will satisfy the public notice requirement for the APDES.

Deliverables:

- Draft SWPPP
- Final SWPPP
- Notice of Intent

Municipality of Skagway

We understand that the existing rock catchment system will be improved and/or expanded and that the rock catchment system meets the definition of "structure" in Skagway Municipal Code (Title 19.02.060). Accordingly, improvements or expansion of the existing structure will require an Industrial Zoning District Development Permit Application/Building Permit. We will prepare a building permit application for submittal. The design team's drawings of the proposed improvement are an integral part of this submittal.

Deliverables:

- Skagway Industrial Zoning District Development Permit Application

NEPA Support

We understand that the Municipality may pursue federal funding for the project. If federal funding is obtained, the funding agency would likely assume the role of Lead Federal Agency (LFA) in the project's NEPA process. Based on our current understanding of anticipated project scope and impacts, we assume that the project could demonstrate no individual or cumulative significant effect on the environment. We therefore assume that NEPA review could be completed through a Categorical Exclusion (CE) class of action. Once the LFA is determined, project CE applicability would be confirmed through coordination with the LFA. Because the LFA and LFA-specific documentation is unknown, the effort shown in the cost is an estimate and may need to be revisited after the NEPA LFA and class of action is determined.

Assumptions:

- Project will be processed through a CE class of action.
- Information needed to demonstrate CE applicability will be limited to documents and analyses already prepared for the project by us or others. No new documentation or analyses will need to be generated for NEPA compliance.
- Assessment of NEPA disciplines not included in our scope of services (traffic, noise, environmental justice, etc.) will not be required. Scope and costs will be amended to include these analyses as needed.

Deliverables:

- Draft CE Documentation Letter (to be replaced by LFA-specific form if applicable)
- Final CE Documentation Letter (to be replaced by LFA-specific form if applicable)

Permitting Meetings and Team Coordination

We have included time to attend up to three virtual permitting agency meetings, two virtual meetings with the City, and up to 40 hours of Associate time to assist with internal team coordination. Each meeting is allotted three hours of Associate time (one hour for preparation, one hour for attendance, and one hour for follow up) and 1 hour of PIC effort.

General Permitting Assumptions

- Site access will not require disturbance (earth work, trail widening, vegetation removal, etc.) along the Dewey Lake trail system.
- Wetland impacts will not occur.
- Mitigation will not be required.
- The National Historic Preservation Act Section 106/ cultural resources assessment will be performed by others.
- Alaska Department of Fish and Game (ADFG) will not take jurisdiction over the project impacts and no ADFG permit or approval is needed.
- Regarding Alaska Department of Natural Resources (ADNR) jurisdiction, the entirety of the project area is located on land and aquatic area identified as 'Municipal Entitlement' or 'Land Disposal - Conveyed' and are therefore under Municipality jurisdiction. No permit, material sale, or easement from ADNR will be required. The Municipality will complete project review and approval using documents prepared for other permit applications and will not require additional forms or documents.
- All deliverables will be provided electronically.

ASSISTANCE DURING BIDDING

At the time of this proposal, the procurement method is not known, but we understand that conventional design-bid-build (DBB) or some form of alternative delivery such as construction manager general contractor (CMGC) may be selected for this project. The RFP development process has been included in this proposal and is being led by HDR with assistance from S&W and we have included enough effort to handle a variety of RFP development types. While HDR's estimate includes this effort, it should be noted that selecting an alternate delivery approach, may have impacts beyond HDR's scope of services depending on the nature of that alternate delivery approach selected. We will work with the MOS through this process and inform you immediately if expansion of our effort is needed to accommodate the selected procurement approach.

ESTMATED COSTS AND CONDITIONS FOR SERVICES

Estimated costs for the work outlined above are included on the attached *Summary Cost Estimate.* We assume that this work will be conducted on a time and materials basis in accordance with a mutually agreed-upon contract for professional services. We will not

exceed the maximum quoted value in our estimate without your prior approval. We assume that if changes to our approach are experienced, we will be able to work with you to negotiate the appropriate changes to our scope of work and fees. We will keep you appraised of our progress and inform you immediately if such changes are needed. We have attached *Important Information About Your Geotechnical Proposal* and *Important Information About Your Environmental Permitting and Documentation Proposal* to help you understand the nature and limitations of our services.

Should you have questions or comments or wish to revise the scope of our services, please call the undersigned. We look forward to working with you on this project and appreciate the opportunity to be of service to you.

Sincerely,

SHANNON & WILSON

Kyle Brennan, PE

Digitally signed by Kyle Brennan, PE
Date: 2023.06.11 18:55:08 -08'00'

Kyle Brennan, PE
Vice President

Enc. Summary Cost Estimate (3 Sheets)
HDR Scope Narrative and Fee
Important Information About Your Geotechnical/Environmental Proposal
Important Information About Your Environmental Permitting and Documentation Proposal

SUMMARY COST ESTIMATE

DESIGN SERVICES							
1. Updated Cost Estimate							**$33,929**
S&W Assistance						$5,640	
Vice President (Kyle)	2	hrs. x	$240	/hr.	= $480		
Associate (Rex)	20	hrs. x	$190	/hr.	= $3,800		
Professional IV	6	hrs. x	$120	/hr.	= $720		
Instrumentation Specialist (Kevin)	4	hrs. x	$160	/hr.	= $640		
HDR - Updated Cost Estimate						$28,289	
2. 65% Design Serivces							**$286,896**
S&W Site Reconnaissance						$35,410	
Vice President (Kyle)	36	hrs. x	$240	/hr.	= $8,640		
Associate (Rex)	60	hrs. x	$190	/hr.	= $11,400		
Sr. Professional III (Erik)	60	hrs. x	$178	/hr.	= $10,680		
Airfare (for S&W personnel)	2	x	$1,000	each	= $2,000		
Lodging (total nights in Skagway for S&W)	10	nights x	$200	/night	= $2,000		
Perdiem (for S&W crew including travel days)	10	days x	$69	/day	= $690		
S&W Geotechnical Analysis/Design						$65,800	
Vice President (Kyle)	40	hrs. x	$240	/hr.	= $9,600		
Associate (Rex)	140	hrs. x	$190	/hr.	= $26,600		
Professional IV	220	hrs. x	$120	/hr.	= $26,400		
Instrumentation Specialist (Kevin)	20	hrs. x	$160	/hr.	= $3,200		
S&W Assistance with PS&E/SPPC Development						$45,200	
Vice President (Kyle)	40	hrs. x	$240	/hr.	= $9,600		
Associate (Rex)	120	hrs. x	$190	/hr.	= $22,800		
Professional IV	80	hrs. x	$120	/hr.	= $9,600		
Instrumentation Specialist (Kevin)	20	hrs. x	$160	/hr.	= $3,200		
HDR - PS&E and SPCC						$126,736	
Lounsbury & Associates						$13,750	
3. 100% Design Serivces							**$250,269**
S&W Geotechnical Analysis						$51,000	
Vice President (Kyle)	40	hrs. x	$240	/hr.	= $9,600		
Associate (Rex)	100	hrs. x	$190	/hr.	= $19,000		
Professional IV	160	hrs. x	$120	/hr.	= $19,200		
Instrumentation Specialist (Kevin)	20	hrs. x	$160	/hr.	= $3,200		
S&W Assistance with PS&E/SPPC Development						$51,400	
Vice President (Kyle)	40	hrs. x	$240	/hr.	= $9,600		
Associate (Rex)	140	hrs. x	$190	/hr.	= $26,600		
Professional IV	100	hrs. x	$120	/hr.	= $12,000		
Instrumentation Specialist (Kevin)	20	hrs. x	$160	/hr.	= $3,200		
HDR - PS&E and SPCC						$134,119	
Lounsbury & Associates						$13,750	
4. Completion Documentation							**$19,966**
S&W Assistance						$13,000	
Vice President (Kyle)	20	hrs. x	$240	/hr.	= $4,800		
Associate (Rex)	20	hrs. x	$190	/hr.	= $3,800		
Professional IV	10	hrs. x	$120	/hr.	= $1,200		
Instrumentation Specialist (Kevin)	20	hrs. x	$160	/hr.	= $3,200		
HDR - PS&E and SPCC						$6,966	
5. Assistance During Bidding							**$273,518**
S&W Support						$41,400	
Vice President (Kyle)	60	hrs. x	$240	/hr.	= $14,400		
Associate (Rex)	100	hrs. x	$190	/hr.	= $19,000		
Professional IV	40	hrs. x	$120	/hr.	= $4,800		
Instrumentation Specialist (Kevin)	20	hrs. x	$160	/hr.	= $3,200		
HDR - PS&E and SPCC						$232,118	
6. Onsite Meetings/Site Visits							**$66,078**
S&W Site Visits (Assume 3 Meetings/Site Visits Total)						$61,221	
Vice President (Kyle)	90	hrs. x	$240	/hr.	= $21,600		
Associate (Rex)	180	hrs. x	$190	/hr.	= $34,200		
Airfare (for S&W personnel)	3	x	$1,000	each	= $3,000		
Lodging (total nights in Skagway for S&W)	9	nights x	$200	/night	= $1,800		
Perdiem (for S&W crew including travel days)	9	days x	$69	/day	= $621		
HDR - Expenses Only (labor included in other tasks)						$4,857	
7. Project Management/Meetings							**$123,533**
S&W Project Management						$74,000	
Vice President (Kyle)	180	hrs. x	$240	/hr.	= $43,200		
Associate (Rex)	120	hrs. x	$190	/hr.	= $22,800		
Professional IV	40	hrs. x	$120	/hr.	= $4,800		
Instrumentation Specialist (Kevin)	20	hrs. x	$160	/hr.	= $3,200		
HDR - Project Management						$49,533	
						Design Total =	**$1,054,188**

SUMMARY COST ESTIMATE

PERMITTING SERVICES

8a. Site Visit							**$15,049**
Site Visit (two partial travel/fieldwork days and one full field day)						$15,049	
Associate (Sarah) - three days	36	hrs. x	$190	/hr.	=	$6,840	
Senior Pro I - three days	36	hrs. x	$135	/hr.	=	$4,860	
Airfare (includes checked bags)	2	x	$1,000	each	=	$2,000	
Lodging (2 nights per person, for total of 4 nights)	4	nights x	$218	/night	=	$872	
Parking near SeaTac Airport	3	days x	$21	/day	=	$63	
Per diem (2 people for 3 days, for a total 6 per diem days)	6	days x	$69	/day	=	$414	
8b. CWA Corps Section 404 and Section 10 Permits							**$25,890**
Permit Applications						$3,520	
Vice President (Katie)	2	hrs. x	$240	/hr.	=	$480	
Associate (Sarah)	16	hrs. x	$190	/hr.	=	$3,040	
Permit Drawing Set						$17,660	
Associate (Sarah)	14	hrs. x	$190	/hr.	=	$2,660	
GIS Specialist/Drafting	100	hrs. x	$150	/hr.	=	$15,000	
Impact Quantity Calculations						$3,140	
Vice President (Kyle)	2	hrs. x	$240	/hr.	=	$480	
Associate (Sarah)	2	hrs. x	$190	/hr.	=	$380	
Associate (Rex)	12	hrs. x	$190	/hr.	=	$2,280	
Public Comment Response Support						$1,570	
Vice President (Katie)	1	hrs. x	$240	/hr.	=	$240	
Associate (Sarah)	7	hrs. x	$190	/hr.	=	$1,330	
8c. Biological Assessment							**$15,465**
Draft Biological Assessment						$12,630	
Vice President (Katie)	4	hrs. x	$240	/hr.	=	$960	
Associate (Sarah/Amy)	24	hrs. x	$190	/hr.	=	$4,560	
Senior Pro I	40	hrs. x	$135	/hr.	=	$5,400	
GIS Specialist/Drafting	10	hrs. x	$150	/hr.	=	$1,500	
Admin Support	2	hrs. x	$105	/hr.	=	$210	
Final Biological Assessment						$2,835	
Vice President (Katie)	2	hrs. x	$240	/hr.	=	$480	
Associate (Sarah/Amy)	6	hrs. x	$190	/hr.	=	$1,140	
Senior Pro I	6	hrs. x	$135	/hr.	=	$810	
GIS Specialist/Drafting	2	hrs. x	$150	/hr.	=	$300	
Admin Support	1	hrs. x	$105	/hr.	=	$105	
8d. Alternatives Analysis							**$11,835**
Draft Alternatives Analysis						$9,730	
Vice President (Kyle)	8	hrs. x	$240	/hr.	=	$1,920	
Associate (Rex with Sarah support)	40	hrs. x	$190	/hr.	=	$7,600	
Admin Support	2	hrs. x	$105	/hr.	=	$210	
Final Alternatives Analysis						$2,105	
Vice President (Kyle)	2	hrs. x	$240	/hr.	=	$480	
Associate (Rex)	8	hrs. x	$190	/hr.	=	$1,520	
Admin Support	1	hrs. x	$105	/hr.	=	$105	
8e. Clean Water Act ADEC Section 401 Water Quality Certification							**$4,172**
Applications (Prefiling and Certification forms)						$2,602	
Vice President (Katie)	1	hrs. x	$240	/hr.	=	$240	
Associate (Sarah)	8	hrs. x	$190	/hr.	=	$1,520	
ADEC Permit Fee	1	x	$842	each	=	$842	
Public Comment Response Support						$1,570	
Vice President (Katie)	1	hrs. x	$240	/hr.	=	$240	
Associate (Sarah)	7	hrs. x	$190	/hr.	=	$1,330	
8f. FEMA No-Rise Analysis							**$15,080**
Senior Associate (Gus)	2	hrs. x	$200	/hr.	=	$400	
Senior Professional III (Chris Helland equivalent)	60	hrs. x	$178	/hr.	=	$10,680	
Professional II (Matt Phillips or other)	40	hrs. x	$100	/hr.	=	$4,000	
8g. AK Pollutant Discharge Elimination System, Construction General Permit							**$9,908**
Draft Stormwater Pollution Prevention Plan						$6,870	
Vice President (Katie)	2	hrs. x	$240	/hr.	=	$480	
Associate (Sarah)	6	hrs. x	$190	/hr.	=	$1,140	
Senior Professional I	24	hrs. x	$135	/hr.	=	$3,240	
GIS Specialist/Drafting TESC Sheets	12	hrs. x	$150	/hr.	=	$1,800	
Admin Support	2	hrs. x	$105	/hr.	=	$210	
Final Stormwater Pollution Prevention Plan						$1,860	
Vice President (Katie)	1	hrs. x	$235	/hr.	=	$235	
Associate (Sarah)	2	hrs. x	$190	/hr.	=	$380	
Senior Professional I	4	hrs. x	$135	/hr.	=	$540	
GIS Specialist/Drafting TESC Sheets	4	hrs. x	$150	/hr.	=	$600	
Admin Support	1	hrs. x	$105	/hr.	=	$105	
Notice of Intent						$1,178	
Senior Professional I	4	hrs. x	$135	/hr.	=	$540	
ADEC Permit Fee	1	x	$638	each	=	$638	
8h. Municipality of Skagway							**$1,380**
Vice President (Katie)	1	hrs. x	$240	/hr.	=	$240	
Associate (Sarah)	6	hrs. x	$190	/hr.	=	$1,140	
8i. NEPA Support							**$10,635**
Draft CE Documentation Letter/LFA Form						$8,770	
Vice President (Katie)	4	hrs. x	$240	/hr.	=	$960	
Associate (Sarah/Amy)	40	hrs. x	$190	/hr.	=	$7,600	
Admin Support	2	hrs. x	$105	/hr.	=	$210	
Final CE Documentation Letter/LFA Form						$1,865	
Vice President (Katie)	1	hrs. x	$240	/hr.	=	$240	
Associate (Sarah/Amy)	8	hrs. x	$190	/hr.	=	$1,520	
Admin Support	1	hrs. x	$105	/hr.	=	$105	
8j. Permitting Meetings and Team Coordination							**$11,650**
Draft CE Documentation Letter/LFA Form						$11,650	
Vice President (Katie)	5	hrs. x	$240	/hr.	=	$1,200	
Associate (Sarah/Amy)	55	hrs. x	$190	/hr.	=	$10,450	

Permitting Total = $121,064

Design and Permitting Total = $1,175,251

SUMMARY COST ESTIMATE

Assumptions:

1. Effort is based on our understanding of the project and site conditions
2. We assume that adustments (including increases or decreases) to approach and level of effort will be negotiated as appropriate as the project evolves.
3. With the exception of the field activities and onsite meetings, all meetings and coorespondance will be conducted remotely via email, telephone, teleconference, and/or web meetings.
4. Labor rates are based on 2023 standard general hourly rates. We assume escalation rates will be negotiated for labor to occure beyond 2023.
5. If disruptions to commercial air or ferry service prevent our field crew from demobilizing from Skagway after field activities, we will bill at the unit rates included above.
6. Field activities will take place during the summer months when snow cover or frozen ground conditions do not exist at the site.
7. Billing will occure monthly on a time and expense basis. We will notify you immediately if we encounter issues or other circumstances that would require an adjustment to our scope.
8. Work will be performed under a mutually agreed upon contract for professional services.
9. Because the NEPA Lead Federal Agency (LFA) and LFA-specific documentation is unknown, Task 8i effort is an estimate and may need to be revisited after the NEPA LFA and class of action is determined.

September 28, 2022

Shannon and Wilson
5430 Fairbanks St # 3
Anchorage, AK
99518

Attn: Kyle Brennan

RE: Rock Knoll Removal

We are pleased to submit our scope of services and associated fee estimate to assist the City of Skagway and Shannon & Wilson (S&W) with development of a plan set to address removal of the rock knoll above the City's docks.

Scope of Services

The purpose of this project is to stabilize the slopes above the City's docks, including removal of a rock knoll. Past slope failures have temporarily closed the docks, but the potential for a major slide has reportedly affected the cruise ship dockings. The City is expediting the project to enable reopening the docks, and S&W is developing the design to develop a stable slope above the City's docks and remove the rock knoll. HDR will serve as a subconsultant to S&W, preparing plans, specifications, and cost estimates for the S&W-developed designs. We anticipate approximately 20 sheets for the design effort focused on the removing the rock knoll. If a separate design is needed for development of access roads, that can be added by amendment.

The scope of services will advance the project design from concept to 100% completion, produce a bid ready package, and to assist the City during the bidding process.

HDR's proposed schedule will initially focus on a 10% design deliverable to allow the City to move forward with funding requests. As the project elements and scope are finalized, HDR will prepare two submittals for review, one at approximately 65% complete, and one at 100%. HDR will also assist in plan development for Shannon & Wilson for additional limited requests associated with interim design concepts. We anticipate this being limited design reviews (up to 8 hours) and limited plan development (less than 5 sheets). Hours for this effort are included in the overall 65 and 100% plan deliverables specified above.

Administrative Requirements

Project Staff. All services must be performed by or under the direct supervision of the following individuals. Only prior written approval from the City shall accomplish replacement of, or addition to, the Project Staff named below:

Name	Project Responsibilities
Matt Stone, P.E.	Contract Manager
Chris Hughes, P.E.	Project Manager
Greg Hartman, P.E.	Lead Civil Engineer
John Burd, P.E.	Lead Modeler
Kristen Keifer, P.E.	Quality Control Manager

Professional Registration. *Where applicable*, all reports, plans, specification, estimates and similar work products provided by HDR shall be prepared by or under the supervision of the Registered Engineer, Architect or Land Surveyor in responsible charge for the services. These Engineers, Architects, or Land Surveyors shall be currently registered in the State of Alaska and they shall sign and seal as to the accuracy of each final work product for which they are responsible.

Standards, Guidelines, References, and Software. HDR shall use the most current editions of any publications of standards, guidelines, or references that have been adopted by the City at the time that design services begin. Design guidelines and standards include, but are not limited to: Alaska DOT&PF Preconstruction Manual, Alaska Traffic Manual, Standard Drawings Manual, Highway Drainage Manual, Alaska Sign Design Specifications, Manual of Uniform Traffic Control Device, Guide for Flexible Pavement Design and Evaluation, Standard Specifications, and the American Association of State Highway and Transportation Officials (AASHTO) Standards.

The most current version of AutoCAD and AutoCAD Civil 3D (C3D) shall be used for all linework and modeling.

HDR shall develop the estimate for this project using DOT&PF pay items and historical bid information.

Submittal Requirements. Deliverables shall be submitted in pdf format. Hard copies shall be submitted for everything requiring an original seal.

Project Tasks:

Task 1: Preliminary Engineering

HDR shall prepare plans to approximately 10% complete to facilitate an over-the-shoulder review by S&W and the City. HDR shall develop plans and preliminary cost estimates so that a decision can be made on the path forward to a Pre-PS&E deliverable.

Survey data will be provided by Lounsbury. It is understood that Lounsbury has recently collected LIDAR data to support this project, and it is assumed that Lounsbury will provide the project's survey control sheets for inclusion in the design package.

The 10% design will include:

- 10% Plans
  - Preliminary project layout plan
  - Preliminary typical sections based on S&W geotechnical input
  - Preliminary plan sheets
  - Preliminary miscellaneous details and standard drawings
- Preliminary engineer's estimate (EE)
  - Quantities
  - Unit costs

The 10% design will exclude:

- ESCP
- Specifications
- On Plan Sheets:
  - Point tables
  - Point callouts

- Reference bubbles
- Grading, elevations, contours
- Profiles

We anticipate that the 10% Over-The-Shoulder Review Meeting will be approximately two weeks or less after the deliverable date. HDR will conduct a virtual meeting to discuss the project and alternatives, so the City can make a decision on how to proceed to the Pre-PS&E submittal.

DELIVERABLES

- 10% Plans (limited detail), Estimate

Tasks 2 and 3: Plans, Specifications, And Estimate Submittals

HDR shall submit to the City the preliminary Plans, Specifications, and Estimate (PS&E) documents discussed below. All assemblies shall include the submittal of plans, specifications, and an estimate. The City shall be allowed seven (7) calendar days for the return of written comments for the Pre-PS&E review assembly. HDR shall address these comments to the satisfaction of the City prior to the following submittal.

GENERAL

HDR shall provide two assemblies of the Plans, Specifications, and Estimate (PS&E) package suitable for bidding and construction of the proposed slope stabilization design. Each PS&E assembly shall present the S&W-developed design which best accommodates project needs within safety and budget constraints. The assemblies correlate to the 65% and 100% level of design.

The design phase will be complete when the City accepts the Final PS&E assembly.

PLANS

The Plan set and the individual drawings therein shall be produced according to the DOT&PF's standard format, if that is acceptable to the City. All dimensions shall be shown in U.S. Customary (SI) units. The detailed drawings contained in the latest version of the DOT&PF Standard Drawings Manual shall also be used, where applicable.

Each design plan sheet shall have a title block and shall be sealed by a Professional Engineer of the required discipline or a Land Surveyor, as appropriate, currently registered in the State of Alaska who is responsible for the work. All seals shall remain unsigned until the Final PS&E assembly submittal when all seals shall be signed and dated. Sheets shall remain undated (except for seals) upon submission of final plans. All initials shall be handwritten on the original final plan sheets.

The construction plan set shall be numbered sequentially and shall be assembled, as they are required, in the following order. (Some of these may require multiple sheets.):

1. Cover (location and vicinity map)
2. Index, Legend and Abbreviations
3. Estimated Quantities and Estimating Factors
4. Earthwork Quantities
5. Summary Sheets
6. Project Layout Plan
7. Site Plan
8. Demolition Plan
9. Clearing Plan
10. Typical Sections
11. Plan and Profile
12. Grading Plans and Details

13. Civil Details (stand alone or details that do not fit in with another category)
14. Erosion Control details for permanent BMP's.
15. Traffic Control Plan for the dock
16. Survey Control Sheets
17. Standard Drawings

SPECIFICATIONS

All specifications shall be prepared in accordance with the current version of the "State of Alaska, Department of Transportation and Public Facilities, Standard Specifications." If the project requires materials or construction techniques not listed in these documents, HDR shall prepare the required Special Provisions for review and concurrence by the City. Whenever possible, performance specifications rather than method specifications shall be used. Specifications shall be transmitted to the City printed on standard paper and electronically.

PROJECT SPECIAL PROVISIONS/PROPRIETARY PRODUCTS

No brand name material shall be specified unless three are named, and if the term "or equivalent" is used, the criteria for judging the equivalence shall be specified. No sole source materials shall be specified unless a sole source procurement authorization is obtained.

ESTIMATE

HDR shall submit an Engineer's Estimate with each of the plan reviews in a format approved in advance by the City. Pay item numbers, pay item names, and pay units shall follow the format used in the State of Alaska, Department of Transportation and Public Facilities, Standard Specifications, and quantities given in the estimate shall match those given with the plans.

HDR shall provide unit prices and total estimated cost for all items based on DOT&PF historical bid prices.

Estimates shall be signed and dated by both the preparer and checker. For review submittals, copies of the Estimate shall be included with the Specifications immediately behind the cover page.

HDR shall not release any information pertinent to the Engineer's Estimate, other than to the City, without the express written authorization of the City.

EROSION & SEDIMENT CONTROL PLAN (ESCP)

HDR shall prepare an ESCP in accordance with all applicable state and federal regulations, the Alaska Construction General Permit, and the latest edition of the ACGP_ESCP_Template.

Drawing sheets shall be produced to depict areas and items significant to the ESCP. These sheets are not a part of the sealed Plan Set, but they are supplied with the ESCP narrative to prospective contractors during bidding, and subsequently are expected to be used to by the successful bidder to help produce the construction project SWPPP. Any permanent structures, however, required to handle storm water, shall be depicted within the sealed plans for the project.

HDR shall prepare a draft ESCP, and the City will review and return the draft ESCP along with written comments. HDR shall revise the Draft ESCP to incorporate the City's comments and submit a Final ESCP with the Final PS&E delivery package.

DELIVERABLES

- Draft ESCP (Submit with Task 2: Pre-PS&E)
- Final ESCP (Submit with Task 3: Final PS&E)

TASK 2: PRE-PS&E REVIEW DOCUMENTS

Based on the comments from the 10% Review, HDR shall revise the design package for the Pre-PS&E Review Documents transmittal. Plans and specifications distributed for the Pre-PS&E review should be

essentially (65%-70%) complete. The package includes all plan sheets, specifications, special provisions, the bid schedule, and the engineer's estimate plus the following:

1. Recommended number of calendar days for the construction contract or a recommended construction contract completion date.
2. Brief report documenting significant changes made to the assembly after the 10% review meeting that were not discussed at that meeting.
3. Brief (one or two sentence) description of the work required to construct this project.
4. Half-size black line plan set.
5. Specifications and Special Provisions, including the Special Notice to Bidders.
6. Engineer's estimate, both hardcopy and electronically.
7. The 10% letter from HDR to the City that lists all the comments made on the 10% review assembly and a response to each.

The City will conduct a meeting to address comments received during the Pre-PS&E Review. HDR shall attend the Pre-PS&E Meeting and subsequently, HDR shall provide a letter documenting written responses to all comments received.

DELIVERABLES

- Pre-PS&E Review Documents
- Letter Addressing 10% Review Comments
- Draft ESCP

TASK 3: FINAL PS&E DOCUMENTS

HDR shall finalize the design PS&E package based on comments from the Pre-PS&E review. This review assembly shall be ready for advertising for construction bids and shall consist of complete, sealed and signed Plans, Specifications and Engineer's Estimate plus the following:

1. Recommended number of weeks to advertise for construction bids.
2. Brief one or two sentence description of the work required for construction of the project.
3. Brief report of significant changes made to the assembly after the Pre-PS&E Review meeting but which were not discussed at that meeting.
4. A half-size plan set on paper plus the number of half size sets stated in the list of Deliverable Items.
5. Specifications, including Special Provisions and Special Notice to Bidders.
6. Engineer's Estimate.
7. A Letter from HDR to the City that lists all the comments made on the Pre-PS&E Review assembly and a response to each.
8. Cross-sections

The submittal for the contract documents shall follow the format used by the City. Plans shall be on reproducible 11-inch by 17-inch sheets. Each plan sheet, except the cover sheet, shall bear the signed stamp of a Professional Engineer. The specifications shall contain typed originals of the bid schedule, engineer's estimate, and special provisions. Electronic copies of all the above described documents shall also be submitted via email or OneDrive, depending upon file size.

HDR shall conduct a peer review of the plans, specifications and estimate prior to submittal to the City. All estimated quantities shall also be reviewed and checked. The documents shall include completed and checked stamps initialed by the designer and the reviewer, respectively.

DELIVERABLES

- PS&E Package
- Final ESCP

TASK 4: COMPLETION DOCUMENTATION

HDR will submit the originals of all documents prepared during project development, including those generated under all reviews, within 40 calendar days of delivering the Final PS&E package. These documents include all notes, sketches, maps, photographs, survey data, computations (include cost computations under separate cover), cross sections, digital terrain model, electronic files, and other materials that were created to develop, record, or justify services provided for the project. HDR will identify all assumptions made and keep a copy of all the documents until construction is complete.

SOURCE DOCUMENTATION REFERENCE

HDR will include sufficient information in documents created to determine pay item quantities to allow the quantity for each pay item to be checked by starting from the source document.

SUBMITTAL FORMAT

HDR will submit completion documents in loose-leaf, three ring binders to the City. The submittal may be in pdf format upon request.

TASK 5: ASSISTANCE DURING BIDDING

GENERAL

HDR shall assist the City as requested during project bidding. Personnel who were in responsible charge for engineering and other personnel, as necessary and appropriate, shall be available to interpret and clarify documents prepared during project development and to assist with preparing any necessary addenda to the bid documents. When performing these services, HDR will not communicate about this project with any potential bidders.

DOCUMENTS

Within one month after the bid opening, HDR will submit the original of all documents prepared or modified during bidding and maintain a copy of these documents until construction is complete.

Deliverable Summary:

- 10% Plans and Estimate
- Pre-PS&E (65%)
    - Draft ESCP
- PS&E Bid Set (100%)
    - Final ESCP
- Completion Documents
- Assistance During Bidding

If you have questions or comments, please contact me at 907-644-2155.

Sincerely,
HDR Engineering, INC.

Chris Hughes, P.E.
Project Manager

Matt Stone, P.E.
Alaska Area Operations Manager

Enclosures:

- Fee Estimate

COST ESTIMATE PER TASK

FIRM: HDR Engineering, Inc.	PROJECT TITLE: Skagway Landslide Plans/Specifications		
TASK NO: 1	TASK DESCRIPTION: Final Design		DATE: 8/26/2022
GROUP: A	METHOD OF PAYMENT: FP☐ FPPI☐ T&E☑ CPFF☐		PREPARED BY: Cynthia Lowe

SUB-TASK NO.	SUB-TASK DESCRIPTION	Principal/ Manager (Stone)	Project Manager (Hughes)	CMGC (Wharton)	CMGC (Witt)	Civil Eng (Hartman)	Civil Lead (Burd)	Civil EIT (Spaic)		Project Controller (Syren)	Document Editor (Adair)	Program Coord (Wray)	QA/QC (Hannifous)
	Project Management/Invoicing	2	12							12		12	
	RFP preparation - CMGC												
	Develop Request for Proposals		20	80	40	10	20	10			40		
	Proposal Phase Sevices		10	24	8						10		
	Proposal Evaluation Assistance		10	24	4						4		
	PreConstruction Phase Services (By Amend)												
	Construction Phase Services (By Amend)												
	Preliminary Cost Estimate (10% Design)		20	2		12	80	20					
	Design Engineering	2											
	Design - 65% level												
	Plans		24	8			20	160					8
	Specs		8				20	16					8
	Estimate		8			20	16	8					2
	TCP		2				2	8					2
	ESCP		2				4	16					2
	Final Design												
	Plans		16	8			20	160					4
	X-Sections		2				8	40					2
	Specs		4				20	40					4
	Estimate		4			20	16	8					2
	TCP		2				2	8					2
	ESCP		2				4	16					2
	Closeout Document Transfer		4					16					
	Assistance During Bidding		8	8			20	10					
TOTAL LABOR HOURS	1334	4	158	154	52	62	252	536	0	12	54	12	38
*** LABOR RATES ($/HR)**		$275.34	$234.74	$255.12	$253.04	$171.68	$171.68	$108.68		$162.23	$156.08	$84.26	$172.46
LABOR COSTS ($)		$1,101.36	$37,088.92	$39,288.48	$13,158.08	$10,644.16	$43,263.36	$58,252.48	$0.00	$1,946.76	$8,428.32	$1,011.12	$6,553.48

EXPENSES

SUB-TASK NO.	ITEM(S)	QUANTITY	UNIT PRICE	TOTAL PRICE
	Printing	500	$0.15	$75.00
	Lodging	3	$300.00	$900.00
	Meals	9	$60.00	$540.00
	Airfare	3	$900.00	$2,700.00
	Other	1	$200.00	$200.00
				$0.00
				$0.00
				$0.00
			TOTAL EXPENSES:	**$4,415**

COMMENTS: Design duration: approx. 6 months
-HDR will assist in preparing an RPF to support CMGC selection
-HDR will draft Shannon & Wilson's design, preparing draft and final plans and prepare specifications and other deliverables (ESCP, x-sections, etc.)
-We anticipate the planset to be approximately 20 sheets, including surface contours, final exacavation contours, cross sections, and other details provided by S&W
-Lounsbury will perform site survey, provide CAD basemap, perform ROW survey, & provide Survey Control sheet(s)
-Environmental permits and support is provided by others
-City will perform utility coordination as-needed
-City will perform ROW coordination as-needed

FIRM'S TOTAL COST OF LABOR (or Fixed Price):		**$220,736.52**
***IF CPFF*, TOTAL INDIRECT COST @**	**0.00%**	**$0.00**
FIRM'S TOTAL EXPENSES		**$4,415.00**
FIRM'S TOTAL COST (no Subcontracts or Fee)		**$225,151.52**
TOTAL SUBCONTRACTOR PRICES:		**$0.00**

Subcontractors

PRICE PER TASK SUMMARY

FIRM: HDR Engineering, Inc.	**PROJECT TITLE:** Skagway Landslide Plans/Specifications	**DATE:** 9/21/2022

TOTAL NEGOTIATED FIXED FEE: 0%

GROUP	TASK	LABOR (or FP)	INDIRECT COST	EXPENSES	TOTAL COST	FEE DISTRIBUTION & 3% sub-markup	FIRM'S TOTAL PRICE	*SUB-CONTRACTS	PRICE PLUS SUBS
A	1	$220,736.52	$0.00	$4,415.00	$225,151.52	$ -	$225,151.52	$0.00	$225,151.52

*Subcontractors for negotiated professional or technical services, products, etc. (Commodity items available to the general public at market prices, equipment use, and unit priced items are generally included in estimate as expenses.)

ESTIMATED TOTALS	LABOR (or FP)	INDIRECT COST	EXPENSES	TOTAL COST	FEE	FIRM'S TOTAL PRICE	*SUB-CONTRACTS	PRICE PLUS SUBS
FOR FIRM:	**$ 220,736.52**	**$ -**	**$4,415**	**$ 225,151.52**	**$ -**	**$ 225,151.52**	**$ -**	**$ 225,151.52**

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Attachment to and part of Proposal 109508-P4

Date: June 2023
To: Mr. Brad Ryan
Skagway Rock Slide

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

SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Attachment to and part of Proposal: 109508-P4
Date: June 2023
To: Brad Ryan, MOS

Important Information About Your Environmental Permitting and Documentation Proposal

THE COST OF NOT OBTAINING ALL APPLICABLE LOCAL, STATE AND/OR FEDERAL APPROVALS ON A SITE CAN BE IMMENSE.

Rely on a qualified firm. Since delays are inherent in the regulatory process associated with projects that may have adverse environmental effects, project proponents must integrate their analyses into the early planning process. Many project proponents make the serious mistake of assuming that only state and, in particular, local reviews and approvals are required. They often negotiate exclusively with state and local agencies on project design and planning approvals for such activities as clearing, grading, construction or demolition, erosion control, and stormwater management. There are federal, state, and local regulations and ordinances that may apply to projects affecting wetlands, streams, wildlife, or the human environment. Shortsighted proponents may "discover" wetlands/streams, threatened or endangered species, or other special environmental conditions on their sites late in the planning process after they have entered into contracts for project delivery and have secured financing contingent on completion deadlines. Proponents then learn that in the permit process, many local governments may withhold final plan approval until they receive copies of federal and state approvals, or a statement from the appropriate agencies that such approvals are not required. Federal review at this late stage may result in extensive project redesign to avoid impacts to the environment. The attendant delays usually affect a project's economic viability or the timeliness of its ability to serve the public or other users.

It is essential to work with a consulting firm that can provide a team of ecologists, permit specialists, and/or environmental planners disciplined in the applicable subject matters. The firm should have a working knowledge of the appropriate methods for preparing environmental permit applications and supporting documents, an understanding of the permitting process, and practical experience dealing with the regulatory agencies. The consultant should be able to clearly explain and competently lead you through the process.

Although reliance on a competent consultant is necessary to manage your risk, *it does not eliminate your risk*. The consultant who performs evaluations generally are engaged to determine if a site is affected. If they could see the un-seeable, the consultant would know precisely where to look and what methods to apply, but consultants are not clairvoyant. Even the most rigorous professional evaluation may fail to identify all existing conditions. This potential creates risk. ***The risk is yours***. Do not look to your consultant to assume it. Your consultant serves as your professional advisor, providing guidance and opinions based on analysis and judgment. Were professional firms to accept your risks in addition to their own, the cost of performing evaluations would be prohibitive.

A FIRM UNCONCERNED ABOUT ITS OWN RISKS CANNOT BE EXPECTED TO CARE ABOUT YOURS.

It is essential to work with a consultant who understands the processes involved, can explain them to you clearly, and can competently apply appropriate measures to reduce the impact of and to your project. The measures are usually pursued in stages, with each step based on information obtained from the previous one.

Most environmental permit applications and supporting documents must be prepared in the format required by the applicable agency. Consultants must be familiar with these frameworks and present the necessary environmental information in the proper format to support agency acceptance of the material and efficient agency review. Otherwise, further delays and costs will result.

WAITING UNTIL THE LAST MINUTE CAN CAUSE PROJECT DELAYS AND INCREASE COSTS.

Because many aspects of environmental compliance require regulatory agency involvement, it is essential that you give your consultant adequate lead time. Determining the presence and extent of special environmental

conditions at the earliest possible stages in the development process provides time to design a project that addresses possible impacts to on-site resources, to design a mitigation program, and to complete the time-consuming permitting process.

Planning for avoidance of special environmental conditions during development can mean the difference between staying within planned project costs and timelines or incurring overruns. When environmental impacts cannot be avoided, preapplication meetings and negotiations with regulatory agencies can be an important tool in completing the permitting process in a timely manner.

If the client believes that a special environmental condition is present, a consultant is usually engaged to provide a comprehensive study followed by a report of findings. This information is vital prior to design and development plans. If environmental impacts cannot be avoided, the report may discuss procedures necessary to mitigate those impacts.

APPROVALS ARE NOT GUARANTEED

Shannon & Wilson will advise the proponent and prepare environmental permit applications and supporting documents using the skill and care ordinarily exercised by other members of Shannon & Wilson's profession, providing the same or similar services, under the same or similar circumstances, at the same time and locality as the services were provided by Shannon & Wilson. However, the ultimate decision making authority rests with the jurisdictional agency charged with administering the applicable law or regulations. Shannon & Wilson cannot guarantee that any agency will issue an approval or permit. A prudent consultant can provide only an opinion.

INDEMNIFYING/LIMITING MONETARY EXPOSURE IS IMPORTANT TO THE CLIENT AND THE CONSULTANT.

Indemnifications are important concerns to consultants because of court rulings that make consultants liable to any party who could foreseeably be damaged by the consultant's negligent acts. As a consequence, consultants engaged by clients could be sued because the consultant's environmental findings effectively destroyed the land's value. Even though the consultant's position would likely be upheld in court, the claim would have to be defended, and the cost of defense might be many times larger than the fee earned for conducting the evaluation. Therefore, most contracts include provisions that make clients responsible for project-related liabilities, which consultants are powerless to control.

Also, our client may be sued by a landowner for reduced property value based on the consultant's environmental findings. As a result, the client in the agreement should address this potential problem so that both the client and the consultant are "held harmless" for any possible discovery.