



## CASE STUDY

# DES MOINES RIVER STABILIZATION

River Bank Stabilization  
Palo Alto County, IA

## PROJECT SUMMARY

The West Fork of the Des Moines River in Palo Alto County, had experienced years of erosion and flooding. From 2006 to 2019, the riverbank had receded up to 215 feet in the middle of the bend. Approximately three acres of soil had been lost during that timespan, and the receding shoreline was approaching an existing roadway. The historic Kirby-Flynn Bridge was also in jeopardy of approaching waters. This bridge is the only remaining pin-connected Pratt high-truss bridge in the U.S., and dates back to 1881.

The Sioux City Natural Resource Conservation Service (NRCS) wanted to stabilize approximately 865 lineal feet of the bank, and reinstate channel alignment to what it was in 2006. Initially the project engineer considered using rock riprap, but wanted to find a more cost effective solution.

A combination of SCOURLOK® and ARMORMAX® was selected because it provided long-term protection from erosion, promoted reinforced vegetation, and helped improve water quality at a lower cost than rock. Both systems are designed to resist extreme hydraulic stresses and are able to withstand wave action.

The design included two rows of SCOURLOK along the 2006 channel alignment with a benched area protected by ARMORMAX to the current bank condition. Additionally, an upper wall section with one row of SCOURLOK was installed to protect the current bank location.



## PROBLEM

Palo Alto County needed to remediate and stabilize the banks of the Des Moines River to protect nearby infrastructure.



## SOLUTION

A combination of 2,940 feet of SCOURLOK and 6,200 square yards of ARMORMAX was installed.



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## FEATURES & BENEFITS

- Resists extreme hydraulic stresses, protecting vegetated and un-vegetated applications
- Units can easily be connected and contoured to accommodate projects of any size
- Units can be filled with in-situ soils, eliminating the cost of importing fill material to a jobsite
- Compact design makes shipping costs more effective than traditional hard armoring solutions
- Units ship pre-assembled for fast and easy installation, reducing overall installation costs
- Units are deployed faster than conventional methods and can be filled using machinery



## PERFORMANCE

The combination of SCOURLOK and ARMORMAX will prevent erosion caused by hydraulic and geotechnical forces for up to 75 years.

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