



Commonwealth of Massachusetts
City/Town of Dunstable

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

A. Facility Information

MCO & Associates

Owner Name

164 Pleasant Street

Street Address

Dunstable

City

MA

State

Map/Lot #

01827

Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade

2. Soil Survey NRCS
Source

253

Soil Map Unit

None

Soil Limitations

Hinckley loamy sand

Soil Series

Landform

Glaciofluvial deposits

Soil Parent material

3. Surficial Geological Report

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

7. Current Water Resource Conditions (USGS):

If yes, MassGIS Wetland Data Layer:

Range: ☐ Above Normal ☐ Normal ☒ Below Normal

Month/Day/ Year

Wetland Type

☐ Normal ☒ Below Normal

8. Other references reviewed:

(Zone II, IWPA, Zone A, EEA Data Portal, etc.)



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Deep Observation Hole Number:	Hole #	Date	Time	Weather	Sunny; 70's	Latitude	Longitude
1. Land Use	Former gravel pit	8/13/2024	Mostly open, some woods	None			1 - 2%
			Vegetation		Surface Stones (e.g., cobbles, stones, boulders, etc.)		Slope (%)

1. Land Use

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits

Floor of former gravel pit

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

3. Distances from: Open Water Body >200 feet

Drainage Way >200 feet

Wetlands

$$\frac{150}{\text{feet}}$$

Property Line $\frac{>100 \text{ feet}}{\text{}}$

Drinking Water Well >100 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 to Weeping in Hole

_____ Depth to 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"	Ap	Loamy Sand	10 YR 3/3	Cnc :					Crumb	Friable	
				Dpl:							
12-120"	C	Sand	2.5 Y 6/4	Cnc :					Granular	Firm	
				Dpl:							
				Cnc :							
				Dpl:							
				Cnc :							
				Dpl:							
				Cnc :							
				Dpl:							
				Cnc :							
				Dpl:							

Additional Notes:



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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: 824-2 Hole # 8/13/2024 Date Sunny; 70's Weather Longitude 1 - 2% Slope (%)

1. Land Use: Former gravel pit (e.g., woodland, agricultural field, vacant lot, etc.) Mostly open, some woods None Surface Stones (e.g., cobbles, stones, boulders, etc.)

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits Valley Floor of former gravel pit Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body >200 feet Drainage Way >200 feet Wetlands >150 feet Property Line >100 feet Drinking Water Well >100 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 to Weeping in Hole 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"	Ap	Loamy Sand	10 YR 3/3	Cnc : Dpl:					Crumb Friable	
12-120"	C	Sand	2.5 Y 6/4	Cnc : Dpl:					Granular Firm	
				Cnc : Dpl:						
				Cnc : Dpl:						
				Cnc : Dpl:						
				Cnc : Dpl:						

Additional Notes:



D. Determination of High Groundwater Elevation

1. Method Used (Choose one):
- | | | |
|---|--------------------------|--------------------------|
| ☒ Depth to soil redoximorphic features | Obs. Hole # <u>024-1</u> | Obs. Hole # <u>024-1</u> |
| ☒ Depth to observed standing water in observation hole | > <u>120</u> inches | > <u>120</u> inches |
| ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology) | > <u>120</u> inches | _____ inches |

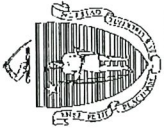
Reading Date

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

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

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? | <div> ☒ Yes ☐ No </div> |
| b. If yes, at what depth was it observed (exclude O, A, and E Horizons)? | <div> Upper boundary: <u>12</u> inches
 Lower boundary: <u>120</u> inches </div> |
| c. If no, at what depth was impervious material observed? | <div> Upper boundary: <u>12</u> inches
 Lower boundary: <u>120</u> inches </div> |



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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.

B.F. Milisci

9/5/25

Signature of Soil Evaluator

Brian F. Milisci, P.E. / SE1629

Typed or Printed Name of Soil Evaluator / License #

Bridgette Braley

Name of Approving Authority Witness

Date

6/30/2028

Expiration Date of License

Nashoba Associated Boards of Health

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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B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade

2. Soil Survey NRCS Source 253 Soil Map Unit Hinckley loamy sand
Soil Series

Kames / Valleys None

Landform Soil Limitations

Glaciofluvial deposits

Soil Parent material

3. Surficial Geological Report

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

7. Current Water Resource Conditions (USGS):

Month/Day/ Year

If yes, MassGIS Wetland Data Layer:

Range: ☐ Above Normal ☐ Normal ☒ Below Normal

Wetland Type

8. Other references reviewed:

(Zone II, IWPA, Zone A, EEA Data Portal, etc.)



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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: 824-3 Hole # 8/13/2024 Date Sunny; 70's Weather Longitude 1 - 2% Latitude 1 - 2% Slope (%) 1 - 2%

1. Land Use Former gravel pit (e.g., woodland, agricultural field, vacant lot, etc.) Mostly open, some woods None Surface Stones (e.g., cobbles, stones, boulders, etc.)

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits Valley Floor of former gravel pit Position on Landscape (SU, SH, BS, FS, TS, Plain) Wetlands >150 feet

3. Distances from: Open Water Body >200 feet Drainage Way >200 feet Other >150 feet

Property Line >100 feet Drinking Water Well >100 feet Other >150 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 to Weeping in Hole Depth to 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"	Ap	Loamy Sand	10 YR 3/3	Cnc : Dpl:					Crumb	Friable	
12-120"	C	Sand	2.5 Y 6/4	Cnc : Dpl:					Granular	Firm	
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							

Additional Notes:



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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: 824-4 Hole # 8/13/2024 Date Sunny; 70's Weather Time Latitude Longitude
1 - Land Use: Former gravel pit (e.g., woodland, agricultural field, vacant lot, etc.) Mostly open, some woods Surface Stones (e.g., cobbles, stones, boulders, etc.) None Slope (%) 1 - 2%

Description of Location: Valley Floor of former gravel pit
2. Soil Parent Material: Glaciofluvial deposits Landform Position on Landscape (SU, SH, BS, FS, TS, Plain) Wetlands >150 feet

3. Distances from: Open Water Body >200 feet Drainage Way >200 feet
Property Line >100 feet Drinking Water Well >100 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 to Weeping in Hole 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			
0-12"	Ap	Loamy Sand	10 YR 3/3	Cnc : Dpl:				Crumb	Friable	
12-120"	C	Sand	2.5 Y 6/4	Cnc : Dpl: Cnc : Dpl: Cnc : Dpl: Cnc : Dpl: Cnc : Dpl:				Granular	Firm	

Additional Notes:



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D. Determination of High Groundwater Elevation

1. Method Used (Choose one):

☒ Depth to soil redoximorphic features

☒ Depth to observed standing water in observation hole

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

Obs. Hole # 824-3

>120 inches

>120 inches

inches

Obs. Hole # 824-4

>120 inches

>120 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

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 O, A, and E Horizons)?

Upper boundary:

12 inches

Lower boundary:

120 inches

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

Upper boundary:

12 inches

Lower boundary:

120 inches



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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

Brian F. Milisci, P.E. / SE1629

Typed or Printed Name of Soil Evaluator / License #

Bridgette Braley

Name of Approving Authority Witness

Date

6/30/2028

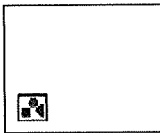
Expiration Date of License

Nashoba Associated Boards of Health

Approving Authority

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B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade

2. Soil Survey

NRCS

Source

253

Soil Map Unit

None

Soil Limitations

Hinckley loamy sand

Soil Series

Kames / Valleys
Landform

Glaciofluvial deposits

Soil Parent material

3. Surficial Geological Report

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):

Month/Day/ Year

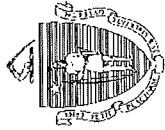
Range: ☐ Above Normal ☐ Normal ☒ Below Normal

Wetland Type

☐ Normal ☒ Below Normal

8. Other references reviewed:

(Zone II, IWPA, Zone A, EEA Data Portal, etc.)



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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: 824-5 Hole # 8/13/2024 Date Sunny; 70's Weather Longitude 1 - 2% Latitude Slope (%) 1 - 2%

1. Land Use Former gravel pit (e.g., woodland, agricultural field, vacant lot, etc.) Mostly open, some woods None Surface Stones (e.g., cobbles, stones, boulders, etc.)

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits Valley Floor of former gravel pit Position on Landscape (SU, SH, BS, FS, TS, Plain) Wetlands >150 feet

3. Distances from: Open Water Body >200 feet Drainage Way >200 feet Other >150 feet Property Line >100 feet Drinking Water Well >100 feet Other >150 feet

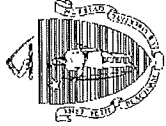
4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil/Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

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

Soil Log

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"	Ap	Loamy Sand	10 YR 3/3	Cnc :					Crumb	Friable		
				Dpl:								
12-120"	C	Sand	2.5 Y 6/4	Cnc :					Granular	Firm		
				Dpl:								
				Cnc :								
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Additional Notes:



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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: 824-6 Hole # 8/13/2024 Date Sunny; 70's Weather Longitude 1 - 2% Slope (%)

1. Land Use: Former gravel pit (e.g., woodland, agricultural field, vacant lot, etc.) Mostly open, some woods Surface Stones (e.g., cobbles, stones, boulders, etc.) None

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits Valley Floor of former gravel pit Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body >200 feet Drainage Way >200 feet Wetlands >150 feet Property Line >100 feet Drinking Water Well >100 feet Other feet

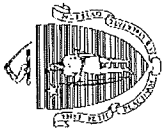
4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: Depth to Weeping in Hole 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"	Ap	Loamy Sand	10 YR 3/3	Cnc : Dpl:					Crumb Friable	
12-120"	C	Sand	2.5 Y 6/4	Cnc : Dpl:					Granular Firm	
				Cnc : Dpl:						
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D. Determination of High Groundwater Elevation

1. Method Used (Choose one):

☒ Depth to soil redoximorphic features

☒ Depth to observed standing water in observation hole

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

Obs. Hole # 824-5

>120 inches

>120 inches

inches

Obs. Hole # 824-6

>120 inches

>120 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

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 O, A, and E Horizons)?

Upper boundary:

12 inches

Lower boundary:

120 inches

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

Upper boundary:

12 inches

Lower boundary:

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Typed or Printed Name of Soil Evaluator / License #

Bridgette Braley

Name of Approving Authority Witness

Date

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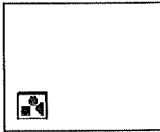
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1. (Check one) ☒ New Construction ☐ Upgrade

2. Soil Survey NRCS

Source

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Soil Map Unit

None

Soil Limitations

Hinckley loamy sand

Soil Series

Glaciofluvial deposits

Soil Parent material

3. Surficial Geological Report

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

7. Current Water Resource Conditions (USGS):

Month/Day/ Year

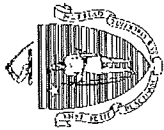
If yes, MassGIS Wetland Data Layer:

Range: ☐ Above Normal ☐ Normal ☒ Below Normal

Wetland Type

☐ Normal ☒ Below Normal

8. Other references reviewed:
(Zone II, IWPA, Zone A, EEA Data Portal, etc.)



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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: 824-7 Hole # 8/13/2024 Date Sunny; 70's Weather Longitude 1 - 2%
1. Land Use Former gravel pit Mostly open, some woods None Latitude
(e.g., woodland, agricultural field, vacant lot, etc.) Surface Stones (e.g., cobbles, stones, boulders, etc.) Slope (%)

Description of Location: Valley Floor of former gravel pit
2. Soil Parent Material: Glaciofluvial deposits Position on Landscape (SU, SH, BS, FS, TS, Plain)
3. Distances from: Open Water Body >200 feet Drainage Way >200 feet Wetlands >150 feet
Property Line >100 feet Drinking Water Well >100 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 to Weeping in Hole _____ Depth to 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
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				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							

Additional Notes:



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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: 824-8 Hole # 8/13/2024 Date Sunny; 70's Weather Longitude 1 - 2% Slope (%)

1. Land Use: Former gravel pit (e.g., woodland, agricultural field, vacant lot, etc.) Mostly open, some woods Vegetation None Surface Stones (e.g., cobbles, stones, boulders, etc.)

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits Valley Floor of former gravel pit Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body >200 feet Drainage Way >200 feet Wetlands >150 feet Property Line >100 feet Drinking Water Well >100 feet Other feet

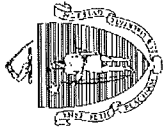
4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: Depth to Weeping in Hole 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			
0-12"	Ap	Loamy Sand	10 YR 3/3	Cnc : Dpl:				Crumb	Friable	
12-120"	C	Sand	2.5 Y 6/4	Cnc : Dpl:				Granular	Firm	
				Cnc : Dpl:						
				Cnc : Dpl:						
				Cnc : Dpl:						
				Cnc : Dpl:						

Additional Notes:



Commonwealth of Massachusetts
City/Town of

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

D. Determination of High Groundwater Elevation

1. Method Used (Choose one):

☒ Depth to soil redoximorphic features

☒ Depth to observed standing water in observation hole

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

Obs. Hole # 824-7

> 120 inches

> 120 inches

_____ inches

Obs. Hole # 824-8

> 120 inches

> 120 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 _____

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 O, A, and E Horizons)?

Upper boundary: _____

12
inches

Lower boundary: _____

120
inches

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

Upper boundary: _____

12
inches

Lower boundary: _____

120
inches



Commonwealth of Massachusetts
City/Town of

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. *9/3/25*

Signature of Soil Evaluator

Brian F. Milisci, P.E. / SE1629

Typed or Printed Name of Soil Evaluator / License #

Bridgette Braley

Name of Approving Authority Witness

Date

6/30/2028

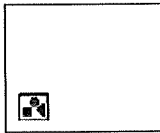
Expiration Date of License

Nashoba Associated Boards of Health

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 Dunstable

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

A. Facility Information

MCO & Associates

Owner Name

164 Pleasant Street

Street Address

Dunstable

City

MA

State

Map/Lot #

01827

Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade

2. Soil Survey NRCS

Source

253

Soil Map Unit

Kames / Valleys

Landform

None

Soil Limitations

Hinckley loamy sand

Soil Series

Glaciofluvial deposits

Soil Parent material

3. Surficial Geological Report

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

7. Current Water Resource Conditions (USGS):

Month/Day/ Year

If yes, MassGIS Wetland Data Layer:

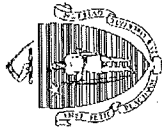
Range: ☐ Above Normal ☐ Normal ☒ Below Normal

Wetland Type

☐ Normal ☒ Below Normal

8. Other references reviewed:

(Zone II, IWPA, Zone A, EEA Data Portal, etc.)



Commonwealth of Massachusetts
City/Town of

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: 824-9 Hole # 8/13/2024 Date Sunny; 70's Weather Time Latitude Longitude
1 - 2% Slope (%)

1. Land Use Former gravel pit (e.g., woodland, agricultural field, vacant lot, etc.) Mostly open, some woods None Surface Stones (e.g., cobbles, stones, boulders, etc.)

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits Valley Floor of former gravel pit Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body >200 feet Drainage Way >200 feet Wetlands >150 feet
Property Line >100 feet Drinking Water Well >100 feet Other feet

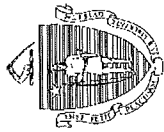
4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: Depth to Weeping in Hole Depth to 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"	Ap	Loamy Sand	10 YR 3/3	Cnc : Dpl:					Crumb	Friable	
12-120"	C	Sand	2.5 Y 6/4	Cnc : Dpl:					Granular	Firm	
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							

Additional Notes:



Commonwealth of Massachusetts
City/Town of

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: 824-10 Hole # 8/13/2024 Date Sunny; 70's Weather Longitude 1 - 2% Slope (%)

1. Land Use: Former gravel pit (e.g., woodland, agricultural field, vacant lot, etc.) Mostly open, some woods Vegetation Surface Stones (e.g., cobbles, stones, boulders, etc.) None Latitude

Description of Location:

2. Soil Parent Material: Glaciofluvial deposits Valley Floor of former gravel pit Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body >200 feet Drainage Way >200 feet Wetlands >150 feet Property Line >100 feet Drinking Water Well >100 feet Other feet

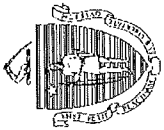
4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: Depth to Weeping in Hole 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"	Ap	Loamy Sand	10 YR 3/3	Cnc : Dpl:					Crumb	Friable	
12-120"	C	Sand	2.5 Y 6/4	Cnc : Dpl:					Granular	Firm	
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							
				Cnc : Dpl:							

Additional Notes:



Commonwealth of Massachusetts
City/Town of

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

D. Determination of High Groundwater Elevation

1. Method Used (Choose one):

☒ Depth to soil redoximorphic features

☒ Depth to observed standing water in observation hole

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

Obs. Hole # 824-10

>120 inches

>120 inches

inches

Obs. Hole # 824-9

>120 inches

>120 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

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 O, A, and E Horizons)?

Upper boundary:

12 inches

Lower boundary:

120 inches

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

Upper boundary:

12 inches

Lower boundary:

120 inches



Commonwealth of Massachusetts
City/Town of

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. *9/5/25*

Signature of Soil Evaluator

Brian F. Milisci, P.E. / SE1629

Typed or Printed Name of Soil Evaluator / License #

Bridgette Braley

Name of Approving Authority Witness

Date

6/30/2028

Expiration Date of License

Nashoba Associated Boards of Health

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 Dunstable
Percolation Test
Form 12

Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage Disposal. DEP has provided this form for use by local Boards of Health. Other forms may be used, but the information must be substantially the same as that provided here. Before using this form, check with the local Board of Health to determine the form they use.

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Site Information

MCO & Associates

Owner Name

164 Pleasant Street

Street Address or Lot #

Dunstable

City/Town

MA

State

01827

Zip Code

Brian Milisci, P.E.

Contact Person (if different from Owner)

978-537-5296

Telephone Number

B. Test Results

	<u>8-13-2024</u> Date	<u> </u> Time	<u>8-13-2024</u> Date	<u> </u> Time
Observation Hole #	<u>824-A</u>		<u>824-BI</u>	
Depth of Perc	<u>51"</u>		<u>53"</u>	
Start Pre-Soak	<u>Unable to Soak</u>		<u>Unable to Soak</u>	
End Pre-Soak	<u> </u>		<u> </u>	
Time at 12"	<u> </u>		<u> </u>	
Time at 9"	<u> </u>		<u> </u>	
Time at 6"	<u> </u>		<u> </u>	
Time (9"-6")	<u> </u>		<u> </u>	
Rate (Min./Inch)	<u>2 MPI</u>		<u>2 MPI</u>	
	Test Passed: ☒		Test Passed: ☒	
	Test Failed: ☐		Test Failed: ☐	

Brian F. Milisci, P.E. – Haley Ward, Inc.

Test Performed By:

Bridgette Braley – Nashoba Associated Boards of Health

Board of Health Witness

Comments:

