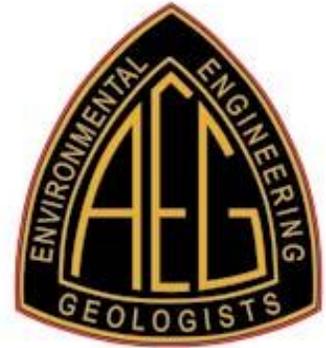


October 2017



Meeting Announcement

AEG Sacramento Section



Tuesday, October 24, 2017

Location: Aviator's Restaurant
6151 Freeport Blvd, Sacramento, CA 95822
Lots of free parking! [Link to map](#)

Speakers: **Holly J. Nichols, CEG**
California Department of Water Resources

Topic: "The Oroville Spillways – Geology and Why it Matters"

Meeting Sponsor: Gregg Drilling



Agenda:

5:30–6:30pm – Social hour
6:30-7:30pm – Dinner
7:30-8:30pm – Speaker
8:30-8:45pm – Questions

Meeting Cost: \$30 members (with RSVP) and \$35 non-members
There will be a \$3 surcharge for walk-ins
\$10 students (no surcharge for student walk-ins)
The FIRST 5 students to RSVP are free

Student Sponsorships welcomed! Sponsor a student for \$20 (suggested).

RSVP at <http://www.aegsacto.org/meetings/signup/>
or email: chase.white@conservation.ca.gov

“The Oroville Spillways – Geology and Why it Matters”

Tuesday, October 24, 2017

presented by: Holly J. Nichols, CEG



The Oroville Dam is located in northern California just outside the town of Oroville. The dam and appurtenant structures were constructed in the mid-1960s. There are two spillways: a gated, concrete-lined chute and a concrete monolith weir with an unlined spill area. The dam site is located in the foothills of the western Sierra Nevada within the Smartville Complex, which has a roughly north-south regional structural trend. The Oroville Dam and spillways were constructed in an unnamed unit of the Smartville Complex, composed of Jurassic meta-volcanic rocks consisting primarily of amphibolite. The amphibolite has a strong structural fabric in roughly the north-south direction and is cross-cut by shears oriented about N50E (roughly parallel with the gated spillway) and lower angle shears dipping towards and away from the reservoir. On February 7, 2017, a hole formed in a portion of the concrete-lined spillway at Oroville Dam. Continued operation of the gated spillway caused additional erosion and damage to the concrete structure. The areas of deepest erosion occurred in portions of the spillway that were mapped during original construction as strongly weathered to decomposed amphibolite rock. On February 12, 2017, during operation of the emergency spillway, rapid,

deep headward erosion was observed in the northern portion of the unlined emergency spillway. This presentation will discuss the geologic conditions that were understood at the site prior to construction, the geologic conditions that were documented during construction, and what we have learned about the geologic conditions since the spillway failure.

About our Speaker:

Holly Nichols has been with the California Department of Water Resources since 2008, after working in the private sector for several years in Southern California. She is currently a Senior Engineering Geologist in DWR's Division of Engineering. She has worked on a variety of water infrastructure design and construction projects including pipelines, canals, and dams throughout California's State Water Project. She received her B.S. in Geology from the University of Texas in Austin, and her M.S. in Geology from Washington State University, and is a licensed Engineering Geologist in California. She has been AEG's Sacramento Chapter Vice Chair for several years and has spent most of 2017 as the lead geologist for the Oroville Spillway Recovery efforts.