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October 9, 2012
Project No. R206-014

Attention: Kyle Gallup, P.E., Senior Civil Engineer
RIVERSIDE COUNTY FLOOD CONTROL AND
WATER CONSERVATION DISTRICT
1995 Market Street
Riverside, California 92501

Re: Estimate of Holocene Alluvial Depth
San Jacinto MDP Line C, Stage 2, Line C-4, Stage 1, Line C-5,
and Line B Storm Drain [Project No. 4-0-00124]

Dear Mr. Gallup:

At your request, we have conducted a review of previous geologic studies our firm has conducted to provide an estimate of the depth to the Holocene-Pleistocene age contact in the vicinity of the referenced storm drain project.

Our firm conducted a Geologic/Fault Evaluation for a property adjacent/along a portion of the project alignment in 2004. This study was conducted on a property located west of and adjacent to Santa Fe Street and north of the extension of Midway Avenue. Four exploratory trenches were excavated to an average depth of around 15±-feet. The trenches revealed that the entire ground surface (12±-inches) was disturbed by discing/plowing over the years. Beneath the disturbed surficial sediments are unconsolidated Holocene age alluvial deposits comprised of interbedded fine- to coarse-grained sands and silty sands, fine-grained sands, and fine-medium grained silty sands, that are relatively flat-lying. Occasional stream channel incisions were observed locally within the trench exposures. Although some of the individual lithologic layers were massive in appearance and other well-bedded, the sediments were stratified overall in a generally horizontal orientation.

As mapped by Dibblee (2003), the site of the 2004 fault study and the proposed storm drain alignment is site is shown to be underlain by Holocene age alluvial sediments. Our observations of the diagnostic morphologic characteristics indicated that the sediments encountered during the 2004 fault study are Holocene in age. In addition, our firm's subconsultant geologist performed a fault investigation less than 1,000 feet to the south in 2003, wherein detrital carbon was collected within a fine-grained silt lens at

a depth of 11±-feet. That sample yielded a calibrated age of 4,490 ±40 years BP (before present), of which the subject site investigated in 2004 displays the same similar lithologic features and characteristics and therefore, it is our opinion that the sediments at the site of the 2004 study are expected to be of the same age as the sediments dated just to the south. No major time period gaps or shifts are expected between the two sites. Based on an assumed sedimentary depositional rate locally of 0.0025±-ft/year, per Carbon-14 test results, the depth of the anticipated older contact (late Pleistocene) is greater than 27 feet. Using this depositional rate, the bottom of the trenches (±15-ft.) excavated at the site of the 2004 study was estimated to have exposed sediments on the order of 6,000 years BP, assuming that the rate of deposition has been constant at the site during the past 11,000 years.

The proposed excavation depth of the storm drain ranges from 9 to 23 feet. Based on information from our previous geologic studies in the vicinity of the project, and observations of the soil characteristics encountered within our recent geotechnical investigation, it is our opinion that Pleistocene-age materials will not likely be encountered within the limits of the proposed storm drain excavation.

We appreciate the opportunity of being of service to the District on this project. If there are any questions, please contact our office.

Respectfully,
INLAND FOUNDATION ENGINEERING, INC.

PROFESSIONAL GEOLOGIST
DANIEL R. LIND
NO. 2451
CERTIFIED
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DRL:dl
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