

Memorandum

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To: ALL STAFF
Geotechnical Services
Division of Engineering Services

Date: June 13, 2013

From: PHILIP J. STOLARSKI *PJS*
State Materials Engineer
Deputy Division Chief
Materials Engineering and Testing Services
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Division of Engineering Services

Subject: **Seismic Design and Selection of Standard Retaining Walls**

When providing geotechnical recommendations for type selection of retaining walls during planning and design phases, the job site should be evaluated to ensure seismic design criteria used for development of the LRFD standard plans are applicable.

According to standard plan sheets dated April 2012, the seismic criteria threshold for standard retaining walls are; Coefficient of Horizontal Acceleration, $k_h = 0.2$ and Coefficient of Vertical Acceleration $k_v = 0.0$, except for concrete retaining walls supporting soundwalls where $k_h = 0.3$ and $k_v = 0.0$ are used. The $k_h = 0.2$ is roughly based on using 1/3 Peak Ground Acceleration (PGA), therefore, at sites where the PGA is equal to or less than 0.6g, the retaining walls shown in the Standard Plans are applicable. For sites with PGA greater than 0.6g, the standard plans are not applicable, and DES/Structure Design should design the retaining walls as special design walls. Include the seismic assessment in geotechnical reports to the District Project Engineer as early as possible during planning or design phases of the project development process, so that appropriate functional units can be notified and resources be allocated.

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