

THE INLAND WETLANDS COMMISSION OF THE TOWN OF AVON HELD A PUBLIC HEARING ON TUESDAY, FEBRUARY 5, 2019.

Present were Clifford Thier, Chair; Michael Beauchamp, Vice-chair; and Commissioners Bob Breckinridge, Martha Dean, Dean Applefield, and Michael Feldman. Absent was Commissioner Jed Usich. Also present were John McCahill, Planning and Community Development Specialist/Wetlands Agent, and Kari Olson of Murtha Cullina, Town Attorney.

Present on behalf of the application were David Ziaks, PE and President of F. A. Hesketh & Associates, Inc.; William Richter, AIA, ASLA, of Richter & Cegan Inc.; Tony Giorgio of the Keystone Companies LLC; Bill Ferrigno of Sunlight Construction, Inc.; Robert Russo, Certified Soil Scientist of CLA Engineers, Inc.; Michael Klein, Certified Soil Scientist of Davison Environmental; and Attorneys Thomas Fahey and Carl Landolina, of Fahey & Landolina, Attorneys LLC. Present on behalf of Nod Road Preservation, Inc. was Attorney Evan Seeman, of Robinson & Cole.

Chairman Thier called the meeting to order at 7:01 p.m.

PENDING APPLICATION

APPL. #759 – Blue Fox Run Golf Course, LLC; Nod Road Properties, LLC; Cornor Properties, LLC, owners/applicants: Requesting a map amendment to depict accurate information based on detailed field mapping and soil evaluations on subject properties. Locations: 65 Nod Road, Parcel 3290065; 117 Nod Road, Parcel 3290117; and 231 Nod Road, Parcel 3290231.

Chairman Thier stated that participants at tonight's hearing should read a letter that he composed with regard to the Commission's legal authority on considering and determining approval or disapproval of an application. He announced that at the advice of the Town's legal counsel, Nod Road Preservation, Inc. is permitted to intervene based on filing a verified pleading. At the advice of the Town's legal counsel there is not a defect of notice or procedural error and the Commission will continue with the public hearing this evening.

Mr. Ziaks stated that the application is straight forward request to amend and update the Town's official Inland Wetlands Map, and they are here under the Town's Sections 3 and 15 of the Inland Wetlands regulations which govern the rules for amending the Town's official Inland Wetlands Map. With regard to letters submitted to the Commission that the applicant has made any large modifications to the application since the last presentation, and in his team's opinion, no modifications have been made. The current graphic Town wetlands map is not accurate for two reasons. The first is that it not consistent with the wetlands limits that were previously determined by the Commission regarding applications in 2004 and the 1990s related to the golf course expansion. The minutes for a meeting in 2004 were submitted as part of the application for the Commission's packet. The second reason is that it does not reflect the current soil conditions on the property as have been determined by the team's two certified soil scientists, along with the survey map prepared by my office and all of the other maps submitted for this application. For these reasons, they have presented an amended map that they would like to have the official Town of Avon Inland Wetlands Map amended, which would be the basis for any

other applications submitted. They submitted for the record a supplemental package dated January 29, 2019, to staff and the Commission, and it included four submissions. The site aerial, Sheet A-1, map depicts the area recently staked by his staff to depict a survey of the alluvial soil as shown on the current Town Inland Wetlands Map. The flags reflect WQ to indicate wetlands in question. They placed sixteen stakes in the field. A walking map, dated January 16, 2019, was created so that if any Commission members walked the site, this area would be identified. During this time period, they also conducted eleven new test pits, and the results of the testing from Certified Soil Scientist Mr. Russo was in a report dated January 25, 2019. There is a second report prepared by Mr. Klein, who answered questions from the Commission and the public. Submitted additionally, were Sheets A-1; 3.5; PA-1; 3.0-1, 3.2-1, 3.4, and 3.4-1, all revised through January 24, 2019. Sheet A-1 on our easel is a current aerial map of the property. It is important to note the superimposed orange line that depicts the alluvial soils shown on the current Town's Inland Wetlands Map. The line runs basically through the center of the site, and through established fairways, and the 100-year floodplain line. These two lines were staked WQ1-WQ16. It is impossible to distinguish differences in soil types from being within or outside of this area. This map also shows a red line indicating the limit of alluvial soils that were included in the approval of 2004. Sheet 3.5 shows the locations of the eleven test pits, TH1-TH11. Two were dug along the bank of the Farmington River and three were dug out along the 100-year floodplain. They also dug at the north end of the site along Nod Road, and at the center where the fairway is located. Sheet PA.1 is a copy of the 2004 approved plan that the Commission acted on, as noted in the public record, which shows the limits of the 100-year and 500-year floodplains; and which are identical to the ones shown on our survey maps. It also shows the limits of flagged wetlands conducted at that time. This is basically a map showing the pre-expansion disturbance, as it was an 18-hole golf course which was expanded by nine holes following the 2004 approval. Map 3.0-1 is an illustration of the 2004 plan shown in black-and-white, and shown in color is a clarification of what they believe was indicated in 2004. Based on the 2004 minutes of the meeting and the construction drawing, the Commission established the alluvial soils at this orange line which follows the 100-year floodplain, which then changed as a result of the construction of the nine holes in 2004. The hatched area is behind the 100-year floodplain as it was established at that time. The green hatched limits were designated as wetlands in 2004. They are submitting in this application additional wetlands as confirmed by the soil scientists, that you could argue are man-made wetlands, that were created by the construction of the improvements to the golf course and a couple of large farm ponds that were constructed in this location. The flagged wetlands, of poorly drained and very poorly drained soils, have increased on the current plan.

Commissioner Feldman inquired about Map 3.0-1, in the area of the middle top, just below the river, for an explanation of the map language which states FEMA Zone X Other Area.

Mr. Ziaks responded that would indicate the 500-year floodplain.

Mr. Ziaks discussed Sheet 3.2-1, which shows the comparisons of the current wetland mapping with the 2004 wetlands mapping, and pointed out they added alluvial soil designation. The new wetland areas were created when the nine holes were constructed after 2004, and there are very well defined watercourses. They reflagged the entire parcel for this application. The next two sheets reflect answers to questions that were generated by the Commission. Map 3.4 shows the

comparison between the proposed map and the Town's Inland Wetlands Map. The dark areas are where they would add to the Town's map. When you add and subtract alluvial soils and flagged wetland areas, and compare our map with the Town's map, you end up with a loss 4.63 acres of wetland resources.

Commissioner Dean inquired that when she compared the two maps, A1 to the 3.4 map, she came up with highlighted areas, alluvial soils that were lost in the current mapping, on the far right of the property.

Mr. Ziaks indicated that they were not beyond the 100-year floodplain and referred to Map 3.2-1. The areas which are river-side of the 100-year floodplain would remain regulated area. Everything in the shaded, hatched area would remain regulated. Some of the area related to Commissioner Dean's question are located off-site.

Mr. Ziaks reiterated the comparisons between the two maps. Map 3.4-1 is important in comparing the proposed limits to the 2004 approval. The brown area is being added, as well as the configuration of the 100-year floodplain to match the current Town map, and the blue areas show traditional watercourses. Between these two maps, you gain 3.14 acres of wetlands resources on the proposed map as opposed to the 2004 map approved by the Commission.

Chairman Thier inquired whether it was a net 3.14 acres gain.

Mr. Ziaks responded in the affirmative, and there is a chart illustrated on the proposed map.

Mr. Ziaks discussed the issue of flooding on the property, in relation to correspondence that had been submitted for the record. Traditionally in engineering, flooding on a property is the result of either backwater or over-topping of river banks, reservoirs, and ponds that can occur at any time of any day during the course of the year. If flooding is not occurring as a result of the Farmington River, or by a major pond on the property, it is technically not flooding; it is referred to as ponding, seasonal ponding. It is a direct result of rain fall, snow melt, and sheet runoff from the nearby roadway. This property has undulating land that has in many ways been manufactured by the golf course construction. In situations during January, February, and March, and especially this year with a series of storms, and with a couple of hundred acres of land with two inches of rainfall and snow melt, you will find areas of ponding, however not areas of flooding. This ponding has nothing to do with the Farmington River or any of the other major water courses, and this has to be considered from a technical point of view. The ground is still frozen, and without evaporation, the water has nowhere to go. This site has very sandy soils, and as soon as the frost has left the ground, all of the ponding will disappear.

Commissioner Breckinridge inquired about the official Town wetlands map compared to the proposed map, and what the 2004 map is legally.

Mr. Ziaks stated that by default, the 2004 map is the official Town of Avon Inland Wetlands Map. Due to Town staff constraints, the Town wetlands map is not updated frequently. The official Town wetlands map has never been changed to reflect the decisions made by the Commission in 2004, which they feel is our proposed map.

Commissioner Breckinridge inquired whether or not there was a legal precedent.

Mr. Ziaks indicated that his team's Map 3.0-1 was the official map from 2004, which showed all of the alluvial soil behind the 100-year flood line and showed the flagged wetland limits in green. That was the basis for the nine-hole golf course that was approved by the Inland Wetland Commission and the Planning and Zoning Commission. Since that time, the mapped information has never been placed on the Town's official Inland Wetlands Map. They are doing this application process because there is no reason to move forward with any further application on this property until they have the map done and then they have a basis for clearly defining any impacts to the natural resources on this property.

Attorney Landolina commented that there is a note on the official Town Inland Wetlands Map indicating that wetlands information on this map was taken from property, subdivision, Inland Wetland application maps, soils maps, and other sources of information in the Town of Avon. He would interpret that as applications come in and they are approved based on wetland delineations brought in by the applicant, which differ from this map, staff would take that information and put it on the Town Inland Wetlands Map.

John McCahill stated that at the last hearing of January 8, 2019, he explained the process has been ongoing and they have only updated to 2003 given resources available to the department, and that the mapping approved by this Commission in 2004, as depicted on the applicant's map, has not made it onto the Town's official Inland Wetlands Map.

John McCahill clarified for the record that he believed the note on the plan said the map was updated in 2004, and that there are two references to update on the map.

Attorney Landolina indicated the Town's map states the year 2003 adopted.

John McCahill commented that in 2003, the department took the approximately four hundred applications prior from that point in time, digitized them, and updated the map. They brought that to the Inland Wetlands Commission for a formal public hearing and they modified the graphics that you see on that map. The Town has not done that process since 2004. Staff has spent a lot of time scanning these documents, but has not gotten to a point where we have been able to digitize them; nor have we gotten to a point to bring them formally to this Commission for a change to the map. Historically, we have approved over seven hundred applications and those which are approved and on file would become the resource and documents we would go back to for the determination of what this Commission has officially deemed currently as wetlands.

Commissioner Breckinridge inquired which map is the official Town of Avon Inland Wetlands Map.

John McCahill responded that the Town of Avon Inland Wetlands Map is used for both planning and regulatory purposes. The true actual wetlands as they are delineated become more official than the map that is displayed on the wall every day.

Commissioner Applefield stated that the question is not for Mr. McCahill regarding the official Town map, but for the applicant as to which map it seeks to amend. Are you seeking an amendment to the Town map or to the 2004 map? The applicant has to make a choice; it cannot say it wants an amendment to the Town Inland Wetlands Map and then argue half way through the process that it is really the 2004 map to which you are seeking an amendment. Which map are you seeking to amend? The process of digitizing which John McCahill spoke about, goes through a public process and that has not happened with the 2004 map. So I do not fully understand the argument that the 2004 map somehow is official. Regardless of my view, the question to the applicant is which map are you seeking to amend?

Attorney Landolina responded that he could not tell the Commissioner which map is the Town's map.

Commissioner Applefield inquired further which map the applicant is seeking to amend.

Attorney Landolina responded it was the official Town Inland Wetlands Map, whichever map is determined by the Commission.

Mr. Ziaks pointed out that the 2004 map was adopted at that time. After 2004, the golf course completed many improvements to the site and made changes. The map needs to be cleaned up to match our current map because the Town's Inland Wetlands Map does not show wetlands that are on the property now. Those wetlands are man-made wetlands. They may have been natural wetlands that were altered and are now defined as wetlands. We flagged all of the wetlands on this entire site, which add poorly drained and very poorly drained soils, which would be added to the Town Inland Wetlands Map, if our map is adopted. We are accepting the precedent that all the soil behind the 100-year floodplain line are still considered regulated alluvial soil, which is a conservative means of flagging wetlands resources. That is what Mr. Klein will speak about tonight. It is the same as the presentation that was made in the 1990s and 2004, and they are continuing with that. They also have additional soil testing above the 100-year floodplain line that Mr. Russo will speak about and explaining. As property owners, we are stuck. The Commission has an official town map that was amended by applications in the past, but this has not been reflected. To add more complexity to the situation, the 2004 topographical conditions that were approved then have been modified by the owner by a permit which the Commission issued. To clean up this mess, they have flagged everything from scratch and that is what the plans show. They are accepting the fact that everything below the 100-year line is still alluvial soils and still floodplain soils, regardless of whether it really is or not, because we know the whole site has been completely disturbed many times over the last decade. They are willing to accept that moving forward, and add our additional wetlands to the map from our auto cad file. The Town can then digitize this onto the official Town Inland Wetlands Map.

Commissioner Breckinridge stated that throughout all of these documents, it is stated a number of times that the site has been changed so often and soil analysis is not accurate, yet you are asking the Commission to make changes specifically in the area of Watercourse B. That is the one with which I have the most trouble.

Mr. Russo addressed the Commissioner's last question and indicated that his team has not said that the soil analysis is inaccurate, just that it is more difficult for a site that has been disturbed as much as this one. In order to gain accurate data and an understanding of the site, it is necessary to hunt and peck around to try and find areas where you can look at, and log undisturbed soil profiles that are reflective of the undisturbed conditions. Based on questions from the Commission at the last meeting, we went back into the field and dug deep test pits at selected sites; sites that were purposely selected by Michael Klein and myself to reflect areas where we could find undisturbed soil profiles which we could analyze.

Chairman Thier inquired if there was a map to show the locations.

Mr. Russo indicated the two boards about which he would be speaking, Maps 3.5 and 3.4., and started with Map 3.5. He would like to review some of the additional information provided in his most recent letter to the Commission. Based on the collection of additional field data, and description of soil profiles, the wetland delineation that was previously presented to this Commission is part of the application for the map amendment and stands as it was presented to you. He stressed that they had to look for naturally occurring soil profiles, and in some cases, this called for relocating the test pits within a certain area so that undisturbed soil profiles could be found. He reiterated the definition of wetlands as found in the Town of Avon's regulations and the State of Connecticut's DEEP, from Connecticut General Statute 22a, to be any soil poorly drained and very poorly drained, alluvial and floodplain, by the National Cooperative Soil Survey. The important point to make is that we have to use the definitions of the National Cooperative Soil Survey. That is a federal organization where data is published online and in hard copy format and that is what we have gone by for decades. Relevant to that, is a point that ties back to what Mr. Ziaks spoke about regarding ponding on the site. Poorly drained and very poorly drained soils are defined as soils that maintain saturation in the upper part of the soil profile for at least a week during the growing season. Ponding during the winter is not relevant to whether a soil is a poorly drained or very poorly drained soil as defined by the statutes in your regulations. You cannot look at the ponding in the winter and use that definition for what happens during the growing season. The second point is that we also have to use the definition of floodplain soils and alluvial soils as provided by the National Cooperative Soil Survey. The definition is provided in the document provided in my letter, titled the Keys to Soil Taxonomy. The concept for any alluvial soil or floodplain soil is that there is an ongoing deposition of material on top of the soil, and there is a sequence of soil profiles. There is top soil, and then the Farmington River drops new sediment on top of it, that is of a lighter color, and in that new drop, the leaves and sticks decay and it starts to get darker, and then another layer of sediment is dropped above. You get a layer cake effect that is indicated in soil taxonomy as an irregular decrease in organic carbon material depth. The upper horizon will not have a lot of carbon material. A layer that is buried below it will have more carbon material, the layer below that will not have very much carbon material. That is what we are looking for in the field in order to see a floodplain or alluvial soil. The purpose was to go out and dig test pits for certain areas for which the Commission had questions. I would like to review what we found in those areas. We did eleven test pits, and I will refer to Figure 3.5. At the top of the figure, you see the Farmington River. We dug two test holes, numbers one and two that are near the Farmington River. In both of those test holes, we found the characteristic layering that fits the definition in soil existing

taxonomy for floodplain soil and alluvial soils. The characteristics of buried soil horizons are there.

Commissioner Dean inquired whether or not Mr. Russo could explain his testing logs.

Mr. Russo referred to the first log, test hole one (TH1), for top soil horizons and sub soil horizons, in Appendix A in his January 25, 2019, letter at the Commission's request, in the short-hand which soil scientists use. Mr. Russo then translated the logs. He explained the abbreviations in the logs.

Commission Applefield inquired about the soil depth horizons and whether Mr. Russo looked at visualization such as coloring to indicate in the field a topsoil and subsoil.

Mr. Russo responded that there is a very visible difference between the two in terms of matrix colors, which is one of the criteria which we go by, and the colors are compared by variation according to a soil scientist's color sample book, the Munsell Soil Color Chart. When we look at this book and find a match, it is recorded. The range of soil colors might include a dark brown and light, bright brown. Upon inspection, the dark brown soil has a lot of organic material in it. If you rub it and look at it, one can see the partially decayed organic matter. The colors are useful and one part of the important criteria we use to identify soils. Again we see alternating layers of dark brown and light, bright brown color.

Commissioner Dean requested that Mr. Russo explain the other columns in this log.

Mr. Russo explained the other columns in the TH1 log, as requested. The depths, measuring down, include zero to eight inches, then eight to fourteen inches, and continuing. The boundary to indicate two soil horizons can be termed *abrupt* and occurs within a centimeter between the layers of dark and light, bright soils. This is another good indicator of a soil deposition. He further explained the abbreviations in the log. There were no rock fragments in the soil, which is another indicator that it was an alluvial soil. The texture in any given horizon will be within a fine range, such as a coarse or medium sand. A river, as it flows, sorts particles by size. The faster the water moves, that larger the particles it will carry. The slower the water moves, the finer the particles it will carry. The fact that we saw no stones, or coarse fragments, was a good indicator of the alluvial soil deposited by water flowing alongside of the river slowly along the edge of the floodplain, and not by rapidly moving water. With regard to structure, typically soils are classified by whether they have blocks or units of soil that hold together, and how easy it is for them to break apart. In some cases, in more recently deposited soils, there will not be any structure formed. This is a good indicator of floodplain soil or alluvial soil that has only recently been deposited and there has not been enough time for a structure to form. Mr. Russo explained redoximorphic soil features.

Commissioner Feldman inquired regarding log abbreviations.

Mr. Russo stated that there was not an actual difference, and when it was translated from the field notes to the typed form, it was not corrected. He explained the redoximorphic soil features are considered models for elements combined together, such as iron and manganese gathering

together, placed at a certain elevation in the soil profile due to the seasonal high water table. This particular soil did not have mottles in it. It is considerably above the water table elevation and several feet above the Farmington River elevation, and with the sand and gravel that underlie this site, we would not expect to see redoximorphic features. The last classification speaks to the presence and frequency of roots, and these are a general indication of the seasonal high water table.

Commissioner Dean inquired about a blank column on the log.

Mr. Russo responded in the affirmative, that it was blank.

Commissioner Dean requested Mr. Russo to identify the features.

Mr. Russo referred to Map 3.5, where the data from log TH1 derives. Based on the data they are interested in collecting, these forms, from the Soil Conservation Service, may or may not be completed. In many cases, there is data not collected because it may not be pertinent to the mapping.

Commissioner Dean inquired what the elevation was at TH1 in relation to the rest of the golf course.

Mr. Russo responded that he can see if they have topography with specific elevations, but in a general way when you see TH1, it is up on top of a plateau that contains an entire area of golf holes, at the north end of the course, that are similar to TH1. Beyond TH1, the land drops off very steeply to the river.

Vice Chairman Beauchamp requested that Mr. Russo explain the log for TH7, which was of concern to him since the area of TH7 was within the area of issue.

Commissioner Dean inquired regarding TH1 and TH2, and the other test holes that were not indicated as alluvial soils, the differences between them for this determination, and how he knew when he was looking at undisturbed soils. She asked if he had found areas outside of the golf course at this site that would show undisturbed soils so that he could make comparisons.

Mr. Russo responded in the affirmative regarding the latter part of Commissioner Dean's questions. Regarding how they knew whether or not the soil had been disturbed, there are obvious signs that the soils are disturbed. In one of the test pits we dug, we found buried electric cable, and obviously the soil had been disturbed.

Commissioner Dean inquired in which log that information was depicted.

Mr. Russo responded that it was not logged due to their interest in undisturbed soils.

Commissioner Dean inquired about the number of test holes dug but not used.

Mr. Russo responded that the number was three.

Commissioner Dean requested that Mr. Russo indicate where those were on the map.

Mr. Russo referred to TH1, when first digging, they were further north or right of the area and found disturbed soils and then therefore looked further south.

Commissioner Dean inquired why the soil from that area had been disturbed.

Mr. Russo responded that particularly in that area, they found that the distribution of organic matter and the depth of top soil was greater than anticipated and it showed a mix of different particle sizes and it was also close to a park path. In a soil profile, when there are particle sizes that are mixed and a color that represents mixing that is outside of the normal range than one would see for the top soil, then we immediately suspect that it has been mixed. In this case, you can see flecks of color from the top down into the sub soil and through the first couple of feet that indicate the soils have been mixed.

Chairman Thier requested that Mr. Russo continue explaining the test hole logs.

Mr. Russo continued and referred to TH2, in an area close to the Farmington River. After having gone through the column abbreviations on the logs, he indicated a note in this log stating a fine lamina of varying colors. This area contained alluvial soils due to the presence of several different layers of colors and varying organic matter.

Commissioner Applefield inquired about the meaning of additional log abbreviations.

Mr. Russo responded with an explanation of those abbreviations, including that of a parent material, a separate layer that was unchanged from the point of deposition.

Commissioner Applefield inquired about the explanation of those additional log abbreviation definitions.

Mr. Russo clarified the soil boundary definitions and the layers of soils that indicate alluvial soils.

Mr. Russo stated that there were layers of variable colors and a variable percentage of organic matter.

Commissioner Applefield sought confirmation that different colors equal different percentages of organic matter.

Mr. Russo affirmed this statement regarding this particular test hole.

Commissioner Applefield commented that perhaps this was not the case in other test holes.

Mr. Russo responded in the affirmative.

Commissioner Dean commented that she wanted to review the logs one-by-one. She requested confirmation that if Mr. Russo dug test pits to determine if they were alluvial soils, and if the

soils were disturbed, then the data would not be good; that he looked for soils both undisturbed by the golf course and non-alluvial soils. She requested that Mr. Russo review a couple of those processes. She wondered about TH3 which included a comment indicating the term *turf* on the log. She inquired if turf meant an undisturbed area of the golf course.

Mr. Russo responded in the affirmative and reviewed the processes. He said that turf was not necessarily an indication of a disturbed area, it indicated that grass was growing in that area. Grass could grow on an undisturbed area or one that has been prepared for a green or a tee. In the case of TH3, you can see that there are golf features surrounding it. He then described the log indicating the soil horizons and textures, and importantly the sand and gravel mixture sub-horizon, which indicates that it was not deposited by the Farmington River, however it was deposited by glacial melt water.

Commissioner Dean inquired how he knew of the deposition details.

Mr. Russo responded that his determination of the nature of the deposition was based on his decades of experience and training. We have been trained to determine the distinct differences between sand and gravel in the field that have been deposited by a glacier or by a golf course. The key is that when a golf course deposits sand and gravel, it will be brought in by a lift and rolled. It will be a material that has a certain consistency of texture. In glacial texture, there will be varying types and degrees of sand and gravel.

Commissioner Beauchamp was concerned with TH7 and TH6, in particular. He sought confirmation that the Farmington River meanders in the process of flooding and it might do so in future events.

Mr. Russo responded in the negative. The Farmington River, since the flood of 1955, has been controlled. The Army Corps of Engineers put projects in place, that Mr. Ziaks can inform you about to a greater extent, to control the flow of the river to enable strategic operators to release water ahead of a rain storm, so that the prior natural river processes of the Farmington River are no longer allowed to take place as a result of flood management.

Commissioner Beauchamp sought confirmation that prior to the flood of 1955, the Farmington River had meandered.

Mr. Russo responded in the affirmative. Typically when looking at soil mapping, from aerial photographs and historic aerial photos, that we did for this project, you can see the meander scars. If you look at aerial photos of different parts of the Farmington River, you will see the meander scars, but you will not see them here.

Commissioners Beauchamp and Applefield both requested a review of TH6 and TH7.

Mr. Russo commented that in TH6, there is a top soil horizon, and sub-soil horizons but we did not notice buried top soil horizons in this hole, the characteristic horizons we would want to see for a floodplain soil or alluvial soil, but instead we noticed that the textures were indicative of a glacial outwash deposit as opposed to a river deposit. The same indications were noted in TH7.

Commissioner Applefield requested clarification on the term *buried horizon*.

Mr. Russo responded by referring to the log for TH1, for a very good example of descriptors for buried soil horizons, buried thirty-five inches below grade, with layers on top of it

Commissioner Dean inquired if the test hole locations were outside of the 100-year floodplain and where each was located.

Mr. Russo stated that there were test hole locations both within and outside of the 100-year floodplain line. TH1, TH2, TH3, and TH5 are all within the 100-year floodplain line. The only two that showed the floodplain and alluvial soil characteristics are TH1 and TH2. TH3 and TH5 indicate glacial outwash, not formed in floodplain or alluvial deposits.

Commissioner Breckinridge commented that Mr. Russo's Map A.1 showed these locations.

Mr. Russo referred to Map 3.5, and the flood line FEMA Zone AE 100-year Flood Elevation (162.5). TH1, TH2, TH3, TH5, and TH9 are all along the river. The only two that indicated alluvial soils were TH1 and TH2, and TH5 and TH9 did not show alluvial soils.

Commissioner Applefield stated that he had no description key to understanding the logs, and no way of interpreting the logs, and that it was a critical factor in making a decision since the logs at present were indecipherable.

Mr. Russo stated that the data provided to this Commission was above and beyond what a commission would normally receive, and wondered if the Commission had ever previously looked at a soil log. In its previous decisions, this Commission has relied on the professional judgements of a soil scientist who has prepared logs and kept them for their own record and did not submit them to the Commission. The Commission has approved several hundred wetland boundary lines without looking at a soil log. However, based on the judgement of a soil scientist, we are asking for this determination. We are not asking for you to interpret or understand the soil logs. The Commission has never had to do this before for its decisions. We do not feel that you need to now. Since the Commission has asked questions, we went and collected data and we are demonstrating that we have executed that data in the proper format. I did not expect questions regarding the soil logs. They were attached to the report simply to show that they were done properly.

Commissioner Dean wondered if the Commission should have its own soil scientist to help the members understand the data. Commissioner Dean questioned how the Commission would know from looking at the data that it was done properly without guidance from our own resource.

Mr. Russo remarked on the Commission's approval process in the past regarding hundreds of applications. In the several towns in which Mr. Russo has worked, it has been very rare for a town to retain a soil scientist. It is the standard that the soil scientist does the work, documents it

for a commission, and that commission places its faith in that judgement. I have done thousands of wetland delineations.

Commissioner Dean referred her question to Attorney Landolina. She had heard in his remarks that the Commission needs to accept the 2004 delineation and that it has somehow become part of the current Town Inland Wetlands Map. Theoretically, if there were a problem with the 2004 delineation, that no one noticed at the time, are we bound by that earlier wetlands mapping simply because it was used to support an earlier delineation?

Attorney Landolina stated that the Commission should defer to Town Attorney Olson for that answer.

Town Attorney Olson responded that the Commission's jurisdiction is wetlands. Regardless of what the 2004 map indicates, even what your current map indicates, you only have jurisdiction over wetlands. It matters less which map is the starting point as it does what delineation the Commission will find most credible. To that end, you have to rely on experts like soil scientists. It should involve what is there today and what is the regulated area, and if you agree that the map should be amended to reflect wetlands soils that exist on site today, based on the expert opinions of people who have done the work. I hope this addresses the question that Commissioner Applefield had at the beginning regarding the official Town Inland Wetlands Map reflecting wetlands that are on the site today.

Commissioner Dean followed up with the question of whether the Commission should have to accept the applicant's soil scientists' conclusions if the Commission does not hire its own experts.

Town Attorney Olson responded that matters of credibility are decided by the Commission. However, there is authority which indicates that if you do not have your own expertise in that area, it is not appropriate to disregard the expert testimony presented. If you have special knowledge or expertise of soils, that should be clearly put on the record. Otherwise, you are bound by the record that is before you. There is existing precedent that if you do not have expertise, you have to defer to the expertise before you or hire outside expertise. Town Attorney Olson stated that the Commission should not research matters or materials outside of the hearing, and they should only consider the material on the record, therefore not research additional maps. The information may only be provided by the applicant.

Commissioner Feldman followed up on Commissioner Breckinridge's questions relating to the difficulty in determining the different soils. He referred to the Davison report of December 2018 where it states, "The precise extent of the moderately well to excessively drained alluvial soils cannot be determined due to the alterations of the soil profiles that have occurred in the past." He inquired if that was a correct statement.

Mr. Russo responded in the affirmative. He elaborated, in referring to Map 3.5, indicating TH1 and TH2 showing alluvial and floodplain soils. Moving toward the 100-year flood line, you immediately hit a golf cart path with altered soils. Soils on the other side of the path may be disturbed as well, and the area with greens and tees are problematic since they have been

disturbed. To generally describe where they are, we were careful in the locations we picked and rejected some locations so that we were in a native soil profile. Due to the difficulty in drawing a precise line, we drew the line on the far side of soils that we positively know are not floodplain soils and alluvial soils.

Commissioner Feldman commented that the applicant was asking the Commission to remove areas regulated as wetlands even though the scientists' own analysis stated it was difficult to make a precise determination. He inquired whether the Commission should be erring on the side of caution with the lack of precision enabling the process.

Mr. Russo stated that he is erring on the side of caution in his explanation just presented. The wetland boundary line had been drawn well behind the area where we absolutely know are not floodplain and alluvial soils. On Map 3.4, in the area W4 and P2 where three test pits were dug, an area that was originally labeled as alluvial soil, we confirmed via TH6 and TH7 are glacial outwash soils. By selecting places where we could find native material to determine that there was no floodplain soil or alluvial soil, and by putting the regulated boundary further away from the Farmington River than test pits that show they are not floodplain soils or alluvial soils are, in fact, being conservative.

Commissioner Breckinridge inquired about Map 3.4 and Wetlands B, and asked how many test sites were done that showed disturbed soil. The area shows three test sites that are spread out. Commissioner Breckinridge inquired how many more were done.

Mr. Russo responded that on Map 3.4, we did an additional test hole below W4 that was disturbed because an irrigation line had been installed.

Commissioner Breckinridge inquired whether six more test digs would make a difference.

Mr. Russo responded in the negative. He felt confident in the material that was discovered as glacial outwash soils in the Manchester soil series that he has seen before.

Commissioner Breckinridge inquired why Mr. Russo thought it was designated as such originally, if it is so obvious that it is not.

Mr. Russo responded that the Soil Conservation Service, did the original mapping in the late 1950s, for the Hartford County Soil Survey published in the 1960s. The important things to know about that soil survey are that, it indicates any map unit that is designated may contain other soils, other than what is mapped by the service. They acknowledged that there was a level of inaccuracy; that level partially arose from the soil scientists having a quota of a number of acres they had to map per day, and they had to execute the survey quickly. Also, the soil survey was compiled largely for agricultural purposes. If one soil unit was similar to another for agricultural purposes, they might not have indicated the difference. This is knowledge that I have obtained from talking to soil scientists over time.

Commissioner Breckinridge commented that it seemed that area had a large change. Since there is some inaccuracy, is it possible that the inaccuracy is a little larger than what is proposed. Is it possible that one quarter of that area is a wetland soil area?

Mr. Russo responded in the negative. He did not believe it is possible that the area has alluvial soil in it. The person that mapped this did not necessarily even dig a single hole there. We dug three test pits, but in addition, tested auger and tile spade holes in another twenty to twenty-five spots, not by excavators, but by hand for the other samples.

Commissioner Feldman questioned if Mr. Russo had already determined that the soil was not alluvial before even doing the tests.

Mr. Russo responded in the negative, since he had not been on the site before.

Commissioner Feldman sought confirmation that the test pits were completed only one week ago.

Mr. Russo responded in the affirmative. They had done shovel and auger holes tests before.

Commissioner Feldman stated that Mr. Russo was in the area in early January of 2019, and already had maps in which that area was being taken out of the wetlands before any testing had been done.

Mr. Russo responded that before they had done excavator tests, they had done shovel pits and auger holes, and had done a level of investigation that is very typical of wetland delineation before coming before this Commission with this wetland boundary.

Commissioner Feldman sought confirmation that they had decided to remove the area from wetlands before the excavation tests.

Mr. Russo responded in the affirmative.

Commissioner Dean inquired about the depth of the shovel and auger holes.

Mr. Russo responded that the holes are typically twenty to twenty-two inches deep.

Commissioner Dean inquired whether the Commission had seen those results.

Mr. Russo responded that they had not provided logs of the shovel and auger holes to the Commission as it is a standard practice among soil scientists that they do not report information for every single hole.

Chairman Thier inquired whether results from the approximately twenty holes had been recorded.

Mr. Russo responded that he would have field results for some of the holes, but as is common practice for soil scientists, we do not record every shovel pit or auger hole.

John McCahill stated that the best way to reference the area that is being discussed would be the label WQ9-WQ15, which was flagged for the purposes of seeing the area in question.

Commissioner Dean inquired about the number of acres in WQ9-WQ15.

Mr. Russo responded that he did not know the acreage.

Commissioner Dean inquired whether there was a standard for the number of test pits done per acre. As an example, if checking for pollution there would be state guidance on how many samples should be taken per certain amount of acreage in order to properly characterize the levels. What is the standard per acre, and how do you know if the appropriate number of samples were taken?

Mr. Russo responded that the National Cooperative Soil Survey indicates different levels of soil survey mapping that specifies different levels of investigation, different levels of test pits and auger holes. A high intensity soil survey specifies certain numbers. For the specific type of work we do, where we are regulated by the State of Connecticut and the statutes, there is no specific number provided and it remains with the professional judgement of the soil scientist to conduct enough holes in order to map the wetland correctly.

Chairman Thier questioned whether two soil scientists could have two different standards. For instance, one scientist may say a certain number of tests per area, while another may use the measure of distance apart for determining the testing.

Mr. Russo responded in the negative. In terms of mapping for the State of Connecticut, and the Town's regulations, they do not specify any standard for the number of holes to be dug.

Chairman Thier commented that therefore left to their own devices, soil scientist A and soil scientist B could reach different conclusions based on their experience and education, and discussions with other soil scientists. He questioned what would be scientifically valid for the distance between test pits. He thought that distance would be more valuable than the number of test pits per acre in giving an accurate conclusion. Therefore, two soil scientists could approach this problem from two different perspectives.

Mr. Russo stated that was correct.

Commissioner Dean inquired about the map area WQ9-WQ15 and its size in acres.

Mr. Russo deferred to Mr. Ziaks, professional engineer, for the measurements.

Commissioner Beauchamp inquired if that area had been taken off of the 2004 map. He inquired of Mr. Klein as to the precedent, as to why this came off of the Town's Inland Wetlands Map.

Chairman Thier requested that Mr. Klein delay his response until his time for presentation this evening.

Commissioner Feldman inquired regarding the difference between flooding and ponding. He understood that what we were dealing with from the last two weeks was ponding and not flooding, and inquired whether this distinction was technical and scientific.

Mr. Russo responded he believed it was a technical distinction and deferred to Mr. Ziaks to comment further on his statement.

Commissioner Dean sought clarification regarding the flooding that occurs over Nod Road, when the road is impassable due to several feet of water, and whether that would be called ponding or flooding.

Mr. Russo responded that he had not labeled the occurrence. It is a question for Mr. Ziaks.

Commissioner Feldman inquired regarding the distinction between flooding and ponding, and whether the source of the accumulated water matters. It would seem to me that water is accumulating because the soil is saturated, and by definition it would be poorly drained.

Mr. Russo responded that his comment was incorrect. A soil could be saturated right now in the winter time and not be a wetland soil. The National Cooperative Soil Survey's definition of a poorly drained soil includes the following phrase: in the growing season. If that soil is not saturated for one week or more during the growing season, in April, May, June, July, August and September, that is not a poorly drained soil. It can be saturated right now and not be a wetland soil.

Commissioner Feldman inquired whether he or any of the applicant's team conducted any studies to determine the level of water accumulation of flooding or ponding during the growing season.

Mr. Russo responded that it was exactly what he did when he delineated the soils and when Mr. Klein checked them. We use an auger and drill holes and look for redoximorphic features that indicate the maximum level of water table during the growing season.

Commissioner Feldman indicated that we do not know historically, from your team's work, what goes on in terms of ponding or flooding during the growing season.

Mr. Russo responded that the team had that knowledge because the redoximorphic features that they look for are not the result of a single or double event in the summer, they are the result of years' worth of events that cause the water table to fluctuate up and down through the soil profile. The features we use when doing our field work are the result of hundreds of years of water table fluctuation. The wetland line that we are documenting represents the long-term conditions on that site. That is the science behind it.

Commissioner Feldman commented that even if he were to show Mr. Russo evidence that during the growing season, there was an accumulation of water, Mr. Russo would disregard that finding.

Mr. Russo responded that was not what he was saying. He stated that in order to delineate wetlands, we look for characteristic features in the soil, certain colors and features present are the result of a water table that fluctuates up and down. There are times in the summer when we may have evidence of colors present that are unclear or we may have a site that is disturbed, we would monitor the water table. He stated that the water table varies throughout the site. The site is very permeable, largely of sand and gravel. There is a regional aquifer. The Farmington River reflects the elevation of the water table in the proximal parts of the site. We do have indicators in terms of where we can find standing water in the spring time, but in the summer time it sinks below the level of excavation, several feet below the playing surface of the golf course.

Commissioner Feldman sought confirmation that he was using the 100-year floodplain designation from the FEMA maps.

Mr. Russo confirmed this comment.

Commissioner Feldman inquired if there was a statute or regulation that requires this Commission to accept that as the standard delineating the boundary.

Mr. Russo responded that he was not aware of a statute that refers to the 100-year floodplain as the delineation of wetlands. He requested that Mr. Klein address this topic during his presentation this evening. It was a previously chosen boundary line based on the 2004 work.

Commissioner Feldman commented that he did not see in any of the reports any discussion of whether or not certain areas that are being removed from the wetlands could be deemed bogs or marshes. I feel those definitions deal more with the drainage characteristics than soil characteristics.

Mr. Russo responded that none of those areas would qualify as a bog or marsh. For instance, a bog starts out as a depression with standing water so long that there is a thick accumulation of organic matter in that area, and that is not present anywhere on this site. A marsh has standing water, long-term, and has certain herbaceous vegetation, not woody vegetation. The areas that have been eliminated or removed do not have those characteristics.

Commissioner Feldman commented that the regulations state a bog as an area with very poor drainage.

Mr. Russo reiterated that the areas being removed do not have poor drainage. These soils would be classified as moderately well-drained to excessively well-drained.

Mr. Ziaks stated that based on scaling, the area of WQ9-WQ16 is twelve acres. It is not referred to as wetlands.

Commissioner Applefield inquired regarding the manual referred to by Mr. Russo for poorly drained and very poorly drained soils as saturated for at least a week during the growing season.

Mr. Russo clarified that the reference was for a poorly drained soil. A very poorly drained soil would be saturated for longer than one week.

Commissioner Applefield inquired how much longer for the very poorly drained soil.

Mr. Russo responded that he thought the number was twenty-one days but was not completely certain.

Commissioner Applefield inquired where he would find that definition.

Mr. Russo stated that he did not provide that reference, however the National Cooperative Soil Survey provides the definition on-line as well as in hard copy publications. He confirmed the survey is a product of an agency; it is a series of maps, manuals, and definitions. He was not encouraging the Commission to conduct additional research independently, echoing the advice of the Town's counsel.

Commissioner Applefield commented that Mr. Russo referenced the term and said it was important, and he would then look up the definition in the survey.

Town Attorney Olson commented that again it would be feasible for staff to submit information after the close of the public hearing. Between myself and John McCahill, we could provide that reference.

Commissioner Applefield commented that he would look it up, he was entitled to, and did not believe there were any associated legal problem. Mr. Russo referenced it, told him where it was, and he was going to look it up.

Town Attorney Olson stated further that the information should be submitted for the record so that all Commissioners have access.

Chairman Thier stated that the information will be released concurrently or right after Commissioner Applefield found the information.

Commissioner Applefield commented that he appreciated and agreed with the information about the way this Commission will generally accept the opinions of soil scientists, but he takes umbrage with the suggestion that explaining the soil logs is not something that the Commission really should be asking. I want to go through every soil log and understand the judgements that were made each and every time, to which I think that I am entitled. I need to understand how you exercised your judgement and I am entitled to ask that question, whether I have asked it on other applications or not. I would like to see the notes on the approximate holes that were tested, and we often do have those appended to parts of applications whether we pay attention to them or not. In an application like this, where that is the critical issue, suggesting that we just have to take your word for it, and I appreciate where you are coming from, but I find myself dissatisfied

with that. I need to understand the reason why I should vote in favor of this application. I understand that you are an expert and Mr. Klein is an expert with years of expertise, but I need to understand a little more about why you have designated these areas as such. The logs are very difficult to understand and there is no key or legend I can use to understand them and that is why Commissioner Dean started asking about them. I would like to see the data from your notes, if you have them, relative to the test pits as well as the hand-dug samples. That is important information.

Commissioner Dean inquired regarding the acreages of the area WQ9-WQ16, and we now know that it is twelve acres, and we know that twenty-five, twenty-two inch test pits were dug in order to characterize the soil before the test pits were excavated. That is just two test pits per acre. With two test pits per twelve acres, or one per six acres, I do not have an idea what would be missed relating to alluvial soils and wetlands. That is the discomfort I have right now.

Chairman Thier inquired about WQ9-WQ16, and that the Commission has information on three test pits in those twelve acres, and they seem to be around the periphery and not in the center, so it could possibly be that the evidence we have might only lead us to the conclusion that it is a little small. We do not have test pits in the middle, and using the legend it is alluding that those test pits are about five hundred feet apart. He inquired whether they are five hundred feet apart.

Mr. Russo asked if he would be able to measure the area on the map.

Chairman Thier stated that was permissible.

Mr. Ziaks confirmed that the area was approximately five hundred feet apart and the locations form the shape of a triangle.

Chairman Thier inquired whether it was possible that the corners of that triangle were not wetlands soil, but inside the triangle there exists wetlands soil. He stated that the applicant did not give them information about the majority of that area.

Mr. Russo responded that there is in fact delineated wetlands for a man-made pond within that triangle, and a water course.

Chairman Thier stated they were not concerned about that.

Mr. Russo stated as a reminder that these three test pits were dug in support of previous shovel and auger holes that were done throughout the area.

Chairman Thier stated that they did not have that data.

Mr. Russo responded that he had not presented that data to the Commission since it is very standard practice that when they do a delineation, they do not provide a commission with every single auger hole.

Chairman Thier stated that may be fine for other commissions or instances, but I think you get the sense that this Commission wants that data. If we are going to go by, and without reflection on you, simply be asked to accept your conclusions when we have just learned that there is a big gap between what one soil scientist finds from another, as an appropriate test pit distance.

Mr. Russo objected to the characterization of what different soil scientists do. The work done was very thorough and met the standards of any delineation. He pointed out that this Commission accepted this delineation and removal of that area in 2004.

Chairman Thier commented that based on Mr. Russo's presentation, one soil scientist can approach this one way and another scientist could approach it another way, because there is no written standard.

Mr. Russo responded in the affirmative based on the Connecticut statutes and DEEP standards.

Chairman Thier stated that before going any further the Commission wants more data, however you do not have to agree to give us more data but it would be prudent. Enough Commissioners have indicated that they do not have enough data regarding the test holes.

Mr. Klein stated that the information provided has exceeded what is typical of this site and many others over the past several decades. The procedure needs to be understood. To place one flag might require digging ten holes and another ten flags might require digging no holes. A soil scientist is trained to interpret what is seen on the landscape in terms of some initial test holes, slope changes, variations in vegetation, and variations in drainage patterns, etc. There cannot be a standard for the number of holes that delineate a wetland. There are cases where I could put out one hundred and fifty flags in one day, and there are cases where I can put out ten. In the case of one hundred and fifty flags in one day, you cannot log those profiles. Mr. Klein quoted from a document on the definitions of wetlands and water courses, a Primer for New Wetland Agencies and Staff. He commented that the determination of wetlands is a technical issue and within the province of a trained soil scientist.

Chairman Thier commented that if he understood his point, that the Commission really had no job to do, or questions to ask if a soil scientist comes before this Commission. What you are saying is that this entire meeting is a waste of time and we should just accept what a soil scientist tells us. You have stated that you have come before this Commission numerous times and we have enormous respect for your qualifications, your knowledge, and your honesty. Are you saying to us that we should just take it at face value? Then why are we here?

Mr. Klein responded that we are here for the public and to discuss highly technical issues in the absence of countervailing expert testimony, the only substantial evidence on the record would be from those qualified as experts in the field.

Chairman Thier reiterated his inquiry whether the Commission must accept that.

Mr. Klein responded that was correct.

Commissioner Applefield stated that they were not disagreeing with their opinions, but he sees the soil profiles differently than Mr. Russo. I do not have any qualifications. It is another thing to say that you have this data upon which you base your opinion and I will not give it to you because I am a soil scientist and you are not. We are asking for the data upon which you based your opinions, and we are asking you to explain the data. I do not believe that is beyond the scope of which the Commission can ask.

Mr. Klein disagreed. He stated that data is not typically collected, almost never collected.

Commissioner Applefield commented that in this case, you have given me the data and you cannot generally tell me we cannot do this.

Mr. Klein commented that we gave the data which the Commission requested. It is not normally provided, however the Commission asked us to provide it at the last hearing.

Commissioner Applefield agreed with Mr. Russo's comment that it is not normally given, but I do not know what bearing it has on this particular situation. We have the data and I cannot understand it. It is fair for me to ask for an explanation.

Mr. Klein stated that it was given to the Commission. There is no other data. The soil scientist does not record all of those other holes.

Chairman Thier inquired as to why those holes were done.

Mr. Klein explained that it is in interim process. He physically demonstrated for the Commission the nature of examining certain vegetation, and conditions and testing in the field for the Commission and public. After multiple explorations in the field, he begins to see the pattern of the soil. He double checks his field determination findings. There is no specific criteria for the number of holes to dig or how often you dig. It is not done by area or length. It is done by the characteristics of the land.

Chairman Thier indicated that he was conducting the reverse of finding wetlands. The base assumption is there are wetlands. The application is indicating this is wrong, and there are no wetlands there. What if the wetlands are smaller but they are still there? The three test pits are five hundred feet apart.

Mr. Klein confirmed the distance. He stated that it was not a testing parameter based per acre. The land is significantly level without changes in vegetation except for the topography at this hole, so you place a few holes around and they are all consistent, and the same. As soil scientists, we know the changes would not occur on that kind of a landscape and we move further down. There may be ten holes dug in a one-quarter acre patch.

Chairman Thier inquired about the possibility of wetlands further to the north or to the right. What if the hole was in the wrong spot and it was further to the right?

Mr. Klein stated that the alluvial soils do not extend out that far, getting higher up on the landscape.

Chairman Thier commented that they could be higher up on the landscape because it was seriously changed when it was turned into a golf course.

Mr. Klein clarified for the Commission members who were not at the last Inland Wetlands Commission meeting. He confirmed that this is an altered site, and therefore requires an exercise in professional judgement. The land is essentially featureless except for the man-made tees and fairway. We cannot dig holes there, and if we could, they would not tell us anything.

Chairman Thier inquired why the soil would not provide information.

Mr. Klein explained that the soil would be completely altered.

Chairman Thier questioned the soil ten feet below and whether there would be wetlands there.

Mr. Klein stated that would not be relevant. The guidance we have received from the DEEP and USDA soil scientists is the soil characteristics at the time of delineation. We went far beyond with the test pits that we dug to ensure the findings. Between Mr. Russo's and my work at the site, we do not log the test holes, instead when we find wetlands we flag the location. In 1997, I dug hundreds of holes in that area to establish wetlands. At that time, he indicated to the Commission this site is disturbed. One of the questions in my letter was how soon soils would manifest themselves at the site. My response was that soils that were formerly wetlands, generally retained the morphological features for decades or longer after they have been dried out. The regulations require us to follow the standard practice of soil scientists the DEEP and US Department of Agriculture. We are still required to show a drained wetland if it shows those morphologic characteristics. In alluvial and floodplain soils, in particular, those features would persist indefinitely, that layering of the soil if not disturbed will persist. Soils that have not formed in wetland conditions, but have become wetland, generally those show up more quickly in a matter of a few years depending on conditions and factors. It is possible to make those determinations in disturbed locations on the basis of drainage class, but in an alluvial and floodplain soils we are required to use the soil taxonomy definition. That depends on a disturbed or undisturbed soil profile. At this site, very large portions of the property have been disturbed. So back to the definition of alluvial soil or floodplain soil. A soil that is formed under the condition of deposition from a river or major flooding event that occurs on a regular basis. There is nothing in the soil taxonomy that defines the term *regular*. It is not something that happens every thousand years, but something that might happen every year. I called colleagues and the soil cooperative and inquired how frequently events occur to indicate alluvial soils or floodplain soils. The consensus was in the thirty to fifty year range. That is still a wide range. There is still no good engineering data that would tell me how frequently this site would flood. In conjunction with the technical staff from the cooperative, we will use one hundred years as a conservative estimate of the wetland boundary. With the test pits, we looked at the areas close to the hundred year line and questioned whether we were off. I knew that we would not find alluvial or floodplain soils in areas that only flooded every one hundred years. In a disturbed site like this, we have altered flooding due to the dams up-river, we have an altered soil-moisture condition

due to the golf course function, and drainage tiles in numerous area, altered topography, tees and greens, and altered vegetation. If I was in a disturbed site but the vegetation had not been disturbed, I would use the vegetation to indicate the situation. Therefore, I attempted to be very conservative and applied what I considered an appropriate amount of professional judgement. I was brought in after Mr. Russo had done his work, and we used the same approach and came to the same conclusion on how to deal with this unusual site.

Commissioner Dean inquired regarding Mr. Klein's earlier comment on the approximate hundreds of test flags placed on the site in 1997 due to his questioning of how to proceed at the time. Here, for an area of relatively the same size, it was only twenty-five tests. What accounts for the difference in professional judgement between 1997 and now?

Mr. Klein responded that the number in question, hundreds, referred to the whole piece of property. In 2004, the expansion of the golf course was in the north-western area of the property. I dug dozens of holes in that part of the property in 2004 and found the same result. Upon my retainer, my first objective was to test the areas near the limits and I dug approximately a dozen holes, which confirmed what I had identified in the past. When out at the level of the one hundred-year flood event, it was conservative. I have not found any wetland soil profile wither poorly drained, very poorly drained, floodplain or alluvial soils that are outside of the limits that we are proposing to adopt. There are certainly non-wetland profiles inside, but without digging up the entire golf course it would be impossible to determine with any precision. They would be of no regulatory consequence, to flag along the green or sand trap. This is a field science and there is a certain level of pragmatism to it, but soil scientists do this every single day. In Connecticut, I am not aware of any soil scientist that logs individual holes. I concur with Mr. Russo's interpretation of the soil logs, and they are consistent with my independent interpretation at this site where I have conducted tests over the past twenty to twenty-five years. Mr. Klein then summarized his letter of January 25, 2019, containing stated answers to particular questions of Commission members, which had already been submitted to the Commission Chairman.

Commissioner Breckinridge inquired about the location of the one hundred-year flood line in that area.

Mr. Klein responded that on the Map A.1 site aerial, the limit of alluvial soils identified in 2004 is shown in a red-dashed line, and the limit based on the mapping done by Hesketh and Associates in 2018 is shown as a blue-dashed line. I am looking at the area that is approximately two-thirds north on the site area. It is generally the area associated with Watercourse B that flows eastward and slightly south from Nod Road toward the Farmington River. In that location, these two lines are essentially identical for the first four hundred feet on the north side of Watercourse B, and they diverge slightly in the next approximately twenty feet at the very western most extent, and they are virtually identical on the south side for approximately one thousand feet.

Commissioner Breckinridge inquired about the watercourse that is running the length of the area. There is a fairly wide band of wetlands at the upper portion of that map, which is related to your designation, not from soil testing but from the one hundred-year floodplain. Why does that band not follow the length further down? Why is there not a broader band of wetlands around that? I

imagine that area expands and contracts at various times during the year if it is a watercourse, as it is a flat piece of land.

Mr. Klein responded that the area on either side of the watercourse is deep, but the water course is deeply incised.

Commissioner Breckinridge inquired whether any test holes were conducted along the whole length of the watercourse.

Mr. Klein responded in the affirmative. He clarified that they did not conduct deep test pits in that area.

Vice-chair Beauchamp stated that the Commission's goal is to protect the wetlands. The Town has a certain amount of wetlands and once given up, we do not have them anymore. Certain portions of the areas that I have walked seem like wetlands to me. That is my comfort zone. This is a big deal, and this application is asking a lot from this Commission. Once it is changed, it is not going back.

Mr. Klein understood it was a unique situation. The two points to make are, that these are not wetlands, the actual characteristics of the site govern; and this area is largely golf fare, and does not provide typically the functions that protect wetlands. They are not wetlands. Connecticut is the only state that I know of that protects alluvial and floodplain soils as wetlands.

Commissioner Dean stated that we looked at this in 2004, and inquired whether there was a huge flood event in 2005, possibly in October.

Mr. Klein did not know the answer to that question.

Commissioner Dean thought there had been another flood event in 2011. That road has been under significant water in recent years. I recall it is in the area of WQ9-WQ15 that we are discussing, the water crosses the road at speed and depth. Is it possible that you could be testing in that area, and not coming up with alluvial or wetland soil, and it is just a dry stream bed, a channel of a stream?

Mr. Klein commented that there is a stream in that area, as has been identified. The Connecticut statutes define a watercourse and the limits are accurately defined here. A watercourse has to have a channel and an edge, a defined bank. This is the channel on area W1, W3, W5, and W12. I did actually drive the site last week toward the end of that big rain storm, there was water over the road. That is runoff from the very steep hillside. The culvert that has been constructed here is not sized large enough to carry those big runoffs. That is not the same thing as a one hundred-year storm that is associated with the small streams. You can often hear on the weather reports that there is not a major flood event but there could be small stream flooding. It is certainly not a water event to cause alluvial soils to develop. Small streams can overflow their banks after fifteen minutes worth of rain, approximately one quarter inch.

Commissioner Dean sought confirmation that flooding over this portion of the road, in WQ9-WQ15 is storm water runoff from the hillside, when it seems that the golf course and the river were one huge lake.

Mr. Klein responded that in certain storm events, that can happen, however it does not mean they are alluvial soils. They are not present.

Commissioner Applefield inquired if Mr. Klein had tested other golf courses and what approach was used.

Mr. Klein responded in the affirmative. He stated that it depends on the situation. When you have a disturbed site, each one is different, and different criteria is needed for each. A classic one that I recall is at Lyman Orchards, when courses were built and revised there, there is a very distinct topographic break. In the disturbed portions, we did not use the break.

Commissioner Applefield inquired about the meaning of the term *topographic break*.

Mr. Klein responded that there was a very steep hillside that comes down and then flattens. We used the toe of the slope to the river; where we found floodplain soils.

Commissioner Applefield inquired about his work on other golf courses with disturbed areas.

Mr. Klein responded that further up-stream would be Tower Ridge Country Club. There is a very distinct berm along the river but there are gaps and it allows flooding to occur, and we used contours in some places on that site. There were also areas of wetland soils and the vegetation showed it for the delineation.

Commissioner Applefield inquired about what work Mr. Klein had done in 1997.

Mr. Klein responded that the work in 1997 was associated with the office complex and straightening out Nod Road at the norther portion of the site. At that time, we had problems at the southern portion of the site, the quadrant between Nod Road and Route 44. My recollection is that we used elevations in that area. I may have minutes in my report that reflect the work, if it is requested.

Commissioner Applefield sought confirmation that in 1997, Mr. Klein did not produce work in the northern portion, and that in 1997 the 100-year floodplain was used as the designation of the wetlands.

Mr. Klein responded in the affirmative regarding the absence of work in the northern portion. He believed the 100-year floodplain was used in the areas that were not areas of poorly drained and very poorly drained soils.

Commissioner Applefield inquired regarding Mr. Klein's work on the site in 2004.

Mr. Klein responded that Blue Fox Run had purchased additional land to the north, on the east side of the river, and they developed an additional nine holes of golf. That generally encompassed the area a little north and south of Watercourse C, an area that is proximal to P4, W11, and D12 on Sheet A.1.

Commissioner Applefield inquired regarding Mr. Klein's prior work and whether he had occasion to evaluate the middle of the property.

Mr. Klein responded that it was his work conducted in the past. It was the whole portion of land north of the entrance road. There was additional permitting, or possibly an enforcement matter, associated with work at the club house and parking lot to the south that occurred in that same time frame, around 2005 to 2010. We had occasion to look at the area designated as W12 in detail, and a few years later there was an application to dredge the pond designated at P1 at the summit portion of the site, and ponds designated as P2 and P4. The mapping we propose is consistent with all of these areas.

Commissioner Applefield inquired whether the dredging was done in the area of WQ9-WQ15.

Mr. Klein responded in the affirmative regarding the area north of Watercourse B and surrounds P2.

Chairman Thier sought clarification of the area and Mr. Klein confirmed the area. Commissioner Applefield confirmed that this area was proposed by the applicant to be removed from wetlands designation on the Town of Avon Inland Wetlands Map. He inquired whether Mr. Klein had the opportunity to work on the dredging application, and whether at that time any test pits were dug.

Mr. Klein responded that the tests were not deep pit tests, but standard spade and auger.

Commissioner Dean inquired if the area had been disturbed before the spade and auger work. Mr. Klein responded that the pond and fairway were there, as it was golf course.

Commissioner Dean asked whether, before the delineation, the twenty-two inches of tested terrain had been altered.

Mr. Klein responded that the guiding criteria is the characteristics of the land when you do the work. Areas between P2 and the Watercourse B is a golf green, and this clearly has been altered. There is a steep slope in front of that green and to the pond.

Commissioner Dean inquired about the number of auger testing locations.

Mr. Klein could not recollect, but estimated the number to be six in the vicinity of the pond.

Commissioner Applefield asked Mr. Klein if he recalled applications with the 2004 pond dredging, and sought clarification that the Commission did not have that delineation information at present.

Mr. Klein responded in the affirmative.

Commissioner Applefield inquired regarding applications post-2004.

Mr. Klein reiterated his earlier comments about the Commission's activity regarding the parking lot expansion and club house.

Commissioner Applefield inquired about the differences in work done by Mr. Klein and Mr. Russo.

Mr. Klein stated that his role was that of peer reviewer. He walked with Mr. Russo to discuss the process of testing and wrote a detailed report on his findings.

Commissioner Applefield inquired whether Mr. Klein initially read Mr. Russo's report and then discussed his field work, and whether he concurred with his findings. He inquired whether Mr. Russo was involved with the deep dig test pits and agreed with the log findings.

Mr. Klein responded in the affirmative on these questions.

Commissioner Applefield inquired why we would not use the 500-year flood line.

Mr. Klein responded that as a soil scientist, areas that are flooded once every five hundred years will never have alluvial or floodplain characteristics. It is just not possible. The pedogenic processes, by which soils form, occur at a faster rate than the river deposition. We are looking for a soil genesis that is dominated by river deposition from flood waters as opposed to climate, topography; the five factors of soil formation. The minutes of 2004 explain what I did. We found Merrimac soils but they are not alluvial or floodplain soils.

Commissioner Applefield inquired whether it was possible that the river and rate of deposition changes, especially with climate change, so that the 500-year flood line might change, as the 100-year line might in ten years from now. From fifteen years ago, the 100-year flood line is changing.

Mr. Klein responded that the changes you see in the 100-year flood line are not the result of climate change or a result of hydrologic condition. They are the result of two things: A better topographic base and an elevation line of 162.5. The contour lines changed as a result of the nine golf holes.

Commissioner Applefield clarified his question. He commented that the rate at which the river flows is not constant. I would expect, in the future, for the river to run faster. I do not understand the nature of the dams in relation to sediment flow, but it would strike me as implausible that this river will not run faster and that those lines will not change.

Mr. Klein responded that from a regulatory standpoint, we are required to identify those soils as they are in the present and not what they may be in the future.

Commissioner Applefield stated that Mr. Klein was asking that he not use the soils. He felt that it was reasonable for flexibility in its boundary determination.

Mr. Klein responded that in using professional judgement, he errs on the side of a conservative nature. The other factor is that the dams that were constructed dramatically alter the characteristics. There are two dams in Colebrook, and a reservoir. The Dams were constructed for many different reasons, including water supply, flood control, fisheries habitat, recreational usage, etc. The river is highly controlled now. If there is a major storm event predicted, and the reservoir is full, the owners of the dams will release water ahead of the event.

Commissioner Applefield inquired whether Mr. Klein had a sense of how much fill was placed in the area in question, not the entire site, but an average amount placed on top. If one were to scrape away the top by nine inches, what soil would be found underneath?

Mr. Klein responded that they did not find extensive areas of fill, but they had a certain amount of time to do the work. Certainly, all of the greens, tees, and sand traps have all been disturbed. If it were the case of nine inches of fill placed on top of soil, we would be interested in using that site, to test the upper twenty-two inches. Any fill placed below the elevation of the 100-year flood line was used as the wetland elevation in 2004 and was compensated for by excavation of an equal amount within the area.

Chairman Thier asked if the applicant was requesting the Commission to vote this evening.

Attorney Landolina was uncertain of what other information to provide to the Commission. We still have to deal with the issue of the petition. I have asked Mr. Russo if he has any other logs that he can share with the Commission related to the work on this site.

Mr. Russo responded that he did not have any other information or logs to provide to the Commission that he has not already provided. Mr. Klein concurred with Mr. Russo.

Attorney Landolina stated that in terms of the technical data, there was nothing else for the Commission. With respect to the petition, well-articulated in the memorandum submitted to the Commission by Counsel, there are a few areas of importance to emphasize. Once the petition is granted and the party is granted intervenor status, the burden shifts to the intervenor to establish, by substantial evidence, that there will be a likely impairment to the wetlands and watercourses by virtue of the conduct that we are proposing. The only conduct we propose is to move lines around on a map. I will restate that we respectfully disagree with the Commission's decision that there is a conduct whatsoever, in relation to this application. We do not think that the intervenors have status as such, but you have made that decision, and I will state for the record my objection to that decision. Notwithstanding, now the burden shifts to them and I have not heard anything during the last meeting that would lead anyone to a conclusion that conduct, i.e., moving lines on a map, is likely to impair or destroy wetlands and watercourses. Their position is simply that, from a regulatory standpoint, the 500-year flood line is a more appropriate methodology. We disagree, for the reason stated succinctly by Mr. Klein, if he was to tear up the entire site, and actually locate the limits of floodplain and alluvial soils by the river, he would find that there is substantially less floodplain and alluvial soil. He had consulted with other scientists and soil conservationists on the 100-year flood line, on the question of how long it

would take for conditions to form, and the answer was thirty to fifty years. There is no map that shows lines to delineate the thirty or fifty-year storm. The closest line is a 100-year storm. That is what was proposed as a regulatory line only for this property. He is not suggesting that to be the line for the entire town. It is being suggested by the applicant that the 500-year line be the regulatory line for the entire town. Since wetlands are defined by soil types, discussed over and over again today, there would have to be a connection between the soil types and the 500-year line, for which I have not heard evidence to make that leap. What we have heard from both Mr. Russo and Mr. Klein is that there is no evidence of floodplain or alluvial soils outside of that 100-year line. Therefore, they have been able to conclude that the mapping they have done is accurate based on their professional judgement. I would implore you to read Town Attorney Olson's well-articulated memorandum and I agree entirely with her analysis. Attorney Landolina read a portion from the memorandum.

Commissioner Applefield inquired whether anyone authorized Town Attorney Olson to share that opinion.

Attorney Landolina responded that it was in the public domain.

Commissioner Applefield inquired whether the memorandum was addressed to the Commission. Attorney Landolina assumed that it was.

Commissioner Applefield wondered why it was not a privileged communication.

Attorney Landolina stated that it has to be introduced into the record which puts it in the public domain. It was not protected under the attorney/client privilege.

Commissioner Applefield remarked an inadvertently disposed privileged communication. I do not know why communication to us would not be privileged.

Town Attorney Olson stated that it would not be privileged. She was asked at the very last meeting to provide an analysis of whether Nod Road Preservation, Inc. had intervenor status. It was provided to John McCahill as part of the public record of this case. She was asked if it should be disseminated, and her understanding was that this is standard course, instead of making them come to look at the file, any new supplements are automatically provided to all parties.

Commissioner Applefield did not understand why a document from Town Attorney Olson to this Commission is disseminated publically without anyone on the Commission having anything to say about it. It is a private communication and Town Attorney Olson is the Commission's attorney. It is not a public communication and we did not ask you to make a public communication. It strikes me that you waived this privilege without asking the client.

Town Attorney Olson stated that she did not waive anything.

Commissioner Applefield commented that she did disseminate it.

Town Attorney Olson stated that she did not disseminate it. She was asked to give a public opinion at the last meeting by the Commission Chair.

Commissioner Applefield stated that Town Attorney Olson was asked to give an opinion but not a public opinion.

Town Attorney Olson stated that she was asked in a public forum to provide the Commission with a response to the intervenor and Attorney Landolina's opinions on whether intervenor status was appropriate.

Commissioner Applefield commented that we could discuss this further at another time, however as a Commission member, I have a problem with the public dissemination of an opinion from our attorney. He mentioned to John McCahill that he did not find it appropriate for that document to be disseminated.

John McCahill noted such comment.

Attorney Landolina commented that once the document is read, it becomes part of the thought process in determining whether or not to approve the application, and to keep it to the Commission would deny the applicant of its due process rights. That would be fundamentally unfair.

Commissioner Applefield commented he found that ridiculous. Commissioner Applefield inquired that a law clerk provides a judge with an opinion and the law clerk's opinion to the judge is a public document?

Attorney Landolina stated this was a different setting. We are involved in a public hearing discussing the rights of the property owner. I respectfully disagreed with Commissioner Applefield due to my experience with Connecticut municipalities over thirty years. I would never draft an opinion that you would use in a public hearing process on an application and say that you could not share it with the applicant. That violates fundamental fairness questions. In that opinion, your counsel says that fundamentally the Commission cannot be charged with impairing or destroying wetlands if they are not wetlands by definition under the statute. That is the point to keep in mind. We have been asked to delineate alluvial and floodplain soils on this property. We have done so to the best of our ability. I agree that you have the right to question Mr. Russo and Mr. Klein, and you have done that. We have provided that information to you, and we do not have anything more on the technical side to provide to you. The two soil scientists have concluded based on their own separate and independent analyses, based on recent times and decades past, upon their professional experience. The Town Counsel has also given her opinion on the import of that type of testimony, based on the technically complex information, and based on the questions you have been asking, you have delved into this deeper than I have seen any other wetlands commission, and justifiably. Based upon the answers received, and once that concludes, unless there is some contrary expert testimony via soil scientists, based on the Town's regulations that contradicts the testimony, you would be hard-pressed to say that the testimony should be discounted in any way. I do not know if the intervenor has any other experts tonight or to establish their burden that there is a likelihood that

our conduct, moving lines on a map, is going to impair or destroy wetlands. Based upon that, even though you have granted the status, does not mean that you have to find in their favor. That is your process to go through at the close of the public hearing, to make that determination.

Commissioner Feldman inquired whether Attorney Landolina was suggesting that the burden shift to the intervenor.

Attorney Landolina responded in the affirmative.

Commissioner Feldman clarified his question to indicate whether the application before the Commission to change the wetlands boundary is the applicant's burden.

Attorney Landolina responded in the affirmative, that to prove a change in the wetlands boundary was the burden of the applicant and this does not shift. However, as party to this proceeding, the opposition has the burden to prove to you by substantial evidence that the conduct which we are engaging in, pursuant to this application, is likely to impair or destroy wetlands.

Commissioner Feldman stated that Attorney Landolina was misquoting the statute, and the statute includes language about pollution and impairing the public trust, which is a more ephemeral, broad concept than actually physically causing pollution. In this case, with the public, there is a lot of distrust.

Attorney Landolina commented that the statute is more complicated than that. He commented that Commissioner Feldman was using the term *trust* in an inappropriate way. Every case I, and Commissioner Dean have read, is that they are focusing on the impairment to the resources, and in your case, the only resources of interest are water courses and wetlands. If they claimed that we would destroy or impair by virtue of our conduct the air quality at the site, the Commission would have no jurisdiction.

Commissioner Applefield inquired whether Attorney Landolina could refer to any cases to support his idea, the impact on air resources is beyond recognition of this Commission. He commented that the Nazarko case raised the issue but did not believe it was resolved.

Attorney Landolina responded in the affirmative. He stated that it was not unsettled. There is one case from Town Attorney Olson.

Commissioner Applefield commented that this is a very unsettled area.

Commissioner Feldman commented that was Town Attorney Olson's conclusion.

Attorney Landolina then referred to several Connecticut legal cases.

Commissioner Applefield stated that the issue was not raised in those cases. An environmental commission can assert jurisdiction over a CGS Section 22a-19 intervenor on an environmental issue. It is unclear to what extent this Commission can hear that kind of information.

Attorney Landolina disagreed and could find one hundred cases where the same line is repeated one-after-another, where it is stated that the Section 22a-19 does not expand the jurisdiction of this Commission. Your jurisdiction is wetlands and watercourses and nothing beyond.

Commissioner Applefield commented that Attorney Landolina was entirely wrong, that Section 22a-19 can raise any issue related to unreasonable pollution. I am not as confident that the law is settled.

Chairman Thier stated that Town Attorney Olson represents the Town of Avon, and has no part in this discussion, and it is up to the attorney for the applicant to take the position. Chairman Thier inquired whether the attorney for the intervenor wishes to be heard on this question which Commissioner Applefield just raised. The Commission may ask the Town Counsel to look into this further and provide her opinion, but again that would not be tonight.

Town Attorney Olson commented to the Commission that it did accept the intervenor and the Commission has an obligation under the statute to make public the findings the intervenor has established.

Chairman Thier stated that the Commission would provide every opportunity to the intervenor.

Attorney Landolina reserved the right to access substantial evidence offered by the intervenor.

Chairman Thier confirmed this statement.

Attorney Seeman spoke on behalf of the intervenor, Nod Road Preservation, Inc. He submitted for the record Dr. Michael Klemens' CV. He established four main points of his discussion: Point one, the applicants have created a notice defect based on the new 2004 mapping submitted last week; point two, the applicants have failed to meet their burden of proof with respect to delineating floodplain and alluvial soils; point three, alluvial and floodplain soils should be delineated using the more conservative 500-year boundary line; and point four, the Commission should hire an independent soil scientist to peer review the new mapping and soil testing submitted just last week. The first point regarding submission of the mapping last week creates a jurisdictional defect, not for any error on the part of the Town, but because the applicant for the first time decided to submit the boundary line in the 2004, that they assert was approved by this Commission in 2004. The reason for this defect, is because the applicants have changed in mid-application the map they seek to amend. The original map submitted with this application in December 2018, is the map titled Inland Wetland and Watercourses Town of Avon, Connecticut. The public notice for the January 8, 2019 public hearing, is summarized as the public may inspect the application on file at Town Hall. The 2004 map entries were not on file at Town Hall. The only maps on file prior to the January 8, 2019 hearing was that map over there across the room. Attorney Seeman then quoted from a letter dated January 28, 2019, submitted by the applicant's attorney last week. The reason for this defect is important because the public has to be sufficiently apprised of the exact boundaries the applicant seeks to change before the first public hearing opens. Attorney Seeman pointed to a legal case *Lauver vs. Planning Commission* referred to in his letter. The court found that there was a notice defect because it found that the applicant submitted new information about that particular property. Attorney Seeman then

quoted from this case, as submitted in his letter. The members of the public are not required to look for maps. It is the applicant's burden to provide specific wetlands boundaries that it seeks to amend, and it has not done so here. If the applicant wishes to proceed, it should withdraw this application and resubmit it with the correct mapping from the outset. In the second point, the applicant has failed to meet their burden. The applicant has the burden of proof under your wetlands regulations to re-delineate the wetlands on the subject properties. In the applicant's original submission, they claimed they were not able to find alluvial and floodplain soils due to golf course and improvements in the past. The applicant claimed that they should identify these soils using a FEMA 100-year boundary line. The applicants are basically saying they cannot tell from some of the soils whether or not they are wetlands, but the Town should choose to remove that wetlands classification from these soils. It is the applicant's burden of proof, and if they do not know this information, the wetlands should be kept as-is and the status quo should be maintained. These areas on these properties are currently delineated as alluvial and floodplain soils. Section 15.5 of your regulations clearly states it is the applicant's burden of proof. In two of the applicant's test pits, which were submitted just last week, after it claims it could not determine from the soil characteristics on January 8, 2019. Two of the soil test pits last week showed the presence of alluvial and floodplain soils. The applicants did not test all of the locations. If the applicants did test more locations, it is possible that more alluvial soils are present, but we do not know that and either do the applicants. This is another reason they have not met their burden of proof. Point number three: At a minimum, the FEMA 500-year flood boundary should be used to delineate alluvial and floodplain soils. As has been discussed, the applicants seek to use the FEMA 100-year boundary line. Nod Road Preservation Inc.'s, position is that this Commission should require the applicants to use the FEMA 500-year boundary line, the more conservative and cautionary approach. There are several reasons why this more cautionary approach should be used here. You have heard from Dr. Klemmens at the last hearing. Attorney Seeman then quoted from Dr. Klemmens' presentation. The FEMA 500-year boundary should also be used because it is the applicant's burden. If an area is designated as a wetlands, and they cannot tell from the soil whether it is alluvial, then the more conservative approach of the 500-year boundary line should be used. The applicant stirred up the soils on this site in the first place, and it is the reason that they are unable to determine alluvial soil characteristics. What the applicant proposed to do with the property is relevant for two reasons. One is that Sheet 3.3 shows those developments. There are approximately one hundred housing units proposed, many of which are in exact areas which are currently delineated as wetlands. At the last hearing, there was some discussion of the applicant's motivation, and whether or not it is relevant to the Commission's consideration of this application. The applicant's reason for this application is relevant because your regulations say it is relevant. Section 15 of your regulations indicates petitions requiring amendments to the Inland Wetlands and Watercourses Map, Town of Avon, shall contain at least the following information: The reasons for the requested action. Here, the applicants are not hiding the fact that the reasons are that they seek to develop this land. This is yet another reason why a more cautionary FEMA 500-year flood boundary should be used. Attorney Seeman then submitted a one-page memorandum with two maps attached for the record. The first map uses applicant's Sheet 3.3 and shows the outlines of the FEMA 500-year boundary, shown by red dashes. It also shows in yellow solid line, the border of the subject properties for this application. In looking at the FEMA 500-year flood boundary, there appears to be at least twenty housing units located within this boundary, and more that are within the upland review area. This is what Nod Road Preservation, Inc. is proposing that this

Commission use as the cautionary standard to delineate alluvial and flood plain soils on this site. It appears that at least part of what this Commission has referred to as “the blob,” (the area in question) does appear to be within the 500-year boundary line. In the upland review area, it is not just alluvial and floodplain soils, it is watercourses and wetlands, too. The Town regulates within one hundred feet of any wetland and watercourse. The entire dynamic of this property could change if this Commission accepts the applicant’s proposed delineation of wetlands. Point four: The Town should hire an independent soil scientist for peer review and should continue this public hearing. The applicants conducted new testing after the January 8, 2019 public hearing, and at that hearing they indicated they were unable to determine the soil characteristics whether or not the soils were alluvial or floodplain. Nine days later, they submitted test pit results, and now say they are able to determine whether or not they are alluvial or flood plain soils. Two of the test pits, numbers one and two, show characteristics of floodplain or alluvial soils. If some of the tests pits show these soils, it is more reason to err on the side of caution. This Commission should hire independent soil scientists and should not just take these scientists at their word, to make sure this determination is done correctly and verify the new soil testing. It should do so due to the new plans that were submitted just last week. They are proposing to remove twenty-two acres of alluvial soils compared to the Town’s official Inland Wetlands Map across the room, and remove approximately four acres of alluvial soils compared to the 2004 application. Those differences show the reasons why filing the 2004 map was important in the first place. There is a difference of eighteen acres of alluvial soils between the two maps. The Commission should also continue this public hearing because it would be fundamentally unfair given the new information submitted last week. The public should be given sufficient time to evaluate the submissions and comment further. If the Commission decides this application tonight, it should deny it for the following reasons: The Commission has no jurisdiction to consider this application since the application has changed the wetlands boundaries it is seeking to amend. By Connecticut General Statute Section 22a-19, this Commission should find, by reasons given at the last public hearing and this one, and that this proposal is reasonably like to impair, destroy, or pollute the natural resources of the property. Your wetlands regulations Section 15.1 and the general statutes say that wetlands are indispensable and fragile natural resources. If the applicant is using an incorrect and non-conservative boundary to delineate wetlands, and essentially asking this Commission to erase them from the Town of Avon Inland Wetlands Map, how can that not be conduct that destroys the currently regulated wetlands, that are removed from the map, and no longer deemed wetlands. The notice defect caused by the application is also an issue that can be raised under a Section 22a-19 petition. While procedural issues cannot be raised by intervenors, notice issues can be raised and there are two legal cases, one referenced is the case of Diamond 67, LLC v. Planning & Zoning Comm’n. If the applicants want to proceed, they should withdraw their application, submit the 2004 mapping at the offset, and we can incorporate this entire record. We thank the Commission for its time over the past two public hearings and for the questions you have asked, and we look forward to the continuation of the hearing for further comment. We ask and urge the Commission to deny this application.

Attorney Landolina inquired if Attorney Seeman was closing his case.

Attorney Seeman responded in the negative, and requested that it be continued.

Attorney Landolina inquired as to the purpose for the continuation. For the Commission to hire a soil scientist?

Attorney Seeman repeated his formal request for the Commission to hire a soil scientist and for the hearing to continue for the reasons, already stated.

Chairman Thier stated that the Commission can continue the public hearing if it did not wish to vote this evening.

Commissioner Applefield inquired regarding the Diamond case which Attorney Seeman referenced and the content of the case.

Attorney Seeman responded that the Diamond 67 was an appellate court case involving a zoning decision, and the issue under Section 22a-19 of whether the plaintiff had standing to raise notice as an issue. Generally under Section 22a-19, procedural issues are beyond the scope of the section. The court said notice is one of those very few procedural issues that can be raised under the section. Attorney Seeman referenced a second case, a superior court case.

Commissioner Applefield inquired about whether the opposition's essential claim is the reduction in wetlands or what it claimed was the natural resource damage related to the map revision that creates an unreasonable scenario.

Attorney Seeman stated that his party's position is that the proposed map revision is incorrectly declassifying currently designated wetlands. If the applicant uses the wrong methodology to do so, then that is essentially destroying Town-recognized wetlands. That has to be conduct essentially destroying Town wetlands.

Commissioner Applefield inquired whether there was a distinction between moving the map and the destruction of wetlands. If the Commission were to approve this application today, for the sake of discussion, those wetlands are in the exact same condition as before, if we were to vote. We are not destroying the wetlands.

Attorney Seeman stated that the wetlands would no longer be designated. You are essentially destroying them as protected wetlands.

Commissioner Applefield questioned that whether, given the sequence, we permitted to make that leap. That the lack of protection is in itself an act that will unreasonably likely destroy wetlands.

Attorney Seeman stated that the applicants did not come forward with a single case on this issue. The only case on this issue was found by Town Attorney Olson, a superior court case. Attorney Seeman then submitted to the record the two cases that he discussed earlier.

Commissioner Dean sought to clarify the opposition's stance that the Commission should hire an independent soil scientist to evaluate the area before the Commission makes a decision.

Attorney Seeman responded in the affirmative and reiterated his party's claim that the applicant is attempting to change the mapping from its original submission. Some members of the Commission expressed concern over the data that was submitted by the applicant.

Commissioner Feldman inquired whether Attorney Seeman's party was planning to submit any additional evidence or present witnesses.

Attorney Seeman responded in the affirmative regarding his request for the Commission to continue the public hearing for review of information which the applicant has just submitted. It is significant since the applicant has submitted data on two test pits which show the presence of alluvial soils.

Commissioner Feldman stated that the two test pits where alluvial soils were found are ones which the applicant agrees to be protected anyway, and not within the disputed area.

Attorney Seeman commented that there are other areas, included in the area of question, which some Commission members were concerned over the level of testing. That area in question is probably delineated as it is currently designated as wetlands. We do not want the Town to remove that area from protected wetlands, but I think it needs more testing by the applicant, and independent soil testing to help guide this procedure.

Commissioner Applefield inquired how that would work procedurally, if the Commission hires someone and obviously the applicant and opposition will both have an opportunity to review the findings. Are you envisioning that we get a report and have the soil scientist testify and be subject to examination by both parties?

Attorney Seeman commented that he would suggest the Commission defer to the Town Attorney, however I have seen it done that way before. I think that is a reasonable approach.

Attorney Landolina disagreed with the notice defect. In the cases which Attorney Seeman referenced, one involved the issue of improperly identifying property of a town in Scotland, and the applicant submitted the correct property information midway, which was clearly a notice problem. The case mentioned has nothing to do with the applicant's here. In our case, we are asking the Commission to look at our mapping from 2018 and make a determination as to the boundaries of the wetlands and alluvial soils on the site. That is the application. The Diamond 67 case had to do with the issue of settlement. That has nothing to do with this case. We are not attempting to settle this case in a back room with the judge. This has to do with whether or not the public was given proper notice by virtue of publication in the newspaper. I do not believe there is a notice defect. We did not fail to identify the wetlands and alluvial soils in connection with this application. For a non-scientist to say they were not correctly identified and used an outdated methodology, we look to the use of approved methods by state regulations. Changing the rules midway, would be for the opposition to suggest to the Commission that we use the 500-year contour line as the delineation when there is not an indication that there are alluvial soils between the 100-year line and the 500-year line.

Commissioner Feldman requested that Attorney Landolina refer to the Davison Environmental December 18, 2018, letter in which it states that moderately drained and excessively drained

soils cannot be determined. Given that, and given that the Town regulation Section 3 states that in all cases the precise location of wetlands and watercourses are determined. Commissioner Feldman inquired whether that creates the burden of proof on behalf of the applicant.

Attorney Landolina stated that his understanding that the two soil scientists had identified the soils of the area in question and it is their professional opinion that there are no alluvial or floodplain soils.

Commissioner Feldman stated that the letter does not limit it to the area in question. The regulations call for precision. The reason for this is the applicant is asking the Commission to make an irreversible decision. It is your burden of proof.

Attorney Landolina stated that we are dealing with real conditions, and questioned whether or not there was any evidence that the Town Inland Wetlands Map precisely identifies the limits of wetland and alluvial soils. Your regulations say that your map is a general map and that in every instance we are to provide you with the best information as to location.

Commissioner Feldman stated that the regulations speak to precision.

Attorney Landolina inquired regarding the measures of precision, whether it be by the foot, etc.

Mr. Klein commented that the report which Commissioner Feldman referenced was written prior to the additional deep pit test applications which were conducted at the Commission's request. Attorney Seeman was aware that the information was going to be presented, and in my recollection, there was discussion of the Town's requirement that additional information be submitted no later than a week prior to the meeting, which we met and Attorney Seeman did not. The additional information allowed me to say with confidence, and remember that unless we dig up the entire site, we cannot precisely identify to the inch of every single location. I am confident, to the best of my professional ability and reasonable scientific certainty, that there are no wetlands that are located in the area depicted as the area in question, other than the area marked W4 and W5.

Commissioner Feldman stated that was based upon two deep pit tests.

Mr. Klein responded in the negative, and stated it was based upon three deep test pits and numerous additional previous shallow soil investigations. A lot of the modifications that occurred on this property were long before Blue Fox Run was built. This site was significantly modified from the 1930s. There are watercourses that appear and disappear, there were fields that are wet and then dry. The changes that have occurred here have not been solely from Blue Fox Run, or Bel Compo's permitted activities. The area that we are referencing based on deep pit tests, which allowed me to look deeper than I could by hand, allow me to say with reasonable scientific certainty that there are no other areas that meet the Connecticut definition of wetland soils or water courses within the area in question.

Commissioner Applefield inquired of Mr. Klein to confirm that the application is not being modified now to suggest that only the area covered by the application is the area in question.

Attorney Landolina responded in the negative.

Mr. Klein stated that the question at hand was solely regarding the area in question. I will testify for the record now that based on the additional testing we have performed with a reasonable scientific certainty, there are no wetlands outside of the boundaries that we propose at this time. There is no loss of any wetlands. The statute and case laws are clear that it is the actual characteristics of the land. Your official Town Inland Wetlands Map says that the map is for planning purposes only and the actual characteristics of the land govern.

Commissioner Applefield commented that the statement Mr. Klein is making cannot be made for the other area. He understood about the area in question, with three test pits done there, the other area, the large area, is not based on test pits and has nothing to do with alluvial and floodplain soils.

Mr. Klein responded in the affirmative that the testing absolutely has to do with alluvial and floodplain soils. We have conducted test pits in the immediate vicinity of the boundaries and found that there are no alluvial and floodplain soils up-slope from the line we depicted.

Commissioner Applefield questioned the original designation, that it is not the same as a typical wetlands delineation. You are using a surrogate. Usually when testifying someone has the full scope. That is not the case here. You are testifying using a surrogate. I have heard you say that you are comfortable testifying that based on the test pits and professional opinion, you have data. That is not the case for the other areas. What happens if in two years someone says that there are no alluvial soils in that area, but now we want to build some homes in that area, and well you agreed in that last application to take the 100-year floodplain and we need to build more homes. Commissioner Applefield questioned where we would be then.

Mr. Klein stated that within the face of some limited uncertainty, we are suggesting a conservative interpretation. No soil scientist can ever precisely identify every single area, every single inch of soil under the ground. In order to precisely identify the boundary, we would have to dig up the entire area. Mr. Klein then reiterated his soil testing findings over the various areas of the map. He stated that you have to some specific criteria that I have suggested in the past based upon my educational experience and polling many peers, that the 100-year flood elevation is a conservative estimate. Therefore in the face of uncertainty, it is appropriate to be conservative.

Commissioner Applefield was not arguing any particular line.

Mr. Klein commented that if the Commission wants to make its decision based strictly upon soil data, we can do another half dozen test pits in this area and I am convinced the line will be moved substantially toward the river.

Chairman Thier stated that we have heard from both the applicant and the intervenor. He believed a decision should be made whether to vote tonight to approve or disapprove the application, or vote to keep the public hearing open. My sense is that we should not have a vote

this evening, and to continue the public hearing, and to ask for feedback from the other Commissioners.

Vice-chair Beauchamp and Commissioner Breckinridge were in favor of continuing the hearing. The majority of the Commission was in favor of continuing the hearing and not voting on the application this evening.

Chairman Thier inquired whether or not the Commission had the applicant's agreement to continue the hearing.

Attorney Landolina indicated that he was discussing it with his party at the moment. He inquired of the Chairman for how much time the Commission was asking.

Chairman Thier stated the amount of time to be thirty days.

Attorney Landolina consented to the extension to March 5, 2019, the date of the next regularly scheduled Inland Wetlands Commission meeting and public hearing continuation.

There was a question from the audience whether or not members of the public were allowed to speak tonight.

Chairman Thier stated that the Commission will not vote tonight.

An audience member wished to speak. Chairman Thier inquired if the audience member was a member of Nod Road Preservation, Inc.

There was a response from the audience that there are no members of Non Road Preservation, Inc. because it is a not-for-profit organization.

Chairman Thier confirmed that the member of the public was allowed to speak but confine comments to the scientific and technical issue of whether or not there are wetlands in the area being questioned and nothing else.

Kirsten Ek, of 12 Henderson Drive in Avon, spoke and referenced her letter previously submitted to the record. She believed that the land should be considered for how it is most of the year and that be considered an actual characteristic of the land. She did not see the realities for extreme weather and extreme flooding incorporated within the Town definitions.

Chairman Thier stated a motion to adjourn was made.

John McCahill stated that the public hearing will be continued to March 5, 2019. The Commission will not enter into Executive Session this evening.

A motion to adjourn was seconded by Commissioner Breckinridge.

NEXT MEETING

The next regularly scheduled meeting is Tuesday, March 5, 2019.

There being no further business, the meeting adjourned at 11:40 p.m.

Susan Guimaraes, Clerk
Inland Wetlands Commission
Planning and Community Development