

August 7, 2014

Mr. Raj Christian, P.E.  
Kimley-Horn and Associates, Inc.  
7740 N. 16<sup>th</sup> Street, Suite 300  
Phoenix, AZ 85020

**RE: Project No. 130624SA**  
**Skyline Regional Park – Phase 1**  
**Watson Road and McDowell Road**  
**Buckeye, AZ**  
**Addendum No.1**  
**Additional Foundation Recommendations**

Dear Mr. Christian:

This addendum presents additional foundation recommendations for the proposed culvert headwalls and wing walls at the above referenced project.

We understand that the roadway portion of this project will incorporate a number of wash crossings. Some of the crossings will use corrugated metal pipe (CMP) and some will use box culverts. The various structures will require the installation of new headwalls and/or wing walls. The original report provided recommendations for these structures to be placed on dense native soils at a bearing depth of 2 feet below scour depth and utilizing a bearing capacity of 1,500 psf.

It is understood that a higher bearing capacity may be required for support of several of these structures, therefore we have reviewed the original field and laboratory data and conducted a new analysis to address the potential higher loads. Based on the field and laboratory data, it is anticipated that dense to very dense soils will likely be encountered at the bearing depth of these structures. For the headwall or wing wall structures founded on dense to very dense undisturbed native soils, at a minimum depth of 5 feet below existing grades or 2 feet below scour depth, whichever is greater, an allowable bearing capacity of **2,500 psf** can be utilized for design. This bearing capacity refers to the total of all loads, dead and live, and is a net pressure. It may be increased one-third for wind, seismic or other loads of short duration. All footing excavations should be level and cleaned of all loose or disturbed materials.

Utilizing this higher bearing capacity than was presented in the original report will require close monitoring during construction to ensure proper bearing conditions. If, during footing excavation, loose soils are encountered at the bearing elevation it will be necessary to over-excavate the loose soils down to the deeper and denser native soils. The excavation can then be backfilled back to bottom of footing elevation with a 1-sack CLSM per M.A.G. section 728. No foundations should bear on loose native or fill soils. All foundations must be placed on dense native soils or CLSM as necessary to carry the loads to the deeper, denser soils.

All other considerations in the original report are applicable. This addendum should be attached to the original report and made a part thereof.

Respectfully submitted,  
SPEEDIE & ASSOCIATES, INC.



Todd B. Hanke, P.E.

Cc: Brett Stroup, P.E. (email only)

