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**APR 15 2008**

April 9, 2008  
Project No. 401294010

**FACILITIES PLANNING  
& MANAGEMENT**

Mr. Jeffrey Kingston  
Chabot-Las Positas Community College District  
5020 Franklin Drive  
Pleasanton, California 94588

Subject: Clarification of Recommendations - Building Pad Remedial Grading  
College Center for the Arts  
Las Positas College, Livermore, California

References: Ninyo & Moore, 2007, Geotechnical Evaluation, College Center for the Arts, Las Positas College, Livermore, California, Project No. 401294001, dated March 30.

Dear Mr. Kingston:

In accordance with your request, we have prepared this letter presenting clarification of our recommendations presented in the referenced report. The following recommendations have been provided to address remedial grading in the building pad areas for the proposed building and amphitheater. In the event of a conflict, the recommendations presented in the referenced report should supersede those presented below.

### **REMEDIAL GRADING FOR BUILDING PAD AREAS**

As presented in the referenced report, due to the compressible and expansive nature of the near-surface soils, we recommend that the existing site soils be removed in the building pad areas and replaced with granular soils exhibiting low expansion potential (i.e. an Expansion Index of 50 or less as evaluated in accordance with Uniform Building Code Standard 18-2). Based on our experience with similar projects and our understanding of the site, we recommend that the removals extend to a depth of 3 feet below any structural element of the proposed building and amphitheater. For the purpose of this letter and the referenced report, structural elements include footings and slabs-on-grade. Removals should extend a horizontal distance of 3 feet beyond the limits of the proposed structure, plus the depth of removal from the existing ground surface. Deeper removals may be needed if unsuitable materials are exposed at the excavation bottom during grading.

## MATERIALS FOR STRUCTURAL FILL

As previously discussed in the referenced report, we recommend that materials proposed for use as structural fill have an organic content of less than approximately 3 percent by volume (or 1 percent by weight). Additionally, these materials should not contain rocks or lumps larger than approximately 4 inches in largest dimension, and not more than 40 percent larger than ¾-inch. As stated above, fill materials placed as structural fill should exhibit low expansion potential (i.e. an Expansion Index of 50 or less or a Plasticity Index of 15 or less). Import materials should also have a low corrosion potential (chloride content less than 500 parts per million [ppm], soluble sulfate content less than 0.2 percent, and a pH of 5.5 or more). Materials for use as fill should be evaluated by Ninyo & Moore prior to filling or importing.

## COMPACTED FILL

Prior to the placement of compacted fill, the contractor should request an evaluation of the exposed excavation bottom by Ninyo & Moore. The exposed ground surface should then be scarified to a depth of approximately 8 inches and moisture conditioned, as needed, to achieve moisture contents generally 3 to 5 percent above the laboratory optimum moisture content. The scarified materials should then be compacted to 90 percent relative compaction as evaluated by American Society of Testing and Materials (ASTM) D 1557.

Compacted fill should be placed in horizontal lifts of approximately 8 inches in loose thickness, and watered or dried as needed to achieve a moisture content generally above the laboratory optimum, mixed, and then compacted by mechanical methods to a relative compaction of 90 percent as evaluated by ASTM D 1557. Successive lifts should be treated in a like manner until the desired finished grades are achieved.

Respectfully submitted,  
**NINYO & MOORE**



Mark R. Caruso, P.G., C.E.G.  
Principal Engineering Geologist

DRR/MRC/TKW/dhi

Distribution: (2) Addressee



Terence K. Wang, P.E.  
Principal Engineer



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As previously discussed in the referenced report, we recommend that materials proposed for use as structural fill have an organic content of less than approximately 3 percent by volume (or 1 percent by weight). Additionally, these materials should not contain rocks or lumps larger than approximately 4 inches in largest dimension, and not more than 40 percent larger than ¾-inch. As stated above, fill materials placed as structural fill should exhibit low expansion potential (i.e. an Expansion Index of 50 or less or a Plasticity Index of 15 or less). Import materials should also have a low corrosion potential (chloride content less than 500 parts per million [ppm], soluble sulfate content less than 0.2 percent, and a pH of 5.5 or more). Materials for use as fill should be evaluated by Ninyo & Moore prior to filling or importing.

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