SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

December 23, 2025

Mr. Loren Becia, PE
The Boutet Company
601 East 57th Place #102
Anchorage, Alaska 99518

RE: GEOTECHNICAL REPORT, PETERS CREEK DOG PARK, PARKING AREA PAVEMENT DESIGN, PETERS CREEK, ALASKA

Dear Mr. Becia:

We are pleased to submit herein the results of additional geotechnical services for this project. We performed geotechnical engineering services for this project, the results of which were presented in a May 2022 *Geotechnical Engineering Report, Peter's Creek Dog Park*. Our prior effort included performing subsurface explorations and developing geotechnical engineering recommendations for new parking pavements at the site. We understand that the site was graded after submittal of our geotechnical report but the pavement structural section was not constructed and the resultant subgrade was left untouched over the subsequent two winter seasons. You have indicated that the Municipality of Anchorage (MOA) Parks Department wishes to complete construction of the parking but requires additional geotechnical consultation to determine the appropriate course of action.

SITE CONDITIONS AND OBSERVATIONS

The conditions at the project site were explored with drilling explorations as part of our original effort. A site visit was also performed to observe the existing site conditions in the fall of 2025. Based on our prior explorations, the soils on site, prior to the current development, consisted of a surficial layer of organic material

Looking northeast from area entrance at prepared pad.

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underlain by sand and gravel with varying amounts of silt that was medium dense to very dense. A more detailed description of the soils encountered by our borings is provided in our May 2022 report.

Based on information provided by you, we understand that since our explorations, the footprint of the proposed parking area had been cleared, grubbed, and filled up to the approximate subgrade of the pavement structural section. You provided materials testing results that indicate that the material imported to the site to prepare the subgrade consisted of poorly graded gravel with sand. According to the testing results, the material included particles up to 8 inches in diameter and fines content of approximately 3 to 4 percent. Given the coarse nature of the material, the frost susceptibility is likely greater than the gradation results suggest because frost susceptibility is typically defined by the minus 3-inch fraction of the material. For a minus 3-inch sample of this material, the fines content is likely closer to approximately 10 percent by weight.

On September 25, 2025, Kyle Brennan, an experienced engineer from our Anchorage office visited the site to observe the existing surface conditions. While at the site, Kyle documented the condition of the existing ground surface and vegetative cover. He collected photographs while on site focusing on the surface and exposed soil conditions. At the time of our visit, the developed gravel pad appeared to be graded relatively flat and was covered with moss, grass, and cottonwood shoots up to approximately 3 feet tall.

Close up image of typical ground cover and approximately 3.5-inch rut using probe rod for reference.

Exposed soil conditions consisted of silty gravel with sand with exposed gravel particles up to approximately 6 inches in diameter. The pad surface was firm under-foot and hand probing (with a ¼-inch steel rod) was able to penetrate into the surface roughly 1 to 2 inches maximum. Extensive rutting was observed on the pad surface, presumably from prior construction traffic. Most ruts were less than 2 inches deep, with a maximum rut depth of approximately 4 inches.

GEOTECHNICAL RECOMMENDATIONS

You have requested that we provide recommendations for completion of the project which will result in a paved parking surface that will host relatively light traffic from dog park users. Recommendations for the parking pavement structural section are provided in our May 2022 report. It is our opinion that, based on site conditions, the recommended pavements structural section of 2-inch asphalt surface, a 2-inch leveling course, and 24 inches of Type II/IIA structural section fill is still appropriate.

In order to prepare the site for receiving the pavement structural section, we recommend clearing the vegetation that has become established on the pad surface. The upper 2 to 4 inches of material will likely need to be removed from the pad surface and disposed of due to the fact that it will contain root matter and intermixed grass and cottonwood shoot debris from the clearing process. This material should not be used in or under the structural section, but may be used for non-structural grading purposes. Once cleared, the upper 6 inches of pad surface should be graded and scarified and recompacted using moisture/density control described in our May 2022 report. The resulting subgrade surface should also be graded to drain at a gradient of at least 2 percent. Once prepared, the structural section may be constructed on top of the resultant grade.

CLOSURE AND LIMITATIONS

This report was prepared for the exclusive use of our client and their representatives for evaluating the site as it relates to the geotechnical aspects discussed herein. The analyses and conclusions contained in this report are based on site conditions as they presently exist. It is assumed that the prior exploratory borings and site observations are representative of the subsurface conditions throughout the site, i.e., the subsurface conditions everywhere are not significantly different from those disclosed by the explorations.

If, during construction, subsurface conditions different from those encountered in these explorations are observed or appear to be present, Shannon & Wilson, Inc. should be advised at once so that these conditions can be reviewed, and recommendations can be reconsidered where necessary. If there is a substantial lapse of time between the submittal of this report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, it is recommended that this report be reviewed to determine the applicability of the conclusions considering the changed conditions and time lapse.

We recommend that we be retained to review those portions of the plans and specifications pertaining to earthwork and foundations to determine if they are consistent with our recommendations. In addition, we should be retained to review design/build contractor's design and submittals, and to observe construction, particularly the site excavations, compaction of structural fill, preparation of foundations, and such other field observations as may be necessary.

Unanticipated soil conditions are commonly encountered and cannot fully be determined by merely taking soil samples, advancing borings, or making surface observations. Such unexpected conditions frequently require that additional expenditures be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs. Shannon & Wilson has prepared the attachment, Important Information About Your Geotechnical/Environmental Report, to assist you and others in understanding the use and limitations of the reports.

Copies of documents that may be relied upon by our client are limited to the printed copies (also known as hard copies) that are signed or sealed by Shannon & Wilson with a wet, blue ink signature. Files provided in electronic media format are furnished solely for the convenience of the client. Any conclusion or information obtained or derived from such electronic files shall be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, or you question the authenticity of the report please contact Shannon & Wilson.

Should you have questions or comments regarding the information contained herein, please call the undersigned. We appreciate the opportunity to continue working with you on this project.

Sincerely,

SHANNON & WILSON

Kyle Brennan, PE
Vice President

Enc. Important Information about your Geotechnical/Environmental Proposal

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors that were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's 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. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the Geoprofessional Business Association (https://www.geoprofessional.org)