

Project: Jefferson Parish, LA Floodwall Design, USACE**Client: New Orleans District, US Army Corps of Engineers****Client Contact: Craig Waugaman****MSMM Services:** Geotechnical, Structural and Civil Design Engineering; Engineering During Construction**DESCRIPTION**

MSMM personnel furnished services for the design and preparation of Design Documentation Reports (DDR), plans and specifications (P&S), engineering and design (E&D), support during advertisement, assisting the Government and the stakeholder Levee Districts at Public meetings, and coordinating with all local, state, and Federal authorities for these hurricane protection projects. Engineering during construction were also part of MSMM personnel's responsibilities. The Projects involved **Risk Informed Decision Based Computational Analyses and Services** to meet the Standard Project Hurricane (SPH) protection based on the Hurricane Storm Risk Reduction Analyses to bring the protection to the 100-year level. The professional services required include field investigations, surveys, soil borings, lab testing, quality and compliance verification with the P&S detailing geotechnical, structural and civil systems. The design of the project's components involved Geotechnical Analysis (Seepage Analysis, Stability Analysis using Method of Planes and Spencer's Method, Settlement Analysis, etc., on Levees, Dikes & Berms), Structural Analysis (T & I - walls, Cut-off Walls) and Civil Analysis (Hydraulic & Hydrologic Studies - Rainfall Run-off & Drainage calculations, Wave Loading). Challenges included very poor soil conditions, with up to 60 ft of very soft clay, construction under low overhead clearance, as there were overpass bridges and high voltage power lines maintenance of park operations and access, construction adjacent to a canal, during hurricane season, requiring a thorough emergency plan, flight paths, among other minor challenges.

Components of the project included:

Kenner West Return Floodwall (18,300 ft): This segment consists of various T-wall and I-wall monoliths with a levee tie-in sheet pile to the south and a Re-curve Floodwall tie-in to the north. **I-10 Overpass:** Included a steel diaphragm between the existing I wall and I-10 overpass structure. New T-wall section was placed between the two overpasses and a breakwater to minimize wave loading on the structure.

West Esplanade Ave.: New pedestrian access gate within the T-wall monolith at the end of West Esplanade.

Re-curve Floodwall in Northwest Kenner (850 ft): This segment in Northwest Kenner consists of I-wall monoliths, wave buffers and a vehicular gate.

Floodwall & Gate at Williams Blvd Boat Launch: The Williams Blvd floodwall segment consists of an I-wall, T-wall and vehicular roller gate monoliths.

Segnette Bayou Park (1.5 Miles): Seepage cut-off wall installation, utilities relocation, T-wall & I-Wall, construction, stability berm construction, flood gates, and levees tie-ins.

