



Association of Environmental & Engineering Geologists San Francisco Bay Area Chapter

Announcing our **July 13, 2021** Meeting



AEG National President

William Godwin, PG, CEG
Consulting Engineering Geologist

**“Perris Dam Seismic Remediation –
Geologic Observations from CDSM
Foundation Treatment”**

MEETING DETAILS

Virtual Meeting Place

Online with Teams
A link will be sent day before
the meeting

Date and Time

TUESDAY, July 13, 2021
6:00 pm - Presentation

Cost: FREE ([optional donation towards our Student Scholarship](#))

Reservations: Spaces are limited, RSVP in advance!
Please fill out the [online form](#) by **12 PM, Tuesday July 12, 2021.**

Thank you for your RSVP! See you on **Tuesday, July 13, 2021!**

Perris Dam Seismic Remediation – Geologic Observations from CDSM Foundation Treatment

Perris Dam, a key component of California's State Water Project, is a zoned earthfill embankment dam measuring 2.2 miles in length and 126 ft. in height. It was built in the early 1970's near Perris, California. California's Division of Safety of Dams is requiring remediation of the dam's potentially liquefiable foundation before operating restrictions are removed, and the reservoir can be filled back to its original design level. The owner, the California Department of Water Resources, is in the construction phase of a multi-component remediation design that includes Cement Deep Soil Mixing (CDSM), a new toe drain, extension of the drainage blanket, and a new downstream stability berm on the left half of the embankment.

Local subsurface stratigraphy consists chiefly of a variably thick sequence of young (Holocene) and old (Plio-Pleistocene) alluvium overlying igneous and metasedimentary rocks of the Perris Block. Detailed studies of the dam foundation by DWR indicated the presence of thin sandy layers that are potentially susceptible to liquefaction and severe loss of strength during a scenario M7.5 earthquake on the San Jacinto fault, which lies approximately 8 km to the northeast. The liquefaction of the foundation soils could potentially result in slope failure of the embankment dam and uncontrolled reservoir release from Lake Perris.

To strengthen the foundation of the new stability berm, CDSM specialty work was performed by JAFEC USA directly downstream of the toe of the existing embankment. DWR inspectors observed treatment activities in 2015-16 that included installation of test cells, and production cells, and a Quality Control program that includes CDSM element coring and laboratory strength testing. Periodic venting of air and water from the ground surface occurred as a result of CDSM installation and was carefully documented due to its close proximity to the dam and the risk of hydrofracture to the embankment. Observations of venting during predrilling required addressing the subcontractors CDSM procedures with respect to air injection pressures.

Speaker Bio:

William H. Godwin is a member of the San Francisco Bay Area Chapter of the Association of Environmental and Engineering Geologists (AEG) and is the current 2020-21 National President. He has been a practicing geologist for over 40 years and has been working as an independent geologic consultant since 2014 and as an on-call employee for several large geotechnical consulting firms. Mr. Godwin earned a Bachelor of Science degree in Geology from the University of Redlands, in Southern California. He is a licensed Professional Geologist (PG) and Certified Engineering Geologist (CEG) in California. He lives in Pacific Grove California.