

TECHNICAL ADVISORY COMMITTEE (TAC) MEETING
REVISING THE MANUAL FOR EROSION AND SEDIMENT CONTROL

Wednesday, September 10, 2014

University of Georgia Center for Continuing Education

Masters Hall

1197 South Lumpkin Street

Athens, Georgia 30602-3603

10:00 A.M.

Catherine B. Steele, GA B-1123

Certified Court Reporter

1 A P P E A R A N C E S

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3 Brent Dykes, Executive Director, Georgia Soil and Water
4 Conservation Commission

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5 Ben Ruzowicz, Interim Urban Program Manager, Georgia
6 Soil and Water Conservation Commission

7 Dennis Brown, Vice Chairman, Georgia Soil and Water
8 Conservation Commission State Board

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8 David Hays, Georgia Soil and Water Conservative
9 Commission State Board

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10 TECHNICAL ADVISORY COMMITTEE MEMBERS PRESENT:

11 Thomas Brown Betty Jean Jordan

12 Joshua Escue Bob Moran

13 Britt Faucette Reece Parker

14 Adena Fullard Brian Watson

15 Kirby Hamil

14

15 ADVISERS PRESENT:

16 Glen Behrend Brent Story

17 Marc Mastronardi Guerry Thomas

18 Dewey Richardson

18

19 POWERPOINT PRESENTATION: C. Joel Sprague, Engineer,
20 TRI/Environmental, Inc.

20

21 PUBLIC SPEAKERS:

22 Gordy Adams, Third-party inspector

23 Larry Booth, Willacoochee Industrial Fabrics

Don Davis, DDD Erosion

1 PUBLIC SPEAKERS, continuing:

2 Kelli Davis, DDD Erosion

Keith Harris, Hanes Geo Components

3 Bryan Keller, Fayette County

Brad McCoy, GroGreen Solutions

4 Jamie McCutchen, SW FeeSaver

Michael Perez, Auburn University

5 Ron Sawhill, College of Environment and Design

Wayne Seabolt, Natural Growth, Inc.

6 Roger Singleton, Silt-Saver

Josh Still, Erosion Tech

7 Wesley Zech, Auburn University

(Other unidentified public speakers and attendees)

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9 STAFF MEMBERS:

10 Jennifer Standridge

(Other unidentified staff members)

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2 MR. DYKES: Okay. Did everybody get an
3 agenda and a packet of information from the back
4 corners as you entered the room? If you didn't,
5 if you'll raise your hand, we'll be glad to get
6 you a couple of those.

7 Robert, would you mind doing that and
8 handing them to the side? Just keep your hand
9 raised and we'll make sure you have those. It has
10 an agenda in the packet with other information,
11 including the PowerPoint presentation for today's
12 event. So I want to be sure you have that.

13 There's a couple down in front, guys, and
14 one on the stage.

15 Good morning. My name is Brent Dykes. And
16 I'm the Executive Director of the Georgia Soil and
17 Water Conservation Commission. And I'll be
18 moderating today's event. On behalf of the five
19 State Board members of the State Conservation
20 Commission, I want to thank you for attending
21 today's public meeting of the Technical Advisory
22 Committee.

23 I would like to recognize our State Board

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2 members in attendance today. Mr. Dennis Brown,
3 our Vice Chairman, in the back of the room; and
4 Mr. David Hays, a Board member also.

5 I would also like to thank the Commission
6 staff that you will see throughout the day today
7 for their preparations for today's meeting in
8 advance and then for today also.

9 The agendas have been provided for your use,
10 along with handout materials that have been passed
11 out to you as you entered the room today.

12 The proceedings from today's meeting are
13 being transcribed by a court reporter over to my
14 left. Today's proceedings also may be videotaped.
15 We were notified that someone may be coming
16 regarding videotape, and I wanted you to be aware
17 of that also.

18 I would also like to recognize any members
19 of the media in the audience. Do we have anybody
20 representing the media today?

21 (No response)

22 MR. DYKES: At the current moment I see no
23 hands.

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2 Following the sequence of events on your
3 agenda, I will provide a brief introduction of the
4 Technical Advisory Committee members today. I
5 will then be followed by Ben Ruzowicz. Ben is our
6 Interim Urban Program Manager. He will provide a
7 brief history of the process to review and update
8 the Manual for Erosion and Sediment Control in
9 Georgia.

10 Ben will be followed by Joel Sprague from
11 TRI/Environmental, Incorporated. He will discuss
12 the testing that was performed under contract with
13 the Soil and Water Conservation Commission and the
14 performance standards that resulted from those
15 tests related to 6th Edition of the Manual for
16 Erosion Control.

17 Following Joel's presentation today the
18 floor will be open for comments from the public.
19 Please take the time to sign the public comment
20 sheet that was available to you as you registered
21 to come into the meeting today.

22 Depending on how long the meeting runs, we
23 may take a break between 12:00 and 1:00 for lunch.

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2 That will be determined by how long it takes to go
3 through the presentation at the first part of the
4 meeting today and then the number of folks that
5 would like to make public comment. So let's get
6 started.

7 Due to stakeholder comments received after
8 the 2013 public comment period, the Georgia Soil
9 and Water Conservation Commission Board voted
10 unanimously on Friday, February 21st of this year,
11 to reopen the Manual for Erosion and Sediment
12 Control in Georgia, 6th Edition, and testing
13 procedures for public comment and to make changes
14 from the comments as needed.

15 On August 8, 2014, the Commission Board
16 appointed members to a new Technical Advisory
17 Committee to consider changes to the Manual and
18 testing procedures based on the comments received.
19 The role of the Technical Advisory Committee, or
20 TAC, as they will be referred to today, is to
21 receive public comment on the Manual, 6th Edition,
22 and the testing procedures, provide technical
23 expertise, and evaluate potential options in order

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2 to provide technical recommendations to the
3 Commission State Board for their consideration for
4 adoption.

5 In a way of introduction, I would like to
6 introduce the current Technical Advisory Committee
7 members to my left.

8 First, Mr. Thomas Brown. Thomas is a
9 project manager with Griffin Brothers,
10 Incorporated, out of Maysville, Georgia. He's a
11 Level 1B certified inspector to the Commission
12 Certification Program and holds several Georgia
13 wastewater operator licenses also in the state of
14 Georgia.

15 Joshua Escue. Josh is a land services
16 manager and stormwater team lead at HighGrove
17 Partners from Austell, Georgia. He holds a
18 bachelor of landscape architecture degree from the
19 University of Georgia and is a member of the
20 International Erosion Control Association.

21 Britt Faucette. Britt is the director of
22 research and environmental technical services for
23 Filtrexx International in Decatur, Georgia. Britt

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2 holds a Ph.D. in ecology from the University of
3 Georgia and also is a certified professional in
4 erosion and sediment control.

5 Adena Fullard. Adena is an engineer with
6 the Gwinnett Board of Commissioners in Gwinnett
7 County. She holds a bachelor of science degree in
8 civil engineering from the Georgia Institute of
9 Technology. She is a professional engineer with a
10 Georgia license and also a certified professional
11 in stormwater quality.

12 Mr. Kirby Hamil. Kirby is a retired DOT
13 engineer. He has a bachelor of civil engineering
14 degree from the Institute of -- from Georgia
15 Institute of Technology and also a master's degree
16 from the same institution and is a professional
17 engineer with Georgia licensing.

18 Ms. Betty Jean Jordan. Ms. Jordan is
19 project manager with Hulsey, McCormick & Wallace,
20 Incorporated, out of Macon, Georgia, who holds
21 both a bachelor's and master's degree in civil
22 engineering from Georgia Tech. She holds a
23 professional engineering license in the state of

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2 Georgia and also is a Level II certified design
3 professional in the state of Georgia.

4 Mr. Bob Moran. Bob is director of sales and
5 geotextiles for Belton Industries from Belton,
6 South Carolina. Bob also holds bachelor's and
7 master's degrees, a bachelor's degree from Georgia
8 Institute of Technology and an MBA from Georgia
9 State University.

10 Mr. Reece Parker. Reece is vice president
11 of technology for Breedlove Land Planning in
12 Conyers, Georgia. He has a bachelor of landscape
13 architecture degree from Louisiana State
14 University and is a Georgia registered landscape
15 architect and a Level II certified design
16 professional.

17 Finally, Mr. Brian Watson. Brian is
18 director at Tetra Tech in Atlanta, Georgia, and
19 holds bachelor's and master's degrees from the
20 University of Florida. He's also a professional
21 engineer in Georgia, Florida and Louisiana, is a
22 professional hydrologist and a certified design
23 professional in the state of Georgia.

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2 I'd also like to recognize our advisers to
3 the Technical Advisory Committee. And I'll ask
4 these folks to stand up in the audience.

5 Mr. Marc Mastronardi, DOT, Department of
6 Transportation. Thank you, Marc.

7 Mr. Brent Story, Department of
8 Transportation.

9 Mr. Eric Harris could not be with us today.
10 Eric will be representing the Natural Resource
11 Conservation Service. He could not attend today's
12 meeting do to a prior commitment out of state.

13 And the Environment Protection Division
14 under the Department of Natural Resources will be
15 naming a representative to the Committee in the
16 near future.

17 Following those introductions, I'd like to
18 call up now Mr. Ben Ruzowicz to come to the stage
19 and give us a brief history on the process to this
20 point. Ben is currently our Interim Urban Program
21 Manager at the Conservation Commission. Ben.

22 MR. RUZOWICZ: The Manual For Erosion and
23 Sediment Control was written in 1975. Since then

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2 many changes have come and gone in the erosion
3 control industry. Through those changes in the
4 years past, it had been noted many times that the
5 Manual for Erosion and Sediment Control needs to
6 be updated with the ever-changing environment
7 around it.

8 Through comments and the need to update the
9 Green Book, the first Technical Advisory Planning
10 Committee, TAPC, as some people refer to it, was
11 formed. The TAPC was formed in 2005 and tasked
12 with developing a streamlined process for
13 improving and updating the Manual for Erosion and
14 Sediment Control in Georgia based on sound
15 scientific principles. This group concluded in
16 2006 with the following findings:

17 Identifying funding sources and methods to
18 establish benchmarks and methodology for testing.

19 TAPC also recommends that the GSWCC focus on
20 best management practices, not the best management
21 products.

22 And creation of a standardized system for
23 new and existing BMP review, testing, and

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2 independent verification of testing results.

3 With these recommendations the Georgia Soil
4 and Water Conservation Commission set out to
5 fulfill the goals and to find funding to implement
6 the recommendations of the first TAPC.

7 In late 2008 a grant became available, and
8 which the Commission applied for, to start the
9 process of revising the Manual. This grant was
10 handed down by EPA to the EPD in which it was
11 administered as a 319 Grant to the Commission with
12 specific deliverables. These deliverables allowed
13 for the formation of the Technical Advisory
14 Committee, known as the TAC.

15 The TAC was made up of seven members and
16 five advisers. This group's main goals were:

17 Selecting appropriate BMP tests and test
18 methods to be considered for approval by the GSWCC
19 Board.

20 Establishing procedures and criteria for
21 accepting new products and practices into the
22 Manual.

23 And provide recommendation to the Georgia

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2 Soil and Water regarding the revisions to the
3 Manual, regarding other revisions to the Manual.

4 These goals were completed prior to approval
5 by the GSWCC Board.

6 The Commission Board voted to approve the
7 Manual prior to the first of the year. Since
8 then, due to comments received after the public
9 comment period, the Board voted to reopen the
10 Manual for more further public comment.

11 The reopening of the Manual to address
12 further public comment also brought some new
13 members to the TAC and expanded it by two people.
14 The newest TAC, which sits in front of you today,
15 is tasked with addressing the public comments and
16 making recommendation as needed to revise the
17 Manual to the Commission Board.

18 Through the last nine years the Commission
19 has been in the process of revising the Manual for
20 Erosion and Sediment Control. So if any past or
21 current members are here, if they would please
22 stand up so we could recognize them. And on that
23 sheet that we have there, you can see all the

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2 different names of all the different people that
3 we have there.

4 Next, the next presenter will be Joel
5 Sprague with TRI, who is going to talk to us about
6 the different testing procedures that were
7 performed through our grant.

8 MR. DYKES: And we're going to dismiss the
9 Technical Advisory Committee out so they can see
10 the presentation also and it won't be at their
11 back. So they'll be in the room, they just won't
12 be on the stage.

13 MR. SPRAGUE: I've cleared a room before,
14 but not the people who asked me to be here.

15 While the committee people are moving, I
16 would just like to say good morning and thank you
17 for being here. And while this presentation is a
18 bit lengthy, I'm going to kind of need to gauge
19 whether I'm going too fast or too slow. So if
20 it's okay with Brent, if I could ask you to, you
21 know, if you have a question while we're going
22 along here that requires me to slow down, please
23 do that. Otherwise, I will kind of press ahead.

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2 I have some tech slides that have some
3 details that are -- they are details about what we
4 did, but it may not be all that important to you,
5 especially as you have copies of those slides in
6 the handout. So my guess is that your goal for
7 the day is not to listen to me all day.

8 I'd like to just give a special thanks to
9 our laboratory director, who did an enormous
10 amount of work, especially during certain aspects
11 of this testing that I will highlight when we get
12 to them, and that's -- any of you who are dancer
13 moms will share with me great pride when you think
14 about a child who has, No. 1, become gainfully
15 employed and, No. 2, who does a good job at it.
16 That's my son, who is our laboratory director.

17 I wanted to just take a few minutes to put
18 this in perspective. And this is my perspective
19 and not the Technical Committee's perspective.
20 I'll let them speak for themselves. But this idea
21 of BMPs, which as an industry we use a lot, the
22 first term is "best," which implies that we can
23 quantify these procedures, these management

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2 practices. And that's long been a goal of our
3 industry and not something that we necessarily had
4 a good way of doing. And I think this testing
5 that we'll outline here that was envisioned by the
6 Technical Committee is just a huge step in the
7 direction of helping us determine what is a best
8 management practice by giving us some objective
9 means to do so.

10 And what makes it especially valuable is
11 point two. If we're going to use a practice for a
12 given application, we'd like to be able to compare
13 those on a relevant basis, a so-called apples-to-
14 apples basis. And I think that the testing
15 procedures that we've come up with are one of the
16 good ways to do that.

17 As one way of validating all of this, I
18 would just like to draw attention -- some of you
19 may not be aware of a nationwide program called
20 the National Transportation Product Evaluation
21 Program. It's a collaborative program by the
22 Federal Highway Administration and AASHTO, the
23 American Association of State Highway and

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2 Transportation Officials, that attempts to do some
3 really good things in product evaluations used --
4 for products used in transportation applications
5 and to address specifically this issue for the
6 Departments of Transportation to develop their
7 qualified products listings or to evaluate
8 specifications, and that is to be able to do that
9 quantitatively with objective information to
10 determine what's best.

11 Thus far NTPEP has an extensive program for
12 rolled products, a limited program of performance
13 tests for hydraulically-applied erosion control
14 products, and is actually initiating this fall a
15 program for sediment retention devices which
16 parallels wonderfully the work done here by the
17 Georgia Soil and Water.

18 And that work at the NTPEP has been
19 supported by the Erosion Control Technology
20 Council, by the ASTM International in developing
21 standards. That program likes to use existing
22 test standards that have been developed by, if you
23 will, the world at large and not develop their

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2 own, another goal of the Georgia Soil and Water.
3 And also the International Erosion Control
4 Association is really focused on this idea of
5 needing to do quantitative objective measurements
6 on these systems to facilitate their use.

7 As far as the NTPEP goes, as of earlier this
8 week they indicated to me that these states have
9 effectively engaged with the erosion control
10 products, which also includes sediment controls
11 coming up, a portion of the NTPEP. So we have got
12 20 -- 20, 25 states. And you can see we're
13 surrounded by states in the Southeast here that
14 have made the NTPEP results.

15 And I would just like to emphasize how
16 compatible the Georgia Soil and Water work is with
17 the work that has been done and will be done under
18 the NTPEP. And this really kind of highlights.
19 The NTPEP publishes these points of importance.
20 And it kind of captures to me what has motivated
21 the Georgia Soil and Water in this endeavor is
22 this objective independent testing of systems that
23 are used in erosion and sediment control. It

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2 relieves states of the economic burden related to
3 doing it all themselves, each one doing it
4 themselves. It provides consistency across the
5 board when the testing is done and the results are
6 relied upon. And it's really kind of a huge
7 benefit for the manufacturing community to give
8 them a one place rather than 50-plus places to
9 have their materials evaluated and to realize if
10 they've got something good, if they're going to
11 develop a second generation, where they can
12 improve if they need to improve right away. And
13 the results are really dependable. So I think
14 that these points really capture just the
15 wonderful goal of objective independent
16 standardized testing for the performance of these
17 materials.

18 Just the testing that could be done
19 currently through this program are large-scale
20 erosion tests for slopes and channels and large-
21 scale erosion tests for a number of different
22 applications of sediment controls, which is the
23 segue to Georgia Soil and Water. It so happens

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2 that Georgia has obtained experience with these
3 tests that are being used at the national level as
4 well. It gives it kind of a head start in kind of
5 implementing this widely regarded approach to
6 looking at performance tests. And we'll look at
7 all the different testing here as we move ahead.

8 So what have we done for the Georgia Soil
9 and Water? What evaluations? There have been
10 four primary focus areas of the testing that's
11 been done since 2012. It started out with looking
12 at toe-of-slope devices, whether those be silt
13 fence or some other device; it moved into channel
14 testing for generally what we call check
15 structures; then moved into inlet protection; and
16 finally looked at floating pond skimmers, which
17 are becoming kind of ubiquitous on construction
18 sites, as the other devices are as well.

19 So let's look at the first one. An attempt
20 to look at full-scale performance of sediment
21 barriers used in perimeter controls, around the
22 edge of a construction site. Might be a large
23 construction site, might be small; might be steep,

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2 might be flat.

3 And just the picture there is the inside of
4 our facility. And I'll show you a lot more
5 pictures as we go.

6 What were tested, a number of silt fence
7 systems, and those silt fence systems compared
8 with the traditional straw bale to get a good
9 sense of, No. 1, how good were the traditional
10 approaches and, secondly, can we differentiate
11 between the various silt fence systems that are
12 used in the state of Georgia.

13 Quick rundown on what the large-scale test
14 to look at these systems looked like. Well, it
15 has 3-to-1 slopes, relatively steep. Sandy clay
16 soil, representative of soils found widely around
17 the state of Georgia. The slopes for this test
18 upstream of the sediment retention device, 27 feet
19 long and 8 feet wide. Rain trees, we call them,
20 dispersed around the slope. Target rainfall of
21 2-, 4-, and 6-inch per hour in sequence to
22 represent how a storm builds up into a real big
23 storm. And three slopes so that we can kind of

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2 average out the results.

3 You might imagine that as the size of tests
4 get bigger, the number of variables you're trying
5 to control gets bigger. And so the advantages of
6 averaging over multiple tests helps kind of
7 average over all of that variability that you try
8 and control.

9 And the bottom line, and this is something
10 that goes with every sediment control, is there's
11 not one answer. For sediment controls there's
12 always two answers: How much sediment is held
13 back and how much flow is allowed to seep through.
14 Because we've known for a long time that a
15 sediment pond, which virtually can be made to hold
16 all the flow back, can hold all the sediment back.
17 But the holy grail is how much can we allow to
18 seep through while still holding as much sediment
19 as possible back. So each test that we'll be
20 describing here will actually have two answers.
21 One inherently goes with the other.

22 Here is our facility up in Anderson, South
23 Carolina, just a stone's throw from the border.

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2 And the areas circled is where two slopes just
3 described are set up to do this testing. Now,
4 this is one area I would like to highlight. These
5 slopes were built outside. There are similar
6 slopes built inside with different soils in them
7 that are required in the NTPEP program. So we
8 couldn't use those. But when you put something
9 like this outside, rain is affected by wind, by
10 even little bits of wind, just the slightest air
11 currents. And it's hard to find a time of day
12 when there aren't wind currents. So for us to do
13 testing such that the rain is the size and
14 distribution that it's supposed to be, we do our
15 testing between 5:00 A.M. and 9:00 A.M. And so
16 this program, while we were very pleased to be a
17 part of it, some of our crew members were not
18 quite so pleased. But it went very well.

19 You see in the distance a test track where
20 we do some work with geosynthetics. You see in
21 the upper right-hand corner where we do channel
22 testing on erosion control products. We've got
23 quite a lot of versatility here. But you'll see

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2 scattered around as I talk about each one of these
3 tests we did for Georgia Soil and Water where we
4 did it.

5 Here's a close-up of what these slopes look
6 like. They are constructed to be 40 feet long and
7 8 feet wide. We did two of them side by side so
8 that a total of four tests would constitute a
9 complete test series for a product. That would be
10 three tests with the product in place and one test
11 with no product in place, a control to compare to.
12 And each time we did a product test we'd have a
13 control. So we accumulated quite a number of
14 controls that we could consider all together to
15 compare to each product test.

16 You see cups in place. We would actually
17 measure the rainfall that was obtained during the
18 course of the test so that even if there's modest
19 1-mile an hour currents, we'd see if that affected
20 the results. And it would help us manage the
21 testing. Sometimes you turn up the pressure on
22 one side a little bit to get the coverage. It's a
23 little bit of artwork there.

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2 The preparation of the slopes, it's 12-inch
3 thick soil. We till it, we rake it, we compact
4 it, and then we install products. And then we
5 just turn on the rainfall. But as you can
6 imagine, everything is done kind of really in a
7 standard way so we do it the same every time.

8 Once the slope is prepared, we come out and
9 we place those rain gauges and we get a sample of
10 soil at different parts of the slope. We do
11 moisture content. That will help us keep control
12 on -- moisture content affects how much seepage
13 there is versus runoff. So we'd like to stay in a
14 relatively 4 percent actually range of moisture
15 content to keep the early part of the test as
16 consistent as possible. Then those three levels
17 of rainfall, each for 20 minutes.

18 We collect all of the runoff between
19 rainfalls. Between the 2-inch per hour rain,
20 we'll reset the cups, we'll reset the containers
21 for collection, then we'll move to the 4, and
22 after that's done, we'll reset everything and move
23 to the 6, so that we can distinguish throughout

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2 the test what the -- kind of how everything is
3 increasing in both erosion and sediment control.

4 Then we let everything that's been collected
5 sit for at least 24 hours. Sometimes that's
6 assisted by flocculant to get the solids to settle
7 out. We decant off the clear liquids and then the
8 soupy, mucky stuff is collected and oven dried so
9 that we -- our final analysis of what passes
10 through the sediment control is dry rate of
11 sediment.

12 Visually, here's kind of what it looks like.
13 I guess I can look forward here. On the left side
14 you see a test set up ready to go. A nicely
15 manicured slope with the cups in place and the
16 device at the bottom. In this case it's a silt
17 fence at the bottom set up. And then our
18 procedure takes place. And at the end of the day
19 you can see on the right a Type A silt fence
20 result; a Type C silt fence, which has some
21 structural backing to it; a C-system, which is
22 kind of a unique combination of silt fence and
23 backing in place; a Type B system, which is

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2 basically a short Type A system; and one of the
3 innovative devices that -- and this is kind of all
4 set up to let innovators bring their products in
5 to be evaluated and know -- and let the Georgia
6 people know how to compare that, what does
7 somebody's result on an innovative device mean
8 relative to what a traditional device or a
9 commonly used device, like silt fence, looks like.
10 So you can see one of those is the compost sock.

11 And you can see what's actually happening in
12 this test is that the sediment is caused by
13 erosion in the test itself rather than in other
14 potential tests where the sediment solution is
15 kind of precalculated, mixed up and sent down.
16 This is a combination of both erosion and sediment
17 control.

18 The idea of running it on a control, you can
19 see on the left there the idea of running it on
20 traditional schemes such as straw bales shown here
21 as well.

22 This testing was designed to create what's
23 called a P-factor, a practice factor. What

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2 practices are put in place to control the amount
3 of sediment that can escape from a site? It just
4 so happens that that P-factor fits nicely into a
5 commonly used equation used worldwide, actually,
6 for determining how much erosion takes place under
7 all the variables that can happen on a
8 construction site. And that's why this is
9 especially a relevant test, is that it creates a
10 performance measure that's easily plugged into a
11 design tool. Just kind of makes engineers get
12 chills to realize when that happens.

13 Okay. So what you end up with, then, is by
14 comparing the sediment loss with the device in
15 place with the sediment loss without a device in
16 place, and you've got a ratio of the percentage of
17 sediment leaving the site. So if the control and
18 the amount of sediment leaving there is considered
19 a P-factor of 1, whatever erodes leaves the site,
20 and we replace that with a P-factor of whatever is
21 determined from testing, then we've determined how
22 managing sediment, putting a device in place,
23 helps prevent eroded material from leaving the

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2 site for the designer.

3 Okay. So, remember, I told you we're always
4 measuring two things. There are always two
5 answers to sediment controls. There's the
6 retention of sediment; there's the allowance of
7 seepage. And so our results are reported that
8 way, and that's what you see here.

9 On the vertical scale, vertical side of the
10 graph, that's seepage in terms of gallons going
11 through the fence under this -- or going through
12 the device, whatever it was, mostly fences; and on
13 the bottom, the amount of sediment that left the
14 site going through, under, or over the device.

15 And it's interesting, and we've added the
16 line in a regression curve, that there's a certain
17 amount of orderliness to this. So if we kind of
18 -- pardon me -- know some of the properties of our
19 devices, maybe we can kind of even predetermine.

20 I think this is especially important to
21 manufacturers who may be trying to design products
22 for certain types of performance.

23 But all this information then gets

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2 transformed into an ultimate performance number,
3 that P-factor.

4 And in doing that we found that we can kind
5 of categorize how these devices sort themselves
6 out into are they particularly high retention
7 devices, meaning they don't let as much seepage go
8 on in retaining soil, or do they tend to be high
9 flow devices and they let more seepage go through
10 and, as a result, somewhat less sediment control.

11 And with that in mind in calculating
12 P-factor, which is taking that previous
13 information and relating it to the controls, we
14 come up with this idea (indicating). And I'm
15 going to come back. Here's the general
16 conclusion, that we can actually define where
17 these type of systems fall.

18 This is, you will see on the horizontal axis
19 the P-factor that we talked about, the real
20 measure of performance that you can plug right
21 into design. And on the vertical axis is the
22 amount of seepage that would go through along with
23 that from this test. And kind of two boxes, the

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2 dark blue and the light blue.

3 And what I've done here is I've said, you
4 know, for lack of a better way of looking at this,
5 and knowing that in the real world of design the
6 designer/specifier has to choose do I have area to
7 pond water or do I not; downstream do I have a
8 particularly environmentally sensitive area that
9 says I don't want sediment there, it's going to be
10 a problem, so I need to make sure that I emphasize
11 sediment retention. How can we use these results
12 to help guide that, to help guide the users of
13 this information to one or the other, knowing that
14 that decision has to be made?

15 So that's where this idea of an envelope for
16 high flow where we don't want to pond water, say
17 in the street where we can create a safety hazard
18 for moving vehicles, or high retention envelope,
19 an area where, yeah, we can pond water, we've got
20 some extra room, but we don't want sediment
21 released because we've got trout streams and we've
22 got other environmentally sensitive areas
23 downstream that we don't want that sediment to get

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2 to. So these products or the properties expected
3 of these products fall into this envelope.

4 Taking those thoughts and kind of combining
5 them with the existing specifications, guidance
6 that has been given to people in the state of
7 Georgia, we compiled a table that kind of says it
8 both ways. Here's some of your standard index
9 properties. If you put on top of this the
10 performance measures that we can demonstrate
11 through this testing, here's a way to kind of pull
12 that all together.

13 You will notice on the right-hand column
14 there's not a lot here on what I call the
15 alternate systems, what I'd like to think in the
16 future are innovative systems, kind of where we
17 get closer to that holy grail of lots of seepage
18 and a huge amount of sediment control. We're not
19 really sure how to measure those individual
20 properties like we are in silt fence. We now have
21 a good sense of how to measure the overall
22 performance but, getting back to those index
23 properties, those are more system specific and

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2 something that was kind of beyond the work here to
3 get a grasp on but probably is the remaining
4 question to come up with a real overarching
5 construction specification, if you will.

6 So with this information and looking at the
7 6th Edition as it's been proposed, here's kind of
8 where that has been integrated, the test results
9 have been integrated, that the Commission, the
10 Technical Committee, feels like that we can go
11 ahead and look at this decision process. Do we
12 need something that has a preference for sediment
13 retention? If so, then let's require a lower
14 P-factor. Do we need something that has a
15 preference for higher flow to eliminate the safety
16 issues potentially? Then another property applies
17 there, a higher P-factor, that one being .045 from
18 the evaluation that we did.

19 So kind of closing the loop on doing this
20 testing, kind of coming up with not just the
21 specific answers but what those answers seem to
22 tell us about categorizing sediment retention
23 devices, how can that work its way back into an

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2 approach to specifying and selecting products? So
3 I think that's really a good job.

4 All right. Second set of tests were channel
5 check structures. There's an existing ASTM
6 standard that has been developed and rarely used,
7 so we kind of had to pull it out of the mothballs
8 and kind of make it apply for what we're doing
9 here. The idea was to, once again -- yeah, Josh.

10 MR. STILL: Can I ask a question?

11 MR. SPRAGUE: It's okay with me.

12 MR. DYKES: If you would just identify who
13 you are for the court reporter, please. Stand up
14 so she can see you.

15 MR. STILL: My name is Josh Still. And I
16 represent Erosion Tech out of Juliette.

17 Would you, if you will, go back two slides
18 where you have your boxes set up.

19 MR. SPRAGUE: Uh-huh.

20 MR. STILL: Would you help me -- I'm trying
21 to wrap my mind here around total seepage and the
22 definition of it. Because theoretically it's
23 2-inch rainfall, 4-inch rainfall, 6-inch rainfall,

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2 it's a controlled amount of gallons that's being
3 released onto this slope.

4 MR. SPRAGUE: That's right.

5 MR. STILL: So is this seepage gallons per
6 minute or gallons per --

7 MR. SPRAGUE: This seepage would be specific
8 to this test, as is the P-factor specific to this
9 test. So it reflects 27 feet long, 8 feet wide,
10 and the cumulative of 2 inches per hour rainfall
11 rate for 20 minutes. So that's a volume, depth
12 and area. And then added onto that, 4 inch per
13 hour and 6, is a total volume of liquid that was
14 put on that slope.

15 MR. STILL: Right.

16 MR. SPRAGUE: Of that, some ponded behind
17 the device and other came through. And it's the
18 coming through that is the seepage --

19 MR. STILL: During.

20 MR. SPRAGUE: -- during the test time.

21 MR. STILL: Okay. Thank you.

22 MR. SPRAGUE: Did that work?

23 MR. STILL: Uh-huh.

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2 MR. SPRAGUE: Thanks. Good question.

3 MR. RUZOWICZ: At the end of some of those
4 -- and my name is Ben with the Georgia Soil and
5 Water. At the end of some of those pictures,
6 there's actually a channel that collects the water
7 that takes it to a place where it can be weighed
8 out.

9 MR. SPRAGUE: Yeah, I should have probably
10 made a better description of that. But we're
11 catching all of -- everything that comes off. And
12 every five minutes we're doing a bucket clock
13 volumetric flow rate measurement so we know over
14 time. And then we're collecting it all, so we
15 know the total volume. So we get sediment
16 concentration every five minutes. We get flow
17 rate every five minutes. We get total flow rate
18 each 20-minute increment.

19 MR. STILL: So at the twentieth minute and
20 you cut it off, whatever is ponded up behind it
21 does not count as seepage and everything that --

22 MR. SPRAGUE: That's right, that's right.

23 Keith.

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2 MR. HARRIS: Does overtopping count as
3 seepage?

4 MR. SPRAGUE: Overtopping counts as seepage,
5 as does undermining.

6 MR. DYKES: Please stand up and state your
7 name for the court reporter, please.

8 MR. HARRIS: Keith Harris, Hanes Geo
9 Components.

10 MR. DYKES: Thank you.

11 MR. SPRAGUE: Thank you. Great.

12 MR. KELLER: Bryan Keller, Fayette County.
13 Did y'all think about testing two rows of Type C
14 silt fence instead of the required (inaudible)?
15 Did you do any testing on two?

16 MR. SPRAGUE: Can I do a cop-out on this
17 one?

18 MR. KELLER: Sure.

19 MR. SPRAGUE: We did exactly what the
20 Technical Committee asked us to do. So I will
21 just defer that question.

22 MR. RUZOWICZ: We tested one row at a time.
23 I mean, if we went back and we made every single

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2 person that had a silt fence test two rows behind
3 one another in order to be another application,
4 that -- the Committee decided that that required
5 that much more and that testing of one row would
6 be sufficient for what they needed at this time to
7 try to reduce the costs of testing.

8 MR. SPRAGUE: And that's a real good kind of
9 heads-up, though. All of this was kind of money
10 constrained. And there was some really
11 interesting conversations associated with what
12 should be set up and should it be a single event
13 or multiple events, which, once again, kind of
14 compounds the testing. And so it's a -- it's a
15 judgment world.

16 But I think one thing to emphasize is the
17 effort here to establish a baseline, as Ben said
18 in his opening statements, was really one of the
19 primary goals of all this so that any future
20 testing at any laboratory following this procedure
21 could then go on to answer some of these
22 additional questions.

23 Wes.

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2 DR. ZECH: Wesley Zech, Auburn University.

3 I just have a quick question. How were your
4 thresholds established? Because just visually
5 looking at the data, to me it looks like it's
6 arbitrary. And I was just wondering if you had
7 any statistical justification for selecting, for
8 example, the P-factor of .03 versus .035.

9 MR. SPRAGUE: It's completely what you see
10 there.

11 DR. ZECH: So it's arbitrary?

12 MR. SPRAGUE: Trying to conceptualize based
13 on the results of the different products. Because
14 there's really not enough common things going on
15 other than a specific test result from a specific
16 procedure to do much in the way of statistics with
17 this stuff. And it kind of gets back to that
18 previous statement here of trying to figure out
19 really empirically what a -- what kind of these
20 basic thresholds of performance are for products
21 that are known that can eventually be extended to
22 new products that are being developed and
23 innovated so they have something to compare to.

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2 And then the second step of kind of zoning
3 these things is almost a shoehorning into the
4 practical decision-making that's going on in the
5 world today of this trade-off between, okay, I
6 know I can't let it all pond, so if I could -- if
7 I pick this device, it's all going to pond and I
8 can create a safety hazard, let's say. And I know
9 I can't let it all go through because if I do, I
10 have the potential for creating an environmental
11 hazard. So how do we guide that decision-making
12 process a little bit? So that was the goal of
13 kind of the zoning.

14 DR. ZECH: So basically they're arbitrarily
15 selected?

16 MR. SPRAGUE: They're as arbitrary as us
17 sitting here looking at that and saying, you know,
18 do they fall out in certain threshold zones.

19 DR. ZECH: Because, you know, in the middle
20 you have a cluster of data.

21 MR. SPRAGUE: Uh-huh.

22 DR. ZECH: And you drew a line straight
23 through that data. And I bet you right there

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2 they're not statistically different.

3 Statistically they're going to be the same.

4 MR. SPRAGUE: You mean on both -- within --

5 DR. ZECH: On both axes you drew a line
6 through a whole cluster of data. And I would say,
7 just from a practical standpoint, that those
8 systems are probably performing almost
9 identically.

10 MR. SPRAGUE: And that could very well be,
11 that a lot of products will fit both categories.
12 So, yeah, I think you're exactly right. But there
13 are materials that kind of can fit in both areas,
14 even nonstatistically, if you will, given just the
15 limited database that we have.

16 DR. ZECH: So why define it by drawing a
17 line between those data points?

18 MR. SPRAGUE: I'm open. Do you have a
19 better idea?

20 DR. ZECH: Honestly, anything that's for a
21 P-factor of .045 and lower is going to retain the
22 amount of sediment you want. It's going to be 95
23 percent or more in comparison to the control. So,

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2 I mean, I would include them all.

3 MR. SPRAGUE: Yeah, and that's where as a
4 tester, I'm not -- I don't make those -- it's the
5 designers that have to decide on their sites
6 whether they do need retention. That's why the
7 idea of bisecting it this way to get a little
8 finer differentiation between them is really kind
9 of -- that's the designer/specifier role.

10 The idea, and I think it's conceptually
11 what's pretty common, is folks know that the
12 C-type silt fence is a more open material and
13 generally passes more sediment. But, as a result,
14 it gets higher flow. And, conversely, A and B
15 types do the flip-flop of that. So this was more
16 of an acknowledgement of what people are doing
17 with these materials and maybe can do it a little
18 more knowledgeably with numbers.

19 And, in a sense -- and I think this is good
20 that you're bringing it up. In a sense it
21 validates that the testing is kind of recreating
22 the real world, which for a tester is something we
23 like. That's one of our goals.

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2 DR. ZECH: But then from a seepage
3 standpoint, I know you guys used a sealant on the
4 bottom of some of the products, which that's not a
5 function of how it's installed in the real world,
6 which is going to prevent water from flowing under
7 that product.

8 MR. SPRAGUE: What we actually did was the
9 attempt was not to prevent seepage under the
10 product but to prevent seepage under the plastic
11 downstream of the products. And I apologize for
12 not going into that level of detail. So that
13 erosion isn't caused downstream of the products,
14 we put plastic down so that water coming under,
15 through, or over would go onto the plastic and
16 into the gutter and be collected instead of
17 creating additional sediment that we couldn't
18 really know from one product to the next to the
19 next what it was. So that bentonite sealant was
20 used to kind of seal it off so anything that
21 wanted to get under the plastic got stuck there
22 and didn't have a path to come and do erosion.
23 And sometimes we were more effective at that than

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2 other times.

3 Larry.

4 MR. BOOTH: Larry Booth with Willacoochee
5 Industrial Fabrics. This was one of the points
6 that we brought up in a previous meeting, that the
7 use of bentonite as a sealant affected the results
8 of these tests.

9 Now, if the water, if you were trying to
10 prevent the water from going under the plastic,
11 wouldn't it have been more logical just to have
12 brought the plastic up and buried it a couple of
13 inches there at the base of the product and then
14 allow the water to flow and seep as it would based
15 on the material that's being tested? Because as
16 in one of the filter socks, you know, it's -- and
17 you stated in your report that a couple of the
18 drawbacks to these type of sediment retention
19 devices are they're overtopping and they're
20 undermining. By putting that sealant underneath
21 that device, you stopped it from undermining it if
22 it would have undermined it. We don't know that
23 it would have undermined it. But, you know,

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2 that's a question that we don't know now and
3 that's one of the questions that was raised at
4 previous meetings, that that was an error in
5 testing on that product. And so --

6 MR. SPRAGUE: But you do understand now
7 that's not what happened?

8 MR. BOOTH: No, I understand why you -- your
9 explanation as to what you did. But I I'm not
10 convinced that it did not affect the test.

11 MR. SPRAGUE: But, I mean, you understand
12 that there wasn't bentonite under the material?

13 MR. BOOTH: No, I don't understand that.
14 Would you explain that?

15 MR. SPRAGUE: Okay. The -- and I think the
16 whole point of putting the plastic downstream of
17 the device but not trying to affect the device --
18 because some of these devices are trenched in,
19 some of them have just the little hollowed out low
20 trench -- that what we did was we took a sheet of
21 plastic and upstream of that sheet put the little
22 staples, the erosion control staples on the
23 leading edge and then along that leading edge put

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2 the bentonite, so trying to keep water that had
3 come over, through, or under from then getting
4 under that plastic and eroding under the plastic
5 and seeping out the bottom end under that plastic.
6 And it was a constant challenge because we really
7 didn't have a fixed upper end to it.

8 So perfect? No. But did it affect the
9 results? I don't think so.

10 MR. BOOTH: I understand your explanation
11 clearly. In the photos it shows the bentonite is
12 stuck against the filter sock. So whether it was
13 underneath it or up against it touching it, then
14 it could have impacted the test, because the water
15 could have reached the bentonite and that
16 consequently stopped the flow from undermining it.
17 That's the point I'm trying to make.

18 MR. SPRAGUE: Okay. And I don't think that
19 could have happened, but -- yeah.

20 MR. McCOY: Brad McCoy, GroGreen Solutions.
21 Could you back up the slides just so I can
22 see the photograph that we're kind of talking
23 about?

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2 MR. SPRAGUE: Is there one here?

3 DR. ZECH: It's right there.

4 MR. SPRAGUE: Okay.

5 MR. BOOTH: As you can see, the point I was
6 trying to make -- I'm sorry. Larry Booth again.
7 The little picture on this one, the bentonite is
8 touching the base of the product. Now, how much
9 it protrudes underneath it, how little, or not at
10 all is, you know, not something we can determine
11 from this photo. But the fact that it's touching
12 the product can, you know, cause a change in the
13 flow underneath that product. If it potentially
14 would have undermined that product, that bentonite
15 sealant could have eliminated that from occurring.
16 So, you know, the test was impacted by the use of
17 that.

18 Preferably, I would like to have seen the
19 plastic you have there brought up to the base of
20 the product, use 6-inch sod staples, 4-inch sod
21 staples, or whatever was available and met the
22 requirement, and put it down, bury it 2 inches in
23 the soil, 3 inches in the soil, right up to the

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2 base of the product and then let nature take its
3 course instead of putting something like that that
4 could impact the outcome of the test.

5 MR. SPRAGUE: And you can see we have -- we
6 did it every time. We did it with silt fence and
7 we did it with socks.

8 MR. BOOTH: You did it with four products.
9 And nine products, it was not used on nine
10 products, according to the videos that I reviewed.

11 MR. SPRAGUE: Okay.

12 MR. BOOTH: And I'm just pointing this out.
13 You know, it's an unknown. And we feel like it
14 impacted the results of that test on the products
15 that it was used in and should not have been used,
16 and I'm just trying to make that point.

17 MR. SPRAGUE: Okay, thanks. I'm with you.
18 I disagree, but I'm with you.

19 DR. ZECH: Wesley Zech, Auburn University.
20 You know, you talk about real world replication or
21 real world testing, eliminating that plastic sheet
22 on the back end and just letting it erode, and
23 even if it undermined products or started eroding

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2 after it, that could be a failure mode for that
3 product. And you would see that during the
4 testing, which would really replicate what happens
5 out in the field.

6 MR. SPRAGUE: Potentially, yeah. That's one
7 of the specifics that was in the test method we
8 were told to follow. So I don't disagree. We
9 were just kind of told that's -- and that's -- I
10 can see both sides of that one, yeah.

11 MR. SINGLETON: Please correct me if I'm
12 wrong --

13 MR. SPRAGUE: Would you introduce yourself.

14 MR. SINGLETON: I'm Roger Singleton,
15 Silt-Saver. I believe the test was to test the
16 product itself for flow and efficiency, not the
17 installation method. In order to test the product
18 itself, you have to close off any escape of water
19 passing through or under in order to test the flow
20 through the product and the efficiency that passes
21 through or over the product.

22 MR. SPRAGUE: And I guess I'd have to
23 disagree with you on that one. The goal here was

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2 to run an installed performance test. And so the
3 installation is supposed to represent how it's put
4 in in the field and to do it in accordance with
5 the procedure, you know.

6 MR. SINGLETON: Under perfect conditions.

7 MR. SPRAGUE: As best we can do it, yeah.

8 MR. DYKES: In the interest of time we'll
9 take two more questions. I saw a hand here.
10 Well, go ahead, Marc.

11 MR. MASTRONARDI: Marc Mastronardi, Georgia
12 DOT. Joel, so I heard something that's very
13 concerning. Do we have tests that did not have
14 this same application of bentonite used on --

15 MR. SPRAGUE: I don't doubt Larry, if he has
16 looked through it all. I mean, when we had a
17 problem with seepage coming under the plastic,
18 that's what we did.

19 MR. MASTRONARDI: So let me ask you
20 something. I think I see in the picture the
21 compost filter sock. So we've got a couple of
22 wings that have been installed, so-to-speak. Is
23 that bentonite behind the wing in advance of the

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2 filter sock?

3 MR. SPRAGUE: Now, with a three-dimensional
4 product, seepage doesn't just go this way, it kind
5 of goes this way (indicating). So our judgment
6 was that we needed to kind of make sure we sealed
7 off the edge so that the seepage we were measuring
8 was kind of the through seepage.

9 MR. MASTRONARDI: Right. So --

10 MR. SPRAGUE: So, yeah, so we have to --
11 with the three-dimensional products we had to do a
12 special job of sealing and sealing out enough such
13 that that seepage came straight through and was
14 collected.

15 MR. MASTRONARDI: So how did you deal with
16 the silt fence installations then in --

17 MR. SPRAGUE: They turned upstream and we
18 actually secure them to the wall so there's no way
19 for --

20 MR. MASTRONARDI: But they do protrude.

21 MR. SPRAGUE: -- sediment to escape along
22 the side.

23 MR. MASTRONARDI: Right. But I guess what

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2 I'm looking at is with the post installation they
3 do protrude inward into the test pattern. I guess
4 I'm wondering if you have the same concerns that
5 water is getting behind that fence or not as you
6 did with the sock.

7 MR. SPRAGUE: We never had the ponding get
8 behind the upward extension of the fence as you
9 see it there.

10 MR. MASTRONARDI: Okay.

11 MR. SPRAGUE: So all of the -- all of the
12 seepage had to come through. And we really
13 secured -- you can see the posts right along the
14 wall. Those are secured tightly to the wall.

15 MR. MASTRONARDI: All right.

16 MR. SPRAGUE: So that seepage can't --
17 you've got to go through the fence against the
18 wall and then come down there and be a -- be
19 representative of more length of material.

20 MR. MASTRONARDI: Let me ask one last
21 difficult question.

22 MR. SPRAGUE: Okay.

23 MR. MASTRONARDI: If it turns out that there

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2 is not a uniform application of bentonite, what do
3 you -- what would be the position on the test
4 results?

5 MR. SPRAGUE: Well, I think that's kind of
6 -- our judgment, or we wouldn't have turned them
7 over, was that this is kind of good, really good
8 orderly stuff. But, you know, the Technical
9 Committee is our final arbiter on those things. I
10 don't think you'll find anybody who -- you know,
11 doing large-scale testing, you try and control the
12 variables as they pop up. And water is a stinker.

13 MR. DYKES: There's one question over here.
14 And we'll get to the comments during the public
15 comments.

16 One question over here?

17 MS. DAVIS: Yes. Kelli Davis with DDD
18 Erosion Control.

19 My question is if you're trying to simulate
20 real world applications and you don't apply the
21 same product to the same applications, the
22 bentonite, in essence, becomes part of the
23 application process for those products that it was

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2 used. The other products are treated differently
3 by not having them applicable or having them
4 installed with it. Therefore, apples to apples
5 can't be compared in my opinion. Am I wrong?

6 MR. SPRAGUE: I hear what you're saying.
7 And we're kind of pretty good at this. You know,
8 with bentonite, you put it down and it gets really
9 slick and impermeable. It's just like plastic.
10 That's why we used it adjacent to the plastic,
11 because we could -- we could kind of do that. I
12 mean, I hear you. We --

13 MS. DAVIS: The definition of bentonite is
14 it is a sealant. Is that not correct?

15 MR. SPRAGUE: Right.

16 MS. DAVIS: So if it's a sealant at the base
17 of the product the full length of the product,
18 then it -- in essence, any seepage, any water
19 flow, any sediment concentration that was going to
20 go off the site, that sealant would, in essence,
21 block anything coming off. Is that right? Am I
22 saying that correctly?

23 MR. SPRAGUE: You -- yeah, I understand what

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2 you're saying. I guess it's I'm just having a --
3 there is -- there is space between the device and
4 the bentonite.

5 MS. DAVIS: According to pictures that were
6 provided for the test, that's not correct.

7 MR. SPRAGUE: It didn't look like it?

8 MS. DAVIS: No, sir. You can -- they zoomed
9 in and you can see it is not, there is no space
10 between there in what we viewed.

11 MR. SPRAGUE: Okay. Certainly the intent
12 was -- yeah, we're quite aware of these materials.
13 And we've done, we've done quite a lot of them
14 that, you know, you've just got to find the right
15 balance between controlling -- being able to
16 capture what you need to capture coming off of
17 these and not affecting the test.

18 MS. DAVIS: As Mr. Larry said, there were
19 nine products that did not have it and only four
20 that had it.

21 MR. SPRAGUE: So you feel pretty good about
22 those nine?

23 MS. DAVIS: We do.

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2 MR. SPRAGUE: Okay. So it's -- and you feel
3 pretty bad about the other ones? You have
4 expectations they would have done something else?

5 MS. DAVIS: It just doesn't look like it's a
6 fair comparison if one has additional product on
7 it.

8 MR. SPRAGUE: Okay. I'm glad to kind of get
9 my head around where you're coming from. And I'm
10 sorry my explanation wasn't -- wasn't
11 satisfactory. Okay.

12 MR. DYKES: We'll address those comments
13 during public comments. I hate to cut it off; but
14 in the interest of some folks not being able to
15 stay all day, I want to get through the
16 presentation. But please note your comments or
17 questions and we'll address those. But in the
18 interest of time, it being five after 11:00, we
19 want to move forward.

20 MR. SPRAGUE: All right. The second set of
21 tests we did -- and to the best of my knowledge
22 there was no bentonite here, so this may go better
23 -- was large-scale performance testing of check

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2 structures using a standardized test procedure.

3 What we looked at here was a compost sock,
4 straw bales, a stone check dam, and silt fence put
5 in in accordance with the Georgia DOT W-pattern.

6 In this test a trapezoid-shaped channel with a 5-
7 percent bed slope, 2-to-1 side slopes, with a
8 2-foot wide bottom were used. It's a 30-minute
9 flow rate. And we established the flow rate kind
10 of two ways, both with a weir and with volumetric
11 flow rate measurements -- or, excuse me, velocity
12 measurements combined with the measurements made
13 on the depth of the flow. It's metered into the
14 channel. We have cross-sections set up to take
15 measurements. Those measurements are intended for
16 both measuring to the soil surface before and
17 after the test as well as give us points to
18 measure volume -- the velocity of flow. And we
19 generate the resulting graphs off of that.

20 Here's the location at our facility. Here's
21 a close-up of what the trapezoid looks like and
22 flow coming in over a sharp crescent weir. We put
23 a 12-inch veneer of sandy clay, as requested.

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2 It's a little bit of a unique procedure for
3 re-establishing these after each set of tests.
4 The install, the product that is installed -- and
5 in this case we installed each product at one
6 location to, once again, kind of get the best
7 device-to-device-to-device comparison, regardless
8 of the height of the devices.

9 We do immediately prior to the initiation of
10 the test, we'll measure what the soil surface is.
11 We'll check the moisture readings as well. We
12 know what flow rate we're looking for and we've
13 calibrated our weir to get us there.

14 During the testing we do flow depth
15 measurements and try to do this after kind of the
16 thing has stabilized. It's a little bit of a
17 moving target. So sometimes we do this multiple
18 times. And then at the end of the 30 minutes we
19 stop and we measure things again.

20 Here you can see kind of the initial
21 preparation, putting soil in place and compacting
22 it with the trapezoidal channel. The critical
23 area is always where the side slope meets the

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2 bottom. And it's hugely difficult to get
3 stabilized. So a combination of compaction on the
4 soil itself with just the plate and then pulling
5 our form to re-establish the trapezoid while
6 running the compactor in place. It's a rather
7 noisy activity, but it works. And then putting
8 the materials in place either in accordance with,
9 in this case, the Green Book installation details
10 or with the manufacturer's recommendations if it's
11 not in the Green Book.

12 You can see the rock check structure and
13 then this W-shaped silt fence installation.

14 And, once again, the results of this in
15 terms of kind of how the different structures
16 performed and how much soil was lost and how much
17 soil was gained, because as most of you would
18 know, the idea of a check structure being placed
19 in the channel is so that it slows the flow, makes
20 the flow pond up and act as a little baby sediment
21 pond. The heavier sediments can fall out behind
22 the device as then the flow backs up and cascades
23 over the device hopefully to then meet another

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2 device at another check structure further down the
3 channel.

4 The before and after measurements are key to
5 determining where there's been erosion, where
6 there's been accretion. And the standard requires
7 us to measure -- or to convert that information
8 into an index, an accretion index and a soil loss
9 index. And so we had some tables put together to
10 kind of express that along with some of the
11 qualitative information that we found as we ran
12 the test.

13 Now, as a little background, the idea that
14 different channels and different devices may have
15 -- have different design parameters. A small
16 channel may only be exposed to a lower flow level;
17 a larger channel, a larger flow level. For a
18 small channel, it may be that a smaller device
19 will work just fine and be much more economical.
20 In a bigger channel, maybe it's necessary to have
21 a much more structurally robust system. And, of
22 course, that may have costs associated with it as
23 well.

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2 So we did testing at one half of a cfs,
3 cubic feet per second, flow rate, testing at 1
4 cfs, and testing at 2 cfs to arguably demonstrate
5 a modest, a medium, and a higher flow rate and how
6 these different devices performed in those
7 different conditions, and with the potential that
8 a device could do very well at a low flow rate and
9 not so well at a high flow rate or do very well
10 across the board. It's a little hard to envision
11 a device doing well at a high flow rate but not at
12 a low flow rate, but we tend to be surprised many
13 times.

14 So in the process of all this we kind of
15 focused on what the raw results were. And in that
16 process, kind of under full disclosure here, with
17 the help from our friends at Auburn, we found like
18 a real calculation mistake in calculating the
19 indices. And that was calculation of the total
20 wetted area. So you see the note here, and it's
21 in your information, the corrected data.

22 And kind of the natural extension of this is
23 the question, okay, what does that do to the

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2 results and the ultimate recommendations? And I
3 will get to that in a minute here.

4 But here you have the results of the low
5 flow, the .5 cfs. And it probably jumps out right
6 away that in the column of observations you see
7 the term "blowout." Well, this was I won't say
8 surprising, but I will say surprising, that even
9 under the lowest flow rate both the straw bales,
10 which are a traditional system used for check
11 structures, and the silt fence as it was put in in
12 accordance to this detail from the -- the DOT uses
13 this detail, we got blowout before the end of the
14 30 minutes, meaning either a total undermining so
15 that it would no longer hold a pond or kind of
16 complete subversion of the system, which is kind
17 of the same thing; that we couldn't get a full 30
18 minutes of test time without a really violent
19 disruption in flow.

20 And I use that term "violent" kind of
21 advisedly because, interestingly, once a device
22 works for a while to pond but then
23 catastrophically fails, it can be worse than not

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2 having the device at all.

3 And that's why you see over in column -- the
4 third one from the right, the Net Percent of
5 Unchecked, meaning ultimately the amount of
6 sediment leaving the test section when compared to
7 a section tested under that flow with no device at
8 all can actually be greater than 100 percent,
9 because this ponding and blowout can create some
10 really huge erosive forces over whatever is
11 remaining at the end of the test channel. And
12 that's indeed what happened in both the straw and
13 silt fence.

14 So then moving up to the 1 and 2 cfs tests,
15 we just went ahead with the devices that passed at
16 the .5 cfs level. And that's what you see here,
17 the 1 cfs level, testing the control to compare
18 to, and then straw bales, the compost sock, and a
19 rock check structure deployed over a geotextile.
20 Very good performance. And then under the higher
21 flow levels, good performance.

22 You know, as those flows go up, it's harder
23 and harder to keep erosion and carrying on from

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2 going on because it ponds that much more quickly,
3 starts cascading that much more quickly and
4 deeply, and it can carry more sediment with it to
5 flow through the channel. Still, the results kind
6 of just feel like this is what we're seeing in the
7 world.

8 Graphically, here's a result of the .5 cfs
9 runs. And you will see the ones that show blowout
10 and the ones that don't.

11 Now, one thing I think we all felt was quite
12 interesting was you can use straw bales
13 effectively, like hugely effectively, but you have
14 to put them in right. And Ben did his homework.
15 Once we realized that the standard installation
16 wasn't going to work very well, he came up with an
17 NRCS approach and then shared that with us for us
18 to try. And doing a real rigorous approach of
19 installation changed that completely.

20 If we combine --

21 UNIDENTIFIED SPEAKER: Can you just briefly
22 describe the difference in the installs?

23 MR. SPRAGUE: Yeah. Let me come back to

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2 that one, okay, because it's substantial.

3 MR. BOOTH: I just had a question for
4 clarification. Mr. Dykes, did you mean that we
5 didn't -- that you didn't want us to ask any
6 questions during the remainder of this and wait
7 until the end of it?

8 MR. DYKES: No, sir. We're fine for you to
9 ask questions. I just didn't want to spend all
10 the time on the first test.

11 MR. BOOTH: I understand.

12 MR. DYKES: Yeah, I apologize for not making
13 that clear. I don't want to spend all two or four
14 hours, however long you want to be here today, or
15 eight hours, however long you want to stay, on the
16 first test, because I think there may be folks
17 that are here that want to see all of the tests.
18 So, certainly, yes.

19 MR. BOOTH: Could we back up one slide? I'm
20 sorry, Larry Booth.

21 MR. SPRAGUE: Yeah, why don't we go back and
22 we'll start -- let me -- I think we are talking
23 here, right (indicating)? If we start with the

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2 difference in what makes a straw bale installation
3 work. Okay. It's a little bit hard to see, but
4 what you have here is the NRCS I think came out of
5 Kansas or --

6 MR. RUZOWICZ: Colorado.

7 MR. SPRAGUE: Colorado, was it? Where you
8 bury one row about 14 inches deep. So it's, what
9 is that, about 6 inches high, sticking above, and
10 about 14 inches under the soil, compacted; and
11 then upstream from that put another line of silt
12 fence that is embedded 6 inches deep, I believe it
13 was. And that's what you see sticking up in the
14 front line state. And what you see in the back
15 line state is the much deeper buried one. So, in
16 essence, you're kind of created a scour apron on
17 the back side and a lip for the front ones to push
18 against.

19 UNIDENTIFIED SPEAKER: And the GASF you see
20 there is just double staked and 4 inches
21 entrenched in the -- just like the 5th Edition?

22 MR. SPRAGUE: Exactly, exactly. Thank you
23 for that clarification.

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2 All right, Larry, your question.

3 MR. BOOTH: Could you move forward -- I'm
4 sorry, Larry Booth, Willacoochee Industrial -- one
5 more slide, please. Again. Again. Well, back up
6 one, I'm sorry. I did have a question on that
7 previous one. One more back.

8 MR. SPRAGUE: That one?

9 MR. BOOTH: One more back. There we go.
10 Type C silt fence, the last two categories there,
11 21 inch high. Now, Type C silt fence is 36 inches
12 high, so could you please clarify what you mean by
13 21 inches high there?

14 MR. SPRAGUE: Yeah. The key to this is all
15 ponding. And that point, that point of the silt
16 fence down in the channel determines how much
17 ponding there's going to be and, therefore, how
18 much kind of hydraulic pressure there is on it.
19 And that's the 21 inches.

20 MR. BOOTH: Okay, I understand.

21 MR. SPRAGUE: Right here (indicating)?

22 MR. BOOTH: Yes.

23 MR. SPRAGUE: Okay.

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2 MR. BOOTH: I was a little confused on that.
3 Now if you will go to the next slide, you can see
4 on this there's a lot of water backed up behind
5 this product here. And if you will go to the next
6 slide and then the next one -- no, forward, not
7 backward.

8 MR. SPRAGUE: Forward, okay.

9 MR. BOOTH: The next one. And the next one.
10 I'm looking for the graph, the vertical graph.
11 Here we go.

12 MR. SPRAGUE: Okay.

13 MR. BOOTH: Where we're showing blowouts and
14 no blowouts.

15 MR. SPRAGUE: Right.

16 MR. BOOTH: It would appear to me based on
17 the photographs that the blowouts occurred on
18 products like Type C silt fence because it retains
19 so much water behind it and did not allow it to go
20 over it, whereas other products like rock piles
21 and compost sock were shorter in height and the
22 water went over and overflowed that.

23 So theoretically, if you reduced the height

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2 of the silt fence in that check dam to the height
3 of the rocks or the compost sock, then it would
4 not have had a blowout also, potentially.

5 MR. SPRAGUE: Oh, I think that at least
6 partly, yes, certainly. It may be that -- and
7 it's hugely difficult to compact against wire.
8 And if you remove the wire from this design, you'd
9 make an improvement.

10 And the idea of turning these sharp corners
11 and such is really hard to install. It's just
12 really hard to install. And that's why we did two
13 of them where we said, okay, guys, go install it,
14 here's the details; and then we said, okay, guys,
15 now go install it and we're going to watch you
16 install it and do everything you can to get
17 compaction in that trench and such. And so it's
18 just hard. It's just really hard to do this
19 detail right.

20 So I guess that's -- and it's important for
21 me to tell you this isn't an indictment of silt
22 fence. This is, in my mind, this is an indictment
23 of what we test at that configuration that is

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2 required. And for those who aren't real familiar,
3 the size of the channel dictates how much -- or
4 how you're required to put the silt fence in,
5 whether you use a W, whether you use a V, whatever
6 it may be. And so for this testing, that fit the
7 standards, the channel required in the standard.

8 There may be other ways to use silt fence
9 that can work. And I think that goes back to kind
10 of that comment earlier. I think the real goal of
11 the Georgia Soil and Water was to establish
12 baseline, a procedure that can be set up at any
13 laboratory, any place, any university, to look at
14 these and do future testing on whatever system of
15 materials so that there's truly an apples and
16 apples ability to compare.

17 Okay. All right. That's just another way
18 of presenting it. Here's kind of the nuts and
19 bolts of things, what to do with this information.
20 And it's interesting, the standard itself, ASTM
21 D7208 really doesn't give you a heck of a lot of
22 guidance on what do you do with this information
23 once you've measured it. And so we're kind of

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2 stretching there to work with the Technical
3 Committee to say, okay, well, how do we turn this
4 into something that could be used to guide the
5 decision makers.

6 And so our thought was, okay, if we take
7 these indices and take the net of the indices, how
8 much is accreted upstream of the device versus how
9 -- well, it could be upstream or downstream -- and
10 how much is eroded upstream and downstream of the
11 device. The net of those is kind of what left the
12 -- well, a measure, anyway, of what left the test
13 area, and compare that to a control, which is kind
14 of a simple erosion control test going on. And
15 does that ratio tell us how much improvement we
16 could expect.

17 And so with that concept in mind, we
18 proposed that -- well, you know, you do the test,
19 you kind of line up this net of the Soil Accretion
20 Index and the Clopper Soil Loss Index and see how
21 that compared to the control.

22 Now, remember, I told you we had a mistake.
23 The original recommendation was 20 percent based

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2 on these net indices. With the correction to the
3 calculations, 30 percent seems like a much more
4 appropriate threshold based on what we were
5 testing. And, you know, that would be the
6 wherewithall for the Technical Committee to decide
7 if that was a good representation of everything
8 they would see. But I think the concept of using
9 that ratio and saying that's a percent improvement
10 so that one could compare in a given test apples
11 to apples is a valid way to go about it.

12 And so based on that -- and I think I kind
13 of covered those conclusions -- we came up with
14 these recommendations where here is kind of what
15 we tested, so if that's useful to folks. This is
16 a description of the materials physically and how
17 they were put in. And then a large scale
18 performance number accompanying that is one way to
19 use the results of this test. And at this point
20 kind of I don't really have an alternative way of
21 using these results.

22 And as it's made its way then into the
23 proposed 6th Edition, that it's not specific. I

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2 guess that's kind of something the Technical
3 Committee is still wrestling with a little bit,
4 should there be a percentage number put in there
5 or whatever. But the concept of relying on the
6 test method has been added and the concept related
7 to relying on it for just the highest flow at this
8 time, which, like we talked about at the start of
9 discussing this particular method, this could even
10 be broken down to categories, low, medium and
11 high, and then have the test method reflect
12 results at half a cfs, 1 cfs and 2 cfs. So
13 perhaps another way of looking at things.

14 Okay. Question?

15 MS. DAVIS: Kelli Davis with DDD Erosion
16 Control. You said that you did a performance
17 modification for the hay bales because there was a
18 blowout and it worked better.

19 MR. SPRAGUE: Right.

20 MS. DAVIS: So I would say that based off
21 that that you say installation is key, is a key
22 factor as far as how this product is going to
23 perform and to succeed; correct?

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2 MR. SPRAGUE: Sure.

3 MS. DAVIS: Was there also performance
4 modification made for the Type C silt fence
5 installation?

6 MR. SPRAGUE: Well, the only thing we did
7 there was to go back and do a re-installation to
8 double check that everything had been installed to
9 the best of our ability. But an alternate type of
10 installation? We really didn't. We were kind of
11 at the limit of the budget.

12 I think we ended up kind of just throwing in
13 -- if you'll notice the half cfs had more tests
14 and, therefore, the higher cfs had less. And
15 that's kind of how we jockeyed in some extra
16 testing there. But there wasn't a lot of room in
17 the budget to do extra stuff.

18 But your statement that it's installation
19 dependent is -- is at least partially correct.

20 MS. DAVIS: All right. And my observation,
21 just by looking at the Georgia DOT drawings, looks
22 like the Type C installation for check dams is not
23 installed correctly. The shape of it is not

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2 matching up with the drawing. I do not install
3 for a living, so I'm not -- I'm just asking if
4 that could have contributed to the failure factor.

5 MR. SPRAGUE: Yeah, if this is not the
6 accurate installation, then we haven't achieved,
7 you know, good testing of the range of what's
8 already approved to set the baseline.

9 We worked pretty hard to understand those
10 drawings. But, you know, as we've already shown,
11 we -- we know how to make a mistake. So, yeah, if
12 you can draw our attention to what we should have
13 done.

14 Marc, you would know. Is the W --

15 MR. MASTRONARDI: I think the shape of the
16 wings, we don't turn them square to the flow. I
17 mean, they're not parallel to the flow. They
18 actually create another apex. So in our mind --
19 and you gave me the opportunity. And you guys all
20 know me. I would be remiss if I didn't say it
21 again. I've always viewed them as velocity
22 reduction to any downstream erosion issues, not
23 sediment traffic.

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2 So this, in my mind, you know, you do have
3 the ability to affect the RUSLE Equation by the
4 number of checks you put in. And that is an item
5 for that. Setting that aside, the design we came
6 up with was to dissipate the energy. And so if it
7 hits that initial apex, it then shoots to those
8 other two apexes. And it's not square.

9 I think I saw -- I'm not sure if I saw that
10 we actually had the silt fence tied to the wire
11 back.

12 MR. SPRAGUE: Yeah.

13 MR. MASTRONARDI: And I don't know how much
14 of any influence that is.

15 MR. SPRAGUE: Yeah. And, you know, it's the
16 point in the center of the channel, then it goes
17 out up to the top of the channel, which is another
18 fun thing to try and do in a trapezoid, is to go
19 out and up. And then it goes upstream a
20 prescribed distance for how deep that channel is.

21 MR. MASTRONARDI: And what I'm saying is
22 those actually, those actually are angled out in
23 our drawing. I think they're inside your test

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2 here instead of out.

3 MR. SPRAGUE: Got you. Okay. And it goes
4 up the -- okay, yeah, I think I know what you're
5 saying. I'm not sure that that would -- yeah,
6 that probably wouldn't --

7 MR. MASTRONARDI: And with the lower apex, I
8 don't know how much, but I think that I -- you
9 know, we just need to verify it was installed
10 right, that's all.

11 MR. SPRAGUE: Yeah, it was certainly
12 installed with all the expertise we could, because
13 that's one reason we wanted to include this
14 information here.

15 To do our installations, we thought that
16 while we are not in a position for what we did to
17 do a meaningful economic analysis of the
18 installation, if we could just tell how long it
19 took us to put the install in, then that might be
20 useful to the Committee. And the idea that doing
21 straw bales takes a huge time and rock check takes
22 a huge time; and then here under the low flow, the
23 silt fence, I mean, we literally spent all morning

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2 getting one installation in. It's just -- it's
3 really hard.

4 So Kelli's point, it may be that it's just
5 the materials aren't the issue here, it's just our
6 install detail could be improved to make it
7 doable.

8 MR. MASTRONARDI: Marc Mastronardi, DOT. I
9 guess something that you just mentioned from one
10 of our designers, in actuality we may argue that
11 it should have been just a simple V and not a W,
12 based on the width of the test pattern.

13 MR. SPRAGUE: That's what we looked at.
14 It's really hard to figure out what the -- what
15 was -- what we were required to do by the shape of
16 this test channel, which I'm correct there that
17 it's the test -- it's the channel itself, the
18 depth, the width, everything, that dictates which
19 detail to use.

20 MR. MASTRONARDI: Yeah.

21 MR. SPRAGUE: And that -- and that we had
22 to, we had to go to the W because of the
23 configuration of the actual test channel.

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2 If you take nothing else from this, though,
3 this is hard, it's hard to make a silt fence
4 installation into a distinctly shaped channel that
5 will hold up under -- because it ponds a bunch of
6 water. That's the key here. If it didn't pond so
7 much, it wouldn't have such hydrostatic pressures
8 behind it. But the -- it's tough.

9 MR. McCOY: Brad McCoy, GroGreen Solutions.

10 I'm going to get you to go to that last
11 slide where it had the --

12 MR. SPRAGUE: This one (indicating)?

13 MR. McCOY: No. Where you just gave a
14 description of the installation and what products
15 were used in the installation. On the riprap
16 check dams -- and I defer to Mr. Mastronardi
17 again, but it shows 8 ounce nonwoven.

18 MR. SPRAGUE: Oh, in the table, I got you.

19 MR. McCOY: Yes, sir, in the table.

20 MR. SPRAGUE: Okay.

21 MR. McCOY: And correct me if I'm wrong, but
22 in 15 years I believe the Department requires a
23 monofilament geotextile to be used underneath all

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2 riprap applications, whether it's check dam --

3 THE COURT REPORTER: Can you speak up.

4 MR. McCOY: Should the 8-ounce nonwoven
5 geotextile be used. My understanding is that the
6 Department requires a monofilament geotextile for
7 an underlier, underliner of our check dams or
8 channel applications of riprap. Is that right?

9 MS. DAVIS: Yes.

10 MR. MASTRONARDI: I believe that's right. I
11 would have to verify it, but I believe you're
12 right.

13 MR. SPRAGUE: That's a real mistake from my
14 perspective, that that's the requirement. You
15 wouldn't use a monofilament for sandy clay for
16 anything other than silt fence if you wanted it to
17 pass through.

18 But, anyway, yes, yes.

19 MR. HAMIL: Kirby Hamil, old-time retired
20 engineer from DOT. One of the things that's got
21 to be considered is maintenance. When you get
22 these disc shape built rocks, when the bat-wing
23 mower goes over it, the drivers on these tractors,

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2 bat wings, a lot of them are prisoners, and etc.,
3 and they'll just run right over it and mess the
4 blade up. If you have a silt fence with the wire
5 behind it, they go right over that.

6 The socks will probably work the best in my
7 opinion because they can go over that. Plus, I
8 think you need more socks instead of one, make it
9 two or three. Especially when you have a high
10 volume with fast flow on a steep grade, you need a
11 longer thing so that the crevice, the space in
12 between the socks will be filled up with silt and
13 grass will grow in there and it will be easier to
14 mow over than the other two options.

15 MR. SPRAGUE: I think those are great
16 points. And really something as it relates to
17 your work in the Green Book is the place to
18 highlight those things, sure enough.

19 Question?

20 MR. SAWHILL: Ron Sawhill, College of
21 Environment and Design. Are all these different
22 tests available somewhere, the reports, detailed
23 reports?

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2 MR. SPRAGUE: In the book.

3 MR. RUZOWICZ: It's on our website. And
4 it's on the website and we can --

5 MR. DYKES: Yeah, it's on the website. And
6 following today's meeting, we'll make it a part of
7 this meeting as either a link or put it on the
8 website.

9 MR. SAWHILL: Thank you.

10 MR. SPRAGUE: Okay. Let's keep popping here
11 now. More recently we've tackled the idea of
12 sediment traps. Once again, the objective is to
13 set a baseline for systems that are used using a
14 test methodology that is arguably a good
15 simulation but that can also be used in the future
16 for a reasonable cost to evaluate future systems.
17 And so we think that this is a really good way to
18 go for the Soil and Water folks.

19 We did, looked at two different types of
20 systems and we looked at two different sediment
21 concentrations: Very heavy, as if it were just
22 flush from a construction site; and somewhat
23 lighter, as if it had already passed through some

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2 type of erosion device or toe-of-slope device or
3 something.

4 But we looked at these designations in the
5 middle column, you will see there, and compared to
6 a South Carolina detail that had been tested using
7 this methodology previously, to give kind of a
8 good apples-to-apples comparison. And in this
9 case we used Georgia sandy clay and in South
10 Carolina they used a sandy loam, more of a top
11 soil type material.

12 The procedure is a modification of ASTM
13 D7351, which, in essence, a big tank mixes up a
14 slurry of dirty water, expresses that dirty water.
15 In 7351 it expresses it so that it meets at the
16 bottom of an impermeable slope a device that's set
17 up. To examine that device's installation and the
18 materials themselves, it ends up determining how
19 much water passed through, how much sediment
20 passed through. The two pieces of the pie, if you
21 will.

22 In this case instead of down an impermeable
23 slope we piped it to an enclosed 8-by-8 area

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2 around a simulated inlet. And around that
3 simulated inlet was a soil area that can
4 accommodate an actual installation, if it needs
5 staking, or whatever. And there's a zone between
6 the device then and the walls of the ponding area
7 for water to pond, if it's going to pond, for
8 sediment to deposit if it's going to deposit.

9 And then in the course of the test, water
10 is, dirty water is piped to the zone, deposited
11 into the zone over a 30-minute period, and the
12 measurements of what's being discharged, what's
13 seeping through. Grab samples are taken so we can
14 get a full measure of how much sediment is passing
15 through with time, how much liquid is passing
16 through with time, and total liquid passing
17 through.

18 And for Georgia Soil and Water we did three
19 replicates, three replicate events, meaning, okay,
20 what if you're protecting that inlet and it rains,
21 stuff happens, and it rains again and stuff
22 happens? Has the protection changed because of
23 the first event that affects the performance of

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2 the second event? And then do it again and see
3 has the performance changed affected by the second
4 event as it's exposed to a third event.

5 And you can't see it here, but it's located
6 on the far side of our erosion slope testing
7 house, but it looks like this (indicating). The
8 mixing tank, here is the 7351 setup which
9 expresses down that slope. The device is here
10 (indicating). And we collect what comes through.

11 In this case we set up an inlet elevated so
12 that we could pipe it, we could -- and I'll show
13 you the inside in a minute -- but we could also
14 see from underneath as if we were actually
15 standing in the manhole what's going on. So we
16 collect. These are on scales, and we measure the
17 weight, we record the weight, and it's constantly
18 measured. This is on scales. So we measure the
19 -- or we record the weights to see we're
20 dispersing -- not dispersing, we are letting the
21 flow out on a uniform basis.

22 It's a big tank. It can hold up to 10,000
23 pounds of sediment-laden water. Pumping and water

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2 source to be able to repeat this test on a regular
3 basis, it's kind of important to have it readily
4 available.

5 We've got this simulated manhole inlet
6 aboveground so we can look both above from ladders
7 and below from just standing on the ground. And
8 then the downstream tank to collect everything.

9 Once the -- and in this case we have
10 specific details from the Green Book on how to
11 install these materials. And we interpret that as
12 well as we could for this setup. 2 foot by 2 foot
13 opening.

14 And then the test proceeds by taking a
15 slurry of water, and the slurry is determined
16 generally based on use of the Modified Universal
17 Soil Loss Equation, which is a way to use the
18 Universal Soil Loss Equation for storm events,
19 specific events.

20 And based on our understanding of how much
21 erosion would take place in kind of a default
22 condition, we have -- and let me back up. Not
23 "we," the standard has a default which says if you

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2 have a rainfall on a sandy loam hundred-foot-long
3 slope, that rainfall is a typical 4-inch designed
4 storm, here is what you should mix up. That's
5 kind of a gross generalization, but that's kind of
6 where it is.

7 We also looked at it, okay, well, what if
8 you have sandy clay slopes and you have actually
9 some erosion control going on or, at the very
10 least, something sediment control related, would
11 there be a lesser concentration of sediment that
12 would be appropriate? Because very often that's
13 what we're seeing at inlets, right. If it's a
14 curb inlet, it's seepage that's come off of a site
15 or washed from the road or whatever, but it's not
16 the, you know, full-blown bare soil erosion going
17 on.

18 So we tested two different ones but used
19 this Modified Uniform -- Modified Soil Loss
20 Equation to make the calculation and determine in
21 one case 60,000 milligrams per liter concentration
22 and in another case 12,000, much lower, and both
23 using sandy clay. Discharged uniformly, as we

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2 talked about.

3 As the runoff passes the system as it's set
4 up, it's collected. We do grab samples every five
5 minutes. In this case the standard says don't
6 stop collecting and measuring at the end of 30
7 minutes, if there's ponding, keep going up to 90
8 minutes to see what's happening even after the
9 storm event stops, the runoff stops, but ponding
10 is continuing on. And so this total collection
11 goes until there's no more in there or as far as
12 90 minutes.

13 We also do turbidity. But you quickly find
14 out that these sediment control devices don't do a
15 lot to affect turbidity. Sediment, dry sediment
16 is typically what's used.

17 Here's an example of what it looks like
18 inside the inlet simulation. This is impermeable.
19 This is dirt 18 inches deep, so it can take a good
20 deep stake, such as these steel posts. This is a
21 steel post. This has steel backing on the inside
22 and then Type C silt fence. This is the Sd2-F
23 design.

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2 Here is an example of the Sd2-Bg. And you
3 can see it does, even though 8 by 8 is pretty big,
4 it can get kind of area constrained.

5 Here is the DOT setup that would be exposed
6 to in this case instead of loam it will see sandy
7 clay.

8 For curb inlet type applications, it's
9 here's the curb, so it will have to spill over.
10 We did the full 8 feet. Once again, these are
11 three-dimensional products, so sealing off the
12 ends so that we're seeing them straight through.
13 Seemed reasonable to do.

14 This is wrapped stone. This is wrapped
15 block.

16 MR. SINGLETON: Joel, can we go back to the
17 inlets?

18 MR. SPRAGUE: Yeah. How far back?

19 MR. SINGLETON: That's the frame and filter
20 -- not the frame and filter. Right there.

21 MR. SPRAGUE: Okay.

22 MR. SINGLETON: The success -- I'm Roger
23 Singleton. The success of any product has to be a

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2 successful design. This is a multiple component
3 system. The failure of any one of the components
4 is a failure of the system. We've been driving
5 stakes in uncompacted soil for years and we wonder
6 why these things fall over. So if we're going to
7 test the product for future use, it should be
8 tested in the dirt that it's particularly used in
9 on the job site.

10 Now, typically on the job site, the area
11 around inlets is not compacted. You can't get
12 your chute's foot or anything around those. And
13 there's no individual compaction for that. And
14 the DOT guys are here. We need to really look at
15 the issue of driving stakes into uncompacted soil.
16 Inlets receive concentrated flow. Every book
17 across the country specifically says that silt
18 fence shall not be used in concentrated flow.
19 It's partially due to its flow rate, the fact that
20 it impounds the water, it impounds the sediment,
21 and, therefore, that's the reason it needs more of
22 a structural frame under it.

23 So I disagree with this even being tested

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2 due to its continuous failure over the last 25
3 years in the use of this method.

4 MR. SPRAGUE: See, I think, Roger -- and I
5 don't disagree with anything that you said up
6 until the end. The point, and I think this keeps
7 coming up over and over, is the point of this
8 program is to establish testing protocols --

9 MR. SINGLETON: I agree.

10 MR. SPRAGUE: -- that arguably represent a
11 good simulation of what's being done and arguably
12 set a good baseline to compare to. And then it's
13 up to those who have these special expertises and
14 such to take advantage of having this now good
15 measuring stick to actually demonstrate those
16 things.

17 And so I don't disagree with any of it; but
18 if we don't have something to compare to, when you
19 spend your hard-earned money on the test, you're
20 not going to get nearly as much value out of
21 spending that money as if you have something to
22 compare to. And so all -- and this is really the
23 genius of the Georgia Soil and Water doing this is

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2 we're setting a baseline for anybody to then
3 compare to. And I think in that way this has
4 really been kind of a real effective way of doing
5 that and kind of opened up the world to --

6 MR. SINGLETON: And I agree with you to the
7 point of testing. But if you don't consider the
8 failure of this system as you have with the other
9 systems, then you've not considered fair testing.
10 The failure, if this was driven into soil,
11 uncompacted soil and tested, then the likelihood
12 of failure would be 50, 75 percent. Then that
13 failure would be considered as a component to be
14 measured against our frame and filter, for
15 instance.

16 MR. SPRAGUE: And so, you know, kind of the
17 baseline is here's full transparency. So, you
18 know, everybody can punch the testing guy in the
19 nose and say we saw what you did and that just
20 wasn't perfect. Well, okay. Now you're telling
21 me I shouldn't do perfect, I should do awful.
22 Well, give me kind of the everybody agree to awful
23 for us to compare to.

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2 So I think really this is just first step.

3 This is let's get a protocol that we can have some
4 confidence in and then we can examine this, we can
5 examine that, we can examine that. And really
6 maybe the technical basis is that Roger is exactly
7 right and a lot of these are going in wrong. So
8 with our next availability of research money we
9 can target that and get not the perfect scenario
10 but --

11 MR. SINGLETON: So this is a point of
12 discussion for the Committee.

13 MR. SPRAGUE: I think so. And, I mean, I
14 shouldn't speak on the Commission's behalf, but it
15 certainly seems to me like that would set the
16 table to evenhandedly address that.

17 MR. SINGLETON: Fair enough.

18 DR. ZECH: Wesley Zech, Auburn.

19 Can you go to the next slide, I think it is.

20 MR. SPRAGUE: Up or down?

21 DR. ZECH: Forward, yeah. Next one. Right
22 there.

23 MR. SPRAGUE: Okay.

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2 DR. ZECH: So this is just a standard
3 installation. And I'm assuming that's bentonite
4 again along the front face of that on the left-
5 hand picture?

6 MR. SPRAGUE: It's not supposed to be. Let
7 me put that -- what you have in some of these
8 situations is wash that's in there. But, yeah,
9 we're looking for seepage over, under. It's just
10 counterintuitive that we would try and prevent --

11 DR. ZECH: But, I mean, I can see the
12 bentonite on the sides.

13 MR. SPRAGUE: Larry, you've reviewed all
14 these. Do we have bentonite?

15 MR. BOOTH: On the screen, right there on
16 the left screen it shows bentonite there along the
17 face of the product.

18 MR. SPRAGUE: Yeah, if we had a couple more
19 pictures. And I don't have my -- the files are so
20 big, I can't keep them on this computer. I can go
21 through some of the others that were taken during
22 this setup to see if that's just the light
23 blending off the black or what it may be.

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2 And I think you will see in the report we're
3 looking for over, under, around.

4 DR. ZECH: So it's under. But, you know, if
5 you've got bentonite on the bottom, it will swell.

6 MR. SPRAGUE: That's why it's
7 counterintuitive that we would do that. I see
8 what you're saying, but that's certainly not what
9 our intent was in doing the testing.

10 But I think everybody now has all the
11 pictures of everything, so I will just say look
12 through some of the additional pictures and see if
13 this seems to just be, I don't know, some gravel
14 washings or something that got in the way.

15 Any other questions?

16 Okay, just an example of how we kind of
17 proceed through three storm events. Here is that
18 initial setup you saw. We'll introduce sandy
19 clay. There's a component of sand that tends to
20 want to settle, as you can see building up in the
21 corners. I don't -- I don't think that's -- while
22 it's kind of partial to where these outlets are, I
23 think that's pretty common to see around these

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2 inlets.

3 And then here you can see where it ponded a
4 bit, but gradually seepage takes place and the
5 ponding goes away. Likewise, here between events.
6 And the events are spread apart by at least four
7 hours, so seepage can take place. The new flow
8 can be exposed to a segment of silt fence that
9 maybe has some smear on it, some sediment
10 collection on it, whatever, to try and get this
11 idea on what is the effect on performance of
12 repeated events.

13 With each case we try to do a control event
14 in the paved and the unpaved condition so that we
15 can have comparison to. It's pretty much a
16 controlled event, means that everything goes
17 through in these tests, although there is a little
18 bit of deposition that takes place. So it's not a
19 perfect hundred percent. Then, of course, the BMP
20 results and the comparison we do between them.

21 We get both pieces of the pie here, sediment
22 retention and seepage. And we did find out that
23 this is probably the third leg of the stool on why

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2 I think it's so vital that we have a baseline to
3 compare to, is what we're using now has virtually
4 no effect on turbidity, okay. None of the
5 systems. So that's still really important, right.
6 So maybe generation two, three, four sediment
7 retention device for inlet protection or perimeter
8 controls will be able to address that. And this
9 will be a good tool to compare back to.

10 Question?

11 MR. ADAMS: Gordy Adams. I'm a third-party
12 inspector. Were any of these tests done where
13 maybe they had mulch in place, straw or hay, 2 to
14 4 inches deep, and how those two BMPs put together
15 --

16 MR. SPRAGUE: No.

17 MR. ADAMS: -- compared to like riprap with
18 a bunch of straw that has gone downhill with the
19 water, trapped in front of the stone, be different
20 than the straw bale capturing straw. If you put
21 it in correctly, you know, you should be putting
22 down mulch too.

23 MR. SPRAGUE: Can you think of a way that we

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2 could use one of these procedures to simulate
3 that?

4 MR. ADAMS: Well, straw --

5 MR. SPRAGUE: Maybe the first one we did,
6 that that slope would be covered with a mulch
7 material?

8 MR. ADAMS: And Hydroseeded or --

9 MR. SPRAGUE: Or Hydroseeded or whatever.

10 MR. ADAMS: Or sprayed.

11 MR. SPRAGUE: Because that's typically what
12 we do in our slope house for erosion testing under
13 the ASTM procedures there and catch the runoff.
14 So I think what we've done with these type of
15 tests is considered the idea of taking what we
16 learned from the erosion control tests to design
17 what our slurry needs to be for the sediment
18 control test. So maybe we need to kind of pair
19 the two, take the result from one as our basis for
20 then stirring up the other.

21 Now, the interesting thing -- and, once
22 again, I'm telling you something you all already
23 know, is the lower the sediment concentration in

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2 the influent, what we mix up and send, the harder
3 it's going to be to get a higher rate of removal
4 by the device. So that's another piece of this
5 puzzle that having standard procedures will help
6 us investigate.

7 Okay, yeah, we do a pretty good job if we
8 bring like a really heavily loaded sediment- laden
9 flow to a device because a lot gets removed, a lot
10 falls out of suspension. But what if we spike it
11 with just real fine and not a lot of sediment?
12 What percent removal are we going to get out of
13 that? And once -- and the point is good
14 measurements.

15 But you bring up a wonderful point of trying
16 to marry two different sets of standards to make
17 it even more relevant what the result is.

18 All right. We tested unpaved applications
19 under both 1200 milligrams per liter -- 12,000 and
20 60,000 milligrams per liter. We did an initial
21 test where we did one setup one time, replaced it,
22 did it one time, replaced it, did it one time, to
23 see how reproducible the test itself was, and got

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2 really good results between the three replicates.

3 And I couldn't fit it all on the slide, but
4 this is the average of all three runs. And you
5 would be able to see how good the reproducibility
6 of the test was if I add it up here.

7 But here you see, you know, removal rates
8 for seepage, for soil retention sediment, rather
9 high, in the nineties. Little bit lower when you
10 go to stuff that overtops. Because it's the
11 overtopping flow, not flow seeping through, that
12 captures the most.

13 And then we did paved. And I've got some
14 graphs, and that's why I'm going to kind of bypass
15 discussing that in detail. And in these cases in
16 the paved where we had those low profile devices,
17 the regularity of the upper edge and how uniform
18 that is has a lot of effect on how quickly you get
19 overtopping. And we recorded the time to overtop.
20 And this is an average time out here as well.

21 So then we turn those numbers into some
22 graphs. Here are unpaved traps, sediment traps,
23 for unpaved applications, soil retention. And

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2 here's 90 percent, here's 95 percent, for Run 1,
3 Run 2 -- or Event 1, Event 2, Event 3; Event 1,
4 Event -- you kind of get the gist of that.

5 And here's for filter fabric on posts with a
6 heavy sediment concentration, all right. And this
7 is how reproducible those results were. And
8 that's pretty good for one per installation. Then
9 when we did three per installation with the heavy
10 flow, and it got a little more retention each
11 time. That kind of makes sense.

12 Here's the comparable lower concentration
13 for that silt fence. And slightly lower
14 retention, but it still steps up.

15 And that's kind of the characteristic of all
16 these, is that you get a little more retention of
17 sediments with each ensuing event, because some of
18 that blinding that takes place helps you out that
19 way. But where it doesn't necessarily help you
20 out is where it's flow, because then you get
21 slightly lower flows. So that the charts in some
22 cases, anyway, tend to go the other direction.
23 And this is pretty dramatic here.

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2 But this information for the Technical
3 Committee is percentages for this test under these
4 conditions for the different setups both for
5 unpaved and then for paved.

6 Here's the wrapped stone, here's the wrapped
7 blocks. It just seemed apparent to us that with
8 blocks stacked side by side by side by side, you'd
9 get a much more uniform crest, if you will. So
10 the entire ponding has to come up to that level
11 before you get overtopping versus wrapped stone
12 where any low point, slightly low point in the
13 crest of that installation is the place where
14 overtopping starts. So overtopping can simply
15 start sooner in a wrapped stone environment.

16 Is that important? Well, the percentages
17 kind of are what we can use to make that judgment.

18 And, once again, this is seepage. So does
19 seepage increase or decrease over time? And what
20 you're seeing, especially here with the paved
21 installations, is over time you get more
22 overtopping more quickly, so you get higher
23 seepage with the ensuing events largely.

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2 Some conclusions. But this is kind of, I
3 guess, because we felt it useful to do this with
4 the perimeter controls, we thought is there any
5 natural segmenting that seems to take place with
6 inlet where, once again, you're doing the
7 retention versus flow tradeoff.

8 And this is kind of how that data fell out.
9 We called it greater than 85-percent seepage
10 effectiveness as high flow; greater than
11 90-percent soil retention, high retention. A
12 combination of both.

13 And then, we, you're probably going to ask
14 me is that significantly -- significant
15 statistically. And I think probably not. But
16 conceptually it helps us, I think, think about
17 what the data might say.

18 DR. ZECH: Joel, quick question. Wesley
19 Zech, Auburn. So how come in this test we refer
20 to anything that captures 90 percent or more as
21 higher retention but when you go back to that SRD
22 stuff, it wasn't -- everything captured 95 percent
23 or more in the slope testing.

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2 MR. SPRAGUE: Right.

3 DR. ZECH: But you drew a line halfway in
4 between the data and you categorized some as high
5 retention and some as moderate.

6 MR. SPRAGUE: Right, right. And, really,
7 this is just, I guess -- do you feel like 95
8 percent then? We could put the line here.

9 DR. ZECH: Well, I'm just asking. There's
10 differences between what you're calling high
11 retention from one test to another test when,
12 effectively, they're doing to same thing, they're
13 capturing sediment.

14 MR. SPRAGUE: Right.

15 DR. ZECH: So the definition is skewed
16 between the two tests.

17 MR. SPRAGUE: Well, it's actually -- I think
18 it's fairer to say it's specific to the test.
19 Right? So --

20 DR. ZECH: But, ultimately, if you get
21 sediment that goes into your subsurface drainage
22 system, that's going to be a direct conduit for it
23 to be discharged offsite into a sensitive water

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2 body or --

3 MR. SPRAGUE: Well, it's not -- yes,
4 conceptually. But realistically, this is just a
5 guide to use the results of this test, which are
6 distinctly different than the other test.

7 So I think your point is this is implying
8 that we're measuring the same thing; right?

9 DR. ZECH: You are measuring --

10 MR. SPRAGUE: And that's not the intention.
11 The other test is --

12 DR. ZECH: If soil retention --

13 MR. SPRAGUE: P versus seepage; right?

14 DR. ZECH: So P is soil retention; correct?

15 MR. SPRAGUE: P is --

16 DR. ZECH: Percent efficiency, percent
17 sediment capture. So it's soil retention.

18 MR. SPRAGUE: Well, as demonstrated from the
19 P calculation. But it's close, you know. It's
20 not exactly the same, but it's close.

21 DR. ZECH: It's exactly the same.

22 MR. SPRAGUE: I'm --

23 DR. ZECH: You could assign a P-factor to an

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2 inlet protection device, if you wanted to, using
3 the same criteria that you did in the other test.

4 MR. SPRAGUE: Yeah, but you'd have to use
5 the controls. You'd have to establish the control
6 comparison in the same way that you do. We don't
7 do that here.

8 DR. ZECH: You had a control, didn't you?
9 You have an unpaved control.

10 MR. SPRAGUE: The -- and I can take you back
11 to how we go about taking the soil loss from all
12 those multiple controls and turning that into the
13 denominator on those. So it's a little bit --
14 it's a little bit different calculations that are
15 gone through in that.

16 DR. ZECH: Okay.

17 MR. SPRAGUE: But I think what I understand
18 you saying is that you would like to see these
19 results reported the same way as the results from
20 the other tests.

21 DR. ZECH: It's more like consistency in
22 definitions. And we can talk about it later.

23 MR. SPRAGUE: Right, okay. Well, okay.

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2 So our conclusions, we did kind of feel like
3 this helped really establish what I think is
4 demonstrated in the field with what was some
5 regularity, is that there are some choices to be
6 made, there are some different systems. We can
7 differentiate between the systems so presumably we
8 can differentiate with future systems that might
9 want to be used in this application. And that in
10 general there's the potential to offer some
11 guidance for those specifiers who are looking to
12 say do I need to kind of be safety conscious or do
13 I need to be environmentally conscious primarily.
14 And, unfortunately, in sediment controls you
15 always have to be one or the other first.

16 So when it comes to what has been proposed
17 by the Technical Committee, based on what they saw
18 from us, it kind of breaks down into this. It's
19 under the Sd2 category in the Manual. For
20 unpaved, a 90-percent retention efficiency with a
21 minimum 65-percent seepage efficiency. And then
22 for paved, 75 percent/85 percent respectively. So
23 the idea you can take and do something practical

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2 with the results of the test can make it that much
3 more useful to folks.

4 And so kind of our last step --

5 MR. DYKES: Let's pause, Joel.

6 It's ten after 12:00, and it happens to be
7 lunchtime for some folks. But we'll be glad to
8 pause for an hour, if that would be beneficial to
9 the group, and reconvene at 1:15.

10 Is there any objection to that?

11 MR. BOOTH: Are you buying lunch, Brent?

12 MR. DYKES: That's the only answer I have a
13 no to. At this point I can verify that.

14 So we're going to pause now. And I'm saying
15 "pause" because we'll reconvene at 1:15.

16 One question.

17 MR. HAMIL: Where's convenient eating places
18 around here.

19 MR. DYKES: If you go out the door, take a
20 left and go up the stairs, there's a cafe in this
21 building.

22 MR. HAMIL: Is that the only place close by?

23 MR. DYKES: Unless you want to walk down to

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2 the Creamery. And I'm not sure it's still --

3 MR. SPRAGUE: Brent, the other option is
4 literally I don't -- is anybody here uncomfortable
5 with the floating skimmer stuff? Because we've
6 got like less than ten minutes on floating
7 skimmers.

8 UNIDENTIFIED SPEAKER: Let's finish.

9 MR. DYKES: Y'all want to finish the
10 floating skimmers and conclude the presentation
11 and come back? I'm good with that. I want to be
12 convenient to you guys with what works. Is
13 everybody okay?

14 (No response)

15 MR. DYKES: All right. We'll proceed.

16 MR. SPRAGUE: Okay. The floating skimmers
17 is -- this came out in recent EPA regulations as
18 come on, gang, let's do this. So the idea of
19 doing it on every construction site suddenly
20 became a reality. And it got the innovators going
21 crazy and it left the regulators with virtually no
22 way of comparing apples and apples. So working
23 with the Georgia Soil and Water to see if we could

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2 help with this, it happened to coincide with a
3 pretty significant investment we made to look at
4 just doing some simple measurements.

5 For those who are uninitiated, floating pond
6 skimmers are just an inlet that can be made to
7 float on the top of the water in a sediment pond
8 so that it takes off the water that's the
9 cleanest. More of the sediment has settled out
10 from that. But also it can take off at a
11 predetermined rate, so that the dewatering of that
12 pond can be better engineered and time allowed for
13 primary sedimentation to take place in the pond,
14 or at least enough sedimentation to satisfy the
15 regulators.

16 So charging forth, traditionally ponds have
17 been dewatered by there being a pipe that kind of
18 released from the bottom of the pond where
19 sediment lays, or water has to seep through
20 existing sediments to go out and, thus, it can
21 take some with it. That would have some filtering
22 capability, but new water coming into the pond can
23 stir that back up again. So it just, all in all,

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2 there's just a greater efficiency to take it off
3 the top and, in so doing, reducing turbidity and
4 sediment concentration of the effluent and
5 reducing then the retention time needed for the
6 effluent to reach the levels required.

7 The important thing is to size it to be
8 properly used in a given size sediment basin. So
9 the need to know the size of the sediment basin
10 that's going to be used is critical. And you need
11 to know the flow rate that can be expected to go
12 through the skimmer.

13 Well, what we quickly found, just this
14 caveat, do not -- skimmers don't replace emergency
15 overflow. That's kind of just something that
16 everybody has to remember. This is not dig a hole
17 and put a skimmer in and everything is fine. The
18 -- it's still a body of water that needs good
19 retention and needs a good dam and it needs all
20 the emergency hydraulics associated with it, but
21 this helps with water quality.

22 It's got a float. It's got to have some
23 articulations. We kind of learned all this from

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2 testing different ones. We were looking for just
3 simple gravity flow going through. We've got to
4 be careful about siphoning taking place, because
5 it can alter the rate of volumetric flow. We need
6 to know the sediment pond design dimensions.
7 You've got a flexible coupling, you've got a
8 floating headworks, and a tube that connects the
9 two. And usually then what's also included is a
10 trash guard so that the inlet can take in just
11 what it's designed to take in and completely what
12 it's designed to take in. And something as simple
13 as a rope, because these can sink and get into the
14 mud and there can be a need to get hold of them,
15 but you're in the middle of a pond. So being able
16 to pull it to the side helps. And then also
17 underneath, because it is going to be reaching the
18 bottom when that pond dewateres, that it will have
19 something to sit on and not just go "pppggg" into
20 the mud.

21 It's important, and we have clearly seen
22 from our testing, each device and each size of
23 device has its own volumetric flow rate that

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2 changes with depth. They're not -- a skimmer is
3 not a skimmer is not a skimmer is not a skimmer,
4 okay. And so each one needs to carry with it its
5 technical information, just like every silt fence
6 carries with it its own unique property
7 identification.

8 To picture what schematically one looks
9 like, here's several that we've tested. I'm
10 keeping this all generic because this is -- you
11 know, we're just going to keep it generic.
12 B-type, I call it, E-type, to give you a sense of
13 some different designs that are out there. Okay.
14 These are the ones that have been used. And this
15 wasn't included in the Georgia program, but we've
16 also done some with it. So we've got some
17 experience with five devices. And to a device,
18 they have unique characteristics. They are all
19 uniquely engineered devices.

20 So how do we test them? Well, it's pretty
21 simple. A big basin filled with water. We can
22 measure how the water changes over time, how the
23 depth of the water changes over time, and we can

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2 attach the skimmer to a pipe that has a valve on
3 it so we can control when flow takes place and
4 when it doesn't take place.

5 And we've done another outlet that we can
6 lower from this high to this high to this high if
7 we need to expedite testing, as is sometimes the
8 case with small, with small devices.

9 We do that out there. Here's what the basin
10 looks like. Clearly -- and this was one of the
11 primary goals of the Georgia Soil and Water, was
12 come up with test methods that can be done
13 anywhere. We don't want to be told that we're
14 sending everybody to TRI to do this work and it's
15 a sugar daddy arrangement. All of these test
16 methods can be set up right here in Georgia, South
17 Georgia, North Georgia, even Alabama.

18 All right. Here we have our pipe
19 attachment. This is the -- the pipe going to the
20 left on top is -- can take volume out of the tank
21 to lower from level to level to level. The pipe
22 on the right attaches actually to the discharge
23 pipe that connects directly to the floating pond

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2 skimmer.

3 Here you can see we use a tractor pump
4 straight from the pond to do the testing. We hook
5 up the device and then fill the tank. Once the
6 tank is filled, we wait a little bit for
7 everything to get still and then we open the valve
8 and let it all be controlled by the inlet to the
9 device itself, whatever is floating on top or near
10 the top, and start our stopwatch. And we just
11 measure how that drops with time and at different
12 increments. Time on that area of tank with a
13 depth is a volumetric flow rate. It's so
14 straightforward.

15 And we collect all that data, we fit a curve
16 to it, we take the value of the curve, or the
17 equation for the curve and use that to build a
18 table, a performance table for the device.

19 And here's what a typical table looks like,
20 which is simply gallons per minute flowing through
21 it with time. And you've got it in your notes, so
22 I won't spend a lot of time on it, but those are
23 just a selection of different devices we tested,

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2 Type 2, Type 4. I changed from what you've seen
3 as Type B and Type E and everything to now Type 2.
4 So nobody gets a competitive advantage out of
5 here. I'm gradually learning.

6 But if you take a 3-inch of one material, of
7 one type, and a 3-inch of another type, as -- and
8 here's one of the major points I want to make,
9 there's a Type 2 3-inch and their flow rate and
10 here's a Type 3 3-inch. And it's basically twice
11 what the other one is; right?

12 So if a designer says I need a 3-inch
13 skimmer and doesn't know if he's going to dewater
14 in four days or two days, two days is not going to
15 give you the same settling time as four days. And
16 that's really the theme in this one.

17 We turn those numbers into curves. And for
18 some the change with depth is steeper than others.
19 This area down here is where you're almost sitting
20 on the bottom. So the flow starts just not really
21 representing much of anything, so we just
22 connected it to zero. This is where all the
23 design takes place up here, anyway, and beyond.

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2 And I suppose that's one of the challenges
3 we have with this, is can we extrapolate those
4 curves with some level of confidence if we have a
5 6-foot deep sediment pond? Or do we need to have
6 a 6-foot deep testing chamber?

7 And then we go to much larger. And you can
8 see it seems like from our work that here's the
9 Type 3 analogy, but that as you go up in size,
10 here's 6-inch, that you get some really high flow
11 rates and you get some real steep difference with
12 depth.

13 And the final step we did, we said, okay,
14 it's fine to have test results and such, but what
15 do you do with them. So we kind of said, okay,
16 well, if we can fit a curve to each product and
17 product size depth with flow data, we can take
18 that curve and the equation that goes with that
19 curve and build a table with depth that can be
20 related then to the size of the basin and the time
21 to dewater. Where is that? Here it is, right
22 under time, the time desired to dewater. And you
23 just let the equations do the work on which of the

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2 available devices will work. And you can put any
3 number of different ones in.

4 And this is just an example. It's not
5 highly sophisticated, so each of the companies
6 that make these can easily build their own tables
7 for this kind of thing to facilitate either
8 computer use of the calculation or even perhaps
9 hard copy.

10 And I've already told you what my
11 conclusions are as we went through.

12 And this shows up in the new independent
13 section within the proposed Revision 6, Edition 6
14 of the Green Book, as Sk BMP and really just says,
15 okay, if you want to use skimmers, you need to
16 know the volume of your basin and you need to know
17 the draw-down you need. And in order to determine
18 the draw-down rate, you need to have some product-
19 specific testing. And the methodology is included
20 in the Sk document for just the simple steps you
21 go through to do that.

22 So I think it's really set the stage for
23 lots of good innovation in the world of skimmers

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2 and for the contractors to know what they have to
3 have to select and for the designers to say I know
4 I have to provide certain pieces of information so
5 that the process can carry through.

6 Any questions on floating surface skimmers,
7 pond skimmers?

8 (No response)

9 MR. SPRAGUE: See, that was worth getting it
10 out, wasn't it?

11 MR. DYKES: Thank you, Joel.

12 We are going to take a break. Ben wants to
13 make one comment before we take a break, and then
14 we will -- let's see. It's almost 12:30. So we
15 will reconvene at 1:30 to begin public comments.
16 Ben.

17 MR. RUZOWICZ: I'd just like to say all
18 these BMPs that we've tested are all BMPs that
19 have come out of the Manual for the 5th Edition.
20 So that's where we came up with all these BMPs.
21 We weren't going outside the 5th Edition. We were
22 looking for BMPs that were already in the manual
23 so that people who do have a way to do a BMP or

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2 come up with another way to do a BMP can go back
3 and compare it.

4 We were looking at setting a benchmark,
5 basically a baseline of where a person who has an
6 alternative BMP can come and get into the new
7 manual or a way that they can be equally compared.
8 So whether you've got a Styrofoam silt fence like
9 I saw somebody had here -- and if I said that
10 wrong, I'm sorry -- or a compost filter sock or a
11 geotextile fabric, equally comparatively we have a
12 way to do that. And we don't necessarily -- we
13 just take basically the lowest product and made
14 that the benchline.

15 And there's a lot of other factors that come
16 into play with this stuff as far as the different
17 decisions that were made that aren't necessarily
18 reflected in the testing but might be in the
19 little parameters that are seen within the Manual
20 for Erosion and Sediment Control.

21 And with that --

22 MR. DYKES: Thank you, Ben. We appreciate
23 that.

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2 So if anybody has any paper comments and
3 you're not able to stay for the public comment
4 period, if you'll just make those available right
5 here at the top of this desk, I'd be glad to take
6 those. Those of you that aren't coming back after
7 lunch, you can still submit comments through our
8 website. If you go to our website, it's pretty
9 clear when you get there. But -- and there's some
10 information in your packet that you got today
11 regarding that.

12 Hearing no objections, we'll reconvene at
13 1:30.

14 (Whereupon, a recess was taken for lunch
15 from approximately 12:35 P.M. until 1:30 P.M.)

16 MR. DYKES: Okay. It's about 1:31. We're
17 going to reconvene the Technical Advisory
18 Committee public meeting. Thank you for your
19 indulgence for a few minutes to have lunch. The
20 Georgia Center does a good job with food, so I
21 hope you found something good to eat.

22 During the public comment time we've asked
23 those people who would like to make a public

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2 comment today to sign the list that was posted out
3 front. I currently have a list that has, it
4 appears, eight names on it. We will call the
5 names as they signed up here in just a moment.
6 And if you will step over to my left.

7 Jennifer, if you will raise your hand.

8 Jennifer has a microphone. And if you will
9 speak clearly into that microphone when you're
10 making your comments. Please state your full name
11 and the company or entity that you're
12 representing. If you have any written comments
13 for the record, certainly you can provide those to
14 Jennifer there also and she'll make sure they get
15 introduced into the record.

16 We will respond to some of the comments that
17 are made today, if we have the answer today.

18 We'll be glad to do that. Other things that have
19 been brought up today that we're not aware of,
20 certainly we'll take those comments and provide
21 those to the Technical Advisory Committee for them
22 to consider today. The Technical Advisory
23 Committee may respond based on their own decision,

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2 from the Commission staff standpoint, and Joel
3 will answer your questions, if we have the answer
4 with us today to keep things moving forward.

5 Public comment will be limited to five
6 minutes per person so that we can continue moving.
7 And if you would like to sign up for public
8 comment and have not, I will have this sheet down
9 in front of the stage. So when the first speaker
10 starts speaking, please come forward and sign your
11 name, and we'll be glad to call on you at this
12 time.

13 Okay. Starting public comment, the first
14 person on the list is Larry Booth.

15 MR. BOOTH: Director Dykes and TAC
16 Committee, several of the stakeholders have
17 compiled test data from the report that was
18 published, and we can't really present that in the
19 five-minute time allocation. So I have six
20 members, including myself, that have signed up for
21 five-minute allocations. So with your approval,
22 they have asked me to present this. And, you
23 know, we will not go beyond the 30-minute time

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2 frame.

3 MR. DYKES: That's fine. And with only
4 eight people having signed up, I think we've got
5 time to do that, Mr. Booth, sure.

6 MR. BOOTH: And I have a handout that I
7 would like to present to the TAC Committee, if you
8 would give that to them, and it will help follow
9 along since I don't have charts and graphs to
10 present.

11 And do you want me to come back here?

12 MS. STANDRIDGE: Yes, please.

13 MR. BOOTH: First I want to thank the GSWCC
14 and Technical Advisory Committee for allowing
15 stakeholders to have a voice in this process. The
16 decision made by the TAC Committee and ultimately
17 by the GSWCC Board will have significant
18 consequences on small businesses, jobs, and the
19 environment in the state of Georgia.

20 So without further ado, I will go ahead and
21 start going through the information that I have
22 disseminated. The first is a letter from my
23 company outlining some things in the reports that

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2 we saw. We went through -- and first I would like
3 to ask for a show of hands on anyone in this room
4 that has reviewed the tapes from the testing at
5 the testing company. If you reviewed those tapes,
6 will you please raise your hand.

7 Okay. All right. Thank you.

8 Okay. The following is a brief summary of
9 issues stakeholders identified while reviewing
10 videos and calculations in the BMP Testing for
11 Erosion and Sediment Control Report published
12 October 12, 2012.

13 The Technical Advisory Committee chose ASTM
14 work item WK11340 for product testing. WK11340 is
15 not an approved test method from ASTM and analysis
16 of the test data clearly indicates this test does
17 not yield repeatable and reproducible results. In
18 a statistical analysis of the control testing it
19 was verified that in the 2-inch control test for
20 runoff there was a relative error rate of 94.26
21 percent, the sediment concentration showed a
22 relative error rate of 115.54 percent, and finally
23 in the sediment loss there was a relative error

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2 rate of 105.74 percent, which clearly indicates
3 that this test does not yield repeatable results.

4 This was the error rate on a bare soil plot
5 with no silt retention device installed. So it's
6 our contention that this test is not a repeatable
7 and a reproducible test, does not yield those
8 results.

9 In review of the videos and calculations
10 published by the testing facility, it is obvious
11 that critical errors were made in test plot
12 preparation, product installation, and calculation
13 of data.

14 Now, some of this will be repetitive on what
15 has already been discussed in this meeting, and I
16 apologize for that because I didn't know what was
17 going to be discussed; therefore, we just put
18 forth the information that we had determined by
19 viewing these tapes.

20 During the -- the use of bentonite on
21 selected products during testing potentially
22 alters the products' performance and, therefore,
23 the results of these tests are biased.

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2 I think that was beat to death, you know,
3 when Joel was up there, and so there's no need on
4 going any further on that. I think everybody has
5 a clear understanding of what it is and the
6 potential that it may have impacted on the
7 testing, so, you know, I will just leave it at
8 that.

9 During the entire process, to my knowledge,
10 only one company was aware that the test results
11 would be used to determine inclusion or exclusion
12 of products on the Georgia DOT Qualified Products
13 List. This company's representative was present
14 at the testing facility during testing of their
15 products, which provided an unfair advantage
16 during the testing process.

17 I have a copy of the letter that was sent
18 out by the testing facility when they were asking
19 for testing that says the testing facility is
20 pleased to announce that the Georgia Soil and
21 Water Conservation Commission has selected -- and
22 I hate to use names here, because I'm not trying
23 to point a finger at anyone and I'm not trying to

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2 hold anyone up for ridicule, I'm just trying to
3 provide data for this Committee to review and to
4 understand why we have concerns about this.
5 Inevitably, some people or companies will have to
6 be identified, and I apologize for that. It's not
7 my intention to embarrass anyone, it's just my
8 intention to report the facts. -- TRI's DDRF to
9 perform baseline performance tests on sediment
10 barriers and check dams. The testing will begin
11 this month with representative materials that we
12 are selecting from the GDOT Qualified Products
13 List and the GSWCC Approved Product List. We
14 would like to include your 1215 or 1216 silt fence
15 as part of the sediment barrier testing program.
16 If you are willing to support this program by
17 providing a roll of the requested material, as
18 soon as possible please ship a roll. On
19 completion of testing, results will be reported to
20 GSWCC. We hope you will agree to support this
21 program.

22 This is an innocent-looking letter as it was
23 construed by those of us who sent samples. We had

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2 no idea of the magnitude of testing that was going
3 to be done and what was going to evolve as a
4 result of these testings. I think it would have
5 been very beneficial if other stakeholders in this
6 industry would have been advised that these tests
7 are being done for Georgia Soil and Water and
8 they're going to use these tests to determine
9 which products will be on the QPL.

10 Stakeholders have not been provided the
11 scientific basis for selecting the .030 P-factor
12 as the pass/fail criteria for products tested.
13 What is the scientific basis for this number?

14 I think this has been already been addressed
15 earlier, so there's no need in pursuing that any
16 further.

17 If GSWCC truly wants representation from the
18 Georgia silt fence industry, it will select TAC
19 Committee members with extensive knowledge in
20 design, manufacture, and installation of silt
21 fence products. The random selection of
22 additional TAC members does not provide an
23 adequate representation of the Georgia silt fence

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2 stakeholders in the state. The addition of a
3 representative from Belton Industries -- and I
4 again apologize for singling that out, but this
5 was the addition and I had to do that -- Belton
6 Industries, the recent selection of an additional
7 TAC member does not provide an adequate
8 representation of the Georgia silt fence
9 stakeholders in the state. The addition of a
10 representative from Belton Industries does little
11 to provide representation of the Georgia silt
12 fence industry. Belton Industries does not have a
13 product approved for Type C silt fence, which is
14 the largest volume silt fence product used in the
15 state.

16 I have known Bob Moran for years, and Belton
17 Industries is a fine company. I think their
18 participation in this Technical Advisory Committee
19 is fine. But someone else needs to be represented
20 from the silt fence industry that has some
21 technical experience, design, manufacture, that
22 can ask these questions that were asked today when
23 they see data like this. These are the technical

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2 type of questions that need to be asked and these
3 committee -- that this Committee needs to be
4 appraised of so they can make the proper decisions
5 to move forward.

6 Upon review of resumes submitted, there are
7 clearly several personnel with extensive
8 qualifications which can represent the Georgia
9 silt fence industry adequately, given the
10 opportunity to serve on the Technical Advisory
11 Committee.

12 I have also attached a carbon footprint
13 analysis comparing silt fence and compost logs for
14 the Committee's benefit. Everybody is concerned
15 about carbon footprint, so there's an attachment
16 on that showing the carbon footprint.

17 It is the duty of Georgia Soil and Water and
18 this Technical Committee to resolve all issues
19 surrounding test plot preparation, product
20 installation, and data calculation.

21 Now, we have already addressed several
22 issues when Joel was at the podium. And, again, I
23 apologize. Joel, are you still here?

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2 MR. SPRAGUE: (Indicating)

3 MR. BOOTH: I apologize for bringing out
4 these points; but, you know, it's only my
5 intention to point out discrepancies in test
6 methods or installations. And it's no reflection
7 of TRI. TRI is a great testing facility. We've
8 used them for years. Joel audits our company.

9 Joel mentioned the NTPEP testing program,
10 which we are all a part of, all manufacturers in
11 the U.S. and many abroad are part of the NTPEP
12 testing program. TRI is the testing facility and
13 also the auditing facility for NTPEP. And audit
14 comes to our facility -- I mean Joel comes to our
15 facility once a year and audits our company. And
16 it's kind of like going to the doctor for a full
17 physical, but Joel does use petroleum jelly when
18 he comes to us, so it's not quite that bad. But
19 his testing facility is a very reputable testing
20 facility, and he is very reputable. And I don't
21 mean to, you know, cast any aspersions on that
22 company or him personally. I'm just pointing out
23 discrepancies.

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2 Several states have used data from the
3 Georgia Soil and Water report to select products
4 for use as BMPs in their states. Furthermore,
5 Georgia Soil and Water should advise NTPEP and all
6 state DOTs to refrain from using data compiled in
7 the test report for determining products suitable
8 for BMPs in their respective states until all
9 issues are resolved.

10 Now, as a backup to that, if you will look
11 on the last page of your handout. This has been
12 used as a stepping stone. This test has been used
13 as a stepping stone by companies in the industry
14 to promote their product. And this is a -- and,
15 again, I apologize to Filtrexx, but I have to give
16 you an example of what I'm talking about.

17 This was published on July 3rd, 2014, and
18 was taken off the Filtrexx website. "The
19 Beginning of the End for Silt Fence." And we'll
20 skip the first two -- the first paragraph. And in
21 the second paragraph it says, "In many cases, the
22 shift toward more sustainable BMPs is being led at
23 the State, regional, or municipal level. Recently

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2 the Georgia Environmental Protection Division
3 notified the Georgia Department of Transportation
4 that silt fence check dams installed in ditches
5 and arranged in either upstream V-shapes or
6 W-shapes, as shown on GDOT construction Detail
7 D-24D, should no longer be used."

8 EPD's decision comes after testing by the
9 Georgia Soil and Water Conservation Commission
10 that yielded failed results on the effectiveness
11 of silt fence check dams. These issues were
12 noted: Ineffective at retaining silt on the
13 upstream side and excessive scour to the ditch on
14 the downstream side due to water runoff around the
15 ends and top of the fabric check dams.

16 Now, prior to the publish of this letter,
17 DOT -- or Georgia Soil and Water reversed this
18 decision and is allowing those products to be
19 used. But this information was disseminated after
20 that and is continuing to be promoted in the
21 industry based on the results of the testing that
22 was done by Georgia Soil and Water. And I think
23 we've all seen clear evidence today that there are

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2 some issues with that testing and that these
3 issues need to be resolved before private
4 companies continue to promote their products based
5 on this.

6 I think it's the duty of the Technical
7 Advisory Committee and Georgia Soil and Water to
8 make it known throughout the industry with the
9 state DOTs that there are some issues here and we
10 are going to resolve those issues.

11 And we are here to work with you. We are
12 not an adversary. We want to contribute to this
13 process. We desperately want to be a part of this
14 process because we have the technical knowledge
15 and know-how to make a major contribution to this
16 so together we can formulate an erosion control
17 policy for the state of Georgia that we can all be
18 proud of in the future.

19 And under the next handout it says that in
20 February of 2014 the GSWCC Board agreed to revert
21 the process and open the comment period back up to
22 stakeholders and industry regarding the
23 implementation of the changes in the new Green

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2 Book 6th Edition Manual. We believe as
3 stakeholders and industry that this particular
4 action was the right thing to do.

5 We as industry and stakeholders have also
6 had concerns during this open comment period due
7 to certain individuals within the Committee as
8 well as an employee of GSWCC which has continued
9 to promote and advocate for the test to other
10 state DOT members and nationally through NTPEP as
11 well as NPDES Training Institute, during this open
12 comment period, against the Board's
13 recommendation.

14 Our industry does care about the environment
15 and we want new product innovation to be
16 encouraged. However, any new test, data, or
17 benchmarks that are set have to be based on
18 factual and scientific data; otherwise, we are
19 going to open up the state of Georgia and our
20 highways and waterways to possible catastrophic
21 liabilities in the future.

22 Our findings. Through video, audio,
23 pictures and test review, many inconsistencies

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2 have been found throughout this 11340 test report.

3 Three key findings were notably wrong. This

4 report states that GDOT, Georgia Soil and Water,

5 or installation methods were followed; however, as

6 per certain products were over-installed or

7 incorrectly installed and the data was not

8 included. Test plots were not prepared with the

9 same moisture content and/or compaction in all

10 tests. Natural growth compost logs was a GSWCC-

11 approved alternative BMP product for Georgia DOT

12 Type A, B and C, however the contracts stated

13 there was only one product approved and,

14 therefore, they were left out of the process

15 completely even though they were approved in the

16 contracts. If you will read those, it says, the

17 statement was made there's only one product

18 approved and that was the Filtrexx product.

19 Through further forensic analysis of the

20 final report itself by professionals who work in

21 the testing arena and specialize in this area of

22 testing, it was found to have multiple formula

23 inconsistencies and a significant lack of

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2 repeatability.

3 In regards to the formula issues on check
4 dams, the wetted perimeter calibration was
5 initially reported incorrectly in the final
6 report. It has come to our attention that this
7 formula was significant enough to change the end
8 results and the lab test has updated -- the test
9 lab, testing lab has updated these new
10 calculations and given them back to GSWCC in a new
11 final report last month.

12 In the sediment barrier testing, two
13 critical formula calculation errors were
14 identified. The P-factor calculation that was
15 used to approve or disapprove products is made up
16 of six different factors; and if any of these
17 factors is incorrect, the P-factor will be
18 changed. Both the R-factor calculation and the
19 LS-factor calculations were found to be incorrect
20 in the test data. The K-factor was not able to be
21 replicated due to the data not being included in
22 the final report. When recalculating these
23 formulas correctly, all P-factors changed in the

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2 report and the analysis found that at least one
3 DOT Type C product that had previously failed
4 using the testing lab's data in the final report
5 now passed the P-factor threshold set by the
6 Technical Advisory Committee.

7 Repeatability. Typically relative error
8 rates larger than 10 percent reflect a poor
9 correlation in repeatability. In the series of
10 2-inch control tests, a relative error rate of 94
11 percent for runoff was found; in sediment
12 concentration a relative error rate of 115 percent
13 was found; in sediment loss a relative error rate
14 of 105 percent was found; in the 4-inch and 6-inch
15 control tests, the ranges in relative errors were
16 also significant, showing that repeatability was
17 not consistent in the testing.

18 Wind and weather, as Joel mentioned, wind
19 and weather create problems in testing on an
20 outside facility. Wind and weather was not
21 recorded in the test data.

22 Final BMP report review showed installation
23 inconsistencies. Check dam. C-type systems were

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2 installed incorrectly as per the GDOT
3 specifications. And that was something we talked
4 about earlier in the installation of the W-wings
5 right there. This has also been confirmed by a
6 GDOT representative, that this was an incorrect
7 installation. See GDOT installation.

8 And that GDOT installation is in your packet
9 of information, the next to the last part. No,
10 that's not the next to the last one. Should be in
11 there showing a drawing.

12 UNIDENTIFIED SPEAKER: On the next page
13 there.

14 UNIDENTIFIED SPEAKER: It's stapled.

15 MR. BOOTH: It's stapled on the back page of
16 this? Okay. I don't see it. Do you see it in
17 your report?

18 MR. PARKER: (Mr. Reece Parker nods head up
19 and down)

20 MR. BOOTH: Okay. There's a drawing there
21 that shows it's not a "W," like this, but it's
22 more of an outlet like this (indicating). And
23 that was discussed by Mr. Mastronardi earlier, so

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2 there's no need in continuing to discuss that.

3 That's certainly an issue that will be discussed
4 in the future.

5 Filtrex compost logs -- again, I apologize.
6 Filtrex was the only compost log that was tested,
7 so I apologize, Britt. You know, that's the only
8 product that I can identify there in that series.

9 Filtrex compost logs were not installed as
10 per manufacturer's recommendations or GSWCC
11 methods. Seven hardwood stakes were placed in the
12 product when the manufacturer lists check dams to
13 be installed on 5-foot centers, meaning a stake
14 every 5 feet. In the GSWCC it states that compost
15 socks are on 4-foot centers for one application
16 and 6-foot centers for another. Either way, the
17 installation used seven stakes very close
18 together.

19 And attached is an installation photo. And
20 if you will look at your photo, in that right here
21 it shows the additional stakes being put in. And
22 this is an 8-foot width installation. So it was
23 over-installed. The addition of these additional

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2 stakes does not portray the real-life installation
3 and performance of this product. If the
4 manufacturer states it's supposed to be every so
5 many feet, then that's the way it should have been
6 installed on this test so that we could have
7 gotten actual results based on the manufacturer's
8 recommendations.

9 And, there again, the bentonite was used on
10 this and three other products that we have already
11 discussed.

12 Sediment barrier testing. Bentonite, a
13 sealant that looks like -- that blocks the water
14 flow and sediment concentrations from leaving the
15 test site was installed across the full base of
16 the last four products tested and not in the first
17 nine products tested. The addition of bentonite
18 to certain products in this testing was not in the
19 final test report. The addition of bentonite on
20 construction sites is not part of silt fence
21 installation or compost log installation. The use
22 of bentonite along the full length of a product
23 can reduce undercutting and result in lower

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2 P-factor than what may be experienced in the
3 field. Over-installation in the compost logs with
4 additional stakes can be viewed. Manufacturer's
5 installation methods states one every 10 foot,
6 meaning one stake installed every 10 foot. Actual
7 pictures/videos showed four stakes in the 8-foot
8 test plot as well as bentonite was added.

9 An instance for a product being tested that
10 had a significant blowout -- and this, if you will
11 watch the videos, and I encourage the Technical
12 Advisory Committee members and anyone else that
13 has an interest in this to look at the tapes and,
14 you know, make your own judgment, you know. But
15 you need to look at it. The implications of the
16 decisions of this Committee and ultimately Georgia
17 Soil and Water are going to have a tremendous
18 impact on our state, and we need to do this right.

19 An instance of a product being tested that
20 had a significant blowout, the test was stopped
21 twice to repair it, then restarted with that data
22 not being listed in the final report. The runoff
23 for that test reported to be one gallon more than

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2 the first series of tests on that product that did
3 not experience a blowout.

4 There was three tests done there. Two of
5 them had no blowout. One of them had a major
6 blowout where numerous, 50 gallons of water, come
7 through just quickly like that. Stopped the
8 video, went back and repaired it, and started it
9 back. But there was no mention of that in the
10 report. And also it's not possible that that
11 could have only had one additional gallon of water
12 in that test as compared to the other ones that
13 did not have a blowout.

14 Based on the scientific analysis of this
15 final BMP test report, it appears that the
16 products charted on page 19 of the final report
17 are statistically tied and the P-factor number was
18 arbitrarily chosen, not scientifically based.

19 And I think that question has already been
20 answered by Mr. Sprague over there.

21 We believe that GSWCC should notify the
22 state DOTs, common agencies, national
23 associations, and NTPEP of the findings presented

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2 today so that they may make an informed decision
3 regarding their erosion control standards.

4 In addition, there has been no longevity
5 testing done. This was a snapshot in time where
6 testing was done in a controlled environment. And
7 there's no longevity to back up what will happen
8 after three or four months on some of these
9 product installations. In the past I know
10 Willacoochee Industrial Fabrics has had the
11 privilege of supplying silt fence to the state of
12 Georgia for many years. And initially when you
13 used to submit a product, you had to submit it and
14 they tested it and made sure it met all the
15 physical requirements and then they installed it
16 in the field and left it in the field for about
17 six months to make sure it met the longevity
18 requirements too. This is a snapshot in time, and
19 further testing for longevity should be conducted
20 on this.

21 And here's the little page I was looking for
22 a while ago that shows the wings on the
23 installation where it shows instead of being a "W"

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2 back this way, it's more on -- on a plateau there.

3 But, there again, that's already been discussed.

4 I have another page in here; but, in the
5 interest of time, it just details a lot of other
6 inconsistencies that were noted when viewing these
7 tapes. And I don't really want to take up any
8 more time. I know everybody's time is important.
9 But I felt like it was important for the Committee
10 to have this for them to review and, you know, to
11 discuss. But a lot of inconsistencies are noted
12 here, and then the pictures to back it up are just
13 a few. So I will leave it to the Committee.

14 One thing I would like to point out for
15 inconsistencies, these two products here on this
16 page, if you will see it here (indicating) -- do
17 you have this page that says 1216 Silt Fence Test
18 Plot? Both products present, GASF-A, right, and
19 1216, left, pictured below, both products
20 manufactured by Willacoochee Industrial Fabrics.
21 Both the same style of fabric, the same
22 construction of fabric. One product passed for
23 sensitive areas, one failed.

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2 A lot of companies private label products.

3 There are a few manufacturers that sell their
4 products to other companies who private label it.

5 And the State is aware of that. So when you -- if
6 you pull a product from Willacoochee Industrial
7 Fabrics and if you pull a product from another
8 distributor in the state, it might be the same
9 product because it may be a private label product
10 that a manufacturer produces for another company.

11 In addition to that, again, another test or
12 another picture of an installation of two products
13 here, on this right here (indicating).

14 And, Kelli, jog my memory on this. These
15 were the inconsistencies in the testing. This is
16 the C system?

17 MS. DAVIS: On the C system products there
18 are two products that are manufactured also by the
19 same manufacturer. Both of them failed. Both had
20 different test results present. And upon the
21 re-evaluation and further analysis with the
22 professionals who reviewed the test, when they put
23 in the correct calculations, one of those products

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2 actually fell below the .03 P-factor, showing that
3 repeatability is not, was not achieved in this
4 particular test.

5 MR. BOOTH: So, as I stated earlier, it's
6 not our desire to be an adversary to this
7 Committee and to Georgia Soil and Water. We want
8 to be a part of this process. We feel like we
9 have valuable information that we can contribute
10 to this process. And we would respectfully ask
11 the Committee and Georgia Soil and Water to allow
12 some of us to be part of that process.

13 We have two representatives for filter
14 socks, we have one representative for silt fence
15 on the Committee. We would like at least one more
16 representative for silt fence and someone that has
17 extensive knowledge in design, manufacture, and
18 installation of these products to be able to
19 provide and answer questions that this Committee
20 may have when they are reviewing data like this.
21 I think it's critical that this be achieved in
22 order, you know, to come up with a final result
23 that is going to be good for our great state of

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2 Georgia.

3 Thank you very much.

4 MR. DYKES: Thank you, Mr. Booth.

5 Appreciate your comments. And certainly you've
6 raised issues I think the Committee will want to
7 address as we move forward. Certainly the
8 Commission will continue to work with Joel as it
9 relates to the testing and review the things that
10 have been brought up today.

11 Mr. Hamil.

12 MR. HAMIL: Larry, who was y'all's expert
13 that did all this reviewing and found the
14 inconsistencies?

15 MR. BOOTH: We are -- it's certainly above
16 my head. I'm a layman. And so we knew that we
17 had to talk with someone that had expertise in
18 this, so we went to Auburn University. They have
19 a great facility, their testing facility. And
20 these two gentleman right here, Dr. Wes and --

21 MR. PEREZ: Michael Perez.

22 MR. BOOTH: -- Michael Perez reviewed this
23 data and provided some insight into that. And I'm

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2 sure you are familiar with Dr. Wes because he had
3 some questions earlier in this meeting.

4 MR. HAMIL: Well, I don't want to get into
5 an argument between Georgia and Auburn. That will
6 occur in a few -- in several weeks. But I would
7 love for us to have another meeting and let both
8 sides present their information. Just from
9 hearing this side and this side, I think I need
10 more information before I can make any
11 recommendations.

12 MR. BOOTH: Well, I think it will be
13 obvious. You know, we pointed out inconsistencies
14 in testing that was done by the testing facility.
15 I think if the Committee will review the tapes, it
16 will be obvious to them if they have someone
17 present like a Georgia Soil and Water
18 representative that can say this is installed
19 correctly, this is not installed correctly. Look
20 at the manufacturer's recommendations, the Georgia
21 DOT's recommendations for installation, and
22 Georgia Soil and Water's recommendations and say:
23 Okay, here's a product. It's installed here. The

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2 recommendation is by Georgia Soil and Water or
3 whichever entity makes a recommendation or
4 supersedes the other. Naturally, my
5 manufacturer's recommendation is superseded by
6 Georgia DOT. If Georgia DOT says they want a
7 stake every 6 inches, then we're going to put one
8 every 6 inches regardless of whether we think it's
9 needed. So that type of information needs to be
10 present or that type of knowledge needs to be
11 present, personnel with that type knowledge needs
12 to be present when these are reviewed.

13 MR. HAMIL: But the formulas y'all use have
14 what, seven different variables, and some of those
15 variables have to be chosen by some procedure.
16 And y'all said some of them are wrong.

17 MR. BOOTH: I yield the floor to Dr. Wes on
18 that.

19 MR. HAMIL: I need someone to explain what's
20 wrong with them.

21 DR. ZECH: So there are several errors in
22 that sediment retention barrier testing part of
23 it.

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2 Joel, maybe you can explain a little bit
3 further on how you selected that R value of 231 or
4 came to that conclusion. I know you used a
5 2-inch, 4-inch, 6-inch rainfall event for 20
6 minutes, but you didn't take into account the time
7 in between those tests which is dry time. It's
8 not raining and allows water to seep into the
9 soil. So that situation would change your
10 R-factor and actually would reduce it if you
11 considered those dry times. It might be 10, 15
12 minutes as you guys change pressure and things
13 like that.

14 MR. SPRAGUE: Well, that wouldn't affect the
15 R-factor, but --

16 DR. ZECH: Actually, it does.

17 MR. SPRAGUE: Well, this test standard which
18 is now termed TM11340, Test Method 11340, so as
19 not to be confused with the evolving work item
20 ASTM, is based on test standard for slope erosion
21 that's been a standard at ASTM since 1999. And it
22 follows just the protocol that's been established
23 as the general procedure for handling rainfall,

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2 all of the variables in the Universal Soil Loss
3 Equation.

4 So it is a -- it's a grand compromise; but
5 in order to standardize, you do that. And we were
6 just following the generally accepted procedures,
7 which is the level of care that would seem to be
8 appropriate in this case.

9 DR. ZECH: So, then, in your calculations I
10 think you may have made a mistake when you're
11 taking into account the total area of the test
12 plot, because we recreated your calculations and
13 it actually ends up being a 40-foot long area by
14 8-foot wide, when in the report it says that the
15 test area that was rained on was 27 inches -- or
16 27-feet long by 8-feet wide.

17 MR. SPRAGUE: Right. Which calculations?

18 DR. ZECH: Which one is that?

19 MR. PEREZ: It's a calculation of your
20 A-factor, called the A-factor. You're converting
21 the sediment loss in terms of pounds per the given
22 plot area to factor in tons per acre. And taking
23 into account that conversion where you go from a

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2 given plot size to an acre size, you use a plot
3 area of 320 square feet, which is representative
4 of an 8-foot by 40-foot test section. So it
5 accounts for about a 33 percent larger -- or I
6 should say smaller A-factor. And, in turn, that
7 affects your overall recorded P, because that goes
8 into that calculation.

9 MR. SPRAGUE: I will have to look back. Did
10 we do it for both the control and the product
11 testing?

12 MR. PEREZ: You did it throughout.

13 MR. SPRAGUE: Because the P is a ratio of
14 both, so ...

15 MR. PEREZ: And --

16 MR. SPRAGUE: Is the wash in that, that --

17 MR. PEREZ: No, it was not a wash
18 (inaudible).

19 MR. DYKES: Going back to Mr. Hamil's
20 comment, I do think it's something to look at,
21 moving forward, to have Dr. Zech and certainly
22 Joel to get together. And as has been evident
23 today, when Joel was giving his presentation, an

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2 error was found and it was disclosed today. So if
3 other things need to be addressed, as a public
4 entity, the Soil and Water Commission -- and I
5 cannot speak for the TAC, but for the Commission,
6 if things need to be adjusted based on coming to
7 an agreement, certainly we want to do that, as was
8 disclosed today in the PowerPoint discussion. So
9 the issues that have been raised I'm sure the TAC
10 will want to address.

11 And if the professor from Auburn is
12 interested in working with our folks, certainly
13 we'll be glad to do that. We have no intent to
14 not work toward a compromise to do the best, get
15 the best information out. That is our intent.

16 MR. RUZOWICZ: I'd just like to say that the
17 testing that we've done, none of it stopped any
18 product from being used. It's just setting a
19 limit on the bottom ones that new people can get
20 in with. In the past we had types A, B and C.
21 Somehow they were decided as well. So basically
22 the group looked at it and decided, well, we want
23 to look at it and try to make the ones that are

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2 filtering out more sediment, put them closer to
3 the (inaudible). And, again, it's being reopened,
4 so it's something they could look at. But we
5 didn't stop a single one of any of those products
6 from being used. We were never trying to say you
7 can't use that product. We're just saying if
8 you're a new BMP coming in, you've got to meet the
9 minimum of whatever that one, you know, the
10 product was doing.

11 MS. DAVIS: Mr. Ruzowicz, I would beg to
12 differ, because immediately upon publication of
13 this report Georgia DOT announced that based off
14 the test results, Type C could not be used in
15 ditch applications anymore, based totally upon
16 that part, on that particular issue.

17 MR. DYKES: That's correct, Ms. Davis. And
18 you're the next commenter, so we'll give you the
19 mike. That was a decision between EPD and the
20 Commission -- excuse me, not between EPD and the
21 Commission, between EPD and DOT. And they can
22 answer to that if at some time they might think
23 that was not a condition initiative.

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2 And, Ms. Davis, you're next up on the
3 comments, if you would like to make a comment,
4 please.

5 MR. HAMIL: Can we at least get a written
6 comment from both sides so we can review? Right
7 now all I'm getting is blurred back and forth. We
8 need something if we're going to make -- I presume
9 Georgia DOT and us and all will eventually have to
10 come to a decision, I presume. I don't know. And
11 we need -- we need the information, not just this
12 stuff that's in these picture reports.

13 MR. DYKES: Yes, Reece.

14 MR. PARKER: Before the next comment, I'd
15 like to clarify something. At the beginning of
16 your comments, Mr. Booth, you asked who all had
17 seen the tapes. I wasn't clear on the question.
18 We did see Joel's -- a collection of video when he
19 presented his findings. I'm not sure that we saw
20 them all, but I did see some.

21 MR. BOOTH: You did see some?

22 MR. PARKER: Yes.

23 MR. BOOTH: I think, you know, it's

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2 important, imperative, that the Committee as a
3 whole review these tapes. It's very
4 informational. And the decisions you make, you
5 know, as a Committee are going to have a
6 significant impact on our state and the industries
7 in our state. And I think it would be very
8 educational for you to look at those.

9 MS. JORDAN: I would like to clarify too I
10 actually -- I didn't see them in a format to study
11 them as you obviously have done, but I did see
12 them at a Soil and Water Conservation meeting,
13 what was it, about a year ago. So I have seen at
14 least portions of it that were made in the
15 presentation.

16 MR. BOOTH: It's not quite as exciting as
17 the Auburn-Alabama game, but, you know, it's
18 worthwhile viewing.

19 MR. SPRAGUE: And I might just add that on
20 all of the videos, all of the pictures were a
21 complete donation to this project, not a part of a
22 contract or anything like that, under the spirit
23 of like we're trying to figure this thing out

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2 together. We're trying to figure out the test
3 methods, we're trying to figure out how to do it,
4 we're trying to figure out -- and to think for a
5 moment that they would be used as -- as the basis
6 to suggest that there's incompetence going on here
7 when these are not standardized procedures, by and
8 large, is just -- it's flooring me. But, you
9 know, I guess that it is what it is. But I just
10 wanted to say that. I mean, this wholly
11 demonstrates our attempt, anyway, to be completely
12 transparent and ask for help. Is this what you
13 want? Is this what you need? Is this suiting the
14 bill?

15 So I hope that at least those who are a bit
16 fair-minded will see it that way.

17 MR. DYKES: Ms. Davis. Oh, excuse me,
18 Mr. Hamil.

19 MR. HAMIL: There's four new members. This
20 new member has seen things I haven't seen. The
21 only thing I have got is the Green Book and
22 started reviewing that so I could get prepared. I
23 haven't been told anything about tapes or films or

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2 the --

3 MR. DYKES: Yes, sir.

4 MR. HAMIL: I don't even have a copy of the
5 test, the original test you're talking about.

6 MR. DYKES: We will make all of that
7 available. It's publicly available. We'll make
8 sure all Committee members have it, Mr. Hamil,
9 yes, sir.

10 Ms. Davis, your five minutes begins.

11 MS. DAVIS: Okay. Mr. Booth addressed the
12 majority of my comments or the issues that I have
13 found. But one of the key issues I believe that
14 the Technical Committee needs to be aware of is
15 that a number was arbitrarily chosen and it
16 included some products and it discluded other
17 products from certain applications. When that
18 happened, it did affect our industry.

19 If you can reach a 95-percent sediment
20 retention rate by using any one of the products,
21 why draw a line right in the middle? Why? What's
22 the purpose behind it? If it's not scientifically
23 based, it was arbitrarily chosen. And that is a

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2 very key concern for industry. And we would like
3 for you to take that under consideration and look
4 at that, because if a product is going to work and
5 it's got a 95-percent retention rate, why would
6 you disclude it from certain applications and
7 include it in others?

8 And that's pretty much -- that's my --
9 that's my key concern here. And I will yield the
10 floor.

11 MR. DYKES: Thank you, ma'am. Yes, ma'am, I
12 understand that concern. It's certainly something
13 I'm sure the Committee will want to look into.

14 Next on the public speaking agenda is
15 Mr. Roger Singleton.

16 MR. SINGLETON: I appreciate everybody's
17 time today. I know there's been a lot of time
18 spent on these committees, various committees,
19 several committees. And we now have committees
20 looking at other committees' work. And I want to
21 tell everybody I appreciate your time on previous
22 committees that has made recommendations that's
23 been ignored and whatever.

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2 Guys, we don't live in a perfect world.

3 We've been operating out of a Green Book that's 25
4 years old. It's been reprinted so many times that
5 you can't hardly see the pictures in it. We've
6 got items in that Green Book that we're still
7 teaching new generations as to how to do it the
8 way we did it 20 years ago.

9 I come from the construction industry. I've
10 been in the construction business for 45 years.
11 I've been using these products because they've
12 been on a QPL that has been accumulated for 25
13 years. Products that were tested and approved 25
14 years ago are still considered an equal to the
15 products that we have now.

16 This is the first effort that we have put
17 forward to test products on the performance and
18 results and compile those results for comparison
19 to other products. In the past we've had material
20 standards that were never tested and never has
21 been tested for what we use it for. We've been
22 taking geotextiles that were developed and
23 designed for paving underlayment and ground

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2 stabilization fabric. In fact, in the early '80s
3 we stood them up and made silt fence. It was
4 based on the materials and knowledge that we had
5 at the time. Those products have become standards
6 in state manuals across the country. There are
7 material specs that are written in that have never
8 been tested.

9 As time has gone forward, the construction
10 industry has been under the control or under the
11 domain of the EPA to bring forth cleaner water off
12 our construction sites. The products and methods
13 that we've been using for these last 25 years have
14 not proven satisfactory. We -- as a construction
15 person, I'm responsible for the results that come
16 through that silt fence. I wrap up my lots with
17 silt fence and wonder why the street fills up full
18 of mud.

19 You guys have now come up with a solution to
20 at least create a baseline of testing products for
21 the use that we now use them for. It encourages
22 manufacturers to meet that baseline. In the past
23 there's been no encouragement to do anything other

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2 than what we have always done. And now you've
3 established a baseline, a fair baseline based on
4 the top performance, which was our product, BSRF,
5 and the other products, and you took a happy
6 medium in the middle of that and established a
7 baseline in order to be fair to others.

8 I could be sitting here making the same
9 argument as Larry, you know, or this lady that
10 spoke before me. Why not take the best product
11 and actually specify that best product? That'd be
12 our product. But I think you ought to be fair.
13 And you put a baseline in there that includes
14 several products.

15 There is no set procedures on our job sites
16 that says that you use this, this, and this. If
17 this doesn't work, you have the opportunity and
18 the responsibility to use something else. That's
19 the guidelines you're given. If it takes an extra
20 stake or whatever in order to establish some
21 stability to a product, put the stake in there.
22 You're responsible for results.

23 But without this going forward and passing

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2 into the 6th Edition, we have absolutely no
3 testing and we will be set back to where we have
4 always been for the last 25 years. This is a step
5 forward. Please continue your progress in
6 establishing the 6th Edition. If we don't regain
7 control and support for the Georgia Soil and Water
8 Conservation Commission in maintaining their
9 business and creating a QPL of products that work
10 and have the ability to work, then the future
11 generations that come after us have nothing. They
12 pick up an empty book that only teaches history.
13 We need a little bit of the modern science, which
14 has been created by Joel Sprague and TRI and the
15 Committee that approved it to come forward and
16 test products based on today's materials and
17 knowledge.

18 And as I have been saying for ten years now,
19 my product was tested ten years ago by the
20 University of Georgia, proven to be more effective
21 than some of the previous speakers, and then ten
22 years later it's comes up in a test again and
23 shows to be still the best product on the market.

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2 But it can't get into the marketplace because of
3 all the commodity products that sell cheaper,
4 they're imported in, they're relabeled and they're
5 imported in and they're not tested. And they're
6 thrown out here to the construction industry and
7 says: Here, guys, you take this. We say it
8 works; you ought to believe us.

9 Well, I'm a firm believer in knowing what's
10 in the bag. If I pick up a bag of seed, that
11 bag's got a label on it and it tells me what's in
12 that bag. If you go buy a bag of fertilizer, it's
13 got a label on it that tells you what you're
14 getting in the bag. If you go buy a can off the
15 shelf in the store, it has a label on it. We, as
16 a construction industry, deserve that label to
17 know what that product has the ability to do.

18 You engineers in the audience, you guys are
19 charged with the chore of designing an E & S plan
20 on every project out here. I've asked many
21 engineers how do you design a plan that's supposed
22 to get you a road map from point A to point B, how
23 do you design that plan when you don't know the

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2 performance of the products you're putting in your
3 treatment plan? I don't get an answer. They said
4 we only put the little X's on the plan where we're
5 supposed to.

6 This gives us the opportunity to have a
7 manual and to have a QPL that an engineer can
8 design specific products and won't be ashamed to
9 actually specify a product based on its
10 performance. He will get a better job, the public
11 gets better water, and we all get better economy
12 for what we spend our money on.

13 Thank you for your time.

14 MR. DYKES: Thank you, Mr. Singleton.

15 Next on the comment list is Keith Hanes. Am
16 I saying that right?

17 MR. HARRIS: Keith Harris with Hanes.

18 MR. DYKES: Harris, I'm sorry. I apologize.
19 Your handwriting is similar to mine. I can't read
20 my own either. Sorry about that, sir. Thank you.
21 If you don't mind, speak your name into the
22 microphone.

23 MR. HARRIS: Keith Harris, Hanes Geo

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2 Components.

3 And most of the stuff I want to talk about
4 was covered. I just want to talk about the test
5 method 11340. A couple of concerns I have with it
6 is the variability. We actually were one of the
7 products that was tested, exact same fabric. Our
8 product actually failed, below the line, and their
9 product passed, the exact same product. So I
10 would like to see if you're going to set a number,
11 3, you know, have some variability in there, plus
12 or minus, because you're running this test once
13 every three years, I think is what the requirement
14 is, one time, and it's a very expensive test. So
15 because of the variability that's been shown, I
16 think you need to have -- to set a proctor with a
17 plus or minus percentage so that you can allow for
18 some variability. Because you could have the
19 exact same product and you may have to -- you
20 could run it three times and one time it passes
21 and, okay, now I have a passing product.

22 Another issue I have is the overtopping.

23 Because of the way the test is designed, any

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2 overtopping doesn't pick up the scour that would
3 happen in real life from having dirt behind it
4 because there's basically a scour apron of
5 plastic. So if you're going to allow overtopping
6 to be considered as an apples-to-apples comparison
7 to the products that don't overtop, then you
8 should probably have to require them to have the
9 scour pad behind the product so that you know
10 you're getting the same performance that happened
11 on the test when it was run.

12 That's it. Thank you.

13 MR. DYKES: Thank you, Mr. Harris.

14 Next on the list is Mr. Brad McCoy.

15 MR. McCOY: I yielded my time to Mr. Booth.

16 MR. DYKES: Thank you, sir.

17 Next is Mr. Don Davis.

18 MR. DAVIS: My name is Don Davis, DDD

19 Erosion.

20 The longevity checking, some products that's
21 passed this test, the 11340, the DOT actually
22 failed a couple of these years ago. I sent
23 products in to the DOT and they failed. So some

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2 of the products we're talking about today the DOT
3 actually failed before. So we need to put
4 longevity testing before you do a one-hour or two-
5 hour test. It just is not fair.

6 That's all I've got to say.

7 MR. DYKES: Thank you, Mr. Davis.

8 Mr. Wayne Seabolt.

9 MR. SEABOLT: Let me just be real brief here
10 after all of this and everything. I've never done
11 anything in my life that came easy. Everything
12 I've done that's been worthwhile has been very
13 difficult. And I'm just saying that I am relieved
14 to see the kind of dialogue, the kind of
15 conversation that's going on, and the end result
16 is going to be something I think very, very
17 positive for the industry.

18 So I yield my time to someone who has much
19 more important -- something more important to say
20 than I do.

21 MR. DYKES: Thank you, Mr. Seabolt.

22 The last name I have is Jamie McCutchen.

23 MR. McCUTCHEN: I'll be brief so we can get

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2 out of here. My name is Jamie McCutchen. I'm
3 with SW FeeSaver. We're the maker of the Marlee
4 Float, which is a new skimmer surface drain on the
5 market.

6 And just real briefly, I would like to
7 commend Georgia Soil and Water for taking the
8 approach that they have. We spent months doing
9 testing of our product, and a lot of that time was
10 at Joel's facility, and had a lot of surprises
11 going through there. It did not necessarily
12 perform as we expected. And we spent the time and
13 effort to make sure that what we provided
14 engineers for design is based on real performance.
15 And there are huge differences between real
16 performance and theoretical calculations that some
17 other products publish. And I really just want to
18 commend Soil and Water for taking that step. I
19 applaud you for doing that. And I think that it
20 is definitely the right direction to go in.

21 Thank you.

22 MR. DYKES: Thank you, Mr. McCutchen.

23 Is there anyone else wishing to make public

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2 comment today?

3 Mr. Hamil.

4 MR. HAMIL: I love to run my mouth. I
5 started work for the Georgia DOT in 1960. They
6 sent me out as an engineer on bridges out on the
7 I-75/285 interchange on the north side. They were
8 doing grading work out there. And nobody even
9 knew the word "erosion" out there, much less what
10 to do. And that runoff from that construction
11 went into the Chattahoochee River.

12 And later on things got a lot more difficult
13 for us engineers when the Environmental Protection
14 Agency and the federal government and state
15 government, when we engineers were confronted with
16 a terrible problem of how to satisfy all these
17 what we thought were crazy folks making us do all
18 these things we hadn't done before. So we came up
19 with a silt fence. And we came up with detention
20 ponds, which were a lot better than silt fences.

21 And then when I was in charge of designing
22 Georgia 400, and there at Peachtree we went
23 underneath the Financial Center that was already

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2 built, and we had a -- a cover running down
3 through there. And the engineering company that
4 designed it, they thought they had it done
5 perfect. But when you looked at the State's
6 construction plans, you couldn't build it because
7 there was a railroad track down there and we had
8 to relocate it.

9 So we were faced with a terrible problem,
10 but we came up with in my opinion a perfect
11 solution. We had some remaining property that was
12 landlocked on one side of 400, so we made wetlands
13 out of it. We drained that box covered in that
14 was getting -- and sometimes it was coming into
15 there before we got the box cover finished. We
16 had to make it go crooked. It goes down the
17 middle of the road, in case y'all don't know it.
18 We got that worked out and set up a wetlands, and
19 that was in my opinion the most perfect solution
20 you could get. Because if any of you have ever
21 worked with clay, you know the clay molecules are
22 real small molecules, and they get into solution
23 and they don't fall out until you get the water

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2 sitting still for a long time.

3 Then later on I was charged with trying to
4 design a road from the west side of 400 -- I mean
5 the west side of the Chattahoochee River along
6 some power lines that went across the Morgan Falls
7 Dam. And I don't know if any of you ever get a
8 chance, but go out and look at that dam. It was
9 built in 1919 to furnish the electricity for the
10 street car system in Atlanta. And go out and look
11 at the dam. It had about seven dynamos in there.

12 We went up on top of the dam, and there were
13 plants growing within 150 feet of the dam. That
14 whole lake, about seven, eight miles long, was
15 completely filled up with silt. The only thing
16 left was a little channel that the river flowed in
17 and it turned around. And then they kept one of
18 the dynamos and sometimes two. And that was the
19 only place that there was a pool there.

20 So you see what can happen if we don't do
21 something about erosion. So we have done all
22 these things.

23 And then later on after I retired, I was

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2 chairman of the Carroll County Water Authority and
3 we were building the Lake City Reservoir. We went
4 and we hired a tech, a third-quarter engineer to
5 come out and work every summer. And as the lake
6 filled up, we saw silt coming in. So we sent that
7 engineer out to trace down where it came from.
8 And we traced it down to several subdivisions.
9 This was when the building boom was going on. And
10 we went up there and looked at them, and one of
11 them didn't have anything to protect from erosion
12 and one of them had a few hay bales. And mud was
13 all collecting and it was running over.

14 And we went to see the County. They gave us
15 lip service. They said, "Oh, we're going to do
16 something." They never did. Why? All those
17 people building those buildings in subdivisions
18 were giving big campaign contributions, so they
19 didn't do a thing about it.

20 And so we got to investigating and I started
21 talking to people in Douglas County. And Douglas
22 County built a reservoir on Bear Creek and they
23 said it would last ten years. And they were going

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2 to raise the dam on the Dog River Dam later on.
3 Between Chapel Hill Road and Georgia 5 a big
4 shopping center was built. And that lake lost 60
5 percent of its capacity and made that reservoir
6 not last but three or four years.

7 And when they went down to raise the dam on
8 Dog River, they found out there was silt on top of
9 the lake. They spent several million dollars
10 cleaning the silt out.

11 We've got to have proper enforcement in the
12 local government. It doesn't do any good with all
13 these tests and getting everything perfect on the
14 tests if you don't have proper enforcement.

15 Douglas County, if you go out there, man, they're
16 going to inspect everything you do. Carroll
17 County, they're getting better, but they still
18 have got a lot of room for improvement.

19 So, plus, I've reviewed some plans for
20 erosion control. I grew up engineering-wise, we
21 learned how to finish contours on all our roads.
22 We learned how contours worked and we knew how the
23 drainage worked. We've got people designing it

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2 that don't know what they're doing. If they don't
3 design it right, it ain't worth a hill of beans.
4 You need to use double rows sometimes when you've
5 got a lot of water, etc. There's a lot more
6 improvements other than testing the fabric and the
7 socks. The whole kit and caboodle needs to be
8 straightened out so that we don't fill up all our
9 reservoirs in 30 or 40 or 50 years and lose all
10 our water supply that's used to furnish City of
11 Atlanta and all along the Chattahoochee River with
12 water.

13 So that's my two cents' worth. And y'all
14 can take it for what you think of it.

15 MR. DYKES: Thank you, Mr. Hamil.

16 Anybody else on the TAC wish to make a
17 comment today?

18 (No response)

19 MR. DYKES: Okay. Thank you, members of the
20 public, for being with us today and for your
21 comments.

22 MR. HAMIL: Well, I've got one more
23 question.

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2 MR. DYKES: Yes, sir.

3 MR. HAMIL: What's going to happen after
4 this meeting?

5 MR. DYKES: That's where we're headed. I'm
6 going to tell you. Or I can listen to instruction
7 from you as the Committee.

8 We have a question in the audience.

9 MR. BOOTH: In closing, I would say that I'd
10 like to offer the services of Willacoochee
11 Industrial Fabrics to work with Georgia Soil and
12 Water, this Technical Committee, and anyone else
13 to provide a product that the State would like to
14 have. I worked hand in hand with Virginia DOT
15 when they were having issues with silt fence and
16 designed a silt fence with them.

17 Silt fence products can be designed to do
18 anything you want them to do. We have products
19 from 30 AOS to 70 AOS that will flow the same
20 amount of water. So if you're interested in
21 retaining finer particles of silt and continuing
22 to allow water to pass through, we can design a
23 fabric for you and would be happy to run numerous

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2 tests and send it to your labs for testing or TRI
3 for testing.

4 Joel is aware of a lot of products,
5 specialized products that are already being used
6 in various states that have higher water flows and
7 finer silt retainment.

8 So, you know, we're at your service. That's
9 our job, to service you.

10 MR. DYKES: We appreciate that offer. Thank
11 you, Mr. Booth. And I think we all in the room
12 have a goal of having the best product at the end
13 of the day.

14 We encourage you to send in additional
15 comments via our email address, which is
16 greenbookcomments@gaswcc.org. That's
17 greenbookcomments@gaswcc.org. The public comment
18 period will close on December 18th, 2014.

19 We do anticipate an October meeting of the
20 Technical Advisory Committee, coming up next
21 month. That will be announced on our website, as
22 listed on your agenda today, the website address.
23 It will also be communicated out via email.

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2 I encourage you to go to our website and
3 subscribe to our Manual for Erosion Control email
4 list to ensure that you get emails. Most of the
5 folks in the room will probably get it from your
6 sign-in sheet. But just to be sure, please go to
7 our website and sign up for the Manual for Erosion
8 Control email list.

9 My work assignment from the Committee seems
10 to be at this point to provide the Committee
11 certainly copies of the tapes that have been
12 discussed today of the tests, a copy of the final
13 report as produced by TRI, and those type of
14 things.

15 Is there anything else the Committee asked
16 us to do as far as supplying the Committee that we
17 can provide the Committee today?

18 (No response)

19 MR. DYKES: We do anticipate working at the
20 next Committee meeting, addressing the issues that
21 have been brought up today and certainly
22 discussing it at that point.

23 MR HAMIL: Will it be an open meeting?

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2 MR. DYKES: Absolutely. Good question,
3 Mr. Hamil. Every meeting we have will be an open
4 meeting. And we will have public comment at each
5 meeting also, yes, sir.

6 Okay. There being no further comment,
7 please have a safe drive home, and this meeting is
8 adjourned.

9 (Whereupon, the meeting was adjourned at
10 approximately 2:35 P.M.)

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C E R T I F I C A T E

STATE OF GEORGIA:
COUNTY OF DEKALB:

I hereby certify that the foregoing transcript was taken down, as stated in the caption, and the questions, answers thereto, and statements were reduced to typewriting under my direction; that the foregoing pages 1 through 182 represent a true, complete, and correct transcript of the meeting to the best of my ability. I further certify that I am not of kin or counsel to the parties in the case, am not in the regular employ of any of said parties, nor am I in anywise interested in the result of said matter.

This 25th day of September 2014.

CATHERINE B. STEELE
GA CCR B-1123

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