Tuesday, January 28, 2014

Location:  Sudwerk Restaurant and Brewery
2001 2nd St, Davis, CA.
Lots of free parking!  Link to map

Speaker:  Keith Kelson, URS
Topic:  “Seismic Upgrade of Bay Division Pipeline Nos. 3 and 4 at the Hayward Fault, Fremont, California"

Agenda:
5:30–6:30pm – Social hour and student posters
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
$5 students (no surcharge for student walk-ins)
The FIRST 5 students to RSVP are free

Student Sponsorships welcomed! Sponsor a student for $20

RSVP by going to -- http://www.aegsacto.org/meetings/signup/
or by sending an email to:  Tim.McCrink@conservation.ca.gov
The Seismic Upgrade of the Bay Division Pipeline Nos. 3 and 4 at the Hayward Fault is currently under construction at the intersection of Mission Boulevard and Highway 680, in the City of Fremont, Alameda County. Between 2004 and 2008, the fault crossing was characterized based on detailed field mapping, paleoseismic trenching, analysis of fault creep, and estimation of expected fault displacements. The Hayward fault at this site includes three strands arranged in a right-stepping *en echelon* pattern, containing primary and secondary zones of deformation. The fault-crossing mitigation design involves several unique components, including a segmented concrete vault, dual ball joints, and sliding supports. The mitigation is currently being constructed within the intersection of Interstate 680 and Mission Boulevard, and involves many significant logistical challenges.

During construction in late 2013, a 25-ft-deep, 25-ft-wide excavation for the segmented concrete vault provided a unique view into the pattern of deformation within the primary and secondary zones of the Hayward fault. The vault exposed the primary, N36W-striking Hayward fault strand as a fairly narrow zone of shearing, bordered by secondary faults over distances of tens of feet. The pattern of this primary and secondary deformation is consistent with the local tectonic setting. NE-striking fractures located between major fault strands are oriented unfavorably for significant slip in the current stress regime, and appear to have been rotated into less favorable orientations by continued lateral movement on the main faults. The overall pattern of deformation within the fault zone is consistent with right-stepping *en echelon* shearing and analog models of deformation in unconsolidated materials.
Mr. Kelson has 29 years of experience characterizing geologic hazards for engineered facilities throughout the western and central US. His project experience includes efforts on dam characterization, levee assessments, and geologic hazard evaluations for water pipelines, gas pipelines, nuclear power facilities, and transportation systems. He currently serves as a senior technical advisor on dam safety issues for the California Department of Water Resources and the U.S. Army Corps of Engineers Risk Management Center.

Mr. Kelson also has completed paleoseismic research at the national and international level, including work on more than thirty research grants on all major faults in the San Andreas fault system, the Rio Grande rift, the New Madrid Seismic Zone, and other fault systems throughout the world. He participated as the engineering geologist on rapid-response teams following major earthquakes in Taiwan (1999), Japan (2005), Chile (2010), and Japan (2011). He has authored more than thirty publications, and currently is finalizing a guidance document for the American Nuclear Society on characterizing surface fault rupture hazards.

He received a B.A. (with Honors) in Geology from U.C. Santa Barbara and an M.S. (with Honors) in Geology from the University of New Mexico, followed by employment at Geomatrix Consultants, William Lettis & Associates, Fugro Consultants, and currently URS Corporation.