



## UC Berkeley Geosystems Group Wednesday Lecture Series

Wednesday, September 6, 2023

12:10 – 1:00 PM

Lecture Room: 406 Davis Hall

### Anderson Dam Tunnel Project Overview and Construction Challenges

Ted Feldsher and Kevin Huynh, AECOM



Anderson Dam is a 270-foot-high embankment dam located close to the Calaveras Fault zone near Morgan Hill, California. Studies identified several important dam safety deficiencies including instability during strong ground motions, potential foundation fault rupture through the existing outlet conduit, and inadequate spillway capacity. As a result, the Santa Clara Valley Water District initiated a seismic retrofit project, known as the ADSRP. This project will include reconstruction of the dam embankment, replacement of the existing spillway, and construction of a new permanent outlet system capable of surviving the design fault offset. Because of the downstream

hazard, Valley Water also initiated an early risk reduction project to drain the reservoir and keep it empty until the overall dam retrofit project can be completed. The risk reduction project, referred to as the Anderson Dam Tunnel Project (ADTP), includes construction of a new 1700-foot-long diversion/outlet tunnel through the right abutment of the dam, including a microtunneled wet-recovery lake tap into the reservoir. The ADTP and ADSRP project designs are coordinated so that most of the temporary diversion system constructed during the ADTP will be converted to serve as part of the permanent outlet system under the ADSRP. This will help reduce the overall construction duration and facilitate an earlier return to service for this important water storage reservoir.

This presentation will describe the seismic setting and site geology, along with the major elements of the ADTP/ADSRP outlet system, including the special segmental tunnel lining design to accommodate fault offset. The presentation will also provide an update on the ADTP tunnel construction status, including some of the design and construction challenges associated with open face tunnel excavation through difficult ground conditions.

Ted Feldsher is a registered civil and geotechnical engineer and serves as a vice president and department manager in AECOM's Oakland office. He has over 35 years of experience in planning, design, and construction of dams and tunnels and he graduated with Bachelors and Masters Degrees from UC Berkeley in 1987.

Kevin Huynh is a registered civil engineer and is the Tunnel Group Manager in the AECOM Oakland Office. He has over 11 years of experience in the design and construction of tunnel projects and currently serves as the design team's Project Manager during construction of ADTP. He graduated with Bachelors and Masters degrees from UC Berkeley in 2012.