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BEFORE THE BOARD OF SUPERVISORS
OF THE TOWNSHIP OF WESTTOWN
CHESTER COUNTY, PENNSYLVANIA

VOLUME 9

IN RE: CONDITIONAL USE APPLICATION
TOLL PA XVIII, L.P.

Hearing was held at the Stetson
Middle School Auditorium, 1060 Wilmington
Pike, West Chester, Pennsylvania, on Tuesday,
October 24, 2017, beginning at 6:05 o'clock,
p.m.

BEFORE: MICHAEL T. DIDOMENICO, Chairman
CAROL R. DEWOLF
THOMAS HAWS

ALSO PRESENT: ROBERT R. PINGAR,
Township Manager

ELEANOR J. SCHWANDT, RMR
COURT REPORTER

18:04:40 1 months, and I thank you for your courteousness
18:04:43 2 and manners and the way you have conducted
18:04:46 3 yourself.
18:04:48 4 I personally would vote tonight
18:04:50 5 in the affirmative that we run the meeting late
18:04:54 6 so that we can finish this evening. But that's
18:04:57 7 not up to me. It is going to be up to Mr.
18:05:02 8 Adelman, who represents Toll Brothers, and our
18:05:04 9 counsel, solicitor, Mr. McKenna, who is not
18:05:07 10 happy with me saying that right now.
18:05:10 11 So I am going to turn the meeting
18:05:11 12 over to Mr. McKenna.
18:05:13 13 MR. MCKENNA: Thank you. Good
18:05:18 14 evening, ladies and gentlemen. Let me know if
18:05:19 15 for some reason you can't hear me. I'll try to
18:05:22 16 speak up.
18:05:22 17 We are back this evening on the
18:05:25 18 continued hearing of the Crebilly application.
18:05:27 19 The applicant is Toll Brothers.
18:05:29 20 As I have with every meeting,
18:05:31 21 this evening, is there anyone recording the
18:05:34 22 hearing tonight?
18:05:35 23 MR. BRAXTON: Yes.
18:05:36 24 MR. MCKENNA: Sir, I know you

1 APPEARANCES:

- 2 PATRICK M. MCKENNA, Esquire
on behalf of the Board of Supervisors
- 3
- 4 GREGG I. ADELMAN, Esquire
on behalf of the Applicant
- 5
- 6 KRISTIN CAMP, Esquire
on behalf of Westtown Township
Planning Commission
- 7
- 8 MARK THOMPSON, Esquire
on behalf of Neighbors for Crebilly, LLC
- 9
- 10 FRONEFIELD CRAWFORD, Esquire
on behalf of Birmingham Township
- 11
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18:03:48 12
18:03:48 13 THE CHAIRMAN: Good evening
18:03:49 14 everyone. Welcome to the 9th conditional use
18:03:52 15 hearing of the Crebilly tract and Toll Brothers
18:03:56 16 developers. If we would please rise for our
18:03:59 17 pledge of the flag.
18 18 (Pledge of Allegiance takes
19 place.)
20 THE CHAIRMAN: Thank you. First
21 of all, this is our ninth month doing this,
22 ninth meeting, and I congratulate all the
23 citizenry and residents and all of you out
24 there that have been here the entire nine

18:05:37 1 have done it every single time. Would you mind
18:05:39 2 identifying yourself first on the record to the
18:05:41 3 court reporter so she can hear you.
18:05:43 4 MR. BRAXTON: John Braxton.
18:05:45 5 MR. MCKENNA: And yes, sir, your
18:05:46 6 name?
18:05:46 7 MR. MORO: Vince Moro,
18:05:48 8 representing Neighbors for Crebilly.
18:05:49 9 MR. MCKENNA: Thank you, sir.
18:05:51 10 MR. MORO: You are welcome.
18:05:51 11 MR. MCKENNA: A couple things.
18:05:52 12 Let's go through where we were and where we are
18:05:55 13 headed tonight. So at our last meeting in
18:05:58 14 September we ran through a number of parties
18:06:02 15 with us that evening. A number of parties were
18:06:04 16 not. So perhaps they will be here this
18:06:06 17 evening.
18:06:06 18 The Planning Commission finished
18:06:08 19 their case last month. Birmingham Township
18:06:11 20 stated on the record that they had no case to
18:06:13 21 present. Thornbury Township presented their
18:06:16 22 case and they are now done.
18:06:18 23 Neighbors for Crebilly are here
18:06:19 24 this evening with their counsel and they will

18:06:21 1 be presenting their case tonight.
 18:06:23 2 Brandywine Thornbury HOA I
 18:06:25 3 believe reserved the right to provide I think
 :7 4 additional commentary. I think I saw Mr.
 18:06:31 5 DuFault come in. We will hear from them
 18:06:33 6 tonight.
 18:06:34 7 Quarry Swimming Association had
 18:06:35 8 no case to present. Thornbury Farm Trust had
 18:06:38 9 no case to present. Robert Daull had no case
 18:06:41 10 to present, and neither did Ed Skros, Eileen
 18:06:45 11 Carey or Carol Weller. When asked, they had no
 18:06:47 12 case to present.
 18:06:48 13 Mr. Moscharis at least last month
 18:06:53 14 had an attorney, John Rendemonti. He asked for
 18:06:55 15 the opportunity to present a witness here this
 18:06:57 16 evening. I don't know if he is here. I have
 18:06:58 17 not yet seen him. Assuming they are here, I
 18:07:02 18 believe he would provide his testimony as well.
 18:07:05 19 And it is my understanding that
 18:07:07 20 the school district, via Mr. Scanlon, will also
 18:07:10 21 be testifying tonight. There may be rebuttal
 18:07:12 22 by the Planning Commission, as they have
 18:07:15 23 reserved the right to do so. And then, of
 17 24 course, if the applicant has any rebuttal we

18:07:19 1 might hear it.
 18:07:20 2 Now, assuming all of that
 18:07:22 3 finishes tonight, and I know there is a desire
 18:07:25 4 to try to get it all done tonight, then we will
 18:07:28 5 open the floor to public comment. So whether
 18:07:30 6 you are a party or not, if you are a party you
 18:07:32 7 can make a comment, if you are not a party you
 18:07:34 8 can make a comment.
 18:07:36 9 We are going to ask you, please,
 18:07:37 10 be respectful of our time for your comments.
 18:07:40 11 The Board wants to hear from you, but we do
 18:07:42 12 have a large amount of people here tonight so
 18:07:44 13 we would ask if you please reserve your
 18:07:46 14 comments to four or five minutes. That's
 18:07:48 15 typically the rule for the Board's meetings,
 18:07:51 16 typical meetings.
 18:07:52 17 We might conclude tonight. We
 18:07:55 18 may not. We have chosen a night in November in
 18:07:57 19 reserve, just in case. That night is November
 10 20 27th. It is a Monday. If we don't finish, it
 18:08:04 21 will be back at Rustin. I know I have moved
 18:08:06 22 you all over the township. I apologize for
 18:08:08 23 that. But we were able to secure Rustin and
 18:08:12 24 the Board is available, so if we don't finish

18:08:15 1 we will be back on Monday, the 27th of
 18:08:18 2 November.
 18:08:19 3 In the interim between the
 18:08:23 4 hearing last month and this month I have had
 18:08:25 5 communications with counsel, and specifically
 18:08:26 6 with Mr. Thompson on behalf of Neighbors for
 18:08:29 7 Crebilly. I'm going to mark an additional
 18:08:30 8 Board exhibit tonight, which is Exhibit B-31.
 18:08:34 9 That is a string of e-mails initially sent by
 18:08:38 10 Mr. Thompson on the 17th, responded to by Mr.
 18:08:42 11 Adelman on the 17th, and then again responded
 18:08:44 12 to by Mr. Thompson on the 19th.
 18:08:47 13 Mr. Thompson had made the request
 18:08:49 14 on behalf of his client to have a witness
 18:08:51 15 testify via video testimony. The Board met and
 18:08:55 16 discussed that in executive session on the 16th
 18:08:58 17 of October and decided to deny that request,
 18:09:04 18 which we are going to hear officially here
 18:09:06 19 tonight. That was communicated to Mr.
 18:09:08 20 Thompson, and then a further request was made
 18:09:12 21 in writing, which I have marked as
 18:09:14 22 Exhibit B-31.
 18:09:14 23 So I don't want to cut you off,
 18:09:17 24 Mr. Thompson. You want to preserve the record

18:09:19 1 on that issue? Or did I state it correctly?
 18:09:22 2 MR. THOMPSON: I can do it now or
 18:09:23 3 I can do it after my first witness.
 18:09:25 4 MR. MCKENNA: You might as well
 18:09:26 5 do it now if you want to.
 18:09:28 6 MR. THOMPSON: So the request
 18:09:29 7 would be, I would like to make a request to
 18:09:30 8 call Dr. Samuel Watson, Professor of Military
 18:09:34 9 History at the United States Military Academy,
 18:09:36 10 West Point, by remote teleconference.
 18:09:39 11 MR. MCKENNA: Right. Thank you.
 18:09:40 12 And I appreciate that. And the Board did
 18:09:42 13 discuss this at length in executive session. I
 18:09:44 14 did forward to them your e-mails. We did
 18:09:46 15 discuss it internally. It is still the Board's
 18:09:49 16 position, and has not changed, it is
 18:09:51 17 respectfully to deny the request. Obviously,
 18:09:53 18 nothing personal to your client or to the
 18:09:55 19 witness.
 18:09:56 20 My research couldn't, frankly,
 18:09:58 21 disclose an answer on that issue. The MPC
 18:10:02 22 doesn't specifically permit it. I couldn't
 18:10:04 23 find any case law on it. So my view was that
 18:10:07 24 at worst it is prohibited, since it is not

18:10:09 1 permitted. At best, it is in the discretion of
18:10:13 2 the Board whether or not to grant such a
18:10:14 3 request.

18:10:18 4 In my discussions with them,
18:10:18 5 their reason they had voted no is because they
18:10:20 6 want to hear someone live as a better
18:10:23 7 opportunity to determine credibility of the
18:10:24 8 witness.

18:10:26 9 As you and I had discussed, if we
18:10:28 10 don't finish for some reason tonight, there is
18:10:30 11 another opportunity perhaps in November.
18:10:33 12 That's entirely up to you and your client. So
18:10:35 13 we will see how that goes.

18:10:37 14 MR. THOMPSON: At this point I
18:10:38 15 understand the Board's ruling. However, I need
18:10:39 16 to put an offer of proof on the record as to
18:10:42 17 what the substance of his testimony would have
18:10:44 18 been, for purposes of appellate review of the
18:10:47 19 ruling that precludes that testimony.

18:10:48 20 MR. MCKENNA: Mr. Thompson, is
18:10:49 21 your microphone on? I'm having a little
18:10:53 22 difficulty hearing. Maybe you can slide it a
18:10:54 23 little closer to yourself.

18:10:55 24 MR. THOMPSON: It is on.

18:10:56 1 MR. MCKENNA: Maybe you have to
18:10:58 2 move it closer. Thank you.

18:11:00 3 MR. THOMPSON: Dr. Watson would
18:11:02 4 have testified about the use of modern
18:11:05 5 military, use of the modern military historic
18:11:08 6 battlefields, the importance of the Battle of
18:11:11 7 Brandywine, specifically the flanking
18:11:13 8 engagement of Stephen's Division with the
18:11:15 9 Hessians, and his opinion on whether a portion
18:11:17 10 of the battlefield located on the Crebilly Farm
18:11:20 11 property should be preserved.

18:11:22 12 MR. ADELMAN: Mr. McKenna, I
18:11:23 13 would like to object to both the request, for
18:11:25 14 the record, of having the witness be available
18:11:28 15 by teleconference --

18:11:29 16 MR. MCKENNA: Your objection is
18:11:31 17 also preserved in writing.

18:11:32 18 MR. ADELMAN: I also object to
18:11:33 19 the witness coming on November 27th, based upon
18:11:36 20 my prior objections in terms of the order of
18:11:36 21 this case and how it has proceeded.

18:11:40 22 And I would object to the offer
18:11:42 23 of proof since I have no idea how to question
18:11:45 24 the offer of proof, with no witness present, no

18:11:49 1 credentials presented. I object on the basis
18:11:51 2 of relevancy at this point in time.

18:11:53 3 MR. THOMPSON: If I could just
18:11:54 4 respond, I think it is not substantive
18:11:58 5 testimony, the offer of proof, under the rules
18:12:00 6 of evidence. It is just my statement as to
18:12:04 7 what that testimony would be.

18:12:05 8 MR. ADELMAN: Understood.

18:12:06 9 MR. THOMPSON: There is really no
18:12:08 10 reason, no way to object to that.

18:12:10 11 MR. ADELMAN: Sure, there is. I
18:12:11 12 can always object to an offer of proof.

18:12:12 13 MR. MCKENNA: Gentlemen, I don't
18:12:13 14 want to argue. I understand your objections.
18:12:14 15 We haven't decided anything about November so
18:12:16 16 I'm going to defer on that.

18:12:18 17 Your objection to the video
18:12:20 18 testimony is noted. It is also preserved in
18:12:22 19 Exhibit B-31.

18:12:23 20 The objection as to the offer of
18:12:25 21 proof is overruled. I think Mr. Thompson is
18:12:27 22 simply preserving the record. That being said,
18:12:29 23 I do understand you have another battlefield
18:12:32 24 expert or witness -- excuse me, I don't want to

18:12:34 1 speak ahead -- to testify.

18:12:37 2 MR. THOMPSON: I do have my
18:12:38 3 witness. Ms. Camp has indicated she would like
18:12:40 4 to go first.

18:12:41 5 MS. CAMP: Only because Mr.
18:12:43 6 Federico has another hearing to get to and it
18:12:45 7 probably will be five minutes at most.

18:12:47 8 MR. MCKENNA: Any objection?

18:12:48 9 MR. ADELMAN: No objection.

18:12:48 10 MR. MCKENNA: That's fine.

18:12:51 11 MR. HEMPHILL: Can we tell Dr.
18:12:53 12 Watson, who is on line, we can hang up?

18:12:54 13 MR. MCKENNA: I had presumed you
18:12:56 14 had already done that.

18:12:57 15 MR. HEMPHILL: We didn't know you
18:12:58 16 were going to say no.

18:13:00 17 MR. MCKENNA: Okay. That was
18:13:01 18 communicated to Mr. Thompson already. So, yes,
18:13:03 19 certainly, let him know that, please. I don't
18:13:05 20 want to leave him hanging.

18:13:06 21 MR. THOMPSON: I don't think
18:13:07 22 there is any problem with him listening, but we
18:13:09 23 can't have him testify.

18:13:10 24 MR. HEMPHILL: Dr. Watson, can

18:13:12 1 you hear us?
 18:13:13 2 A VOICE: Yes, I can.
 18:13:14 3 MR. HEMPHILL: So have you heard
 18:13:16 4 the decision by the Board?
 18:13:18 5 A VOICE: Yes, I have.
 18:13:18 6 MR. MCKENNA: Can we go off the
 18:13:19 7 record for this portion, please.
 18:13:23 8 (Discussion off the record.)
 18:13:35 9 MR. MCKENNA: All right. We will
 18:14:18 10 go back on the record. Mr. Federico I believe
 18:14:20 11 is going to be recalled.
 18:14:21 12 Mr. Federico, I remind you, you
 18:14:24 13 are still under oath from your prior testimony.
 18:14:27 14 MS. CAMP: Do you want me to go
 18:14:28 15 over there?
 18:14:38 16 ALBERT FEDERICO,
 18:14:39 17 the witness herein, having previously been
 18:14:41 18 duly sworn on oath, was examined and
 18:14:43 19 testified further as follows:
 18:14:58 20 MS. CAMP: Kristin Camp,
 18:14:59 21 representing the Westtown Planning Commission.
 18:15:01 22 And we are here recalling Mr. Federico as a
 18:15:03 23 rebuttal witness to the testimony offered by
 18:15:06 24 the Thornbury Township expert, Frank Tavani.

18:15:09 1 Mr. Federico, at the hearing on
 18:15:12 2 July 25th, 2017, you were recognized as an
 18:15:15 3 expert in traffic engineering. And I would ask
 18:15:17 4 that he remain qualified to testify tonight in
 18:15:20 5 rebuttal to the testimony offered by Mr. Tavani
 18:15:22 6 as an expert in traffic engineering.
 18:15:25 7 MR. ADELMAN: I don't have any
 18:15:26 8 objection. But I don't know if the attorney
 18:15:28 9 for Thornbury is present this evening.
 18:15:31 10 MS. CAMP: She is not.
 18:15:34 11 MR. MCKENNA: That's fine. We
 18:14:42 12 will permit it.
 18:14:42 13 REDIRECT EXAMINATION
 18:15:36 14 BY MS. CAMP:
 18:15:36 15 Q. Mr. Federico, did you attend the
 18:15:37 16 hearing on September 19th, 2017?
 18:15:40 17 A. No.
 18:15:40 18 Q. But did you review the transcript from
 18:15:42 19 the hearing on September 19th, 2017?
 18:15:44 20 A. Yes.
 18:15:45 21 Q. And did you specifically focus your
 18:15:50 22 review on Frank Tavani's testimony which was
 18:15:52 23 offered on behalf of Thornbury Township?
 18:15:54 24 A. Yes, I did read that section.

18:15:56 1 Q. Mr. Tavani made five key points or
 18:15:58 2 recommendations to the Board. His first point
 18:16:00 3 was that the Board should reconsider your
 18:16:04 4 suggestion that the access onto Route 202 be
 18:16:06 5 eliminated from the plan which has been
 18:16:08 6 submitted for this conditional use application.
 18:16:11 7 Are you still of the opinion that the right
 18:16:13 8 in/right out access onto Route 202 should be
 18:16:16 9 eliminated from the conditional use plan?
 18:16:19 10 A. Yes, I am.
 18:16:19 11 Q. And what do you base this
 18:16:21 12 recommendation on?
 18:16:22 13 A. General principles of access
 18:16:24 14 management, impact of the southbound queues on
 18:16:29 15 the accesses functionality, access and the
 18:16:34 16 potential of the access to contribute to the
 18:16:39 17 congestion-related accidents that were
 18:16:41 18 identified in the submitted traffic study.
 18:16:43 19 Q. Did Mr. Tavani provide any quantitative
 18:16:45 20 evidence to support his conclusions?
 18:16:47 21 A. No.
 18:16:47 22 Q. You testified on July 25th, 2017, that
 18:16:51 23 the proposed access to Route 202 does not
 18:16:54 24 provide safe and efficient access during peak

18:16:57 1 hours. Do you still believe that statement to
 18:17:00 2 be true, even after reviewing Mr. Tavani's
 18:17:02 3 testimony?
 18:17:03 4 A. Yes, I do.
 18:17:03 5 Q. Is part of your opinion about the 202
 18:17:08 6 access consideration of Section 170-1512.B of
 18:17:15 7 the Westtown Township Zoning Ordinance?
 18:17:18 8 A. Yes, it is. That section speaks to
 18:17:20 9 discouraging access to Route 202.
 18:17:22 10 Q. The second recommendation that Mr.
 18:17:24 11 Tavani made in his testimony is that the
 18:17:26 12 applicant should consider installing a traffic
 18:17:28 13 signal at the intersection of Route 202 and
 18:17:31 14 West Pleasant Grove Road. Do you have a
 18:17:34 15 professional opinion as to whether or not a
 18:17:35 16 traffic signal at that intersection should be
 18:17:38 17 installed?
 18:17:39 18 A. Yes. I would recommend against
 18:17:40 19 installing a signal at that location.
 18:17:42 20 Q. Is this something the township has
 18:17:44 21 analyzed in the past when presented with
 18:17:46 22 different development plans for the Crebilly
 18:17:49 23 tract?
 18:17:49 24 A. Yes. This was presented as part of the

18:17:52 **1 application for the Presbyterian Homes**
 18:17:54 **2 development. The township considered against**
 18:17:59 **3 it for several reasons, including the potential**
 18:18:07 **4 for the signal to increase delays along Route**
 18:18:09 **5 202, as well as the cost associated with**
 18:18:10 **6 ongoing maintenance.**
 18:18:12 **7 Q.** If a traffic signal were to be
 18:18:13 **8 installed at that intersection, who would**
 18:18:15 **9 ultimately be responsible to maintain that**
 18:18:16 **10 signal?**
 18:18:18 **11 A. The township.**
 18:18:21 **12 Q.** Okay. Mr. Tavani's third point is that
 18:18:23 **13 he would not recommend installation of a**
 18:18:26 **14 roundabout at the intersection of New Street**
 18:18:29 **15 and Route 926. Do you have an opinion as to**
 18:18:31 **16 whether or not a roundabout would be**
 18:18:33 **17 appropriate at that intersection?**
 18:18:35 **18 A. At this point I don't believe it has**
 18:18:38 **19 been evaluated to a sufficient level to make a**
 18:18:42 **20 determination. Considering that roundabouts**
 18:18:45 **21 typically operate at much lower speeds than**
 18:18:48 **22 signalized intersections, it is conceivable**
 18:18:51 **23 that a well-designed roundabout could address**
 18:18:54 **24 the users identified in his testimony.**

18:18:53 **1 Q.** Will PennDOT ultimately be the deciding
 18:18:56 **2 body as to whether or not a roundabout would**
 18:18:58 **3 have to be installed at that intersection?**
 18:18:59 **4 A. Yes, they would.**
 18:19:00 **5 Q.** Mr. Tavani's fourth recommendation is
 18:19:03 **6 that the applicant consider components of**
 18:19:04 **7 multi-modal improvements, such as sidewalks**
 18:19:08 **8 which will connect to properties in the**
 18:19:09 **9 vicinity of the Crebilly tract. Do you have**
 18:19:11 **10 any concerns with this recommendation?**
 18:19:14 **11 A. No.**
 18:19:14 **12 Q.** Do you support that recommendation?
 18:19:16 **13 A. Yes, I do.**
 18:19:17 **14 Q.** Mr. Tavani's final point is a
 18:19:19 **15 suggestion that the intersection of the access**
 18:19:21 **16 driveway from the development onto Route 926**
 18:19:25 **17 should not align with the intersection of**
 18:19:28 **18 Bridlewood Boulevard. In your testimony on**
 18:19:30 **19 July 25th you indicated that the configuration**
 18:19:35 **20 shown on Exhibit A-6, where the access driveway**
 18:19:38 **21 was not aligned with Bridlewood, was**
 18:19:41 **22 undesirable and would introduce unnecessary**
 18:19:44 **23 left turns from 926 into the site. Do you**
 18:19:47 **24 still agree with your testimony from July 25th?**

18:19:46 **1 A. Yes.**
 18:19:47 **2 Q.** And do you believe that PennDOT will
 18:19:49 **3 require the intersections to be aligned?**
 18:19:51 **4 A. Yes, it seems it was made pretty clear**
 18:19:55 **5 in the December 6th scoping review, as well as**
 18:19:59 **6 the March 3rd review of the traffic impact**
 18:20:02 **7 study.**
 18:20:02 **8 Q.** Both of those documents you just
 18:20:04 **9 referenced have already been marked as exhibits**
 18:20:07 **10 at this hearing; is that correct?**
 18:20:08 **11 A. Yes. The scoping review I believe was**
 18:20:10 **12 B-23, and the TIS review was PC-13.**
 18:20:15 **13 Q.** Does Mr. Tavani's suggestion about the
 18:20:18 **14 intersection alignment with Bridlewood conflict**
 18:20:20 **15 with Section 149-300.E of the Township's**
 18:20:24 **16 Subdivision and Land Development Ordinance?**
 18:20:27 **17 A. Yes. It also conflicts with Section**
 18:20:31 **18 175-503.C.2 of zoning, which discusses linking**
 18:20:35 **19 the proposed development to existing**
 18:20:37 **20 intersections.**
 18:20:38 **21 MS. CAMP:** Thank you, Mr.
 18:20:39 **22 Federico.** I have nothing further.
 18:20:43 **23 MR. MCKENNA:** Thank you, Ms.
 18:20:45 **24 Camp.** Mr. Adelman, any questions?

18:20:51 **1 MR. ADELMAN:** I have no
 18:20:52 **2 questions.**
 18:20:54 **3 MR. MCKENNA:** Mr. Crawford, any
 18:20:55 **4 questions.**
 18:20:55 **5 MR. CRAWFORD:** No questions.
 18:20:56 **6 Thank you.**
 18:20:57 **7 MR. MCKENNA:** Ms. Labrum, is she
 18:20:59 **8 here? Has anyone seen Ms. Labrum?**
 18:21:01 **9 She is not here.**
 18:21:02 **10 Mr. Thompson, any questions?**
 18:21:04 **11 MR. THOMPSON:** No questions.
 18:21:04 **12 MR. MCKENNA:** Mr. DuFault, do you
 18:21:06 **13 have any questions?**
 18:21:07 **14 MR. DUFAULT:** No questions.
 18:21:08 **15 MR. MCKENNA:** Mr. Bertinetti or
 18:21:10 **16 Tom Martin for Radley Run III HOA? Either of**
 18:21:14 **17 them here? Anyone here?**
 18:21:15 **18 William Hoffman for Arborview**
 18:21:24 **19 HOA?**
 18:21:24 **20 Mr. Bevilacqua for West Glen HOA?**
 18:21:31 **21 MR. BEVILACQUA:** No questions.
 18:21:31 **22 MR. MCKENNA:** Mr. Scanlon for the
 18:21:32 **23 district?**
 18:21:33 **24 DR. SCANLON:** No questions.

18:21:34 **1** MR. MCKENNA: Ed McFalls for
 18:21:37 **2** Westminster Presbyterian Church?
 18:21:40 **3** MR. MCFALLS: No questions.
 11 **4** MR. MCKENNA: Chris Feryo for the
 18:21:43 **5** Quarry Swimming Association?
 18:21:44 **6** MR. FERYO: No questions.
 18:21:46 **7** MR. MCKENNA: Mr. Spackman for
 18:21:47 **8** the Thornbury Farm Trust?
 18:21:49 **9** MR. SPACKMAN: Yes, I do. Hello.
 18:21:55 **10** How are you doing?
 18:21:57 **11** In reference to your testimony
 18:21:59 **12** about the roundabout on South New Street and
 18:22:01 **13** 926, how you are saying that still needs to be
 18:22:03 **14** developed but would allow perpetual traffic
 18:22:07 **15** flow and motion; is that correct? But there is
 18:22:09 **16** no stopping?
 18:22:11 **17** THE WITNESS: Roundabouts,
 18:22:14 **18** typically, roundabouts require on vehicles to
 18:22:19 **19** stop, to yield to pedestrians and to vehicles
 18:22:22 **20** already in the rotary, so there is stopping
 18:22:25 **21** involved in the operation. But under ideal
 18:22:29 **22** conditions there is minimal stopping.
 18:22:30 **23** MR. SPACKMAN: Do you ride
 18:22:32 **24** horses?

18:22:32 **1** THE WITNESS: Not regularly, no.
 18:22:35 **2** MR. SPACKMAN: Do you ride
 18:22:36 **3** tractors or hay wagons?
 18:22:38 **4** THE WITNESS: No.
 18:22:39 **5** MR. SPACKMAN: I ride horses. I
 18:22:40 **6** have tractors. I have hay wagons. I have
 18:22:42 **7** never seen a successful horse or tractor
 18:22:45 **8** crossing a roundabout where there is traffic
 18:22:48 **9** moving through. You are dealing with an animal
 18:22:50 **10** that doesn't necessarily stop and start when it
 18:22:52 **11** wants. Do you think a roundabout would be safe
 18:22:55 **12** with horse/equestrian traffic?
 18:22:57 **13** THE WITNESS: I think it is
 18:22:58 **14** possible that one could be designed. I don't
 18:23:01 **15** know about this situation because I don't
 18:23:03 **16** believe it has been evaluated to a high enough
 18:23:06 **17** level yet.
 18:23:07 **18** MR. SPACKMAN: That would be
 18:23:07 **19** something to take into account, is farm traffic
 18:23:09 **20** and equestrian traffic, that they are still in
 18:23:12 **21** Chester County, correct?
 18:23:13 **22** THE WITNESS: Absolutely, the
 18:23:14 **23** design of any intersection improvement should
 18:23:16 **24** consider all the anticipated users of it.

18:23:19 **1** MR. SPACKMAN: Thank you.
 18:23:20 **2** MR. MCKENNA: Thank you, Mr.
 18:23:21 **3** Spackman. Bradley or Amy Harkins?
 18:23:25 **4** Mr. Mammucari?
 18:23:28 **5** MR. MAMMUCARI: No questions.
 18:23:28 **6** MR. MCKENNA: Mr. Gadaletto?
 18:23:33 **7** Phillip Jones?
 18:23:35 **8** MR. JONES: No questions.
 18:23:36 **9** MR. MCKENNA: Mr. Rendemonti.
 18:23:39 **10** MR. RENDEMONTI: None. Thank
 18:23:40 **11** you.
 18:23:40 **12** MR. MCKENNA: Allison Corcoran?
 18:23:43 **13** Mr. Skupp?
 18:23:45 **14** Diana Leraris.
 18:23:52 **15** MS. LERARIS: No questions.
 18:23:53 **16** MR. MCKENNA: Ed Boyer?
 18:23:55 **17** MS. BOYER: No questions.
 18:23:59 **18** MR. MCKENNA: Amy Murnane?
 18:24:04 **19** Kirk Wolter?
 18:24:06 **20** Mr. Crognale?
 18:24:09 **21** Robert Daull?
 18:24:12 **22** MR. DAULL: No questions.
 18:24:13 **23** MR. MCKENNA: Thank you, sir.
 18:24:14 **24** Scott Sobers?

18:24:17 **1** Mr. Pavelchek?
 18:24:19 **2** MR. PAVELCHEK: No questions.
 18:24:20 **3** MR. MCKENNA: Phillip Jaeger?
 18:24:24 **4** Mr. Cahill? David Pryze?
 18:24:32 **5** Jennifer or Jeffrey Kramer?
 18:24:34 **6** MS. KRAMER: No questions.
 18:24:37 **7** MR. MCKENNA: Megan Bruns?
 18:24:40 **8** Ed Skros?
 18:24:42 **9** MR. SKROS: No questions.
 18:24:43 **10** MR. MCKENNA: Eileen Carey?
 18:24:47 **11** Jim McDermott?
 18:24:51 **12** Dennis or Patricia McFadden?
 18:24:55 **13** MR. MCFADDEN: No questions.
 18:24:56 **14** MR. MCKENNA: Carol Weller?
 18:24:58 **15** MS. WELLER: No questions.
 18:24:59 **16** MR. MCKENNA: Linda and Matt
 18:25:01 **17** Reichert?
 18:25:03 **18** Does the Board have any
 18:25:04 **19** questions?
 18:25:06 **20** MS. DEWOLF: Mr. Federico, if we
 18:25:18 **21** had a right in and right out what would the
 18:25:20 **22** result of that be to the people living on this
 18:25:26 **23** site?
 18:25:26 **24** THE WITNESS: Those closest to

18:25:33 1 202 would have a more convenient way in and
 18:25:41 2 out, primarily during off-peak periods. There
 18:25:46 3 would be a third -- fourth, I apologize, fourth
 19 4 potential access that would potentially serve
 18:25:54 5 some benefit during, for emergency services.
 18:26:01 6 MS. DEWOLF: For the residents of
 18:26:04 7 that development what would be the result of
 18:26:09 8 having a right in and right out?
 18:26:17 9 MS. CAMP: I think it is the same
 18:26:18 10 question.
 18:26:20 11 MS. DEWOLF: I think he answered
 18:26:22 12 it for emergency vehicles and I would like to
 18:26:24 13 know what --
 18:26:25 14 MS. CAMP: No, he --
 18:26:26 15 THE WITNESS: I presumed,
 18:26:28 16 apologies, that the additional potential access
 18:26:31 17 may at some point benefit the residents if the
 18:26:33 18 other three accesses are otherwise blocked.
 18:26:37 19 MS. DEWOLF: Okay. And your
 18:26:40 20 reasoning was congestion. Is there any
 18:26:44 21 mitigation or elimination or a way to alleviate
 18:26:50 22 that congestion to make a right in and right
 18:26:53 23 out a good opportunity?
 56 24 THE WITNESS: The congestion is

18:27:00 1 associated with the delays at the intersection
 18:27:03 2 of 926 and Route 202. Improvements to increase
 18:27:09 3 the flow of that intersection sufficiently to
 18:27:13 4 reduce the queues so that they do not influence
 18:27:17 5 the operation of that access would be
 18:27:23 6 warranted.
 18:27:24 7 MS. DEWOLF: Do we have any power
 18:27:25 8 to do that?
 18:27:27 9 THE WITNESS: I would defer the
 18:27:33 10 limits of your power to the solicitor.
 18:27:35 11 MS. DEWOLF: And as I understand,
 18:27:37 12 the improvements at 926 and 202 really only
 18:27:42 13 serve to satisfy some of the demands now,
 18:27:46 14 correct?
 18:27:48 15 THE WITNESS: You are referring
 18:27:50 16 to the improvements proposed in the traffic
 18:27:53 17 study?
 18:27:55 18 MS. DEWOLF: Yes.
 18:27:56 19 THE WITNESS: Those improvements
 18 20 will mitigate the additional impact associated
 18:28:01 21 with this development, but will not generally
 18:28:06 22 alleviate the existing deficiencies at that
 18:28:11 23 location.
 18:28:12 24 MS. DEWOLF: So that that

18:28:12 1 congestion will remain --
 18:28:14 2 THE WITNESS: Yes.
 18:28:16 3 MS. DEWOLF: -- for the time.
 18:28:17 4 All right.
 18:28:18 5 MR. HAWS: I have just one quick
 18:28:21 6 question. It is kind of similar to what
 18:28:23 7 Carol's question was, the last one. So as I
 18:28:28 8 understand it right now, the state or the
 18:28:30 9 developer, if the project goes forward, would
 18:28:34 10 have to do some sort of signalized upgrades to
 18:28:37 11 the 926/202 intersection. What I heard you
 18:28:42 12 just say is that those upgrades, if this
 18:28:47 13 development were to go in, will keep the
 18:28:49 14 congestion the same; is that correct?
 18:28:52 15 THE WITNESS: Yes.
 18:28:53 16 MR. HAWS: So if the development
 18:28:55 17 were not to go in and the state were to
 18:28:57 18 continue to do their upgrades, would that help
 18:29:01 19 lessen some of the congestion in the area?
 18:29:03 20 THE WITNESS: Yes.
 18:29:04 21 MR. HAWS: And then what
 18:29:06 22 additional upgrades would be needed at that
 18:29:10 23 intersection to reduce the stack time, or
 18:29:17 24 whatever terminology it is, to allow for the

18:29:22 1 right in/right out access off of 202?
 18:29:24 2 THE WITNESS: I have not
 18:29:31 3 completed an analysis of those options or those
 18:29:39 4 range of improvements. I would expect that
 18:29:44 5 something that increases the southbound through
 18:29:46 6 put, so an additional lane southbound. But
 18:29:53 7 that is somewhat speculative on my part right
 18:29:58 8 now.
 18:29:58 9 MR. HAWS: Okay. Would it be,
 18:29:59 10 and, again, I don't know if this is the right
 18:30:01 11 question or not, would it be prudent for the
 18:30:04 12 Board, if the application were to go forward,
 18:30:07 13 to make one of the conditions upon that, if
 18:30:12 14 they wanted to keep that access right in/right
 18:30:15 15 out, that they needed to do further upgrades to
 18:30:18 16 the 926/202 intersection?
 18:30:20 17 THE WITNESS: Yes.
 18:30:21 18 MR. HAWS: Okay. Thank you.
 18:30:24 19 MR. MCKENNA: Any other questions
 18:30:25 20 from the Board?
 18:30:27 21 Any redirect, Ms. Camp?
 18:30:28 22 MS. CAMP: No.
 18:30:29 23 MR. MCKENNA: Mr. Adelman,
 18:30:30 24 anything further?

18:30:31 1 MR. ADELMAN: Nothing further.

18:30:32 2 Thank you.

18:30:32 3 MR. MCKENNA: Thank you, Mr.

34 4 Federico.

18:30:35 5 THE WITNESS: Thank you.

18:30:35 6 (Witness excused.)

18:30:36 7 MR. MCKENNA: Mr. Thompson, are

18:30:39 8 you ready to proceed?

18:30:41 9 MR. THOMPSON: I am. I have some

18:30:43 10 exhibit packets, six. Perhaps if you can pass

18:30:44 11 them down, and then maybe one for Mr. Adelman.

18:30:53 12 (Discussion off the record.)

18:31:11 13 MR. THOMPSON: I have four

18:31:13 14 exhibits in the packet. The first exhibit is

18:31:15 15 the curriculum vitae of the first witness I'll

18:31:17 16 be calling, historian of the United States

18:31:19 17 Marine Corps.

18:31:21 18 The second exhibit is a map from

18:31:25 19 Sean Moir analysis.

18:31:27 20 I have three pictures, which is

18:31:30 21 the third exhibit. And the fourth exhibit is

18:31:32 22 my second witness' review letter regarding

18:31:36 23 stormwater management design.

44 24 With that, I would like to call

18:31:45 1 my first witness. Again, my name is Mark

18:31:50 2 Thompson. I represent Neighbors for Crebilly.

18:31:52 3 And I would like to call J. Michael Miller.

18:32:00 4 MR. MCKENNA: Mr. Miller, if you

18:32:01 5 wouldn't mind, come to the podium. You have to

18:32:06 6 be real close to the microphone so everybody

18:32:07 7 can hear you. It is kind of hard in this room

18:32:09 8 to hear.

18:32:15 9 MR. MILLER: I'll use my marine

18:32:17 10 voice.

18:32:17 11 MR. MCKENNA: That will be great.

18:32:18 12 The court reporter will swear you in when you

18:32:20 13 get up there.

18:32:20 14 MR. MILLER: Thank you.

15 J. MICHAEL MILLER,

16 the witness herein, having first been

17 duly sworn on oath, was examined and

18 testified as follows:

18:32:40 19 DIRECT EXAMINATION

12 20 BY MR. THOMPSON:

18:32:42 21 Q. Mr. Miller, could you please state your

18:32:47 22 full name for the record.

18:32:47 23 A. Joseph Michael Miller.

18:32:50 24 Q. And what is your current position?

18:32:54 1 A. I am emeritus of the Marine Corps

18:32:57 2 History Division.

18:32:59 3 Q. I would like you to take a look at

18:33:01 4 Exhibit NC-1. Do you recognize that exhibit?

18:33:04 5 A. Yes, I do.

18:33:05 6 Q. Is that your curriculum vitae?

18:33:09 7 A. It is also familiar.

18:33:10 8 Q. Could you please briefly describe your

18:33:15 9 expertise to the Board of Supervisors as set

18:33:18 10 forth in that CV?

18:33:20 11 A. Yes, military historian, covering

18:33:23 12 American military history, focusing on Marine

18:33:27 13 Corps history of all periods, writing,

18:33:31 14 teaching, and staff rides. So my expertise

18:33:36 15 goes back to giving staff rides in the 1970s

18:33:40 16 through this year. Those staff rides include

18:33:46 17 Revolutionary War battlefields, War of 1812

18:33:50 18 battlefields, Mexican War battlefields, even

18:33:54 19 climbing mountains in Cerro Gordo, Mexico, and

18:33:58 20 the grounds of the Shores of Vera Cruz.

18:34:02 21 Civil War battlefields, a big

18:34:04 22 specialty of mine as well, to the point where I

18:34:08 23 had a three-star general, commander of all the

18:34:11 24 marine training, pull me off of my regular

18:34:13 1 duties as Marine Corps archivist, and that's

18:34:17 2 all I did for a year, was staff rides for the

18:34:19 3 generals and Marine Corps and invited generals

18:34:21 4 of the armed forces.

18:34:22 5 MR. MCKENNA: Mr. Miller, I need

18:34:23 6 you to use that marine voice of yours.

18:34:26 7 Q. It is a little bit difficult to hear

18:34:28 8 you. Maybe if you could speak right into that

9 microphone.

18:34:31 10 A. Sure.

18:34:32 11 Q. How long have you been a military

18:34:34 12 historian?

18:34:34 13 A. I've been a military historian since

18:34:37 14 1979.

18:34:37 15 Q. Is that how long you have you have been

18:34:39 16 with the United States Marine Corps History

18:34:40 17 Division?

18:34:40 18 A. Marine Corps since '83.

18:34:43 19 Q. Have you taught at any universities?

18:34:45 20 A. I have taught, adjunct faculty, at Penn

18:34:48 21 State University, University of Mary

18:34:50 22 Washington, and the Marine Corps University.

18:34:53 23 Q. And do you have any specific projects

18:34:55 24 that you have worked on for the Marine Corps?

18:34:58 1 **A. Articles, publications. I'm working,**
 18:35:01 2 **I'm retired but also still working on marine**
 18:35:04 3 **history, four-volume history of the marines in**
 07 4 **World War I, of which the first volume will**
 18:35:10 5 **come out next year.**

18:35:11 6 **Q.** And are you familiar with the Battle of
 18:35:14 7 Brandywine?

18:35:14 8 **A. Yes, very much.**

18:35:17 9 **MR. THOMPSON: I would like to**
 18:35:17 10 **offer Mr. Miller as an expert in military**
 18:35:20 11 **history and in the modern use and**
 18:35:22 12 **interpretation of historical battlefields.**

18:35:26 13 **MR. MCKENNA: Hang on. Let me**
 18:35:27 14 **get all that. Military history, and, I'm**
 18:35:29 15 **sorry, what was the balance?**

18:35:30 16 **MR. THOMPSON: Modern use and**
 18:35:31 17 **interpretation of historical battlefields by**
 18:35:34 18 **the U.S. military.**

18:35:45 19 **MR. MCKENNA: Mr. Adelman, any**
 18:35:46 20 **questions?**

18:35:46 21 **MR. ADELMAN: Yes, I do.**

22

23

24

18:36:37 1 **A. It is a military term that is really a**
 18:36:41 2 **military look at a battlefield. For example,**
 18:36:44 3 **the staff ride name comes from the Army going**
 18:36:49 4 **to Civil War battlefields, actually mounted on**
 18:36:51 5 **horseback. And the genesis of the American**
 18:36:56 6 **Civil War battlefields were actually Army**
 18:36:58 7 **territories they purchased and then turned over**
 18:37:00 8 **to the Interior for the national park system.**

18:37:02 9 So they would go from the Army
 18:37:04 10 War College, ride around Civil War
 18:37:06 11 battlefields, ask themselves questions and try
 18:37:09 12 to put themselves in the role of Civil War
 18:37:13 13 generals.

18:37:14 14 **Q.** Okay. So when you do these staff rides
 18:37:16 15 on a Revolutionary battlefield, you are
 18:37:18 16 applying your background in, what, battlefield
 18:37:22 17 history?

18:37:23 18 **A. It is an interesting question. What**
 18:37:27 19 **you need to do to do a staff ride is to make**
 18:37:30 20 **them think. I mean the purpose of a staff ride**
 18:37:33 21 **is not a tour. So we have all seen historical**
 18:37:37 22 **tours of battlefields.**

18:37:38 23 **But what I do and my specialty is**
 18:37:41 24 **to get our generals, our corporals, our**

18:35:47 1 **VOIR DIRE EXAMINATION**

2 **BY MR. ADELMAN:**

18:35:51 3 **Q.** Mr. Miller, good evening. Based on
 18:35:53 4 your resume, it appears that the majority, if
 18:35:55 5 not the overwhelming portion, of your expertise
 18:35:57 6 surrounds the Marine Corps; is that correct?

18:35:59 7 **A. I would say central, yes.**

18:36:01 8 **Q.** And specifically, I see a lot of
 18:36:05 9 expertise on here on World War I?

18:36:08 10 **A. Yes.**

18:36:08 11 **Q.** Civil War as well?

18:36:09 12 **A. Yes.**

18:36:10 13 **Q.** I don't see anything in here with
 18:36:11 14 respect to the Revolutionary War, publications
 18:36:16 15 or teaching. Did you have any experience in
 18:36:20 16 revolutionary articles, books, texts or
 18:36:25 17 anthologies?

18:36:27 18 **A. In my teaching and taking groups to**
 18:36:29 19 **Revolutionary War battlefields.**

18:36:32 20 **Q.** Are those the staff rides you were
 18:36:33 21 testifying about?

18:36:33 22 **A. Yes, staff rides.**

18:36:34 23 **Q.** Can you explain to me what a staff ride
 18:36:36 24 really is?

18:37:46 1 **military staff out there on battlefields and**
 18:37:48 2 **make them think, put themselves in the**
 18:37:51 3 **footsteps of their ancestors.**

18:37:54 4 **In other words, you are stepping**
 18:37:56 5 **in the footsteps of George Washington. He is**
 18:37:59 6 **standing here at Brandywine. Here is the**
 18:38:01 7 **information he had at the time. What would you**
 18:38:03 8 **do? What steps would you take? And then go to**
 18:38:08 9 **the next stop and give him some more**
 18:38:11 10 **information. What steps would you take?**

18:38:12 11 **Q.** So does that require you to have any
 18:38:15 12 specific expertise with respect to the
 18:38:17 13 engagement for the battlefield which you are
 18:38:19 14 conducting the staff ride?

18:38:21 15 **A. Yes. Normally you do a read-ahead**
 18:38:24 16 **package. You read all the relevant histories.**
 18:38:27 17 **You visit the battlefield. You select stops**
 18:38:31 18 **that you would take them on. Because normally**
 18:38:33 19 **it is a day or two-day event. And so you focus**
 18:38:36 20 **in on what their interest is.**

18:38:37 21 **If it is generals, you want them**
 18:38:39 22 **to know strategy. If it is corporals, you**
 18:38:43 23 **might want them to know tactics and terrain.**

18:38:47 24 **If it is the medical corps, the medical**

18:38:50 **1 evacuation points. Those kind of. Ordnance,**
 18:38:54 **2 same thing. So you tailor your staff ride to**
 18:38:56 **3 their expertise and what they need.**
 58 **4 Q.** And is that what Mr. Thompson meant by
 18:39:00 **5 modern use and interpretation of historic**
 18:39:03 **6 battlefields by the U.S. military?**
 18:39:05 **7 A. Yes, that's exactly what that is. It**
 18:39:07 **8 is taking the modern military out and educating**
 18:39:12 **9 them on decisions that they might have to make**
 18:39:15 **10 themselves.**
 18:39:16 **11 And I have taken out Secretary of**
 18:39:18 **12 Defense, General Mattis; General Dunford,**
 18:39:23 **13 Chairman of Joint Chiefs; and just about every**
 18:39:26 **14 general that was in Desert Storm and up to**
 18:39:30 **15 Secretary of the Navy.**
 18:39:33 **16 Q.** Okay. So am I right then to say that
 18:39:35 **17 your expertise is applying modern principles to**
 18:39:39 **18 the battlefields?**
 18:39:40 **19 A. Modern principles and translating the**
 18:39:45 **20 old principles to modern use of the**
 18:39:46 **21 battlefield, yes.**
 18:39:50 **22 So because it is important to**
 18:39:51 **23 know the difference. I mean, and they ask me**
 18:39:53 **24 too, what can I learn from a Revolutionary War**

18:39:57 **1 battlefield? I mean, we do things so much**
 18:39:59 **2 differently now. We have drones. We have**
 18:40:02 **3 satellite imagery. We have modern weaponry.**
 18:40:05 **4 Why? What can I learn from this?**
 18:40:07 **5 Because marines are going to ask**
 18:40:09 **6 you questions, soldiers are going to ask, why**
 18:40:11 **7 am I here? And the point is the weapons have**
 18:40:14 **8 changed, the ordnance is different, the**
 18:40:18 **9 intelligence method is different, but people**
 18:40:21 **10 have not changed.**
 18:40:22 **11 Q.** With respect to the specific site, have
 18:40:24 **12 you done any staff rides for the Battle of**
 18:40:28 **13 Brandywine?**
 18:40:28 **14 A. No, no staff rides for Brandywine.**
 18:40:30 **15 Q.** Okay. And what type of research or
 18:40:33 **16 professional involvement have you had with the**
 18:40:36 **17 Battle of Brandywine?**
 18:40:38 **18 A. Basically, surveys of what the**
 18:40:40 **19 literature is out there, what the historical**
 18:40:49 **20 level of expertise is. Searching out firsthand**
 18:40:49 **21 accounts, visiting battlefield.**
 18:40:50 **22 I mean, I have to say that the**
 18:40:52 **23 battlefield itself will tell you pretty much**
 18:40:55 **24 what you want to tell them.**

18:40:57 **1 Q.** Have you ever written anything about
 18:40:59 **2 the Battle of Brandywine?**
 18:41:01 **3 A. No.**
 18:41:01 **4 Q.** And have you ever taught about the
 18:41:03 **5 Battle of Brandywine?**
 18:41:05 **6 A. No.**
 18:41:05 **7 MR. ADELMAN: Okay. I have no**
 18:41:07 **8 objection to him being qualified as an expert**
 18:41:09 **9 in military history.**
 18:41:10 **10 I do have an objection with**
 18:41:11 **11 respect to the Battle of Brandywine based on**
 18:41:13 **12 his testimony that he has no expertise with**
 18:41:15 **13 respect to the specific engagement at issue as**
 18:41:18 **14 part of this application.**
 18:41:21 **15 MR. THOMPSON: I'm not offering**
 18:41:23 **16 Mr. Miller as an expert on the Battle of**
 18:41:26 **17 Brandywine.**
 18:41:26 **18 THE WITNESS: Can I make a**
 18:41:27 **19 different interpretation?**
 18:41:27 **20 MR. MCKENNA: Hang on one second,**
 18:41:29 **21 sir. Let's see if we can resolve this.**
 18:41:32 **22 So no objection as to him being**
 18:41:33 **23 an expert as offered, but an objection as to**
 18:41:36 **24 being an expert in the Battle of Brandywine?**

18:41:37 **1 With respect --**
 18:41:39 **2 MR. ADELMAN: With respect to the**
 18:41:40 **3 property that's subject of this application.**
 18:41:41 **4 MR. MCKENNA: He is not being**
 18:41:42 **5 offered as such; is that right?**
 18:41:44 **6 MR. THOMPSON: No. He is being**
 18:41:45 **7 offered on the modern military's use of**
 18:41:47 **8 historical battlefields, and specifically the**
 18:41:50 **9 Battle of Brandywine battlefield.**
 18:41:52 **10 MR. ADELMAN: Well, that's**
 18:41:53 **11 different than what you just said.**
 18:41:54 **12 MR. THOMPSON: The military's**
 18:41:57 **13 modern use and interpretation of historical**
 18:42:00 **14 battlefields.**
 18:42:01 **15 MR. ADELMAN: Right, and I**
 18:42:01 **16 objected based on the fact that he doesn't have**
 18:42:04 **17 any background, specific expertise on the**
 18:42:06 **18 Battle of Brandywine, which is the relevant**
 18:42:09 **19 topic before this Board.**
 18:42:11 **20 So I don't object to his**
 18:42:13 **21 qualifications on what you qualified him as,**
 18:42:15 **22 but I would object on his testimony on the**
 18:42:17 **23 basis of relevance.**
 18:42:18 **24 MR. MCKENNA: Let me make sure I**

18:42:19 **1** understand. You are going to apply his
 18:42:21 **2** expertise to this particular battle?
 18:42:24 **3** MR. THOMPSON: That's correct.
 18:42:26 **4** MR. MCKENNA: All right. And
 18:42:27 **5** that is your objection?
 18:42:29 **6** MR. ADELMAN: That's correct.
 18:42:30 **7** MR. MCKENNA: Hang on one second.
 18:42:30 **8** (Board members conferring.)
 18:42:46 **9** MR. MCKENNA: The Board has
 18:42:49 **10** discussed and we are going to overrule the
 18:42:51 **11** objection and permit the testimony.
 18:42:55 **12** MR. THOMPSON: Thank you.
 18:42:56 **13** BY MR. THOMPSON:
 18:42:58 **14** **Q.** Mr. Miller, if I could just remind you
 18:43:01 **15** to speak clearly into the microphone.
 18:43:01 **16** **A. Sure.**
 18:43:01 **17** **Q.** Mr. Miller, you talked about your
 18:43:04 **18** expertise with historical battlefields. In
 18:43:08 **19** your opinion as an historian, why are
 18:43:10 **20** historical battlefields important today?
 18:43:14 **21** **A. We have to make sure that our armed**
 18:43:17 **22** **forces have every tool at their hands, go out**
 18:43:21 **23** **and win battles, no matter where they are in**
 18:43:24 **24** **the world. And every time I have taken a group**

18:43:26 **1** **out to a battlefield, no matter where it is,**
 18:43:29 **2** **they come away with a thank you so much for**
 18:43:32 **3** **making me think about this and that.**
 18:43:37 **4** **So based on my expertise and**
 18:43:38 **5** **level that you do it, if you do it right, it**
 18:43:40 **6** **adds to their bag of tricks when they go out in**
 18:43:43 **7** **the battlefield to help them fight.**
 18:43:46 **8** **Q.** And Mr. Adelman asked you the question:
 18:43:49 **9** What is a staff ride? If you could elaborate
 18:43:51 **10** on your answer.
 18:43:52 **11** **A. Okay. Going back to the old view of**
 18:43:56 **12** **that, the staff ride is when the Army officers**
 18:44:00 **13** **would ride around on horseback to the different**
 18:44:02 **14** **battlefields and examine the battlefields in a**
 18:44:06 **15** **critical nature. In other words, not just what**
 18:44:07 **16** **happened, but the important thing is why it**
 18:44:12 **17** **happened and what would you do if you were in**
 18:44:13 **18** **those exact same shoes. And again, it is**
 18:44:16 **19** **because people have not changed.**
 18:44:20 **20** **The modern staff ride, we don't**
 18:44:24 **21** **go on horseback. We go on helicopters. I have**
 18:44:27 **22** **done staff rides in the Shenandoah Valley**
 18:44:32 **23** **Campaign in 1862 by helicopter, with 24**
 18:44:32 **24** **generals. We landed down in VMI and did a**

18:44:35 **1** **whole symposium down there about it and taught**
 18:44:38 **2** **the cadets.**
 18:44:39 **3** **So, and we go around on buses.**
 18:44:43 **4** **We walk. Important thing is I never want to**
 18:44:47 **5** **take a group out to a battlefield and not have**
 18:44:50 **6** **them walk because, as General Gray told me in**
 18:44:53 **7** **one of the first battlefields I took him to at**
 18:44:57 **8** **Antietam was the most important thing I take**
 18:44:58 **9** **away from this battle is terrain. Terrain is**
 18:45:01 **10** **everything. Terrain doesn't change. You are**
 18:45:04 **11** **still going to be faced with terrain no matter**
 18:45:07 **12** **where you go, Afghanistan or in Africa. You**
 18:45:11 **13** **have to make duty command decisions based on**
 18:45:13 **14** **that terrain.**
 18:45:14 **15** **Q.** So the branch of the military, Mr.
 18:45:16 **16** Miller, continues to perform this function, the
 18:45:21 **17** staff rides?
 18:45:22 **18** **A. Yes, it is a big program in every**
 18:45:24 **19** **history division of every service. The Army**
 18:45:27 **20** **has their own. If you go to the website,**
 18:45:30 **21** **Centers of Military History, they have staff**
 18:45:32 **22** **ride guides that are published that can be**
 18:45:34 **23** **downloaded. Every base, every Army base,**
 18:45:37 **24** **Marine Corps base has a bunch of staff rides in**

18:45:40 **1** **their back pocket they can go out and go on the**
 18:45:43 **2** **battlefields.**
 18:45:44 **3** **Q.** How many staff rides have you
 18:45:45 **4** personally performed for?
 18:45:47 **5** **A. Approximately 150 to 200, I would say.**
 18:45:50 **6** **Q.** Would you say most of them have been in
 18:45:53 **7** the United States or all over the world?
 18:45:55 **8** **A. Most of them have been in the United**
 18:45:56 **9** **States, although I have done some things with**
 18:45:57 **10** **the British, British, some with the French.**
 18:46:01 **11** **Q.** Have you ever done any staff rides for
 18:46:03 **12** Revolutionary War battles?
 18:46:11 **13** **A. No.**
 18:46:11 **14** **Q.** I take it that performing a staff ride
 18:46:17 **15** is important on a battlefield that's been
 18:46:20 **16** preserved; is that an accurate statement?
 18:46:22 **17** **A. Not only -- it is essential. They have**
 18:46:26 **18** **to see the terrain as much you can offer it up**
 18:46:30 **19** **as the generals and the soldiers saw the**
 18:46:33 **20** **terrain when they fought.**
 18:46:34 **21** **Q.** So if you went to historical
 18:46:37 **22** battlefield and it turned into a strip mall
 18:46:38 **23** then you couldn't necessarily do a staff ride
 18:46:40 **24** on it?

- 18:46:41 **1 A. I have done a few of those and it is**
 18:46:43 **2 very hard to do, and almost impossible.**
 18:46:48 **3 Basically becomes a map exercise of what this**
 18:46:53 **4 looked like then.**
 18:46:53 **5 Q. So staff rides are an important reason**
 18:46:56 **6 why you would preserve the battlefield. Are**
 18:46:58 **7 there any other reasons why it is important to**
 18:47:01 **8 preserve these historical battlefields?**
 18:47:04 **9 A. Well, I think the battlefields can be**
 18:47:07 **10 certainly a great benefit to just plain**
 18:47:10 **11 American citizens, I mean those of us that want**
 18:47:13 **12 to learn more about our history can come and**
 18:47:16 **13 understand the battle. The staff ride kind of**
 18:47:18 **14 opens up battlefields, kind of new**
 18:47:20 **15 interpretations and new ways of studying it,**
 18:47:23 **16 and that helps people understand and not just**
 18:47:27 **17 stand out there in the middle of the field and**
 18:47:29 **18 wonder where I am.**
 18:47:29 **19 It is why is this important, and**
 18:47:32 **20 that's why. I've worked in the military for**
 18:47:36 **21 civilian groups who said thank you for making**
 18:47:38 **22 me think.**
 18:47:40 **23 Q. So is education an important aspect of**
 18:47:42 **24 preserving battlefields?**

- 18:47:43 **1 A. Education is top of the line. I think**
 18:47:45 **2 that's the most important thing in any number**
 18:47:48 **3 of levels, for civilians and military.**
 18:47:50 **4 But you also have the economic**
 18:47:52 **5 benefits of battlefields. For example,**
 18:47:54 **6 Brandywine, if you build it, people will come.**
 18:47:58 **7 Military groups will come and use this because**
 18:48:01 **8 really for me Brandywine means a study of**
 18:48:04 **9 George Washington. Because what you see as**
 18:48:09 **10 General Washington loses battle after battle,**
 18:48:11 **11 he learns from battle to battle, from the**
 18:48:14 **12 Battle of Princeton, on the other side of**
 18:48:16 **13 Philadelphia, to now why are we over here in**
 18:48:19 **14 the Pennsylvania side of farmland. How did**
 18:48:22 **15 that happen? Why does General Washington make**
 18:48:24 **16 his decisions the way he does and decide to**
 18:48:26 **17 fight the British here?**
 18:48:27 **18 And you can see the learning**
 18:48:29 **19 curve as you progress through the battlefields.**
 18:48:36 **20 His expertise rose.**
 18:48:36 **21 And the other fact is when**
 18:48:38 **22 Philadelphia does surrender, does the**
 18:48:41 **23 Revolutionary War end? No. We continue to**
 18:48:44 **24 fight.**

- 18:48:45 **1 Q. You talked about the economic benefits.**
 18:48:47 **2 Is that tourism? Is that what you are talking**
 18:48:50 **3 about?**
 18:48:50 **4 A. Yes, tourism.**
 18:48:52 **5 Q. So there are battlefields in the United**
 18:48:54 **6 States that are magnets for tourists?**
 18:48:57 **7 A. I have seen, Fredericksburg is a good**
 18:49:00 **8 example, probably close to this example,**
 18:49:02 **9 because the battlefields are close here, Valley**
 18:49:04 **10 Forge is nearby.**
 18:49:05 **11 But it gives the American people**
 18:49:08 **12 a chance to put the dots together. In other**
 18:49:12 **13 words, Brandywine is a jigsaw puzzle. It fits**
 18:49:16 **14 into their puzzle of the Revolutionary War.**
 18:49:19 **15 Here is another way you can understand what**
 18:49:21 **16 happened out there.**
 18:49:22 **17 And the other thing to me is too,**
 18:49:24 **18 one of the reasons why I'm here and why I do**
 18:49:27 **19 this is to honor the men that fought out there.**
 18:49:30 **20 That to me is an important thing, after**
 18:49:32 **21 spending my career with people who that do that**
 18:49:35 **22 today. It is important to make sure these**
 18:49:38 **23 warriors are not forgotten. This ground is**
 18:49:42 **24 sacred ground really to me.**

- 18:49:45 **1 Q. Mr. Miller, are you familiar with Sandy**
 18:49:48 **2 Hollow Park?**
 18:49:49 **3 A. Yes.**
 18:49:50 **4 Q. Are you familiar with the Crebilly Farm**
 18:49:52 **5 property?**
 18:49:53 **6 A. Yes.**
 18:49:54 **7 Q. How are you familiar with that**
 18:49:57 **8 property?**
 18:49:57 **9 A. By standing on the ground and reading**
 18:50:00 **10 the battlefield, looking at it from the point**
 18:50:04 **11 of view of Washington, the Americans, up on the**
 18:50:07 **12 highest ground, and looking at it from the**
 18:50:09 **13 point of the British, the Jaegers coming at the**
 18:50:14 **14 Americans from the other side.**
 18:50:15 **15 Q. Now, have you reviewed the proposed**
 18:50:19 **16 plan that Toll Brothers has before this Board?**
 18:50:21 **17 A. I'm familiar with it.**
 18:50:24 **18 Q. Are you aware of the testimony and**
 18:50:26 **19 exhibits in this proceeding concerning the**
 18:50:28 **20 activities on the Crebilly property related to**
 18:50:31 **21 the battle?**
 18:50:31 **22 A. Yes.**
 18:50:31 **23 Q. And have you been to Sandy Hollow Park?**
 18:50:36 **24 A. Yes, yes, several times.**

18:50:41 1 Q. So the Board has heard testimony
18:50:46 2 concerning Stephen's Division and its
18:50:49 3 activities on Sandy Hollow Park. How was
3 4 Stephen's Division engagement important to the
18:50:56 5 outcome of the Battle of Brandywine?

18:50:58 6 MR. ADELMAN: Objection. The
18:50:59 7 witness has previously testified he has no
18:51:01 8 expertise in the Battle of the Brandywine.

18:51:04 9 MR. THOMPSON: This is a battle
18:51:05 10 that he is aware of. He is not an expert on
18:51:08 11 the exact locations, but certainly he has read
18:51:11 12 maps, he has analyzed the terrain, and he can
18:51:14 13 testify as a military historian as to the
18:51:18 14 importance of this particular part of the
18:51:22 15 Battle of Brandywine.

18:51:23 16 MR. ADELMAN: He is rendering an
18:51:24 17 expert conclusion with respect to an engagement
18:51:26 18 that was part of the Battle of Brandywine.

18:51:28 19 MR. MCKENNA: Well, I'm not
18:51:29 20 comfortable because I didn't hear enough about
18:51:31 21 what he has really reviewed in terms of the
18:51:33 22 battle yet. I think he said he has been to
18:51:36 23 Sandy Hollow, but I didn't quite understand the
38 24 nature of his background with the battle.

18:51:41 1 Can we lay a little more
18:51:42 2 foundation or can I just ask: What is it you
18:51:45 3 have reviewed related to the battle? How
18:51:47 4 familiar are you with it? How did you become
18:51:50 5 familiar with it?

18:51:51 6 THE WITNESS: Sure. I first came
18:51:52 7 to Brandywine about 20 years ago and did the
18:51:56 8 flank march on my own, and my son was with me.

18:52:01 9 We went around to the battlefield sites and we
18:52:04 10 became familiar with that. That's where we
18:52:06 11 first saw the high ground, the American line.

18:52:08 12 And basically, when I go to a
18:52:11 13 battlefield, I have done battlefields with
18:52:16 14 staff rides, but I also go to battlefields that
18:52:19 15 connect with the staff rides that I have done.

18:52:21 16 So, for example, what impressed
18:52:25 17 me about Brandywine at the time was that it is
18:52:27 18 very similar to Jackson's flank march in
18:52:33 19 Chancellorsville, of which I have done that
4 20 many, many, many times. So when I visit
18:52:36 21 battlefields I connect the dots, for example,
18:52:38 22 Princeton, where Washington does a flank march
18:52:41 23 on the British. Here is a place where he has a
18:52:45 24 flank march done to himself. How does he react

18:52:47 1 to that?

18:52:47 2 So I apply the general principles
18:52:50 3 of military science to the battle. I can't
18:52:53 4 tell you where every brigade, every soldier
18:52:56 5 fought, I can't go to that level of detail.
18:52:59 6 But what I can tell you, I can analyze a battle
18:53:00 7 and within a short time, the important points I
18:53:04 8 would choose and the things I would like to
18:53:06 9 talk about, which sometimes is different than
18:53:08 10 the general historical narrative out there
18:53:12 11 already.

18:53:12 12 MR. MCKENNA: Did you or have you
18:53:13 13 reviewed any of other resources about the
18:53:16 14 battle or has it just been this one visit? I
18:53:19 15 mean, can you just sort of expand what other
18:53:22 16 materials you may have reviewed?

18:53:23 17 THE WITNESS: Sure. Two more
18:53:24 18 visits, and I was actually out there today to
18:53:26 19 review it, and so, and then I have reviewed the
18:53:29 20 literature overall, Revolutionary War
18:53:33 21 literature on the battle and General
18:53:36 22 Washington's writings, published works that he
18:53:38 23 has.

18:53:39 24 I have looked at the sites that

18:53:40 1 are out there for the people in general that
18:53:43 2 come to see it, because I want to evaluate
18:53:46 3 that, what do they know, what does a citizen
18:53:48 4 know when he comes to this battlefield, what do
18:53:50 5 they learn.

18:53:51 6 MR. MCKENNA: Mr. Thompson, your
18:53:52 7 question was again, please? I'm sorry. You
18:53:54 8 were talking about Stephen's?

18:53:56 9 MR. THOMPSON: How was Stephen's
18:53:59 10 Division engagement important to the outcome of
18:54:00 11 the battle?

18:54:01 12 MR. MCKENNA: Mr. Adelman, your
18:54:03 13 objection remains?

18:54:04 14 MR. ADELMAN: My objection
18:54:04 15 remains. He is not an expert on what portions
18:54:07 16 of engagements are important to a battle on
18:54:10 17 which he is not an expert.

18:54:12 18 MR. THOMPSON: Well, I think it
18:54:13 19 goes to the weight of his testimony. He is a
18:54:15 20 military historian, and, depending on what he
18:54:17 21 has reviewed, I think the Board can give the
18:54:20 22 weight that it feels is appropriate.

18:54:26 23 MR. MCKENNA: I've discussed with
18:54:27 24 the Board, we are going to overrule the

18:54:28 1 objection and allow the testimony.
 18:54:30 2 BY MR. THOMPSON:
 18:54:30 3 Q. Okay. Do you want me to repeat the
 2 4 question, Mr. Miller?
 18:54:33 5 A. No, I think I have got it.
 18:54:35 6 So this is the crux of the matter
 18:54:37 7 for me, is a place that is not as well-known as
 18:54:42 8 the other parts of the battlefield, and if you
 18:54:44 9 look up at the map you will see that this is
 18:54:47 10 after the flank movement has begun.
 18:54:50 11 Q. Just for purposes of the record, this
 18:54:52 12 is exhibit, is this Exhibit NC-2?
 18:55:00 13 A. Yes. You see the flank march is
 18:55:04 14 coming, Washington has shifted his Army, broken
 18:55:06 15 it in two. So if you look at that map, and I
 18:55:10 16 think this is partially missed by published
 18:55:13 17 works, is now Washington is fighting two
 18:55:16 18 battles, not just one.
 18:55:19 19 I mean, it is obvious by looking
 18:55:20 20 at the map he is fighting one down at Chadds
 18:55:23 21 Ford and fighting another one up there in the
 18:55:25 22 corner.
 18:55:25 23 What are his options at this
 26 24 point? These are questions I would ask general

18:55:30 1 officers, you have been flanked, you have three
 18:55:34 2 choices. You can fight that flank march, you
 18:55:37 3 can attack across the river and Trade Queens,
 18:55:42 4 or you can withdraw completely. But know that
 18:55:46 5 this, that you are risking the fate of the
 18:55:48 6 nation on your decision, and you have about 15
 18:55:51 7 minutes to decide.
 18:55:53 8 That's a little different
 18:55:54 9 proposition than it is for a regular tour out
 18:55:56 10 there of this battlefield.
 18:55:58 11 But Washington decides that he is
 18:56:01 12 going to fight there against that flank march.
 18:56:06 13 So that's why you see that blue line going
 18:56:08 14 across that high ground with the artillery
 18:56:11 15 pieces. So you see the British forces coming
 18:56:14 16 at them across the fields. They see they are
 18:56:16 17 going to engage. So the blue rectangle on the
 18:56:21 18 right there, little blue bar, that is the
 18:56:26 19 Virginians division, Stephen's, and to me it is
 18:56:32 20 very easy to see that is the most critical part
 21 of the battlefield.
 18:56:36 22 Why? Most of the markers now,
 18:56:38 23 you can see the interpretation is down towards
 18:56:41 24 the other side of that blue line. So why do I

18:58:48 1 suggest there should be another interpretation
 18:58:50 2 of the battlefield? Because the flank or the
 18:58:55 3 extreme right of that line is the most critical
 18:58:57 4 piece. If that right piece should fall and the
 18:57:01 5 British come in around that flank, the whole
 18:57:06 6 blue line up there, the top will come down like
 18:57:10 7 dominos. There won't be a battle further over.
 18:57:13 8 If you are a flank, you have got
 18:57:14 9 to get back to the road. But even worse, if
 18:57:17 10 the British push past the Virginians and don't
 18:57:21 11 even worry about the rest of the blue and go
 18:57:23 12 down and cut the road behind the rest of
 18:57:25 13 Washington's Army, that main road back to
 18:57:28 14 Philadelphia, what happens to the American
 18:57:31 15 cause then? They can drive Washington into the
 18:57:34 16 river. It will be like Long Island, exactly
 18:57:39 17 what happened in Long Island, in 1776, when he
 18:57:44 18 lost a lot of his Army. That could happen
 18:57:46 19 right here if that right piece doesn't hold.
 18:57:49 20 Q. Mr. Miller, in your opinion, is that
 18:57:53 21 flank the most important location in the
 18:57:55 22 development of the battle?
 18:57:56 23 A. Yes.
 18:57:58 24 Q. And how is that flank important to the

18:58:00 1 American Revolution?
 18:58:03 2 A. If they don't hold the Virginians,
 18:58:05 3 don't hold, there is the possibility that
 18:58:07 4 Washington's Army can be rolled up and flee or
 18:58:11 5 be driven into the Brandywine.
 18:58:17 6 And the important thing also, if
 18:58:18 7 you judge battles, I don't always judge battles
 18:58:21 8 by casualties, but the Virginians lose about 50
 18:58:26 9 percent of their men over there, which is
 18:58:28 10 really high for a Revolutionary War battle.
 18:58:30 11 They fight. They fight hard. Because they
 18:58:34 12 know they are on the end.
 18:58:35 13 Think about, think about Little
 18:58:38 14 Round Top, the 20th Main. What happens when
 18:58:41 15 Little Round Top falls? That's the Little
 18:58:45 16 Round Top right there. So they have to hold.
 18:58:49 17 Now, what happens is the British
 18:58:51 18 overrun the other end and they all come back,
 18:58:54 19 but Green's force comes up and re-enforces that
 18:58:57 20 line and they eventually get out in time. But
 18:59:00 21 it is that piece of the puzzle that I think for
 18:59:03 22 me says the most, and that's where I would take
 18:59:06 23 general officers. You are standing right here.
 18:59:10 24 Is this really where you want to fight? To let

18:59:12 **1 them come again, do Washington's scenario, and**
 18:59:16 **2 how does this turn out for them.**
 18:59:18 **3** So at this point in the battle
 18:59:21 **4** that's critical ground.
 18:59:21 **5 Q.** Mr. Miller, turning to the Crebilly
 18:59:23 **6** property, there are three pictures marked
 18:59:28 **7** Exhibit NC-3. Do you have those?
 18:59:35 **8 A. Yeah.**
 18:59:35 **9 Q.** If you could describe, this is the, I
 18:59:37 **10** think this is the third picture in the exhibit.
 18:59:41 **11 A. That's fine. This is what you would**
 18:59:43 **12 see if you were a Jaeger marching towards the**
 18:59:47 **13 Virginians. In other words, you are the left**
 18:59:50 **14 of the British force. You are going to face**
 18:59:52 **15 the Virginians across there, the right.**
 18:59:56 **16** So the other thing, like General
 18:59:58 **17** Gray told me about terrain, terrain, terrain,
 19:00:00 **18** it is very important. Normally what I look at
 19:00:03 **19** when I go to battlefields, and it speaks, this
 19:00:07 **20** is critical terrain because, can you see the
 19:00:09 **21** high ground where the Americans are from here?
 19:00:13 **22** Can you see anything over that horizon? Well,
 19:00:17 **23** that means they can't see you either.
 19:00:20 **24** So if you are going to approach

19:00:21 **1** as close as you can, you are going to go over
 19:00:23 **2** that defilade. That's safety. That's life and
 19:00:29 **3** death.
 19:00:29 **4** Once you get on the horizon you
 19:00:31 **5** are within sight of the Americans and they know
 19:00:33 **6** you are there. So that's why it is important
 19:00:36 **7** to maintain terrain in its pristine form,
 19:00:40 **8** because this is life and death. This is like
 19:00:42 **9** this is on modern battlefield.
 19:00:44 **10** When I take sergeants,
 19:00:46 **11** lieutenants, corporals out, the little
 19:00:50 **12** variations in ground mean everything. That's
 19:00:53 **13** life and death.
 19:00:55 **14** Next slide.
 19:00:56 **15 Q.** Mr. Miller, you mentioned the word
 19:00:58 **16** defilade. What is a defilade?
 19:01:01 **17 A. Defilade is cover. So you would be in**
 19:01:03 **18 defilade behind that rise. So, in other words,**
 19:01:07 **19 they can't see you. You can't see them.**
 19:01:09 **20 Weapons at that period, again,**
 19:01:11 **21 are direct fire. In other words, you have to**
 19:01:13 **22 see them to hit them. They have mortars that**
 19:01:18 **23 will go in. But direct trajectory will not get**
 19:01:23 **24 you here. You are defilade, you are in**

19:01:25 **1 protected mode by the terrain.**
 19:01:27 **2 Q.** Just so we are clear for the record,
 19:01:29 **3** the picture that you are describing is on the
 19:01:30 **4** east side of New Street and is part of the
 19:01:34 **5** Crebilly Farm property; is that correct?
 19:01:35 **6 A. Yes. This was the advance of the**
 19:01:39 **7 Jaeger battalion.**
 19:01:42 **8 Q.** If you want to go to the next picture.
 19:01:44 **9 A. And this is also about terrain. The**
 19:01:48 **10 other one.**
 19:01:49 **11 Q.** This is another picture of South New
 19:01:52 **12** Street along the Crebilly property?
 19:01:55 **13 A. Now, remember the one you saw**
 19:01:57 **14 previously where you were in defilade. This is**
 19:01:59 **15 where you move up the rise. And now what can**
 19:02:03 **16 you see? You can see the American position**
 19:02:08 **17 over across the way on the high ground, and**
 19:02:11 **18 they can see you.**
 19:02:12 **19 Now, the advance is on, the**
 19:02:15 **20 battle is on. They can see you and they are**
 19:02:18 **21 going to push forward down in the valley and go**
 19:02:20 **22 up and take them on. So this is where the --**
 19:02:24 **23 you can collapse that flank, you can collapse**
 19:02:26 **24 the entire American line. In other words,**

19:02:28 **1 there is nobody, when those Virginians are up**
 19:02:31 **2 there, there is nobody to their right.**
 19:02:33 **3 Q.** So in this picture would troops be able
 19:02:36 **4** to proceed from Sandy Hollow?
 19:02:39 **5 A. Yes. Sandy Hollow would be on the**
 19:02:41 **6 highest ground directly to the front. The**
 19:02:42 **7 Americans can see you and you can see them.**
 19:02:45 **8 That's why the terrain sight lines are so**
 19:02:47 **9 important. When you go down into the hollow**
 19:02:49 **10 and you go out there and drive down that road**
 19:02:51 **11 today, you can see all the little variations of**
 19:02:54 **12 terrain, that they can take cover in the**
 19:02:56 **13 defilade.**
 19:02:57 **14 When you get down closer to the**
 19:02:59 **15 road, you have places where you can be shot at.**
 19:03:02 **16 That's what advancing troops today, yesterday,**
 19:03:07 **17 the Revolutionary War took advantage of.**
 19:03:10 **18 Q.** If we can go, this is the third
 19:03:12 **19** picture. This is a view from Sandy Hollow?
 19:03:14 **20** MR. MCKENNA: To be clear for the
 19:03:15 **21** record, this is the second picture.
 19:03:17 **22** MR. THOMPSON: I'm sorry, it is
 19:03:18 **23** the second picture in the packet.
 19:03:20 **24** THE WITNESS: So this is looking

19:03:21 1 back towards the farm, towards the other
 19:03:23 2 photographs, looking your way. And this is the
 19:03:26 3 view of the Americans watching those Jaegers
 19:03:29 4 come into play across the farm, so that's why
 19:03:33 5 it is important when I fix sites on the
 19:03:35 6 battlefield to interpret, you know, the sight
 19:03:38 7 lines are very important from here down. What
 19:03:40 8 could you see, if you are in the wilderness in
 19:03:43 9 the Civil War, what can you see? If you are on
 19:03:46 10 this battlefield, do you know how important
 19:03:48 11 your position is if you are on the right and
 19:03:50 12 you see the enemy coming at you?
 19:03:54 13 You know, from the Virginians,
 19:03:55 14 their decision was to stand.
 19:03:59 15 **Q.** What is the view of the Crebilly Farm
 19:04:01 16 from here?
 19:04:02 17 **A.** It is in the middle distance back on
 19:04:06 18 that high ground rise right there.
 19:04:08 19 **Q.** It is the area that looks like a green
 19:04:10 20 field?
 19:04:11 21 **A.** Yes. Right there.
 19:04:19 22 **Q.** Mr. Miller, what happens to the
 19:04:21 23 battlefield if the development proceeds as
 19:04:24 24 proposed?

19:04:25 1 **A.** It will be impossible to interpret
 19:04:28 2 these. You wouldn't have the same view that
 19:04:31 3 Washington did, or if you are a lance corporal
 19:04:36 4 of the British walking up towards the heights.
 19:04:40 5 Normally what I do is I find a
 19:04:42 6 quote, and I'll read it as they move forward as
 19:04:45 7 what they can see. Almost every time they talk
 19:04:47 8 about the terrain, when they first popped into
 19:04:49 9 view, and the rounds they started to take.
 19:04:52 10 But from this view is so
 19:04:55 11 important because there is no doubt that
 19:04:57 12 Washington, or anybody else, if you look to
 19:05:00 13 your right, there is no one out there, over
 19:05:03 14 that mountain. This is the end of the blue,
 19:05:06 15 the blue block.
 19:05:07 16 **Q.** Mr. --
 19:05:11 17 **A.** Yes.
 19:05:11 18 **Q.** Mr. Miller, this is the viewshed that
 19:05:14 19 concerned the flanking maneuver you talked
 19:05:17 20 about earlier?
 19:05:17 21 **A.** Absolutely. This is very critical
 19:05:19 22 ground right here, heading out towards Crebilly
 19:05:23 23 Farm.
 19:05:23 24 **Q.** Again, in your opinion, this is the

19:05:24 1 most critical view of the battle, correct?
 19:05:27 2 **A.** Yes. If this, if the Jaegers take this
 19:05:30 3 ground, the British take this ground, they fold
 19:05:33 4 up the American line. There is no stand down
 19:05:35 5 at the meeting house.
 19:05:37 6 And what is more is you better
 19:05:39 7 protect the road back to Philadelphia or else
 19:05:41 8 you are going to be swimming in the Brandywine.
 19:05:44 9 In other words, if you don't hold that ground
 19:05:45 10 it is like losing Little Round Top, exactly the
 19:05:49 11 same.
 19:05:50 12 **Q.** Is this a view that George Washington
 19:05:51 13 would have had?
 19:05:52 14 **A.** He would have had a little, little
 19:05:54 15 higher ground, but he certainly would have had
 19:05:56 16 the view from here. And at this point he is
 19:05:59 17 where he should be. He is at the critical
 19:06:01 18 point of ground.
 19:06:03 19 Where, is he over by the meeting
 19:06:06 20 house? Is he back down on the road? He is
 19:06:08 21 here. This is why, this is where you can tell
 19:06:14 22 his decision is, okay, we will fight it out
 19:06:16 23 here, but we are going to have to retreat and
 19:06:20 24 pull back. Okay.

19:06:21 1 **Q.** So development in that location on the
 19:06:23 2 Crebilly Farm in that view would make it
 19:06:26 3 extremely difficult or impossible to interpret
 19:06:29 4 the battlefield any longer, is that --
 19:06:32 5 **A.** It would be near impossible. It would
 19:06:40 6 be a failing exercise.
 19:06:41 7 **Q.** So in your opinion, would the
 19:06:42 8 development harm the preservation of the
 19:06:44 9 battlefield?
 19:06:45 10 **A.** Yes, absolutely.
 19:06:46 11 **Q.** How would it do that?
 19:06:49 12 **A.** Well, for example, I have a group of
 19:06:52 13 Army officers up on this high ground or a group
 19:06:55 14 of citizens walking about. How am I going to
 19:06:59 15 interpret that farm which is the third house
 19:07:00 16 over from the right? How are they going to
 19:07:03 17 understand that viewpoint? When it is clear
 19:07:06 18 that when you have this, you can shoot and you
 19:07:09 19 can be shot at.
 19:07:12 20 And that's, that's critical
 19:07:14 21 information for any soldier, marine, sailor,
 19:07:17 22 anyone in the Air Force, where is the enemy?
 19:07:19 23 What damage are you going to do to me? And
 19:07:21 24 what am I going to do to him?

19:07:23 **1** **And this is a beautiful,**
 19:07:24 **2 beautiful example of how you are going to do**
 19:07:26 **3 that.**
 19:07:31 **4 Q.** Is it most of the western part of the
 19:07:33 **5 farm that is in that viewshed? When I say the**
 19:07:33 **6 farm, the Crebilly Farm?**
 19:07:34 **7 A. Yes, western part.**
 19:07:50 **8 MR. THOMPSON: I don't have any**
 19:07:50 **9 further questions.**
 19:07:52 **10 MR. MCKENNA: Mr. Adelman, cross.**
 19:07:54 **11 MR. ADELMAN: Sure. Thanks.**
 19:07:55 **12 CROSS-EXAMINATION**
 19:07:55 **13 BY MR. ADELMAN:**
 19:07:56 **14 Q.** Mr. Miller, you testified previously
 19:07:58 **15 you are not an expert on the Battle of**
 19:08:00 **16 Brandywine, correct?**
 19:08:01 **17 A. No, no. An expert is a high, a high**
 19:08:04 **18 level.**
 19:08:04 **19 Q.** So you wouldn't be able to definitively
 19:08:07 **20 state where the troop movements went, where**
 19:08:09 **21 they were, all of those details, correct?**
 19:08:11 **22 A. In general, I can do that based on what**
 19:08:14 **23 is out there. In other words, I can say that**
 19:08:14 **24 the Jaegers came across that ground.**

19:08:19 **1 Q.** Right. So you are basing it on in this
 19:08:21 **2 case NC-2, which was a map prepared by Sean**
 19:08:25 **3 Moir, correct?**
 19:08:25 **4 A. Yes.**
 19:08:25 **5 Q.** So you are relying on this map in your
 19:08:27 **6 testimony; is that correct?**
 19:08:27 **7 A. Well, that one and other maps along**
 19:08:29 **8 with it, yes.**
 19:08:30 **9 Q.** Okay. So if Sean Moir is wrong then
 19:08:32 **10 your testimony might be wrong; is that correct?**
 19:08:34 **11 A. Yes. I would depend on that.**
 19:08:37 **12 MR. ADELMAN: Okay. I have no**
 19:08:39 **13 further questions.**
 19:08:42 **14 MR. MCKENNA: Mr. Crawford, any**
 19:08:43 **15 questions? Excuse me, Ms. Camp, any questions?**
 19:08:45 **16 MS. CAMP: No questions.**
 19:08:46 **17 MR. MCKENNA: Mr. Crawford, any**
 19:08:47 **18 questions?**
 19:08:47 **19 CROSS-EXAMINATION**
 19:08:49 **20 BY MR. CRAWFORD:**
 19:08:49 **21 Q.** Are you able to apply what you just
 19:08:54 **22 said in terms of preserving the importance of**
 19:08:56 **23 the battlefield to the actual demarcation**
 19:08:59 **24 within the Crebilly Farm of what should be, in**

19:09:04 **1** your opinion, preserved on the one hand versus
 19:09:07 **2** what would be developable without substantial
 19:09:12 **3** harm to the resource?
 19:09:13 **4 A. You know what, my interpretation now is**
 19:09:16 **5 that I know that there is about 350 Jaegers in**
 19:09:20 **6 the farm area. So that, and judging from the**
 19:09:24 **7 terrain, they would use that defilade to**
 19:09:27 **8 advance, because if you go out there and you**
 19:09:29 **9 look at the right side of that road, you saw**
 19:09:31 **10 the fence on the left. If you look at the**
 19:09:34 **11 right side, there is no defilade over there.**
 19:09:37 **12 In other words, if you cross that ground you**
 19:09:39 **13 are crossing...**
 19:09:44 **14 Q.** I'm still not sure where you would draw
 19:09:46 **15 a line.**
 19:09:46 **16 A. Oh. Well, I would offer, I would offer**
 19:09:49 **17 to make further, if you would like me to, I**
 19:09:51 **18 would like to, I can offer a further study of**
 19:09:54 **19 the battlefield, go into the original sources.**
 19:09:56 **20 I mean, you actually have to go to the writings**
 19:10:00 **21 of the men who were there. And that would tell**
 19:10:04 **22 me.**
 19:10:05 **23 Q.** Well --
 19:10:07 **24 A. Right now --**

19:10:09 **1 Q.** I would suggest that based upon what
 19:10:11 **2** you already know in terms of, and you are
 19:10:14 **3** entitled to rely upon what you believe to be
 19:10:18 **4** credible other experts to determine where the
 19:10:22 **5** troop movements were, based on that
 19:10:25 **6** information --
 19:10:26 **7 A. I would say --**
 19:10:27 **8 Q.** -- where would you draw that line?
 19:10:28 **9 A. I would draw that line maybe even a**
 19:10:31 **10 little further over where that blue, blue**
 19:10:33 **11 rectangle is, judging from the terrain that I**
 19:10:36 **12 saw.**
 19:10:49 **13 MR. CRAWFORD: I'm going to defer**
 19:10:50 **14 to Mr. Thompson with regards to that specific**
 19:10:54 **15 exhibit. I think you answered my question in**
 19:11:00 **16 your past answer.**
 19:11:01 **17 THE WITNESS: Yes.**
 19:11:01 **18 MR. MCKENNA: Thank you, Mr.**
 19:11:03 **19 Crawford.**
 19:11:03 **20 Mr. DuFault, any questions from**
 19:11:05 **21 Brandywine at Thornbury?**
 19:11:07 **22 MR. DUFALT: No questions.**
 19:11:09 **23 MR. MCKENNA: Mr. Bevilacqua, any**
 19:11:10 **24 questions?**

19:11:10 1 MR. BEVILACQUA: No question.
 19:11:11 2 MR. MCKENNA: Mr. Scanlon for the
 19:11:14 3 school district, any questions?
 5 4 DR. SCANLON: No, no questions.
 19:11:16 5 MR. MCKENNA: Mr. McFalls for the
 19:11:18 6 church?
 19:11:18 7 MR. MCFALLS: No.
 19:11:19 8 MR. MCKENNA: Mr. Feryo for the
 19:11:21 9 swimming association?
 19:11:22 10 MR. FERYO: No questions.
 19:11:22 11 MR. MCKENNA: Mr. Spackman, any
 19:11:24 12 questions?
 19:11:24 13 MR. SPACKMAN: None. Thank you.
 19:11:26 14 MR. MCKENNA: Mr. Mammucari, any
 19:11:29 15 questions?
 19:11:29 16 MR. MAMMUCARI: No questions.
 19:11:31 17 MR. MCKENNA: Mr. Jones, any
 19:11:32 18 questions? Phillip Jones, any questions?
 19:11:40 19 Mr. Rendemonti, any questions?
 19:11:42 20 MR. RENDEMONTI: No, sir. Thank
 19:11:44 21 you.
 19:11:44 22 MR. MCKENNA: Ms. Leraris, any
 19:11:47 23 questions?
 47 24 MS. LERARIS: No questions.

19:11:48 1 MR. MCKENNA: Mr. Boyer, any
 19:11:48 2 questions?
 19:11:49 3 MS. BOYER: No questions.
 19:11:50 4 MR. MCKENNA: Mr. Daull, any
 19:11:52 5 questions?
 19:11:53 6 MR. DAULL: No questions.
 19:11:54 7 MR. MCKENNA: Mr. Pavelchek?
 19:11:56 8 MR. PAVELCHEK: No questions.
 19:11:57 9 MR. MCKENNA: Mr. or Mrs. Kramer?
 19:11:59 10 MS. KRAMER: No questions.
 19:12:01 11 MR. MCKENNA: Mr. Skros, any
 19:12:02 12 questions?
 19:12:04 13 MR. SKROS: No questions.
 19:12:05 14 MR. MCKENNA: Mr. or Mrs.
 19:12:06 15 McFadden, do you have any questions?
 19:12:09 16 MS. MCFADDEN: No questions.
 19:12:09 17 MR. MCKENNA: Ms. Weller, any
 19:12:11 18 questions?
 19:12:12 19 MS. WELLER: No questions.
 2 20 MR. MCKENNA: Does the Board have
 19:12:13 21 any questions of this witness?
 19:12:21 22 THE CHAIRMAN: Mr. Miller, we
 19:12:27 23 have had testify, several historic consultants
 19:12:33 24 that have been offered, and what has been

19:12:37 1 contested is that flank before the blue, is
 19:12:41 2 that open space of land.
 19:12:42 3 THE WITNESS: Yes.
 19:12:42 4 THE CHAIRMAN: It has been said
 19:12:43 5 that were soldiers really there or weren't
 19:12:47 6 they, and maybe we should do the radar and find
 19:12:52 7 artifacts, those kind of things.
 19:12:53 8 What you seem to be saying if I'm
 19:12:56 9 correct is the way you look at that
 19:13:00 10 battlefield, you would have no doubt that
 19:13:02 11 somebody had to be there?
 19:13:06 12 THE WITNESS: Absolutely. And I
 19:13:08 13 have asked myself this question many times, how
 19:13:09 14 do I know, how do I know on any battlefield.
 19:13:13 15 And I would say what if we don't
 19:13:17 16 know, what if nothing turns up in the sources,
 19:13:20 17 and what if it is our best guess, what if
 19:13:23 18 that's the case.
 19:13:26 19 My, based on all my experience,
 19:13:28 20 is you have a jewel in this battlefield. This
 19:13:32 21 is a prime battlefield, along with Princeton,
 19:13:38 22 and I would err on saving that ground because
 19:13:42 23 the evidence shifts that way. Don't make -- if
 19:13:46 24 you make a mistake and it is gone, you know, it

19:13:50 1 is gone.
 19:13:51 2 THE CHAIRMAN: Thank you.
 19:13:54 3 MR. MCKENNA: Mr. Thompson, any
 19:14:01 4 redirect?
 19:14:02 5 REDIRECT EXAMINATION
 19:14:03 6 BY MR. THOMPSON:
 19:14:03 7 Q. Mr. Miller, even if there wasn't any
 19:14:05 8 fighting that actually took place on the
 19:14:07 9 Crebilly Farm property, would that view still
 19:14:12 10 be important from Sandy Hollow?
 19:14:13 11 A. Absolutely. You know, I almost, you
 19:14:15 12 know, based on my expertise in battlefields and
 19:14:21 13 military movements, you know, I would say I'm
 19:14:26 14 about 80 percent sure that somewhere on that
 19:14:28 15 property the troops came over, because of the
 19:14:33 16 terrain itself.
 19:14:35 17 Q. Would that be the defilade that you
 19:14:37 18 talked about?
 19:14:37 19 A. Defilade. I mean, think about your own
 19:14:40 20 choice. Would you go out into a field on the
 19:14:42 21 right where there is no cover? Or would you
 19:14:44 22 advance on the left where there is?
 19:14:47 23 Q. On the left, that's part of the
 19:14:48 24 Crebilly Farm, correct?

19:14:49 1 **A. Yes, that's exactly where it is. You**
 19:14:51 2 **would use every bend and fold in that ground to**
 19:14:55 3 **protect yourself as you advance to the attack.**
 19:15:02 4 **That's just human nature.**
 19:15:06 5 **So, and it is just vitally**
 19:15:08 6 **important, because you can see the viewshed**
 19:15:14 7 **from both sides there. There are very few**
 19:15:16 8 **places anywhere else you could actually do**
 19:15:17 9 **that.**
 19:15:20 10 **Q. With respect to the battlefield itself,**
 19:15:22 11 **it is the view from Sandy Hollow that's the**
 19:15:23 12 **critical issue; is that correct?**
 19:15:26 13 **A. Yes. So in any event, no matter what**
 19:15:31 14 **happened there, that viewshed is vital, because**
 19:15:36 15 **you can see all the way out to the far horizon.**
 19:15:38 16 **At the very least you can see the advance of**
 19:15:40 17 **the British and any direction that they took.**
 19:15:45 18 **You can see that off to the right. There is**
 19:15:47 19 **nothing there to protect you. If the Americans**
 19:15:51 20 **are there, how did the British get there too?**
 19:15:54 21 **And fight until half the Virginians are killed**
 19:15:58 22 **or wounded. How did that happen?**
 19:15:59 23 **Q. Mr. Miller, would there be a view to**
 19:16:00 24 **protect from Crebilly Farm, in the opposite**

19:16:03 1 direction?
 19:16:04 2 **A. And that's the other point of it, you**
 19:16:06 3 **should see -- you cannot properly interpret a**
 19:16:08 4 **battle unless you know both sides of it.**
 19:16:12 5 **That's true in the American Civil War. It is**
 19:16:14 6 **true in the Revolutionary War. You have to**
 19:16:16 7 **look at it from both sides to understand the**
 19:16:20 8 **difficulties and the advantages by both.**
 19:16:24 9 **So crossing that ground, which**
 19:16:25 10 **would you rather be on, the highest ground back**
 19:16:28 11 **there, or crossing that open ground across the**
 19:16:31 12 **farm? Those are the kind of decisions that you**
 19:16:33 13 **have to make. So as a learning tool to me that**
 19:16:38 14 **is prime, prime ground.**
 19:16:41 15 MR. THOMPSON: Thank you.
 19:16:43 16 MR. MCKENNA: Mr. Adelman, any
 19:16:46 17 recross based on the additional testimony?
 19:16:47 18 MR. ADELMAN: No, I have nothing
 19:16:48 19 further.
 19:16:49 20 MR. MCKENNA: Any further
 19:16:50 21 questions from the Board?
 19:16:51 22 All right. Thank you, Mr.
 19:16:51 23 Miller, very much.
 19:16:53 24 (Witness excused.)

19:16:58 1 MR. MCKENNA: Mr. Thompson, do
 19:16:59 2 you have another witness?
 19:17:01 3 MR. THOMPSON: I do. I would
 19:17:02 4 like to call Michele Adams. Ms. Adams --
 19:18:05 5 MR. MCKENNA: Hang on. Have to
 19:18:06 6 have her sworn in.
 19:18:07 7 MR. THOMPSON: I wanted to see if
 19:18:08 8 she had an exhibit pack.
 19:18:09 9 MS. ADAMS: I do. Should I give
 19:18:11 10 them to you?
 19:18:12 11 MR. THOMPSON: No, no. That's
 19:18:14 12 fine. I just wanted to make sure you have a
 13 copy.
 14 (Discussion off the record.)
 15 MICHELE C. ADAMS,
 16 the witness herein, having first been
 17 duly sworn on oath, was examined and
 18 testified as follows:
 19:18:35 19 MR. MCKENNA: Ma'am, I'll remind
 19:18:36 20 you, as I did Mr. Miller, I need you to get
 19:18:38 21 nice and comfortable, right up into that
 19:18:39 22 microphone.
 19:18:40 23 THE WITNESS: Okay.
 19:18:40 24 MR. MCKENNA: That's perfect. If

19:18:41 1 you could do it that way so everyone can hear
 19:18:43 2 you.
 19:18:43 3 DIRECT EXAMINATION
 19:18:44 4 BY MR. THOMPSON:
 19:18:44 5 **Q. Good evening, Ms. Adams. Could you**
 19:18:48 6 **please state your full name for the record.**
 19:18:49 7 **A. Michele C. Adams.**
 19:18:52 8 **Q. And what is your profession?**
 19:18:54 9 **A. I'm a civil engineer.**
 19:18:55 10 **Q. With whom are you employed?**
 19:18:58 11 **A. I am founder and owner of Meliora**
 19:19:02 12 **Design. We are a civil engineering firm up in**
 19:19:04 13 **Phoenixville, Pennsylvania. I have been in**
 19:19:06 14 **practice for about 33 years as a civil engineer**
 19:19:08 15 **in the field of water resources.**
 19:19:10 16 **Q. And you are a registered Professional**
 19:19:12 17 **Engineer?**
 19:19:12 18 **A. In Pennsylvania and a number of other**
 19:19:14 19 **states.**
 19:19:15 20 **Q. Exhibit NC-4, attached to that exhibit,**
 19:19:22 21 **is a review letter, as well as your curriculum**
 19:19:27 22 **vitae. Do you recognize that document?**
 19:19:28 23 **A. Yes.**
 19:19:28 24 **Q. If you could just go through and**

19:19:30 1 explain to the Board your background.
 19:19:33 2 MR. ADELMAN: Excuse me, Mr.
 19:19:34 3 Thompson. Is there an offer with respect to
 6 4 her expertise? I'm familiar with Ms. Adams.
 19:19:39 5 MR. THOMPSON: She is an expert
 19:19:40 6 in engineering and stormwater management.
 19:19:41 7 MR. ADELMAN: I have no objection
 19:19:42 8 to those qualifications.
 19:19:43 9 MR. THOMPSON: Okay.
 19:19:43 10 MR. MCKENNA: Any other party
 19:19:44 11 have any objection?
 19:19:45 12 MS. CAMP: No.
 19:19:46 13 MR. MCKENNA: Thank you. She
 19:19:47 14 will be so admitted.
 19:19:48 15 BY MR. THOMPSON:
 19:19:48 16 Q. Ms. Adams, Exhibit NC-4 is a letter
 19:19:58 17 dated October 24th, 2017. Are you familiar
 19:20:03 18 with that document?
 19:20:04 19 A. Yes, I prepared that document.
 19:20:05 20 Q. And it is a review letter concerning
 19:20:10 21 the proposed development that is before the
 19:20:12 22 Board tonight; is that correct?
 19:20:13 23 A. Correct, specifically with regards to
 19:20:16 24 stormwater management.

19:20:18 1 Q. What did you review in order to
 19:20:21 2 generate the opinions set forth in this letter?
 19:20:23 3 A. Well, I identified the materials in the
 19:20:26 4 letter, but basically the materials that are
 19:20:28 5 available on the township's website from the
 19:20:30 6 various submissions related to the stormwater
 19:20:33 7 management, the Stormwater Management Narrative
 19:20:35 8 prepared by ESE Consultants, the preliminary
 19:20:40 9 geotechnical exploration for Crebilly Farm, and
 19:20:43 10 the associated plans and documents.
 19:20:47 11 Q. Before we get into the specific
 19:20:50 12 provisions concerning conditional use, do you
 19:20:53 13 have any general opinions you would like to
 19:20:56 14 render to the Board?
 19:20:58 15 A. Well, I do, especially because under
 19:21:02 16 conditional use the applicant is only required
 19:21:06 17 to submit preliminary site grading, road
 19:21:11 18 profiles, preliminary stormwater analysis, but
 19:21:14 19 there are some requirements that it be
 6 20 sufficient to demonstrate that the plan, the
 19:21:21 21 proposed development will be able to meet the
 19:21:24 22 township's stormwater management ordinances and
 19:21:27 23 basic requirements, as well as a lot of
 19:21:30 24 language, there is some specific language in

19:21:32 1 the conditional use section actually about
 19:21:35 2 strong consideration, under Section 172-2009,
 19:21:42 3 conditional uses, Section B, B.(6)(e), strong
 19:21:50 4 consideration shall be given to the
 19:21:51 5 incorporation of LEED, which is the Leadership
 19:21:54 6 in Energy and Environmental Design by the U.S.
 19:21:57 7 Green Building Council.
 19:22:00 8 So these are the parameters set
 19:22:01 9 in the municipality's conditional use that
 19:22:03 10 should hold when looking at the submission by
 19:22:07 11 the applicant.
 19:22:08 12 Q. Concerning specific sections
 19:22:12 13 referenced, if you could turn to page 3, you
 19:22:17 14 reference Section 170-2009 governing
 19:22:20 15 conditional uses. Do you have an opinion as to
 19:22:23 16 whether or not 170-904.A(3)(c)(2) has been met?
 19:22:32 17 A. Actually, I don't think any of the
 19:22:34 18 requirements related to the conditional uses
 19:22:37 19 for stormwater really have been met. If I can
 19:22:40 20 describe the site conditions and what has been
 19:22:43 21 proposed, I can explain why.
 19:22:45 22 Q. Please go through that if you would.
 19:22:47 23 A. Sure. Well, the site as put up on the
 19:22:50 24 screen here, I know everyone here is quite

19:22:52 1 familiar with it, it is bordered on the east by
 19:22:55 2 202, and over here, I don't know if that is
 19:22:59 3 Price. I forget the name of the street over
 19:23:01 4 there.
 19:23:02 5 MR. MCKENNA: Let me interrupt
 19:23:03 6 real quick. What exhibit is up on the board
 19:23:05 7 right now?
 19:23:05 8 MR. THOMPSON: This is not an
 19:23:06 9 exhibit in your packet, but we could label this
 19:23:09 10 Exhibit NC-5.
 19:23:10 11 MR. MCKENNA: Can we identify
 19:23:11 12 what NC-5 is, please, Mr. Thompson? Can you
 19:23:13 13 tell me what it is?
 19:23:14 14 MR. THOMPSON: It looks like a
 19:23:15 15 topographical map for the Crebilly Farm
 19:23:17 16 property.
 19:23:18 17 MR. ADELMAN: I'm going to
 19:23:19 18 object. I'm not even sure where it is coming
 19:23:21 19 from, how it was prepared. I think we need
 19:23:24 20 additional information. And I would also like
 19:23:25 21 a copy.
 19:23:27 22 MR. THOMPSON: Perhaps I think
 19:23:28 23 the witness can tell you.
 19:23:29 24 MR. MCKENNA: If we could get a

19:23:31 1 little more detail before we get into testimony
19:23:33 2 regarding compliance, can you describe what we
19:23:35 3 are looking at? None of us have that in front
7 4 of us.

19:23:37 5 THE WITNESS: Sure. It is the
19:23:39 6 topographic, aerial with topography from the
19:23:43 7 Pennsylvania GIS PASDA database, with stream
19:23:48 8 information. And there is also an overlay of
19:23:51 9 the conditional use applicant's subdivision
19:23:56 10 layout. It is very faint and hard to see due
19:23:59 11 to the nature of the scanned PDFs that were
19:24:02 12 posted on the website. But there is a overlay
19:24:05 13 behind there of the development as well. And I
19:24:08 14 have paper copies as well.

19:24:10 15 MR. MCKENNA: Great.
19:24:11 16 MR. THOMPSON: If you could hand
19:24:12 17 those copies.

19:24:12 18 MR. MCKENNA: Let's go off the
19:24:14 19 record and hand out the copies.

19:24:15 20 (Discussion off the record.)

19:24:33 21 MR. MCKENNA: Let's go back on
19:24:34 22 the record.

19:24:35 23 I'm going to mark this as NC-5.
42 24 Ms. Adams, can you tell me, if you know, what

19:24:45 1 is the date of the topographic information? Do
19:24:49 2 you how long ago it was produced?

19:24:51 3 THE WITNESS: It is the most
19:24:51 4 recent PASDA topographic information. I don't
19:24:56 5 know the date. I can certainly get that.

19:24:58 6 MR. MCKENNA: Thank you.

19:25:06 7 MR. THOMPSON: Are we okay to
19:25:07 8 proceed with this exhibit?

19:25:08 9 MR. MCKENNA: Yeah. My only
19:25:09 10 question is, Mr. Adelman did point out NC-5
19:25:12 11 that I have does have some red dots. Is that
19:25:15 12 going to be shown up on the exhibit as you go
19:25:17 13 through the testimony?

19:25:17 14 THE WITNESS: Yes, it is.

19:25:18 15 MR. MCKENNA: Thank you.

19:25:21 16 BY MR. THOMPSON:

19:25:22 17 Q. Please proceed, Ms. Adams.

19:25:24 18 A. Thank you. So the site is large, and
19:25:27 19 it varies in topography from about 275 -- I'm
b 20 sorry -- 375 down to about 255 in the low
19:25:33 21 corners. And you can see there is a tributary
19:25:36 22 of Radley Run that comes across this lower
19:25:40 23 southwest corner and several tributaries,
19:25:42 24 several fingers of Radley Run.

19:25:44 1 So it is essentially a very
19:25:46 2 rolling topographic site, with the tributaries.
19:25:50 3 And even though it is faint, the land
19:25:53 4 development plan is essentially proposing to
19:25:55 5 build in between these fingers of this stream.

19:25:59 6 The land development plan is
19:26:01 7 proposing a pretty significant amount of
19:26:03 8 development and impervious surfaces. I believe
19:26:06 9 in the preliminary applications the number
19:26:08 10 was -- let me check here -- about 50.4 acres of
19:26:19 11 impervious surfaces.

19:26:21 12 This is a very large parcel going
19:26:25 13 to this tributary of Radley Run, which is
19:26:27 14 currently an impaired stream. It is not
19:26:30 15 meeting its designated water uses under the
19:26:33 16 state requirements. And one of the primary
19:26:35 17 reasons for that is stormwater impacts and
19:26:38 18 siltation.

19:26:39 19 It is also a scenic river as part
19:26:41 20 of the Brandywine, and ultimately part of the
19:26:44 21 Lower Brandywine River.

19:26:46 22 The site will add about 50.4
19:26:49 23 acres of impervious. It is hard to get a
19:26:51 24 handle, people have a hard time imagining what

19:26:54 1 50 acres of impervious means. If you can
19:26:58 2 imagine that an acre of impervious is going to
19:27:01 3 add about three feet more runoff every year
19:27:05 4 than happens now in a meadow or pasture
19:27:07 5 condition, and 50 acres is equivalent to about,
19:27:12 6 to use something for reference, if you could
19:27:14 7 imagine a road as wide as 202, say a hundred
19:27:18 8 feet, going from Dilworthtown Inn to West
19:27:21 9 Chester University, with three feet more
19:27:24 10 runoff.

19:27:24 11 That's about how much this
19:27:25 12 project is going to add to the township in
19:27:28 13 terms of impervious surfaces and additional
19:27:30 14 stormwater management.

19:27:32 15 So it is really critical for this
19:27:34 16 currently impaired stream that the stormwater
19:27:37 17 management system be very high functioning.
19:27:40 18 And I remind the Board that not only does it
19:27:42 19 have to meet the requirements of the
19:27:44 20 ordinances, but the conditional use of the
19:27:46 21 township urges strong consideration of LEED,
19:27:51 22 and this stormwater management plan does not
19:27:54 23 come anywhere close to meeting the requirements
19:27:57 24 of LEED in terms of site layout, sensitivity to

19:28:00 1 natural features and stormwater management.
 19:28:01 2 And I'm very familiar with LEED
 19:28:03 3 because I helped to write the current LEED
 5 4 credits for stormwater under the current LEED
 19:28:08 5 criteria.
 19:28:09 6 If we could go to the next. If
 19:28:13 7 we could go to the next slide, the applicant
 19:28:16 8 has proposed nine basins. Yeah. And that is,
 19:28:20 9 in fact, on the paper handout, and they are
 19:28:24 10 proximally located. I put red dots on top of
 19:28:27 11 the areas where the applicant has shown basins
 19:28:30 12 to be located, with the numbers as shown by the
 19:28:33 13 applicant.
 19:28:34 14 Nine stormwater basins. And the
 19:28:37 15 stormwater report indicates that they will all
 19:28:39 16 be infiltration basins and that's how volume
 19:28:41 17 will be managed.
 19:28:44 18 And, again, if you look at where
 19:28:45 19 some of these basins are, you can see they are
 19:28:48 20 in close proximity to streams and lower areas
 19:28:50 21 of the site. They are in proximity to
 19:28:53 22 headwaters, which raises the question of will
 19:28:55 23 they work for infiltration or not.
 7 24 The applicant also submitted a

19:28:59 1 geotechnical report. The geotechnical report
 19:29:04 2 did a number of tests. Only one basin has an
 19:29:08 3 infiltration test associated in close proximity
 19:29:13 4 to that basin. The others have infiltration
 19:29:16 5 tests nearby.
 19:29:17 6 But when you look at those
 19:29:18 7 infiltration tests in detail, you start to see
 19:29:22 8 some concerns and issues.
 19:29:24 9 If you could go to the next
 19:29:26 10 slide.
 19:29:27 11 Specifically, when you look at
 19:29:28 12 the data, there are three basins that there
 19:29:33 13 aren't any data for infiltration, proximity to
 19:29:37 14 the basins, 4, A-4, A-9 and A-10.
 19:29:40 15 MR. ADELMAN: I have to object.
 19:29:41 16 Again, this now is a different exhibit than
 19:29:43 17 what I have in front of me.
 19:29:45 18 MR. MCKENNA: I was going to
 19:29:45 19 suggest that as well. I think, Mr. Thompson,
 6 20 when this is over we will have to get a
 19:29:51 21 complete copy of the exhibit as it is being
 19:29:53 22 shown because it is different than what we have
 19:29:54 23 in front of us.
 19:29:57 24 MR. THOMPSON: That's fine.

19:29:58 1 MR. MCKENNA: Okay.
 19:29:59 2 MR. ADELMAN: I have an
 19:30:00 3 objection.
 19:30:01 4 MR. THOMPSON: It like a text
 19:30:02 5 overlay.
 19:30:03 6 THE WITNESS: It is a text
 19:30:03 7 overlay to explain what the data is. There is
 19:30:05 8 also a table attached to the stormwater letter,
 19:30:08 9 which is an exhibit, that has the same
 19:30:10 10 information.
 19:30:11 11 MR. ADELMAN: Okay. But just for
 19:30:12 12 consistency sake, what are we calling this now?
 19:30:14 13 Still calling it NC-5 or something different?
 19:30:17 14 MR. MCKENNA: The current one is
 19:30:19 15 NC-5. If I have to get an updated one that is
 19:30:21 16 going to be different I'll mark it as NC-5-a or
 19:30:24 17 NC-6 when it comes out.
 19:30:26 18 MR. ADELMAN: Okay.
 19:30:34 19 THE WITNESS: Can I continue?
 19:30:36 20 MR. THOMPSON: Why don't we call
 19:30:37 21 the one with the text overlay NC-6?
 19:30:39 22 MR. MCKENNA: That's fine.
 19:30:45 23 BY MR. THOMPSON:
 19:30:46 24 Q. Go ahead, Ms. Adams.

19:30:47 1 **A. Thank you. If you don't mind, so as we**
 19:30:50 2 **start to look at the data, there is no**
 19:30:52 3 **geotechnical data for basins 4, 9 and 10.**
 19:30:55 4 **If you can hit it one more time**
 19:30:57 5 **it should show --**
 19:31:01 6 MR. HEMPHILL: Says three of
 19:31:02 7 three.
 19:31:02 8 **A. There you go. There is no data for**
 19:31:05 9 **those three basins. And two of those basins**
 19:31:07 10 **are in an area of seasonal high water table, as**
 19:31:11 11 **the applicant has marked seasonal high water**
 19:31:13 12 **table.**
 19:31:13 13 **Q. If I could just interrupt and say that**
 19:31:16 14 **the exhibit that's up on the screen now has Xs**
 19:31:20 15 **on the dots marked A-9, A-10 and A-4; is that**
 19:31:26 16 **correct?**
 19:31:26 17 **A. Yes.**
 19:31:27 18 **Q. Okay.**
 19:31:28 19 **A. Yes.**
 19:31:29 20 **Q. And that's just for reference only; is**
 19:31:31 21 **that correct, Ms. Adams?**
 19:31:32 22 **A. That's for reference, to explain the**
 19:31:34 23 **data that's attached to the review letter. I**
 19:31:37 24 **find it is often very difficult for people to**

19:31:39 **1 look at engineering plans and geotechnical**
 19:31:43 **2 reports and really get an understanding of what**
 19:31:44 **3 the data does and does not show.**
 8 **4 Q. Please proceed.**
 19:31:49 **5 A. So there is one basin, basin 1, if you**
 19:31:54 **6 hit it again an X will come up, that there is**
 19:31:57 **7 no test right near it, but the nearest test,**
 19:32:00 **8 one is high groundwater table and one has zero**
 19:32:03 **9 infiltration. So now we are starting to raise**
 19:32:05 **10 questions about will these basins provide**
 19:32:07 **11 volume management, will they infiltrate.**
 19:32:10 **12 If we continue on to basin 6, A-6**
 19:32:13 **13 and A-8, there are perc tests for these basins,**
 19:32:17 **14 and they look pretty good, but when you look at**
 19:32:20 **15 the actual elevations of where those perc tests**
 19:32:22 **16 were done -- and, again, they are not in the**
 19:32:23 **17 basin. They are about 10 feet or more higher**
 19:32:26 **18 than the bottom of the basin, according to the**
 19:32:28 **19 applicant's drawing, so we are not testing**
 19:32:30 **20 where the stormwater will be, we are testing at**
 19:32:32 **21 a higher elevation, which matters.**
 19:32:35 **22 When you dig stormwater systems**
 19:32:38 **23 it is not much different than digging a hole in**
 10 **24 the sand at the beach. If you dig into where**

19:32:42 **1 the water is, the water is going to come in**
 19:32:44 **2 from the bottom. The same thing happens when**
 19:32:46 **3 you dig a hole next to a wetland or a stream.**
 19:32:50 **4 So that raises the question, are**
 19:32:52 **5 you going to be able to infiltrate and manage**
 19:32:54 **6 stormwater volume and mitigate those impacts.**
 19:32:57 **7 Q. Ms. Adams, you just mentioned basins**
 19:33:01 **8 A-6 and A-7. The two Xs that came up were A-7**
 19:33:06 **9 and A-8. Is that the basins you were referring**
 19:33:08 **10 to in your previous testimony?**
 19:33:09 **11 A. Oh, yes. A-7, A-8 and A-6, if you hit**
 19:33:13 **12 one more it should come up.**
 19:33:15 **13 MR. HEMPHILL: This one here.**
 19:33:16 **14 A. Backwards. There we go.**
 19:33:19 **15 Basin 6 and 8, the perc tests are**
 19:33:21 **16 high. Basin 7, I'm sorry, I skipped over basin**
 19:33:27 **17 7. Basin 7, the proposed basin bottom is lower**
 19:33:29 **18 than the nearest test that shows it would hit**
 19:33:32 **19 rock. So it would not comply with the state**
 5 **20 requirements or be feasible as an infiltration**
 19:33:37 **21 basin.**
 19:33:38 **22 The same with Basin No. 2, it is**
 19:33:41 **23 close to rock refusal, so that, again, would**
 19:33:44 **24 not be -- that's the basin down by the pond in**

19:33:47 **1 the lower end.**
 19:33:49 **2 So as you look at the preliminary**
 19:33:52 **3 data and the preliminary stormwater plan, the**
 19:33:54 **4 applicant really has not demonstrated that the**
 19:33:57 **5 site is suitable for infiltration as shown in**
 19:34:01 **6 this design, these basins and these locations.**
 19:34:04 **7 It is a challenging site, because**
 19:34:06 **8 of the topography, because of the locating of**
 19:34:09 **9 the development between the fingers of the**
 19:34:11 **10 streams and wetlands, it is a difficult site to**
 19:34:14 **11 work in. It is a difficult site to protect**
 19:34:16 **12 water quality.**
 19:34:17 **13 There are also a number of errors**
 19:34:20 **14 in the preliminary calculations. And I**
 19:34:22 **15 recognize that they are very preliminary**
 19:34:24 **16 stormwater calculations that the applicant has**
 19:34:27 **17 supplied, because that's what the conditional**
 19:34:29 **18 use allows.**
 19:34:31 **19 One of the things that have been**
 19:34:32 **20 done incorrectly is the calculation of the**
 19:34:35 **21 runoff volume. There are components called**
 19:34:39 **22 curve numbers that represent land use and how**
 19:34:41 **23 much runoff, an engineer's calculation of**
 19:34:44 **24 runoff of land uses, and you are not allowed to**

19:34:46 **1 average those numbers when you calculate your**
 19:34:48 **2 runoff volumes, under your code or under the**
 19:34:53 **3 Pennsylvania DEP requirements. That's been**
 19:34:55 **4 done in the preliminary calculations, so those**
 19:34:57 **5 calculations are not an adequate representation**
 19:35:00 **6 of the volume that would be anticipated from**
 19:35:05 **7 this development.**
 19:35:08 **8 Some of the other things, let's**
 19:35:12 **9 see, weighted runoff coefficients. With those**
 19:35:16 **10 analyses, the applicant has not really**
 19:35:20 **11 demonstrated that the proposed stormwater**
 19:35:23 **12 system as shown with these basins in this**
 19:35:26 **13 location would be significant and adequate**
 19:35:27 **14 enough to mitigate the volume, and also the**
 19:35:30 **15 rate of runoff coming from the intensity of**
 19:35:33 **16 development that has been proposed, without**
 19:35:36 **17 mitigation of the volume, you will have**
 19:35:39 **18 increased downstream erosion. You will have**
 19:35:41 **19 increased damage.**
 19:35:43 **20 That will also contribute to**
 19:35:45 **21 runoff flow rates that cause the stream bank**
 19:35:48 **22 erosion. That is the biggest cause of water**
 19:35:51 **23 quality impairment in urbanized areas of the**
 19:35:54 **24 site. Without groundwater recharge you will**

19:35:57 **1** not support those headwater streams. Those
 19:35:59 **2** headwater streams reflect the water that's
 19:36:01 **3** seeping out from the hillside, from the
3 **4** groundwater. It is that groundwater recharge
 19:36:05 **5** that keeps those tributaries flowing.
 19:36:07 **6** It is important to restore that
 19:36:09 **7** groundwater recharge in those tributaries to
 19:36:12 **8** maintain them and maintain the flow.
 19:36:15 **9** So it is my opinion that while
 19:36:18 **10** the applicant has submitted a stormwater plan
 19:36:20 **11** showing enough number of basins, as well as
 19:36:24 **12** quite a few geotechnical tests borings and
 19:36:27 **13** pits, test pits for stormwater and borings for
 19:36:31 **14** primarily it looks like the road construction,
 19:36:33 **15** the material that's been submitted, in my
 19:36:36 **16** opinion, does not demonstrate that the
 19:36:38 **17** applicant is going to be able to meet the
 19:36:41 **18** requirements under the Westtown Township
 19:36:42 **19** Stormwater Ordinance, certainly doesn't meet
 19:36:45 **20** LEED, and will not be adequate to protect water
 19:36:49 **21** quality in this already impaired tributary of
 19:36:52 **22** Radley Run, Radley Run.
 19:36:54 **23** **Q.** So there is insufficient detail for
 56 **24** that determination to be made; is that your

19:36:58 **1** opinion?
 19:36:58 **2** **A.** My opinion is that what they have
 19:37:00 **3** submitted indicates that it is, what they are
 19:37:04 **4** proposing is inadequate.
 19:37:08 **5** **Q.** Since the majority of the proposed
 19:37:12 **6** project is upstream from certain streams, does
 19:37:19 **7** that create an issue with the protection of
 19:37:20 **8** those streams?
 19:37:20 **9** **A.** Absolutely. Because we are in the
 19:37:22 **10** headwaters of tributaries of Radley Run, and
 19:37:26 **11** for those here who might follow Stroud Water
 19:37:29 **12** Research Center down in Southern Chester County
 19:37:31 **13** and all the work and research they do, talking
 19:37:33 **14** about the importance of headwater streams, the
 19:37:36 **15** new stream held to the overall health of the
 19:37:38 **16** entire stream, everything, everything that
 19:37:42 **17** happens here affects everything downhill from
 19:37:44 **18** here.
 19:37:45 **19** **Q.** What are those streams, Ms. Adams?
 19:37:49 **20** **A.** Radley Run, and then that's a tributary
 19:37:52 **21** to Lower Brandywine, which ultimately goes to
 19:37:54 **22** the Brandywine, which is the primary drinking
 19:37:54 **23** water source for the City of Wilmington.
 19:37:57 **24** **Q.** Is there another stream?

19:37:59 **1** **A.** Oh, yes. Thank you. There is a small
 19:38:02 **2** area on one side of the site over to the side
 19:38:05 **3** that drains off to the east to Crum Creek. It
 19:38:08 **4** is not entirely clear how the applicant intends
 19:38:11 **5** to manage stormwater from that area. That area
 19:38:15 **6** is subject to the 167 plan in Crum Creek --
 19:38:19 **7** A VOICE: Chester.
 19:38:20 **8** **A.** -- which is very different
 19:38:22 **9** requirements, requiring a 50 percent reduction
 19:38:24 **10** of all flow rates after development compared to
 19:38:27 **11** pre-development. Pretty high standards.
 19:38:29 **12** **Q.** You mean Chester Creek, not Crum?
 19:38:32 **13** **A.** Chester Creek, it eventually goes to
 19:38:35 **14** Crum.
 19:38:35 **15** **Q.** So there is special protection
 19:38:36 **16** standards associated with Chester Creek?
 19:38:39 **17** **A.** No. It is a 167 plan, because this is
 19:38:40 **18** a stream that's been so impaired and so damaged
 19:38:43 **19** by flooding, it is a stream that has undergone
 19:38:46 **20** so many impacts and problems because of land
 19:38:50 **21** development and stormwater, lack of stormwater
 19:38:53 **22** control and flooding, that the current 167
 19:38:55 **23** requirements under the state 167 plan, as
 19:38:59 **24** reflected in the township's ordinances, are

19:39:01 **1** very stringent.
 19:39:01 **2** **Q.** So what are the potential, the water
 19:39:05 **3** quality impacts for the downstream areas?
 19:39:08 **4** **A.** Well, when the development occurs and
 19:39:11 **5** you pave over surfaces, when it rains you have
 19:39:14 **6** more runoff. You have more runoff and you have
 19:39:17 **7** less groundwater infiltration. So there is a
 19:39:19 **8** number of impacts.
 19:39:20 **9** When you have paved over surfaces
 19:39:22 **10** and the groundwater and the water can't soak
 19:39:25 **11** into the ground, that's the water when it
 19:39:27 **12** hasn't rained for a couple days that keeps the
 19:39:29 **13** streams and tributaries returning, comes
 19:39:32 **14** through the soil, through the shallow geology
 19:39:34 **15** and surfaces in the streams, it is the
 19:39:36 **16** reflection of the groundwater to the
 19:39:38 **17** atmosphere. And so you need that infiltration
 19:39:41 **18** to keep the headwater tributaries running and
 19:39:44 **19** to maintain water quality.
 19:39:46 **20** Without groundwater recharge
 19:39:48 **21** there can be no stream-based flow and no water
 19:39:51 **22** quality. So that's one component.
 19:39:53 **23** Another component is that you
 19:39:55 **24** have increased the amount of water you are

19:39:56 1 sending downstream. If you don't reduce it by
 19:39:59 2 infiltrating or reusing or managing the volume,
 19:40:03 3 you are sending an increased amount of water
 19:40:08 4 downstream, and it is more water than the
 19:40:10 5 downstream channels can handle, which is why we
 19:40:14 6 see our streams everywhere with eroded banks,
 19:40:16 7 steep sides, we see our channels changing
 19:40:19 8 because they can't carry all the stormwater
 19:40:22 9 that we are sending downstream. As they get,
 19:40:25 10 make the channel bigger, it sends sediment --
 19:40:27 11 **Q.** Ms. Adams, if you could just slow down
 19:40:29 12 a little bit for the court reporter.
 19:40:32 13 **A. Sure. Sure. Sorry.**
 19:40:35 14 **Q.** Go ahead. Continue with your answer.
 19:40:38 15 **A. As the runoff, as you put more volume**
 19:40:41 16 **into the streams, and the channel is not big**
 19:40:44 17 **enough to carry all that water, it starts to**
 19:40:47 18 **erode the channel. And so that's why we see so**
 19:40:50 19 **many channels with eroded stream banks, why we**
 19:40:53 20 **see sewer lines become exposed when development**
 19:40:56 21 **occurs, and the channels get wider as they wash**
 19:41:00 22 **away, there is problems with that on a couple**
 19:41:03 23 **levels.**
 19:41:06 24 **When the channels downstream get**

19:41:00 1 **wider and they have steep sides, when floods**
 19:41:03 2 **happen, the flows come up and they can't easily**
 19:41:06 3 **connect to floodplains, so we just shoot all**
 19:41:09 4 **the water downstream. So we end up making**
 19:41:12 5 **things worse and worse and worse for people**
 19:41:15 6 **downstream with flooding impacts.**
 19:41:18 7 The other part of that is that
 19:41:21 8 the stream erodes, and it washes all that
 19:41:24 9 sediment, that sediment is a primary pollutant,
 19:41:27 10 and so we are changing the shape of the stream
 19:41:30 11 and the habitat and its ability to support
 19:41:33 12 aquatic life, fish, with the pools and ripples,
 19:41:36 13 and we are sending all that stream, that
 19:41:39 14 sediment downstream, eventually into the
 19:41:42 15 Delaware Bay.
 19:41:45 16 And sediment also settles out on
 19:41:48 17 the bottom of the stream channels and prevents
 19:41:51 18 aquatic organisms from breathing and supporting
 19:41:54 19 the food chain in the streams.
 19:41:57 20 There is a whole cascade of bad
 19:42:00 21 things that happen when we put too much
 19:42:03 22 stormwater in a creek and not enough water back
 19:42:06 23 into the ground, especially in headwater
 19:42:09 24 tributaries.

19:42:04 1 **Q.** You mentioned in your letter an adverse
 19:42:07 2 impact to the benthic aquatic community. What
 19:42:10 3 is that?
 19:42:13 4 **A. The benthic aquatic community are all**
 19:42:16 5 **those small organisms, insects in their larvae**
 19:42:19 6 **form, everything from mayflies and a variety of**
 19:42:22 7 **other insects that in the spring, especially,**
 19:42:25 8 **are on the bottom of channels, breeding. In**
 19:42:28 9 **the early parts of their lives, they form the**
 19:42:31 10 **basis of the food chain and support the larger**
 19:42:34 11 **aquatic population of fish and other species.**
 19:42:37 12 **When you smother them, when you change the**
 19:42:40 13 **channel, bottom, change the channel conditions,**
 19:42:43 14 **you damage that, that community.**
 19:42:46 15 **Q.** And that would be a potential impact
 19:42:49 16 from the development?
 19:42:52 17 **A. It would be one of many potential**
 19:42:55 18 **impacts if the stormwater is not managed**
 19:42:58 19 **adequately, because this is a very dense, very**
 19:43:01 20 **intense development, adding 50 some acres of**
 19:43:04 21 **impervious area. So it is critical to avoid**
 19:43:07 22 **those impacts that the stormwater management**
 19:43:10 23 **system function and function very well.**
 19:43:13 24 **Q.** Does the disconnection of the stream

19:43:09 1 channel from the associated floodplain and
 19:43:12 2 wetlands create an adverse impact?
 19:43:15 3 **A. Yes, absolutely, especially for**
 19:43:18 4 **downstream properties.**
 19:43:21 5 **Q.** How about the disconnection of the
 19:43:24 6 stream channel from all of the associated
 19:43:27 7 wetlands?
 19:43:30 8 **A. Again, that has an impact, especially**
 19:43:33 9 **for downstream communities, on this site. The**
 19:43:36 10 **impact on the wetlands may be if there is not**
 19:43:39 11 **adequate recharge to supply the water to those**
 19:43:42 12 **wetlands, those wetlands can gradually**
 19:43:45 13 **diminish.**
 19:43:48 14 **Q.** How about reduction in the stream base
 19:43:51 15 flow, does that create an adverse impact?
 19:43:54 16 **A. Yes, same thing. If you are not**
 19:43:57 17 **putting the water in the ground to recharge the**
 19:44:00 18 **stream and providing the base flow, you are not**
 19:44:03 19 **supporting the stream properly.**
 19:44:06 20 **Q.** How would the proposed alterations have
 19:44:09 21 an effect on stream temperature?
 19:44:12 22 **A. Well, if the runoff discharges to the**
 19:44:15 23 **stream without a chance to cool off, what**
 19:44:18 24 **happens is that when we have paved surfaces and**

19:44:11 1 it rains, the water that comes off of our roads
19:44:14 2 and our roofs is usually much hotter, or in the
19:44:17 3 wintertime much colder, than the water in our
19:44:20 4 streams, which tends to reflect groundwater
19:44:23 5 around 50, 51, 52 degrees.

19:44:26 6 So when you suddenly have these
19:44:28 7 surges of water in the different temperature
19:44:31 8 change, you will affect, again, the aquatic
19:44:34 9 species in the stream. Again, that's been the
19:44:36 10 subject of a lot of research down at Stroud in
19:44:39 11 Southern Chester County, where they found just
19:44:40 12 a few degrees change can change the entire food
19:44:43 13 chain in the stream.

19:44:45 14 Q. How about the effect of the proposed
19:44:48 15 on-site sewage treatment?

19:44:51 16 A. Honestly, I have not focused on the
19:44:54 17 sewage for this development in detail.

19:44:59 18 Q. Is sewage pollution, is that a major
19:45:05 19 cause of nutrient pollution?

19:45:06 20 A. It could be if it is not properly
19:45:08 21 treated, and especially for removal of
19:45:12 22 nitrates.

19:45:12 23 Q. So it could be a possibility?

19:45:13 24 A. It could be a possibility. There are

19:45:17 1 ways to treat for that.

19:45:18 2 Q. In your opinion, will the proposed
19:45:35 3 project provide adequate stormwater volume
19:45:38 4 management for infiltration?

19:45:41 5 A. No. And I think that's the point of
19:45:44 6 looking at the basins. In order to provide the
19:45:46 7 volume management for infiltration, and the
19:45:48 8 applicant has said that all the basins will
19:45:50 9 infiltrate, the basins have to be physically
19:45:53 10 capable of infiltrating.

19:45:55 11 If the basins are located in an
19:45:58 12 area of seasonal high water table, if, as
19:46:01 13 Basins 9 and 10 are, if they are located in
19:46:05 14 areas where they are close to rock, they are
19:46:07 15 not going to be able to infiltrate.

19:46:10 16 And I note that the test results
19:46:12 17 are not in the basins for the most part. They
19:46:14 18 are nearby the basins. But the data that is
19:46:19 19 available shows that they have not demonstrated
19:46:22 20 at this point that these basins as shown can
19:46:26 21 meet the township requirements of that managed
19:46:29 22 volume.

19:46:30 23 Q. Does the proposed site design and
19:46:32 24 stormwater management system eliminate

19:46:34 1 meaningful stormwater infiltration

19:46:36 2 opportunities?

19:46:37 3 A. I think it does. Because there are a
19:46:39 4 lot of well-draining soils on this parcel, many
19:46:42 5 of them are used for the proposed planned
19:46:46 6 development.

19:46:47 7 As you can see, the basins tend
19:46:49 8 to be located down adjacent to streams or at
19:46:52 9 the headwaters of tributaries, in lower areas
19:46:55 10 of the site, whereas the better soils are on
19:46:58 11 the higher portions of the site. There are
19:47:00 12 some very well-draining soils here that would
19:47:02 13 be well-suited to infiltration, well-suited to
19:47:06 14 low-impact development alternative stormwater
19:47:08 15 design that manage the stormwater in those
19:47:11 16 areas of better soils.

19:47:13 17 Q. In your opinion, the basins are located
19:47:15 18 in these low areas that have diminished
19:47:19 19 infiltration?

19:47:21 20 A. Low areas that have limitations. The
19:47:24 21 applicant did a number of infiltration tests
19:47:27 22 and showed that there was infiltration, but
19:47:30 23 when you look in detail at the engineering
19:47:32 24 drawings and the bottoms of basins or proximate

19:47:36 1 bottoms of basins, and where the perc tests
19:47:38 2 were done, often the perc tests were, there is
19:47:41 3 two sites where the perc tests were 10 feet
19:47:44 4 higher than where the bottom of the basin would
19:47:47 5 be. So you are not testing the soil where you
19:47:50 6 are going to be trying to infiltrate it. You
19:47:52 7 are testing it higher. And soils tend to be
19:47:54 8 better and yet less capable of infiltration
19:47:59 9 until you get down onto rock.

19:48:01 10 And then often if you are close
19:48:02 11 to rock you can -- water will drain very well,
19:48:06 12 but that's not in keeping with the DEP
19:48:08 13 requirements, because if you infiltrate right
19:48:10 14 on the rock, you are sending all the pollutants
19:48:13 15 right into the groundwater without a chance to
19:48:15 16 remove those pollutants and filtrate it, filter
19:48:22 17 the runoff, I should say.

19:48:24 18 Sorry. I'll have to slow down.

19:48:28 19 Q. I'm going to continue with the
19:48:35 20 questioning. Has the proposed project
19:48:37 21 demonstrated that it will provide adequate
19:48:40 22 volume control?

19:48:41 23 A. No.

19:48:47 24 Q. How do you know that?

19:48:48 1 **A. Because the applicant has stated that**
 19:48:51 2 **volume control will be achieved through**
 19:48:53 3 **infiltration, and that all the basins are**
 5 4 **infiltration basins, but the location of the**
 19:48:59 5 **basins and the supporting site information does**
 19:49:03 6 **not support an engineering analysis that these**
 19:49:06 7 **basins will infiltrate.**

19:49:09 8 **Q. Is there an issue that you have**
 19:49:18 9 **identified with the down-slope area of the**
 19:49:20 10 **eastern townhouse cluster shown on the plan?**

19:49:23 11 **A. Well, it is not clear where all the,**
 19:49:26 12 **where all the runoff from all the sections of**
 19:49:28 13 **the development are going. The drawings are a**
 19:49:32 14 **little confusing. For instance, there is no**
 19:49:34 15 **one drawing that shows where the geotechnical**
 19:49:37 16 **testing was done in reference to the most**
 19:49:39 17 **recent layouts or the detention, the proposed**
 19:49:43 18 **detention basins.**

19:49:46 19 **Sometimes the basins show**
 19:49:48 20 **grading, proposed grading, but not other**
 19:49:50 21 **information, grading of the basin but not other**
 19:49:52 22 **information. It is not clear where that**
 19:49:54 23 **eastern townhouse development will be draining**
 17 24 **to. So if it is draining to Crum Creek or if**

19:50:02 1 **it is draining to the east to Chester Creek, I**
 19:50:05 2 **don't know what the stormwater management for**
 19:50:07 3 **it is.**

19:50:07 4 **If it is draining to one of the**
 19:50:09 5 **basins then it will be taking water from one**
 19:50:12 6 **major watershed into the Radley Run Watershed,**
 19:50:15 7 **crossing the watershed divide. I don't know**
 19:50:18 8 **what the plans are from the information that's**
 19:50:21 9 **been provided.**

19:50:22 10 **Q. So you can't tell whether it is**
 19:50:25 11 **actually draining into the Chester Creek**
 19:50:28 12 **Watershed?**

19:50:28 13 **A. I can't tell. I can surmise that**
 19:50:30 14 **potentially they are bringing water over to**
 19:50:32 15 **Radley Run. But, again, that level of detail**
 19:50:35 16 **is not in the plans.**

19:50:36 17 **And I should note that the plans**
 19:50:37 18 **that are available online are scans of PDFs, so**
 18 19:50:42 19 **it is difficult to measure things. They are**
 20 **not -- you cannot measure and be accurate in**
 19:50:48 21 **your measurements. There was only one actual**
 19:50:50 22 **PDF which could be used to do engineering**
 19:50:53 23 **measurements on the files that were available.**

19:50:56 24 **Q. Is it a problem if you take water from**

19:51:00 1 **one watershed and divert it to another?**

19:51:03 2 **A. I believe it is cited in one of the**
 19:51:06 3 **sections of the township ordinance, and it is**
 19:51:08 4 **also generally frowned upon to move water from**
 19:51:13 5 **one watershed to another, because you are both**
 19:51:16 6 **sending stormwater somewhere it hasn't been**
 19:51:18 7 **going and you are diverting base flow from**
 19:51:21 8 **somewhere it used to go.**

19:51:27 9 **Q. Talk about how the extensive cut and**
 19:51:29 10 **fill that's proposed would alter the soil**
 19:51:32 11 **conditions on the site.**

19:51:33 12 **A. Well, the basins are largely excavated,**
 19:51:37 13 **and sometimes pretty extensively excavated,**
 19:51:42 14 **multiple feet deep, and sloped. And when you**
 19:51:46 15 **do that amount of earth work, you tend to**
 19:51:48 16 **change the soil conditions so that it is very**
 19:51:53 17 **hard to achieve good infiltration in a deep**
 19:51:55 18 **basin like that.**

19:51:56 19 **And folks who pay attention to**
 19:51:59 20 **basins and probably notice lots of basins,**
 19:52:02 21 **where there is water sitting where it is not**
 19:52:04 22 **supposed to be, because that extensive earth**
 19:52:07 23 **work disturbs the soils, and a lot of fines and**
 19:52:11 24 **other sediment wash into the basin, and they**

19:52:13 1 **tend to clog, frankly, when you do very deep,**
 19:52:17 2 **extensive cuts for infiltration basins.**

19:52:19 3 **Q. Are the proposed lengths of various**
 19:52:26 4 **steep slopes along the sides of basins likely**
 19:52:29 5 **to cause erosion and discharge of sediment?**

19:52:31 6 **A. If they are not properly stabilized and**
 19:52:33 7 **properly maintained they will. And there is**
 19:52:36 8 **plenty of examples of basins where you can see**
 19:52:42 9 **channels that have been cut on the sides of**
 19:52:44 10 **basins where the mud has washed in, where the**
 19:52:46 11 **fabric has washed down post construction. And**
 19:52:50 12 **all that contributes to mud and runoff that**
 19:52:53 13 **enters the streams.**

19:52:56 14 **There is lots of examples. I**
 19:52:59 15 **could have brought pictures, and I can bring**
 19:53:01 16 **pictures if you like, of examples along the**
 19:53:03 17 **turnpike, along 202, along some different**
 19:53:06 18 **developments, where steep basins tend to have**
 19:53:08 19 **eroded side slopes, especially in the first**
 19:53:13 20 **year or two after development.**

19:53:17 21 **Q. Does the proposed design of the**
 19:53:19 22 **development in your opinion demonstrate that**
 19:53:22 23 **public health, safety and general welfare of**
 19:53:25 24 **property and water quality will be protected?**

19:53:28 1 **A. No, it does not.**
 19:53:33 2 **Q.** Does it comply with the protocols
 19:53:35 3 written in the Pennsylvania stormwater best
 6 4 management practices manual?
 19:53:39 5 **A. No, it doesn't, on a number of factors,**
 19:53:41 6 **including calculation methodologies, distances**
 19:53:45 7 **between the bottom of basins and groundwater,**
 19:53:48 8 **etcetera.**
 19:53:50 9 **Q.** Is there an issue with the weighted
 19:53:52 10 averaging of the curve number values that you
 19:53:55 11 have analyzed that were presented as part of
 19:53:58 12 the development?
 19:53:58 13 **A. There is, because the township**
 19:54:00 14 **ordinance and the DEP requirements don't allow**
 19:54:04 15 **engineer's to average land uses, because it is**
 19:54:08 16 **not a linear mathematical relationship when you**
 19:54:11 17 **calculate the runoff, and if you average**
 19:54:15 18 **different land uses it tends to underestimate**
 19:54:17 19 **the impacts of impervious surfaces, which is**
 19:54:20 20 **why you calculate volume, you have to calculate**
 19:54:24 21 **each land use type runoff volume on its own.**
 19:54:28 22 **Q.** Is there a section of the ordinance
 19:54:30 23 that requires that or limits the ability to --
 34 24 **A. I believe so. I would have to look in**

19:54:35 1 **my letter to find the section of the ordinance.**
 19:54:38 2 **Q.** It is at the top of page 7.
 19:54:40 3 **A. Thank you. Yes. Stormwater, the**
 19:54:49 4 **section is 144-305-I, .I, weighted averaging of**
 19:54:56 5 **runoff coefficients shall not be used for**
 19:55:01 6 **manual computations or input data for water**
 19:55:11 7 **quality and runoff calculations. Sorry about**
 19:55:16 8 **that.**
 19:55:17 9 **Q.** So the plan doesn't comply with this
 19:55:20 10 requirement?
 19:55:20 11 **A. It does not comply with this**
 19:55:21 12 **requirement.**
 19:55:22 13 **Q.** I think you have touched on this
 19:55:34 14 before, but did the infiltration basins'
 19:55:37 15 location, either directly along waterways and
 19:55:40 16 wetlands, low lying areas, create issues for
 19:55:44 17 central water pollution?
 19:55:47 18 **A. Well, they do because the basins are**
 19:55:50 19 **less likely to perform their function for**
 4 20 **volume reduction or for water quality**
 19:55:56 21 **improvement or for even peak rate control, if**
 19:55:59 22 **they are in conditions where they can't**
 19:56:02 23 **infiltrate as designed. They don't provide**
 19:56:04 24 **adequate capacity for the amount of runoff they**

19:56:07 1 **have been designed for, if water sits in these**
 19:56:09 2 **basins.**
 19:56:14 3 **Q.** Post stormwater management on the plan
 19:56:24 4 consists of only infiltration basins, which is
 19:56:28 5 only one type of best management practice.
 19:56:30 6 Should other best management practices be
 19:56:32 7 considered?
 19:56:33 8 **A. Well, the stormwater manual contains a**
 19:56:37 9 **great deal. The U.S. Green Building Council**
 19:56:41 10 **LEED system strongly advocates for a low-impact**
 19:56:44 11 **development approach, where runoff is managed**
 19:56:47 12 **throughout the development footprint, in**
 19:56:51 13 **driveways, in lawns, on roofs throughout the**
 19:56:54 14 **site, where the soils are more suitable and**
 19:56:58 15 **more suitable for recharge and volume**
 19:57:02 16 **reduction.**
 19:57:03 17 So there are lots of ways to come
 19:57:07 18 up with a solution that would work for this
 19:57:10 19 site.
 19:57:11 20 **Q.** There is a chart on page 8 of your
 19:57:14 21 letter. Could you describe what that chart
 19:57:16 22 demonstrates?
 19:57:19 23 **A. Yes. This is getting to the**
 19:57:21 24 **Pennsylvania DEP requirements.**

19:57:24 1 **Because stormwater infiltration**
 19:57:27 2 **systems tend to fail if you put too much water**
 19:57:29 3 **in one spot, the department uses something**
 19:57:33 4 **called loading ratios, which is how much**
 19:57:37 5 **impervious area can go to an infiltration**
 19:57:40 6 **system.**
 19:57:40 7 **So, for instance, if you have a**
 19:57:43 8 **one-acre infiltration system and your loading**
 19:57:46 9 **ratio is five, that means five acres of**
 19:57:48 10 **impervious area go to one acre of infiltration.**
 19:57:51 11 These are our estimated loading
 19:57:53 12 ratios for the plan as it been submitted, and
 19:57:58 13 you can see they range from as high as 120 down
 19:58:01 14 to 7 in basin A-7.
 19:58:03 15 **Q.** And just so we are clear, what is the
 19:58:05 16 loading ratio?
 19:58:06 17 **A. The loading ratio is the ratio of how**
 19:58:08 18 **much impervious area to the area of the**
 19:58:12 19 **stormwater infiltration system, with the idea**
 19:58:15 20 **being if you put too much water on one spot it**
 19:58:18 21 **is not going to infiltrate. You are going to**
 19:58:20 22 **overload it. It is going to sit there.**
 19:58:21 23 There is some flexibility in
 19:58:24 24 loading ratios, but these are also very high

19:58:27 1 numbers. Basin A-2 --

19:58:29 2 **Q.** Well, let's talk, BMP manual has, what

19:58:36 3 is the loading ratio that's proposed or

0 4 suggested in that manual?

19:58:41 5 **A.** As I recall, I think it is five for

19:58:43 6 impervious areas to stormwater infiltration

19:58:48 7 systems. I would have to check that. But I

19:58:52 8 believe it is five.

19:58:53 9 The department does give some

19:58:56 10 leeway depending on site conditions. But they

19:59:00 11 are generally --

19:59:01 12 **Q.** So five-to-one is the loading ratio?

19:59:04 13 **A.** Five-to-one would be a requirement to

19:59:06 14 be sure that the system is going to infiltrate.

19:59:09 15 **Q.** And that's to determine that the system

19:59:12 16 is adequately designed to handle the

19:59:14 17 impervious?

19:59:16 18 **A.** Correct. Because if you put too much

19:59:18 19 water in one spot, and the soil doesn't have

19:59:22 20 the capacity, for various reasons, to take that

19:59:26 21 much water, it is not going to get infiltrated.

19:59:28 22 It is going to discharge.

19:59:29 23 **Q.** Let's talk about the ratios in the

31 24 chart that are provided for, for the basins.

19:59:36 1 What is the loading ratio proposed for basin

19:59:39 2 A-1?

19:59:40 3 **A.** Basin A-1 says 32.

19:59:47 4 **Q.** Is that acceptable?

19:59:49 5 **A.** No. That wouldn't be acceptable. The

19:59:53 6 Pennsylvania DEP might allow a department -- a

19:59:57 7 ratio that high if there were very good

20:00:00 8 site-specific conditions. But as we have

20:00:01 9 talked about, that hasn't been supported by the

20:00:04 10 geotechnical data that's been submitted with

20:00:06 11 this application.

20:00:07 12 **Q.** How about Basin 2?

20:00:10 13 **A.** Basin 2, it is 120-to-one. And these

20:00:13 14 are our estimates based on the documents that

20:00:16 15 are available on the township's website.

20:00:18 16 **Q.** With that basin, would that loading

20:00:20 17 ratio be permitted?

20:00:23 18 **A.** No. That's exceedingly high. Basin 2

20:00:26 19 is a small basin down here above the pond, so

20 20 that's likely to be a wet spot to begin with.

20:00:30 21 You have got a little tributary, Radley Run

20:00:33 22 coming in at that pond right there, and Basin 2

20:00:36 23 sits about right there.

20:00:37 24 **Q.** So you could put a basin there?

20:00:41 1 **A.** You could put, you could put a basin

20:00:43 2 anywhere. That doesn't mean it is going to

20:00:45 3 infiltrate. They may work for detention, for

20:00:49 4 peak rate control, but the applicant is

20:00:51 5 representing that these are intended to be

20:00:52 6 infiltration basins to manage volume.

20:01:04 7 MR. HAWS: I'm seeing the court

8 reporter shaking her head. Maybe we need to

20:01:06 9 break.

20:01:06 10 MR. MCKENNA: I wasn't sure how

20:01:09 11 many more questions you had.

20:01:09 12 MR. THOMPSON: I have a little

20:01:10 13 more.

20:01:10 14 MR. MCKENNA: That's fine. Let's

20:01:10 15 take our ten-minute break now. Thank you.

20:01:12 16 (Recess taken.)

20:17:24 17 MR. MCKENNA: Eleanor, let's go

20:17:28 18 back on the record.

20:17:29 19 Folks, I have spoken with the

20:17:30 20 Board and we have a few quick things. First,

20:17:33 21 it is incredibly likely that we are all going

20:17:36 22 to be back here November at a minimum for

20:17:39 23 public comment. Even if public comment is

20:17:41 24 started tonight, it is unlikely we will finish.

20:17:44 1 So I'm telling you now we will be back on the

20:17:47 2 27th.

20:17:47 3 I tell you that in case anybody

20:17:48 4 wants to go watch the Dodgers and the World

20:17:52 5 Series play, feel free. You will have an

20:17:54 6 opportunity next month at a minimum. We are

20:17:55 7 going to do our best to finish the testimony

20:17:58 8 tonight, I will tell you that.

20:17:59 9 Secondly, I want to go quick out

20:18:01 10 of order. I have the consent of counsel, I

20:18:03 11 have the consent of the Board to have just very

20:18:06 12 limited public. Ms. Laura Steidle, she is

20:18:10 13 here. She has children. I would like to

20:18:12 14 accommodate her very quickly if we could. So I

20:18:14 15 know she doesn't want to stay here any longer

20:18:16 16 than she absolutely needs to.

20:18:17 17 So unless there is anybody has

20:18:18 18 any objection, and I have spoken with counsel,

20:18:21 19 why don't we go ahead and have your quick

20:18:23 20 public comment. Go ahead now.

20:18:27 21 MS. STEIDLE: Hello. I'm going

20:18:30 22 to try to get through this without getting as

20:18:32 23 emotional as I can.

24 THE COURT REPORTER: Excuse me.

1 I need your name, and spelling, please.
 20:18:35 2 MS. STEIDLE: Laura Steidle,
 20:18:38 3 S-T-E-I-D-L-E.
 3 4 So I'm going to try to get
 20:18:45 5 through this without being as emotion as I can.
 20:18:48 6 I've already come into this with heightened
 20:18:50 7 emotions since this is a piece of property that
 20:18:52 8 means a lot to me, as well as many of the
 20:18:54 9 community members.
 20:18:55 10 I was very fortunate to have
 20:18:58 11 grown up in the area and be able to share the
 20:19:01 12 beauty of this community. After spending ten
 20:19:04 13 years away, when it was time to decide where to
 20:19:06 14 raise a family, I couldn't think of a better
 20:19:08 15 place.
 20:19:09 16 I grew up off of 926, in Spring
 20:19:11 17 Meadows, in Birmingham Township. I now live in
 20:19:14 18 Westtown Township. I drive past this
 20:19:19 19 quintessential Chester County property every
 20:19:20 20 single day.
 20:19:21 21 I am here to state my
 20:19:22 22 disappointment of the development of Crebilly
 20:19:25 23 Farm. I can't believe that it has even gotten
 20:19:28 24 to this point. I moved here to be able to show

20:19:35 1 my children what the beauty of Chester County
 20:19:38 2 is. I'm really uncertain as to how the
 20:19:44 3 township even has allowed it to get to this
 20:19:47 4 point, as I have received recently numerous
 20:19:52 5 surveys that have asked me what I would like
 20:19:54 6 our township to be like.
 20:19:56 7 They have been asking about what
 20:19:57 8 we would like our lands to be, what we would
 20:19:59 9 like the open space, what we would like
 20:20:01 10 development. I don't understand why these
 20:20:04 11 questions are being asked now. These questions
 20:20:08 12 that people have been answering are telling you
 20:20:11 13 what we want, and we are telling you that we
 20:20:15 14 want open space, that we want land for our
 20:20:17 15 children to have, to see the beauty of the
 20:20:20 16 nature, as well as having the opportunity to
 20:20:26 17 have these historic areas that we are so
 20:20:29 18 fortunate to have.
 20:20:30 19 As a taxpayer I feel like the
 20:20:37 20 township should be doing more to protect this
 20:20:40 21 for our future generations. I don't think it
 20:20:43 22 is fair to back pedal and to speak about other
 20:20:49 23 things that you want to do for the future when
 20:20:52 24 you don't consider this piece of property into

20:20:54 1 our future.
 20:20:55 2 It really should be maintained
 20:20:58 3 for future generations. In addition to that,
 20:21:04 4 my children will be going to school in the West
 20:21:07 5 Chester School District. The way that the
 20:21:11 6 elementary schools are going to have to be
 20:21:14 7 reshuffled to allow for the additional students
 20:21:18 8 from the 350 Toll Brothers homes.
 20:21:23 9 I also don't understand why a
 20:21:25 10 referendum for the open space that is currently
 20:21:27 11 available hasn't been worked on for these
 20:21:30 12 upcoming elections. They are speaking, you are
 20:21:34 13 asking these questions about what we want our
 20:21:36 14 open space to be. We have given you, we are
 20:21:38 15 giving you the answers, but the meeting is past
 20:21:41 16 the point of when this decision will be made.
 20:21:43 17 I really appreciate you allowing
 20:21:46 18 me to take the time on this busy night for all
 20:21:51 19 of us to have the chance to express how
 20:21:56 20 passionate I am about saving this piece of
 20:21:58 21 property. Thank you.
 20:22:09 22 MR. MCKENNA: Thank you, ma'am,
 20:22:11 23 for you Batman being here this evening. Thank
 20:22:14 24 you, counsel, for the accommodation to allow

20:22:16 1 her --
 20:22:17 2 MS. STEIDLE: Thank you.
 20:22:17 3 MR. MCKENNA: -- to allow her to
 20:22:19 4 make her comments this evening. Ma'am, I don't
 20:22:21 5 think you did, if you wouldn't mind, could we
 20:22:22 6 have your address?
 20:22:23 7 MS. STEIDLE: 601 East Pleasant
 20:22:26 8 Grove Road.
 20:22:26 9 MR. MCKENNA: Thank you very
 20:22:27 10 much. All right. With that in mind, Mr.
 20:22:31 11 Thompson, return back, if it is all right, to
 20:22:34 12 the direct of Ms. Adams.
 20:22:38 13 BY MR. THOMPSON:
 20:22:39 14 Q. Ms. Adams, we are back on the record.
 20:22:45 15 We were just talking about the chart on page 8
 20:22:49 16 in your review letter concerning the loading
 20:22:52 17 ratios associated with the basins that are
 20:22:55 18 proposed on the plan. You don't have to go
 20:22:58 19 through all of the basins, but are any of these
 20:23:00 20 basins, Basin 1, 2, 4, 5, 6, 7, 8, 9 and 10,
 20:23:06 21 compliant with that maximum loading ratio?
 20:23:10 22 A. No, not to the factor of one, no.
 20:23:15 23 Q. Just so that we are clear, the issues
 20:23:18 24 associated with loading ratios that are

20:23:22 1 significantly higher than what is permitted,
 20:23:25 2 what are those issues?
 20:23:27 3 **A. Well, if you put too much water in one**
 20:23:36 4 **spot, it is not even if infiltration is viable**
 20:23:39 5 **at that location, you may not infiltrate the**
 20:23:42 6 **water in the time required by the ordinances,**
 20:23:47 7 **say 72 hours. The soils tend to stay saturated**
 20:23:49 8 **and change conditions, and then they don't**
 20:23:52 9 **infiltrate at all even if there is good**
 20:23:53 10 **underlying infiltration.**
 20:23:57 11 It carries, it is more water than
 20:24:00 12 the soil can handle in the time that the
 20:24:02 13 stormwater calculations are required to show
 20:24:05 14 that the water would be infiltrated.
 20:24:08 15 **Q. Does that create a threat to public**
 20:24:12 16 **health and the issues related to stormwater**
 20:24:13 17 **pollution?**
 20:24:16 18 **A. Well, when basins that are designed to**
 20:24:18 19 **infiltrate don't infiltrate, then that**
 20:24:21 20 **increases the amount of water sent downstream,**
 20:24:24 21 **and it correspondingly increases the flow rate**
 20:24:27 22 **sent downstream, and conveys with it the**
 20:24:29 23 **pollutants from the property in question, and**
 20:24:32 24 **then those increased flows cause stream bank**

20:24:32 1 **erosion, picking up additional pollutants as**
 20:24:35 2 **the streams are eroded downstream.**
 20:24:37 3 **Q. When you talk about pollutants, are**
 20:24:39 4 **pollutants such as lawn chemicals, things of**
 20:24:42 5 **that nature?**
 20:24:43 6 **A. Lawn chemicals tend to be, fertilizers**
 20:24:46 7 **and pesticides, they are, probably the**
 20:24:51 8 **nutrients of concern would be nitrogen,**
 20:24:54 9 **nitrites and phosphorous. Phosphorous, when it**
 20:24:59 10 **is in homeowners' fertilizer, tends to bind to**
 20:25:02 11 **the sediment so if a basin holds the sediment**
 20:25:05 12 **it would probably slow down the phosphorous.**
 20:25:08 13 **If a homeowner applies fertilizers with**
 20:25:11 14 **nitrites, they tend to wash off, go through**
 20:25:15 15 **basins, etcetera.**
 20:25:17 16 **Q. So a basin wouldn't, would not prevent**
 20:25:21 17 **downstream accumulation of those types of**
 20:25:24 18 **pollutants?**
 20:25:25 19 **A. No, not significantly.**
 20:25:29 20 **Q. What types of issues do those**
 20:25:32 21 **pollutants cause to downstream environs?**
 20:25:36 22 **A. The nutrients are the reason the algal**
 20:25:39 23 **bloom takes off from water bodies such as the**
 20:25:42 24 **Delaware Bay, where you have large alga blooms**

20:25:43 1 **and dead zones, where there is no oxygen**
 20:25:46 2 **because of the decaying algae mass.**
 20:25:48 3 **Sometimes it is a problem in the**
 20:25:49 4 **Brandywine. You will see it in the Brandywine**
 20:25:51 5 **River. You will see algal mats form in the**
 20:25:54 6 **summertime, if flows are low, depending where**
 20:25:58 7 **you are on the Brandywine. But these are the**
 20:26:00 8 **nutrients that cause excess algal growth.**
 20:26:04 9 **Q. You had mentioned or you provided an**
 20:26:07 10 **opinion about the incorrect curve number value**
 20:26:11 11 **being utilized. Could you elaborate on that?**
 20:26:13 12 **A. Oh. I think I mentioned earlier the**
 20:26:17 13 **curve number is, the engineers apply different**
 20:26:22 14 **coefficients to represent different land uses**
 20:26:24 15 **and how much runoff will come off of land uses.**
 20:26:26 16 **And the curve number is the most common way of**
 20:26:31 17 **doing that.**
 20:26:32 18 **And there were, I think I noted**
 20:26:34 19 **on page 9 where there were -- there is**
 20:26:38 20 **situations in the calculations that were**
 20:26:40 21 **provided in the October stormwater narrative**
 20:26:43 22 **where the correct curve number wasn't applied**
 20:26:46 23 **according to the tables. It looks like an**
 20:26:48 24 **error.**

20:26:48 1 **Q. So does that cause an issue with the**
 20:26:54 2 **post-development peak rate runoff being**
 20:26:55 3 **reduced?**
 20:26:56 4 **A. If you don't apply the right curve**
 20:26:58 5 **number, then you will underestimate how much**
 20:27:03 6 **runoff the site will be generating,**
 20:27:06 7 **mathematical mistakes.**
 20:27:09 8 **Q. Go ahead, continue.**
 20:27:11 9 **A. Well, it is one mistake. And then you**
 20:27:13 10 **are not allowed to average these curve numbers,**
 20:27:16 11 **as I spoke about earlier, to calculate volume.**
 20:27:18 12 **You have to calculate each land use,**
 20:27:21 13 **essentially on individually, to estimate volume**
 20:27:24 14 **of runoff and to demonstrate that you can**
 20:27:26 15 **manage the volume.**
 20:27:28 16 **Q. And the sum total of those issues, the**
 20:27:32 17 **incorrect curve number calculations, could**
 20:27:34 18 **potentially cause health, safety and welfare**
 20:27:37 19 **issues for downstream properties; is that a**
 20:27:41 20 **fair statement?**
 20:27:41 21 **A. That is a fair statement. These are**
 20:27:44 22 **cumulative impacts that impact the design of**
 20:27:49 23 **whether or not it works.**
 20:27:50 24 **Q. All of these, all of the opinions that**

20:27:53 1 you have rendered, they have been rendered in
 20:27:57 2 your capacity as a professional engineer and
 20:28:02 3 are your opinion as a professional?
 4 4 **A. Yes, with a fair degree of scientific**
 20:28:07 5 **certainty.**
 20:28:09 6 **Q.** Is there anything else you would like
 20:28:11 7 to offer concerning the design of the site and
 20:28:13 8 its ability to handle stormwater?
 20:28:15 9 **A. There are many locations of**
 20:28:24 10 **well-draining soils on the site. The site**
 20:28:26 11 **could be developed differently if chosen to be.**
 20:28:33 12 MR. THOMPSON: Thank you, Ms.
 20:28:34 13 Adams. I don't have any further questions.
 20:28:38 14 MR. MCKENNA: Mr. Adelman,
 20:28:39 15 cross-examine.
 20:28:40 16 MR. ADELMAN: Thank you.
 17 CROSS-EXAMINATION
 18 BY MR. ADELMAN:
 20:28:41 19 **Q.** Good evening, Ms. Adams.
 20:28:42 20 **A. Good evening.**
 20:28:43 21 **Q.** In looking at your resume, curriculum
 20:28:46 22 vitae, which was introduced as NC-4, isn't it
 20:28:49 23 true that generally you don't represent
 51 24 developers? You represent either protestants

20:28:54 1 or environmental groups?
 20:28:56 2 **A. No. In fact, most of my office revenue**
 20:28:59 3 **comes from land development projects. They**
 20:29:01 4 **tend to be institutional in nature rather than,**
 20:29:07 5 **you know, residential such as Toll Brothers,**
 20:29:10 6 **although we have done residential developments.**
 20:29:12 7 **Q.** On the sixth page of your resume where
 20:29:20 8 you have testified in hearings, there is a
 20:29:22 9 whole number of applications listed here, are
 20:29:25 10 you saying that you did work on behalf of the
 20:29:28 11 Tennessee Pipeline as opposed to the Delaware
 20:29:33 12 Riverkeeper?
 20:29:33 13 **A. No. I'm saying that most of my office**
 20:29:35 14 **revenue comes from land development projects.**
 20:29:37 15 **Q.** How about Blue Mountain Preservation
 20:29:40 16 Association versus Alpine Development Rose
 20:29:42 17 Resorts, who did you represent in that hearing
 20:29:44 18 and testify for?
 20:29:45 19 **A. I was engaged by Widener Law Institute**
 20 20 **on behalf of Blue Mountain.**
 20:29:49 21 **Q.** Okay. And Crum Creek Neighbors v. DEP,
 20:29:53 22 that one I know. Who were you there on behalf
 20:29:56 23 of?
 20:29:56 24 **A. The neighborhood water association**

20:29:57 1 **again.**
 20:29:57 2 **Q.** Right. So there is a whole bunch of
 20:29:59 3 these that you have here generally, at least in
 20:30:01 4 your testimony, you are testifying on behalf
 20:30:04 5 of, not the developer or the institutional
 20:30:06 6 development, but you are testifying on behalf
 20:30:09 7 of a protestant?
 20:30:13 8 MR. THOMPSON: I'm going to
 20:30:13 9 object to that. She has answered that she
 20:30:16 10 provides testimony on many development
 20:30:17 11 projects.
 20:30:18 12 MR. ADELMAN: I am allowed to ask
 20:30:19 13 questions with respect to the witness' bias.
 20:30:22 14 MR. MCKENNA: I understand. I
 20:30:23 15 would like to not make it duplicative, is all.
 20:30:25 16 MR. ADELMAN: I'm going through
 20:30:26 17 each one of these. She says she actually does
 20:30:29 18 work on behalf of developers. And I'm talking
 20:30:32 19 about her testimony right now and hearings.
 20:30:34 20 MR. MCKENNA: Her testimony was
 20:30:35 21 that she does land development work for
 20:30:38 22 institutional clients.
 20:30:39 23 MR. ADELMAN: That's right. Now
 20:30:40 24 I'm looking at page, whatever this is, five of

20:30:43 1 her resume, and I'm going through each one of
 20:30:45 2 these, finding out who she represented and
 20:30:47 3 testified for in those hearings.
 20:30:49 4 MR. MCKENNA: That's fine. I
 20:30:51 5 don't think it is inconsistent, however, with
 20:30:53 6 her statement as to those institutional
 20:30:55 7 clients.
 20:30:55 8 MR. ADELMAN: That's great. I
 20:30:57 9 moved on to her testimony as an expert witness.
 20:30:59 10 MR. MCKENNA: That's fine. I
 20:31:02 11 overrule the objection.
 20:31:03 12 BY MR. ADELMAN:
 20:31:03 13 **Q.** Okay. So when I look at the rest of
 20:31:05 14 the testimony then, Citizens for Pennsylvania
 20:31:08 15 Future versus City of Pittsburgh, who did you
 20:31:10 16 active on behalf of in that action?
 20:31:12 17 **A. Penn Future.**
 20:31:14 18 **Q.** Right. How about Tim and Jamie Lake
 20:31:19 19 versus The Hankin Group? The Hankin Group is a
 20:31:21 20 developer, correct?
 20:31:21 21 **A. They are a developer.**
 20:31:23 22 **Q.** Who did you testify for in that action?
 20:31:25 23 **A. Tim Lake in that, news guy. But none**
 20:31:31 24 **of these cases could keep my office sustained**

20:31:35 1 in terms of revenue. In terms of revenue, most
20:31:38 2 of the revenue comes from civil engineering,
20:31:40 3 land development.

3 4 Q. How about, what page, the page before,
20:31:47 5 Clean Air Council versus Commonwealth, DEP and
20:31:50 6 the Sunoco Mariner East Pipeline project?

20:31:53 7 A. That was Clean Air.

20:31:55 8 Q. Right. And the one that's listed
20:31:56 9 underneath there as well, Bradley and Amy
20:31:59 10 Simon, again?

20:32:00 11 A. On the professional -- Pennsylvania
20:32:03 12 Society of Professional Engineers, they have an
20:32:06 13 oath that your principal duty as an engineer is
20:32:10 14 the health, safety and welfare of the public,
20:32:12 15 and I take that very seriously.

20:32:13 16 Q. I don't think you answered my question.
20:32:15 17 With respect to the Bradley and Amy Simon
20:32:18 18 litigation versus DEP and Sunoco Mariner East
20:32:21 19 Pipeline, who did you represent?

20:32:22 20 A. The Simons.

20:32:23 21 Q. Great, thank you. Based on your
20:32:28 22 testimony and what you issued as NC-4, your
20:32:32 23 review letter, am I correct in stating that
20:32:33 24 your opinion is none of the basins that the

20:32:39 1 developer proposed will infiltrate?

20:32:41 2 A. My opinion is that the data provided
20:32:45 3 doesn't support that it has been demonstrated
20:32:47 4 that they will infiltrate.

20:32:48 5 Q. Okay. So you haven't made a conclusion
20:32:50 6 as to whether they will or they won't
20:32:52 7 infiltrate?

20:32:52 8 A. My conclusion is there is inadequate
20:32:55 9 data. The streams, there is not data at the
20:32:58 10 basin locations for the most part, and the data
20:33:00 11 that is there doesn't represent, for instance,
20:33:02 12 the bottom of the basins, the existing
20:33:06 13 conditions that will be in place.

20:33:08 14 If you do an infiltration test 10
20:33:10 15 feet or more above where you are going to be
20:33:12 16 infiltrating, and in a different location,
20:33:16 17 that's not representative of demonstrating that
20:33:18 18 the stormwater system will work.

20:33:20 19 And a couple of these basins are
20 20 in areas where the applicant has shown a
20:33:24 21 seasonal high water table, which is definitely
20:33:27 22 not suitable for infiltration systems.

20:33:28 23 Q. But would you agree with me that this
20:33:30 24 design is a very preliminary or rudimentary

20:33:33 1 stormwater plan?

20:33:34 2 A. It is of a very rudimentary stormwater
20:33:37 3 plan. But conditional use still requires that
20:33:40 4 adequate performance with the stormwater
20:33:42 5 ordinances to be capable, that the plan must be
20:33:46 6 able to meet those ordinances in subsequent
20:33:50 7 submissions.

20:33:50 8 Q. Are you aware the township engineer has
20:33:52 9 reviewed this stormwater plan and determined it
20:33:54 10 to be feasible with respect to those
20:33:56 11 conditional use criteria?

20:33:57 12 A. I am aware that the township engineer
20:33:59 13 has reviewed it.

20:34:00 14 Q. Okay. Are you also aware that he
20:34:02 15 approved it and determined it to be feasible
20:34:04 16 under the conditional use criteria?

20:34:07 17 A. I don't know.

20:34:08 18 MR. THOMPSON: I object to that.
20:34:09 19 I don't think the township engineer approves
20:34:11 20 plans.

20:34:11 21 MR. ADELMAN: Objection. He
20:34:12 22 testified as such. I'm asking her if she is
20:34:14 23 aware.

20:34:14 24 MR. THOMPSON: That's my

20:34:16 1 objection.

20:34:16 2 MR. ADELMAN: Excuse me. He
20:34:17 3 testified it was feasible.

20:34:19 4 MR. MCKENNA: I have no idea. I
20:34:20 5 have no recollection whatsoever of what he
20:34:22 6 testified to. On night number nine, I'll be
20:34:27 7 completely honest, I don't know what he
20:34:28 8 testified to.

20:34:28 9 Your objection is to the
20:34:29 10 characterization?

20:34:30 11 MR. THOMPSON: That's correct.

20:34:31 12 MR. MCKENNA: I overrule because
20:34:32 13 it is cross-examination at this point.

20:34:34 14 BY MR. ADELMAN:

20:34:35 15 Q. Are you aware that the township
20:34:37 16 engineer has reviewed this stormwater design?

20:34:41 17 A. I am aware he has reviewed it.

20:34:42 18 Q. Okay. Are you aware in his review
20:34:45 19 letters he has determined it to be feasible?

20:34:47 20 A. Only on the basis of your stating so.

20:34:50 21 Q. So you have not reviewed his review
20:34:52 22 letters?

20:34:52 23 A. I have not -- I have not reviewed a
20:34:56 24 letter that says -- I don't --

20:34:58 1 Q. I'll repeat the question. I'll
 20:35:00 2 rephrase the question. Have you reviewed the
 20:35:02 3 township engineer's stormwater review letters?
 6 4 A. I reviewed a letter from Cedarville
 20:35:09 5 Engineering regarding stream buffers and
 20:35:14 6 encouraging stream buffers in this project, in
 20:35:15 7 the PRD plan. I am not aware of a letter that
 20:35:18 8 they have recommended approval or deemed it
 20:35:21 9 sufficient or whatever term.
 20:35:22 10 Q. Have you reviewed any letters from the
 20:35:24 11 McCormick & Taylor, who is the township
 20:35:26 12 stormwater engineer?
 20:35:30 13 A. No, I have not.
 20:35:30 14 Q. That answers my question. That's fine.
 20:35:36 15 Isn't it true that the BMP
 20:35:41 16 loading ratios are a technical guidance and not
 20:35:44 17 DEP regulations?
 20:35:45 18 A. They are guidance. The whole manual is
 20:35:47 19 guidance.
 20:35:47 20 Q. Correct. But they are not regulations?
 20:35:49 21 A. They are not regulations.
 20:35:50 22 Q. Is that correct?
 20:35:51 23 A. Sometimes the department applies parts
 54 24 of the manual as if they were regulations, and

20:35:56 1 sometimes not.
 20:35:57 2 Q. But they are not technically
 20:35:58 3 regulations?
 20:35:58 4 A. They are not.
 20:35:59 5 Q. Okay. Isn't it true that there are
 20:36:03 6 other methods to reduce stormwater volume other
 20:36:06 7 than infiltration?
 20:36:07 8 A. Oh, yes.
 20:36:08 9 Q. Okay. So if these basins as designed
 20:36:11 10 couldn't infiltrate, there is other
 20:36:14 11 methodologies to reduce the stormwater volume,
 20:36:16 12 correct?
 20:36:16 13 A. There are. But, remember, there is
 20:36:22 14 both volume for downstream protection and
 20:36:25 15 infiltration to promote the base flow of the
 20:36:27 16 streams.
 20:36:28 17 Q. Okay. Ultimately, whose regulations
 20:36:37 18 will the developer have to satisfy in order to
 20:36:40 19 have the stormwater facilities permitted and
 3 20 approved?
 20:36:44 21 A. Well, both the municipality's, Westtown
 20:36:47 22 Township's, and the NPDES permit requirements
 20:36:49 23 for the post-construction stormwater management
 20:36:52 24 control.

20:36:52 1 Q. Okay. And what governmental entity
 20:36:55 2 reviews and approves NPDES permits?
 20:36:58 3 A. Pennsylvania DEP and the Chester County
 20:37:02 4 Conservation District, under authorization from
 20:37:03 5 DEP.
 20:37:08 6 Q. At the end of your testimony I believe
 20:37:28 7 you testified that the property does have good,
 20:37:32 8 well-drained soils; is that correct?
 20:37:34 9 A. Portions of the property are very
 20:37:36 10 well-drained soils, according to the soil maps.
 20:37:37 11 Q. Right. And where are they located on
 20:37:39 12 the property?
 20:37:40 13 A. Generally, on the hillsides or the
 20:37:43 14 upland areas of the property, for the most
 20:37:45 15 part.
 20:37:49 16 MR. ADELMAN: I have nothing
 20:37:49 17 further.
 20:37:51 18 MR. MCKENNA: Thank you, Mr.
 20:37:54 19 Adelman.
 20:37:54 20 Ms. Camp for the Planning
 20:37:55 21 Commission?
 20:37:55 22 MS. CAMP: Nothing.
 20:37:56 23 MR. MCKENNA: Mr. Crawford for
 20:37:59 24 Birmingham Township?

20:38:01 1 MR. CRAWFORD: No questions.
 20:38:02 2 Thanks.
 20:38:02 3 MR. MCKENNA: Mr. DuFault, do you
 20:38:04 4 have any questions?
 20:38:04 5 MR. DUFALT: No questions.
 20:38:05 6 MR. MCKENNA: Mr. Bevilacqua, any
 20:38:09 7 questions?
 20:38:10 8 MR. BEVILACQUA: No questions.
 20:38:11 9 MR. MCKENNA: Mr. Scanlon?
 20:38:12 10 DR. SCANLON: No.
 20:38:13 11 MR. MCKENNA: Mr. McFalls?
 20:38:15 12 MR. MCFALLS: No.
 20:38:16 13 MR. MCKENNA: Mr. Feryo?
 20:38:19 14 MR. FERYO: Yes, please.
 20:38:27 15 Ma'am, thank you for being here
 20:38:28 16 tonight.
 20:38:29 17 Are you familiar with the Quarry
 20:38:32 18 Swimming Association property directly west of
 20:38:33 19 the Crebilly property?
 20:38:34 20 THE WITNESS: Not intimately
 20:38:36 21 familiar. I have driven past, but I have never
 20:38:38 22 gone there.
 20:38:38 23 MR. FERYO: So the quarry
 20:38:40 24 swimming property consists of two basically

20:38:45 1 self-contained basins filled with water. One
 20:38:48 2 is much lower than the other. Do you
 20:38:50 3 anticipate any stormwater issues for those,
 4 especially the low one which is below the grade
 20:38:57 5 of the road, which is New Street?
 20:38:58 6 THE WITNESS: Does the drainage
 20:39:01 7 from the Crebilly property drain through the --
 20:39:06 8 MR. FERYO: Well, the Crebilly
 20:39:07 9 property is higher, so I would say logically
 20:39:10 10 yes. But I'm not an expert. You are.
 20:39:12 11 THE WITNESS: I don't know where
 20:39:13 12 the tributaries drain is.
 20:39:14 13 MR. FERYO: There are no direct
 20:39:15 14 tributaries. But just water runoff itself from
 20:39:17 15 the road would definitely drain into that
 20:39:19 16 property?
 20:39:20 17 THE WITNESS: Yeah, potentially.
 20:39:23 18 But without knowing where you are in relation
 20:39:25 19 to the property, it is difficult for me to say.
 20:39:26 20 I'm sorry, but I don't know.
 20:39:29 21 MR. FERYO: Well, it is directly
 20:39:30 22 west. In addition, the quarry property
 20:39:32 23 utilizes a well, as do about 20 properties,
 36 24 home properties that are directly to the west.

20:39:40 1 They are the only wells that would be directly
 20:39:42 2 west and downstream of this property. So would
 20:39:46 3 you say that there is any impact to our wells,
 20:39:49 4 either the neighborhood or the quarry property?
 20:39:52 5 THE WITNESS: That's a hard
 20:39:54 6 question to answer. It is important to
 20:39:56 7 maintain groundwater recharge for both wells
 20:39:59 8 and to keep streams flowing.
 20:40:01 9 Will this development have an
 20:40:03 10 impact on those wells, I can't say without more
 20:40:06 11 information. And, frankly, that's a very
 20:40:09 12 complicated question even for hydrogeologists.
 20:40:14 13 MR. FERYO: Knowing that most of
 20:40:15 14 the property to the west of that is serpentine
 20:40:19 15 rock, as opposed to other kinds of rock, which
 20:40:22 16 is very brittle, do you anticipate stormwater
 20:40:23 17 causing a problem, stormwater runoff causing a
 20:40:26 18 problem, knowing that the serpentine is
 20:40:29 19 directly west?
 20 20 THE WITNESS: I really can't say
 20:40:30 21 without understanding better where your
 20:40:33 22 property is in relation to the runoff that
 20:40:36 23 could come from the Crebilly Farm.
 20:40:38 24 MR. FERYO: Thank you.

20:40:39 1 THE WITNESS: Thank you.
 20:40:41 2 MR. MCKENNA: Mr. Spackman,
 20:40:46 3 Thornbury Farm Trust?
 20:40:47 4 MR. SPACKMAN: None. Thank you.
 20:40:48 5 MR. MCKENNA: Mr. Mammucari? I
 20:40:51 6 believe I saw Mr. Mammucari leave for the
 20:40:53 7 evening.
 20:40:54 8 Mr. Jones, Phillip Jones?
 20:40:57 9 MR. JONES: No questions.
 20:40:58 10 MR. MCKENNA: Mr. Rendemonti?
 20:41:01 11 MR. RENDEMONTI: None. Thank
 20:41:02 12 you.
 20:41:02 13 MR. MCKENNA: Allison Corcoran I
 20:41:05 14 believe is here now.
 20:41:06 15 MS. CORCORAN: No questions.
 20:41:07 16 MR. MCKENNA: Dianne Leraris?
 20:41:11 17 Ms. Leraris, any questions? I'm not hearing
 20:41:15 18 her here.
 20:41:16 19 Ed Boyer?
 20:41:17 20 Amy Murnane?
 20:41:23 21 MS. MURNANE: No questions.
 20:41:24 22 MR. MCKENNA: Robert Daull?
 20:41:27 23 MR. DAULL: No questions.
 20:41:28 24 MR. MCKENNA: Jennifer or Jeffrey

20:41:32 1 Kramer? Are the Kramers still here? Appears
 20:41:37 2 they have left.
 20:41:38 3 Ed Skros?
 20:41:39 4 MR. SKROS: No questions.
 20:41:40 5 MR. MCKENNA: Mr. or Mrs.
 20:41:44 6 McFadden?
 20:41:45 7 MR. MCFADDEN: No questions.
 20:41:46 8 MR. MCKENNA: Carol Weller?
 20:41:47 9 MS. WELLER: Yes. Hi. How are
 20:41:56 10 you?
 20:41:57 11 THE WITNESS: Fine, thanks.
 20:41:58 12 MS. WELLER: My pond is
 20:42:00 13 approximately an eighth of a mile downstream,
 20:42:03 14 and it is fed by an intake pipe to the Radley
 20:42:08 15 Run. With this proposed development do I need
 20:42:12 16 to be concerned about my pond filling in with
 20:42:14 17 sediment?
 20:42:15 18 THE WITNESS: Again, without
 20:42:17 19 knowing the details, if your pond were directly
 20:42:20 20 receiving the runoff from Radley Run,
 20:42:22 21 potentially. If it is coming from an intake
 20:42:25 22 pipe.
 20:42:26 23 MS. WELLER: Right into the
 20:42:27 24 stream.

20:42:27 1 THE WITNESS: Yeah, it is hard to
 20:42:29 2 say without knowing the details. Potentially.
 20:42:32 3 But -- yeah.
 4 4 MS. WELLER: Thank you.
 20:42:37 5 MR. MCKENNA: Thank you, ma'am.
 20:42:38 6 Any questions from the Board?
 20:42:40 7 MS. DEWOLF: Hello. All right.
 20:43:03 8 I would like to understand the conditional use
 20:43:08 9 application reference to 170-2009 for
 20:43:13 10 conditional uses, in regard to LEED. And so
 20:43:19 11 this sort of analysis that was done, and your
 20:43:23 12 findings, you can document are required for the
 20:43:27 13 conditional use process at the township; is
 20:43:29 14 that correct?
 20:43:29 15 THE WITNESS: Well, the
 20:43:31 16 conditional use section under 170-2009 has some
 20:43:38 17 requirements for a variety of plans, including
 20:43:42 18 a stormwater management analysis. It says:
 20:43:45 19 Applicant shall include sufficient information,
 20:43:48 20 for example, preliminary site grading and road
 20:43:50 21 profiles, preliminary stormwater analysis,
 20:43:52 22 etcetera, to preliminarily determine compliance
 20:43:55 23 with the township natural features site
 57 24 analysis, conservation design process and

20:43:59 1 density requirements.
 20:44:01 2 There is another one, it says:
 20:44:02 3 Adequate handling of stormwater in the form --
 20:44:07 4 sorry, I read too fast. Again, I'm sorry.
 20:44:10 5 This is Section 6(c) under the
 20:44:14 6 conditional use, adequate handling of
 20:44:17 7 stormwater in the form of a preliminary written
 20:44:20 8 analysis and conclusions as to the anticipated
 20:44:23 9 methods, prepared by a registered professional
 20:44:25 10 engineer. Those are components in the
 20:44:29 11 conditional use section of here.
 20:44:35 12 MS. DEWOLF: And the next
 20:44:36 13 question I have, I'm a little confused, it
 20:44:41 14 seems like you have worked for Stroud Water
 20:44:43 15 Research Center; is that correct?
 20:44:44 16 THE WITNESS: I have. We did the
 20:44:47 17 site engineering for the education building.
 20:44:51 18 MS. DEWOLF: And Longwood
 20:44:52 19 Gardens; is that correct?
 20 20 THE WITNESS: We did the
 20:44:53 21 engineering for their meadow expansion.
 20:44:56 22 MS. DEWOLF: U.S. Botanic Garden,
 20:44:59 23 Washington, D.C.?
 20:45:00 24 THE WITNESS: Yeah, we just did

20:45:01 1 the plaza down in Washington, D.C., Bartholdi
 20:45:04 2 Plaza, by the capitol building, and that is
 20:45:06 3 also a stormwater demonstration site.
 20:45:10 4 MS. DEWOLF: University of
 20:45:11 5 Pennsylvania, Shoemaker Green, Philadelphia?
 20:45:12 6 THE WITNESS: Yes. And we are
 20:45:13 7 currently designing, doing the engineering for
 20:45:16 8 the Wharton, the new Wharton building.
 20:45:19 9 MS. DEWOLF: Acme Market?
 20:45:20 10 THE WITNESS: We did the retrofit
 20:45:21 11 of the Acme in Wilmington, Delaware, to improve
 20:45:24 12 the stormwater management there.
 20:45:27 13 MS. DEWOLF: Drexel University?
 20:45:29 14 THE WITNESS: Yes, we did the
 20:45:30 15 engineering for the two new plazas, Perelman
 20:45:34 16 Plaza and Korman Plaza, where the dragon is
 20:45:37 17 down at Drexel.
 20:45:38 18 MS. DEWOLF: I could go on. And
 20:45:39 19 you also work for municipalities, Upper Merion,
 20:45:43 20 Oxford Library, some other; is that correct?
 20:45:46 21 THE WITNESS: Yes. That's the
 20:45:49 22 majority of the work we do. The revenue, the
 20:45:51 23 majority of our revenue is from development
 20:45:54 24 projects of those nature.

20:45:55 1 MS. DEWOLF: Right. Okay. The
 20:45:59 2 next question I have is -- do you want to do
 20:46:08 3 your question while I'm finding mine?
 20:46:10 4 MR. HAWS: Sure. I just have one
 20:46:12 5 quick question. I think I heard you say, but I
 20:46:14 6 just wanted to hear, it is in your opinion that
 20:46:18 7 the way that the stormwater management is laid
 20:46:20 8 out currently on the proposed plan, it does not
 20:46:23 9 meet the minimum requirements of our ordinance;
 20:46:26 10 is that correct?
 20:46:26 11 THE WITNESS: It is my opinion
 20:46:27 12 that they haven't demonstrated that these will
 20:46:30 13 be infiltration basins and meet the
 20:46:32 14 requirements for volume control in your
 20:46:33 15 ordinance.
 20:46:34 16 MR. HAWS: Okay. Great. Just a
 20:46:35 17 follow-up question. In your opinion, if the
 20:46:40 18 site was redesigned, could they meet the
 20:46:43 19 requirements of our zoning and of the
 20:46:49 20 stormwater management based on the property?
 20:46:52 21 THE WITNESS: Potentially.
 20:46:53 22 MR. HAWS: Okay. Thank you.
 20:46:54 23 MS. DEWOLF: And what, in your
 20:46:58 24 opinion, would they need to do to do that?

20:47:00 1 THE WITNESS: Well, for a site of
 20:47:04 2 this density, where most of the development
 20:47:07 3 that is occurring are on the better soils,
 9 4 integrating stormwater management into the land
 20:47:13 5 development, low-impact development approach,
 20:47:15 6 and there are various examples of that being
 20:47:18 7 done for residential development in
 20:47:20 8 Pennsylvania, where volume and rate are
 20:47:24 9 controlled closer to the source, that
 20:47:27 10 low-impact development is basically under EPA's
 20:47:31 11 definition managing runoff close to where it
 20:47:33 12 originates by using soils and vegetation to
 20:47:36 13 hold the water, infiltrate it, evaporate it,
 20:47:39 14 incorporate different practices into the
 20:47:41 15 development itself.
 20:47:44 16 MS. DEWOLF: And in respect to
 20:47:47 17 cross space and transfers, does D+EP allow
 20:47:50 18 those?
 20:47:50 19 THE WITNESS: They may for a
 20:47:51 20 project of, for a project of this nature. I
 20:47:55 21 don't know if they ever -- I don't know what
 20:47:59 22 DEP's policy is on stormwater projects or if
 20:48:03 23 they have an absolute policy.
 16 24 MS. DEWOLF: That's all I have.

20:48:11 1 THE CHAIRMAN: Based on what you
 20:48:13 2 just said, would you say that the applicant
 20:48:18 3 needs to reduce the number of homes?
 20:48:20 4 THE WITNESS: Well, reducing the
 20:48:24 5 number of homes would reduce the amount of
 20:48:26 6 stormwater runoff. Even if the amount of
 20:48:30 7 stormwater runoff was reduced, I don't believe
 20:48:34 8 the basins, as they have been shown, are
 20:48:36 9 adequate. I think the location and information
 20:48:40 10 on the proposed basins isn't adequate to
 20:48:43 11 demonstrate that it can meet your stormwater
 20:48:45 12 ordinance.
 20:48:46 13 THE CHAIRMAN: Thank you.
 20:48:49 14 MR. MCKENNA: Mr. Thompson, any
 20:48:51 15 redirect?
 20:48:53 16 MR. THOMPSON: No.
 20:48:55 17 MR. MCKENNA: Mr. Adelman, any
 20:48:57 18 recross based on what you have heard?
 20:48:59 19 MR. ADELMAN: No.
 9 20 MR. MCKENNA: Any other parties,
 20:49:00 21 any recross?
 20:49:01 22 Ms. Adams, thank you very much.
 20:49:05 23 THE WITNESS: Thank you.
 20:49:06 24 (Witness excused.)

20:49:07 1 MR. MCKENNA: Mr. Thompson, do
 20:49:08 2 you have anything further?
 20:49:09 3 MR. THOMPSON: Nothing further.
 20:49:17 4 I would move -- I don't know if we want to wait
 20:49:19 5 until the end.
 20:49:20 6 MR. MCKENNA: I think the plan is
 20:49:21 7 to wait until the end at this point. We have
 20:49:24 8 marked NC-1 through NC-5, with the
 20:49:27 9 understanding that NC-6 will be provided by the
 20:49:32 10 Neighbors for Crebilly, which will show the
 20:49:35 11 NC-5 with the notations as depicted and we saw
 20:49:40 12 this evening.
 20:49:40 13 MR. THOMPSON: That's correct.
 20:49:42 14 MR. MCKENNA: So you have nothing
 20:49:43 15 further from your point of view tonight?
 20:49:47 16 MR. THOMPSON: No.
 20:49:48 17 MR. MCKENNA: All right. Moving
 20:49:49 18 down the list --
 20:49:51 19 MR. ADELMAN: Mr. McKenna, if I
 20:49:52 20 may interject for a moment, I do have a
 20:49:54 21 rebuttal witness on point two in Ms. Adams'
 20:49:58 22 testimony. I don't know if you would like to
 20:49:59 23 take that now or if you would like to wait.
 20:50:01 24 Whatever the Board's pleasure is. I think it

20:50:03 1 makes sense to take it now.
 20:50:07 2 (Board members conferring.)
 20:50:15 3 MR. MCKENNA: Who is the witness?
 20:50:17 4 MR. ADELMAN: Our stormwater
 20:50:19 5 engineer, who has been previously sworn, Jeff
 20:50:21 6 Madden.
 20:50:24 7 MR. MCKENNA: We will go ahead
 20:50:24 8 and do that now then.
 20:50:25 9 MR. ADELMAN: Great, thanks.
 20:50:26 10 Jeff.
 11 JEFFREY MADDEN,
 12 the witness herein, having previously been
 13 duly sworn on oath, was examined and
 14 testified further as follows:
 20:50:35 15 MR. MCKENNA: Mr. Madden, you
 20:50:36 16 were previously sworn, correct?
 20:50:37 17 THE WITNESS: Correct.
 20:50:38 18 MR. MCKENNA: So you are still
 20:50:38 19 under oath. Again, as with all the other
 20:50:40 20 witnesses, please get right up close to that
 20:50:42 21 microphone.
 20:50:44 22 REDIRECT EXAMINATION
 20:50:44 23 BY MR. ADELMAN:
 20:50:48 24 Q. Jeff, you were present for Ms. Adams'

20:50:50 1 testimony; is that correct?

20:50:50 2 **A. Yes, I was.**

20:50:51 3 **Q.** And have you had an opportunity to

3 4 review and analyze Ms. Adams' review letter

20:50:57 5 which was introduced as NC-4?

20:50:59 6 **A. Yes, briefly, as it was given to us**

20:51:01 7 **tonight.**

20:51:01 8 **Q.** Okay. And do you agree with Ms. Adams'

20:51:04 9 testimony and her findings and conclusions in

20:51:07 10 NC-4?

20:51:08 11 **A. No, I do not agree with her points.**

20:51:11 12 **Q.** Looking directly at NC-4, her review

20:51:15 13 letter, please tell us what you disagree with.

20:51:18 14 **A. On the general rule, the stormwater**

20:51:23 15 **management testing is one of the aspects. We**

20:51:27 16 **have done testing throughout the site which**

20:51:33 17 **will show that the infiltration is possible on**

20:51:35 18 **this site. The testing that we received, the**

20:51:41 19 **infiltration results, anywhere from half an**

20:51:45 20 **inch to four inches per hour, was reduced to a**

20:51:49 21 **lesser amount of infiltration in our design.**

20:51:53 22 **So we are not designed to a maximum.**

20:51:56 23 **The basins themselves are**

58 24 **designed for infiltration. As was stated, and**

20:52:02 1 **as she also stated, that if and when**

20:52:06 2 **infiltration is not possible, there are other**

20:52:09 3 **alternatives, as the township engineer**

20:52:13 4 **previously stated in his testimony, that this**

20:52:16 5 **is a conceptual process and that more**

20:52:20 6 **information and detail will be done during the**

20:52:22 7 **preliminary process.**

20:52:24 8 **Q.** Ms. Adams testified that certain

20:52:27 9 locations where preliminary infiltration

20:52:30 10 testing was performed had certain limiting

20:52:33 11 zones. Did you hear that testimony?

20:52:34 12 **A. Yes, I did.**

20:52:35 13 **Q.** And do you recall what limiting zones

20:52:37 14 she referenced?

20:52:38 15 **A. A few of the limiting zones were for**

20:52:41 16 **high groundwater, which the location of the**

20:52:44 17 **high groundwater that we have shown on our site**

20:52:47 18 **is below the basin areas, so it is not directly**

20:52:51 19 **in contact with the high groundwater areas as**

4 20 **shown on our plans.**

20:52:56 21 Other avenues that she talked

20:52:58 22 about were the encountering of rock. When we

20:53:04 23 do preliminary testing for the preliminary

20:53:07 24 design, if rock is encountered at certain

20:53:09 1 elevations, we will have to, as per the DEP

20:53:13 2 regulations, show the two-foot separation on

20:53:18 3 our design or modify the basins, if needed,

20:53:22 4 once additional testing is necessary.

20:53:24 5 But at this moment the testing by

20:53:27 6 GTA Associates on the whole shows that the

20:53:32 7 infiltration practices on the site are

20:53:34 8 feasible.

20:53:35 9 **Q.** Okay. Did you meet with the township

20:53:36 10 engineer or have discussions with the township

20:53:38 11 engineer with respect to your conceptual design

20:53:41 12 and the preliminary infiltration testing?

20:53:43 13 **A. Yes, we did.**

20:53:44 14 **Q.** And in response to the township

20:53:47 15 engineer's comments did you supply additional

20:53:49 16 information?

20:53:50 17 **A. As requested, both the township**

20:53:53 18 **engineer was satisfied with the information**

20:53:55 19 **that was presented and as a whole he stated in**

20:53:58 20 **his Exhibit A-10, comment 10, that at this**

20:54:02 21 **point it demonstrates the ability to provide**

20:54:05 22 **stormwater management.**

20:54:07 23 **Q.** Okay. If you can continue going

20:54:09 24 through Ms. Adams' review letter, NC-4, please,

20:54:13 1 and tell us what you agree with or disagree

20:54:15 2 with, and why?

20:54:16 3 **A. Sure. I'll just start at the bottom**

20:54:20 4 **of -- sorry, the top of page 3, the second**

20:54:26 5 **bullet point.**

20:54:26 6 **Q.** Please get close to the mike.

20:54:28 7 **A. Sorry. The second bullet point, which**

20:54:29 8 **is 170-904.A(3)(c)[2], regarding the applicant**

20:54:35 9 **shall be required to submit credible evidence**

20:54:37 10 **satisfactory to demonstrate long-term**

20:54:40 11 **feasibility of required groundwater**

20:54:42 12 **infiltration. We have provided infiltration**

20:54:45 13 **testing, and when the preliminary plans and**

20:54:48 14 **final plans are proposed, as per the DEP**

20:54:51 15 **regulations, we have to create an operation and**

20:54:54 16 **maintenance plan that will be implemented and**

20:54:58 17 **used by the faculty that is to maintain these**

20:55:06 18 **basins, whether it is the township or the HOA.**

20:55:09 19 **Just going down the list,**

20:55:12 20 **170-905.A.(2) regarding that the finished**

20:55:17 21 **topography of the site shall adequately**

20:55:19 22 **facilitate the proposed development without**

20:55:21 23 **excessive earthmoving, tree clearance, or**

20:55:23 24 **destruction of natural amenities.**

20:55:23 1 Q. Jeff, slow down.
 20:55:25 2 A. Sorry. Just like --
 20:55:25 3 Q. Repeat that, please, and slow.
 7 4 A. Sorry. **170-905.A.(2), the finished**
 20:55:32 5 **topography of the site shall adequately**
 20:55:34 6 **facilitate the proposed development without**
 20:55:37 7 **excessive earthmoving, tree clearing, or**
 20:55:40 8 **destruction of natural amenities.**
 20:55:42 9 Q. How did you address that in terms of
 20:55:44 10 the site design?
 20:55:45 11 A. The site, if I continue, in the actual
 20:55:50 12 exhibit it specifies lakes and streams as two
 20:55:52 13 of the, two of the areas to be preserved.
 20:55:57 14 We have preserved lakes and
 20:55:58 15 streams. The wooded slopes shall be preserved
 20:56:02 16 and incorporated. Per code, we are to protect
 20:56:06 17 75 percent of the slopes 25 percent or greater,
 20:56:10 18 and we need to protect 50 percent of the
 20:56:14 19 secondary features, one of the secondary
 20:56:17 20 features being woodlands.
 20:56:19 21 So the ordinance does have an arm
 20:56:21 22 that requires certain criteria to be met.
 20:56:23 23 Q. Again, was that laid out on the plan?
 24 A. Yes, it was in the exhibits in the

20:56:28 1 beginning, I think it is pages 3A through 3G.
 20:56:32 2 Q. Okay. Please continue. What is the
 20:56:36 3 next issue or item in her review letter, NC-4?
 20:56:41 4 A. I guess in the middle of page 3 it
 20:56:43 5 talks about no assurances are provided in the
 20:56:47 6 preliminary design that will protect existing
 20:56:49 7 is wetlands on the site.
 20:56:50 8 Again, per the code, you have to
 20:56:52 9 protect 75 percent of the wetlands on the site.
 20:56:56 10 We are protecting, we are protecting the
 20:57:00 11 wetlands on the site except for where the roads
 20:57:04 12 will be crossed, and we will need to obtain a
 20:57:06 13 permit from the DEP for those crossings.
 20:57:09 14 Q. Okay.
 20:57:12 15 A. Just as a general Act 167 management
 20:57:17 16 for the area, going towards the left of the
 20:57:21 17 site, we need to reduce from the two-year
 20:57:25 18 development post to the one-year development
 20:57:27 19 pre, and then from the five-year post to the
 20 20 five-year pre, on up to each individual storm.
 20:57:33 21 Again, the basins have been
 20:57:35 22 designed to meet those requirements. Going
 20:57:38 23 towards the east, which is towards the Chester
 20:57:41 24 Creek Watershed, as stated by Ms. Adams, the

20:57:44 1 reductions need to be 50 percent of the
 20:57:48 2 pre-development flows for each individual storm
 20:57:50 3 event.
 20:57:51 4 We have shown that the two-year,
 20:57:54 5 for example, the two-year post development is
 20:57:57 6 less than 50 percent of the two-year
 20:58:00 7 pre-development flows to those specific study
 20:58:03 8 lines. One for the Chester Creek which goes to
 20:58:06 9 a culvert underneath of Route 202.
 20:58:08 10 Q. Is that in response to one of Ms.
 20:58:10 11 Adams' questions about she couldn't determine
 20:58:13 12 where the stormwater would go for that area of
 20:58:15 13 the property?
 20:58:15 14 A. That's correct.
 20:58:16 15 Q. So where does it go again, just to be
 20:58:18 16 clear?
 20:58:18 17 A. Ultimately, the area to the east along
 20:58:21 18 the Route 202 drains towards 202, to,
 20:58:25 19 ultimately to a culvert that is on the Crebilly
 20:58:29 20 property but closer to the church to the north.
 20:58:33 21 Q. Okay. Please continue.
 20:58:36 22 A. At the bottom of page 3, which is,
 20:58:41 23 again, just it is an outsized bullet point in
 20:58:45 24 bold: Increases in the volume and frequency of

20:58:47 1 stormwater discharge from the project.
 20:58:50 2 The plans in front of, that have
 20:58:52 3 been submitted show that the site will meet the
 20:58:56 4 township and DEP requirements, will meet the
 20:59:01 5 water quality requirements of volume, and, as
 20:59:05 6 stated previously as well, that the township
 20:59:07 7 engineer agrees with the general design of the
 20:59:10 8 plans in front of the Board.
 20:59:13 9 Q. Let me just jump in there for a second.
 20:59:15 10 Do you recall Ms. Adams' testimony where she
 20:59:18 11 highlighted alleged errors in your stormwater
 20:59:21 12 calculations?
 20:59:22 13 A. Yes, I do.
 20:59:22 14 Q. In particular, there was multiple
 20:59:24 15 questions with respect to the curve numbers?
 20:59:27 16 A. Yes. I believe on the -- I believe
 20:59:30 17 what Ms. Adams was referencing was page 9 in
 20:59:33 18 the middle of her letter, she states that the B
 20:59:39 19 soils we have classified as meadow going
 20:59:41 20 towards the Chester Creek Watershed should be
 20:59:45 21 considered in some way, shape or form some
 20:59:47 22 forest, which does have a low curve number.
 20:59:50 23 The area that goes towards
 20:59:53 24 Chester Creek is predominantly meadow or road

21:00:00 1 crops, but we have to upsize -- we have to
 21:00:02 2 downsize the CN to be meadow. And there are
 21:00:07 3 sporadic single trees that we have lumped in as
 0 4 meadow, as they are not forested,
 21:00:14 5 quarter-of-an-acre stands of trees.
 21:00:15 6 Q. So you don't agree with her
 21:00:17 7 characterization?
 21:00:18 8 A. Correct.
 21:00:19 9 Q. Okay. I believe she also mentioned an
 21:00:25 10 alleged improper use of weighted averages; is
 21:00:29 11 that correct?
 21:00:29 12 A. Yes. That's what issue she has talked
 21:00:33 13 about in her letter.
 21:00:33 14 Q. Do you agree or disagree with her
 21:00:35 15 characterization?
 21:00:35 16 A. I disagree with that.
 21:00:37 17 Q. Why?
 21:00:38 18 A. Per the TR-55 manual, that is guidance
 21:00:45 19 for the stormwater design, there is, there is
 21:00:49 20 an area for what is considered weighted
 21:00:52 21 averages, where an example would be you can
 21:00:54 22 just say I have an acre of land that's
 21:00:58 23 residential, and it will say, it will give you
 *01 24 a weighted average using to be possibly 70,

21:01:06 1 which is a weighted average.
 21:01:07 2 What we have done is we have
 21:01:09 3 actually calculated the impervious, the lawn,
 21:01:12 4 the meadow, the woods to a specific drain area,
 21:01:17 5 and then summed those up, and then averaged the
 21:01:21 6 actual cover types going towards the drainage
 21:01:24 7 areas. So it is not a weighted average as
 21:01:26 8 specified in the TR-55. It is the actual land
 21:01:30 9 types on the site.
 21:01:30 10 Q. Did the township engineer review those
 21:01:33 11 assignments and calculations?
 21:01:34 12 A. Yes, he has.
 21:01:35 13 Q. And did he have any issues with what
 21:01:36 14 you did?
 21:01:37 15 A. No, he has not.
 21:01:39 16 Q. Please continue going through her
 21:01:40 17 letter.
 21:01:41 18 A. Sure. Disconnection -- I'm sorry, page
 21:01:46 19 4, the disconnection of the stream channel from
 21:01:52 20 associated floodplains and wetlands. And,
 21:01:52 21 again, this is also in relationship to basins
 21:01:59 22 not discharging throughout the site and
 21:02:02 23 channelizing more towards the streams. We have
 21:02:05 24 nine stormwater basins that will discharge in

21:02:07 1 several areas to keep the wetlands wet and the
 21:02:11 2 streams wet, without degrading them, without
 21:02:15 3 increasing the required volume and rate, as per
 21:02:20 4 the township DEP regulations.
 21:02:25 5 And the basins are not located in
 21:02:29 6 the wetlands but upstream of the wetlands, in a
 21:02:32 7 typical area, the lower portion of the site
 21:02:35 8 where water would drain to, it would be
 21:02:38 9 conveyed to the basins, held, routed, and then
 21:02:43 10 discharged in a flow that would mimic the
 21:02:48 11 required flows from the township or DEP with
 21:02:50 12 reductions to the pre-development flows.
 21:02:53 13 Q. Okay. And what water quality measures
 21:02:55 14 would you typically have to include in those
 21:02:58 15 basins that discharge to the wetlands?
 21:03:00 16 A. Water quality measures would include,
 21:03:03 17 per the DEP regulations and the Conservation
 21:03:07 18 District, as this is, they are going to an
 21:03:10 19 impaired stream, we would have to show that we
 21:03:12 20 would reduce the total nitrates to 50 percent
 21:03:16 21 of the pre, the total suspended solids and
 21:03:20 22 total pollutants, to ultimately obtain our
 21:03:24 23 NPDES permit for the site, so that is one
 21:03:27 24 aspect we would have to do, as well as there is

21:03:30 1 aspects of the water quality and the township
 21:03:32 2 code which makes you treat a percentage of your
 21:03:36 3 first flush, your one-year rainfall event and
 21:03:41 4 treat it in some way, shape or form.
 21:03:42 5 But the basins could also be
 21:03:44 6 planted with wetland-tolerant plantings or some
 21:03:52 7 other characteristics of landscape to
 21:03:57 8 ultimately clean the water as well.
 21:04:01 9 Q. And would those water quality features
 21:04:03 10 or details be typically something you would
 21:04:06 11 include in the full engineered stormwater plan?
 21:04:09 12 A. Yes, they would.
 21:04:09 13 Q. As opposed to your conceptual plan?
 21:04:12 14 A. Correct.
 21:04:13 15 Q. Please continue in her letter, NC-4.
 21:04:16 16 A. Alterations, this is again on page 4,
 21:04:24 17 alterations in stream temperature that will
 21:04:26 18 adversely impact instream water quality and
 21:04:29 19 aquatic health.
 21:04:31 20 The site, again, as rudimentary
 21:04:34 21 design, shows rooftop, can show rooftop
 21:04:40 22 disconnection, which will help the water to
 21:04:42 23 flow over the lawn in the lots and not be
 21:04:46 24 directly discharged into the storm sewer system

21:04:51 **1 underneath the roads. So that will help to,**
 21:04:54 **2 one, keep the water at a relatively moderate**
 21:04:58 **3 temperature; two, to help contact with the**
 21:05:04 **4 soils and the lawns, it will knock out any**
 21:05:07 **5 pollutants ultimately going from the homes,**
 21:05:11 **6 from the lawns to the basins themselves and**
 21:05:13 **7 ultimately to the streams.**

21:05:13 **8** Other aspects there could be put
 21:05:17 **9** on here is landscaping around the basins to
 21:05:21 **10** help shade the basins, to help bring the
 21:05:25 **11** ambient water temperature down, if it is to a
 21:05:29 **12** certain amount.

21:05:30 **13** Also, the basins have been
 21:05:33 **14** undercut in some instances to help the first
 21:05:36 **15** flush to settle out and infiltrate into the
 21:05:39 **16** groundwater. So that, again, the first flush
 21:05:42 **17** will be infiltrated into the site and not leave
 21:05:44 **18** the site and go into the streams. And that
 21:05:48 **19** will also help to ultimately bridge the gap, if
 21:05:54 **20** there is an increase in the water temperature.

21:05:58 **21** But all these techniques have
 21:05:59 **22** been used throughout several sites within
 21:06:03 **23** Pennsylvania and have been shown to not
 21:06:07 **24** adversely impact the water quality of the

21:06:09 **1** streams.

21:06:10 **2** **Q.** Please continue.

21:06:12 **3** **A.** The testing locations and test pits are
 21:06:27 **4** not located on any plan that shows proposed
 21:06:30 **5** basins. She is correct that there is no
 21:06:33 **6** overlying plan that shows the basin locations
 21:06:35 **7** and the test pit locations in this plan set.
 21:06:38 **8** But the test pit locations are shown on
 21:06:41 **9** existing features plans, and you can, using
 21:06:48 **10** places shown on the topo plan, reference where
 21:06:51 **11** the test pits have been located.

21:06:53 **12** We have not shown them on the
 21:06:56 **13** design plans, just to help clean up the plans.
 21:06:59 **14** It is less information that needs to be shown
 21:07:01 **15** on there. But it is shown somewhere else
 21:07:03 **16** within the site, within the site plan package.

21:07:05 **17** **Q.** Did the township engineer have any
 21:07:07 **18** issue with how the information was presented on
 21:07:09 **19** the plans, to your knowledge?

21:07:11 **20** **A.** No, he did not.

21:07:15 **21** **Q.** Please continue.

21:07:18 **22** **A.** I think the middle of page 5, the last
 21:07:21 **23** bullet point, the plans are lacking basic
 21:07:21 **24** information to comprehensively review the

21:07:23 **1** proposed development for compliance with
 21:07:25 **2** Westtown Township and PA DEP requirements.
 21:07:30 **3** As is previously stated, it is my
 21:07:34 **4** stance that we meet the requirements, as well
 21:07:36 **5** as in the township engineer's review letters
 21:07:40 **6** and correspondence with him and meetings with
 21:07:42 **7** him that the overall design is fine.

21:07:46 **8** As I have stated previously, and
 21:07:50 **9** the township engineer has stated in his letter,
 21:07:52 **10** details will be done during the preliminary
 21:07:55 **11** plan, and once additional design requirements
 21:07:59 **12** are met, and we can have ultimate layout, and
 21:08:05 **13** GTA will go out and get additional testing to
 21:08:08 **14** help aid in the design if the basins are to be
 21:08:12 **15** relocated in any way, shape or form.

21:08:17 **16** Comment No., on page 5, the
 21:08:20 **17** bottom, No. 1, a synopsis, the proposed project
 21:08:25 **18** will not provide adequate stormwater management
 21:08:30 **19** through infiltration as proposed, and the
 21:08:31 **20** provided Report of Preliminary Geotechnical
 21:08:34 **21** Exploration is inadequate.

21:08:36 **22** **Q.** Do you degree with her conclusion?

21:08:37 **23** **A.** Again, as I previously stated, we do
 21:08:39 **24** have testing in multiple locations throughout

21:08:42 **1** the site which does show that we have
 21:08:45 **2** infiltration, and we, if we need to get
 21:08:51 **3** additional testing during preliminary stages,
 21:08:53 **4** can do so. But --

21:08:55 **5** **Q.** Let me ask you this. I'm sorry to
 21:08:57 **6** interrupt.

21:08:58 **7** **A.** Sure.

21:08:58 **8** **Q.** Why do you believe the testing that was
 21:08:59 **9** performed is reasonable to reach your
 21:09:03 **10** conclusions that there is adequate
 21:09:04 **11** infiltration?

21:09:05 **12** **A.** The conditional use plan shows, has to
 21:09:09 **13** show that the overall concept can be adhered
 21:09:14 **14** to, and I believe, and ultimately the township
 21:09:16 **15** engineer has also shown no kickback, that the
 21:09:22 **16** plan does not show that.

21:09:25 **17** **Q.** By kickback you mean disagreement?

21:09:27 **18** **A.** Disagreement. Sorry.

21:09:28 **19** The testing, again, throughout
 21:09:29 **20** the site does show that we do have infiltration
 21:09:33 **21** in several instances on the site, and all the
 21:09:37 **22** areas are located above the seasonal high
 21:09:41 **23** groundwater upstream of the wetlands, and
 21:09:44 **24** downstream of the proposed homes. So it is the

21:09:46 **1 typical location for the basins themselves.**
 21:09:48 **2 Q.** What about rate control? Do you agree
 21:09:50 **3** with her conclusion with respect to the ability
 2 **4** to adequately maintain the stormwater rate,
 21:09:56 **5** discharge rate?
 21:09:56 **6 A.** We believe that the site design shows
 21:09:59 **7** that we can meet the rate control for the
 21:10:02 **8** township and the DEP requirements for the
 21:10:05 **9** reductions to both the east, which is the
 21:10:08 **10** Radley Run -- sorry -- the west, which is the
 21:10:11 **11** Radley Run Watershed, to the east, which is the
 21:10:17 **12** Chester Creek Watershed, and the associated
 21:10:20 **13** reductions.
 21:10:21 **14 Q.** And what is the basis for your
 21:10:24 **15** conclusion?
 21:10:25 **16 A.** The TR-55 CN numbers, as was previously
 21:10:29 **17** spoken, they are run through a program to get
 21:10:32 **18** the rate and the volume that is generated on
 21:10:36 **19** the site. That information is then put into a
 21:10:39 **20** stormwater program, which helps to size the
 21:10:42 **21** basins, and that, along with some Excel
 21:10:46 **22** spreadsheets to see the reductions needed, show
 21:10:50 **23** that we do, in fact, meet the reduction factors
 24 **24** of the site.

21:10:55 **1 Q.** Okay. Please continue on with her
 21:10:57 **2** letter, NC-4.
 21:10:58 **3 A.** Page 6, the middle of page 6, which is
 21:11:07 **4** No. 3, the proposed project has not
 21:11:11 **5** demonstrated it will provide adequate volume
 21:11:13 **6** control as proposed.
 21:11:14 **7** Again, as previously stated, we
 21:11:17 **8** believe that the calculations do require, do
 21:11:20 **9** show that this requirement has been met, and
 21:11:22 **10** also the township and the DEP, when we have
 21:11:25 **11** preliminary plans, again will need to review
 21:11:29 **12** these and issue their results, and ultimately
 21:11:32 **13** obtain a permit or approval to proceed with
 21:11:36 **14** this site.
 21:11:42 **15** No. 6 at the bottom of the page
 21:11:45 **16** 6, the creation of steep slopes, and the
 21:11:47 **17** discharge of stormwater onto steep slopes will
 21:11:50 **18** cause erosion and sediment discharge.
 21:11:52 **19** The site itself will need to get
 5 **20** a NPDES and/or erosion permit from the
 21:12:00 **21** conservation district and the DEP. The slopes
 21:12:03 **22** will have to be stable. There will be
 21:12:06 **23** inspectors from the town and the conservation
 21:12:08 **24** district which will show, and they will need to

21:12:16 **1** inspect that these slopes have been stable and
 21:12:19 **2** are not erosive in any way, shape or form. And
 21:12:22 **3** if they become erosive for some reason, that
 21:12:25 **4** the applicant or the developer at that time
 21:12:27 **5** would have to remediate them with slope
 21:12:31 **6** stabilization patterns or some other kind of
 21:12:33 **7** technique to stabilize those from eroding any
 21:12:37 **8** further.
 21:12:38 **9 Q.** Okay. What else is in her letter?
 21:12:41 **10 A.** We have previously talked about the
 21:12:46 **11** weighted averaging, which is on the top of page
 21:12:48 **12** 7.
 21:12:52 **13** The middle of page 7, upper area
 21:12:55 **14** of page 7, which has Section 144-306.J, which
 21:13:01 **15** is about infiltration, BMPs shall be selected
 21:13:04 **16** based on suitability of soils and site
 21:13:06 **17** conditions and shall be constructed on soils
 21:13:09 **18** that have the following characteristics, and it
 21:13:10 **19** lists 1 and 2, 1 of them being minimum depth of
 21:13:14 **20** 24 inches between the bottom of the BMP and the
 21:13:17 **21** limiting shown, and the number 2 is sufficient
 21:13:22 **22** rate sufficient to accept additional stormwater
 21:13:24 **23** volume and drain completely.
 21:13:25 **24** The basins have been designed

21:13:27 **1** with a minimum of a half of an inch of
 21:13:31 **2** infiltration and I believe a maximum of two
 21:13:34 **3** inches of infiltration. One 1 of the test pits
 21:13:39 **4** has shown a percolation rate of four inches an
 21:13:41 **5** hour. We used a 50 percent reduction in that
 21:13:45 **6** to two inches an hour, and that's what we
 21:13:47 **7** designed the plan for.
 21:13:50 **8 Q.** So is that a conservative estimate?
 21:13:51 **9 A.** That's a conservative estimate. As
 21:13:55 **10** well as if those BMPs we have selected at this
 21:13:57 **11** time need to be altered, as Ms. Adams said,
 21:14:01 **12** there is other alternatives in the PA BMP
 21:14:07 **13** manual, such as soils methods, spray
 21:14:12 **14** irrigation, planting of landscaping and slopes,
 21:14:17 **15** and there is a litany of BMPs that could be
 21:14:20 **16** used for the site. But when we did the
 21:14:22 **17** original design, the nine basins, with the
 21:14:25 **18** infiltration rate required, met that
 21:14:27 **19** requirement and that's where we stopped.
 21:14:31 **20 Q.** Are you up to the part of the BMP
 21:14:33 **21** ratios yet in her letter?
 21:14:35 **22 A.** Right here.
 21:14:35 **23 Q.** Good timing. Please highlight that and
 21:14:39 **24** tell us --

21:14:39 1 **A. Yes.**
 21:14:39 2 **Q.** -- whether you agree or disagree with
 21:14:41 3 her characterizations with respect to the
 3 4 required load rate issues.
 21:14:47 5 **A. In the middle of page 8 it does talk**
 21:14:52 6 **about the loading ratios. Loading ratios is a**
 21:14:55 7 **guidance letter from the DEP and the BMP**
 21:14:59 8 **manual. There have been talks and there is a**
 21:15:02 9 **letter that has been published from Dominick**
 21:15:05 10 **Rocco, from the southeast portion of DEP, that**
 21:15:08 11 **states that the loading ratio is a guidance and**
 21:15:11 12 **higher loading ratios can be achieved on the**
 21:15:14 13 **site. We do not have to adhere to those**
 21:15:16 14 **specific loading ratios.**
 21:15:18 15 **Q.** And in your prior projects have you
 21:15:20 16 been held to the BMP guidance loading ratios,
 21:15:25 17 or have you been able to use higher loading
 21:15:27 18 ratios?
 21:15:28 19 **A. In our previous projects we have been**
 21:15:29 20 **able to use higher loading ratios.**
 21:15:32 21 **Q.** Do you agree with Ms. Adams' assessment
 21:15:34 22 as to what the proposed loading ratios are for
 21:15:38 23 the basins?
 21:15:39 24 **A. I haven't gone through her**

21:15:40 1 **calculations, but on the first glance it does**
 21:15:44 2 **appear that the numbers appear to be right,**
 21:15:48 3 **most of the numbers are anywhere from 7 to 12,**
 21:15:52 4 **with a couple of ones higher than the 7 to 12.**
 21:15:55 5 **But, again, the letter from**
 21:16:00 6 **Dominick Rocco, it in fact is allowed to go**
 21:16:03 7 **higher than that, as well as this is a**
 21:16:04 8 **preliminary design, and if plants, additional**
 21:16:08 9 **areas need to be done for BMPs, made with**
 21:16:11 10 **additional testing, that will all be flushed**
 21:16:12 11 **out during the preliminary plans.**
 21:16:15 12 **Q.** Please continue. Is there anything
 21:16:17 13 else in the letter?
 21:16:18 14 **A. I believe, as stated previously, but**
 21:16:21 15 **just to go again on the limit ratios**
 21:16:24 16 **springboard, the basins themselves have been**
 21:16:27 17 **designed to infiltrate in less than the printed**
 21:16:31 18 **requirements for the DEP, and then also some of**
 21:16:34 19 **the basins have been undercut to help store the**
 20 **water and help infiltrate.**
 21:16:44 21 We previously talked about the
 21:16:49 22 cover assumptions, and just one last point to
 21:16:51 23 help the overall site, I don't have a specific
 21:16:55 24 one, but I'm sure it would apply. The site,

21:17:00 1 with the TR-55 will be done, has assumed our
 21:17:06 2 house that is shown, the roads that are shown
 21:17:08 3 and has anywhere from 500 to 700 additional
 21:17:12 4 square foot impervious for future residents,
 21:17:15 5 resident for future build out.
 21:17:16 6 So the basins have been designed
 21:17:18 7 as a worst case scenario for the development
 21:17:21 8 having been thought on this project and been
 21:17:25 9 adhered to and shown the numbers. So the
 21:17:27 10 numbers with the pre versus post are worst case
 21:17:32 11 scenario for this development.
 21:17:33 12 **Q.** By the additional 500 to 700 square
 21:17:37 13 feet are you referring to potential courtyards
 21:17:39 14 or patios?
 21:17:41 15 **A. Correct.**
 21:17:41 16 **Q.** Is there anything else that you are
 21:17:42 17 referring to when you say you have basically,
 21:17:45 18 is it correct to say you have over-designed the
 21:17:48 19 basins?
 21:17:48 20 **A. Courtyards, patios. And yes, we have**
 21:17:50 21 **over-designed the site so if and when the**
 21:17:54 22 **homeowner comes in with a 50 by 20, 50 by ten**
 21:17:58 23 **patio, or if you can fit a pool on there, that**
 21:18:01 24 **the stormwater has been designed accordingly**

21:18:03 1 **for that. So that would not affect the**
 21:18:06 2 **downstream homeowners any and that will be**
 21:18:10 3 **enveloped in the basins themselves.**
 21:18:12 4 **Q.** Any other comments with respect to her
 21:18:15 5 letter?
 21:18:16 6 **A. No. That's the general.**
 21:18:19 7 **Q.** Let me ask you this question: Based
 21:18:21 8 upon what you heard from Ms. Adams' testimony
 21:18:23 9 and your review of her letter, does any of that
 21:18:26 10 information change your earlier opinion with
 21:18:29 11 respect to the preliminary or conceptual --
 21:18:33 12 strike that preliminary -- just conceptual
 21:18:35 13 stormwater plan?
 21:18:37 14 **A. No, it does not.**
 21:18:37 15 **Q.** What was your opinion with respect to
 21:18:39 16 the feasibility of the stormwater plan?
 21:18:40 17 **A. The design that has been presented**
 21:18:44 18 **shows the feasibility of the overall stormwater**
 21:18:47 19 **management of the site, with the information**
 21:18:50 20 **that we have from GTA, as well as the review**
 21:18:53 21 **from the township engineer.**
 21:18:55 22 MR. ADELMAN: I have nothing
 21:18:56 23 further for Mr. Madden.
 21:18:59 24 MR. MCKENNA: Thank you, Mr.

21:19:00 1 Adelman. Cross-examine, anything from Ms. Camp
 21:19:03 2 for the Planning Commission?
 21:19:03 3 MS. CAMP: I do.
 4 RECCROSS-EXAMINATION
 21:19:18 5 BY MS. CAMP:
 21:19:18 6 Q. The township engineer hasn't determined
 21:19:20 7 that the stormwater design meets the township
 21:19:24 8 stormwater ordinance, has he?
 21:19:26 9 A. The comment from the township engineer,
 21:19:30 10 I'm not specifically looking at it right now,
 21:19:32 11 but in my previous testimony, Exhibit A-10,
 21:19:35 12 comment No. 10, shows that it demonstrates the
 21:19:40 13 ability to provide stormwater management.
 21:19:42 14 Q. Right. So I'll read comment No. 10.
 21:19:44 15 It says: The applicant has provided a
 21:19:46 16 Stormwater Management Narrative for the
 21:19:49 17 proposed project, and he has in parenthesis,
 21:19:52 18 (Feasibility Report). Although the stormwater
 21:19:55 19 system proposed demonstrates the ability to
 21:19:57 20 provide stormwater management, we caution that
 21:20:01 21 the system may warrant reconsideration during
 21:20:03 22 land development process to incorporate a more
 21:20:07 23 multi-structured system of stormwater
 21:20:07 24 management by adopting more non-structural and

21:20:12 1 structural design concepts as outlined in the
 21:20:16 2 PA Best Management Practices Manual.
 21:20:17 3 So nowhere in that sentence does
 21:20:18 4 the engineer indicate that you have
 21:20:20 5 demonstrated compliance with the township's
 21:20:22 6 stormwater ordinance, correct?
 21:20:23 7 A. Correct. It provides stormwater -- it
 21:20:26 8 demonstrates the ability to provide stormwater
 21:20:29 9 management.
 21:20:29 10 Q. Okay. And nowhere has the township
 21:20:31 11 engineer advised you or anybody that the
 21:20:35 12 proposed feasibility or conceptual plans that
 21:20:39 13 you have provided to date for stormwater
 21:20:41 14 management meet the DEP requirements in order
 21:20:43 15 to obtain an NPDES permit; is that correct?
 21:20:47 16 A. That's correct. We do have to, we know
 21:20:50 17 and have stated that we do need to design the
 21:20:52 18 site to meet the requirements of the DEP when
 21:20:54 19 we get into the preliminary design.
 21:20:54 20 Q. Right. And the township engineer
 21:20:58 21 actually in paragraph 12 of the engineer review
 21:21:02 22 letter marked A-10 identifies your plan as
 21:21:04 23 conceptual, correct?
 21:21:05 24 A. Correct.

21:21:06 1 Q. Okay. And you tonight testified that
 21:21:08 2 your plan is rudimentary? You indicated a
 21:21:11 3 rudimentary design in your testimony tonight?
 21:21:13 4 A. Rudimentary, conceptual, yes.
 21:21:16 5 Q. Okay. If as you do further testing at
 21:21:20 6 the next stage, you get to the next stage of
 21:21:23 7 land development, you do further testing and
 21:21:25 8 you determine that some of the basins you
 21:21:28 9 propose do not infiltrate to the extent that
 21:21:30 10 you need, that they need to, you would have to
 21:21:34 11 find additional locations for infiltration on
 21:21:36 12 the site, correct?
 21:21:38 13 A. Either additional areas or additional
 21:21:40 14 techniques to infiltrate that water, yes.
 21:21:43 15 Q. And could that affect the layout of the
 21:21:45 16 development plan that's been presented as
 21:21:47 17 Exhibit A-6?
 21:21:49 18 A. No, I don't believe so. Again, we have
 21:21:51 19 shown that the water is able to infiltrate into
 21:21:56 20 the basins and that's where we have stopped.
 21:21:57 21 We met the requirements for the conceptual
 21:22:01 22 plan. But there is other avenues, as Ms. Adams
 21:22:04 23 stated, that we can do on-lot soil, on-lot soil
 21:22:09 24 amendments which can be done on the actual lots

21:22:12 1 themselves, so that would not impact the site
 21:22:15 2 layout in any way, shape or form.
 21:22:17 3 Q. And you agree that Toll will have to
 21:22:21 4 perform a much more thorough analysis, with
 21:22:23 5 more detailed calculations, at the land
 21:22:25 6 development stage in order to demonstrate
 21:22:27 7 compliance with the stormwater ordinance; is
 21:22:29 8 that correct?
 21:22:29 9 A. We will have to do additional
 21:22:31 10 calculations to show that the design, when it
 21:22:35 11 proceeds to the preliminary plan stage, meets
 21:22:38 12 the township and DEP requirements, correct.
 21:22:40 13 MS. CAMP: Thank you. I have
 21:22:41 14 nothing further.
 21:22:42 15 MR. MCKENNA: Mr. Crawford, any
 21:22:45 16 questions?
 21:22:47 17 MR. CRAWFORD: Yes, a couple
 21:22:51 18 questions if I might.
 21:22:48 19 RECCROSS-EXAMINATION
 21:22:50 20 BY MR. CRAWFORD:
 21:22:50 21 Q. You indicated that the loading ratio
 21:22:58 22 standard is not a regulation but, rather, a
 21:23:02 23 recommendation, that is from time to time not
 21:23:06 24 enforced by DEP in their review of stormwater

21:23:11 1 post-construction plans; is that a fair
 21:23:13 2 summary?
 21:23:13 3 **A. Correct. I believe I said it is, the**
 6 4 **DEP is a guidance that is necessary for the**
 21:23:20 5 **load ratios, yes.**
 21:23:22 6 **Q. Are you aware of any DEP empirical**
 21:23:28 7 **studies, or any study by anyone else for that**
 21:23:31 8 **matter, to demonstrate post-construction**
 21:23:35 9 **efficacy of either the recommended standard or**
 21:23:41 10 **excess beyond the recommended standard?**
 21:23:44 11 **A. I'll try to answer it the best I can.**
 21:23:47 12 **I may or may not answer it fully. Please stop**
 21:23:50 13 **me if I don't. But the requirement or**
 21:23:55 14 **recommendation of the loading ratios,**
 21:23:57 15 **ultimately Dominick Rocco, who works at the**
 21:24:01 16 **Southeastern Regional DEP, has submitted a**
 21:24:04 17 **paper that shows with empirical data and design**
 21:24:10 18 **and calculations and history that the loading**
 21:24:14 19 **ratios do not need to be adhered to for the**
 21:24:19 20 **ones specified in the DEP manual as guidance.**
 21:24:22 21 **They could be higher.**
 21:24:23 22 **Q. Do you know, is that based upon**
 21:24:26 23 **post-construction studies or literature?**
 21:24:29 24 **A. I don't know off, what it is, but**

21:24:33 1 **Dominick Rocco did the DEP, worked on it at the**
 21:24:39 2 **DEP, I can only assume would have used both**
 21:24:42 3 **historical data as well as some theory. But I**
 21:24:47 4 **do not have that paper in front of me.**
 21:24:49 5 **MR. CRAWFORD: Thank you. That's**
 21:24:50 6 **all I have.**
 21:24:50 7 **MR. MCKENNA: Thank you, Mr.**
 21:24:51 8 **Crawford. Mr. Thompson?**
 21:24:54 9 **RE-CROSS-EXAMINATION**
 21:24:54 10 **BY MR. THOMPSON:**
 21:24:56 11 **Q. Following up on Mr. Crawford's last**
 21:24:58 12 **question concerning the DEP, I guess approval**
 21:25:01 13 **of loading ratios that are higher than that in**
 21:25:04 14 **the BMP manual, you indicated that Dominick**
 21:25:07 15 **Rocco issued a letter indicating they would**
 21:25:09 16 **consider higher ratios; is that what you said?**
 21:25:11 17 **A. Yes. There is a letter from Dominick.**
 21:25:16 18 **Q. Are you aware of DEP considering ratios**
 21:25:19 19 **that you propose for basin 2 at 120 or basin 4**
 21:25:26 20 **at 55?**
 21:25:26 21 **A. We have not had any projects that have**
 21:25:33 22 **been rejected for our loading ratios. I don't**
 21:25:38 23 **know if the loading ratios we previously had**
 21:25:40 24 **were on the magnitude of 120. But, again, this**

21:25:44 1 **was a conceptual design, and the basins, if**
 21:25:46 2 **needed, could be resigned a little bit, if we**
 21:25:48 3 **needed to get the loading ratios down to more**
 21:25:51 4 **tolerable amounts than 120.**
 21:25:53 5 **But the areas do infiltrate the**
 21:25:57 6 **required amounts in the less than three days,**
 21:25:59 7 **which is a requirement of the DEP, that the**
 21:26:02 8 **water must be infiltrated within three days of**
 21:26:05 9 **the storm.**
 21:26:07 10 **Q. You said DEP had not rejected any of**
 21:26:10 11 **your proposed loading ratios. What were those**
 21:26:12 12 **loading ratios in the magnitude of?**
 21:26:15 13 **A. Definitely higher than the order of**
 21:26:18 14 **magnitude of the five.**
 21:26:20 15 **Q. Ten? 15?**
 21:26:21 16 **A. Easily. Easily.**
 21:26:23 17 **Q. But nowhere near 55 or 120?**
 21:26:26 18 **A. It is possible. I don't have the**
 21:26:28 19 **numbers in front of me, but it is possible.**
 21:26:29 20 **Q. What would be the highest number that**
 21:26:31 21 **you have a recollection of obtaining approval**
 21:26:34 22 **from DEP for?**
 21:26:36 23 **A. Probably somewhere in the thirties or**
 21:26:38 24 **forties. Again, that one basin is a very**

21:26:42 1 **minute basin. It is, it is a small basin, and**
 21:26:48 2 **it could be enlarged, if needed, to help the**
 21:26:52 3 **loading ratio be more tolerable to the overall**
 21:26:58 4 **process. Sure, it could be done. But, again,**
 21:27:00 5 **it would not impact the overall site design of**
 21:27:03 6 **the project.**
 21:27:03 7 **Q. Because it is a rudimentary design, as**
 21:27:05 8 **you described, you haven't done that?**
 21:27:07 9 **A. Sure. Rudimentary or conceptual, yes.**
 21:27:10 10 **Q. Talking about weighted averages, you**
 21:27:13 11 **did use a weighted average for runoff**
 21:27:16 12 **coefficients, that's correct?**
 21:27:18 13 **A. We have used an average of the CNs.**
 21:27:23 14 **But in my engineering history and working with**
 21:27:28 15 **plenty of townships, the weighted average**
 21:27:30 16 **that's specified in the township is the**
 21:27:32 17 **averages on a TR-55 sheet that is, as I**
 21:27:37 18 **previously stated, would be for a specific, for**
 21:27:40 19 **example, a one-acre lot would have a weighted**
 21:27:42 20 **average of a 70.**
 21:27:44 21 **We did not do that. We actually**
 21:27:47 22 **took the impervious amounts shown on the plans,**
 21:27:50 23 **the lawns shown on the plans, the woods shown**
 21:27:53 24 **on the plans, and came up with those numbers,**

21:27:55 1 and then calculated the CN for each individual
 21:27:59 2 drainage area.
 21:28:01 3 Q. You didn't average?
 3 4 A. We did not do the weighted average as
 21:28:05 5 specified in portions of the TR-55 manual.
 21:28:11 6 Q. But you did do a weighted average?
 21:28:13 7 A. We did an average of the CNs, but that
 21:28:16 8 has been the design, and shown in TR-55 is a
 21:28:20 9 way to do it. The weighted average that is
 21:28:23 10 shown in TR-55 again is the, for an example, a
 21:28:27 11 one-acre lot, you could just go right to the
 21:28:32 12 stance and say this is a one-acre lot, or we
 21:28:35 13 are going to use a CN of 70, and that's what is
 21:28:38 14 shown in the TR-55 manual.
 21:28:39 15 That has no bearing on the
 21:28:41 16 underlying amount of impervious woods, lawn
 21:28:44 17 that's on that lot. That is a weighted
 21:28:46 18 average. Because that states empirical data to
 21:28:49 19 make that assumption. We would take actual
 21:28:51 20 data shown on the study to make the CN numbers
 21:28:54 21 for the study.
 21:28:54 22 Q. Are you aware of the provision in
 21:28:58 23 Section 305.I and 309.G of the Stormwater
 02 24 Management Ordinance stating weighted averaging

21:29:04 1 of runoff coefficients shall not be used for
 21:29:07 2 manual computation for input data for water
 21:29:10 3 quality and runoff calculations? Are you aware
 21:29:12 4 of that have provision?
 21:29:13 5 A. Yes.
 21:29:13 6 Q. Is it your testimony that you comply
 21:29:15 7 with that provision?
 21:29:17 8 A. Correct. We have not done the weighted
 21:29:18 9 averages as shown in the TR-55 manual for,
 21:29:21 10 again, for an example of one acre or half of an
 21:29:25 11 acre could be as a 70, or weighted average of
 21:29:28 12 70 or a 60, and, again, has no bearing on the
 21:29:31 13 underlying amount, just states it is a one-acre
 21:29:36 14 lot. We don't know what it is. We did not do
 21:29:38 15 that, correct.
 21:29:40 16 Q. You are saying that because you can do
 21:29:45 17 a weighted average in TR-55? Is that correct?
 21:29:47 18 Is that what you are saying? I'm looking at
 21:29:49 19 the report here. It says they are weighted
 20 averages.
 21:29:52 21 A. But it is the, it is not using the
 21:29:55 22 weighted averages shown the TR-55 manual. We
 21:29:57 23 have actually done the calculations to show the
 21:30:00 24 underlying cover types on the site.

21:30:09 1 Q. Did you test at the actual basin
 21:30:15 2 locations for infiltration?
 21:30:18 3 A. We have done preliminary type of, GTA
 21:30:21 4 has done preliminary testing at a time where
 21:30:24 5 the basins or in certain locations they have,
 21:30:29 6 during the layout, may have moved to a slightly
 21:30:34 7 different location. But the testing is in the
 21:30:36 8 general, general vicinity of the basins, as
 21:30:40 9 well as the testing on the site itself shows
 21:30:43 10 overall that there is ample infiltration for
 21:30:46 11 this site.
 21:30:46 12 Q. So it is in the general vicinity of the
 21:30:49 13 basin but not the actual basin location itself;
 21:30:51 14 is that fair?
 21:30:52 15 A. Yes. So when we do preliminary site
 21:30:54 16 design we will need, if we need to supplement
 21:30:58 17 that data, we will do so.
 21:31:00 18 Q. Did you do any testing for basins 9 and
 21:31:03 19 10? Do you know?
 21:31:07 20 A. We did basins 9 and 10. Again, we used
 21:31:12 21 the, as the site itself has shown, the general
 21:31:17 22 compliance of infiltration. We have used the
 21:31:22 23 calculation of, that the site, could infiltrate
 21:31:28 24 the site, could infiltrate the required

21:31:31 1 amounts.
 21:31:31 2 Q. I'm sorry, was that a yes or a no?
 21:31:34 3 A. Yes, we have taken the --
 21:31:35 4 Q. Yes, you did?
 21:31:36 5 A. Yes, we did. We did, the data that GTA
 21:31:40 6 provided shows testing throughout the site, and
 21:31:43 7 we have used that data to determine that there
 21:31:47 8 is infiltration in those locations. Is it at
 21:31:50 9 the basin itself? No.
 21:31:51 10 Q. But did you do testing?
 21:31:53 11 A. GTA did testing. I did not, no.
 21:31:56 12 Q. You did not. Were you aware that
 21:31:57 13 basins 9 and 10 are in areas of seasonal high
 21:32:00 14 water table soils?
 21:32:01 15 A. They are in the vicinity, but they are
 21:32:04 16 up slope of that, of that location on the
 21:32:06 17 basins, and not in the seasonal high water
 21:32:10 18 table themselves. There is -- they are up
 21:32:15 19 slope of those, several feet, and the testing
 21:32:21 20 would have to comply with the DEP requirements
 21:32:23 21 of two-foot of separation.
 21:32:37 22 Q. I think you indicated that you protect
 21:32:39 23 wetlands. Do wetlands need base flow from
 21:32:42 24 groundwater recharge to essentially stay wet?

21:32:45 **1 A. We protected all the wetlands except**
 21:32:49 **2 for the spring crossings for the roads, yes.**
 21:32:51 **3 And our basins will infiltrate the amount, as**
 6 **4 well as the runoff from the perimeter of the**
 21:33:00 **5 streams, to help keep -- the perimeter of**
 21:33:03 **6 areas, whether it is a stream or the wetlands,**
 21:33:05 **7 to help keep the wetlands wet.**

21:33:07 **8 Q. But if there is no recharge of these**
 21:33:10 **9 rudimentary basin designs, the base flow be**
 21:33:14 **10 diminished and that would potentially harm the**
 21:33:16 **11 wetland?**

21:33:16 **12 A. The rudimentary or conceptual design**
 21:33:19 **13 shows that we will comply with the requirement,**
 21:33:22 **14 as well as the plan, we would go through**
 21:33:27 **15 preliminary plans, that additional testing we**
 21:33:29 **16 will need to adhere to the DEP requirements of**
 21:33:36 **17 the difference between any limiting zones and**
 21:33:38 **18 the infiltration properties.**

21:33:42 **19 MR. THOMPSON: That's all I have.**

21:33:49 **20 MR. MCKENNA: Mr. DuFault, any**
 21:33:50 **21 questions?**

21:33:51 **22 MR. DUFAULT: No questions at**
 21:33:52 **23 this time.**

21:33:52 **24 MR. MCKENNA: Mr. Bevilacqua?**

21:33:53 **1 MR. BEVILACQUA: No questions.**

21:33:54 **2 MR. MCKENNA: Mr. Scanlon?**

21:33:56 **3 DR. SCANLON: No questions.**

21:33:57 **4 MR. MCKENNA: Mr. McFalls?**

21:33:58 **5 MR. MCFALLS: No.**

21:33:59 **6 MR. MCKENNA: Mr. Feryo?**

21:34:01 **7 MR. FERYO: No, thank you.**

21:34:02 **8 MR. MCKENNA: Mr. Spackman?**

21:34:03 **9 MR. SPACKMAN: None, thank you.**

21:34:04 **10 MR. MCKENNA: Mr. Mammucari? Mr.**

21:34:08 **11 Mammucari is now gone.**

21:34:10 **12 Mr. Jones?**

21:34:14 **13 MR. JONES: No questions.**

21:34:14 **14 MR. MCKENNA: Mr. Rendemonti?**

21:34:17 **15 MR. RENDEMONTI: No. Thank you.**

21:34:18 **16 MR. MCKENNA: Ms. Corcoran?**

21:34:19 **17 MS. CORCORAN: No. Thank you.**

21:34:20 **18 MR. MCKENNA: Ms. Murnane?**

21:34:25 **19 MS. MURNANE: No questions.**

21:34:25 **20 MR. MCKENNA: Mr. Daull?**

21:34:29 **21 MR. DAULL: No questions.**

21:34:31 **22 MR. MCKENNA: Mr. Pavelchek?**

21:34:33 **23 MR. PAVELCHEK: No questions.**

21:34:35 **24 MR. MCKENNA: Ms. Kramer?**

21:34:36 **1 MS. KRAMER: No questions.**

21:34:38 **2 MR. MCKENNA: Mr. Skros?**

21:34:39 **3 MR. SKROS: No questions.**

21:34:40 **4 MR. MCKENNA: Mr. or Mrs.**

21:34:42 **5 McFadden?**

21:34:43 **6 MR. MCFADDEN: No questions.**

21:34:43 **7 MR. MCKENNA: Ms. Weller?**

21:34:45 **8 MS. WELLER: No questions.**

21:34:46 **9 MR. MCKENNA: Board?**

21:34:50 **10 MR. HAWS: I have a couple**

21:34:51 **11 questions. I think you previously maybe**

21:34:56 **12 answered one of the attorneys, but you said**

21:35:00 **13 that not all of the perc tests were done in the**

21:35:03 **14 basin vicinity; is that correct?**

21:35:05 **15 THE WITNESS: Not all the perc**

21:35:09 **16 tests were done at the basin location itself.**

21:35:11 **17 MR. HAWS: So is that standard**

21:35:14 **18 engineering practices, to actually test for, if**

21:35:17 **19 you are doing an infiltration basin, to**

21:35:20 **20 actually have testing areas where the basins**

21:35:24 **21 aren't going to be?**

21:35:25 **22 THE WITNESS: At conceptual**

21:35:27 **23 design, no, we do not need to have testing at**

21:35:31 **24 that basin location.**

21:35:32 **1 What we do have, and what the**

21:35:33 **2 testing shows, is the site in general is able**

21:35:36 **3 to have infiltration on the site.**

21:35:38 **4 MR. HAWS: That wasn't my**

21:35:39 **5 question. My question was: Is that good**

21:35:41 **6 engineering standard?**

21:35:43 **7 THE WITNESS: For conceptual**

21:35:45 **8 plan, sure.**

21:35:46 **9 MR. HAWS: Okay. Help me**

21:35:49 **10 understand these loading ratios, because you**

21:35:51 **11 seem to talk a little bit around that. You**

21:35:54 **12 were saying that five, it is not a regulation,**

21:35:57 **13 it is a guidance, and that five is what is**

21:36:02 **14 known, but it has been able to go higher.**

21:36:05 **15 On any specific project that you**

21:36:06 **16 have worked on, what is the maximum number of a**

21:36:09 **17 ratio where you were able to get approved by**

21:36:12 **18 the DEP?**

21:36:13 **19 THE WITNESS: Again, as I**

21:36:15 **20 previously stated to one of the attorneys, that**

21:36:18 **21 I believe it is in the realm of 30 to 40 to**

21:36:21 **22 one.**

21:36:23 **23 MR. HAWS: And you are okay with**

21:36:25 **24 submitting a plan that shows 55 and 120?**

21:36:29 1 THE WITNESS: At the conceptual
 21:36:31 2 stage I definitely see no problems with that.
 21:36:34 3 MR. HAWS: I'm sorry, I didn't
 6 4 understand that. Because if you are saying
 21:36:37 5 that having something approved by the DEP, the
 21:36:41 6 highest you've had was 30 to 35, and even if it
 21:36:45 7 is conceptual or rudimentary, whatever word you
 21:36:47 8 want to use, something that is three to four
 21:36:50 9 times greater than what you have ever been able
 21:36:53 10 to have approved by a regulating body, how does
 21:36:56 11 that even fall in the realm of conceptual?
 21:37:00 12 THE WITNESS: Conceptually that
 21:37:03 13 is, that is what the numbers show.
 21:37:05 14 MR. HAWS: I understand that.
 21:37:06 15 THE WITNESS: If and when, when
 21:37:07 16 we go to the DEP, and they believe that the
 21:37:10 17 loading ratio is in the higher amount than they
 21:37:14 18 are required, then they are comfortable with
 21:37:17 19 sizing, with sizing this, or we may have to
 21:37:20 20 adjust the basin to comply with the DEP
 21:37:23 21 requirements and get the DEP to seek to issue
 21:37:29 22 the permit.
 21:37:30 23 Again, the water that's getting
 12 24 there is able to infiltrate in the three-day

21:37:35 1 requirement per DEP. So there will be no water
 21:37:40 2 there for an extended period of time. And
 21:37:42 3 that's ultimately what the loading ratio also
 21:37:45 4 helps to comply with, is that you are able to
 21:37:51 5 infiltrate within those, that 72-hour
 21:37:54 6 timeframe, so that there is not water standing
 21:37:56 7 there for an extended period of time.
 21:37:59 8 And that's what the calculations
 21:38:02 9 show, that the water will be gone within that
 21:38:05 10 three days.
 21:38:07 11 MR. HAWS: If I understand
 21:38:08 12 correctly, what you are saying is that if you
 21:38:11 13 submitted this plan tomorrow to DEP, with a
 21:38:14 14 loading ratio of 120, that it should be
 21:38:17 15 approved because within three days the water
 21:38:20 16 wouldn't be standing there?
 21:38:21 17 THE WITNESS: Correct.
 21:38:22 18 MR. HAWS: But your prior
 21:38:23 19 testimony says that you have never submitted
 5 20 anything to the DEP that was greater than 30 to
 21:38:29 21 35. So now you are telling me four fold
 21:38:32 22 greater and they will approve that?
 21:38:34 23 THE WITNESS: That is, that is my
 21:38:37 24 stance on that, yes. We have not needed to go

21:38:40 1 to 120, as we have had when the design
 21:38:43 2 ultimately is done. The basin has been sized
 21:38:46 3 and correct size, sized correctly to handle the
 21:38:51 4 volume and the rate for the DEP and the
 21:38:53 5 township requirements.
 21:38:55 6 MR. HAWS: Okay.
 21:38:55 7 THE WITNESS: As are all these
 21:38:56 8 basins.
 21:38:57 9 MR. HAWS: Moving on to talk
 21:39:00 10 about the Chester Creek remediation and, what
 21:39:05 11 is it, 167, Act 167 that is needed. Are you
 21:39:11 12 saying that Basin A-4 would be the one that
 21:39:17 13 would be mitigating the waters that go to the
 21:39:20 14 Chester Creek?
 21:39:21 15 THE WITNESS: Chester Creek, I
 21:39:22 16 would say a small portion of the townhomes
 21:39:25 17 section located along Route 202, Basin A-4 I
 21:39:30 18 believe was ultimately more to the west, which
 21:39:34 19 is to the Radley Run. The lay of the land and
 21:39:40 20 the grading shows, and the calculations show,
 21:39:43 21 that the water leaving the site and going to
 21:39:47 22 the culvert underneath Route 202 does have a
 21:39:50 23 reduction necessary of 50 percent for all those
 21:39:55 24 clean water requirements.

21:39:56 1 Basin A-4, to answer your
 21:39:58 2 question, basin A-4 I believe flows towards the
 21:40:01 3 west, towards the Radley Run.
 21:40:06 4 MR. HAWS: Which basin addresses
 21:40:07 5 the Chester Creek?
 21:40:08 6 THE WITNESS: There are no
 21:40:09 7 basins, I believe there are -- there are no
 21:40:10 8 basins that flow that, that capture the water
 21:40:13 9 going towards the Chester Creek.
 21:40:16 10 But the design of the site is
 21:40:18 11 such that the 50 percent reduction of the
 21:40:22 12 requirements to the Chester Creek are met.
 21:40:25 13 MR. HAWS: By a culvert, is what
 21:40:28 14 you are saying?
 21:40:28 15 THE WITNESS: The water flowing
 21:40:29 16 towards the culvert has been reduced from the
 21:40:33 17 50 percent for each individual storm. So the
 21:40:36 18 two-year post-development flow off of the site
 21:40:41 19 towards the culvert is reduced the 50 percent.
 21:40:45 20 MR. HAWS: What BMPs did you put
 21:40:47 21 in place to get this 50 percent reduction?
 21:40:49 22 THE WITNESS: The BMPs on the
 21:40:52 23 site, there is a lawn on the site, there is
 21:40:55 24 roof-top disconnection, and there would be

21:40:58 1 trees in the landscaping buffer or road which
 21:41:04 2 will help to uptake and to create the CN perc
 21:41:09 3 numbers required to meet this reduction.
 2 4 If and when additional BMPs are
 21:41:15 5 required or needed, when the calculations are
 21:41:19 6 fully designed in the preliminary plan, they
 21:41:22 7 will be implemented as such. But at this time
 21:41:25 8 we have met the requirements of the reduction
 21:41:29 9 towards the Chester Creek of 50 percent.
 21:41:38 10 MR. HAWS: From your general
 21:41:43 11 engineering standpoint, by making basins
 21:41:49 12 larger, steeper slopes, does disturbing the
 21:41:55 13 earth have an impact on potential infiltration
 21:41:59 14 rates into various basins? And would you
 21:42:03 15 recommend retesting those after the designs
 21:42:07 16 have been made to make sure that they meet the
 21:42:09 17 standards?
 21:42:10 18 THE WITNESS: We have done that
 21:42:14 19 specific stance in one or two instances, but
 21:42:16 20 for a majority of the projects, the testing
 21:42:19 21 that is done by the soils scientist at the
 21:42:22 22 elevation that's requested and shown on the
 21:42:25 23 design, to show the two-foot separation, once
 28 24 that is, that is met in the field, the basins,

21:42:36 1 they function correctly, and with operation and
 21:42:38 2 maintenance, as long as there is no additional,
 21:42:43 3 additional remediation needed, if the water
 21:42:48 4 isn't infiltrating into the ground, then the
 21:42:53 5 testing that's done by the soil scientist is
 21:42:56 6 able to meet the rates.
 21:43:02 7 MR. HAWS: Talk to me about
 21:43:04 8 elevation, back to perc testing. Does the
 21:43:06 9 elevation of the perc test have any impact on
 21:43:09 10 the outcome of the results?
 21:43:11 11 THE WITNESS: The elevation of
 21:43:13 12 the perc test, whatever that elevation is, is
 21:43:17 13 the elevation that we will have to design our
 21:43:19 14 basins to, and would need to have the two-foot
 21:43:23 15 separation from the limiting zones. So we will
 21:43:26 16 in the preliminary design request that the
 21:43:29 17 elevation of the basin, number one, be at a
 21:43:34 18 certain elevation, and that's where we are
 21:43:37 19 going to design the plan to be to.
 20 20 MR. HAWS: Is it your testimony
 21:43:43 21 that this conceptual or rudimentary design, as
 21:43:47 22 it states right now, that there are certain
 21:43:51 23 perc tests that were done that are about 10
 21:43:54 24 feet difference in elevation from where the

21:43:57 1 basin is shown to where the perc test is done,
 21:44:01 2 so if I hear you correctly, that that perc test
 21:44:05 3 is not valid?
 21:44:06 4 THE WITNESS: The perc test is
 21:44:09 5 valid because it would show that there is
 21:44:10 6 infiltration at that elevation.
 21:44:14 7 MR. HAWS: At that elevation?
 21:44:15 8 THE WITNESS: Correct.
 21:44:16 9 MR. HAWS: But based on your
 21:44:17 10 conceptual or rudimentary stormwater management
 21:44:21 11 plan, the basin is 10 feet lower than where the
 21:44:23 12 perc test was done.
 21:44:25 13 THE WITNESS: And if that basin,
 21:44:26 14 if that ten foot, for example, and you go down
 21:44:29 15 to the basin, which is ten foot lower, that
 21:44:32 16 does not mean that the water is popping out of
 21:44:35 17 the ground at that location. The water, the
 21:44:37 18 groundwater --
 21:44:38 19 MR. HAWS: I'm sorry, not to
 21:44:40 20 interrupt. That's not the question.
 21:44:41 21 THE WITNESS: Sure.
 21:44:41 22 MR. HAWS: I asked if you do a
 21:44:43 23 perc test at a certain elevation and if the
 21:44:46 24 basin is at a different elevation, would you be

21:44:49 1 required to retest that to show the perc test,
 21:44:52 2 and you had answered yes, and now it seems like
 21:44:55 3 that's changing. So it is a very simple
 21:44:58 4 question. If you are doing a perc test at an
 21:45:01 5 elevation X, and the basin is at an elevation
 21:45:05 6 Y, that is drastically different, but you are
 21:45:08 7 saying that it's, at this conceptual stage that
 21:45:12 8 it is okay, but previously you just said it is
 21:45:16 9 not. So I'm trying to understand. The two are
 21:45:21 10 not matching up.
 21:45:22 11 THE WITNESS: Conceptually,
 21:45:23 12 during the conceptual plan it is fine. During
 21:45:26 13 the preliminary plan we would need to retest at
 21:45:29 14 the basin bottom elevation.
 21:45:31 15 MR. HAWS: So because we are
 21:45:32 16 using the word conceptually, you can throw out
 21:45:35 17 all good engineering practices, because it is
 21:45:38 18 at the conceptual stage?
 21:45:40 19 THE WITNESS: No, I don't believe
 21:45:41 20 so. The site itself shows as a whole that
 21:45:43 21 there is infiltration on the site.
 21:45:45 22 MR. HAWS: Correct. Okay. I
 21:45:49 23 think this might be -- two additional
 21:45:51 24 questions. I'll do the easy one first. You

21:45:54 1 were saying that when you get to the final
 21:45:58 2 planning design of that, some of the basins may
 21:46:01 3 move or that you could potentially do your
 4 4 on-site remediations with infiltration on
 21:46:08 5 people's properties. Who would be responsible
 21:46:12 6 for the operation and maintenance agreements on
 21:46:15 7 those? Would that be the individual property
 21:46:18 8 owners, to make sure that their stormwater
 21:46:20 9 management systems are working in compliance?
 21:46:22 10 Or would that be part of the homeowners
 21:46:24 11 association?

21:46:25 12 THE WITNESS: That is one
 21:46:27 13 technique that, I believe you are referring to
 21:46:28 14 soil amendments, that would most of the time be
 21:46:33 15 homeowners themselves, with the HOA being the
 21:46:36 16 overseer of the overall operation and
 21:46:40 17 maintenance.

21:46:42 18 There are also other BMPs that
 21:46:46 19 could be designed and implemented on the site
 21:46:48 20 with varying other operation and maintenances
 21:46:51 21 for the infiltration or exfiltration of the
 21:46:55 22 volume of water required for the DEP. But that
 21:46:58 23 was one instance.

21:46:59 24 MR. HAWS: So again, just to

21:47:01 1 answer the question, because you said both, is
 21:47:03 2 it the homeowners' responsibility to make sure
 21:47:05 3 the O&M is followed, or would it be the
 21:47:07 4 homeowners association?

21:47:09 5 THE WITNESS: Most of the times
 21:47:10 6 we have specified that it is the owner's
 21:47:13 7 responsibility, with the ultimate operation and
 21:47:17 8 maintenance of the HOA themselves.

21:47:19 9 MR. HAWS: So that it is the HOA
 21:47:21 10 who is the ultimate responsible party?

21:47:23 11 THE WITNESS: Correct.

21:47:24 12 MR. HAWS: Thank you. Final
 21:47:25 13 question. Back to these calculations that we
 21:47:28 14 were stuck on, the report shows averages versus
 21:47:32 15 weighted averages. Can you just walk me
 21:47:35 16 through that one more final time.

21:47:36 17 THE WITNESS: Sure, I'll try. In
 21:47:39 18 the design of numerous sites in Pennsylvania
 21:47:44 19 and other states, when the ordinance says
 20 weighted averages, again, that's talking about
 21:47:50 21 the weighted averages in the TR-55. And I'll
 21:47:54 22 use this as an example, one acre. It is stated
 21:47:57 23 in there that a one-acre site, which has a
 21:48:01 24 weighted average of, again, I'll throw out a

21:48:03 1 number of 70, that does not take into account
 21:48:07 2 what is on that one acre.

21:48:09 3 Again, that's just a weighted
 21:48:10 4 average. That's historical data that's used to
 21:48:13 5 generate that 70 requirement. Again, it is
 21:48:15 6 just a number I picked.

21:48:17 7 We have shown and we have
 21:48:19 8 calculated the actual site characteristics, and
 21:48:23 9 impervious was one on the actual site in the
 21:48:27 10 site design, and then taken that as our basis
 21:48:31 11 for the stormwater design.

21:48:32 12 And, again, this is how we have
 21:48:34 13 done numerous jobs in Pennsylvania and other
 21:48:38 14 states, with this technique. We do not believe
 21:48:41 15 that this is a weighted average.

21:48:45 16 MR. HAWS: Okay. Thank you.

21:48:58 17 MS. DEWOLF: So you stated that
 21:49:00 18 the BMPs, I quote, could be done, you met the
 21:49:04 19 infiltration rate, that is where we stopped.

21:49:11 20 So as I understand, you don't
 21:49:12 21 really have any best management practices that
 21:49:16 22 are on your conceptual and rudimentary plan you
 21:49:19 23 provided?

21:49:21 24 THE WITNESS: The best management

21:49:21 1 practice we have is infiltration, and that
 21:49:23 2 meets the requirements of the volume for the
 21:49:26 3 DEP.

21:49:28 4 MS. DEWOLF: And you also, just
 21:49:30 5 also stated that other BMPs could be
 21:49:36 6 implemented on the site, and you also stated
 21:49:40 7 there were trees as part of the BMP. And the
 21:49:44 8 trees on your plan, I don't remember seeing
 21:49:51 9 them, they were part of a landscaping effort,
 21:49:53 10 but I don't think they were a best management
 21:49:55 11 practice, per se.

21:49:56 12 THE WITNESS: In the total
 21:49:59 13 calculation of the best management practices
 21:50:01 14 for the DEP and NPDES worksheet, there is
 21:50:06 15 several non-structural and structural BMPs that
 21:50:11 16 will be implemented. Structural would be a
 21:50:14 17 device that helps clean the water. Not
 21:50:17 18 structural would be landscaping, roof-top
 21:50:23 19 disconnection.

21:50:24 20 MS. DEWOLF: So the trees are
 21:50:25 21 your non-structural?

21:50:26 22 THE WITNESS: Non-structural.
 21:50:27 23 But BMPs under the --

21:50:30 24 MS. DEWOLF: Structural BMPs are

21:50:31 **1** basins then?
 21:50:32 **2** THE WITNESS: Correct.
 21:50:33 **3** MS. DEWOLF: Okay. Do you have a
 1 **4** lot of stabilization of your slopes on your
 21:50:45 **5** current plan, because of the steep slopes that
 21:50:50 **6** are on this plan and where those streams are,
 21:50:54 **7** and you are reconfiguring of the site, do you
 21:51:00 **8** have a lot of slope stabilization planned?
 21:51:04 **9** THE WITNESS: The slopes that
 21:51:05 **10** will need to be stabilized are the basins
 21:51:10 **11** themselves, which we have shown at a
 21:51:14 **12** three-to-one slope. They will need to be
 21:51:18 **13** designed, implemented, constructed to have
 21:51:22 **14** those stable. We will ultimately need to get a
 21:51:25 **15** conservation/DEP permit for erosion and
 21:51:29 **16** sediment control, so that will be reviewed and
 21:51:33 **17** obtained from the agency. So there is multiple
 21:51:37 **18** oversight on the site design for erosion and
 21:51:40 **19** sedimentation control.
 21:51:41 **20** MS. DEWOLF: As I look at this
 21:51:43 **21** plan, the steeper elevations are following the
 21:51:47 **22** alignment of all the streams on the site. So
 21:51:52 **23** how are you stabilizing the banks without doing
 58 **24** any best management practice outside the basin?

21:52:06 **1** Your structural/non-structural?
 21:52:09 **2** THE WITNESS: The banks of the
 21:52:10 **3** streams themselves will remain untouched as --
 21:52:13 **4** MS. DEWOLF: I'm sorry, I can't
 21:52:14 **5** hear you.
 21:52:15 **6** THE WITNESS: The banks of the
 21:52:16 **7** streams will remain untouched, which is the
 21:52:19 **8** water, the wetlands, the slopes immediately
 21:52:25 **9** upstream of the streams. Sooner or later you
 21:52:28 **10** will get to the basins or the sites of the
 21:52:33 **11** roads and homes themselves, and, again, those
 21:52:35 **12** areas will have to be designed and reviewed by
 21:52:42 **13** multiple agencies for sedimentation and erosion
 21:52:45 **14** control, to make sure that there are numerous
 21:52:48 **15** erosion control techniques shown on the site to
 21:52:53 **16** capture any sediment that's shown during the
 21:52:59 **17** development process.
 21:52:59 **18** MS. DEWOLF: Do you know if you
 21:53:05 **19** have adhered to the 75-foot buffer for all of
 7 **20** these streams with that slope stabilization?
 21:53:11 **21** THE WITNESS: I believe I -- I
 21:53:14 **22** believe we have. I am...
 21:53:20 **23** MS. DEWOLF: Kind of doesn't look
 21:53:21 **24** like it. But it is hard to say.

21:53:24 **1** On your basin A-9, maybe it is
 21:53:26 **2** not a basin, but where you tested it is also
 21:53:30 **3** your defined drip irrigation area and, as I
 21:53:33 **4** remember, you had a four-foot or four-inch-high
 21:53:38 **5** water table there at that corner of West
 21:53:44 **6** Pleasant Grove Road and South New Street.
 21:53:48 **7** Do you really have a basin in A-9
 21:53:51 **8** or was that testing for drip irrigation which
 21:53:57 **9** you had that entire corner, with high water
 21:54:06 **10** table issues?
 21:54:08 **11** THE WITNESS: I apologize, I'm
 21:54:16 **12** trying to find A-9 on the site. Could you give
 21:54:19 **13** me a general vicinity of where you may find
 21:54:22 **14** that.
 21:54:23 **15** MR. MCKENNA: I think that's in
 21:54:24 **16** reference to the Neighbors of Crebilly plan.
 21:54:27 **17** MS. DEWOLF: NC-5, you testified
 21:54:29 **18** earlier or provided that exhibit.
 21:54:32 **19** MR. MCKENNA: Do you have a copy
 21:54:33 **20** of NC-5?
 21:54:35 **21** MS. DEWOLF: It is the one with
 21:54:36 **22** the red bubble, right here, boom. A-9. I
 21:54:43 **23** assume that's your basin A-9 you are referring
 21:54:45 **24** to. But I don't think it is a basin. I think

21:54:47 **1** it is just where you tested. But I don't know.
 21:54:59 **2** THE WITNESS: A-9, I do not
 21:55:00 **3** believe that is a testing location. I believe
 21:55:02 **4** that is a basin location shown on this plan.
 21:55:07 **5** MS. DEWOLF: All right. I don't
 21:55:14 **6** have anymore questions. I'm struggling with
 21:55:19 **7** this conceptual allowance that seems to be a
 21:55:26 **8** gray area of what we really have to base our
 21:55:32 **9** decisions on and what we don't have. So that's
 21:55:35 **10** all.
 21:55:36 **11** MR. MCKENNA: Mr. Adelman, any
 21:55:39 **12** redirect?
 21:55:40 **13** MR. ADELMAN: No.
 21:55:42 **14** MR. MCKENNA: Any other further
 21:55:43 **15** cross? Okay, folks.
 21:55:44 **16** Thank you, Mr. Madden.
 17 **17** (Witness excused.)
 21:55:46 **18** MR. MCKENNA: Here is what I
 21:55:46 **19** would like to do. We are going to run a little
 21:55:48 **20** late tonight we are going to try to get as much
 21:55:50 **21** done as we can. We are going to take a quick,
 21:55:53 **22** five-minute bathroom break. I mean quick, five
 21:55:57 **23** minutes. I'm going to continue down the list
 21:55:58 **24** to see how much we can get done from the

21:56:00 1 parties tonight. Let's go off the record.
 21:56:06 2 (Recess taken.)
 22:01:48 3 MR. MCKENNA: We are going to go
 4 back on the record. The rebuttal witness was
 22:02:03 5 presented out of order, so I'm going to go back
 22:02:05 6 down my list. At this point I'm up to Mr.
 22:02:08 7 DuFault from Brandywine at Thornbury. Do you
 22:02:10 8 have any case to put on tonight?
 22:02:11 9 MR. DUFAULT: I have no case to
 22:02:13 10 put on tonight. Thank you.
 22:02:15 11 MR. MCKENNA: Mr. Bevilacqua, for
 22:02:19 12 West Glen HOA, do you have any testimony or
 22:02:21 13 evidence, do you have a case to present for the
 22:02:24 14 client? Mr. Bevilacqua is out in the hallway?
 22:02:29 15 A VOICE: He just left. He left.
 22:02:32 16 MR. MCKENNA: We will take that
 22:02:33 17 as a no then.
 22:02:37 18 Down to the School District, Mr.
 22:02:39 19 Scanlon?
 22:02:40 20 DR. SCANLON: I do.
 22:02:41 21 MR. MCKENNA: Why don't we have
 22:02:42 22 you sworn in and up to the podium, please.
 23 JAMES R. SCANLON,
 24 the witness herein, having first been

1 duly sworn on oath, was examined and
 22:03:03 2 testified as follows:
 22:03:03 3 MR. MCKENNA: Mr. Scanlon, thank
 22:03:04 4 you for your patience this evening. I wanted
 22:03:06 5 to try to make sure to get you done tonight.
 22:03:08 6 Do you have any documents you are going to be
 22:03:10 7 offering tonight?
 22:03:10 8 THE WITNESS: I do. I'll
 22:03:12 9 distribute those right now.
 22:03:13 10 MR. MCKENNA: Okay. Thank you.
 22:03:32 11 I'm going to mark this exhibit as School
 22:03:34 12 District 1.
 22:03:52 13 Mr. Scanlon, as you have heard,
 22:03:54 14 please try to keep your voice up and speak into
 22:03:57 15 that mike so that everybody can hear you.
 22:03:58 16 THE WITNESS: Yes, I'm familiar
 22:03:59 17 with the mikes here at Stetson.
 22:04:00 18 Thank you everybody, and thanks
 22:04:02 19 for your patience. Thanks to Westtown Township
 22:04:10 20 for holding these hearings, and thank you for
 22:04:14 21 listening. Thanks for allowing me to make some
 22:04:15 22 comments tonight.
 23 I would like to talk about the
 22:04:16 24 fiscal impact of the Crebilly Farm development

22:04:19 1 that's being presented by Toll Brothers. I
 22:04:22 2 also would like to enter into the proceedings a
 22:04:27 3 resolution that was passed by the West Chester
 22:04:30 4 Area School District Board of Directors on
 22:04:32 5 March 17th, 2017, requesting an annual impact
 22:04:36 6 fee of \$645,000 for five years.
 22:04:41 7 The Toll Brothers fiscal analysis
 22:04:43 8 that was done in October 13th, 2016, I'm just
 22:04:48 9 looking at the one for the 317-home
 22:04:51 10 development, projects an annual loss of
 22:04:56 11 \$128,949 for the school district. I believe
 22:04:58 12 that testimony was done several meetings ago.
 22:05:00 13 It does project a surplus of
 22:05:04 14 \$661,545 for Plan B, but Plan B would increase
 22:05:09 15 the number of three-bedroom carriage homes, and
 22:05:14 16 that makes a difference I think in terms of
 22:05:16 17 estimates.
 22:05:16 18 I think there were some problems
 22:05:17 19 with the assumptions made. With the addition
 22:05:20 20 of full-day Kindergarten in our school district
 22:05:23 21 and the number of blended learning classes that
 22:05:25 22 we offer for our high school students now, we
 22:05:28 23 are seeing more families move into these
 22:05:31 24 affordable homes in the West Chester Area

22:05:34 1 School District.
 22:05:34 2 Now, the carriage homes are a way
 22:05:38 3 for families, while they are still expensive,
 22:05:40 4 they are much more affordable than the large,
 22:05:43 5 four-bedroom, three-bedrooms homes, and we are
 22:05:46 6 seeing families move into that.
 22:05:47 7 We had testimony from a young
 22:05:50 8 parent tonight who indicated she has young
 22:05:52 9 children who will be attending our schools. We
 22:05:56 10 are seeing more and more of that. The impact
 22:05:58 11 study that the school district did for the
 22:06:00 12 Rustin Walk development in 2013 yielded a net
 22:06:04 13 annual gain for the township of about \$18,927.
 22:06:08 14 This was done by Ray Ott & Associates. And
 22:06:11 15 approximately \$14,699 for the school district.
 22:06:16 16 I tell you that because we are
 22:06:17 17 not new to the concept of doing estimates on
 22:06:22 18 developments. In fact, our school board is
 22:06:24 19 going through revising its capital plan now.
 22:06:28 20 We want to make a presentation in January.
 22:06:31 21 This development and the final product of this
 22:06:33 22 development has, certainly has an impact on
 22:06:36 23 what we need to put in that capital plan.
 22:06:38 24 But that Rustin Walk development

22:06:40 1 was based on 25 four-bedroom and 25
 22:06:43 2 three-bedroom homes. That yielded about 29
 22:06:46 3 students. That development is 70 percent sold
 22:06:55 4 now, and about, I would say about 16 homes
 22:06:58 5 delivered. We have 14 students currently
 22:07:00 6 coming out of there, ten Elementary, three
 22:07:03 7 middle and one high school. Those projections
 22:07:06 8 will probably be a little bit above 29,
 22:07:09 9 probably closer to 40 kids.
 22:07:12 10 Again, we are starting to see
 22:07:15 11 more students coming into our school district
 22:07:18 12 from these homes.
 22:07:21 13 And then I have in that sheet,
 22:07:24 14 what that was based on, some of the revenue out
 22:07:27 15 of that Ray Ott study. I won't repeat that.
 22:07:30 16 You have that there to look through.
 22:07:33 17 When you look at the Toll
 22:07:36 18 Brothers fiscal analysis, page three of that
 22:07:39 19 analysis states that the school district has
 22:07:42 20 considerable nonresidential development
 22:07:45 21 throughout its eight municipalities, and this
 22:07:48 22 nonresidential development generates
 22:07:51 23 substantial tax revenue. The fact that we are
 22:07:54 24 subsidizing the residential development in the

22:07:40 1 district, that is true. We do. However, I
 22:07:43 2 think there are two potential problems with
 22:07:46 3 that statement.
 22:07:49 4 When you look at our district, in
 22:07:52 5 fact, our district has the lowest tax rate in
 22:07:55 6 Chester County, coupled with the excellent
 22:07:58 7 schools, makes it very attractive for young
 22:08:01 8 families to move to the district.
 22:08:04 9 We have reached out to our
 22:08:07 10 pre-school parents, we currently have 1,742
 22:08:10 11 exactly on a LISTSERV list of pre-school
 22:08:13 12 parents, most of those parents don't have kids
 22:08:16 13 in the system yet but they are on their way.
 22:08:19 14 They have been moving from smaller homes to
 22:08:22 15 larger homes within the district, once they
 22:08:25 16 start having multiple children.
 22:08:28 17 These factors used in the past
 22:08:31 18 estimate the number of children coming out of
 22:08:34 19 new developments may not be as accurate due to
 22:08:37 20 the marketing and the program changes that have
 22:08:40 21 taken place in our district the past six years.
 22:08:43 22 Second point I would like to make
 22:08:46 23 is that multiple attempts have recently been
 22:08:49 24 made by our State General Assembly to limit

22:08:39 1 taxes collected by school districts. House
 22:08:42 2 Bill 1213 was considered last spring, which
 22:08:45 3 would make it illegal for school districts to
 22:08:48 4 challenge assessments of those commercial
 22:08:51 5 properties when they sell for an extraordinary
 22:08:54 6 amount of money.
 22:08:57 7 The bill, if it had passed, would
 22:09:00 8 not allow school districts to appeal an
 22:09:03 9 assessed value of a commercial property when it
 22:09:06 10 sold at a much higher value. To give you an
 22:09:09 11 example of how we use that to help generate
 22:09:12 12 some of the income that's stated in that
 22:09:15 13 report. Again, if it is true, I'm concerned
 22:09:18 14 that that may go away with future legislation.
 22:09:21 15 We challenged 17 different
 22:09:24 16 property assessments over the past two years,
 22:09:27 17 generating an additional \$1.4 million in
 22:09:30 18 revenue. That money was used to pay for
 22:09:33 19 programs and services for our students. Those
 22:09:36 20 17 properties went from a cumulative value of
 22:09:39 21 \$93 million to \$363 million.
 22:09:42 22 Now, if the bill passes, the
 22:09:45 23 school district will not be allowed to appeal
 22:09:48 24 these new market values and our ability to

22:09:42 1 subsidize those tax rates for homeowners would
 22:09:45 2 be eliminated or limited.
 22:09:48 3 Senate Bill 76 was another bill
 22:09:51 4 that was defeated by one tie-breaking vote last
 22:09:54 5 spring. This bill would have eliminated most
 22:09:57 6 property taxes collected by school districts
 22:10:00 7 and funding for public education would be in
 22:10:03 8 the hands of our legislators. That funding
 22:10:06 9 would come from an increase in state personal
 22:10:09 10 income tax and sales tax. Senate Bill 76 is
 22:10:12 11 still being discussed in Harrisburg.
 22:10:15 12 Westtown Township completed a
 22:10:18 13 fiscal analysis in January 2017, and that
 22:10:21 14 analysis yielded approximately 172 students
 22:10:24 15 from the Crebilly development. I provided an
 22:10:27 16 analysis of the impact on the school district
 22:10:30 17 if we received 172 additional students, with
 22:10:33 18 the assumption that Toll Brothers would be
 22:10:36 19 building 317 housing units at the time. And a
 22:10:39 20 copy of that memo is also attached. I believe
 22:10:42 21 that has been discussed and entered into
 22:10:45 22 evidence in a previous meeting as well. I
 22:10:48 23 believe it was an amendment Todd Poole, dated
 22:10:51 24 January 25th.

22:10:47 **1** Many states already allow
 22:10:49 **2** municipalities the ability to impose impact
 22:10:51 **3** fees on developers. Texas adopted the first
 7 **4** general impact fee enabling act in 1987. To
 22:10:58 **5** date, I believe 29 states have adopted impact
 22:11:02 **6** fee enabling legislation. The State of
 22:11:05 **7** Maryland grants authority to impose school
 22:11:07 **8** impact fees, as does California, Florida and
 22:11:09 **9** Washington.
 22:11:10 **10** Pennsylvania does not allow
 22:11:12 **11** school districts to impose impact fees, but it
 22:11:15 **12** does allow municipalities some ability to do so
 22:11:18 **13** through the approval process.
 22:11:20 **14** I would like to officially enter
 22:11:22 **15** this memo into the record, along with a
 22:11:24 **16** resolution taken by the West Chester Area
 22:11:26 **17** School District Board of School Directors,
 22:11:28 **18** dated March 27th, 2017, requesting an annual
 22:11:32 **19** payment of \$645,000 for the next five years to
 22:11:36 **20** offset the costs incurred by the district for
 22:11:38 **21** this large development. This is what we
 22:11:41 **22** believe to be the fiscal impact to the school
 22:11:43 **23** district and its taxpayers.
 45 **24** And again, those calculations are

22:11:47 **1** part of the report that I submit tonight.
 22:11:51 **2** MR. MCKENNA: Thank you, Dr.
 22:11:51 **3** Scanlon. I will note that the School District
 22:11:54 **4** 1 includes a copy of your memo you just
 22:11:56 **5** referenced, March 29th, 2017 cover letter; the
 22:12:01 **6** resolution from the school board that you
 22:12:03 **7** referenced; and the memo to Todd Poole from
 22:12:05 **8** January, with the calculations.
 22:12:07 **9** Do you have anything further? Or
 22:12:11 **10** does that sum up your testimony?
 22:12:13 **11** DR. SCANLON: That's it.
 22:12:13 **12** MR. MCKENNA: Mr. Adelman, do you
 22:12:15 **13** have any cross?
 22:12:15 **14** MR. ADELMAN: Yes. Thank you.
 15 **15** CROSS-EXAMINATION
 16 **16** BY MR. ADELMAN:
 22:12:17 **17** **Q.** Good evening, Dr. Scanlon. How are
 22:12:18 **18** you?
 22:12:18 **19** **A. I'm doing well.**
 20 **20** **Q.** Great. Just a few questions. First of
 22:12:21 **21** all, do you act in the official capacity as
 22:12:23 **22** superintendent of the West Chester Area School
 22:12:25 **23** District?
 22:12:25 **24** **A. Yes, I do.**

22:12:26 **1** **Q.** Okay. Isn't it true that the school
 22:12:30 **2** district generates or funds its revenue
 22:12:32 **3** primarily from tax-related revenue?
 22:12:35 **4** **A. Yes, it does.**
 22:12:36 **5** **Q.** Are there other sources of revenue for
 22:12:38 **6** the school district?
 22:12:39 **7** **A. We do have other sources of revenue.**
 22:12:41 **8** **Q.** What would they be, just briefly, if
 22:12:44 **9** you could tell us?
 22:12:44 **10** **A. We have activity fees. We receive**
 22:12:47 **11** **about 85 percent of our revenue locally,**
 22:12:50 **12** **primarily property taxes is the biggest revenue**
 22:12:54 **13** **generator.**
 22:12:54 **14** **We get about 14, 13 or 14 percent**
 22:12:58 **15** **from the state, about 1 percent from the**
 22:13:02 **16** **federal government through some Title I and**
 22:13:06 **17** **Title II grants. Those are grant entitlements.**
 22:13:09 **18** **We also go after approximately**
 22:13:13 **19** **\$200,000 of additional grant money every year**
 22:13:16 **20** **for additional funding, and activity fees for**
 22:13:19 **21** **participation in sports generates about**
 22:13:21 **22** **\$350,000 in revenue.**
 22:13:23 **23** **Q.** And I believe you just stated somewhere
 22:13:26 **24** in your memorandum, in School District

22:13:28 **1** Exhibit 1, that the Public School Code does not
 22:13:31 **2** enable a school district to impose an impact
 22:13:34 **3** fee; is that correct?
 22:13:34 **4** **A. That's correct.**
 22:13:35 **5** **Q.** Has the school board or the school
 22:13:37 **6** district sought impact fees from other
 22:13:41 **7** developments in the school district?
 22:13:43 **8** **A. We have not, no. Not to my knowledge.**
 22:13:45 **9** **Not since my tenure.**
 22:13:47 **10** **Q.** And how long have you been
 22:13:49 **11** superintendent?
 22:13:49 **12** **A. Eight years.**
 22:13:49 **13** **Q.** So this is your first time?
 22:13:51 **14** **A. That's correct.**
 22:13:53 **15** **Q.** How is it going so far?
 22:13:54 **16,** **A. I have been to a lot of late meetings.**
 22:13:57 **17** **Q.** Just checking.
 22:13:58 **18** **A. Just like a day in the office.**
 22:14:00 **19** **Q.** You state in your Exhibit SD-1 on page
 22:14:05 **20** 2, Pennsylvania does not allow school districts
 22:14:08 **21** to impose impact fees, but it allows
 22:14:11 **22** municipalities some ability to do so.
 22:14:14 **23** What is your basis for that
 22:14:15 **24** statement?

22:14:16 **1 A. Basis is we have been through an**
 22:14:19 **2 approval process similar to developers when we**
 22:14:21 **3 do construction projects. Each municipality**
 5 **4 has a different set of regulations. We have**
 22:14:27 **5 eight municipalities in our district. We have**
 22:14:30 **6 built schools or have renovated schools in**
 22:14:34 **7 several of those. Each municipality has a**
 22:14:36 **8 different set of regulations.**

22:14:37 **9 Sometimes there are permit fees**
 22:14:39 **10 that are done. There are road improvement fees**
 22:14:42 **11 that have to go along with some of that. So**
 22:14:45 **12 when I refer to impact fees, I'm referring with**
 22:14:48 **13 regard to construction in this process.**

22:14:52 **14 Q. Do you have any knowledge as to whether**
 22:14:54 **15 this Board, the Township Board of Supervisors,**
 22:14:56 **16 has any legal authority to impose an impact fee**
 22:14:58 **17 on behalf of the school district?**

22:15:00 **18 A. On behalf of the district. Not on**
 22:15:05 **19 behalf of the school district.**

22:15:06 **20 But I believe they can put some**
 22:15:08 **21 conditional uses, and I have seen that with**
 22:15:10 **22 other municipalities, in terms of the final**
 22:15:12 **23 approval of the project.**

14 **24 Q. Well, what would this fee be for? The**

22:15:16 **1 school district, isn't that correct?**

22:15:17 **2 A. This is for the school district. We**
 22:15:20 **3 have a shortage of the costs that are involved**
 22:15:23 **4 in that in terms of additional classroom space,**
 22:15:26 **5 additional teachers that we are going to**
 22:15:29 **6 generate. And that, again, I listed all of**
 22:15:31 **7 that in the memo with Todd Poole as part of**
 22:15:35 **8 that.**

22:15:35 **9 Q. But you don't have any knowledge as to**
 22:15:37 **10 whether this Board even has the authority to**
 22:15:38 **11 impose a impact fee for school districts; is**
 22:15:41 **12 that correct?**

22:15:41 **13 A. They do not per se for school**
 22:15:44 **14 districts. But they I believe have the**
 22:15:46 **15 authority to set some conditions for approval.**

22:15:49 **16 Q. Did you or the School District Board of**
 22:15:52 **17 Directors consult with your legal counsel as to**
 22:15:54 **18 the legality of your March 27, '17 resolution**
 22:15:59 **19 before voting on it?**

22:16:00 **20 A. We did.**

22:16:00 **21 Q. And were you advised this was a legal**
 22:16:02 **22 resolution?**

22:16:04 **23 MR. MCKENNA: Well, wait a**
 22:16:05 **24 minute. You not asking him what advice he**

22:16:08 **1 received, are you, in terms of legal counsel?**

22:16:09 **2 MR. ADELMAN: Why can't I?**

22:16:10 **3 MR. MCKENNA: Because that would**
 22:16:11 **4 be attorney/client privilege.**

22:16:13 **5 MR. ADELMAN: You are not his**
 22:16:14 **6 attorney.**

22:16:14 **7 MR. MCKENNA: I can still raise**
 22:16:15 **8 the issue, however.**

22:16:16 **9 MR. ADELMAN: You are not his**
 22:16:18 **10 attorney.**

22:16:18 **11 MR. MCKENNA: I can still raise**
 22:16:19 **12 the issue, however.**

22:16:20 **13 MR. ADELMAN: Fine.**

22:16:21 **14 MR. MCKENNA: Counsel --**

22:16:22 **15 MR. ADELMAN: I'll rephrase it.**

22:16:23 **16 MR. MCKENNA: -- we both have an**
 22:16:24 **17 obligation not to disclose attorney/client --**

22:16:26 **18 MR. ADELMAN: I will rephrase the**
 22:16:27 **19 question.**

22:16:27 **20 MR. MCKENNA: Thank you.**

21 BY MR. ADELMAN:

22:16:32 **22 Q. Based upon your advice that you**
 22:16:34 **23 received from counsel, did you move forward**
 22:16:37 **24 with enacting the resolution?**

22:16:39 **1 A. We did, yes.**

22:16:40 **2 Q. Would you agree with me that if the**
 22:16:43 **3 imposition of an impact fee for the school**
 22:16:46 **4 district by this Board were deemed to be**
 22:16:48 **5 illegal, then the resolution would be illegal?**

22:16:53 **6 A. A resolution is not illegal. School**
 22:16:57 **7 boards can pass resolutions for just about**
 22:17:00 **8 anything they deem appropriate.**

22:17:02 **9 Whether or not it can happen is**
 22:17:06 **10 going to be up to other attorneys, I would**
 22:17:09 **11 imagine.**

22:17:09 **12 Q. But you are coming here to this Board**
 22:17:11 **13 in your official capacity as a representative**
 22:17:14 **14 of a governmental agency; isn't that correct?**

22:17:16 **15 A. That's correct.**

22:17:16 **16 Q. And you are seeking a request from this**
 22:17:20 **17 Board, another governmental agency, to impose a**
 22:17:23 **18 fee on my client; isn't that correct?**

22:17:25 **19 A. We are, we are requesting that as per**
 22:17:27 **20 that resolution, that is correct.**

22:17:28 **21 Q. Okay. And would you agree with me that**
 22:17:31 **22 imposing that fee on my client would have an**
 22:17:35 **23 impact on their property right?**

22:17:38 **24 A. I don't know.**

22:17:40 1 Q. My client would have to pay the dollar
 22:17:42 2 amount requested by the school district that
 22:17:45 3 would be imposed by the Board; isn't that
 7 4 correct?
 22:17:47 5 A. That would be correct.
 22:17:48 6 Q. As a result of developing their
 22:17:50 7 property, correct?
 22:17:51 8 A. That would be correct.
 22:17:52 9 Q. Okay. And you don't know whether this
 22:17:54 10 Board really has the legal authority to do
 22:17:56 11 that?
 22:17:56 12 A. I don't know if they have the ability
 22:17:58 13 to do that. I am delivering what our school
 22:18:02 14 board resolution was and looking at the impact,
 22:18:05 15 the fiscal impact of this development.
 22:18:07 16 This development when we, we did
 22:18:09 17 our last demographic study in 2013-14 was a
 22:18:14 18 different developer coming through. And at
 22:18:17 19 that time there was a mixed use that was in
 22:18:20 20 there. There was an operating farm. There was
 22:18:21 21 some apartments that were in there. And that
 22:18:23 22 was generating approximately 48 students coming
 22:18:26 23 out of there, because it was some age
 28 24 restricted and apartments. It was a whole

22:18:30 1 different property.
 22:18:31 2 Putting houses in there makes it
 22:18:33 3 a different property, different set of numbers.
 22:18:36 4 I think 172 is low. I think it is going to be,
 22:18:39 5 with our, the number of students we get now out
 22:18:42 6 of our housing developments and our housing
 22:18:46 7 units, as well as the interest in the school
 22:18:50 8 district, I think it is going to be closer to
 22:18:52 9 260 students for us.
 22:18:54 10 Q. Let me ask you -- I'm sorry, I thought
 22:18:57 11 you were done.
 22:18:57 12 A. So it is a different fiscal impact for
 22:19:01 13 us based on that proposed development.
 22:19:03 14 Q. Let me give you a hypothetical. If the
 22:19:06 15 Board agrees with the school district's
 22:19:09 16 requests and imposes a fee on my client, and
 22:19:12 17 that is ultimately determined to be an unlawful
 22:19:16 18 fee, will the school district no longer seek
 22:19:19 19 impact fees from developers as you are doing
 20 right now?
 22:19:22 21 A. If that was legally determined to be
 22:19:24 22 illegal, I would not recommend something to the
 22:19:27 23 Board, correct.
 22:19:28 24 Q. The last question I have is: Does the

22:19:30 1 school district do any type of PILOT
 22:19:33 2 agreements, payment in lieu of taxes? Are
 22:19:35 3 those arrangements that have occurred during
 22:19:38 4 your tenure?
 22:19:39 5 A. We have not. We do have a senior
 22:19:42 6 citizen work-off program where we actually
 22:19:45 7 employ senior citizens to pay them, help pay
 22:19:49 8 their taxes. Not what you are talking about.
 22:19:51 9 Q. What about LERTA or other tax incentive
 22:19:55 10 programs?
 22:19:55 11 A. We did a LERTA program probably 15 or
 22:19:58 12 20 years ago, before my time. It was a small
 22:20:01 13 LERTA in the Borough of West Chester.
 22:20:02 14 We were approached by another
 22:20:05 15 municipality for a LERTA program just last
 22:20:08 16 year, and the Board did not want to enter into
 22:20:10 17 that.
 22:20:10 18 Q. Okay. So to your knowledge, they don't
 22:20:12 19 currently do any tax incentive plans at this
 22:20:15 20 time?
 22:20:15 21 A. No.
 22:20:15 22 MR. ADELMAN: Okay. I have
 22:20:16 23 nothing further.
 22:20:17 24 MR. MCKENNA: Thank you, Mr.

22:20:19 1 Adelman.
 22:20:19 2 Quickly, Ms. Camp for the
 22:20:20 3 Planning Commission?
 22:20:20 4 MS. CAMP: No questions.
 22:20:21 5 MR. MCKENNA: Mr. Crawford has
 22:20:23 6 left. Mr. Thompson, any questions?
 22:20:26 7 MR. THOMPSON: No questions.
 22:20:27 8 MR. MCKENNA: Mr. DuFault has
 22:20:28 9 left.
 22:20:30 10 Mr. Bevilacqua, are you still
 22:20:32 11 here? Mr. Bevilacqua has left.
 22:20:36 12 Mr. McFalls, any questions?
 22:20:38 13 MR. MCFALLS: No.
 22:20:38 14 MR. MCKENNA: Mr. Feryo, any
 22:20:39 15 questions?
 22:20:40 16 MR. FERYO: No, thank you.
 22:20:41 17 MR. MCKENNA: Mr. Spackman, any
 22:20:42 18 questions?
 22:20:42 19 MR. SPACKMAN: No questions.
 22:20:43 20 Thank you.
 22:20:44 21 MR. MCKENNA: Mr. Mammucari has
 22:20:46 22 left.
 22:20:46 23 Mr. Jones, any questions?
 22:20:49 24 MR. JONES: One question. Would

22:20:51 1 you not have to raise the school tax to cover
 22:20:53 2 that loss of revenue, property tax, if it was
 22:20:57 3 not recovered through resolution you put
 3 4 before?
 22:21:03 5 THE WITNESS: We, we have to go
 22:21:06 6 through a process to generate funds for
 22:21:08 7 capital. So we do that primarily through
 22:21:10 8 property taxes.
 22:21:11 9 Now, there is limits on that,
 22:21:13 10 based on Act 1 of 2006, which was the law.
 22:21:18 11 That would not cover all of our costs for what
 22:21:20 12 we need to do, because there is some revenue
 22:21:23 13 coming from that development, but it would need
 22:21:25 14 to cover the excess costs that we believe we
 22:21:27 15 would incur.
 22:21:31 16 MR. JONES: Thank you.
 22:21:33 17 MR. MCKENNA: Sure Mr.
 22:21:35 18 Rendemonti, any questions?
 22:21:35 19 MR. RENDEMONTI: No question.
 22:21:36 20 MR. MCKENNA: Ms. Corcoran, any
 22:21:38 21 question?
 22:21:47 22 MS. CORCORAN: Good evening.
 22:21:47 23 THE WITNESS: Good evening.
 22:21:48 24 MS. CORCORAN: These impact fees

22:21:50 1 that the district is seeking to recover, if
 22:21:52 2 they are not, if not able to get them, and
 22:21:56 3 property taxes aren't going to cover the
 22:21:59 4 shortfall, what types of cuts does the school
 22:22:02 5 district then turn to? And how does that
 22:22:05 6 affect the quality education provided?
 22:22:08 7 THE WITNESS: Well, when we go
 22:22:09 8 through a budget process for making budget
 22:22:14 9 cuts, we actually spent two years in 2011-12
 22:22:17 10 reducing about \$12 million of expenses to try
 22:22:20 11 to cover shortfalls because of lowering
 22:22:23 12 property values at that time and many
 22:22:25 13 reassessments that were taking place that were
 22:22:28 14 lowering revenue.
 22:22:29 15 We would look at programs. We
 22:22:33 16 have many, many programs that we offer. Some
 22:22:35 17 of those would possibly be in jeopardy. We
 22:22:41 18 would do things like temporary housing, modular
 22:22:44 19 units, where we can rent modular classrooms
 22:22:48 20 that are much less expensive than building
 22:22:49 21 regular classrooms.
 22:22:51 22 Personally, I would probably
 22:22:52 23 raise class size before I would cut programs,
 22:22:56 24 because you still have your programs, you just

22:22:58 1 might have four or five more kids in a class.
 22:23:00 2 And eventually, if revenue would
 22:23:02 3 come back, we could lower that class size. So
 22:23:05 4 there are many strategies that we have used in
 22:23:08 5 the past, and we would continue to use them in
 22:23:10 6 the future.
 22:23:16 7 MR. MCKENNA: Dianne Leraris, she
 22:23:17 8 has left. I'm sorry. Amy Murnane?
 22:23:20 9 MS. MURNANE: No questions.
 22:23:21 10 MR. MCKENNA: Robert Daull, any
 22:23:24 11 questions?
 22:23:24 12 MR. DAULL: No, no questions.
 22:23:25 13 MR. MCKENNA: Mr. Pavelchek?
 22:23:26 14 MR. PAVELCHEK: No.
 22:23:27 15 MR. MCKENNA: Ms. Kramer?
 22:23:28 16 MS. KRAMER: No.
 22:23:29 17 MR. MCKENNA: Mr. Skros?
 22:23:30 18 MR. SKROS: No questions.
 22:23:31 19 MR. MCKENNA: Mr. McFadden?
 22:23:32 20 MR. MCFADDEN: No questions.
 22:23:34 21 MR. MCKENNA: Ms. Weller?
 22:23:35 22 MS. WELLER: No questions.
 22:23:36 23 MR. MCKENNA: Do you have
 22:23:36 24 anything further to add, Dr. Scanlon?

22:23:38 1 THE WITNESS: I do not.
 22:23:39 2 MR. MCKENNA: Anything further
 22:23:40 3 from either party?
 22:23:41 4 Does the Board have any questions
 22:23:42 5 of Dr. Scanlon?
 22:23:44 6 MR. HAWS: Just one question.
 22:23:45 7 You had stated that you would not be able to
 22:23:47 8 recoup the costs solely based on the property
 22:23:51 9 taxes, if you were to raise property taxes. Or
 22:23:55 10 are you just saying at the current rate?
 22:23:57 11 So you are saying that this is a
 22:23:59 12 shortfall of 600, about \$3 million of what you
 22:24:04 13 are looking to recoup over five years, correct?
 22:24:06 14 THE WITNESS: Right, that's
 15 correct.
 22:24:08 16 MR. HAWS: So you could raise
 22:24:09 17 taxes to recoup that cost, correct?
 22:24:11 18 THE WITNESS: We can, but only
 22:24:12 19 through to a certain level. There is a cap on
 22:24:15 20 the percentage of taxes that you can raise,
 22:24:19 21 unless you go out to a voter referendum in the
 22:24:22 22 community.
 22:24:24 23 MR. HAWS: What is your cap?
 22:24:25 24 THE WITNESS: This year it was

22:24:26 1 two and a half,
 22:24:26 2 MR. HAWS: I'm sorry?
 22:24:28 3 THE WITNESS: Two and a half
 9 4 percent was this year. There are also mandates
 22:24:32 5 we have for special education costs. There are
 22:24:34 6 mandates for pension costs. Those are all part
 22:24:36 7 of the total budget project.
 22:24:39 8 Capital is one aspect. We have a
 22:24:41 9 \$243 million budget, and the capital project,
 22:24:44 10 to borrow the funds or the bonds to build the
 22:24:47 11 permanent space is a piece of that.
 22:24:50 12 MR. HAWS: Got you. Thank you.
 22:24:53 13 MR. MCKENNA: Thank you, Dr.
 22:24:54 14 Scanlon. Appreciate it very much.
 22:24:57 15 (Witness excused.)
 22:24:58 16 MR. MCKENNA: I want to do a
 22:24:59 17 broad question. I know there is still one
 22:25:01 18 party that has some information to offer.
 22:25:03 19 Outside of Mr. Rendemonti down front, do any of
 22:25:07 20 the other unrepresented parties here this
 22:25:08 21 evening have any testimony, witnesses, do you
 22:25:10 22 have a case that you want to put on?
 22:25:12 23 Not public comment. Public
 13 24 comment is going to come next month. Anyone

22:25:16 1 can be heard.
 22:25:17 2 Does anyone have any testimony,
 22:25:18 3 witnesses, documents that they want to offer?
 22:25:22 4 All right. I'm not hearing any.
 22:25:24 5 So that will take care of the bulk of the
 22:25:26 6 members that are here.
 22:25:27 7 So, Mr. Rendemonti, let's come
 22:25:29 8 back to you. What do you have that you want to
 22:25:31 9 offer here this evening? If you wouldn't mind
 22:25:34 10 maybe stealing a microphone somewhere if you
 22:25:36 11 can.
 22:25:36 12 MR. RENDEMONTI: Certainly. I
 22:25:37 13 have documents which is just, I wish the Board
 22:25:40 14 to accept notice.
 22:25:42 15 MR. MCKENNA: Before you hand
 22:25:43 16 them up, what is it? And let's make sure Mr.
 22:25:47 17 Adelman gets a copy.
 22:25:48 18 MR. RENDEMONTI: That's fine.
 22:25:48 19 I'll give a copy.
 9 20 I have two other matters. They
 22:26:02 21 are by the Pennsylvania Department of
 22:26:04 22 Environmental Protection, the reuse of treated
 22:26:06 23 wastewater guidance manual, and I wish the
 22:26:08 24 Board to take judicial notice of the manual for

22:26:10 1 land treatment of wastewater, all produced by
 22:26:14 2 Pennsylvania DEP, under guidelines here in our
 22:26:18 3 Commonwealth.
 22:26:19 4 The document I have before me is
 22:26:21 5 the Department of Environmental Protection
 22:26:24 6 Bureau of Water Quality Protection Manual For
 22:26:26 7 Land Application of Treated Sewage and
 22:26:28 8 Industrial Waste.
 22:26:29 9 MR. MCKENNA: Let's back up. You
 22:26:31 10 want the Board to take judicial notice of
 22:26:33 11 certain documents.
 22:26:34 12 MR. RENDEMONTI: Three documents,
 22:26:35 13 three manuals.
 22:26:36 14 MR. MCKENNA: That you don't have
 22:26:36 15 with you?
 22:26:37 16 MR. RENDEMONTI: No.
 22:26:38 17 MR. MCKENNA: But in addition to
 22:26:39 18 that you want to offer these manuals --
 22:26:41 19 MR. RENDEMONTI: Well, this is a
 22:26:42 20 copy of one of those manuals. The other ones I
 22:26:46 21 don't have copies presently with me, but they
 22:26:48 22 are the Department of Environmental Protection
 22:26:50 23 manuals.
 22:26:50 24 MR. MCKENNA: Okay. Do you have

22:26:51 1 any testimony, any witnesses to offer tonight?
 22:26:54 2 MR. RENDEMONTI: No.
 22:26:55 3 MR. MCKENNA: Nothing in support
 22:26:55 4 of them? You just want to have the documents
 22:26:57 5 marked and admitted?
 22:26:58 6 MR. RENDEMONTI: Yes.
 22:26:59 7 MR. MCKENNA: So before we do
 22:27:00 8 that, Mr. Adelman, any objection?
 22:27:02 9 MR. ADELMAN: I object on the
 22:27:05 10 basis that there is nobody here testifying to
 22:27:07 11 them.
 22:27:08 12 MR. RENDEMONTI: Well, I'm asking
 22:27:10 13 for judicial notice. You don't need a witness
 22:27:12 14 for judicial notice, for township notice.
 22:27:15 15 MR. ADELMAN: I also object to
 22:27:16 16 the fact that I only have one of them.
 22:27:18 17 MR. RENDEMONTI: They are not
 22:27:19 18 hearsay. They are pub --
 22:27:20 19 MR. ADELMAN: Well, they are
 22:27:21 20 hearsay.
 22:27:22 21 MR. RENDEMONTI: They are not
 22:27:22 22 hearsay. They are published and they are
 22:27:23 23 exception to the hearsay rule.
 22:27:26 24 MR. ADELMAN: Nobody is here to

22:27:28 1 authenticate them.
 22:27:28 2 MR. RENDEMONTI: They are
 22:27:29 3 government publications.
 0 4 MR. MCKENNA: Counsel, that's
 22:27:31 5 enough. So you are offering them, one of them,
 22:27:33 6 two of them you don't have, for judicial
 22:27:35 7 notice.
 22:27:37 8 MR. RENDEMONTI: That's correct.
 22:27:37 9 MR. MCKENNA: Any other position
 22:27:38 10 from any other counsel?
 22:27:39 11 MR. ADELMAN: I'm sorry, I need
 22:27:40 12 clarification. What were the other two, that I
 22:27:42 13 don't have, that are being offered?
 22:27:44 14 MR. RENDEMONTI: The Reuse of
 22:27:46 15 Treated Wastewater Guidance Manual No.
 22:27:50 16 3852188002, and the Manual For Land Treatment
 22:27:53 17 of Wastewater, No. 3622000-009, published by
 22:28:02 18 the Department of Environmental Protection,
 22:28:04 19 Pennsylvania, PA DEP.
 22:28:07 20 MR. MCKENNA: I presume, Mr.
 22:28:08 21 Adelman, your objection hasn't changed?
 22:28:09 22 MR. ADELMAN: My objection hasn't
 22:28:10 23 changed. 908 prevents you from taking any
 14 24 notice of documents unless I have the ability

22:28:15 1 to contest them. I don't even know what they
 22:28:18 2 are being used for since there is no testimony.
 22:28:20 3 MR. MCKENNA: Counsel, anything
 22:28:21 4 else that needs to be heard, you want to be
 22:28:22 5 heard on that issue? Give us a second.
 22:28:25 6 (Board members conferring.)
 22:29:10 7 MR. MCKENNA: We are back on
 22:29:12 8 record. Mr. Rendemonti, I have discussed with
 22:29:14 9 the Board, we considered the objection. We are
 22:29:16 10 going to sustain the objection tonight.
 22:29:18 11 So do you have anything else to
 22:29:20 12 offer?
 22:29:20 13 MR. RENDEMONTI: I would like to
 22:29:21 14 offer one further thing that Toll Brothers
 22:29:24 15 admitted in Exhibit CU A-17.
 22:29:26 16 MR. MCKENNA: A-17.
 22:29:27 17 MR. RENDEMONTI: In CU A-17 they
 22:29:29 18 made reference to the manual, referred to PA
 22:29:32 19 DEP Manual For Land Application, October 15th,
 20 1997. And that's the document that I have a
 22:29:36 21 copy of here that I gave to counsel.
 22:29:39 22 MR. MCKENNA: Understood. I
 22:29:41 23 don't think the Board's position is going to
 22:29:43 24 change, however. They are inclined to grant

22:29:45 1 the objection. So if you have any other --
 22:29:48 2 MR. RENDEMONTI: No, I do not.
 22:29:49 3 MR. MCKENNA: Thank you very
 22:29:49 4 much. All right.
 22:29:52 5 I think, ladies and gentlemen, we
 22:29:54 6 have been able to accomplish one thing tonight
 22:29:56 7 and that is to finish the testimony and the
 22:29:58 8 evidentiary period of the hearing. We are
 22:30:01 9 going to come back on November 27th, and we
 22:30:04 10 will be at Rustin. It will start at 6:00 p.m.
 22:30:07 11 And we will take public comment.
 22:30:10 12 MR. ADELMAN: I'm sorry to
 22:30:11 13 interrupt. I have more of an administrative
 22:30:13 14 matter. Are we closing the record?
 22:30:15 15 MR. MCKENNA: I'm not sure yet.
 22:30:16 16 Let me get the announcement out first, Gregg.
 22:30:19 17 Hang on.
 22:30:20 18 At that time, unless anyone has
 22:30:23 19 any rebuttal witnesses that I haven't heard,
 22:30:26 20 because we did have Neighbors for Crebilly, I
 22:30:29 21 don't know if the Planning Commission has
 22:30:30 22 anything to offer -- I'm hearing no -- it
 22:30:33 23 sounds to me that the evidentiary portion of
 22:30:35 24 this hearing will close, for that portion.

22:30:39 1 I'm not going to close the record
 22:30:40 2 because I think public comment is still --
 22:30:42 3 MR. ADELMAN: I'm sorry. I just
 22:30:44 4 wanted to move the admission of exhibits and
 22:30:45 5 lodge my objections to other parties' exhibits.
 22:30:48 6 MS. CAMP: While we are of sound
 22:30:51 7 mind and not exhausted.
 22:30:53 8 MR. MCKENNA: We can do it on the
 22:30:54 9 27th or we can do it via correspondence to me.
 22:30:57 10 MR. ADELMAN: That's fine.
 22:30:58 11 Correspondence avenue probably makes the most
 22:31:00 12 sense.
 22:31:01 13 MR. MCKENNA: Yes, Mr. Thompson.
 22:31:02 14 MR. THOMPSON: I only wanted to
 22:31:03 15 follow up concerning the witness that I made an
 22:31:07 16 attempt to have testify tonight. I think you
 22:31:10 17 indicated if he were to be able to come down on
 22:31:12 18 the 27th then we would have the ability to
 22:31:14 19 allow him.
 22:31:15 20 MR. MCKENNA: Is he able to come
 22:31:16 21 on the 27th?
 22:31:17 22 MR. THOMPSON: I don't know. I
 22:31:18 23 wasn't even able to communicate with him,
 22:31:20 24 obviously, tonight.

22:31:21 1 MR. MCKENNA: Is he going to
 22:31:22 2 offer testimony distinct from the witness that
 22:31:26 3 you presented tonight?
 22:31:28 4 MR. THOMPSON: Yes.
 22:31:28 5 MR. MCKENNA: In what respect?
 22:31:29 6 MR. THOMPSON: I don't know if he
 22:31:30 7 will be down on the 27th or not, so I can't
 22:31:33 8 tell you. But his testimony will not
 22:31:37 9 necessarily be the same as Mr. Miller's
 22:31:41 10 testimony.
 22:31:41 11 MR. MCKENNA: Mr. Adelman.
 22:31:42 12 MR. ADELMAN: Obviously, I'm
 22:31:43 13 going to object. We already allowed the
 22:31:44 14 witness who took an hour and a half to two
 22:31:48 15 hours today not to show up on the 19th, to show
 22:31:49 16 up today, and now we are doing the same thing.
 22:31:51 17 This is a never-ending story
 22:31:53 18 here. I really don't think that we should be
 22:31:57 19 continuing to deviate from what we said at the
 22:32:00 20 last meeting, and in this meeting as well,
 22:32:02 21 about the order of witnesses.
 22:32:03 22 Public comment is what we are
 22:32:05 23 looking at for the last meeting. That's it.
 08 24 At this point I request that the evidentiary

22:32:11 1 record be closed, no more witnesses come on, no
 22:32:15 2 more rebuttal witnesses.
 22:32:16 3 MR. MCKENNA: As I said, I'm not
 22:32:17 4 closing the evidentiary portion because public
 22:32:20 5 comment is I think still evidence. But I
 22:32:22 6 understand what you are suggesting. I know
 22:32:23 7 what you mean, Gregg.
 22:32:24 8 MR. THOMPSON: I think I would
 22:32:25 9 just cite, I think I have a hundred days to
 22:32:28 10 present as much testimony as I would want to.
 22:32:31 11 MR. MCKENNA: I don't disagree.
 22:32:33 12 MR. THOMPSON: I've only had one
 22:32:36 13 hearing so far.
 22:32:37 14 MR. MCKENNA: I would, however,
 22:32:37 15 like an offer of proof between now and the next
 22:32:40 16 meeting, because I don't want to hear
 22:32:42 17 duplicative testimony from what we have already
 22:32:44 18 heard, and then I think the Board can let you
 22:32:47 19 know between now and then.
 22:32:49 20 MR. THOMPSON: That's fine.
 22:32:49 21 MR. ADELMAN: I would also make
 22:32:50 22 another motion depending on what the Board
 22:32:52 23 decides with respect to allowing additional
 22:32:55 24 testimony. I would suggest that if the

22:32:57 1 evidentiary portion is no longer open, the
 22:33:01 2 record still remains open, is that the parties
 22:33:04 3 prepare and submit their findings of fact and
 22:33:06 4 conclusions of law for the 27th, because all
 22:33:09 5 you are going to take is public comment.
 22:33:11 6 MR. MCKENNA: I'm not prepared to
 22:33:13 7 do that. I haven't even discussed it with the
 22:33:14 8 Board yet, Gregg. I appreciate your
 22:33:16 9 suggestion. But I have no idea when they want
 22:33:20 10 to have that by. I'm not prepared to have
 22:33:23 11 that, have the conversation with my client yet.
 22:33:25 12 MR. ADELMAN: I'm making the
 22:33:26 13 motion that we do it, so that we don't unduly
 22:33:29 14 delay the process.
 22:33:30 15 MR. MCKENNA: Well, I don't know
 22:33:30 16 of any authority to make the motion. So the
 22:33:32 17 motion is denied at this point.
 22:33:34 18 I want to close the hearing for
 22:33:36 19 tonight. I want to have any objections and
 22:33:39 20 requests for admissions to exhibits between now
 22:33:42 21 and the 27th. We can then decide any of the
 22:33:46 22 admissibility at that time.
 22:33:48 23 We will have a request from Mr.
 22:33:49 24 Thompson with an offer of proof as to the

22:33:51 1 additional witness. And then any objections
 22:33:54 2 can be lodged. And then I want the public to
 22:33:56 3 be prepared for the fact that at 6:00 o'clock
 22:33:58 4 we will start, one way or the other, we are
 22:34:00 5 going to get public comment in that night at
 22:34:03 6 Rustin.
 22:34:04 7 MR. ADELMAN: Pat, may I make a
 22:34:05 8 suggestion about objections to the exhibits,
 22:34:07 9 that they not be submitted on the 27th, that
 22:34:09 10 they be submitted to the township a week
 22:34:11 11 before?
 22:34:11 12 MR. MCKENNA: That's fine.
 22:34:11 13 MR. ADELMAN: So we can consider
 22:34:12 14 it and rule on it on the 27th.
 22:34:14 15 MR. MCKENNA: I meant prior to
 22:34:15 16 the 27th. If I didn't say that, that's what I
 22:34:17 17 meant.
 22:34:17 18 MR. ADELMAN: Just clarifying.
 22:34:18 19 MR. MCKENNA: Yes. Anything
 22:34:21 20 further from anyone?
 22:34:22 21 Ladies and gentlemen, thank you
 22:34:23 22 for your patience. We stand in continuance
 22:34:25 23 until November 27th.
 24 (Proceedings conclude at 10:34 p.m.)

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3 WITNESS DIRECT CROSS REDIRECT RECROSS

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5 Albert Federico 1524

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7 J. Michael Miller 1541

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9 By Mr. Adelman 1576

10 By Mr. Crawford 1577

11 1583

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13 Michele C. Adams 1587

14 By Mr. Adelman 1636

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16 Jeffrey Madden 1659

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1 Commonwealth of Pennsylvania

2 Chester County

3

4

CERTIFICATE OF REPORTER

7 I, Eleanor J. Schwandt, Registered

8 Merit Reporter and Notary Public, do hereby

9 certify that the foregoing record, pages 1512

10 to 1753 inclusive, is a true and accurate

11 transcript of my stenographic notes taken on

12 October 24, 2017, in the above-captioned

13 matter.

14

15 IN WITNESS WHEREOF, I have hereunto

16 set my hand and seal this 27th day of October,

17 2017.

18

19

20

21

22

23

24



Eleanor J. Schwandt

EXHIBITS

1

2 TOWNSHIP EXHIBITS

3 B-31 - E-mail chain, 10/17/17 and 10/19/17

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5 NEIGHBORS FOR CREBILLY EXHIBITS

6 NC-1 - Miller CV

7 NC-2 - Map, Battle of Brandywine

8 NC-3 - 3 pages of photographs

9 NC-4 - Adams review letter, 10/24/17

10 NC-5 - Topographical map

11 NC-6 - Topographical map with text overlay

12 (reserved)

13 SCHOOL DISTRICT

14 SD-1 - Memo, 3/29/2017 cover letter; School

15 Board resolution; Memo to Todd Poole, January

16 2017, calculations

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