Society of SAME American Military Engineers Omaha Post

WELCOME

VIRTUAL MEETING WILL BEGIN AT

11:30 AM Central

Society of American Military Engineers

Omaha Post

April 14th 2026 Meeting

Omaha Post Meeting

Society of American Military Engineers

Omaha Post

April 14th, 2026 Meeting

Society of SAME American Military Engineers Omaha Post

Meeting Agenda

- Pledge of Allegiance
- New Member/Guest Introductions
- Invocation
- Lunch
- Announcements
- Member Spotlight – Schemmer
- Presentation – Watershed Geo
- Q&A
- Split Kitty Drawing
- Closing Remarks

Society of SAME American Military Engineers Omaha Post

Pledge of Allegiance

I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all.

Introductions

Introductions

- Welcome Student Chapter Members
- Welcome New SAME Members
- Introduction of Guests

Society of SAME American Military Engineers Omaha Post

Invocation

Please join us in the invocation before we dismiss for lunch

Society of SAME American Military Engineers Omaha Post

Lunch

Dismiss by table

In Memory of Jimmy R. Brasch

Society of SAME American Military Engineers Omaha Post

Announcements

- **SAME Omaha Post Celebrates 32 years of SMP!**
  - ▶ Student Mentorship Program (SMP) for over 200 HS & MS students
  - ▶ Approximate timeline: September - March
  - ▶ Please contact Nicole Hunter at samesmp@gmail.com if you are interested in being a part of this program

Thank you to mentors, teachers, judges, & volunteers!

Announcements

- **SAME Omaha Post Seeking Candidates for 2026-2027 Board**
  - Seeking candidates for several Board of Directors positions for 2026-2027
  - Contact Natasha Gromak at Natasha.Gromack@woolpert.com
- **Vote for SAME National Leadership**
  - Deadline to vote April 15, 2026
  - Vote here: clicking here

Announcements

- **A/E/C Masters: Teeing Up for Connections**
  - Tee up for an afternoon of great connections, friendly competition, and a chance to learn more about the organizations that help our industry thrive! Whether you're new to the field or a seasoned pro, this event is your chance to meet fellow "Masters" of the A/E/C industry and expand your professional network.
  - POC: Bobbi Jo Lang
  - Date/Time: April 15th from 3:00-5:00 PM (CST)
  - Location: Legends Patio Grill & Bar, 6920 Pacific St, Unit 100, Omaha, NE 68106
  - Cost: $25 for members of participating organizations or $30 for non-members
  - **Click Here for More Information and to Register**

Society of SAME American Military Engineers Omaha Post

Announcements

- **Nebraska APEX Accelerator Meet the Buyers 2026 Virtual Conference**
  - Connect directly with government agencies, prime contractors and resource partners during this three-day virtual conference.
  - POC: Terry Morgan
  - Date/Time: April 28-30
  - Click Here for More Information and to Register

Society of SAME American Military Engineers Omaha Post

Announcements

- **At Ease USA Heroes on the Green 2026 Charity Golf Outing**
  - Join us for friendly competition and chances to win big – all for a great cause! All proceeds support mental health programs for local military and frontline healthcare heroes.
  - POC: Bobbi Jo Lang
  - Date/Time: 8:00 a.m. May 8, 2026
  - Location: Tiburon Golf Course, Omaha, Nebraska
  - Click here for more information and to register.

Announcements

- **Save the Date for the 2026 SAME Missouri River Joint Engineer Training Symposium (JETS)**
  - Hosted by Omaha & GKC Posts. CHI Center, Omaha, Nebraska
  - **May 27-29, 2026**
  - **Registration is open.** Booth space over 80% sold out!
  - Click here for more information and to registration.
  - POC: Chris Artz or Bobbi Jo Lang

Announcements

- **SAME Monthly Post Meeting – May 2026**
  - May 12th at Field Club of Omaha
  - Member Spotlight: Aerostar – Matt Coan, PG, MMR Program Manager / Project Manager
  - Topic: Nebraska Task Force One – Ashley Engler, Program & Training Manager
  - POC: Ted Kocher

SCHEMMER

Design with Purpose. Build with Confidence.

SAME – Omaha Post

Corporate Member Presentation

Tom Svoboda, PE,

Government Market Leader

April 14, 2026

Schemmer

FULL-SERVICE ARCHITECTURE, ENGINEERING & CONSTRUCTION FIELD SERVICES CONSULTANT

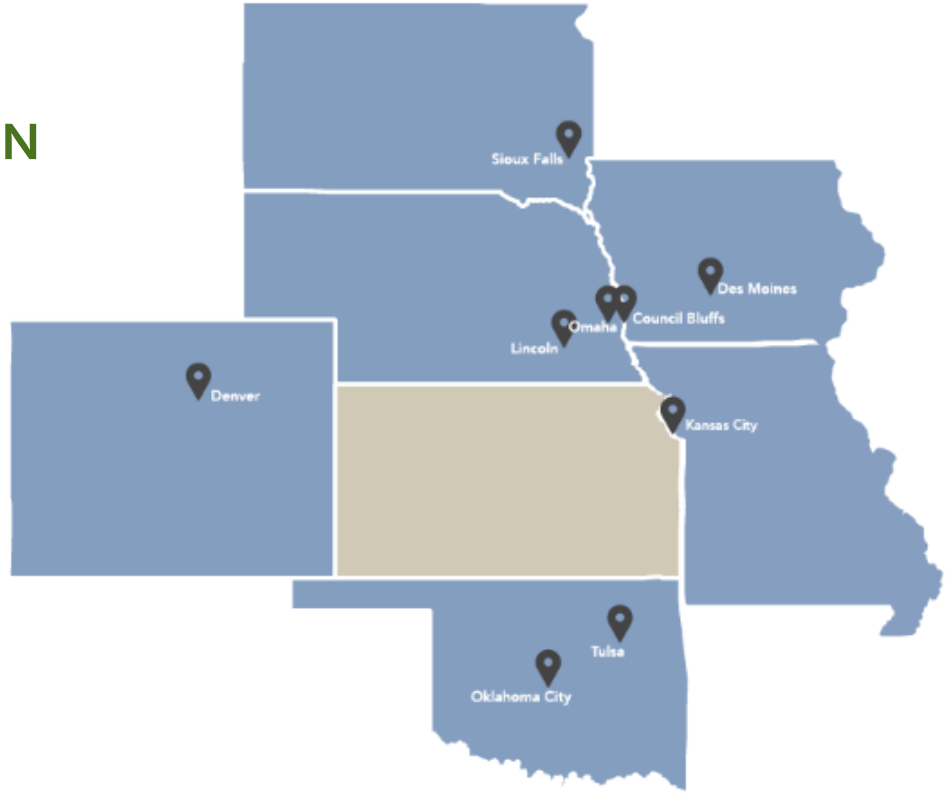
FOUNDED IN 1959

NINE OFFICES IN SIX STATES

170-PERSON FULL-SERVICE AE FIRM

40+ YEARS OF WORKING ON FEDERAL PROJECTS

OVER 1,100 FEDERAL PROJECTS WITH A TOTAL FEE OF $59M



CIVIL/SITE

TRANSPORTATION

TER/WASTEWATER

SURVEY

GEOTECH

FIELD SERVICES

ARCHITECTURE

STRUCTURAL

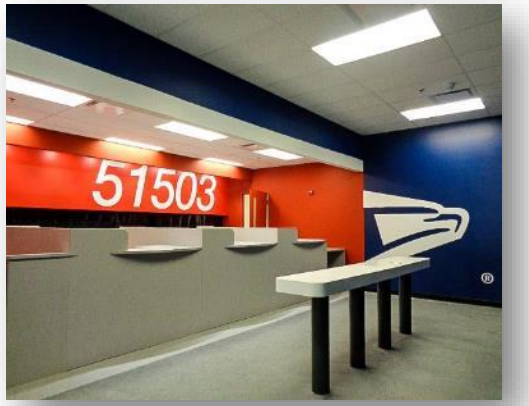
MECHANICAL

ELECTRICAL

Government Experience

- OFFUTT AFB – AE IDIQ
- USDA – NORTH PLAINS REGION - AE IDIQ
- NATIONAL PARK SERVICE - AE IDIQ
- USACE – OMAHA DISTRICT
  - AIRFIELD PAVEMENT IDIQ (SB)
  - LEVEE REPAIR SUPPORT
    - SURVEY & MATERIAL TESTING
  - DESIGN-BUILD – OFFUTT AFB FLIGHTLINE
  - FACILITIES FOR AIRCRAFT FUEL SYSTEM
- GSA REGION 8 – AE IDIQ
- NATIONAL GUARD – NE, IA, & SD
- US POSTAL SERVICE - AE IDIQs

Cannon AFB – Fueling Facility



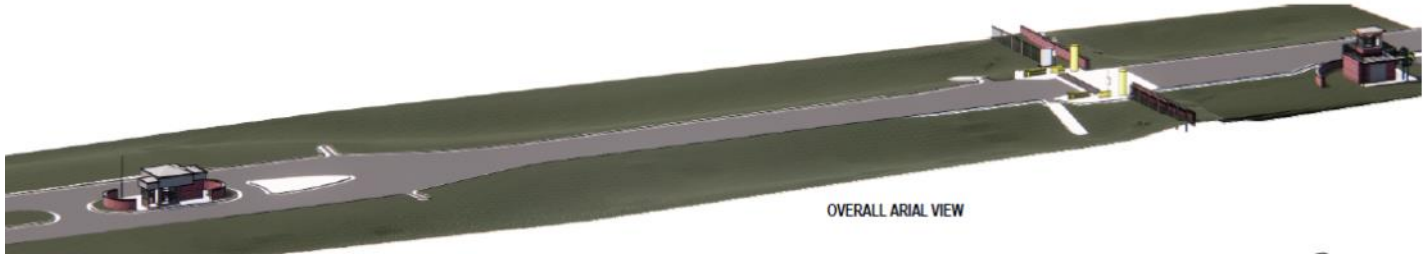
USPS Facility – Council Bluffs, IA

NE Air National Guard Hangar

Design Services

- FACILITY ASSESSMENTS
- PROGRAMMING CHARRETTE REPORTS
- DESIGN – BUILD RFPS
- FULL DESIGNS
- SUSTAINABLE DESIGNS (14 LEED CERTIFIED STAFF)
- DESIGN – BUILD PROJECTS (DESIGNER OF RECORD)

South Dakota ANG Maintenance Facility

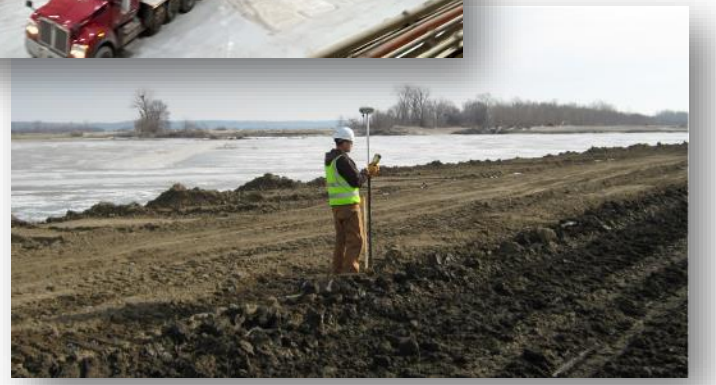


Grand Forks AFB Entrance Gate Design-Build RFP

Offutt AFB Flightline Facilities Design-Build

Construction Period Services

- GEOTECHNICAL INVESTIGATION AND REPORTS
- TOPOGRAPHICAL SURVEYS
- MATERIAL TESTING
- CONSTRUCTION STAKING



Scanning, Drones and LIDAR

- 3D SCANNING OF EXISTING BUILDINGS
- USED FOR ACCURATE BUILDING MODELING
- GATHER FIELD AREA PHOTOGRAPHY AND TOPOGRAPHIC INFORMATION

Working with Schemmer

- PRIME CONTRACTOR WITH SEVERAL AE IDIQ CONTRACTS
- SUPPORT TO CONSTRUCTION CONTRACTORS
- SMALL BUSINESS AE FIRM IN NAICS 541-330
- INTERESTED IN PARTNERING AS A TOTAL SMALL BUSINESS OR ON UNRESTRICTED AE CONTRACTS
- DESIGN PARTNER FOR DESIGN-BUILD CONTRACTS
- OPEN TO MENTOR / PROTÉGÉ DISCUSSIONS

SCHEMMER

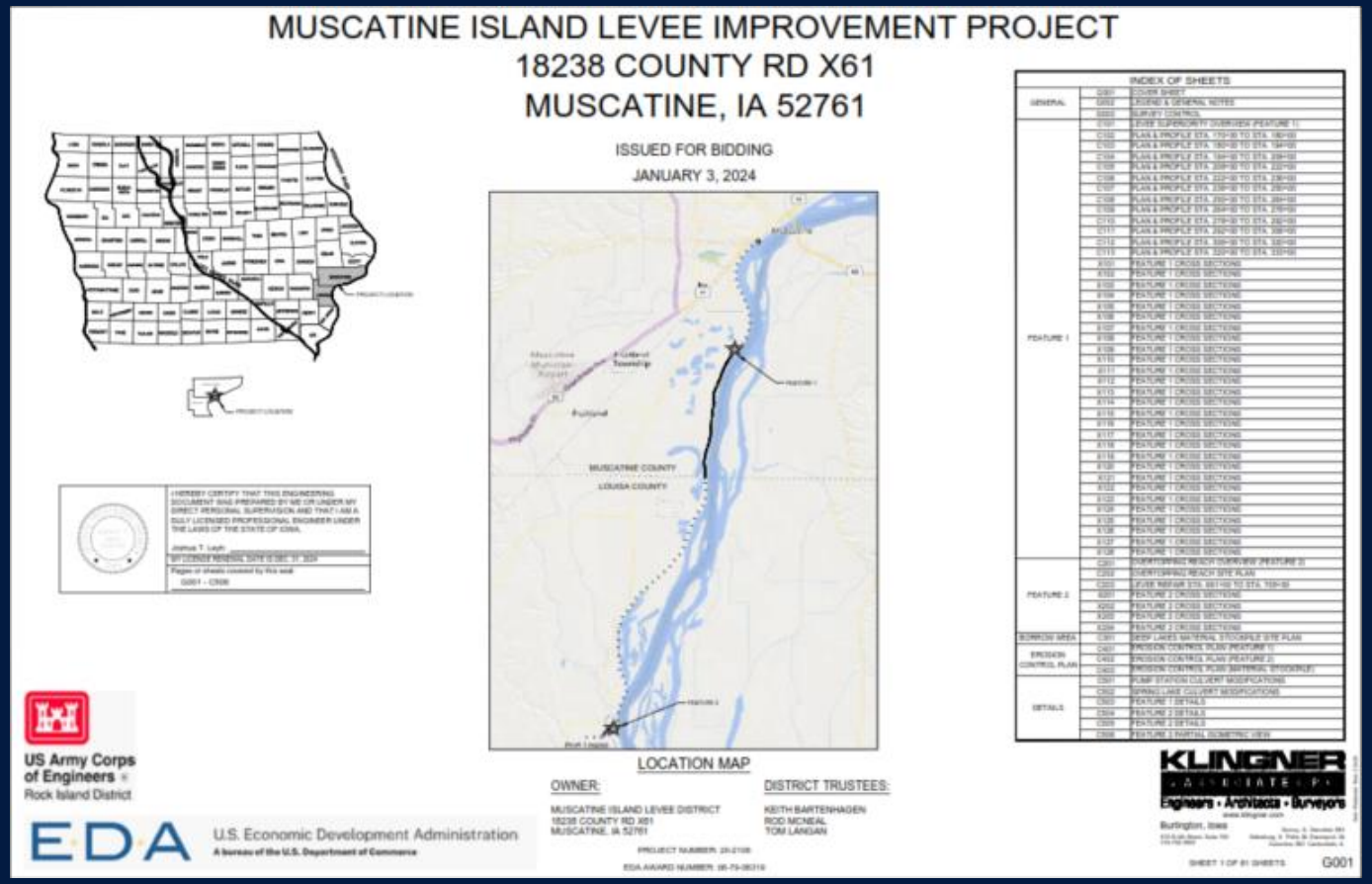
Design with Purpose. Build with Confidence.

THANK YOU!

Tom Svoboda, PE | Government Market Leader

402.493.4800 | tsvoboda@schemmer.com

Synthetic Turf Revetment Systems on the Mississippi River



Evan Fischgrund, P.E.

Mountain-Plains Region Director

FLOODING CHALLENGES ON THE MISSISSIPPI RIVER

- **Mississippi River:** Largest drainage basin in the U.S., critical for commerce and infrastructure.

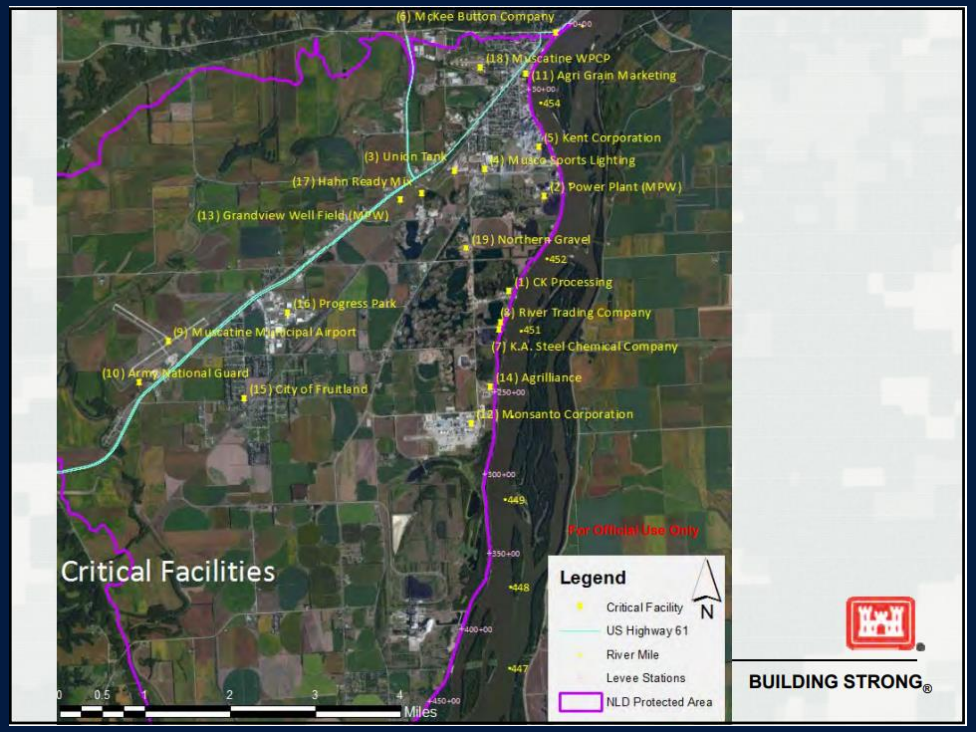
- **Historical Flood Events:**
  - 2008 Levee Breaches: Resulted in billions in damages, displacing communities and disrupting industry.
  - Great Flood of 1993: One of the most destructive floods in U.S. history, reshaped floodplain management policies.

- **Lessons Applied:**
  - Muscatine Island Levee Improvement Project designed to mitigate overtopping risk and prevent catastrophic failures.

Gulfport, IL levee breach during the 2008 Mississippi River flood (*Source: Quill Newspaper, 2008*)

MUSCATINE ISLAND LEVEE: PROTECTING CRITICAL INFRASTRUCTURE

- **Location:** Mississippi River Mile 455 to 442
- **Protection Area:** 30,000 acres of agricultural, industrial, and residential land.
- **Economic Impact:** Supports 221 businesses, generating $881 million annually.
- **Breach Consequences:** Severe environmental, economic, and societal disruptions.



Critical Facilities within the Muscatine Island Levee District (USACE 2013)

HYDRAULIC MODELING & OVERTOPPING RISK ANALYSIS

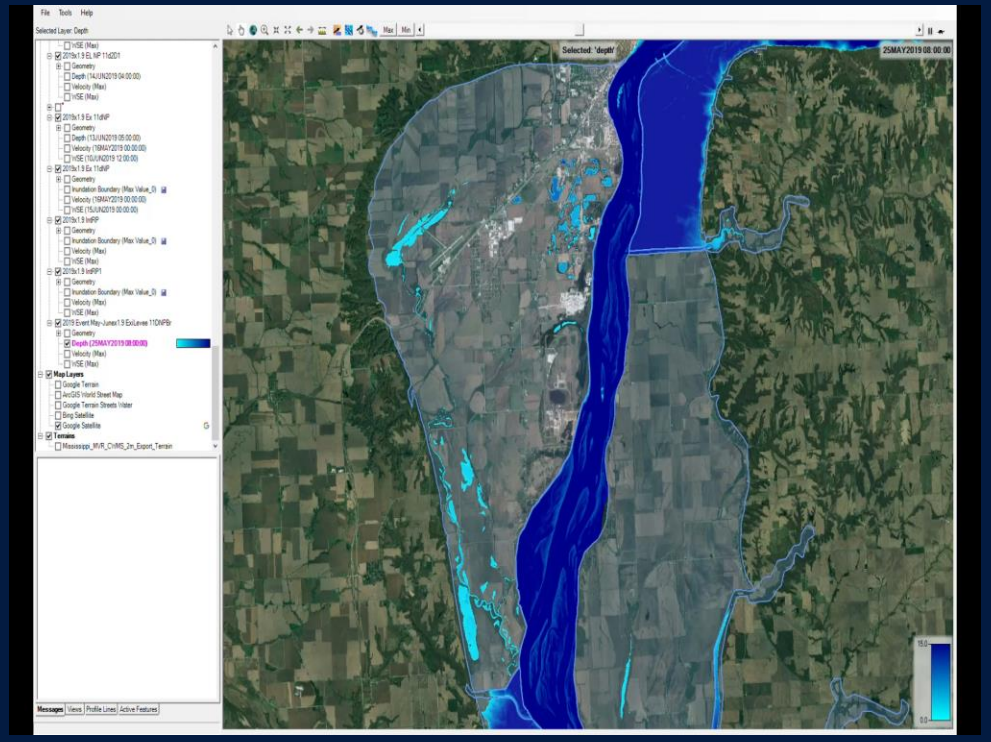
- USACE's Upper Mississippi River Flood Risk Management (UMR FRM) Phase II Model used to quantify the overtopping risk.

- Two critical incipient points identified:
  - 3-mile segment on the southern end of the levee system in Muscatine County.
  - 1,000 –foot reach on the Southern end of the levee in Louisa County.

- Design Considerations: Different sections of the levee required tailored protection strategies based on risk assessments and overtopping scenarios.

OVERTOPPING SCENARIOS AND BREACH RISK

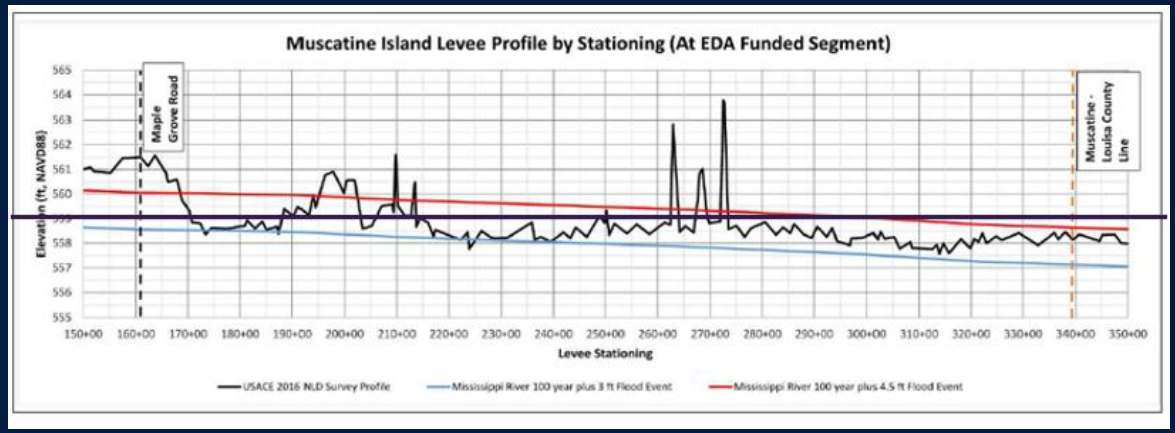
- Three Primary overtopping scenarios modeled:
  - 3- day crest, 7-day crest, and 11-day crest durations for the 500-year event.
  - Overtopping will lead to instability and failure especially under the 7 and 11-day scenarios.



RAS Mapper inundation output for a 500-year+ storm with an 11-day crest breaching the existing levee's northern end

FLOODPLAIN INUNDATION & LEVEE DESIGN ADJUSTMENTS

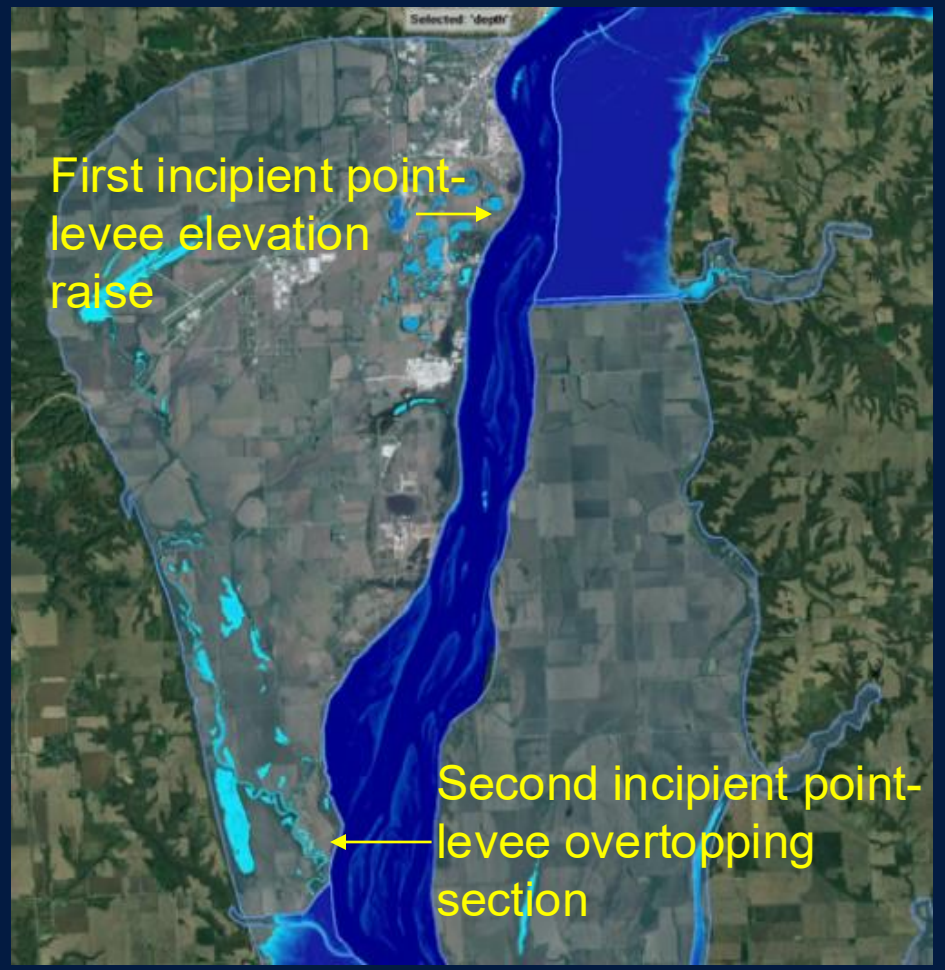
- **Flood model results:** Entire floodplain would be inundated within 24 to 50 hours.
- **Projected impact:** multi-billion-dollar environmental and economic disaster.
- **Levee elevation adjustments**:
  - Raised to meet USACE 100-year flood +4 feet freeboard standard
  - Designed for 0.5% annual exceedance probability flood (200-year flood)
- **Additional freeboard:**
  - Enhance resilience against extreme flood events
  - Shifts incipient overtopping point further downstream



Levee Profile Before and After Improvement.

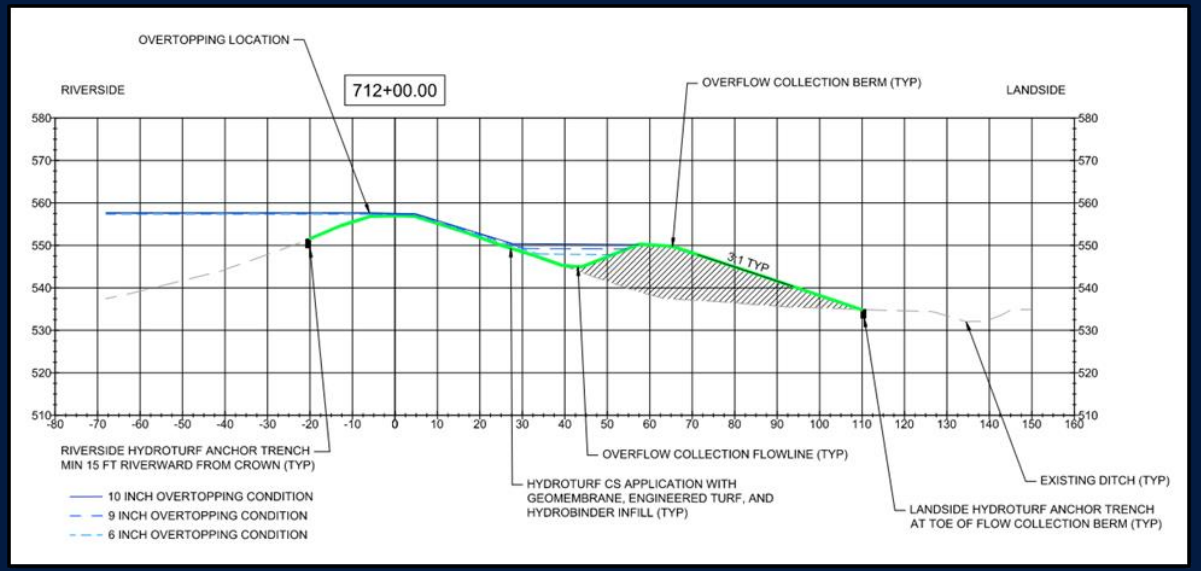
CONTROLLED OVERTOPPING DESIGN FOR LEVEE PROTECTION

- Overtopping Section created at the low point of the system in Louisa County.
- Engineered to safely direct floodwaters into the existing drainage system.
- Prevents catastrophic levee failure by allowing controlled overtopping.



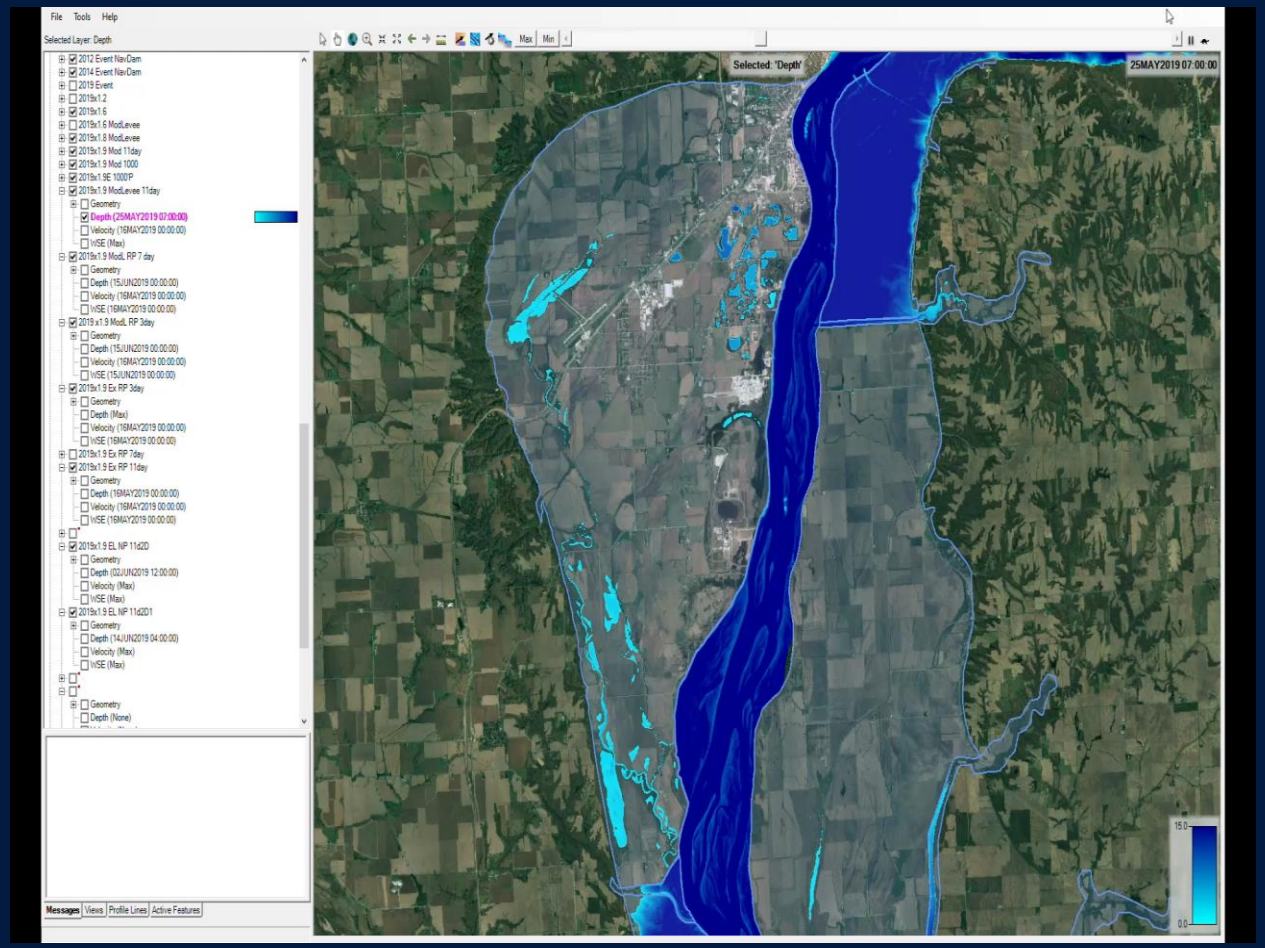
HYDRAULIC MODELING OF CONTROLLED OVERTOPPING

- Engineered trough structure designed to manage controlled overtopping.
- Three peak overtopping flow scenarios simulated using 2D HEC-RAS modeling.
  - Peak flow held constant for 4-day crest, then gradually reduced to 0 cfs over 7 hours.
- Secondary berm overtopping occurs at a water surface elevation of 12 inches above the levee.
  - This represents an extreme event exceeding the 100-year flood + 3 feet freeboard.



HydroTurf Protected Hardened Overtopping Reach Cross Section

HYDRAULIC PERFORMANCE OF THE CONTROLLED OVERTOPPING STRUCTURE



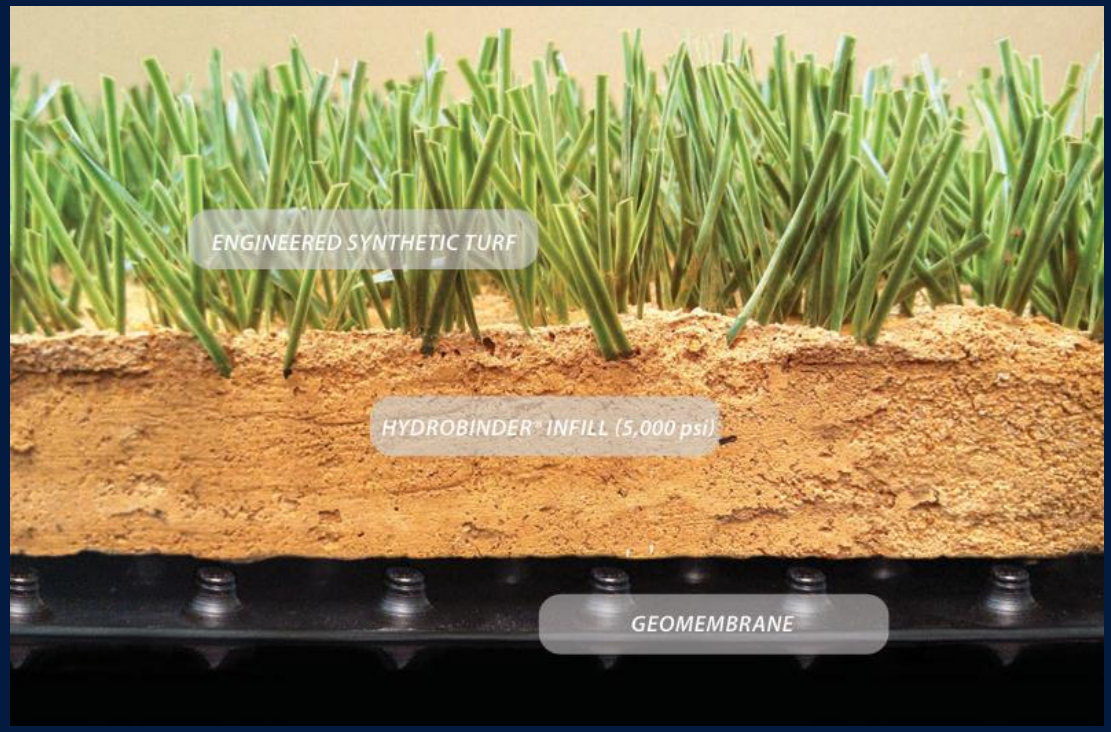
- Animation illustrates the flow path of overtopping water through the reinforced section.
- HydroTurf® armoring ensures controlled water discharge while preventing erosion.
- Flow is directed into existing drainage infrastructure, reducing risk of levee failure.

SELECTION OF HYDROTURF® FOR OVERTOPPING PROTECTION

- USACE required a hardened controlled overtopping section.

- Stakeholder priorities included:
  - Aesthetics – Natural appearance preferred by adjacent landowners.
  - Cost-effectiveness – Reduced long-term maintenance costs.
  - Minimal land disturbance – Smaller construction footprint compared to traditional methods.

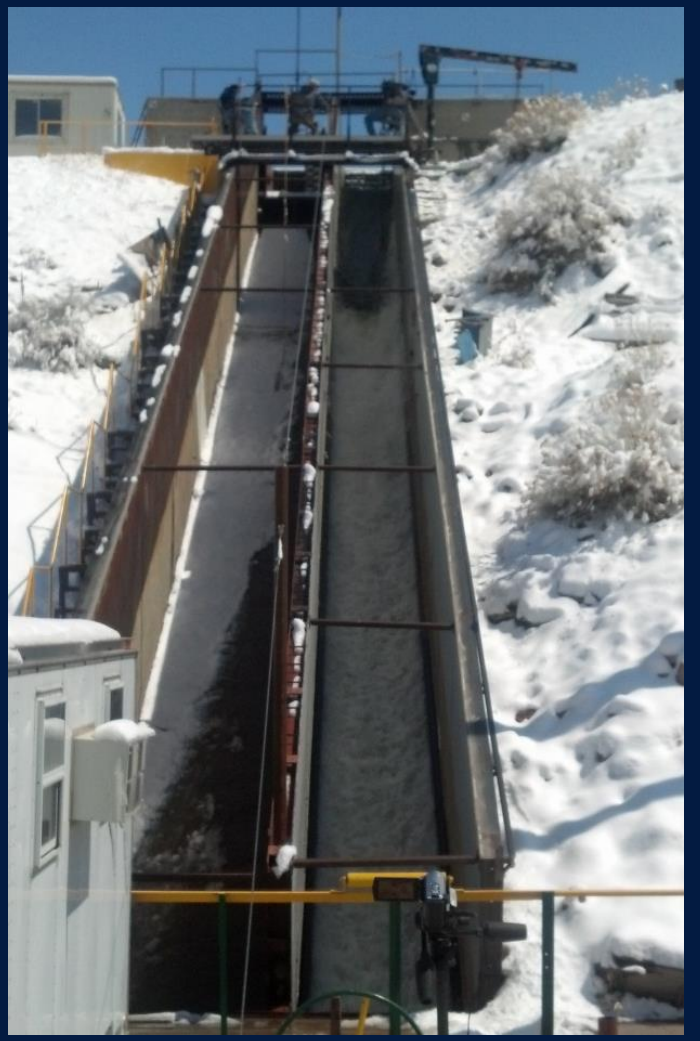
- HydroTurf® was selected based on these requirements and its proven performance in high-velocity overtopping scenarios.



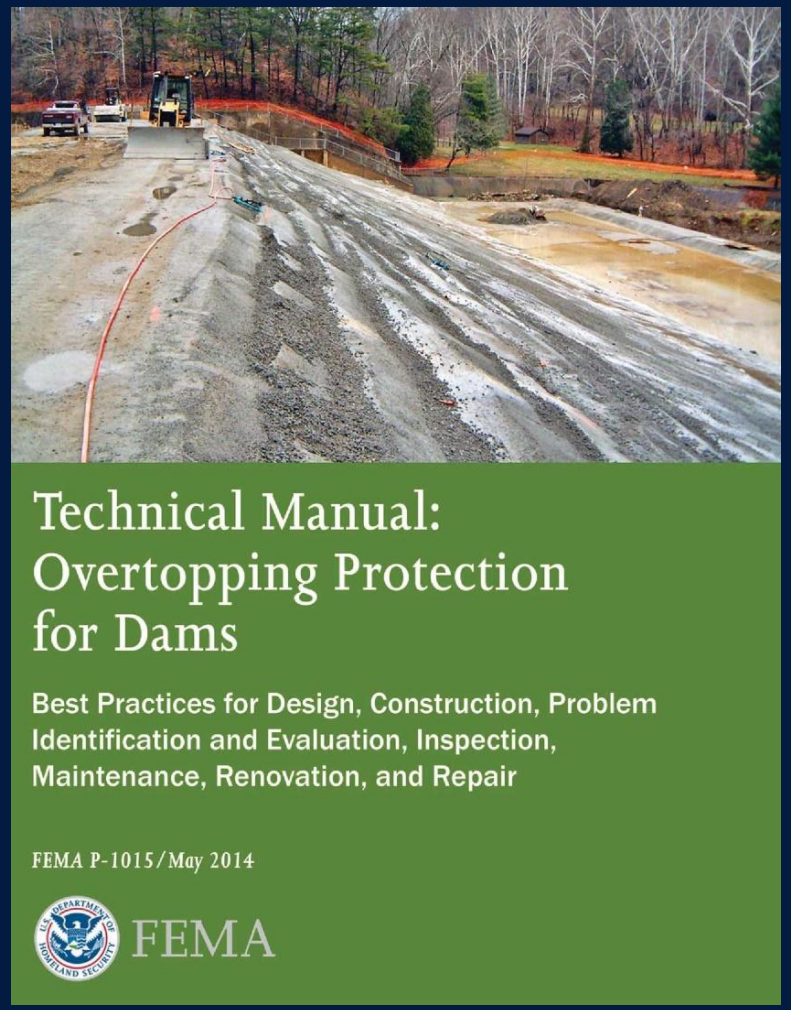
Components of the HydroTurf System

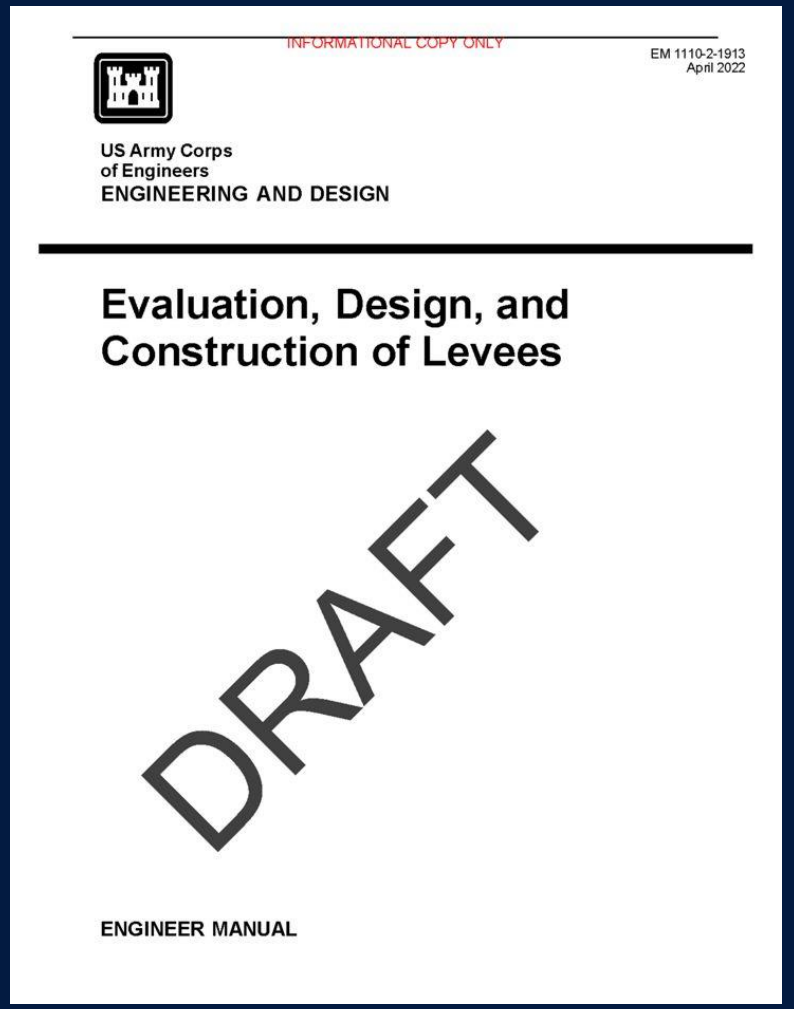
COLORADO STATE UNIVERSITY – FLUME TESTING

- **Tested to ASTM D7277 / 7276**
  - Performance Testing of Articulating Concrete Block (ACB) Revetment Systems for Hydraulic Stability in Open Channel Flow.
- **Tests Performed**
  - 1.5-ft, 3.0-ft, 5.0-ft and 5.5-ft Overtopping Depths.
  - Hydraulic Jump.
  - Impact & Abrasion from Large Debris.
  - Intentional Damage – Hole.
- **Velocity >40ft/sec**
- **NO EROSION OR INSTABILITY**



HYDROTURF® ACCEPTANCE – DESIGN GUIDANCE





USACE EM 11102-1913
Synthetic Turf Revetment

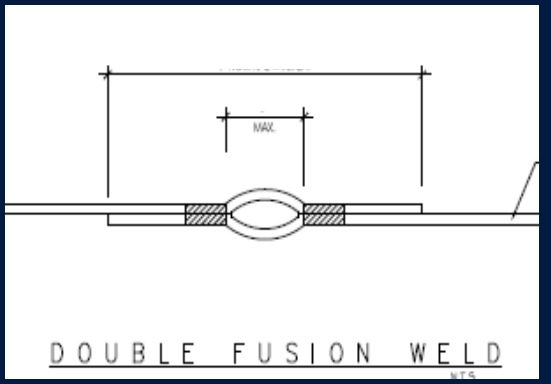
HYDROTURF® INSTALLATION

- Minimal land disturbance – No additional space required for laydown yard.
- Fast and efficient installation – Small equipment and hand labor used.
- Completed in approximately 50 days.
- Reduced truck traffic – Fewer deliveries compared to riprap and articulated concrete block.
- Improves site safety, minimizes environmental impact, and preserves road conditions.

Rough Grading of the Muscatine Island Levee prior to HydroTurf Installation, June 2024.

HYDROTURF® GEOMEMBRANE INSTALLATION

Double fusion welding



HYDROTURF® SYNTHETIC TURF INSTALLATION

Turf Installation & Riverside Anchor Trench Installation

HYDROTURF® INSTALLATION

Installation of black geomembrane rolls and green synthetic turf rolls, the two primary components of the HydroTurf system, with side-to-side panels of each material field seamed.

HYDROTURF® INSTALLATION - HYDROBINDER

Final Steps of the HydroTurf installation: (1) raking dry HydroBinder, (2) spraying water to hydrate, and (3) backfilling anchor trenches with concrete.

HYDROTURF® INSTALLATION

FUTURE IMPLICATIONS FOR LEVEE DESIGN

- **Muscatine Island Levee:** A Model for the Future
  - Demonstrates how innovative design and modern materials enhance flood protection.
  - Proactive investment in climate-resilient flood control is essential for long-term success.

- **Advancing Flood Management Strategies**
  - Engineers optimized protection while reducing cost and labor compared to traditional armoring methods.
  - Selection of HydroTurf® as a resilient, low-maintenance solution has led to its inclusion in the USACE Levee Design Manual.

- **Expanding HydroTurf® Applications**
  - Proven effectiveness in levee overtopping protection.
  - Potential for coastal levees, inland reservoirs, Dams, and urban flood control systems.

QUESTIONS?

Evan Fischgrund, P.E.

Mountain-Plains Regional Director

Civil Markets - WatershedGeo

720-527-1669

efischgrund@watershedgeo.com

Meeting Close

- Split Kitty Drawing
- PDHs available from the Omaha Post Website
  - https://www.same.org/omaha/resources/