November 8, 2022 TES No. 220239.003

Tulare Joint Union High School District
426 N. Blackstone
Tulare, California 93274

c/o Mr. Chris Hale
CM Construction Services, Inc.
P.O. Box 6237
Visalia, California 93290
Phone: 559.735.9556
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Project: Proposed Aquatics Complex and CTE Building
Mission Oak High School
3442 E. Bardsley Avenue
Tulare, California

Subject: Supplemental Structural Design Recommendations

Dear Mr. Hale:

TECHNICON Engineering Services, Inc. (**TECHNICON**) prepared this letter as to supplement the Geotechnical Investigation Report (GIR) associated with the above-mentioned project in Tulare, California. A report was previously prepared by **TECHNICON** for the proposed Aquatics Complex and CTE Building Project (referenced file TES No. 220239.001, dated May 17, 2022). This letter provides supplemental design recommendations for the below-grade retaining walls.

PROJECT DESCRIPTION

Mr. Roger Peña of Brooks Ransom has requested a response to Division of State Architects (DSA) comments regarding below-grade retaining walls. DSA's comment asks if there are seismic earth pressures increases for a retaining wall with a height of 10-feet 6-inches.

DESIGN RECOMMENDATIONS

Section 7.3 "Earth Retaining Structures" of the referenced GIR includes design recommendations regarding pool walls that may be greater than 6 feet; however, does not comment on other retaining walls. The last paragraph of Section 7.3 should state the following:

"The project will incorporate pool walls and other below-grade retaining walls of over 6 feet in height. Therefore, evaluation of increments to seismic forces was performed according to Lew, Sitar, and SEAOC Standards. Since the maximum ground acceleration at this location is less than 0.4g, there is no seismic increment of earth pressure."

DESIGN REVIEW, CONSULTATION, CONSTRUCTION OBSERVATION AND TESTING

It is recommended that **TECHNICON** be retained to review those portions of the contract drawings and specifications that pertain to earthwork, foundations, and pavements prior to finalization to determine whether they are consistent with our recommendations.

It is recommended that a representative of **TECHNICON** observe the excavation, earthwork, and pavement phases of work to determine that the subsurface conditions are compatible with those used in the analysis and design. **TECHNICON** can conduct the necessary field testing and provide results on a timely basis so that action necessary to remedy indicated deficiencies can be taken in accordance with the plans and specifications. Upon completion of the work, a written summary of our observations, field testing, and conclusions regarding the conformance of the completed work to the intent of the plans and specifications will be provided. This additional service is not part of this current contractual agreement. **TECHNICON** firm will not be responsible for establishing or confirming building or foundations depths or locations unless retained to do so.

LIMITATIONS

The conclusions and recommendations presented in this letter/report are based on the information provided regarding the proposed construction, and the results of our field and laboratory investigation from the referenced GIR, combined with interpolation of the subsurface conditions between boring locations. The nature and extent of the variations between borings may not become evident until construction. If variations or undesirable conditions are encountered during construction, our firm should be notified promptly so that these conditions can be reviewed and our recommendations reconsidered where necessary. The unexpected conditions frequently require additional expenditures for proper construction of the project. **TECHNICON** will not assume any responsibility for errors or omissions if the final extent and depth of earthwork is not determined by our firm at the time of construction due to said variations or undesirable conditions encountered.

If the proposed construction is relocated or redesigned, or if there is a substantial lapse of time between the submission of our 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, the conclusions and recommendations contained in this report should be considered invalid unless the changes are reviewed and our conclusions and recommendations modified or approved in writing. Such conditions may require additional field and laboratory investigations to determine if our conclusions and recommendations are applicable considering the changed conditions or time lapse.

CLOSING

We appreciate the opportunity to provide geotechnical engineering services to Tulare Unified Joint School District during the design phase of this project. If you have any questions regarding the information presented herein, or if we can be of further assistance, please contact our office at your convenience.

Respectfully submitted,
TECHNICON Engineering Services, Inc.

Adam AhTye, PE
Senior Project Engineer

Salvador Alvarez, PE
Geotechnical Engineering Manager

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