

# Geotechnical Settlement and Wall Analysis



## BACKGROUND

Proposed projects that would alter or relocate any part of a levee may require embankment settlement analysis. Proposed projects that would alter or relocate any part of a floodwall or revetment may require structural analysis. The analysis and report documenting the findings should be certified by a Professional Engineer and submitted to MCD.

## PROJECT REQUIREMENTS

### Geotechnical Exploration

Geotechnical/subsurface exploration, analysis, and documentation may be required to develop parameters for the settlement analysis and are the responsibility of the project owner.

### Settlement Analysis

- Settlement analysis should follow the guidelines of U.S. Army Corps of Engineers manual 1100-2-1904, "*Soil Mechanics Design – Settlement Analysis.*"
- Analyses should address
  - Embankment loads
  - Compressibility of embankment soils
  - Compressibility of foundation soils
  - Age of levee system or dam
  - Construction compaction methods
- MCD may require a higher finish elevation to mitigate potential settlement.

### Wall Analysis

Any proposed improvement, development or use that alters or relocates concrete walls or revetment requires:

- Structural analysis of floodwalls, crest walls, and retaining walls following the guidelines of U.S. Army Corps of Engineers manual 1110-2-2502, "*Retaining and Flood Walls.*"
  - Bearing Capacity
  - Overturning
  - Sliding
  - Flexural Capacity

## QUESTIONS

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