



# RAVINE, BLUFF & ROAD RECONSTRUCTION LAKE FOREST BEACH

## PROBLEM

When an 80-foot section of shoreline bluff collapsed after days of heavy rain, Lake Forest city officials began an accelerated search for a long-term design-build solution.

## SOLUTION

- » The ravine was stabilized using a 150-foot soldier beam and a concrete lagged wall with drilled tie backs on one side and compacted aggregates and a geofabric-wrapped slope on the other
- » Improvements included a stormwater channeling system of descending step pools, spillways and culverts
- » The lakeside bluff face was buttressed with 90,000+ tons of compacted aggregate in 12" lifts rising 70 feet
- » A public access road was realigned, repaved, curbed and guttered; disturbed areas were landscaped

## IMPACT

- » The Lake Forest Park Beach reopened on schedule 14 months later
- » The city was able to solve three emergency needs using one expert contractor in the role of emergency consultant, design builder and competitive bidder

## DETAILS

### WORK

Ravine restoration, stormwater management, road realignment, and bluff stabilization as part of a three-project contract impacting city-owned beach and a private homeowner

### LOCATION

Lake Forest Beach, Lake Forest, IL

### BUDGET

\$3,880,000

### OWNER

City of Lake Forest

### GENERAL CONTRACTOR

John Keno & Co.

