Appeal of the Hollis Planning board's conditional approval of the proposed development of Map 10 Lot 33-1

Hollis Zoning Board Case number ZBA2020-001

To be heard on 1-23-2020

Brought by Joseph Garruba

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Overview

The Hollis planning board issued a conditional approval for the development of a 32 unit condominium complex at map 10 Lot 33-1 on November 5th 2019. The record of this project is on file at the Hollis Town Hall under file number 2019:005 as well as 2018-0025. The conditional approval was granted based on the planning board's incorrect interpretation of 6 different sections of the Hollis Zoning Ordinance. This report serves to explain each of the incorrect interpretations. It includes supporting detail explaining the improper interpretation, likely cause of the error as well as the proper interpretations and recommendations for the zoning board's action regarding each matter. Below is a table documenting each improper interpretation as well as the relevant section in the Hollis Zoning Ordinance.

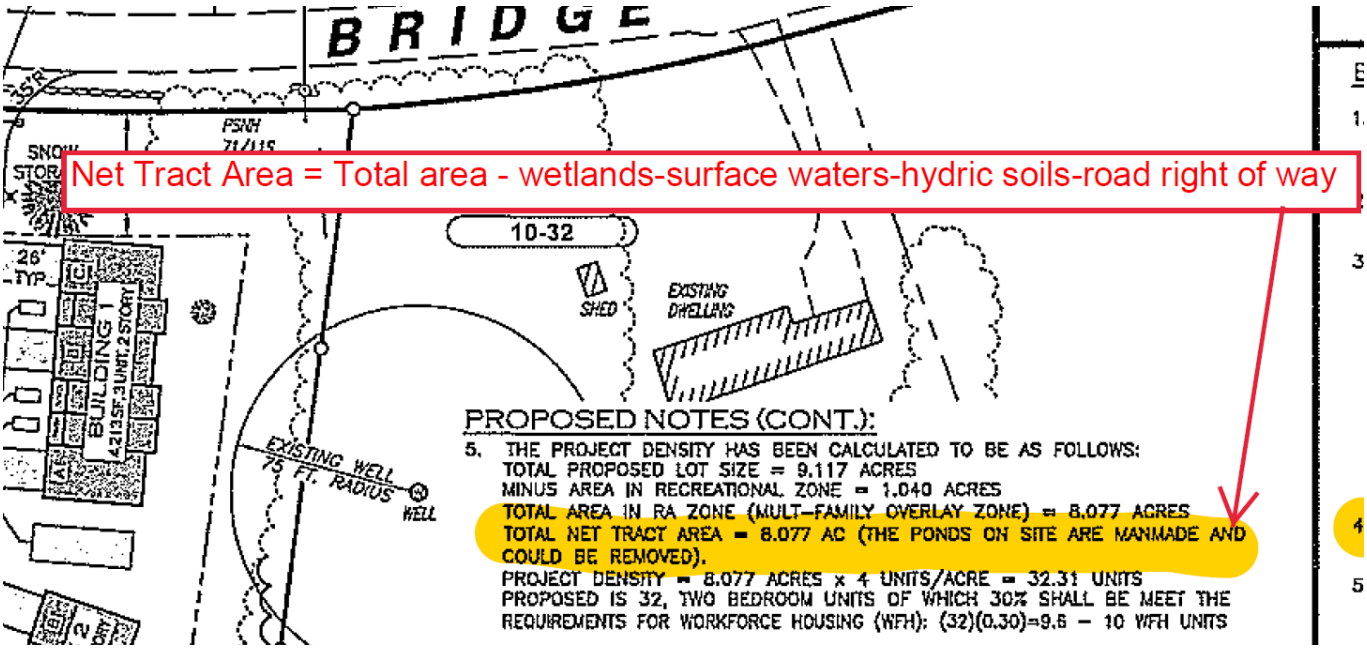
Table 1 Table of improper interpretations

Item	Subject	Hollis Zoning Ordinance Section	Section Title	Paragraph
1	Surface Waters	XI	Overlay Zoning Districts	C 2 b
2	Wetland	VIII	Definitions	Not App.
3	Hydric Soils	XI	Overlay Zoning Districts	C 2 h
4	Net Tract Area	VIII	Definitions	Not App.
5	Buffer zone	XI	Overlay Zoning Districts	C 2 c
6	Conservation Commission Approval of dredge and fill permits	XI	Overlay Zoning Districts	C 3 a

Planning board's interpretation of the definition of surface water

The planning board incorrectly interpreted the definition of surface water as it relates to two ponds on the subject property. Each of the ponds located on the site are considered surface water. The developer did not account for the area of either pond when calculating the area of surface waters on the site. The developer stated that "the ponds are manmade and could be removed" in note 5 on their site plan submitted on 8/28/19. I have included an image of this site plan below and added a call out showing the incorrect language.

Figure 1 note 5 of the developer's site plan submitted on 8/28/19



The definition as provided in the section XI paragraph C 2 b of the Hollis zoning ordinance is included below.

2. ***DEFINITIONS:*** For purposes of the Aquifer Protection Overlay Zone, the following definitions shall apply:

   a. **Groundwater:** Subsurface water that occurs beneath the water table in soils and geologic formations.

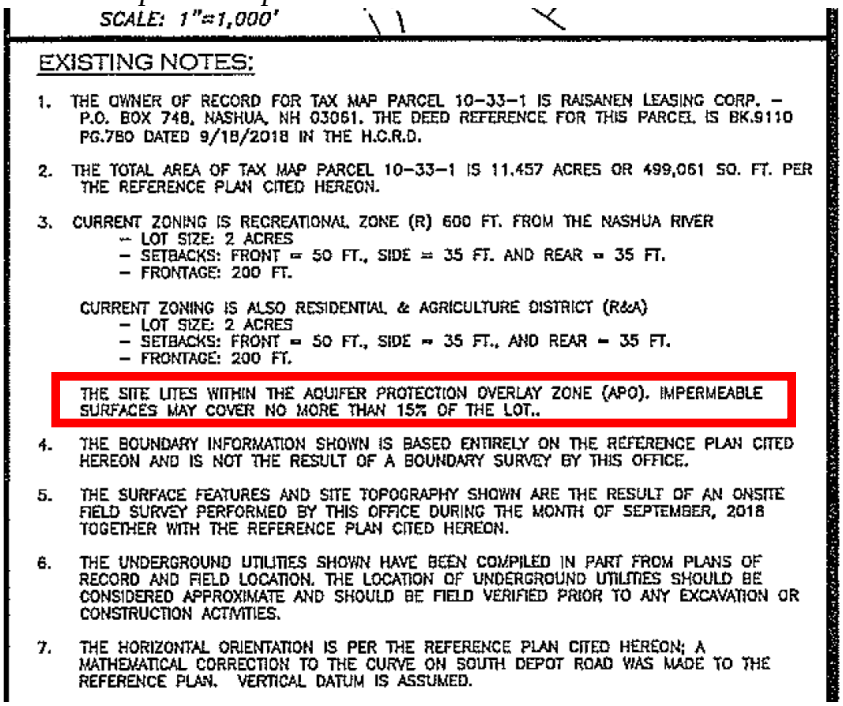
   b. **Surface Water:** Those waters, which have standing or flowing water at or on the surface of the ground. This includes but is not limited to, rivers, streams, lakes, ponds and tidal waters.

   c. **Water Related Resources:** A natural resource that is dependent on water, such as fish, amphibians and plants.

   d. **Wetland:** Areas as defined in Section VIII of the Hollis Zoning Ordinance.

From note 3 on the developer's site plan dated 8/28/19 we can see that the subject site is located in the Aquifer Protection Overlay zone and therefore the definition above applies. (Rectangular outline added for emphasis)

Figure 2 note 3 of the developer's site plan dated 8/28/19



SCALE: 1"=1,000'

EXISTING NOTES:

1. THE OWNER OF RECORD FOR TAX MAP PARCEL 10-33-1 IS RAISANEN LEASING CORP. – P.O. BOX 748, NASHUA, NH 03061. THE DEED REFERENCE FOR THIS PARCEL IS BK.9110 PG.780 DATED 9/18/2018 IN THE H.C.R.D.
2. THE TOTAL AREA OF TAX MAP PARCEL 10-33-1 IS 11.457 ACRES OR 499,061 SQ. FT. PER THE REFERENCE PLAN CITED HEREON.
3. CURRENT ZONING IS RECREATIONAL ZONE (R) 600 FT. FROM THE NASHUA RIVER
   - LOT SIZE: 2 ACRES
   - SETBACKS: FRONT = 50 FT., SIDE = 35 FT. AND REAR = 35 FT.
   - FRONTAGE: 200 FT.

   CURRENT ZONING IS ALSO RESIDENTIAL & AGRICULTURE DISTRICT (R&A)
   - LOT SIZE: 2 ACRES
   - SETBACKS: FRONT = 50 FT., SIDE = 35 FT., AND REAR = 35 FT.
   - FRONTAGE: 200 FT.

   THE SITE LIES WITHIN THE AQUIFER PROTECTION OVERLAY ZONE (APO). IMPERMEABLE SURFACES MAY COVER NO MORE THAN 15% OF THE LOT..
4. THE BOUNDARY INFORMATION SHOWN IS BASED ENTIRELY ON THE REFERENCE PLAN CITED HEREON AND IS NOT THE RESULT OF A BOUNDARY SURVEY BY THIS OFFICE.
5. THE SURFACE FEATURES AND SITE TOPOGRAPHY SHOWN ARE THE RESULT OF AN ONSITE FIELD SURVEY PERFORMED BY THIS OFFICE DURING THE MONTH OF SEPTEMBER, 2018 TOGETHER WITH THE REFERENCE PLAN CITED HEREON.
6. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN COMPILED IN PART FROM PLANS OF RECORD AND FIELD LOCATION. THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITIES.
7. THE HORIZONTAL ORIENTATION IS PER THE REFERENCE PLAN CITED HEREON; A MATHEMATICAL CORRECTION TO THE CURVE ON SOUTH DEPOT ROAD WAS MADE TO THE REFERENCE PLAN. VERTICAL DATUM IS ASSUMED.

The correct interpretation of the word surface water includes ponds. The language actually states that ponds are an example of water that should be considered surface water in the second sentence of the definition.

b. **Surface Water:** Those waters, which have standing or flowing water at or on the surface of the ground. This includes but is not limited to, rivers, streams, lakes, ponds and tidal waters.

Developer's faulty assertions

It is important to note that the definition of surface water makes no mention of weather the ponds are manmade or not therefore the planning board's acceptance of the developer's claim that the area of the ponds does not count as surface water because they may have been dredged led them to an improper interpretation of the ordinance.

The developer also asserted that the definition of surface water was too broad to apply since all water on the ground could be considered surface water. The developer cited swimming pools as an example of water which should not be considered surface water. This argument is faulty since the water in swimming pools is not "on the surface of the ground" but is actually contained by a waterproof liner. Regardless of the confusion caused by this misdirection, it is clear that the correct interpretation includes the ponds on this property since ponds are cited as an example of surface water in the ordinance. It is important that this definition be interpreted correctly since understanding that the ponds are to be considered surface water has bearing on the calculation of allowed density for the project.

Recommendation

The ZBA should sustain this appeal and issue the following finding of fact

- Ponds are considered surface water weather they are manmade or not

Planning board's interpretation of the definition of wetland

The planning board incorrectly interpreted the definition of wetland as it relates to land on the subject property. The definition as provided in the section referenced above is included below.

> ***WETLAND:*** A wetland is an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions, does support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas. For the purpose of determining buffer zones for site plan and subdivision review, wetland boundaries shall be delineated by either a certified soil scientist or a professional wetland scientist according to the Corps of Engineers Wetlands Delineation Manual, 1987, and the Regional Field Indicators for Identifying Hydric Soils in New England, 1998.

Improper direction for wetland delineation

The definition of wetland in section VII of the Hollis Zoning ordinance includes land delineated in accordance with the Corps of Engineers Wetlands Delineation Manual, 1987. The Hollis planning department requested an independent review of the wetland delineation performed by the developer, but due to the improper interpretation of the ordinance the independent review was not conducted in accordance with the Corps of Engineers (CE) Wetlands Delineation Manual of **1987.** This reference is key to understanding the correct interpretation of wetlands. Delineation of wetlands on this site is complicated by the fact that the terrain was manipulated in the course of prior development. Unauthorized disturbance of wetlands is treated differently in the Corps of Engineers Wetlands Delineation Manual of **1987** as opposed to the supplement of 2012. The planning board's incorrect interpretation of the definition of wetland and the planning staff's incorrect direction to the town's wetland consultant resulted in allowing area that should have been delineated as wetland to be classified as uplands. For reference, the first page of the consultant's letter is shown below. The full copy is on file for review at the Hollis Town Hall. The lack of the 1987 Corps of Engineers standard in Mr. Gove's letter is evidence of the planning board's misinterpretation of the ordinance since his review was relied upon in their decision and it was not conducted per our ordinance.

Figure 3Page 1 of Wetland Delineation Review from Gove Env.

GOVE ENVIRONMENTAL SERVICES, INC.

6-25-2019

Mark J Fougere, AICP
Fougere Planning & Development, Inc.
253 Jennison Road
Milford, NH 03055

Subject: Wetland Delineation Review for the Planning Board of Hollis, NH
Bella Meadows, Tax Map 10, Lot 33-1
1 A&B Old Runnells Bridge Road
Hollis, NH

Note the lack of the 1987 Corps of Engineer's Manual

Dear Mr. Fougere:

Per the request of the Hollis Planning Board, this letter is to verify that GES, Inc., performed a site inspection to identify wetlands at Tax Map 10, Lot 33-1, in Hollis, NH. Wetlands were evaluated utilizing the following standards:

1. *US Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, Technical Report ERDC/EL TR-12-1 (January 2012).
2. *Field Indicators for Identifying Hydric Soils in New England – Version 4, April 2019*. New England Hydric Soils Technical Committee.
3. *US Army Corps of Engineers National Wetland Plant List, 2018.*
4. *Classification of Wetlands and Deepwater Habitats of the United States.* USFW Manual FWS/OBS–79/31 (1979).
5. Env-Wt NH DES Rules of the Wetlands Bureau, current.

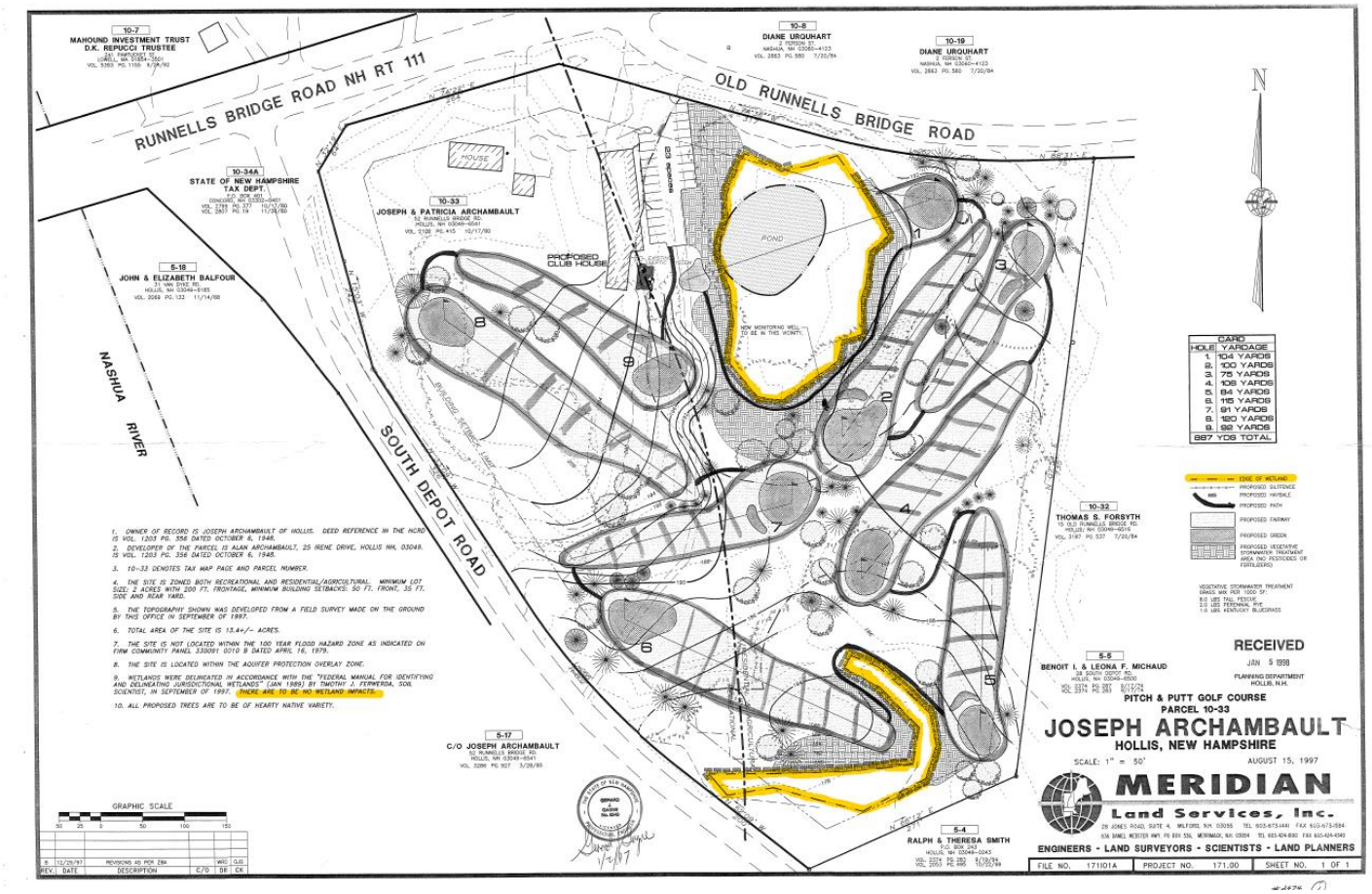
Plans and Information that were reviewed prior to the site inspection:

1. Existing Conditions Plan by Fieldstone Land Consultants, PPLC, 3-29-2019
2. Master Site Plan by Fieldstone Land Consultants, PPLC, 3-29-2019
3. Pitch & Putt Golf Course, Joseph Archambault by Meridian Land Services, Inc. 12-29-1997
4. On-Site Soil/Pond Evaluation by Fieldstone Land Consultants, PPLC, 5-13-2019

Proper interpretation of the definition of wetlands per the Hollis zoning ordinance

The proper interpretation of the ordinance requires following the 1987 Army Corps of Engineer's manual which relies on prior delineations in atypical cases such as the one before the board. I am attaching an image of the site plan for subdivision of the property in 1997. This plan shows two wetland areas on the site. One irregular area located near the southern border of the property and another surrounding the northern pond. This plan is on file at the Hollis town hall if an enlarged copy is required. It can be seen from the prior decision of the 1997 planning board that the northerly pond and its shoreline area were correctly interpreted as wetland.

Figure 4 Site plan for Pitch and Putt Golf Course 1997



The key point is that in 2019 the wetlands have not been delineated with concern for unauthorized activities or disturbed soils in accordance to with the 1987 Army Corps of Engineers Wetland Delineation manual due to improper interpretation of the ordinance. Since the specific information I am presenting was not considered by the wetland scientists when evaluating the property, it is likely that wetland area of the 1997 delineation, has been missed entirely. Specifically the area surrounding the northerly pond. From a Site Specific Soil Survey conducted by Christopher Guida on Sept 6 2019, it can be seen that there are disturbed soils surrounding the entire northerly pond. Soil manipulation which occurred in the wetlands area surrounding the northerly pond constitutes an unauthorized disturbance I have included an image of the first page of a violation notice written by the town of Hollis in 1998. The entire two page letter is available in the town records if desired. Town staff can be contacted at 603-465-2209 for assistance in obtaining the references.

Unauthorized disturbance of the wetlands on the site

Subsequent to the creation of the referenced plans of 1997, the site was approved to be developed as a golf course. The wetlands on the site were specifically protected and no alteration was permitted within their boundaries. In November of 1998 the Hollis planning board identified a violation of the site plan. The violation included dredging of the northerly pond and **destruction of its natural vegetative buffer**. It also required restoration of the wetlands.

I raise these concerns because the unauthorized destruction of the wetlands bears directly on the present wetland delineation. Due to the complex history on the site and the unauthorized activities in the wetlands, according to the US Army Corps of Engineers Wetlands Delineation Manual of 1987 (USACE), a Level 2 Onsite delineation is necessary. This was not apparent without the information provided in the violation letter below. Due to the improper direction provided to the wetland scientist, these concerns were not addressed by the review that was conducted. The Hollis Zoning ordinance requires the 1987 USACE Delineation manual specifically. This is particularly relevant because the 2012 Northcentral and Northeast Region Supplement (Doc # ERDC\EL TR-12-1) contains a different method for delineating atypical conditions like unauthorized disturbance which does not rely heavily on prior delineations.

Figure 51998 Hollis Planning board violation letter page 1

TOWN OF
HOLLIS
NEW HAMPSHIRE

November 16, 1998

Mr. Alan Archambault
Mr. Joseph Archambault
52 Runnells Bridge Road
Hollis, NH 03049

Subject: **Conditions of Site Plan Approval**
Pitch & Putt Golf Course
South Depot & Old Runnells Bridge Road
Map 10, Lot 33

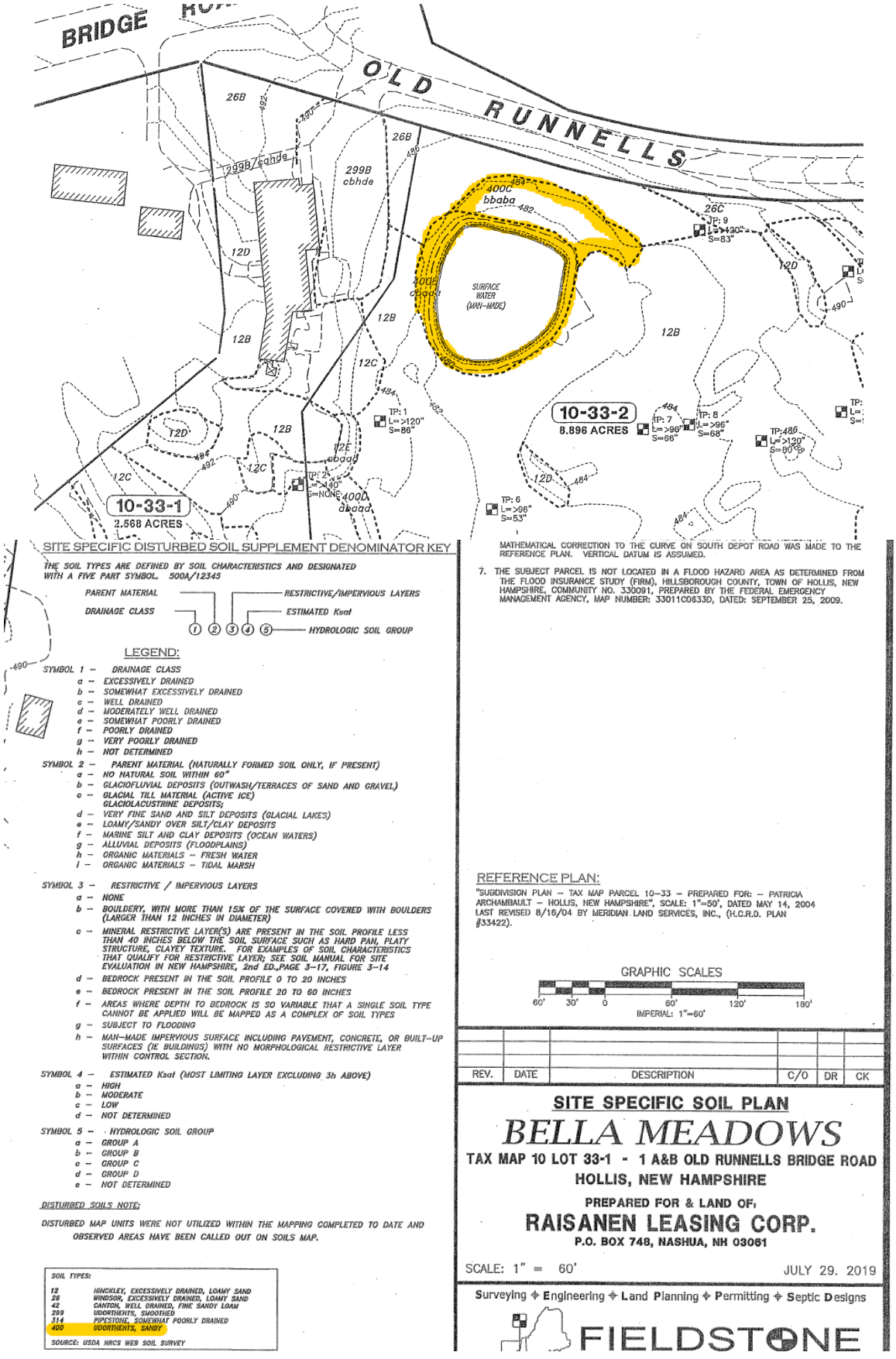
Dear Mr. Archambault:

It has come to the attention of the Planning Board that you have violated your site plan approval by dredging the existing pond and destroying the natural vegetative buffer that was supposed to be the protection from run-off, particularly from the parking lot. We are aware that you have properly secured a State of NH Dredge and Fill Permit, which was signed by the Hollis Conservation Commission; however, this pond was a major part of the discussion for both the ZBA Wetland Special Exception and the Planning Board Site Plan Approval. The justification for creating a new pond for irrigation was to avoid impacting the existing pond.

Your intention to "grow grass to the edge of the pond similar to other golf courses" is contrary to what was requested by both Boards. The buffer area and wetlands adjacent to the pond will need to be restored with appropriate plant materials. A restoration plan should be prepared by a qualified wetland plant specialist, and provided to the Planning Board for approval.

The most recent Site Specific Soil Survey dated 9-6-19 by the developer shows an area of disturbed soils surrounding the northerly pond, an image of the soil survey map is provided below. The entire Site Specific Soil Survey map and narrative are on file a Hollis town hall for inspection.

Figure 6 Map 10 lot 33-1 site specific soil survey 7/29/19



This site specific soil survey map corroborates the claims of unauthorized disturbance made in the 1998 violation letter. In addition, it clearly shows the extent of the shoreline area in which the unauthorized disturbance occurred.

Proper process for delineating wetland in atypical situations per the Hollis Zoning Ordinance

Per the US Army Corps of Engineers Wetlands Delineation Manual of 1987 (USACE), in more complex situations a Level 2 – Onsite inspection is necessary. Following this process, the manual provides a flow chart in section D Subsection 2 which I have included below.

57. Three levels of routine wetland determinations are described below. Complexity of the project area and the quality and quantity of available information will influence the level selected for use.

44 Part IV Methods

a. *Level 1 - Onsite Inspection Unnecessary.* This level may be employed when the information already obtained (Section B) is sufficient for making a determination for the entire project area (see Section D, Subsection 1).

b. *Level 2 - Onsite Inspection Necessary.* This level must be employed when there is insufficient information already available to characterize the vegetation, soils, and hydrology of the entire project area (see Section D, Subsection 2).

c. *Level 3 - Combination of Levels 1 and 2.* This level should be used when there is sufficient information already available to characterize the vegetation, soils, and hydrology of a portion, but not all, of the project area. Methods described for Level 1 may be applied to portions of the area for which adequate information already exists, and onsite methods (Level 2) must be applied to the remainder of the area (see Section D, Subsection 3).

Considering the amount of prior alteration and the unauthorized activities on the site the proper method is a level 2, onsite inspection.

The flow chart below, taken from the USACE manual, describes the procedures for an onsite wetlands delineation.

Figure 7 USACE flow chart page 50

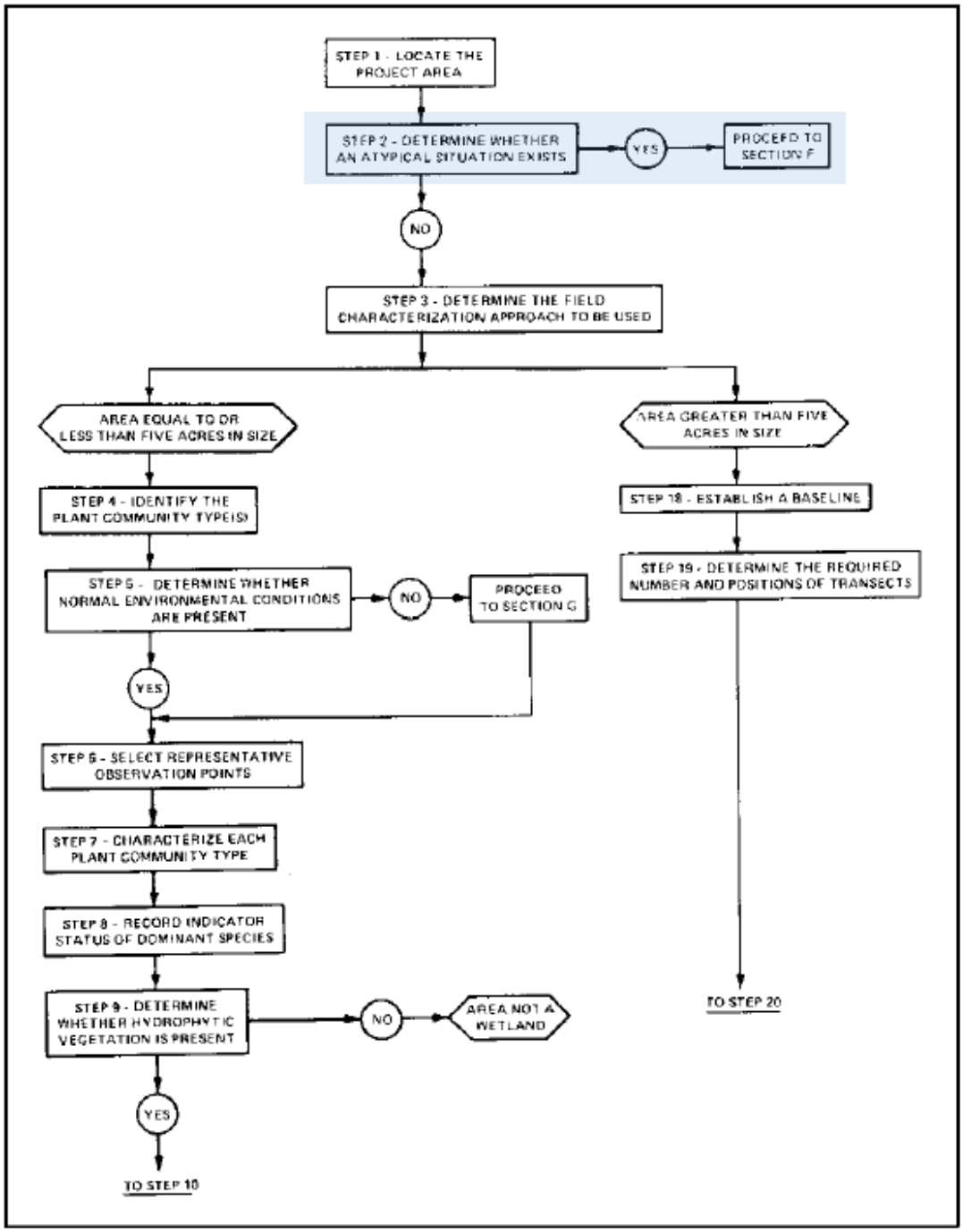


Figure 14. Flowchart of steps involved in making a routine wetland determination when an onsite visit is necessary (Continued)

50 Part IV Methods

Step 2 of the flow chart directs the scientist to section F for atypical conditions such as man made disturbances. Unauthorized activities such as the destruction of vegetation and dredging described in the violation letter represent an atypical situation which requires the procedures of section F. I have included the text of section F below for reference.

Section F. Atypical Situations

71. Methods described in this section should be used only when a determination has already been made in Section D or E that positive indicators of hydrophytic vegetation, hydric soils, and/or wetland hydrology could not be found due to effects of recent human activities or natural events. This section is applicable to delineations made in the following types of situations:

Section F. Atypical Situations

71. Methods described in this section should be used only when a determination has already been made in Section D or E that positive indicators of hydrophytic vegetation, hydric soils, and/or wetland hydrology could not be found due to effects of recent human activities or natural events. This section is applicable to delineations made in the following types of situations:

a. *Unauthorized activities*. Unauthorized discharges requiring enforcement actions may result in removal or covering of indicators of one or more wetland parameters. Examples include, but are not limited to: (1) alteration or removal of vegetation; (2) placement of dredged or fill material over hydric soils; and/or (3) construction of levees, drainage systems, or

When searching for evidence of hydrophilic vegetation in these conditions, especially if it was removed by any unauthorized activities described on P73 the manual recommends relying on prior historic information in particular, prior site plans such as the plan referenced above. Excerpt below from P76 of the USACE delineation manual.

c. *Previous site inspections*. Documented evidence from previous inspections of the area may describe the previous plant communities, particularly in cases where the area was altered after a permit application was denied.

To identify the prior presence of hydric soils, similarly, historic information is to be used due to the manipulation of the surface soil layers per P 78 of the USACE delineation manual.

- *STEP 3 - Characterize soils that previously occurred.* Obtain all possible evidence that may be used to characterize soils that previously occurred on the area. Consider the following potential sources of information:

  a. *Soil surveys.* In many cases, recent soil surveys will be available. If so, determine the soil series that were mapped for the area, and compare these soil series with the list of hydric soils ~~(Appendix D, Section 2)~~. If all soil series are listed as hydric soils, the entire area had hydric soils prior to alteration.

To determine prior hydrology, the same process is outlined. Again historical records are to be used as per P87 of the USACE manual.

d. *Historical records.* Examine any available historical records for evidence that the area has been periodically inundated. Obtain copies of any such information and record findings on DATA FORM 3.

Incorrect method for delineating wetland applied due to faulty interpretation of the ordinance

The 2012 Northcentral and Northeast Supplement address the delineation of "difficult wetland situations" differently. Specifically, it does not rely as heavily on prior delineation as the original 1987 USACE manual does. This sets a higher standard for identifying previous wetlands impacted by unauthorized activities. Wetlands that would have been delineated according to the process for atypical situations set out in the 1987 manual may no longer be delineated as wetlands using the 2012 supplement. During Mr. Gove's review of the wetland delineation he relied on the US Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual due to improper direction from the planning staff.

Although it may be appropriate to use the 2012 Regional supplement to conduct delineations for state permits, the Hollis Zoning ordinance is explicit in its requirement that delineations be conducted in accordance with the 1987 USACE manual as can be seen below from section VIII of the Hollis Zoning Ordinance.

> ***WETLAND:*** A wetland is an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions, does support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas. For the purpose of determining buffer zones for site plan and subdivision review, wetland boundaries shall be delineated by either a certified soil scientist or a professional wetland scientist according to the Corps of Engineers Wetlands Delineation Manual, 1987, and the Regional Field Indicators for Identifying Hydric Soils in New England, 1998.

Based on the information concerning the unauthorized destruction of the wetlands, the 1987 Corps of Engineer's manual is clear that the wetland scientist is to rely on **prior historical information** to complete the delineation, it is important to revisit Mr. Gove's review of the site plan of 3-29-19. The planning board's interpretations were incorrect because Mr Gove was not directed to conduct the delineation per the 1987 Army Corps of Engineer's manual. Had a proper delineation been conducted it is likely that the area around the northerly pond, approximately 2.08 acres, would have been identified as wetland. Considering this information and the fact that we have a high quality assessment of the property prior the unauthorized activities we can accurately identify the area surrounding the northerly pond as wetlands based on the prior 1997 delineation. The Hollis zoning ordinance requires that a proper delineation be conducted according to the 1987 USACE Wetland delineation manual

Lack of wetland scientist stamp on the site plan dated 8/28/19

Further evidence that the planning board misinterpreted the definition of wetland in the Hollis Zoning Ordinance can be seen by the lack of the stamp of a certified soil scientist or professional wetland scientist on the existing conditions plan (sheet 6 of 22) dated 8/28/19. The definition calls for the delineation to be conducted by a certified soil scientist or professional wetland scientist as can be seen in the reference below.

> ***WETLAND:*** A wetland is an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions, does support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas. For the purpose of determining buffer zones for site plan and subdivision review, wetland boundaries shall be delineated by either a certified soil scientist or a professional wetland scientist according to the Corps of Engineers Wetlands Delineation Manual, 1987, and the Regional Field Indicators for Identifying Hydric Soils in New England, 1998.

The Hollis subdivision regulations require all licensed individuals whose work appears on a plat to include their stamp. Since the wetlands delineation does not include the stamp of the required scientist, it is further evidence that the planning board improperly interpreted the definition of wetland. A proper interpretation of wetland would require the planning board to verify the stamp of the required scientist before approval of a wetland delineation.

Recommendation

The Zoning board should sustain this appeal. The correct interpretation of the Hollis zoning ordinance requires that a proper **Level 2, onsite** delineation considering the unauthorized activity per the US Army Corps of Engineers Wetlands Delineation Manual of 1987 be conducted. The following finding of fact is recommended

- The Hollis Zoning Ordinance requires a wetlands delineation to be conducted exclusively in accordance with the Corps of Engineers Wetlands Delineation Manual of 1987.
- The unauthorized disturbances on this property require a Level 2 onsite delineation in accordance with the Corps of Engineers Wetlands Delineation Manual of 1987.

Planning board's interpretation of the definition of hydric soil

The planning board incorrectly interpreted the definition of hydric soil as it relates to land on the subject property. The definition as provided in section XI paragraph C 2 h is included below.

h. ***HYDRIC SOILS:*** Soils that are saturated or flooded during a sufficient portion of the growing season to develop anaerobic conditions in the upper soil layers. Hydric soils consist of very poorly drained and poorly drained soil drainage classes as defined in "Field Indicators for Identifying Hydric Soils in New England", Version 2, July 1998.

The developer conducted a site specific soil survey of the property but did not correctly identify the Pipestone soil that was found as hydric soil. The planning board did not interpret the ordinance correctly as they did not apply the definition of hydric soils used in the "Field Indicators for Identifying Hydric Soils in New England Version 2, July 1998.

Hydric soil remains hydric even if site hydrology changes

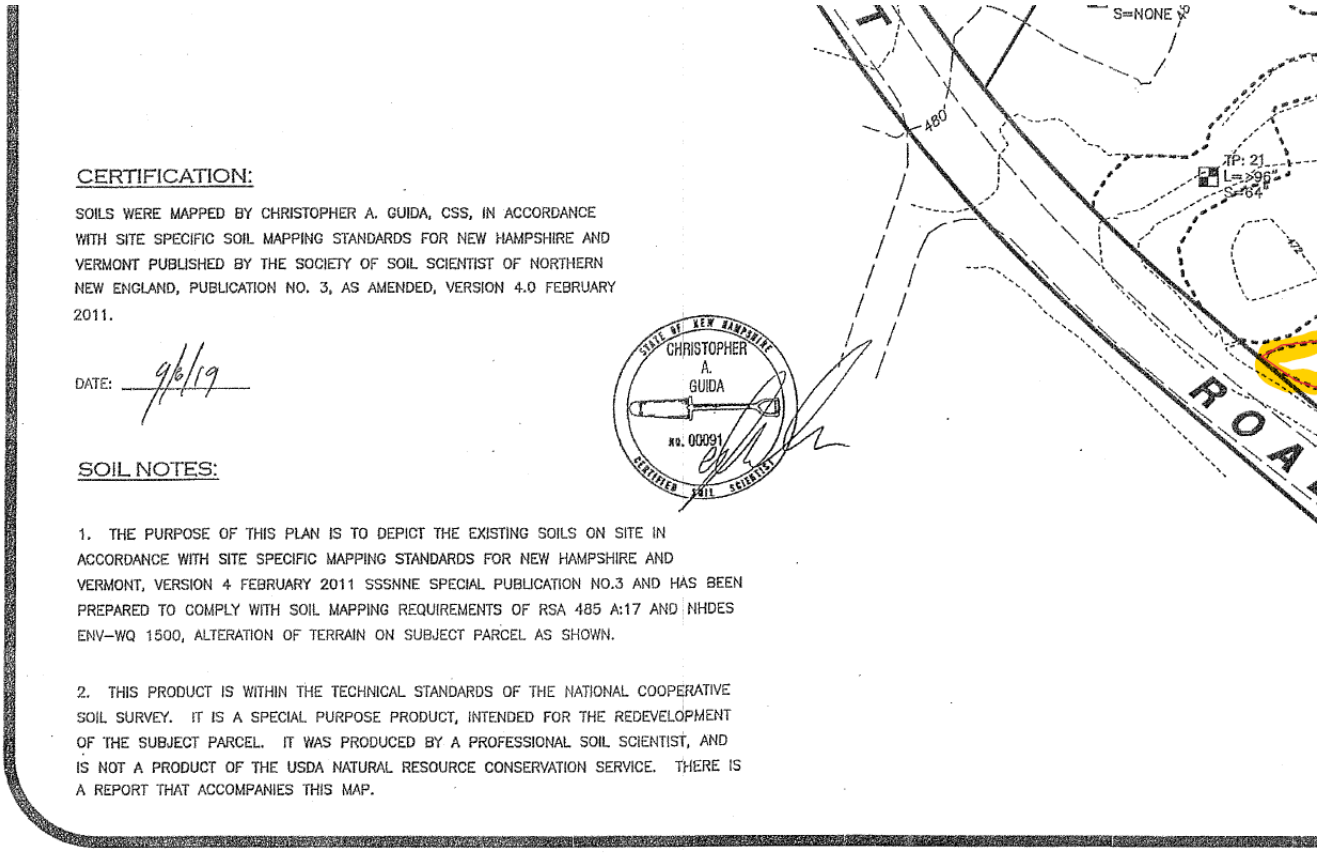
A prior wetland delineation in 1997 found considerable area of wetland in the south of the property. One of the three requirements for wetland determination is the presence of hydric soil. The other two requirements are the presence of wetland hydrology and the presence of hydrophilic vegetation. Since hydric soil is a soil developed under anaerobic conditions, it remains a hydric soil even if the hydrology or vegetation growing in it changes. Since there was an area in the south of the property delineated as wetland in 1997, that area must have had hydric soil then, and it still does now. Had the planning board correctly applied the definition of hydric soil as called for in the ordinance, they would have identified the pipestone soils found on the site as hydric.

Figure 8 Area of wetland (hydric soil) as identified in 1997

Site specific soil survey not conducted in accordance with Hollis Zoning Ordinance

The site specific soil survey was not conducted in accordance with Field Indicators for Identifying Hydric Soils in New England Version 2, July 1998 as cited in the Hollis Zoning Ordinance. The map produced for the SSSS is evidence of the planning board's incorrect interpretation of the ordinance. It can be seen in the image of the developers SSSS on the following page that it was not conducted per the standard required by the Hollis Zoning ordinance.

Figure 9 Site specific Soil Survey submitted by the developer dated 9/6/19



CERTIFICATION:

SOILS WERE MAPPED BY CHRISTOPHER A. GUIDA, CSS, IN ACCORDANCE WITH SITE SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT PUBLISHED BY THE SOCIETY OF SOIL SCIENTIST OF NORTHERN NEW ENGLAND, PUBLICATION NO. 3, AS AMENDED, VERSION 4.0 FEBRUARY 2011.

DATE: 9/6/19

SOIL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING SOILS ON SITE IN ACCORDANCE WITH SITE SPECIFIC MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT, VERSION 4 FEBRUARY 2011 SSSNNE SPECIAL PUBLICATION NO.3 AND HAS BEEN PREPARED TO COMPLY WITH SOIL MAPPING REQUIREMENTS OF RSA 485 A:17 AND NHDES ENV-WQ 1500, ALTERATION OF TERRAIN ON SUBJECT PARCEL AS SHOWN.

2. THIS PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR THE REDEVELOPMENT OF THE SUBJECT PARCEL. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

Recommendation

The zoning board should sustain this appeal. The correct interpretation of the Hollis zoning ordinance requires that a proper SSSS be conducted in accordance with Field Indicators for Identifying Hydric Soils in New England Version 2, July 1998 as cited in the Hollis Zoning Ordinance. The following finding of fact is recommended

- Hollis Zoning Ordinance requires that hydric soils be identified in accordance with Field Indicators for Identifying Hydric Soils in New England Version 2, July 1998.

Planning board's interpretation of the definition of net tract area

The planning board incorrectly interpreted the definition of net tract area as it relates to land on the subject property. The definition as provided in section VII is included below.

> ***NET TRACT AREA:*** The net tract area of the parcel is determined by subtracting the total area calculated for wetlands, surface waters, hydric soils, flood plain, road rights-of-way, and altered/ unaltered slopes greater than 25% from the total (gross) tract area.

The planning board did not interpret this definition correctly. The correct interpretation of the ordinance involves determining the area of the wetlands, the area of the surface waters and the area of the hydric soils as defined in the ordnance, present on the site. This calculation is to be performed based on the existing conditions at the site since doing otherwise would subvert the purpose of the zoning ordinance entirely. The planning board incorrectly interpreted the definition as if it applied to a condition where the developer removed the northerly pond. The correct interpretation requires applying the definition to the existing conditions prior to development otherwise the concept would be meaningless. In addition, the planning board did not use the definitions of wetlands, surface waters and hydric soils set forth in the ordinance to perform the subtractions from gross tract area.

The definition above implies that in order to correctly calculate the net tract area for this property one must first know the area of the wetlands, the area of the surface waters and the area of the hydric soils present on the site. I will cover each of the excluded areas individually below.

Wetland

Wetlands are defined in our zoning ordinance Sec VIII definitions section as below.

> ***WETLAND:*** A wetland is an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions, does support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas. For the purpose of determining buffer zones for site plan and subdivision review, wetland boundaries shall be delineated by either a certified soil scientist or a professional wetland scientist according to the Corps of Engineers Wetlands Delineation Manual, 1987, and the Regional Field Indicators for Identifying Hydric Soils in New England, 1998.

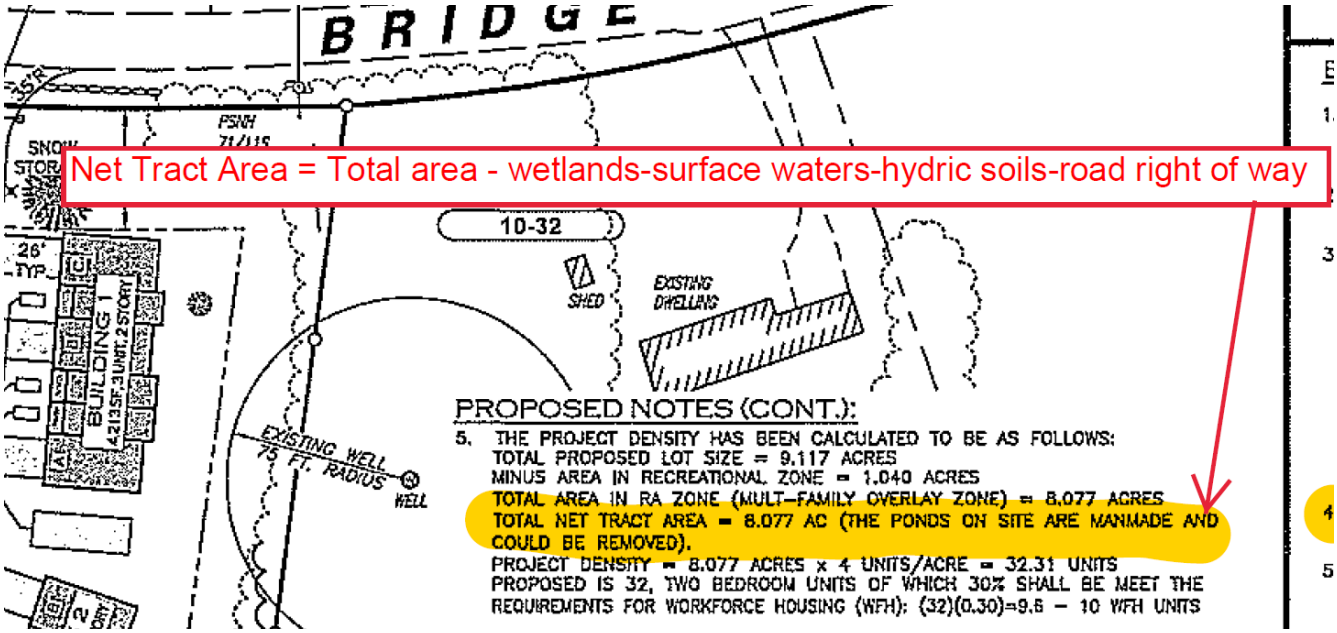
In order to establish the area or existence of wetland on a property, the services of a certified wetland or soil scientist must be engaged. Per Hollis Zoning Ordinance sec VIII, The certified scientist must follow the Army Corps of Engineers Wetland Delineation Manual of 1987 which requires the presence of all three of the following conditions, prevalence of hydrophilic vegetation, hydric Soil, and wetland hydrology. The manual provides a flow chart and worksheets to serve as a guide to the wetland scientist. In addition, the manual has specific processes for addressing atypical wetlands such as those on the golf course property. Conducting an onsite evaluation, carefully following the flow chart and completing the worksheets is the required way to perform a delineation for a complicated situation such as the one presently before the board at map 10-33-1 which includes manmade and natural wetland features.

The developer has submitted an existing conditions map indicating that there are no wetlands on the property. The town independently hired a second wetland scientist, Mr. James Gove to review the developer's findings. In his report Mr. Gove specifically states "two areas of jurisdiction were found" He is referring to the two ponds located on the site.

It is likely that Mr. Gove would have included the area previously identified as wetland around the northerly pond as well, if his review was conducted per the 1987Corps of Engineers delineation manual as is required by our ordinance. Mr. Gove conducted the review in accordance with the 2012 regional supplement for the northcentral and northeast region (Doc# ERDC/EL TR-12-1) to the 1987 manual. The supplement has different procedures for delineating "difficult wetland situations" and does not rely as heavily or prior delineations. The 1987 manual has a process that reverts back to any historical delineations. This would delineate areas around the northerly pond as wetland. Regardless of the method of delineation, in all cases at a minimum, the area of both ponds are considered wetlands.

The developer has claimed that although the ponds have been identified as wetlands by 2 certified wetland scientists, they do not need to consider them as such when performing the calculation of Net Tract Area. This can be seen from note 5 on their site plan of 8/28/19. The planning board's incorrect interpretation of the definition of Net Tract Area is due to their reliance on this faulty claim.

Figure 10 Note 5 from developer's site plan of 8/28/19



Based on this definition of wetlands and the reports submitted by Mr. Guida and Mr. Gove. It is clear that both ponds are wetland according to Hollis Zoning Ordinance. The approximate area of the northerly pond is 11,052 sq. feet, the area of the southerly pond is 3365 sq. feet.

Figure 11Wetland Delineation Review from Gove Env. P2

I, James Gove, President, GES, Inc., performed the site inspection on 6-18-2019. During the site inspection, two areas of jurisdiction were identified on the site. The jurisdictional areas were identified on the plans as man-made ponds. I agree with this determination. No other areas of wetlands were observed. Areas that had been identified as wetlands on the 1997 plans were tested and did not have hydric soils.

I conclude that the existing conditions plan by Fieldstone Land Consultants, PPLC is an accurate representation of the wetland resources on the Bella Meadows site, 1 A&B Runnells Bridge Road, Hollis, NH.

This completes the wetland delineation review report. If I can be of further assistance, please feel free to contact me at (603) 778-0644.

Sincerely,

James P. Gove
President, GES, Inc.

I have contacted Craig Rennie who serves our state at the Wetlands Bureau as the Inland Wetland Supervisor regarding the claim that the developer could fill the northerly pond without a permit since they claim it is man-made. Mr. Rennie is familiar with the details of this project since he met with Mr Guida for a pre application meeting on July 23rd of this year. Mr. Rennie confirmed that both ponds are wetlands and filling either pond would require a state wetland permit. Images of emails from Mr. Rennie are included on the following page.

Text in yellow highlighted for emphasis

Figure 12 Letter from New Hampshire DES inland wetland supervisor 10/7/2019

Mon 10/7/2019 1:45 PM

Rennie, Craig <Craig.Rennie@des.nh.gov>

RE: Assistance with wetlands regulations

To Garruba, Joseph

Cc Bouchard, Jessica; Blecharczyk, Jeffrey

You replied to this message on 10/7/2019 1:51 PM.

[EXTERNAL EMAIL] Verify sender before clicking on links or attachments

Joseph,
Thanks for your call. As discussed, if the developer wants to eliminate the ponds (i.e. fill them in) they would need to apply for a wetland permit, and they would be required to show how they avoided and minimized wetland impacts to the greatest extent practicable. If they chose to maintain, modify, repair or replace the ponds in order to preserve their usefulness, then they could proceed without a permit per RSA 482-A:3 IV(b). I hope this helps to clarify the project.
Thanks,
Craig

Craig Rennie, CWS, CWB, Inland Wetland Supervisor
Wetlands Bureau, Land Resources Management
Water Division, NH Department of Environmental Services
P.O. Box 95
Concord, NH 03302-0095
Phone: (603) 271-0676
Email: craig.rennie@des.nh.gov

Figure 13 2nd Letter from New Hampshire DES inland wetland supervisor 10/7/2019

Mon 10/7/2019 2:05 PM

Rennie, Craig <Craig.Rennie@des.nh.gov>

RE: Assistance with wetlands regulations

To Garruba, Joseph

You replied to this message on 10/7/2019 2:06 PM.

[EXTERNAL EMAIL] Verify sender before clicking on links or attachments

There is no such term (non-jurisdictional wetland) in our rules or law. All wetlands are jurisdictional; however, some do not require a permit to maintain them.
Thanks,
Craig

Craig Rennie, CWS, CWB, Inland Wetland Supervisor
Wetlands Bureau, Land Resources Management
Water Division, NH Department of Environmental Services
P.O. Box 95
Concord, NH 03302-0095
Phone: (603) 271-0676
Email: craig.rennie@des.nh.gov

Considering the determination above, it is clear that the developer cannot fill the northerly pond at will as they have claimed. Both the northerly and southerly ponds are clearly wetland per the definition in the Hollis Zoning Ordinance. The site plans submitted by the developer incorrectly call out these areas as non-jurisdictional in several locations.

Surface Waters

Surface waters is defined by Hollis Zoning ordinance in Sec XI C 2 q as included below.

q. ***SURFACE WATERS:*** Those waters which have standing or flowing water at or on the surface of the ground. This includes but is not limited to rivers, streams, lakes, ponds and tidal waters.

Determining the area of a surface water is straight forward. A square footage calculation of the maximum annual extend of the limits of the water on the ground is sufficient. The definition of surface waters does not provide an exemption for manmade ponds. Since the ponds on site meet the definition of wetlands and the definition of surface water their area needs to be deducted from the gross area at least once. The definition of surface water is broader than that of wetland since the specific tests of the Army Core of Engineers Manual are not imposed. This means that the area of surface waters must be deducted from the net tract area total weather they are classified as wetlands or not.

Hydric Soil

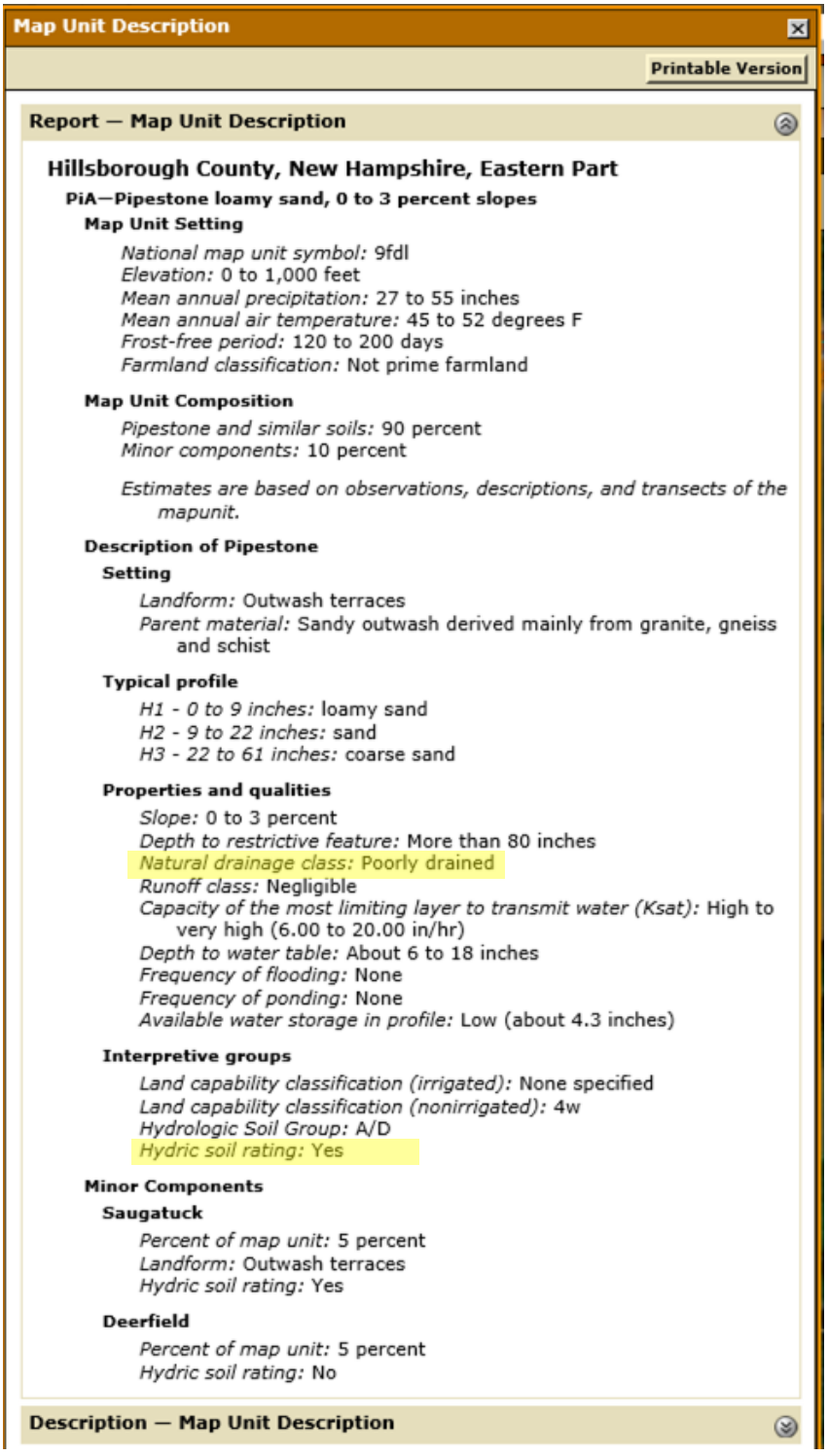
Hydric Soil is defined in by Hollis Zoning ordinance Sec XI C 2 h as included below

h. ***HYDRIC SOILS:*** Soils that are saturated or flooded during a sufficient portion of the growing season to develop anaerobic conditions in the upper soil layers. Hydric soils consist of very poorly drained and poorly drained soil drainage classes as defined in "Field Indicators for Identifying Hydric Soils in New England", Version 2, July 1998.

Most recently, the developer has submitted a site specific soil survey which identifies hydric soil in generaly the same area at the southern end of the property that Mr Tim Ferwerda identified it in his 1997 wetland delineation. A Site Specidic Soil Survey is the most accurate method of determining the soil types at a high resoloution on a property. The soil type is identified as pipestone and it is classified as hydric per the Natraul Resources Conservation Service's (NRCS) official database. The NRCS Web soil survey tool identifies pipestone as a "poorly drained" hydric soil. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Yellow highlight added for emphasis

Figure 14 Web Soil Survey data for pipestone soil



Map Unit Description

Printable Version

Report — Map Unit Description

Hillsborough County, New Hampshire, Eastern Part

PiA—Pipestone loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9fdl
Elevation: 0 to 1,000 feet
Mean annual precipitation: 27 to 55 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 120 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Pipestone and similar soils: 90 percent
Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pipestone

Setting

Landform: Outwash terraces
Parent material: Sandy outwash derived mainly from granite, gneiss and schist

Typical profile

H1 - 0 to 9 inches: loamy sand
H2 - 9 to 22 inches: sand
H3 - 22 to 61 inches: coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Saugatuck

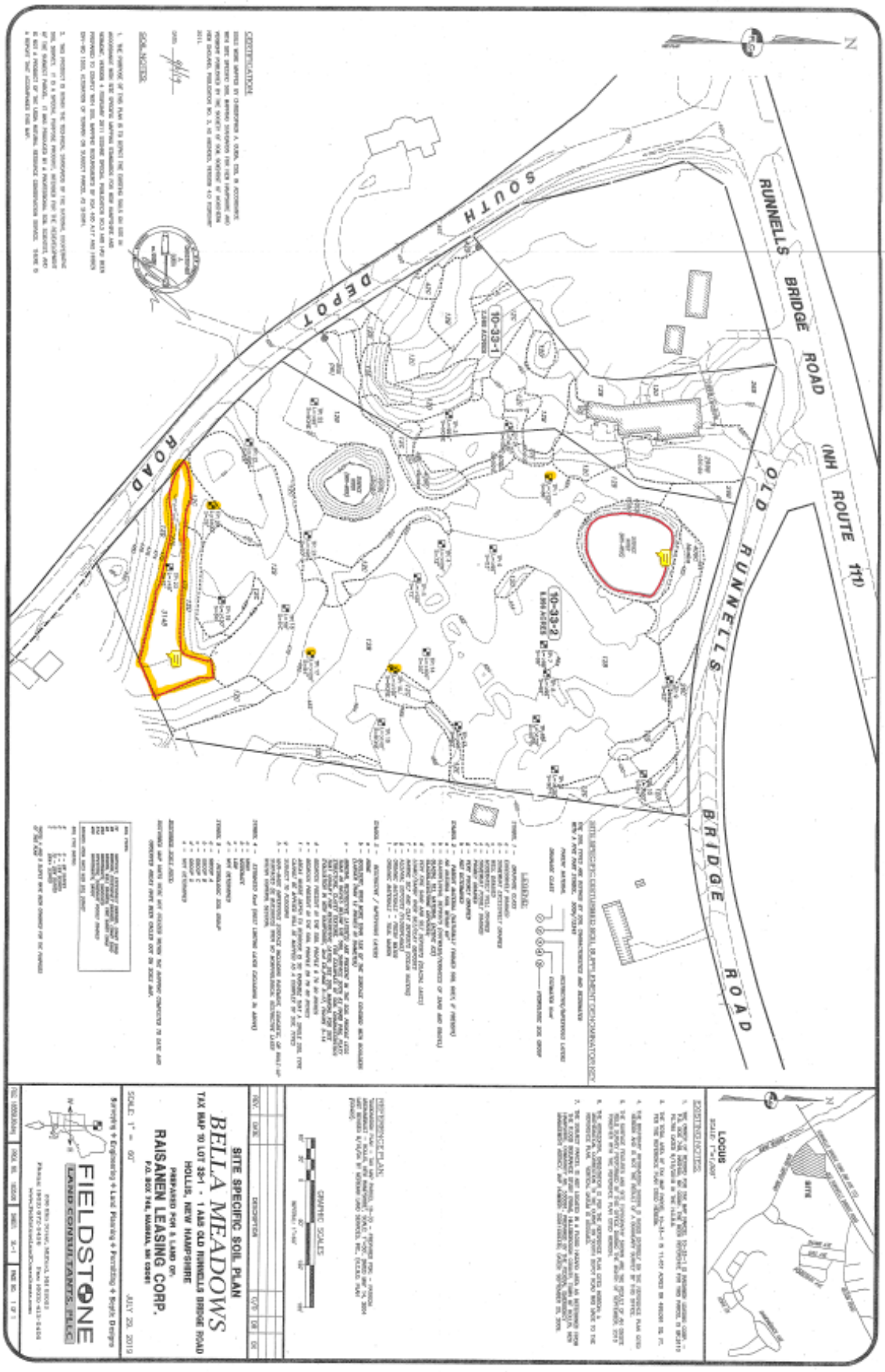
Percent of map unit: 5 percent
Landform: Outwash terraces
Hydric soil rating: Yes

Deerfield

Percent of map unit: 5 percent
Hydric soil rating: No

Description — Map Unit Description

Figure 15 9/6 Site Specific Soil Survey map showing pipestone hydric soil area highlighted



Pipestone soil area highlighted.

Figure 16 Enlargement of southern section of Site Specific Soil Survey map.

Area estimation based on measurement of submitted map. 12,312 square feet or .283 acres

It is important to keep in mind that hydric soil is soil which has formed in an oxygen depleted environment. Since we know that this area was delineated as a wetland in 1997, we know that it not only supported hydrophilic vegetation, but it also had the hydrology required to be classified as a wetland. This means that even if the water table has lowered since the 1997 delineation, the soil is still classified as hydric soil regardless of whether or not it presently has the vegetation or hydrology to be delineated as wetland. The takeaway is that even if the soil was drained, it remains hydric soil.

A proper calculation of the net tract area for this project would begin with the area in the R&A zone. Next subtract from this the area of the wetlands as delineated per the 1987 Army Corps of Engineers (ACE) manual not including surface waters. Next the area of the surface waters must be subtracted. (northerly pond and southerly pond). Finally, subtract out the area of hydric soils which are not already defined as wetland.

8.077 Area in R&A Zone in acres
- .208 Approximate Area of wetlands delineated per 1987 ACE manual (not including surface waters)
- .254 Area of surface waters of northerly pond in acres
- .077 Area of surface water of southerly pond in acres
- .283 Area of Hydric Soils not delineated as wetlands in acres

---

~ 7.255 acres is the Net Tract Area

Before allowing this project to progress further, it is important to correctly compute the net tract area. As I have demonstrated, based on the review of the town's expert wetland scientist, Mr. Gove and the data supplied in the developer's Site Specific Soil Survey, the areas of surface water and hydric soils must be removed from the total area in the RA zone in order to correctly calculate the net tract area.

It is important for members to challenge any unsupported claims made by the experts. The town's residents are relying on the appointed members of the town's boards to act in their best interest to the limits of state law. Please make sure that all the experts' claims receive critical scrutiny.

Recommendation

I recommend that the zoning board sustain this appeal and issue the following finding of fact:

- Calculation of the area surface water is to be conducted based on the initial conditions of a site.
- The proper calculation of net tract area requires subtracting the area of the two ponds on the site as well as the area of pipestone soil on the site as well as area delineated as wetlands per the Hollis zoning ordinance from the total area in the R & A zone

Planning board's interpretation of the definition of buffer zone

The planning board incorrectly interpreted the definition of buffer zone as it relates to land on the subject property. The definition as provided in the section XI C 2 c is included below.

c. ***BUFFER ZONE:*** An upland area adjacent to a wetland or surface water. This buffer zone, under the jurisdiction of the Town of Hollis, shall include an area of one hundred (100) feet, measured on a horizontal plane from the mean high water mark of a surface water, the delineated edge of a wetland, or the limits of hydric soils (whichever is most restrictive).

In two specific instances, the planning board incorrectly interpreted the definition of buffer zone as it relates to this project. Firstly, the Northern pond is actually an altered natural wetland. The 1997 planning board determined this to be the case and correctly applied a 100 foot wetland buffer to the prior golf course proposal. In the case for which this appeal is taken, the planning board failed to apply the 100 foot wetland buffer as is required. The northern pond is a natural wetland as can be seen on Historic USGS Quadrangle maps dating to the 1940s. The planning board incorrectly interpreted a dredging action that occurred in the 1960s to allow an exemption to be taken from this buffer. Secondly, the planning board did not consider the limits of hydric soils when determining the proper buffer zone. Hydric soil is present in the southern area of the property as identified on the developer's site specific soil survey as soil type 314B (pipestone).

Buffer zone of the northerly wetland/pond

The site plan below submitted in 1997 correctly identifies a 100 foot buffer around the northern wetland area. It is understood that the wetland delineation may change over time, but the application of the buffer is still required even if the actual area of the wetland delineation done in 2019 has reduced, it is important to apply the wetland buffer 100 feet from the presently delineated wetland. The developer has claimed that the 100 foot wetland buffer does not apply since the pond is manmade.

Figure 17 Site plan for Pitch and Putt Golf Course 1997 Northerly wetland buffer highlighted green

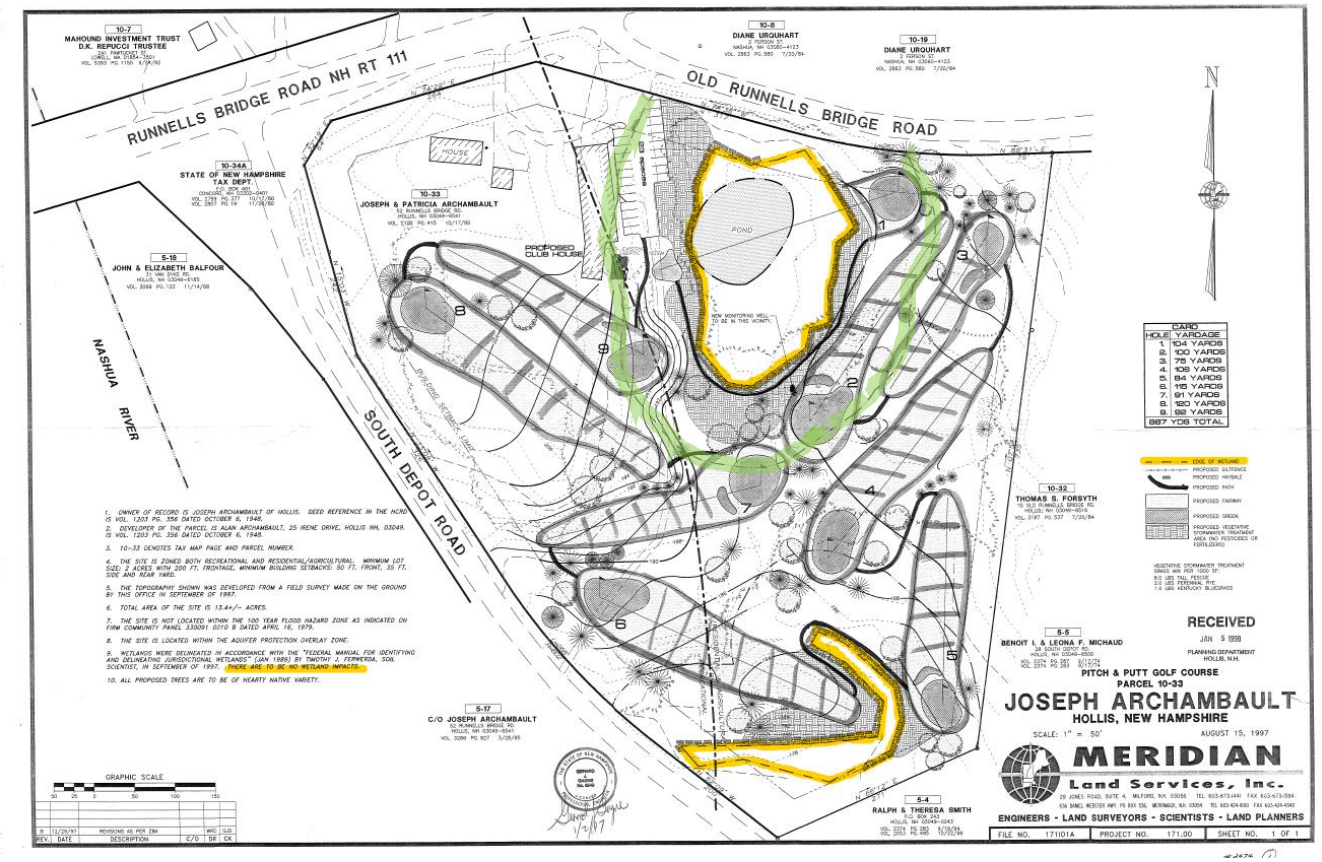
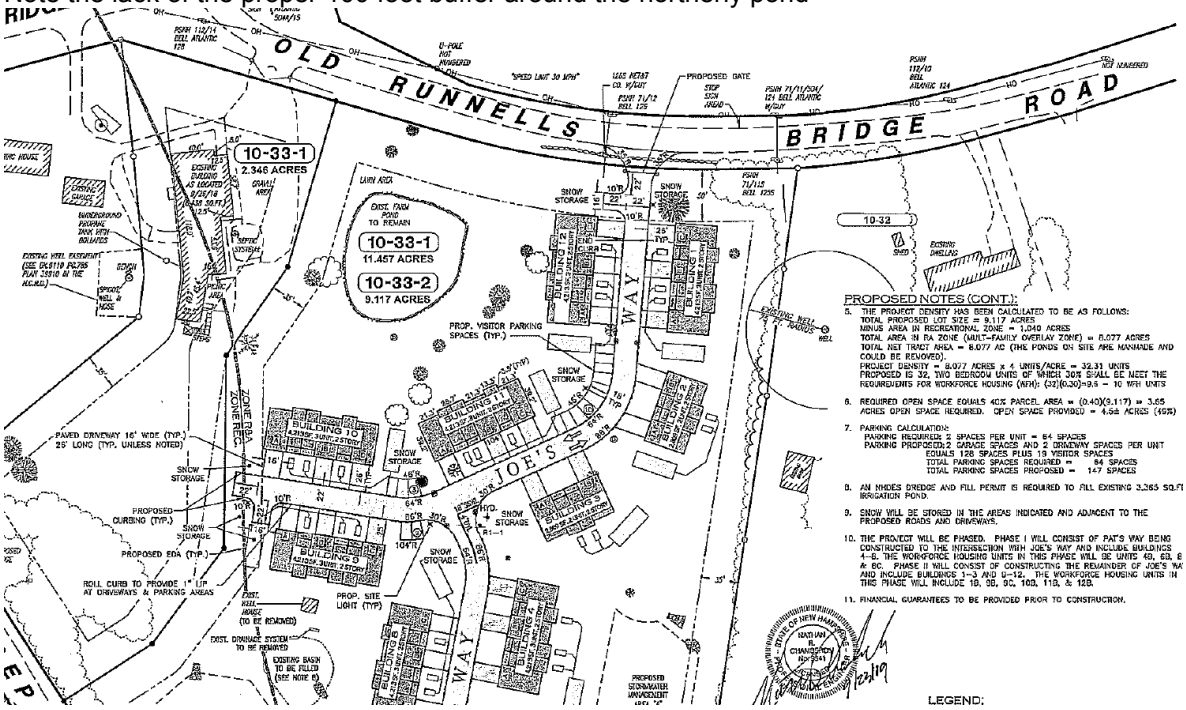


Figure 18 Site plan of subdivision of Map 10 Lot 33-1 8/28/19 page 2 of 22

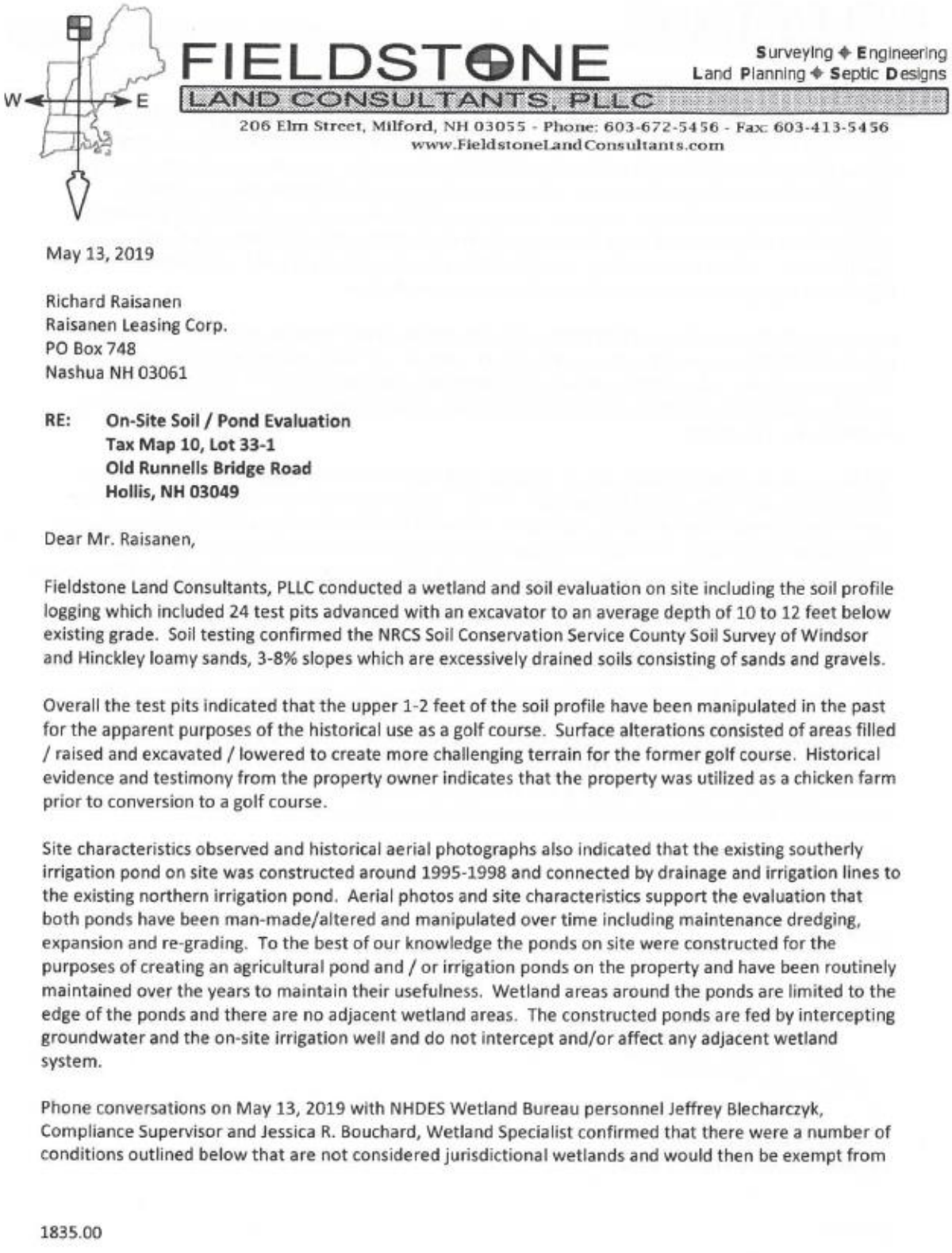
Note the lack of the proper 100 foot buffer around the northerly pond



Incorrect assertions of the On-Site Soil / Pond Evaluation conducted by Chris Guida

The developer has submitted an On-Site Soil / Pond Evaluation conducted on lot 10-33-1. This letter is a key part of the developer's claim that the wetland buffer should not be applied to the northerly pond. I have reviewed the letter and I find several logical errors in the arguments the developer has put forth. These errors led the planning board to an incorrect interpretation of the required buffer zone. I have included an image of the first page of the letter as a means to eliminate possible confusion regarding which letter I am referring to. The entire official copy on file at town hall for review.

Figure 19 On-Site Soil / Pond Evaluation by Chris Guida



FIELDSTONE LAND CONSULTANTS, PLLC

Surveying ✦ Engineering
Land Planning ✦ Septic Designs

206 Elm Street, Milford, NH 03055 - Phone: 603-672-5456 - Fax: 603-413-5456
www.FieldstoneLandConsultants.com

May 13, 2019

Richard Raisanen
Raisanen Leasing Corp.
PO Box 748
Nashua NH 03061

RE: On-Site Soil / Pond Evaluation
Tax Map 10, Lot 33-1
Old Runnells Bridge Road
Hollis, NH 03049

Dear Mr. Raisanen,

Fieldstone Land Consultants, PLLC conducted a wetland and soil evaluation on site including the soil profile logging which included 24 test pits advanced with an excavator to an average depth of 10 to 12 feet below existing grade. Soil testing confirmed the NRCS Soil Conservation Service County Soil Survey of Windsor and Hinckley loamy sands, 3-8% slopes which are excessively drained soils consisting of sands and gravels.

Overall the test pits indicated that the upper 1-2 feet of the soil profile have been manipulated in the past for the apparent purposes of the historical use as a golf course. Surface alterations consisted of areas filled / raised and excavated / lowered to create more challenging terrain for the former golf course. Historical evidence and testimony from the property owner indicates that the property was utilized as a chicken farm prior to conversion to a golf course.

Site characteristics observed and historical aerial photographs also indicated that the existing southerly irrigation pond on site was constructed around 1995-1998 and connected by drainage and irrigation lines to the existing northern irrigation pond. Aerial photos and site characteristics support the evaluation that both ponds have been man-made/altered and manipulated over time including maintenance dredging, expansion and re-grading. To the best of our knowledge the ponds on site were constructed for the purposes of creating an agricultural pond and / or irrigation ponds on the property and have been routinely maintained over the years to maintain their usefulness. Wetland areas around the ponds are limited to the edge of the ponds and there are no adjacent wetland areas. The constructed ponds are fed by intercepting groundwater and the on-site irrigation well and do not intercept and/or affect any adjacent wetland system.

Phone conversations on May 13, 2019 with NHDES Wetland Bureau personnel Jeffrey Blecharczyk, Compliance Supervisor and Jessica R. Bouchard, Wetland Specialist confirmed that there were a number of conditions outlined below that are not considered jurisdictional wetlands and would then be exempt from

1835.00

The developer states that “aerial photos and site characteristics” support the evaluation that both ponds have been manmade. Although the ponds were manmade, the northerly pond was actually a preexisting natural wetland before it was dredged in the 1960s. The developer is confusing the New Hampshire State determination of a jurisdictional wetland with the definition of a wetland per the Hollis zoning ordinance. As you know the state regulations are a minimum requirement, but our Hollis Zoning Ordinance imposes stricter regulations in many areas. In the case of determination of whether an area of wetland is protected, the Hollis regulation includes its own definitions of surface water and wetland which must be used when considering the language of the ordinance. The developer has quoted language from RSA 482-A:3 IV(b), this **state** statute simply allows for the maintenance and repair of certain exempt wetland features, it does not provide an exemption from the Hollis Zoning Ordinance. The town has written its definition of wetland clearly and the state RSA quoted by Mr. Guida has no bearing on the definition in our ordinance.

WETLAND: A wetland is an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions, does support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas. For the purpose of determining buffer zones for site plan and subdivision review, wetland boundaries shall be delineated by either a certified soil scientist or a professional wetland scientist according to the Corps of Engineers Wetlands Delineation Manual, 1987, and the Regional Field Indicators for Identifying Hydric Soils in New England, 1998.

The definition of wetland in the Hollis Zoning Ordinance is any area that is saturated by surface or ground water and supports vegetation adapted for life in saturated soil. The ordinance continues to explain how to delineate the edge of a wetland and determine its buffer.

Misinterpretation of exemption of buffer for agricultural/irrigation ponds

In consideration of the important agricultural enterprises of Hollis, our ordinance exempts manmade agricultural/**irrigation** ponds from the 100 foot buffer requirements and regulations. This exemption does not apply to the northerly pond since it was a wetland prior to being deepened. The northerly pond requires a 100 foot buffer per the ordinance since it was originally a natural wetland and since it is not being used as an irrigation pond. This interpretation was correctly applied in 1997 when the golf course was constructed.

Sec XI,C,3D

d. The 100 foot buffer regulations and restrictions set forth in this Ordinance shall not apply to the following wetland areas or their buffer zones:

(i) manmade ditches and swales

(ii) sedimentation/detention basins or ponds

(iii) manmade agricultural/irrigation ponds and swales

(iv) fire ponds

(v) a septage or manure lagoon

(vi) silage pits

(vii) a wetland or surface water of 3,000 square feet or less not associated with any other wetland, drainage-way, or surface water which does not meet the definition of a bog or vernal pool

Not only is the exemption above limited in its relief to only the 100 foot buffer and its regulations, it specifically exempts only agricultural irrigation ponds. The developer is proposing a residential development. The pond included in this development is clearly not an agricultural pond. The fact that it may have been used in that manner in the past does not justify an exemption under section XI,C,3D. It is clear that the pond is not being used now as an agricultural/irrigation pond and the proposed future use has no relation to agriculture/irrigation, but even the most recent past use was not related to agriculture since the property was used beginning in the early 2000s as a golf course. It is not clear why the developer’s assertion that the pond had been used for agriculture/irrigation in the distant past would justify it being considered for an exception to the 100 foot buffer requirement. It has been approximately two decades since it could have been used for agricultural purposes. These claims by the developer have led the planning board to incorrectly interpret the definition of buffer zone

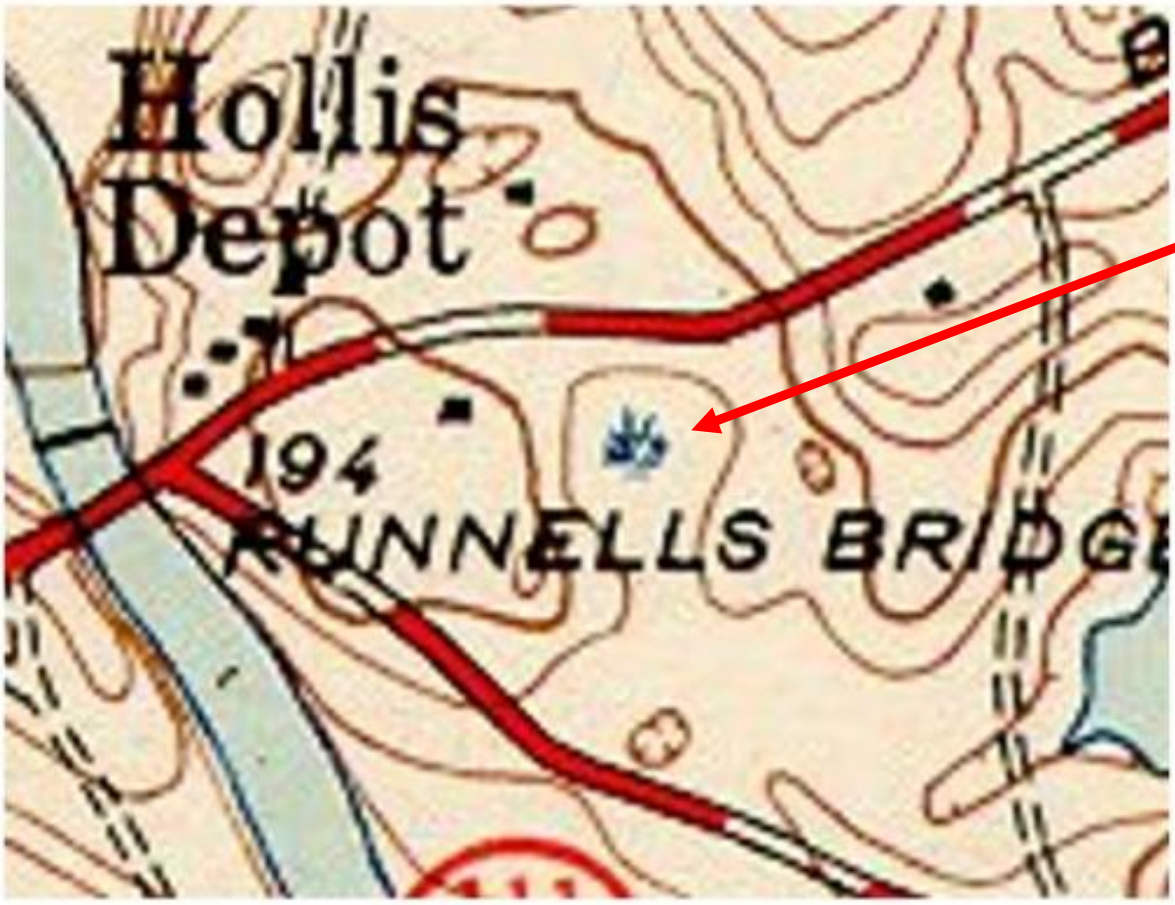
Evidence of natural wetland preexisting the dredging of the northerly pond in the 1960s

Although I believe that I have shown that weather or not the northerly pond is manmade is immaterial to the proper application of the 100 foot buffer, I would like to present the evidence that the northerly pond is in fact not manmade wetland, but altered natural wetland. It can be seen on the 1944 and 1950 USGS topographic maps. Mr. Guida’s letter indicates that “aerial photos and site characteristics support the evaluation that ***both*** ponds have been man-made/***altered***…”

Site characteristics observed and historical aerial photographs also indicated that the existing southerly irrigation pond on site was constructed around 1995-1998 and connected by drainage and irrigation lines to the existing northern irrigation pond. Aerial photos and site characteristics support the evaluation that both ponds have been man-made/altered and manipulated over time including maintenance dredging, expansion and re-grading. To the best of our knowledge the ponds on site were constructed for the purposes of creating an agricultural pond and / or irrigation ponds on the property and have been routinely maintained over the years to maintain their usefulness. Wetland areas around the ponds are limited to the edge of the ponds and there are no adjacent wetland areas. The constructed ponds are fed by intercepting groundwater and the on-site irrigation well and do not intercept and/or affect any adjacent wetland system.

I believe this statement has caused considerable confusion since Mr. Guida chose to describe both ponds in the same sentence. A more precise description would be that aerial photographs support the conclusion that the southerly pond was manmade. The northerly pond was a natural wetland before being deepened. This fact can be seen by observing its location on the USGS survey map of 1944 and 1950 depicted below.

Figure 20 1944 USGS Pepperell Quad



Note the pond identified on the map

Figure 21 1944 USGS Pepperell Quad with site plan overlaid

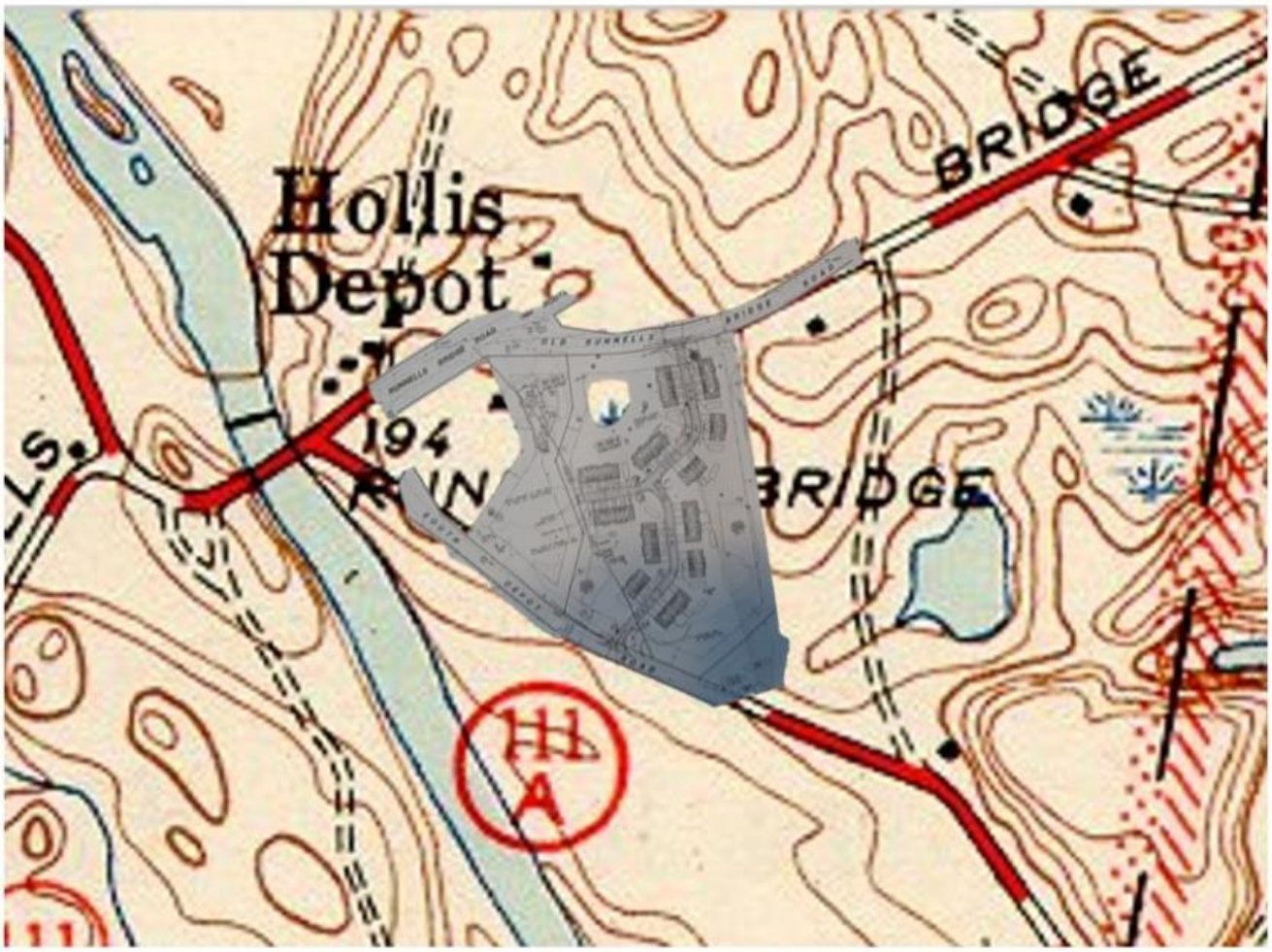
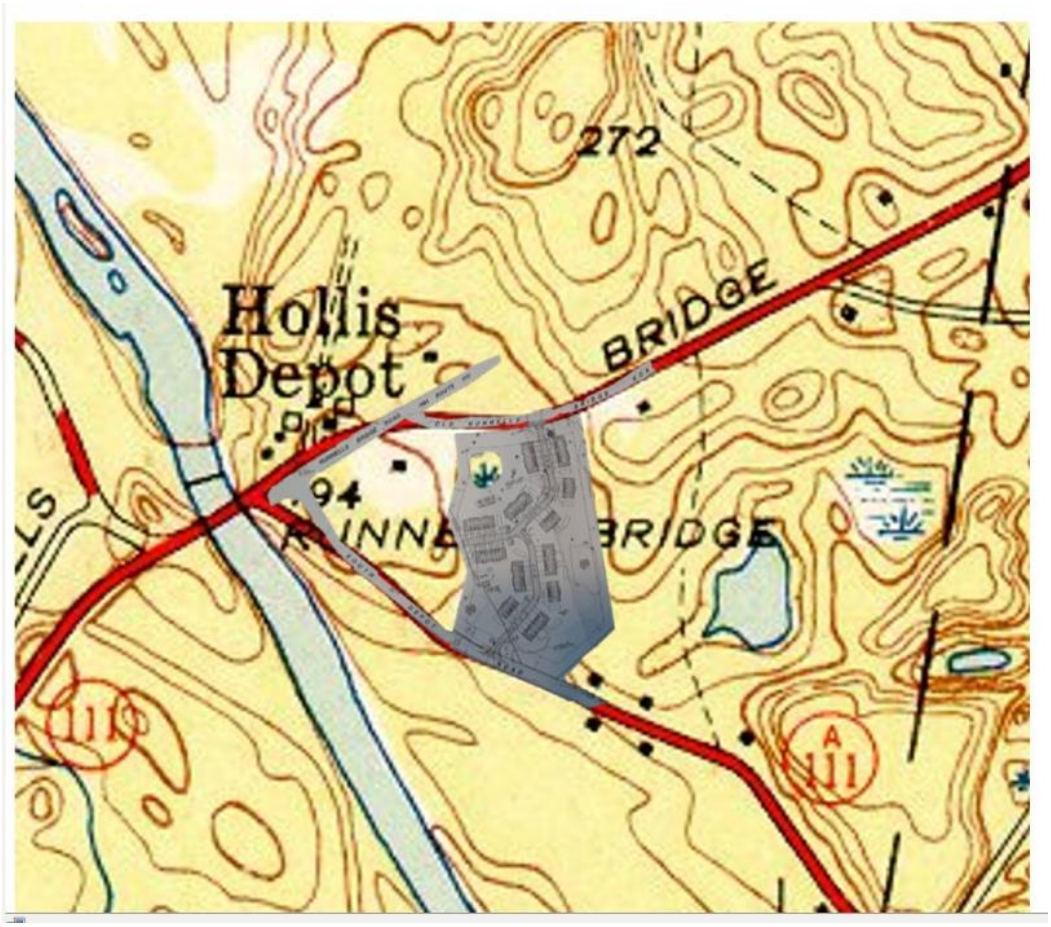


Figure 22 1950 USGS Pepperell Quad with site plan overlaid



Mr Guida's report clearly indicates that there is a wetland area around both ponds. In fact, the developer's submitted site plan shows the wetland boundary around the northerly pond, and presumably would have shown the boundary around the southerly pond had it been depicted. The wetland area is identified on the site plan with a dash followed by three dots. These references are highlighted in red below

Figure 23 Site plan submitted by the developer 5/10/19

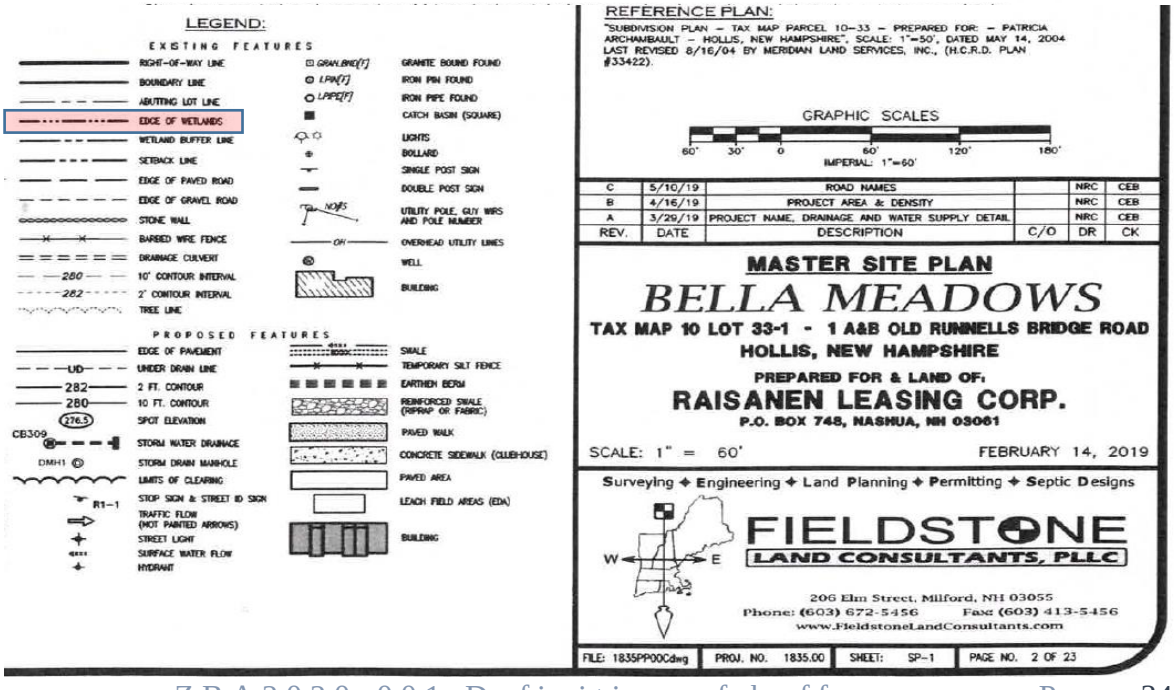
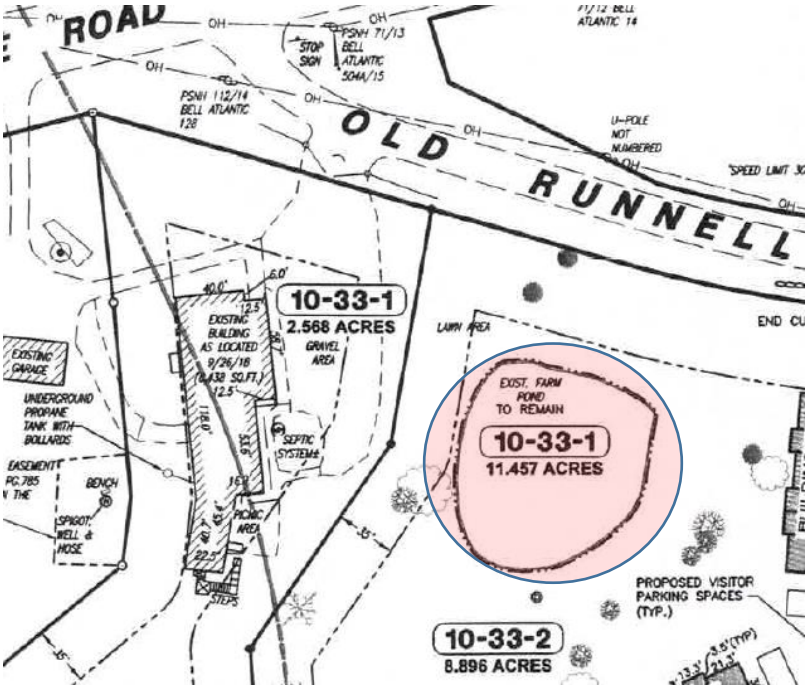


Figure 24 Site plan submitted 5/10/19 showing wetlands delineated at northerly pond



It not my intention to take these citations out of context. I have provided limited citations only in an effort to communicate effectively. Each of these references is available in the planning board file 2019:005 or on the internet at the urls referenced.

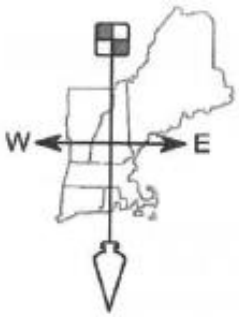
In a separate letter to the town of Hollis Planning Board, submitted by Fieldstone Land Consultants on May 11th regarding a wildlife habitat evaluation, the developer claims that there are no wetlands on the site. This claim is based on the contention that the ponds are "not part of a previous natural wetland system". As I have shown, both the USGS maps of 1944 and 1950 show a previous natural wetland at the location of the northerly pond. This incorrect statement may have led to the planning board's incorrect interpretation of the buffer zone.

Jurisdictional Wetlands:

Jurisdictional Wetlands were evaluated / delineated in accordance with US Army Corps of Engineers 1987 wetlands delineation manual Y-87-1 and regional supplements for the northeast and northcentral region and field indicators for hydric soils in New England and associated reference materials. There were no jurisdictional wetlands observed on the subject site; the two irrigation ponds present on the site are man-made and/or man altered via maintenance dredging for irrigation and golf course purposes. There are no other drainage ways or wetland systems entering or exiting the irrigation ponds and they are not part of a previous or natural wetland system. An additional letter documenting the history of the property and pond construction has also been submitted for planning board review. There were also no vernal pools observed nor any characteristics of acting vernal pools observed on or near the subject property, the ponds are man-made / altered, do not dry out and have a variety of fish species present.

The USGS maps and prior soil studies strongly contradict the claim Mr. Guida makes above, invalidating the conclusion that the 100 foot buffer zone should not apply to the northerly pond.

Figure 25 Image of first page of the wildlife habitat evaluation



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May 11, 2019

Town of Hollis
Planning Board
7 Monument Square
Hollis, NH 03049

RE: 2 Lot Subdivision and Multi-family Residential Housing Development
Wildlife Habitat Evaluation
Tax Map 10, Lot 33-1
Old Runnells Bridge Road

Project Overview:

As a representative of Raisanen Leasing Corp., Fieldstone Land Consultants [Fieldstone] has been requested to evaluate the potential impacts that the proposed development may have on wildlife habitat on and around the project area and the surrounding community. A wildlife habitat and potential impact assessment was conducted by Christopher A. Guida, CWS, CSS. Mr. Guida has been practicing as a Certified Wetland Scientist and Soil Scientist for over 20 years and has extensive educational background and experience in natural sciences including wildlife biology and management, ecology, dendrology and water resource management.

The property consists of about 11.5 acres with an existing commercial building which is part of the former golf course clubhouse / maintenance building. The parcel is entirely open with some landscaping trees, sand traps, 2 irrigation ponds and small portions of forested areas along the southern boundary along south depot road. The property is situated in a residential / commercial developed area which is located at a major roadway intersection bounded by South Depot Road, Old Runnells Bridge Road, NH Route 111 and private residential lots to the east. The subject property is essentially isolated by major roadways and does not abut any conservation land or public facilities.

1835.00

The developer has pointed to Sec XI 3 d of the Hollis Zoning Ordinance which exempts certain water features from the 100 foot buffer as a means of claiming that the 100 foot buffer does not apply to the northerly pond. I will explain the logical errors in this argument. I have included the reference to relief from the 100 foot buffer below.

d. The 100 foot buffer regulations and restrictions set forth in this Ordinance shall not apply to the following wetland areas or their buffer zones:

(i) manmade ditches and swales

(ii) sedimentation/detention basins or ponds

(iii) manmade agricultural/irrigation ponds and swales

(iv) fire ponds

(v) a septage or manure lagoon

(vi) silage pits

(vii) a wetland or surface water of 3,000 square feet or less not associated with any other wetland, drainage-way, or surface water which does not meet the definition of a bog or vernal pool

Table 2 Work sheet to determine if a water feature is exempt from Hollis' 100 foot wetland buffer.

	Criteria for exemption of the 100 foot buffer	Northerly wetland
i	manmade ditches and swales	No
ii	sedimentation/detention basins or ponds	No
iii	**manmade agricultural/irrigation** ponds and swales	No
iv	fire ponds	No
v	a septage or manure lagoon	No
vi	silage pits	No
vii	a wetland or surface water of 3,000 square feet or less not associated with any other wetland, drainage-way, or surface water which does not meet the definition of a bog or vernal pool	No

In Fieldstone Land Consultants letter to the town of Hollis Planning Board, submitted by on May 11th, the prior use of the ponds in question is identified as irrigation.

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Based on the developer's letter cited above it seems that they consider the water features manmade irrigation ponds. This is not an accurate assessment. The northerly pond is not manmade, but an altered existing wetland. I have shown that it existed as far back as 1944. It may have been modified or altered, but it is not manmade. Secondly, the proposed use is an ornamental pond in a residential subdivision and the most recent prior use was as a golf course water hazard. Neither of those uses are listed as exempt water features. In fact the planning board in 1997 correctly imposed the 100 foot buffer presumably for this reason. It certainly has had no function related to agriculture. In order for the pond to be considered an irrigation pond it would have had to be used as the **source** of water to be used for assisting the growth of vegetation The language of sec XI 3 d only exempts "manmade **agricultural/irrigation** ponds and swales" This language cannot be conveniently interpreted to exempt all manmade ponds. Based on this flawed reasoning the developer has claimed that the pond does not require the 100 foot wetland buffer as set out in the town ordinance. This has led to the planning board's incorrect application of the buffer.

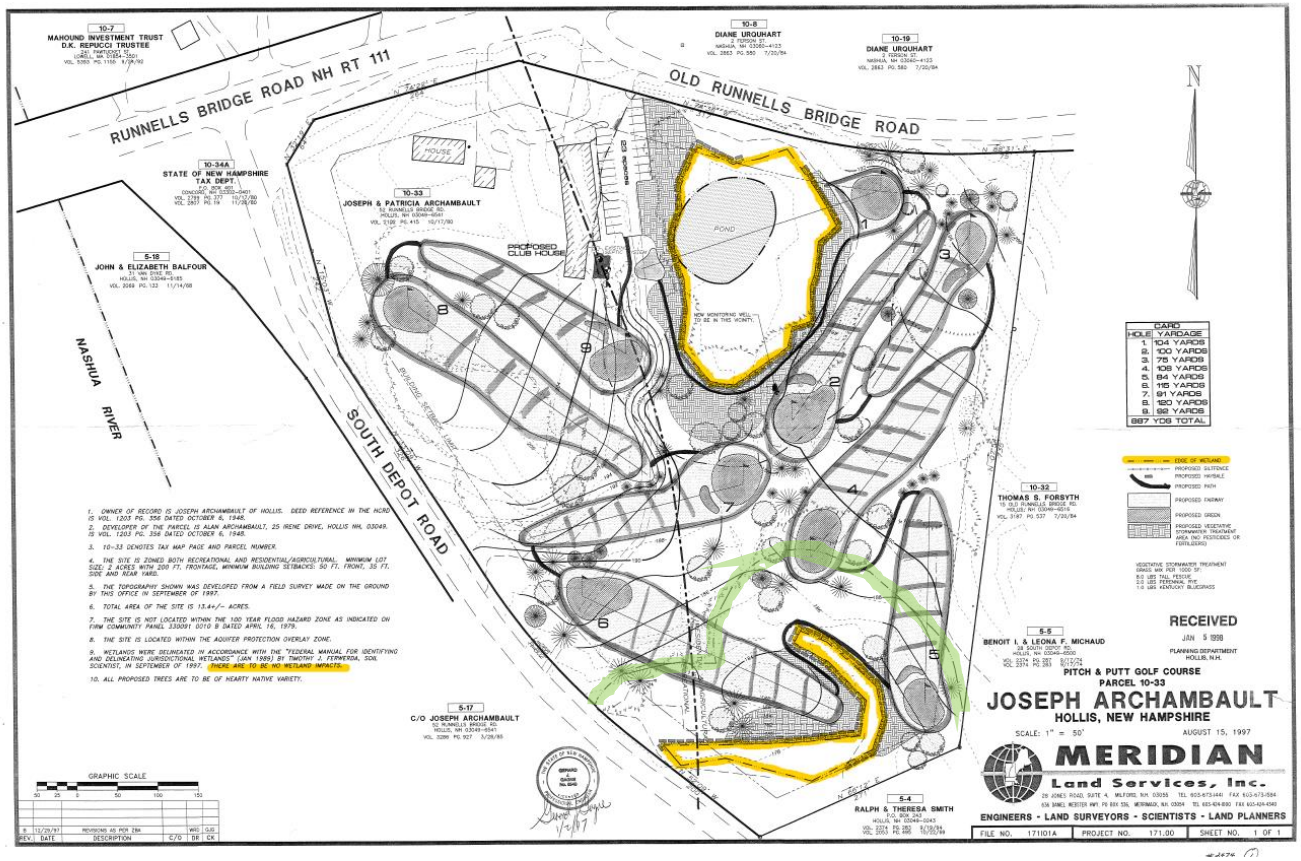
Buffer zone of the southerly area of hydric soil

The planning board incorrectly interpreted the definition of Buffer zone as it relates to land on the subject property. The definition as provided in the section XI C 2 c is included below.

c. ***BUFFER ZONE:*** An upland area adjacent to a wetland or surface water. This buffer zone, under the jurisdiction of the Town of Hollis, shall include an area of one hundred (100) feet, measured on a horizontal plane from the mean high water mark of a surface water, the delineated edge of a wetland, or the limits of hydric soils (whichever is most restrictive).

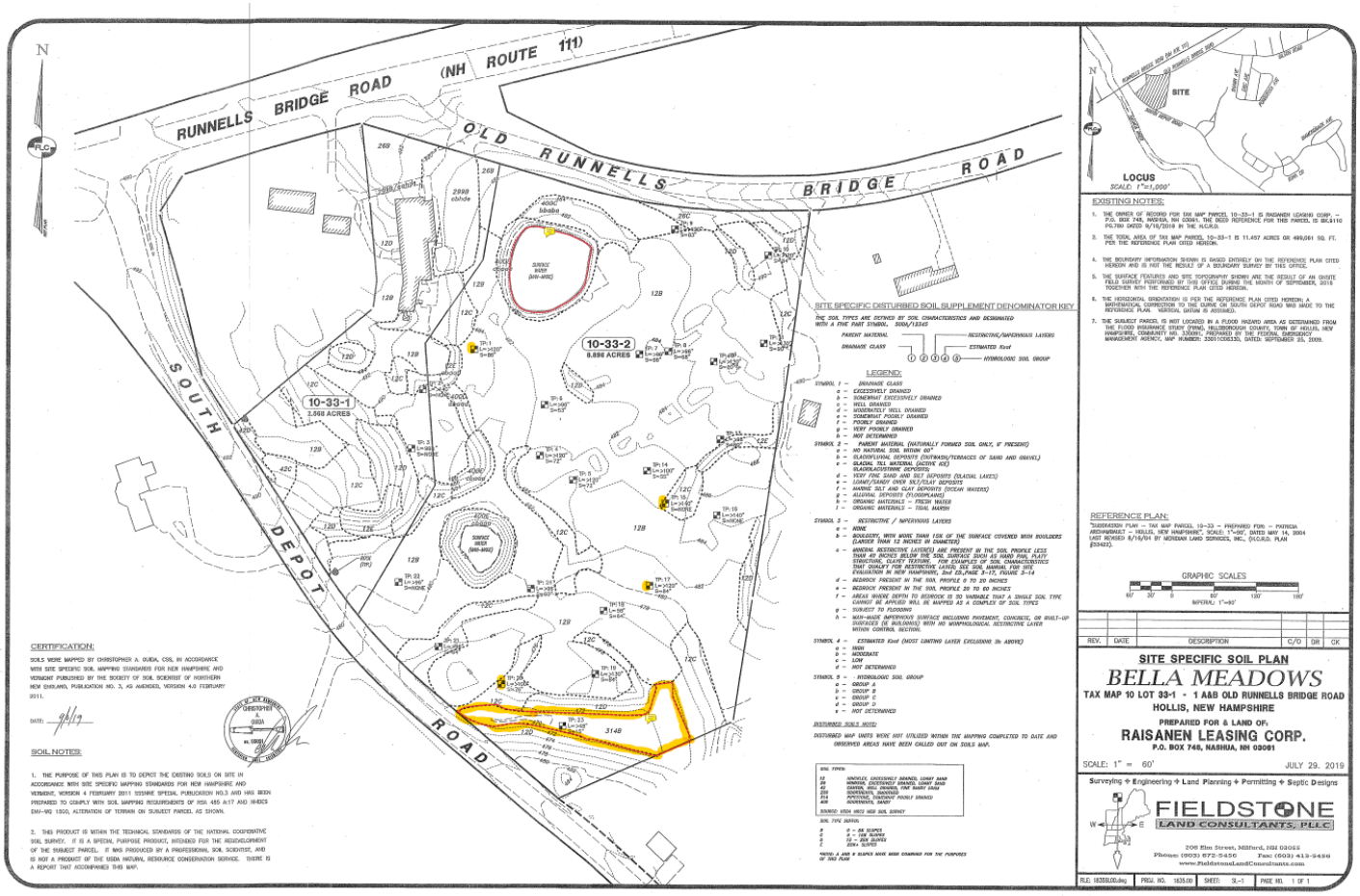
The planning board did not consider the limits of hydric soils when determining the proper buffer zone. Hydric soils are present in the southern area of the property as identified on the developer's site specific soil survey. I have included a site plan from 1997 which shows the 100 foot buffer of the property correctly applied to the area of hydric soil in the southern part of the property. The planning board's incorrect interpretation of the definition of buffer zone led to the exclusion of this 100 foot buffer in the 2019 approval.

Table 3 Site plan for Pitch and Putt Golf Course 1997 Southerly buffer highlighted green



Below is an image of the developer's Site Specific Soil Survey Map on July 29th 2019. Note the lack of a 100 foot buffer that should be applied to the hydric soils in the southern section of the property.

Figure 26 Map 10 lot 33-1 site specific soil survey 7/29/19 hydric soils highlighted yellow



The key point is that the 100 foot buffer not only applies to delineated wetlands, it applies to areas of hydric soil that lack the vegetation or hydrology to be delineated as wetlands.

Recommendation

I recommend that the zoning board sustain this appeal and issue the following finding of fact:

- The 100 foot buffer zone applies to the northerly wetland since it does not meet the criteria for exemption under Sec XI 3 d of the Hollis Zoning Ordinance
- The 100 foot buffer zone applies to the southerly area of hydric soil on the property.

References

OnSite Soil / Pond Evaluation letter	Planning Board File 2019:005
1944 USGS Topographic Map	http://docs.unh.edu/MA/pepp44ne.jpg
1950 USGS Topographic Map	http://docs.unh.edu/MA/pepp50ne.jpg
Map 10-33-1 Site plan dated 5/10	Planning Board File 2019:005

Planning board's interpretation of the approval of dredge and fill permits

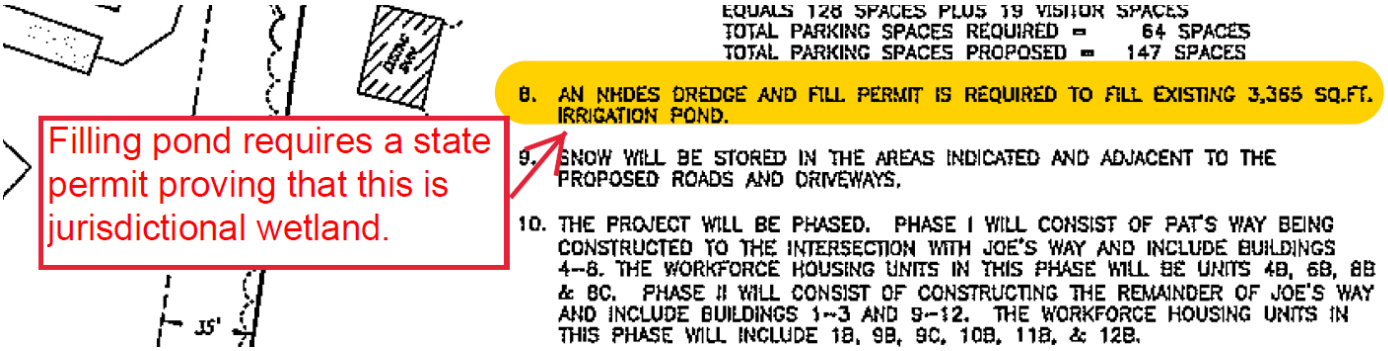
The planning board incorrectly interpreted approval requirements as set out in section XI paragraph C 3 a of the Hollis zoning ordinance. This section is provided for reference below.

3. *JURISDICTION*

a. The town recognizes that the state and federal governments have regulations, including a permitting process, governing the alteration of wetlands and surface waters. However, the Town of Hollis has jurisdiction over the one hundred (100) foot buffer zone and all Dredge and Fill Applications must first be reviewed by Planning Board Staff and approved by the Planning Board and the Conservation Commission for compliance with this ordinance.

The planning board incorrectly interpreted the section above in failing to consider the approval of the conservation commission as is called for in the ordinance. The ordinance specifically calls for the approval of the Conservation Commission. The planning board's decision letter does not condition approval of the project on the Conservation Commission's approval of the required dredge and fill permit. The lack of the Conservations Commission's approval as a condition is evidence of the planning board's faulty interpretation of the ordinance.

Figure 27 Image from the developer's site plan dated 8/28/19



Note #8 indicates that an NHDES dredge and fill permit is required to fill the southerly pond. The planning board incorrectly interpreted the ordinance by not conditioning its approval on the approval of the Conservation Commission as the ordinance requires. A correct interpretation would require that the Conservation Commission vote to approve or disapprove of the fill permit for compliance with the ordinance prior to its final approval by the planning board.

Recommendation

I am requesting that the zoning board sustain this appeal and issue the following finding of fact.

- Dredge and fill Applications require approval by the Conservation Commission

Conclusion

The zoning board serves a crucial function in its role as arbiter of appeals from planning board decisions. It is the zoning board that has the opportunity to narrowly focus on the language approved as ordinance by the voters of Hollis. This allows the members of the zoning board to think critically about claims of the developers and about the specific text of the ordinance. I appreciate the time and thought that members have invested in reading this report and in reviewing the facts presented. I hope the zoning board will vote to uphold this appeal and to protect the interests of the town of Hollis as expressed by prior town leaders and voters.

Table 4 Recommended findings of fact

Item	Subject	Recommended findings of fact
1	Surface Waters	• Ponds are considered surface water weather they are manmade or not
2	Wetland	• The Hollis Zoning Ordinance requires a wetlands delineation to be conducted exclusively in accordance with the Corps of Engineers Wetlands Delineation Manual of 1987. • The unauthorized disturbances on this property require a Level 2 onsite delineation accordance with the Corps of Engineers Wetlands Delineation Manual of 1987.
3	Hydric Soils	• Hollis Zoning Ordinance requires that hydric soils be identified in accordance with Field Indicators for Identifying Hydric Soils in New England Version 2, July 1998.
4	Net Tract Area	• Calculation of the area surface water is to be conducted based on the initial conditions of a site. • The proper calculation of net tract area requires subtracting the area of the two ponds on the site as well as the area of pipestone soil on the site as well as area delineated as wetlands per the Hollis zoning ordinance from the total area in the R & A zone
5	Buffer zone	• The 100 foot buffer zone applies to the northerly wetland since it does not meet the criteria for exemption under Sec XI 3 d of the Hollis Zoning Ordinance • The 100 foot buffer zone applies to the southerly area of hydric soil on the property.
6	Conservation Commission Approval of dredge and fill permits	• Dredge and fill Applications require approval by the Conservation Commission