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

Map/Lot #

Dunstable
City

MA
State

01827
Zip Code

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
Landform

None
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 If yes, MassGIS Wetland Data Layer:
Wetland Type

7. Current Water Resource Conditions (USGS):
Month/Day/ Year
Range: ☐ Above Normal ☐ 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: 824-1 (Hole #) | 8/13/2024 (Date) | ____ (Time) | Sunny; 70's (Weather) | ____ (Latitude) | ____ (Longitude)

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.)) | 1 - 2% (Slope (%))

Description of Location: ____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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:						

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: 824-2 (Hole #) | 8/13/2024 (Date) | ____ (Time) | Sunny; 70's (Weather) | ____ (Latitude) | ____ (Longitude)

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.)) | 1 - 2% (Slope (%))

   Description of Location: ____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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:						
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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):	Obs. Hole # 824-1	Obs. Hole # 824-2
☑ Depth to soil redoximorphic features	>120 inches	>120 inches
☑ Depth to observed standing water in observation hole	>120 inches	>120 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 _____

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.

B. F. M.

Signature of Soil Evaluator

9/5/25

Date

Brian F. Milisci, P.E. / SE1629

Typed or Printed Name of Soil Evaluator / License #

6/30/2028

Expiration Date of License

Bridgette Braley

Name of Approving Authority Witness

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

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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
Landform

None
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 If yes, MassGIS Wetland Data Layer:
Wetland Type

7. Current Water Resource Conditions (USGS):
Month/Day/ Year
Range: ☐ Above Normal ☐ 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: 824-3 (Hole #) | 8/13/2024 (Date) | _____ (Time) | Sunny; 70's (Weather) | _____ (Latitude) | _____ (Longitude)

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.)) | 1 - 2% (Slope (%))

Description of Location: _____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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:						

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: 824-4 (Hole #) | 8/13/2024 (Date) | ____ (Time) | Sunny; 70's (Weather) | ____ (Latitude) | ____ (Longitude)

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.)) | 1 - 2% (Slope (%))

Description of Location: ____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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: ____

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):	Obs. Hole # 824-3	Obs. Hole # 824-4
☑ Depth to soil redoximorphic features	>120 inches	>120 inches
☑ Depth to observed standing water in observation hole	>120 inches	>120 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 _____

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.

BFM

Signature of Soil Evaluator

9/5/25

Date

Brian F. Milisci, P.E. / SE1629

Typed or Printed Name of Soil Evaluator / License #

6/30/2028

Expiration Date of License

Bridgette Braley

Name of Approving Authority Witness

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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A. Facility Information

MCO & Associates
Owner Name

164 Pleasant Street
Street Address

Map/Lot #

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City

MA
State

01827
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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
Landform

None
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 If yes, MassGIS Wetland Data Layer:
Wetland Type

7. Current Water Resource Conditions (USGS):
Month/Day/ Year
Range: ☐ Above Normal ☐ 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: 824-5 (Hole #) | 8/13/2024 (Date) | ____ (Time) | Sunny; 70's (Weather) | ____ (Latitude) | ____ (Longitude)

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.)) | 1 - 2% (Slope (%))

Description of Location: ____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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:						

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: 824-6 (Hole #) | 8/13/2024 (Date) | ____ (Time) | Sunny; 70's (Weather) | ____ (Latitude) | ____ (Longitude)

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.)) | 1 - 2% (Slope (%))

Description of Location: ____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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: ____

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):

	Obs. Hole # 824-5	Obs. Hole # 824-6
☑ Depth to soil redoximorphic features	>120 inches	>120 inches
☑ Depth to observed standing water in observation hole	>120 inches	>120 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 _____

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

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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. M.

Signature of Soil Evaluator

9/5/25

Date

Brian F. Milisci, P.E. / SE1629

Typed or Printed Name of Soil Evaluator / License #

6/30/2028

Expiration Date of License

Bridgette Braley

Name of Approving Authority Witness

Nashoba Associated Boards of Health

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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
Landform

None
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 If yes, MassGIS Wetland Data Layer:
Wetland Type

7. Current Water Resource Conditions (USGS):
Month/Day/ Year
Range: ☐ Above Normal ☐ Normal ☑ Below Normal

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

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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: 824-7 (Hole #) | 8/13/2024 (Date) | ____ (Time) | Sunny; 70's (Weather) | ____ (Latitude) | ____ (Longitude)

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.)) | 1 - 2% (Slope (%))

Description of Location: ____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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:						
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Additional Notes: ____

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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: 824-8 (Hole #) | 8/13/2024 (Date) | ____ (Time) | Sunny; 70's (Weather) | ____ (Latitude) | ____ (Longitude)

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.)) | 1 - 2% (Slope (%))

Description of Location: ____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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: ____

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):

	Obs. Hole # 824-7	Obs. Hole # 824-8
☑ Depth to soil redoximorphic features	>120 inches	>120 inches
☑ Depth to observed standing water in observation hole	>120 inches	>120 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 _____

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.

B. F. Milisci — 9/5/25

Signature of Soil Evaluator — Date

Brian F. Milisci, P.E. / SE1629 — 6/30/2028

Typed or Printed Name of Soil Evaluator / License # — Expiration Date of License

Bridgette Braley — Nashoba Associated Boards of Health

Name of Approving Authority Witness — 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

Map/Lot #

Dunstable
City

MA
State

01827
Zip Code

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
Landform

None
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 If yes, MassGIS Wetland Data Layer:
Wetland Type

7. Current Water Resource Conditions (USGS):
Month/Day/ Year
Range: ☐ Above Normal ☐ 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) | ____ (Time) | Sunny; 70's (Weather) | ____ (Latitude) | ____ (Longitude)

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.)) | 1 - 2% (Slope (%))

Description of Location: ____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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:						

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) | ____ (Time) | Sunny; 70's (Weather) | ____ (Latitude) | ____ (Longitude)

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.)) | 1 - 2% (Slope (%))

Description of Location: ____

2. Soil Parent Material: Glaciofluvial deposits | Valley (Landform) | 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: ____

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):

	Obs. Hole # 824-9	Obs. Hole # 824-10
☑ Depth to soil redoximorphic features	>120 inches	>120 inches
☑ Depth to observed standing water in observation hole	>120 inches	>120 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 _____

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.

B. F. Milisci — Signature of Soil Evaluator

9/5/25 — Date

Brian F. Milisci, P.E. / SE1629 — Typed or Printed Name of Soil Evaluator / License #

6/30/2028 — Expiration Date of License

Bridgette Braley — Name of Approving Authority Witness

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	MA	01827
City/Town	State	Zip Code

Brian Milisci, P.E.	978-537-5296
Contact Person (if different from Owner)	Telephone Number

B. Test Results

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