OLD SAYBROOK PUBLIC HEARING

THE PRESERVE SPECIAL EXCEPTION

FOR OPEN SPACE SUBDIVISION

WEDNESDAY, NOVEMBER 10, 2004, 8:00 P.M.

OLD SAYBROOK MIDDLE SCHOOL

60 SHEFFIELD STREET

OLD SAYBROOK, CONNECTICUT

PLANNING COMMISSION MEMBERS PRESENT:

ROBERT MCINTYRE
JANIS ESTY
SALVATORE ARESCO
RICHARD TIETJEN
H. STUART HANES
JUDITH GALLICCHIO
BRYAN ZIELINSKI, RECORDING CLERK
CHRISTINE NELSON, TOWN PLANNER
MARK BRANSE, LEGAL COUNSEL
JEFF JACOBSON, TOWN ENGINEER

CHAIRMAN MCINTYRE: It's eight o'clock. We'll open the public hearing. First order of business will be -- I just want to make a comment to the audience on how the proceedings are going to unfold. The first portion of the public hearing we let the applicant speak. Once the applicant has finished their presentation, then we open up the floor to the audience for those who are against or for The Preserve. After that time then I open it up to the board to ask questions of the applicant. During -- when the floor is open, the applicant may or may not respond to your questions at that time. And the same thing if you ask a question of the board, we may or may not respond at that time. Just keep in mind we are listening to everything everyone is saying.

At this time I would like to ask Christine -- oh, Judy Gallicchio would like to make a statement.

MS. GALLICCHIO: Thank you. Just for the record, I would like to state that I live on Pheasant Hill Lane, which is off of Ingham Road, about 600 feet from the closest boundary of The Preserve. I do not, however, feel that that would preclude me from making a fair and impartial decision on this application.

CHAIRMAN MCINTYRE: Thank you.

MR. BRANSE: Mr. Chairman.

CHAIRMAN MCINTYRE: Yes.

MR. BRANSE: For the record, Mark Branse. I would just ask if there is any party to this proceeding, and party includes specifically the applicant and the intervening party, whether there is any objection to the participation of Commissioner Gallicchio and if so why.

PUBLIC SPEAKER: Do you have a microphone? We can't hear you.

MR. BRANSE: For the record, I'm Mark Branse. And I'm just asking if there is any party or individual who objects to the participation of Commissioner Gallicchio. I note that Attorney Charles Rothenberger is present representing an intervening party and also Attorney Royston representing the applicant. And Commissioner Gallicchio has just disclosed the location of where she lives, which is approximately 600 feet from the boundary of the subject property. She has stated that she believes that she would not be impacted by this development and can participate objectively concerning the application. My question is if there is anyone who objects to her participation.

(No response.)

MR. BRANSE: I would note for the record that there is no objection. Thank you.

MR. ROYSTON: Attorney David Royston for the applicant. And we will state for the record that we have no objection to the participation of Mrs. Gallicchio on this application.

CHAIRMAN MCINTYRE: Thank you, Attorney Royston.

Christine Nelson, town planner, do you have anything tonight to open up?

MS. NELSON: Yes. Mr. Chairman --

MR. ROTHENBERGER: I'm sorry. Just for the record, Charles Rothenberger for the intervening party, the Connecticut Fund for the Environment. I'll state on the record as well that we have no objection to your participation.

CHAIRMAN MCINTYRE: Thank you. Sorry about that. Okay.

MS. NELSON: Mr. Chairman, in your packets you received some correspondence with regard to this application as well as three pieces of correspondence which I handed out this evening, which would be Exhibit No. 51, a letter from BL Companies to J. Northrop, town planner in Old Saybrook -- I mean in Westbrook; Exhibit No. 52, a memorandum report from Christine Acosta, our enforcement officer. And I

would like to enter the minutes of November 3rd, 2004 as Exhibit No. 53. And anything else would be numbered from that point on.

CHAIRMAN MCINTYRE: Did you say you gave us a number 52, also?

MS. NELSON: Yeah. Start with number 54, anything that comes in.

CHAIRMAN MCINTYRE: I don't see it. You didn't hand a copy of that out to us.

MS. NELSON: No. It should be right in front of you.

MR. HANES: This one.

CHAIRMAN MCINTYRE: Okay, thank you. Do you need this?

MS. NELSON: No.

CHAIRMAN MCINTYRE: Okay. At this time I would like to turn the proceedings over to Attorney Royston, the attorney for the applicant.

MR. ROYSTON: Mr. Chairman, first of all, I think my first duty is to check to make sure that all of the equipment works. This microphone I think barely works.

MR. BRANSE: This one is better.

MR. ROYSTON: I believe the handheld microphone works better.

First of all, I would like to again thank the commission on behalf of the applicant, River Sound Development LLC, for allowing this public hearing to be presented in two separate meetings, because the process is in fact a two-step process. One, the yield or conventional standard plan and secondly, the preliminary open space plan. It seems appropriate that this is the way to handle a presentation of the material in a thorough and organized sort of way.

Last week we were considering the conceptual standard plan, and at that meeting we received a number of comments in written form from consultants to the commission who had reviewed the application. And in fact, we have reviewed -- we have received tonight some additional review comments which relate to the conceptual standard subdivision plan. As we indicated last week, we would provide you a written response, a unified response to all the comments that we had received. Obviously, we have not included those which we have just received. But, again, as we did say at the last meeting, the applicant would agree to and consent to an extension of time of the public hearing, if that were required, in order to provide a full and complete review of all the comments and materials presented in connection with

the application.

What I would like to do first is, for the record, provide you with copies of that response. And if I can ask Attorney Branse to hold the microphone for a moment, I will give those to you. They are -- there are a number of pages to the volume, so I am just going to give enough for the commission and an additional one for the record. There are more which we will be happy to provide to your staff, but at this point we'll give them to the commission for the record.

As part of this response package, there are reduced copies of additional test flog mapping. And again, we will provide you with these maps. There are the reduced copies in those booklets, but I will submit the full -- full-scale set of these maps for the record. As you can understand I didn't want to carry about ten of those into the meeting.

We also indicated at the last meeting that we would provide you with 11-by-17 versions of the boards that have been submitted. We will wait until the end of the meeting, and then we can submit those for the record rather than take the time to do that now.

The last item which I would like to submit for

the record at this time, when we went over the list of exhibits that was provided to us which included all the items that were submitted plus correspondence to be received, we did note that there was not included a memorandum to the town planner from the first selectman with respect to their willingness and desire to accept the open space to the property if the project were approved. I think it's because it was dated before the application that it never got into your record, but I would like to submit that at this time.

MS. GALLICCHIO: Excuse me one second, a procedural. Mr. Chairman, where do you want all of these exhibits put?

MS. NELSON: I'll take them.

MS. GALLICCHIO: Thank you.

CHAIRMAN MCINTYRE: You're earning your money tonight.

Attorney Royston, anything of a small nature you can just pass that and we'll pass it down.

MR. ROYSTON: Thank you. The last thing, which really doesn't take too much, is just a listing of the people who are going to speak tonight. As I mentioned this public hearing is essentially for the commission to review our presentation, hear our

presentation of our preliminary open space subdivision plan. And under the regulation it's for the commission to determine whether that plan meets the open space qualifications, the open space goals of the regulation, and represents a sound method of the development of this property. That's the intent of the special exception, for you to take a look at that preliminary plan and make that determination. And for that purpose the people who will be presenting to you tonight are Robert Landino, the principal owner of the BL Companies, the project and engineering planning firm for this project; Randall Arendt, who is a planner. Further introductions will be given by Bob Landino. Michael Klein, biologist; Dr. Michael Klemens, ecology and vernal pools; Stuart Cohen, Ph.D., integrated turf and pest management; Arthur Hills, the golf course architect; and again to summarize Bob Landino.

So I am going to turn this over to Bob. We've tried to keep our presentation of this material, which is extensive, to no more than an hour and 45 minutes in order to provide time for public comment. Bob.

MR. LANDINO: Thanks, Dave. Good evening. I'm going to briefly introduce the team and just give a

little background. I did give some of that in last week's public hearing, but what I would like to do is spend just a little bit of time talking about the speakers that were not present at last week's hearing and the speakers that were present but did not speak.

First, Randall Arendt is going to speak. And as we discussed last week, he's one of the preeminent planners of the planning and design that we are proposing this evening, which has many names and forms, but essentially the basic goals and objectives are to work with the natural terrain, to work with the biology of the site, to work with land forms on the site, and to the extent that the city deems possible, preserve as much of the existing land as possible and dedicate as open space and at the same time create a community that's functional, and viable, and successful. And Randall has written several books and is a widely recognized expert in the area of conservation subdivisions, and he will be speaking about the plan at the outset of this presentation.

Then Michael Klein will begin the discussion of the biology of the site and will talk about inland wetlands, watercourses, and wildlife. And Michael's firm, Environmental Planning Services, which also

includes one of the associates, Jim Cowen, will discuss all aspects of the site and talk about what work they have performed over the past several months, which includes extensive field investigations and an understanding of exactly what the biology of the site is and what the wetlands are, what their functionality of value is, and how it relates to the planning process.

And then we will ask Dr. Michael Klemens to speak. Dr. Klemens, in the world that we work in everyday, is widely considered the foremost expert in vernal pools. And one of the important objectives of our work over the past year, since we received the zoning approval last fall, was to truly understand the connection and the connectivity between vernal pools and the inland wetlands watercourse systems. And it's really gaining a complete understanding of the biodiversity on the site and how we could plan accordingly and to the extent possible develop that planning to minimize disturbance to biodiversity and preserve connectivity in a way of making sure that all forms of wildlife and plants are preserved and the impact of them is minimal during the planning and design process.

Following Dr. Klemens I will ask Dr. Stuart

Cohen. He will come up to speak. And Stuart is a biological toxicologist, as I mentioned last week, and has spent virtually his entire career understanding how to maintain turf in a way that minimizes the impact to the environment. And he's, again, an extensive expert, an extensive published expert in this area and will give a brief presentation on some of the concerns that are historically credible and understanding -- and understandable concerns about the potential negative impact of golf courses on adjacent environmental areas, sensitive areas. But Stuart's group has repeatedly demonstrated that if design is planned and implemented properly, that those traditional fears are unwarranted.

Then next will be Arthur Hills, who has -- for those of you that golf, has over a half a century of experience in the design of golf courses throughout the world. And he will work -- he will make a brief presentation and discuss the actual design of the course itself and also talk about how each hole relates to the environment and some of the discussion that you will hear prior to his presentation.

And then finally, I'll give a presentation of the open space plan itself and really talk about the

opportunity that exists when you look at what we would propose under existing zoning as described last week versus what we will describe this evening. We will try to demonstrate to the planning commission this evening that this is really a great opportunity to break all of the rules that -- all of the conventional subdivision rules that have plagued the implementation of sound planning principles which will be discussed through the evening. And hopefully by the time we discuss the plan, this commission will get a real sense that by thinking out of the box and by doing all of the things that each expert recommends and prescribes, that we can really build this land in a way that is economically successful and is culturally successful, but most importantly is environmentally successful.

So with that I would like to first introduce Randall, who will begin the planning discussion.

MR. ARENDT: Good evening. Am I audible everywhere in the room? My name is Randall Arendt, and I will be speaking largely about our approach to this project to design an environmentally sensitive development consistent with the courses that I teach around the country for the Urban Land Institute and The Conservation Fund.

Christine just passed out the latest issue of The Planning Commissioner's Journal. I'll try to get you a back number. I wrote an article -- several articles for the PCJ over the years. Last year I wrote an article specifically about this design approach, this planning approach, where we look at the land and have that really dictate the form of the development rather than the form of the development being dictated by cookie-cutter regulations that say so many feet of street frontage, so many square feet of lots, so many square feet of setback and all of those inhibiting factors.

Last week I spoke at length about the conventional subdivision layout. The so-called yield plan which the town's ordinances require to demonstrate the baseline density permitted. As a buyer we spoke briefly about the kind of layout which the applicant proposes to build instead. Tonight I'll recap some of those thoughts and will comment on them further to set the context for much more detailed remarks by the environmental and engineering specialists on this very distinguished multidisciplinary planning team.

One of the fundamental differences between conservation design and conventional design involves

a process which is involved. Instead of a perfunctory analysis of just the inherently unbuildable areas, the wetlands, the floodplaines, the steep slopes, conservation design examines a wide array of other natural and cultural features that are not required to be documented or designed around in conventional subdivisions. These features include upland/woodland habitats, wildlife travel and migration borders, significant trees and tree samplings, cellar holes, historic roads, stone walls used into and out of the property and even rock formation. We are cognizant of all of the above. All of these elements add both character and value to the resulting neighborhoods, improving the quality of life for the people that live there and for the greater community in Old Saybrook, that will have free and unfettered access to over five miles of trails and 500 acres of undisturbed woodland habitat. It's in everyone's best interest that these features be identified, located, and designed around.

Dr. Klemens will speak at length about the detailed inventory he conducted with regard to vernal pools, documenting the number of species and estimating the populations of those species based upon scientific analysis of the egg masses which he

found and counted.

Michael Klein will discuss his survey of other forms of animal wildlife and plant species which his team encountered. All of these data and more informed our site planning process, which was essentially the reverse, the reverse of which is typically done with conventional subdivisions. Instead of first laying out the streets followed by the lot lines, our process focused first on identifying potential areas for conservation. Not just the inherently unbuildable wetlands, floodplaines, and steep slopes, but also a very substantial percentage of the developable uplands. The goal is to identify, design around, and permanently protect, permanently protect an interconnected network of conservation land. Our goal is not simply just to satisfy a basic percentage of open space, but to ensure that the most environmentally significant lands are safeguarded in a way that preserves the integrity to the maximum extent feasible.

I participated in every stage of the process, from numerous technical meetings in professional offices to multiple site walks, during which we criss-crossed the entire property under a variety,

sometimes very challenging weather conditions. Working with renowned biologists and the team's very experienced engineers and landscape architects, I helped stake the proposal before the town this evening.

After locating that interconnected network of open space or conservation lands, we then positioned the house sites and selected the most appropriate locations for the two compact village settlements. Only after the house sites were identified did we do any serious work on street alignments, which for us was the third step of a four-step process, not the first of two steps as in a conventional development.

The final design step is to draw in the lot lines. By inverting the design process in this way, we arrived at a fundamentally different and superior result. It is not exaggeration to say that the central organized principle here has been the preservation of an open space network which has been carefully designed to preserve vernal pools, the vast majority of the upland habitat areas, other woodland habitats, in addition to cultural features such as cellar holes, historic but abandoned town roads, and most of the stone walls. This enlightened design process was made possible by the town's progressive

ordinances which provided the maximum flexibility in lot sizes, lot frontages, building setbacks, house sizes, and housing types. With the conventional yield plan, it is simply now possible to design around all those features and anything like that way.

The force of that design that I advocate was adopted, followed. It went well and has produced results that reflect a rare degree of sensitivity to both natural and cultural resources. This approach has enabled the applicant to permanently preserve more than 500 acres of undisturbed woodland habitat in addition to, in addition to the golf course. Stuart Cohen and Arthur Hills will speak in much more detail about the design and management of that golf course.

Suffice it to say here that our goal has been to create the most environmentally sensitive and responsible golf course in the entire country. This design approach has been likened to the Energizer Bunny, because it continues to protect significant conservation lands within each new development. Simply put it enables developers to become the largest conservationists in the town's history. Each time land is developed compactly around the central organizing principle of open space protection, more

land is added to the town's permanent open space network.

Some communities which I have introduced to this concept have already saved literally hundreds -- no, thousands of acres of land from development, all at no cost to the municipality, the county, the state or land trust. I think this is perhaps the most exciting environmentally sensitive, cost-effective development approach that has been devised to date. And it's possible because of the flexibility inherent in the town's very progressive zoning and subdivision ordinances which allow us to disengage from the straight jacket of cookie-cutter regulations which dictate the street frontages, and lot sizes, and setbacks in such a way that would result in a whole destruction of this problem. As it has done in properties in my town in Narragansett, Rhode Island, as it had done in my former borough of Malvin, Pennsylvania. Wherever I have lived I have seen this happen.

The exception to the rule, Amherst, Massachusetts. One week after I moved to Amherst in 1986, I attended a public hearing on the proposal for new regulations. And they were just beginning the process. And I got up and I said, I've got an idea

here that I have been working on at the center of rural Massachusetts. And they became the first town in the Connecticut River Valley to adopt a conservation design. And that's now been nearly 20 years ago. And they in fact mandated over large parts of the town of Amherst, because they recognized what a great planning tool it is.

So it's with great pleasure that I have been a part of this team, and I want to turn the microphone over to our next speaker, who will be Michael Klemens, I believe?

MR. LANDINO: Klein.

MR. ARENDT: Michael Klein, sorry.

MR. KLEIN: Good evening, Mr. Chairman, Commissioners. My name is Michael Klein. My firm, Environmental Planning Services, was formed about 20 years ago to provide not only the basic natural resource inventory data that we have talked about and which is the bulk of our work, wetland delineations, biological surveys and so forth, but also and unfortunately up until now not as big a part of our workload has been the interpretation and valuation of this data and the implementation and assistance of a planning process which in this case is proactive, but as I'm sure you all are aware is more too often a

reactive process.

I have 27 years of experience consulting in Connecticut. I'm a soil scientist and a biologist. The other two members of my firm, Jim Cowen and Eric Davison, are also biologists and soil scientists. And I think it's no accident that this multidisciplinary approach within the firm allows us to try and look at a little bit bigger picture. And just like Randall has said, we view this as a tremendous opportunity to look at an entire ecosystem within the context of a very unusual and far-sided land use regulation.

In the late '80s and early '90s, I was a planning commissioner, like you folks, in a town that had a joint planning and zoning commission and also a wetlands commission. I think you have a small town, also. And we had a joint designee from one commission to the other, and I saw that you had that here. It's a really great thing, but it also allows and sometimes gets really frustrated about what Randall was talking about, the rigid requirements of conventional zoning. This is a chance to move away from that, toward the conservation design ethic. And we have been very excited and privileged to be a part of it.

The first part of our work was to review the existing data. As I am sure you're aware and most of the public is aware, there was a prior set of land use applications associated with this piece of property which had a variety of degrees of success. But at any rate, we looked at that data as a first step in the process. Much of it was a very good quality. Bob Russo delineated all the wetlands on this roughly thousand-acre parcel of land. He reviewed that in the field. We didn't go out and check every flag, but in walking the site we didn't find any areas that he should have marked that weren't and/or other areas that were marked that shouldn't have been. So we are very comfortable with that wetlands delineation as part of the process for the review and approval of the golf course prior and was considered acceptable by your conservation commission. And we certainly think it's a fine place to start.

Bob also did a function value assessment for the wetlands on the property, used the Federal Highway Administration method, which is one of several wetland assessment methodologies. And again, we looked at that and thought that that was a fine place to start. And I'll talk a little bit about how we

expanded that a little bit further.

Since the time of those original applications, David Braventure had done a bird survey on the property, surveyed the avian resources on the site. And we thought that that was also very well done scientifically, appropriate methodology, and appropriate for use.

We did identify some additional data needs. One of them was a flora inventory, an inventory of the plants at the site. Jim Cowen, a botanist and soil scientist from my office, performed most of that work. And this was done during the growing seasons of 2003 and 2004. Jim was on site for 25 days in particular during those two years looking at vegetation. Those surveys were timed to identify the maximum amount of information about the flora. We looked at all the habitat types that were present at the site. We identified the potentially plant species of conservation concerns, listed species, so forth. We identified the habitats that they were likely to look at and times of year that they were most likely to be conspicuous. And Jim timed the surveys in those locations to maximize the opportunity of finding those. And that's an unusual luxury to have, especially to go back a second

growing season and do that. And it's the result of this process that you've developed in the town.

Similarly, with the mammals we felt that there was some additional data that needed to be collected to document some of the wildlife at the site. Eric Davison from my office is a wildlife biologist and a soil scientist, and he was on the site for 32 days during the 2003 growing season, from April to October. He's been there on several other occasions since for other functions, and of course he's continued to keep his eyes open to round out those observations.

He performed this survey using a variety of techniques. The primary one is just simple observation, looking for tracks, looking for animals, looking for skeletons, looking for scat, looking for deer, all those kind of things. We also used live trapping. I just wanted to make sure everyone understands that no animals died as a result of that trapping process. We were very careful in that regard, got the permts from DEP and so forth.

We also set up remote cameras on the site that take pictures at night based on movement. Many of the mammals are active for the most part in the dusk and dawn hours as well as in the evening, so that was

a technique that we used on the site. And we have a very thorough inventory in that regard.

We did bring in one specialist to assist us, Jacques Varua (phonetically), a Ph.D., biologist, who specializes in bat surveys. It's a fairly esoteric subject and requires some special skills and special equipment. And he used misnetting and echo location surveys to document the bat quality at the site.

The net result of the mammal surveys is shown on the board that's labeled Site Mammals, which is immediately next to Attorney Branse. And we identified 21 different species of mammals at the site. An additional 11 were either considered probably present or possibly present. It's up on the board there or up on the stage. And the locations of each one of those sightings is keyed in different colors on the map, and the names of the particular species are shown on the legend. I just want to emphasize that we did not identify any threatened or endangered species of mammals at the site.

There is one special concern bat species based on -- special concern species can be listed for a variety of factors, one of which is that there may not be a significant amount of data. We don't think that there have been bat surveys in Connecticut. And

the special bat, the red bat is seeming to show up more frequently based on additional survey work. And we have work we just became aware of in Massachusetts, in the large water supply properties of the City of Boston, finding red bats fairly common in wooded habitats there as well. That may be the answer to that question about why that species is listed as special concern.

MR. BRANSE: Excuse me, Mr. Klein. For the record, Mark Branse.

This map is in what was submitted this evening or was it part of your earlier set?

MR. KLEIN: I don't know the answer to that. It was part of my report which was submitted last week.

MR. BRANSE: So this map is in the record is what I am trying to ascertain.

MR. KLEIN: As far as I know, yes.

MR. BRANSE: Okay.

MR. KLEIN: The next map to the audience's left on the easel is the Site Vegetation, and that documents the result of the vegetation surveys that Jim Cowen did. For a large site like this, the vegetation is in some ways surprisingly undiverse. That's not really surprisingly uniform. Most of that drawing is white, and that's to indicate the mixed

deciduous flora of the site. Most of the site is an upwards mixed deciduous flora, with the wetland area shown sort of yellow-green. And most of the wetlands are wooded swamps, red maple swamps. And that's the yellow-green color.

A substantial linear plant community is present, and it forms a sort of an inverted V going from -- starting on the western side to the northeast and then turning and running to the southeast in a dark color. And that's the utility rights-of-way -- right-of-way that passes through the property. And that's maintained by a utility in an earlier successional state, what we call old field habitat type, and some early wet meadow vegetation. And that provides one of the interesting areas of biodiversity at the site.

In addition, the only two really unusual plant communities on the property in the extreme southeast corner, as shown on that Site Vegetation map in a dark color, is an Atlantic White Cedar swamp. That is an unusual habitat type in Connecticut. And this Atlantic White Cedar swamp, although fairly small in size, is an actively reproducing plant community. There's seed that's setting and growing in this area. It's been affected by the utility right-of-way, but

it's still there and still managing to hold its own.

The other and the largest of the unusual habitat types or uncommon habitat types on the site in the very center of the property shown in a green color on that Site Vegetation map is Pequot Swamp Pond, which is neither a swamp nor a pond from a botanical standpoint. It's got some bog-like characteristics, but the vegetation is more accurately described as a floating shrub mat, speculating that it's possible that that development of that plant community can be as a result of the fact that water level in that area has been manipulated in the past. It's been higher as a result of dams, and those dams have breached and it's been lower. But there's not substantial areas of open water. There are smaller areas of open water particularly to the south.

The other drawing furthest to the left is labeled Wetlands and Watercourses. That shows all of the wetlands that were identified on the bulk of the property by Bob Russo and that our office confirmed. And it also shows the fourth element of additional data that we provided, and that's the work that I had the opportunity to have the most field input in, which is the wetlands delineation on the Pianta property. The Pianta property is at the northeastern

extreme of the property, just south of the Essex/Old Saybrook town line. And there are several small wetland areas that are shown on there, again, in that same olive green or greenish-yellow color.

Getting back just briefly to the vegetation, again, we did not identify any threatened or endangered plant species at the site. We did identify three special concern species, and they are all within the areas of the site that are going to be conserved.

The avian survey, the bird surveys, as I mentioned before done previously by David Braventure, to just very briefly summarize his results. He used a very detailed survey protocol, had 34 survey points on the site, did observations in early June, which is the peak time of the year for looking at avian biodiversity in Connecticut, and identified 57 species of birds. Again, none of them threatened or endangered.

The results here that I very briefly summarized, the most detailed biological and wetlands survey, we've had the privilege of conducting in the course of those literally thousands of investigations that I've done in the last 27 years in Connecticut.

Now, what I would like to talk about is a little

bit of the assessment data, assessment information that I talked about in the beginning of my discussion, taking the inventory data and looking at it and understanding a little bit more about how those resources actually function. And in that regard our job was to look at the wetland functions and values. As I mentioned Bob Russo had done a lot of that work, and we expanded on that work to look at the Pianta property. The wetlands at this site are primarily red maple swamps, as I mentioned. And they are shown in the center drawing, the Site Vegetation map, in the yellow-green color. Most of the wetlands are red maple swamps. This is the most common wetland type in Connecticut.

These wetlands provide an area of shallow groundwater interchange. It's limited by the fact that the underlying geological materials in most of the site are relatively dense, with the exception of being in the southeast corner in the vicinity of the Atlantic White Cedar swamp that I mentioned before where there is some sandy gravel. These red maple swamps provide good quality habitat for some wetlands associated wildlife. Wildlife that we frequently find in wetlands, but doesn't depend entirely on wetlands. But it's a relatively modest quality

habitat for the wetland-dependent wildlife primarily because there's not a lot of permanent, open water at the site.

It does -- these wetlands provide biomass export function at the top of three different watersheds. And they do start the food chain running I guess you could say. They store and retain flood waters, because they are high in the watershed. That's an important place to influence downstreet hydrology.

The buffers are -- around these wetlands are relatively intact. Their overall integrity is good and the attenuation functions are good, because there is not a lot of disturbance in that area.

And in summary, they are fairly typical for the region in the state. Their functions for the most part are moderate, moderate quality. They are elevated somewhat, because they are intact wetlands systems. Most of the wetlands on the site have not been extensively bisected or if they have been bisected, it's been by utility rights-of-way or the Old Ingham Hill Road which still allows some connectivity to be maintained.

As I mentioned there are two major vegetative wetlands type, the Pequot Swamp Pond, which is interesting and unusual because of the habitat, and

the Atlantic White Cedar swamp. The Atlantic White Cedar swamp is in a portion of the site where there is no development to be proposed. And we have considered very carefully the impacts of any potential development on the Pequot Swamp Pond in the open space plan.

The third of the high quality wetlands systems on the site that we looked at preserving are the vernal pools. Michael Klemens is going to talk about them in some detail. However, I would like to discuss just briefly the rationale for what you're going to hear a lot of emphasis on the vernal pools. In looking at all of these resources that are shown on these three drawings, we very quickly came to the conclusion that the vernal pools and their associated contingent wildlife are the critical limiting factors in the development of a conservation design for this site, that preservation of the biodiversity in the vernal pools would ensure overall wetland protection.

There were several reasons that we came to that conclusion. They are widely distributed throughout the site. Michael will show you the map in just a few moments. They are sensitive to alterations in water quality and water quantity or hydrology. They require an intact wetland and an intact nonwetland

area adjacent to them in order for their ecology to be preserved. And that intact nonwetland area needs to be relatively large. So we came to the conclusion, in looking at the resources at the site, that the protection of vernal pools and their biology allow for the protection of the biodiversity and ecology at this site. This detailed data base we felt allowed the site designers to prepare a fully informed site design.

And I would like to shift gears just a little bit. And without having -- you had a detailed presentation on the site design. I would like to talk just a little bit about some of the measures that are incorporated into the design to minimize and eliminate adverse impact particularly to the wetlands systems. That's my primary area of expertise.

And the first and the most important of them is, as always, avoidance. Avoiding impact is the best method of mitigating impacts and eliminating impacts. And the road layout that you see on this drawing immediately to my right, Open Space Subdivision - Preservation Plan, shows a road system that only crosses the wetlands in three places. And those crossings are located at very narrow points in the wetland. This allows for the road to be built over

the wetland without any fill required within the wetlands. And this is very unique for a site of this size to allow access throughout this property, this very large piece of property without any wetland filling at all. And that's the primary method of mitigation on this site. It is avoidance.

The second method and the second most important method is minimization. Wherever impacts are absolutely unavoidable, they have been minimized. I mentioned there's no fill required for any road construction. There's no fill required for any lot development or any golf hole development. But the routing of the golf course does require some cart paths to be built that pass in this case over the wetlands areas. The golf cart pass will be carried over the wetlands and on bridges. These are bridges that are built in a little bit of a unique way. They are modular or they are built-in-place kind of a design. The series of piles is set in the wetland and the deck is added to the bridge. And you build the next section from the previous section that you just built. This allows you in very short segments to work around trees and important other features, both natural and cultural.

We also have design -- worked with the golf

course designers to locate those cart paths within areas where other development will occur. So even though they are narrow, typically eight or ten feet wide, and they tend to be -- they don't have to be in a straight line. They can work around trees. Obviously, if you're in an area where trees have to be removed for another reason, you can't eliminate tree removal. So we have tried to locate those in the carry areas, the playover areas of the golf course.

Another impact minimization technique was the way that these playover areas or carry areas were handled. In traditional golf course designs, these would be converted into a fairway appearance perhaps with a channelized stream running through them. In this case where we are playing over the golf course is over wetlands. There are going to be hazard areas. They will -- trees have to be removed for line of sight or play, but the vegetation is allowed to grow back up to a height, and that height is determined by the height of the tee and the landing area on the other side. But you can usually get three feet minimum. Sometimes it's six, eight or ten feet or more that the vegetation is allowed to come back up to. By removing the trees we have found

on other golf courses that this -- and it's not really a surprise if you think about it. The increased sunlight promotes a very vigorous growth of shrubs and herbs in the wetland areas, so you get a very high productivity in the areas of vegetation that remain.

Another impact minimization technique that's used in this conservation design is in terms of storm water management. The storm water is disbursed in multiple locations. We have not brought the storm water, centralized water to detention basins with a variety of best management practices that we used to infiltrate storm water back into the ground, to use grass swales, to use various water quality treatment techniques to minimize what the hydrologic impact would be as well as the impact on water quality.

And the final technique that we are using in terms of impact mitigation is restoration and enhancement. Existing wetlands and wetland buffers that are either degraded or that require some activity during construction will be restored through an extensive network of native plantings. We have worked with the landscape architects and the golf designers to develop a laundry list, if you will, of native plants to be used. Those native plants have a

variety of advantages. They are hardy. I guess that goes without saying. They are adapted to this environment. They don't require an extensive amount of fertilization or other management to be successful. They're also typically used by native wildlife species.

And if you look at the lists that are in our report, you'll see lots of things that have the name berry after them, because we have tried to choose things that produce fruits and seeds for wildlife. For example, the seeds are red maples and swamp white oaks. Swamp white oaks produce acorns and maple seeds are used by a lot of wildlife. And the shrub layer, shadlow, huckleberry, and elderberry. They all produce roots that wildlife use. The herb layer, swamp milkweed, is used by butterflies and other insects. Iris are very attractive. And these are just examples. There's just literally dozens that are included in our report, pickleweed.

We have also identified a number of seed mixes to use in areas that need to be reseeded. There's actually eight different seed mixes that are identified in our report. Three of them are custom designed specifically for these kind of projects in Southern New England and five of them are more

proprietary in nature, developed by manufacturers.

The last element in the mitigation plan and one of the most important in terms of long-term operation of the site is the detailed pest and turf management plan. This also sort of works through an avoidance and minimization hierarchy by identifying proper cultural practices to develop a good quality turf. It was specifically designed for this site to protect the most sensitive group of wildlife at the site, which is the amphibians. They are more sensitive to some of the products used on the golf course and other animals and actually even humans. So while the plan is fully protected with human health, it also protects the amphibian resources at the site which are very sensitive to alteration.

And as a final check and balance, if you will, on that area there is a very detailed water quality monitoring program, which is an important mitigation element. Both surface and groundwater will be monitored extensively after the site is completed. And Stuart Cohen will talk to you about that.

What I would like to do now then is introduce Michael Klemens, who's going to talk about the flora and fauna on the site, the reptiles, the amphibians. And I -- then I think Stuart Cohen is going to talk.

MR. KLEMENS: Good evening, Chairman and Members of the Commission. My name is Michael Klemens. And I briefly qualify myself -- you have my CV in your list of things that was handed out to you last time.

Basically, I received my bachelor's in education, zoology and my master's in zoology from the University of Connecticut and my Ph.D. from the University of Canterbury in the United Kingdom in conservation, biology, and ecology. I'm on the scientific research staff of the American Museum of Natural History in New York City. I have been on staff since 1979 and also work full time for the Wildlife Conservation Society, Bronx Zoo and other large living institutions for wildlife in the New York City region. I am on faculty of Columbia University, University of Massachusetts, and the University of Maine. And until recently I was chair of my own planning commission and wetlands agency in my own community of Rye, New York, which I did that until about a year ago for 11 years.

I'm going to approach this really as a scientific discussion. So I am going to go through this as much as you write a scientific paper. An introduction, then I am going to talk about materials and methods, the results, and the discussion. And

much of what I am going to talk about is really a short summary of what's contained in the report that was submitted to you, herpetological survey and vernal pool analyses, conservation planning recommendations and strategies. That was submitted I think around the 3rd or so of November, 2nd of November to the town.

I am the founding director of the Metropolitan Conservation Alliance which also works with land use decision-makers throughout the tri-state region. We talk about how to effect better land use planning. Some of you I believe have been to the workshops I do in conjunction with the Connecticut DEP to actually train local land use decision-makers on ecological literacies.

And this is really an exciting project for me in some ways. It is challenging, also. I will be very honest with you on that. This really is a difference I see between reacting to an application versus planning. And it's really an opportunity to really understand, first, the ecology of the site, which very rarely happens, and then to really place the development on the site respecting the natural resources.

And this may sound very subtle, but, actually,

the reason that we have such widespread declines in amphibians, and reptiles, and other species in Connecticut is basically planning generally proceeds the other way. Generally we plan on a very small scale. We then plan where we think the development should go and then we expect that the wildlife and ecosystems will rearrange itself -- themselves around the ecosystems. It doesn't work that way.

The other big challenge that we face from a conservation perspective to plan effectively is an ecosystem that existed in scales that are measurable in thousands of acres, and our planning as often occurs at scales that are much less.

What is unique here at this site is we have an opportunity to plan at a scale that really has ecological resonants. It's a tremendous opportunity. It's also, I will tell you as someone who spends their life working in conservation, an awesome responsibility. And this is also not for me a discussion about whether or not the property should be acquired -- should be acquired for the public. It's really more of a discussion that if the property is to be developed, how can we use scientific information, scientific data to actually create a plan that protects the site in the development

context. That indeed is the difference between reacting and planning, and that's very much what I do on my full-time job. I should also state that I qualified myself with a variety of affiliations and that I am representing this applicant as a private consultant on this project.

Now, I am going to be discussing -- I am working from a series of maps. All those maps are contained within the report that was submitted, but we do have blow-ups here, large-scale maps to sort of facilitate the discussion.

The first one I would like to draw your attention to is the one in the middle, and that really is the sum total of the overall amphibian and reptile observations. This is known as map number one, Overall Amphibian and Reptile Observations. This really shows you the results of what was basically about 400 hours in the field by myself and my associates, over 20 days in the entire activity season plus work done earlier that we incorporated. And I think right away you'll see these are all the species that are sensitive and the more common amphibian and reptile species. And I think right away you'll see that there is a real clustering of species occurring here in the western portions of the

site, to the west of Pequot Swamp Pond. We have another really important node here in the southeastern part of the site and another node right up here in the northeastern part of the site. I think this is very important to understand that animals were not distributed evenly on the site.

Now, people will say why are you concerned about amphibians and reptiles? Amphibians and reptiles, actually, from a land use planning perspective, are really fantastic animals to use. It's not just because I've spent my life studying them, but actually they are very, very sensitive to disturbance at the very level -- 1,000-acre level. Unlike birds and unlike mammals, they are tied to very specific habitats. They are not very agile. That's a big word. They are not able to disburse themselves very readily. So when their habitats disappear, these animals disappear. So they are a really great candidate species to talk about. We talk about protection in land use planning.

Now, the results of my work show that we have 25 species of amphibians and reptiles on the site. That's slightly more than half of the species that occur within the state, and many of those I would not expect to occur here because of the geographic

location of The Preserve. Many of our species really occur just in the western part of the state.

So what we have here, we actually have a diverse pod. We have a fauna that's typical of this part of the state. There are no endangered or threatened species on here. But, actually, if you look at the geography of Connecticut's amphibians and reptiles, you wouldn't expect any endangered or threatened species. They are just not within the range of The Preserve area.

And much of the work that I'm talking about, the amphibian and reptile data, draws from my publication which is The Amphibians and Reptiles of Connecticut, which is Bulletin 112 of the Connecticut Geological and Natural History Survey. And so many of the conclusions have been published on the distribution of amphibians and reptiles. The data collected at The Preserve are going to be very useful when I put the second edition of this book that's out of print now, and I'm working on the second edition.

Let's move on to talk a little bit about vernal pools, because that really is an essential component of this study. This is now map number 2-A, The Vernal Pool Inventory. And the work on The Preserve site indicated there were 31 vernal pools on the

site. These are indicated in the blue on the map and they are numbered. And again, this map is in the report. I think one thing I would like to direct your attention to on this is you'll note that many of the vernal pools are actually imbedded in the larger sort of odd color, sort of a greenish-tan coloration here. Those are your wetlands system, and that's interesting.

At The Preserve we have very few vernal pools that meet the definition of a classic isolated impressional wetland. Though pool number 20, located up here in the northeastern part of the site, and pool number 17, located here in the southeastern portion of the site, those are classic depressional basins. You contrast that, let's say, for example, with some of the ones in the western portion of the site, pools number seven, and twelve, and nine. Those are all portions of larger wetland systems. Those are what A. J. K. Calhoun and I, in our 2002 book, Best Development Practices for Conserving Vernal Pools and Pool-breeding Amphibians, classify as cryptic vernal pools. They are not stand-alone vernal pools, but they are deep areas within wetland systems in the red maple swamp systems that actually hold sufficient water with sufficient hydrophilic to

serve as vernal pools. So I think that's an important distinction to be made.

Now, one of the things that we needed to do here on this site was actually to try to understand the differential quality of these pools. There were many pools. And if we were really going to try to create a planning tool or a planning methodology, we needed to understand which pools actually have the highest conservation values.

Now, The Best Development Practice Manual that A. Calhoun and I wrote, we basically have a tiering system for vernal pools. That tiering system is a rather coarse filter. And if you have a pool that has 25 or more egg masses in it or two species breeding in it and has 75 percent of the upland -- of the first 100 feet undeveloped and 50 percent of the next 100 to 750 feet, that becomes a tier one pool. And many of the pools on the site, because of the intactness of the site and the productivity of the amphibians, are rated tier one. So from that coarse filter we needed to develop a fine filter approach to try to make decisions between those vernal pools.

And to do the fine filter approach, I looked at three additional factors which we looked at here on The Preserve. One was the actual productivity. What

was the egg mass counts per pool, because not all the pools were equal. For example, the pool right here in the center, this little one, number 27 right in the center of the site to the -- just due east of the proposed large village development, the village development here had a single spotted salamander egg mass in it for two years, and that contrasted very markedly with pool number 18, located here in the southeastern portion of the site, which had over 1,000 to 1,200 egg masses per year. You had really differences in productivity.

Then we looked not only at the presence of obligate species. Obligate vernal pool species are the three species that absolutely depend on vernal pools to breed. That on The Preserve are the marbled salamander, the wood frog, and the spotted salamander. And those are all obligate species.

And again, the next question I asked was how many pools have all three species breeding in them? And the sense was if you had a pool with all three species breeding in them, it was a high quality pool or higher quality pool.

Another factor I looked at was the presence of a facultative species. A facultative species is a species that basically use vernal pools but are not

dependent upon vernal pools. But yet many of them are important species in terms of conservation concerns. These are species that are the four-toed salamander, spotted turtle, red spotted noot, gray tree frog. These are all what we consider to be facultative species.

And very last looked at the presence of special concerns species. We had two special concerns species on site. One is the box turtle. And I'm now referring you to map number 2-B, which is the Vernal Pool Conservation Plan with Priority Conservation Species. And you will see the box turtles, for example, are here in this light blue. We have one here, another here, and one noted up here. Again, right up here in Essex. Here is the first one in the northeastern portion of Essex, another population down here on Ingham Hill Road on the southern portion of the site, and one more population right on the Westbrook town line.

We looked at the ribbon snakes. And we had quite a node of them up in here, up here in the northeastern portion of the site. Again, those are all so scattered throughout the site.

So using those data we were able to redetermine that we had 12 really critical vernal pools. And

those are actually shown on this map over here. Again, you see them right here.

Now, these vernal pools have their vernal pool area. Surrounding the vernal pool area in red is what we call the 100-foot zone. That actually corresponds very nicely to your 100-foot regulated area around the wetlands. And vernal pools are wetlands. So the vernal pool envelope and the regulated area are interchangeable. But from vernal pool conservation it's a very, very different approach, because that 100-foot area around the vernal pool is just really the beginning of the zone of protection and conservation concern, not the end. That first 100 feet is called the vernal pool envelope. It is -- in best conservation practices should remain totally forested. It is essential for the production of leaves which drive the vernal pool system. They are driven by nutrients by leaves. It's essential for the young animals when they come out to stage and essential for the ones that come in to breed. So you need that 100-foot left around that pool intact.

And then you have what's called the critical habitat zone. This is the zone from 100 to 750 feet. The next zone in which about 95 percent of your

population resides. And this is the real challenge with these vernal pools is that they have very, very large upland habitat requirements. And in terms of planning this becomes a challenge to really try to protect it.

Now, in The Best Development Practice Manual, again, A. Calhoun was my co-author on this, with this team of scientists throughout New England looked at how you can actually manage vernal pools in a development landscape. And basically, the standards that we have arrived at and were peer reviewed was that you could end up with taking 25 percent of the zone, from 100 to 750 feet, and developing it with very, very tight standards on that development. It's not your normal type of development. Take that and you could still sustain the vernal pool.

And why this is important is because this really has formed the basis of the conservation plan here for The Preserve, which is illustrated on map number 28, which uses the 50 -- the 12 critical vernal pools plus two additional vernal pools -- three additional vernal pools as the stepping stones of connectivity throughout the habitat. You'll look at these vernal pool disks, the disks that are shown here on the map, that are scattered throughout the map. You will see

they connect as steppingstones of habitat through The Preserve.

Also indicated on that are the protected wetland areas. And between the 15 pools of the protected area, you will see that you have covered much of the biodiversity of the site. Many of the critical species now lie within this protected zone. And this is really I think conservation planning at its best, where you have used the scientific data to fashion the development in a very different way.

When I first started working on The Preserve, the first maps I got had the old designs. I said, I don't want any maps that have development on it. I want to have just the maps with the wetlands and the features. I did not want to have anything that would predispose my thinking. I wanted to go over the site, look at the site blindly, so to speak, without any sense of what the development was proposed or thought to be.

Once all these data were collected, we began a series - I think Randall Arendt spoke about this - really a series of planning charades where we began to take the information that I had and began to integrate that into the overall planning process.

Now, when I talk about development within that

750-foot zone -- oh, excuse me, the 100- to 750-foot zone, the 25 percent development is an important figure. That is the threshold that we tried to meet within all those disks. And I took a very, very conservative approach to this. And I say conservative from the point of conservation, in that if there was golf -- post golf activity in that zone, it counted as part of that 25 percent as if it were paved. So I did not, for my conservation planning, make a distinction between golf course, between pavement, and between roads. However, I should also point out that as far as actual habitat utilization, as far as amphibians are concerned, there are two major functions that this upland habitat that you see here functions as. One of them certainly is this habitat here. But the other thing that's important is, also, the animals move through it. So certainly on the areas of the golf course that are here, they may not serve as habitat, but the goal we have tried to do with the golf course is to make sure that the animals can move across the golf course. So we are not meeting both functions, but we are meeting one function. But I want to reiterate even though it's just sort of a half function, we still gave it a total discount as far as development credit. We

treated it as development. But I wanted to state that. We placed a rather high standard.

And part of that whole thing of having the golf course function as habitat, Dr. Cohen will speak to you about the IPM management. So I wanted to make sure that the amphibians that go across the golf course would not be exposed to levels of pesticides, herbicides or fertilizers that will be problematic. We wanted to make sure that the design of the golf course didn't have fuel drains that would capture the animals and make those areas actually accessible and not to serve as impediments.

Now, concerning the actual road system, the road system presented -- and again, this is spoken to in The Best Development Practice Manual. The road systems presented problems or challenges I should say. For the major road, what I call the spine road through the site, the design objectives were to move the animals underneath the road, to get them moving in underpasses. And you'll see the underpasses that are indicated all here with the arrows. And in conjunction with these underpasses, wherever you have the road crossing through the vernal pool area, the animals are being deflected from the road either by curbs or deflectors. And those are actually design

details that are in my report and show you a design detail of how we are designing the roads so the animals cannot actually get onto the roads and be killed by passing traffic. That's what's needed on a road that's high-intensity traffic.

On roads with low-intensity traffic - that's the kind of roads that are actually disbursing within the proposed residential development - the idea is to move the animals through there quickly. So we have what we call the four-to-one curbing, the Cape Cod curbing or -- and the swales. We don't have catch basins. We don't have hydrodynamic separators. We have very unique storm water treatment systems there. Again, so the idea in those areas is not to catch the animals but to have them pass. That's the kind of thinking that went into it.

We are going to be providing you copies of The Best Development Practice Manual as part of the record. It will be given to you at the -- at your next meeting when we continue our presentation.

I should say a brief note also about the underpasses, the wildlife conduits. They are not what you consider your standard cotton field round sort of pipes. They are actually square box culverts with penetration. That's openings that light can

penetrate. They have been created and tested in other sites as actual things that wildlife will go through. Wildlife does not like to go into sort of dark tunnels even at night. What they want is basically to have a large opening where there is spillage of natural light or moonlight where they actually can move through. And that's what these are. Some of these are over 14 feet, that span 14 feet over. The one over here in the northeastern portion of the site, around the second most important vernal pool here - I believe that's pool number 20 - I think that's about 14 feet high, some of these. So you really have a really -- or maybe it's 14 feet high, the one over here. They are high enough to really not -- don't think of them as very crude sort of culverts. They are really very much designed with wildlife passage in mind. And that really forms the basis of how we have tried to hold the whole site together ecologically.

The other thing I should mention is when this data became available, there was a lot of redesign of the site. The fact -- when you start looking at a site, things that you assume about a site, looking at a map, become counterintuitive. You begin to understand the site. For example, I thought, as many

people thought, this was going to be a wonderful natural corridor right here, along the railroad, Valley Railroad branch from Essex, all the way down here trending to the southeast. And yet when the data came in, it showed that it wasn't the case at all, that there was very limited wildlife utilization up here in this knoll right here in the east-central part of the site, and that the connections really were much more around in the swamp and in the basins. It was a very different sort of thing. So consequently, the development was shifted around.

A secondary village was placed up here. The estate homes were placed up here on the eastern part of the site. And a tremendous amount of the intensity development was reduced here in the western portion of the site, which did have a lot more diversity, a lot more interconnected pool mosaic. This is just one of the many changes that were made to the site reflected on the biology.

And that really does conclude what I have to say in a brief overview of how we took the scientific information and created a plan which I believe is actually rather unique and novel. It's the first time that we have used a site of this size in Connecticut and been able to apply this kind of

analysis to create this kind of plan. And it does, as has been said by the other speakers, very much reflect the ability of the town, the ordinances that you passed that enabled this type of really forward thinking, innovative planning. As I speak over and over again in my workshops, it is -- we are really often victims in a sense. We probably can't do better ecological planning, because we don't have the tools. The town wisely enacted the tools to do this kind of planning. And I think this is a really, really exciting project for me as someone who publishes on this and lectures on it. Here's a chance to actually have it experientially happen, actually put what is theoretical into practice on the ground. And that concludes what I have to say.

And I am going to have Stuart Cohen come next and talk to you about the IPM plan.

MR. COHEN: Thank you. Well, two pieces of good news. I'm the last scientist from our team that will be speaking tonight. And the second piece is I won't be speaking as long as everybody else has spoken.

My name is Stuart Cohen with Environmental and Turf Services in Maryland and Vermont. You may have a CV of mine. But briefly I have a Ph.D. in physical organic chemistry, am a certified groundwater

professional. I've been working in the environmental risk assessment area for almost 29 years. That includes 11 years with the U.S. EPA. My last position there was in charge of the groundwater program in the pesticides office.

My firm specializes in turf chemical risk assessment. We work for municipalities and we work for developers. We do water quality monitoring. We do very high-end risk assessment and we publish our work in the scientific literature. We have worked on about 130 golf/turf related projects over the years, including in Connecticut. Okay.

Our overall approach -- well, first of all, our overall goal is to design and operate -- design and set it up so it can be operated as an environmentally sound golf course. Our overall approach was to build on work that was done before. There was a previous application. There was an approved inland wetlands permit. It was -- some people call it the Taylor application. And there was some good work done, extensive and intensive studies done in the areas of risk assessment, turf management, and water quality monitoring. We evaluated that, but that was done -- it was approved -- it was accepted in 1999. Most of the work was probably done in 1997 or 1998 and

reflecting some review comments in 1999. So we updated that. We focused on that and we looked for any areas that we could build on. And if there had been any regulatory changes, we worked on that. We visited the site ourselves. Of course we walked the site extensively. And we relied heavily on the tremendous work done by the two Michaels that you heard tonight.

And we also took a rather unique approach. We also have developed two lawn care management plans. The focus up until now has been on the golf course, if you even go back to the original submission. But the client River Sound wants to have -- is looking at the site as a whole. And so it's not good enough just to do risk assessment/risk management of the golf course, but do something that's been done rarely anywhere and that is develop lawn care management plans. One for homeowners that can be used, that's user friendly, and the other to be given to professional lawn care companies who would be hired by the homeowners.

The risk assessment/risk management focus is one of proactive environmental stewardship. The idea is if you do enough work up front, there shouldn't be any problems. But just in case there's an insurance

policy that's called the water management monitoring program. And I'll talk about that at the very end.

The difference in the focus -- previously the focus was drinking water, which of course is critical to protect, and aquatic organisms, which in terms of the previous team meant fish. But here we had this new work done, and a lot of mapping, and a lot of new amphibian species, not new species, but new for this site found by Michael Klemens. And certainly a lot more work done in wetlands and botany by Michael Klein. And so our focus expanded beyond what was previously approved to include the amphibians, state listed plants, and reptiles.

Turf management. Our basic philosophy is that if you grow in turf quickly and keep it healthy, you minimize the need for pesticides. That's a fact. Also, there's a focus -- we have a focus of control rather than eradication. So just because -- if you see one grub in a square foot of fairway doesn't mean you have to spray it until it glows. You know, the threat there can be threshold. Thresholds have been established for insect, weed, and disease pests. For example, two grubs per square foot of green may be intolerable, but eight grubs may be tolerable in a square foot of fairway, which is more than a trivial

example, because the greens probably make up about 5 percent of the golf course area, whereas the fairways, I don't know, probably 25 or 30 percent of the golf course area; the managed turf.

Also, there was -- when we went through the previous record, we saw there was a concern written by a reviewer who was somehow associated with the DEP entitled Lack of Organic Approach to a Golf Course. Although we agree with the previous applicant that a totally organic golf course is not feasible, on the other hand, we feel that there's a lot of good organic products out there that should be tried as a first level of attack in this in terms of turf management. And so we took a number of organic or what we call biorational products. Biorational means that's an inherently species specific and has a natural origin. And we've taken that number from zero to 11. So that's in there. And also, our risk screening, which you'll hear about, knocked out about 15 of the previously existing pesticides.

Now, our risk assessment focus and approach -- excuse me, Art. Our approach and our results can be thought out as a pyramid. Underlying this pyramid -- maybe you can see it better here.

CHAIRMAN MCINTYRE: Can you state the name of

that.

MR. COHEN: Risk Assessment and Pesticide Regulatory Review Process.

CHAIRMAN MCINTYRE: Thank you.

MR. COHEN: Underlying this pyramid --

MR. BRANSE: Hold on a second.

(Tape is changed.)

MR. COHEN: Underlying the base -- base of this pyramid is the EPA regulatory pyramid. EPA requires somewhere between two dozen and over 100 studies in the areas of toxicology, aquatic toxicity, avian toxicity, et cetera, et cetera, depending on the use patterns of the pesticide, and the structure of the molecule, and what the EPA scientists think might be expected. And these studies cost millions of dollars to do, take many years to do, and it takes EPA several years to review the studies. And based on those studies EPA makes a risk benefit approach to each specific use pattern of each pesticide or of course they deny pesticide registrations as well.

After EPA grants that registration, then it goes to the states; in this case Connecticut. So there's approximately about 1,000 pesticide active ingredients here that translate into many thousands of pesticide products. And in the State of

Connecticut I don't know exactly, but I would guess that there are probably 50 to 80 products that can be active ingredients on turf and ornamentals.

At this point this is all you need. The label is the law. And for conventional development the pesticide risk assessment regulatory process stops right here. Right here after EPA, after federal and state regulation.

What we have done is we've added in fact a third layer of regulation by reducing the candidate list of pesticides further with risk assessment. We had tier one risk screening, building on the work that was done before and approved before and just enhancing it and expanding it to include amphibians.

Now, the amphibian work we did -- ironically, it's been some pioneering work. The first time that anybody developed a means to estimate pesticide toxicity to amphibians was us because of a project in Connecticut. We presented that at a couple of international scientific meetings since then and it's been accepted. And as a result by -- as a result of concerns expressed by Dr. Klemens, we had to develop a new toxicity assessment procedure, and that is -- I should say exposure and toxicity assessment procedure, and that is for the juvenile adult

amphibians that crawl across the fairways as they migrate upland as part of their life cycle, what's the potential for the pesticides to penetrate their skin; the belly of their skin. You all may think this is esoteric, but people like me get excited about this. So we'll probably write this up for a journal publication somewhere.

Anyway, after that risk screening is -- these are conservative risk-screening models. Conservative means err on the side of environmental protection. And after this is done and if there's no concern, then this pesticide is included in the process. If there is a concern, then there's risk management. Risk management can take the form of prohibiting pesticide use at this course, which we have done for over a dozen products, restricting its use to certain areas or restricting its time limit.

So that's the overall. And so some preliminary results are we found it necessary -- we are recommending restrictions of use. I have talked just about pesticides and later on in questions and answers and in our report we'll submit we'll talk about fertilizers. We'll be recommending some restrictions in use of water soluble fertilizers, that they might harm the amphibians in the larva

stages. And we are recommending restrictions in some pesticides and we are recommending 11 organic products be used as the first line of defense.

Wrapping up here, water quality monitoring. We've reviewed the record, the comments done on the previous -- there's a good water quality monitoring program that was set forth in the previous permit. And what we have done is in response to comments in the record, we've expanded it, we've updated it. We do water quality monitoring golf courses all over the country. We've published in the area. We've expanded the number of monitoring wells to I think it's six. We've expanded the number of pesticides and included pesticide metabolites. Because sometimes pesticide metabolites can be more toxic than the pesticides themselves. We've expanded the surface water sampling points and we've also expanded that program to include sediments.

So our bottom line is that if you just go for the first two levels of the pyramid, you're probably going to be okay. And monitoring we have done all over the country. Generally shows very, very low detections of pesticides in groundwater and surface water golf courses. But we have added in fact this third layer of regulation that says, okay, now we are

saying you're probably going to be okay, that we are just about certain you're going to be okay. And now we are saying that okay, if you don't want to believe us, we have this insurance policy here called the monitoring program.

The point of compliance here is right at the golf course fairway or green. So we are not saying we are going to keep contamination from migrating off site. We are saying we are keeping it from leaving the fairway. We are going directly underneath the fairway green to the groundwater. And that's the program we have. Thank you very much.

And our next speaker I guess will be Bob Landino.

MR. LANDINO: We've spent just a little over an hour talking about science. And while some of it was very detailed and difficult to understand for laymen like myself, we thought it was important for you to understand the effort that has gone into every aspect of understanding the biology as it relates to our proposed site plan.

We have two more speakers, Mr. Chairman. One is Arthur Hills, who was going to make a presentation of the golf course itself. And the second is myself to talk about the open space plan before we conclude.

But we didn't know -- that's why I interrupted, because I didn't know if you wanted to take a little break or if you wanted us to keep going.

CHAIRMAN MCINTYRE: I think if nobody from the board objects, we should take a ten-minute break and then get back into it. And then we'll go into the public sector. We are going to take a ten-minute break at this time.

(Recess)

CHAIRMAN MCINTYRE: Mr. Landino, anytime you're ready we can proceed.

MR. LANDINO: Good evening, Mr. Chairman. Bob Landino, BL Companies.

Mr. Chairman, I would like to introduce Arthur Hills, who was the architect of our golf course in the proposed development plans. And he'll give a description of his design philosophy, how it integrates with the environment, and talk a little bit about each hole. And then what I would like to do is spend maybe ten or 12 minutes talking about the open space plan itself.

Before I do that I just wanted to make a comment or two about what you just heard. And some of it is esoteric. Much of it takes me awhile to understand, and I have been in the business for a couple of

decades now. But we thought that it was important for this commission and for the public to understand the level of effort that this group and this team went into, the investigations in order to truly understand the biodiversity and the ecology of this land. And it began virtually immediately after we obtained approval of the opportunity to apply for this application last September of 2003. We've spent a good part of ten months performing enormous amounts of field investigations in all aspects of wildlife, flora and fauna, and on watercourses and vernal pools as well as understanding groundwater, the issues of chemicals related to the environment, and in how managing the golf course fairway and all lawns for that matter would be impacted as a result of controlled fertilizers and pesticide management. So with that I would like to introduce Arthur, and then I would like to talk to you in some level of detail about the plans itself. Thank you.

CHAIRMAN MCINTYRE: Thank you.

MR. HILLS: Thank you, Bob. Bob mentioned earlier that I had been at this work for quite awhile. He said half a century. Well, not quite, Bob, but it's getting there.

Mr. Chairman and Commissioners, my part of this

presentation tonight is to describe the golf course as proposed in this community.

Our firm, Arthur Hills/Steve Forrest and Associates, has been involved, actively involved in designing golf courses for 38 years, since 1966. In particular, we have been recognized for the design of environmentally sensitive courses. To date during that period of time we have designed approximately 180 golf courses, most of them in the U.S., a few in Europe and also in Asia. In addition to that we have been involved in the renovation of about 125 courses, including some of the leading courses in the country, such as Oakland Hills where they held the Ryder Cup just a few weeks ago, Oakmont Country Club in Pittsburgh where they are having the U.S. Open in 2007, Congressional Country Club where they are going to have the U.S. Open in 2011. Those are substantial golf courses.

We have been involved in some other courses of note, including the Longer Berger golf course near Columbus, Ohio, which in 2001 was awarded the award of the number one new course in the country that year. Bay Harbor Golf Club in Petoskey, Michigan; and Lighthouse Sound in Ocean City, Maryland; Shepherds Hollow in Clarkston, Michigan; Shaker Run

in Lebanon, Ohio are all included in the most recent lists of the top 100 courses available for play by the public in Golf Magazine and in Golf Digest magazine. Other courses of note that we have designed include The Hills course at Palmetto Dunes Resort at Hilton Head, which is -- many, many golfers have been there, play golf, go there on vacation. The Half-moon Bay course in San Francisco, which is right on the ocean. It took awhile to get that golf course permitted. And Big Horn golf course in Palm Desert, in Palm Desert, California.

Our firm's reputation rests on our ability to design courses that are playable yet challenging; that is, courses that players of all level of ability will enjoy. They'll come there and they'll enjoy it and they'll come back again. They won't say this is too much for me. And that's part of the design of the courses proposed on this property. It's a golf course that players of all level of ability will enjoy playing.

As I say we have a significant amount of experience in designing golf courses that are sensitive to the environment. We build golf courses that are natural, that lie on the land with a minimum of earth moving, a minimum of disturbance and take

advantage of the natural features of the property. Every piece of property, probably like every person, has its own individual personality. And we try to complement that personality in the design of our golf courses.

Examples of our work of an environmental note are the Collier's Reserve Golf Club in Naples, Florida, which became the first in the world to receive the Audubon International Cooperative Sanctuary Signature Status. And then in 2001 a course that we did in Portugal, Quitadi (phonetically) Marina, was the first in Europe to receive the Audubon International Sanctuary Award for environmental sensitivity. And we have received many other rewards relating to the sensitive environmental concern as we designed those courses.

What's exciting about this project to me and which was brought up earlier by the other presenters, particularly Stuart alluded to it, was that these awards that we have received have gone this far. This project is going to take all of the good things that have been put into environmental thinking on golf courses to date and go raise the bar, go farther, do more to work more carefully with the environment. I can see that this golf course is

going to be a standard for comparison for golf courses that are developed across the country in the future. I think it's the best thing that's ever happened is that there's concern about environmental protection in the design of golf courses. And we have spent the last 20 some years focusing on that, along with the other aspects of golf course design.

On the subject of the golf course itself, I would say suffice it to say that the golf course is designed to be just under 7,000 yards long, although we could make it longer. Whereas, most of the golf courses -- well, not most, but many of the leading golf courses today are being designed to be 7,400 to 7,500 yards long. As I say our goal is to maintain the ecological quality while working within the environmental constraints and balancing this with the realities of golf playability.

On the golf course we have returning nines. We have beautiful views throughout the property. And the property is elegant in terms of the golf course. We have a variety of lakes and terrain. As I say the golf course is playable, designed to be playable by all level of players. And we anticipate that because of the design it will be easy to maintain it carefully and still at a good level of conditioning.

Each hole has something special about it, perhaps compelling. I'll talk about that in a little bit.

This is a little bit like taking out an album of pictures of your kids and talking about them, but anyway. I'll start and do so. This residential community here and then --

CHAIRMAN MCINTYRE: Could you identify the chart.

MR. HILLS: The golf course leads in --

MR. BRANSE: Just state which drawing you're referencing as you talk.

MR. HILLS: Yes. I'm referring to the layout of the golf course holes one through nine. It's one of two drawings. The other being holes ten through 18.

MR. BRANSE: These are in the record, Mr. Royston?

MR. ROYSTON: These will be put into the record. At the end of the hearing an 11-by-17 of all the boards will be put into the record.

MR. BRANSE: And at what point will full size of these drawings?

MR. ROYSTON: You'll get also the full size of the drawings before the end of the public hearing process.

MR. BRANSE: Thank you.

MR. HILLS: Okay. This nine holes is in an area that's ample for nine holes of golf. It starts here at the clubhouse. The first hole plays down to the south. It's a downhill hole. As you stand on the first hole, you'll be able to see the entire hole.

The second hole is a par five hole. It plays slightly uphill. It fits within a forested area.

The third hole probably is an excellent example of how this golf course has been fine tuned to relate to the site, to the environment. These tees are on a high knoll. It dips down in the valley, a lowland/wetland, plays over that wetland to another high knoll with -- where the green is located.

Then you go over to the fourth hole. And the fourth hole tees are just before a little wetland crossing, playing to an ample landing area. And then between the ample landing area and the green is an area of wetland that you would hope you would avoid, but you might hit into it.

The fifth hole then is another par three, similar in some fashion to three in that it plays from two high knolls, plays across to -- across the lowland to a green site that's up. That's pretty much the way the whole golf course is, is that it just skirts wetlands, plays on the higher ground and

takes advantage of the positive aspects of the site in terms of the golf course.

Seventh hole is over along in here. I don't know that there's anything particularly noteworthy in terms of the environment, except that it respects the environment, which of course is very noteworthy.

This hole plays back towards the clubhouse. It's a par five hole, has a lowland crossing before the green. Again, that will probably be a pretty challenging golf hole.

And nine returns to the clubhouse all on upland. In the process of refining this golf course, this hole -- as an example, this green was moved from over closer to the wetland to well away from the wetland.

Then the second nine starts over here, plays well above the Pequot Swamp Pond, plays out in the opposite direction from one, plays --

And then the next hole has tees here just above the wetland, playing up to upland and then onto the green.

The 12th hole, again, is a hole -- it just fits onto the topography perfectly. All of these holes have been refined time and again.

After we walked the golf course in February and after meetings with the environmental consultants, we

made several adjustments to the routing to save trees, to minimize grading as well as protect the wetland and vernal pools. I haven't even mentioned vernal pools to this point, because in every instance our golf course is completely avoiding the vernal pools.

After these studies were made, there were seven routing changes to the previously approved golf course to benefit, protect, purify lowlands, that kind of thing. As an example of that, hole number 15 was relocated so that the 100-foot buffer of the vernal pool number seven was avoided. And also, number seven and 12 were similarly relocated.

Of the 893.2 acres in the Old Saybrook lot area, approximately 151 acres are within the golf course. That includes all three buffers and all parts of the golf course. Of that 151 acres, approximately 7 percent of that acreage will be dedicated to tees and greens. Those are the areas that get the most intense management. Twenty-five percent of the 151 acres goes to fairways. Approximately 43 percent is in low maintenance roughs and 25 percent of the acreage will be dedicated to native grass areas which require no maintenance.

Now, some of those native grasses will be

introduced and they will be placed in places like -- if you were going from the tenth hole to the 11th hole, there's kind of some no-man's land to the left, tees in every situation like that. In those areas instead of having mowed grass down to the perimeter or down to the trees, native grass plantings will be established on all of those kinds of banks just to naturalize the golf course. Just one more part of the puzzle or of the picture, putting together to create very much of an environmentally friendly golf course.

So I would say in summary that we have a golf course which, because of its careful planning, will work in harmony with the site's overall environment. Thank you.

MR. LANDINO: Thanks, Arthur. I'll just give Dennis a second to change the boards.

I'm going to conclude by talking about the open space plan itself. And Mr. Chairman, our firm has dedicated itself to taking large sites and making the commitment to develop them responsibly. And River Sound Development has made a huge commitment, as you can see, in assembling a team that's second to none nationally in understanding the development constraints associated with this site and then

planning accordingly. And Dr. Klemens's comments earlier that this is a rare opportunity to proactively plan rather than react is true not only of vernal pools, but of every aspect of the work that we have done over the past 18 months.

What I would like to start talking about is open space. And while most folks that oppose this development do so with the desire to see this land remain undeveloped, it was our desire to understand how to preserve as much of the open space as possible for reasons of preserving biodiversity, for reasons of preserving the ecology of the site, but most importantly to do the best job we can in understanding the resources and planning accordingly in a way that not only results in a responsible development that, again, functions economically, but also does its best to make every aspect of this site work within the context of the environment. And at the end of the day, with all of what you've heard this evening, this site proposes to dedicate to the Town of Old Saybrook 514 acres of land that will not be disturbed at all, will remain in its natural state, and will be -- and we propose that that land will be dedicated in a way that preserves it as public open space, publically accessible for use by

all.

Currently while the site has value, it's privately owned and the public cannot enjoy the preservation aspects of this land. And we believe this is a unique opportunity for the region and even for the state to have one of the largest contiguous parcels that remains in southeastern Connecticut and have it be constructed in such a way so that the town owns it, and controls it, and makes it available to the public, the town residents, and to the residents of Westbrook as well.

In addition to that, we are proposing an additional plus -- 65 acres, plus or minus, that will be dedicated in a conservation easement format that would restrict property owners from further developing their land beyond a certain point. So that at the end of the day we have plus or minus 575 acres that will remain in its natural state from its present condition; roughly 62 percent of the total parcel size. That excludes all of the areas that Arthur talked about within the golf course itself, including the 25 percent or so of the land that remains as part of the golf course, but is virtually in its natural state with no artificial maintenance at all.

So what remains, from our point of view, is a public open space environment which -- in which we have proposed to build a nature center and an education center that would have parking accessibility so that from a usage standpoint, from the enjoyment of public space, someone could begin at that point and understand some of the work that was invested in understanding the biology and ecology of the site and they could gain an understanding of what nature has to offer them through natural trails and through public accessibility of the remaining lands. And that we believe is the benchmark of this proposal and why your regulation gives us a great opportunity to propose something that is quite a bit different from what we talked about last week when we proposed a subdivision plan to you that was based on your existing zoning in a conventional subdivision format which virtually made use of almost every aspect of the valuable resources in the site itself.

And as we moved forward from that, we then decided to make an investment in understanding what people's needs were in the region. And we, again, engaged a nature firm, Robert Shalsleffser (phonetically), the report that you saw last year, and we tried to understand what buyers would want in

this marketplace. And while traditionally what typically gets built in Old Saybrook, and Essex, and Westbrook are detached single-family residential homes on one acre or more, because that's what the zoning has always dictated. And as a result you've not only created an environment -- we have not only created an environment that has very little flexibility to manage the natural environmental resources of each site that's proposed for development, but there is no residential diversity and product choice for folks that want to come in and live and move into the area.

So following a detailed study of the region, we developed four unique choices that we propose as part of the open space plan. The first is that same product in the three-quarter acre lots that we will describe in a minute are basically the 2,500 square foot, plus or minus, detached single-family homes with three or four bedrooms on a lot that is fairly typical of the neighborhood surrounding it, except that we've made an investment in understanding the environment, which historically wasn't done just simply because that was the nature of the business back in the '70s and the '80s when those developments were proposed and constructed.

In addition to that we are proposing estate homes with lots in excess of $1 million on several-acre parcels. And again, that's at the other end of the spectrum where we believe there is a need for high-end custom home sites that would be available for folks that would either be empty nesters or families that could afford that type of residential choice. Those make up roughly the unit counts as part of the 248. Twenty-four estate homes are proposed. And of the three-quarter-acre lots, which we call half acre, but they are actually averaging about three-quarters of an acre, 45 lots. So 69 lots out of the 248 are those two product types. And we believe that they are important and essential to the overall program of providing diversity in the market and marketability of this plan.

But the core of this development and what makes it exciting for us is the -- are the villages themselves. And we are proposing two, if you look at it from a planning sense. Three villages that comprise the balance of the units which include village attach and village detach of 179 total units.

And I would like to talk a little bit about that, because that's what Dennis Goderre and I have

spent a good part of our careers working toward. And many of the folks that you heard tonight, Randall Arendt and others, have really spent their professional careers trying to learn about building responsible neighborhoods and then communicating it to the boards and commissions that ultimately make legislative decisions on how to develop property responsibly. And we long ago departed from pursuing traditional or conventional subdivisions. And as we learned about some of the new forms of planning that were being conducted, we tried to become involved in. And over the past several years this has been a commitment that we made in our firm to try to implement as often as possible. And I'm speaking mostly of what's typically called traditional neighborhood development or traditional neighborhood design. Some folks call it new urbanism. But what we are trying to accomplish is developing a neighborhood that is oriented to people and not to vehicles.

And when we look at some of the neighborhoods in the '30s and the '40s where some of us grew up -- I grew up in New Haven. And many of us come from the cities of Connecticut, because we're Connecticut natives. And those cities were typically about

neighborhoods that had houses of relatively high cluster, relative density in that they were closely spaced together. The houses were typically sited close to the street line. And very often the designs were people oriented and human oriented in that front porches and other aspects of the home dominated the central core design philosophy.

And in those days public transportation and walking were much more important than the car itself. And as the car became dominant in society in the '50s particularly is when it began, folks began to suburbanize and move to the suburbs. And the type of design that fostered the conventional subdivision zoning that we see today were designs that were vehicle dominated. Houses became spaced much farther apart. Typically in this area one- or even two-acre lots. In Essex I believe two-acre zoning was recently legislated within the last couple of years. And long driveways, cul-de-sac streets and homes with garages in some cases being the central design focus became dominant in the marketplace. And it really changed the character, from our view, of how people viewed the community and how they viewed their investment in the community from a socioecological standpoint -- socioeconomic standpoint in that

suddenly they were going to work in a different place. They weren't working in their same community. Typically they drove there and would go home. And the home became almost a stopping place rather than a place where they lived, worked, and played.

And as some of us got a little older and we are in the business and in the planning community, and architecture community, and the design communities all began to look at those neighborhoods and what made them special. A new design jaunder developed over the last decade or so. And it's been applied and it conforms with all the traditional neighborhood design.

And I'll just give you a little bit of background in that just to point out that when we looked at this site I guess roughly about 18 months ago, we believed that traditional neighborhood design was an ideal manner in which we could propose neighborhoods that would not have significant impact on a large parcel and a valuable parcel such as this. And at the end of the day if we combined the quality of TND with the uniqueness of a golf course community and we made the investment in understanding the biology and ecology of the site, we could really have the best of both worlds in that we could propose a

reasonable subdivision that was taking maximum advantage of open space and maximum advantage of preserving the land forms, and at the same time using the research from -- the extensive research from Mr. Klein, Dr. Klemens and others, we could modify that design, as we have done over the past year, to reflect as much of the environment as we can in how we plan and propose roads and home sites. And that's what we propose this evening and that's what our open space plan consists of.

Some folks have asked why the golf course. Why not just the neighborhoods themselves. And we believe there are three basic reasons why it's essential as part of this development proposal. First, is property values. Whenever a golf course is included as part of the community, those values will be significantly greater. And not only the values themselves, but, second, the absorption rates, which is the amount of time in which it takes to sell homes. And while those typically are economic issues, from a developer's standpoint we believe that they are equally important to the town as well, because they represent the way in which the town is going to get maximum financial benefit from this development. As the home prices average well in

excess of half a million dollars, as we presented to you last year, this development will net the town close to a million dollars a year upon full construction and occupancy with the golf course. That's after services, after the impact to the school systems, et cetera.

So, again, we felt that the golf course greatly accelerates the pace of that benefit, both for the developer and the town, and that uniqueness makes it essential to be included as part of this development.

Also, the course itself has value as a third point in that it pays taxes. It has members and it has very little impact to services. So we felt it -- again, it was another way for both the applicant and the town to gain a tangible benefit through the inclusion of the course as part of this development. High level managing, all those issues is the fact that the golf course makes this traditional neighborhood a very unique community. And as I'll discuss in a moment when I go through the plan, the course itself really brings added value, as does the open space in the uniqueness of the neighborhood to the region. And the fact that I don't know of anything like this in the New England states and, actually, even heading down toward Washington, D.C.

and Maryland where our range is and where we perform most of our work, I can't think of a development that represents so many unique qualities as this one does. And from that point of view we believe both the golf course and the open space become part and parcel with that uniqueness.

But what I would like to do is talk specifically about the plan and then make some conclusory remarks, Mr. Chairman, and we can open it up to questions. And we apologize for the lengthiness of this presentation, but we thought it was important for you to hear some of the background.

As you have heard before, we are proposing an east/west connector, a roadway that will connect primary access at State 153 in Westbrook to Bokum Road in Old Saybrook. And we are proposing it in a way which, to the extent possible, minimizes disturbance to existing land forms and avoids inland wetlands and watercourses and respects much of the recommendations of Dr. Klemens, et al. And as a result that east/west connector road and the entire development in fact proposes to fill zero inland and wetlands watercourses. And in fact, we have three very narrow wetland crossings on the east/west road itself, but at the end of the day those will be

spanned and the golf course, the home sites, and the road systems on the entire development do not fill one square foot of inland wetland and watercourse, which I think is a tribute to the team and I think it demonstrates our seriousness about the development on this site.

Once the east/west connector roadway is in place, we are proposing several neighborhoods. But the core neighborhoods are the two traditional neighborhood villages where we have single-family detached and two-family attached homes all placed and sited in a way that are such -- in a way that they are closely spaced together and that they are close to the front line of the street, and that we try, to the extent possible, take particles of green space, and town greens, and public spaces that connect the home sites. And if you notice, if you look at some of the renderings that are placed at the base of the easles and up at the top of the stage, there's very little evidence of automobiles. And what we made a very strong commitment to do is to take garages and any evidence of the auto itself and put it on back lanes or small streets that aren't streets, that are considered the front of the homes themselves. And in those back lanes owners of homes access their

garages, which, again, are designed in a way so that they are not visible or barely visible to the streets that -- where people will walk on and where visitors will drive on.

So if you look at some of these renderings, you'll see diverse New England architecture, front porches, picket fences, street trees, sidewalks, and streets of a width of a very human scale, not of a vehicle scale, with the goal of creating a sense of community in a neighborhood that is, again, for new construction unique to this region. But for those of us that were born and raised in New England, we see much of this in towns like Essex, Connecticut. Main Street is a pretty good example of the type of density and context that this would represent without the commercial space. This is a retail -- I mean this is a residential development.

With that as the backdrop, with the village as the backdrop, we then have other small areas of development for both the three-quarter-acre lots along the western portion of the site, again, in areas carefully placed to maintain the commitment of Dr. Klemens's discussion about connectivity. And then we propose an estate lot environment with the 24 home sites along the northern reaches of the site,

again, as an extension of the east/west road. But if you remember Dr. Klemens's graphic, this was the white area. This was the area in which the disks were not present. And in fact, there was very little need to preserve upland area in that location to maintain biodiversity and connectivity within the vernal pool system. And again, much of that has evolved over time as we learned more about the land itself.

One important public safety aspect of this site is the proposed fire substation, and that was an idea that actually came from town staff, not from us. And a short period of time after it was suggested, we agreed to do it. And the plan calls for an apartment or a residential apartment to be connected with that fire substation, which would give an opportunity for a volunteer fireman or woman to live in that environment and actually be immediately available for a first responder opportunity in the event of an emergency. In addition to that, if that resident was working or not on call, then certainly volunteer fire people from this immediate vicinity could easily access that fire substation.

The benefit of the fire substation is -- I think is intuitive to the development itself, but over the

last 15 or even 20 years the volunteer fire department for both the towns of Westbrook and Old Saybrook have always made an issue of the fact that the first responder times were very poor or at least not nearly as good as they were in the southern reaches of the town simply because of the proximity of equipment and fire stations. And there was always a concern about public safety and expressed by chiefs as far as I can remember that there was really a need for a fire substation in the northern section of either Westbrook or Old Saybrook in order to respond to emergencies in those locations in a more expeditious manner. And this plan in many ways solves that issue not only for the preserved neighborhood itself, but for the neighborhood along Bokum Road, Route 153 and Ingham Hill Road in Old Saybrook. By providing an east/west connector road, which obviously gives an opportunity for emergency vehicles to traverse, but also with the emergency access driveway proposed at Ingham Hill Road in Old Saybrook and the combination of those three access points for emergency vehicles will virtually solve the issue of a concern that has been raised by leadership in the fire department about first responder time in the northern reaches of the town.

So we thought, again, that was a real important piece of -- that we needed to include as part of this development. And it really came from town staff. But it was, again, something that we quickly realized was not only a benefit to us, but a benefit to all.

That's an overall summary of the plan itself. The total proposal includes 248 units. That's compared against the 293 units from the conventional subdivision plan that we presented last week. Again, we are proposing to dedicate to the town 514 acres of land remaining in its undisturbed state with a nature center. We are proposing that the plan be developed in a way that takes maximum advantage of land forms and the environment as discussed earlier. And we believe that the golf course itself is integral and essential to make the plan a success at every level.

Mr. Chairman, that completes our presentation. Thank you for being patient with us, and we'll be happy to answer any questions that you have.

CHAIRMAN MCINTYRE: Thank you, Mr. Landino.

At this time I am going to open up the floor to the public. Just a few minor groundrules. When you do speak please state your name and your address and be courteous of others while they are speaking.

MR. BRANSE: And Mr. Chairman.

CHAIRMAN MCINTYRE: Yes.

MR. BRANSE: And come to the podium so they are on the mike.

CHAIRMAN MCINTYRE: Come to the podium, also.

Is there anyone in the public wishing to speak at this time? Mr. Keeney.

MR. KEENEY: James Keeney, 16 Bayside Road, Old Saybrook, Connecticut.

Dr. Hill -- Mr. Hill, I'm an avid golfer, but I've been so busy trying to deal with this issue for the last two years I haven't been able to play any golf. Sad state, isn't it? You wouldn't consider using a muni, would you?

Sir, my wife said yes, you can go ahead and chat if you would like, just make sure you hitch up your pants and don't embarrass me. So I have the pants covered.

The other thing I would like to say is remember when you give a talk, you should never follow the finest person in class. And it's very disconcerting to have to deal with this crew who are so well versed, and any small college I think would be impressed with the curricula vitae of this collective group.

I have really just three things - I'll try to be

brief about it - that I think would make some sense. ASAP, which is a group that I represent, and Connecticut Fund for the Environment have been trying to educate the people in the three towns about the impact that this project would have. And you may have read in the newspaper where there was a lawsuit about the brochure that we sent out, which was this, and it in fact discussed the issue of what is wildlife. And that has been resolved I would say in our favor. But it was curious to me that the other issues in the brochure, which were higher taxes, traffic congestion, septic sewage, pollution concerns, that didn't raise anybody's attention, which I found curious. I don't know whether that means it's true, but it certainly caught our attention.

A hundred fifty years ago there was a group of people just like you sitting around the table trying to make a decision on a piece of property. It was 850 acres. And they came through with a decision to protect that property and today Central Park is available to tens of millions of people. And what we would like you to do is to have that same vision about this property in terms of trying to preserve it for future generations. And so please think about

that at each stage.

I brought two photos of The Preserve, because it's a little disconcerting to see all of these completed plans when in fact we have a completed plan right here. And it doesn't require any homes or any golf course or any sewerage or any other problems. It's something that exists today. It wouldn't require any work. It's available for us. All we got to do is buy it. The purchase price --

CHAIRMAN MCINTYRE: Can we please hold the applause. Thank you.

MR. KENNEY: That was my family.

MR. BRANSE: Mr. Chairman, for the record, Mark Branse. One other thing. If you're going to show a photo or other document, it needs to become part of the record. We don't need the framed one, but if you could get another print, that would be helpful.

MR. KEENEY: Would this do?

MR. BRANSE: Is it the same photo you were just referring to?

MR. KEENEY: Sure.

MR. BRANSE: If it's generally the same, that's fine.

MR. KEENEY: Sort of.

MR. BRANSE: Do you want to submit that?

MR. KEENEY: Yes. I have a copy for every one of you, actually.

The next point, if I may, there is a mystery about a forest. And the philosophical question is if a tree falls in the forest and nobody is there, does it make a noise? It's philosophical, of course, but a forest has its own unique sounds. And those are the running water, the wind blowing through the trees, you know, the singing of birds. However, there can be some important sounds. And that's what we are worried about as far as this development.

Now, I'm a developer, because I added 1,000 feet to my house this past year, and that experience told me a lot of things. First of all, I had 11 cement truckloads come in, 15 lumber loads, one load to finish doors and windows, six loads of fill and ten loads of topsoil. That was 43 truckloads for 1,000 square feet. I did a quick extrapolation of this project, and I determined -- and I can't prove it at any great mathematical accuracy, but there's probably 50,000 truckloads that would come into this property and leave. And my question is has anybody told the residents of 153 that this is coming down the road?

And my final thought is local birders have identified 134 different birds in and around the

Essex middle area, and that borders on or is close to the proposed development. And the next question is has anybody told the birds? Those are my questions. Thanks.

CHAIRMAN MCINTYRE: Thank you, Mr. Keeney.

Does the applicant want to respond to anything at this time?

MR. LANDINO: No.

CHAIRMAN MCINTYRE: Okay. Yes. Come up to the podium, please.

MR. ROTHENBERGER: Hi, good evening. My name is Charles Rothenberger. I'm with the Connecticut Fund for the Environment, the formal intervenor in this application process. We obviously have a lot to say about the application, and we will do so.

I wanted to introduce one expert that we happened to bring with us this evening, Geoff Hammerson, a very well-respected biologist. The author of probably the leading book on wildlife, Connecticut wildlife in the state, is widely published and has held a number of teaching positions. So Dr. Hammerson, if you would like to come up. He has some comments and observations to make based upon this evening's presentations.

MR. HAMMERSON: Thank you. I didn't have the

advantage of being able to --

CHAIRMAN MCINTYRE: Could you state your name for the record, please.

MR. HAMMERSON: Oh, I'm sorry. My name is Geoffrey Hammerson. I'm a research zoologist for Nature Serve. I've worked in the conservation biology community for 20 years, for the nature conservancy organizations. I teach conservation biology and related courses at Wesleyan University. I've studied amphibians and reptiles for 30 years. I've studied vernal pools in Connecticut for 20 years. And I gave you a copy of my CV.

I am here at the request of the Connecticut Fund for the Environment. I didn't have the opportunity to review any documents before, that may have been available up to this point, so I'm just basically responding to testimony that you heard tonight. So I just want to make a few points, clarifications, and different interpretations.

For example, with all due respect to the scientists who have spoken before and not to discredit them in any way, but I must say that the bird and mammal surveys, for example, that were referred to - and I did have a chance to flip through the report - in the scientific community would be

viewed as very cursory, not exhaustive by any means. For example, the bird surveys were done between June 1st and June 9th, 2002. And that was it as far as I could tell from the report. By the same token the mammal surveys seemed to be quite limited as well and more opportunistic than methodical, except perhaps the bat surveys which did reveal the existence of a special concern species on the property.

There was a comment that there are no endangered or threatened species on the property. I would say that I would highly qualify that remark. I don't believe that there has been an exhaustive botanical survey of the property. There's been some botanical survey, but I wouldn't call it exhaustive. Some of the plants that they found in or near the property actually have state status as endangered or threatened. They weren't found by the applicant's consultants, but that doesn't mean they are not there. They sometimes are difficult to find. They don't appear every year. There are other reasons. So you can't conclusively conclude that they are not there by the kind of surveys that were done.

Similarly, I'm not aware that there were any invertebrate surveys done at all. There are a large

number of state listed endangered or threatened invertebrates in Connecticut. I don't know if any of them occur on the property, but I don't think that the applicant does either. So I would just caution you as to how you interpret the surveys that were done and to regard them as preliminary or not even done at all for some of the groups.

The vernal pool surveys looked pretty good to me. I think that given the time frame of a couple of seasons, it's a remarkable set of data. I don't think it's necessarily completely conclusive, because vernal pools, after all, are dynamic ecosystems that change from year to year. And sometimes it takes a multi-year time frame to really understand completely what's going on. But I do believe that a good data set was collected for the vernal pools. However, I would interpret that information a little differently. For example, the prioritization scheme makes sense to me. But one must admit that it's arbitrary as to what you consider to be a high priority pool or mid, medium or low. And I, in quickly looking over the report, would be inclined to include a few more pools as important.

Would it be possible to display the vernal pool map; the one with the circles on it?

MR. BRANSE: That's one. There's two, though.

MR. HAMMERSON: This one with the circles on it I think probably will do. I think I can work with that.

MR. BRANSE: Just state which one you're referring to.

MR. HAMMERSON: I'm referring to -- it's labeled map 28. Okay. So, for example, I might be inclined to add a couple more circles to this. So my point is that what one puts a circle around and what one doesn't put a circle around is subjective. And this is one interpretation and someone else might come up with something that would include a greater number of circles and a greater area. Okay.

When I look at this, I think wow, look at this great assemblage of vernal pools here quite close to each other, probably what scientists have referred to as a metapopulation, which simply is a fancy word for a group of interacting populations. Over the long-term these pools may hold water a long time. They may dry up. The amphibians respond accordingly by shifting around. You might go extinct in one pool for a number of years and then require nearby pools to serve as sources of colonization to repopulate that pool.

So anyway, I would see this and I think wow, this is great. And what I would do is designate this whole area here perhaps as a very high priority conservation zone that wouldn't be fragmented. Yet I was a little startled to see that's exactly where half the golf course is going.

MR. BRANSE: Professor Hammerson, you just said this area. I believe you were referring to the area west of the Pequot -- west and southwest of the Pequot Swamp; is that correct?

MR. HAMMERSON: Yes. The part that extends up into Essex, goes along the western part of the Pequot Swamp and southeast and southwest from there. It's a set of interlocking circles. So anyway, that's one way of interpreting this.

This would be a really excellent place to set aside as an example of -- a set of vernal pools that could be protected as a unit rather than separating them by fairways. Fairways and the abilities of the amphibians to cross them is debatable. They can cross open areas, but it's not really suitable habitat for them. These amphibians use leaf litter, logs, underground burrows, not dense turf. So it's problematic and certainly is going to inhibit the interactions among the different populations there.

So anyway, I see an opportunity for some great conservation, a great ecosystem that could be set aside there rather than a site for a golf course.

So I guess my main point would be that the information that we have on this part of the ecosystem, and this is only part of it, really, because the bird and mammal surveys were cursory and invertebrates weren't really sampled at all. It's really hard to comment on how this design might be affected by a potential presence of species of conservation concern.

Just based on this data set I am just going to say that someone else could interpret this differently and look at this as a place not to fragment, and someone also might add some further circles that may influence the way that this is developed. I think that I would add a couple more circles there, which would change the appearance of the zones.

And I think one final point -- maybe I already said I will make a final point. Here's another one. That to refer to the habitat in this section I have been referring to, the interlocking circles as a conserved zone I think is a little bit misleading, because although it does attempt to minimize the

amount of outright habitat damage in these 750-foot circles, it does fragment that forest quite a bit by interrupting it with larger areas of turf. And I would just simply point that out. And that's all that I have to say. Thank you very much.

CHAIRMAN MCINTYRE: Thank you.

MR. LANDINO: Mr. Chairman, may we respond?

CHAIRMAN MCINTYRE: Yes.

MR. KLEIN: Mr. Chairman, very briefly. Michael Klein. It's unfortunate that Geoff didn't have the opportunity to take a look at our report which has been in the record. I don't want to get into a methodological scientific debate here, but the suggestion that, for example, the botanical survey was cursory is both untrue and somewhat insulting unless it was made in the absence of looking at our report.

Mr. Collin from my office, who is here, specifically met with the Connecticut DEP to identify any particular species of conservation concern, not only that were known from this portion of the Town of Old Saybrook -- Old Saybrook, Westbrook, and Essex, but also those which might be present based on the known habitat in this area. We met with Ken Metzler from the DEP; the state expert on the flora of

Connecticut. We identified that list. We identified the habitat types that those plants would be -- are known to use. And we identified the times of year in which those species are most conspicuous. So not only did our survey cover two complete growing seasons for the entire length of the growing season for the flora, but we specifically concentrated to be present at the site when the species of conservation concern, for example, would be in flower or in fruit, which they are easier to find and positively identify.

Mr. Collin's survey identified almost 400 species of plants on this site. The suggestion that this is incomplete or preliminary is just absolutely incorrect. I don't want to get into a long debate here. We'll provide some additional written responses, but I just want to suggest that that notion is -- doesn't stand a careful look at the methodology we used.

MR. BRANSE: Mr. Chairman.

MR. KLEIN: And respectfully with respect to the aging biodiversity, the early June period, period in June is the time of year that's the best time of the year to determine which species are actually using the particular site for breeding. There's no reason

to believe that there's a shortage of migratory forested habitat in this part of the state. And so the critical limiting factor would be breeding use. And that's the reason why the survey's done at that time. And migratory birds have passed through. The ones that are present at the site would be actively singing, staking out territories, would be most easily detected. So the surveys were very carefully timed and designed to maximize the biological information. We don't believe it takes 20 years to characterize a site. We can't prove an absence. We can never prove that something is not there. We can only tell you how much effort and time we spent to look at this site and what we do find.

CHAIRMAN MCINTYRE: Thank you. Attorney Branse.

MR. BRANSE: For the record, Mark Branse.

Just one question. Mr. Klein, you indicated that your report is part of the record. And Mr. Hammerson -- Professor Hammerson said he had not had the chance to review it. When was the report to which you were referring made a part of the record?

MR. KLEIN: November 3rd.

MR. BRANSE: November 3rd, okay. I just wanted to be sure, because I hadn't seen it. November 3rd.

MR. LANDINO: May we have one more speaker in

response, Randall Arendt?

CHAIRMAN MCINTYRE: Yes.

MR. LANDINO: Thank you.

PUBLIC SPEAKER: We --

CHAIRMAN MCINTYRE: They are just responding. After you want an answer to your questions. And when you speak then the applicant may respond. He requested that he have another speaker respond to the comments of the last speaker.

PUBLIC SPEAKER: I thought the format was they would speak, the public would speak, you would speak.

CHAIRMAN MCINTYRE: Well, this is the format we have been using all nights of public hearings, that the applicant will respond when he wishes to. And I made that statement during the opening, that the public would speak and the applicant may or may not respond to your questions.

MR. ARENDT: Good evening. Randall Arendt speaking again briefly.

It is a pity that Professor Hammerson wasn't able to review the report which has been on record for a week before speaking at the podium or being able to spend time on the property before speaking at the podium, because there are more than 400 manhours out there easily of research. So I think you need to

compare who's been out there looking.

MR. BRANSE: Excuse me, Mr. Chairman. This is not responding, and I think the point is correct. The applicant has made --

MR. ARENDT: I was commenting --

MR. BRANSE: The applicant has made -- excuse me, sir. The applicant has made a presentation. Certainly the applicant has the opportunity to respond, but at this rate we'll never get through the public comment. If there's a question that's been raised, certainly the applicant should be allowed to answer it. But if they are going to respond to each point -- to each argument with a counterargument, I think we are not going to make the progress we need to make. That's just my recommendation.

CHAIRMAN MCINTYRE: Okay. Thank you.

MR. LANDINO: I apologize. We should just be responding to questions, and we understand the format.

Now, Randall, did you want to respond to a question that you felt wasn't answered?

PUBLIC SPEAKER: There wasn't a question.

MR. ARENDT: The question raised was whether this would fragment the property. I think that we should bear in mind that the by right yield plan

which meets all the town's ordinances and state of Connecticut's laws, the yield plan which is on display we did as a result of the requirements and the ordinances shows extensive fragmentation. And if you want to put it on a balance to see which has the less fragmentation and the more preservation, that is a very relevant thing to bear in mind, and that's why we have that up on the board.

MR. LANDINO: Thank you.

CHAIRMAN MCINTYRE: Thank you. Anyone else from the public wishing to speak? Yes, sir.

MR. UNGER: My name is Tom Unger. I live on 8 Trask Road in Old Saybrook.

And I would like to address open space, but I would first like to hand out --

(Mr. Unger passes out papers.)

MR. UNGER: Mr. Landino, can I borrow your --

MR. LANDINO: Sure.

MR. UNGER: Thank you. It works better here than the podium. I thought I could avoid doing that, but it seems to work.

I'm -- I have attended every hearing on this piece of property. But before I say anything I would like to say that I have a really deep appreciation for all of the members of the commission just looking

at the volumes and reams of data to go through to make the best decision possible. Even the limited data I have looked at has taken some hours, and I thank you all very much.

The set of numbers that I have looked at regarding acreage on the property is how I see the land as a portion among the three towns and among the various uses. That's the chart I have put together here. And I keep coming up with some numbers that aren't consistent with other numbers I have heard significantly. I heard one tonight from Dr. Hills or Mr. Hills mention of 151 acres in the golf course. And other numbers have also been presented in documents submitted by the applicant. And I would very much like to get the numbers clarified. I hope, maybe not tonight but at a future hearing, that this could be done. All these numbers come from data submitted by the applicant and certain of the applicant's representatives.

The official web site indicates that there's 970 acres total on The Preserve and 883 in Old Saybrook. At another hearing we heard that there's 130 acres of wetlands, and 330 acres of upland review, and 165 acres of 20 percent slopes. These two numbers, the 363 and 165, comes up to 528 acres

which are completely unsuitable for development, for public recreation, either passive or active. This brings us down to 442 acres. Sixty-seven of the acres are going to be used for the cluster sites. Thirty-four acres are going to be used for the three-quarter-acre or 45 three-quarter-acre lots. And 75 acres will be taken up by the estate lots. Now we are down to 266.

The golf course, according to the document I mentioned on my chart, says it's going to be 219 acres. And I threw in 75 acres for conservation easements, because over the course of all the hearings I've heard several different numbers. And Mr. Landino did clarify that tonight by saying I think it was 65 -- 60 or 65. Maybe it was 65. But I have heard it range from 60 to 80 at those hearings. And I'm really sorry to say that I come up with negative 28 acres left over. And this doesn't include a water tower, which is a million gallons, a firehouse, a sewage plant, and roads. And to say that someone is going to grant the town 500 something acres - 514 acres was the number tonight - well, we already have 528 acres that aren't of any use to anyone except protecting watersheds. And these acres will very likely not be developed under any

conventional plan or any cluster plan or any other plan, because you can't make any money on them. These acres, since they are wetlands and upland review areas, are very likely to remain open perpetuity under existing wetlands regulations instilled by this proposal.

Lehman Brothers proposed to grant 514 acres to us because they have no use for them. Lehman Brothers proposed to grant the acres to us because they are unsuitable for development. And it seems that the best profit method for Lehman to avoid taxes is to grant these acres, because otherwise they are paying taxes on it now.

And I have to resoundingly concur with Mr. Keeney that we have a fabulous asset here right now that doesn't need roads or houses or chemicals. And if we could buy it, then the public would have the 528 acres which protects the environment and an additional 500 acres that would be the best open space in the entire state of Connecticut. Thank you very much.

CHAIRMAN MCINTYRE: Mr. Landino.

MR. LANDINO: I'll be very careful, Mr. Chairman, not to debate. I just want to answer I think some questions on those numbers.

There's about 12 percent of inland wetlands on the site, totaling - and I don't have the exact number - 135 acres, plus or minus, Dennis. What's the total acreage of wetlands on the site?

MR. GODERRE: In Old Saybrook 112 acres.

MR. LANDINO: Okay. In Old Saybrook there's 112 acres of inland wetland watercourses on the site. The balance of the site is upland. The numbers that Mr. Unger is referring to is the upland review area, which is perfectly developable. It's just the area that's regulated by your inland wetlands commission. And steep slopes, which are slopes in excess of 20 percent, much of that is perfectly developable. And if you look at the neighborhoods around Schoolhouse Road, Cinnamon Ridge, Ingham Hill Road, et cetera, most of those neighborhoods were built with homes that were around slopes in excess of 20 percent. So at the end of the day while the logic sounds reasonable, the numbers are incorrect. And I just wanted to clarify those.

CHAIRMAN MCINTYRE: Thank you.

MS. CONLEY: My name is Kathy Conley. I'm a resident of Old Saybrook. And I also have a great deal of experience with organic farming and gardening. I would like to address the point of the

organic management of the golf course.

In this day and age no community can afford to consider a new golf course without considering the "O" word, organic. In communities throughout the northeast this is being considered and is being done elsewhere. It is being done not only 15 miles from here on Long Island as the crow flies and it is being done in Massachusetts; it is being done on Martha's Vineyard.

I want to read to you some zoning legislation reached recently and adopted by the town of Sharon, Massachusetts, with the approval of their state attorney general. It says, a golf course shall be designed and maintained according to recognized organic standards, such as the standards for organic land care of the Northeast Organic Farming Association of Connecticut with two exceptions, that greens, fairways, and tees may be mowed to less than two inches and emergency, nonorganic rescue treatments may be applied upon the demonstration of severe need and with approval from the permit granting authority.

So the town of Sharon, Massachusetts is developing organic standards developed by a group in Connecticut. I'll talk a little bit more about that

in a few minutes.

Just last week I was talking to a reporter, a science reporter about the problems of golf course management and pesticides on golf courses. He pointed out to me that, well, that's largely been solved, because now we have IPM. And I will grant you that turf science has evolved a great deal over the past 25 years. It's gone through a lot of evolution; most of it for the better. And a lot of it's through the recognition of the experts who teach the subject. But let us not mistake IPM for organic land care. I'm not saying that these gentlemen have presented it as organic land care, but the public in general forms the impression that if you have something called IPM, well, that's kind of organic. Truth is you can't be a little bit organic, just like you can't be a little bit pregnant.

I would like to raise a number of questions about the pesticide management plan that they propose to put in place. Now, they will tell you that the organic approach is not economically viable at this time. And there is a lot of sentiment in the golf course business that that is the case, and yet there are places where it is beginning to be done. And so the economics of golf course management under an

organic management plan are beginning to be discovered in actuality in places not far from us.

The truth of the matter is that if you're going to claim to use organic substances, as I heard tonight, those substances need to be from the national list of the national organic program. This is something I would like our commissioners all to be aware of. Organic is a word that's been regulated since 2002 by the federal government. In fact, if you are an organic farmer and you fail to meet the criteria of the organic certification process, you cannot use that word organic unless you want to face some very hefty fines ranging from $5,000 to $25,000. So if they are telling you that they are putting organic substances on this golf course, please recognize that that is a very specific meaning and a very specific standard that it has to meet.

Now, I would like to talk for two seconds about the national list of the organic program. The national list has been developed over the last ten years by an interdisciplinary group called The National Organic Standards Board. In order for a material to get onto that list, it generally has to go through testing by The Organic Materials Research Institute. That is a voluntary program. But in

order to become an approved substance for organic growing -- and this is a form of agriculture, make no mistake about it. A golf course is a form of agriculture called agronomy. It's a large monoculture grown for economic purposes. In order to get onto the natural organic list, you have to have the entire material tested. What that means is the inert substances as well as the active substances.

Now, you may not know this, but in the world of pesticide production, you -- if you're not applying for organic status, you don't have to reveal what your inert substances are unless forced to by a government agency because of reasonable concern about the materials in the inert substances. Inert substances can include formaldehyde, xylene, a number of interesting-sounding chemicals. And these have been shown, some of them, to be as harmful as the active substances. Understand that a bag of pesticide and some fertilizers is as much as 99 percent inert substance. Okay.

So the materials that the gentlemen are talking about, as much as I understand that they want to manage them very conservatively and carefully, do contain these inert substances unless they are on the national organic list. And those substances can be

as damaging. And understand that they go down in volumes much greater than the active substances. So I would really like to know what kind of regulations we are going to place around that phenomenon. It's a very real one.

I have a few other questions that I would like to pose and then I'll stop. We are talking here about the conversion of forest land to agriculture land, because a golf course is a piece of agriculture. When you do that you have to change the soil structure. Forest land is generally fungal in nature. You grow agricultural crops generally on soil that is bacterial in nature. The soil life of that agricultural land is likely to be bacterial in order to support these kinds of crops. And grass is a crop. I keep going back to that.

My question is how are they going to amend the soil during the transition period? Are they going to bring in topsoil and compost from other parts of the state? Do they have enough topsoil on the site to move into the areas they are going to support turf on an ongoing basis? If topsoil and compost are being brought in from outside sources, do we have a testing program in place for that material?

Because while the land here hasn't been touched

by pesticides or fertilizers in its history or at least certainly not in the recent history, the land that could be brought in from other locations may very well have pollutants, heavy metals, chemicals, other undesirable things in it from activities that occurred on that topsoil at other times.

Compost is a particular concern. Compost sounds very harmless, but in truth a lot of commercial compost is made with old building materials. It can come from treated lumber. It can come from old buildings that had exposure to arsenic. So you have to be very careful about the inputs that are carted into the site.

I don't really know what their plan is for converting the forest land to agricultural land. I would like to hear about that, but I also would like Old Saybrook to be very careful in asking for a testing program on any nonnative materials that are brought in.

One other point I heard tonight and then I think I'll leave this for someone else to make a few comments. We talked about -- we heard about native grasses being grown on the site. Grasses are not native to forest soils. These grasses may be native to other parts of Connecticut. But this is a forest,

so this is not native to a site such as this. This is nonnative, and we need to be very clear about that.

As far as no maintenance, grasses don't grow on forest soils, so that the forest soil will have to somehow be amended. I would like to hear more about how those amendments will occur.

And basically, those are my comments for now. There's a lot more that could be said, but I expect that we'll get a chance to do that. Thank you very much.

CHAIRMAN MCINTYRE: One second. Attorney Branse.

MR. BRANSE: Yes.

CHAIRMAN MCINTYRE: As far as our -- we seem to be getting on this golf course issue a lot deeper than our preview would cover in our decision-making process for this part of the application. Could you once again explain to us what our job is with the golf course as far as in the decision-making process.

MR. BRANSE: For the record, Mark Branse.

The only relevance -- well, let me back up. The zoning commission will ultimately have to review a special exception application for the golf course. And part of that will be a detailed review of the

grading involved, and the pest management, and chemical management, all those types of things. The only relevance for this proceeding is whether the conventional subdivision layout or an open space subdivision layout is preferable.

Now, I suppose that it's -- there's some relevance as to the hazards that a golf course may or may not produce. That's why the applicant has presented their view of how they would manage this golf course, and the public is addressing it as well. But this commission is not going to be reviewing, for example, a management plan for turf. It's just not going to be doing that. The zoning commission will be doing that. So I have hesitated a couple of times to sort of intercede when those points were being made both by the applicant as well as by the public, but I didn't because it is relevant to the issue of whether this property should be developed as an open space subdivision with a golf course versus a conventional subdivision without one. But I think it is correct that the details of the golf course really are not relevant to this proceeding.

I would suggest that both the applicant and the public confine themselves to the question of whether an open space subdivision with a golf course of the

type that the applicant proposes is preferable to a conventional subdivision and underlying lot densities or not. That's really the question before you.

CHAIRMAN MCINTYRE: Thank you.

MR. LANDINO: There is one question that needed an answer. There is no topsoil to be imported into the site. The site is expected to be a balanced site. And any materials that were imported for the community septic system or for whatever reason would undergo extensive materials testing and testing for any issues relating to contaminants, et cetera. That was the only question that I think needed answering.

CHAIRMAN MCINTYRE: Yes, ma'am.

MS. FAULKNER: Sally Faulkner. I think this relates --

CHAIRMAN MCINTYRE: Talk to the podium, please.

MS. FAULKNER: I'm Sally Faulkner. I live at 10 Dwayne Road in Old Saybrook.

At the last meeting it was brought up that the town's numbers differed on the -- possibly on the number of units for the conventional plan. And there was -- that would relate then to the number of units allowed under the open space plan. And I wondered if that had been worked out, if there are any new maps showing the conventional plan with the town's

numbers.

MR. LANDINO: That's a good question. There were a series of staff reports or consultant reports that were given to us last week, and tonight at the outset of the hearing Attorney Royston presented about a 20-page response. Now it's up to the town's team of consultants, I believe. And I don't mean to speak for you, Christine, but up to the town's team of consultants to respond, and that process will ultimately evolve to a recommendation for number of lots. So to answer your question it's not a finished process. It's in progress.

CHAIRMAN MCINTYRE: Thank you. Yes, sir.

MR. FISHER: My name is Bob Fisher, and I live on Ingham Hill Road in Essex.

I have heard a lot about invernal pools and everything else tonight, but, again, I am concerned about what I brought up at the last meeting, and that's the general suitability and the interaction with the surrounding community-proposed development. I want to just ask a few questions about water. And I'm not even going to touch on traffic, because I think that will come up later, but just a cursory look at what I consider to be just very preliminary.

And the water requirements for a golf course run

between 800,000 and 2 million gallons a day. The current plan, as I understand it, calls for wells to support the golf course and for the Connecticut Water Company to supply water for the residents. I have several questions. I am sure we will be told that there is adequate water for the golf course and the surrounding community. But it's curious there appears to be zero risk for The Preserve residences if there isn't, because they will be importing water. I find that troublesome.

I am sure that we will be told that the golf course, fertilizers, pesticides, herbicides and I think as the previous speakers' comments about the inerts, these -- many of these are not regulated, but they can be just as deadly. As I said I am sure we will be told that this will not harm our water supply or that the sewage treatment facilities and the outflow from it will not adversely affect our water supply, that both the quantity and the quality of the water will not impact the neighbors. I find it curious that water will not be used -- the well water will not be used for the residences in The Preserve. I would feel more comfortable if the proposed residences had the same water sources as the surrounding community so that they shared the risk of

the outflows from the sewage treatment facilities and any damage that may result from imported materials, be it pesticides, fertilizers or whatever.

I am also concerned about what happens during drought conditions. We have had a few scares since I have been here. I have been here 11 years, and we have had a couple of dry summers where we were all concerned about water, our wells and so forth. And these are the time periods when we have maximum demand on groundwater for the golf course. Their demand would increase just as our water supply is actually diminishing. I find that troublesome, and I wish the commission would also take a good hard look at that. Obviously, during nondrought conditions that would not be a problem if there is enough water.

Just to close --

MR. BRANSE: Mr. Chairman, Mr. Fisher, just -- for the record, Mark Branse.

Just a question. Is the thrust of your comments that the conventional subdivision would be preferable to the open space subdivision with golf course?

MR. FISHER: I would question the adequacy of both of them, and I would think as a planning commission I would assume you would be interested in the impact of any -- either proposal if it turns out

that way on suitability for the piece of property that they are talking about. Just as you should be concerned about the roads and so forth, I think that the water is equally important.

MR. BRANSE: If I can just try to explain one more time. What's before the commission at the moment is, one, is the open space layout better than the conventional? What number of lots should be accepted as the yield plan? And should the preliminary plan be approved as submitted or modified in some way? I'm just -- I'm just trying to help you focus your comments toward what the commission has to decide.

MR. FISHER: If I understand you -- you can help me on this.

MR. BRANSE: I'm trying to.

MR. FISHER: Okay. The commission is only going to answer one question, whether it's either/or?

MR. BRANSE: No. The commission has three questions. One, how many units should properly be attributed to the yield plan? How many units does the developer get overall? Second, should those units be laid out with cluster and golf course and open space as shown on this plan or should it be conventional; a conventional subdivision under

conventional zoning? And third, if they like the idea of an open space subdivision, is this plan as depicted here the one that the applicant should proceed with or should it be modified in some way and if so of course how?

MR. FISHER: Okay. I guess the name of this commission is the planning commission, and I think that name implies certain responsibility. And I would assume that the adequacy of the proposal would bear very heavily on its suitability in terms of the approval process. And I am going to leave it at that, but I think neither one is suitable for the water supply is the question that I have. Yes, sir.

MR. LANDINO: Yes.

CHAIRMAN MCINTYRE: Did you want to respond?

MR. LANDINO: After.

MR. REDAK: Danny Redak, Old Saybrook.

Because this land has endangered wildlife, it's totally unacceptable for any development. And since it's going to raise all of our taxes, when is the referendum going to be held?

CHAIRMAN MCINTYRE: Excuse me. I didn't hear what you said.

MR. BRANSE: When is the -- the question was when is the referendum going to be held?

For the record, Mark Branse. Connecticut state law does not allow referendums on zoning decisions. Even if the town wanted to, it's not permissible.

MR. REDAK: Then we have to buy it.

CHAIRMAN MCINTYRE: Mr. Landino, did you want to respond to either that speaker or the one previously?

MR. LANDINO: Thank you. I'm going to ask Sam Haydock to respond to the questions that were raised by the previous speaker, and with one additional point being that we submitted for the record tonight a letter from the Connecticut Water Company confirming that they have the quantity of water necessary to service the development. They have water reserves to provide domestic and fire flow to the residential community.

MR. BRANSE: But Mr. Landino, I believe that letter did indicate that the golf course would be provided for by the wells as the previous speaker indicated.

MR. LANDINO: That's correct.

MR. HAYDOCK: Sam Haydock from BL Companies. I'm the director of our environmental services operations.

Just a quick clarification on the irrigation requirements. In a typical year for a course -- and

there will be actual calculations calculated based on the final size of the golf course, the acreages of the fairways. A typical golf course in a typical year the irrigation requirements are of approximately 250,000 gallons per day. In a drought year that number may be slightly higher.

With respect to the distinction between Connecticut Water Company, the open space plan and the PRD required that we have a community water system. Connecticut Water Company is the exclusive service provider for this area. And they have demonstrated and indicated that they have the supply and are willing to supply it. Thank you.

CHAIRMAN MCINTYRE: Anyone else? Yes.

MR. ANDOUR: My name is Weldon Andour. I'm from Old Lyme. And I just had a couple of questions I wanted to ask.

First of all, is this course going to be private or public?

MR. LANDINO: It's going to be a private course available to anyone who joins, up to a total membership of 375. There's no special consideration given to residents of The Preserve. It's truly open to anyone on a first-come, first-serve basis. The course will be available for use at no charge to the

Old Saybrook, and Westbrook, and -- excuse me. The Old Saybrook and Westbrook Senior High School for the golf team.

MR. ANDOUR: How much is the membership?

So I got out of that personally that in turn it is for the most part a private course. And as I am sure as you know that through your extensive research that you have all done, we have plenty of, in my opinion, private courses in the area, including Fox Hopyard, just over the river Old Lyme Country Club, just to name a couple. If this is a private course, it will have, in my opinion, nothing positive to offer any of the communities in the area. In fact, it will have a negative effect for all of us, including our air quality and the precious Long Island Sound that we all enjoy not only in the summer but the winter as well.

These developers that are mostly -- that are mostly from or have done most of their work that is coming from the brochure that you handed out, did most of their work in places such as California, New York, West Hartford, and Washington, D.C. and in my opinion are not concerned about the two most important things. The land and the people that live here.

I like to think of it as a baker that makes bread. He's not in it to feed the people who's making the bread. He's in it to make money. These developers are not here to give people housing. And if they were they wouldn't be planning $500,000 plus golfing communities. They are here to make money as well. And no matter how much planning or saying they are concerned as they are, they are here to make money at anyone's expense, including the precious forests that are in our own backyard.

Why should we allow at all something we don't want to be forced on us, jammed down our throats by out-of-towners when we, as a community and a region, know that leaving this pristine, pure environment for future generations to use is the best use rather than another private country club.

CHAIRMAN MCINTYRE: Thank you. Go ahead, sir.

MR. O'NEIL: I'm Mark O'Neil. I live in Westbrook, the other town that's -- whose name happens to be on the master plan in the middle of the paper that everybody received to the towns. I'm not quite sure why Westbrook's name was on this portfolio that was sent out to everybody, because it doesn't seem like it's much involved except for a couple of very, very small pieces of land, which happen to be

quite important by the way.

I know when the meeting started, you know, we heard that this is a meeting that was a public hearing, that you're going to -- the board is going to hear questions. But, you know, the public comes to these meetings. We are allowed to come to all meetings. Public meetings is for the public. It's the one time the public gets to speak. Many, many people have children. And by the time this gets going, we have so many more questions and then all of a sudden the time is running out. And now we are kind of constricted, which I'm not quite sure, Mr. Branse -- Attorney Branse, that we are supposed to be deciding on whether we like this subdivision or that subdivision, and that's what we are supposed to keep our efforts on.

But we just listened to hours of testimony about salamanders, tidal pools, golf courses, golf course layouts, pesticides, and now we just have to decide do we like this one or do we like that one. Well, everybody in this room doesn't like either. We came to that conclusion when we walked in the door here.

It's really, you know -- I mean, Mr. Hills, you can just see the pride in his eyes as he's talking about his baby, the golf course. He wants this to be

something that's recognized countrywide. And you can see it. And you know, I really, really believe that he does want that. And maybe it will be. But, you know, I also heard a statement that really scared me. He says, I want this to be the standard set for golf courses of the future.

Can you imagine this world when the golf courses of the future has to be set on a thousand acres of forested wetlands on the coast of Long Island Sound. Do you have any idea how scary that is for this country, for this state, for the world?

Well, let's pick out some sensitive parts of the country and build a golf course on it. Golf courses are fine if somebody can take an empty parking lot or an abandoned building filled with tar and toxins and turn that into a golf course. I salute you to the end of the world. But to take a forest, the most beautiful, pristine area of our state, and turn it into a golf course, I cannot salute that. I'm sorry. Thank you.

CHAIRMAN MCINTYRE: Thank you. Anyone else wishing to speak? Yes, sir.

MR. MCNEISH: My name is Jim McNeish. I live at 180 Ingham Hill Road. Before I lived in Old Saybrook, I lived in Norwich, on New London Turnpike.

And right at the end of New London Turnpike, they put in a huge casino. And when it went in they told us that this -- the end of our road was -- they were putting in a little road that they said was going to be just for a construction entrance. They said it would be closed once the casino was built. And I look at this plan here and I see a thing that says emergency access only to Ingham Hill Road, and I'm thinking that it's a lie. Because at the end of New London Turnpike, there's a full access to the casino. They've beefed up the intersection with a big light, and everybody knows that right down that street is the casino. I'm afraid of what's going to happen here. And I wonder if there's anyone on this commission who believes there's going to be anything but a full access to this development through Ingham Hill Road.

CHAIRMAN MCINTYRE: Thank you. Yes, sir.

MR. STAGEL: Thank you. I've got to work tomorrow, so I'm going to be brief. I play 50 rounds of golf a year, so I can appreciate --

MR. BRANSE: Your name?

MR. STAGEL: John Stagel, 2 Pepperidge Trail.

I left this environment eight months ago after living five years in Greensboro. I grew up in Long

Island. I've seen what zoning has done to that area. I lived in Greensboro, North Carolina, where there is no zoning, but lots of gated communities and lots of golf courses. My wife went to high school in this area. I had a choice of living anywhere in the Northeast, and I picked this area because of the unique character.

Based on the entrances, the two entrances that this development has, it doesn't contribute to the character of this town. It's another gated community. My personal feeling is I think they want us to pass the golf course development because it looks good on paper.

I have well water. I have major concerns about their ability to stick with the intent on going with organic fertilization. I know of a golf course on Long Island that tried it. They made a gallant effort. It didn't work and they went back to conventional fertilization. So I have concerns about that. I think that this would probably be a very popular thing, because it appeals to a lot of people that have the money.

I would almost bet to approve the conventional plan, because although it allows for more units, I don't know what market they are trying to attract

into this area. And I question that it would pass the zoning, which is really the stage I guess where this paddle has to be fought. Thank you.

CHAIRMAN MCINTYRE: Thank you, sir.

MR. ORSON: My name is Wayne Orson from Old Saybrook. I have a question. In the propaganda piece that was passed out, if I'm reading it correctly, and I am just quoting it verbatim, it says, the proposed development will have 248 dwellings, period. Based on average family size (as agreed with Old Saybrook school officials), The Preserve may add another 607 residents over an anticipated construction duration of six to eight years.

Am I to assume that means 248 units, dwellings plus another 300 dwellings; is that correct?

CHAIRMAN MCINTYRE: We'll answer your question at the end.

MR. ORSON: Pardon?

CHAIRMAN MCINTYRE: The applicant will answer your question at the end. Go ahead.

MR. LANDINO: There's 248 total units. Nothing more than that. I think that article refers to the total population of the development, assuming a certain number of people per household. And the

number of school-aged children that was estimated as part of that analysis was based on information obtained from the Old Saybrook Board of Education.

CHAIRMAN MCINTYRE: Thank you.

MR. ORSON: So when you say add another 607 residents, how many residents per dwelling are you anticipating?

MR. LANDINO: Roughly two and a half. It's whatever the division of that 600 number is by the 248. It's getting late.

MR. ORSON: Now, I would like to -- what concerns me I think is the relation to Old Saybrook. This is going to have an inordinant impact. Why? Because in proportion to the size of Old Saybrook, this is an enormous project. I think what I read - I don't know how true it is - but it will be one of the largest in the state.

What concerns me greatly, which in many cases it seems to be overlooked or construed in a blank manner, and that is the impact of traffic. Now, I realize many people just dismiss that disdainfully, but I think it's a very important factor. It is multidimensional, because traffic is not only -- is teaming traffic, excessive traffic. It is hazardous, it's unhealthy, it's unsafe, it's noisy, it's time

consuming, it's smelly and polluting.

Now, many people do not realize - now, this is according to the DEP - that because of -- vehicular emissions is very pollutive. As a matter of fact, according to DEP it's the second largest contributor to hypoxia, which is poor water quality conditions in the Sound, in the State of Connecticut.

Now, Connecticut and Old Saybrook has a particular problem, because we have 95 and we have Route 9. And Route 1 will be clogged. And you add another -- we'll say we add about approximately another 500 to 700 cars on roads that are already clogged. I don't know what we are going to do. It's going to completely change our quality of life, which is an important -- a very important consideration and it's the principal reason why many of us came here from urbanized areas. And we don't want to have our we'll call it area by the sea transmodified into urbanization.

I think that it's a good project, as far as the project is concerned. I think it's pretty well thought out. I think the gentlemen made good presentations, but I don't think it's right for Old Saybrook. And I feel very strongly about that and I think that you should examine very carefully the

traffic impact. Traffic, pollution, health, and safety, those are paramount concerns that must not be treated lightly, but treated seriously and examined very carefully. Thank you.

CHAIRMAN MCINTYRE: At this time I'm going to close -- you know, stop taking comment from the public. It's getting late and the board still has to address the applicant tonight and so do some of our consultants.

PUBLIC SPEAKER: Shouldn't we at least have equal time? They were going to speak for an hour and 45 minutes and they spoke for two and a half, and now it's time to go home?

CHAIRMAN MCINTYRE: No, it's not time to go home.

PUBLIC SPEAKER: It's your turn. Ours is over.

CHAIRMAN MCINTYRE: And we are going to continue to next week. And we'll entertain more public comments.

PUBLIC SPEAKER: Maybe we should go first next week.

CHAIRMAN MCINTYRE: Well, we have our procedures and we are going to follow them. And everyone will have an opportunity to speak at the next meeting.

PUBLIC SPEAKER: Like we did this time?

CHAIRMAN MCINTYRE: Yes.

PUBLIC SPEAKER: You said that last week.

CHAIRMAN MCINTYRE: Then we'll continue until everyone gets to speak. We will continue the meetings until everyone does.

MR. ROTHENBERGER: Chairman McIntyre.

CHAIRMAN MCINTYRE: Yes.

MR. ROTHENBERGER: I would like to present one presentation for the record which directly relates to a question that was asked earlier by a member of the public.

CHAIRMAN MCINTYRE: I've closed at this time. I want to continue on to the board asking -- the commission asking questions and talking, getting questions for our consultants, which should be of interest to the public, also. And it might answer some of the questions that you are going to or would want to ask at this time. But it is getting late and we want to move this on. The public will be allowed to speak later at other hearings. And if at times it seems we don't have everybody's opinion by then, we will continue the public hearings until our time allows us to do that by law.

MR. ROTHENBERGER: I would respectfully suggest for the record, since it's a pretty clear bet that

all the members of the commission are going to be here next week and certainly the applicants will be here next week, but there's no guaranty that all of the members of the public who have been sitting here for four hours, took time out of their lives to be here are going to be able to be here next week, that they should be given the first opportunity to address the applicant and to make their comments.

MR. BRANSE: Mr. Chairman.

CHAIRMAN MCINTYRE: Yes.

MR. BRANSE: Attorney Rothenberger -- I guess Mr. Rothenberger, excuse me. Let me just ask Mr. Snarski is here this evening, Mr. Hillson, Mr. Jacobson. Will all three of you be here next week?

(Affirmative responses.)

MR. BRANSE: All will be here next week, okay.

My major concern is that if there are questions from the commission's consultants, that I want to be sure that they get asked in time for them to get answered.

Now, Mr. Rothenberger, would you not concur that that's important, too?

MR. ROTHENBERGER: I would absolutely concur that that's important. And from what I just heard it

sounds like we could certainly do that at a continuance of the public hearing. I don't know how many more people wanted to speak. Maybe we can wrap it up in ten minutes, and that might be ten minutes well spent.

MR. BRANSE: I leave that to you, Mr. Chairman.

CHAIRMAN MCINTYRE: I would like to continue with the consultants. I feel that if it's important everyone will come back if they need to. And if people need to, they can submit in writing their issues to us. We are going to continue the public hearing with the consultants. Yes, sir.

MR. MACRANELLI: I was wondering if we could get some assurance that the applicant's experts will be back next week for those questions.

CHAIRMAN MCINTYRE: That's a valid question.

MR. LANDINO: Yes, thank you. Yes, absolutely. In fact, there's a couple of experts that we don't have this evening that we will bring next week. We didn't bring our traffic expert. I could answer most of the questions, but the real technical ones I would want to bring our traffic engineer.

I would also add, Mr. Chairman, that we would be happy to have the public -- we have no objection to having the public start next week. We have no

further testimony except to respond to any questions and make concluding statements.

CHAIRMAN MCINTYRE: Thank you. Attorney Branse, what are you referring to?

MR. BRANSE: I wanted to be sure that if there are questions that they have now, that they get asked so that they can be answered by the next hearing, if not earlier.

MR. LANDINO: Mr. Chairman, may I speak? I apologize.

CHAIRMAN MCINTYRE: Oh.

MR. LANDINO: I was just informed that Arthur Hills will not be here next week. You will be. Is there anyone that won't be here next week? I apologize.

CHAIRMAN MCINTYRE: That's okay. It's getting late.

Mr. Jacobson, did you have any questions at this point?

MR. JACOBSON: I just have a few general questions.

CHAIRMAN MCINTYRE: Sure. Please state your name for the record.

MR. JACOBSON: Fine. For the record my name is Jeff Jacobson. I'm a professional engineer, and I am

the town consulting engineering. And I just had two questions. The first one would be for Russell (sic) Arendt. You indicated that there was a four-step process for developing a conservation development type plan. And the four items I believe were identified. The conservation area's first. Second, identify the housing sites. Third, connect the dots essentially between the housing sites to create the roads. And the fourth was the lot lines.

Where does the siting of the golf course fall into this process?

MR. ARENDT: Randall Arendt responding to Mr. Jacobson's question.

The golf course basically comes as a part of the delineation of the conservation area, but it's sort of between steps one and two. What you referred to was for most developments. Most developments don't have a golf course. Some do, quite a few do, but most don't. And that was a generalized set of procedures. The golf course would be in there between steps one and two as sort of a subset of one, because it's a subset of the open space. There's a formal kind of open space that's more organized, and that's the golf course. And there's a more informal open space, which is like the 500 acres of --

514 acres, I think, of undisturbed woodlands, combination of uplands mostly and some wetlands.

MR. ARESCO: I don't understand that answer.

CHAIRMAN MCINTYRE: Mr. Jacobson, if you have more questions, go up to the podium.

MR. JACOBSON: I do have one other question.

CHAIRMAN MCINTYRE: Go up to the podium now and we'll keep the mike in one place.

MR. TIETJEN: Keep the lawyer in one place, too.

MR. ARESCO: Dr. Arendt, I don't quite understand what you mean by a subset of open space. Could you just clarify that.

I mean my understanding is that the -- you're carving out the primary resources first. So you're carving out that as a subset of open space. The golf course itself is not open space, so I don't understand where that fits in.

MR. ARENDT: It's a subset of land which is basically green space. There's a lot of -- green space can be developed. One of the people that had spoken at the podium described a golf course as essentially agriculture, because grass is managed as a crop. Open space, green space can include wholesale nurseries and include -- and some conservation subdivisions have them. Some

conservation subdivisions have them, stables and pastures as part of their open space. Other conservation subdivisions have road crops or community-supported agriculture as part of their open space. So there's open space which is purely natural, which is the 514 acres of undisturbed woodland, but mostly uplands and some lowlands. And there's another type of green space.

Now, part of the confusion may be your ordinance talks about open space. And we have said and it is true that the golf course is not inside that open space designation for the purposes of your ordinance. So technically, legally in Old Saybrook the golf course doesn't refer to the open space, although more colloquially and more broadly it does. So it's a subset of the more general open space, but it is not specifically the open space that Old Saybrook requires. We more than meet the requirement for the specific type of open space that you require. That's the 514 acres of undisturbed woodland. So maybe for the purposes of Old Saybrook it was incorrect technically to refer to it as a subset, but it is a subset of the green space in a more broad sense of the word, Sal.

MR. ARESCO: It seems to me that the golf -- I

mean just the way I see it anyway, that the golf course layout, since it is not open space, gets laid out after, at the end when you're laying out your lots. That's when you're laying out your golf course. In other words, you're not laying -- you know, it's not being --

MR. ARENDT: I would say the golf course --

MR. BRANSE: Just wait. Go ahead. Is he done?

CHAIRMAN MCINTYRE: I just want to interrupt.

MR. ARESCO: I'm trying to understand.

CHAIRMAN MCINTYRE: Mr. Jacobson had the floor here.

MR. ARESCO: I'm sorry.

CHAIRMAN MCINTYRE: And I would like all commission members to hold their comments until I open up the commission to address the applicant.

MR. ARESCO: Got you, sorry.

CHAIRMAN MCINTYRE: Mr. Jacobson.

MR. JACOBSON: I just have one other general question. We should just stand together.

The other question I had really has to do with one of the principal objectives of this application, and that's to determine the lockout via the conventional subdivision plan. And the question that I have is were the environmental specialists, and

particularly Dr. Klemens and Michael Klein, involved in the development of the conventional subdivision plan or did they review it and if so do they feel that it is sensitive to the environmental constraints on the property?

MR. LANDINO: Should I have Michael Klein and Dr. Klemens make a brief comment on that; is that appropriate?

CHAIRMAN MCINTYRE: Yes.

MR. LANDINO: Michael.

MR. KLEIN: There's really two ways to look at this question. The first way to look at it is strictly from a wetland regulatory standpoint. From a wetland regulatory standpoint, the conventional subdivision is entirely appropriate. The road layout minimizes the number of wetland crossings for a parcel of this size. The wetland crossings are located at narrow points in the wetland systems. The wetland systems are largely retained intact.

The conventional plan includes measures for management of storm water, to prevent adverse impact in terms of flooding and water quality. So the conventional plan meets the conventional review requirements, if you will, for wetland agency for a subdivision. There's no homes located in the

wetlands. There's no septic systems located in the wetlands. I believe all or virtually all of the lots are located outside of the wetlands and outside of the upper review area. So -- and it has a very high percentage of open space or from a conventional review standpoint it's entirely appropriate and meets those standards. What it doesn't do is protect the ecological resources which the wetlands commission doesn't have jurisdiction to protect under the wetlands statute.

MR. LANDINO: Dr. Klemens, do you want to add anything to that?

MR. KLEMENS: Michael Klemens for the record.

As Michael Klein said the conventional subdivision certainly conforms to most of the law. Why I'm interested in the open space, an open space subdivision is actually -- it provides what can't be accomplished under the current state of law now is protection of vernal pools. Since the Alahombay (phonetically) decision, the ability of commissions to regulate these things has really been diminished. And that's the beauty of what I see the importance of the open space subdivision is that it actually does provide, through your law, the ability to actually protect the vernal pools and the upland habitat.

So yes, I understand what the conventional -- the conventional subdivision is the conventional problem. And it's what I'm hoping we can get away from in the open space subdivision, and that's real conservation protection.

CHAIRMAN MCINTYRE: Thank you.

MR. KLEMENS: Is that responsive to what you wanted to know?

MR. JACOBSON: Yes. I'm not here to endorse either the conventional plan or the open space plan, one or the other. What I'm trying -- or what it appears to me is that we are just applying two sets of standards through these different plans. The conventional plan has quite a number of locations where roads are within the 100-foot regulated area that the commission has jurisdiction for and also within the 100-foot of the vernal pool envelope. And it seems like we are not -- we're applying a higher standard to the open space subdivision. We are applying a different standard to the conventional subdivision. And since it's within that 100-foot regulated area, these are things that the commission could regulate and eliminate.

MR. KLEMENS: I can respond to that. Basically, a vernal pool with 100 feet around it is not going to

survive long-term. I think that's what I have been trying to say. A vernal pool requires a 100-foot envelope. It then requires the 100- to 750-foot zone, which 75 percent remains open. Therefore, to me as a scientist to discuss the -- whether or not we have 100 feet around a vernal pool is rather meaningless. So in that sense the conventional subdivision is meaningless in terms of vernal pool conservation. And it doesn't matter whether you have 100-foot intrusion or not, because you need to talk about a much, much larger area.

MR. LANDINO: And I think it's -- the point of our presentation this evening was to try to communicate that if you take the conventional approach to the subdivision layout and design, we meet all of that criteria. And we've done our best to avoid wetlands, to avoid steep slopes, and to respect the regulations as they exist today, which include admittedly working in regulated areas which would require an approval by your inland wetlands commission. But I thought that the effort that we were trying to communicate with the open space alternative is that we are able to go well beyond the minimum bar set by your regulations and typical environmental regulations in Connecticut, and by

doing so we've described a different standard. But we certainly exceed the same standard applied to the conventional subdivision, and we are just trying to give the detail of that higher level that we've established. I hope that makes sense.

MR. JACOBSON: Without debating back and forth, I guess my point is that if this conventional subdivision went before the inland wetlands commission and they applied the typical standards that they do, that I would doubt very much that they would approve of roads being constructed within that 100-foot regulated area adjacent to a vernal pool. I guess that's the point that I am trying to get across. Which would in turn affect the lot count. It has nothing to do with whether the conventional or the open space is better than the other. My comment is directed solely towards determination of the lot count.

CHAIRMAN MCINTYRE: Mr. Landino, before you counter, as a member of the wetlands commission, okay, I think that both of you have good points. And I think to just kind of go back and forth is not going to be beneficial at this point.

MR. LANDINO: Fair enough.

CHAIRMAN MCINTYRE: We have taken both points

and both sides.

MR. LANDINO: At 11:54 I agree with you, absolutely.

CHAIRMAN MCINTYRE: Mr. Snarski, do you have a question?

MR. SNARSKI: One of them is more of a map thing, I guess.

My name is Richard Snarski. A couple of questions directed to Michael Klemens. I was wondering do you have any information concerning the metamorphs crossing the fairways? That's been a question on golf courses in the past that I have worked on, how metamorphs cross and how readily they cross open fairways. Now or if not for the next meeting.

MR. KLEMENS: There is some movement of metamorphs over fairways, but generally what the metamorphs tend to do generally is --

CHAIRMAN MCINTYRE: Excuse me. Could you just define what a metamorph is for me.

MR. KLEMENS: A metamorph is a baby salamander. The ones that emerge around July. Generally --

MR. BRANSE: Could you spell that word.

MR. KLEMENS: M-E-T-A-M-O-R-P-H. I hope I did that right. It's a spelling bee here in Old

Saybrook.

Okay. Generally, that's the whole concept. I keep trying to bring these pieces back together in this testimony, because they keep on -- the vernal pool is a complex system made up of rings, and you keep on trying to pull the rings apart.

What I would like to say is that if you remember my earlier testimony, I talked about the importance of the vernal pool envelope. That is that 100 feet to be left intact. And I said in my testimony that for many of the young salamanders at least initially will stay in that first 100-foot zone at least for the first season or more than one season. And that's when it gets back to what -- this back and forth rapport is. A vernal pool without its various rings, in the previous discussion with Mr. Jacobson, without its rings is really not a vernal pool. But that's the importance of that first ring is for those young salamanders. And yes, there is some movement across open areas, but they tend to stay closer in and then as they get larger they tend to disburse.

Certainly in terms of crossing open fairways, the adults absolutely can cross those distances. As a matter of fact, I've got a study of populations in Huron County, New York where they are crossing

cornfields through the stubble back and forth and through the ears of corn back that go several hundred feet. So that kind of open is not as much of an obstruction for the adults. So that's sort of my sense on that.

MR. SNARSKI: My other question. I was trying to find in your amphibian herpetology report vernal pool number 31 on the map. I see there's two number threes. And I'm wondering is one of these supposed to be number 31?

MR. KLEMENS: Get the big one out, map 2-A; is that correct?

MR. SNARSKI: Yes.

MR. KLEMENS: Number 31. For the record, number 31.

CHAIRMAN MCINTYRE: Could you speak into the microphone.

MR. KLEMENS: Do we have 2-A, map 2-A?

Actually, you found an error and thank you for calling that to our attention. Vernal pool number 31 is right down here on the map. It should have been included. It's on all the charts. It is this vernal pool that actually sits here in the bend of Ingham Hill Road. It was the one that most recently was determined. And you'll see it actually -- it's right

here. It has a disk around it right here. Right here. I'm sorry, that's map 28. It's on map 28. It's on Ingham Hill Road. It's right south of the village.

MR. BRANSE: Central village.

MR. KLEMENS: Central village. And yes, it was for some reason not included. It's on the map. Yes, it's on there. We'll have to sort of -- that should be blue and it's number 31. It's actually interesting about the box turtle and all metamorph species in it. Thank you for pointing that out.

MR. SNARSKI: Thanks. One of my other questions is -- relates a little bit to what Jeff Jacobson mentioned. I was wondering why on the conventional layout the vernal pool, your vernal pool manual is not being followed, but on the open space one you're bringing up the envelopes on open space layout. Under the conventional there was no discussion or nothing shown concerning the envelopes around the vernal pools for the lot count under the conventional layout.

MR. LANDINO: It is in our written response. I could ask one of the lawyers to answer. But vernal pools are not regulated by the inland wetlands commission. So we are showing a conventional layout.

We are conforming with the regulations that the town established and is reinforced.

MR. ROYSTON: The vernal pools are a classification of wetlands. They are within the jurisdiction of the inland wetlands commission. In order to have the area adjacent to the upland review area is just that, it is an area within the jurisdiction of the commission to review, to determine whether there is any activity in there. When they review that area, there are two criteria. A, whether or not there is an impact; B, whether or not there is any feasible or prudent alternative. The inland wetlands jurisdiction has to take that into consideration. It does not have jurisdiction over other ecological impacts, impacts to habitat which go beyond the regulated area.

So in our responses we have indicated that in reviewing the conventional subdivision, that it is true that when you go before an inland wetlands agency, there will be a struggle one way or another as to whether or not you will allow activities within the upland review area, within that 100-foot area. There will be that review.

When this conventional subdivision was done, it took as much activity as possible out of the 100-foot

regulated area. That does not mean that they could not fight for activities within that 100 feet. And it certainly doesn't mean that they would not be able to have activities outside that area. This is a plan -- when you look at the conventional subdivision, it is a plan which, if you bring it before the commission, yes, there is going to be regulation. There is going to be alternative review. But what the conventional plan shows is what you can take into a commission and seek to have approval of that plan. It is not what this applicant wants to do, but your regulations say show a conventional plan. Show a plan which could be approved. And that's what we did. It is not the plan which we are asking this commission to approve. And this is why we have some disagreement with the particular methodology as to why did you not do the same thing in your conventional plan as you did in the open space plan. And one of the simple answers is under that regulatory scheme you are not required to, and that's the problem with the conventional plan. And that's the reason why, when you say to us, well, why didn't you apply the same standard. The law did not require us to apply the same standard. And that's why the environmentalists have said that the plan

that they are supportive of, the plan that they have looked at, the plan that they want to have approved is the one which is able to take in a higher standard of environmental review.

MR. SNARSKI: Thank you. Do I have time for two more?

CHAIRMAN MCINTYRE: Sure.

MR. SNARSKI: Unless I can't find it. Question for Michael Klein. Vernal pool number 17, did you find that there was carex lupuliformis in that?

MR. KLEIN: The location -- I didn't -- we didn't consider our locations on the basis of vernal pool numbers, but there is a map which was up on the -- I think it's maybe one more back. Yes. The --

CHAIRMAN MCINTYRE: Identify the map, please.

MR. KLEIN: Yes. The Site Vegetation map, in a red, sort of a roundish symbol identifies the location where carex lupuliformis was found on the property. Two locations here. These are wetland numbers, not vernal pool numbers. In two locations in a wetland in the southeastern quadrant of the site. One location in a wetland further south of that, which is near the Atlantic White Cedar swamp, and one location in a wetland in the utility

right-of-way in the western portion of the site.

MR. BRANSE: Can you spell it.

MR. KLEIN: I'll read it. C-A-R-E-X, second word L-U-P-U-L-I-F-O-R-M-I-S.

MS. GALLICCHIO: And what is it?

MR. KLEIN: It's a sedge, falls hop sedge.

MR. SNARSKI: Mike, we have a report of it being in this wetland right here.

MR. BRANSE: This one right here means?

MR. SNARSKI: Best way is vernal pool 17. Vernal pool 17.

MR. KLEIN: I'll stand corrected by my colleague, Jim Cowen, who did the detailed vegetation survey. But my recollection of the results are that we were aware that it had been found in that area, that we looked for it in that area and we are not able to reconfirm it. There were several other locations on the site where it had been previously reported, and we weren't able to reconfirm it. Our opinion is that it appears to be a more sun-loving plant. And as the vegetation canopy around some of these wetlands changes, its distribution on the site changes.

The significance of the precise location, whether it be restricted to the wetlands where we

found it scattered throughout the site or whether it's included within the wetland that Rich Snarski's referring to in the extreme southeastern portion of the site is in some ways irrelevant, because there is no activity proposed within those areas.

Does that answer your question, Rich?

MR. SNARSKI: Yes.

MR. KLEMENS: We couldn't find it. We looked.

MR. SNARSKI: Well, it is there. It's been reported by the state. And I think it's important that it's shown on the plans, because development plans change. That's the reason you have done a lot of work out there showing where all the plants are. Anything that the state listed and plans can change through the process. I think it's important that it's recorded.

MR. KLEIN: We can't report it in places where we can't find it. We believe that and we know that the distribution of some of these plants move around over time. We have looked at it for two years. We didn't find it there. Mr. Cowen is a highly skilled botanist, is very well aware of the characteristics of this plan. We don't know whether it was a proper identification or not before, but if we can't find it, we can't put it on a map as something that we

have found. But there's never been a plan to introduce any development in that portion of the property. It's shown within the open space area as part of our proposal. It's within a wetland. It's only found in a wetland. I'm not sure how much more we can do beyond that.

CHAIRMAN MCINTYRE: Would the applicant have any objection to taking Mr. Snarski out there to that area if he wanted to?

MR. KLEIN: Not at all. I'm not sure that it's identifiable any longer at this time of the year, but we would be happy.

CHAIRMAN MCINTYRE: If it will answer your question --

MR. KLEIN: We will be happy to. We can't just -- like a surveyor we can't put something on a map just because someone else says they saw it out there. We can't do that.

CHAIRMAN MCINTYRE: I understand that. But there seems to be a disagreement about whether it is or it isn't. And it seems like the best solution would be if both parties went out, if, Rich, you -- or Mr. Snarski.

MR. SNARSKI: We could go out there. It's been confirmed by the state botanist out there. It was

found three years ago. We had a state botanist finding it, carex lupuliformis. So I know it's there. But what Mike says some years it could be just a few plants there. We just want to make sure -- I felt it's important to have it shown, because development plans do change. Even though I realize on the plans right now they are not proposing any activity in there, but it's a state-endangered plant.

CHAIRMAN MCINTYRE: If he can't find it, can he put it on the map?

MR. KLEIN: The carex lupuliformis has been -- is no longer classified as endangered or threatened. The most recent list shows it is as a species of special concern. We just -- the fact that Ken Metzler found it there three years ago is interesting, but we can't verify that it's there. I don't have any reason to doubt Mr. Metzler's identification, but it's just not there any longer. I don't know what more we can say about that. We are happy to go out and look for it with Rich. Jim identified populations as small as just a few individuals on the site. So it's not like we only looked for large and dense growth of the plant. We looked very, very carefully in all of the areas where

it had been reported.

MR. SNARSKI: Last question. Was the golf course layout determined before or after the biological information was gathered by the scientists?

MR. LANDINO: The golf course in various forms has been around for a while. We proposed a preliminary plan as part of the application process last fall, and at that point Dr. Klemens and Mr. Klein were engaged but hadn't performed an extensive amount. Actually, Mr. Klein had, but Dr. Klemens had not. And after another growing season and having them both engaged, the golf layout was revised significantly to reflect those findings. So I guess, as he suggested, the answer is yes, we did revise the course after their work, but the original layout was done prior to their work.

MR. SNARSKI: Thank you. That's all. Thank you.

CHAIRMAN MCINTYRE: I guess that's all the consultants. Are there any other consultants that we have, Chris? Where did Chris go?

MR. ARESCO: To the ladies' room.

CHAIRMAN MCINTYRE: Oh, okay.

MR. BRANSE: Jim, I have a couple.

CHAIRMAN MCINTYRE: State your name for the record, please.

MR. BRANSE: I always remind you. For the record, Mark Branse.

I have a question for Professor Klemens. From your perspective, assuming a cluster subdivision rather than a conventional, would that cluster subdivision be better if there were no golf course?

MR. KLEMENS: In response to that question, Michael Klemens for the record, I think that -- to me it's almost an area of how much area and connectivity you have. And it's right now working with the golf course. In fact, I think that having the golf course be sort of that softer type of development in the sense that animals can still move across it is not quite as equivalent to pavement. That's based on the assumptions that the IPM plan will deliver what it's supposed to deliver. And I have to rely on other professionals on the team to put this together, but I don't inherently see a -- an inherent -- as far as the salamanders and the movement of the salamanders is concerned, an inherent difference between the development and the golf course. To me it's about the connectivity. Does that address your question?

MR. BRANSE: Yes. I have a question for

Mr. Hills -- actually, two questions for Mr. Hills. And I think since I am reading off of the screen, I am going to ask all my questions at once and then hand you the microphone. I think you'll be able to keep them all together.

My first question involves the driving range and whether you designed the driving range as well as the golf course and whether the driving range is a critical element of the golf course. I'm not a veteran golfer, but I am not aware of any golf courses that have a driving range as a component of them. And that driving range in part is separating two of the village clusters, and I'm wondering why that's important and if you were involved in designing it in.

In line with that, holes 3, 10, 18, and the driving range appear to be allowing a golfer of less than professional skill to be driving the golf ball into a resident dwelling unit. I'm familiar with the golf course called the Minchug (phonetically) golf course. It's a small one - I'm sure you're not familiar with it - which was designed by a professional golf course architect and now has 30-foot nets strung along the sides of the fairways to prevent golf balls from golfers of my ability

from driving the golf balls into the houses.

And then my last question was how a golfer gets from the ninth hole to the tenth hole.

So three basic questions. The role of the driving range and the people driving golf balls into houses 3, 10, and 18, and the driving range, and then the transition from the ninth to the tenth hole.

MR. HILLS: First question, is a driving range an integral part of a golf course? For a good, up-scale pretty much always nowadays designed 18-hole, private golf club, a driving range is a key ingredient. It would be exceptional for a person, if they had a choice between two courses or among several courses, that they would join a course if it did not have a driving range. So it is an integral part of the course. That's the answer to that question.

As to number three, let's see here. The question on three was what?

MR. BRANSE: Whether golf balls could be driven into the dwelling units.

MR. HILLS: No. On number three they would not be driven into the dwelling units. First, there's a tree buffer, and then there's a distance buffer, and then there's the fact that it's not as long as a shot

as would normally be hit off of a tee. So it would be very unlikely, it would be very rare that a shot would get to that corner dwelling unit or one of those two dwelling units as pictured there.

MR. BRANSE: You say very rare.

MR. HILLS: I know it.

MR. BRANSE: How rare?

MR. ARESCO: One in five?

MR. HILLS: It would hardly ever happen.

Number ten. On number ten the corridor for the golf hole is conventionally wide and conventionally regular in terms of residences that border a golf hole. There are virtually thousands of golf holes in the country that have that dimensional relationship.

And number 18 is it the same question?

MR. BRANSE: (Nods head)

MR. HILLS: Okay. Off of a tee it would be -- there's an exceptionally wide dimension here. And so it would be, again, very rare, not impossible, but rare and conventional that these dimensions are fitting for the design of the golf course as it would relate to a residential area. And the same holds true for the second shot, which is a shorter shot nominally than the first shot. The relationships here, spacial relationships are normal conventional

for the development of a golf course in a subdivision.

MR. BRANSE: And with these residential densities?

MR. HILLS: Yes. It doesn't make a difference. There are many examples of that kind of residential densities where there are condominium parcels adjacent, contiguous to the golf holes.

And then the walk from nine to ten, okay. Where are we here? Let's see. Well, nine, it just comes through the clubhouse complex and gets over to number ten. It would be fairly usual that at the end of nine holes you would go by the clubhouse and stop and get something to eat or something to drink and go on to the tenth hole.

MR. BRANSE: I guess my question is in these plans I didn't see any walkway between nine and ten except through the parking lot.

MR. HILLS: It is kind of obscure, but it comes here, comes here, comes along the edge and then it comes over here, and comes around here, and comes down here to ten. It's obscure on the drawing.

MR. BRANSE: So it's basically going through the streets of the central village, actually through like the sidewalks of the central village.

MR. HILLS: No, it's not exactly. It's skirting the residential. It goes here, goes between this parking lot for the clubhouse and the residential community, and cuts across here, and comes over here.

MR. BRANSE: You're indicating across the southern edge of the green.

MR. HILLS: Of the open space, that's correct.

MR. BRANSE: It's the open space that is --

MR. HILLS: It's cutting through here. It's not cutting through any residential community.

MR. BRANSE: All right. Thank you.

MR. HILLS: You're welcome.

MS. GALLICCHIO: Your first question wasn't answered, whether he designed it.

MR. BRANSE: Did you design the driving range?

MR. HILLS: Oh, yes, yes. It's an integral part of the design of the golf course, yes.

MR. BRANSE: Thank you. A question for Professor Arendt. And is it Arendt by the way? I've pronounced it both ways.

MR. ARENDT: Arendt.

MR. BRANSE: Neither one, okay.

I have -- like others I have read the books that you have written and attended lectures that you have given. There's been some discussion by other members

of your team about avoiding the typical subdivision grid in favor of something more creative. And yet as I look at the villages, they are -- or at least they appear to be grids. The central village is extremely long, very linear between two sets of fairways. And these don't look like anything that I've ever seen described in any of your books or lectures. And I'm curious about that, as to both the lineality, the grid, and also the lack of focus around the green and the -- this long strip of village so-called.

MR. ARENDT: Thank you, Mark. Randall Arendt responding.

I should give you a copy of my latest book, Crossroads, Hamlet, Village, Town: Design Characteristics of Traditional Neighborhoods, Old and New. Actually, it's my favorite book. And it's my favorite book I think because it takes conservation design to a new level. Say how do you really do it when you're in an area with central water, central sewer as opposed to in a place that has to be very low density, maybe bumpy terrain. This terrain here is quite flat. It's upland. It's flat. It actually has surprisingly little wildlife habitat, as we documented in our surveys. And it's not so much the grid that we have been talking about as something we

don't want to emulate, but rather the sprawl.

It's the compact nature of conservation design that interests me as a land conservationist. And whether we have compact design in organic roads that follow the bumpy terrain or whether we have compact design in a more regular fashion, like the Orthagonal River Mr. Jefferson promulgated in the early 19th century. In many, many small towns across the continent, these small towns are based upon a very regular grid. I have no problem with a regular grid as long as it doesn't go on for miles and miles like Manhattan Island. But this is just a very short block and then it takes another turn.

We actually see -- and I talk about this in figure three, about the terminal vista. The terminal vista is more I think the curving of the street gives a great amount of variety to this. It's just not one long street that is straight as an arrow. There's a bend in it. And there's the bend because the topography bends. If the topography had bent more, the street would have bent more. If the topography would have bent less, we probably would have found some sort of artificial way of terminating the vista with something special. But we tried to have small greens as focal points. There are two in each.

Actually, three. One, two, three greens here. This one is highly visible, the terminal vista coming out this way. And we have introduced several more greens in here and the green land down there. All of these of course are surrounded by substantial open space. So it's not like they are buried in a vast organization.

And the singular groves are very special. You don't often find them in any type of subdivision. Most developers always put development on both sides of the street, but here we have two very major streets that are open space on one side.

Now, you say it's, you know, fairly linear. Well, it is linear because of the land form. And many historic villages in Connecticut and throughout New England are currently linear. They are linear along a ridge line. Newtown, Connecticut is a good example of that, very linear streets. You go to Suffield, you go to Long Meadow, Massachusetts, back to the 1630's, very linear streets. You get into stream valleys, they are linear. They curve linear because the streams curve. So linearity is a part of our heritage in compact, traditional villages. And it is the compactness that interests me as a conservationist.

And they are linear when the sites tell us to be a little bit more regular and they are very organic and curb linear when other parts of the property are more bumpy and topographically interesting. But in all cases we have tried to design it much more compactly than the conventional alternative. Therefore, that's what the conservation components -- that's the conservation driver.

MR. BRANSE: I guess my follow-up would be, though, I understand what you're saying about compactness. And I am aware, for example, of towns like Lebanon that are built around a linear green. This is not designed around a linear green at all. There's a golf course, a fairly long strip of golf course along one side. Why the grid? Why not something that is more curb, that has more visual interest? Why, for example, that tail to the south end of just a single row of houses? It just doesn't look like anything that you have espoused before.

MR. ARENDT: Actually, in the last two or three years every slide show I have shown has had a component about that which relates to that cross village towns, but the new urbanism has been a growing movement in the design field. And I have seen that as a way of achieving conservation

objectives, be more compact. But if you go to Newtown or Suffield or Long Meadow, the streets are straighter than this and they go on longer in a straight fashion. So New England has a tridition going back to the early to mid 17th century of very linear villages. We were just following land forms the same way that those communities have done.

Could we have put more wiggle in it? Yes. I think we probably could have put more wiggle in it. But a wiggle just for the sake of wiggle is sort of just another artifice. When we follow the land forms that wiggle, then we are following I think nature, designing with nature. And a lot of this follows the more bumpy terrain. But when the terrain is very regular, it just -- we are responding to that with a more regular type of arrangement, which is very traditional in New England. We have two divisions in New England. One is very organic; one is a little bit more formal.

MR. LANDINO: Just add Old Saybrook is linear. Main Street grid patterns in the neighborhoods. So this is fairly typical of what this represents.

CHAIRMAN MCINTYRE: Okay. At this time I would like to --

MR. HILLSON: Mr. Chairman, I have one question.

I'm Bruce Hillson. I'm the traffic consultant.

CHAIRMAN MCINTYRE: Okay. You caught me off guard. I'm sorry about that.

MR. HILLSON: I'll drag this on a little longer. I'm Bruce Hillson with Traffic Engineering Solutions. I'm the town's traffic consultant.

I have some questions relating to the roadway that goes between 153 and Bokum Road. I've heard it referred to on different occasions tonight as a primary roadway, a major roadway, a spine. Several questions regarding that road. One, what is the length of the road? And following up on that is it considered a local residential street as defined in the subdivision road regulations that defines a local residential street as a street primarily providing access to abutting lots used for residential purposes or is it a fetus street, which is a street of considerable existing or potential continuity on which traffic that passes abutting lots will be dominant?

MR. LANDINO: To answer the -- I'll let Attorney Royston answer and then I'll follow up.

MR. ROYSTON: Very quickly, the -- going back to 2000 when there was a previous application which had a road system, the town has under subdivision

regulations and town road standards, alternate road standards. And that case was made to the board of selectmen with respect to that development for the road network to use alternate road standards. And there was a specific recommendation made by the board of selectmen and passed on to the reviewing agencies that all the roads, all the roads within the subdivision should be designed to the local residential street standards. And the purpose of that recommendation was to -- it is my understanding to have more of a calming effect. It was the same idea as with Schoolhouse Road, where initially they wanted to widen and straighten that road. And it was determined that they would rather have it as a more local residential street. Those were the standards that were adopted in both, using the conventional subdivision plan as well as the open space subdivision plan, using the alternate road standards designed to local roads and residential street standards.

MR. BRANSE: Mr. Royston, I have to correct you. And I don't need the mike. The roadway you were referring to was not a through road in two respects. It did not go from Bokum Road to 153, and it was severed in the midpoint by a private stretch of road

not open to the public that passed through the golf club.

Second of all, I have not yet seen a vote by the board of selectmen of the alternative road specifications even on that application. The question that Mr. Hillson is asking is not about the 2000 application. He's asking questions about the current application. So that's what I hope he'll have an answer to.

MR. ROYSTON: I believe his question was did it meet the standard set forth in subdivision regulations. The standard for the --

MR. BRANSE: No, that's not what he asked.

MR. HILLSON: No.

MR. BRANSE: He asked him to explain --

MR. HILLSON: I'll repeat the question. The question was, first of all, how long is the roadway?

And secondly, is it considered a local residential street as defined under the zoning -- or the subdivision regulations or a feeder under the subdivision regulations?

MR. ROYSTON: The first question I'll ask somebody else to give me the total length. Two miles, the length of the roadway.

The second question with respect to is it a --

does it meet the local residential street or the feeder street regulation?

MR. HILLSON: Yes.

MR. ROYSTON: It meets the local residential street regulation.

MR. HILLSON: As a follow-up to that, the definition of a local residential street says that it's a street prominently providing access to abutting lots used for residential purposes. Could you point out to me where those lots are or how many lots there are that have direct access to that roadway and where they are located. If you can't do it tonight, perhaps --

MR. LANDINO: If you're asking -- I need to review the regulation, because we are down a path I'm not sure I would have gone. Do you want to continue? I mean it's an intuitive question.

MR. ROYSTON: I would request that you review the report that has been submitted in our responses, because that goes into detail with respect to both the alternate design standards that have been used with respect to the roadway design. So it has been designed to local residential street standards. And there's a -- we have attached minutes of the board of selectmen meeting of September 16 in which they

encouraged the use of the alternate design standards. And I think that the specific detail of that is in the written response.

MR. LANDINO: Add to that if we are talking about design standards as the response to how you categorize that road, then Mr. Royston's response is correct. I'm not sure what the questions are leaning toward. That's why I would want clarification. It's clear that there are no residential lots that directly access the road that connects Bokum Road with Route 153. What connects that road is other streets which provide access to lots.

MR. HILLSON: I think that answers my question. Thank you.

CHAIRMAN MCINTYRE: Does any of the other consultants have any questions at this time?

(No response)

CHAIRMAN MCINTYRE: At this time I would like to open up questions from the board, and I am sure they have plenty of them.

MS. GALLICCHIO: How late are we planning on staying? I've got a lot of questions.

CHAIRMAN MCINTYRE: Well, I was going to say that we have -- one of the things we do have, we have a lot of information that was given to us in this

report. And we haven't reviewed the report yet, so that may answer many of the questions that we do have.

Now, what I was going to bring up is if anybody has any questions that they can't -- if they have questions you don't need answered tonight, let's not go through them. If you have a question that has to be answered tonight and you have -- you feel you need to ask it, then by all means ask it, but try to keep it as short as possible.

MR. ARESCO: I have one I just wanted to ask Bob. You're talking about the firehouse, Bob, and the fact that it would provide us with rapid response. What I would like to get clarified is -- and this could be answered maybe next week, but I'll throw it out this week, is that there will be one firefighter living out there. And I was under the understanding that in responding to a fire, that there has to be a certain number of firemen present on site. So what I would like to do is clear that up and find out if that's so and what's the number of firemen that should be there on site before they can fight a fire. And secondly, how that impacts the response time. In other words, how does having one fireman there improve the response time if in fact it

requires more than one fireman to be there in order to fight a fire.

Now, I was talking to some people that said that they cannot go into a fire, a building that there's a fire there alone. And also, that before they can even enter the building there has to be so many firemen backup behind them. So I would like to get that cleared up. Just so I understand if this is really meaningful, this one fireman that's going to be out there.

CHAIRMAN MCINTYRE: Stop. Change tape.

MR. ARESCO: What did I do?

(Tape's changed)

CHAIRMAN MCINTYRE: Go.

MR. ARESCO: I'm done. If we can get it for next week, unless you know the answer.

MR. LANDINO: I'm sorry.

MR. ARESCO: Unless you know the answer.

MR. LANDINO: I can give it my best shot. I'm not a firefighter nor am I an expert in that area, but this facility was suggested by --

MR. ARESCO: I understand that. But what I'm getting at is to see how meaningful it is in your conversation where you're mentioning that it improves the response time. I would just like to clear it up,

regardless of who recommended it.

MR. LANDINO: Sure. I was going to try to do that. Your -- originally your fire department recommended a fire substation in the northern reaches of town, which was consistent with their request for that facility historically in the northern section of Old Saybrook because of the location of the firehouse on Main Street in relation to the northern reaches of the neighborhoods on Ingham Hill Road and Bokum Road.

MR. ARESCO: I understand that.

MR. LANDINO: I believe, and I am no expert, but this is what I will verify for next week.

MR. ARESCO: How many firefighters do they need out there to respond?

MR. LANDINO: Right. It's not -- you are correct in that a single firefighter cannot walk into a building that's burning. But there is a clear advantage to having a first responder arrive on the scene of any emergency, including a fire, and that fireman is typically EMT certified. So it could be many emergencies that are not even fire related that would result in increased public safety as a result of a first responder coming on scene quicker than he would if he were starting from Main Street.

But as it relates to fire fighting particularly

and what the town's thinking is, was when they suggested it, I'll get that for you for next week.

MR. ARESCO: Yeah, no problem. And then I wanted to thank Dr. Arendt for his explanation. I understand it. Wherever you are. I looked at my notes last week and I know what you mean as to how that fit in. Thank you.

CHAIRMAN MCINTYRE: Any other board members have any questions this evening? Judy.

MS. GALLICCHIO: I have a question, but not really for the applicant. I have a question about a report that we got from the conservation commission. And perhaps Christine can find out for next time for us, and that is that in the report there was mention of eliminating part of road A, between C and H. And I would like to see exactly where that is on the map. From that description I had a hard time determining where it was. So I would like some more information on that if we could have it.

MS. NELSON: Okay.

MS. GALLICCHIO: And my other questions can wait.

CHAIRMAN MCINTYRE: Okay, Stuart.

MR. HANES: One question. Regarding the town property up there at the top, does the town have

access to that piece of land? Will they via the roads?

MR. LANDINO: They do not currently, except I believe through the CL&P easement, but that wouldn't be available for vehicle access. But under the proposed plan we have provided extensive road frontage and would be willing to grant access to any part of that road frontage that the town needed. And I'm sure that that will become a condition, if it gets that far, that will happen.

MR. HANES: Right. That's my concern. The other one is in the event that the golf course was not approved, what would be the impact on your development?

MR. LANDINO: This is really a question for Mr. Stern, but I'll give it my best shot and if he wants to add to it, please feel free. But from our point of view they are a single proposal. And the elimination of the golf course would mean the elimination of the cluster subdivision as development opportunity because of value absorption and the overall market demand for the combined development. Is that reasonable? This is Sam Stern.

MR. STERN: My name is Sam Stern, and I represent the owner's interest.

They are an integral part -- the golf course is an integral part of the open space plan in consideration for significant reduction in density that we might otherwise be entitled to under a conventional plan. And in exchange for, for example, contributing some of the open space as well as economically generated to make the whole thing work. The residential units feed off the golf course and the golf course drives the economic benefit of the residential community.

MR. HANES: Thank you. And I guess one last question. Have you had any information from Westbrook about the approval or disapproval of the exit onto 153?

MR. LANDINO: Actually, we have an application pending with their inland wetlands commission. So we are just starting that process. So we don't have any firm indication either way other than that they are reviewing our technical information.

MR. HANES: Thank you.

MR. LANDINO: And a public hearing is scheduled in January.

CHAIRMAN MCINTYRE: Anybody else on the board have any questions?

MR. TIETJEN: Yeah. I have about eight without

even going through my notes. So I don't want to ask any one of them before next week. Would it be okay to write them out and let Christine forward them to the applicants there?

CHAIRMAN MCINTYRE: Well, you can ask them next week.

MR. TIETJEN: Oh, next week I'll ask them. We might not have anything else to talk about after tonight.

I really want to -- I know you're not supposed to do this, but --

CHAIRMAN MCINTYRE: Then don't.

MS. GALLICCHIO: Then don't.

MR. TIETJEN: I would like to commend especially the ecology branch for a very rich bunch of information. So that will help. But next week I won't be nice.

CHAIRMAN MCINTYRE: Thank you. Janis, do you have anything?

MS. ESTY: No.

CHAIRMAN MCINTYRE: Okay. I have nothing tonight. So I guess --

MR. HANES: I would like to make a motion --

CHAIRMAN MCINTYRE: Wait. Hang on, hang on.

MR. BRANSE: Mr. Chairman.

CHAIRMAN MCINTYRE: Yes.

MR. BRANSE: Before you adjourn a couple of housekeeping items. I would ask someone from the applicant's team, whoever is the best one, to be sure that all these color boards get to Chris.

MS. NELSON: Reduced color copies.

MR. BRANSE: Reduced color -- well, here's the thing. I'm thinking if some member of the public wants to view them between now and next week, if they can be on display somewhere, the library, your office, someplace.

MS. NELSON: Okay. I don't really want to be responsible for lugging around the applicant's displays.

MS. GALLICCHIO: They can be on paper, can't they?

MR. BRANSE: I was -- I don't care if they are boards or paper, but I think we need full size something.

MS. NELSON: Something but just not mounted. That will be fine.

MS. GALLICCHIO: Yeah.

MR. LANDINO: Do you want one reduced and one full size?

MS. NELSON: Yes, please. Well, actually,

reduced would be nice for everybody. I've gotten requests from members of the commission for reduced color copies of the boards that have been presented.

MR. LANDINO: So a reduced set of all of these boards for each commission member and then a full set for viewing at the -- in your office, Christine.

MS. NELSON: Yes.

MR. BRANSE: Just so that if someone asks to see them, they are not being deprived of the opportunity to view them between now and next Wednesday. You know what I'm getting at.

CHAIRMAN MCINTYRE: Any other housekeeping issues?

MR. BRANSE: That was the main thing.

CHAIRMAN MCINTYRE: In view of the late hour that we have tonight and just to throw this out there to see if the board would be able, maybe we could start -- you know, I don't think it's been publicized yet. If we could start a meeting at seven o'clock. Does anybody have any problem? Sometimes I know some people have trouble getting here. But if we could start -- if you can't that's fine. We'll stick with the 7:30. I just thought I'd throw that out there, give us a little more time, if you can do it. If not, if you don't think it's a good idea. I kind of

have a few reservations if -- the general public pretty much knows our schedule now. I don't know if it's a good idea to change until seven.

MR. BRANSE: Well, the public -- you can announce --

CHAIRMAN MCINTYRE: We'll make notice.

MR. BRANSE: Well, you can't make legal notice by next week, because it's too short a time period.

Christine, the legal notice that was published included all three dates. Did it include a start time on all three nights?

MS. NELSON: Did it include all three dates?

MR. BRANSE: Did it include all three is the first question, I guess?

MS. GALLICCHIO: I think it only had the first date is my recollection, but I'm not positive.

MR. BRANSE: If it was only the first date, the 3rd, you can announce tonight the date, time, and place of continuation. And it can be seven or 7:30 or eight, as long as you announce it before we adjourn tonight.

CHAIRMAN MCINTYRE: So my question still remains does anybody feel that we should -- how does the board feel, do you want to do seven or 7:30? Which is preferable?

MS. GALLICCHIO: Seven is fine.

MR. HANES: Seven is fine with me.

CHAIRMAN MCINTYRE: Janis, can you make it?

MS. ESTY: Um-hum.

CHAIRMAN MCINTYRE: Okay.

MR. HANES: I would like to make a motion then that we adjourn this meeting to next -- special meeting or -- and the next one is our regular meeting.

CHAIRMAN MCINTYRE: Yeah. We are continuing the public hearing. That's the most --

MR. HANES: Public hearing A for The Preserve Special Exception for Open Space Subdivision, 934 acres total and open space 542.2 acres. Ingham Hill and Bokum Roads, Map 55, 56, and 61; lots 6, 3, 15, 17, 18. Residence Conservation C District, Aquifer Protection Area. Applicant: River Sound Development, LLC. Agent: Robert A. Landino, P.E.

MR. BRANSE: To --

MR. HANES: To next Wednesday, November 17, at 7:00 p.m.

MR. TIETJEN: Where?

MR. HANES: The middle school auditorium, 60 Sheffield Street.

MS. GALLICCHIO: I'll second the motion.

CHAIRMAN MCINTYRE: The motion is made by Stuart Hanes, seconded by Judy Gallicchio. Any discussion?

(No response.)

CHAIRMAN MCINTYRE: Hearing none all in favor.

(Affirmative response given by all.)

CHAIRMAN MCINTYRE: Opposed.

(No response.)

CHAIRMAN MCINTYRE: Approved. Okay.

Can I get a motion to adjourn?

MS. GALLICCHIO: I move we adjourn.

MR. HANES: I'll second it.

CHAIRMAN MCINTYRE: Motion is made by Judy Gallicchio, seconded by Stuart Hanes to adjourn. Meeting is adjourned.

(Whereupon, the meeting was adjourned at 12:54 a.m.)

C E R T I F I C A T I O N

I, Debrah Veroni, Registered Professional Reporter, do hereby certify that the within and foregoing 193 pages are a true and accurate transcription of my steno notes taken at the Public Hearing held by the Old Saybrook Planning Commission on the 10th day of November, 2004, at the Old Saybrook Middle School, 60 Sheffield Street, Old Saybrook, Connecticut, in the matter filed In Re: The Preserve Special Exception for Open Space Subdivision.

Certified this 3rd day of December, 2004.

Debrah Veroni, RPR, LSR