Borough of Ho-Ho-Kus
Bergen County, New Jersey
Planning Board Minutes
November 13, 2014
Special Meeting

Meeting Called to Order at: 7:30 PM

Open Public Meetings Statement: **Read into the record by the Board Secretary.**

Roll Call: Messrs. Berardo, Corriston (absent), Pierson, Reade, Cirulli, Newman, Iannelli (absent; arrived 7:40PM), Councilman Rorty (absent), Chairman Hanlon, Mayor Randall (absent; arrived at 8:12PM)

Also in Attendance: Gary J. Cucchiara, Esq., Board Attorney; Mr. David Hals, Borough/Board Engineer; Mr. Ed Snieckus, Borough Planner; Ms. JoAnn Carroll, Board Secretary.

New Business:
Mr. James Catanzaro, Jamar Construction Company, Inc., 1 Hollywood Avenue, Block 603, Lot 1: new business application; building contractor, warehouse and office space.

Mr. Catanzaro: stated there would be no employees at the site; it will be vacant most of the time; the space will be used to keep his truck out of the bad weather; business is windows, doors and siding; has been in business 28 years; relocating from Paramus.

Chairman Hanlon: stated a letter from the landlord has been received as part of the new business application.

Motion to approve application: Pierson, Reade
Ayes: Berardo, Pierson, Reade, Cirulli, Newman, Chairman Hanlon

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Discussion and Review:
Ordinance Amendment, #1035: review of ordinance by the Planning Board and report to be prepared and sent to the Council.

Mr. Cucchiara: explained the ordinance to the Board; this is an ordinance the Board had addressed in the past; some corrections to be made; corrections in front of the Board this evening; at this time had not conferred with Mr. Snieckus; subject to review to ascertain all is correct; believes at this time it is; took preliminary look; opportunity for the Board to review and give a recommendation; suggest the Board move ahead subject to a review by Mr. Snieckus and Mr. Cucchiara; time frame is for the Council to enact by the end of the year or re-introduce it at the beginning of next year; the ordinance is on the Council's agenda for November 25th; already has been introduced; scheduled for adoption in November.

Please note: Mr. Iannelli has arrived at this point of the meeting; 7:40PM.

Motion to recommend adoption of the ordinance subject to review: Berardo, Iannelli

Ayes: Berardo, Pierson, Reade, Cirulli, Newman, Chairman Hanlon

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Approval of Minutes: Cirulli, Pierson
July 31, 2014
All in Favor

Mr. Berardo has listened to the disc of the meeting held on October 30, 2014 and has signed an absent member certification stating this and has submitted the certification to the Board Secretary.

Mr. Reade has listened to the disc of the meeting held on October 30, 2014 and has signed an absent member certification stating this and has submitted the certification to the Board Secretary.

Mr. Newman has listened to the disc of the meeting held on October 30, 2014 and has signed an absent member certification stating this and has submitted the certification to the Board Secretary.

Ongoing Business:
Hollows at Ho-Ho-Kus, Chamberlain Developers, W. Saddle River Road/Van Dyke Drive, Block 802, Lots 1, 2, 3, 4 and 10: major subdivision application; the applicant proposes to construct and market single family dwelling units on each of the properties; major soil movement application.

Chairman Hanlon: reviewed meeting procedures.

Brief discussion had regarding Special Meeting to be held on December 4, 2014 and the notice to be published.

Mr. Whitaker: Okay, the purpose tonight is to handle exclusively those issues that were raised on the redirect pertaining to the modification to the drainage system, installation of sidewalks, and the other items that were in that list that I had given to you and we had testified to. It's not a time to obviously go through the entire application, but only those aspects. We are concluded, so at this point, it is Mr. Inglima's turn. Cross has been done, so it's his presentation or any other members of the Board. And if that's done, what we are prepared to do now on the 4th, will be to provide you with the soil movement aspect, and at the same time, then give summations.

I would say just for the sake of brevity, if it does conclude tonight as far as Mr. Inglima is concerned and other witnesses that wish to come forward to talk about the aspects that we handled on redirect, that for time purposes, it might be prudent to have your experts start and conduct some testimony pertaining to certain aspects of the subdivision itself. One of the things just to keep in mind is that part of the soil movement will be promulgated based upon what the Board's direction is pertaining to certain improvements we've proposed, like sidewalks and things like that. If we do conclude earlier on this subdivision aspect, I would respectfully request that we elicit some testimony from your professionals so that we could conserve the time for the 4th. Just a thought. With that, I am concluded.

Mr. Inglima: I would like to call Mr. John Miller to testify in response to the revised drainage plan and testimony of the applicant's witnesses with respect to it; Mr. Miller was sworn in by the Court Reporter and gave both is educational and professional background.

Mr. Inglima: Mr. Miller, I'd like to show you what has been marked as O44.

Chairman Hanlon: Do you need more time, Mr. Whitaker?

Mr. Whitaker: No.

Mr. Inglima: Princeton Hydro was previously engaged by my clients for purposes of performing engineering analysis of the applicant's plan, and specifically the applicant's drainage design, is that correct?

Mr. Miller: Yes.

Mr. Inglima: And Mr. Clay Emerson, who is an engineer in your firm, has previously testified before this Board, is that correct?

Mr. Miller: He has. I've read the minutes of his testimony.

Mr. Inglima: And obviously you have had an opportunity to speak with and work with Mr. Emerson over the past several weeks in preparation for your appearance here tonight?

Mr. Miller: I have.

Mr. Inglima: I am offering Mr. Miller as an expert in the field of engineering, but particularly with respect to the subfield or discipline of engineering design of drainage structures and the drainage and stormwater management standards that are applicable to development applications in the State of New Jersey.

No Board questions.

Mr. Whitaker: As a licensed engineer in the State of New Jersey, are you presently employed by any municipalities serving as their engineer?

Mr. Miller: No, I am not.

Mr. Whitaker: In connection, you alluded to the fact that you had read "some minutes" pertaining to your partner at Princeton. Can you just explain what it is that you read and what date that was?

Mr. Miller: Sure, these were minutes that were the planning board's minutes of June 12th and June 26th.

Mr. Whitaker: So they are the minutes, they weren't the transcript?

Mr. Miller: Correct. It was not a transcript.

Mr. Whitaker: Thank you, that's all.

Mr. Inglima: Perhaps just so we have clarity of the record, I would ask the witness to identify those minutes and probably it makes sense just to have them marked so we know exactly what he looked at.

Mr. Miller: These do look like what I read, yes, but I read them electronically, and these look right.

Mr. Inglima: So these are printed copies I'm showing you of the 06/12/14 and 06/26/14 official minutes of the Ho-Ho-Kus planning board, right? I'll represent to the Board that these are true copies of the electronic files that are maintained on the municipal website with respect to the minutes of those two meetings.

Mr. Whitaker: No objection.

Mr. Inglima: These would be 045 and 046 respectively. If there are no other questions regarding Mr. Miller's qualifications, I would ask that he be accepted as an expert witness.

Chairman Hanlon: Mr. Whitaker, do you have objections?

Mr. Whitaker: No objections.

Chairman Hanlon: Okay. Go ahead, Mr. Inglima.

Mr. Inglima: Thank you. Mr. Miller, did you review the applicant's current site plans as well as the current report that was submitted by Boswell Engineering entitled stormwater management report bearing a date of September 2014, revised October 2014?

Mr. Miller: Correct, that is what I looked at, yes.

Mr. Inglima: And did you also review a copy of a map that was included in the stormwater management report to which I just referred that was dated – also prepared by Bowell, dated 10/22/14 that accompanied the report as an exhibit, revised 10/28/14?

Mr. Miller: I did see some scans of this particular document.

Mr. Inglima: With respect to the application, generally, have you also had an opportunity to review the full plan set that was submitted?

Mr. Miller: Yes.

Mr. Inglima: And have you reviewed the information that's contained in the report and on the Boswell plan to which I just referred that shows the proposed design of the storm trap vault chambers that would be installed under the right-of-way of the proposed cul-de-sac?

Mr. Miller: Yes, I have looked at that, yes.

Mr. Inglima: Did you also have an opportunity to review the plan that shows the location of proposed seepage along the frontage of proposed Lot 5?

Mr. Miller: Yes, I have.

Mr. Inglima: And obviously you are aware of the other features that are indicated on the Boswell plan?

Mr. Miller: Yes, I am.

Mr. Inglima: Aspects of the drainage design, pipes and connections and things of that nature?

Mr. Miller: That is true.

Mr. Inglima: Are you also familiar with the topography of the site based on your review of all of those different plans?

Mr. Miller: Based on the plans and my observation this evening, yes.

Mr. Inglima: So you had an opportunity to inspect the site earlier today, while it was still daylight?

Mr. Miller: Yes.

Mr. Inglima: With respect to data that is contained in the applicant's report, this is the same report from Boswell revised October 2014. Did you have an opportunity to review Appendix C and particularly the calculations – I'm sorry, the soil log and test results taken by MAP Engineering dated 07/14/14 that are contained in Appendix C?

Mr. Miller: I did. I did look at those, yes.

Mr. Inglima: And as I asked you before, you had an opportunity to speak with Mr. Emerson regarding his prior testimony and his own analysis of the plans in prior hearings?

Mr. Miller: I did. I did prior last week, and I also talked to him both yesterday and today.

Mr. Inglima: Are you familiar with the RSIS stormwater regulations and best management practices as well as engineering design principals and standards that pertain to residential development, subdivision, and drainage design?

Mr. Miller: I am. I use them as an engineer in my profession. I also use them as a volunteer on a planning board when we review residential subdivisions.

Mr. Inglima: In your review of the detailed minutes of the 06/12/14 and 06/26/14, which were marked as 045 and 046 respectively, did you have an opportunity to review the comments, the testimony that was made by Mr. Emerson with respect to what he believed to be the proper methodology, standards, and objectives for stormwater management systems in a residential subdivision?

Mr. Miller: I did review his testimony, yes.

Mr. Inglima: Do you have an opinion with respect to the voracity of his conclusions and findings in that particular area of his testimony?

Mr. Miller: Not only do I find Clay's statements valid.

Mr. Inglima: With respect to the use of nonstructural methods of stormwater management, do you agree that that should be a primary objective of any development, even including a residential subdivision where it's a major project?

Mr. Miller: It certainly is. It's well-described in the residential site improvement standards. On the adoption, whether it was the model ordinance that was given to municipalities, whether you look in the state stormwater management rule, it's described over and over and over again. It's very well understood, and is the foremost technique to deal with stormwater management.

Mr. Inglima: Thank you.

Please Note: Mayor Randall has arrived at this point in the meeting; 8:14PM.

Mr. Inglima: You have received the particular structures that are proposed as part of the applicant's latest plan?

Mr. Miller: Yes.

Mr. Inglima: And as described in the Boswell report?

Mr. Miller: Yes.

Mr. Inglima: And I assume that you are familiar with those types of structures and how they would work or what their elements would comprise in the use of a – in the course of a stormwater management plan for development?

Mr. Miller: I am, yes.

Mr. Inglima: Do you believe – do you have an opinion with respect to whether the standards and objectives of the RSIS, the DEP stormwater management regulations, best management practices, and any municipals ordinances that may pertain to this type of development are being advanced by the use of these structures?

Mr. Miller: Well, not in terms of nonstructural strategies that, again, are in – specifically, in this case, in the RSIS standards.

Mr. Inglima: Can you elaborate on why you feel it's important to rely upon nonstructural methods, not only to advance the objectives of those laws that I referred to, but also for purposes of sound engineering design?

Mr. Miller: Currently the words that are being used are green infrastructure. You're hearing this a lot with areas that have a combined sewer system. It's permeating into all stormwater management, and it has to do with the ability of naturalized systems to do a lot of the things that would be – as an alternate would be poorly done by structural methods. These are both infiltration, cleaning of the water as its leaving the site, as it's draining off a site. There's also major maintenance issues, and this has to do with whether manufactured treatment devices which are basically the vacuum cleaner type of function, or it would be some type of vault or anything underground is generally out of sight, out of mind. There's a general consensus that structural systems, especially underground systems, are not being maintained in the State of New Jersey. These are issues that are being discussed strongly at DEP right now. They're being talked about with the stakeholder process right now, and that's generally why nonstructural methods are preferred, and actually, really, given the front end of a design, it's the first thing that you're thinking about. You're looking at soils, you're looking at natural conditions of a site, and you're designing around those, not through those.

Mr. Inglima: Is there any nonstructural methodology being employed on the site as reflected in the current subdivision plan and stormwater management report submitted by Boswell?

Mr. Miller: No, I'm not seeing that in the design, and I'm not seeing any support of it in the stormwater management report. There's an absence. There are ways of demonstrating compliance with thoseMr. Inglima: Obviously when you are relying upon exclusively structural solutions, I assume there is something you have to prove in order to justify the reliance on structural? Is that the case in a residential subdivision development?

Mr. Whitaker: I'm going to object. He's calling now for a legal conclusion beyond the expertise of this gentleman whose qualification is in the field of engineering.

Mr. Cucchiara: I think it was somewhat leading. If you could just place a direct question.

Mr. Inglima: I'll ask him a different way. Have you had experience in applying for both structural and nonstructural stormwater management plans in residential subdivisions to DEP or other agencies that regulate the requirements in New Jersey for those developments?

Mr. Whitaker: Again, going to object on the basis of it being irrelevant There's no application here to the DEP.

Mr. Cucchiara: Maybe it would be appropriate, Mr. Inglima, if you could connect it to what you proved with his testimony?

Mr. Inglima: The RSIS is clearly applicable to this site, is it not?

Mr. Miller: It is.

Mr. Inglima: The RSIS adopts, by reference, and in fact includes at length in one of its sections, a variety of stormwater management regulations that are promulgated by the New Jersey DEP through the New Jersey administrative code, isn't that correct?

Mr. Miller: It is. In fact, it's subchapter 7 of the RSIS that has identical language to the DEP stormwater management rule, and having participated in the recent pre-stakeholder and stakeholder process at DEP, there was a gentleman from New Jersey DCA that basically oversees the—

Mr. Whitaker: Objection –

Mr. Miller: So what he was saying was basically any changes that are made to DEP's regulations would be made in also –

Mr. Whitaker: Objected; well beyond the scope of the question.

Mr. Cucchiara: Mr. Miller, if you could just answer Mr. Inglima's questions. I'm sure he has follow-up questions after that.

Mr. Miller: Sure.

Mr. Inglima: With respect to the regulations that are applicable to this type of development, you've indicated that they require the applicant to include nonstructural methods for managing stormwater, is that correct?

Mr. Miller: Absolutely.

Mr. Inglima: You've indicated in your testimony that there are no nonstructural methods being used as indicated on the current site for the current subdivision plan stormwater management report?

Mr. Miller: Yes.

Mr. Inglima: You've indicated that on a site like this, it would be preferential to have those types of nonstructural methods employed, is that correct?

Mr. Miller: Preferential… It's a requirement of the regulation.

Mr. Inglima: And I assume that you as an engineer have an opinion with respect to whether or not the objectives of an engineering design and the drainage design of a site like this would be advanced by using nonstructural methods?

Mr. Miller: I certainly would.

Mr. Inglima: You've indicated that there are concerns with respect to lower quality that would be advanced by nonstructural methods?

Mr. Miller: That is one of the – right, that's one of the reasons that nonstructural is advanced in the regulations.

Mr. Inglima: You've had experience in preparing and advancing for permitting similar types of plans, have you not?

Mr. Miller: I have.

Mr. Inglima: In the cases that you've been involved in, has there been any standard imposed upon an applicant where they seek to use exclusively nonstructural – structural methods, any standard imposed upon them by any review agency involved in the enforcement of the RSIS?

Mr. Miller: I can say I have not seen the lack of support for implementing nonstructural techniques, meaning that in every case I can think of – and I was actually writing down the towns I have testified in

and testified as representing an applicant – the nonstructural is just something that you don't – that you have to address. You have to pay attention to it.

Mr. Inglima: In the course of designing this system, the applicant has indicated that the storm trap system is basically the best system that they could design for this site. Do you have any opinions with respect to the use of a storm trap subsurface vault system at this site?

Mr. Miller: Well, there's issues with the storm trap with regard to seasonal high groundwater. As far as using some type of detention system, storm trap is one method to implement that.

Mr. Inglima: There are other methods that can be used also? In fact, the applicant had previously proposed a set of pipes that would be used as detention chambers. Is that a common form of system to be used at a site like this?

Mr. Miller: There are – then you question – there are above-found techniques, there are below-ground techniques for detention.

Mr. Inglima: But certainly, isn't it better to have above-ground, in other words surface systems of detention and retention and filtration rather than relying on subsurface devices?

Mr. Miller: There certainly are advantages to above-ground systems in observing their functioning and from a maintenance standpoint. The other thing with a below-ground system is you get into confined space entry issues when you enter a system like that, plus there's also when you go to maintain it, when you remove material or change the base of that system, you get into issues with equipment. You have certain kinds of equipment, vacuum trucks or something like that, there are just additional maintenance responsibilities that don't occur when you have an above-ground system like a detention basin.

Mr. Inglima: The applicant's plans indicate that there will be a compacted stone base underneath the proposed storm trap vaults as opposed to a smooth surface as you might experience in a pipe. Does that have an impact on the amount of maintenance or the cost or the techniques that have to be used to maintain that system?

Mr. Miller: My concern – and I've used vacuum trucks, but my concern would be that in accessing the storm trap that you would be evacuating the base material in that strong vacuum equipment, so that would be my concern versus a hard surface or a pipe type of situation.

Mr. Inglima: The applicant is proposing a water quality device that would be used to separate solids from the water as it passes into the storm trap system, and it was described at length by Dr. Pazwash.

You're familiar with the design shown on the plan for that system, are you not?

Mr. Miller: I am. It's a CDS unit, and I've used a CDS unit in one of my designs.

Mr. Inglima: Notwithstanding the use of a CDS unit, you may still have solids such as vegetative waste or leaves or similar types of substances finding their way into the vault, isn't that correct?

Mr. Miller: Right. A CDS unit is a decent unit to use, but does require maintenance just like a vacuum cleaner with a bag. You have to replace that bag. In a CDS unit, you have to clean it out to have it properly working. Not just working, but actually so you're not – what happens if you don't clean them out is they can re-suspend that material, and that could get into the vault system, storm trap system.

Mr. Inglima: If there were materials that are in the system that have been separated and contained within the CDS and then you have a large storm, would that result in any purging or passage of any of that material into the storm traps?

Mr. Miller: There's a possibility. Again, as material builds up over time, if it's not maintained, then that's a – again, it's a maintenance-intensive type of approach.

Mr. Inglima: Is it fair to say that even though there is this type of unit that is in the pathway of the water before it enters the storm trap system, that there are still going to be certain solids or sedimentation, leaves, things like that that can find their way into the storm trap?

Mr. Miller: They can, yes.

Mr. Inglima: With respect to – you mentioned a few minutes ago that you had a concern about groundwater. The applicant's witnesses have testified, if I may generally refer to their testimony, that they've adequately investigated subsurface conditions of the site. Do you have any observations or opinions with respect to that claim?

Mr. Miller: In preparing for my testimony this evening, it was very – it was actually – I wasn't finding a reference to where those tests – where that testing was conducted and where those – on the plans. And I did hear that there was testimony provided to the Board on the rough locations of those test bits, but looking at the depth of the storm trap system with regard to the seasonal high ground water – and again, this was found in mottling, which I believe in reading Clay Emerson's testimony, he went into that. But I have concern about the functioning of that system in terms of evacuation, meaning draining that system into the soils.

Mr. Inglima: I'd like to show you what has been previously marked as Exhibit A6 which was marked at the 10/09/14 hearing. This is a copy of the applicant's 09/03/14 subdivision plan; referred to Sheet 5 and showed the location of the test holes.

Mr. Miller: I have not seen what you're pointing to previous to tonight.

Mr. Inglima: These are generally in the southeast corner of the applicant's site, correct?

Mr. Miller: Okay. Yes, they are.

Mr. Inglima: Then if I show you what has been marked on sheet six of that same plan set, it's an X that Mr. Payless indicated in prior testimony as the southerly corner of the proposed two-story framed walling indicated on proposed Lot 4. This is generally in the southwest corner of the applicant's site, do you recognize that?

Mr. Miller: I am seeing it for the first time this evening, but I recognize the X that you're pointing to in that exhibit.

Mr. Inglima: Now, assuming that the X's, the three X's that Mr. Payless had indicated on the sheets that I just identified, represent the locations of the test holes, do you have any particular position, finding, conclusion with respect to whether or not those test holes provide this Board with information that they need in order to assess the plan?

Mr. Miller: Those locations are not inconsistent with the New Jersey best management practice manual, and what I mean by that, there's Appendix E of that manual that specifies location and techniques and basically my real concern with those locations are it's not in the location where the proposed infiltration facility is placed. And why is that important? Because infiltration facilities are very, very dependent upon the soils.

Mr. Inglima: Is it your position, based on your experience and in your expertise in this field, that pursuant to all of the applicable regulations, that tests should be conducted of some surface conditions, not only the condition of the soil but also the elevation, the height of groundwater below grade in the area where the proposed vaults are being shown in the plans?

Mr. Miller: Yes, I would say again that that's not a statement I just make on this application; that's requirement by the best management practice manual, and it's a comment that I would make in any application.

Mr. Inglima: In the course of performing subsurface evaluation of soils, would that be relevant to the design of a system such as a storm trap vault?

Mr. Miller: The way they design the storm trap system is that it infiltrates into the ground, so absolutely, those tests are an integral part of that, approving the performance of that system.

Mr. Inglima: Now, they've indicated on the plans of various thicknesses, but anywhere between 18 and 21 inches of a stone bed underneath the storm trap chambers. Would the fact that the storm traps and the stone bed being installed below grade result in a need for greater investigation of the subsurface conditions?

Mr. Miller: Again, how much has – how much does the soil and groundwater change in the site. I think we have insufficient data. But you could run into a situation that you would want some kind of soil replacement or something like that, but you really want to test where you're proposing a system. It's sort of a good practice, and again, it's mandated by the manual, so it's something that… It's something that I would definitely want to see.

Mr. Inglima: Do you feel, based on the fact that the applicant proposes to construct a residential access street above the proposed storm traps, that this is a critical assessment that should be done at this time?

Mr. Miller: It should, because your ability to alter things and make changes later on, you're setting grades of that road. You have a design here that is pretty much dependent on that system working. It's also dependent on depths and again, soil performance, things like that, so you want to get that testing.

Mr. Inglima: You mentioned, in response to one of my questions, an issue about what would happen if the soil was not suitable for use for this type of system, whether you might have to… You said additional soil would have to be added?

Mr. Miller: There's something called soil replacement, so if there was some kind of limiting soil or there was some kind of… If it was anything in the stratigraphy of the soils that would prevent infiltration, you might have to over-excavate that and place better-performing soils under that system.

Mr. Inglima: Would it be fair to say that that would have an impact upon the quantity of soil that is included in any soil-moving application for the site?

Mr. Miller: Yes, it would certainly affect your cut and fill analysis from the standpoint of what you're bringing in and what you're removing, if it can be used on-site or off-site, that type of thing, yes.

Mr. Inglima: The applicant is proposing to excavate down about nine feet below the existing surface of that soil where the storm trap system is shown on the plan. Would the quality of that soil also have an impact on whether it could be reused elsewhere on the site?

Mr. Miller: You generally, for any site, you want to know what you have, and that means that it's sort of prudent to get… More testing is better than none, of course. I'm not suggesting hundreds of tests, but I'm saying that you would want to get an idea of what you have out there and see if there's any change with the oils on this site and see if there's any – again, some limiting zones, if there's anything going on. And again, where you're proposing anything to infiltrate, you really need testing at that location.

Mr. Inglima: I asked you earlier in your testimony about your review of the soil log and test results specifically. The applicant has done tests of the soil in three locations, and in two of those locations, they've indicated soil permeability ratings for the soils. The test hole data indicates the rate by which water will pass through that soil, is that correct?

Mr. Miller: Yes.

Mr. Inglima: Do you have any opinions based upon your review of the data that is shown for test holes one and two?

Mr. Miller: Those are – when I look at infiltration rates, those are very, very high infiltration rates. That's – when I see 22 inches per hour or 20 inches per hour, that's very, very quick infiltration.

Mr. Inglima: The rate of infiltration, the applicant's witnesses have testified, is going to be subject to a safety factor, that they only plan based on half the amount that's shown.

Mr. Miller: And that's a requirement of RSIS. RSIS tied into the BMP manual, that you take half of what's measured in the field, because over time, what happens is your soil properties change. If you have some material that clogs those soils, you basically – you have a discrete test that you want to add that factor of safety in. What they've done is basically halved the lower of those two numbers. They've made it ten inches per hour.

Mr. Inglima: Is your concern eliminated by virtue of the fact that they used that safety factor?

Mr. Miller: That's still a very, very high rate of permeability, so again, when I look at that, I just kind of question, again, if that rate is correct and whether that rate will be maintained over time. That's a very, very high rate.

Mr. Inglima: The applicant's engineer, their own engineer did these tests. Do you think that these tests should be verified in the field by a representative of the municipality or an outside testing agency, someone who doesn't have direct interest in the outcome of the project?

Mr. Miller: I'm not sure.

Mr. Inglima: Prudent?

Mr. Miller: Yeah, I guess it would be something that I would possibly design under a lower rate. And it has to do with, again, changes over time. It has to do with the susceptibility of soils getting clogged.

Mr. Inglima: The applicant's plan contemplates that the storm trap system will disperse water basically in a downward direction from inside the chambers, is that correct?

Mr. Miller: Yes.

Mr. Inglima: Through compacted stone and then into the soil.

Mr. Miller: Yes.

Mr. Inglima: Based upon what you've seen in these test hole results, do you have an opinion as to whether or not this is going to function as the applicant's engineer indicates in this report?

Mr. Miller: What you worry about is especially when you have ground water close to your infiltration surface, you worry about what's called mounding, and you can think of mounding as taking a lot of water and putting it into one place. Where you have a whole site that's infiltrating now and you send all that water to one place, the groundwater will bulge. It will kind of go – it will rise because of all of the water that you're dumping into one location. What happens is if that mound starts to cross over with that infiltration surface, you're not getting any more infiltration. You getting a much reduced rate of infiltration. What was also missing from this application was a mounding analysis that again is standard practice now in the State of New Jersey where you're doing a mounding analysis.

Mr. Inglima: In the applicant's soil log, the test results also indicate groundwater at certain elevations, and a condition that's labeled

in the report as mottling. Mottling is indicated as elevations 84 inches to 86 inches below the surface among the three test holes.

Mr. Miller: Just about seven feet is what we're talking about, right.

Mr. Inglima: I had asked Dr. Pazwash what the significance of mottling was, and he indicated that it can be an indicator of groundwater. Do you agree with that?

Mr. Miller: It's an indicator of seasonal high groundwater. The groundwater is not there all the time, but during the time of year that you have the highest groundwater, you're seeing indications with mottling that that's the extent of the height of the groundwater.

Mr. Inglima: Is it fair to say that in this area of the State of New Jersey, that seasonal high water would not be experienced in July, it would be experienced earlier in the year?

Mr. Miller: Generally you're looking at a period from let's say January through April or something in that neighborhood, the reason being that that's the time of year you don't have trees intercepting groundwater as much, you have, in some cases, snow melt and other inputs into the groundwater. So it's generally that rough time. But because you sometimes can't do testing for what is the highest groundwater, you use the indications of mottling to show what that seasonal high groundwater is, as they show in their information that they found groundwater seepage at a lower elevation that the seasonal high groundwater.

Mr. Inglima: Would the conclusions you've made about the likely location of seasonal high groundwater be reinforced not only by the mottling but also the location of root structures above?

Mr. Miller: It could, but that's – I would say again the mottling is more of the indication of that seasonal high groundwater. Roots can vary in a soil profile.

Mr. Inglima: The design that the applicant has proposed indicates that there will be storm vault chambers, in other words, open chambers, that are going to store water at a lower elevation in relation to existing grade than seven feet?

Mr. Miller: Right. As you said, the gravel material will be at a lower elevation.

Mr. Inglima: Isn't it true that the storm trap chambers themselves are going to be located as much as seven and a half feet below the surface of the site?

Mr. Miller: It is, and when I was looking at the profile that was presented in the most recent plans, that's accurate.

Mr. Inglima: And then you include another foot and a half or so for the stone below?

Mr. Miller: For most stone material, yes.

Mr. Inglima: So you're going to have aspects of this storage chamber and its subsurface structures that extend as much as nine feet below the surface of the ground?

Mr. Miller: Yes.

Mr. Inglima: Yes. In an area where, at least in two locations, the applicant had found – three locations the applicant has found mottling seven feet below?

Mr. Miller: Yes.

Mr. Inglima: What would be the impact on the system if groundwater is experienced at elevations that are higher than the stone bed or the bottom of the chambers themselves?

Mr. Miller: You'd basically have water that's filling these stormwater systems, the detention system.

Mr. Inglima: Would that deprive the system of storage capacity?

Mr. Miller: It would. It very well would, and in addition, it wouldn't allow evacuation of that system during a storm event.

Mr. Inglima: So water either in or just below the structures is going to impair the ability of infiltration?

Mr. Miller: Sure, absolutely. Groundwater will.

Mr. Inglima: If there's an impairment of the infiltration of stormwater that's collected in these structures, what impact does that have on the entire system?

Mr. Miller: If you don't have that storage – and again, the applicant has generated runoff and storage requirements, and if you don't have those storage requirements and you get a large event, you have basically – the system is not performing, and that water would just not enter that system and move downstream.

Mr. Inglima: So it would be excluded from the system itself?

Mr. Miller: Right, it wouldn't fill that void. That void is partially full by the groundwater, that's right.

Mr. Inglima: And obviously the system, if it was under that type of condition of high groundwater, would not empty properly, would it? It has to empty within a certain number of hours, right?

Mr. Miller: Right, it's the 72-hour rule, which again, for a surface system, that's more due to vectors like mosquito breeding and that type of thing, but it also has to do with a system being ready for the next event. We can get back-to-back storms, and you want that system ready to go for the next event so it can do the function that it was designed to do.

Mr. Inglima: So even if the system could accommodate a small storm, even with the groundwater being present, it would impair its ability to accommodate a subsequent storm?

Mr. Miller: That's true.

Mr. Inglima: With respect to the design shown on the current Boswell plan, I'll just place it in front of you so you can refer to it if you need to, would it be fair to say that the water that's excluded from the system is going to stay on the abutting streets?

Mr. Miller: Yes, due to the grade I'm looking at, it would continue down into West Saddle River Road.

Mr. Inglima: Now, the applicant is proposing a new catch basin along the frontage of proposed Lot 5 more or less in the southeast corner of the site. You're familiar with that catch basin and the design of the structures that are indicated on this plan?

Mr. Miller: I am, as proposed.

Mr. Inglima: Now, in previous testimony, the applicant's witnesses indicated that either two or all three of the seepage pits that are shown in this location would be used to collect and discharge the water that's passing through that catch basin. Do you have any findings or conclusions with respect to the use of that type of design for a street catch basin?

Mr. Miller: Again, it's an underground system. It's something that you would also desire some infiltration testing and a soil profile in that area. You have two test pits that are close by, but it is – when I look at it, it looks awkward to me is what I'm seeing there, and it's just an awkward-looking system.

Mr. Inglima: Do you have any concerns that are based on the applicant's proposal to place a three-on-one un-retained slope immediately west from the proposed two or three seepage pits along the roadway?

Mr. Miller: Well, you would want to see – again, you would want to – well, a couple of things are involved here. You would have fill placed up against something that's trying to infiltrate, so you have a possible conflict there, and you would have a situation where you could get seepage out on this slope, and that could be an issue. You're concentrating your flow up against a slope which is probably – when you design retaining walls, when you design slope stability systems, water is the enemy. You want to have water not there instead of actually focusing water in those areas.

Mr. Inglima: Though it's not indicated on the Boswell plan, the applicant's witnesses indicated that a flow guard filter or similar device would be installed in the proposed catch basin to perform water quality service with respect to the water that's collected in the new catch basin. Do you have any opinions with respect to the use of that type of structure within a catch basin that is feeding into either the seepage pits or an off-site system?

Mr. Miller: I guess the way I feel about products that are more retrofits or for existing infrastructure, if you're putting in new infrastructure, I probably wouldn't rely on some type of technique that gets retrofitted in an inlet. I would go more to – again, is there room for another type of treatment device? I don't know, but it's generally – you want more volume there so you don't have to maintain it as often. It's the frequency of maintenance type of situation.

Mr. Inglima: In describing these seepage pits, there was an indication that they would not be connected by pipes, but in fact, would simply be located side-by-side with the intention that water would migrate between the units as it comes out of the catch basin. Is that a sound engineering design?

Mr. Miller: I do see a pipe connecting to the first unit. I am not critical of the fact that stone is surrounding these, that water would migrate to the other units. I don't have a negative opinion on that.

Mr. Inglima: With respect to the proposal to install all of these structures, do they all fit into the category of structural methods that would have to be maintained by the municipality and generate expense?

Mr. Miller: Very much. It is a structural technique, and it will require maintenance. There's no doubt about that.

Mr. Inglima: The applicant's witnesses have indicated that it's not necessary for the applicant to prepare a stormwater maintenance plan for the proposed structures at this time, that the design phase is too early for that type of report to be prepared. DO you have an opinion with respect to the timing of the production of this stormwater maintenance plan?

Mr. Miller: The maintenance plan, especially when there's a dedication to a municipality, should be done in the application process. It should not wait until a future date, and there's a lot of reasons for that. And again, going to the best management practice manual, it is a requirement to get it in to you. I guess this is a good time to make reference to the municipal stormwater management permit; started to discuss DEP meetings.

Mr. Whitaker: Objected. We're way beyond the realm of the question he was asked now. We're not going to get involved in DEP meetings.

Mr. Inglima: He was asked whether or not this was the time to be producing and submitting to the municipality the stormwater maintenance plan.

Mr. Whitaker: And he answered yes, and then he went on way beyond the scope of the question.

Mr. Inglima: He was assisting the Board in understanding the basis for his answer.

Mr. Whitaker: The Board recognizes the benefit, the necessity to provide those reports. In fact, the Chairman has alluded to it a number of times during the course of these 16 meetings.

Mr. Inglima: The only problem with that, Mr. Whitaker, with all due respect, is that your client has taken a contrary position and insisted that it is not necessary now, so if the applicant is changing his position on that issue, perhaps a stipulation would be in order. Otherwise, I think the question, answer, and elaboration is fair.

Mr. Whitaker: There was a whole statement at the last meeting that we concurred that there will be a time when the management and the proposal for the management has to be submitted to the borough. He makes it a condition. He testified to it in the October 30th meeting, and the record reflects that, and we agreed with it.

Mr. Cucchiara: He certainly has the opportunity to disagree with that approach.

Mr. Whitaker: I'm not suggesting he can't disagree, but if you're asking for a stipulation, we've done that already in the October 30th meeting.

Mr. Cucchiara: I think they're asking for a stipulation that the maintenance program be established and outlined now as opposed to later.

Mr. Whitaker: As I've stated, we will follow the recommendation Mr. Hals made.

Mr. Inglima: Well, I'll just ask the witness very simply, is there some basis that you know if in any DEP procedures or regulations that indicate the propriety and necessity of producing such a stormwater maintenance plan during the application phase?

Mr. Miller: It's absolutely essential that you provide it during the application phase and in the public process.

Mr. Inglima: There's been, consistent with that issue, there's been testimony from applicant's witnesses that further investigation of the conditions of the site that you've been describing, the subsurface conditions of soil and groundwater can await the construction phase of the project. In other words, it doesn't have to be done while the applicant is before this Board seeking land use approvals. In fact, I believe the applicant characterized that as being a burdensome requirement.

Mr. Whitaker: Objected; unless he can come up with that specific language. He's characterizing something he has no substance or basis for.

Mr. Inglima: All right, but in any event, the applicant has resisted the idea of doing that now. How do you respond to the applicant's position with respect to the timing of performing the investigative work that you're advocating?

Mr. Miller: We need to know now that the systems will perform, and part of that is meeting the accepted – and again, these aren't something a month old. We've been doing this for ten years. The state of the practice has evolved over those ten years. We've learned things. We've learned about failures, we've learned about – and better ways to do things. Absolutely, there should be proper testing, proper analysis, and proper proof to the Board to say that these things will work.

Mr. Inglima: Do you feel that the developer who is proposing these particular structural methods of stormwater management is part of the development of both a major development project as defined by RSIS and DEP, but also one that involves the creation of a new street and the runoff associated with that street is under ar requirement to establish those things affirmatively, that the system is properly designed, that it will work and it will not create any adverse impact on off-site areas?

Mr. Miller: That's exactly what the rules are asking for.

Mr. Inglima: In order to sustain that burden, is it your position that the applicant must provide the subsurface investigations and tests that you're advocating?

Mr. Miller: Yes.

Mr. Inglima: Dr. Pazwash testified, if I may characterize his statements generally, that the system is going to work. He felt confident of that fact. You've identified a number of concerns that you have with respect to the interplay between the system and ground

water, soil conditions, etc. He then stated in his testimony that the system, if it was found not to work in the construction phase, could be adjusted so that it could be made to work. Do you have an opinion with respect to his position on those two issues?

Mr. Miller: Well, my question would be at what part of the construction? The storm trap systems have to be – they're concrete, they have to be precast. So do you find something out when you're excavating in that particular location when the materials have already been fabricated and delivered? I would say absolutely not. You don't want until that time to find these things out. You need to do it now. You need to perform the testing now. You need to have a solid understanding of what you're doing before you propose it, and you don't wait until… Now, will there be – in construction sites, do you sometimes find something while it's under construction? Of course, and you make modifications as you can, but this is not something that should wait until that time.

Mr. Inglima: As a matter of fact, in the applicant's own soil log and test results, there's an indication, based on both the elevation of mottling that's observed as well as the location of groundwater that was observed in July, that there could be quite a difference between the high and the low or some point in-between, is that correct?

Mr. Miller: Sure. Groundwater does vary. I mean, it does ebb and flow, and again, it depends on – like this year, we had a very dry period of time, so groundwater would have reflected that going ahead. But that's where your mottling is giving you sort of a longterm average of that high groundwater, that seasonal high groundwater, and that's what's so important. That's what the applicant has provided to us, was in these limited locations, that there is mottling here. So we know there is a variation of the groundwater that they found at that time and with this mottling elevation?

Mr. Inglima: So taking Dr. Pazwash's statement one step further, it would depend on what time of year they're actually constructing, excavating the site, and installing the storm trap system to determine whether or not they're going to experience or observe other conditions in the field that indicate that groundwater's going to be a factor or a problem?

Mr. Miller: Well, I can't speak on what he was referring to in terms of what he would see during construction, but certainly you want to know that groundwater elevation at the location of your proposed infiltration device. You want to know that now when you're in the design phase and the approval phase and not wait until some construction phase.

Mr. Inglima: Do you believe that the system should be designed with the assumption that groundwater is going to be as high at the site as 84 inches below existing grade?

Mr. Miller: Yeah, the seasonal high groundwater is your restrictive condition. It is basically – you have to design with that in mind. That is a conservative – it's not even conservative, it's the right way to do it. It's the way the requirements are. And again, you want to look not only at what that groundwater is, but you want to look at that mounding and see if that is influencing the performance of your system. Once again, if you're assuming a ten-inch per hour permeability rate, that can be very, very – that can be well-altered by a mounding affect under the basin, under the storm trap system.

Mr. Inglima: Now, let's assume that Dr. Pazwash was speaking correctly when he said that the site, the design of the storm traps could be altered in some way to accommodate problems experienced during construction or problems with groundwater. Would that have an impact on the lot layout, the location of buildings, and other improvements if he were to make changes to the storm vaults?

Mr. Whitaker: Objected. Pure conjecture at this option.

Mr. Inglima: I think everybody understands your objection, but the response to the objection is Dr. Pazwash did introduce, without giving detail, a concept by way of response to my cross-examination question, that would ameliorate a problem. He didn't say how he was going to do it, granted, he just said it could be done.

Mr. Whitaker: If Dr. Pazwash said that, recite it from the transcript. Show us. The characterization that we're doing now is far beyond what you can do in making a presentation and presupposing what someone said.

Mr. Cucchiara: What he's basically asking is a hypothetical question on the testimony that Dr. Pazwash provided**.**

Mr. Whitaker: Let him ask a hypothetical then, but not recite what Dr. Pazwash said.

Mr. Cucchiara: What I would suggest is that you frame it that way.

Mr. Inglima: If the storm trap system were to be retained as a method, a structural method of managing stormwater for this site and for this proposal, we're taking into account what's being proposed, and groundwater was experienced at elevations at the site that do not permit the installation of the five-foot storm vault chambers that are shown on the applicant's plans, what would have to be done in order to provide the storage?

Mr. Miller: Generally, you would look at a broader system, or you would look at one that's not as deep. The challenge here would be, as this is designed, you have a sanitary sewer system, you have a right-of-way that you're trying to insert this storm trap system into. So if this thing gets more broad, more long, however it goes, you have constraints that are built into this design, so you would – it's kind of a domino effect. It's not that you could change one thing. You would have to look at a number of things here. It presents some challenges to change that system.

Mr. Inglima: For example, there are seepage pits indicated on each of the proposed lots. You'd have to evaluate the interplay between the seepage pits and the expanded storm trap system, wouldn't you?

Mr. Miller: You could have some interference. I think it's more of keeping the system in the right of way. It would be, again, maintaining a distance from the sanitary sewer. There is some potential conflicts with the utilities in that road.

Mr. Inglima: If you were to expand the storm trap system is a westerly direction, you're going to be cutting further into the soil. It has to be pretty level, doesn't it?

Mr. Miller: It would be a level system, so yeah, you're going deeper is what you're doing. Correct, you're bucking grade is what it's called if you're doing that with a storm sewer system.

Mr. Inglima: Wouldn't this be sort of a Catch-22, because you'd be finding yourself in more and more groundwater as you proceed to the west at the same elevation?

Mr. Miller: I think that begs the question of what is the groundwater, what is the mottling elevation in these areas? And we don't have that knowledge at this time. I think that's the better way to answer that.

Mr. Inglima: So no one can really say how they'd be able to solve those problems, in your opinion, could they?

Mr. Miller: We're missing data to make that conclusion.

Mr. Inglima: In prior iterations of the applicant's plan, there were connections being made to an off-site system that's located generally to the south and west from the site. Are you familiar, generally, with that off-site system? The one that's in the Brandywine Road neighborhood, for example?

Mr. Miller: I am not familiar with that system.

Mr. Inglima: Did you discuss with Mr. Emerson the basis of his testimony with respect to not putting additional water into the pipe that feeds into that system?

Mr. Whitaker: Objected, leading question. He already said he wasn't familiar with the area. He's not familiar with it.

Mr. Inglima: All right, I'll withdraw it. The applicant's plan indicates that there will be an overflow, if you will, from the catch basin to be created along the west side of the street into a catch basin that exists today on the east side of West Saddle River Road, and that there will be a one-foot elevation between – a difference in elevation between the inverts of the pipes leading to the seepage pits and the pipe going to the catch basin.

Mr. Miller: Okay.

Mr. Inglima: So is it fair to say that all that would be necessary is for one foot of water to be retained within that catch basin before it starts feeding out to the off-site system?

Mr. Miller: You would have a concern about that, yes.

Mr. Inglima: So under circumstances where the storm trap system is not able to accommodate a storm, the runoff from the site, from the streets, from the west side of West Saddle River Road, and the seepage pits were inadequate to handle that, you could have water leaving this site going into the off-site system, is that conceivable with this design?

Mr. Miller: It certainly is. If the concern I have about the storm trap system and the limited performance that we're talking about on the road, then right, you would have to evaluate what is going to happen downstream of that.

Mr. Inglima: If you were to use a nonstructural solution as we've been talking about quite a bit tonight, wouldn't that eliminate the need to connect the system to an off-site system?

Mr. Miller: One of the advantages of a nonstructural system is you are, in a sense, eliminating some of the structural solutions, those needs, that's right.

Mr. Inglima: Some of the structural limitations? Obviously every structure has limitations in terms of how much it can accommodate, right?

Mr. Miller: Certainly. They're design facilities and they're subject to influence by groundwater and maintenance and things like that, yes.

Mr. Inglima: What would the typical types of nonstructural solutions that you could implement on a residential subdivision?

Mr. Miller: Again, nonstructural solutions are more mimicking nature, so you're having – I could tell you more what it's not. It's not more curve, it's not more inlets, it's not more storm sewer. It's more in keeping with natural topography; it's more in keeping with open channels. Again, those function not just as conveyance systems but also water quality systems. There are chances for more distributive stormwater management where you have rain gardens and things that are scattered through the development instead, and they're basically more – they mimic nature is what they're doing. And again, I'm working for the City of Hoboken. Hoboken's looking – Hoboken's 94 percent impervious. They're looking at ways of losing impervious and building more drain infrastructure and losing some of that runoff, getting it into the ground or getting it taken up in vegetation, those type of things.

Mr. Inglima: With respect to this site in particular, the applicant has testified, its experts have concluded, that the high rate of permeability of the soil, in other words, that it is a very good condition for infiltration as the study says today, does that create a situation where it would be conducive or more conducive than other sites to use nonstructural methods?

Mr. Miller: Yes, that would be a great condition to use nonstructural methods. That's what you're looking for. That's the optimal condition for nonstructural.

Mr. Inglima: Now, the applicant's witnesses have also indicated their position that it is not practicable to create nonstructural solutions at this site. Do you have an opinion based on what you know about the property and the design of the property with respect to a conclusion of that type, the practicability?

Mr. Miller: I go to the words self-imposed hardship, and that's what I'm seeing in this case, that there are opportunities here, and they just haven't been implemented to maximize yield of the site.

Mr. Inglima: When you say maximize yield of the site, you're talking about the number of lots?

Mr. Miller: Number of lots, number of saleable lots, yes.

Mr. Inglima: So if the applicant used a development that didn't include the street, for example, would it have any of these challenges with respect to stormwater management?

Mr. Miller: You would have a much easier time to implement the requirements for nonstructural.

Mr. Inglima: Even with the street, if they used nonstructural methods of stormwater management collection and infiltration using ponds of

swills, things of that nature, would that be a better plan for this site also?

Mr. Miller: Yes, it would be, and it would be more consistent with the – again, the residential site improvement standards.

Mr. Inglima: Is there any reason that you can identify, based on your review of the applicant's plans and the materials, why they cannot use those types of nonstructural methods?

Mr. Miller: I can't. If you look at the site before the lot layout, you should be able to come up with ways of using nonstructural techniques.

Mr. Inglima: The applicant and its witnesses have taken the position that the plan complies with the Residential Site Improvement Standards with respect to drainage design. Do you have an opinion with respect, based on your knowledge of RSIS standards, the DEP regulations that are included in those standards, and the – I mean, you sit on a planning board, certainly you're aware of the function and the powers of planning boards when they're reviewing subdivision applications. Do you have an opinion as to whether or not this plan conforms with the RSIS with respect to drainage?

Mr. Miller: I don't believe this plan complies with Subchapter 7 of RSIS, which is the stormwater management requirements.

Mr. Inglima: You've had an opportunity to look at the engineering design for the drainage system that's shown at the site. Do you have an opinion with respect to whether or not the engineering design is a sound engineering plan for the management of stormwater at the site?

Mr. Miller: It currently isn't because it's not supported by required information.

Mr. Inglima: You said it is not?

Mr. Miller: It doesn't have supporting data at this time to make a definitive statement that it is a performing system.

Mr. Inglima: Do you have an opinion as to whether or not the Planning Board of the Borough for Ho-Ho-Kus should approve the applicant's…

Mr. Whitaker: Keep going. You know my objection is coming.

Mr. Inglima: You're slowing me down. I know you don't want to do that. Do you have an opinion as to whether or not the Planning Board of the Borough of Ho-Ho-Kus should approve this application, the subdivision application and drainage design as it is currently constituted?

Mr. Whitaker: Objected.

Mr. Inglima: From an engineering standpoint, I will confine the question to engineering criteria.

Mr. Cucchiara: Clearly it calls for a legal conclusion.

Mr. Whitaker: Exactly.

Mr. Cucchiara: If you could restrict it to the engineering –

Mr. Whitaker: And that question has already been asked and answered by him.

Mr. Inglima: Even if I restrict it to engineering, is that what you're saying? I can ask him that.

Mr. Cucchiara: Ask him what the ultimate conclusion should be?

Mr. Inglima: Whether the Board should approve this based on the different issues he has identified in his testimony.

Mr. Cucchiara: If it's within the area of his expertise, certainly.

Mr. Whitaker: - because he happens to be a planning board member in another town, that doesn't cut it, either.

Mr. Inglima: He's testified as an expert in the field. He certainly possesses qualifications, experience, and the foundation for making a conclusion as to whether or not this plan meets the requirements for your approval.

Mr. Cucchiara: He's not an expert, at least identified as an expert, in municipal land use law. He certainly can address the environmental issues that have been presented and to which he's testified. Do you want to confine it to that? I would recommend to the Board that that's an appropriate question.

Mr. Whitaker: And that question was asked and answered already.

Mr. Inglima: Do you have any opinion or recommendation with respect to whether or not this subdivision plan and its current drainage design should be approved by this Board?

Mr. Whitaker: Objected again. It's the same question asked in a different way.

Mr. Cucchiara: It is the same question.

Mr. Inglima: How is it the same question?

Mr. Cucchiara: It's the same question.

Mr. Inglima: He can't say he doesn't think you should approve this?

Mr. Cucchiara: No. The point that you should be covering now is whether the plans are inappropriate or appropriate or whether they comply with standards or legal requirements, at least in terms of the RSIS and those types of matters.

Mr. Inglima: From an engineering perspective.

Mr. Cucchiara: Exactly.

Mr. Inglima: Do you have any other opinions with respect to this application plan or the drainage stormwater management report offered by the applicant's witnesses?

Mr. Whitaker: Objected.

Mr. Cucchiara: Could you lay a foundation, Mr. Inglima, please?

Mr. Inglima: Do you wish to identify for this Board any other issues that you have noted in your review of the application, plans, materials, and reports that were submitted by the applicant?

Mr. Miller: I think we've covered the major deficiencies of the application which at this time is not perfected to the level up for an approval.

Mr. Whitaker: Objected, again. It's nonresponsive to the question.

Male Speaker: He tossed that in there to get an answer to your previous question. I would recommend the Board disregard it. It really should be stricken from the record. This isn't court, sop at least at this stage, it's not an appropriate answer to the question that was asked.

Mr. Inglima: We'll withdraw the last clause that referred to approval.

Mr. Cucchiara: Thank you.

Mr. Inglima: But the rest of his answer I would like to remain in the record.

Mr. Cucchiara: I don't think there's a problem with the rest of his answer.

Mr. Inglima: Thank you. No further questions at this point.

A 20 minute recess was taken at this time: 9:15PM
Meeting called to order: 9:35PM

Roll Call: Messrs. Berardo, Corriston (absent), Pierson, Reade, Cirulli, Newman, Iannelli, Councilman Rorty (absent), Chairman Hanlon, Mayor Randall

Mr. Iannelli: Yeah, I have a couple of questions. Mr. Miller, in your experience is it common for a developer to consider plans for drainage before they consider the plans for the lot layout of such a subdivision?

Mr. Miller: The stormwater regulations we've been operating under for 10 years has you looking at the topography, natural conditions, and things like that in advance of the lots. I do have a background in Site Engineering.

Mr. Iannelli: So just to clarify, you're saying it's more common for them to develop a lot plan and then build the drainage around it? Is that what I'm getting from you?

Mr. Miller: Again, that would be inconsistent with the current standards. You want to look at your existing conditions, your natural drainage, and all those non-structural things first. Then, you design around those.

Mr. Iannelli: Okay, thank you. And I have a couple more questions for you. Dr. Pazwash suggested that the water detention system that's under the Saddle River Road will retain only a small amount of water even during a heavy rainfall and not utilize the full 2,000 gallon capacity of each one of those units even during heavy periods of rain. Is it your opinion that that's a fact? Is that a true statement?

Mr. Miller: I hadn't heard him say that. So I guess I don't feel like I can correct that statement I guess you would say.

Mr. Iannelli: I'm just saying if you look at the plan the way it's designed and the way the drainage system is connected to the piping and also the flow down Saddle River Road, do you think that those three units will hold a significant amount of water or insignificant amount of water?

Mr. Miller: They have a limited capacity is what I would like to say. They will fill up until the outlet is reached. Then, that overflow will go into the storm sewer system. I don't have the particular knowledge of exactly how much volume is used before there starts to be flow out of that system.

Mr. Iannelli: Okay. You referred to that system as looking awkward? Is that what you are referring to that system?

Mr. Miller: I did make that statement.

Male Speaker: Okay. But is it, in your opinion, effective for the purposes of this drainage plan?

Mr. Miller: I wouldn't want to see that system be a system that catches a non-performing storm trap system. In other words, I don't see that as being a backup for a non-functioning system within the development.

Mr. Iannelli: Is it useful at all to have that system in place?

Mr. Miller: It could be.

Mr. Pierson: Mr. Miller, as a storm water expert planning board member, have you ever recommended or approved structural water retention designs?

Mr. Miller: Yes.

Mr. Pierson: Tell me what the circumstances were which lead you to think that was the better way to go?

Mr. Miller: It's not a better way. It's integrating the two. So you have non-structural and structural. There are things that some structural systems can do. I guess the general way to think about it is the non-structural is handling the more frequent storm events. A structural system is handling a large even that we have infrequently, but we do have. So it's kind of a balance between the two. But it's not an elimination of one or the other.

Mr. Pierson: I'm not sure I understand. So you'd say that in certain situations you're recommending sort of a hybrid sort of structural/non-structural?

Mr. Miller: Again, with the way the regulations read is that you are doing the non-structural to the maximum extent practicable. That's practicable under the site conditions. That's not do I lose lots because of having to meet that. So that's basically – now, if you're designing up to the heavier type of event, that's when you're getting into – because you are adding roof area.

You are adding paving. You are adding things. That's when you pretty much have to deal with those in a structural manner. What I mean by that is whether it's a basin or an underground system, or above ground system you're having to deal with those large events. The major runoff with the more structural technique.

Mr. Pierson: Would that technically be in the larger lot sizes than the one we're contemplating … the one that we're looking at here just under 3.7 acres?

Mr. Miller: No, I think the concept of non-structural applies to any size of development.

Chairman: Mayor Randall.

Mayor Randall: Good evening. I missed part of your testimony. I wasn't sure. Did you happen to see any of Dr. Pazwash's testimony?

Mr. Miller: No, I haven't.

Mayor Randall: Okay. There's no transcript that you could read?

Mr. Miller: I have not reviewed his transcript.

Mayor Randall: Okay.

Mr. Miller: The transcript where he testified.

Mayor Randall: Okay. So I'm going from memory too as far as my memory of what was going on with the prior testimony of Dr. Pazwash. In so far as structural remedies or efforts of capturing water, would you also as far as what's natural versus an artificial system. Are those to catch the roof runoff? Is that something that would be practicable to a natural system as opposed to having seepage pits?

Mr. Miller: Seepage pits are a lighter structural approach.

Mayor Randall: A smaller approach.

Mr. Miller: It's good in the fact it's distributing the infiltration. So I'm going to give the applicant credit for that. You're not – some applications would send all the water to one spot and try to infiltrate everything in one spot. So they do deserve credit for – again, I want to see test pits in some of these locations to prove that they're going to work. But as far as distributing storm water, that's a preferred method.

What I'm talking about when I say non-structural is where there areas on this site suited? Are there areas on this site that are suited for non-disturbance? Are there areas on this site that you could put in surface drainage in swells or vegetated channels or things like that or rain gardens or something like that where you're doing more non-structurally? Again, these require less maintenance. It's not something the township has to go out with a vacuum truck or those types of things. That's what the non-structural is all about.

Mayor Randall: As far as the soil, it seems to be – I'm just trying to get obviously your testimony and trying to compare it to other witnesses we've had. It appeared that Dr. Pazwash had, in my opinion, he was saying it's acceptable to look at some of the soil samples that you reviewed and assume if it seems to be everywhere that this is typical of the soils that we'll be dealing with rather than to take

specific soil samples at perhaps the point at which you're installing the detention systems. Is that the wrong methodology? Is that the wrong way to approach it?

Mr. Miller: It's not consistent with the BMP manual. Again, many of these things I've alluded to are coming right out of the regulations and the BMP manual. There may be – you can make a generalized case after you do so more testing, but you need to test that location.

Mayor Randall: I guess the bigger point on the design of the system, I guess as part of the criticism, I've understood you to say that you really have to have the public hearing the entire system as you plan to install it. Get it here and not have it wait until it's closer to construction phase to get the data as to whether it has to do its design. Is that correct?

Mr. Miller: That was my testimony. Yes.

Mayor Randall: So the idea, in your experience, these systems are not something that when you get closer to construction maybe tweaked and maybe elongated if there's variation found in the water table or something whether elongated or made a little shallower to have the same volume in order to address this. Is this something that's not done in your experience?

Mr. Miller: I did say that during construction there are times that you do find things that you didn't expect, but I don't think we could use that as sort of, hey, we'll do that then. But we'll ignore what the BMP manual says you need to do. There's really no reason to not get testing where these systems are proposed. As an engineer, you would want that knowledge. So I would follow the requirements of the rule is what I would do.

Chairman: Mr. Cirulli

Mr. Cirulli: Actually part of the question I had has just been answered, but I have another question. You were saying that despite the filtration that we would be able to trap small amounts of vegetative waste would find its way into the trap. Now, are you saying the danger is that it would clog the filter at the entrance filter or that it would just would fill the trap and take up space that could be used by water? Which is the real problem?

Mr. Miller: As I said –

Mr. Cirulli: Let me just add one more thing.

Mr. Miller: Yes, sure.

Mr. Cirulli: It would seem to me, maybe I'm wrong, that if the vegetative waste did get into the trap, it would eventually just rot, dissolve, or whatever.

Mr. Miller: Sure. I have some experience with the CDS unit is, again, if they don't maintain that, there is a chance that material goes into the storm trap. At that point, it becomes even more difficult to remove. What you're saying is like if you had organic matter and it decayed or decomposed in the storm trap. That's when you're getting into issues with the infiltration rate change in the storm trap. Would there be some clogging mechanism because of this detritus that is now at the bottom of that storm trap. So that would be my concern in terms of a performance issue of that system.

Mr. Cirulli: Thank you. That's what I wondered.

Mr. Newman: You testified that the infiltration rates in the test pits you said were 20 or 22 inches per hour. You found that – I don't if it was the word extreme, but high at least. What do you base that opinion on? What would you say is normal for this are? Or could you say what is normal?

Mr. Miller: Sure. They are high. Again, I made it clear that I wasn't questioning that evaluation. I wasn't saying it wasn't professionally taken. But it is very, very high. If you're relying – again, you're having – and the applicant did that. They have what they measured in the field. Then, they use that infiltration rate for their design. What I'm saying is that, again, this gets into the issue with clogging and those types of things. I guess the question is if that system can't maintain that 10 inches per hour rate, what happens to that system? How does it perform?

What kind of maintenance? This goes into the maintenance plan. How often will this have to be cleaned out? Will the borough – does the borough have the proper equipment? I don't know that answer. But do you have the equipment to clean something like this out? Does your Public Works Department have the confined space entry training to go into a vault like this that's, you know, pretty deep underground? So those are the kind of issues that they could resolve especially in a maintenance plan. That's why a maintenance plan should be submitted with an application.

Mr. Newman: On a site of this size, in your experience, would it be possible if they dug additional test holes in the actual area where this system is going to be that it would vary from the 20 inches they found on the other areas? Or would it tend to be consistent?

Mr. Miller: I don't know. That's why you do the testing in that location. It could be consistent, but that's why you perform the testing where you're proposing it. That's why there's that requirement.

Mr. Newman: So in other words, in your opinion, you cannot attest to whether this system would work without seeing data from a test pit at the actual location of the system itself?

Mr. Miller: It's not just my opinion, but I'm partially basing my opinion on the BMP manual. Again, Appendix C was added to the BMP manual. Quite frankly, what site engineers were doing was they were using techniques that were used for septic systems. Septic systems, there's some similarities between infiltration storm systems. Then, there's some differences.

One of the main differences is that the volume of water in a septic system is much, much less than what you have in a storm water system. So there are things that are – there were changes made and additions made to what you do in a septic system to design for a storm water system. That's in Appendix C of the Best Management Practice manual.

Mr. Newman: Okay. Thank you.

Mr. Miller: I'm basically saying you need to follow that. That's all I'm saying.

Mr. Newman: Okay. So basically this is a yes or no answer. You don't feel that testing procedures that were done at the three pits are adequate enough to determine whether or not this system will work?

Mr. Miller: The locations that were evaluated are not consistent with Appendix C of the BMP manual.

Mr. Newman: Okay. I have no more questions.

Mr. Berardo: Just to elaborate on that. That's what I was going to ask him too. What other testing would you have done? Because you did say that not enough steps were taken. What else would you –

Mr. Miller: I'm sorry. I've got to interrupt. I very much apologize.

Mr. Berardo: Just to elaborate on what Mr. Newman said. You said in your testimony that you felt that the storm trap system that was being installed, there were not enough tests being taken.

Mr. Miller: There were no tests taken at that location.

Mr. Berardo: Correct. There were none. What steps would you have taken? What type of testing?

Mr. Miller: I would follow the Appendix C of the BMP manual which requires two tests in the location of an infiltration system.

Mr. Berardo: Okay. The term awkward, you were talking about the storm trap system. A little bit later on in your testimony you said that you had no negative opinion on the seepage pits. That sounds to me you're going in two different directions.

Mr. Miller: Okay.

Mr. Berardo: Could you just clarify that?

Mr. Miller: The reason I said it was awkward … it's kind of fitting something in the right of way. So it's the borough's responsibility. It's just … my impression was that it was awkward. That's impression. That's not coming out of the BMP manual. That's not coming out of RSIS. In preparing for my testimony, I didn't look at all of the elevation performance as Dr. Pazwash did. So if he made a statement that at a certain elevation it starts to spill, I'm not going to disagree with that. I'm basically leaving that question of the board member alone. I don't have the –

Mr. Berardo: So maybe it's not awkward.

Mr. Miller: I'm saying the layout looks awkward to me.

Mr. Berardo: The layout.

Mr. Miller: The performance, I'm not saying is awkward.

Mr. Berardo: Okay. Because you did say you didn't have a negative opinion on the system.

Mr. Miller: In responding to the question, I don't have a response is what I meant to say. If the applicant's professional testified a certain way, I didn't have the response to that.

Mr. Berardo: I'm just trying to grasp that. So the system that was proposed by or that Dr. Pazwash testified – are you comfortable with that system?

Mr. Miller: I spent more time looking at the storm trap system. I spent less time on the system along the road there.

Mr. Berardo: Okay. You had a lot of testimony regarding non-structured and structured. Non-structured solution and I believe Mr. Williams pond swell. So you would rather see no structures? Where would all the rainwater go? Where would the runoff go that's a better solution? I'm just trying to figure out –

Mr. Miller: Yeah. I think if we – I don't have RSISs in front of me, but I've dealt with it enough that there's nine non-structural strategies that are spelled out in RSISs. They're also in your ordinance when you have a non-residential project. You're encountering that as a planning board. So those same things apply for any site that's a major development. It's kicking in those requirements. So you're looking at time and concentration. You're looking at a whole bunch of other things. I'm looking at, well, this is RSIS.

So, I mean, I could read these off to you. Protect areas that provide water quality benefits or areas that are particularly susceptible to erosion and sediment loss. Minimize impervious surfaces. Break up or disconnect the flow of runoff over unnecessary and impervious areas. They did direct roof drainage into on lot systems, but you have a lot of impervious that is considered connected. That means that the impervious goes right into storm sewer. There's no opportunity for it to go over a more natural system.

Maximize the protection of natural drainage features in vegetation. Minimize the decrease in time concentration. Minimize land disturbance including clearing and grading. So this is where 10 years ago when your town was adopting – actually, you were doing a storm water management plan. Later, adopting an ordinance. This was before the planning board was involved in this process. You were looking at your ordinance at the same time and seeing if there were any conflicts with your zoning ordinance along with what you were adopting as storm water management.

You were seeing is your impervious cover allowance, is that going to be in conflict with your storm water management ordinance type of thing. These types of things were looked at or should have been looked at when you were going through that process of your storm water management plan and your ordinance adoption.

Mr. Reade: Mr. Miller, have you had an opportunity to walk the site?

Mr. Miller: I have not walked on the site.

Mr. Reade: You have not walked on it.

Mr Miller: Correct.

Mr. Reade: You've looked at the topography of the plans. You are somewhat familiar with the size and location going to be test pits. You mentioned that the BMP recommended two holes. The location of where the presumed drainage structure would be located. Under best practices, should there be other test pits dug on the site of the location a three-quarter acres to give you a better picture of

the total scope of the current ability of soils and provide you with sufficient data?

Mr. Miller: The locations of the roof infiltration systems, those should have corresponding infiltration testing and soil testing.

Mr. Reade: You see the pits in those locations?

Mr. Miller: Yes. Again, to give a little flexibility, you should test some to show that they're going to work. If you wanted to make a requirement, let's say that you have a test at each lot site when you're doing your plot plans or something like that. That's fine, but you want to have a proof and you want to have representation of some locations of those on lot systems, especially a system that's going to be dedicated. You want testing of that system.

Mr. Reade: Is there anything in your view that would inhibit the use of any effective non-structural strategy on this site?

Mr. Miller: No.

Chairman Hanlon: You indicated that you had installed a CDS system, I believe, out in Pennsylvania.

Mr. Miller: I have, yes.

Chairman Hanlon: And your main complaint of what the problems were was maintenance?

Mr. Miller: You need to perform maintenance.

Chairman Hanlon: I would assume they have the same problems out in Pennsylvania like New Jersey does. Thing that tells DEP you have to do an inspections and provide reports? Do they do that in Pennsylvania?

Mr. Miller: The unit that I put in was a part of a grant. Money came from the State of Pennsylvania. So there is monitoring as part of that. Quite frankly, the lake and the performance of that lake is an indicator of as those systems go in, you should start to see a response by the lake.

Chairman Hanlon: So you're not really seeing maintenance like we do here in New Jersey?

Mr. Miller: I was pleasantly surprised, I guess, that Harvey's Lake Borough was treating maintenance more seriously than I thought they might.

Chairman Hanlon: What were the maintenance problems?

Mr. Miller: I don't know that there's maintenance problems. It's the frequency of maintenance. It's how often you have to go out there and perform the maintenance. Again, they have to bring a piece of equipment in to clean out the CDS unit.

Chairman Hanlon: What is your terminology for frequency?

Mr. Miller: It depends. It depends on the loading rate. It depends on storm events. It depends on a number of things. But that's where the maintenance manual will spell those things out. Frequency, how often it needs – maybe it doesn't need to be maintained every time, but it needs to be inspected often to see what's going on. Then after you get sort of a feel for it, then you're going to adjust your maintenance.

Chairman Hanlon: I understand. In this Borough, we have both ground and underground detention systems. They are maintained. We do provide a report to the DEP on a regular basis as required. So what would be the problem with having a system here that we maintain and have the equipment to take care of it?

Mr. Miller: Then, it would be additional maintenance responsibilities for the town.

Chairman Hanlon: Okay. What about a natural system that you're talking about? They also require maintenance.

Mr. Miller: Some natural systems do. Some require less frequent maintenance.

Chairman Hanlon: Ones around here seem to require regular maintenance because of the terrain. We mentioned before, we're a "wet" state. So we're talking about similar maintenance. Plus the fact as you already were stressing before, we were concerned about the infiltration of 22 inches per hour. You thought that was kind of high. Where does that water go when it sits there for a couple of days? What kind of little critters we got growing in there before it becomes a problem and we have to bring in the County because we have mosquito problems? Each system has its own unique set of problems. Am I correct?

Mr. Miller: Each system needs to be given thought. There are some natural systems that actually benefit from a lot of rainfall. So there's no general statement you could make. Each statement needs to be thought about.

Chairman Hanlon: Would it be a good idea to remove the sidewalks and curbs?

Mr. Miller: In some cases, yes.

Chairman Hanlon: Why?

Mr. Miller: You would be reducing impervious cover. You would have room possibly to do more swells and other techniques instead of doing – again that would go toward –

Chairman Hanlon: Did you by chance see the photographs that were shown to the board from a storm July 3rd and July 4th?

Mr. Miller: I believe there were some photographs that I looked at, but that date does not –

Mr. Inglima: Chairman, are you referring to the photos that were introduced by the objectors? Because those were from a storm that was in August.

Chairman Hanlon: I was at another storm in July. The August storm –

Mr. Miller: No, I have not seen those photos to my knowledge.

Chairman Hanlon: Okay. That takes care of that question. You've not been to the site? Mr., Emmerson had not been up to the site very much either. Am I correct?

Mr. Miller: That's not what I recall from his testimony. He said he had spent some time on the perimeter of this site.

Chairman Hanlon: I don't think he was there during the rainstorms. My concern is that my trips to the site discarding the August 1st storm for a minute. Most of the land absorbed the water almost immediately. In regards to the August 1st storm, that particular area that everybody is concerned about – where is that on West Saddle Brook Road. Corner of lot 5 where the depression goes down.

There was virtually no water that day. The number of 22 inches per hour – that's the first I've heard that number, but it sure seems like it did it. I mean, there was absolutely no water.

Chairman Hanlon: I think you stated that 22 inches should be investigated. Is that my understanding?

Mr. Miller: I stated that testing needs to be performed at the location of the storm trap system.

Chairman Hanlon: Okay. That's seems to be the one that has really absorbed a great deal of water based on my looking at it. The situation is the system maintenance plan. The system maintenance plan, how should that be laid out?

Mr. Miller: The system maintenance plan layout?

Chairman Hanlon: Yes.

Mr. Miller: There is an operation and maintenance requirement for stormwater management systems. It becomes even more critical because these systems will be dedicated to the Borough. So there's even rationale from the Borough's standpoint that you're going to have the ultimate responsibility for these systems.

Chairman Hanlon: Is there some kind of guideline for a municipality system plan?

Mr. Miller: Absolutely. It's within the BMP manual. It's an Appendix of the BMP manual. You can take a look at.

Chairman Hanlon: You're looking at the map there in front of you. Have you looked at the property along what's known as Van Dyke Drive?

Mr. Miller: Okay.

Chairman Hanlon: On the eastern side of the roadway where the four lots are, it's been previously stated that as much grass as possible to absorb the water passing along that street level from Hollywood Avenue.

Mr. Miller: I didn't hear the question.

Chairman Hanlon: I'm sorry. On the eastern side of Van Dyke where the four lots are, there are no storm drain catch basins along there. Am I correct?

Mr. Miller: I don't see any on the plan.

Chairman Hanlon: Do you have a recommendation of what should be done to collect some of that water natural or catch basins system?

Mr. Miller: They have some on lot systems I would imagine, again, for the roofs. What you say is an important thing that it depends what the consistency of that lawn is. Is it going to be placed on compacted fill? Or is there going to be some sort of restoration? Are we going to be able to maintain the infiltration rates that are there now? I think is –

Chairman Hanlon: I think each lot is supposed to be two 1,000 gallon tanks.

Mr. Miller: For the roof.

Chairman Hanlon: Yes, and some collection from the driveway.

Mr. Miller: From the driveway as well.

Chairman Hanlon: The document you have in front of you, does it show curbs and sidewalks?

Mr. Miller: I'm sorry. On what? I don't see any indication of that. Actually, I see the intersection with Hollywood it looks like it has some curb.

Chairman Hanlon: Okay. On the document you have, does it show sidewalks and curbs going down

Mr. Miller: I'm sorry. I thought you asked about curbs. There is a sidewalk for those on Van Dyke.

Chairman Hanlon: All right. So if the curb and sidewalk are removed, those four lots –

Mr. Inglima: Mr. Chairman, there is no curb shown in the plan. He didn't testify that there was.

Chairman: Okay. I misunderstood. I thought he said there was none.

Mr. Inglima: He said that he saw a sidewalk.

Chairman Hanlon: A sidewalk on Van Dyke?

Mr. Miller: Correct.

Chairman Hanlon: If we removed the sidewalk on Van Dyke, would that improve the water absorption?

Mr. Miller: There would be less impervious cover.

Chairman Hanlon: Would it be possible, in your opinion, that some type of a seepage pit between the first lot and the fourth lot to collect the water coming down the street would be appropriate so that we don't have erosion on the front of those lawns?

Mr. Miller: I haven't given it any consideration to this time.

Chairman Hanlon: All right. Thank you.

Mayor Randall: Mr. Chairman, I have just on other question based on the questions. Getting back to the natural systems you were talking about natural features, it's pretty well established that the most logical natural place to collect the water on site is on the southeast corner of lot five. That's been established as the low point of the property. That's where the water flows into here and has a high level of infiltration rate from everybody during the testimony. I guess my question to you is if, in fact, there was going to be a natural detention system installed at that location,

the prior system I was not a fan of and I don't think many people were.

It could pose a couple of problems particularly to the neighbor directly below it directly to the south of it with the prior system that was in place. Do you have any concerns about a natural detention system and the amount of water that would be directed there to be collected on site that just by the sheer volume of water that might cause problems for that neighbor to the south?

Mr. Miller: The non-structural strategies I'm talking about, again, in the residential site improvement standards are distributed throughout the site. It's not necessarily putting a system down at the bottom in the location that you're referring to. So that's kind of – my testimony was about a distribute it through the site non-structural techniques rather than some system at the bottom.

Mayor Randall: I mean, if the applicants wanted to, they could collect it at one spot for the most part because it's a logical place to collect the water given the soils and the elevation. You suggest obviously something more elaborate. I'm just saying as far as accomplishing the end with a non-structural resolution, that's a possibility isn't it? That might be something to satisfy a non-structural solution, but not the satisfactory result for the neighbors.

Mr. Miller: I think we might be thinking of two different things for non-structural. What it sounds like you're talking about is it sounds like a basin or some basin like structure at the bottom. That is a structural technique. It's not a non-structural technique.

Mr. Whitaker: Mr. Miller, is it correct to say you've not attended any of the prior 16 hearings. Is that correct?

Mr. Miller: Correct.

Mr. Whitaker: Is it also correct to say that you other than reading two sets of minutes that we introduced this evening, you've not reviewed any of the transcripts of those 16 meetings?

Mr. Miller: Correct.

Mr. Whitaker: Were you offered any of those transcripts to review?

Mr. Miller: No.

Mr. Whitaker: In your approach in doing engineering work, is it appropriate to be able to get a feel and read of all the information that is before the Board when you do an analysis?

Mr. Miller: Can you ask the question? I'm not sure I follow you.

Mr. Whitaker: When you're doing an analysis, is it appropriate to not only read reports but also to get a synopsis or a review of transcripts of the testimony, especially from the professionals in the drainage area pertaining to the reports that have been submitted? You sit as a planning board member, wouldn't you want that?

Mr. Miller: As an expert, I can rely on the other experts' opinions. So I've made my expert testimony based on my colleagues' comments before this board.

Mr. Whitaker: So it's just what your colleague has told you, but you haven't listened to the explanations by the professionals or the applicant?

Mr. Miller: I have not.

Mr. Whitaker: You have not read the transcripts where those opinions were rendered by the applicant's experts?

Mr. Miller: Correct.

Mr. Whitaker: Have you read the various reports from the Borough's professionals?

Mr. Miller: No, I don't believe I have.

Mr. Whitaker: Okay. Do you know who the Borough Engineer is?

Mr. Miller: No.

Mr. Whitaker: You said you were at the site today.

Mr. Miller: Yes.

Mr. Whitaker: For how long?

Mr. Miller: A short time.

Mr. Whitaker: What's a short time?

Mr. Miller: Five minutes.

Mr. Whitaker: Get out of the car?

Mr. Miller: No.

Mr. Whitaker: Just drove by it?

Mr. Miller: Yes.

Mr. Whitaker: Never been on that site and observed any of the drainage conditions during a rain?

Mr. Miller: No, I haven't.

Mr. Whitaker: Typically when you're doing engineering work and doing an analysis on the site, don't you walk the site?

Mr. Miller: Yes, I will walk the site.

Mr. Whitaker: Did you walk the site?

Mr. Miller: No, I have not trespassed on your property, no.

Mr. Whitaker: Did you walk around the site?

Mr. Miller: I did not walk around the site.

Mr. Whitaker: Did you walk on any of your clients' sites?

Mr. Miller: No.

Mr. Whitaker: Do you know who your clients are?

Mr. Miller: I don't know them by name.

Mr. Whitaker: Do you know where their properties are located in comparison to this application?

Mr. Miller: I know approximately where some of them are.

Mr. Whitaker: Approximately where some but not exactly.

Mr. Miller: No, I don't know exactly where all nine are located.

Mr. Whitaker: Did you prepare any type of report in connection with this testimony that you provide this evening?

Mr. Miller: No.

Mr. Whitaker: In connection with your concern pertaining to the maintenance aspect, until you heard the Chairman tonight speak of maintenance provisions and focus on structured drainage facilities they have, were you aware as to whether we had the capability of doing maintenance on such structures?

Mr. Miller: I'm not aware of Public Works equipment or knowledge or training.

Mr. Whitaker: You didn't make any inquiry into that before you did your analysis and said it is what your concern is tonight?

Mr. Miller: I did not.

Mr. Whitaker: Did you have a chance to look at any of the prior reports that municipality would have to submit as you testified to the municipality has to submit to the DEP as far as that analysis?

Mr. Miller: I have not looked at those annual reports and certifications.

Mr. Whitaker: Is it correct to say those annual reports are public records?

Mr. Miller: They are public records, sure.

Mr. Whitaker: So you had the ability to look at that.

Mr. Miller: I can certainly –

Mr. Whitaker: You had the ability to look at –

Mr. Miller: I can make the OPRA request.

Mr. Whitaker: You never did it?

Mr. Miller: I have not done it.

Mr. Whitaker: In connection with the concern you had about certain soil tests done at certain locations. Up until tonight based upon this ambiguous question to you, you had never seen the map as to where those Xs are and where the locations are.

Mr. Miller: Today is the first time I saw this.

Mr. Whitaker: So you never did any kind of analysis as to where those locations where, the depths of those holes in comparison to the elevations and depths of where the structured drainage system is proposed. Is that correct?

Mr. Miller: I was looking at the report and the data presented, but I didn't know exactly where those test pits were done. As most applications provide the locations of those test pits in the application.

Mr. Whitaker: This is a document that was on exhibit here. You were never given the opportunity to look at that exhibit. Is that –

Mr. Inglima: You know, I object to the characterization of giving an opportunity. Just ask him if he did or didn't.

Mr. Whitaker: Well, he had the opportunity to come here. It was on record. He was doing his analysis. I'm asking the question as to whether he did his homework.

Mr. Inglima: It's cross examination creating testimony.

Mr. Whitaker: Now, you talked in terms of the concern you have about having other tests done for the purposes of the determining the permeability as to where these structures are being located. You're a planning board member also, so you're familiar with preliminary types of subdivision approvals.

Mr. Miller: Is that a question?

Mr. Whitaker: Yes.

Mr. Miller: I am familiar with preliminary and final, yes.

Mr. Whitaker: So in the course of getting preliminary approval on a subdivision, one of the conditions could be and is fairly standard is to make a condition upon the satisfactory testing being done at the locations proposed and for the approval for the board and its professionals the storm water management plan, the cleanup plan, for a site. It's a preliminary. You understand what preliminary means?

Mr. Miller: I know what a preliminary is, yes.

Mr. Whitaker: You realize that with a preliminary you cannot go out and do the construction and install those things if there are conditions attached to a preliminary?

Mr. Miller: Yes.

Mr. Whitaker: In connection with –

Mr. Miller: I'm saying yes to that question. I'm not necessarily saying yes to your theory of thought.

Mr. Whitaker: You answered my question, okay. So you recognize that's a way it can be done.

Mr. Miller: Recognizing what can be done?

Mr. Whitaker: Imposing conditions on a preliminary. A Board can impose that condition to meet a requirement.

Mr. Miller: I don't believe that condition can be imposed, but I believe that a Board can issue conditions on an approval.

Mr. Whitaker: In connection with your analysis, you did an independent study on the majority of the aspects. You basically, am I correct to say, that you basically looked at this plan to determine what your concerns were?

Mr. Miller: I must get a definition from you on what an independent –

Mr. Whitaker: Well, you looked at this and you didn't prepare any kind of a plan pertaining to non-structural aspects. You didn't show us where you would put rain gardens on this site. Is that correct?

Mr. Miller: My job wasn't to design or show an alternative design for this.

Mr. Whitaker: My question is really a yes or a no. Did you do anything like that?

Mr. Miller: I did not.

Mr. Whitaker: You talked in terms of the maintenance aspect and the other aspects of structural drainage systems. Correct to say the mayor had suggested the concept of a swell areas or a large retention area as a low point on a piece of property. That too would require a certain type of maintenance. Is that correct?

Mr. Miller: It sounds like it would.

Mr. Whitaker: Typically when you see retention facilities like that sediment build up, does that require the town or someone to maintain them, to clean them?

Mr. Miller: If there is sediment build up, yes. If you're talking about an infiltration basin, that would require maintenance.

Mr. Whitaker: Is it also sometimes required maintenance to cut the grass or take away the vegetation when it's overgrown and things like that?

Mr. Miller: There is probably a mowing requirement. It depends on what type of system we're talking about. But there could be a mowing requirement.

Mr. Whitaker: In some of some of those systems, is there any potential for a depth of water in location that you as a drainage consultant would you have a safety concern for something like that where it might have to be fenced and maintained that way?

Mr. Miller: Not necessarily. Not if I wasn't holding water. If it was evacuating and properly designed and constructed, no, I'm not sure I would.

Mr. Whitaker: But if held water for one of those major events that you are very concerned about, those ones that occur every once in a while but not very often, that would be a concept to put fencing around it.

Because you'd be concerned about the safety aspects if there was any kind of water retained.

Mr. Miller: I'm not sure I would.

Mr. Whitaker: So you wouldn't have a problem with a retention facility that retains some water of some depth for children's safety or pedestrian safety in any location?

Mr. Miller: For the short period of time it retains the water, no. If it was malfunctioning or if it was a wet basin or something like that, maybe I would.

Mr. Whitaker: In connection with your analysis, do you dispute the fact that the amount of water that is being retained on the site as proposed by the applicant that amount that is being held back meets the required storm water management requirements?

Mr. Miller: Can you ask the question again?

Mr. Whitaker: Sure. In your analysis of this site and what the applicant is proposing – put aside structural and non-structural for a moment – is the applicant meeting the criteria for proper retention of storm water on site?

Mr. Miller: It's an unknown because of the unknown, again, without the testing and without knowing amount analysis, I think we don't know at this time.

Mr. Whitaker: Well, let's just assume the tests come in contrary to what you might assume. Let's just work on the basis that – let's work on the basis that what's being proposed here does in fact work. Is the retention capability that shown with this system meet the RSIS requirements?

Mr. Inglima: If you are asking this as a hypothetical –

Mr. Whitaker: Hypothetical.

Mr. Miller: Hypothetically – non-hypothetically, I haven't seen in the report an analysis on the maintenance of ground water recharge. There's actually a tool that you typically see in a report. It's not in this report. So I would say, no, I can't make that statement.

Mr. Whitaker: Okay. You're not certain one way or the other without that information.

Mr. Miller: That information wasn't provided. So I don't know. I think that's required information.

Mr. Whitaker: No further questions.

Chairman Hanlon: Mr. Hals, you are the proper public courts in town filed a DEP report based on our detention systems involved?

Mr. Hals: We do not specifically in the way that you characterized the summary of DEP.

Chairman Hanlon: We do –

Mr. Hals: We do. The systems are maintained on a yearly basis. Reports are filed with the state. I would call them rudimentary. They're generalizations.

Chairman Hanlon: But we do have a plan where people do go out and service our systems on a regular basis?

Mr. Hals: Yes.

Mr. Stanley Kober, 919 Washington Avenue: asked questions of Mr. Miller.
Ms. Kim Mitchell, 934 Washington Avenue: asked questions of Mr. Miller.
Mr. Jim Albes, 31 Valley Forge Way: asked questions of Mr. Miller.
Ms. Patricia Lewis, 14 Brandywine Road: asked questions of Mr. Miller.
Ms. Victoria Petrock, 6 Cleverdon Road: asked a question regarding procedure.
Ms. Suzanne Curtis, 11 Van Dyke Drive: asked a question regarding procedure.
Mr. Steve Reilly, 26 Sleepy Hollow Drive: asked a question regarding procedure.

Mr. Whitaker: Mr. Chairman, just so the record is clear. The subdivision application has been completed by the applicant. Mr. Inglima has completed his cross examination of my witnesses and has presented his. It's my understanding that we're going to have a meeting on December the 4th. My suggestion would be that we start at 7:00. We will be prepared to present very succinctly the soil movement aspect under the terms and conditions of your ordinance which requires a public hearing and requires a decision be made from the time of filing within 45 days which is long overdue.

I don't say that in criticism, but just to give you the concept this is the 16th or 17th meeting already. We are prepared to conclude with the soil movement that night and proceed with summations. We grant an extension of time for December the 4th. I think it would be prudent if your board can see fit to do it to add additional time to it so it can be completed that night. We all recognize that a carry over to the following year would be inappropriate. Unfair to try to have any new members that might appear at the board to have to play catch up with all the meetings and exhibits that are there.

So I just make that as a recommendation. Suggestion for 7:00 rather than 8:00 but to also put on the record what we are prepared to do.

Mr. Inglima: And for the record just to assist the board and possibly the public in figuring out exactly what we're doing a far as schedule, I do not intend for my clients to bring any witnesses with respect to the soil moving application. Would obviously respectfully request an opportunity to cross examine witnesses who are offered by the applicant based on the nature of the soil moving application. I don't expect those questions to be very lengthy. So it seems to me that we would be able to deal with this soil moving application in fairly expeditious form. Move on to any other witnesses of municipality who are going to testify. Comments from the public. Summations of council. Go from there.

Mr. Whitaker: Exactly. One of the things we have to do with summations and the members of the public will have the opportunity to speak. It's not going to be repetitive. We always do that. We recognize that.

Mr. Inglima: I'm sorry. Just for housekeeping purposes, if I informally do it I would respectfully move all of my clients exhibits into evidence at this time to the extent it wasn't done or obvious that it wasn't done.

Mr. Whitaker: And likewise by me. I did it at the last meeting, but just put it on the record. Thank you.

Chairman Hanlon: Members of the Board, the recommendation for procession were made that we start the meeting at 7:00 on the 4th. I realize that some of us are actually Board members are fully employed. So can you all work that into your schedule on the 4th to meet at 7:00 instead of the 7:30? I realize Mr. Rorty isn't here. But he also has a very tight time schedule for making this meeting.

Chairman Hanlon: Okay. Let's go forward. We will then start the December 4th meeting at 7:00. The posting will be in the newspaper at the appropriate time.

Mr. Cucchiara: Stated he had reviewed the notice and it was satisfactory

Motion to adjourn: Cirulli, Berardo
All in Favor

Meeting adjourned at 11:10PM.

Respectfully submitted by:
JoAnn Carroll
Planning Board Secretary