

July 31, 2017  
Proposal No. 08SJO02-00487

Mr. Dan Zaich  
Director of Strategic Initiatives  
San Rafael City Schools  
310 Nova Albion Way  
San Rafael, California 94903

Subject: Proposal for Geotechnical Design Phase Services  
San Pedro Elementary School  
498 Point San Pedro Road  
San Rafael, California

Dear Mr. Zaich:

In accordance with your request, Ninyo & Moore is pleased to submit this proposal to prepare geotechnical design level report for the proposed new buildings at San Pedro Elementary School at 498 Point San Pedro Road in San Rafael, California. Our services will include preparation of a design level geotechnical evaluation and geologic hazard report in accordance with the 2013 version of CGS Note 48 suitable for submittal to DSA and CGS. The report will include foundation design parameters for the proposed structure and will incorporate the findings presented in our preliminary geotechnical evaluation for the school dated April 20, 2017.

Based on our review of documents provided, we understand that the proposed project will consist of a new administration and restroom building with a building footprint of about 3,500 square feet and two new classroom buildings, with a building footprint of about 4,600 square feet and 4,300 square feet, respectively. Other associated improvements include a new playground area, and a new expanded parking area.

Our preliminary evaluation was performed to the west of the locations of the proposed buildings. Based on these conditions and DSA and CGS requirements regarding geotechnical evaluations, we recommend that additional borings be drilled within the footprint of the proposed buildings to evaluate the subsurface conditions.

## **PROPOSED SCOPE OF SERVICE**

The purpose of our study will be to evaluate the subsurface conditions and provide

recommendations for the design and construction of the proposed new retaining wall. Based on our understanding of the project, we propose the following scope of services:

- Review of readily available geologic and seismic literature pertinent to the project area including geologic maps and reports, regional fault maps, seismic hazard maps, and aerial photography.
- Perform a site reconnaissance to observe the general site conditions and to mark the proposed locations for subsurface exploration.
- Review existing utility plans provided. Coordinate with Underground Service Alert to mark the underground utilities in the vicinity of the proposed locations for subsurface exploration.
- Obtain a boring permit from Marin County.
- Perform a subsurface exploration consisting of eight (8) borings to depths of up to 20 feet. The actual depths of the exploration will be influenced by the subsurface conditions encountered. A representative of Ninyo & Moore will log the subsurface conditions exposed in the borings, and collect bulk and relatively undisturbed samples for laboratory testing. The borings will be backfilled with grout in compliance with the drilling permit. Soil cuttings will be spread on site.
- Perform laboratory tests on selected soil samples to evaluate in-site soil moisture content and dry density, soil gradation, Atterberg limits, expansion index, shear strength, R-value, and soil corrosivity, as appropriate for the subsurface materials encountered.
- Compile and analyze the field and laboratory data and the results of our geologic review to evaluate the following:
  - Subsurface conditions encountered at the site including stratigraphy, depth to groundwater if encountered, and published historic groundwater depth.
  - Geologic and seismic hazards present on site including potential for expansive soils, corrosion, and settlement.
  - Suitability for the proposed construction from a geotechnical standpoint in light of the potential seismic and geologic hazards.
  - Recommendations for measures to mitigate the effect of the relevant geologic and seismic hazards on the proposed improvements, as appropriate.
  - Design parameters for structure foundations including allowable bearing capacity, lateral load resistance, and foundation embedment depth.
  - Design parameters for pavement design.
  - Soil type and seismic coefficients for seismic design conforming to the 2016 California Building Code and Chapter 11 of the American Society of Civil Engineers (ASCE) standard 7-10.
- Prepare a geotechnical and geologic hazard assessment report presenting the findings and conclusions from our evaluation, and our geotechnical recommendations for design and construction of the proposed improvements.

## ASSUMPTIONS

- Right-of-entry will be provided at no cost to Ninyo & Moore and our subsurface exploration may be performed during typical weekday construction hours. Weekend or night work will not be necessary.
- Our firm will contact Underground Service Alert prior to performing our subsurface evaluation. However, the client will provide our firm with any additional information regarding the presence of utilities within the project areas. Ninyo & Moore will not be responsible for utilities encountered during drilling that have not been marked out or shown on the plans.
- We assume that our subsurface exploration program can be performed in one day with one mobilization. We assume that our borings can be advanced using a truck-mounted rig equipped with solid or hollow stem augers, and limited access or track-mounted equipment will not be needed. Unforeseen field conditions that impact the execution of the scope of work described above will be brought to the client's attention. Associated costs will be discussed with client.
- Borings will be backfilled with drill cuttings, cement grout, and/or concrete. Any geotextiles or plastics encountered will not need to be replaced.
- Our services are subject to California prevailing wage law.
- Hazardous materials will not be encountered during the subsurface evaluation and level D personal protective equipment consisting of hard hat, gloves, boots, and safety glasses will be appropriate for the proposed work. If hazardous materials are encountered or suspected, a revised scope of work and fee estimate will be provided to account for appropriate health and safety measures, analytical characterization, and appropriate disposal of excavated soil.

## SCHEDULE

Ninyo & Moore is prepared to begin our services upon receipt of written authorization. Our field exploration will be completed approximately 4 weeks after receipt of the notice-to-proceed, assuming that there are no delays due to rig availability, permit processing, or inclement weather. We anticipate that our laboratory testing will be completed about 2 weeks after the exploratory borings and our geotechnical report will be issued about 2 weeks after completion of laboratory testing (approximately 8 weeks after receipt of the notice to-proceed).

## FEE ESTIMATE

Our services for the scope of work presented above will be provided for a lump-sum fee of **\$17,500 (Seventeen Thousand Five Hundred Dollars)**. This fee includes drilling subcontractor fees and permit fees, but does not include costs associated with post-report consultations, plan review, attendance at meetings, or construction-phase services. An integral part of our project involvement is review of plans and specifications before construction bidding, and observation and testing

during construction. A scope and budget for these follow on services can be provided upon request.

If the scope of services and proposed fee contained in this proposal are acceptable, please forward the appropriate written authorization at your earliest convenience.

We sincerely appreciate the opportunity to submit this proposal, and look forward to working with you on this project.

Respectfully submitted,  
**NINYO & MOORE**



Timothy P. Sneddon, PE, GE  
Principal Engineer



Terence K. Wang, PE, GE  
Principal Engineer

TPS/TKW/vmn

Distribution: (1) Addressee (via e-mail)