



Commonwealth of Massachusetts  
City/Town of Southborough

## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### A. Facility Information

FD 120 Turnpike, LLC

Owner Name

120 Turnpike Road

Street Address

Southborough

City

MA

State

37/0120

Map/Lot #

01772

Zip Code

### B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge

Soil Name

Till

Soil Parent material

severe

Soil Limitations

uncertain

Landform

Web soil survey  
Source

310B  
Soil Map Unit

DH182

9-7-2026

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source

Map Unit

Description of Geologic Map Unit:

4. Flood Rate Insurance Map Within a regulatory floodway? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

6. Within a Mapped Wetland Area? ☐ Yes ☒ No

If yes, MassGIS Wetland Data Layer:

7. Current Water Resource Conditions (USGS):

09/07/22

Month/Day/ Year

Range: ☐ Above Normal

Wetland Type

☐ Normal

☒ Below Normal

8. Other references reviewed:



Commonwealth of Massachusetts  
City/Town of Southborough

# Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

## C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 1 Hole # 1 Date 9-7-2026 Time 6:00 Weather cloudy Latitude 42° 10' Longitude: 71° 10'

1. Land Use WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation MOSTLY PINE TREES Surface Stones (e.g., cobbles, stones, boulders, etc.) SOME STONES

Description of Location: JUST ABOVE DRAINAGE SWALES

2. Soil Parent Material: TILL Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN

3. Distances from: Open Water Body      feet Drainage Way      feet Wetlands      feet  
Property Line      feet Drinking Water Well      feet Other      feet

4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes:      Depth Weeping from Pit      Depth Standing Water in Hole

### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-7"	A	SANDY LOAM	10YR 3/2								
7"-27"	B	SANDY LOAM	10YR 7/6								
27"-42"	C1	SANDY LOAM	10YR 7/3				15	5			
42"-70"	C2	SANDY LOAM	10YR 7/3			5% 10YR 7/1	15	5			

Additional Notes:

- NO REFUSAL

- NO WEPPING



## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 2

Hole #

Date 4-7-20

Time

Weather 60° cloudy

Latitude

Longitude

1. Land Use:

WOODLAND  
(e.g., woodland, agricultural field, vacant lot, etc.)

Vegetation PINE TREES

Surface Stones (e.g., cobbles, stones, boulders, etc.) SOME STONES

Slope (%) 2-10

Description of Location:

100+ FEET FROM DRAINAGE SWALE

2. Soil Parent Material:

TILL

Landform UNCERTAIN

Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN

3. Distances from:

Open Water Body \_\_\_\_\_ feet

Property Line \_\_\_\_\_ feet

Drainage Way \_\_\_\_\_ feet

Drinking Water Well \_\_\_\_\_ feet

Wetlands \_\_\_\_\_ feet

Other \_\_\_\_\_ feet

4. Unsuitable

Materials Present: ☐ Yes ☒ No

If Yes:

☐ Disturbed Soil

☐ Fill Material

☐ Weathered/Fractured Rock

☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No

If yes: \_\_\_\_\_ Depth Weeping from Pit

\_\_\_\_\_ Depth Standing Water in Hole

#### Soil Log

Depth (in)	Soil Horizon / Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-7	A	SANDY LOAM	10YR3/2								
7-24	B	SANDY LOAM	10YR7/6								
24-39	C1	SANDY LOAM	10YR7/3				15	5			
39-70	C2	SANDY LOAM	10YR7/3			5% 10YR7/1	15	5			

Additional Notes:

- NO REFUSAL  
- SOME POCKETS OF LOAMY SAND



## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater ( $S_h$ ) (USGS methodology)

Obs. Hole # 1

NOT OBSERVED inches

NOT OBSERVED inches

42 inches

\_\_\_\_\_ inches

Obs. Hole # 2

NOT OBSERVED inches

NOT OBSERVED inches

39 inches

\_\_\_\_\_ inches

Index Well Number \_\_\_\_\_

Reading Date \_\_\_\_\_

$$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$$

Obs. Hole/Well# \_\_\_\_\_

$S_c$  \_\_\_\_\_

$S_r$  \_\_\_\_\_

$OW_c$  \_\_\_\_\_

$OW_{max}$  \_\_\_\_\_

$OW_r$  \_\_\_\_\_

$S_h$  \_\_\_\_\_

2. Estimated Depth to High Groundwater: \_\_\_\_\_ inches

### E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)?

c. If no, at what depth was impervious material observed?

Upper boundary:

7" 7"  
inches

Lower boundary:

70" 70"  
inches

Upper boundary:

\_\_\_\_\_ inches

Lower boundary:

\_\_\_\_\_ inches





## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

Signature of Soil Evaluator

Typed or Printed Name of Soil Evaluator / License #

Name of Approving Authority Witness

Date

Expiration Date of License

Approving Authority

**Note:** In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with [Percolation Test Form 12](#).

**Field Diagrams:** Use this area for field diagrams:

PARKING





Commonwealth of Massachusetts  
City/Town of Southborough

## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

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Owner Name

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Map/Lot #

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### B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge

Soil Name

Till

Soil Parent material

severe

Soil Limitations

uncertain

Landform

Web soil survey  
Source

310B

Soil Map Unit

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source

Map Unit

Description of Geologic Map Unit:

4. Flood Rate Insurance Map Within a regulatory floodway? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

6. Within a Mapped Wetland Area? ☐ Yes ☒ No

If yes, MassGIS Wetland Data Layer:

7. Current Water Resource Conditions (USGS):

9/7/22

Month/Day/ Year

Range: ☐ Above Normal

Wetland Type

☐ Normal

☒ Below Normal

8. Other references reviewed:



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# Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

## C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 3 Hole # 9-7-2022 Date 10 Time 6:00 Weather clear Latitude 42°10'N Longitude 71°10'W

1. Land Use WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation MOSTLY PINE TREES Surface Stones (e.g., cobbles, stones, boulders, etc.) SOME STONES

Description of Location: NEAR STONE WALL PROPERTY BOUNDARY

2. Soil Parent Material: TU Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN

3. Distances from: Open Water Body — feet Drainage Way — feet Wetlands >200 feet  
Property Line 20+ feet Drinking Water Well — feet Other — feet

4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: — Depth Weeping from Pit — Depth Standing Water in Hole

### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-7"	A	SANDY LOAM	10YR 3/2								
7-25"	B	SANDY LOAM	10YR 7/6								
25"-44"	C1	SANDY LOAM	10YR 7/3				13	2			
44"-78"	C2	SANDY LOAM	10YR 7/3			5% 10YR 7/1	15	2			

Additional Notes:

— NO REFUSAL

— SOME LOAMY SAND POCKETS IN C1, C2



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## C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 4 Hole # 9-7-22 Date 10:30 Time 62° CLOUDY Weather  
1. Land Use: WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) MOSTLY PINES Vegetation SOME STONES Surface Stones (e.g., cobbles, stones, boulders, etc.) ~10% Longitude: ~107° Slope (%)  
Description of Location: ABOUT 60' DRAINAGE SWALE  
2. Soil Parent Material: TILL Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN  
3. Distances from: Open Water Body ~ feet Drainage Way ~ feet Wetlands 7200 feet  
Property Line ~100 feet Drinking Water Well ~ feet Other ~ feet  
4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock  
5. Groundwater Observed: ☐ Yes ☒ No If yes: ~ Depth Weeping from Pit ~ Depth Standing Water in Hole

### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-7"	A	SANDY LOAM	10YR2/3								
7"-26"	B	SANDY LOAM	10YR2/4								
26"-46"	C1	SANDY LOAM	10YR2/3				15	5			
46"-80"	C2	SANDY LOAM	10YR2/3			5 1/2 10YR2/1	15	5			

Additional Notes:

- NO REFUSAL  
- SOME AREAS IN C1 & C2 WERE LOAMY SAND TEXTURES



## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### D. Determination of High Groundwater Elevation

1. Method Used:

- |  | Obs. Hole # <u>3</u>       | Obs. Hole # <u>4</u>       |
|--|----------------------------|----------------------------|
| <input checked="" type="checkbox"/> Depth observed standing water in observation hole                | <u>NOT OBSERVED</u> inches | <u>NOT OBSERVED</u> inches |
| <input checked="" type="checkbox"/> Depth weeping from side of observation hole                      | <u>NOT OBSERVED</u> inches | <u>NOT OBSERVED</u> inches |
| <input checked="" type="checkbox"/> Depth to soil redoximorphic features (mottles)                   | <u>44</u> inches           | <u>46</u> inches           |
| <input type="checkbox"/> Depth to adjusted seasonal high groundwater ( $S_h$ )<br>(USGS methodology) | _____ inches               | _____ inches               |

Index Well Number \_\_\_\_\_

Reading Date \_\_\_\_\_

$$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$$

Obs. Hole/Well# \_\_\_\_\_  $S_c$  \_\_\_\_\_  $S_r$  \_\_\_\_\_  $OW_c$  \_\_\_\_\_  $OW_{max}$  \_\_\_\_\_  $OW_r$  \_\_\_\_\_  $S_h$  \_\_\_\_\_

2. Estimated Depth to High Groundwater: \_\_\_\_\_ inches

### E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)?

c. If no, at what depth was impervious material observed?

Upper boundary:

7' 7"  
inches

Lower boundary:

78' 80"  
inches

Upper boundary:

\_\_\_\_\_ inches

Lower boundary:

\_\_\_\_\_ inches





Commonwealth of Massachusetts  
City/Town of Southborough

## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

Signature of Soil Evaluator

*[Handwritten Signature]*  
JAMES TENDRANT

Typed or Printed Name of Soil Evaluator / License #

DEWYIS COSTELLO

Name of Approving Authority Witness

Date

9-7-22

Expiration Date of License

JULY 2025

Approving Authority

SOUTHBOROUGH BOA

**Note:** In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with [Percolation Test Form 12](#).

**Field Diagrams:** Use this area for field diagrams:



Commonwealth of Massachusetts  
City/Town of Southborough

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### A. Facility Information

FD 120 Turnpike, LLC

Owner Name

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### B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge

Soil Name

severe

Soil Limitations

Till

Soil Parent material

uncertain

Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No

If yes:

Year Published/Source

Map Unit

Description of Geologic Map Unit:

4. Flood Rate Insurance Map Within a regulatory floodway? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

6. Within a Mapped Wetland Area? ☐ Yes ☒ No

If yes, MassGIS Wetland Data Layer:

7. Current Water Resource Conditions (USGS):

9/7/22

Month/Day/ Year

Range: ☐ Above Normal

Wetland Type

☐ Normal

☒ Below Normal

8. Other references reviewed:





Commonwealth of Massachusetts  
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# Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

## C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 5 Hole # 9-7-2022 Date 11:20 Time 62° W Weather Latitude Longitude: 71° 0' Slope (%) 210

1. Land Use WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) MOSTLY PINES Vegetation SOME STONES Surface Stones (e.g., cobbles, stones, boulders, etc.)

Description of Location: EAST OF DASH

2. Soil Parent Material: TILL Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS)

3. Distances from: Open Water Body — feet Drainage Way — feet Wetlands — feet  
Property Line ~50 feet Drinking Water Well — feet Other — feet

4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: — Depth Weeping from Pit — Depth Standing Water in Hole

### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-7"	A	SANDY LOAM	10YR3/1								
7-25"	B	SANDY LOAM	10YR7/6								
25"-42"	C1	SANDY LOAM	10YR7/3				15	2			
42"-81"	C2	SANDY LOAM	10YR7/3			5/10 w/nd 1 2/10 w/nd 1/2	15	2			

Additional Notes:



## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### C. On-Site Review *(minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: \_\_\_\_\_

Hole # \_\_\_\_\_

Date \_\_\_\_\_

Time \_\_\_\_\_

Weather \_\_\_\_\_

Latitude \_\_\_\_\_

Longitude: \_\_\_\_\_

1. Land Use: \_\_\_\_\_  
(e.g., woodland, agricultural field, vacant lot, etc.)

Vegetation \_\_\_\_\_

Surface Stones (e.g., cobbles, stones, boulders, etc.) \_\_\_\_\_

Slope (%) \_\_\_\_\_

Description of Location: \_\_\_\_\_

2. Soil Parent Material: \_\_\_\_\_

Landform \_\_\_\_\_

Position on Landscape (SU, SH, BS, FS, TS) \_\_\_\_\_

3. Distances from: Open Water Body \_\_\_\_\_ feet

Drainage Way \_\_\_\_\_ feet

Wetlands \_\_\_\_\_ feet

Property Line \_\_\_\_\_ feet

Drinking Water Well \_\_\_\_\_ feet

Other \_\_\_\_\_ feet

4. Unsuitable

Materials Present: ☐ Yes ☐ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☐ No

If yes: \_\_\_\_\_ Depth Weeping from Pit \_\_\_\_\_ Depth Standing Water in Hole

#### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			

Additional Notes: \_\_\_\_\_



## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### D. Determination of High Groundwater Elevation

1. Method Used:

☒ Depth observed standing water in observation hole

Obs. Hole # 5

Obs. Hole # \_\_\_\_\_

NOT OBSERVED inches

\_\_\_\_\_ inches

☒ Depth weeping from side of observation hole

NOT OBSERVED inches

\_\_\_\_\_ inches

☒ Depth to soil redoximorphic features (mottles)

42" inches

\_\_\_\_\_ inches

☐ Depth to adjusted seasonal high groundwater ( $S_h$ )  
(USGS methodology)

\_\_\_\_\_ inches

\_\_\_\_\_ inches

Index Well Number \_\_\_\_\_

Reading Date \_\_\_\_\_

$$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$$

Obs. Hole/Well# \_\_\_\_\_

$S_c$  \_\_\_\_\_

$S_r$  \_\_\_\_\_

$OW_c$  \_\_\_\_\_

$OW_{max}$  \_\_\_\_\_

$OW_r$  \_\_\_\_\_

$S_h$  \_\_\_\_\_

2. Estimated Depth to High Groundwater: \_\_\_\_\_ inches

### E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)?

Upper boundary:

7"  
inches

Lower boundary:

81"  
inches

c. If no, at what depth was impervious material observed?

Upper boundary:

\_\_\_\_\_ inches

Lower boundary:

\_\_\_\_\_ inches



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Signature of Soil Evaluator

Typed or Printed Name of Soil Evaluator / License #

Name of Approving Authority Witness

Date

Expiration Date of License

Approving Authority

**Note:** In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with Percolation Test Form 12.

**Field Diagrams:** Use this area for field diagrams:



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Owner Name

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Street Address

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Map/Lot #

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Zip Code

## B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No

If yes:

Web soil survey  
Source

310B  
Soil Map Unit

DH 687  
10-19-2022

Woodbridge

Soil Name

severe

Soil Limitations

Till

Soil Parent material

uncertain

Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No

If yes:

Year Published/Source

Map Unit

Description of Geologic Map Unit:

4. Flood Rate Insurance Map Within a regulatory floodway? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

6. Within a Mapped Wetland Area? ☐ Yes ☒ No

If yes, MassGIS Wetland Data Layer:

7. Current Water Resource Conditions (USGS):

10/19/22

Month/Day/ Year

Range: ☐ Above Normal

Wetland Type

☐ Normal

☒ Below Normal

8. Other references reviewed:



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# Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

## C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 6 Hole # 10-19-22 Date 9:15 Time 46° Weather SOME STONES Latitude ~10 Longitude: ~10 Slope (%)

1. Land Use WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) PINES Vegetation SOME STONES Surface Stones (e.g., cobbles, stones, boulders, etc.)

Description of Location: SOUTHWEST OF DR 2

2. Soil Parent Material: TILL Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN

3. Distances from: Open Water Body — feet Drainage Way — feet Wetlands 7200 feet  
Property Line 255 feet Drinking Water Well — feet Other — feet

4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: — Depth Weeping from Pit — Depth Standing Water in Hole

### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-9	A <sub>p</sub>	SANDY LOAM	10YR 3/2								
9-25	B	SANDY LOAM	10YR 7/0								
25-78	C	SANDY LOAM	10YR 7/3			5/0 10YR 7/1 15		5			
						5/0 10YR 7/0					

Additional Notes:

— NO REFUSAL

— SOME POCKETS OF LOAMY SAND IN C



Commonwealth of Massachusetts  
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## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### C. On-Site Review *(minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: 7 Hole # 10-19-22 Date 10:00 Time 46° Weather Latitude Longitude: ~107°0

1. Land Use: WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation PINE Surface Stones (e.g., cobbles, stones, boulders, etc.) SOME STONES Slope (%) ~10%

Description of Location: SOUTH OF DR 7

2. Soil Parent Material: TILL Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN

3. Distances from: Open Water Body — feet Drainage Way — feet Wetlands 7150 feet  
Property Line ~75' feet Drinking Water Well — feet Other — feet

4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: — Depth Weeping from Pit — Depth Standing Water in Hole

#### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-9	A	SANDY LOAM	10YR 3/2								
9-29	B	SANDY LOAM	10YR 7/6								
29-75	C	SANDY LOAM	10YR 7/3			5% to 10% 10YR 7/6	15	10			

Additional Notes:

- NO REFUSAL  
- SOME LOAMY SAND IN C





## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater ( $S_h$ ) (USGS methodology)

Obs. Hole # 6

Obs. Hole # 7

NOT OBSERVED inches

NOT OBSERVED inches

NOT OBSERVED inches

NOT OBSERVED inches

25 inches

29 inches

\_\_\_\_\_ inches

\_\_\_\_\_ inches

Index Well Number \_\_\_\_\_

Reading Date \_\_\_\_\_

$$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$$

Obs. Hole/Well# \_\_\_\_\_

$S_c$  \_\_\_\_\_

$S_r$  \_\_\_\_\_

$OW_c$  \_\_\_\_\_

$OW_{max}$  \_\_\_\_\_

$OW_r$  \_\_\_\_\_

$S_h$  \_\_\_\_\_

2. Estimated Depth to High Groundwater: \_\_\_\_\_ inches

### E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☐ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)?

c. If no, at what depth was impervious material observed?

Upper boundary:

9", 9"  
inches

Lower boundary:

78, 75"  
inches

Upper boundary:

\_\_\_\_\_ inches

Lower boundary:

\_\_\_\_\_ inches



Commonwealth of Massachusetts  
City/Town of Southborough

## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

  
Signature of Soil Evaluator

JAMES TERZAURO SE 2421  
Typed or Printed Name of Soil Evaluator / License #

DENNIS COSTELLO  
Name of Approving Authority Witness

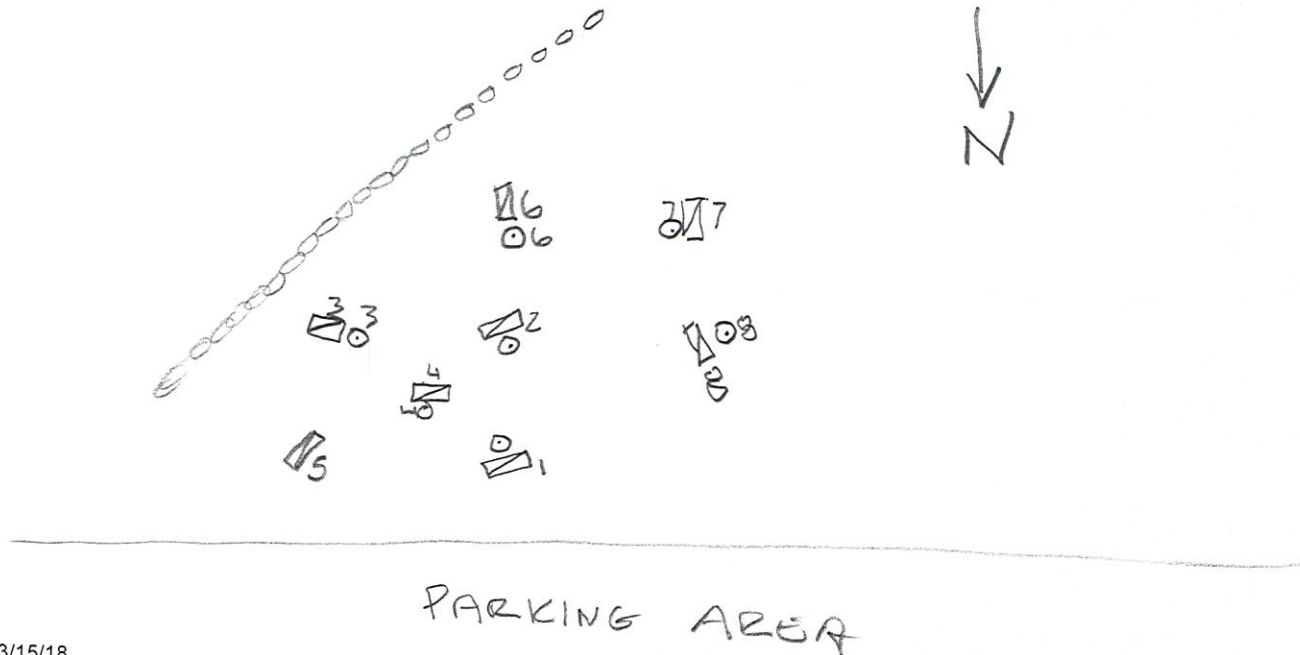
10-19-21  
Date

6/22/25  
Expiration Date of License

Southborough Boy  
Approving Authority

**Note:** In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with [Percolation Test Form 12](#).

**Field Diagrams:** Use this area for field diagrams:





Commonwealth of Massachusetts  
City/Town of Southborough

## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### A. Facility Information

FD 120 Turnpike, LLC

Owner Name

120 Turnpike Road

Street Address

Southborough

City

MA

State

37/0120

Map/Lot #

01772

Zip Code

### B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No

If yes:

Woodbridge

Soil Name

Till

Soil Parent material

severe

Soil Limitations

uncertain

Landform

Web soil survey  
Source

310B  
Soil Map Unit

889  
10-19-2022

3. Surficial Geological Report Available? ☐ Yes ☒ No

If yes:

Year Published/Source

Map Unit

Description of Geologic Map Unit:

4. Flood Rate Insurance Map Within a regulatory floodway? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

6. Within a Mapped Wetland Area? ☐ Yes ☒ No

If yes, MassGIS Wetland Data Layer:

7. Current Water Resource Conditions (USGS):

10/19/22

Month/Day/ Year

Range: ☐ Above Normal

Wetland Type

☐ Normal

☒ Below Normal

8. Other references reviewed:



Commonwealth of Massachusetts  
City/Town of Southborough

# Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

## C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 8 Hole # 10-19-2023 Date 11 Time 4:30 Weather SOME STONES Latitude 42° 10' Longitude: 71° 10'  
1. Land Use WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation PINES Surface Stones (e.g., cobbles, stones, boulders, etc.) SOME STONES Slope (%) 2-10

Description of Location: WEST OF DAZ  
2. Soil Parent Material: TILL Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN

3. Distances from: Open Water Body \_\_\_\_\_ feet Drainage Way \_\_\_\_\_ feet Wetlands \_\_\_\_\_ feet  
Property Line \_\_\_\_\_ feet Drinking Water Well \_\_\_\_\_ feet Other \_\_\_\_\_ feet  
4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock  
5. Groundwater Observed: ☐ Yes ☒ No If yes: \_\_\_\_\_ Depth Weeping from Pit \_\_\_\_\_ Depth Standing Water in Hole

### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-8"	A	SANDY LOAM	10YR3/1								
8-24"	B	SANDY LOAM	10YR2/6								
24-76"	C	SANDY LOAM	10YR2/2				SP 15	5			

Additional Notes:

- NO REFUSAL  
- SOME LOAMY SAND TEXTURED SOIL IN C



Commonwealth of Massachusetts  
City/Town of Southborough

# Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

## C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 9 Hole # 10-19-22 Date 11:30 Time 48° Weather  
Land Use: WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation PINES Surface Stones (e.g., cobbles, stones, boulders, etc.) SOME STONES Latitude \_\_\_\_\_ Longitude: 210 Slope (%)

Description of Location: ON WEST SIDE OF WL

2. Soil Parent Material: TILL Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN

3. Distances from: Open Water Body \_\_\_\_\_ feet Drainage Way \_\_\_\_\_ feet Wetlands 90' feet  
Property Line 70 feet Drinking Water Well \_\_\_\_\_ feet Other \_\_\_\_\_ feet

### 4. Unsuitable

Materials Present: ☐ Yes ☒ No If Yes: ☒ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: \_\_\_\_\_ Depth Weeping from Pit \_\_\_\_\_ Depth Standing Water in Hole

### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-7	A	SANDY LOAM	10YR3/6								
7-23	B	SANDY LOAM	10YR7/6								
23-48	C1	LOAMY SAND	10YR7/3				15	5			
48-81	C2	LOAMY SAND	10YR7/3			5% 10YR7/1	15	5			

Additional Notes:

- NO REFUSAL  
- TOOK MULTIPLE SOIL SAMPLES CONFIRMING TEXTURES OF C1, C2 NOT A GREAT LS, JUST NOT THE LINE FROM SL.



## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☐ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater ( $S_h$ ) (USGS methodology)

Obs. Hole # 8

~~NOT OBSERVED~~ inches

~~NOT OBSERVED~~ inches

29 inches

\_\_\_\_\_ inches

Obs. Hole # 9

~~NOT OBSERVED~~ inches

~~NOT OBSERVED~~ inches

48" inches

\_\_\_\_\_ inches

Index Well Number \_\_\_\_\_

Reading Date \_\_\_\_\_

$$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$$

Obs. Hole/Well# \_\_\_\_\_  $S_c$  \_\_\_\_\_  $S_r$  \_\_\_\_\_  $OW_c$  \_\_\_\_\_  $OW_{max}$  \_\_\_\_\_  $OW_r$  \_\_\_\_\_  $S_h$  \_\_\_\_\_

2. Estimated Depth to High Groundwater: \_\_\_\_\_ inches

### E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)?

c. If no, at what depth was impervious material observed?

Upper boundary:

8", 7"  
inches

Lower boundary:

76", 84"  
inches

Upper boundary:

\_\_\_\_\_ inches

Lower boundary:

\_\_\_\_\_ inches





Commonwealth of Massachusetts  
City/Town of Southborough

## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

  
Signature of Soil Evaluator

JAMES T. BROUN SE 2421  
Typed or Printed Name of Soil Evaluator / License #

DEANUS COSTELLO  
Name of Approving Authority Witness

10-19-2025  
Date

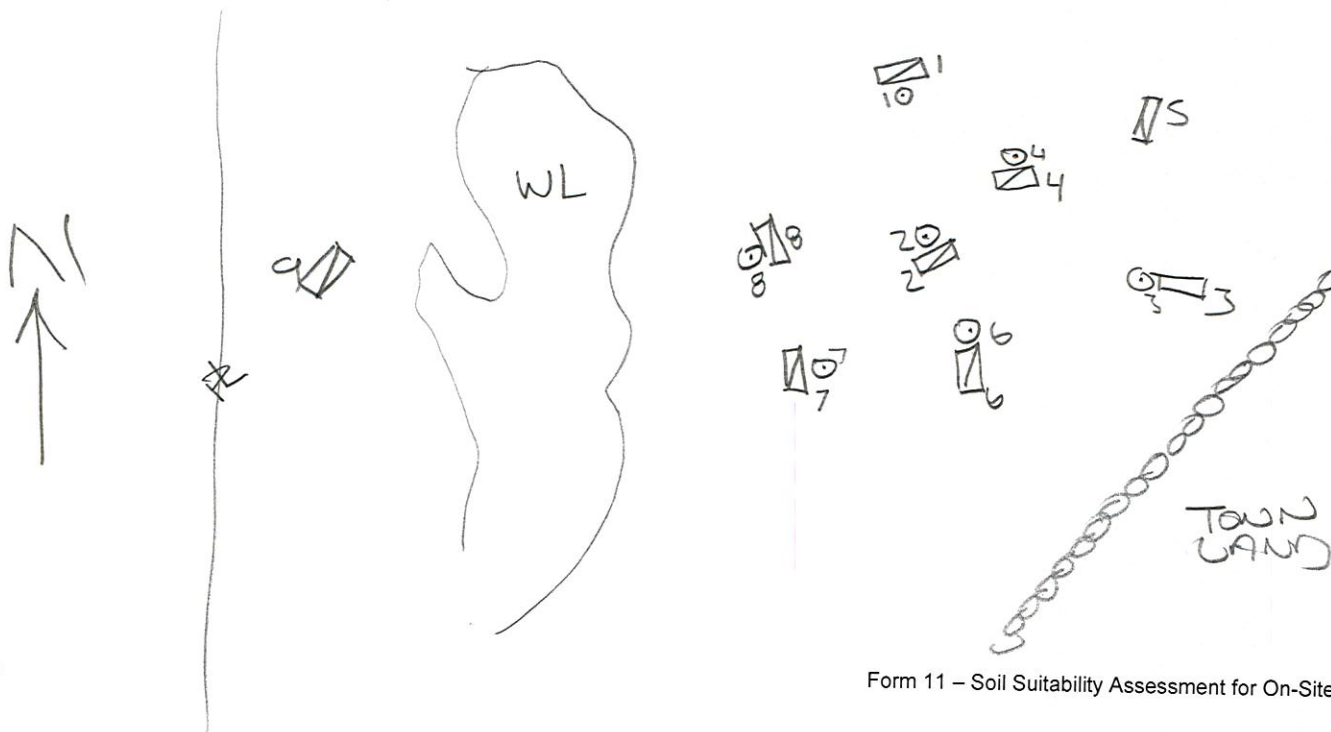
July 2025  
Expiration Date of License

SOUTHBOROUGH BOA  
Approving Authority

**Note:** In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with [Percolation Test Form 12](#).

**Field Diagrams:** Use this area for field diagrams:

PARKING







Commonwealth of Massachusetts  
City/Town of Southborough

## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### A. Facility Information

FD 120 Turnpike, LLC

Owner Name

120 Turnpike Road

Street Address

Southborough

City

MA

State

37/0120

Map/Lot #

01772

Zip Code

### B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No

If yes:

Web soil survey  
Source

310B

Soil Map Unit DH 10  
& 11  
8 10-16-2023  
8 10-24-2023

Woodbridge

Soil Name

severe

Soil Limitations

Till

Soil Parent material

uncertain

Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No

If yes:

Year Published/Source

Map Unit

Description of Geologic Map Unit:

4. Flood Rate Insurance Map Within a regulatory floodway? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

6. Within a Mapped Wetland Area? ☐ Yes ☒ No

If yes, MassGIS Wetland Data Layer:

7. Current Water Resource Conditions (USGS):

10/16/23

Month/Day/ Year

Range: ☐ Above Normal

Wetland Type

☒ Normal

☐ Below Normal

8. Other references reviewed:



UNOFFICIAL

# Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

## C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 10 Hole # 10-16-2023 Date 10:40 Time 55° CLOUDY Weather  
Land Use WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation SOME COBBLES & SMALL STONES Surface Stones (e.g., cobbles, stones, boulders, etc.) Latitude \_\_\_\_\_ Longitude: \_\_\_\_\_ Slope (%) ≈ 10

Description of Location: ON HILL EAST OF WL FLAG A-4

2. Soil Parent Material: TILL Landform \_\_\_\_\_ Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN
3. Distances from: Open Water Body — feet Drainage Way — feet Wetlands ≈ 60 feet  
Property Line ≈ 105 feet Drinking Water Well — feet Other — feet
4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
5. Groundwater Observed: ☐ Yes ☒ No If yes: \_\_\_\_\_ Depth Weeping from Pit \_\_\_\_\_ Depth Standing Water in Hole

### Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-6"	A	SANDY LOAM	10YR2.5/2								
6"-23"	B	SANDY LOAM	10YR2.5/6				20	10			
23"-54"	C1	LOAMY SAND	10YR2.5/3				20	10			
54"-70"	C2	LOAMY SAND	10YR2.5/3			5% 10YR2.5/6	20	10			

Additional Notes:

— NO REFUSAL

— MULTIPLE SOIL TEXTURE TESTS DONE IN C1 & C2, LIKE DH 9, JUST BARRELY A LOAMY SAND



Commonwealth of Massachusetts  
City/Town of Southborough

UNOFFICIAL

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 11 Hole # 10-24-23 Date 8:40 Time 50° Sunny Weather Latitude Longitude: 210 Slope (%)

1. Land Use: WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation SPR OF PINES Surface Stones (e.g., cobbles, stones, boulders, etc.) SOME STONES

Description of Location: JUST ABOVE DRAINAGE SWALE

2. Soil Parent Material: TILL Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN

3. Distances from: Open Water Body      feet Drainage Way      feet Wetlands 110 feet  
Property Line      feet Drinking Water Well      feet Other      feet

4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes:      Depth Weeping from Pit      Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-12"	A	SANDY LOAM	10YR3/2					5			
12-27"	B	SANDY LOAM	10YR8/6					15			
27-60"	C1	LOAMY SAND	10YR7/3				20	15			
60-80"	C2	LOAMY SAND	10YR7/3				20	15			

Additional Notes:

- NO REFUSAL

- SOIL TEXTURE JUST A LITTLE BETTER THAN SANDY LOAM BUT 4 SAMPLES TAKEN AND ALL TESTED AS LOAMY SAND



## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### D. Determination of High Groundwater Elevation

1. Method Used:

- |   |                                |                                |
|---|--------------------------------|--------------------------------|
| <input checked="" type="checkbox"/> Depth observed standing water in observation hole             | Obs. Hole # <u>10</u>          | Obs. Hole # <u>11</u>          |
|   | <del>NOT OBSERVED</del> inches | <del>NOT OBSERVED</del> inches |
| <input checked="" type="checkbox"/> Depth weeping from side of observation hole                   | <del>NOT OBSERVED</del> inches | <del>NOT OBSERVED</del> inches |
| <input checked="" type="checkbox"/> Depth to soil redoximorphic features (mottles)                | <u>54"</u> inches              | <u>60"</u> inches              |
| <input type="checkbox"/> Depth to adjusted seasonal high groundwater ( $S_h$ ) (USGS methodology) | ____ inches                    | ____ inches                    |

Index Well Number \_\_\_\_\_

Reading Date \_\_\_\_\_

$$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$$

Obs. Hole/Well# \_\_\_\_\_  $S_c$  \_\_\_\_\_  $S_r$  \_\_\_\_\_  $OW_c$  \_\_\_\_\_  $OW_{max}$  \_\_\_\_\_  $OW_r$  \_\_\_\_\_  $S_h$  \_\_\_\_\_

2. Estimated Depth to High Groundwater: \_\_\_\_\_ inches

### E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)?

c. If no, at what depth was impervious material observed?

Upper boundary:

6' 12"  
inches

Lower boundary:

7' 0" / 8' 0"  
inches

Upper boundary:

\_\_\_\_\_  
inches

Lower boundary:

\_\_\_\_\_  
inches



Commonwealth of Massachusetts  
City/Town of Southborough

## Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

### F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

Signature of Soil Evaluator

Typed or Printed Name of Soil Evaluator / License #

Name of Approving Authority Witness

Date

Expiration Date of License

Approving Authority

**Note:** In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with [Percolation Test Form 12](#).

**Field Diagrams:** Use this area for field diagrams:

