

# Watershed Management and Hydrologic Monitoring

## Southern California

### CLIENT

Pepperdine University

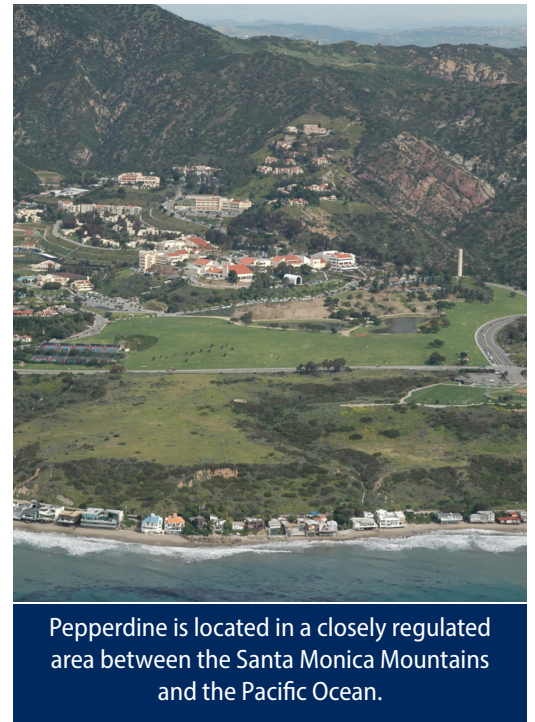
### HIGHLIGHTS

- **Complex, interrelated risk management, regulatory, and operational water management issues**
- **Extensive reclaimed water irrigation system**
- **Monitoring and modeling of surface water, groundwater, and vadose zone conditions**
- **NPDES and WRR compliance**
- **Cost savings through operational efficiency**
- **Implementation of sustainability measures for positive community relations**



Recycled water is used to irrigate the campus.

DBS&A has supported Pepperdine University for more than 15 years on several complex and interrelated water management issues, helping the University to identify, understand, and prioritize issues in three categories: risk management (preventing geotechnical instability), regulatory (related to groundwater levels, water quality, and other potential impacts to the environment), and operational (irrigation efficiency and storage reservoir management). DBS&A also helps Pepperdine to address sustainability-related issues with regard to campus development, water quality, and irrigation efficiency, including irrigation monitoring to conserve water and reduce runoff on campus. The University operates an extensive recycled water irrigation system that distributes approximately 200 acre-feet of water per year—over 99 percent of campus irrigation. These efforts result in cost savings for the University and help to maintain positive public relations with the surrounding community consistent with the University's sustainability policy.



Pepperdine is located in a closely regulated area between the Santa Monica Mountains and the Pacific Ocean.

DBS&A conducts monthly monitoring of surface and groundwater quality, water levels, soil moisture content, and sub-drain flow to ensure that water use on the facility is not impacting historic flow regimes or water quality conditions. DBS&A also uses a water balance model to track irrigation, evapotranspiration, surface runoff, soil storage, deep percolation, and groundwater recharge resulting from irrigation practices. Groundwater monitoring and reporting is conducted in conjunction with Water Recycling Requirements (WRR) and National Pollutant Discharge Elimination System (NPDES) surface discharge permitting. Annual reports are submitted to the Los Angeles Regional Water Quality Control Board, Los Angeles County Department of Public Works, and local community groups.

Addressing regulatory, operational, and risk management imperatives within technical and economic constraints, DBS&A helps Pepperdine University to maintain its commitment to its environmental, health, safety, and sustainability goals.