

BEDMINSTER TOWNSHIP

LAND USE BOARD

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IN THE MATTER OF:

CASE LUB# 12-015 (BOA)
KDC SOLAR SA55 LLC
Solar Project
Country Club Road
Block 71.02, Lot 1
Block 62, Lot 10
Block 69, Lot 4

TRANSCRIPT

OF

PROCEEDINGS

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Thursday, October 2, 2014
Bedminster, New Jersey
Commencing at 7:03 p.m.

BOARD MEMBERS PRESENT:

LANCE BOXER, Chairman
GEORGE RODELIUS
NICK STRAKHOV
DORN STEWART
LOUIS DiGIOVINE
CAROL GUTTSCHALL
KENNETH OLSEN

ALSO PRESENT:

TRINA LINDSEY, Board Secretary
DAVID BANISCH, Board Planner
PAUL W. FERRIERO, Board Engineer

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1 APPEARANCES:
 2
 3 VOGEL, CHAIT, COLLINS and SCHNEIDER, P.C.
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 Attorneys for the Board
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 Attorneys for Objectors Steve and Sabina
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1 CHAIRMAN BOXER: All right. So as
 2 most of you know, we allocated this evening
 3 specifically for KDC Solar. So we'd like to ask
 4 the KDC team to come up and we'll continue the
 5 hearing which is Land Use Board 12-015.
 6 MR. HALL: Good evening. Gary Hall
 7 for KDC Solar SA55.
 8 CHAIRMAN BOXER: Good evening,
 9 Mr. Hall. Nice to see you again.
 10 MR. HALL: Yes, thank you. It's nice
 11 to see everyone. We're back. We, right after
 12 Labor Day, filed a stormwater plan and other
 13 things. There was a meeting, I understand, last
 14 week with the engineers. And our stormwater
 15 engineer, Mr. Moschello, is here to testify.
 16 CHAIRMAN BOXER: Okay.
 17 MR. HALL: So I would go directly to
 18 that unless there's anything else to talk about.
 19 CHAIRMAN BOXER: No, I think we're
 20 good. So we'll go ahead with your witness.
 21 MR. HALL: Okay.
 22 ROBERT MOSCHELLO,
 23 having been previously sworn, remained under
 24 oath and testified as follows:
 25

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1 DIRECT-EXAMINATION
 2 BY MR. HALL:
 3 Q. Mr. Moschello, you were previously
 4 sworn.
 5 A. Yes, I am.
 6 Q. Why don't you just jump right in and
 7 explain the stormwater plan and what's changed.
 8 A. All right. Great. Before I get
 9 started, can we enter a couple boards as
 10 exhibits? This way they're done ahead of time.
 11 CHAIRMAN BOXER: Sure.
 12 THE WITNESS: Okay.
 13 MR. COLLINS: Does anyone know the
 14 next number?
 15 MR. HALL: I was just looking. I
 16 think it's 15. Yes, A-15.
 17 MR. COLLINS: Okay. You can mark
 18 them, premark them, and then identify them.
 19 THE WITNESS: Okay.
 20 A. All right. Starting with A-15, which
 21 is entitled "Proposed Site Plan Rendering
 22 Exhibit," dated November 14, 2013, and it's
 23 revised through October 2nd, 2014.
 24 Then we have A-16, which is entitled
 25 "Existing Drainage Area Exhibit," dated October

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1 **2nd, 2014.**
 2 **A-17, which is entitled "Limit of**
 3 **Disturbance Exhibit," dated October 2nd, 2014.**
 4 **We have Proposed Drainage Area Exhibit**
 5 **dated October 2nd, 2014.**
 6 **And, last, we have Earthwork Analysis**
 7 **Exhibit dated November 14, 2013, revised through**
 8 **October 2nd of 2014.**
 9 Q. And that's A-19?
 10 A. That is A-19.
 11 Q. I think you skipped over. The one
 12 before is A-18?
 13 A. I'm sorry. The one before is A-18,
 14 which is Proposed Drainage Area Exhibit.
 15 MR. COLLINS: What was A-17 again?
 16 THE WITNESS: A-17 was Limit of
 17 Disturbance Exhibit.
 18 CHAIRMAN BOXER: Mr. Hall, this is a
 19 comment. We haven't been together for a couple
 20 of months. I know we've made some
 21 significant -- or some changes to the plan. Are
 22 we going to cover those in summation here or are
 23 we going right into stormwater?
 24 MR. HALL: No, I think as a
 25 preliminary Mr. Moschello is going to I think

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1 show what's changed from the last presentation,
 2 which is July.
 3 CHAIRMAN BOXER: Perfect. That would
 4 be great.
 5 MR. HALL: It's fairly limited.
 6 BY MR. HALL:
 7 Q. Why don't you do that first so we are
 8 oriented.
 9 A. Yes, that was my plan. I'll start off
 10 with just a basic overview of what has changed
 11 on the two plans. So I'm going to put up
 12 Exhibit 13, which is entitled "Proposed Site
 13 Plan Rendering Exhibit," dated November 14,
 14 2013, and that was revised through June 5th,
 15 2014. This was presented at the last planning
 16 board meeting in July, dated July 10, 2014.
 17 And that's essentially a rendering of the site
 18 plan.
 19 And I also have up here Exhibit A-15,
 20 which is the Proposed Site Plan Rendering
 21 Exhibit revised through October 2nd, 2014.
 22 So what I want to do is take a few
 23 minutes just to explain to everyone the general
 24 changes between these two plans. The plan that
 25 was submitted in July, which has the revised

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1 solar layout that Mr. Kennedy testified to and
 2 explained all the different nuances of the plan.
 3 He explained the change in the racking system,
 4 how he went from an 8-foot-high panel to a
 5 5-foot-high panel; how we removed the
 6 pile-driven posts and went to, I'll say, a
 7 ballast mounted or a sled-type foundation system
 8 that sits on the ground.
 9 He talked about the removal of the
 10 panels from the front field. Talked about
 11 relocating the access which was originally on
 12 the northern portion of the site through the
 13 middle portion of the site. And the changing of
 14 the screening on the project, where originally
 15 we had berming along Meadow and Country Club
 16 Road, and now that berming has been removed.
 17 And we still have berming on -- between the
 18 northern property line with Somerset Terrace and
 19 Preston Terrace, but that berming has been moved
 20 further away from that northern property line,
 21 closer to the array fields.
 22 And the berm's also been modified.
 23 The height has been modified and it was extended
 24 further down to tie into the end of the
 25 existing-- the proposed solar arrays.

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1 He also touched on the screening that
 2 was going to be proposed on the fencing, the
 3 cloth fabric or vinyl fabric that we were
 4 proposing which would provide an additional
 5 screening, where that's located on the plans.
 6 So generally that's what we presented
 7 back in July.
 8 Now, the plan-- the plan entitled
 9 "A-15," which is the proposed site plan
 10 rendering, is generally the same layout as you
 11 can see when you compare the two. And I'll use
 12 my pointer. The front solar fields that are
 13 closest to Country Club Road are generally --
 14 are the same essentially, with no changes being
 15 made. We may have added a couple of panels
 16 closer to detention basin three, but other than
 17 that the layout of the solar arrays are the
 18 same. They're no closer to the northern
 19 property line than they were before. The
 20 berming and landscaping on there hasn't changed
 21 either.
 22 You may notice that the basin
 23 footprint over there, the ditching, you can see
 24 on here it got bigger. We'll talk about that as
 25 we get through the stormwater analysis.

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1 **On the western portion of the site,**
 2 **when you look at the two -- when you look at the**
 3 **two layouts, there is a bit of a difference.**
 4 **You'll see that there's a hole in the middle**
 5 **here that wasn't on the previous plan before.**
 6 **That's where we've added an additional**
 7 **stormwater basin, which we'll talk about during**
 8 **the presentation tonight.**
 9 **You'll also notice that the detention**
 10 **basin, which was dubbed detention basin number**
 11 **one on Exhibit A-13 was vertical across the**
 12 **page. We've now modified that and it's more**
 13 **horizontal. We'll get into the details of the**
 14 **basin tonight, as well, but the panels were**
 15 **rearranged due to that basin being reconfigured.**
 16 **And then we've also added some**
 17 **additional panels closer to the woodline along**
 18 **the southern portion of the site, where my**
 19 **pointer is, next to the "Zone R-10" label on the**
 20 **plan there.**
 21 **Then, also, basin number two, which is**
 22 **on the southern portion of the site, when you**
 23 **look at the previous plan from July to the plan**
 24 **now, that one actually got a little bit bigger**
 25 **as well. We'll talk about that in detail**

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1 **tonight.**
 2 **But, in general terms, the number of**
 3 **panels are almost essentially the same. That**
 4 **plan had 33,900 panels; this plan has 33,000**
 5 **panels. So there's a difference of 900 panels**
 6 **were removed to accommodate the stormwater**
 7 **improvements on the plan.**
 8 **The access roads essentially remain**
 9 **the same with no changes. But the big update**
 10 **was, of course, the stormwater system, which**
 11 **I'll get into tonight in some detail.**
 12 MR. HALL: Mr. Chairman, I don't know
 13 if you want to question this subject first or he
 14 can just proceed.
 15 CHAIRMAN BOXER: It might be useful
 16 just to break this up a little bit because it's
 17 been a couple of months. It might be helpful
 18 both for the objectors if you have any questions
 19 to maybe stop in this section and try to deal
 20 with it head on.
 21 So let me-- if that's okay with you,
 22 Mr. Hall?
 23 MR. HALL: Yes. I'm suggesting it.
 24 It may be more productive.
 25 CHAIRMAN BOXER: Mr. Sasso, do you

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1 have any questions at this particular time? And
 2 then we'll ask the audience as well.
 3 MR. SASSO: No, sir, Mr. Chairman.
 4 CHAIRMAN BOXER: Okay. Thank you,
 5 sir. I appreciate it.
 6 And what about from people in the
 7 audience? Does anybody have any questions of
 8 this witness at this particular point? We're
 9 doing this just because there's a -- you know,
 10 stormwater's a little bit complicated and I
 11 think it could go a little while. We want to
 12 make sure that we get the summations done first,
 13 the variances between the two plans.
 14 MR. YINGLING: Just a quick question.
 15 CHAIRMAN BOXER: Sir, you need to come
 16 up and go through the process again. Introduce
 17 yourself and get sworn in.
 18 MR. YINGLING: Jeff Yingling, Country
 19 Club Road, Bedminster.
 20 MR. COLLINS: Jeff, you were
 21 previously sworn, correct?
 22 MR. YINGLING: Correct.
 23 MR. COLLINS: You understand you're
 24 still under oath?
 25 MR. YINGLING: Yes, correct.

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1 Just a quick question. The berm
 2 that's been moved from Preston Terrace and
 3 Somerset Terrace, in that area, what's the
 4 distance between the property line now and the
 5 berm compared to before?
 6 THE WITNESS: If you're referring to
 7 the comparison between the July plan and the
 8 plan we have today, it hasn't been changed at
 9 all. That's still the same. If you're talking
 10 about the berm that was in place previously,
 11 before that, before we revised the plans-- I'll
 12 just take a look back at one of the older
 13 exhibits.
 14 I'm looking back at what was entitled
 15 "Exhibit A-6," which was the proposed site plan
 16 rendering exhibit that was presented on November
 17 11th of 2013-- I'm sorry, November 14, 2013.
 18 And you can see the berm and its general
 19 relationship to the northern property line.
 20 That was 50, 60 feet off the property line.
 21 And if I recall correctly, we're now
 22 approximately 175 feet off of that-- off of that
 23 property line to the center line of the berm.
 24 CHAIRMAN BOXER: Any questions from
 25 the Board?

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1 Okay. Thank you, Mr. Hall. We
 2 appreciate that. So we can continue on.
 3 BOARD MEMBER STRAKHOV: Actually I do
 4 have one.
 5 CHAIRMAN BOXER: Go ahead,
 6 Mr. Strakhov.
 7 BOARD MEMBER STRAKHOV: I have all
 8 these huge drawings with a revision date of
 9 August 29th. Is that current?
 10 THE WITNESS: Let me just-- yes. The
 11 latest drawings are dated, yes, August 29th,
 12 2014.
 13 BOARD MEMBER STRAKHOV: Right. Thank
 14 you.
 15 BY MR. HALL:
 16 Q. And just while we're on that so it's
 17 clear, Mr. Moschello, because of the limited
 18 changes you've just described, you filed a full
 19 set of all of the plans to match up, is that
 20 correct?
 21 A. Correct. We filed a full set of all
 22 of the plans, all the supplemental drawings.
 23 Everything was updated.
 24 MR. HALL: Okay. So you don't have to
 25 relate back to the other things unless you want

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1 to see what changed.
 2 CHAIRMAN BOXER: So we're current --
 3 we're current now and August 29th is the latest
 4 revisions.
 5 MR. HALL: Right. And the others show
 6 what was before, but this covers everything that
 7 is currently proposed.
 8 CHAIRMAN BOXER: Okay. Great. That's
 9 helpful.
 10 MR. HALL: Thank you.
 11 CHAIRMAN BOXER: Great. Thanks a lot.
 12 BY MR. HALL:
 13 Q. If you would describe the stormwater
 14 management plan now.
 15 A. All right. With the stormwater
 16 management plan, I'm going to start off with an
 17 overview of the existing conditions that are on
 18 the property and just generally how that-- how
 19 the runoff acts on the property today.
 20 I'll put that over here so everyone
 21 can see what I'm pointing out. So I'm looking
 22 at exhibit-- sorry, here we go -- Exhibit A-16,
 23 which is the existing drainage area exhibit.
 24 What this plan shows is the overall property,
 25 which is basically the colored portion of it,

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1 which is 107 acres, which is the subject tract.
 2 And what we're looking at here is the breakdown
 3 of the different drainage areas on site.
 4 We basically have three points of
 5 analysis on this property: We have what we
 6 refer to as Point of Analysis A, which is --
 7 where my pointer is, is the western property
 8 line of the project. We have Point of Analysis
 9 B, which is the southern property line of the
 10 project, adjacent to Meadow Road. And then we
 11 have Point of Analysis C, which is the western--
 12 I'm sorry, eastern portion of the project which
 13 basically runs along Country Club Road.
 14 So the site is basically broken down
 15 into three separate drainage areas. The middle
 16 portion drains into the existing wetland
 17 corridor when leaving the site; the eastern
 18 portion going to the drainage to Country Club
 19 Road; and then the western portion going to the
 20 property line, which is an existing wetland
 21 complex, in that area.
 22 The Point A-- the Point A analysis is
 23 made up of about 25.6 acres of land. The middle
 24 portion of the site, shown in yellow, which is
 25 drainage area two, is made up of approximately

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1 59.7 acres of land. And then the eastern
 2 portion of the site, or the Point of Analysis C,
 3 which is in green, is made up of about 22 acres
 4 of land. All told it adds up to 107 acres on
 5 the entire project site.
 6 In each of those drainage areas,
 7 there's certain types of land cover under
 8 existing conditions. For example, on drainage
 9 area one, which is the area shaded in blue, we
 10 essentially have what is considered hardwoods on
 11 certain portions of the site, on the lower
 12 corner and upper corner of the property; cedars
 13 that are predominant in the middle portion; and
 14 then we have wetlands and some open field areas
 15 as well in that portion of the drainage area.
 16 Drainage area two is more varied. We
 17 have the stream corridor which runs up the
 18 middle of the property which is predominantly
 19 wooded. You have the -- this is essentially a
 20 row of cedars on the western side of drainage
 21 area two, where my pointer is. And then on the
 22 eastern side of drainage area two, you have
 23 mostly open fields, meadows and brush that's
 24 part of the farming operation that's been done
 25 on site.

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1 **And then, lastly, we have drainage**
 2 **area three, again which is the green drainage**
 3 **area. That's made up of -- we have the**
 4 **farmhouse, or the existing house, the existing**
 5 **driveways. We have some of the open fields**
 6 **there as well for farming. And then we have a**
 7 **mixture of cedars, some hardwoods and brush**
 8 **along Country Club Road towards the-- towards**
 9 **the east portion of the site:**
 10 **So from a stormwater management**
 11 **perspective, we take all this information and we**
 12 **determine what our curve numbers are for each of**
 13 **those drainage areas. And the curve number is**
 14 **essentially a number that represents the type**
 15 **of -- a weighted average of the type of land**
 16 **cover we have there. And there's a different**
 17 **curve number assigned to woods versus lawn**
 18 **versus meadow. And we come up with what we call**
 19 **a curve number, or weighted average, that**
 20 **represents what the runoff characteristics of**
 21 **that drainage area would be.**
 22 **For example, drainage area number one**
 23 **has a CN of 70, drainage area has a CN of 71,**
 24 **and drainage area three has a CN of 72. That's**
 25 **just gen -- that's just the representation of**

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1 **what that runoff would be coming off of that**
 2 **property.**
 3 **We take that information --**
 4 CHAIRMAN BOXER: Could I just ask a
 5 question? Do those numbers have a relevance
 6 high or low? If so, what's the relationship to
 7 the high and low?
 8 THE WITNESS: Yes, they do. They go
 9 right -- they range anywhere from basically 1 to
 10 98 in general terms. But basically what you're
 11 looking at is 98, the CN of 98 means you're
 12 essentially impervious cover: Pavement,
 13 sidewalks, buildings. For open space or lawn,
 14 you have a CN of 74.
 15 And, again, CNs are based upon soil
 16 types. We'll say soil type C, which is what we
 17 have on this property. The lawn would be 74.
 18 Meadow would be 71. A woods mixed is in the low
 19 60s, if I recall correctly.
 20 So those numbers, you then average
 21 them all up to determine what your weighted CN
 22 value is for runoff. So the higher the number,
 23 the more runoff you're going to have from that
 24 particular land cover.
 25 And then with all that information, we

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1 take it, plug it into a computer program that
 2 gives us the runoff that's coming off of each of
 3 those drainage areas. For example, for drainage
 4 area one, I have the information on the plan
 5 here for what I call Plan Analysis A. And we
 6 break that down into the 2-, 10-, and 100-year
 7 storm events for analysis purposes and there's
 8 certain runoff rates that are associated with
 9 those storm events.
 10 Basically a two-year storm being a
 11 smaller runoff amount and the hundred-year storm
 12 being a larger runoff amount. For the two-year
 13 storm for that property line we get 13.2 cfs.
 14 For the 10-year storm, we get 32.8 cfs. And cfs
 15 is in cubic feet per second. And for the
 16 100-year storm, we have 76.1 cfs.
 17 And those are the -- that's the rates
 18 of runoff that you would experience under
 19 existing conditions to the -- to the westerly
 20 property line. We have the other values on this
 21 plan as well, and I'll talk more about how that
 22 relates to the proposed rates of runoff later
 23 on.
 24 So once we have these runoff numbers,
 25 once we figure out our existing coverage areas,

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1 then we have to get into calculating what they
 2 call reduction factors. And what a reduction
 3 factor essentially is, is almost a factor of
 4 safety, if you will, on the amount of runoff
 5 coming off of the property.
 6 So if I have an existing rate of
 7 runoff today, I have to make sure my proposed
 8 rate of runoff is less than that existing rate
 9 with a certain reduction factor applied to it.
 10 So we'll take the two-year storm, for
 11 example, because that's a simple one to look at.
 12 They tell you the reduction factor is 50
 13 percent. So if I have, for argument's sake, 10
 14 cfs of runoff under existing conditions, I have
 15 to reduce that by 50 percent under the proposed
 16 conditions, which means I would only be allowed
 17 to discharge 5 cfs under the proposed
 18 conditions. And that is also based upon what we
 19 call the limit of disturbance.
 20 So what you see on the plan here for
 21 this particular project on that same Exhibit
 22 A-16 is a series of dashed thick black lines and
 23 it's called out as the limit of disturbance.
 24 What that represents is if I took a rope and
 25 strung it around the entire limits of the

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1 project, that's the limit of disturbance of this
 2 project. And that includes the grading for the
 3 basins, that includes, that includes the panels,
 4 the fencing, the berming, everything. So that
 5 is the disturbance footprint for this particular
 6 project.
 7 And if I recall correctly, it was 40--
 8 42 point -- 43 acres of land. Okay? And that's
 9 what the black dashed lines represent on this
 10 plan. You can see how it goes across all three
 11 drainage areas.
 12 I have an exhibit-- I have an exhibit
 13 here entitled "A-17," which overlays that limit
 14 of disturbance on the proposed development. So
 15 you can see how it wraps around the entire
 16 proposed development, encompasses the gravel
 17 drives, the panels, the basins, the panels on
 18 the eastern side of the basin, the switchgear,
 19 the access road, and even the conduit trenching
 20 from the upper portion to the switchgear area.
 21 So that's our limit of disturbance for
 22 the project. And that number is important
 23 because that number is used to actually
 24 calculate what your-- what your allowable flows
 25 are for the project. When I gave you the

Page 23

1 example of 10 cfs and I said it's reduced by 50
 2 percent, that's assuming that that entire area
 3 is disturbed. But the regulations allow us to
 4 basically only have to reduce the amount of
 5 runoff that comes off the disturbed areas.
 6 So, for example, for drainage area
 7 number one, you'll see that I have 20, 25 and
 8 1/2 acres here of land, but I'm only disturbing
 9 a third of that. Okay? So I only have to
 10 reduce my runoff for that disturbed area, which
 11 is approximately 9 acres. So the calculations
 12 work out that way, that we only -- that we have
 13 107 acres on the property, but we're only
 14 disturbing 44 of it. So we only have to reduce
 15 our runoff for 44 acres of disturbed land.
 16 So just to give a quick example, based
 17 upon the actual flows -- and I'm going to -- we
 18 can go back to that same Point of Analysis A
 19 down here, which has, again, I mentioned 13.2
 20 cfs of runoff under existing conditions. The
 21 two-year allowable flow, you might say, well, it
 22 should only be half of that, which is
 23 approximately 6 and 1/2 cfs, but it's actually
 24 not. It's actually 10.6 cfs because I'm only
 25 disturbing a third of that land area. So I

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1 don't have to -- I don't have to reduce it all
 2 the way down to half of the flow. I only have
 3 to reduce it for the amount of area I'm
 4 disturbing.
 5 And this-- and this limit of
 6 disturbance was actually changed or modified
 7 from the original calculations based upon
 8 discussions with the Board engineer when we met
 9 to go over his review letter to make sure we
 10 encompassed all of the development footprint on
 11 site.
 12 Normally when you do a limit of
 13 disturbance, if you're not changing the land
 14 cover underneath, you wouldn't typically have to
 15 do a detention for it, but in this case here,
 16 because of the scope of the project and the
 17 constructability of it in terms of how we're
 18 going to build it, we've included the entire
 19 project in that reduction factor calculation.
 20 So essentially you're looking at
 21 reducing the flow to the lowest amount possible
 22 based upon the limit of disturbance for this
 23 project.
 24 CHAIRMAN BOXER: Could I just ask a
 25 question?

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1 THE WITNESS: Yes.
 2 CHAIRMAN BOXER: Based on your
 3 experience, is there one condition that
 4 manifests itself into a very negative condition
 5 for cfs? For instance, does topography have a
 6 greater relationship to runoff than, let's say,
 7 manmade disturbances?
 8 THE WITNESS: Well, there's many
 9 different factors that go into it. Topography
 10 could have an effect depending on how much
 11 topography you're dealing with. There's also a
 12 factor that we use here called time of
 13 concentration, which is the amount of time it
 14 takes a drop of water when it lands on the
 15 highest part of your project site to reach the
 16 lowest part of the project site.
 17 And if you have a very flat site, it's
 18 going to take a lot longer for that water to get
 19 there, which means the rate of runoff is going
 20 to be reduced.
 21 CHAIRMAN BOXER: Right.
 22 THE WITNESS: If you have a site where
 23 the water gets there a lot faster, the rate may
 24 be higher. And that depends on land cover,
 25 whether or not it's flowing over impervious

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1 areas versus flowing over grass areas. Even
2 wooded areas has an effect on that -- on that
3 rate of runoff.
4 So there's a couple different factors.
5 It's not any one that's going to be the trigger
6 for the larger amount of flow, but topography
7 does play a part and it's based on time of
8 concentration and land cover as well.
9 CHAIRMAN BOXER: Thank you. That was
10 helpful. I appreciate it.
11 THE WITNESS: You're welcome.
12 BOARD MEMBER OLSEN: I have another
13 question. So far you've focused on the nature
14 of the ground itself, but not the panels on top
15 of it.
16 So is there any additional impact or
17 consideration? Are the panels being a variable
18 or factor?
19 THE WITNESS: The only impact that the
20 panels come into play is the foundations
21 themselves. Because the panels -- we're talking
22 about approximately a 3-by-5 panel that are laid
23 out in portrait going down the row. So you only
24 have water falling on that 3-by-5 space and it's
25 going to drip off the end and land on the

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1 ground.
2 So the panels themselves are
3 essentially not considered impervious for the
4 portions of the calculation, but the foundations
5 are considered impervious. And that was that
6 ballast-type foundation that Mr. Kennedy talked
7 about in July and that has to be accounted for
8 in the calculations. And that's much higher in
9 terms of impervious runoff than the pile-driven
10 posts that were originally part of the project.
11 So when we do our analysis, we have to
12 take that into account and make sure we can deal
13 with that impervious runoff.
14 BOARD MEMBER OLSEN: Thank you.
15 THE WITNESS: You're welcome.
16 **A. So once we get our allowables**
17 **calculated and we know what our rates of runoff**
18 **could be under proposed conditions, or we have**
19 **to at least match to under proposed conditions,**
20 **the next thing is to get into our proposed**
21 **layout of the project.**
22 **And I'm going to start off with an**
23 **overview first and I'm going to jump back to**
24 **Exhibit A-15 -- I'll just slide that over**
25 **here -- to talk about the locations of the**

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1 basins that we have on the property and the
2 general overall stormwater management. And then
3 we'll get into the details of each of the
4 basins, how they work, how they operate, and the
5 different types of stormwater controls we have
6 to deal with on the property.
7 So, generally speaking, the previous
8 plan had six basins; this plan now has seven.
9 And I'm going to go from west to east across the
10 plan, just to give you a general overview of
11 where each one of them are and then we'll talk
12 about them in more detail later on.
13 So basin number one is on the western
14 portion of the site, closest to the wetlands.
15 We have basin number two, which is on the
16 southern portion of the site closest to the
17 southern property line. Basin 2D is in the
18 middle of the western pod of panels on the
19 project. Basin 2A is a small basin just south
20 of the proposed gravel access drive. Basin 2B
21 is in the same location as it was previously up
22 on the northern portion next to one of the
23 inverter pads and the gravel drive on the
24 eastern array field. Basin 2C is closer to the
25 existing house at the southern portion of the

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1 eastern array field. And then basin number
2 three is on the eastern portion of the site to
3 the east of the eastern array field.
4 Their number -- their numbers
5 correspond to the different drainage areas that
6 they discharge into. So, remember, we had
7 drainage area number one; drainage area number
8 two, which was yellow; and drainage area number
9 three, which was green. And the numbers
10 correspond to the different drainage area they
11 discharge into.
12 So when it comes to stormwater
13 management, we basically have three different
14 types of-- three different types of things we
15 need to deal with: We have attenuation,
16 recharge, and water quality. Okay? Each one of
17 them-- each one of them has a -- different --
18 has a specific purpose.
19 When we talk about attenuation, we
20 talk about holding back flood water in terms of
21 rates of runoff, which is what I talked about
22 earlier. So we're attenuating the rate so that
23 this way it is going to be less than existing
24 conditions.
25 We have recharge, which is where we're

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1 talking about infiltrating or putting water back
2 into the ground. That's water that's lost
3 either to the change in land cover -- for
4 example, if I was to take a piece of wooded area
5 and put pavement over it, water can no longer
6 get into the ground there. So we have to -- we
7 have to infiltrate that to get that water back
8 into the ground because now that recharge is now
9 lost.

10 And then we have water quality, which
11 is essentially treating the runoff coming off of
12 what we'll call paved or dry surfaces or the
13 nonpoint-source pollution and treating that
14 runoff before it's either infiltrated into the
15 ground or discharged into the streams.

16 And that has to be achieved on all
17 projects if you're a major development, which is
18 a quarter acre of new impervious or an acre of
19 disturbance. Clearly, here we're a major
20 development which is why we're talking about
21 stormwater management tonight.

22 So what I'm going to do now is talk
23 about how each basin was designed and what it's
24 intended to do, and then we'll talk about how
25 we've met all three of those categories after we

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1 talk about how the basins work.

2 So I'm going to go back and I'm going
3 to talk about basin number one. And I'm going
4 to also put up -- I'll move this exhibit over,
5 A-15, and I'm going to put up Exhibit A-18,
6 which is entitled "Proposed Drainage Area
7 Exhibit." I'm going to go back and forth
8 between these two plans to talk about how the
9 different basins work.

10 But before I talk -- before that I
11 just want to explain what Exhibit A-18 is and
12 what this is actually showing everyone. This is
13 the proposed drainage area map that was in the
14 stormwater management report. It's basically
15 color coded to show the different drainage areas
16 on the property and where the water is going.

17 For example, you'll see that the blues
18 on the western side match with drainage area
19 one; the yellow in the middle, for drainage area
20 two; and green for drainage area three on the
21 eastern side. I'm holding up Exhibit A-16,
22 which is the existing drainage area exhibit.

23 But we also have additional colors
24 which are now the drainage areas that are going
25 to the seven different stormwater basins on the

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1 property. And that shows that that's the areas
2 that are shown in orange for drainage area one,
3 for basin one; purple for drainage area two, for
4 basin two; light green for drainage area 2D, for
5 basin 2D; brown for basins 2A, 2B and 2C; and a
6 lighter shade of blue for basin number three.

7 Those areas that are colored in there,
8 that's the area that's actually being collected.
9 And whether it's going to be attenuated, treated
10 for water quality or recharged into the ground,
11 those are the areas that we're collecting runoff
12 from the site so that we can meet those three
13 prongs of the stormwater management rule that I
14 talked about before.

15 So starting off with basin number one,
16 which is on the western portion of the site,
17 basin number one is actually designed as both a
18 detention basin and an infiltration basin.
19 Okay? It's going to -- it's going to serve a
20 dual purpose on this project: One, it's going
21 to provide detention for attenuating the rate of
22 runoff, and then it's also going to provide
23 infiltration for recharging some water back into
24 the ground.

25 And I'll talk about why we did

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1 infiltration in certain areas later on based
2 upon the soil testing that was done, but for now
3 we'll just stick to what the basins do and how
4 they -- and how operate.

5 So essentially that basin picks up
6 about six acres of runoff and collects runoff
7 from the solar panels, actually from the areas
8 where the panels are located. And it actually
9 has a swale that's designed along the southern--
10 I'll say western portion of that drainage area.
11 It's a direct runoff from the existing
12 topography into that basin. And then there's a
13 berm to impound the water and then we ultimately
14 discharge it into an area just to the east of
15 the wetlands.

16 The way that basin is designed is it's
17 actually a shallow basin. Sometimes with
18 detention basins you think about big holes in
19 the ground. Dig a hole 4, 5, 6 feet deep, let
20 it impound water. But in this case here, with
21 this particular basin, it's actually what I call
22 a shallow basin in the sense that we're actually
23 going to build a berm on the low side of the
24 topography and just let the water impound behind
25 that berm.

1 And in order to make this basin an
 2 infiltration basin, we're going to -- we're
 3 going to basically remove a foot of soil,
 4 actually 18 inches of soil, from the surface and
 5 put back a 6-inch layer of sand that will act as
 6 a filter medium before the water is infiltrated
 7 into the ground at that location.
 8 So we're only -- for that basin we're
 9 only going to cut a foot and a half into the
 10 surface to construct that basin, use the
 11 excavated material to construct a berm that's
 12 approximately 4 to -- 5 to 6 foot high on the
 13 low side of that basin to impound the water
 14 there.
 15 So originally we were proposing a
 16 basin that was 7 or 8 feet deep, but we've
 17 revised that design, shallowed up the basin,
 18 made it less intrusive into the soil, and then
 19 created a berm to impound that water for that
 20 particular basin.
 21 And then we have the sand layer that
 22 will provide infiltration into the underlying
 23 soils at a very shallow medium. We're not
 24 looking to go 6, 7, 8 feet deep. We're trying
 25 to keep that one shallow there. And we'll talk

1 about that a little later on based upon the soil
 2 testing.
 3 Basin number two, which is the --
 4 which collects the runoff from the area in
 5 purple and also the area in green, which I'll
 6 talk about in a little bit, but basin number
 7 two, which picks up approximately 19 acres of
 8 runoff, is basically a straight-up detention
 9 basin. There's no infiltration taking place in
 10 that basin; there's no water quality taking
 11 place in that basin. It's just a detention
 12 basin designed to attenuate the runoff coming
 13 off of the property in this general direction.
 14 We've constructed two swales to divert
 15 water into that basin -- a swale on the southern
 16 portion of the site between drainage area one
 17 and drainage area two, and a swale on the
 18 eastern portion of drainage area two -- that
 19 will help collect that runoff and direct it into
 20 that basin, where it will be detained and then
 21 ultimately discharged into an area just to the
 22 west of the wetlands that are there.
 23 That basin -- the depth of that basin
 24 is approximately 4 and 1/2 feet that we're
 25 cutting at its deepest point to construct that

1 basin. And then we're going to be taking that
 2 material and using it to construct a berm that's
 3 about 6 feet high, adjacent to this-- to the--
 4 to the wetland buffer that's there and the --
 5 and the floodplain that's there, so this way we
 6 can impound the runoff in that area to meet our
 7 attenuation requirements for the project site.
 8 This basin is part of drainage area 2
 9 and 2D. And drainage area 2D, which is the area
 10 shown in green here on the plan, is runoff
 11 that's reaching what I've referred to as basin
 12 number 2D. And that's actually going to be our
 13 infiltration basin on the project.
 14 Basin 1 is in infiltration basin and
 15 basin 2D is an infiltration basin. And what
 16 basin 2D does is just-- its main purpose is to
 17 just recharge runoff that comes off of the area
 18 where the panels are and put that runoff back
 19 into the ground.
 20 And the way we're achieving that is by
 21 taking the ground area that's there today, which
 22 has a natural slope to it, building a berm
 23 that's approximately 3 and 1/2 foot high on the
 24 low side as an impoundment area, and just
 25 stripping 6 inches of topsoil and putting down 6

1 inches of sand as an infiltration medium. And
 2 we're going to infiltrate that water right into
 3 the top layers of soil that are on the property
 4 now.
 5 So we're not looking to cut 2, 3, 4, 5
 6 feet for that basin. We're just looking to
 7 strip off the 6 inches of topsoil, place sand
 8 and let that infiltrate the water right into the
 9 grouped. That's part of -- the existing
 10 drainage pattern goes that way today.
 11 So we have -- we found infiltration in
 12 that area, and I'll talk about that later. And
 13 so that's where -- we're just going to use that
 14 area that's there today. That's why it's sort
 15 of an amorphous type of shape because it's
 16 following the existing contours that are out
 17 there and we're going to recharge the water
 18 right into that area. That's why we're not
 19 proposing any panels over that area, because we
 20 don't want to have any panels in our basin
 21 areas.
 22 That basin or that infiltration pond
 23 only treats up to the two-year storm for
 24 infiltration. The 10- and the 100-year storm is
 25 actually discharged over a spillway, flows --

1 it's going to flow through a pipe that goes
2 underneath the proposed driveway into a swale
3 and ultimately make its way into the detention
4 basin number two down at the southern portion of
5 the site. But those two basins combined
6 together help meet our attenuation requirements
7 for Point of Analysis B.

8 The areas shown in yellow down the
9 middle, which is part of drainage area 2 --
10 drainage area 2 is undetained runoff. It's
11 comprised of some of the-- of some of the solar
12 panels and mostly the open field close to
13 Country Club Road and Meadow Road and all the
14 wetland areas.

15 That area is undetained. We're not
16 collecting it for any particular reason.
17 Technically we can't because it flows into the
18 wetlands. And there's no detention taking place
19 for that runoff. It just goes directly into the
20 stream just like it does on existing conditions.

21 Continuing east across the plan, we
22 have the three basins called out as 2A, 2B and
23 2C on the plan. 2A collects approximately .7
24 acres of runoff, 2B collects approximately .9
25 acres of runoff, and 2C collects about .75 acres

1 of runoff.

2 They're not collecting a lot of runoff
3 but their purpose is twofold on this project:
4 One, basin 2A provides some detention -- and
5 I'll talk about that -- but all three of those
6 basins are designed as water quality basins to
7 provide water quality for the portions of the
8 gravel road that drains into them. Okay?

9 And they're actually called
10 bioretention basins, and that's a little bit
11 different from a standard detention basin that
12 you may see out there because these particular
13 basins have a specific cross section to them.
14 And that cross section is made up of what I'll
15 call a soil planting layer that's about 2 feet
16 thick, a sand layer that's about 6 inches
17 thick -- or a foot thick, I'm sorry, and a
18 gravel layer that's a foot thick. And in that
19 gravel layer is a perforated pipe.

20 And how these basins work, these three
21 basins, is the runoff enters the basin and the
22 outlet structure doesn't allow any water to flow
23 through it. The soil planting bed has a certain
24 rate of infiltration associated with it and the
25 water seeps its way through the soil planting

1 bed. And that soil planting bed has specific
2 plantings that are in it that will help aid the
3 removal of pollutants that are in the water as
4 it's going through the soil area and as the
5 water is sitting in there for a day, two days as
6 it's infiltrated through the soil.

7 Once it goes through that soil layer,
8 it's going to pass through a sand layer, which
9 will provide additional filtration, and then
10 ultimately ends up in a perforated pipe that's
11 part of the gravel underdrain system on that
12 basin. That perforated pipe ultimately ties
13 into an outlet structure that discharges the
14 treated water downstream.

15 All three of those basins are designed
16 to do that. And basin 2A has an additional
17 level of detention on it that the other two
18 basins don't interact with, but basin 2A
19 provides a slight detention for the 2-, 10- and
20 100-year storm to help us meet our discharge
21 requirements at Point of Analysis B.

22 Basins 2B and 2C generally just treat
23 the water quality from the gravel drive and then
24 the 2-, 10- and 100-year storm is just
25 discharged over the spillway and allowed to

1 continue on its drainage pattern that's there
2 today flowing across the field and ultimately
3 into the wetlands and into the stream.

4 Continuing east, we have proposed
5 drainage area three, which is approximately 6.2
6 acres and that discharges into what we're
7 calling detention basin number three. Again,
8 basin number three is strictly just a detention
9 basin. There's no infiltration taking place.
10 There's no water quality taking place there.
11 It's just attenuation.

12 So any water that gets there, it's
13 attenuated, it's held, and it's reduced at a
14 slower rate out through an outlet structure and
15 down into the vegetated area just up to the west
16 of Country Club Road. It ultimately makes its
17 way into the existing culverts that are in
18 Country Club Road and over into Chambers Brook.

19 In order to get the water to basin
20 number three, we have two swales that are being
21 designed -- that are designed to collect that
22 runoff and directed into the basin, still
23 generally following that drainage pattern which
24 is going in a west-east direction. The swales
25 are just going to direct that runoff once it

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1 reaches a certain point into that-- into that
 2 basin.
 3 So with these seven basins, what we've
 4 done is we've managed to-- we've achieved the
 5 attenuation, the recharge and the water quality
 6 that's needed on the site. And just to give you
 7 a general idea of what those rates of runoff
 8 are, how they've been reduced, we talked about
 9 Point of Analysis A, where we originally had
 10 13.2 cfs. That was the existing runoff for the
 11 two-year storm coming off the property going
 12 into that-- to that western property line. We
 13 said the allowable flow for that area was 10.7
 14 cfs. And then the proposed flow for the
 15 two-year storm is 9.5 cfs.
 16 So we've reduced that runoff to a rate
 17 less than the allowable flow for the runoff for
 18 the property. And we've done that in all three
 19 points of analysis for all three storm events to
 20 meet our attenuation requirements for the
 21 project.
 22 Similarly, for a recharge, we had to
 23 meet a certain amount of volume going back into
 24 the ground. And then how that works is
 25 basically we've chosen -- based upon the

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1 regulations we have an option, but we've chosen
 2 the option to recharge the difference in the
 3 rate of volume of runoff for the two-year storm.
 4 And what I mean by that is under existing
 5 conditions, a certain amount of water, a certain
 6 volume of water, runs off of the property today
 7 under existing conditions.
 8 That can be quantified in what we call
 9 an acre feed of volume of water. If I have one
 10 acre of land and I put 1 foot of water on it,
 11 that's a certain volume associated with it.
 12 Under existing conditions for the 107 acres we
 13 have here, we have 8.37 acre feet of runoff,
 14 actual volume of water that leaves this site
 15 during the two-year storm event. Okay?
 16 Under proposed conditions, because
 17 we're adding ballasts for the panels, we're
 18 adding gravel drives, we're changing some of the
 19 land cover, that volume of runoff under the
 20 two-year storm goes up. To give you an idea, it
 21 goes up from 8.37 acre feet to 9.57 acre feet.
 22 So an increase of 1.28 acre feet of additional
 23 volume that's being generated due to the
 24 development of this property.
 25 That volume of water has to be put

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1 back into the ground under the regulations. And
 2 the two infiltration basins that we've designed,
 3 basin number 1 and basin number 2D, do just
 4 that. Their job is to infiltrate that water
 5 back into the ground so that this way we meet
 6 the recharge requirement. Under the proposed
 7 conditions we're back down to 8.37 acre feet of
 8 volume that's now leaving the site.
 9 A couple of other things I want to
 10 point out as it relates to stormwater
 11 management. We talked earlier about the
 12 ballasts or the supports for the solar panels.
 13 Those supports or those foundations, they're
 14 approximately 1.9 feet wide by 4 feet deep.
 15 That's considered impervious coverage. There's
 16 almost 2.4 acres of ballasts on the property
 17 being proposed today with this system.
 18 That impervious coverage is accounted
 19 for in our stormwater calculations when we route
 20 our basins. So we had accounted for that by
 21 putting it into our calculations and that's why
 22 we have -- when you look at the map here, we
 23 have what we call drainage area one. It's 5.98
 24 acres, but we have two CN numbers. We have a CN
 25 number of 74, which represents the ground cover

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1 underneath the panels, and we also have a CN
 2 number 98, which represents the runoff from the
 3 foundations. And we take both those numbers and
 4 we take two types of hydrographs, if you will,
 5 and route those through the basins. So we
 6 account for both the land cover that's
 7 underneath the panels and the impervious
 8 coverage that accounts for the ballasts or the
 9 foundations that are underneath the panels as
 10 well.
 11 Another item I want to point out that
 12 deals with stormwater management, I'm going to
 13 go back to Exhibit A-17, is the land cover
 14 underneath the panels. Previously when we did
 15 the calculations, we used meadow as the land
 16 cover underneath the panel, which has a
 17 different CN or runoff coefficient than, let's
 18 say, lawn or woods or any of those types of
 19 features.
 20 After discussing with the Board
 21 engineer and having further discussions on
 22 stormwater management, what we've done is we've
 23 treated all the land cover underneath the panels
 24 as lawn, which has a higher CN number than
 25 meadow. Lawn has a CN of 74; meadow has a CN of

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1 **71. So by treating it as lawn, even though**
 2 **we're going to plant it as meadow, we've taken**
 3 **into account if certain areas don't vegetate or**
 4 **germinate all the way into a certain grass**
 5 **height, we've accounted for that in our**
 6 **stormwater calculations. If there's a little**
 7 **bit of compaction that may take place in certain**
 8 **areas during construction, that higher CN**
 9 **number, 74 versus 71, accounts for those types**
 10 **of changes in the land cover on the project**
 11 **sites.**

12 So the entire area where there's
 13 panels we accounted for that as a higher CN of
 14 74 as opposed to what we're proposing to
 15 actually plant out there, 71. So there's an
 16 additional level of conservation taking place on
 17 those runoff numbers because we're using that
 18 higher CN value or runoff on the site.

19 BOARD MEMBER OLSEN: Can I ask one
 20 question? I'm still trying to work out in my
 21 head how the panels have no impact on this. Let
 22 me see if I can't describe what I'm trying to
 23 get at.

24 So the CN numbers are based on the
 25 land cover and assume a homogeneous distribution

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1 of rain, right, over that cover, which -- right?
 2 THE WITNESS: That's correct, yes.
 3 You have to take the whole area, take the
 4 rainfall--

5 BOARD MEMBER OLSEN: So, in fact,
 6 there's an improvement above what would have
 7 been used to absorb or slow down the aggregation
 8 of it. So now you've got all these 3-by-5
 9 panels above. Presumably the cover below it is
 10 not being utilized as it would have if there was
 11 nothing above it and all of the water aggregates
 12 on the 3 by 5. And presumably it all comes off
 13 one side or the other--

14 THE WITNESS: Shoots off the lower
 15 side, correct.

16 BOARD MEMBER OLSEN: And does not
 17 disperse homogeneously across the footprint, but
 18 rather one would imagine if there's a row of
 19 these panels, what you're going to have is
 20 you're going to create sluices or, you know,
 21 hyper-aggregation along a linear path of the
 22 water, not ever utilizing any of the grass
 23 underneath the panels themselves.

24 I'm wondering, does that sound
 25 illogical or logical? I wonder if in these

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1 fields that have been built before, have there--
 2 you know, you think a hundred-year storm and if
 3 you've got that amount of rain coming down on a
 4 point, not homogeneously distributed, do you
 5 create, you know-- the water will be flowing
 6 upon water, not on the grass.

7 Is there any history of erosion or
 8 lanes that get created in that way?

9 THE WITNESS: There's a couple of
 10 things we could point out in terms of that type
 11 of runoff. First off, I think in this case
 12 we're dealing with, again, a 3-by-5 rectangular
 13 area that's in portrait. So you've got-- let's
 14 say we have a 3-foot ledge on the bottom that
 15 the water's going to drip off and land on the
 16 ground.

17 BOARD MEMBER OLSEN: Right.

18 THE WITNESS: Basically you're not
 19 changing the existing drainage pattern on the
 20 property. So the water's going to land on the
 21 ground and whether it flows, you know, away from
 22 the panel or it flows sideways across the panel,
 23 it's still going to continue that same route.

24 So if there's area underneath the one
 25 panel, where -- if I have a panel here, the

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1 water's going to fall this way across the panel
 2 and land on the ground.

3 BOARD MEMBER OLSEN: Right.

4 THE WITNESS: And say it flows
 5 underneath the next panel, and it's that ground
 6 that's dry underneath that panel for the moment
 7 is going to absorb that runoff of water.

8 BOARD MEMBER OLSEN: Assuming that
 9 there's a downward slope.

10 THE WITNESS: Correct, because there's
 11 a downward grading on the property. We're not
 12 talking -- we're not on a flat piece of land.
 13 So that being said, you're going to get a little
 14 bit of drippage at the end of the panel that's
 15 going to form there along the ground.

16 Now, depending on the type of
 17 vegetation you have established, you might get
 18 some initial drip erosion of the soil, but once
 19 the vegetation is established that's going to go
 20 away. It would be no different than rain
 21 falling on the ground at that point. And since
 22 it's such is a small footprint, you're not
 23 concentrating a large amount of water along
 24 that-- along that drip line.

25 BOARD MEMBER OLSEN: Okay.

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1 THE WITNESS: So while you may get --
 2 in some areas, until the vegetation is
 3 completely established, you may get a little bit
 4 of erosion on those drip lines. Usually by the
 5 time the vegetation is in place, that usually
 6 goes away.
 7 CHAIRMAN BOXER: Mr. Moschello, I'm
 8 going to also ask, maybe we'll take about a
 9 ten-minute break. This will give us a little
 10 bit of a chance to catch our breath. We're
 11 going to reconvene right at 8 o'clock, please.
 12 THE WITNESS: Sure.
 13 CHAIRMAN BOXER: Thank you.
 14 (Whereupon, a recess is taken.)
 15 CHAIRMAN BOXER: All right, ladies and
 16 gentlemen, I think we should get started. It's
 17 after 8 o'clock. Everybody caught their breath
 18 and the stenographer has her fingers going here
 19 and we're ready to go.
 20 All right. So we're going to continue
 21 and we'll take probably another hour or so, 45
 22 minutes or an hour.
 23 Mr. Sasso, do you have something?
 24 MR. SASSO: Yes, Mr. Chairman, just by
 25 way of housekeeping.

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1 CHAIRMAN BOXER: Yes.
 2 MR. SASSO: As you can see, Michele
 3 Donato is not here. She made it clear to the
 4 Board she could not make it on the first
 5 Thursday. The only thing I would request, I
 6 have a new engineer myself, Dr. Najarian's group
 7 is just getting involved.
 8 CHAIRMAN BOXER: Okay.
 9 MR. SASSO: I would just ask that the
 10 cross of Mr. Moschello take place at the next
 11 meeting out of fairness. They've paid thousands
 12 to have Michele Donato attend, but she had to
 13 represent the Plainfield board tonight, as she
 14 told us. That's all I'm suggesting.
 15 CHAIRMAN BOXER: I'm not even sure
 16 when the next -- is the next meeting -- when's
 17 the next scheduled meeting?
 18 MR. FERRIERO: We haven't scheduled it
 19 yet.
 20 MR. SASSO: She can't make it the
 21 first Thursday of the month, is what she told
 22 us.
 23 MR. HALL: We'll work with you on
 24 that, but as far as holding things over because
 25 she's not here, I mean, we met with the

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1 engineer; we're going to meet again. I don't
 2 know if the excuse that they need
 3 cross-examination, I mean --
 4 CHAIRMAN BOXER: I'm going to let
 5 Mr. Collins help with this. I don't know if
 6 there's another opportunity for Ms. Donato to
 7 recall witnesses.
 8 Mr. Collins, do you have any comments
 9 on that?
 10 MR. SASSO: Can I just add something
 11 to that, Mr. Chairman?
 12 CHAIRMAN BOXER: Yeah, sure.
 13 MR. SASSO: And that is I hear what
 14 the applicant's attorney is saying, but this is
 15 not the normal setting. As you know, we got,
 16 again, the plans delivered at the last moment,
 17 just now.
 18 MR. HALL: No, no, no.
 19 MR. SASSO: Excuse me, sir. My
 20 engineers have just been given a CD--
 21 Mr. Moschello was nice enough to accommodate us.
 22 We have a whole CD with -- how many pages? I
 23 don't know how many pages.
 24 THE WITNESS: Five, six hundred pages
 25 maybe.

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1 MR. SASSO: Six hundred pages of
 2 information. I cannot, as attorney for the
 3 Forbes, cross-examine him tonight. I wouldn't
 4 even know what to ask.
 5 CHAIRMAN BOXER: Let's ask Mr. Collins
 6 to try to help us with that, because I'm not
 7 really sure procedurally whether or not this
 8 could work. I do understand the issues with the
 9 complexities of some of these documents. I just
 10 don't know if there's a timing issue.
 11 Mr. Collins, do you have any comments?
 12 MR. COLLINS: Well, I think we should,
 13 you know-- basically it's the rule of fairness
 14 is the best way to look at it. Quite frankly, I
 15 don't even know when Mr. Moschello is going to
 16 be done.
 17 CHAIRMAN BOXER: I agree.
 18 MR. COLLINS: I have to say that I
 19 think we have this objection to something that
 20 may happen in the future and I don't think we
 21 should deal with the future as much as today.
 22 And so --
 23 CHAIRMAN BOXER: We certainly have a
 24 couple more hours for Mr. Moschello to present
 25 his material, and whether or not we even get

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1 done tonight I'm not sure yet.
 2 MR. COLLINS: Yes, that's what my
 3 point is. On the other hand, though, the
 4 objection of Mr. Hall is that Ms. Donato is not
 5 here and Mr. Sasso has a different subject that
 6 he's raising for himself, that subject is
 7 important. That is, he's saying that-- I take
 8 it he's saying that the drainage reports-- I'm a
 9 little bit surprised by that -- they weren't
 10 available. Because I have my copy. And I think
 11 maybe we could hear more about that subject.
 12 That might be worth elaborating on.
 13 MR. HALL: They were filed on, I
 14 believe, September 4th and I copied Mr. Sasso on
 15 my filing letter. Now, why it took him a month
 16 to get copies, I don't know.
 17 MR. SASSO: You're going to represent
 18 to this Board that you sent me the stormwater
 19 management plan?
 20 MR. HALL: No--
 21 MR. SASSO: That's correct, sir.
 22 MR. HALL: I sent you a letter so you
 23 knew --
 24 MR. SASSO: Please don't
 25 misrepresent--

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1 (Indiscernible crosstalk; reporter
 2 requests one speaker)
 3 MR. SASSO: I'll speak then. Please
 4 don't misrepresent to the Board.
 5 MR. HALL: I'm not.
 6 MR. SASSO: The stormwater management
 7 plan, you know, Mr. Hall, is some six hundred
 8 pages. I couldn't even come up and, what, Hey,
 9 Trina, make me a quick copy? I mean, come on,
 10 we're being ridiculous.
 11 CHAIRMAN BOXER: Well, let me ask you
 12 something. I'd like Mr. Collins to weigh in
 13 on...
 14 MR. COLLINS: No, no, no, we're not
 15 ready yet. Let them argue their points. But
 16 it's one at a time, for all of, especially me.
 17 MR. HALL: Can I finish my statement?
 18 I'm sorry.
 19 MR. COLLINS: I can't handle --
 20 everyone relax. We'll take the time to hear
 21 this objection. I guess it's something about
 22 the details of the information, but let's put it
 23 in the context of that which I think we do know,
 24 which is that someone from the Najarian group
 25 attended the off-line conference with our

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1 engineer, Paul Ferriero, and they all discussed
 2 the-- what's called the technical details that
 3 they wanted to discuss at that time of the
 4 stormwater management plan and, I would think,
 5 reports. But I would perhaps like to hear from
 6 Mr. Hall and from Mr. Sasso about what they
 7 didn't have before or at the meeting with
 8 Mr. Ferriero in detail.
 9 What did they not have and what did
 10 they not have access to? It isn't really
 11 Mr. Hall's duty to get them a full set of the
 12 reports, but if they didn't even have access to
 13 the report, that's a different subject.
 14 CHAIRMAN BOXER: Right.
 15 MR. COLLINS: So why don't we --
 16 CHAIRMAN BOXER: Mr. Hall.
 17 MR. COLLINS: -- let Mr. Hall describe
 18 what your position is and then Mr. Sasso.
 19 MR. HALL: Thank you. And I'll be
 20 brief. All I was trying to say was that when
 21 the report was filed with other things, I
 22 provided a copy of my cover letter to Mr. Sasso
 23 so that he knew the plan was here in the town
 24 hall. I did not either imply or intend to imply
 25 that I gave him a copy of the report. I didn't

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1 have the report. It's here. And what-- I'm
 2 just saying it was here on September 4th, I
 3 believe. And why he just got something is not
 4 something I control.
 5 CHAIRMAN BOXER: So the report was in
 6 the town's hand on September 4th in totality?
 7 SECRETARY LINDSEY: Both attorneys
 8 were given copies. Michele was and so was
 9 Mr. Sasso.
 10 MR. SASSO: Of the plans. We came and
 11 got them.
 12 SECRETARY LINDSEY: No, I had
 13 Gladstone Design also provide copies of the
 14 reports.
 15 MR. SASSO: We sent what we had to
 16 Dr. Najarian. Dr. Najarian advised us, even I
 17 guess yesterday, that a CD was just received by
 18 you when?
 19 DR. NAJARIAN: Yesterday.
 20 MR. SASSO: Okay. So, as I said, the
 21 plans are one thing. And as soon as I got
 22 Mr. Hall's letter, I immediately sent someone
 23 from my office up to town hall. I didn't wait.
 24 I went and got it, I sent it to Mr. Chadwick and
 25 then he sent it to the engineer.

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1 Again, it's six hundred pages. This
2 is engineering data. If someone thinks that you
3 can take care of that and review it and come up
4 with some comprehensive analysis within a couple
5 of weeks, I think they're mistaken.

6 We immediately, when we found out from
7 Mr. Ferriero, who was kind enough to e-mail us
8 that there was going to be a meeting of the
9 engineers, immediately told Dr. Najarian to send
10 his staff. And that's why they were there. But
11 had they reviewed the six hundred pages and all
12 the new maps? No, and it's only common sense.

13 You know, when Mr. Collins talks about
14 fairness, that's what we're talking about here.

15 MR. COLLINS: Well, could you also,
16 Mr. Sasso, though, explain in the history of
17 this case, was there another professional
18 engineer who was working for, I think, Princeton
19 Hydro, who was your engineer or someone's
20 engineer? And what happened with his
21 representation of either you or your client or
22 Ms. Donato's client and who is replacing him?
23 And just when did that happen? So that the
24 Board can be aware of the context of the
25 timing.

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1 MR. SASSO: Absolutely. We had hired
2 Princeton Hydro, who Michele Donato had worked
3 with on many occasions including solar
4 applications. They did, I'll state for the
5 record, a very nice job on the substance.

6 The problem that we were having in
7 this particular case is that this application
8 changes every two weeks. And every time there
9 was new data and new reports and soil tests that
10 weren't signed from Birdsall, et cetera, we had
11 to try to get a report and information from
12 Princeton Hydro.

13 Unfortunately, they're either not
14 large enough or are so popular and they're so
15 busy now that I was begging for information,
16 including a letter that I sent to you,
17 Mr. Chairman, which had their letter attached
18 with their comments. I had to call their office
19 and send them five, six e-mails to get that.

20 I don't like sending things to this
21 Board a day before, which is what I did in that
22 case. That's not how I represent people before
23 the Board. That's not fair. It's not right.

24 And when they did that to me and I wasn't able
25 to send it to you until like a day before the

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1 meeting, I fired them with Mr. Forbes'
2 permission.

3 We can't have that, particularly here,
4 when everything is changing all the time. So
5 they indicate to me they have the staff and the
6 capability to keep up with the changes in this
7 case, and that's why I changed.

8 CHAIRMAN BOXER: Thank you.
9 Appreciate that.

10 So let me just-- so without the drama,
11 I'm just trying to understand, is it the CD that
12 you got tonight? Did you get a CD tonight?

13 MR. SASSO: Yesterday electronically.

14 CHAIRMAN BOXER: So over the last 24
15 hours you were given a CD which is the
16 compilation of the actual engineering data?

17 MR. SASSO: That's-- according to
18 Mr. Moschello that's everything and I believe
19 him.

20 CHAIRMAN BOXER: Is that it?

21 THE WITNESS: That is electronically
22 this stack.

23 CHAIRMAN BOXER: That's fine. Thank
24 you.

25 And is that the first time, Mr. Sasso,

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1 that you've seen that information?

2 MR. SASSO: Trina says that we were
3 given something. I don't know, were we given
4 the 600-page report? You know, when I -- when I
5 picked up what I thought was the plans, the
6 plans from the office, immediately-- immediately
7 sent them to Mr. Chadwick. And he would know if
8 I sent the stormwater management plan with that.

9 Did you get six hundred pages?

10 MR. CHADWICK: No.

11 MR. SASSO: I mean, I picked up the
12 plans.

13 CHAIRMAN BOXER: No, I understand.

14 MR. SASSO: As soon as I was advised,
15 I immediately sent someone up.

16 CHAIRMAN BOXER: Right. So, again,
17 we're just trying to get through the drama.

18 MR. SASSO: Sure.

19 CHAIRMAN BOXER: I understand. I
20 don't think we're trying to be unfair. We're
21 trying to give both parties an opportunity to be
22 prepared for their questioning. I think that's
23 the most efficient way.

24 So let me just ask you, Mr. Hall, was
25 that -- is this information -- was that

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1 information available before the last 24
 2 hours?
 3 MR. HALL: As far as I know. It
 4 sounds like it's duplicative of what was here on
 5 September 4th. I mean, I don't know what this--
 6 Mr. Moschello, the disk, is there anything
 7 additional?
 8 THE WITNESS: No. The disk, the
 9 product information that I presented to Najarian
 10 was the plans I have here. And I dropped off
 11 additional copies of stormwater reports over the
 12 last couple of weeks to Trina's office when she
 13 requested copies.
 14 MR. SASSO: They weren't there then
 15 when we got it, because that was right after the
 16 holiday. Within a day or two after the holiday,
 17 after September 4th, I sent someone from my
 18 office. So that's what happened.
 19 CHAIRMAN BOXER: Let me ask
 20 Mr. Collins. I'm a little less concerned about
 21 Ms. Donato because I'm not really sure we're
 22 going to be able to accommodate her schedule. I
 23 don't know yet. I understand that we've had
 24 some conflicts, but we've always said that we're
 25 going to try to be fair, but err on the side of

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1 the applicant even though I understand we've had
 2 a lot of delays.
 3 Mr. Collins, I mean, if we're trying
 4 to be fair, if he's trying to prepare himself to
 5 cross-examine a witness, does it really-- is
 6 there a problem if he asks for a continuance of
 7 that cross-examination to better prepare
 8 himself? Is that really something procedurally
 9 that --
 10 MR. COLLINS: No, he can ask for that
 11 and you could consider granting that. It's
 12 really your call for reasonableness. You could
 13 also see how far we get.
 14 CHAIRMAN BOXER: Yep.
 15 MR. COLLINS: And see what time we're
 16 at. And you could --
 17 CHAIRMAN BOXER: I appreciate that.
 18 MR. COLLINS: You could let the public
 19 ask questions. I don't mean to be too flip,
 20 but, quite frankly, this is the kind of subject
 21 where it actually is my opinion that when you
 22 are an attorney on a subject like this, you are
 23 better off presenting your own expert with your
 24 own report on the findings that they make as to
 25 the other expert's report than you are

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1 cross-examining the engineer at length on the
 2 subject.
 3 CHAIRMAN BOXER: Okay.
 4 MR. COLLINS: The general rule is
 5 don't ask a question that you don't know the
 6 answer that you're going to get. And I admonish
 7 Mr. Sasso and Ms. Donato to follow that general
 8 rule.
 9 MR. SASSO: That's true.
 10 MR. COLLINS: It will also make us a
 11 lot-- it will make us a lot less tired. So I
 12 think if we can focus our energy on things that
 13 are really at issue between the experts, that
 14 would be a more effective method of approaching
 15 stormwater management. But I also respect that
 16 people have the right to cross-examine any
 17 witness in any reasonable way on a matter that's
 18 before us.
 19 So why don't-- we have the objection
 20 and I guess the request. I still think it's a
 21 little premature.
 22 CHAIRMAN BOXER: Okay.
 23 MR. COLLINS: I'd really like to
 24 continue.
 25 CHAIRMAN BOXER: Yep.

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1 MR. COLLINS: And I definitely would
 2 like you to, the board members of course and the
 3 public, ask any questions they want of
 4 Mr. Moschello tonight before we even know
 5 whether we are dealing with this subject.
 6 CHAIRMAN BOXER: No, that's fine.
 7 And, look, Mr. Sasso, I just want to
 8 make sure, I don't want to belabor the point, I
 9 just want to make sure I understand it. Because
 10 if procedurally we have an issue, I want to try
 11 and help our land use secretary become more
 12 efficient.
 13 So this-- it sounds like Trina gave--
 14 it sounds like this disk was available in
 15 September.
 16 Is that correct, Trina?
 17 SECRETARY LINDSEY: Yes, it was
 18 available--
 19 CHAIRMAN BOXER: I just want to make
 20 sure that, as far as we understand it from
 21 Trina, it was available in totality in
 22 September.
 23 SECRETARY LINDSEY: And it was given
 24 out to both attorneys. I contacted--
 25 CHAIRMAN BOXER: That's my point.

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1 SECRETARY LINDSEY: -- Mr. Sasso's
 2 paralegal and she sent someone to pick the
 3 reports up.
 4 MR. SASSO: And we did get the
 5 reports, but I'm saying the stormwater
 6 management plan that he brought extra copies
 7 of -- was it originally submitted by disk, the
 8 stormwater management plan?
 9 MR. FERRIERO: No.
 10 SECRETARY LINDSEY: No, he dropped off
 11 a big--
 12 MR. FERRIERO: There was a disk in my
 13 report.
 14 MR. HALL: From what I'm hearing, the
 15 disk was an accommodation we didn't have to do
 16 and we're being penalized because we did it.
 17 CHAIRMAN BOXER: No, that's fine.
 18 It's just very helpful to understand it.
 19 Mr. Sasso, we appreciate what you
 20 said. I think Mr. Collins and I will see how
 21 things go. We appreciate what you said. We'll
 22 take the objection under advisement and we'll
 23 see where we are tonight.
 24 MR. HALL: If I could just have one
 25 very quick comment.

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1 CHAIRMAN BOXER: Yeah, please.
 2 MR. HALL: I think I said before, but
 3 I would also echo Mr. Collins' comments, but
 4 also we'd be more than willing to have another
 5 meeting of the engineers. Aside from them
 6 presenting their own witness, I think it's also
 7 good to try to work things out off-line if you
 8 can. I'm not saying you can always do that, but
 9 certainly our engineer will meet with
 10 Mr. Ferriero and their engineer between now and
 11 the next meeting.
 12 CHAIRMAN BOXER: It's a very technical
 13 topic.
 14 MR. HALL: Yes.
 15 CHAIRMAN BOXER: Mr. Ferriero is
 16 obviously a very important part of the board's
 17 guidance.
 18 MR. HALL: Yes.
 19 CHAIRMAN BOXER: So let's see where we
 20 go tonight and how far we get.
 21 MR. COLLINS: That was a very
 22 significant offer by Mr. Hall, also.
 23 CHAIRMAN BOXER: Absolutely.
 24 MR. COLLINS: I think we should
 25 consider that.

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1 MR. SASSO: We will make Dr. Najarian
 2 available any time.
 3 CHAIRMAN BOXER: Okay. So,
 4 Mr. Ferriero, we'll keep working through this.
 5 Look, I think this is an already
 6 complex case that has the potential to be fairly
 7 protracted. And what we're trying to do is
 8 become efficient and very focused on the types
 9 of questioning and to give the witnesses every
 10 opportunity to be prepared to answer in a
 11 complete way.
 12 So I think Mr. Moschello's starting
 13 that tonight. It's been a good presentation so
 14 far. I think we should keep going, see how far
 15 we get, and we'll sort of re-cover it by 10
 16 o'clock and make a decision. Okay.
 17 THE WITNESS: Thank you, Mr. Chairman.
 18 Right before the break, I was wrapping
 19 up the discussion about infiltration or recharge
 20 on the property. We already talked about
 21 attenuation, which is the first prong of the
 22 three prongs of stormwater management.
 23 The last one we were dealing with is
 24 called water quality. We talked-- I talked
 25 about that before, about what the purpose of

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1 water quality is: To treat the runoff on the
 2 site, the nonpoint source of pollution that
 3 comes off of it. The property-- that runs off
 4 of the paved areas and how that is treated in
 5 the different basins on site.
 6 Essentially, for this particular
 7 project, we have to meet the total suspended
 8 solids removal rate of 80 percent, or 80 percent
 9 TSS removal as we refer to it. And that's done
 10 on this project in two -- in two ways.
 11 I'm going to refer to Exhibit-- I
 12 should go back to Exhibit A-18, which is the
 13 proposed drainage area exhibit, to talk about
 14 this. We talked about water quality basin 2A,
 15 2B and 2C, which is essentially the bioretention
 16 basins. They provide the -- they provide the
 17 water quality for the runoff coming off the
 18 gravel roads. They meet the 80 percent TSS
 19 removal rate by virtue of the soil planting bed,
 20 the sand layer, and then the collection system
 21 underneath which discharges that water.
 22 On the western side of the property we
 23 don't have any bioretention basins over there
 24 mainly because I have an existing basin down at
 25 the bottom, that I talked about, which is basin

<p style="text-align: right;">Page 70</p> <p>1 number two, but I said there's no water quality 2 in that basin.</p> <p>3 What we're actually doing on this side 4 of the property, for the gravel roads that are 5 on this side -- and I'll go back over to Exhibit 6 A-15 to point out those gravel roads, which is 7 basically essentially a "T" shape, as you see 8 here on the western side of the property. We're 9 proposing what I refer to as water quality 10 swales and check dams. Basically they're 11 smaller versions of the bioretention basins.</p> <p>12 And what they are is they're just a 13 swale on the side of the drive, the gravel 14 drive. They're approximately a foot and a half 15 deep, 4 foot wide. They have a flat area with a 16 little check dam. And as the water sheets off 17 the gravel drive and runs down the swale, hits 18 the flat area, which is actually a sands filter, 19 the check dam will hold the water in place from 20 the water quality storm, which doesn't have a 21 lot of runoff to it, and that water will be 22 infiltrated through the sand layer and provide 23 water quality.</p> <p>24 There's actually an underdrain on that 25 water quality swale. And the underdrain will</p>	<p style="text-align: right;">Page 72</p> <p>1 a separate report submitted on this, was the 2 soil testing that was done. We had a -- we had 3 a separate firm come in, GTA Associates, to 4 perform that soil testing and there was a report 5 put together on that. I just want to summarize 6 some of the findings in that report and how it 7 relates back to the project site.</p> <p>8 GTA came on board and performed 43 9 test pits across the property -- there's a map 10 in the report that shows those test pits -- 11 essentially looking for infiltration on the 12 subject site. We had talked previously under -- 13 in the last testimony about the soils' inability 14 out here to infiltrate runoff. When we met with 15 Mr. Ferriero and the previous engineer from 16 Princeton Hydro, we talked at length about how 17 to deal with the clay soils and the weathered 18 shale that's underneath the site that underlays 19 the site. And we talked about, you know, what 20 kind of infiltration is actually taking place on 21 the property.</p> <p>22 And so we put together a plan to 23 basically test the upper layers of the soil to 24 find out what's actually happening out there. 25 Is water actually making it through the soil</p>
<p style="text-align: right;">Page 71</p> <p>1 collect the runoff once it's treated and we 2 actually discharge that runoff into detention 3 basin number two, meaning the 80 percent TSS 4 removal rate.</p> <p>5 So all the gravel drives on site meet 6 the TSS 80 percent removal rate. There's a 7 small section of gravel drive in the middle that 8 goes through the wooded area that doesn't have 9 water quality on it. However, we're removing 10 some existing dirt and gravel drive in the 11 northern portion to offset that additional 12 impervious so we don't need to provide water 13 quality on it. Similar to what we were doing 14 originally on the northern portion, where it's 15 just going to run off and filter through the 16 wooded areas as it reaches the wetlands. But 17 that's such a small portion of the project site. 18 The remaining areas are all treated and covered 19 on the project.</p> <p>20 So we've talked about recharge, we've 21 talked about attenuation, we've talked about 22 water quality, and how all those things are 23 accounted for on the site.</p> <p>24 The next thing that I want to just 25 touch on a little bit briefly, because there was</p>	<p style="text-align: right;">Page 73</p> <p>1 down into the lower layers or is it stopping on 2 the surface? Now, we went out there and we did 3 these additional 43 test pits. And in the 4 report you'll see that there's certain tests 5 that shows the infiltration is zero.</p> <p>6 And so what we did is we looked at 7 those areas. And as it turns out, for basin 8 number 1 and basin 2D, we had infiltration in 9 those areas that we could get water back into 10 the ground. There was a couple of other spots 11 where water infiltrated as well, but we just 12 couldn't get runoff into those areas, whether or 13 not it was the perimeter of the site or it was 14 in a location that just didn't work for us in 15 terms of stormwater management.</p> <p>16 So that was why we --</p> <p>17 MR. COLLINS: What were those two 18 basins that were good for infiltration? What 19 were they?</p> <p>20 THE WITNESS: Basin number 2D and 21 basin number 1, which is essentially why we took 22 out a series of panels in the middle of the site 23 to make it -- to provide that area for 24 infiltration.</p> <p>25 Another thing that was in the</p>

<p style="text-align: right;">Page 74</p> <p>1 stormwater report was they also looked at the 2 high ground water and we looked at their test 3 pits when they were out there. And they came to 4 the conclusion that there's no impact to 5 groundwater on this particular project, and 6 that's also covered in the report as well. 7 So, generally speaking, between GTA 8 doing their test pits, Gladstone Design that did 9 test pits, and the original engineer, Birdsell 10 Services Group, that did test pits, there were 11 approximately 115 test pits that were done 12 across this property for this particular project 13 with all of the soil data associated with it. 14 The next thing I'd like to touch on is 15 just the earthworks on the project. I'll refer 16 to Exhibit A-19, which is entitled "Earthworks 17 Analysis Exhibit." This is a color-coded plan 18 that shows the areas on the site that's actually 19 being graded or we're changing the grades or 20 where we're filling or cutting to create the 21 basins, the berms and the landscape berm on the 22 northern portion of the site. 23 The colors represent different depths 24 of cut on the property. To point out, the 25 reddish-orange colors represent the deepest</p>	<p style="text-align: right;">Page 76</p> <p>1 reduce the amount of impact to the site with the 2 cut and fill numbers. We don't anticipate 3 having to move anything off site. If we have a 4 little bit of expansion of material, we can 5 certainly lose that in the slopes of the berms 6 on the property. So there will be no exported 7 material coming off the site for the stormwater 8 portion of it. 9 Lastly what I'd like to do is go 10 through Mr. Ferriero's review letter and just 11 touch on a couple of items in there. This is 12 his September 29th, 2014 letter and there's a 13 couple of different topics in there. I'm, 14 generally speaking, starting on what would be 15 page 3, where there's comments that relate to 16 the site plans. Going down that, Sections A, B, 17 C, D, E, F, G and H, which are-- which are 18 somewhat technical comments, I think we have no 19 issues with complying with those and providing 20 the additional information Mr. Ferriero was 21 looking for. 22 Comment H as it relates to the fabric 23 screen on the property, I can take a few moments 24 to go back through that and point out to the 25 Board and to Mr. Ferriero the limits of that,</p>
<p style="text-align: right;">Page 75</p> <p>1 cuts. The blueish-purple colors represent the 2 greatest fills. And in this case here, the 3 reddish-orange colors, the deepest cut we have 4 on site is 4.2 feet and that's actually in the 5 back corner of basin number two, where my 6 finger-- where I'm pointing to here on the 7 southern portion of that basin. 8 The greatest fills, which are in the 9 5- to 6.2-foot range in purple, are along the 10 berm on the northern portion of the site. 11 You'll see a little bit of the berm on basin 12 number three, the berm on basin number two and 13 the berm on basin number one. So essentially 14 what we're doing here is we're generally cutting 15 the basins to generate the fill that we need to 16 construct the berms on the property for the 17 detention basins and the landscape berm. All 18 told, the amount of cut on the project is 19 approximately 10,600 cubic yards. The amount of 20 fill is approximately 9,900 cubic yards. It's 21 essentially a balanced site with what we have 22 here. 23 The previous plan was over 40,000 24 cubic yards of cut and fill. So we've reduced 25 that amount by four times to reduce it down, to</p>	<p style="text-align: right;">Page 77</p> <p>1 that screen, just to cover that again. I'm 2 going to use Exhibit-- Exhibit A-15 to do that. 3 Essentially-- and I'm sure Mr. Kennedy 4 explained that, how that was being proposed, at 5 the July hearing. But essentially we have a 6 7-foot-high fence and in certain portions of 7 that, of the project site, that fence would have 8 a fabric on it for screening purposes. We'll be 9 able to see through it. 10 And the location of that fabric has 11 been chosen based upon a review of the site -- a 12 review of the site and view lines into the site. 13 But basically it's located along the entire 14 length of the fence that runs along the northern 15 berm and around the corner of that fencing, for 16 the eastern pod or the eastern solar array. 17 And then starting at the back southern 18 corner of the eastern array and running the 19 entire length across to where the end of basin 20 number three is, up at its northern tip, that is 21 all that screen fence. And it's denoted as a 22 straight line with a circle on it on the plan 23 for purposes of identifying where it is on the 24 site plans. 25 And we've also added that same fence</p>

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1 with the screening on the western array,
2 essentially starting at a point on the eastern
3 side of the western array about seven rows in,
4 running the entire length back to that same
5 approximate seven row point on the western side.
6 We'll have that same screening on that fence.
7 I just wanted to point that out to the
8 Board. That's denoted as the same line with a
9 circle on it on the site plans so you can follow
10 that on the plans. There's some notes on it
11 denoting where the fence starts and stops.
12 Additionally, Mr. Ferriero had what
13 would be 29 comments as it relates to stormwater
14 management. Unless the Board would like me to
15 go through each of those individually, I think I
16 can just touch on a few here tonight. And if
17 there's any one that you need me to expand upon,
18 upon, I can certainly do that. But basically
19 they're technical in nature, the comments.
20 We're complying with them. It wouldn't
21 generally change the overall design of the
22 project, but I think it would just make some
23 enhancements to the calculations and to the way
24 the water's being treated on site.
25 We also could provide Mr. Ferriero

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1 some additional soil testing information which
2 we can certainly do. We have it and we can
3 certainly provide it to him.
4 There were two comments in here,
5 comments 14 and 15, which talk about the depth
6 of the water quality storms in two of the
7 basins. And he's referring to basin 1 and basin
8 2D. Essentially those basins do not provide
9 water quality at all. So it's our opinion there
10 that since they don't provide water quality, the
11 depth of the water quality storm is irrelevant
12 in terms of the water level in the basins.
13 And when you look through the BMP
14 Manual, there's really nothing in there that
15 talks about the depth of the water quality,
16 depth of the water quality storm in a nonwater
17 quality basin. It's not contemplated.
18 CHAIRMAN BOXER: Mr. Moschello, could
19 you just maybe help me understand one more time.
20 Why do you distinguish water quality basins and
21 nonwater quality basins?
22 THE WITNESS: Generally what we're
23 doing there is if a basin provides water
24 quality, it's treating the water. It's
25 filtering it, if you will, so that the water

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1 that's coming in has a certain pollute loading
2 associated with it. It's treated, it's
3 filtered, and then it's discharged at a certain
4 TSS removal rate. Okay? And usually you're
5 going to do that on your heavy pollutant-loaded
6 areas, such as parking lots, things of that
7 nature, where you have vehicles, you have
8 sedimentation, you have salt in the wintertime,
9 you have gravel drives, for example. We would
10 do that here.
11 But on areas where there's just panels
12 or it's lawn that's not treated with any type of
13 fertilizers or anything like that, or roofs for
14 that matter, the runoff is essentially clean and
15 you don't need to provide water quality for that
16 runoff.
17 So in this case here, we have certain
18 basins that don't need to provide water quality
19 so, therefore, they don't. They just provide
20 attenuation or recharge.
21 So that's-- so the question
22 essentially is: Do those two basins meet the
23 water quality level requirement? And with this
24 particular project we have a culvert crossing in
25 the middle. It goes through a DEP-regulated

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1 area. So we are going to be going down to DEP
2 to get that permit and we'll discuss with them
3 their interpretation of the BMP Manual and
4 clarify that requirement through them.
5 Essentially it won't overly change
6 the-- it won't change the design at all in terms
7 of the calculations. It's just clarifying that
8 for us, for Mr. Ferriero, for his calculations.
9 CHAIRMAN BOXER: I see. Thanks. That
10 was helpful.
11 THE WITNESS: You're welcome.
12 Other than-- like I said, other than
13 those two comments, we have no issues with
14 providing the other information, the other
15 calculations that Mr. Ferriero is asking for.
16 The operations and maintenance manual, we will
17 address whatever comments Mr. Ferriero has on it
18 and include whatever other information he would
19 deem is necessary for maintenance of the
20 project, whether it's stormwater or it's the
21 berms, the landscaping, the fencing. Probably
22 will be all incorporated into that manual for
23 purposes of the project.
24 And I will defer the forest evaluation
25 report and the environmental impact statement to

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1 a future witness.
2 CHAIRMAN BOXER: Thanks.
3 Mr. Ferriero, does the operations and
4 maintenance manual have any update requirements?
5 Do you need to see that on an annual basis once
6 it's approved? Does it live forever?
7 MR. FERRIERO: Yes, as it does live
8 forever. As I noted, there needs to be a deed
9 restriction on the property that's to be filed.
10 There's a requirement that an annual report be
11 submitted to my office because I have to report
12 to the state about it.
13 CHAIRMAN BOXER: I see.
14 MR. FERRIERO: Just if I could step
15 back to one thing. Mr. Moschello was talking
16 about a couple of my comments as it relates to
17 the infiltration basins. And Mr. Sasso was
18 saying how it seems the applicant's plans
19 changes every couple of weeks. I don't know if
20 it changes that off, but I will tell you the DEP
21 seems to change their mind fairly frequently.
22 Earlier this week I received an e-mail
23 from the state where they changed the BMP Manual
24 as it relates to infiltration basins. I have
25 not completed that review and see how that

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1 impacts this. It may or may not, but they did,
2 literally earlier this week, put out an update
3 to infiltration basins.
4 CHAIRMAN BOXER: So we need a
5 follow-up from you on how that affects this
6 application?
7 MR. FERRIERO: Yes.
8 CHAIRMAN BOXER: All right. Okay.
9 THE WITNESS: Mr. Chairman, I think
10 that concludes my direct testimony that I was
11 presenting tonight for this presentation, the
12 stormwater portion of it.
13 CHAIRMAN BOXER: Well, thank you very
14 much. We appreciate it. It was quite complete.
15 THE WITNESS: Thank you.
16 MR. HALL: That's all I had from this
17 witness on direct.
18 Before I forget, a minor point,
19 Mr. Ferriero. I just noticed his memo that the
20 header has the wrong year. It's an obvious
21 typo.
22 MR. FERRIERO: The first page says
23 "2014," but it was late Saturday night and --
24 MR. HALL: No, I'm not complaining.
25 Just so we're all aware of that.

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1 CHAIRMAN BOXER: Why don't we then
2 just take a ten-minute break while we figure
3 out -- let me talk to Mr. Collins for a couple
4 of minutes, and then we'll deal with the
5 cross-examination requirements.
6 Thanks, Mr. Hall.
7 All right. We'll see everybody in ten
8 minutes.
9 (Whereupon, a recess is taken.)
10 CHAIRMAN BOXER: Okay. So, Mr. Hall
11 and Mr. Sasso, maybe we could start with, I
12 think, the public. Why don't we open this up to
13 the public first. We'll see how long this goes
14 and we'll then deal with the next question about
15 how to handle the cross.
16 MR. SASSO: That would be great. And
17 I just clarified during the break what had
18 happened. Mr. Moschello had an executive
19 summary and then he had the big report.
20 CHAIRMAN BOXER: Okay.
21 MR. SASSO: The engineer just got the
22 large report now, meaning yesterday. The
23 summary that we got from Trina was the small
24 summary statement, not the 600-page report. So
25 that's what happened.

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1 And when we asked for copies of
2 everything, you know, in different boards,
3 particularly if you have CDs up there, not
4 everyone's going to think of, Oh, I better make
5 a copy of a CD in a file, even though it may
6 have been present at the time. So that clears
7 it up.
8 CHAIRMAN BOXER: All right. We
9 appreciate that. Thank you.
10 MR. HALL: Can I just be heard on
11 that? Because if he got something that said
12 "executive summary," why didn't he ask where's
13 the underlying document? I mean, I don't want
14 to waste anymore time on it, but it's --
15 CHAIRMAN BOXER: No, I understand.
16 Look, it's a topic that deserves attention by
17 professionals. It's a difficult topic for
18 laymen, for all of us, unless we have guidance
19 from professionals who really understand.
20 So I think the very best thing to do
21 right now is to give the public an opportunity
22 to ask questions. And we will see what the time
23 is at that point and we'll determine what the
24 next course is.
25 I know, Mr. Hall, we appreciate the

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1 fact that you recommended or suggested that
 2 there be a follow-up meeting with the engineers.
 3 It's probably a very good idea just, again,
 4 given the topic itself.
 5 So let's start with the public and see
 6 how this develops. And with that, let me invite
 7 the public up for questions. If you have
 8 questions, we'd like you to come up and, again,
 9 get introduced and sworn in. We'll ask you to
 10 be constructive and direct to the witness,
 11 respectful, and we will try and give you as much
 12 time as you possibly need.
 13 So with that, who do we have out
 14 there? Anybody?
 15 Sir, come on up. Please spell your
 16 name and we'll make sure you get sworn in
 17 appropriately.
 18 MR. GRAVEN: Graven, Country Meadow
 19 Farm. G-r-a-v-e-n.
 20 MR. COLLINS: Mr. Graven, were you
 21 previously sworn in this case?
 22 MR. GRAVEN: Just go ahead and swear
 23 me in again.
 24 G R A V E N, having been duly sworn,
 25 testified and/or commented as follows:

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1 CHAIRMAN BOXER: Good evening,
 2 Mr. Graven. Nice to have you here. So why
 3 don't we go ahead and you can ask Mr. Moschello
 4 your questions.
 5 MR. GRAVEN: I didn't get a CD either.
 6 MR. COLLINS: You're lucky.
 7 MR. GRAVEN: I know. But I have a lot
 8 of land, which is all down hill from this
 9 property. And you presented three different
 10 drainage areas.
 11 Can you throw that exhibit back up
 12 again?
 13 THE WITNESS: That was Exhibit A-16.
 14 MR. GRAVEN: A-16?
 15 THE WITNESS: Existing drainage areas.
 16 MR. GRAVEN: Existing drainage areas.
 17 Thank you very much.
 18 This is, of course, new information
 19 tonight. There's a fair amount of people here,
 20 including myself. I have seen in the past the
 21 watershed maps, but I don't see a watershed map
 22 that's an overall. This is within the site and
 23 that's great. I'd like to see an overall.
 24 With respect to this particular site,
 25 I'd like to point to Country Club Road. And I

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1 do have a question. For about 4- or 500 feet
 2 along the west side of Country Club Road, north
 3 of the corner with Meadow Road-- would you point
 4 to that?
 5 THE WITNESS: Here's Meadow and
 6 Country Club Road.
 7 MR. GRAVEN: Then go north.
 8 THE WITNESS: North. In this area
 9 here?
 10 MR. GRAVEN: Right.
 11 THE WITNESS: Where my finger is on
 12 the map. I'm pointing to the western-- western
 13 side of Country Club Road.
 14 MR. GRAVEN: Okay. Well, I'm going to
 15 read. Stormwater from the field presently flows
 16 onto Country Club Road. Because the field is
 17 higher, it flows onto the road and you've got
 18 your top layers and everything else, which adds
 19 to the flooding of Country Club Road because it
 20 then goes downhill. Downhill is south at that
 21 point along the road, but it's east on the
 22 eastern side of Country Club Road into the
 23 pond.
 24 THE WITNESS: Yes.
 25 MR. GRAVEN: Right. Okay. To reduce

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1 the flooding of Country Club Road, should a
 2 swale along Country Club and Meadow drain into a
 3 proposed basin 3A near the site triangle at the
 4 northwest corner of Country Club and Meadow
 5 Road?
 6 Go to the southern -- go to the corner
 7 there. There.
 8 THE WITNESS: Talking about this area?
 9 MR. GRAVEN: No, on the other side.
 10 The drainage comes from the west side, goes on
 11 to the road.
 12 THE WITNESS: Yes. There's a--
 13 looking at the contours on here, there's a swale
 14 that runs along the gutter line of Country Club
 15 Road on the western side of it, yes.
 16 MR. GRAVEN: There's-- it drains right
 17 onto the road. There's not a swale there now.
 18 It comes out of the road and goes across the
 19 road and down the road to the south.
 20 And so the question is, could a --
 21 MR. COLLINS: Why don't we first see
 22 if he agrees with you.
 23 MR. GRAVEN: Okay.
 24 MR. COLLINS: To the question. So
 25 does the-- does the storm --

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1 MR. GRAVEN: Does the field --

2 MR. COLLINS: Does the field runoff or

3 the field overland flow go on to Country Club

4 Road and cross Country Club Road in that 400- to

5 500-foot area?

6 THE WITNESS: Based upon the

7 topography -- I'm looking at the map here and

8 I've been out there numerous times. And, again,

9 I'm just looking at the topography around here.

10 The water generally flows-- and obviously

11 there's a high point on Country Club Road right

12 at the midpoint of the bend in front of the

13 farmhouse.

14 MR. GRAVEN: It's a little south of

15 there.

16 THE WITNESS: Correct. So you're

17 talking about-- I'm saying the high point is at

18 the midpoint of the bend, I should say.

19 MR. GRAVEN: It's a little south of

20 the midpoint of the bend.

21 THE WITNESS: I'm looking at the topo

22 on here. So it's generally where my hand is on

23 the plan here, next to the -- next to the

24 farmhouse. That water does run in a southerly

25 direction. And there's a split here. So only a

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1 small portion of that front field actually

2 makes-- I say "small portion." It's probably

3 150 feet or 175 feet worth that makes its way to

4 Country Club Road. Okay? That water is running

5 generally in a southeast direction down this

6 way.

7 When it gets to Country Club Road,

8 based upon the topography on this plan, there is

9 a swale along the gutter line of Country Club

10 Road. The topography shows that road having a

11 crown on it that would essentially prevent water

12 from flowing across the road. It would be

13 captured in that gutter line there.

14 And there's actually a small -- I

15 think it's a wetland ditch that's been

16 identified as on the yellow line map that runs

17 along Meadow Road there where all that runoff

18 comes down and actually makes it into that ditch

19 that's there along Meadow Road.

20 So based upon what I'm looking at here

21 on the topography -- and I have to go back out

22 there and look again to see if there's any

23 inlets. I don't believe there are any. But the

24 water comes down, it hits the road and then

25 makes its way into this ditch that runs along

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1 Meadow Road.

2 I know there's inlets more towards the

3 northern side that directs water towards the

4 pond, but I don't believe there are any in this

5 location here. I believe it's stopped by the

6 road and then makes its way down to the

7 intersection, the overland flow, and eventually

8 into that ditch that's there.

9 MR. GRAVEN: Okay. The truth is there

10 are two inlets -- one on the north side of

11 Meadow and one on the south side of Meadow --

12 and they go into the pipe that runs south along

13 Country Club Road. Or the fact is. That's a

14 fact. There are no inlets on the upper part of

15 this 3-, 4-, 500 feet, whatever it is.

16 THE WITNESS: This portion here.

17 MR. GRAVEN: That portion there.

18 THE WITNESS: Correct. Okay.

19 MR. GRAVEN: If swales were built

20 there and a detention basin near the site

21 triangle, then perhaps the water could be piped

22 underneath Country Club Road toward the pond.

23 That would reduce any flow that comes onto

24 Country Club Road.

25 I understand all the calculations are

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1 going to catch everything and you're going to

2 meet all your requirements from the engineering

3 and the theory. But, nevertheless, when it

4 rains, the water comes onto the road and Country

5 Club Road floods as you get down to Chambers

6 Brook. It's not the fault of this property.

7 The primary flood is--

8 THE WITNESS: It's the way the water's

9 coming across the property. I think it's a

10 maintenance issue and I think we'll probably

11 talk with Mr. Ferriero about it and see what's

12 out there today.

13 MR. GRAVEN: Thank you.

14 CHAIRMAN BOXER: Thank you, sir.

15 Appreciate it.

16 Any other questions? Come on up,

17 ma'am.

18 MS. DATA-SAMTAK: Hi, I'm Susan

19 Data-Samtak, 131 Somerset Terrace.

20 CHAIRMAN BOXER: You're probably going

21 to have to spell your name, ma'am.

22 MS. DATA-SAMTAK: D-A-T-A hyphen

23 S-A-M-T-A-K.

24 MR. COLLINS: Were you previously

25 sworn?

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1 MS. SMITH: On this project, no.
 2 SUSAN DATA-SAMTAK,
 3 having been duly sworn, testified and/or
 4 commented as follows:
 5 MS. DATA-SAMTAK: Okay. To what
 6 Mr. Graven just said, you have--
 7 CHAIRMAN BOXER: Ma'am, excuse me.
 8 Can you do me a favor? If you could lower that
 9 and speak into that so we can get it on the
 10 transcription?
 11 MS. DATA-SAMTAK: The diagram you have
 12 up there, Mr. Graven asked a question about how
 13 that relates to reality.
 14 THE WITNESS: Correct.
 15 MS. DATA-SAMTAK: And it seems to be a
 16 question as to how it relates to reality. Have
 17 you done a computer simulation, a 3-D thing with
 18 the water stimulation and all your stuff to see
 19 how it actually works? I know you have the
 20 numbers and everything, as Mr. Graven said.
 21 THE WITNESS: When we do a stormwater
 22 analysis, we're looking at topography. I have a
 23 surface that is created for this. I can look at
 24 how the water's going to go, but I'm just
 25 strictly going off what the plan shows here.

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1 And the way I see this topography, I see that as
 2 being a crown on the road.
 3 Now, I can go out there and take a
 4 look to see the physical conditions in the
 5 field, but looking at this topography and what
 6 I'm seeing here, I'm seeing a crown that's
 7 stopping that water. That doesn't mean that if
 8 it rains heavy enough that the water doesn't get
 9 to a point where it ponds. And then because the
 10 crown of the road is only going to be a couple
 11 of inches from the crown to the gutter line,
 12 that that water doesn't flow over the road.
 13 I'm not saying that couldn't happen
 14 from the way the topography is shown on here,
 15 but what I'm looking at right here, that there
 16 is a crown that keeps the water on this side of
 17 the road. But, again, if there's clogged
 18 inlets, if there's anything that's happening out
 19 there that can prevent that water from getting
 20 where it's going, it could build up and it could
 21 flood across the road. That's certainly a
 22 situation that could take place.
 23 But from what I've seen here, what I'm
 24 looking at on here, I see the way the topography
 25 is running and I see the way the water would

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1 come off the property in that direction.
 2 MS. DATA-SAMTAK: Okay. Because those
 3 of us who live here know how it goes. If you're
 4 working off that, it would be a good idea to
 5 come out and see it in person.
 6 THE WITNESS: I'd be more than happy
 7 to do that. I would. I have no problem with
 8 that.
 9 CHAIRMAN BOXER: All right. Thank
 10 you.
 11 Any other questions? Come on up and
 12 introduce yourself and get sworn in, please.
 13 MR. ALLEN: Hi. Richard Allen,
 14 A-l-l-e-n, 934 Ardsley Lane, Bridgewater.
 15 MR. COLLINS: Richard, were you
 16 previously sworn in this matter?
 17 MR. ALLEN: Yes, I was.
 18 MR. COLLINS: Okay. You're still
 19 under oath.
 20 MR. ALLEN: My question is on the
 21 impervious coverage under the panels. When
 22 you-- with the house and the roof of a house,
 23 that takes off the impervious coverage, right?
 24 THE WITNESS: I'm not sure I follow
 25 you.

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1 MR. ALLEN: A house.
 2 THE WITNESS: A house is impervious
 3 coverage.
 4 MR. ALLEN: Yes.
 5 THE WITNESS: The footprint of the
 6 house, that's impervious coverage. Water does
 7 not flow through the house. IT sheets off the
 8 roof.
 9 MR. ALLEN: And a shed, a detached
 10 shed, out structure, that's going to deduct from
 11 that, right?
 12 THE WITNESS: That's correct.
 13 MR. ALLEN: So essentially don't we
 14 have -- how many solar panels do we have?
 15 THE WITNESS: Approximately 33,000
 16 panels.
 17 MR. ALLEN: So there's 33,000 panels.
 18 That's like 33,000 little roofs. So how can
 19 that not deduct from impervious coverage?
 20 THE WITNESS: Again, it could be
 21 construed as a roof, but it's a roof in the
 22 sense that this is about the size of-- this is
 23 30 by 42 so it's a little shorter than the
 24 regular panel, but it's above the ground. So
 25 there's still grass area underneath that panel.

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1 Whereas, if you have a house, that's impervious.
 2 There's nothing underneath that. You have to
 3 dig down. So by having that grass underneath
 4 there, whatever sheets off this panel is going
 5 to drip onto the ground and it's going to run
 6 down under the next one, which is grass
 7 underneath it. There's nothing to physically--
 8 there's no wall there to physically block that
 9 runoff from getting to that grass.
 10 So when the State and the DEP came up
 11 with their determination for impervious
 12 coverage, they ruled that the panels are
 13 technically not impervious from a stormwater
 14 standpoint. That's what we go off of for our
 15 analysis.
 16 MR. ALLEN: So the water running off
 17 will run downhill if the grade allows it to.
 18 What if the grade doesn't allow that water to
 19 run downhill?
 20 THE WITNESS: Well, we're really not
 21 changing-- we're not changing grades that are
 22 out there. The water is going to continue to
 23 run in the pattern that it's running on the
 24 property. So if the property's sloped -- you
 25 can see from this map there's topography lines

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1 on here. It's really not a flat site at all,
 2 but it's not a steep site either. But water
 3 runs off this property and it will continue to
 4 follow those patterns except where we're picking
 5 up, collecting it and treating it or attenuating
 6 it.
 7 MR. ALLEN: But correct me if I'm
 8 wrong, the panels all need to aim in the
 9 maximum-- in the direction to maximize the sun,
 10 right?
 11 THE WITNESS: The panels all face
 12 south, correct. They're all facing south.
 13 MR. ALLEN: So is all that grade
 14 running to the south? I don't think it is.
 15 THE WITNESS: No. It doesn't have to.
 16 Because when the water -- when the water drips
 17 off the panel, it's just going to continue to
 18 run. So let's say, for example, the panel's
 19 angled like this, but the ground plane is angled
 20 like this. So when the water sheets off the
 21 panel, it hits the ground plane, which is in
 22 this direction, it's going to continue to run
 23 that way just like it had before the panel was
 24 there.
 25 So It's really not changing the runoff

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1 patterns on the site from an impervious
 2 perspective. It's not preventing the water from
 3 going into the ground either because whatever
 4 water runs across it's going to go under the
 5 next panel-- it may go under the next panel and
 6 it's going to go into the ground there.
 7 MR. ALLEN: It's going to go -- you
 8 said that earlier. It's going to go under the
 9 next panel.
 10 THE WITNESS: Correct.
 11 MR. ALLEN: But what if the grade is
 12 pitched the other way so it won't run under the
 13 next panel?
 14 THE WITNESS: The grade in this site
 15 is varied enough in different directions that it
 16 will find-- it's going to find its way under the
 17 next panel whether it's at an angle like this or
 18 it's at an angle such as this, or I'll say
 19 angled to the west or angled to the southwest,
 20 it will find its way under the next panel.
 21 It's just the way the site -- the way
 22 the topography works on the site and how it goes
 23 across. The water sheeting that way today is
 24 going to continue to sheet in those directions
 25 where the panels are-- underneath the panels,

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1 I'm sorry.
 2 MR. ALLEN: All right. Thank you.
 3 CHAIRMAN BOXER: Thank you, sir.
 4 Appreciate it.
 5 Any other questions?
 6 Sir, come on up and introduce
 7 yourself.
 8 MR. KIBLER: Bill Kibler, K-I-B-L-E-R,
 9 Raritan Headwaters. Our headquarters are on
 10 Larger Cross Road in Bedminster.
 11 MR. COLLINS: Bill, you were
 12 previously sworn, weren't you?
 13 MR. KIBLER: Yes, sir.
 14 MR. COLLINS: You're still under oath.
 15 MR. KIBLER: I know Mr. Collins warned
 16 me not to ask questions that I don't already
 17 know the answer to.
 18 MR. COLLINS: I just was talking to
 19 Mr. Sasso.
 20 MR. SASSO: Thanks a lot.
 21 MR. KIBLER: You told me so later but
 22 I have to ask this question: How many panels
 23 are there again? I know you just answered this
 24 question. I'm sorry, the number escapes me.
 25 THE WITNESS: Roughly 33,000.

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1 MR. KIBLER: All right. So you have,
 2 like, 33,000, roughly speaking, of these little
 3 lean-tos out in the field. And you were talking
 4 about how the water drips off and it goes from
 5 one panel underneath the other and the grass
 6 absorbs the water.
 7 The thing I can't figure out is how do
 8 you keep grass growing under 33,000 little
 9 lean-tos when all those little lean-tos are
 10 designed to absorb the sun? When the sunlight
 11 comes down, the whole function of the panel is
 12 to absorb the sunlight and convert it to
 13 electricity, right? So how do you keep grass
 14 growing under that?
 15 THE WITNESS: We are proposing on the
 16 project -- and this has been done in other solar
 17 projects -- a shade-tolerant seed mix that will
 18 grow underneath the panels. I believe we have
 19 specs on the plans that talk about that. And,
 20 actually, Mr. Ferriero asked us for some
 21 additional documentation from the manufacturer
 22 to show that the seed mixes-- the seeds will
 23 germinate and grow under the panels and they do.
 24 KDC has other projects that have grass
 25 growing underneath the panels and, therefore,

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1 it's the same seed mix that we're proposing
 2 here.
 3 MR. KIBLER: Is that annual seed? Is
 4 it annual grass or perennial grass?
 5 THE WITNESS: I'm not the expert.
 6 MR. KIBLER: Okay. I wasn't trying to
 7 get hyper-technical. You were talking about it
 8 and I'm trying to figure out how you keep grass
 9 growing underneath a roof.
 10 You said that there were about 2.4
 11 acres of impervious cover from the ballast and
 12 the gravel road, is that correct?
 13 THE WITNESS: No, just 2.4 acres of
 14 impervious from the ballasts.
 15 MR. KIBLER: Just from the ballasts?
 16 THE WITNESS: Yes.
 17 MR. KIBLER: Okay. Is there other
 18 impervious surface?
 19 THE WITNESS: The inverter pads
 20 themselves -- and those are shown here on the
 21 plan. There's one, two, three, four, five,
 22 seven inverter pads and those are also
 23 impervious. Then you've got the gravel roads,
 24 of course.
 25 MR. KIBLER: Okay. And the disturbed

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1 areas you're showing on the map over here, are
 2 those-- when you're-- when you're describing
 3 disturbed areas, these are areas that are going
 4 to remain disturbed once the project is
 5 complete, is that correct? Or is it -- I guess
 6 it's a two-part question.
 7 Am I looking at areas that are going
 8 to remain disturbed once the project is complete
 9 or does this include all the disturbance on the
 10 project when the actual construction is
 11 occurring?
 12 THE WITNESS: I think it -- it
 13 encompasses the limits of the project. So, and
 14 what I mean by that is this is the-- this is the
 15 outer limits of the project. It's the limit of
 16 disturbance, if you will. And during
 17 construction that's the extent with which there
 18 will be activity taking place on the property.
 19 Does that mean that it's all going to
 20 be disturbed at one time? And I mean disturbed
 21 with vehicles running over it. No, because it's
 22 going to be staged as it's constructed, but that
 23 is -- that's the limit of the project's
 24 disturbance.
 25 And I'm looking at this more from a

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1 stormwater management standpoint, saying that if
 2 that's the disturbance limits, whatever happens
 3 in there it doesn't matter, but that's what I'm
 4 using for my reduction factors for calculating
 5 my runoff counts. Whether we change the
 6 coverage type, whether we keep it as meadow or
 7 it goes to the lawn, that's my disturbance for
 8 stormwater purposes.
 9 MR. KIBLER: So there will be no
 10 construction equipment operating outside of the
 11 dotted lines?
 12 THE WITNESS: I'm just looking at the
 13 plans just to-- that is correct. They will use
 14 the existing drives. And that represents the --
 15 if I go back to Exhibit A-17, that essentially
 16 represents the project limits.
 17 MR. KIBLER: All right. And I heard
 18 some discussion earlier about the operations and
 19 maintenance manual for the stormwater plan. So
 20 there will actually be a document that
 21 requires-- or spells out how all the stormwater
 22 structures will be maintained, the schedules for
 23 maintenance?
 24 THE WITNESS: That is correct. There
 25 was one submitted with the submission.

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1 Mr. Ferriero requires us to complete that, but
 2 there's a document that spells out inspection
 3 schedules, timing, when inspection is done, what
 4 needs to be inspected. It will probably -- it
 5 will also include the berming, landscape
 6 berming, and the fencing, as well, for
 7 maintenance and upkeep.
 8 MR. KIBLER: And who has the
 9 responsibility for doing the maintenance and
 10 making sure that it's paid for, making sure the
 11 grass gets replanted if it needs to?
 12 THE WITNESS: It's KDC Solar who has
 13 responsibility to maintain that.
 14 MR. KIBLER: The life of this project
 15 is, the projected life?
 16 THE WITNESS: I believe Mr. Kennedy
 17 said 20 years.
 18 MR. KIBLER: Twenty years? Okay.
 19 Can you explain how the 2-, 10- and
 20 100-year storms are calculated? I mean, can you
 21 explain what data you used to calculate that?
 22 You said that you were doing your stormwater
 23 calculations based on the 2-, 10- and 100-year
 24 storm.
 25 THE WITNESS: That's correct.

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1 MR. KIBLER: Can you explain what data
 2 you used to calculate a 2-year storm, a 10-year
 3 storm and a 100-year storm?
 4 THE WITNESS: Yes. There is-- other
 5 than using what they call the SDS Type III
 6 hydrograph, which is a standard 24-hour
 7 hydrograph which gives you the flow rates and
 8 volumes for a typical storm event, if you will,
 9 that would happen on the property over a 24-hour
 10 period.
 11 The 2-, 10- and 100-year storm, the
 12 difference between each of those is the
 13 intensity of the storm event. The State of New
 14 Jersey, the DEP, has issued what they call
 15 intensity curves or intensity rates for
 16 different counties throughout the state. And
 17 for Somerset County, if I recall correctly, I
 18 believe the 2-year storm is 3.3 inches, the
 19 10-year storm is 5.2 inches, and the 100-year
 20 storm is 8.2 inches. And that's a number that's
 21 plugged into the calculation that generates the
 22 volume and the rate of runoff coming off of the
 23 drainage areas.
 24 MR. KIBLER: So if, for example, you
 25 just talk about the 100-year storm, do you know

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1 what data the State uses to calculate that
 2 100-year storm? They use a certain period of
 3 data to determine that hydrograph, am I correct?
 4 THE WITNESS: Yes. I'm just not
 5 familiar with the backup data that they use to
 6 get that 8.2 inches of runoff. I haven't looked
 7 at that in some time.
 8 MR. KIBLER: All right. All right.
 9 I'll leave it at that. Thank you.
 10 That's all, Mr. Chairman.
 11 CHAIRMAN BOXER: Thank you.
 12 Appreciate it.
 13 Any other questions?
 14 Come on up, ma'am, and introduce
 15 yourself, please.
 16 MS. KORTE: My name is Joanne Korte.
 17 You want my address?
 18 CHAIRMAN BOXER: We need you to spell
 19 your name and then your address.
 20 MS. KORTE: The last name is spelled
 21 K-O-R-T-E, first name is Joanne.
 22 MR. COLLINS: Were you previously
 23 sworn?
 24 MS. KORTE: No.
 25 JOANNE KORTE, having been

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1 duly sworn, testified and/or commented as
 2 follows:
 3 MS. KORTE: I have a similar question
 4 for you. You said that when you did soil
 5 samples, there was zero penetration of the soil.
 6 How-- how often did you do those soil
 7 samples?
 8 THE WITNESS: We did-- we did -- there
 9 were 43 test pits done by GTA. And certain test
 10 pits came back with zero permeability rates for
 11 the upper soil horizons; other ones came back
 12 with permeability rates. I don't have the exact
 13 breakdown in front of me--
 14 MS. KORTE: So they weren't all
 15 impenetrable?
 16 THE WITNESS: Correct. There were
 17 certain areas --
 18 MS. KORTE: Because you made a
 19 statement that when you did soil samples, you
 20 had zero penetration.
 21 THE WITNESS: I'm sorry--
 22 MS. KORTE: And I found that hard to
 23 believe.
 24 THE WITNESS: No, there were certain
 25 areas that did not infiltrate and there were

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1 certain areas that did infiltrate. The areas
 2 that infiltrated is where we put the
 3 infiltration basins.
 4 MS. KORTE: Okay. So after you made
 5 that statement, you talked about building berms.
 6 How does that affect penetration?
 7 THE WITNESS: Well, the berms don't
 8 affect the rate of-- the berms don't affect the
 9 infiltration of the soil. The berms allow for
 10 us to impound the water so that we can
 11 infiltrate that water into the ground.
 12 MS. KORTE: So you're saying in this
 13 area where these solar panels are going, there
 14 will be areas that have zero penetration and
 15 others-- what's the percentage of penetration in
 16 the areas that are penetrable?
 17 THE WITNESS: There are certain --
 18 there are certain portions of the property where
 19 we found zero -- zero infiltration rate out
 20 there.
 21 MS. KORTE: Well, what percentage?
 22 THE WITNESS: I don't have the exact
 23 numbers in front of me. I can't say for certain
 24 what it was. I can get you--
 25 MS. KORTE: Well, I would like--

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1 (Indiscernible crosstalk; reporter
 2 requests one speaker)
 3 THE WITNESS: I can get that
 4 information and we can provide it to you.
 5 That's no problem.
 6 MS. KORTE: Yeah, because if the
 7 larger percentage is penetrable, then that's a
 8 different issue than impenetrable.
 9 THE WITNESS: But keeping in mind that
 10 we're not -- we're not regrading the entire
 11 property. So if it's impermeable today, it's
 12 going to be impermeable after we're done. So
 13 we're not changing that runoff.
 14 MS. KORTE: But it also takes into
 15 account the composition of the soil, is that
 16 correct?
 17 THE WITNESS: That's correct.
 18 MS. KORTE: Okay. So looking at the
 19 composition of the soil is an important issue on
 20 whether it penetrates or not. That's what I'm
 21 concerned about.
 22 Bedminster -- just north of us is the
 23 head waters for the Raritan River. Whatever
 24 water flows through here flows downstream. It
 25 doesn't just affect Bedminster. It affects

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1 other towns.
 2 THE WITNESS: That's understood, yeah.
 3 MS. KORTE: So there's a bigger
 4 picture here as well that we're responsible for,
 5 environmental. Okay? Thank you.
 6 CHAIRMAN BOXER: Thank you, ma'am.
 7 Appreciate it.
 8 Anybody else? Okay. Seeing none-- we
 9 got one more? Come on up. You snuck up on me.
 10 THE WITNESS: I was going to say I
 11 usually do have something to say.
 12 CHAIRMAN BOXER: Introduce yourself
 13 again, ma'am. Your name and your address.
 14 MS. SMITH: Michele Smith, 927
 15 Washington Valley Road, Basking Ridge, New
 16 Jersey.
 17 MR. COLLINS: And you were previously
 18 sworn, correct?
 19 MS. SMITH: Once or twice, yeah.
 20 I just have a question. You had
 21 talked about there is going to be some fencing
 22 with fabric on it.
 23 THE WITNESS: Yes.
 24 MS. SMITH: What kind of fabric and
 25 what's the life expectancy?

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1 THE WITNESS: It is a -- it's a
 2 geotechnical woven fabric. I can give you the
 3 exact terminology for it if I look at the plans.
 4 I'm looking at Sheet 31.A of 31 of the site plan
 5 set, the construction details. It's called a
 6 privacy fabric and it's just a geosynthetic
 7 woven fabric that's being put on the fence. It
 8 doesn't actually specify the exact make or model
 9 of it here, but it's a -- it's a green fabric
 10 that you cannot see through. It's solid in
 11 nature.
 12 MS. KORTE: Okay. So, but my concern
 13 is always for the environmental impact. So the
 14 life expectancy I guess we're not going to know
 15 yet, but how-- what happens at the end of the
 16 life expectancy? Does it tatter? Does it get,
 17 you know--
 18 THE WITNESS: I know what you're
 19 saying. How does it wear out over time?
 20 MS. KORTE: Right.
 21 THE WITNESS: Does it start fading?
 22 Does it start breaking apart? Do you start
 23 getting holes in it? I can say this, that the
 24 requirement is going to be that it has to be
 25 maintained. So if it does start degrading, it

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1 has to be replaced. This way the barrier
 2 remains. But I can't tell you right now, I have
 3 to look it up, what is the manufacturer's specs
 4 of how it degrades over time. I don't have that
 5 information in front of me, but we can certainly
 6 get that information and provide it to the
 7 Board.

8 MS. KORTE: All right. Because I'm
 9 concerned about that and I'm also concerned
 10 about how far it's going to be degrading before
 11 it's maintained, you know. Because we see all
 12 the time that birds take everything and make
 13 nests out of it and they could get hurt.
 14 Animals could be caught up in it. So that is a
 15 major concern for me.

16 So I will be here next month.
 17 Surprise. So, thank you.

18 CHAIRMAN BOXER: Thank you very much.
 19 Anybody else? Come on up.

20 MR. HICKEY: Art Colin Hickey,
 21 Bedminster. I have been sworn in previously.

22 CHAIRMAN BOXER: Let me just spell
 23 your name, sir, just for the transcription.

24 MR. HICKEY: H-I-C-K-E-Y. Colin.
 25 Robert Colin.

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1 Just a quick question. Are there any
 2 proxies for an installation of this size from
 3 the stormwater management standpoint? Because
 4 you're putting up 33,000 panels. Is there
 5 anything in the state or somewhere nearby that
 6 replicates or, you know, looks like this
 7 installation that you can draw some lessons
 8 from?

9 THE WITNESS: We've done some. We've
 10 done other designs for solar installations of
 11 this size. I can tell you that the stormwater
 12 systems, they're going to vary from project to
 13 project. They're not cookie cutter in that
 14 sense.

15 I can tell you that certain projects
 16 that have been in the range of 7 to 10 megawatts
 17 that have been done on farm fields have no
 18 detentions. Other ones, like this, have
 19 detention, have extensive detention systems. It
 20 depends on-- it depends on a number of different
 21 factors that are involved in stormwater
 22 management.

23 So I can't say that if you go down the
 24 road and you look at a different system -- if
 25 you go down to the panels that were put in on

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1 202, on Ortho-McNeil, what was the impact of
 2 that system? What did they do for stormwater
 3 there? They put it on an existing lawn and they
 4 could have done something completely different.

5 Every site and every project is
 6 different. One doesn't really-- one sometimes
 7 doesn't relate to the other.

8 MR. HICKEY: Are there any specific
 9 engineering considerations for when you're doing
 10 stormwater management and there's, you know,
 11 panels being installed? I mean, I know you've
 12 gone through the calculations tonight, but I'm
 13 just trying to understand, if there's lessons
 14 learned of what you do and don't do given the
 15 size and scope of the installation.

16 THE WITNESS: I mean, there's so many
 17 different factors that go into the stormwater
 18 management calculations. I talked about the
 19 cover type, time of concentration, existing
 20 grades. Every site is-- every site is
 21 different. I mean, you're going to look at
 22 every site and you're going to look at the way
 23 the water runs off the site, you're going to
 24 look at the existing conditions, you're going to
 25 look to see where it goes. You want to try to

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1 mimic those drainage patterns as much as you
 2 can. You want to try to infiltrate closer to
 3 certain sources where it's being taken away if
 4 you can.

5 So there's so many different factors.
 6 I can't say that there's any one or two things
 7 that would make me design a stormwater system a
 8 certain way. They usually evolve over the
 9 course of a project by the time you start it
 10 till the time you get to the end.

11 You can see how this one has changed.
 12 We started off with the original plans two years
 13 ago that were three large basins in the middle
 14 of the field that were done by the previous
 15 engineer and we're up to seven basins out here
 16 now. You can see how the process evolves
 17 through.

18 MR. HICKEY: Sure. Sure.

19 Are there any proxy installations
 20 where you can look to it and say this is kind
 21 of -- it has the same characteristics and
 22 conditions, where people can look at it and say,
 23 yeah, when it's all done, this is kind of --

24 THE WITNESS: Yeah, I'm thinking. I'd
 25 have to get back to you on that. I mean, I can

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1 probably go back and look at the catalog of
 2 stuff that KDC has done already to see which
 3 ones are similar to this, similar soils, similar
 4 type of cover that was being removed and put
 5 back. I can come back and tell the Board, hey,
 6 look at this one or this one is similar to it so
 7 you can get an idea of what's being done out
 8 there.

9 MR. HICKEY: Right, right. And then
 10 you can survey that existing one and see how has
 11 it survived? How has it changed?

12 THE WITNESS: I'd have to get back to
 13 you on that.

14 MR. HICKEY: Understood. Understood.
 15 Thank you.

16 CHAIRMAN BOXER: All right. Thank
 17 you.

18 Anybody else? Come on up.

19 MR. YINGLING: Jeff Yingling,
 20 Bedminster, Country Club Road.

21 In earlier testimony by Mr. Kennedy it
 22 was mentioned that the forest that's in the back
 23 section, the blue transition area, between the
 24 blue and the yellow, once that forest is
 25 removed, roughly about I think it was a 25- or

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1 30-acre area, how much of a difference between
 2 the water absorption on the property now versus
 3 after the forest was removed?

4 THE WITNESS: The cedar areas, the
 5 cedar forest you're talking about, not the
 6 hardwoods, there will be a change. There will
 7 be a change. That's why we think our runoff
 8 number for woods -- I believe it's in the mid to
 9 high 60s. I don't have the calculations right
 10 here in front of me. But we take the runoff
 11 number for woods, a CN in the high 60s, and we
 12 change that. Actually, these calculate out to
 13 70 and 71 on average. Okay? It takes into
 14 account the cedars and other meadow areas that
 15 are out there. We're increasing that to 74 for
 16 the lawn.

17 So there is-- there is a slight loss
 18 of absorption when you change the cover type
 19 from woods to a lawn or an open space or a
 20 meadow type. That's what the CN number accounts
 21 for, for that loss of absorption because you
 22 changed the ground cover that was out there.

23 MR. YINGLING: Okay. Second question.
 24 I know you covered this earlier and I apologize
 25 for asking this again. In the second area

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1 that's outside of the farmhouse area, the basins
 2 in this area are going to be capturing the TSS,
 3 I guess, first and then -- before the water is
 4 released?

5 THE WITNESS: Correct. There's some
 6 water quality basins, basins 2A, 2B and 2C, that
 7 will collect the runoff from the gravel areas
 8 and treat it before it's released.

9 MR. YINGLING: It's released where?
 10 Directly back into the soil or in another area?

11 THE WITNESS: No, we have -- we have
 12 stormwater outfalls that will discharge that
 13 runoff for basin 2A. It's just south of the
 14 basin itself into the open field.

15 For basin 2C I actually took a small
 16 pipe through the array and then discharged it
 17 right at the -- right at the fence line so it
 18 will go back into the existing wooded area.

19 We're only talking about the water
 20 that's going through the -- that's going through
 21 this planting bed. The larger storm events are
 22 going over a grass spillway and they'll continue
 23 down the -- down grass area or the field area as
 24 it does before.

25 And for basin 2B, there's also a small

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1 pipe that discharges just at the mid-- just sort
 2 of towards the midpoint of the array by this
 3 wetlands swale there.

4 So generally we are discharging that
 5 water close to an area where it's going to end
 6 up back into the wetlands.

7 MR. YINGLING: Okay. And just a
 8 comment, kind of capturing on what Mr. Graven
 9 mentioned earlier. At the curve in the road
 10 there, pretty much from where the driveway is
 11 now, the existing driveway, that's now going
 12 back towards the stream, in that area, there is
 13 a small basin, if you will, or catch basin?

14 THE WITNESS: Catch basin.

15 MR. YINGLING: Very small. When the
 16 rain comes down in a heavier storm, Country Club
 17 will flood anywhere from 1 to 3 feet out into
 18 Country Club Road. So you might want to take a
 19 look at that as an area to be addressed.

20 THE WITNESS: Okay. Thank you. I'll
 21 make note of that.

22 CHAIRMAN BOXER: Okay. Thank you.
 23 Anybody else? Let's make sure we have
 24 everybody. Okay.

25 Okay. Seeing none, Mr. Hall.

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1 BOARD MEMBER STRAKHOV: Could I ask a
2 question?
3 CHAIRMAN BOXER: Yeah, sure.
4 BOARD MEMBER STRAKHOV: Mr. Moschello,
5 I have a question sort of off beat, so it
6 actually may not fall into your area of
7 expertise, but let me ask it anyway.
8 I was just wondering if on an ongoing
9 basis if these solar panels ever get dirty and
10 become less efficient, if they need to be washed
11 from time to time. Does that happen? I just
12 don't know.
13 THE WITNESS: My limited knowledge of
14 that particular portion of it, I believe the
15 rain itself washes them, but I would probably
16 defer that to the solar expert who's going to
17 come in and talk about the panels themselves and
18 how they work and whether or not there's a need
19 to clean the panels over the course of time.
20 BOARD MEMBER STRAKHOV: Oh, okay. If
21 they were, that would be more, you know, new
22 water going onto the site.
23 THE WITNESS: Right. I'll defer that
24 to the solar expert.
25 CHAIRMAN BOXER: Anybody else? You

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1 guys okay?
2 BOARD MEMBER RODELIUS: I have a quick
3 couple of questions.
4 CHAIRMAN BOXER: Go ahead.
5 BOARD MEMBER RODELIUS: Mr. Ferriero
6 refers to some steep slopes that aren't shown.
7 Can you show us where those are?
8 THE WITNESS: Yes. I don't know if I
9 have an older exhibit that shows it. But if
10 you're looking at the site plans, look at Sheet
11 4? Sheet 2 of 31, which is the existing
12 conditions and environmental constraints plan,
13 in the northern-- northeastern corner--
14 BOARD MEMBER RODELIUS: Up or down?
15 Can you point--
16 THE WITNESS: I'll point it out. So
17 on the northeastern corner, right here on the
18 plan, there's some steep slopes associated with
19 the stream corridor. And I believe that is it
20 on the project.
21 BOARD MEMBER RODELIUS: And
22 Mr. Ferriero also refers to -- in the forest
23 evaluation, he included the environmental
24 commission. When will you be going before the
25 environmental commission?

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1 THE WITNESS: I'll have to speak with
2 my client because we have a separate consultant
3 who's doing the forestry portion of it. So
4 we'll get back to you on the procedure for that.
5 BOARD MEMBER RODELIUS: And then one
6 more item. The GTA who did all the testing,
7 when was that done?
8 THE WITNESS: The testing was done in
9 August of this year.
10 BOARD MEMBER RODELIUS: In August.
11 And is that the normal time when you
12 would do all the soil testing as far as state
13 guidelines?
14 THE WITNESS: The state guidelines you
15 could test throughout the year. You can test it
16 all different times. We tested -- between GTA,
17 Birdsall and GDI, Gladstone Design, we've tested
18 throughout numerous portions of the year. But
19 GTA was there in August.
20 BOARD MEMBER RODELIUS: And so the 43
21 test pits you referred to was all GTA data or
22 Birdsall or what?
23 THE WITNESS: GTA did 43 test pits,
24 Birdsall did 43 test its, and Gladstone Design
25 did 29 test pits.

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1 BOARD MEMBER RODELIUS: So 86 plus 29
2 all different or the same or what?
3 THE WITNESS: All different locations
4 throughout the site.
5 BOARD MEMBER RODELIUS: So how many
6 all together at all different locations?
7 THE WITNESS: 115 test pits on the
8 property.
9 BOARD MEMBER RODELIUS: All right.
10 And those are-- all that data is where?
11 THE WITNESS: The Birdsall logs and
12 the Gladstone Design logs are in the back of the
13 stormwater management report. The GTA logs are
14 in their report that was just submitted.
15 And Mr. Ferriero asked us to
16 consolidate all of the test pits on the test pit
17 location plans that we have and we told him we
18 would do that.
19 BOARD MEMBER RODELIUS: Okay. Thank
20 you.
21 CHAIRMAN BOXER: Just one more
22 question. Given the summer has had a reasonably
23 low rainfall amount, does that have any bearing,
24 any relevance on the testing?
25 THE WITNESS: Id have to defer that

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1 to the geotechnical engineer to answer that
2 question. I'm not the expert on the groundwater
3 aspects of it.
4 CHAIRMAN BOXER: It might be worth,
5 Mr. Ferriero, just -- I don't know if it has any
6 bearing on it, but I do know the state is
7 considering this is a reasonably dry summer. I
8 know that we're 6 or 7 inches below the norm
9 right now.
10 I don't have -- I don't know if the
11 buffers even exist or if there's a margin of
12 error here that should be even considered. It
13 may not be, but maybe it's something you could
14 just advise us on.
15 MR. FERRIERO: In general-- first off,
16 I will agree it's been a dry summer. I think
17 that's pretty obvious. One of the main items
18 that they were testing for on this property was
19 permeability.
20 CHAIRMAN BOXER: Right.
21 MR. FERRIERO: The presence or absence
22 of permeability is not really related to the
23 amount of rainfall you might have per say,
24 because the tests you do are kind of independent
25 of the moisture in the soil. But what it can

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1 impact is the groundwater levels.
2 CHAIRMAN BOXER: Right.
3 MR. FERRIERO: And one of the unique
4 things about the soils in Bedminster are is that
5 you get what is called mottling. Mottling,
6 M-O-T-T-L-E, is a staining in the soil that is
7 caused by the presence of the water that stays
8 in the clay soils for a long period of time.
9 That's generally considered the elevation of the
10 seasonal high groundwater. Even if the water is
11 not there, you can see this staining in the soil
12 and identify where the seasonal high groundwater
13 level might be.
14 CHAIRMAN BOXER: I see. Okay. All
15 right. I'm not sure that there's an answer
16 then. I guess it sounds like you're not really
17 too concerned, but you're going to validate it.
18 MR. FERRIERO: Right.
19 CHAIRMAN BOXER: Okay. Fair enough.
20 Thanks.
21 All right. Thank you, Mr. Hall.
22 Thank you, all.
23 So a couple of things. I mean, I know
24 that we have-- I think time is sort of working a
25 little bit against us here, so maybe a couple of

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1 comments.
2 In terms of your cross, Mr. Sasso,
3 would you prefer to do it-- start tonight or
4 would you prefer to delay it and have a chance
5 to meet with the engineers?
6 MR. SASSO: Well, along-- quite
7 frankly, along the lines of your own attorney,
8 I'd rather ask questions that are meaningful
9 which, you know, I'll only have after I meet
10 with them. And they just literally got the
11 stormwater management report yesterday, so I
12 have no idea.
13 CHAIRMAN BOXER: Okay. That's fair
14 enough. Look, it's 9:30 anyway. So two things.
15 One, Mr. Hall suggested, and I think it's a very
16 good idea, to have a meeting with the engineers
17 to try and sort this out. As I said, it's a
18 very complex topic and we will be benefiting
19 from better guidance.
20 I also think for the witnesses' sake
21 having the attorneys prepare based on their own
22 experts' support would probably be a better
23 result than just, frankly, crossing without
24 knowing the answers or, frankly, not having the
25 benefit of your engineer's input.

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1 So I think for the transparency and
2 the fairness, I would be fine with having the
3 cross at the next meeting. And we'll set that
4 date up now if that works for you, Mr. Hall,
5 plus we have to have a date with Mr. Ferriero
6 anyway set up.
7 MR. HALL: Yes. I mean, as I said, I
8 think a meeting would be best. And my sincere
9 hope would be that if there are legitimate
10 questions, they can get worked out in that forum
11 so we're not spending a whole night on questions
12 that really don't need to be asked.
13 CHAIRMAN BOXER: No. Look, I think
14 that's what I would hope and I'm sure there will
15 still be some questions that will need to be
16 asked publicly. But I think topics like this,
17 we all benefit from having the experts sit in a
18 room and sort it out. It's very difficult for
19 the public, the Board, to really synthesize all
20 this data in any meaningful way. And we're
21 going to be looking to the professionals to give
22 us some guidance.
23 I think so far it was a complete
24 report. We appreciate it and it's exactly what
25 we needed, so we have something to work for and

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1 we'll see where it takes us.

2 MR. SASSO: May I ask just one

3 question, Mr. Chairman? Really of

4 Mr. Moschello.

5 In terms of the maps that we're

6 looking at tonight, they're dated 10/1 or just

7 dated for tonight? In other words, do we have

8 these? Because my--

9 THE WITNESS: The maps that are up

10 here, I'll say, for example, the existing

11 drainage area exhibit is basically a colored-in

12 version of the existing drainage area map that's

13 in the stormwater report.

14 MR. SASSO: Okay.

15 THE WITNESS: The limited disturbance

16 exhibit, that's not in the stormwater report

17 because that's a compilation of the proposed

18 layout and the limited disturbance. I can make

19 them-- I mean, we can make them available if you

20 want. We could do that. That's not a problem.

21 MR. SASSO: Yeah.

22 CHAIRMAN BOXER: That would be great.

23 Thank you.

24 Is that what you needed, Mr. Sasso?

25 MR. SASSO: That's all for the

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1 engineer.

2 THE WITNESS: We'll make him

3 available.

4 MR. SASSO: Then I don't need him.

5 CHAIRMAN BOXER: Okay, great. All

6 right.

7 Unless there's housekeeping, Mr. Hall,

8 do you have a preference next month on dates?

9 We have either the first or second Thursday.

10 MR. HALL: We can go to the second

11 Thursday. I know it's been requested. I want

12 to be cooperative.

13 CHAIRMAN BOXER: We appreciate it.

14 MR. HALL: I guess we're assuming

15 Mr. Moschello is going to have to come back and

16 he's got a problem with the first Thursday.

17 CHAIRMAN BOXER: That's correct.

18 MR. HALL: I mean, he won't be here

19 all night, but we do have other witnesses we

20 want to move with.

21 CHAIRMAN BOXER: As I said, we're

22 trying to err on the side of giving you guys

23 some benefit here.

24 MR. HALL: I appreciate that, but the

25 second Thursday is acceptable.

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1 CHAIRMAN BOXER: That's fine.

2 MR. FERRIERO: Mr. Chairman, just as a

3 note, Trina reminded me that Elite Equestrian

4 has been carried to that night. I don't think,

5 frankly, that's going to be a very long

6 application.

7 MR. COLLINS: Yeah. They already

8 started, didn't they, Paul?

9 MR. FERRIERO: Yes.

10 MR. COLLINS: They need to clean up

11 their--

12 MR. FERRIERO: They got about 90

13 percent of the way through. They're either

14 going to do something that you like or they're

15 going --

16 MR. COLLINS: -- to get denied.

17 MR. FERRIERO: I don't think that will

18 be very long.

19 CHAIRMAN BOXER: Right, but it's still

20 going to take away time. I mean, maybe we can

21 extend the evening a half an hour. Maybe not

22 stop at ten. Go to 10:30 or something just to

23 try and make up the difference.

24 Is that okay?

25 MR. FERRIERO: That's fine with me.

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1 MR. COLLINS: We'll still start at

2 seven because it might be very quick.

3 CHAIRMAN BOXER: Yes. We'll still

4 start at seven and we'll plan to maybe go

5 another half hour if we need it.

6 MR. HALL: I appreciate that.

7 CHAIRMAN BOXER: Okay. Fair enough.

8 Thanks for your cooperation.

9 MR. FERRIERO: Mr. Chairman, one thing

10 I'd also like to know.

11 Mr. Sasso, if your engineers are going

12 to do a report, I'd like to have it before we

13 sit down and meet. I know I was a little bit

14 late and they were a little bit late coming to

15 the game, too, with my report. You have

16 comments. I'd like to have that before the

17 meeting as well.

18 MR. SASSO: Sure. That's not a

19 problem.

20 MR. COLLINS: And, Mr. Sasso,

21 please -- and ask Ms. Donato as well -- to

22 please copy Mr. Hall and he will do accordingly.

23 MR. SASSO: Yeah, we won't just send a

24 cover letter and expect him to come to my

25 office. I'll actually send it to him.

1 MR. COLLINS: But I'd also like -- in
 2 the future let's make sure all attorneys are
 3 copying each other on communications to
 4 Mr. Ferriero and communications to the Board.
 5 CHAIRMAN BOXER: Okay. Thanks a lot.
 6 Thank you, Mr. Hall.
 7 MR. HALL: Thank you.
 8 MR. COLLINS: So we're going to carry
 9 without additional notices the KDC application
 10 to October 13th --
 11 MR. HALL: November.
 12 MR. COLLINS: I'm sorry.
 13 MR. HALL: I wish it was October.
 14 MR. COLLINS: November 13th. November
 15 13th at 7 p.m., no additional notices.
 16 CHAIRMAN BOXER: All right. Great.
 17 Okay.
 18 (Whereupon, the hearing on this
 19 application was adjourned to November 13, 2014,
 20 at 7:00 p.m.)
 21
 22
 23
 24
 25

1 CERTIFICATE
 2
 3 I, BRIDGET LOMBARDOZZI, Notary Public
 4 and Certified Shorthand Reporter of the State of
 5 New Jersey, do hereby certify that the foregoing
 6 is a true and accurate transcript of the
 7 testimony as taken stenographically by and
 8 before me at the time, place and the date
 9 hereinbefore set forth.
 10 I DO FURTHER CERTIFY that I am neither
 11 a relative nor employee nor attorney nor counsel
 12 of any of the parties to this action, and that I
 13 am neither a relative nor employee of such
 14 attorney or counsel, and that I am not
 15 financially interested in the action.
 16
 17 -----
 18 BRIDGET LOMBARDOZZI,
 19 Certified Shorthand Reporter
 20 C.S.R. License No. XI01201
 21
 22
 23
 24
 25

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