

**CALFED Bay Delta Program  
LEVEE AND CHANNEL TECHNICAL TEAM  
SEISMIC SUSCEPTIBILITY SUB-TEAM**

**COMPLETED PHASE I COMPONENTS**

- Review of previous studies and historical data relating to the seismic stability of Delta Levees
- Perform preliminary studies to estimate bedrock ground motions using deterministic and probabilistic methods.
- Perform preliminary dynamic response analyses to investigate the amplification/attenuation characteristics of Delta soil profiles.
- Perform preliminary evaluations of liquefaction potential and estimates of earthquake-induced deformations.
- Convene Board of Consultants to evaluate work and provide recommendations.
- Produce Phase I Report

**COMPLETED PHASE II**

- Perform field and laboratory geotechnical studies. Includes p and s wave velocity testing, cone penetration testing, standard penetration testing, field and laboratory classification testing, and static strength testing.
- Install surface and subsurface strong motion instruments at 4 locations in the Delta. These sites are Sherman Island, Montezuma Slough Control Structure, Staten Island and Clifton Court Forebay.

## ONGOING PHASE II COMPONENTS

- Sponsor research on the dynamic response characteristics of peat/organic soil.

DWR and U. C. Davis have entered into an interagency agreement that will accomplish the following:

- DWR will provide drilling services to U. C. Davis for the purpose of obtaining tube samples of peat/organic soils. These samples will be used for dynamic properties testing at U. C. Davis.
- The sampling will occur at Sherman Island and Montezuma Slough at the strong motion seismograph sites. Additional sampling at other sites and additional testing may be requested by DWR.
- U. C. Davis will provide DWR with a report presenting the results of the testing program. In particular, the report should include the dynamic shear modulus reduction curves and damping ratio curves for organic soils with varying amounts of peat/organic soil.
- As needed, U. C. Davis will assist DWR in the dynamic response analyses of Delta levees.

## PHASE III COMPONENTS

- Sponsor research to reassess the peak accelerations in the Delta. Determine influence of factors such as direction of rupture and characteristics of the propagation path. Also, reassess the influence of the Coast Range Sierra Nevada Boundary Zone.
- Refine seismic stability evaluations using data obtained in Phases II and III.
- Reconvene Board of Consultants to evaluate work and provide recommendations.
- Produce final report.

### OTHER WORK RELATED TO SEISMIC ISSUES IN THE DELTA

- Reviewing seismic risk analyses for the California State Water Project.
- With the American Society of Testing and Materials DWR is developing a soil classification system for peat/organic soils.