



PROJECT BRIEF

# Katrina Litigation Floodwall Breaches

## PROJECT PROFILE

**CLIENT:**  
United States Department of Justice

**LOCATION:**  
New Orleans, LA

- VALUE:**
- Clear, comprehensive compilation of extensive data and field testing, convincing expert testimony as to the cause of failure
  - Evidence that both failures were primarily caused by scour of the land side embankment due to overtopping of the floodwall

- SERVICES PROVIDED:**
- Numerical modeling and failure analysis
  - Advanced lab testing
  - Expert witness testimony

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## EXPERT WITNESS TESTIMONY

The USACE was defended by the US Department of Justice who retained Dr. W. Allen Marr, founder and CEO of Geocomp, as one of its expert witnesses. Geocomp personnel were involved in the oversight of continuous undisturbed sampling with 5-inch diameter tubes, cone penetration testing, field vane testing and in situ permeability testing. Geocomp also provided laboratory testing services including direct simple shear strength testing, constant rate of strain consolidation testing and permeability testing to help characterize the strength, compressibility and permeability of the natural soils in the levee’s foundation. Geocomp engineers assisted Dr. Marr in his evaluation with extensive analyses of global stability groundwater flow and deformations caused by the hydraulic loading of the flood wall. These analyses included 3-D finite element analyses to examine the stresses developed in the structural elements of the wall due to differential deformations of the soil foundation and transient seepage analyses to evaluate the time required for pore pressures to increase in the levee embankment.



## BACKGROUND

Hurricane Katrina struck New Orleans during the morning of August 29, 2005. It caused numerous failures of the levee protection system and flooding of New Orleans. Two breaches of the East Bank Industrial Area (EBIA) levees resulted in the inundation and destruction of the Lower Ninth Ward and parts of Chalmette. Claims filed in US District Court contended that the US Army Corps of Engineers were negligent in maintaining and protecting the integrity of the levee and floodwall system along the EBIA. Plaintiffs asserted that environmental remediation work performed on the floodside of the levee system provided preferential pathways for water pressure to transmit beneath the floodwall and cause the landside embankment to fail by shear sliding.