



Douglas R. Schwarm, P.E.

Chief Engineer

Doug has 25 years experience in earthworks and foundation engineering on significant projects worldwide. He manages multidisciplinary teams that develop innovative solutions to unusual problems. His primary expertise is classical geomechanics and foundation design, with supplemental training in decision analysis, risk management, and numerical modeling.

Doug's practice is geographically and technically diverse. He solves challenging means-and-methods problems for marine contractors all over the Pacific, designs shoring and ground improvement, is a geotechnical expert for plaintiff and defense, reviews other consultant's seismic designs, provides geotechnical engineering for municipal infrastructure projects, and consults on petroleum storage tank integrity matters. Doug has strong communication skills, is able to meet commitments, and is dedicated to project success.

Education:

M.S. Geotechnical Engineering - U.C. Berkeley, 1988

B.S. Civil Engineering - U.C. Berkeley, 1987

Professional Engineering Registration:

CA, OR, WA, HI, and other jurisdictions

Featured Project:

Legacy Parkway Piledriving

Doug is Plaintiff's geotechnical expert for this \$1.7 million piledriving claim.

Unconventional procurement for the 5 bridges resulted in critical information being omitted from the plans and specifications. A lack of communication and trust between Owner and piling subcontractor escalated the dispute to litigation.





Project Experience

Doug works on major projects in all types of terrain and climate all over the globe. The following sections describe a few of Doug's more interesting projects.



Dispute Resolution

Wyckoff v. Santa Cruz County

Santa Cruz, California

Defense's geotechnical expert for mediation and trial regarding a stormwater-induced debris flow that damaged Branciforte Drive and adjacent private property. Prepared reports, gave deposition, and testified at trial.

Lichen Oaks Ranch v. Santa Cruz Co.

Santa Cruz, CA

Geotechnical expert for a streambed erosion dispute originating on in Quail Hollow Regional Park.

Majuro ARFF Revetment Failure

Republic of the Marshall Islands

Geotechnical engineer for evaluation and mitigation of a revetment failure at the new airport firefighting facility. Reviewed design and construction records, performed a detailed reconnaissance and failure analysis, and developed repair recommendations.

Natatorium Refurbishment

Waikiki, Oahu, HI

Provided geotechnical and shoreline expert services during a contentious planning process for the historic saltwater natatorium.



Bridge

Leone Village Bridge Replacement

Leone, American Samoa

Designed abutment walls and pile foundation for a cast-in-place concrete bridge replacing one destroyed by the September 2009 tsunami.

Beaverton Creek Bridge

Hillsboro, Oregon

Developed foundation and wall design recommendations for a 4-lane concrete bridge carrying Baseline Road across Beaverton Creek.

Foothill Transportation Corridor

San Diego County, California

Geotechnical engineer for a short but troublesome section of the 6-lane toll road. Designed slope stabilization measures in conjunction with one of the longest bridges on the highway.

Legacy Parkway Piledriving Dispute

Davis County, Utah

Provided geotechnical expert services on the contractor's side of a dispute about dynamic load test procedures on five highway bridges.

Jackson Drive Extension

San Diego County, California

Geotechnical engineer for two highway bridges 1,200 and 200-feet long.

Highway Bridge Seismic Retrofit

Central and Southern California

Developed seismic design parameters for retrofit of numerous highway bridges around San Diego and out to Arizona. Collaborated with structural engineers to design efficient improvements at sites with limited access.



Landslide

Maunaloa Highway Slope Repair

Molokai, Hawaii

Evaluated a complex landslide failure at MP 13 on the main road across Molokai and designed an earthwork-and-drainage repair.

U.S. Hwy 20 Landslide Remediation

Cascadia, Oregon

Project geotechnical engineer for analysis and design of landslide repairs in steep mountainous terrain.

Harmony Drive Landslide Repair

Longview, Washington

Geotechnical engineer for design and construction of a tied-back structure retaining the roadway embankment.

Slope Stability Repair

Ketchikan, Alaska

Project geotechnical engineer for evaluation and repair of slope stability failures at the Tesoro Alaska bulk terminal.



Road

Palau Compact Road

Republic of Palau

Project engineer for Daewoo's value engineering redesign of embankments on the perimeter road around Babeldaob.

Baseline Road Improvements

Washington County, Oregon

Geotechnical engineer for widening and culvert replacements along a major connector road between Hillsboro and Portland.

Weno Road Improvements

Chuuk, Micronesia

Replacement, extension, and widening of 10 miles of road on the principal island of Chuuk State.

Foothill Transportation Corridor

San Diego County, California

Geotechnical engineer for a toll road segment affected by four nested ancient landslides and an active fault.

Roadway Extensions

Metropolitan Portland, Oregon

Geotechnical engineer for numerous roadway widenings including retaining walls, pavements, culverts, and short bridges.

Rockfall Protection

Honolulu, Oahu, Hawaii

Designed rockfall protection measures for several roads on Oahu. Quantified rockfall hazard, selected feasible protection measures, and performed lifecycle cost analyses to select an alternative.

Gwadar Expressway

Gwadar, Pakistan

Geotechnical engineer for design of the causeway embankment, roadway, and drainage facilities on a coastal road serving the Port of Gwadar.

Hale Mua Road Improvements

Wailuku, Maui, Hawaii

Designed earthwork, culvert crossings, and retaining walls for widening Hale Mua Road leading to a new potable water tank.

Weno Road Improvements

Chuuk, Federated States of Micronesia

Geotechnical engineer for 35 miles of new and refurbished road around a remote island.

Jackson Drive Extension

San Diego, California

Conducted site characterization for a 3-mile long roadway extension that included 1,200-foot-long and 200-foot-long bridges.

Heavy Haul Road Extension

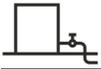
Pascagoula, Mississippi

Performed fast-track field redesign of the heavy haul road extension necessary to convey process columns from a dock to the existing heavy haul road.

Roadway Widenings

Clark County, Washington

Geotechnical engineer for numerous widenings, extensions, and improvements to arterial streets in the rapidly expanding suburbs around Vancouver, Washington



Water & Wastewater

Sewer Improvements

Camp Pendleton, California

Designed trench shoring and dewatering for 23 miles of gravity and force main sewer connecting seven sewage treatment plants to new infiltration ponds.

Cowlitz Sewer System

Cowlitz County, Washington

Provided geotechnical engineering for a number of expansion and improvement projects on the Cowlitz Sewer Operating Board system.

Water and Sewer Expansion

Chuuk, Federated States of Micronesia

Project geotechnical engineer for 25 miles of new water and sewer pipeline around Chuuk.

Mint Farm Pump Station

Longview, Washington

Geotechnical engineer for a 40-foot diameter caisson pump station in very soft ground.

Turk Power Plant Freshwater Intake

Fulton, Arkansas

Geotechnical engineer for a caisson pump station with tunneled intake structure in the Red River. Flooding during piledriving for the intake pipe required prompt field engineering.

Dallesport Sewer System

Dallesport, Washington

Geotechnical engineer for a new sewer system serving all of Dallesport. Provided design and construction recommendations for pump stations, force and gravity sewers, a wastewater treatment plant, and an outfall.



Dam

Pearce Dam Bypass

Santa Margarita, California

Evaluated stability of a rubble masonry dam on the Salinas River and designed a bypass channel to prevent overtopping

Irrigation Dam Improvements

East and West Kauai, Hawaii

Completed a multiphase condition assessment and improvement of five agricultural dams on Kauai. Conducted detailed analyses for three of the five dams to support new State permits.



Building

Rose Garden Arena

Portland, Oregon

Geotechnical engineer for the 4-building urban sports complex.

Teekiu Community Center

Kingdom of Tonga

Geotechnical engineer for a very robust community center that doubles as a typhoon shelter.

State Office Building Addition

San Francisco, California

Monitored dewatering, shoring displacements, and underpinning for seismic improvement and building addition

School Improvements

Federated States of Micronesia

Geotechnical engineer for 8 school expansions and new campuses around Pohnpei and Chuuk.

Resort and Parking Structure

Seaside, Oregon

Geotechnical engineer for an 8-story oceanfront resort development on the Boardwalk in Seaside, Oregon.

Retail Store Developments

Pacific Northwest

Provided geotechnical engineering for big box retail developments for Home Depot, Albertsons, Fred Meyer, Target, and Costco.

United States Courthouse

Portland, Oregon

Foundation engineer for the 14-story downtown courthouse with two basement levels.

The Parker Apartments

Portland, Oregon

Designed an innovative driven grout ground improvement system that allowed founding the 5-story building on spread footing.

US BankCorp Building

Eugene, Oregon

Foundation engineer for the 10-story office building in downtown Eugene.

Willamette Valley Medical Center

McMinnville, Oregon

Geotechnical engineer for a new hospital located on a site with very poor drainage and mantled by soft agricultural soils.

Meridian Park Hospital Additions

Tualatin, Oregon

Project geotechnical engineer for eight separate building additions to the hospital.

Shriner's Hospital Parking Structure

Portland, Oregon

Project geotechnical engineer for a new multistory parking structure on a steep hillside site.



Power Plant

River Road Cogeneration Facility

Vancouver, Washington

Geotechnical engineer for the 125 MW cogeneration project at the Port of Vancouver, Washington.

Power Plant Expansion

Maalaea, Maui, Hawaii

Performed vertical and lateral load tests on concrete piles that support new generators at the central Maui power plant.



Rail

Simplot Feed Lot Loop Track

Pasco, Washington

Project geotechnical engineer for a 15,000-foot loop track and grain silo facility at Simplot's Pasco Feed Lot.

Santee Light Rail Transit Extension

San Diego, California

Project geotechnical engineer for 3.5 miles of combined light/heavy rail through downtown El Cajon and Santee, including



Sustainability

Midway Atoll Infrastructure Evaluation

Midway Atoll Wildlife Refuge

Led a multidisciplinary group that evaluated existing infrastructure condition and recommended changes to support two alternative levels of refuge occupancy.

Kalaeloa Redevelopment Engineering

West Oahu, Hawaii

Engineering lead for infrastructure studies and development feasibility evaluations of the disused Barbers Point Naval Air Station.

Army Housing Sustainability

Oahu, Hawaii

Specialty sustainability engineering services for private development of replacement housing at Army bases on Oahu.

Lago Gatun Sustainable Development

Lago Gatun, Panama

Provided sustainable sitework and infrastructure engineering for a planned residential development on the shore of the Panama Canal.