



ALABAMA

- SPOTLIGHT -

Stormwater Innovations in the Southeast

May 21, 2026 / 10:30 a.m. – 11:30 a.m.(Eastern)

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Join Us in Point Clear, Alabama!

21ST ANNUAL

**REGIONAL
STORMWATER
CONFERENCE**



Sept. 30 – Oct. 2, 2026 | Grand Hotel Resort, Point Clear, AL

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Today's Presenter



Michael A. Perez, PhD, PE, CPESC
Brasfield & Gorrie Associate Professor
Auburn University
mike.perez@auburn.edu

SOUTHEAST STORMWATER ASSOCIATION | MAY 21ST, 2026

STORMWATER INNOVATION IN THE SOUTHEAST

MICHAEL A. PEREZ, PHD, PE



AUBURN
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STORMWATER

*one of the nation's
largest pollution
problems*



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AMERICA'S AMAZON

Alabama the Beautiful

14
river basins
form the
waterways of
Alabama.



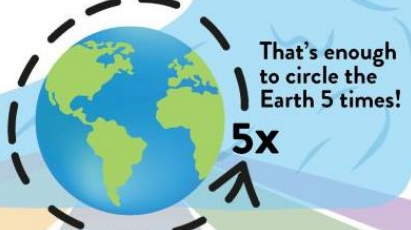
10%
of the freshwater resources
in the continental United
States flow through or
originate in Alabama.

51
miles of
shoreline in
Alabama.

There are more than
132,000
miles of rivers and
streams in Alabama.

5 marine
turtle species
or **83%** of U.S.
species

200 marine
fish species
or **18%** of U.S.
species



That's enough
to circle the
Earth **5 times!**

97
freshwater
crayfish species

or **24%** of North
American species

312
freshwater
fish species

or **35%** of North
American species

202
freshwater
snail species

or **29%** of North
American species

31
freshwater
turtle species

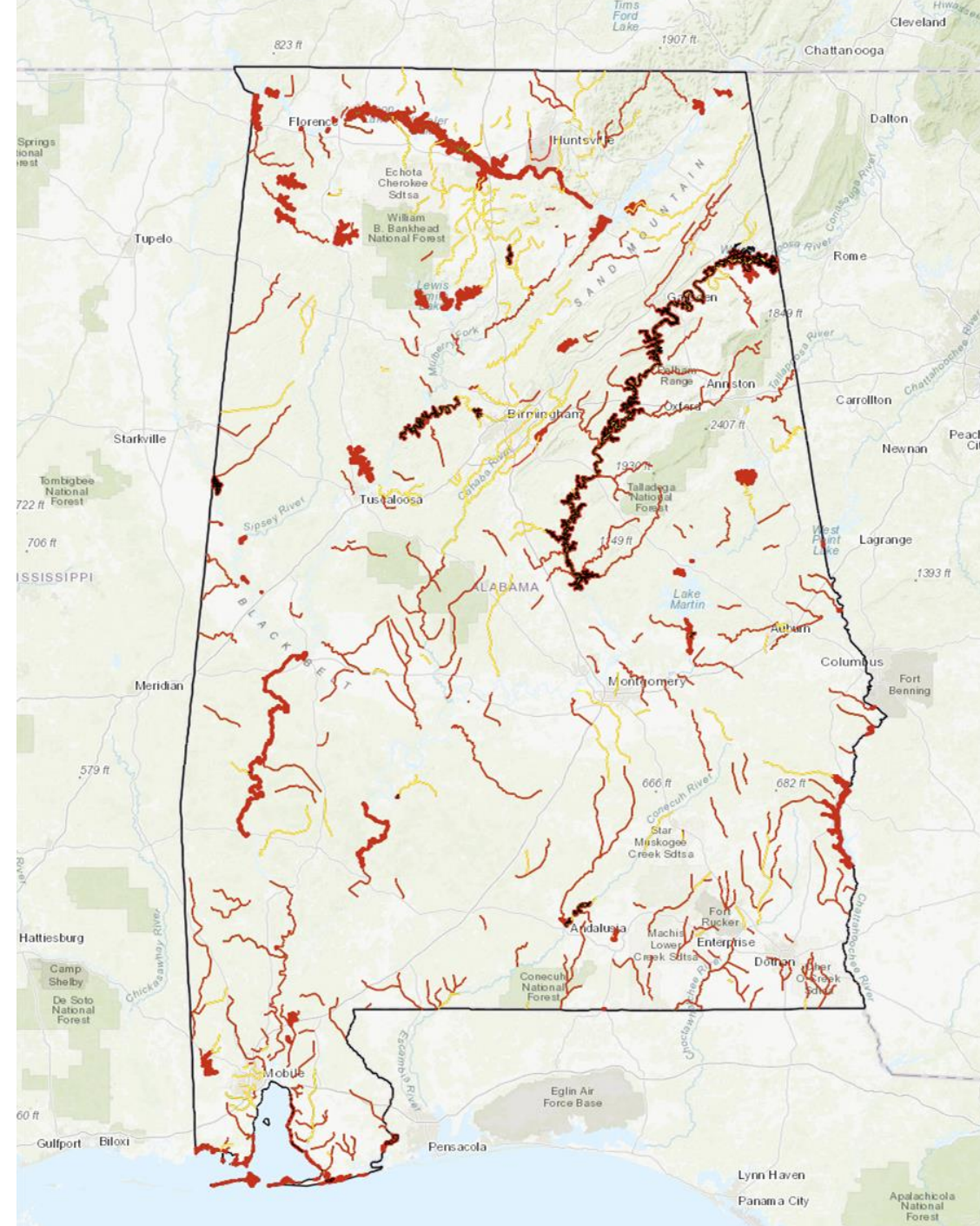
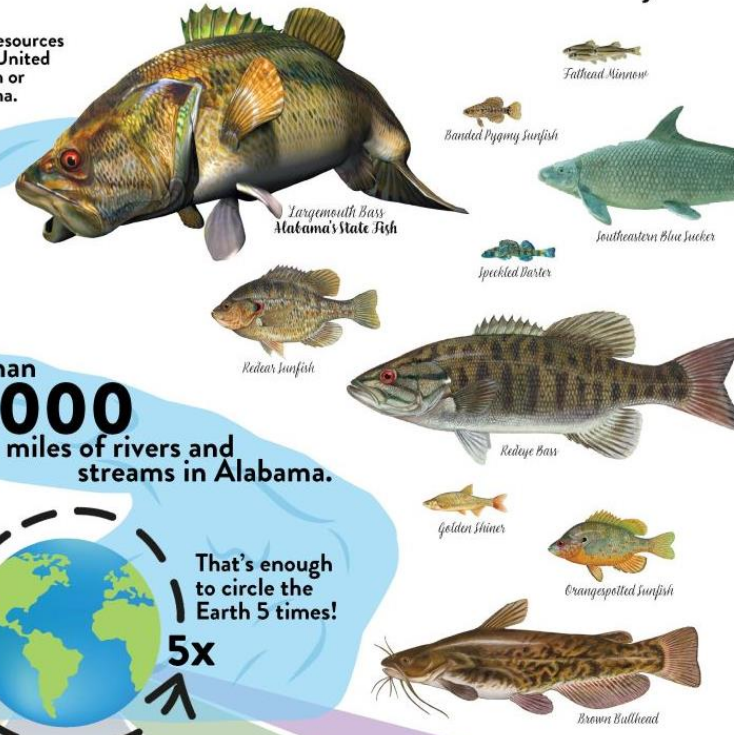
or **63%** of North
American species

186
freshwater
mussel species

or **61%** of North
American species

Native to Alabama

Alabama Ranks #1 in the U.S. for freshwater crayfish, fish, snail, turtle, and mussel species!





REPORT CARD

FOR AMERICA'S INFRASTRUCTURE



STORMWATER

IT'S NOT SUPPOSED TO BE LIKE THIS



ALDOT lawsuit filed
Published: Dec. 11, 2007, 5:47 p.m.



TRANSPORTATION • DAILY COVER
Car Tire Dust Is Killing Salmon Every Time It Rains



MUD INFILTRATES BIG CREEK WATER

SEDIMENT APPARENTLY TIED TO ROAD PROJECT



A muddy plume visible in Big Creek Lake in late October appears to originate from the mouth of Long Branch, a small creek that enters the lake near the U.S. 98 bridge. The plume expands as it flows toward the water treatment plant intakes, which are not visible in the image. Long Branch, along with many other creeks and wetlands downstream of the Alabama Department of Transportation's U.S. 98 project, has suffered a heavy influx of sediment since the road work began.

How Washington's Roads Are Killing Salmon



More mud
Published: Nov. 08, 2007, 8:32 p.m.

stormwater runoff remains a leading source of impairment for US waters

WE NEED BETTER BEST MANAGEMENT PRACTICES



AUBURN UNIVERSITY STORMWATER RESEARCH FACILITY



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1900 Lee Rd. 151, Opelika, AL 36804

Channelized Flow Testing

Concrete Washout

Track-out Control

Sediment Barriers

Rainfall Simulator

Hydroseeding

Future SRF Building

Diversion Swale

Rainfall Simulators

Slope Drains

Level Spreader

Turbidity Barrier

J-Hooks

Sponsors & Exhibitors

Sediment Basin

Slash Mulch Berm

Sediment Trap

Silt Trap

Slope Interrupters

Ditch Checks

Infiltration Swale

Stockpile Mgm't

TRMs

Rolled Erosion Control Products

Tree Protection

Silt Fence

Turbidity Reduction Barrier

Flocculant Channel

Compost Blowing

Skimmer Testing

Floc Generator

Inlet Protection

Our Mission

AU-SRF advances stormwater management through evaluation, innovation, and education that supports real-world, science-based solutions. We lead the development and application of practical approaches that shape the future of stormwater management.

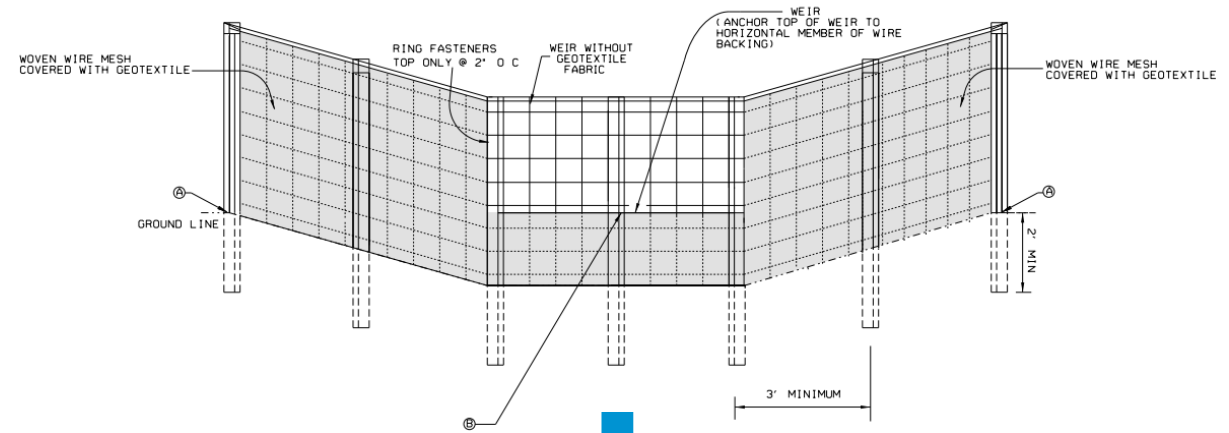


Our Sponsors



We are grateful for the generous research funding provided by our sponsors.

FROM RESEARCH TO IMPLEMENTATION





STORMWATER RESEARCH



AUBURN
STORMWATER

FIELD MONITORING IS DIFFICULT



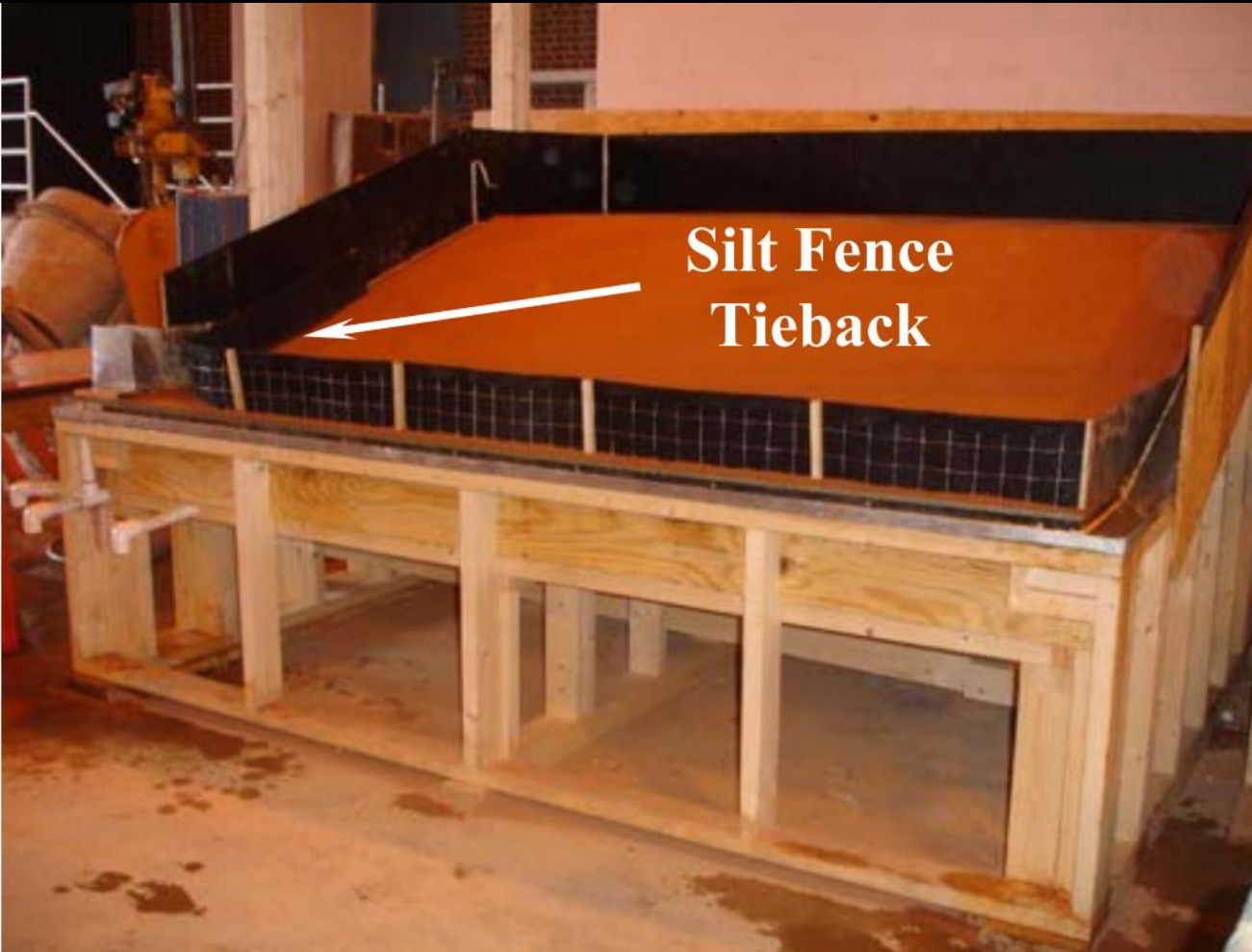
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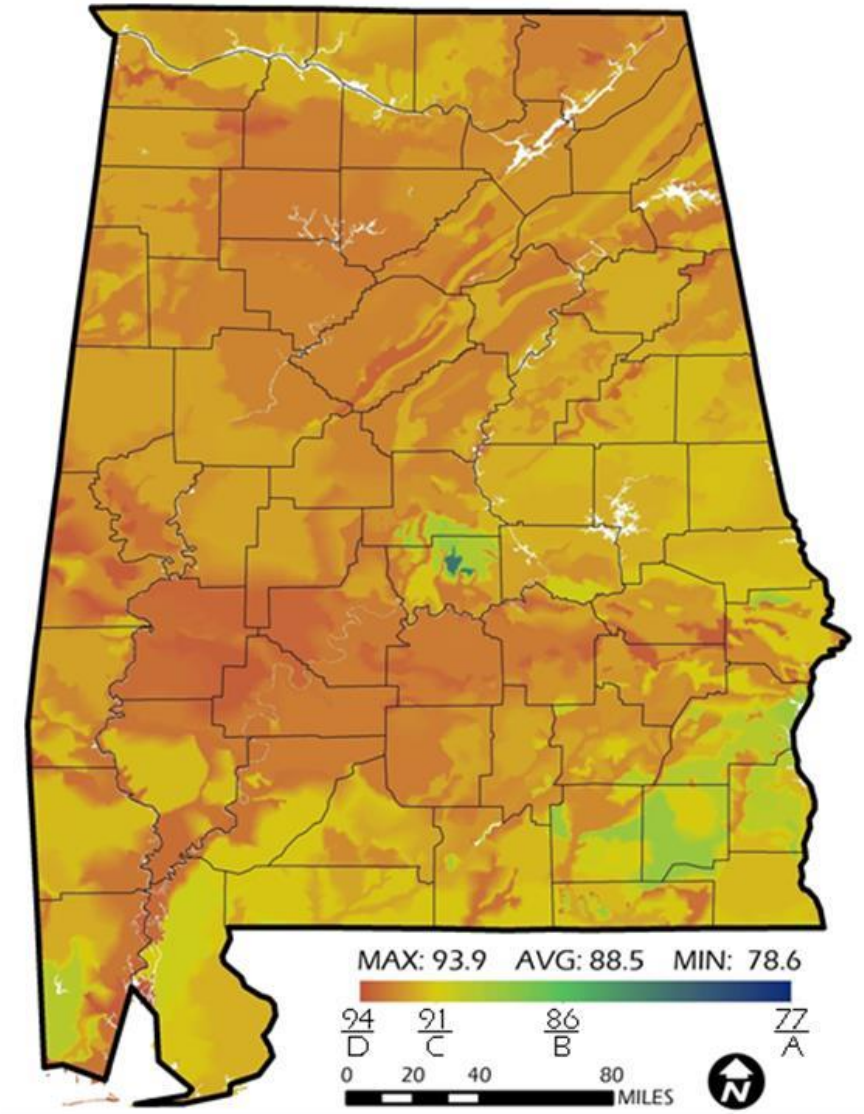
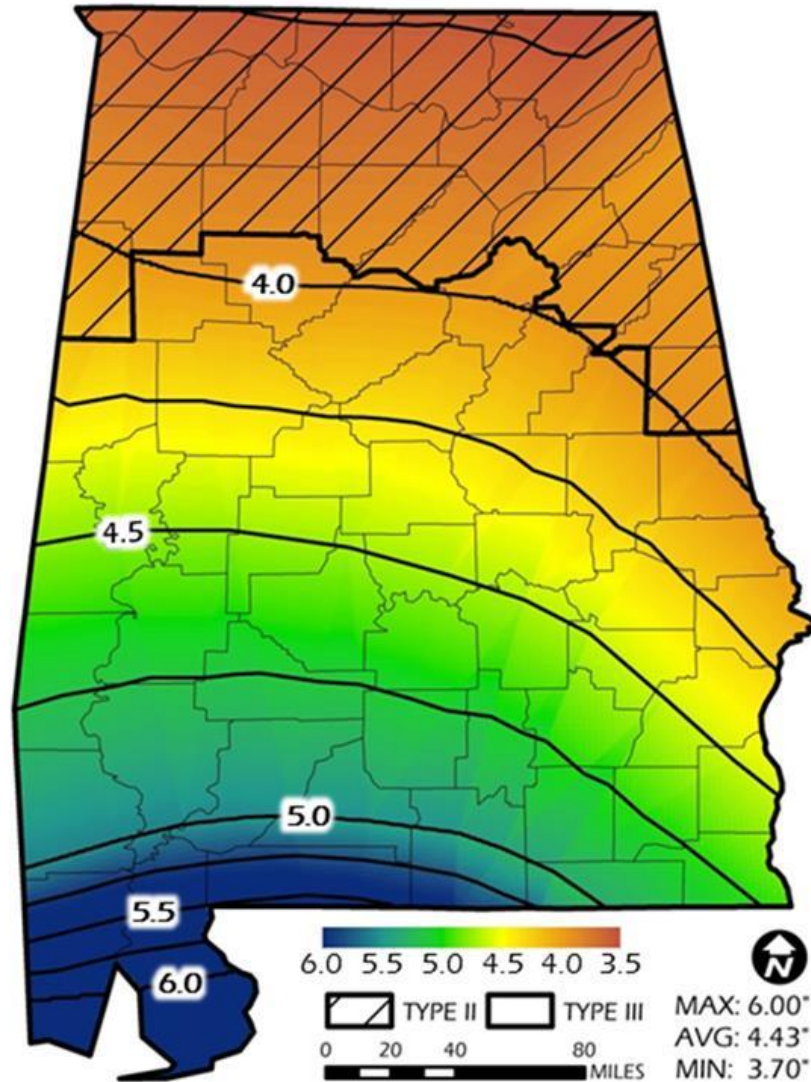
FIELD MONITORING IS DIFFICULT



SMALL SCALE DOESN'T TELL THE FULL PICTURE



WE DID THE MATH



ADDING THE SCIENCE



STRUCTURAL INTEGRITY IS KEY



STRUCTURAL INTEGRITY IS KEY

SB #1, INSTALL #1, 3RD TEST



KEEP IT SIMPLE



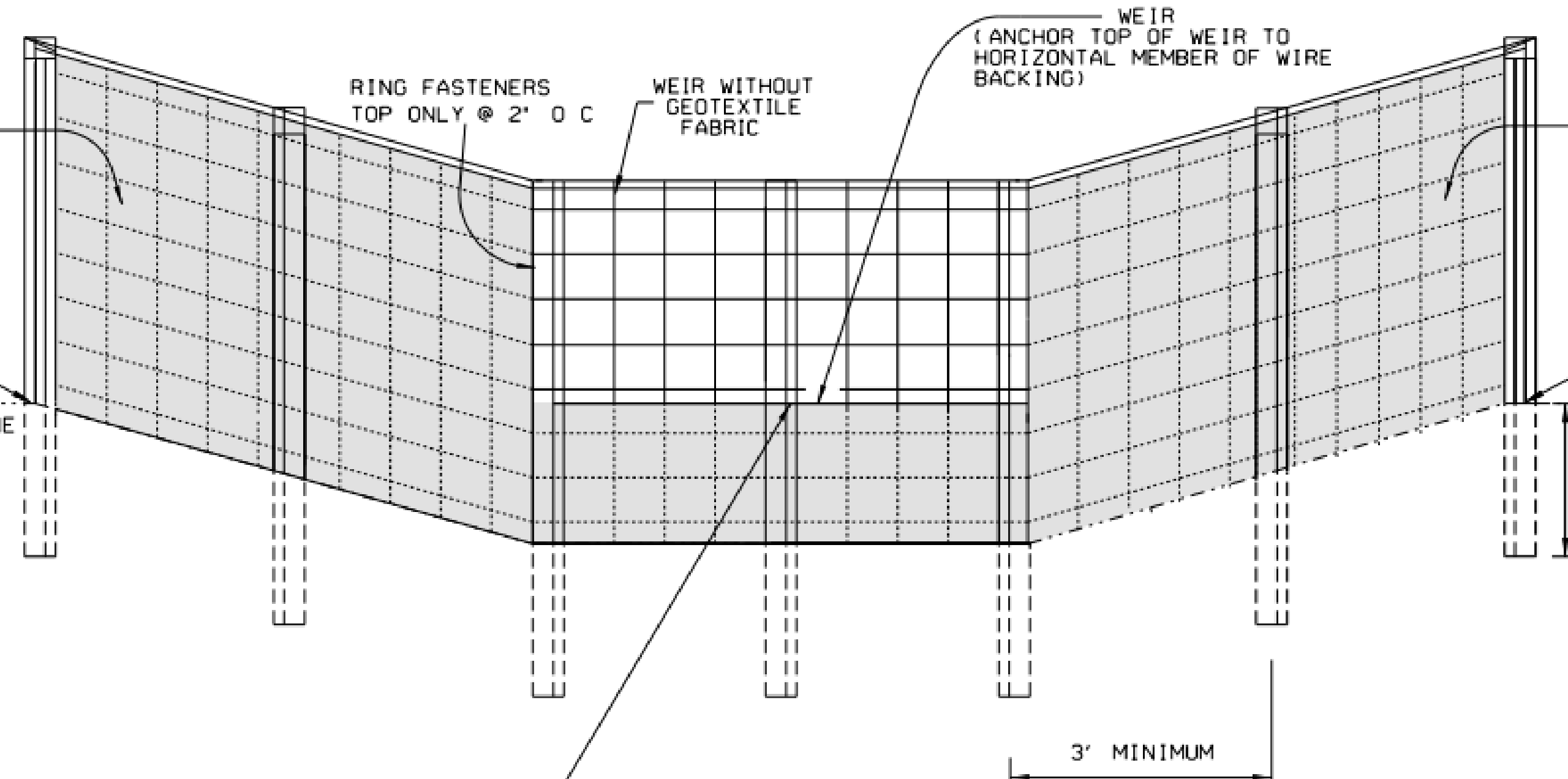
KEEP IT SIMPLE





WATER IS DUMB

KEEP IT SIMPLE



ANCHORING IS KEY



ANCHORING IS KEY



SEDIMENT CONTROL THROUGH PONDING



SEDIMENT CONTROL THROUGH PONDING



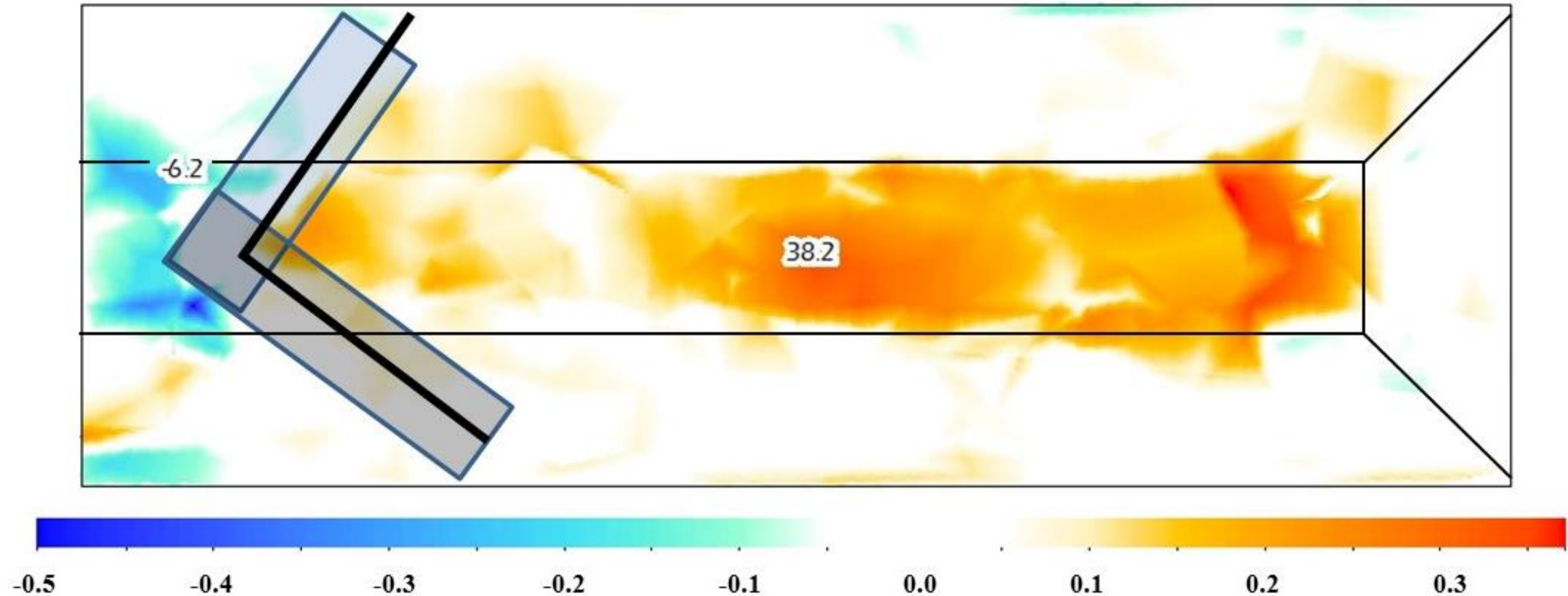
SEDIMENT CONTROL THROUGH PONDING





SEDIMENT CONTROL THROUGH PONDING

SEDIMENT CONTROL THROUGH PONDING



- Sediment introduced: 41.9 ft³
- 91.2% retention
- Upstream Deposition: 38.2 ft³
- Downstream Erosion: 6.2 ft³

CLOGGING IS A GOOD THING



COMMON SENSE APPROACHES

News
Center

Published On: 03.29.23 | By: Michael Sznajderman

Alabama Power employees deliver idea that could cut costs and reduce environmental impacts in multiple industries

Listen with [Speechify](#)
0:00 5:43



An idea with immense implications: Alabama Power's Cliff Young shows off just a fraction of the natural material that is now being beneficially reused along Alabama Power transmission line projects. (contributed)

Keeping the electric system safe and dependable while protecting the environment has always been a high priority for Alabama Power. Doing it in ways that are innovative, cost-effective and benefit customers are also top of mind for Alabama Power employees.

For [Paula Coker](#) and [Cliff Young](#), members of Alabama Power's Environmental Affairs team, these fundamental principles helped drive an idea that not only saves money and supports the environment but could benefit utilities and other industries nationwide.



EVALUATION OF NDOT'S CONSTRUCTION STORMWATER DETENTION MEASURES USING FULL-SCALE TECHNIQUES



Auburn University – Stormwater Research Facility



AUBURN
UNIVERSITY

NEBRASKA
DEPARTMENT OF TRANSPORTATION

NCHRP 24-52

GUIDELINES FOR RESILIENT E&SC PRACTICES

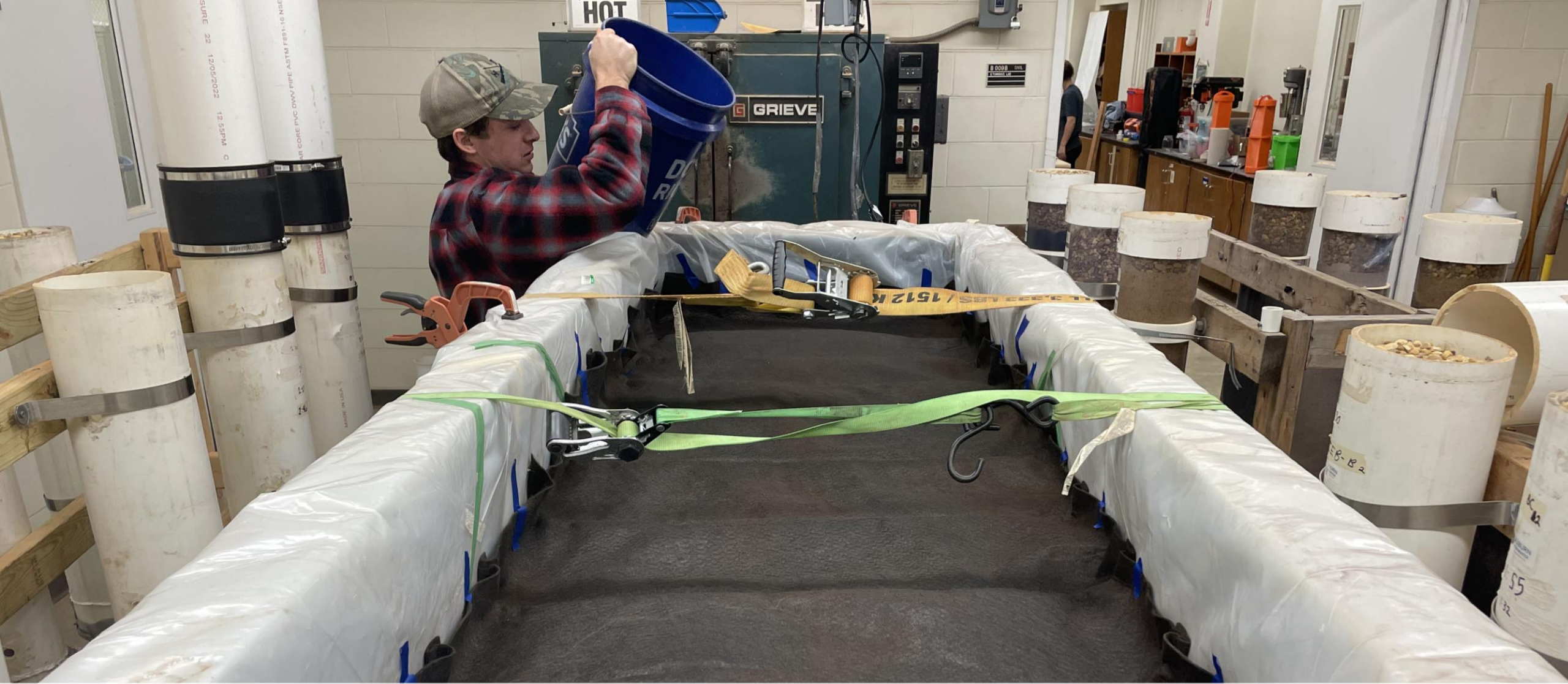
NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM



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GEOTEXTILES FOR STORMWATER NUTRIENT MANAGEMENT

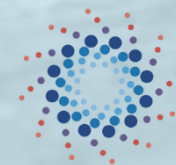


The Electric Floc Generator

enhances BMP performance by up to 97%

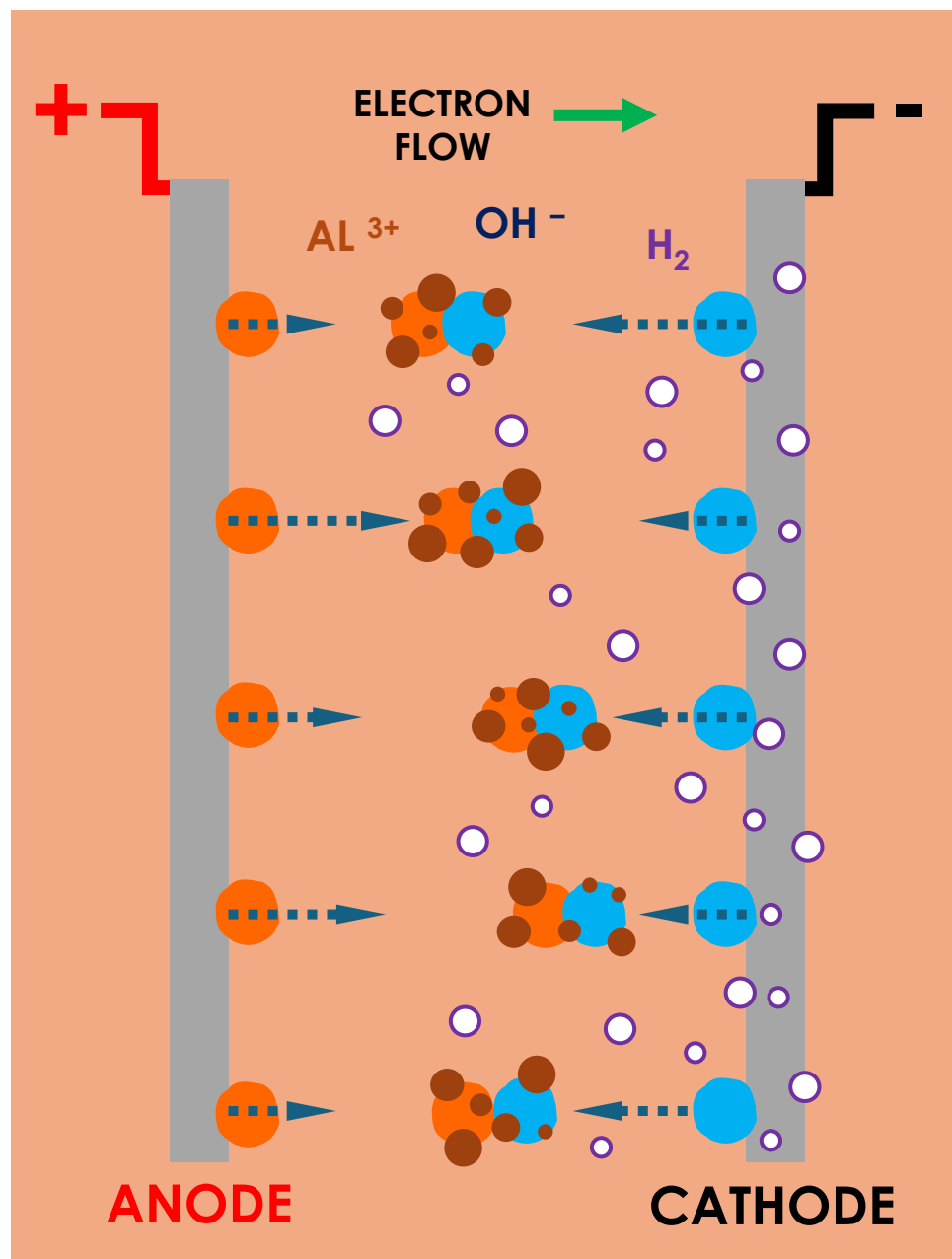


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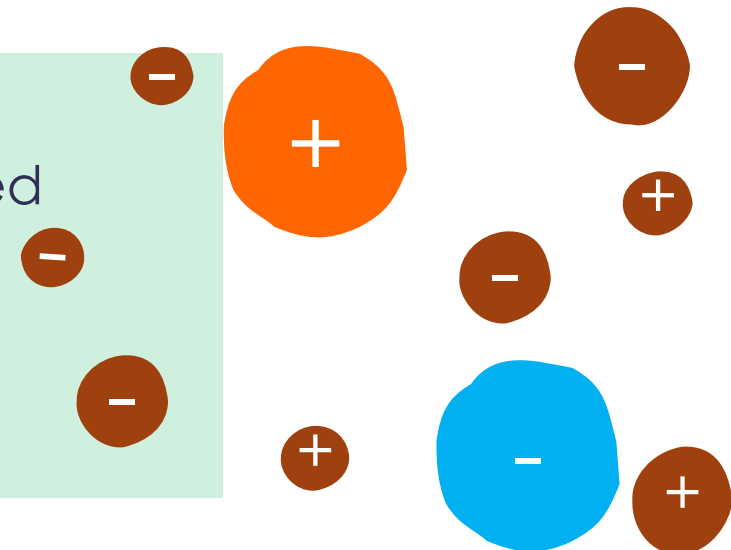
SBIR
America's Seed Fund

OUR SOLUTION: ELECTRICAL FLOCCULATION



Advantages:

- Range of pollutants treated
- Chemical-free
- Soil independent
- Low maintenance



DISSOLUTION



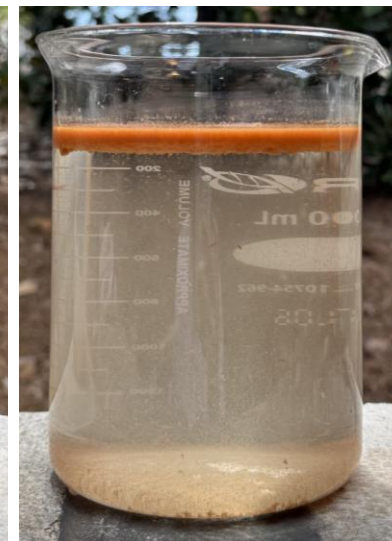
COAGULATION



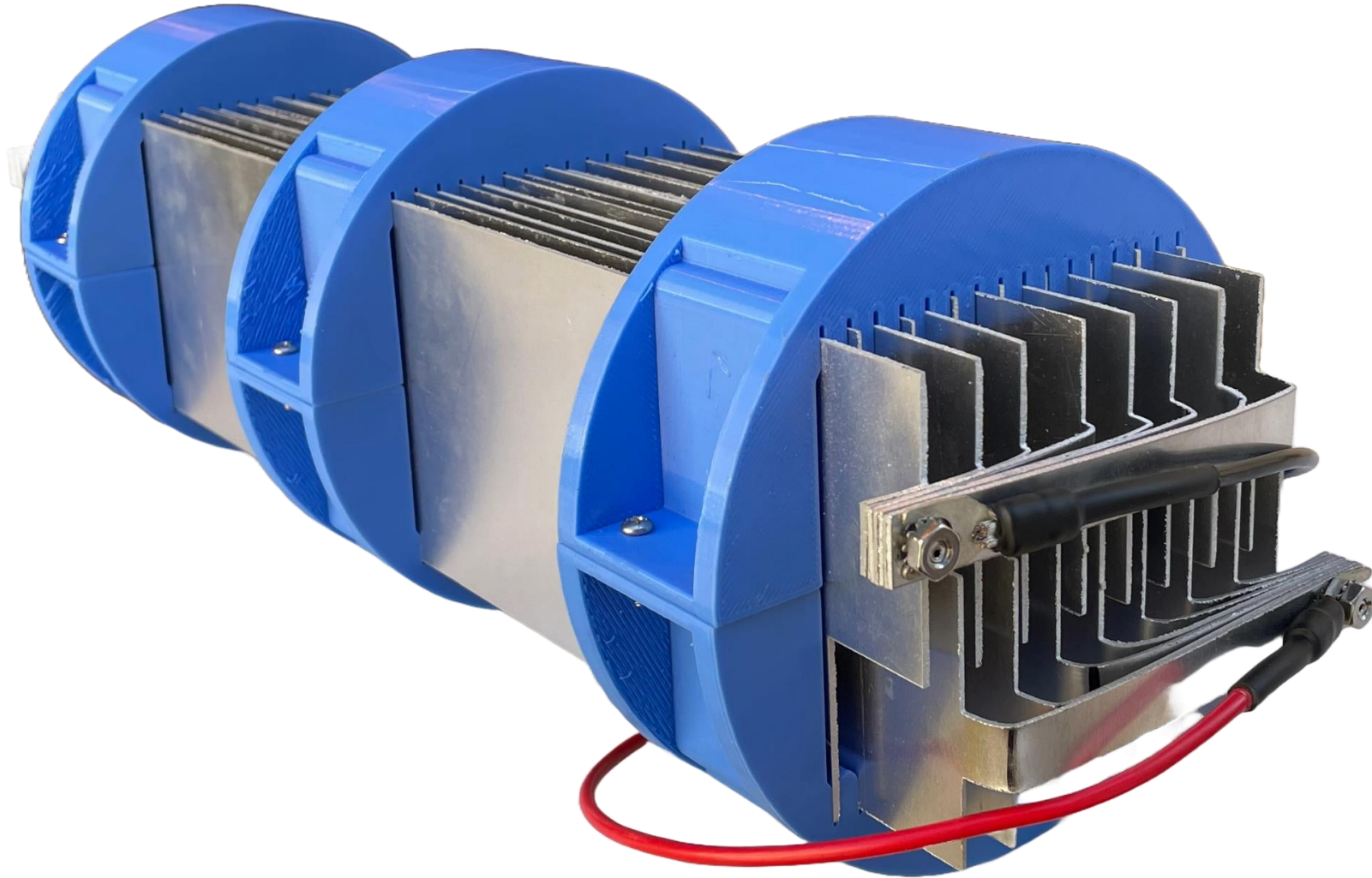
FLOCCULATION



ELECTRO-FLOTATION



THE ELECTRIC FLOC GENERATOR







PRE- VS. POST-TREATMENT



710 NTU

98% TURBIDITY REDUCTION
90% TSS REDUCTION



26 NTU

PRELIMINARY TESTING RESULTS



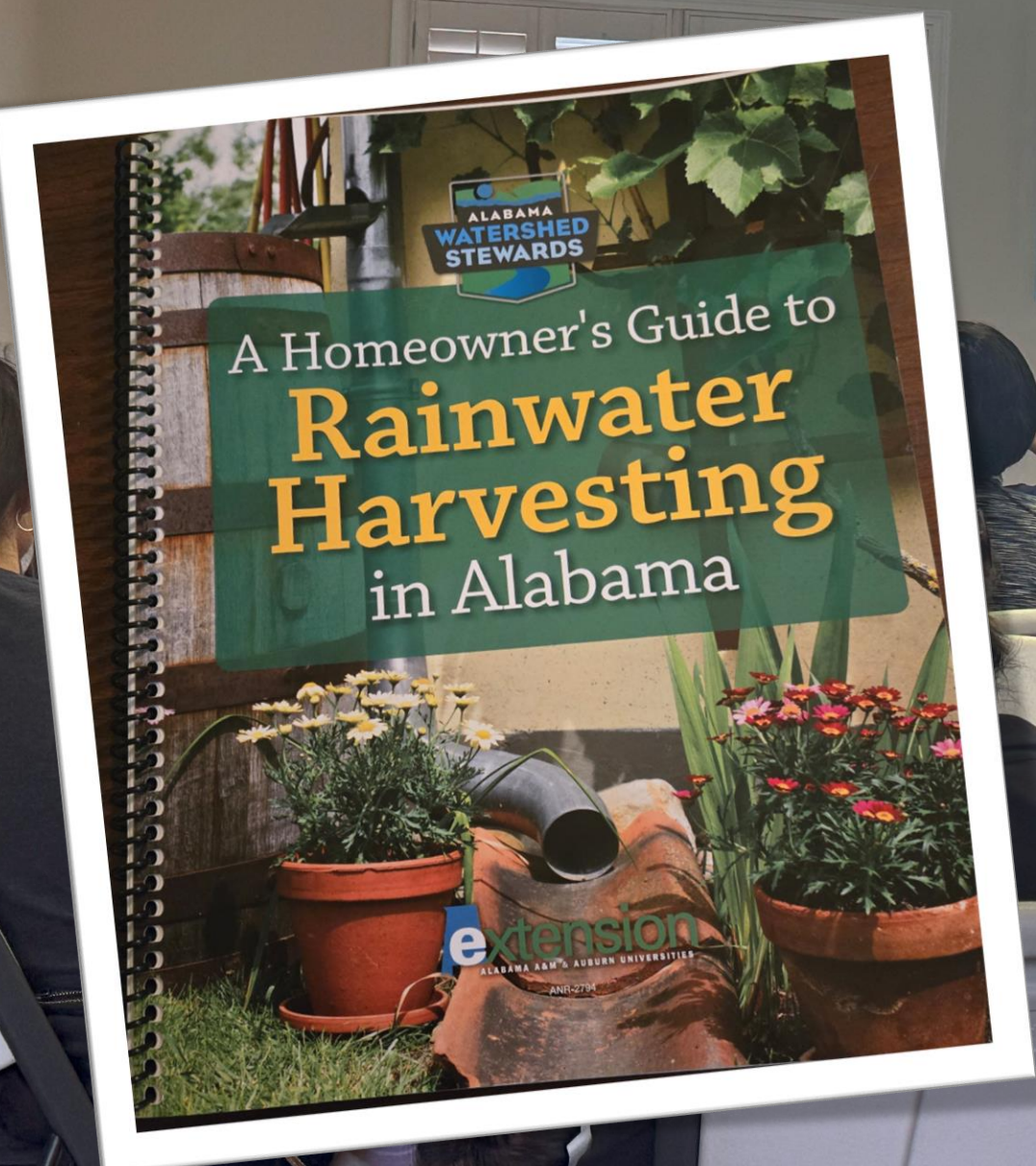
STORMWATER IMPLEMENTATION



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Rain Barrel Workshops



BENEFITS OF R

- Environmental benefit:
- Reduces transfer of contaminants from urban environments to streams.
- Combats erosion and decreases flooding.

RAIN BARREL WORKSHOP at Kiesel



Opelika High School Greenhouse





AU-SRF TRAINING EFFORTS



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DESIGNER CERTIFICATION



ALDOT **ADEM**

HANDS-ON TRAINING



USDA **USDA**
Rural
Development

INSTALLER CERTIFICATION



U.S. Department of Transportation
Federal Highway
Administration



Evaluation of Construction Stormwater Detention Measures Using Full-Scale Techniques

Register online at: aub.ie/tigerstream

May 27, 2026 • 11 AM CDT



Lillian Williams, MS

Graduate Research Assistant

[Auburn University](http://auburn.edu)



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WHAT'S
NEXT?



Texas Metal Tanks

Rain Ready

ALABAMA



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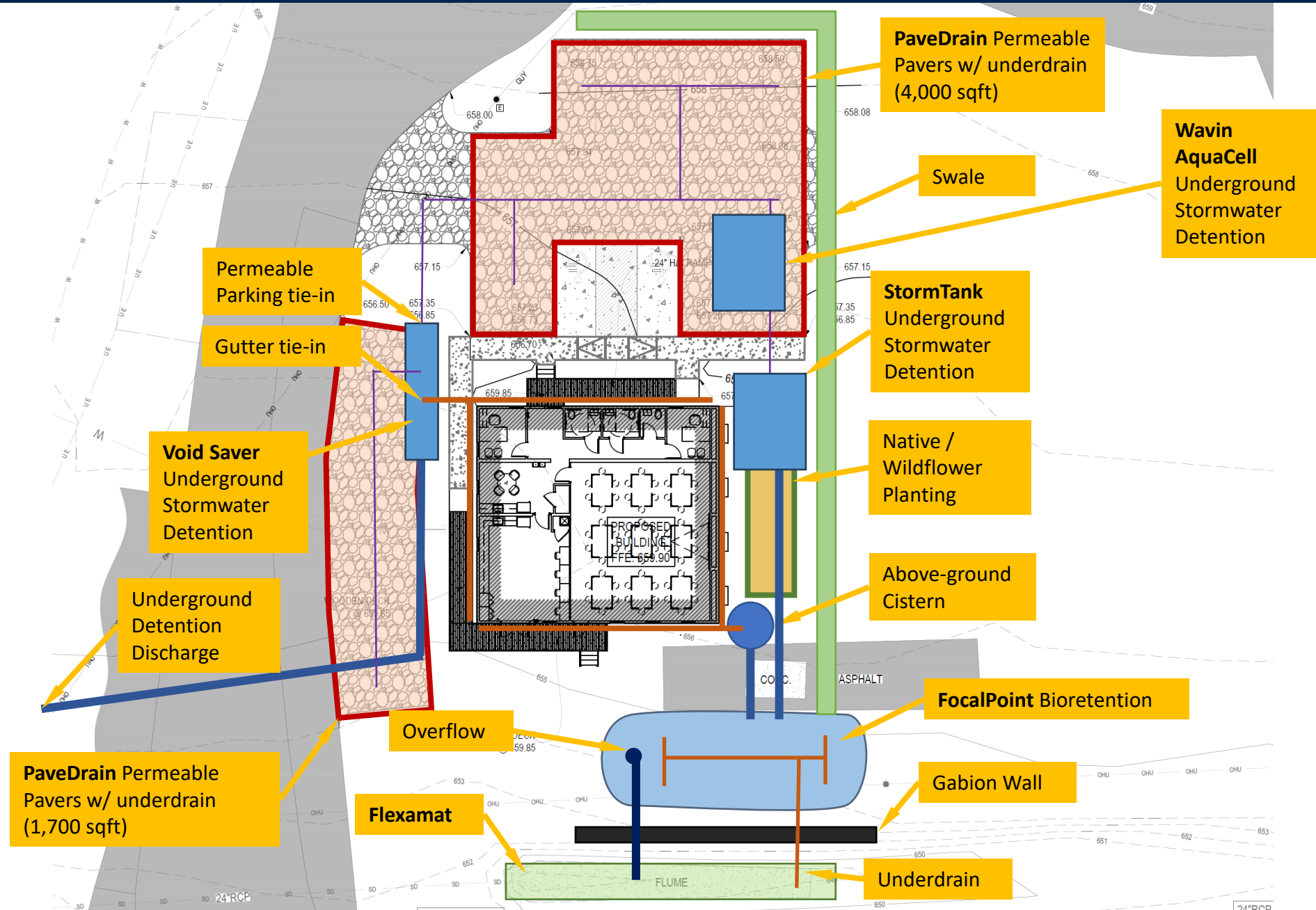
WHAT'S NEXT?

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STORMWATER RESEARCH FACILITY BUILDING





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Today's Presenter



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