

**EAST LYME INLAND WETLANDS AGENCY
SPECIAL MEETING MINUTES
July 16, 2018**

MINUTES

Members Present:

Gary Upton, Chairman
Ann Cicchiello, Vice Chairman
Phyllis Berger, Secretary
Peter DeRosa
Jessie Baldwin
Theodore Koch, Alternate

Members Absent:

Harry Clarke
Jack Chomicz
Todd Bellucci, Alternate

Also Present:

Gary Goeschel, Director of Planning/Inland Wetlands Agent
Paul Dagle, Board of Selectman
Edward O'Connell, Town Attorney

FILED IN EAST LYME
CONNECTICUT
July 23, 2018 AT 11:00 AM/PM
Brown
EAST LYME TOWN CLERK

CALL TO ORDER:

Chairman Gary Upton called the Inland Wetlands Agency meeting of July 16, 2018 to order at 7:10 p.m.

PLEDGE OF ALLEGIANCE: Observed

Chairman Upton welcomed the audience and agency members to the meeting, and thanked them for attending.

Chairman Upton seated Ted Koch, Alternate.

I Acceptance of Minutes

- A. Approval of Minutes of June 25, 2018 Special Meeting Minutes.

Chairman Upton asked for comments or concerns regarding these minutes.

Ann Cicchiello noted the corrections to the minutes as follows:

Page 4, Paragraph 5, first line, change "Rea" to "Real";

Page 4, paragraph 10, third line, delete the word "made";

Page 12, paragraph 6, second line, correct the Statute Referenced from 22z-19(a) to 22a-19(a);

Page 17, paragraph 7, first line change "Agent" to "Agency";

Page 17, paragraph 9, sixth line correct the year from "2017" to "2018".

Jesse Baldwin moved to make these changes and approve the June 25, 2018 Special Meeting minutes of the East Lyme Inland Wetlands Agency. Phyllis Berger second.

Motion passed 6-0-0.

B. Approval of Minutes of July 2, 2018 Special Meeting Minutes.

Chairman Upton asked for comments or concerns regarding these minutes.

Ann Cicchiello moved to approve the July 2, 2018 Special Meeting minutes of the East Lyme Inland Wetlands Agency. Jesse Baldwin second. Motion passed 6-0-0.

II PUBLIC HEARING

Twin Valley 23-Lot CDD Re-subdivision, Green Valley Lakes Road and Spring Rock Road; Frank & Rajko Maric Owners, Real Estate Service of CT, Inc., c/o Bob Fusari, Jr., Applicant; Application to conduct regulated activities within the 100-foot upland review area from wetlands and watercourses associated with the construction of a road.

The purpose of this portion of the public hearing is to conclude comments from the Agency, on the public hearing matter. This public hearing is continued from June 25, 2018 and then from July 2, 2018 to today, July 16, 2018.

Chairman Upton reviewed the ground rules. The purpose of this public hearing is to gather evidence. We've gathered evidence from the public and both sides. We encourage comments. A successful hearing depends on people being respectful, kind and one at a time. We've heard the formal presentation, we are moving forward. Anyone choosing to speak should address remarks to Agency, and that remarks be about five minutes. The Agency is here to listen to everyone. All questions are directed to the Chair, who will answer, or refer to another individual, or defer the answer. Upon close of the public hearing, the Agency has 35 days to make a decision; extensions can be granted by the applicant.

Chairman Upton opened the public hearing at this time and asked Mr. Goeschel to read and enter any new exhibits. No new exhibits were received or entered.

Chairman Upton stated they were going to pick up with final questions for Mr. Wren from the Agency.

Mr. Goeschel noted that the public hearing was left with the Interveners professional Mr. Trinkaus commenting on the information presented by Mr. Wren at the last meeting. From there it will go back to Mr. Wren, then to the applicants Attorney Hollister for closing comments.

Steven D. Trinkaus, PE, of Trinkaus Engineering LLC stated he was here for the intervener. He wanted to clarify some comments from the June 23 and July 2 public hearing.

Regarding the storm water ponds, well, the wet ponds, the applicant commented that they could deepen them, there is no requirement that the bottom of the pond be in the ground water based on the cross sections that are on the plan from the DEEP manual. However, on page 11 p-1-4 of the manual, in the top corner, he read this, "groundwater – unlined basins must intersect the groundwater table in order to maintain the desired permanent pool" so wet ponds have to intersect the groundwater table. The bottoms of these ponds are virtually at existing grade. That isn't where groundwater is. The applicant said if they deepen them they get additional storage volume. That isn't true. The pond volume, wherever the water surface is, any storage below that is fixed storage, that doesn't count toward detention or anything else. It does contain the water quality volume. The ponds are not in compliance with the manual, because they do intersect or come close to the seasonal groundwater table and they are using a small amount of infiltration rate. If you're in a wet bottom pond properly designed where the bottom of the pond is below the seasonal ground water you do not get infiltration, you cannot infiltrate into a saturated zone. Water doesn't go that way, it will pond above that. It will not infiltrate into the side walls of the pond. Water will not do that. It will go from area of high energy to low energy and pond when runs out of energy. Lateral movement into the sidewalls is not easy so it just ponds. By not getting infiltrations there are no reductions in runoff volume which is a requirement of the East Lyme Subdivision Regulations.

Your engineer did review the data and say they are in compliance, but the data is incorrect. Therefore your engineer's conclusion is incorrect.

Jesse Baldwin asked what data is incorrect. The infiltrations?

Mr. Trinkaus stated well there is no infiltration test; the storm water modeling of the ponds is incorrect. They are using something based upon a percolation rate rather than an infiltration rate of maybe 2" per hour assuming infiltration in these ponds. But if these ponds are wet ponds, there is no infiltration; it is a contradiction in terms.

Mr. Baldwin asked Mr. Trinkaus isn't he saying they aren't wet ponds because the bottom of them is not designed to be below groundwater?

Mr. Trinkaus responded no, the applicant is claiming that the wet ponds, he's got the detail on the plan that these are wet ponds, my point is they are not wet ponds, they are basically dry detention ponds that get you no runoff reduction either really because the pond is designed to fully drain and be dry between rainfall events. If you did design them as the applicant said the other night, by deepening them, then you have a wet water pond below seasonal groundwater, but still have no infiltration because now you are below the seasonal

groundwater table. Either way there is no reduction in runoff. The ponds are not designed correctly. If designing for infiltration, you design an infiltration basin which is an offline system where the water quality flow associated with 1" of rain flow is directed to that and the other water is bypassed forth. There is a whole protocol in the manual for addressing this. Infiltration on a large scale is a little problematic because if you get larger events coming in there it is easy to silt up the soil surface of the sand and prevent infiltration from occurring.

The rain gardens at the rear of the roof drains are infiltrations systems but we don't have enough data to know that those are going to work. As I stated in my June letter, the health code was changed and there are now separating distances between rain gardens and septic systems, it has to be at least 50' uphill and cannot be within 50' downhill. The downhill separation is because the code does not allow us to have any change in grade, any cut within 50' of a system because the State is concerned that affluent moving through the soil if you had a cut slope could bleed out on the ground, so no grading within 50'. As a raingarden is a depressed area dug into the slope, you cannot have it downhill. Mr. Baldwin asked uphill or downhill? Mr. Trinkaus said you can have it 50' uphill. He further discussed the site he is working on in Newtown. The individual from the State could not define what an analysis is to put them closer. He assumes it's an analysis showing that if you infiltrating the rain fall does the added infiltration affect the ground water table under the septic system to point where get less than 18" of separation where the ground water mound comes up and you don't get the 18" required separation under the code. The way around that is you raise the system higher, with sand. State says there is analysis that you can do but not clear what that is.

Mr. Baldwin asked as to the detention basin, you're saying that both, Mr. Trinkaus interrupted that they both have the same issue.

Mr. Baldwin asked Mr. Trinkaus if he was going to design the system, based on the site conditions what would he design? Mr. Trinkaus responded that the problem with wet ponds is with them having a large permanent pool, when it is in the sun it bakes. When new water comes in it pushes out the water that was in there which is warm, so there is thermal impact. Mr. Baldwin stated that Mr. Trinkaus suggested an infiltration basin, what would you suggest to properly treat that.

Mr. Trinkaus responded that from a whole host of issues, the sketch I provided last time, at the T intersection, if the road came in that way, the slopes are mild, and at the back of lot 2 there is enough area for an extended detention shallow wetlands system so it is a wetland system with a 6" to 10" ponding depth, densely planted with berms and a long flow path. Mr. Baldwin asked if Mr.

Trinkaus thought there was enough acreage there to get that flow path. Mr. Trinkaus responded yes there is because there is a limited amount of road that would drain into that area. The pond on lot 10 could also be modified and perhaps relocated to do the same thing. Mr. Baldwin stated the one on lot 10 is on a slope. Mr. Trinkaus said yes it is kind of parallel, Mr. Baldwin asked if you would want a wetlands detention on a slope. When on a slope there are a lot more cuts and spills, when on a slope if you can put the basin on the parallel contour with a slight pitch, like 1:2 to the other, it fits a lot better and doesn't get overly deep. If on a slope and he has to go 4' down to groundwater on one side he may have a 10' hole on uphill side depending on pitch. On a parallel grade it fits the landscape better. Also he brought up in the prior location that the road grade is mild regardless of where come in, but could do swale systems, low impact development strategies, to treat the water before it gets to a pond to treat water before discharge. You would redesign the site in a much more environmentally friendly manner rather than sticking with structural drainage.

Mr. Baldwin said that the applicant stated that Mr. Trinkaus proposal as to the location of the road that a lot of the soils were wet, so there would have to be a decent amount of dewatering done. Is that your understanding of the soils in that area? Mr. Trinkaus responded he disagreed with the applicant, the grade is mild, you're within a 100' of the wetlands but you're in an upland area. You would be raising grade within 1' of the existing ground so all you would be doing is taking the top soil out and putting your gravel down. You're not digging a deep hole, so wouldn't have to dewater for that road. There is a natural pitch from the paved intersection to the south, so the road would mostly follow grade and it would be roughly 1' to 1.5' above existing grade. So you're only boxing out for topsoil, then putting in gravel and pave. If you hit seasonal groundwater you would put down geotextile fabric and put gravel on it, it prevents the gravel from settling into the wetland soils.

Mr. Baldwin asked based on alternative road that you proposed you suggest a wetland detention system there. Mr. Trinkaus said as the road comes in to bend southwest to go up hill, straight ahead at the box of lot 2 would be the system. Mr. Baldwin asked if Mr. Trinkaus made any calculations there because the wetlands take up a lot more horizontal space than a standard detention basin, to fit there and handle the water quality volume.

Mr. Trinkaus responded that there is enough, for the area the tributary to it, he did look at it and sketch a plan to it and he knows it works. Mr. Baldwin asked in both areas? Mr. Trinkaus said there is plenty of room at the end of the cul-de-sac you may have to reconfigure the lots a little but there is plenty of room. The applicant said this is an additional wetlands impact with the alternative road.

They are already putting 12' wide emergency road there so you're already putting all that gravel in there, a few feet of shoulder so you're already out about 14', to go out 22' isn't much of a stretch but you're in the upland review in either case. It's more than 50' away but within 100'.

Mr. Baldwin said the existing road alignment is not in the upland review area until you get to the cul-de-sac. So this would be more area in the upland review area. Mr. Trinkaus responded yes. The applicant is also only requesting the activities associated with the road and in his experience he has never asked for regulated activities only associated with the road, if there are regulated activities on the lots, which there are, in order for Planning to act, if there is a lot with a regulated activity on it really needs a permit from this Agency because if planning approves lot and applicant builds a road, say the homeowner comes in for lot 4 and has a septic partially in upland review and cannot move it, comes before you and you turn it down, he just bought a lot that is unbuildable. He agreed the house can move, septic can move but if you have a regulated activity on a lot you need a permit at this point in time, knowing down the road it might change, you still need a license to conduct that regulated activity

Mr. Baldwin responded that is not his understanding of how things work in our town. It is that when subdivisions go up, the lot comes back for individual wetlands permits.

Mr. Goeschel stated that when a permit is submitted it is reviewed by his department. He contacts the owner or developer if a permit is needed, then he issues a permit as the Inland Wetland Agent or it goes before the agency. While this application is for regulated activities associated with a road, the agency can look at activities that are made inevitable by the proposed application.

Mr. Trinkaus stated that he has been doing this for 30 years. This is how it is done. The road access is feasible, that strip was left when the other part of the subdivision was done, it is safe planning to come out to a T intersection, and it has a mild grade that is where the road was designed to go. The paved apron at the location the applicant is intending to put the road doesn't mean it was the intention to put the road there. They mined gravel in and out of there for a construction entrance mostly. I stand by my June 24, 2018 letter. The applicant has not proven there will not be adverse impacts and non-point source pollution because these basins are not designed properly to address water quality. You will have discharges of these pollutants to your receiving wetlands. Will they have an immediate impact, some might, but over time have a greater impact. Water quality impact is cumulative. Please address the water quality issues. The applicant is burdened to prove that he will not have adverse impact from the upland activities.

Mr. Baldwin asked other than a wetland detention system as described, could he describe any other prudent design of the basins.

Mr. Trinkaus said that in his opinion he would redesign the site to use low impact development strategy. He would infiltrate the water as it gets there, not at one point.

Chairman Upton said he was reading from the August 27, 2017 denial from the prior agency which was entered into the record. He noted item 3 on page 6 states, "including but not limited to reducing the length of the proposed road and the number of lots on the proposed cul-de-sac which would eliminate the need for an emergency access drive within the 100' upland review area. Thus eliminating the likelihood of any impact on the adjacent easterly wetlands from the construction and future use of the emergency access drive as well as preventing any adverse impact to the wetlands and watercourse from the fragmentation of the ecological corridor between the wetland that contains the vernal pool complex and the wetlands located south of the proposed cul-de-sac."

Chairman Upton stated he is confused because now, you are saying to put the road there. Chairman Upton said first it wasn't an alternative and now you're saying it is an alternative so which is it.

Mr. Trinkaus responded that he believes it is a more viable access to the subdivision. The emergency access is in the upland review area in the first place. It is mild grading, if I designed it that section of the road would have a curb so the run off would be directed to the treatment system. There is no adverse impact, you are 50' away from a wetland, there is no over land flow going toward the wetland. Everything would go to a treatment basin; there would be no adverse impact.

Chairman Upton said that is their confusion, the road that isn't even in the upland review area is easier to understand and digest.

Mr. Trinkaus said he would agree. It is a pinball between Planning and Wetlands. Basin on Lot 24 doesn't belong on that hillside the way it is laid out. You can look at it and it is shoved in there to fit. The applicant is forcing something to be there because there was no treatment of that first 600' of road. Prior it was catch basins right out to the drainage system to the road, down to Four Mile River. They put the basin there, but it is going downhill and the lot is longer and narrower. If you reconfigured the lot so the basin was parallel to the road it would be in a more appropriate location, we believe the road should be on the other side. He does not see an adverse environmental impact from it in that location.

Chairman Upton asked Mr. Baldwin if he understood and could elaborate on the explanations given by Mr. Trinkaus. Mr. Baldwin stated the purpose of Mr. Trinkaus reconfiguration of the road is to get rid of the detention basin on the side of a hill, because it is not the ideal spot. It can be there, you can install a detention basin slope at that grade as the applicant has expressed, but with the large apron in that location there is a good chance in the larger storm events and increased rainfall, the water will come directly in and not get treated. If the developer were to put the road in the upland review area, it is on a gentler slope, and you could use a shallow wetland infiltration system to treat the runoff. He says it is better even though closer to wetlands, because there is a gentler grade then it would get rid of the detention basin on the slope closer to the river.

Mr. Trinkaus stated it would be a constructed wetland, not a detention basin.

Ms. Cicchiello asked if that would impact the lots. Mr. Trinkaus responded that yes you would have to reconfigure the lots. In the sketch I submitted it's drawn, I think one lot does go away but you could reconfigure the lots. There would be an open area to the west of Lepkowski's lot and per planning he would then have the 40' landscape buffer. There is one lot less than the applicant has, but it works.

Mr. Baldwin noted that the constructed wetlands for water infiltration are not everywhere yet, but where else in Connecticut might they be. He knew places in Massachusetts that are using them. Mr. Trinkaus responded that in Thomaston they used one in a 70-lot subdivision. They have done other projects with them but they are not built yet. It needs ground water, and need to be close to a wetland. If in wetland area at base of slope get groundwater and natural seasonal high groundwater. There is an exhibit for the sketch, which is Exhibit Z. It is at the very end of the July 2 2018 packet.

Mr. Goeschel asked if you were to use a constructed wetland system, and it intersects groundwater, with the road runoff isn't it the same as if we lowered the basin bottom in the detention basin.

Mr. Trinkaus responded you're on slope in the order of 8-10% grade, to get to the bottom level on one end may be 4' down on the other because of the slope your probably at 9' down which changes the whole grading. Now if go deeper, my sides go back, and the pond gets deeper, that is why the pond doesn't fit on lot 24. Out on lot 10 it could be reconfigured to fit in that location. On Lot 24 it is 10 gallons in a five gallon pail, it really doesn't want to fit there.

Mr. Goeschel said if it was constructed to intercept groundwater, would you have the same issue with the runoff as you do with the constructed wetlands.

Mr. Trinkaus responded no, the difference with the wet pond is it is an open

surface in the sun, with thermal impacts. The constructed wetlands is like a marsh with a vegetative cover so it is marsh vegetation at ground surface so water doesn't bake in constructed wetlands to the degree it does in wet pond. Mr. Baldwin noted the plants are doing all the work.

Mr. Goeschel said he was confused by the example the applicant gave which was similar to the Orthopedic partners, it is a wet basin bottom and has vegetation, and it is doing phenomenal without a shade tree. There is still thermal reduction. Mr. Trinkaus noted that you are not seeing the entire basin and the Orthopedic Partners site is a lot flatter. The basin on lot 24 is 5' on low side and 10' on the high side of slope that is a 20' side slope on each side to catch runoff at grade.

Mr. Goeschel asked if they don't intercept water with a detention basin, don't you then have infiltration and therefore reducing the land cut. Mr. Trinkaus stated they haven't proved that they did infiltration, and if designing for infiltration it is a whole different basin. What has been designed is a wet pond under 11 P 1 4 of the manual.

Mr. Baldwin then said so a micro pool extension detention basin is supposed to be designed as a wet pond and you don't think he's designing it as a wet pond because it is above ground water level.

Mr. Trinkaus said if doing it for infiltration there is a different set of standards that apply. Mr. Baldwin said but that doesn't apply to micro pool extension basins, the ponds are not basins because all of them intercept seasonal groundwater to have the wet environment.

Chairman Upton asked why the micro pool extension detention basin without going to the groundwater, doesn't work?

Mr. Trinkaus responded because it is a dry detention pond because not creating a wet environment these are dry detention basins. They are designed to hold the peak rate, to be a temporary tub and then let go. Because it is designed at surface, it is going to be a detention system and that is all it is. To treat water quality there are different components for all of these systems whether it is a wet pond, or extended detention wet pond, there are several criteria that each of these must contain to address water quality. That is why there is a manual for a guidance document.

Mr. Goeschel asked can a dry pond be constructed to treat water quality.

Mr. Trinkaus said it is not effective because designed to drain down all the time. So water comes in and goes out, no residence time. Mr. Goeschel said so with a wet pond, I get water quality but sacrifice thermal pollution. Mr. Trinkaus said

you get peak rate attenuation with a dry pond. With a wet pond you're supposed to plant an aquatic shelf, you could plant shade trees along berm, would have to be large for shading, but don't want wet ponds where going into a stream. If going into 100 acre wetlands, a wet pond because takes a long time to go through the wetlands, it takes a long time. There are a host of things to address water quality that designers have to look at. This requires engineers to go back to look at storm water early in the design process.

Chairman Upton noted that the town engineer approved the current proposed plan. Mr. Trinkaus stated the engineer wrote a letter based on applicants submittal. His contention is that the conclusion in report is in error; therefore the engineer is in error because they have no reduction because not proven. Chairman Upton reminded Mr. Trinkaus we are trying to remain within our purview, which Mr. Trinkaus stated he understood.

Mr. Koch noted that because of Mr. Trinkaus sketch and all of his testimony that Mr. Trinkaus primary concern is with these two detention basins. Mr. Trinkaus said they are not opposed to development, but need development without adverse impact. We need to do things that make sense, the road at a T intersection is safer from Planning which isn't your purview, it does work, focus on making storm water work to not adversely affect wetlands on either site.

Mr. Koch said in Mr. Trinkaus plan he would keep the lots 10 11 and 12, and heard testimony that those lots in and of themselves were unduly impactful, seems you're ok as long as drainage is improved. Ms. Moch had environmental issues with those lots; I'm ok with them from an engineering perspective.

Chairman Upton thanked Mr. Trinkaus. Attorney Berger stated the intervener had nothing further this evening.

Mr. Goeschel noted that the agency was to hear from Mr. Wren for response to questions and to allow him to clarify any of what Mr. Trinkaus said.

Joe Wren, Indigo Land Design, he is a licensed professional engineer here for the Applicant. Mr. Wren said last time they were here he answered some questions for the Agency. It was left for Mr. Trinkaus to come back and speak tonight which he did. He took some notes, he will go back along the way as best he can and will respond to questions along the way as well.

Mr. Wren said they went through a lot of these things last time in detail, he showed them the Public Health Code, the DEEP Water Quality Manual, they have shown the Agency where it has said a lot the things that were brought up by Mr. Trinkaus. The two storm water basins are not located in the water table or at the water table. We had heard from the residents in that area; when you have a large pool of water there are other issues associated with that, the two biggest are safety, such as drowning, also as in

the DEEP Water Quality Manual, insect breeding. The soils on site did do, and have discussed, the permeability samples/test on these soils. Bob Russo, who is a certified soil scientist, extracted the samples and tested and we got soil permeability from those samples.

If you design an infiltration basin, a dry basin, it holds water because of top soil. If the installation is at or near grade, the top soil acts as a liner, it's one way to look at it, with the existing soil layer as the liner. The subsoil below the topsoil also has a low permeability rate which was tested in the field and used in the design. Even though it's a low rate we did use and calculate for it, whatever trickles out in the bottom we took credit for the loss of volume coming through the base soil, it will filter that water before it gets into the groundwater.

If you have no soil infiltration of the surface water if it is inserted directly into the groundwater table prior to treatment in the basin. If we are taking surface water off the road prior to full treatment in the basin and put directly into the groundwater table plants may take up some of the pollution but it's going directly into the water table. The water table is right there. The DEEP Water Manual, we showed last time they allow variations in these designs because these are guidelines. This basin is under the wet pond section of the Water Quality Manual. It is not a deep wet pond; it is called a micro pool extension detention basin. It means the water may stay there longer than normal but it does disappear. We have seasonal groundwater variations. We did groundwater monitoring; all is documented in your packages. Might have groundwater there from Feb to May 31, the seasonable groundwater table in Connecticut. In summer there isn't any, it's dry. So not always there, sometimes it's down a little bit, these are some practical facts.

Storm water wetlands, the larger wet ponds need 25 acres of drainage area to support themselves, it says it right there in the water quality manual. Mr. Trinkaus is proposing storm water wetlands but there isn't enough drainage area to support it.

The basin on lot 24 was added in response to last year's denial. The applicant felt, as did the Town Engineer, that there were enough water quality measures in place for a very small drainage area to drain into the existing roadway drains, which drain a 30' wide road with no water quality measures. The applicant felt this small area draining into the existing storm water system in Green Valley Lakes Road that drains a 30' wide road, rather than a 24' wide road, would not be worsening the water quality already there. The water already there is draining from the existing 30' road, and gets into the system. We are taking 600' of road and some landscaped areas off the road and putting it into a new closed system and intersecting the existing system in Green Valley Lakes Road. We felt practically speaking that we would not be decreasing the water quality that is already in that system.

Mr. Baldwin stated so we have two engineers saying two different things. Mr. Baldwin noted that the applicant believes per the DEEP Water Quality Manual they would need 25 acres of drainage at least to support a storm water wetland, Mr. Wren said that is what the DEEP Water Quality Manual says, yes. Mr. Baldwin said that is what is suggested by Mr. Trinkaus.

Mr. Baldwin said the applicant has responded to the Agencies first denial because there was no treatment, or not a lot of treatment, could you get rid of the micro pool extension detention basin if you put bioswales along the entire subdivision?

Mr. Wren indicated that early on the applicant and his experts sat down the town staff several times to consider which way to go. The CDD Subdivision was chosen, and they implemented some of the items that were talked about with the Town Engineer. The issue with swales is that each driveway would need a culvert under the driveway. All or most of that would be in the town right of way, and would have to be maintained by the Town of East Lyme, the swale and the road and part of the driveway. If it is beyond the town right of way, it would be on private property and maintained by the owner. Due to the topography the owners who build there won't be able to mow it. Property owners start to change it because things get overgrown, they fill it in or mow it to keep grass, he's not sure that is better for the water quality or does anything for it. Mr. Baldwin said even with grass you are getting some treatment. Mr. Wren responded that is what they did with the rain gardens. Portions of the roof or the whole roof are going to the rain gardens. Last time there was some suggestion that there are no sizing criteria for that, but there are. In the notes, we don't know how big these houses are going to be. The notes indicate that per 1000 square feet of roof area, it provides a volume that it has to be sized for, that will part of the site plan approved by Gary's office for wetlands compliance. If they don't approve that then goes back to applicant.

Mr. Baldwin observed they would have to do some soil testing in the area of the rain garden. Mr. Wren responded they did a number of tests, not in each raingarden but enough for the septic systems over the entire subdivision in similar soils so they expect similar perk rates. If not it would be odd or an anomaly. That would be part of the design for the single family residence, during extra testing for septic they could do perk testing then.

Mr. Wren noted that they just did a CDD Subdivision in Waterford where the rain gardens work perfectly. They fill during rain and then after so many hours they drain out. Mr. Baldwin asked who maintains them. Mr. Wren responded in that case they are in the deed to be maintained by the property owner. Mr. Baldwin asked if they are maintained. Mr. Wren responded it is a new subdivision so it is too soon to know. Did CDD in Waterford, the rain gardens work perfect, fill at rain storm, and drain out.

Mr. Wren spoke about the landscape feature. The applicant chose to do that because when they first laid out the road on the ridge to bisect that area to have the road and houses on each side. This was decided as the best way to layout the road after meeting with the Town staff. They determined to provide the rain garden for the roof drainage, or a portion of the roof drainage, and the front of the homes would run toward the street. They are providing some storage before going overland toward the wetland with the roof drainage by using the rain gardens.

As to using infiltration swales, most owners would mow it. If it's overgrown they would mow it, and becomes a lawn, the lawn guy comes and fertilizes it, and gets fertilizer in there. Lawn areas are directly fertilized or it runs off into the swale. In a

closed system, not much lawn area is draining to the road, so may get some, but in infiltration swale would get all of it. It is a balance of what is better. Swales are not maintained by the owner, or town, so what happens. In concurrence with town staff, the applicant is going with this drainage and rain garden, closed system in road.

He said that Basin A on lot 24 was a reaction to last year's denial. We responded to that comment. There were no comments about elevation of the bottom of the basin, the groundwater and storm water, etc.; there were no comments about that. We responded to all of the denial comments from last time. We revised the plans to address those items.

Mr. Wren spoke about the drainage areas. The first basin on lot 24 has a drainage areas as big as 1.7 acres, it's very small drainage area that consists of part of the road, part of the Lepkowski property and part is this property that drains toward the road. It is a 1.7 acre watershed that is not enough water to support something that requests 25 acres. Mr. Baldwin said he thinks Mr. Trinkaus is saying that if you are going to put it where you designed it the soils are kind of wet anyway. Mr. Wren responded he would argue because the Water Quality Manual says it has to have a drainage area of 25 acres and be installed at or below the groundwater level. Mr. Baldwin asked so it has to be at or below the groundwater level. Mr. Wren responded yes, it has to be wet. That is in Chapter 11 of the Water Quality Manual which he shared with the Agency.

Mr. Wren then read from the DEEP Water Quality Manual 11-P2-4, "storm water wetlands that utilize a liner system to maintain the desired permanent pool should have a contributing drainage area that is adequate to maintain minimum water levels. Typically, minimum contributing drainage areas are twenty-five acres, especially for shallow systems. A water budget for the wetlands should be calculated to ensure that evaporation losses do not exceed inflows during warm weather months. Unlined water basins must intersect the water table in order to maintain the desired permanent pool." It says must intersect the groundwater table, while Mr. Trinkaus is saying to put it at the water table it does say you typically need a minimum drainage area of twenty-five acres. This is 1.7 acres, which is a lot less than 25 acres. The bottom of the basin even though we have slow permeability, there will be a permanent pool of water at the bottom of the basin during rhea season groundwater peak. When you put water into a basin, after rainfall event you are adding flow to the groundwater table, artificially mounds the water table. They have no objection to lowering the bottom of the basin. On lot 26 he thinks the groundwater table is three or four feet below the existing grade. If the Agency so desires they can lower it closer to the water table, then they can lower the berm. Mr. Trinkaus said not increasing the volume of water but you cannot put water on water and not raise the quantity. Without permanent pool there is a column before gets to outflow outlet. There is some added volume if moving basin to get to water table.

We don't need additional storage. The volume as presented was calculated as required by the regulations. The watershed map was submitted in March along with the calculation. If it needed to be updated, it was. The Town Engineer reviewed those calculations. Mr. Wren disagrees with Mr. Trinkaus and wishes that Town Engineer Benni was here, for him to write the letter he did with the strong comment in the last

paragraph and only reading the summary of the report is not giving Mr. Benni much credit. If he had issues with any rates or volumes, peak rates, etc., he would have made those comments and we would have adjusted the plans accordingly. Everything that was presented; he reviewed everything and is satisfied with everything.

The micro pool extended detention basin says 10 acres or more of drainage area. Basin B has 6.7 acres of drainage area at the end of cul-de-sac. Basin A has 1.7 so it is not close to 10 acres, never mind the 25 acres, however under the design variation section, if you don't have large drainage areas, you can do a variation of the micro pool extended detention basin, a pocket pond or similar.

Basically this is much smaller and there is not a long channel between the two pools. Whatever it is called, it is a variation of what the DEEP Quality manual is trying to suggest. They feel it is a satisfactory variation especially with top soil as a liner in the bottom of the basin. It will hold enough water to get enough retention time in the bottom to adequately renovate the storm water that comes in. Mr. Russo, who is a certified soil scientist, also reviewed these as well. They can either have a liner or be in the water table, we can do either if agency so chooses. Mr. Wren would rather do the topsoil liner. He stated he knows it is in the water quality manual and testimony from Mr. Trinkaus. We are working with the guidelines that we have, working with the town and the town engineer and in response to the last denial we are putting it forth and saying it will work. It is certified by all of these experts as correct, that should go a long way.

As far as the data being correct, your Town Engineer did his due diligence and reviewed everything that was submitted. The permeability tests were done in the different soil types in the field and used that in the modeling. It was a low infiltration rate.

Rain gardens separation distance to septic systems, he identified it in the Public Health Code. They can be within 10'. He would like to remind the Agency that this was reviewed twice by the Director of Health last year and this year. They have said all lots are suitable as designed; it meets the public health code criteria. They are not just looking at the septic but the rain gardens as well. The location of the raingarden is arbitrary, as long as the roof leader can get there. If the Agency so chooses they can get them to 25' away from the septic area, and outside of the review area.

Chairman Upton asked if the septic systems could be out of the review area as well. Mr. Wren responded the systems are where the test holes are, they are required to have at least two test holes where the systems are. They have to put them where the testing is done. We estimated where the buffer was and put the system way out. Lots 3, 4 and maybe 5 are the closest, and that is why for lot 3 the nitrogen analysis was done, and it showed it was successful and worked fine. We also did lots 11, 12 and 13, we did nitrogen analysis on those even though the public health codes doesn't require it, it was mentioned and done in response to the denial, that was documented as well to be fine. There is latitude but if you look where rain gardens are, we feel in our design and health director agrees that if they are a minimum of 10' from the system it will work, we reviewed the separation table last time. We don't have an issue with it and neither did Health, but if you would like us to move them to 25' we will.

Ms. Cicchiello asked to clarify 25' from septic system. Mr. Wren responded that the rain gardens are outside of the upland review area. Chairman Upton asked Mr. Wren to pull up for their view the tables he was referring to. This is as of 2018; the public health code was updated. Just a reminder that with this code, what was a 4 bedroom system is now a 5 bedroom system. These are good for a 5 bedroom house but if they do less bedrooms the systems get shorter.

Mr. Goeschel stated that Mr. Trinkaus noted the health code had changed.

GG ST indicated the health code had changed regarding the 50' uphill of infiltration or downhill of infiltration. If the septic system is less than 50' uphill of an infiltration basin they don't want the septic to infiltrate to the open water system or cut slope. If the storm water basin is 25' uphill of the system that is enough separation because water flows downhill so it's far enough away. Similarly to a foundation drain, if the septic is uphill you have to be 50' away you have to be uphill if downhill you have to be 25' away. Those are for larger systems. The towns went back and asked that the regulation be changed so they could do the rain gardens. Mr. Wren then read from the Connecticut Public Health Code regarding rain gardens and their separation distances to septic systems. A raingarden is a minor storm water infiltration system, with approval from local director of health, more than 10' in any direction. They can be further if need or want to, they can obtain 25 if it is the agencies desire.

As to the prudent and feasible alternative, both he and Mr. Trinkaus have a lot of experience with different projects. He has never seen a wetlands board say or determine that a prudent and feasible alternative was inside or close to a wetlands when there is an alternative for it to be outside of any review area.

Mr. Baldwin said that what is being discussed is that detention basin where it is located on lot 24 makes him uneasy because it is very close to 4 mile river. Discharge to the river is different than discharge to a shallow low grade wetland. That is the concern. If the goal is to get runoff away from 4 mile river, that is prudent to discuss those alternatives. Mr. Wren noted that a 12' wide crushed stone road that infiltrates water is very different than a 24' paved road with curbs, a 50' right of way and potentially other groundwater drains and utilities underground. Typically electric and cable utilities have to be about 3' in the ground, below the surface of the road. The Water main has to be 5' below the road. Even if at grade of the wetland, or two feet above, as soon as dig trench for utilities during construction it will fill with water. During the construction the only place to put it is in the wetland. You have to filter that water and put it into the wetland directly. It is very short distance, and has to directly discharge it into the wetland. I don't see that as feasible and prudent alternative.

Mr. Baldwin asked how high the seasonal high water table is.

Mr. Wren showed the contour of the curve where it goes through the wetlands is elevation 70. So it is safe to safe to say the wetland here is about elevation 70. The next contour is 72. Where the driveway is shown, the existing ground is 1' higher than the wetlands. Mr. Trinkaus was wrong in saying you just strip the topsoil and put in your

road. You don't leave subsoil underneath a road base because it is frost susceptible, the road will crack and buckle. The bigger issue here is the building of the road, you have to excavate out all of these soils. You are then permanently putting a road this close to a wetland. Whereas down here, in the proposed location, it is out of the review area, whereas the alternative is completely within the review area.

Mr. Baldwin stated that the alternative Mr. Trinkaus is suggesting doesn't curve to where you are indicating it cuts down between lot 2. Mr. Wren noted yes, but with trenching for utilities, you still have a permanent road that close to the wetlands, rather than this alternative presented that is outside of the review area. Having one that is in the review area with construction of a road into the water table, for 1% how that is prudent alternative. As to wetlands over here where emergency access is, it is not dead flat, it is on a slope. There is about 8' of slope. The top of the ridge goes through Lepkowski then follows the road. Only drainage area to pond there is a lot maybe a lot and a half and the road, a very small portion of the road, the 600' of road. In the alternative Mr. Trinkaus is suggesting you cannot get these catch basins in there because they are at grade. This is in response to last year's denial, it is a small drainage area that this has, and it will work. It is essentially two lots and part of a road. These have to be designed for 100 year storms, so look bigger than it has to be. Most storms here in Connecticut are an inch in this basin is not a lot of water.

Mr. Wren then spoke about the regulated activity on the lots was brought up tonight. No wetlands agency has approved a plan that says that this is specifically how every lot has to be on a plan. We have shown what can happen; they are more conservative with the tree lines and clearing limits that are on the plan. They have tabulated what that comes out to for review area for the road and erosion and sedimentation controls as they show it. Every single property has to come back for a site plan. Not going to have exactly as we have on this plan. It will never ever happen. There will be decks and pools etc. that individual people will want with their homes. They will come before Gary and possibly go before this commission. It will be put on a site plan and submitted to town staff and if necessary come before this Agency.

The paved apron at the end of Spring Rock Road is the same as this road. There is no difference between them. If you do your homework look at Pfanner's plan from the 70's this was the plan from the beginning. The GIS shows it as green as an easement piece, because it was contemplated as a road. The applicant discovered that after 1982 flood, the town applied for flood relief; FEMA or Federal gave assistance but have to identify these as roads for us to give you the funding. The aprons were paved then. Attorney Ted Harris has the court case, which will be presented in Planning, they were identified as future roads and aprons were installed in response to getting the funding. It is not any different, not a 10' wide gravel apron, substantial apron similar in size and nature as this one at the end of Spring Rock.

The water quality impacts were brought up; there is a lot to discuss. We feel and town engineer agrees that we are compliant with the manual and that this proposed subdivision has so much water quality controls; it is far superior to the prior subdivision. They showed the neighborhood plan, and could see the enormous amount of acreage of impervious area, there are photographs of the storm water going straight

out the road and roof into the wetlands and river, and it is teeming with wildlife. Water quality mentioned in last year application and was entered last year.

Ms. Cicchiello asked when that part of the subdivision was built. Mr. Wren responded that Phase 1 and II were constructed in the early 70's, while phase III was also in the late 70's. There are 200 plus homes, 2.5 miles of 30' wide paved streets, which goes directly into the river and wetlands, which is teeming with wildlife. If that neighborhood has not destroyed the environment and corridor of Four Mile River how could anyone say that this will with all of these water quality measures.

Mr. Baldwin said he doesn't believe there is any data submitted that says there are no water quality concerns on the Four Mile River. Mr. Wren responded it was entered as testimony last year but he is not sure it is an exhibit. Mr. Goeschel noted that Ms. Chantrell indicated that her children swim in the ponding area and that she tests the water quality following the health department guidelines. He is not sure if the testing was submitted but testimony was given. Mr. Baldwin said we do not have data that there are not any water quality concerns in the 4 mile river I think we can withhold judgment that, Mr. Wren said no we cannot say that there were never concerns. Mr. Wren stated it was tested and the test says it was fine. Mr. Baldwin doesn't remember that. Mr. Goeschel stated it is not a listed river with DEEP so it is not tested; it is considered a high functioning stream, and is a Class A watercourse.

Chair Upton stated that Mr. Wren's point was that there are 2.5 miles of road has no treatment and 200 plus houses with rooftops that have no treatment. Mr. Baldwin stated he wants information about the water quality of the river showing there is no fecal coliform, etc. Mr. Goeschel responded the town may have some data from its MS4 report. He will ask the town engineer as it would be useful information.

Mr. Goeschel noted that in regard to water quality, Mr. Trinkaus commented the applicant had not proven a reduction in water quality volume. According to the report, he indicates that water quality volume is the water runoff from any given storm, which should be captured and treated, which is the equivalent of the first inch of rainfall. Mr. Goeschel read the calculation from the report, and stated it is indicated that volume of water treated in both basins is significantly more than required by the manual. Mr. Wren responded yes that is true. Mr. Goeschel asked isn't that treating the water quality? Mr. Wren responded it is.

Mr. Baldwin said if there is 0 treatment now it is because it is forested. Mr. Wren indicated the first flush is the water quality volume. So below the first outlet of the basin 100% of the water has to be retained, and the forebay has to be designed for at least 10% of the water quality volume. We are exceeding the 10% already in the forebay.

Chairman Upton asked where he was reading and how Mr. Goeschel got these numbers. Mr. Goeschel explained the calculation and the numbers. Mr. Wren mentioned that the rain gardens provide additional storm water volume.

Mr. Wren brought up the neighborhood exhibit, there are 122 existing lots and 204 acres, and it is an exhibit from last year. You can see the existing subdivision is 122 lots, 204

acres; area of open space is only 36 acres, so there is 17.6 acres of open space in the existing subdivision. There are 122 lots, 115 were developed, and 7 were vacant to be developed. Road surface was 9.7 acres of asphalt in that neighborhood, rooftops another 5 acres. So we are talking about 14.7 acres, our Basin A we are talking about a 1.7 acre watershed, this subdivision has 14.7 acres of impervious area, there is no overland discharge, it goes directly into the wetlands and Four Mile River. The area of driveways is another 5 acres; again total area of impervious surfaces is 20 acres. The proposed development is 97 acres, open space 69.3 acres. Last year was 25 proposed lots, with the roofs, and road frontage there were 3.1 acres of impervious area versus 20, treated by these two basins and the sumps and hoods, overland flow, rain gardens, 3 acres with all of those measures versus 20 with no measures.

Mr. Koch asked why the roads and driveways have to be impervious. Mr. Wren responded that East Lyme won't accept roads that aren't impervious. The driveways outside of the right of way do not have to be impervious. Mr. Wren said the Town has specific road standard because they maintain it, they are even specific to the type of pavement they will use.

Mr. Wren stated that the Town likes 28' wide roads in its regulations, it is one thing your selectman are promoting, Zoning, Planning and your Plan of Conservation and Development are promoting is the 24' roadways, plus the curb which is mountable adds another two feet. We also have the DEEP Water Quality Manual which asks us to look at the center island, which is a requirement of your Planning regulations. Public works does not like it but if it was a through road serving lots of houses we would go wider. This is a dead end serving 22 lots; it's less than ½ a mile long. They provided this exhibit to show the difference between the existing and proposed subdivision.

In the upper left shows the existing outlets; all of the storm water that collects from the roads and roofs this is where they discharge to. Directly to the watercourses, four mile river wetlands, whatever it is there are three of them, one goes directly into open water. These other two end walls coming out directly into wetland or watercourse, intermittent or full. There are no controls here, nothing. What the applicant is proposing is superior to what was done in the past.

There was some discussion on how the eastern wetlands were flagged. I spoke with land surveyor. He did use the Pfanner maps which Mr. Goeschel mentioned at the last meeting, for the amount included. The north section of the line on the eastern edge of the eastern wetlands were taken from the map, there was a point missing from that point to the south property line, it was not there, that was done with the GIS mapping. He also compared the elevation, wetland is generally level. He used the GIS and the 70 contour to be conservative. He feels there are probably more wetlands delineated from those sources than what are actually present on site. There was a question about the calculation for open space whether meeting the correct percent; we actually have 6 acres more than the minimum requirement for open space.

Mr. Wren stated that Mr. Trinkaus did agree with us that he there is no direct wetland impact. There is no tree clearing, no discharge into a wetland, the basin does go down to the Four Mile River, it is in the watershed but doesn't discharge directly to the

watercourse. There are several feet after you take out the berm of overland flow once treat the water in the basin of 1.7 acres. Still goes 60' to 70' of overland flow.

Mr. Baldwin asked to go over that. Mr. Wren showed the 100' review area, and the wetlands. There is about 50' once out of outlet to the wetland. The contours in this area, elevation 60, then go to 58, then 56 down here before approaches wetland. It is fairly flat as approaches wetlands. There is a short channel and berm. These contours are 1' contours on the grading. The storm water is not discharging to a steep area; it is a very flat area. The steeper area is in the basin itself, they chase it downhill, and they need the contours because going downhill trying to catch up to the grade. Used a flatter grade for stability, vegetation, etc., from here down there is over 50' of discharge. With the small drainage area this adequate and is in response to the denial from last year.

Mr. Baldwin asked so this is a preformed scour hole. Mr. Wren responded yes it is a rip rap depression, Mr. Baldwin does it have geotextile fabric and will hold water there? Mr. Wren said the detail does show rip rap of geotextile fabric. In the detail on the plan we show rip rap for the velocity. It evenly discharges overland for about 50' before it approaches the wetlands, over a gentle slope. Mr. Goeschel noted the detail shows geotextile with rip rap.

Mr. Wren reminded the agency at the last meeting he showed a picture of the Plainfield micro pool extended detention basin last year, at the outlet on slope we had a preformed scour hole, not opposed rip rap but with a rip rap apron you're essentially discharging right to the ground without stilling velocity. Here we have the ability to sit in the pool even if there is no water in it, but come up in it, before it discharges. For a small storm if anything came out of the basin in a small storm it may come to this basin and never discharge over the land. It will not discharge at every rainfall only major ones that exceed major water quality volume. The Plainfield one has a permanent pool of water and is full of pollywogs, with all the discussion of the species in the area, it could be a benefit. As to the pool of water in the woods and whether species lay eggs, we aren't going to get into that.

We almost always use a preformed scour hole to reduce velocity before it goes overland. Rip rap doesn't do that as well; unless flare the rip rap and we don't want a stone apron approaching the wetlands.

Ms. Berger asked if the water sits there, will it promote breeding of mesquites. Mr. Wren responded it will not sit there permanently especially if above the water table. They may breed there but the pool won't be there long enough for them to survive. We are next to the river and near wetlands, so these are existing conditions, the number who would breed in these is very small as compared to the other places of breeding in the area.

Ms. Berger said you mentioned the area near Bob's Furniture, isn't that filled with invasive, phragmites, Cat Tails, etc. Mr. Wren said he is not a wetland or soil scientist, he did see the photo with the Cat Tails. If they are an invasive species then yes they are there. There may or may not be a plan to maintain and take out any invasive species. He did not think Cat Tails could hurt a pond unless they take over. He doesn't know about phragmites. They could add to the maintenance plan that if invasive takes over

the basins the homeowners association would have to clean them out. Not a problem to add it to the maintenance plan.

That was his last point. Are there any other questions from the agency?

Chair Upton, would you testify that the proposed storm water management system is in compliance with the standards set forth in the Connecticut DEEP Storm water Quality Manual? Mr. Wren responded yes, we did have the discussion about at the ground water table; we could lower the water quality basin to the groundwater table or consider that the topsoil is a liner and will hold the water.

Mr. Baldwin stated that at the last meeting Mr. Russo did suggest it would be better to lower the bottom of the basin. Mr. Wren said yes but we didn't discuss the liner. The DEEP Water Quality manual allows both. I personally would rather have it above the water table than below it. You want some filtering before goes into the groundwater. Certain nutrients attach to water particles, to cleanse water quality if you can use the basin why not use it. There is certain vegetation that can be used, as long as it stays wet enough then he feels this is the better design. This is safer and better and meets the qualifications of the storm water manual.

Attorney Hollister stated he had some brief closing remarks. Mr. Goeschel noted Attorney O'Connell, who stated the members of the public might want to speak.

Attorney Hollister said that is Chairman's decision. Mr. Goeschel suggested the Chairman allow the public to speak who were not present to speak at the last two meetings.

The agency took a break at 9:15.

The agency re-convened at 9:25.

Chairman Upton stated they will allow comment from the public on this evenings discussion or who were absent from the last two meetings.

Harvey Beeman, 11 Green Valley Lakes; stated this project is directly behind him, and he is opposed to it as written. He couldn't add a lot to the technical sides indicated in the last sessions. He said this is not entirely by emotion or not in my back yard, as he is not opposed to development. He does believe there is a need to respect the wetlands and that is your function and to take into perspective a piece of property that hadn't been developed in over 40 years due to the wetlands when there were no wetland regulations and to come now when there are regulations and put 23 houses in basically 25 acres of land which doesn't make sense. As to things identified tonight, both last year and this year applicant has requested just the road, he knows the Agency are evaluating the entire project, but he's confused about which one of the lots would have to come back to the commission for activity on that lot. If he were going to buy a lot there, he would want to know that, is it approved or is there more work required that may make it non-buildable to new owner. Would it be appropriate to ask the applicant to identify the lots that would have to come back for subsequent approvals? What is being done to process

the water from the roads is an improvement from the existing, he agrees. What is there now, 40 years ago or more, do drain into the river. That isn't right, it hasn't been right but it was the rules at the time. He stated he took down some quick numbers tonight, 122 lots took up 9.7 acres of paved surface. That is .08 acres per lot. Then I heard the plan, and it is roughly 3 acres for 23 lots or 22 if not including lot 25. So 3 acres of runoff would be .13 acres per building lot, which is twice as much runoff per road surface as the existing development. Just because it could be done 40 years ago doesn't mean it should be done today.

Chairman Upton asked Town Staff to respond. Mr. Goeschel stated that in regard to the lots, the applicant is requesting regulated activities for the road, the Agency can look at those other activities that are subsequent to that and they could condition an approval that all lots come back before the Agency for approval or leave it as staff reviews and he has his standards that he uses to determine an agent approval or whether it goes back to commission. If a property is being built out and there are no regulated activities there is no need for a homeowner to come before the commission, however we have a process for that. Agency may choose to do that, a Determination Form, there is no fee with that. Upon approval with planning and the filing of Mylar on the Land Record, the lots become a legal lot of record. The general public has a reasonable expectation to build out on that lot it doesn't absolve them of applying for a wetlands permit if need be. The statutes indicate we regulate activities we do not prohibit them. Where we don't have wetland impact, we don't have to show a prudent and feasible alternative. Mr. Goeschel stated he would leave the storm water question to the applicant.

Kristen Chantrell, 13 Green Valley Lake, stated the testimony from last year regarding the water quality testing, was her. She performed one test in June 2015 and I just did it to see roughly the water quality because my kids swim there regularly. She stated because it is \$75.00 per test she did not regularly test the water. When did it the water was borderline high for fecal coliform, it was safe to swim but not swallow, and that the kids should shower after. It is a river so it is naturally flushing, so clean water from the north where there is no development is coming through. The water at the mouth of the river is polluted. Not sure if any water testing has been done to show the current development doesn't impact the water, she feels water quality testing should be done. Saying this isn't going to have any impact based on the current development. Would like to re-iterate that I don't think any neighbors are saying don't build, she wishes we could come together as a town to make this development work for everyone, this is a development of great magnitude. The people have come there for how beautiful it is and the environment. It's a beautiful piece of land, want things done in way that works for everyone, and ask to keep in mind the environment.

Mr. Baldwin asked if for the June 2015 test, was it done after a rain. Ms. Chantrell responded it was done three days after a rainfall event. She does not let her kids swim after first flush, it was a dry day. Chairman Upton asked if the test was taken off the back of her property. Ms. Chantrell said yes, she went out as far she could in the water to get a test, where it naturally flows, not in a standing area. Chairman Upton said chances are that the 5 houses right there with septic systems. Ms. Chantrell responded that most of the septic systems in the current development are well outside the upland review our, she knows hers is, ours is about 120' from the watercourse boundary.

Deborah Diehl, 26 Green Valley Lakes; stated that at the last meeting she mentioned the safety of the road and where it's going. There was a traffic expert that was here last time who sat in this room and didn't recommend road last year. He stated it was dangerous because of where it was going to be, not sure if that is part of tomorrow's meeting? Chairman Upton responded it is not within our purview. Mr. Baldwin encouraged her to attend the Planning meeting. She continued that we've heard a lot of different things, including that the Town Engineer has approved everything she is wondering if we can get together with the town engineer to review the items we have questions about, to see where he is coming from and where we are coming from and what his understanding is, we're not sure he has the level of understanding after hearing everything going on here, the specifics versus what is written. Mr. Baldwin asked Mr. Goeschel how residents would submit questions to the Town Engineer. Mr. Goeschel responded yes, they can talk to him as town residents. You can contact him via email or call the Town Hall. He did talk to Mr. Benni today regarding his review and whether he reviewed Mr. Trinkaus report, he did has reviewed both at the request of the First Selectman and he stood by his memo and therefore did not make any addition comment. I am sure he would go over his memo with any resident to answer any questions.

Alisa Sherrif, 3 Frog Hollow, she stated the river is in her backyard. Her house was built in 1978, that was one of the houses that was built and we know one of the reasons why the development wasn't built around the corner was because there were wetlands. Everyone knew there were wetlands 40 years ago and didn't want to do it and haven't wanted to do it since. We think it shouldn't be developed it should be kept wetlands.

Chairman Upton asked if anyone else wanted to speak. Hearing no one, Attorney Hollister.

Attorney Hollister thanked the Agency on behalf of Mr. Fusari, Mr. Russo and Mr. Wren for their attention to detail, late into the night July 2, 2018 and tonight. Thank you Mr. Goeschel for getting us to tonight. He also wanted to commend him on the summary he just gave the Agency because it is very accurate and very important. There is no direct impact on a wetland or watercourse the applicant is then entitled to an approval absent some evidence of an adverse impact on a valuable function of a wetland or watercourse. Mr. Trinkaus comments did not have anything to do with Wetland impacts. He questioned the design of the basins but he did not connect the dots to a wetland impact. A lot of what was said about the design of the detention basin is a Planning Commission Subdivision issue because it is not tied to a wetland issue.

Mr. Koch asked Attorney Hollister, would you argue that the law you just stated about no direct impact on the wetland, you don't have to prove reasonable and prudent alternative, would you say that disposes of the whole issue before this board.

Mr. Baldwin said we are talking about indirect impacts here.

Attorney Hollister said if there is no evidence in the record of a substantial adverse impact on a valuable function of a wetland or watercourse the feasible and prudent alternative standard has been met.

Attorney Hollister continued with the Lepkowski presentation, Mr. Trinkaus, Ms. Moch and by letter Mr. Danzer. This goes back to the memo of July 2 from last time. There is case law from the Connecticut Supreme Court that says very clearly that speculation is not evidence. Phrases like "will increase", "will change", "will interfere with", "will alter", "will damage", "higher levels" if there is not quantification and cause and where, how and when will happen it is just words and is not evidence of an adverse impact. Case in point Mr. Trinkaus spoke about thermal impacts, if it goes from 60° to 61° that's a thermal impact, do we care, no, but if you are going talk about thermal impacts have to give quantities, causation and connect the dots as to what the adverse impacts would be. The other way Mr. Lepkowski's presentation doesn't connect the dots, says that we have to look at the impacts of clear cutting trees. Mr. Fusari is not proposing to clear cut trees. That will come back to you on a plan to cut trees. He could not disagree with the statement from Mr. Trinkaus that the risk is that someone is going to buy a lot and find out it is unbuildable. Mr. Fusari is not going to advertise a lot as having an approved septic system and then let the buyer find out it's not true. That is not how this works. You buy it on contract, then get you're testing, get your septic system approved and then you go ahead with the purchase. That is kind of a silly statement of risk.

As to vernal pools, we need to get away from this claim that if someone saw one salamander on this property that there is a vernal pool in this vicinity that needs 3000' of buffer for the migration patterns of salamanders. That is a distortion of the law and biology of vernal pools and wetland impacts. If there were a viable valuable vernal pool on this property, Moch would have been all over it, she would have had it well document. The fact that Russo and Moch were arguing about the very existence of a vernal pool is all need to know if there is something it is marginal, it is small, it is intermittent, and it is not valuable.

The applicant has legal right to do this development in phases that is why he is proposing to build the road, and the drainage structures and utilities but defer the septic systems to a later time. It is a good practice because it saves everyone from speculating, as Mr. Wren pointed out as to what the actual designs are going to be. The Health District has given its approval to the feasibility of locating a septic system but the proof comes later, and that is the way it should be.

Mr. Baldwin asked if that is how it works, the way the lots are sold, is that someone would look at the property, and would put forth a plan to the commission that would be approved before they would purchase the property. They don't purchase the land and then go forward? Attorney Hollister said Mr. Fusari could do that. The point is that Mr. Trinkaus was saying that Mr. Fusari was going to advertise the lot was approved for a septic system and then sell it and let the buyer figure that out, that is not how it is going to happen. Mr. Baldwin said so they don't purchase the lot first? Mr. Wren responded the buyer has to do their due diligence as to where they want the house! Their architect designs the house we do a plot plan and then those plans are submitted to Mr. Goeschel for approval, these plans are done before the purchase is finalized. Mr. Baldwin responded that was news to him. It is a typical real estate transaction.

Ms. Cicchiello asked are you saying the Agency should be looking at the impact on the regulated area and not the environmental impact in general. Attorney Hollister said that you're not looking at the impact as in the upland review area which is a non-wetland, you're looking at the evidence of impacts on the wetland and watercourse, wetland 100' review area, in the wetlands sense we don't care about impacts on the land in the upland review area because the biological functions we are trying to preserve are in the wetland or the watercourse. That is what you are looking at, and that is what Riverbend case and the others say.

Mr. Baldwin said the impacts in the wetland review area are directly relative to the adjacent wetlands. Attorney Hollister said the upland review is your geographic zone where we are going to look at the activity to see if there is an adverse effect on the wetland, but the upland review area is by definition a non-wetland.

Mr. Baldwin said yes but if you put a 500 gallon gasoline tank and poke a hole in it, it is probably going to get to the wetland.

Attorney Hollister responded yes, but the Planning Commission is going to look at the safety of the lot. If you're going to assume an oil spill in an upland review area you want to be sure that the oil tank is properly designed and encased.

Ms. Cicchiello asked if Attorney Hollister agreed it was their job to look at the upland review area and see what impact that would have on the actual watercourse and wetlands. Attorney Hollister said yes, and my second point is there has to be no speculation. The applicant is entitled to the presumption it will carry out the plan that it has put before, I hear testimony about what if this or that happens, well that is not what we are planning to do. Ms. Cicchiello stated she understood that was set out in the Riverbend Case by the Connecticut Supreme Court.

Attorney Hollister continued that the reasons for approval were no direct disturbance, no evidence of adverse impacts, Town Engineer is in Agreement, 97 acres, 73% preserved open space, and CDD preserves the size of the lots and minimizes lot density. As stated by Mr. Wren this is a response to the denial reasons, as Mr. Koch and I just establish compliance with the feasible and prudent alternative test, and during the hearing we outlined some minor technical conditions that might be imposed, the triangle at lot 10, the lower of the bottom of the basin, and the limit of clearing on lot 24. There are some discreet conditions that have been agreed to on the record.

Attorney Hollister identified the four tasks that he ask the Agency to complete:

1. Deny the Lepkowski Intervener Petition; he gets to present evidence, but we submit that he and his consultants have not submitted evidence to prove an adverse impact on a wetland or watercourse.
2. Approve Real Estate Services application by finding there is no evidence of adverse impact based on the criteria in your regulations.
3. You find there is no feasible and prudent alternative, I agree with Mr. Wren and disagree with Mr. Trinkaus if you have a plan that shows a road in the upland

review area, versus a plan with a road out of the wetland review area that should be quite simple. We have met the feasible and prudent alternative standard.

4. Impose conditions of approval.

Attorney Hollister thanked the Agency and recommended they were in a position to close the public hearing.

Chairman Upton recommended to the Agency members they review the current record and review the past record and all of the exhibits. He asked that staff do the same and generate comment from the record for deliberation regarding the 23 lot re-subdivision and regarding the item one, the Intervener Petition.

None of the commission members had any other questions.

Ann Cicchiello moved to CLOSE the public hearing for the Twin Valley 23-Lot CDD Re-Subdivision, Green Valley Lakes Road, and Spring Rock Road; subdivision, Green Valley Lakes Road and Spring Rock Road; Frank & Rajko Maric Owners, Real Estate Services of CT, Inc., c/o Bob Fusari, Jr., Applicant; Application to conduct regulated activities within the 100-foot upland review area from wetlands and watercourses associated with the construction of a road. Ted Koch Second. Motion passed 6-0-0.

Ted Koch thanked the public for coming out. We do listen.

Discussion followed regarding the 35 days to render a decision and the need to hear deliberations. Mr. Goeschel suggested we hold a special meeting next week. The next regular meeting is August 13. So the Agency should get together next week to discuss so Mr. Goeschel and Town Counsel can start drafting resolutions.

III. ADJOURNMENT

Phyllis Berger moved to adjourn the East Lyme Inland Wetlands Agency meeting at 10:01 p.m. Ted Koch second. Motion passed 6-0-0.

Respectfully Submitted

Jennifer Lindo Dashnaw
Recording Secretary

****These minutes are subject to approval at the next monthly meeting**