



November 17, 2022

Mendham Township Planning Board 2 West Main Street Brookside, NJ 07926

Attn: Beth Foley, Planning Board Secretary

Re: Environmental Impact Statement Addendum No. 2 Lawrence Farm Estates Preliminary and Final Major Subdivision Block 147; Lots 42.06, 42.07, 42.08, 42.12, 42.13 & 42.16

Dear Members of the Board:

In reference to the above project, this document is a second addendum to the Environmental Impact Statement (EIS) prepared by Environmental Technology Inc. (ETI) dated September 6, 2022 and the first EIS addendum dated October 5, 2022. This addendum addresses comments relative to the technical reports prepared by the Board consultants, specifically the Princeton Hydro, LLC report dated October 12, 2022, and the French and Parrello report dated October 17, 2022.

The following outlines responses to the relevant sections of the Princeton Hydro report. The only comment relative to the EIS in the French and Parrello report is in regard to providing testimony as to the available water capacity for the individual wells. Further discussion on this is discussed at 1.9 below.

<u>Item 1.1</u> – No comment required.

Item 1.2 – Noted and has been addressed on subsequent addendums to the EIS.

<u>Item 1.3</u> – The complete list of soils logs prepared by Yannaccone, Villa and Aldrich, LLC and dated September 2, 2022 has been included in Appendix A of this addendum.

Mendham Township Planning Board
Re: Environmental Impact Statement Addendum No. 2
Lawrence Farm Estates
Preliminary and Final Major Subdivision
Block 147; Lots 42.06, 42.07, 42.08, 42.12, 42.13 & 42.16

<u>Item 1.4</u> – Field Data sheets have been included in Appendix B of this addendum and further discussion on methodology can be provided at the upcoming hearing.

<u>Item 1.5</u> – The applicant is in agreement on a timing restriction for development of the individual lots to help protect roosting habitat for the Indiana Bat and Northern Long-Eared Bat. This will help to ensure that no potential roosting trees are removed during the typical roosting period for these species. It should be noted that a review of the proposed site development areas did not reveal a preponderance of any dead or dying trees. In addition, preferred live roost trees such as shagbark hickory and white oak were not predominant, however some white oaks are present.

It should be noted that the property has an approved woodland management plan which includes the removal of trees. The timing restriction noted above does not apply to any tree removal that is part of the approved woodland management plan.

The applicant also reserves the right to undertake a bat mist net and/or acoustic study to be conducted by a firm approved by the United States Fish and Wildlife Service (USFWS). In the event no Indiana Bats or Northern Long-Eared Bats are identified on the property, the timing restriction for tree clearing will be lifted for that season, pending concurrence from the Township environmental consultant.

<u>Item 1.6</u> – As previously discussed in the EIS, wooded areas will be removed as part of the proposed subdivision. In comparing the proposed disturbance to wooded areas on the 2005 subdivision approval, it was noted in the EIS that an increase of 2.36 acres of wooded areas would result. Further analysis utilizing the current proposal indicates that the increase in disturbance to wooded areas is 0.39 acres or 16,988 sq. ft. This is significantly less than the 2.36 acre increase.

Regarding the location of individual trees on the proposed lots, this task is not undertaken until the time that a plot plan is prepared. The actual extent of proposed land disturbance and associated tree removal will likely change due to the actual house footprint proposed, driveway location, grading limit and other factors specific to the individual plot plan for each lot.

According to the Township Tree Preservation and Landscape Regulations, no heritage trees can be removed from any lots without first obtaining a permit from the Tree Preservation and Landscape Committee. As discussed in the ordinance, any person

Mendham Township Planning Board

Re: Environmental Impact Statement Addendum No. 2 Lawrence Farm Estates Preliminary and Final Major Subdivision Block 147; Lots 42.06, 42.07, 42.08, 42.12, 42.13 & 42.16

wishing to cut down or remove any tree subject to the ordinance must file an application with the Tree Preservation and Landscape Committee. This would apply to the removal of any Heritage Trees on the lots or the removal of any trees greater than 6" DBH within the Tree Conservation Area. Numerous factors are evaluated by the Committee, when reviewing such applications, including, but not limited to: proposed building locations, structures, driveways, drainage systems and associated grading.

Regarding Heritage trees, such are present within both the existing footprint of approved development from 2005 and in the proposed footprint for development. Most of these trees consist of red oak (*Quercus rubrum*) and tulip-tree (*Liriodendron tulipifera*), with some chestnut oak (*Quercus prinus*), white oak (*Quercus alba*), black oak (*Quercus velutina*) and American beech (*Fagus grandifolia*).

Additionally, it is the intent of the applicant and as depicted on the revised plan submission, to minimize any tree removal in the "Tree Conservation Area" which in this zone, restricts the removal of any tree 6" DBH or greater within 50 feet of the road or 25 feet from any other property lines; without obtaining a permit.

<u>Item 1.7</u> – A letter of interpretation and flood hazard area verification are currently pending at the Division of Land Resource Protection (DLRP) of the NJDEP. In addition, Morris County Soil Conservation District approval has been issued and will be provided by YVA as part of their submission. The LOI and FHA Verification will be supplied to the Planning Board and their experts upon receipt.

<u>Item 1.8</u> – Additional details on the planting and seed mixes for the proposed bio-basins is being addressed by Yannaccone, Villa and Aldrich, LLC.

<u>Item 1.9</u> – As pointed out in the Princeton Hydro technical report, the EIS addendum prepared by ETI on October 5, 2022 <u>"fully addresses concerns about available drinking from wells."</u> The first EIS addendum referenced the "Nitrate Dilution and Current Planning Capacity Model" dated March 2020 and prepared by Princeton Hydro, LLC and UHL & Associates, Inc. As noted in the first addendum:

"The report provides an in-depth analysis of groundwater availability throughout the Township. In the summary section, the report states "Even under severe drought conditions, available groundwater could support nearly a three-fold increase in groundwater use and residency. Minimum recharge areas to support an equivalent Re: Environmental Impact Statement Addendum No. 2 Lawrence Farm Estates Preliminary and Final Major Subdivision Block 147; Lots 42.06, 42.07, 42.08, 42.12, 42.13 & 42.16

dwelling unit or household is just 1.2 to 1.3 acres, while the number increases to a range of 2.0 to 3.1 acres under drought conditions."

This information was utilized in the establishment of the R-5 single family residential zoning for the subject parcel. Therefore, at an average zoning density of 6.71 acres per lot, the report prepared for the Township also clearly indicates that the proposed lot sizes are well above the minimum size to provide adequate groundwater capacity for individual wells."

The EIS included well records within 500 feet of the site. Seven (7) records were found that included gallons per minute (GPM) data. The average GPM for the seven wells was 22 GPM with the median in the range of 10 to 20 GPM. However, since that report was issued, ETI has obtained additional well records for several lots immediately adjacent to the proposed subdivision and on the Irene Spring Tree Farm property. The below table includes the additional well information:

Lot	Depth (Feet)	Yield (gpm)	Date	Quality
Block 147	·			
42.15	300	15	07/02/08	Satisfactory
42.10	780	25	10/02/07	Satisfactory
42.03	340	40-50	12/28/2004	Satisfactory

The proposed subdivision will have an average lot size of 6.71 acres. This is a per lot average that is greater than 200% of the minimum lot size under drought conditions cited in the 2020 report.

The Township standards for individual wells at Chapter 397-9 indicates that individual wells shall yield no less than 5 GPM.

Based on the available well data reviewed and included in our reports and addenda's and along with the conclusions in the 2020 report prepared by Princeton Hydro, LLC and UHL & Associates, Inc., the data clearly shows that available water capacity for the proposed subdivision will be adequate and be greater than 5 GPM.

Re: Environmental Impact Statement Addendum No. 2 Lawrence Farm Estates Preliminary and Final Major Subdivision

Block 147; Lots 42.06, 42.07, 42.08, 42.12, 42.13 & 42.16

Please do not hesitate to contact our office should anyone have any questions or require additional information.

Very truly,

ENVIRONMENTAL TECHNOLOGY INC.

David C. Krueger

President

Enclosures: Soils Report and Field Data Sheets (Appendix A and B)

cc: Lawrence Farmland, LLC

Thomas Malman, Esq.

Gregory E. Yannaccone, P.E.

November 17, 2022

Mendham Township Planning Board Re: Environmental Impact Statement Addendum No. 2 Lawrence Farm Estates Preliminary and Final Major Subdivision Block 147; Lots 42.06, 42.07, 42.08, 42.12, 42.13 & 42.16

APPENDIX A – SOIL LOGS



Civil Engineers & Land Surveyors 460 MAIN STREET, P.O. BOX 459 CHESTER, NEW JERSEY 07930 PHONE: 908-879-6646 FAX: 908-879-8591

Gregory E. Yannaccone, PE Christopher J. Aldrich, PLS Ryan Smith, PE, PLS, CME

Candice J. Davis, PE, CME Rudy Holzmann, PE, CME

Soil Test Report (Abridged Edition)

(September 2, 2022)

Project: Lawrence Farm Estates Major Subdivision
(formerly Irene's Springtree Farm)
Exmoor Drive & Sutton Place
Mendham Township: Lot 42.06, 42.07, 42.08, 42.12, 42.13 & 42.16 ~ Block 147
Bernardsville Borough: Lot 2 ~ Block 8

Applicant: Lawrence Farmland Estates LLC

Date of Testing: 4/19/2022 - 4/30/2022

Soil Log #13

0"-8" Topsoil (Meadow Grass Cover)

8"-30" Yellowish red (5YR 5/6), subangular blocky, friable, silt loam,
10% gravel, 10% cobbles

30"-72" Yellowish red (5YR 5/6), subangular blocky, friable loam,
10% gravel, 10% cobbles, 5% stones

72"-138" Yellowish red (5YR 4/6), subangular blocky, friable sandy loam,
5% gravel, 10% cobbles & 5% stones

No groundwater. No mottles. No obvious roots.

~ ...

Soil Log #14

0"-4"
Topsoil (Woodland Cover)

4"-48"
Yellowish brown (10YR 5/6), subangular blocky, friable, sandy loam, 5% gravel, 10% cobbles, 5% stones

48"-120"
Brownish yellow (10YR 6/8) loose, single grain sandy loam, 5% gravel, 20% cobbles, 20% stones

120"
Machine refusal

No groundwater. No mottles. Roots to 24".

Soil Permeability Class Rating Tests 14A & 14B

Depth of Sample=84" Soil Permeability Class Rating= K5

0"-5" Topsoil (Woodland Cover)

5"-40" Yellowish brown (10YR 5/6), subangular blocky, friable, sandy loam,

5% gravel, 10% cobbles, 5% stones

40"-114" Brownish yellow (10YR 6/8) loose, single grain, sandy loam,

5% gravel, 20% cobbles, 20% stones

114" Machine Refusal

No groundwater. No mottles. Roots to 24".

Soil Log #16

0"-5" Topsoil (Woodland Cover)

5"-48" Yellowish brown (10YR 5/6), subangular blocky, friable, sandy loam,

5% gravel, 5% cobbles, 5% stones

48"-132" Brownish yellow (10YR 6/8) loose, single grain sandy loam,

5% gravel, 10% cobbles, 20% stones

No groundwater. No mottles. Roots to 24".

Soil Log #17

0"-5" Topsoil (Woodland Cover)

5"-36" Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

5% gravel, 5% cobbles

36"-96" Yellowish red (5YR 4/6), subangular blocky, friable, sandy loam,

5% gravel, 5% cobbles, 10% stones

96"-132" Yellowish red (5YR 4/6), subangular blocky, friable sandy loam,

10% gravel, 20% cobbles, 10% stones

No groundwater. No mottles. Roots to 24".

Soil Permeability Class Rating Tests 17A & 17B

Depth of Sample=84"

Soil Permeability Class Rating= K5

Soil Log #18

0"-4" Topsoil (Woodland Cover)

4"-30" Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

5% gravel, 5% cobbles

30"-96" Yellowish red (5YR 4/6), subangular blocky, friable loamy sand,

5% gravel, 5% cobbles, 5% stones

96"-126" Yellowish red (5YR 4/6), loose, single grain, loamy sand,

5% gravel, 10% cobbles, 5% stones

No groundwater. No mottles. Roots to 24".

Soil Permeability Class Rating Tests 18A & 18B

Depth of Sample=84"

70"-8"
Topsoil (Woodland Cover)
Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam, 5% gravel, 5% cobbles
Yellowish red (5YR 4/6), subangular blocky, friable loamy sand, 5% gravel, 5% cobbles, 5% stones
Yellowish red (5YR 4/6), loose, single grain loamy sand,

5% gravel, 10% cobbles, 5% stones

No groundwater. No mottles. Roots to 60".

Soil Log #23

0"-6"	Topsoil (Meadow Grass Cover)
6"-24"	Reddish yellow (7.5YR 4/6), subangular blocky, friable loam,
	10% gravel
24"-48"	Strong brown (7.5YR 5/6), subangular blocky, friable sandy loam,
	10% gravel, 10% cobbles
48"-82"	Strong brown (7.5YR 4/6), friable subangular blocky, sandy loam,
	10% gravel, 10% cobbles, 20% stones
82"-84"	Fractured Rock
84"	Machine refusal
No groundwest	tor No mottles. No obvious roots

No groundwater. No mottles. No obvious roots.

Soil Log #24

DOWN 250 B II 2	
0"-8"	Topsoil (Meadow Grass Cover)
8"-28"	Yellowish red (5YR 5/6), subangular blocky, friable loam,
	10% gravel
28"-96"	Yellowish red (5YR 5/8), subangular blocky, friable sandy loam,
	10% gravel, 10% cobbles, 10% stones
96"-126"	Reddish brown (5YR 4/4), loose, single grain, loamy sand,
	10% gravel, 10% cobbles, 20% stones

No groundwater. No mottles. No obvious roots.

Soil Log #25

0"-6"	Topsoil (Meadow Grass Cover)
6"-24"	Yellowish red (5YR 5/6), subangular blocky, friable loam,
	10% gravel
24"-96"	Yellowish red (5YR 5/8), subangular blocky, friable sandy loam,
	10% gravel, 10% cobbles, 10% stones
96"-109"	Reddish brown (5YR 4/4), loose, single grain, loamy sand,
	10% gravel, 10% cobbles, 20% stones

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 25A & 25B

Depth of Sample=84"

0"-8" Topsoil (Meadow Grass Cover)

8"-30" Yellowish red (5YR 5/6), subangular blocky, friable loam,

10% gravel

30"-82" Yellowish red (5YR 5/8), subangular blocky, friable sandy loam,

10% gravel, 10% cobbles, 10% stones

82"-140" Strong brown (7.5YR 5/8), loose, single grain, loamy sand,

10% gravel, 10% cobbles

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 26A & 26B

Depth of Sample=96"

Soil Permeability Class Rating= K5

Soil Log #27

0"-4" Topsoil (Meadow Grass Cover)

4"-26" Yellowish red (5YR 5/6), subangular blocky, friable, loam,

10% gravel, 10% cobbles

26"-90" Reddish yellow (5YR 6/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles, 10% stones

90"-110" Strong brown (7.5YR 5/6), loose, single grain, loamy sand.

20% gravel, 20% cobbles, 5% stones

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 27A & 27B

Depth of Sample=84"

Soil Permeability Class Rating= K4

Soil Log #28

0"-3" Topsoil (Meadow Grass Cover)

3"-24" Yellowish red (5YR 5/6), subangular blocky, friable, loam,

10% gravel, 10% cobbles

24"-84" Reddish yellow (5YR 6/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles, 10% stones

84"-109" Strong brown (7.5YR 5/6), loose, single grain, loamy sand.

20% gravel, 20% cobbles, 5% stones

No groundwater. No mottles. No obvious roots.

0"-4" Topsoil (Meadow Grass Cover)

4"-24" Yellowish red (5YR 5/6), subangular blocky, friable, loam,

10% gravel, 10% cobbles

24"-90" Reddish yellow (7.5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles, 10% stones

90"-126" Yellowish red (5YR 5/6), loose, single grain, loamy sand,

10% gravel, 10% cobbles, 20% stones

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 29A & 29B

Depth of Sample=84"

Soil Permeability Class Rating= K4

Soil Log #30

0"-8" Topsoil (Meadow Grass Cover)

8"-36" Yellowish red (5YR 5/6), subangular blocky, friable, silt loam,

10% gravel

36"-132" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles

One pocket of very slight, slow seepage @ 48".

No accumulation in bottom of soil log after 24 hours.

No mottles. No obvious roots.

Soil Log #31

0"-8" Topsoil (Meadow Grass Cover)

8"-54" Yellowish red (5YR 5/6), subangular blocky, friable, silt loam,

10% gravel

54"-132" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles

Two pockets of very slight, slow seepage @ 42".

No accumulation in bottom of soil log after 24 hours.

No mottles. No obvious roots.

Soil Permeability Class Rating Tests 31A & 31B

Depth of Sample=84"

Soil Permeability Class Rating= K4

Soil Log #32

0"-10" Topsoil (Meadow Grass Cover)

10"-42" Yellowish red (5YR 5/6), subangular blocky, friable, silt loam,

10% gravel

42"-132" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles

Two pockets of very slight, slow seepage @ 36".

Accumulation in bottom of soil log after 24 hours = 128".

Mottles (few, fine & faint) 36"–42".

No obvious roots.

Topsoil (Meadow Grass Cover)
Brown (7.5YR 4/4), subangular blocky, friable, sandy loam,5% gravel
Brown (7.5YR 5/4), subangular blocky, friable, sandy loam, 5% gravel,
10% cobbles, 5% stones
Reddish yellow (7.5YR 6/8), loose, single grain, loamy sand, 5% gravel,
20% cobbles, 10% stones

No groundwater. No mottles. No obvious roots.

Soil Log #40

0"-30"	Topsoil (Meadow Grass Cover)
30"-72"	Brown (7.5YR 4/4), subangular blocky, friable, sandy loam,5% gravel
72"-84"	Brown (7.5YR 5/4), subangular blocky, friable, sandy loam, 5% gravel,
	10% cobbles, 5% stones
84"-138"	Reddish yellow (7.5YR 6/8), loose, single grain, loamy sand, 5% gravel,
	20% cobbles, 10% stones

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 40A & 40B

Depth of Sample=96"

Soil Permeability Class Rating= K5

Soil Log #41

0"-30"	Clean fill, brown (7.5YR 4/4), subangular blocky, friable, silt loam,
	20% gravel, 10% cobbles
30"-36"	Topsoil
36"-72"	Strong brown (7.5YR 5/8), subangular blocky, friable, silt loam,
	10% gravel
72"-148"	Reddish yellow (7.5YR 6/6), subangular blocky, friable, sandy loam,
	10% cobbles

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 41A & 41B

Depth of Sample=96"

Soil Permeability Class Rating= K4

Soil Log #42

DOIT LUE HTL	
0"-24"	Clean fill, brown (7.5YR 4/4), subangular blocky, friable, silt loam,
	10% gravel, 10% cobbles, 20% stones
24"-36"	Topsoil
36"-132"	Reddish yellow (5YR 6/6), subangular blocky, friable, loamy sand,
	10% gravel, 10% cobbles
132"-156"	Reddish yellow (5YR 7/6), subangular blocky, friable, loamy sand,
	10% gravel,10% cobbles
	-

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 42A & 42B

Depth of Sample=96"

0"-24" Clean fill, brown (7.5YR 4/4), subangular blocky, friable, silt loam,

10% gravel, 10% cobbles, 20% stones

24"-36" Topsoil

36"-72" Reddish yellow (5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 20% cobbles, 10% stones

72"-138" Reddish yellow (5YR 7/6), subangular blocky, friable, loamy sand,

40% fractured rock

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 43A & 43B

Depth of Sample=96"

Soil Permeability Class Rating= K5

Soil Log #44

0"-16" Clean fill, brown (7.5YR 4/4), subangular blocky, friable, silt loam,

10% gravel, 10% cobbles, 20% stones

16"-30" Topsoil

30"-72" Reddish yellow (5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles

72"-136" Reddish yellow (5YR 7/6), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles

No groundwater. No mottles. No obvious roots.

Soil Log #45

0"-12" To

Topsoil (Lawn)

12"-132" Reddish yell

Reddish yellow (5YR 5/6), subangular blocky, friable, loamy sand,

5% gravel, 20% cobbles, 20% stones

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 45A & 45B

Depth of Sample=84"

Soil Permeability Class Rating= K5

Soil Log #46

0"-12"

Topsoil (Lawn)

12"-109"

Reddish yellow (5YR 5/6), subangular blocky, friable, loamy sand,

5% gravel, 20% cobbles, 20% stones

No groundwater. No mottles. No obvious roots.

Soil Log #47

0"-12"

Topsoil (Lawn)

12"-132"

Reddish yellow (5YR 5/6), subangular blocky, friable, loamy sand,

5% gravel, 10% cobbles, 10% stones

No groundwater. No mottles. No obvious roots.

0"-12" Topsoil (Meadow Grass Cover)

12"-42" Strong brown (7.5YR 5/6), subangular blocky, friable, loam, 10% gravel,

10% cobbles

42"-144" Reddish yellow (7.5YR 6/8), loose, single grain, sand, 10% gravel,

10% cobbles, 5% stones

No groundwater. No mottles. Roots to 84".

Soil Permeability Class Rating Tests 54A & 54B

Depth of Sample=84"

Soil Permeability Class Rating= K5

Soil Log #55

0"-12" Topsoil (Woods)

12"-36" Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles

36"-132" Reddish yellow (5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 20% cobbles, 10% stones

No groundwater. No mottles. Roots to 24".

Soil Log #56

0"-12" Topsoil (Woods)

12"-46" Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles

46"-126" Reddish yellow (5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 20% cobbles, 10% stones

No groundwater. No mottles. Roots to 24".

Soil Permeability Class Rating Tests 56A & 56B

Depth of Sample=84"

Soil Permeability Class Rating= K4

Soil Log #57

0"-9" Topsoil (Woods)

9"-40" Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles

40"-132" Reddish yellow (5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 20% cobbles, 10% stones

No groundwater. No mottles. Roots to 24".

Soil Log #58

0"-5" Topsoil (Woods)

5"-60" Yellowish red (5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

60"-120" Reddish yellow (5YR 6/6), angular blocky, loose, loamy sand,

15% gravel, 10% cobbles

No groundwater. No mottles. Roots to 18".

0"-4" Topsoil (Woods)

4"-48" Reddish brown (5YR 4/4), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

48"-144" Light reddish brown (5YR 6/4), subangular blocky, friable, loamy sand,

15% gravel, 10% cobbles

Seepage @ 142", medium flow, 2 Hour reading @ 128". 24 Hour reading @ 106".

No mottles. Roots to 18".

Soil Permeability Class Rating Tests 59A & 59B

Depth of Sample=84"

Soil Permeability Class Rating= K5

Soil Log #60

0"-4" Topsoil (Woods)

4"-46" Reddish brown (5YR 4/4), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

46"-132" Light reddish brown (5YR 6/4), subangular blocky, friable, loamy sand,

15% gravel, 10% cobbles

No groundwater. No mottles. Roots to 24".

Soil Log #61

0"-6" Topsoil (Woods)

6"-40" Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

5% gravel, 5% cobbles

40"-132" Reddish brown (5YR 5/4), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

No groundwater. No mottles. Roots to 18".

Soil Log #62

0"-5" Topsoil (Woods)

5"-66" Yellowish red (5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles

66"-132" Reddish yellow (5YR 6/6), subangular blocky, friable, loamy sand,

15% gravel, 10% cobbles

No groundwater. No mottles. Roots to 18".

Soil Permeability Class Rating Tests 62A & 62B

Depth of Sample=84"

Soil Permeability Class Rating= K5

Soil Log #63

0"-4" Topsoil (Woods)

4"-58" Yellowish red (5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles

58"-124" Reddish yellow (5YR 6/6), subangular blocky, friable, loamy sand,

15% gravel, 10% cobbles

No groundwater. No mottles. Roots to 18".

0"-4" Topsoil (Woods)

4"-66" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

15% gravel, 10% cobbles

66"-140" Reddish yellow (7.5YR 6/6), loose, single grain, loamy sand,

15% gravel

No groundwater. No mottles. Roots to 16".

Soil Log #65

0"-4" Topsoil (Woods)

4"-36" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

36"-60" Reddish yellow (7.5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel

60"-132" Reddish yellow (7.5YR 7/6), loose, single grain, loamy sand, 15% gravel

No groundwater. No mottles. Roots to 18".

Soil Permeability Class Rating Tests 65A & 65B

Depth of Sample=84"

Soil Permeability Class Rating= K4

Soil Log #66

0"-5" Topsoil (Woods)

5"-30" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

30"-56" Reddish yellow (7.5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel

56"-132" Reddish yellow (7.5YR 7/6), loose, single grain, loamy sand, 15% gravel

Groundwater @ 120" after 4 hours. No mottles. Roots to 14".

Soil Log #67

0"-3" Topsoil (Woods)

3"-36" Reddish yellow (7.5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel

36"-132" Reddish yellow (7.5YR 7/6), loose, single grain, loamy sand, 15% gravel

Seepage @ 85", heavy. Four-hour water level = 80". 24-hour reading=76".

No mottles. Roots to 72".

Soil Log #68

0"-4" Topsoil (Woods)

4"-36" Reddish yellow (7.5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel

36"-126" Reddish yellow (7.5YR 7/6), loose, single grain, loamy sand, 15% gravel

Seepage @ 72", heavy. Four-hour water level = 75". 24-hour reading=68".

No mottles. Roots to 90".

Soil Permeability Class Rating Tests 68A & 68B

Depth of Sample=72"

0"-6"

Topsoil (Woods)

6"-42"

Reddish yellow (7.5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel

42"-132"

Reddish yellow (7.5YR 7/6), loose, single grain, loamy sand, 15% gravel

Seepage @ 60", heavy. Four-hour water level = 66". 24-hour reading=58".

No mottles. Roots to 80".

Soil Log #76

0"-6"

Topsoil

6"-48"

Yellowish red (5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

48"-196"

Reddish brown (5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 15% cobbles, 10% stones

No groundwater. No mottles. Roots to 48".

Percolation Test 76A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.0 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 2.0 = 11.0 in/hr$

Soil Log #77

0"-4"

Topsoil

4"-58"

Yellowish red (5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

58"-202"

Reddish brown (5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 15% cobbles, 10% stones

No groundwater. No mottles. Roots to 52".

Percolation Test 77A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.75$ min/inch

Permeability Rate $K = a / p_m = 22 / 1.75 = 12.6 in/hr$

0"-8" Topsoil

8"-60" Yellowish red (5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles

60"-204" Reddish brown (5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles, 10% stones

No groundwater. No mottles. Roots to 48".

Percolation Test 78A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.5 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 1.5 = 14.7 \text{ in/hr}$

Soil Permeability Class Rating Tests 78A & 78B

Depth of Sample=96"

Soil Permeability Class Rating= K5

Soil Log #79

0"-3" Topsoil

3"-60" Yellowish red (5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles

60"-196" Reddish brown (5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles, 10% stones

No groundwater. No mottles. Roots to 42".

Percolation Test 79A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.66 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 1.66 = 13.3 in/hr$

Soil Permeability Class Rating Tests 79A & 79B

Depth of Sample=96"

0"-10" Topsoil

10"-36" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

36"-72" Yellowish red (5YR 4/6), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles, 5% stones

72"-192" Reddish yellow (7.5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

Seepage @ 138", medium flow. 4 hour water level = 123". 24 hour water level = 104".

No mottles. Roots to 60".

Percolation Test 80A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.83 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 1.83 = 12.0 \text{ in/hr}$

Soil Log #82

0"-3" Topsoil

3"-36" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam

36"-132" Yellowish red (5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 15% cobbles, 10% stones

Seepage @ 108", medium flow. 4 hour water level = 114". 24 hour water level = 104".

No mottles. Roots to 52".

Percolation Test 82A

Depth of test = 78"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 3.0 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 3.0 = 7.33$ in/hr

Soil Log #83

0"-4" Topsoil

4"-38" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam

38"-132" Yellowish red (5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 15% cobbles, 10% stones

Seepage @ 120", medium flow. 4 hour water level = 135". 24 hour water level = 118".

No mottles. Roots to 46".

Percolation Test 83A

Depth of test = 78"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.75 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 2.75 = 8.0 \text{ in/hr}$

Soil Permeability Class Rating Tests 83A & 83B

Depth of Sample=78"

0"-20" Topsoil

20"-66" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

15% gravel, 10% cobbles, 5% stones

66"-192" Reddish yellow (7.5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 15% cobbles, 10% stones

No groundwater. No mottles. Roots to 24".

Percolation Test 92A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.0 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 2.0 = 11.0 \text{ in/hr}$

Soil Log #93

0"-12" Topsoil

12"-60" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

15% gravel, 10% cobbles, 5% stones

60"-194" Reddish yellow (7.5YR 6/6), subangular blocky, friable, loamy sand,

10% gravel, 15% cobbles, 10% stones

No groundwater. No mottles. Roots to 14".

Percolation Test 93A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.75 \text{ min/inch}$

Permeability Rate K = a / $p_m = 22 / 1.75 = 12.6$ in/hr

Soil Log #94

0"-8" Topsoil

8"-50" Brown (7.5YR 4/4), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles, 10% stones

50"-198" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

15% gravel, 10% cobbles, 5% stones

No groundwater. No mottles. Roots to 12".

Percolation Test 94A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.66 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 1.66 = 13.3 in/hr$

0"-14"

Topsoil

14"-62"

Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

15% gravel, 5% cobbles, 5% stones

62"-192"

Reddish yellow (7.5YR 6/6), subangular blocky, friable, sand,

15% gravel, 10% cobbles, 10% stones

No groundwater. No mottles. Roots to 24".

Percolation Test 95A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.5 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 1.5 = 14.7 \text{ in/hr}$

Soil Log #96

0"-4"

Topsoil

4"-48"

Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles, 10% stones

48"-108"

Yellowish red (5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 15% cobbles, 15% stones

No groundwater. No mottles. Roots to 84".

Percolation Test 96A

Depth of test = 60"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.5 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 2.5 = 8.8 in/hr$

Soil Log #97

0"-4"

Topsoil

4"-52"

Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles, 10% stones

52"-120"

Yellowish red (5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 15% cobbles, 15% stones

No groundwater. No mottles. Roots to 82".

Percolation Test 97A

Depth of test = 60"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 3.0 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 3.0 = 7.33 in/hr$

0"-24" Topsoil

24"-72" Yellowish red (5YR 4/6), subangular blocky, friable, sandy clay loam,

15% gravel, 10% cobbles

72"-206" Yellowish red (5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles, 5% stones

No groundwater. Mottles, common, coarse, distinct, 168"-206". Roots to 10".

Percolation Test 114A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 3.25 \text{ min/inch}$

Permeability Rate K = a / $p_m = 22 / 3.25 = 6.77$ in/hr

Soil Log #115

0"-18" Topsoil

18"-76" Yellowish red (5YR 4/6), subangular blocky, friable, sandy clay loam,

15% gravel, 10% cobbles

76"-208" Yellowish red (5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles, 5% stones

No groundwater. Mottles, common, coarse, distinct, 162"-208". Roots to 14".

Percolation Test 115A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 3.33 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 3.33 = 6.61$ in/hr

Soil Log #116

0"-18" Topsoil

18"-84" Brown (7.5YR 5/4), subangular blocky, friable, sandy loam,

15% gravel, 10% cobbles

84"-192" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles, 5% stones

No groundwater. No mottles. Roots to 48".

Percolation Test 116A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.25 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 2.25 = 9.78$ in/hr

0"-20" Topsoil

20"-76" Brown (7.5YR 5/4), subangular blocky, friable, sandy loam,

15% gravel, 10% cobbles

76"-196" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles, 5% stones

No groundwater. No mottles. Roots to 60".

Percolation Test 117A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.16 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 2.16 = 10.2 in/hr$

Soil Log #118

0"-18" Topsoil

18"-60" Strong brown (7.5YR 4/6), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles

60"-196" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

No groundwater. No mottles. Roots to 12".

Percolation Test 118A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.0 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 2.0 = 11.0 in/hr$

Soil Log #119

0"-16" Topsoil

16"-58" Strong brown (7.5YR 4/6), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles

58"-194" Strong brown (7.5YR 5/6), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles

No groundwater. No mottles. Roots to 12".

Percolation Test 119A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.83 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 1.83 = 12.0 \text{ in/hr}$

0"-10" Topsoil

10"-48" Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

15% gravel, 10% cobbles, 5% stones

48"-146" Yellowish red (5YR 5/6), subangular blocky, friable, loamy sand,

15% gravel, 15% cobbles, 10% stones

No groundwater. No mottles. Roots to 10".

Percolation Test 120A

Depth of test = 60"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 3.25 \text{ min/inch}$

Permeability Rate K = a / $p_m = 22 / 3.25 = 6.77$ in/hr

Soil Log #121

0"-12" Topsoil

12"-56" Reddish brown (5YR 4/4), subangular blocky, friable, sandy loam,

15% gravel, 10% cobbles, 5% stones

56"-144" Yellowish red (5YR 5/6), subangular blocky, friable, loamy sand,

15% gravel, 15% cobbles, 10% stones

No groundwater. No mottles. Roots to 12".

Percolation Test 121A

Depth of test = 60"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.75 \text{ min/inch}$

Permeability Rate K = a / p_m = 22 /2.75 = 8.00 in/hr

Soil Log #122

0"-6" Topsoil (Meadow Grass Cover)

6"-30" Yellowish red (5YR 5/6), subangular blocky, friable loam,

10% gravel, 10% cobbles

30"-96" Reddish yellow(5YR 6/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles, 10% stones

96"-120" Strong brown (7.5YR 5/6), loose, single grain, loamy sand

20% gravel, 20% cobbles, 5% stones

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 122A & 122B

Depth of Sample=84"

0"-6" Topsoil (Meadow Grass Cover)

6"-36" Yellowish red (5YR 5/6), subangular blocky, friable loam,

10% gravel, 10% cobbles

36"-104" Reddish yellow(5YR 6/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles, 10% stones

104"-126" Strong brown (7.5YR 5/6), loose, single grain, loamy sand

20% gravel, 20% cobbles, 5% stones

No groundwater. No mottles. No obvious roots.

Soil Permeability Class Rating Tests 123A & 123B

Depth of Sample=84"

Soil Permeability Class Rating= K4

Soil Log #124

0"-6" Topsoil (Meadow Grass Cover)

6"-36" Yellowish red (5YR 5/6), subangular blocky, friable loam,

10% gravel, 10% cobbles

36"-96" Reddish yellow(5YR 6/6), subangular blocky, friable, sandy loam,

10% gravel, 10% cobbles, 10% stones

96"-124" Strong brown (7.5YR 5/6), loose, single grain, loamy sand

20% gravel, 20% cobbles, 5% stones

No groundwater. No mottles. No obvious roots.

Soil Log #125

0"-14" Topsoil

14"-60" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles, 5% stones

60"-124" Strong brown (7.5YR 5/8), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles, 5% stones

No groundwater. No mottles. Roots to 20" (Meadow).

Soil Permeability Class Rating Tests 125A & 125B

Depth of Sample=84"

Soil Permeability Class Rating= K5

Soil Log #126

0"-18" Topsoil

18"-74" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles, 5% stones

74"-126" Strong brown (7.5YR 5/8), subangular blocky, friable, loamy sand,

10% gravel, 10% cobbles, 5% stones

No groundwater. No mottles. Roots to 18" (Meadow).

0"-16" Topsoil

16"-64" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles, 5% stones

64"-132" Strong brown (7.5YR 5/8), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles, 5% stones

No groundwater. No mottles. Roots to 16" (Meadow).

Soil Log #128

0"-10" Topsoil

10"-36" Brown (7.5YR 5/4), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles

36"-62" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles, 5% stones

62"-198" Strong brown (7.5YR 5/8), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles, 5% stones

No groundwater. No mottles. Roots to 12" (Meadow).

Percolation Test 128A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 2 = 11 \text{ in/hr}$

Soil Log #129

0"-12" Topsoil

12"-34" Brown (7.5YR 5/4), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles, 10% stones

34"-60" Strong brown (7.5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles, 5% stones

60"-200" Strong brown (7.5YR 5/8), subangular blocky, friable, loamy sand,

10% gravel, 5% cobbles, 5% stones

No groundwater. No mottles. Roots to 12" (Meadow).

Percolation Test 129A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.25 \text{ min/inch}$

Permeability Rate K = $a / p_m = 22 / 2.25 = 9.8$ in/hr

0"-8" Topsoil

8"-68" Yellowish red (5YR 5/6), subangular blocky, friable, sandy loam,

15% gravel, 5% cobbles

68"-200" Reddish brown (5YR 5/4), subangular blocky, friable, loamy sand,

15% gravel, 5% cobbles, 5% stones

No groundwater. No mottles. Roots to 42".

Percolation Test 136A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 2.5 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 2.5 = 8.8$ in/hr

Soil Log #137

0"-6" Topsoil

6"-60" Yellowish red (5YR 5/6), subangular blocky, friable, sandy clay loam,

15% gravel, 5% cobbles

60"-124" Reddish brown (5YR 5/4), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles, 5% stones

Hole Collapsing at 124". Seepage at 102". No mottles. Roots to 96".

2 Hour water reading at 92". 24 Hour water reading at 84".

Percolation Test 137A

Depth of test = 78"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.66 \text{ min/inch}$

Permeability Rate K = a / $p_m = 22 / 1.66 = 13.3 \text{ in/hr}.$

Soil Log #138

0"-8" Topsoil

8"-52" Yellowish red (5YR 5/6), subangular blocky, friable, sandy clay loam,

15% gravel, 5% cobbles

52"-120" Reddish brown (5YR 5/4), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles, 5% stones

Hole Collapsing at 120". Seepage at 96". No mottles. Roots to 86".

2 Hour water reading at 88". 24 Hour water reading at 72".

Percolation Test 138A

Depth of test = 78"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.5 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 1.5 = 14.7$ in/hr

0"-8"

Topsoil

8"-54"

Yellowish red (5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles

54"-148"

Reddish brown (5YR 5/4), single grain, loose, sand,

10% gravel, 5% cobbles

No ground water. Mottles common, coarse, distinct 96"-148". Roots to 36".

Percolation Test 139A

Depth of test = 78"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.5 \text{ min/inch}$

Permeability Rate $K = a / p_m = 22 / 1.5 = 14.7 in/hr$

Soil Log #140

0"-6"

Topsoil

6"-60"

Yellowish red (5YR 5/6), subangular blocky, friable, sandy loam,

10% gravel, 5% cobbles

60"-152"

Reddish brown (5YR 5/4), single grain, loose, sand,

10% gravel, 5% cobbles

No ground water. Mottles common, coarse, distinct 100"-152". Roots to 48".

Percolation Test 140A

Depth of test = 96"

Bottom width = 8"

Parameter 'a' = 22

Percolation Rate $(p_m) = 1.66 \text{ min/inch}$

Permeability Rate K = a / $p_m = 22 / 1.66 = 13.3$ in/hr

Based upon the foregoing, it is our opinion that the above soil log testing results are suitable for subsurface sewage disposal and support the new lots proposed for this subdivision project in the Township of Mendham.

Sincerely,

Cardice J. Davis

Candice J. Davis, PE

For the Firm

File: M:Septic/Data/222040/soiltestreport(abridged)-sept2022

November 17, 2022

Mendham Township Planning Board Re: Environmental Impact Statement Addendum No. 2 Lawrence Farm Estates Preliminary and Final Major Subdivision Block 147; Lots 42.06, 42.07, 42.08, 42.12, 42.13 & 42.16

APPENDIX B - FIELD DATA SHEETS

Field Data Inventory Sheet

Date/Time: 4/14/22, 8:20AM – 8:50AM Weather Conditions: Sunny, 65, light winds

Notes: Upland forest on Lot 42.06

Birds	Mammals	Reptiles	Amphibians	Other
American Robin	White-Tailed Deer*			
Tufted Titmouse	Eastern Cottontail*			
Cardinal				
Carolina Wren				
Blue-Jay				
American Crow				
Mourning Dove				
Common Grackle				
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Field Data Inventory Sheet

Date/Time: 4/14/22, 9:00AM – 9:40AM Weather Conditions: Sunny, 70, light winds

Notes: Adjacnet to Wetlands on Lot 42.08

Birds	Mammals	Reptiles	Amphibians	Other
American Robin	White-Tailed		Wood Frog	
	Deer*			
Tufted Titmouse				
Cardinal				
Carolina Wren				
Blue-Jay				
Black-Capped				
Chickadee				

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Field Data Inventory Sheet

Date/Time: 4/14/22, 945AM – 10:10AM Weather Conditions: Sunny, 70 light winds

Notes: Upland forest on Lot 42.08

Birds	Mammals	Reptiles	Amphibians	Other
American Robin	White-Tailed			
	Deer*			
Tufted Titmouse				
Cardinal				
Carolina Wren				
Mourning Dove				· · · · · · · · · · · · · · · · · · ·
Common Grackle				
Red-Tailed Hawk				
Rufous-Sided				
Towhee				
				7144

Field Data Inventory Sheet

Date/Time: 4/14/22, 10:20 – 11:00AM Weather Conditions: Sunny, 75 moderate winds

Notes: Upland forest on Lot 42.12/42.13

Birds	Mammals	Reptiles	Amphibians	Other
American Robin	White-Tailed Deer	•		
Tufted Titmouse				
Cardinal				
Carolina Wren				
Mourning Dove				
Common Grackle				
Red-Tailed Hawk				
		77.00		

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