December 29, 2023

Duxbury Board of Health 878 Tremont Street Duxbury, MA 02332

RE: Keene's Mill Village Septic System Designs – North Street and Keene Street

Applicant: Old Myrtle Street LLC – John Baldwin

Dear Board Members:

On behalf of the applicant, we hereby submit these applications for the installation of two septic systems at the above referenced property. This project is a 40B housing development with 16 total proposed single-family dwellings. These units have been divided into two areas; South Hamlet (units 1-14) and North Hamlet (units 1-2). Each area, its proposed flow, and its proposed septic system are as follows:

South Hamlet (Units 1-14)

Proposed Flow: 14 units x 3 bedrooms/unit x 110 GPD/bedroom = 4,620 GPD

Proposed System: 1-10,000-gallon septic tank (to serve as the first compartment), 1-5,000-gallon

septic tank (second compartment), 1-5,000-gallon pump chamber, 1-2,000-gallon PC wet well, 1-splitter box, 2-distribution boxes and 2-102' long x 28.5 wide Presby Environmental Wastewater Treatment System with 18-100' rows

of pipe.

North Hamlet (Units 1-2)

Proposed Flow: 2 units x 3 bedrooms/unit x 110 GPD/bedroom = 660 GPD

Proposed System: 1-2,500-gallon 2-compartment septic tank, 1-1,500-gallon pump chamber, 1-

distribution box, and 1-57' long x 13.5' wide Presby Environmental

Wastewater Treatment System with 8-55' rows of pipe.

This application is submitted in accordance with Duxbury Board of Health Supplementary Results & Regulations Section 1.15 Construction In Fill.

Enclosed please find the following:

- 1. 3 sets of the Site Plan;
- 2. Copy of Soil Logs;
- 3. Application for Disposal System Construction Permit;
- 4. Check for \$460 Application fee (\$230 per system);
- 5. I/A Approval Letters
- 6. Drainage Calculations
- 7. Architectural Drawings

If you have any questions, please do not hesitate to contact us.

Sincerely,

GRADY CONSULTING, L.L.C.
Richard Grady

Richard Grady, P.E. Principal Engineer

Cc: John Baldwin

PO Box 1071

Duxbury, MA 02331

NIA		
No.		

THE COMMONWEALTH OF MASSACHUSETTS

BOARD OF HEALTH

TOWN OF DUKBURY

Other Type of Building No. of persons Showers (), Cafeteria (Other fixtures Chest Type of Building No. of persons Showers (), Cafeteria () Other fixtures Design Flow (min, required) 6 0 0 gpd Calculated design flow 60 0 gpd Design flow provided 6 0 0 Number of sheets 14 Revision Date 12-0-23 Title A 11 P PLAJ CO-31 TID NAT CO-31 TID	APPLICATION FOR DISPOSAL SY	
PO BOX 1011 DURING MAD 0233 TB1 789 - 8 4200 TB1 789 - 8 4200 GRAPY CONSULT TURNING TB1 98 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Secription of Work: Description of Survey Cartify that the Sewage Disposal System Constructed (A). Repaired (), Upgraded (), Abandoned by Manager Constructed (A). Repaired (), Upgraded (), Abandoned by Manager Cartificate of Completion No. Description of Solid (), Description of Solid	NORTH HAMLET - KEENE & NORTH STREET	ZERO NORTH STREET NOMINER TRUST
Reserve Computer		40 BOX 1071 DUKBURY MA 02331
Special Consolition Name Cartifle Consolition Name Cartifle Consolition Name Cartifle Consolition Cartif		781-789-8480
The commonwealth of Massachusetts The undersigned derect to individual Component(s) The undersigned derect to place the system in operation until of Certificate of Compliance has been issued by the place has sheen installed in accordance with the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/asplans relating to application No. The commonwealth of Massachusetts The source of this certificate shall not be constructed or a guarantee that the system will function as designed. The provided: The provided: The commonwealth of Massachusetts The provided in accordance with the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/asplans relating to application No. The commonwealth of Massachusetts The issuance of this certificate shall not be constructed as a guarantee that the system will function as designed. The provided: The provided: The commonwealth of Massachusetts The provided of the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/asplans relating to application No. The commonwealth of Massachusetts The issuance of this certificate shall not be constructed as a guarantee that the system will function as designed. The provided: Th		GRADY CONSULTING UC
THE COMMONWEALTH OF MASSACHUSETTS Description of Work: Individual Component(s) THE COMMONWEALTH OF MASSACHUSETTS Description of Work: Individual Component(s) The undersigned hereby certify that the Sewage Disposal System; Constructed (w). Repaired (), Upgraded (), Abandoned on the substantial of a polication No. The commonwealth of Massachusetts The undersigned hereby certify that the Sewage Disposal System; Constructed (w). Repaired (), Upgraded (), Abandoned Open Approved Design Flow (min and of page 1) and the approved design plans/as-lans relating to application No. The swance of this certificate shall not be construct as a guarantee that the system will function as designed. Design FORM 3 - CERTIFICATE OF COMPLIANCE Description of Work: Individual Component(s) The undersigned hereby certify that the Sewage Disposal System; Constructed (w). Repaired (), Upgraded (), Abandoned Open Approved Design Flow () The suddence of this certificate shall not be constructed as a guarantee that the approved design plans/as-lans relating to application No. The COMMONWEALTH OF MASSACHUSETTS Description of Work: Individual Component(s) The undersigned hereby certify that the Sewage Disposal System; Constructed (w). Repaired (), Upgraded (), Abandoned Open Approved Design Flow () The Subbly BOARD OF HEALTH DISPOSAL SYSTEM CONSTRUCTION PERMIT Permission is hereby granted to Construct (w). Repair () Upgrade () Abandon () an individual section is hereby granted to Construct (w). Repair () Upgrade () Abandon () an individual section is hereby granted to Construct (w). Repair () Upgrade () Abandon () an individual section is hereby granted to Construct (w). Repair () Upgrade () Abandon () an individual section is hereby granted to Construct (w). Repair () Upgrade () Abandon () an individual section is hereby granted to Construct (w). Repair () Upgrade () Abandon () an individual section is hereby granted to Construct (w). Repair () Upgrade () Abandon () an individual section is here	Installer's Name	71 EVERGREEN ST KINGSTON MA 023/4
THE COMMONWEALTH OF MASSACHUSETTS Description of Work: Individual Component(s) THE COMMONWEALTH OF MASSACHUSETTS Description of Work: Individual Component(s) The undersigned hereby certify that the Sewage Disposal System: Constructed (s). Repaired (), Upgraded (), Abandoned (S). Aband	Address	Address
The Type of Building No. of persons Showers (), Cafeteria () Chefre fixtures Design Flow (min. required) 6 0 gpd Calculated design flow 60 gpd Design flow provided 6 0 Plant 12 5 16 1023 Number of sheets 14 Revision Date 12 70 7273 Revision Date 12 7273 Revi		•
Design Flow (min, required)	Other — Type of BuildingNo. of	Lot Size 98, 824 Sq. feet Garbage Grinder () persons Showers (), Cafeteria ()
The undersigned agrees to install the above described Individual Sewage Disposal System in accordance with the state of Complete System in accordance with the system of Complete System in accordance with the system of Complete System in accordance with the system in accordance with the system in accordance with the sewage Disposal System; Constructed (v.), Repaired (), Upgraded (), Abandoned by: The undersigned hereby certify that the Sewage Disposal System; Constructed (v.), Repaired (), Upgraded (), Abandoned by: The undersigned hereby certify that the Sewage Disposal System; Constructed (v.), Repaired (), Upgraded (), Abandoned by: The undersigned hereby certify that the sewage Disposal System; Constructed (v.), Repaired (), Upgraded (), Abandoned by: The undersigned hereby certify that the Sewage Disposal System; Constructed (v.), Repaired (), Upgraded (), Abandoned by: The undersigned hereby certify that the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/asplans relating to application No.	CONDITIONAL LOAMY SAND	
Signed		
Inspections THE COMMONWEALTH OF MASSACHUSETTS PEE DESCRIPTION OF Work: BOARD OF HEALTH CERTIFICATE OF COMPLIANCE Description of Work: Individual Component(s) Complete System The undersigned hereby certify that the Sewage Disposal System; Constructed (v), Repaired (), Upgraded (), Abandoned by: at Nobry Hamby Keeps a Nobry Treby at Nobry Hamby Keeps a Nobry Treby at Nobry Hamby Keeps a Nobry Treby The issuance of this certificate shall not be construed as a guarantee that the system will function as designed. FORM 3 - CERTIFICATE OF COMPLIANCE DEP APPROVED FORM 5/96 No. THE COMMONWEALTH OF MASSACHUSETTS Permission is hereby granted to Construct (v) Repair () Upgrade () Abandon () an individual see as description for Disposal System at Nobry Hamby Keeps () Upgrade () Abandon () an individual see as description for Disposal System Construction Permit No. dated Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not as a provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not as a guarantee of this permit. All local conditions must be not application for Disposal System Construction Permit No. dated Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not application for Disposal System Construction Permit No. dated Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not application for Disposal System construction Permit No. dated Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not application for Disposal System construction permit No. dated Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not applicated to the provided of the provided of the provided of the provided	Title 3 and furmer agrees not to place the system in operation until (a Certificate of Compliance has been issued by the security Wedth
No		₹ GRADY
THE COMMONWEALTH OF MASSACHUSETTS CERTIFICATE OF COMPLIANCE Description of Work: Individual Component(s) Complete System The undersigned hereby certify that the Sewage Disposal System; Constructed (v), Repaired (), Upgraded (), Abandoned on the special plans/as-plans relating to application No. dated Approved Design Flow (Installer Date The issuance of this certificate shall not be constructed as a guarantee that the system will function as designed. THE COMMONWEALTH OF MASSACHUSETTS FEE Date Dat	Inspections	S CIVIL
THE COMMONWEALTH OF MASSACHUSETTS Description of Work:	•.	10. 380/2
THE COMMONWEALTH OF MASSACHUSETTS DESCRIPTION OF HEALTH	FORM 1 - APPLICATION FOR DSCP DEP APP	NA AMIN'S
The undersigned hereby certify that the Sewage Disposal System; Constructed (), Repaired (), Upgraded (), Abandoned by: at Nobil Hamus - Ketub & Nobil Structed (), Repaired (), Upgraded (), Abandoned by: at Nobil Hamus - Ketub & Nobil Structed (), Repaired (), Upgraded (), Abandoned by: at Nobil Hamus - Ketub & Nobil Structed (), Repaired (), Upgraded (), Abandoned by: at Nobil Hamus - Ketub & Nobil Structed (), Repaired (), Upgraded (), Abandoned	DUKBURY B	OF MASSACHUSETTS FEE
AT NORTH HAMUST - KEKNER & NORTH STREET That she been installed in accordance with the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/asplans relating to application No dated Approved Design Flow	per 1 (1000) Albanian per	
AT NORTH HAMUST - KEKNER & NORTH STREET That she been installed in accordance with the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/asplans relating to application No dated Approved Design Flow	The undersigned hereby certify that the Sewage Disposal System:	
has been installed in accordance with the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/asplans relating to application No		(), required (), epgraded (), reduided ()
THE COMMONWEALTH OF MASSACHUSETTS Permission is hereby granted to Construct () Repair () Upgrade () Abandon () an individual sequing sequence of this permit. All local conditions must be necessary of the application for Disposal System Construction Permit No		1 STOLLT
The issuance of this certificate shall not be construed as a guarantee that the system will function as designed. FORM 3 - CERTIFICATE OF COMPLIANCE DEP APPROVED FORM 5/96 No BOARD OF HEALTH DISPOSAL SYSTEM CONSTRUCTION PERMIT Permission is hereby granted to Construct () Repair () Upgrade () Abandon () an individual set disposal system at NO LITH HAMLED — KALLER NORTH STREET as descript the application for Disposal System Construction Permit No , dated Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not the system.	has been installed in accordance with the provisions of 310	CMR 15.00 (Title 5) and the approved design plans/as-built
The issuance of this certificate shall not be construed as a guarantee that the system will function as designed. FORM 3 - CERTIFICATE OF COMPLIANCE DEP APPROVED FORM 5/96 THE COMMONWEALTH OF MASSACHUSETTS FEE BOARD OF HEALTH DISPOSAL SYSTEM CONSTRUCTION PERMIT Permission is hereby granted to Construct () Repair () Upgrade () Abandon () an individual service disposal system at NOLTH HAMLET - KLEENT STREET as descript the application for Disposal System Construction Permit No, dated Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not provided.	Installer	
THE COMMONWEALTH OF MASSACHUSETTS BOARD OF HEALTH DISPOSAL SYSTEM CONSTRUCTION PERMIT Permission is hereby granted to Construct () Repair () Upgrade () Abandon () an individual sex disposal system at NOLTH HAMLET - KLEEN AND THE STREET as descript the application for Disposal System Construction Permit No, dated		
THE COMMONWEALTH OF MASSACHUSETTS BOARD OF HEALTH DISPOSAL SYSTEM CONSTRUCTION PERMIT Permission is hereby granted to Construct () Repair () Upgrade () Abandon () an individual ser disposal system at NOLTH HAMLET - KELLER NORTH STREET as descript the application for Disposal System Construction Permit No, dated Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not application.	FORM 3 - CERTIFICATE OF COMPLIANCE DE	EP APPROVED FORM 5/96
Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be not asserted to DISPOSAL SYSTEM CONSTRUCTION PERMIT Permission is hereby granted to Construct Permission is hereby granted to Construct Provided: Operated () Abandon () an individual sevent disposal system at	No THE COMMONWEALTH	OF MASSACHUSETTS FEE
Permission is hereby granted to Construct () Repair () Upgrade () Abandon () an individual set disposal system at	DUXBURY B	OARD OF HEALTH
Permission is hereby granted to Construct () Repair () Upgrade () Abandon () an individual set disposal system at No LTH HAMLET - KELLE NOR TH STREET as description as description for Disposal System Construction Permit No, dated	DISPOSAL SYSTEM CO	NSTRUCTION PERMIT
in the application for Disposal System Construction Permit No, dated, dated	Permission is hereby granted to Construct () Repair disposal system at NoRTH HAMLET - KELL	() Upgrade () Abandon () an individual sewage
Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be n		
FORM 2 - DSCP DEP APPROVED FORM 5/96		2000 01 1100001

20020				
No.				
INO.				

THE COMMONWEALTH OF MASSACHUSETTS

FEE	#230	-
FEE	210	

BOARD OF HEALTH
TOWN OF DUKENEY

APPLICATION FOR DISPOSAL	SYSTEM	CONSTRUCTIO	N PERMIT
--------------------------	--------	-------------	----------

APPLICATION FOR DISPOSAL S	
) Abandon () - Complete System Individual Components
ogntion	ET THEO NORTH STELLT NOMINER TRUST
623 - 010 - 003 Map/Parcel #	POBOX 1071 DUXBURY MA 02331
Lot #	781 - 789 - 8 4 Address Telephone #
	GOLDY CONSULTING 110
Installer's Name	71 EVERGREEN ST KINGSTON MA DZ364
Address	781-585-2300 Address
Telephone #	Telephone #
Type of Building: 14-51NGLK FAMILY RESIDER	Lot Size 479, 585 Sq. feet
Other — Type of BuildingNo. of Other fixturesNo. of No. of	Garbage Grinder () of persons Showers (), Cafeteria ()
	design flow 4,620 gpd Design flow provided 4,620pd Revision Date 12-29-2023
Description of Soil(s) LAMY SAND	ator Date of Evaluation
DESCRIPTION OF REPAIRS OR ALTERATIONS	
The undersigned agrees to install the above described Indivi TITLE 5 and further agrees not to place the system in operation unt Signed	idual Sewage Disposal System in accordance with the provision of the land of t
Inspections	- IS CIVIL
2.6	No. 38072
	TOSIONAL FIGHT
FORM 1 - APPLICATION FOR DSCP DEP AF	PPROVED FORM 5/96
	H OF MASSACHUSETTS BOARD OF HEALTH OF COMPLIANCE
Description of Work:	☐ Complete System
The undersigned hereby certify that the Sewage Disposal System	m; Constructed (), Repaired (), Upgraded (), Abandoned ()
by:	
at	
has been installed in accordance with the provisions of 31 plans relating to application No dated	0 CMR 15.00 (Title 5) and the approved design plans/as-built Approved Design Flow(gpd)
Installer	
Designer:Inspector	Date
The issuance of this certificate shall not be construed as a	
FORM 3 - CERTIFICATE OF COMPLIANCE	DEP APPROVED FORM 5/96
No THE COMMONWEALT	H OF MASSACHUSETTS FEE
	H OF MASSACHUSETTS FEE
	1 EE
DISPOSAL SYSTEM CO Permission is hereby granted to Construct () Repa	BOARD OF HEALTH ONSTRUCTION PERMIT air () Upgrade () Abandon () an individual sewage
DISPOSAL SYSTEM CO Permission is hereby granted to Construct () Repa	BOARD OF HEALTH ONSTRUCTION PERMIT
DISPOSAL SYSTEM CO Permission is hereby granted to Construct () Repadisposal system at in the application for Disposal System Construction Permit	BOARD OF HEALTH ONSTRUCTION PERMIT air () Upgrade () Abandon () an individual sewage as described
DISPOSAL SYSTEM CO Permission is hereby granted to Construct () Repadisposal system at in the application for Disposal System Construction Permit	BOARD OF HEALTH ONSTRUCTION PERMIT air () Upgrade () Abandon () an individual sewage as described No, dated ars of the date of this permit. All local conditions must be met.

Commonwealth of Massachusetts

Date: 9-14-22

DVメβノピソ , Massachusetts Soil Suitability Assessment for On-site Sewage Disposal

Richard Grady, P.E.

Performed by:	Richard Grady, P.E. GRADY CONSULTING, L.L.C. 71 Evergreen Street, Suite 1 Kingston, MA 02364 Phone: (781) 585-2300 Fax		Date: 914-22
Witnessed by:	PAT BRENNAN		
Location Address or O NoRTH 5	Lot#	*Owner's Name *Address &	ZERO NORTH STREET TR
	01 +023-010-003	*Telephone #	PO BOX 1071
			DUXBURY, MA DZ331
New Construction _ \(\text{L} \)	Repair		781-769-8480
Surficial Geology R Year Published: Geologic Material (M Landform: Flood Insurance Ra Above 500 year flood Within 500 year flood Within 100 year flood Wetland Area: National Wetland Inv Wetlands Conservar	d boundary: No Yesd d boundary No Yesd d boundary No Yesd entory Map (map unit): Yesd entory Map (map unit): Yesd	- - - A - OKLINKA	ITED ON SITE
Range: Above N	ource Conditions (USGS): Iormal No	Month: # 62 ormal	Below Normal
Other References F	Reviewed: TUSGS NA	MONAL WATE	2 DASITBORD - DUX 79R
Does at leas	ccurring Pervious Material st four feet of naturally occurring p ed for the soil absorption system?	ervious material exi	st in all areas observed throughout the
	YKS		
If not, what i	s the depth of naturally occurring	pervious material?	
CMR 15.017 consistent w certify that t	7 to conduct soil evaluations and t	hat the above analy e, and experience d s indicated on the a through 15.107.	escribed in 310 CMR 15.017. I further

Deep Hole #		9-14-22	Time_ 9:00	Weath	ner 70° PARTLY SUNUS
Land Use RESI	OKNTIAL	Slope(%)	2-3 Surface	Stones Fich)
Vegetation ₩	0005		Landfor	m	
	en Water Body <u>i</u> inageway <u>ม / ผ</u>				Water Well >150ft.
Dra	inageway NIA	rt. Propertyline	ZCO II Otne	er	
	ATION HOLE LO		12.2.2.2	-2	011 01 1 1 1 1 1 1
Depth From Surface (Inches)	Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color	Soil Mottling <u>B</u>	Other: Structures, Stones, oulders, Consistency, %Gravel
0"-12"	AP	1,050170.7	104P3/2		
12"-32	BW	LOAMY	10425/4		
II h		COBBLY	2 6.0/0/		LOOSE
32'-72"	CI	LOAMY SALIC	25793		STRUCTUREUCSS
	,		2546/3	7.575/8	FRIABLE
72"-120"	CZ	SAND	2.5/1/3	096	STEVCTUREUESS
Parent Material (geo	ologic)			Depth to Bedro	
Depth to Groundwa	Estin	nated Seasonal	ole: 108 W High Groundwa	ater <u>96</u>	
Depth to weepi	d standing in ob	servation hole: observation ho	ic. illulius	Depth to so	
PERCOLAT	ION TEST	Date		Time	
Observation Hole #			Time at 9"		
Depth of Perc			Time at 6"		
Start Presoak			Time (9"-6")		
End Presoak			Rate Min/Inc	h	
Site Suitability Ass	essment: Site	Passed	Site Failed	_ Additional Te	sting Needed:
Performed By	1				#
Witnessed By	PAT BRE	NNAN			
Comments:					

Deep Hole # 0-2		9-14-22	Time_9:/5	Weather 70	DO PARTLY SUNLY
Location(identify on Land Use RES	DENTIME	Slope(%)	2-4 Surface	Stones FEW	
Vegetation U	00005		Landfor	m	
	en Water Body <u>N</u> inageway <u>N)A</u> f			ft. Drinking Water	Well <u> </u>
Dia	mageway 10 /P1	t. Tropertyline_			
DEEP OBSERV Depth From Surface (Inches)	ATION HOLE LO Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color		er: Structures, Stones, s, Consistency,%Gravel
0"-15"	AP	SOLOT	10423/2		
15"-32"	BW	LOAMY	104125/4		
15"-32"	C	COBBY LOANY SAN	2.51/3	7.549/6	LOOSE STRUCTURKUES
				5B"	
Parent Material (geo			. 0/"	Depth to Bedrock	CF () 1
Depth to Groundwa	Estim	ated Seasonal	High Groundwa	Veeping from Pit Face ater	<u> </u>
Depth to weepir	standing in obs	servation hole:	inches _ e:inches _	Depth to soil mott Groundwater adjutation	ustmentft
PERCOLATI	ON TEST	Date_		Time	
Observation Hole #			_ Time at 9"		<u></u>
Depth of Perc			_ Time at 6"	-	
Start Presoak		_	_ Time (9"-6")	-	· -
End Presoak			_ Rate Min/Incl	h	-
아이들은 사람이 아이들이 얼마나 아이들이 살아 아니다면 하는데 아이들이 살아 되었다.				Additional Testing N	leeded:
Performed By	MICK GRA	04		Certification #	
Witnessed By	PAT BRE	NAM			
Comments:					

TITLE 5 ON-SITE REVIEW Date 9-14-22 Time 10:30 Weather 70° PARTLY SUNNY Deep Hole # Location(identify on Site Plan)_ Land Use RESIDENTIME Slope(%) 2-4 Surface Stones FEW Vegetation GRAGS FIELD Landform **Distances from:** Open Water Body N/A ft. Possible Wet Area ≥ 100 ft. Drinking Water Well 2∞ \pm ft. Drainageway N A ft. Propertyline 35±ft Other_____ **DEEP OBSERVATION HOLE LOG** Other: Structures, Stones, Depth From Surface Soil Horizon Soil Texture Soil Color Soil Mottling Boulders, Consistency, %Gravel (Inches) (USDA (Munsell) SANOY 101/2/2 WAN DAMY SAND LOAMY STRUCTURELESS Depth to Bedrock Parent Material (geologic) Standing Water in Hole: — Weeping from Pit Face Depth to Groundwater: Estimated Seasonal High Groundwater 56 **DETERMINATION FOR SEASONAL HIGH WATER TABLE** Method Used: Depth observed standing in observation hole: ___inches _____Depth to soil mottles: 56 __inches Depth to weeping from side of observation hole: inches ____ Groundwater adjustment___ft Index Well # Reading Date Index well level Adj.factor Adj.Groundwater level 9-14-22 Time PERCOLATION TEST Date Time at 9" Observation Hole # Time at 6" Depth of Perc

Site Suitability Assessment: Site Passed Site Failed Additional Testing Needed:

Performed By RICK GRADY Certification #_____

Witnessed By RAT BREWNAN

Time (9"-6")

Rate Min/Inch

Comments:

Start Presoak

End Presoak

Deep Hole # 1. Location(identify on Land Use RES	Site Plan)				700 PARTLY SUNNY
Vegetation GR	ASS FIE	10	Landforn		
Distances from: Op	en Water Body_	N/A ft. Poss	ible Wet Area <u>>/</u>	00 ft. Drinking Wa	ater Well 200 ft.
Dra	inageway <u>NIA</u>	_ft. Propertyline	35 tft Othe	r	
DEEP OBSERV	ATION HOLE L	og			
Depth From Surface (Inches)	Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color		other: Structures, Stones, ders, Consistency,%Gravel
01-16	AP	SANDY	10-123/2		
16"-27"	BW	LOAMY	10125/6		
27.49"	CI	LOAMY	2.5143		FRIABLE
16 1	^ 1	IELY COBBL	M 2.57 4/3	7.57518	FRIABLE
49-110	Cl	LOAMY SAY	10 2.57 73	e 52"	STRUCTURELES
Parent Material (geo Depth to Groundwat Method Used: Depth observed Depth to weepin Index Well #	er: Stan Estir <u>DETERI</u> standing in ob g from side of	mated Seasonal MINATION FOR servation hole: observation hol	ole: NONE We High Groundwat SEASONAL HIGH inches e:inches	UP Depth to soil many Groundwater a	ottles: <u>52</u> inches djustmentft
					The state of the s
PERCOLATION	ON TEST	Date_		Time	-
Observation Hole #	1		_ Time at 9"		- · · · · · · · · · · · · · · · · · · ·
Depth of Perc	-		_ Time at 6"		
Start Presoak	·	_	_ Time (9"-6")		
End Presoak					
Site Suitability Asse	^		The second secon		The state of the s
Performed By K	~ ~	1		Certification #	-
Witnessed By Yo	1 BRUNH	AH			
Comments:					

Deep Hole # 22-7 Location(identify on	Site Plan)	9-14-22	Time 12:15	Weather	700 PARTLY SUNWY
Land Use RK910 Vegetation GG	DENTIAL	Slope(%)2 _D	Surface S Landform		
Distances from: Ope	en Water Body_l	JA ft. Possil	ble Wet Area <u>>/</u> の 3ら生 ft Other		er Well 200 ft.
			it Other		
DEEP OBSERVA Depth From Surface (Inches)	ATION HOLE Lo Soil Horizon (USDA	OG Soil Texture (Munsell)	Soil Color		ner: Structures, Stones, ers, Consistency,%Gravel
0"-15"	AP	Sanby	10423/2		
15"-38"	BW	COAMY	104R5/6		
36'-85"	CI	WAVY	2.576/3	7.575/B C64"	FRIABLE STRUCTURELES
85"-120"	C2	COBBLY SAN	10 2.574		FRABLE STRUCTURELES
Parent Material (geo Depth to Groundwat	er: Stan Estin	nated Seasonal	ole: 116 We High Groundwate SEASONAL HIGH	WATER TABLE	Λ
	g from side of	observation hole	e:inches	Depth to soil mot Groundwater ad	justmentft
Index Well #	Reading Date_	Index well	level Adj.fa	ctorAdj.Gro	undwater level
PERCOLATION	4	Date_		Time	
Observation Hole #	22-30	u	_ Time at 9"	12:19	
Depth of Perc	1000	4	_ Time at 6"	12-1	
Start Presoak	12:12	-	_ Time (9"-6")	3	
End Presoak Site Suitability Asse	sement: Site	Passad / s	_ Rate Min/Inch	Additional Testing	Needed:
	CK GRA	6 / 1 (A C)	nto i alieu i		Neeueu.
Witnessed By	2 0 2/	MAN			
Comments:					

Deep Hole #	Date_	9-14-22	Time 1:00	Weath	er 70 PARTLY SUN.
Land Use RESID		Slope(%)	Surface	Stones FEW	
Vegetation WO	005		Landfor		
Distances from: Op-	en Water Body <u>N</u> nageway <u>N</u> A				Water Well <u>≥ /50</u> ft.
DEEP OBSERV Depth From Surface (Inches)	ATION HOLE LO Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color	Soil Mottling Bo	Other: Structures, Stones, ulders, Consistency,%Grave
0"-B"	AP	GALDY LOAM	104R3/2		
B"-33"	BN		10425/6		
33"-60"	C	COBBLY LOAMY S	mo 2.54	4/3 7.545/8	LOOSE STENCTURELESS
D=5-0" (REFOSE	n)				
Parent Material (geo Depth to Groundwat	Estim	ated Seasonal	High Groundwa		
Method Used: Depth observed Depth to weepin	standing in obs	servation hole: _ observation hole	inches _u e:inches _	Groundwate	mottles: 50 inches radjustmentft
PERCOLATI	ON TEST	Date_		Time	
Observation Hole #			_ Time at 9"		
Depth of Perc					
Start Presoak					
End Presoak					
Site Suitability Asse	ssment: Site F	Passed S	ite Failed	Additional Test	ing Needed:
		74			
Witnessed By					
Comments					

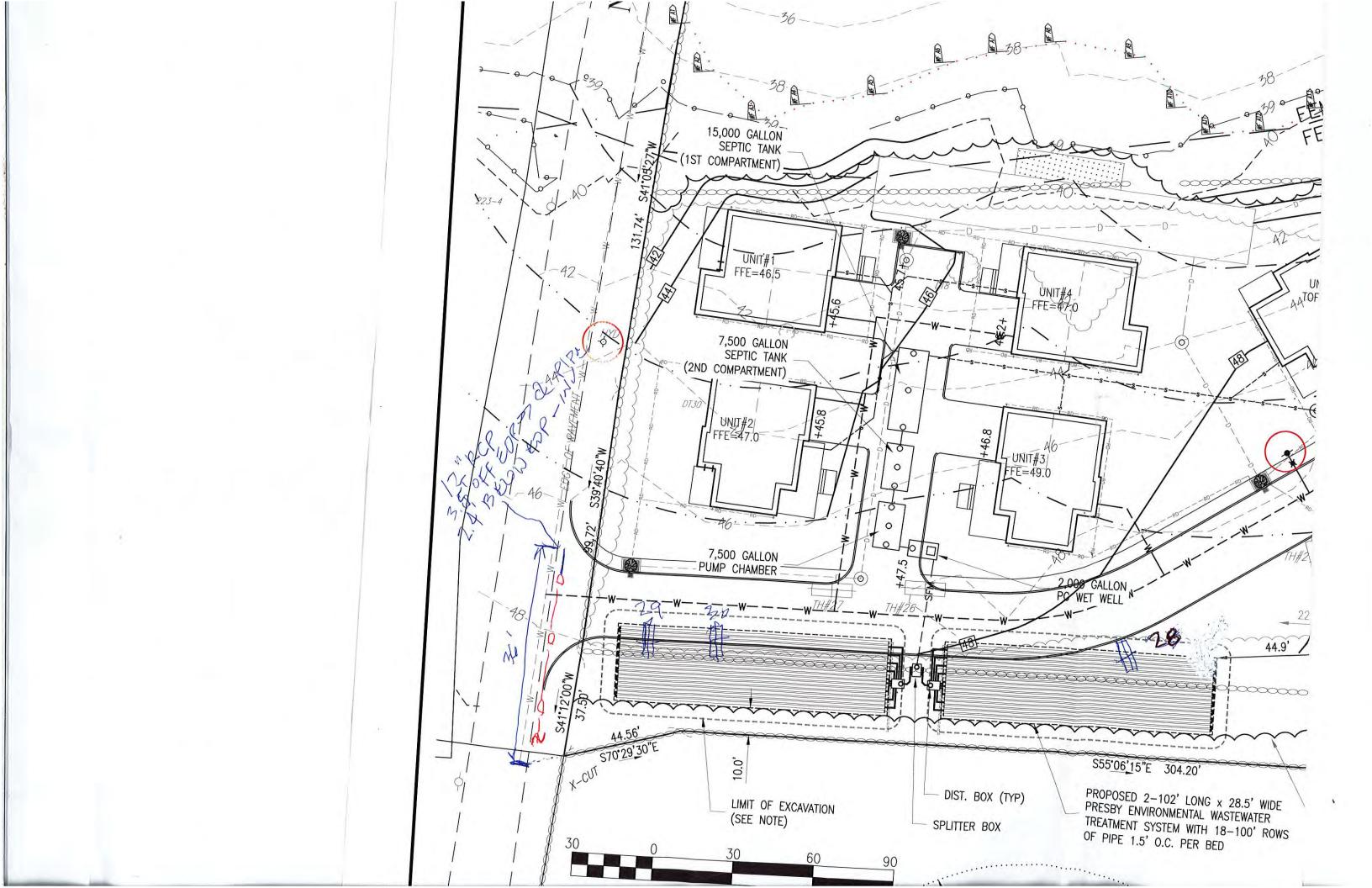
Deep Hole #	n Site Plan)		The state of the s		70° PARTLY SUNNY
Vegetation	WOODS	Slope(78)	Landform		
Distances from: O					ater Well <u>>/S⊘</u> ft:
	VATION HOLE LO		Soil Color	Soil Mottling C	Other: Structures, Stones, ders, Consistency,%Gravel
0"-12"	AP	SANDY	10483/2		
12"-28"	BW	LOAMY	104R5/6		
28-36	C	WAMY	2,57%	7.57518 C364	FRIABLE STENCTURELESS
D:31	o" (Rex	405AL)			
Parent Material (ge	ologic) ater: Stand	ding Water in Ho	Dile: 凡ひんと We	epth to Bedrock_	36 ace None
Method Used: Depth observe Depth to weep Index Well #	<u>DETERN</u> d standing in obs	INATION FOR Servation hole:	e:inches	WATER TABLE Depth to soil m Groundwater	nottles: 36 inches adjustment ft roundwater level
PERCOLA1	TION TEST	Date_		Time	
Observation Hole # Depth of Perc Start Presoak End Presoak			_ Time at 6" _ Time (9"-6")		
Site Suitability Ass	Sessment: Site I			Additional Testin	

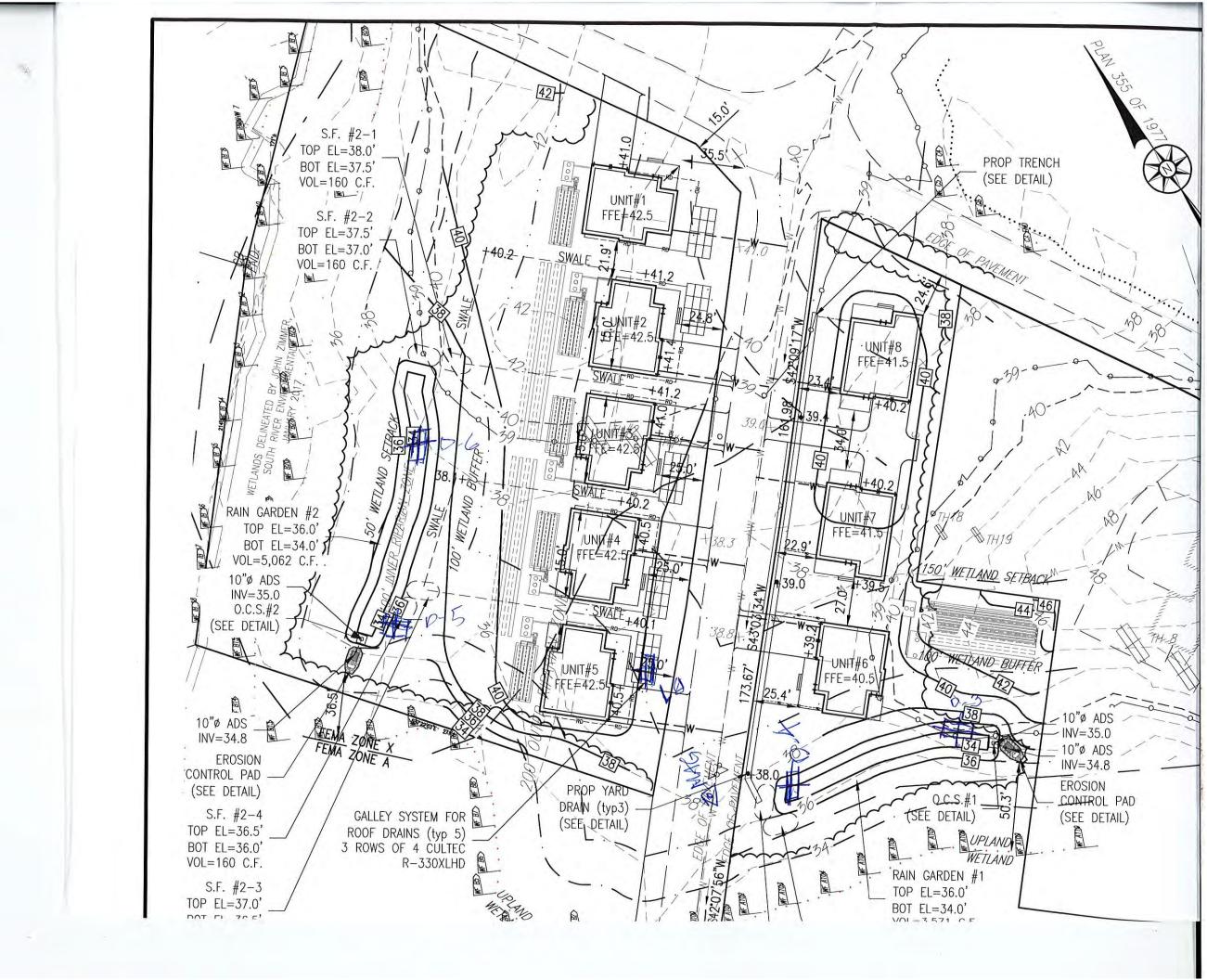
Deep Hole #		9-14-22	Time_ 1:30	Weather Weather	70° PARTLY SUNNY
Land Use R	ESIDENTIAL	Slope(%)_2			_
Vegetation	WOO 15		Landforr		
					/ater Well_ <u>>/50</u> ft.
	Drainageway <u> N / A</u>	_ft. Propertyline_	50 ft Othe	r	
DEEP OBSE	RVATION HOLE L	OG			
Depth From Surfa (Inches)	sce Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color		Other: Structures, Stones, Iders, Consistency,%Gravel
0"-12"	AP	SANDY	10783/2		
12"-32"	BW	LOANY	10425/6		
32-72"	C	LOAMY SA	NDZ546/2	7.575/3 c42"	FRIABLE STRUCTURELESS
Parent Material (iding Water in Ho	ole: 70 ⁴ W	Depth to Bedrock eeping from Pit F	ace
				ter 42	
Depth to we	ved standing in ob eping from side of	oservation hole: observation hole	inches e:inches	Groundwater	nottles: 47 inches
PERCOL	ATION TEST	Date_		Time	
Observation Hol	e#		_ Time at 9"		
Depth of Perc	· .	_	_ Time at 6"		
Start Presoak	·		_ Time (9"-6")	,	
End Presoak					
The pales of the party of the pales of the p	ssessment: Site				
	RICK GRAN			Certification #_	
Witnessed By	PAT BRE	MNAN			
Comments:					

Deep Hole # Location(identify on		9-14-22	Time <i>1:45</i>		10° PARTLY SUNNY
Land Use RESI	DENTIAL	Slope(%)3	3-6 Surface S		•
(10 M 20 M	005		Landform		
Distances from: Ope					er Well <u>>/50</u> ft.
Draii	nageway_N A	ft. Propertyline	150生ft Other_		
DEEP OBSERVATION	N HOLE LOG				5.581.55a.5.55 A
Depth From Surface (Inches)	Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color		ner: Structures, Stones, ers, Consistency,%Gravel
0"-10"	AP	GAMAY	10183/2		
10"-24"	BW	LOAMY	104R5/6		
A	C	COBBLY		7.545/6 C36"	FRIABLE STRUCTURELES
Parent Material (geo				epth to Bedrock_eping from Pit Fac	
Depth to Groundwat Method Used: Depth observed Depth to weepin	Estin <u>DETERM</u> standing in ob	MINATION FOR servation hole: observation ho Index well	High Groundwat SEASONAL HIGH inches le:inches I level Adj.fa	er	ottles: <u>36</u> inches djustmentft oundwater level
PERCOLATI	ON TEST	Date		Time	
Observation Hole #		<u> </u>	Time at 9"		
Depth of Perc			Time at 6"		-
Start Presoak			Time (9"-6")		-,
End Presoak					-
Site Suitability Asse					
Performed By	ICK GRAG	7		Certification #	
Witnessed By	PAT BRE	MALIA	4		
Comments:					

Deep Hole #	Date	9-14-22	Time 2:00	Weather 70°
ocation(identify				41
and Use\^₺	ON Site Plan) COLOKNTIAL WOODS	Slope(%)	Surrace S	tones
istances from:	Open Water Body <u>시</u> Drainageway <u>시</u> 셔 f	ft. Possibl	e Wet Area <u> 150</u>	tt. Drinking Water Well 2/50 ft.
	Drainageway N M _f	t. Propertyline_[Uner_	
DEEP OBSERVA Depth From Surfa (Inches)	ce Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color	Soil Mottling Other: Structures, Stones, Boulders, Consistency, %Grav
0"-13"	Ap	SALDY	10423/2	
0"-13"	BW	SAUD	10423/2 10429/6 2.544/3	
40^-77"	C	LOAMY	2.5743	7.575/B c 40"
Parent Material (Depth to Ground	geologic) lwater: Stand	ling Water in Ho	le: <u>46</u> W	Depth to Bedrockeeping from Pit Face
				H WATER TABLE
Donth to we	ved standing in obs	servation hole: _	inches _ <u>v</u>	Depth to soil mottles:inches Groundwater adjustmentft actor Adj.Groundwater level
PERCOL	ATION TEST	Date_		Time
Observation Ho	le#		_ Time at 9"	
Depth of Perc			_ Time at 6"	·
Start Presoak	<u> </u>	_	_ Time (9"-6")	
End Presoak				
			ite Failed	Additional Testing Needed:
	RICK GRAN			Certification #
Witnessed By_	Pat Bets	MAGUL		
Comments:				

2





Commonwealth of Massachusetts

DU⊁BURY , Massachusetts

Date: 10-4-16

Soil Suitability Assessment for On-site Sewage Disposal

Richard Grady, P.E.

GRADY CONSULTING, L.L.C.

Performed by:

71 Evergreen Street, Suite 1 Kingston, MA 02364 Phone: (781) 585-2300 Fax: (781) 585-2378 Witnessed by: Location Address or Lot # *Owner's Name JOHN BALDWIN *Address & HORTH STELLT P.O. BOX 1071 *Telephone # ASSESSORS 023-010-001 DUXBURY, MA 02331 781-789-8480 New Construction Repair ____ Office Review Published Soil Survey Available: No <u>V</u> Yes___ Year Published: _____ Publication Scale: _____ Soil Map Unit: ______

Drainage Class: _____ Soil Limitations: _____ Surficial Geology Report Available: No 🗸 Yes ____ Year Published: _____ Publication Scale: _____ Geologic Material (Map Unit): Landform: Flood Insurance Rate Map: Above 500 year flood boundary:

Within 500 year flood boundary

Within 100 year flood boundary

No _____ Yes ____ Wetland Area: Wetland Area:

National Wetland Inventory Map (map unit):
NA - DELINEATED ON SITE

Wetlands Conservancy Program Map (map unit):

Current Water Resource Conditions (USGS):
Month:

Range:
Above Normal

Below Normal Above Normal ____ Other References Reviewed: ** USGS REALTIME DATA - DUX #79 Depth of Naturally Occurring Pervious Material Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system? If not, what is the depth of naturally occurring pervious material? Certification I certify that on May 7, 1996 (date) I have passed the soil evaluator examination approved by the Department of Environmental Protection and that the above analysis was performed by me consistent with the required training, expetitise and experience described in 310 CMR 15.017. Signature: Date: 10-4-16

Deep Hole #		10-4-16	Time	Weather 40° CLOUDY
Location(identify on Land Use Rとらい		Slope(%) 3	-5 Surface	Stones NO
Vegetation Woo	05		Landfori	
			400	<u>の</u> ft. Drinking Water Well <u>>/၄の</u> ft.
Dra	inageway <u>N</u> A_ft	t. Propertyline_	60±ft Othe	r
	ATION HOLE LOC			
Depth From Surface (Inches)	Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color	Soil Mottling Other: Structures, Stones, Boulders, Consistency,%Gravel
0"-12"	A	SANOY	104R3/2	
12"-28"	В	LOAMY	10425/	A
28"-114"	C	LOAMY	2.516/2	
D=9'-6" ((REFUSAL)	No WATER)		
Parent Material (geo Depth to Groundwat	er: Standi			Depth to Bedrockeeping from Pit Face_NONE_ ter_NONE
Method Used: Depth observed Depth to weepin Index Well #	standing in obse g from side of ob	ervation hole: _ oservation hole	inches :inches	H WATER TABLE Depth to soil mottles: inches Groundwater adjustmentft actor Adj.Groundwater level
PERCOLATION	ON TEST	Date_		Time
Observation Hole #	20 26 - 46"		Time at 9"	10:50 [1:00
Start Presoak	10:38		Time (9"-6")	4
End Presoak	10:53		Rate Min/Inch	2 2 MILI/IN
Site Suitability Asses		ssed V Si		Additional Testing Needed:
Performed By RI	^			Certification #
,	RACY MAYO)		
Comments:	1 1 10	<u> </u>		

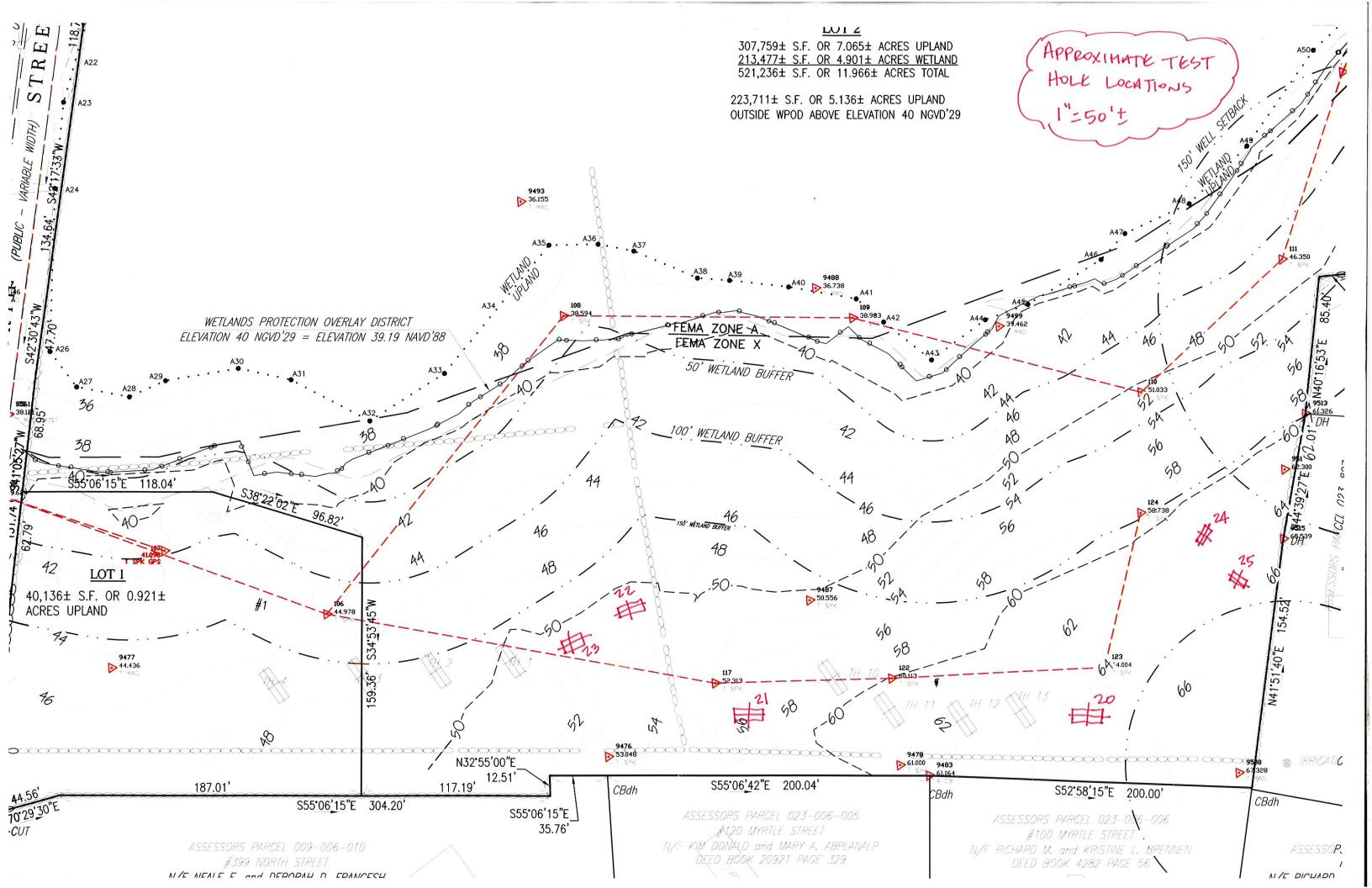
Deep Hole # 21 Date 10.4	Time	Weather 60° CLOUNY
Location(identify on Site Plan) Land Use <u>Rもいのもみすいれ</u> Slop Vegetation <u>Woo</u> のら	e(%) <u>3-5</u> Surface Stones <u></u> Landform	10
Distances from: Open Water Body N A ft.	Possible Wet Area >/೨೦೦ ft. D	Prinking Water Well > 150ft.
Drainageway N A ft. Prope	ertyline <u> 60±</u> ft Other	
DEEP OBSERVATION HOLE LOG		
Depth From Surface Soil Horizon Soil Te		
(Inches) (USDA (Muns		Boulders, Consistency, %Grave
0"-12" A SAU		
12"-28" B LOA	my 10/25/6	
28"-114" C 50	my 2.576/3	FRIABLE
D=9°-6° (REFUSON)		
Parent Material (geologic) Depth to Groundwater: Standing Water Estimated Sea	Depth to I er in Hole: <u>凡のµを</u> Weeping fr esonal High Groundwater <u></u> 凡ント	om Pit Face <u>Noいと</u>
Method Used: Depth observed standing in observation Depth to weeping from side of observation	hole:inchesDepthon hole:inches Grount well level Adj.factor	to soil mottles: inches ndwater adjustmentft
PERCOLATION TEST	Date Ti	me
Observation Hole # 21	Time at 9"	3
Depth of Perc 28-467	Time at 6" 12'.	19
Start Presoak	Time (9"-6")	
End Presoak 12:07	Rate Min/Inch 2	HIW/IN
Site Suitability Assessment: Site Passed \(\bu\)	Site Failed Addition	al Testing Needed:
Performed By RICK GRADY	Certific	-
Witnessed By TRACY MAYO		
Comments:		

Deep Hole #	Date_	10-4-16			CLOUDY	
Location(identify on Land Use <u> Pをらい</u>	Site Plan)	Slone(%) 3	Surface	Stones NO		
Vegetation 1000	>>	Glope(70)	Landforr	n		
Distances from: Ope	en Water Body <u></u>	4 ft. Possib	le Wet Area <u>>/</u>	00 ft. Drinking Water	Well <u>>/50</u> ft.	
Drai	nageway NA f	Propertyline_	15ナ ft Othe	r		
DEEP OBSERVA		<u> </u>				
Depth From Surface (Inches)	Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color		: Structures, Stones, Consistency,%Gravel	
0"-8"	A	SANDY	10423/2			
8"-24"	В	LOANY	104R5/6 2.574/3		-	
24"-108"	C	LOAMY	2.511/3	FA	24BLE	
D=9'-0" (Refusar)					
Parent Material (geol Depth to Groundwate	er: Standi	ng Water in Ho Ited Seasonal H	e: NONE W	Depth to Bedrock_ eeping from Pit Face_i ter _ Noいと	JONE	
DETERMINATION FOR SEASONAL HIGH WATER TABLE Method Used: Depth observed standing in observation hole:inchesDepth to soil mottles: inches Depth to weeping from side of observation hole:inches Groundwater adjustmentft Index Well # Reading Date Index well level Adj.factor Adj.Groundwater level						
PERCOLATIO	N TEST	Date_		Time		
Observation Hole #	22		Time at 9"	1:19		
Depth of Perc	24.42		Time at 6"	1:35	· ————	
Start Presoak	12:52		Time (9"-6")	16		
End Presoak	1107		Rate Min/Inch	6 MIN/IN		
Site Suitability Asses	sment: Site Pa	ssed <u>/</u> Sit	e Failed	Additional Testing Nee	eded:	
Performed By Ric	CK GRADY			Certification #		
Witnessed By	ACY MAYE)				
Comments:						

Deep Hole # 13		0-4-16	Time	Weather CLOUDY 60°
Location(identify on Land UseRESIDE	Site Plan)	Slone(%) 3	Surface S	Stones Ho
Vegetation Wood	05	_ Olope(70)	Landform	1
Distances from: Ope	n Water Body <u>⊷ l</u>	A ft. Possib	le Wet Area	oo_ft. Drinking Water Well_>/5D_ft.
Drair	nageway <u>NA</u> ft.	Propertyline_	75 ^ナ ft Other	
DEEP OBSERVA	TION HOLE LOG			
Depth From Surface (Inches)	Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color	Soil Mottling Other: Structures, Stones, Boulders, Consistency, %Gravel
0"-89	A	SANDY	104R3/2	
B"- 24"	В	LOAMY	104R96 2.5743	
8"-24" 24"-108"	C	SAND	2.574/3	FRIABLE
D19-0	No Warke			
(Refusar)				
Parent Material (geold Depth to Groundwate	r: Standin	ng Water in Ho ted Seasonal H		epth to Bedrock eeping from Pit Face <u> NONE</u> er <u>トレのと</u>
	DETERMIN	NATION FOR S	EASONAL HIGH	I WATER TABLE
Method Used: Depth observed s Depth to weeping Index Well # F	from side of ob	servation hole	:inches	Depth to soil mottles: inches Groundwater adjustmentft actor Adj.Groundwater level
PERCOLATIO	N TEST	Date_		Time
Observation Hole #	23		Time at 9"	1:35
Depth of Perc	24 - 42"		Time at 6"	1:39
Start Presoak	1:16		Time (9"-6")	4
End Presoak	1:31		Rate Min/Inch	~ 2 MIN/IN
Site Suitability Asses	sment: Site Pas	ssedSi	te Failed	Additional Testing Needed:
Performed By RICH	L GRADY	***		Certification #
Witnessed By 1	acy MAYD			
Comments:		-		

Deep Hole #		10-4-16	Time	Weather 60 classy
Location(identify or	า Site Plan) ดะพ โเศเ	Slope(%) 3	Surface	Stones NO
Vegetation 🚨 🕡				n
Distances from: Op	oen Water Body	ft. Possit	ole Wet Area	ft. Drinking Water Wellft.
Dra	inagewayf	t. Propertyline_	ft Othe	r
DEEP OBSERV	ATION HOLE LO	<u>G</u>		
Depth From Surface (Inches)	(USDA	Soil Texture (Munsell)	Soil Color	Soil Mottling Other: Structures, Stones, Boulders, Consistency,%Grave
0"-15"	A	5L	10-16-15	
	В	L5	10425/6	
15"-30" 30"-54"	C	L5	2.54/3	
0=54	Crefusan			
			·	
Parent Material (geo Depth to Groundwat	ter: Standi	ing Water in Ho ated Seasonal F	le: HONE W	Depth to Bedrock_ eeping from Pit Face <u> ฟoผะ</u> ter_ ม ⊽ผย
	DETERMI	INATION FOR S	EASONAL HIGH	H WATER TABLE
Depth to weepin	g from side of ol	servation hole	:inches	Depth to soil mottles: inches Groundwater adjustmentft actor Adj.Groundwater level
PERCOLATION	ON TEST	Date_		Time
Observation Hole #			Time at 9"	
Depth of Perc				
Start Presoak			Time (9"-6")	
End Presoak			Rate Min/Inch	
Site Suitability Asse	ssment: Site Pa	assed Si	te Failed	Additional Testing Needed:
Performed By	CK GRADY			Certification #
Witnessed By	LACY MAY	0		
Comments:				

Deep Hole # 45	Date_	10.4.16	Time	Weather
Location(identify on Land Use	Site Plan)	Slone(%)	Surface S	Stones
Vegetation		010pe(/0)	Landform	1
Distances from: Ope	en Water Body	ft. Possib	ole Wet Area	ft. Drinking Water Wellft.
Drair	nagewayf	ft. Propertyline_	ft Other	
DEEP OBSERVA	TION HOLE LO	G		
Depth From Surface	The second secon		Soil Color	
Marie	(USDA	(Munsell)		Boulders, Consistency, %Gravel
0"-127	A	SANDY LOAM	10/23/2	
12"-30"	B	LOAMY	10426/4	
30'-66"	C	LOAMY	2.51 4/3	FRACTURED ROC
D=6B" (REFUGAL)			
Parent Material (geol	ogic)		D	epth to Bedrock
Depth to Groundwate	er: Stand	ing Water in Ho	le:We	epth to Bedrockeping from Pit Face
	Estim	ated Seasonal H	iign Groundwat	er
	<u>DETERM</u>	INATION FOR S	EASONAL HIGH	I WATER TABLE
Method Used: Depth observed s Depth to weeping Index Well # F	standing in obs g from side of o Reading Date	ervation hole: _ bservation hole Index well le	inches :inches evel Adj.fa	Depth to soil mottles: inches Groundwater adjustmentft ctor Adj.Groundwater level
PERCOLATIO	N TEST	Date_		Time
Observation Hole #			Time at 9"	
Depth of Perc		-27		
Start Presoak		- 0.		
End Presoak				
Site Suitability Asses	sment: Site P	assed Sit	te Failed	Additional Testing Needed:
Performed By Ric	L GRADY			Certification #
Witnessed By	acy Mayo			
Comments:	•			



Soil Suitability Assessment for On-site Sewage Disposal

Date: 9/28/2016 Robert Carlezon Performed by: GRADY CONSULTING, L.L.C. 71 Evergreen Street, Suite 1 Kingston, MA 02364 Phone: (781) 585-2300 Fax: (781) 585-2378 Witnessed by: *Owner's Name Location Address or Lot # John S. Baldwin P.O. Bux 1071 Duxbury, MA 02331 *Address & North Street *Telephone # New Construction Repair Title V Inspection 781-789-8480 Office Review Published Soil Survey Available: No ____ Yes___ Year Published: _____ Publication Scale: _____ Soil Map Unit: _____ Drainage Class: _____ Soil Limitations: ___ Surficial Geology Report Available: No ____ Yes ___ Year Published: _____ Publication Scale: _____ Geologic Material (Map Unit): Landform: Flood Insurance Rate Map: Above 500 year flood boundary:

Within 500 year flood boundary

Within 100 year flood boundary

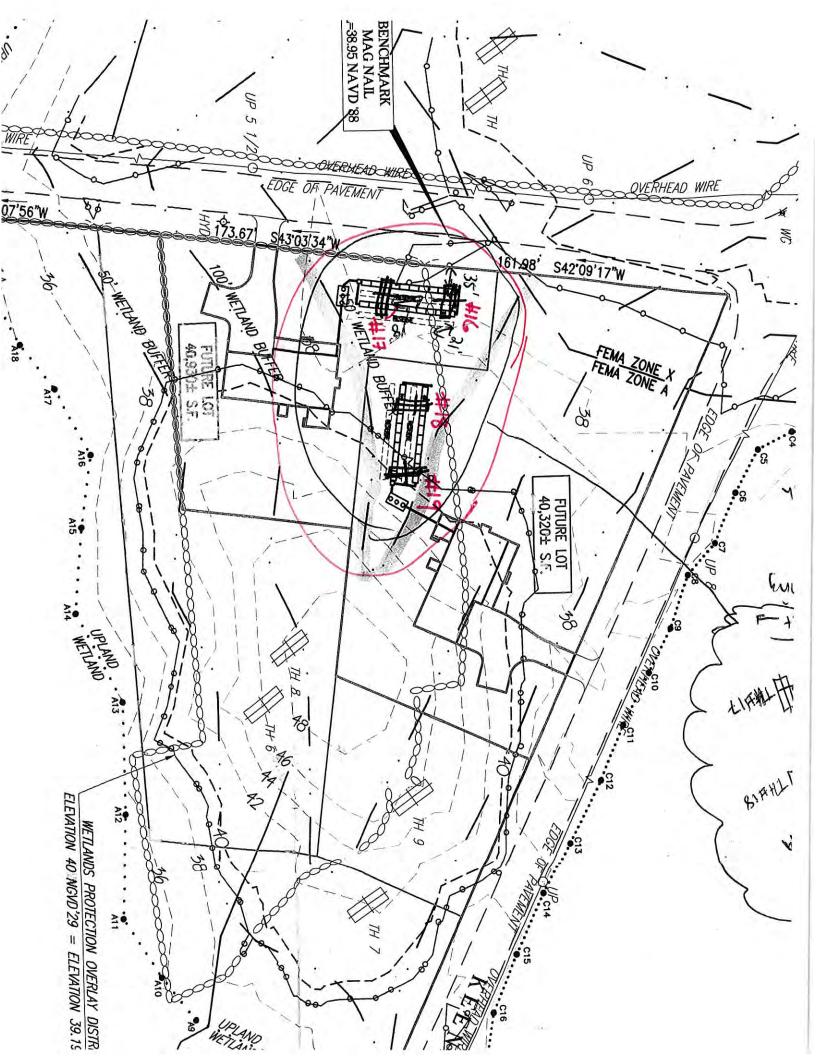
No
Yes
Yes Within 100 year flood boundary Wetland Area: National Wetland Inventory Map (map unit): N/A On Site Delines from Wetlands Conservancy Program Map (map unit): ____ **Current Water Resource Conditions (USGS):** Range: Above Normal ____ Other References Reviewed: * US65 feal Time Depth of Naturally Occurring Pervious Material Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system? If not, what is the depth of naturally occurring pervious material? Certification I certify that on July 1, 2015 I have passed the soil evaluator examination approved by the Department of Environmental Protection and that the above analysis was performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. Signature: Robert Cyl Date: 9/28/2016

TITLE 5 ON-SITE REVIEW
Deep Hole # 10 Date 9/28/206 Time 9:30 Weather Cloudy 62 Location(identify on Site Plan) Slope(%) 0-3 Surface Stones NONE Vegetation Wood land Mainly Piece Landform
Distances from: Open Water Body 200 ft. Possible Wet Area 15 ft. Drinking Water Well 200 ft.
Drainageway 505 ft. Propertyline <u>ろりた</u> ft Other
Depth From Surface Soil Horizon (Inches) Soil Texture Soil Color Soil Mottling Other: Structures, Stones, Munsell) Soil Mottling Other: Structures, Stones, Boulders, Consistency, Graves
0-12' A Sandy Loam 104R4/2
12"-40" B Loamy Said 1048 34 40"-126" C Fine to 2.548 (Morries) granular 40"-126" C Med Sand 546/2 84" 5% granel, few cosbles
40"-126" C Med Sund 546/2 84" Sis gravel, Few cosbles
Mottling @ 7'-0" Refusal @ 10'-6" (ledge)
Parent Material (geologic) Depth to Bedrock //6 Depth to Groundwater: Standing Water in Hole: Weeping from Pit Face //6 Estimated Seasonal High Groundwater S4 DETERMINATION FOR SEASONAL HIGH WATER TABLE Method Used: Depth observed standing in observation hole: inches Depth to soil mottles: inches Depth to weeping from side of observation hole: inches Groundwater adjustment ft Index Well # Reading Date Index well level Adj.Groundwater level
PERCOLATION TEST Date 9/28/2016 Time 10:00
Observation Hole # 16 Time at 9" 10: 15 Depth of Perc 46 - 64" Time at 6" 10: 18
Start Presoak 7:38 Time (9"-6") 3 min End Presoak 10:13 Rate Min/Inch 42 min /in
End Presoak Rate Min/Inch Provided Site Suitability Assessment: Site Passed Site Failed Additional Testing Needed:
Performed By Robert Cucleton Certification #
Withough By + Carry Many

IIILE 5 ON-	SITE REVIEW	1 1	t			O
Deep Hole #	Site Plan)	\$lope(%)_0-	3 Surface	Stones NON	er Cloudy 6 E_	2_
Distances from: Ope	en Water Body <u>72</u>	too ft. Possib	le Wet Area_>	150 ft. Drinking	Water Well 7200	<u>)</u> ft.
Drai	nageway 750 ft	t. Propertyline_	50± ft Oth	er		1 -
Depth From Surface (Inches)	Soil Horizon (USDA	Soil Texture (Munsell)	Soil Color	Bo	Other: Structures	
0-8"	A	Sandy Loan	104R4/2			
8-36 36-132	В С			(Mottles) 70"	granulas 5% gravel	few cobble
		Depth = 11 Mottles@		W/ 5'-	10"	
Parent Material (geol Depth to Groundwate	er: Standi Estima	ted Seasonal H	e: <u>130′</u> W ligh Groundwa		Face <u>98`</u>	
Method Used: Depth observed Depth to weeping Index Well #	standing in obse	ervation hole: _ eservation hole:	inches _ inches _		mottles: 70 ¹¹ i r adjustment	nches _ft el
PERCOLATIO	ON TEST	Date_	9/28/2016	Time_/	0:50	
Observation Hole #	17		Time at 9"	11:18		
Depth of Perc	44-62		Time at 6"	11:23		
Start Presoak	10:57		Time (9"-6")	AND THE REAL PROPERTY.	5 min_	
End Presoak	11:12		Rate Min/Inch	1 ZZmin/in		
Site Suitability Asses	sment: Site Pa	ssed_V Sit	e Failed	Additional Test	ing Needed:	
Performed By Rol	pert Carlez	on		Certification #_	<u> </u>	
Witnessed By Tra	acy Mayo					· p
	7 7					

TITLE 5 ON-SITE REVI	EW
Land Use Vacant (Resident Vegetation Woodland (Mag	Date 9/28/16 Time 11:40 Weather Cloudy 63° High Slope(%) 0-3 Surface Stones NONE Landform Landform
Distances from: Open Water B	Body 7200 ft. Possible Wet Area 175 tft. Drinking Water Well > 200 ft.
Drainageway 7	ft. Propertyline 100 ft Other
DEEP OBSERVATION HOLE L Depth From Surface Soil Hor (Inches) (USDA O'-8''	Soil Texture Soil Color Soil Mottling Other: Structures, Stones, Boulders, Consistency, Gravel Sandy Loan 107842
g - 30 B	Loany Sand 104R 54
30°-126° C	Loamy Sand 104R & granular Fine to 2.54R5/8 (Mothers) granular Med Sund 54 & 50 5/3 gravel, few cobb1.
,	
	Depth to Bedrock N/A Standing Water in Hole: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Method Used: Depth observed standing Depth to weeping from sid	de of observation hole:inches Groundwater adjustmenttt
PERCOLATION TEST	Date 9 2 8 16 Time 11: 45 AM
Observation Hole #	Time at 9" \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Depth of Perc 36-	54" Time at 6"
Start Presoak 11:40	
End Presoak	
0.1	Site Passed Site Failed Additional Testing Needed: Car le Zo~ Certification #
Performed By Kobert	AN CONTRACTOR OF THE CONTRACTO
Witnessed By TACY	Mayu

IIILE 9 UN-SI	1 1			1.0
Location(identify on S	Date 9/28/16 ite Plan) lesidential Slope(%) Mainly pine trees	Surface Stone	NONE	<u>60</u>
Distances from: Open	Water Body 7200 ft. Po	ssible Wet Area <u> > 175</u> ft	. Drinking Water Well <u> کا ک</u> ون	<u>+ft.</u>
	geway <u>⊃50</u> ft. Propertyli			
DEEP OBSERVATION	HOLE LOG			
Depth From Surface (inches)	Soil Horizon Soil Texture (Munsell)		Mottling Other: Structure Boulders, Consister	
0-8	A Sandyloo	in 104 R72		
8 - 30	-		Granular	
3 <u>0° - 137</u> °	C med sand	2.54R 58 (Mottles) 546/2 5	0" 5% gravel,	feu 10 66/e
	Depth= 11'-	0		
	Mottling	@ 4'-2"		
Parent Material (geolog Depth to Groundwater	Standing Water in	Depth Hole:\ ⁷ ∕oʻ Weeping al High Groundwater	to Bedrock <u>Λ//A</u> I from Pit Face <u>Ιλο΄΄</u> 50	
Denth to weening t	anding in observation hole from side of observation he eading Date Index we	ole:inches Greel level Adj.factor_	oth to soil mottles: 50 oundwater adjustment Adj.Groundwater lev	inches _ft _{rel}
PERCOLATION	I TEST Date	——————————————————————————————————————	Time 12:30	
Observation Hole #	19			
Depth of Perc	<u> </u>			
Start Presoak	12:30	1.	1 .	
End Presoak		·	Min line Needed	
, V	ment: Site Passed			
		Certi	fication #	
Witnessed By Trac	y Mayo	- 		ų



Commonwealth of Massachusetts

Date: 10/17/2016

Soil Suitability Assessment for On-site Sewage Disposal

Robert Carlezon

Performed by:

GRADY CONSULTING, L.L 71 Evergreen Street, S		
Kingston, MA 02364 Phone: (781) 585-2300	Fax: (781) 585-2378	
Witnessed by: Tracy Mayo		
Location Address or Lot # Lot / North Street	*Owner's Name *Address & *Telephone #	John Baldwin P.O. Box 1071
New Construction Repair Title V	Inspection	Duxbury, MA 02331 781-585-7380
Office Review Published Soil Survey Available: No Y Year Published: Publication Scale: Drainage Class: Soil Limitations:	Soil Map U	nit:
Surficial Geology Report Available: No / Year Published: Publication Scale: Geologic Material (Map Unit):		
Flood Insurance Rate Map: Above 500 year flood boundary: Within 500 year flood boundary Within 100 year flood boundary No Y	/es /es /es	
Wetland Area: National Wetland Inventory Map (map unit): Wetlands Conservancy Program Map (map unit)		- Site Delineation
Current Water Resource Conditions (USGS): Range: Above Normal	Month: <u>⊀ 0 c +</u> Normal	Below Normal
Other References Reviewed: * V565 - 1	Real Time Data -	Dux #79
Depth of Naturally Occurring Pervious Material Does at least four feet of naturally occur area proposed for the soil absorption sys		all areas observed throughout the
If not, what is the depth of naturally occu	urring pervious material?	
Certification I certify that on July 1, 2015 I have passe Environmental Protection and that the alteraining, expertise and experience description.	bove analysis was performed	by me consistent with the required

Deep Hole #	Date 10/17/2016	Time <u>(2:30</u>	Weather Sunny 68"
Land Use Vacen	Site Plan)Slope(%)_	3~« Surface Stones_	NONE
Vegetation 6165	tober Brid	Landform	
Distances from: Oper	n Water Body <u>>200</u> ft. Pos	sible Wet Area > 150 ft. D	Prinking Water Well <u> 2150</u> ft.
Drain	ageway > 50 ¹ ft. Propertyline	ft Other	
DEEP OBSERVAT	ION HOLE LOG		
Depth From Surface (Inches)	Soil Horizon Soil Texture (USDA (Munsell)	Soil Color Soil Mo	ttling Other: Structures, Stones, Boulders, Consistency,%Gravel
B-12"	A Sandyloan	, 10xR4/2	
12"-36"	B Loamy San	1 7.5 YR 5/3	
36-120	C Loamy San		few cobbles
<i>30</i> (20		<u>.a 01 2 10</u>	Compact, begges
	Depthz 10'-0"		
	Motting & 8'	- 0"	
	J		
Parent Material (geolo Depth to Groundwater	gic) r: Standing Water in H	Depth to l	Bedrock <u> </u>
p	Estimated Seasonal	High Groundwater 9	6
	DETERMINATION FOR	SEASONAL HIGH WATER	TABLE
			to soil mottles: 96 inches
	from side of observation ho eading Date Index well		
PERCOLATION	<u>1 TEST</u> Date	10/17 /2016 Ti	me
Observation Hole #			
Depth of Perc	36-54		
Start Presoak	るコア	Time (9"-6")	
End Presoak	2:25	_ Rate Min/Inch <u> </u>	inlin Unible do Saturate
Site Suitability Assess	ment: Site Passed 🗸 🤇	Site Failed Addition	al Testing Needed:
Performed By Rob	pert Curlezon	Certifica	ation #
Witnessed By Trac	cy Mayo		
Comments:)		

TITLE 5 ON-S	SITE REVIEW						
Deep Hole #	7 Date	10/17/2010	4 Time 7:1	45	Weather	SUMAIN	650
I anation/identific on	Cita Diani						
Land Use Vacant	Residential	Slope(%)	Surfac	e Stones	NONE	_	
Vegetation Law	9 1955	2000 60 8080	Landfo	rm			
Distances from: Ope		The Possi			Drinking Wa	ater Well <u>></u> I	50_ft.
DEEP OBSERVA		The state of the s	Soil Color	Soil M	lottling O	ther: Structu	ires, Stones,
Depth From Surface (Inches)	Soil Horizon (USDA	(Munsell)	3011 00101	SOII IV			ency,%Gravel
<u>(monocy</u>			· · · · · ·				
0-12	A	SandyLagn	1048 12				
12"-36"	B	Loany Sand	7.54R 3				
36" - 120		Loany Sand			fe	w iobbles	, 5% grav
Parent Material (geol	ogic)			Depth to	Bedrock_	NONE	
Depth to Groundwate	er: Stan	nding Water in Ho mated Seasonal	ole: <u>NONE</u> High Groundw	Weeping	from Pit Fa	Ce NONE	
	DETER	MINATION FOR	SEASONAL HI	GH WATE	R TABLE		
Method Used: Depth observed : Depth to weeping Index Well # I	g from side of	observation hole	e:inches	Gro	undwater a	djustment_	n
PERCOLATIO	N TEST	Date_	10/17/	2016	Time		-1
Observation Hole #	_2		_ Time at 9"	3:	27		
Depth of Perc	26"- 54"	•	Time at 6"	3:			
	7:50		_ Time (1°-6")		3 - 2		
Start Presoak	2	71					
End Presoak	3:07		_ Rate Min/Ind				
Site Suitability Asses			Site Failed				
Performed By Ko	bert Car	1200		Certif	ication #		
Witnessed By Tru	icy Man	0					

2825 2825 3225

Commonwealth of Massachusetts
City/Town of
Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

4004	
	C. On-Site Review (continued)

Deep Observation Hole Number:

							4 65 1 1 0	THE CAME OF			
	•		Redox	RedoxImorphic Features (motiles)		Soli Texture	Coarse 7	Coarse Fraginalis % by Volume	Soil	Soli	Other
Depth (In.)	oii Horizon Layer	Depth (In.) Layer Moist (Munself)	Depth	Colar	ant	(Agsu)	Gravel	Cobbles & Stones	Structure	(Moist)	
V	(L										
	d	on						•	S		
200				 -					4		
C)	C.	ひか、 ひつ						15%	N. L		
7,7)	7						•	. (
···	C	The state of the s				<u>,</u>		200			
45-116	ار										
			-								
						-					
•											

Der C. 35" Shar 10157	SCI III
Additional Notes: . mothing 931	

\(\bar{\text{\varphi}}{\text{\varphi}}\)

中でいる。

I

1 CASO

Form 11 -- Soil Sultability Assessment for On-Site Sewage Disposal 7 Page 3 of 6

4015 · Paling

10|30| S

Commonwealth of Massachusetts City/Town of

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

388 NOTE OF

C. On-Site Review (continued)

Г	· · · · · · · · · · · · · · · · · · ·				1		T		-			Γ	 1	 7
	Other													
	Soll	(Molst)												
	Soli				3		5	L						
	agments olume	Cobbles & Stones												
,	Coarse Fragments % by Volume	Gravel			,						-			
	Soli Texture	(NSDA)							,					
		ant.												
	Redoximorphic Features (mottles)	Color				·			•					
		ļă												
Deep Observation Hole Number:		Depth (In.) Soil Morzon/ Soil Marrix, Color- Layer Moist (Munsell)	Con	DN 75	35	10 10 10 10 10 10 10 10 10 10 10 10 10 1		707		いっていく	·			
bservation !		soil Horizon/ Layer			Q)		ĵ	~ (<u> </u>		7	オンイム		
Deep O	•	Depth (In.)		か う か ら か	J. W. 1.	() () ()	7	77	. [2]	ラジ		2		

50.0 まるるる z or Additional Notes:

Smis 2mp

FORM I	12: TITLE	5 ON-SIT	E (PAGE 2 & 3	COMBINED)			
Location a	ddress or lot	#:	388 No	271 57	シアンメジ	>v </td <td></td>	
Applicant/	Owner:	(マンカラント マ	235 (KSTA	25)		ТЕМР: <u>¬о</u>
DEEP HO	LE# _\	DATE:	8/21/1	3 WEATH	3R: 5	ンとない	TEMP: 70
I ocation (identify on si	te nlan): Refer	r to eletch atte	hados			•
Land Use:	RUS Slop	e: <u>ල-ය</u> ු ;	Surface Stone	s:Y	ַ שוּעם.		
Vegetation	1: 60x5"	<u> </u>	Stone Walls:	Y	ַ ם מ⁄ַּם'		
Landform:					-		
						•	
Distance F	rom: Open V	Vater Bodies	ft. Pc	ssible Wet/Area .	100 7 ft	Drinking wat	er Wellft
	Drainag	geway	ft. Pr	operty Line	101十年	Other	
•	-	•					
			een Observ	ration Hole	l Og		
_	Soil	Soil					ctures, Stones,
Depth ·	Horizon	Texture	Soil Color	Soil Mo	tting		Consistency,
·	230113011	20/15410				%0	ravel
		SANGI		· ·	•	20.00	
0-9"	10 B	Loan	10,183/3	1 · -		FRIAGLE	
		LOAMY					
9 - 24	3	SAND	10-125 6	_		FRIABLE	.
				<u> </u>	······································	<u> </u>	
24-102	C,	4. No . Tour-(2576/3	_		EVIUD-R	70CKETY
2,1,000) [JAND	201013			1007,610000	70CKETS 05- T10H1 1- LOMM) SA
102-140"	, · .	Loant	2,57 6/3	. ,		8,10 820W	rom) syl
10.T-120	Ci	CURC	51912				
- 었							
100							
(Ö]	:				
		1,			*	<u> </u>	
Parent Mate	rial (geologi	c):	40 VAC TY	<u> </u>	Denth to E	ledrock:	
Depth to Gr	oımdwater:	Standing Wat	ter in Hole:		Veening f	rom Pit Face:	,
5				roundwater:			-
×							
BETERMIN	NATTON FO	R SEASONA	LHIGH WAT	TER TABLE			
					Depth to so	oil mortles:	m.
						ter adjustment	
	. :		, –			-	
Index Well #:	Reading	g Date:	Index well Level	l: Adj_F	actor:	Adj. Ground	i water level:
מבים מכוני גיו	יייט ניייי דער זיי				•		
PERCOLAT	TION TEST	= 1:01=			·		· · · · · · · · · · · · · · · · · · ·
Date:	·	8/21/1-			<u> </u>		
Observation		\					·
Depth to Per		44-62	<u> </u>			<u> </u>	<u>.</u>
Start Presoal		1022	<u> </u>	<u> </u>			•
End Presoak		· 1037	<u> </u> _				,
Time @ 9":		1047					
Time @ 6":		1058				, ,	
Time @ (9"-	-6")	11 min					
Rate Min./In		NIMINH		•			·
				in both the prin	nary and i	reserve area.	· · · · · · · ·
		•	_				
Performed B	iv: . <	587 LD	DAN "6E	Sit	e Suitabil	ity: Passes	/
Witnesses B	y: -	TRACT N	NO-10, RS.	Age	ent	Failed D	
Comments:	-			Ad	lditional T	Testing Needed:	YONO



			Ľ (PAGE 2 & 3 <u>386 ላ</u> ላላጥ			i
				5 (2574+6)		<u> </u>
DEED HO	TE# 74	77 / 77	6/27/12		INNY TEMP 78	_
Location (identify on ci	DAIG. te plant Refe	r to sketch att	<u> </u>	TEMP: 76	2
Land Use:	Set Slor	e o à	Surface Stone	s:YDNG	•	
·Vegetation	1: CLA-2) <u> </u>	Stone Walls:	Y		
Landform		·	DIOMO II MMS.	1 84 11 42	·	
	•			•	• •	
Distance F	TOIII: Open V Draina	Water Bodies	ft. Pr	ossible Wet/Area 160 + ft.	Drinking water Well	ft
			een Gliser	ration Hole Log		
		1		3-11(1) B 5 (1) (00 1) (1) (00 10)	Otheris Sharestones Shares	墨
Depth	Soil Horizon	Soil Texture	Soil Color	Soil Motting	Other: Structures, Stones, Boulders, Consistency, %Gravel	
6-9"	AP	Loan	10/10/2/3		FRIABLE	
9-25	73	LOANT	10725/6		FRIABLE	
25.96	٥,	SAND SAND	25763	@76" 7.57R5/6	MIAGUE POUCETS	
96-144	Ci	2447 TODWI	2.5763		PRIADLY WHY	
· 			:			
Damant Mate			· · · · · · · · · · · · · · · · · · ·			_
Donth to Co	riai (geologic	5): <u> </u>	- TT-1	Depth to B		-
ъери ю си			er in Hole:		om Pit Face:	_
		Estimated Sea	Isonai High G	roundwater:	F, DAR LO WOLLING	-
	d: Depth ob	served standing i	L HIGH WAT	D. Depth to so	il mortles: in.	
Index Well #:	•		•		Adj. Ground water level:	_
PERCOLAT	ייציד אחד					
Date:	1011 1101	Blzili.	<u> </u>		· · · · · · · · · · · · · · · · · · ·	٦
Observation	Hole #					-
Depth to Per		5' :do1-38	. - : - 			-
Start Presoal			 			-
End Presoak		1202				-∱
Fime @ 9":		1221				╛
Time @ 6":		1225		·		-
Time @ (9"-		4 min			· · · · · · · · · · · · · · · · · · ·	-
Rate Min./In		ZMININ	. 			4
				a both the primary and re	Sortia aran	┙
U		u woi mas Di	- horrormen II	e com me brunar à sud Le	POPTAC UTCT	
Performed B	v: ∵v	AUL BROOM	35, And	Site Snitabilit	v Passes k	
Witnesses By	y: · ~	racit m	AYG RS	Site Suitabilit	Failed D	
Comments:	•		·	T legoition A	esting Needed: V D N D	

٠.



FORM 1	L2: TITLE	5 ON-SIT	E (PAGE 2 & 3	COMBINED)		,		
Location a	ddress or lot	#:	188 MOR	U+ 47	クノメジィノト	1	i	
Applicant/	Owner:	en	anit No	34 (45)	9 NE)			-
DEEP HO	LE# <u>3</u>	DATE:				rune	TEMP:	₽ ∂ £
Location (i	identify on si	te plan): Refer	to sketch att	ached		,	<u> </u>	
Land Use:	RGS Slop	e: <u>0-3</u> 7,	Surface Stone	es:	Y 🗆 N 🗹 🖸			25
·Vegetation	: GRASS	;	Stone Walls:		A MM 🗖 T			
Landform:								
					٠.			
Distance F	rom: Open V	Vater Bodies	ft Po	ossible Wet/Are	1007 ft		water Well	ft
	Draina	geway	ft. Pr	operty Line	10 T	Other		
			•					· ·
		D	eep Obser	vation Hol	e Log			
	C-1.	5-27				Other: St	tructures, Ște	ones,
Depth ·	Soil	Soil	Soil Color	Soil M	lotting		rs, Consister	
	Horizon	Texture				1	%GraveI	•
		20021		• .		110		
0~10"	AB	Lean	10 m3 3			それるの	. ·]
. v				<u> </u>	٠.	j	· • • · · · · · · · · · · · · · · · · ·	
18,-32,	\mathcal{B}	rosmy	101R56	-		FA1AB	Æ	
		SAND		- · - *	نانید	 		
3ñ-96°	٥,	FING LOAM	2.5763	© 62° ⊃	370 518	421813	~ &	
	<u> </u>	SAND			5725/6			
96-146	62	FING LOAM	1257 613			(WAS		1
	9-2	32205			•	MANN	20000000000000000000000000000000000000	3 2
					•		C012197	62
		<u> </u>						
.			_					
1	· · · · · · · · · · · · · · · · · · ·	<u> </u>	•					
D 3 6-4-	_6_1	:):- <u> </u>	(1) A-1-	, , ,	-n -=# += n	.a. a.	· · / ·	
Parent Mate	nai (geologi	Standing Wat	TT-1-	, m a."	Deput to B	edrock:	<u>-</u>	
ъебит ю са	oundwater:	Standing wat Estimated Sea	er in noie: _	1 0 5 .	weebing in	Om Fil Face		1
		Esumateu Sea	ISOUAL FIIGH C	noundwater.		0 .346	10 10011	<u> </u>
DETERMA	IATION FO	R SEASONAJ	AW HOLE	דומגד מדי				
		served standing i				il mortles:	 i	
1420 11011 000		weeping from sid					#	
	· •					-	_	
Index Well #: _	Reading	g Date:	Index well Leve	l: Adj.	Factor:	Adj. Gro	und water level	i:
PERCOLAT	יוטאו יייביכירי				•			
	ION IESI	8/21/15	<u> </u>	· · · · · · · · · · · · · · · · · · ·	``			
Date: Observation	Trolo #	<u> </u>	3				 	
		22.54	r					
Depth to Per Start Presoal		<u> 37-'55</u>			 			
		1334						
End Presoak Fime @ 9":		1200			+	·		
Time @ 6":		1430		•	 			
Time @ (9"-	(11)	1600		** *	- 		· · · · · · · · · · · · · · · · · · ·	
Rate Min./In		90 min			-		· · · · · · · · · · · · · · · · · · ·	 -{
		1/22 m 00		- both the	imarı end -	· 1	···· ,	
TATTITITION O	T I LCICOISII	on test must b	e berrormen)	т оот пе Ы	mar A shri L	Coctac steg	•	•
Performed D	ν.σ. ν.	in Broc	MA Pa.	9	ite Snitabili	tv: Passes	12/	
Vitnesses By	ያ፥ <u> </u>	מנה השם	10.725	A.	eent	Failed	υ·	
Comments:			···) ···				ed:Y 🗅 1	N D
	·.					- !		_
	A 1000	· moth	120 O P.	ر تن <i>در</i> ، آن	TOM .	compre,	N124	

TOURS TOURS & REGULATIONS.

1 .	

FORM:	IZ: IIILE ddress orilot	5 ON-511. #-	Ľ (PAGE 2 & 3 ምንፍር	COMBINED)	SUNTEN C	V 1		
Apolicant	Owner	#: DATE:	1001/2 NE	43 64	TA T()	1		
DEED HO	TE# W	DATE	8/21/13	WEAT	44 AV	NN~{	_ TEMP:	803
Tocation (idantifu on ci	te nion). Defe	ta alsatah att	aabad			_ 1151711.	. 00 .
Land User	TO SION	e: <u>0^3</u> 7	Surface Stone	rc.	VUNIN			20
· Vegetation	1: (2/2454		Stone Walls:		A Q N O			
Landform			stone mans.					
				•		*		
Distance P	rom: Open V Drainas	Vater Bodies	ft Po	ossible Wet/Are operty Line	100 + ft	Drinking w Other	ater Well	ft_
			eep Obser					
			 	Avit(i)(Bett)		Otheric Ch	Ct-	
Depth	Soil Horizon	Soil Texture	Soil Color	Soil N	lotting	Boulders	uctures, Sto s, Consisten Gravel	
0~10"	Ao	Low	10/18 2/2			(MIAS)	ſ.	
10.33	rs	Logard	10-10 5/16	J		knigo	-E	·
33-150	4	FINE SIVE	257613	€ 66" -	72-16 21 P	10,000 600		
	· .					. 10 g) ° C	6/3/3/LIG	
٠.				<i>y</i> 11 11 11 11 11 11 11 11 11 11 11 11 11	•			
•			:					
Parent Mate	rial (geologi	د);	ACIAL T	1.V.	Denth to Re	drock		
Depth to Gr	omdwater.	Standing Wat	er in Hole	140"	Weening fro	nin Pit Face		
Dopar to G	-	Estimated Sea	sonal High C	roundwater	\\ د\	E DWE T	6 WOTT	
			·		<u></u>	, ,	, .,	
DETERMI	NATION FO	R SEASONA	L HIGH WA	TER TABLE	}			
		served standing				morties;	in	٠.
•		weeping from sid						
Index Well #:	Reading	g Date:	Index well Leve	l: Adj	Factor:	Adj. Grou	nd water level	:
PERCOLAT	TION TEST	,						
Date:		8/21/13)					
Observation	Hole #:	i4					• • • • • • • • • • • • • • • • • • • •	
Depth to Pe	rc:	46-64						
Start Presoa		14.25		•				
End Presoak		. 1440						
Time @ 9":		1443						
Time @ 6":		144 5						_
Time @ (9"	-6")	5 ~~~						
Rate Min./Ir		~~~~						
*Minimum (of 1 Percolati	on test must b	e performed i	in both the pr	imary and re	serve area.		
		oner wa	-	_			Y	
Witnesses B	y:	AN MA	-10 RS,	A	gent	Failed	3	
Comments:	•		,		Additional Te	sting Neede	4 PY	1 L

SEP 13 1913

Applicant	Owner:	"" <u> </u>	380 NOV	LM 55,04×20	41 - 3
DEEP HO	LE# 5		Er/11/19.		CLOY TEMP: 10
			r to sketch atta		E. G. C.
Land Use:	ন্ত্র Slop	e: <u>0-3</u>	Surface Stone	s:Y□Ņष_	
Veģėtation	I: <u>~000/</u> 2	> ·	Stone Walls:	A M M D	
andform					
Distance F		Vater Bodies		essible Wet/Area 100 ft.	Drinking water Wellff
		Į.	eep Observ	ation Hole Log	
Depth	Soil Horizon	Soil Texture	Soil Color	Soil Motting	Other: Structures, Stones, Boulders, Consistency, %Gravel
⊃-S ^{``}	OA	-	10 4123/3		FRIABLE
5-25	5	LOBAN	104263	· .	FRIANCE.
র-১ত্র	۲,	LOAMY	2.547/2	363 J.SYR 6 6	FIRM IN PLACE 590 GRAVEL
3-67°	(2	LOAM	J'E.A 2/8		firm in place
7-10-2	C 3	51LT LOSM	2.5454		VORY TIGHT
ર્ડ - ૧૦૪	Сч	rosmy	25763		FIRM IN PLACE
Cost.					
		·):		Depth to B	
pm to Gr			ter in Hole:	Weeping fi	
	•	Esumated Se	asonai High G	roundwater:	PS. DAR LO WOLL
אדוגיא מיבוידיק	I A TYONI TOT	OE A CONTA	L HIGH WAT	יי זרו אידי חיליי	•
		served standing			
عضوم معو	Denth to	servensianenng weening from si	ic of obs. Hole	D. Groundwate	il mortles: in. er adjustment ft.
	•				
ex Well #: _	Reading	Date:	Index well Level:	Adj. Factor:	Adj. Ground water level:
RCOLAT	ION TEST				
te:		9/11/1	3	- 	
servation		5	- 		
oth to Per		<u> </u>			
rt Presoak			0	- ·	
Presoak		1015			<u></u>
ne @ 9":		· 1030			
ne @ 6":		1036			
$a \otimes a \otimes a$	<u> </u>	1042			
e @ (9"-		- GWIN			
Min./Ind		n test must b		both the primary and re	SETVE ATEA
				Site Snitabilit	
	,	0.6/3/	246 74	Agent	y: rasses w Failed □
nesses By	<u> </u>				



FORM	12: TITLE	E 5 ON-SIT	E (PAGE 2 & 3 C	COMBINED)	ette i and			
Applicant/	TOTESS OF 100	W	000 100	0112 21" -24	x, 201.c./			
Applicant	Owner:	77.0	13/1/2	2.2				
DEEP HO	LB#	- DATE:	411117	_ WEATHER:	DIN Cress	TEMP:	<u>805</u>	
Location (identify on si	te plan). Kete	r to sketch attac	ched	<u> </u>		٠.	
Land Use:	バディン Slot	DE: <u>3-5 /</u>	Surface Stones	:Y 🛚	, ио ио		<i>t</i> •	
Vegetation	r:	<u> </u>	Stone Walls: _	Y 🗹	ัท 🗆			
Landform:								
Distance F	rom: Open V Draina	Water Bodies	ft Pos	ssible Wet/Area <u>\</u> perty Line <u>\0' ^</u>	o+fr. Drinkinfr. Other_	g water Well	ft	
		D.	eep Observ	ation Hole Lo				
	Soil	Soil	1 1		Other:	Structures, Sto	nes,	
Depth		1	Soil Color	Soil Motting		lers, Consistent		
ļ	Horizon	Texture				%Gravel	"	
		<u> </u>	 	·		75012101		
0-5"	Q g		10,40,33		FRIA	n 5 .		
	<u> </u>				4-16,111	1000		
5"-15"	ربى	LOAMY	امل مبحدا				ĺ	
0 -10	ر ت	SANS	10125/8	~	22/5/14	2 3/18	.	
., .,							$\neg \neg$	
15-92	C	Losur?	25764		FRI	ABUE	- 1	
		3/1/017	 					
120 FULA L	٠. ,						1	
1-32PM	<u> </u>							
		•	!	•			ſ	
1		. !					- 1	
•						····		
			:					
L		<u> </u>						
Parent Mate	rial (geologi). T	June "	Dent	h to Bedrock: _	. 9 2''		
Denth to Gra	umdæster:	Standing Wat	er in Hole	Wee	ping from Pit Fac			
Dobar to On	oundwater.	Totimoted Car	sonol Wich Co		· dir Die brië nom in rac	.5.		
		Esminated Sea	क्षणाचा समहार स्ट	oundwater	4.2 702	J. O. CERRES	<u></u>	
DEPENDENT.		n an (na) I ()						
			L HIGH WAT					
Intemod Ose					oth to soil mortles: _			
	□ Debtu to	weeping from sig	ie of obs. Hole	D Gro	undwater adjustment	£		
Index Well #:	Reading	≥ Date:	Index well Level:	· Adī_Factor	Adj. G	round water level:		
PERCOLAT					,			
Date: .		alidio	j'	<u></u>		F		
Observation :					~~~~~~~	 		
Depth to Per		0.6	2		***	 		
		<u> </u>	2					
Start Presoak		1300				<u> </u>		
End Presoak		· 1315						
	Time @ 9": \3\%							
	Time @ 6": \323							
Time.@ (9"-0	5")	5~~2						
Rate Min./Inc		Zwinh	12					
				both the primary	and reserve area			
				<u>F</u>		- '	•	
Performed By	v. 🗢	AV TOROG	NA PE	Site Su	itability: Passes	DA		
Witnesses Ry	· ————————————————————————————————————	بر (درا≼ n·	140, R.S	Дастт	Failed			
Comments:	- '')	Additio	onal Testing Nee		i n	

FORM 1	12: TITLE	E 5 ON-SIT	E (PAGE 2 & 3	COMBINED)	2-1-1-20 1 A 1			
Applicant/	Onner	· #.	100 000	<u>m</u>	521201C		 	 -
Whateren	OWHEE:	D 4 TTE	12/1/2	<u> </u>		1		,
DEEP HO.	LB#	DATE:	··· 411111. 2	WEATHER:	21.00	CLAS	TEMP: 30	_ <u>`</u>
Location (1	dentity on s	ite plan): Refe	r to sketch att	ached	/ _			
Land Use:	/ <u>cゅう</u> Sloi	pe: <u>13,~5 7</u> √.	Surface Stone	аслео s: ү 🗹 у 🖸	ĮΝ̀□			
 Vegetation 	: <u> </u>	107 .	Stone Walls:	A 🖸	MU			
Landform:				•		· ·		_
Distance Fr	rom: Open '	Water Bodies	ft_ Pc	ossible Wet/Area \\00000000000000000000000000000000000	o' → ft	Drinking water	= Veil:	ft.
	. Diana		12 11	operty zine	·	Oue		_
		_ D	eep Observ	vation Hole Lo		Orl St		
Depth	Soil Horizon	Soil Texture	Soil Color	Soil Mottin	g	Boulders,	tures, Stones, Consistency, ravel	
٥-٦''	GΑ	_	10/509/3	. –		FRIABLE	· · · ·	
7.22	<u>S</u>	Loamy	10725/8			(-R) ABU	έ .	
22-100		SAND SAND	2576/4	B 65, 12.24	12218	1020 CV	J PLACE	داد
12665	· · ·					·		
				·				
			;					
Parent Mater	rial (geologi	c):	TILL	Dept	th to Bedro	ock: _ · \(00"	_
Depth to Gro	oundwater:	Standing Wat Estimated Sea	er in Hole: _ socal High G	roundwater:	ping from いつ	Pit Face:	to morsing	
DETERMIN	ATION FO	R SEASONAI	HIGH WAT	TRTARTE			•	
				D, Dep	-41- 4:7	T		
1410 THOU CALL	Depth to	nessing from cid	n ous. nois.	D Grô	om no son und	OFLICS;	- 	
Index Well #: _	• '		•	Adj_Factor			mater level:	
PERCOLAT					•			
Date:				<u> </u>				7
Observation I	Hole #:					-	•	7
Depth to Perc	::							1
Start Presoak								┥
End Presoak:		<u> </u>						-∤-
					 -			4
Time @ 9":		, , , , , , , , , , , , , , , , , , , 	 	· ·				4
Time @ 6":						<u> </u>	· · · · · · · · · · · · · · · · · · ·	
Time @ (9"-6]
Rate Min./Inc							••]
		·.		both the primary				_
Performed By	:			Site Su	itability: 🤅	Passes 🛚		
Witnesses By:	·	<u> </u>	·	Agent	J	Failed 🗅		
Comments:		. 1 .		Additio	onal Testir	ng Needed:	У 🗆 И ГО Ү	
	•			हेड क्या दिन				

5 16 TEM HORE ...

FORM Location a	12: TITL] address or lo	E 5 ON-SII t#: "3	E (PAGE 2 & 3 SS W ~ 1.5	COMBINED)	54/51	
Applicant	Owner:	ELBI	115 17293	2		
DEEP HO)T.E.# %	DATE-	alnlız	WEATHER:	- L. L. L.	W mmm C 1
Location (identify on s	ite plan): Refe	to sketch atta	WEATHER:	ALC A CCA	TEMP: So
Land Heer	CT 4 SIC		Surface Stone	s: Y 🗹]	T [•
·Vedetation	7. 7-1000	4 ·	Stone Waller	YQY	` <u>`</u>	
Landform	<u> </u>		DIOLIC WALLS.	I (S)	٧ 	
Dancioini				•	, ·	
Distance F	Tom: O	Water Dading	<u> </u>	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	+	
DEBERROOT	Drain:	MATEL BOCKES ****	IL Po	ossible Wet/Area 100 operty Line 100 +	II Drinkin	ig water Wellft
				operty Line		<u> </u>
					<u></u>	And the second of the second o
			een Observ	ation Hole Log		
	Soil	Soil			The second secon	Structures, Stones,
Depth ·	Horizon	Texture	Soil Color	Soil Motting	Bould	iers, Consistency,
	HOHZON	Lexinte				%Gravel
_9						750321.02
0-5"	OA	-	10/R 3/3		RIAI	gris .
						<u> </u>
5-20	B	rosmy	10425/9	•		
	<u></u>	SOUD	14 116 01 0		40211	15/26
17. 15	,	FOUNT	25164			
20-60		2442	231914		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	troll
DEFUSAL	•		.		,	
1286E		į i			İ	
						
'					ĺ	
						· · · · · ·
		.				
L		<u>[</u>				
Parent Mate	rial (centeri	a). T	166	7 DT 44		1-21
Depth to Gr	riai (Beninâi	Chadina III	or in Unio	Depun Weepi	to Bedrock: _	. 60
Dobut to Ott	Jungwarer.	Digitizated Cos		weep	ng from Fit Fac	e:
		Estimated Sea	izonar urigu (d	oundwater.	Pa 2003	70 V 615(3)
DETERMIN	I A TTONT TOO	CEACONIA	HIGH WAT	יינ זיבו ג ידי כולו		•
Metrior Ose	T II Deput of	screen standing i	n obs. Hole	D, Depth	to soil mortles:	in.
	ப்பட்டின்	weeding mour 210	E OF ODS. HOLE	D Groun	idwater adjustment	ft
Index Well #: _	Reading	Date:	Index well Level:	· Adi. Factor:	ልቭ ርብ	round water level:
					· · ·	OUR WALE ICYCL
PERCOLAT	ION TEST	v.,		<u>. </u>		
Date:			··			
Observation 1	Hole #:					
Depth to Perc);					
Start Presoak						
End Presoak:		•				
Time @ 9":						
Time @ 6":					·	
Time @ (9"-6	727				·	· · · · ·
Rate Min./Inc						
		- 44		7		<u></u>
147THTTÜM OI	. 1 PETCOIZIIC	u iest mast pe	: perrormea in	both the primary a	nd reserve area.	•
Performed D-		•	•	an e e		
Witnesses By:	•	•		Site Suits	bility: Passes	
			•	Agent	Failed	0
Comments:			 	Addition	al Testing Need	led Y D N D
	•		•			
	. MO	PERL 1	<i>LENGE</i> @	1 600 DOES 1	mas Tol	IT A



Location : Applicant DEEP HO	address or lo /Owner: DLE#	##:	E (PAGE 2 & 3 388 HOR ANK HE-	から 6分 WEATH		1 CLO'T TE	MP: 90
Land Use: -Vegetation	Slo	pe: 3.5%	r to sketch atta Surface Stone Stone Walls:	s:Y		7 703 7 11	: -10
Distance F	rom: Open	Water Bodies	ft Po	ssible Wet/Area		Drinking water W	ell ft.
			eep Observ	ation Hole	70		
Depth	Soil Horizon	Soil Texture	Soil Color	Soil Mot		Other: Structure Boulders, Con %Grave	sistency,
0-5"	04	-	10/12/3	أحتم	•	(nisous	
5-16	3	7342 FOXUS	107725/8			YALAGUE YALAGUE	
16-20	<i>ر</i>	FINE-LOAM SAN	R Z.57614			FRIADLE	
LIEDDE LIEDDE	··.					•	
				·			
			:				
Parent Mate Depth to Gr	oundwater:	c):	er in Hole:	₩.	ecping from	rock: 70" n Pit Face: nO" by & 70 L	-200K
Method Use	d: 🗆 Depth of	bserved standing i	HIGH WAT		Depth to soil m	norties:	in.
	•					Adj. Ground water	r level:
PERCOLAT	ION TEST			•			. •
Date:		9/11/13	1			T	
Observation.		٩					· -
Depth to Per		28-46	j				
Start Presoak		1547					
End Presoak: Time @ 9":		1607		-	·		
Time @ 6":		<u> </u>		· · ·			
Time @ (9"-6	5217	EW1171					· .
Rate Min/Inc		ZWININZ NIMINZ					
			performed in	both the minu	דע אחל דפרפי	TVE STES	
Performed By	<u>ري</u> ي					Passes N	•
Witnesses By	·	5851 N	V8-40'57	Agen		Failed D	
Comments:	- ;					ng Needed: Y) N \square

FORM	12: TITL	E 5 ON-ST	TE (PAGE 2 & 3	COMBINED)	(E		
Location	address or lo	t#:	388 NW	NOKYO, TO KI	(C)		ł
Applicant	Owner:	سراري)	てみゃくく いらろら	1843 A TO		•	
DEEP HO	DLE#10	DATE:	10/16/13	WEATHER:	GL0457	TEMP:	600
TOCATION	froeumh ou a	me plan): Ken	er to sketch atta	ched			
Land Use	: <u>ॡ≤_</u> Slo	pe: <u>*3-5° %</u>	Surface Stones	:Y 🗆 N	i ⊠ i		5-
· Vegetatio	II:	1007 ·	Stone Walls:	Y N			· -
Landform	-				•		
	_				•		
Distance I	tom: Oben	Water Bodies	ft_ Pos	sible Wet/Area 100	ft. Drinking w	ater Well	- fr
	. Drains	igcway	<u> </u>	perty Line	t. Other		^
		•	•				
			een Onserv	ation Hole Log			
	Soil].				ụctures, Ștor	
Depth ·	Horizon	Soil	Soil Color	Soil Motting	Boulders	, Consistenc	ucs,
	нопион	Texture				Gravel	у,
,,	1					CIRVEL	
0.7	00	-	10723/3		LEAY, M	acij.	
6 ,	f 		 			 -	
7-26	13	romes	10425/8		FRIABI	٠.	
3 c		SAND	10		(10000)	, E	-
26-121	(,	rosmi	7.57613		1 00.000	60 (-	
-0. (6)	<u> </u>	SAND	(10/01)		14513-12	57.64	16.F
Desire		1	1 . T		· ·		
Trefy SAL		[1. 1				- 1
							
I							- 1
·		·	-				
							ľ
						·	
Parent Mate	rial (geologic). GLA	GIAL TI	Depth to	- D	171	_
Depth to Gr	oundwater	Standing Wat	er in Hole:	Deput D	o Beniock		
.	•	Estimated Sea	sonal High Gr	undwater:	g nom Pit Pace:		
	•	Document Doc	Torner Titen Ott	didwater.	1 23 134 6	TO REFUS	<u> </u>
DETERMIN	IATION FOR	SEASONAI	L HIGH WATE	ים זכו גיד פי			•
Method Use	d: D Denth oh	served standing i	mobs Hola	Depth t	**		
	Depth to	weening from sid	ic of ohs. Hole	D Ground	o sou morties:		
	-					ft	
Index Well #: _	Reading	Date:	Index well Level: .	Adj_Factor:	Adj. Groun	i water level:	
PERCOLAT					•		
Date:	TON TEST	1.1.1.2					
	7 "	10/10/10	<u> </u>		<u></u>		\neg
Observation 1		10				•	
Depth to Pero		36-54	·				
tart Presoak		15:32		•			
nd Presoak:		· 1250					
ime @ 9":		1255			•		
me @ 6":		1001					
ime @ (9"-6		6 min			—— —		
ate Min./Inc		wininz					.
Minimum of	1 Percolatio	n test must be	performed in b	oth the primary and	d reserve area	·····	
						•	•
erformed By	: <u></u>	ard was	GNA PE	Site Suitab	vility: Passes w	•	
7itnesses By:	·	raci ma	70 RS	Agent	Failed D		
omments:	<u> </u>	<u> </u>	,	Additional	Testing Needed:	Y D N	D



Location	r va. IIII I address or I	vt# vp 2 O14-2€	LL (PAGE 2 & 3 C	COMBINED)	
Applicar	at/Owner	οι π <i>(</i> γ		n ex onxum	
DEEP H	OLE#	1 DATE	rough Nego	(857A72)	
Location	(identify on	site plant Rei	For to picotob attach	WEATHER: _	CLOUSY TEMP: 60
Land Use	e: Res St	UDE 0-39	Surface Stance	 :TECT	
, 252,000	ATT - 100 C	0 mg 4 ·	Stone Waller	Y M	র
Landforn	n:		, DEDECT WAITS	Y M N	U
			•	•	· .
Distance	From: Open Drain	Water Bodies nageway	ft. Poss	ible Wet/Area <u>\00'</u> +	ft. Orinking water Wellft
			leen Ohsaves	tion Hale Log	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		. l·	211183728134	HOLD STRUCK MITTER	
Depth ·	Soil Horizon	Soil Texture	Soil Color	Soil Motting	Other: Structures, Stones, Boulders, Consistency, %Gravel
0.5	OA		104R3/3	· <u>-</u>	LOOK, MILCH
5'17	3	Learner	1048 5/8	~	erissie.
17-120	۲,	LOAM	2,576/3	<u> </u>	FRIABLE, FEW STENES
120-144	. کئی .	SAND SAND	2.54 5/1		LOOSE, SINGLE GRAW
	-			•	
•					
, ———				_	
Parent Mate	rial (geologi	c):(والبه	CIAL TIL	Denth to	Dadasal
Depth to Gr	oundwater:	Standing Wate	er in Hole: 🕓	~ Weening	Bedrock:
	-:	Estimated Sea	sonal High Grow	ndwater:	nomititizace:
D					10(5
DETERMIN	ATION FOR	L SEASONAL	HIGH WATER	TABLE	·
Interriog Oseo	T Depth ob	served standing in	obs. Hole	D, Depth to :	soil mortles: in.
	n Debty to	weeping from side	of obs. Hole	D Groundwa	ater adjustment ft.
Index Well #: _	Reading	Date: I	ndex well Level:	Adj_Factor:	Adj. Ground water level:
PERCOLAT	ION TEST				-
Date:		10/16/13			
Observation I		11			
Depth to Perc		33-51			
Start Presoak		1145			
End Presoak:		. 1700			
Time @ 9":		1-213			
Time @ 6":		1225			
Time.@ (9"-6		win wi			·
Rate Min/Inci		5mu/n	,		
Minimum of	1 Percolation	i test must be	performed in bot	h the primary and r	eserve area.
•					•
Performed By: Witnesses By:	· · · ·	1 × × 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5174,66,	Site Suitabili	ty: Passes of
Witnesses By: Comments:		TO LI MY	70.765	Agent	Failed D
			<u></u>	Additional T	esting Needed: Y I N II



FORM	12: TII	LE 5 ON-SI	TE (PAGE 2 & 3	COMBINED)	
Applican	address or t/Owner	· lot #:	388 Nert	COMBINED) N 57, DUXSU (S57ACC)	<u> </u>
DEEP HO	DLE#	\7_ DATE	TRAIL NOSS	(857ATE)	
Location	(identify o	n site plan). Re	fer to sketch atta	WEATHER: _	CLOUSY TEMP: bo
Land Use	: <u>Res</u> 5	lope: 0-37,	Surface Stones	CHCH · TOTAL	· ·
, 0504100	Tr - 30	0055.	Stone Walls:	YMN	<u> </u>
Landform	<u> </u>			1 04 14	<u> </u>
Di-+ Y	•		· .	. •	• •
. Distance i	LOM: Ob	on Water Bodies	ft. Pos	sible Wet/Area <u>100</u>	ft. Drinking water Welli
	. 1/12	inageway	ft Pro	perty Line	ft. Other
			•		
			Deep Observa	tion Hole Log	
D-45	Soil		1 T	<u> </u>	Other: Structures, Stones,
Depth ·	Horizoi		Soil Color	Soil Motting	Boulders, Consistency,
<u> </u>	<u> </u>				%Gravel
19.4	OA	_	1,0000	•	
	OA .	<u>-</u>	10783/3	·	LOASMULCI
4-34	B	Leamy	1. 300	•	
		5ANS	10425/8		MIAON
34"-102"	,	Leaver			• • • • • • • • • • • • • • • • • • • •
. 34 - 10 -		SAN	2,5463		MIABLE
REY JAN	•	1		· · · · · · · · · · · · · · · · · · ·	
1001-0 24C			<u> </u>	•	
20.50					
.					
			:		
Parent Mater	iol Constan				
Depth to Gro	imų mater. iur (Reninā	Standing Wat	CIAL TIL		Bedrock
		Banning Wall	comol Etiat C	Weeping	from Pit Face:
		Doubled Bea	sourt trigit (110f)	indwater:	10.5, DAE LO UERAMY
DETERMIN	ATION FO	R SEASONAT	HIGH WATER	ייי א דע דע	•
Method Used	: D Depth o	bserved standing in	obs. Hole	CIABLE O Depth to	
	O Depth to	weeping from side	of obs. Hole	C. Departs	soil mortles: in. ater adjustment ft.
Index Well #	Dendin	or Date.			шушушош п
		g Date: I	ndex Well Level:	Adj_Factor:	Adj. Ground water level:
PERCOLATI	ON TEST				
Date:		10/16/13		 _	
Observation H		12			
Depth to Perc:		43-61°			
Start Presoak/	ime@	<u> </u>			——————————————————————————————————————
End Presoak:		<u> </u>			
Time @ 9":		<u> 1535</u>		•	·
Time @ 6":	,	1542			
Time @ (9"-6" Rate Min /Inch		Jum			
*Minimum of 1	Demon I	3min)IN.			
				th the primary and r	
				Site Suitabili	
Witnesses By:		MAW A	02076	Site Suitabili	ty: Passes &
Comments:	-	1.30	A70 76.	Agent Addition2 m	Failed D
	•			vomoust t	esting Needed: Y D N D



LORGA	14. 1111	ъ 2 ON-SI	LE (PAGE 2 & 3 (COMBINED)	
Location	address of id	ot#:	388 NAST	(057876)	71
Ver a ru	DOWNER	3 (~	rung happ	(57A7E)	
Location III	JLD#\ (identify on	DATE:	10/10/13	WEATHER _	CLOUSY TEMP: 60
Land Hea	Traction of	Sile plant. Ker	er to sketch attac	hed	
·Vegetatio	. <u>(</u>	ppe: <u>6 ^ 3 / 4</u>	Surface Stones:		1 * -
Landform	T <u>200</u>	0.32	Stone Walls: _	A Z M C	<u> </u>
	·	· · · · · · · · · · · · · · · · · · ·		•	· ,
Distance I	From: Open Drain	Water Bodies	ft. Poss	rible Wet/Area 100 +	ft Drinking water Wellft
			een Observa	tion Hole Log	
	Soil	. I.			
Depth ·	Horizon	Soil Texture	.Şoil Color	Soil Motting	Other: Structures, Stones, Boulders, Consistency, %Gravel
0-3	O _A		10713/3		LEAF, MULCH
3.22	(F)	SAND	10495		(12 14 OLE
72-73	<u> </u>	Lo And	2.57613	•	FRIABLE, 570 CRAVEL
TREFUSAN	٠			•	
TEDPR		 	<u> </u>	<u> </u>	
		i i		•	
 -					
-			,		
<u> </u>	<u> </u>		<u> </u>		
Parent Mater	riol (conlani:	-)- (-) o			- 1
Depth to Gro	nmymater. rist (Scotočio	5):G _/\ Standard TV	C1タン てい In Hole:		Bedrock3
2 opar to 010	ATTO WATER	Standing Walk	m Hole:	Weeping:	from Pit Face:
	•	restrusten Sea	sonar High Grou	indwater:	73" OVE TO REFUSAL
DETERMIN	ATION FOR	SEASONAT	HIGH WATER	TIDID	
Method Used	E Denth of	served standing is	rupe gol-	TABLE	roil mortles: in.
•	Depth to	weeping from side	of obs. Hole	C Convertes	ter adjustment ft.
In days 337-31 #				0 0100000	act sujustinent ft
THOUSE WELL #: -	Keading	Date: I	ndex well Level:	Adj_Factor:	Adj. Ground water level:
PERCOLATI	ON TEST	•			
Date:		10/16/12		 -	, · ·
Observation I	Iole #:	12			
Depth to Perc		37-55			
Start Presoak/	Time@	IMM		•	
End Presoak:		1502			———— <u> </u>
Time @ 9":		1506			
Time @ 6":		1514			
Time @ (9"-6'		brind			
Rate Min./Incl	1:	Marines	J.		
*Minimum of	1 Percolation	n test must be	performed in ho	th the primary and re	PORTUR ATRO
Performed By:	<u> </u>	415 1200	GNA, PE.	Site Suitabili	tv: Passes
Witnesses By:	<u> </u>	5451 W	A70 725	Agent	
Comments:		·			esting Needed: Y D N D



LOCATION	L 12: TTT	LE 5 ON-ST	TE (PAGE 2 &	3 COMBINED)	
Appilican	TAUMESS OF	101 #:	388 NOUL	7) 2: DIXIDIKY	
				2 (5574 55)	•
Location	(identifica	DATE	10130113	WEATHER: C	MI, LIGHT RAIN TEMP: 40
Land Hea	Commit of	n site plan): Ref	er to sketch at	mohed	
· Vecetatio		20pe; <u>0-3 7</u>	Surface Ston	es:YDN(Ĭ <u></u>
Landform	n:	2000	Stone Walls:	YDN	¥
2011CXOLI	<u> </u>			•	
Distance :	From: Ope Dra	n Water Bodies inageway	ft p	ossible Wet/Area 100 + roperty Line 10' +	ft. Drinking water Well ft. Other
		T	eep Obser	vation Hole Log	
Depth	Soil Horizon	Soil	.Soil Color		Other: Structures, Stones, Boulders, Consistency, %Gravel
0.5"	OA		10/12/3	_	_
5-23	B	Lognin	104R 5/8		FRIABLE.
25-93	۷,	Forms	25464		FRIABLE -13 Do cossies
93-116" REF. USAL	ر _{خ.} .	SAND SAND	Z5-123/4	⊕ 93"	GRIABLE - 20% COBOLES
175 D P R		<u> </u>		·	
			:		
Parent Mater	rial (geolog	ic): (olac	コロレーナル	Depth to F	Redrock 111-
Depth to Gro	undwater:	Standing Wate	n in Hole:	Wecoine i	Bedrock
		Estimated Sea	sonal High Gr	oundwater:	9.3" DIE TO MOTTLING
D.Former and a					000 10 10172106
DETERMIN	ATION FO	R SEASONAL	HIGH WATI	ER TABLE	·
Meritog Oseo	∟ □ Depth o	bserved standing in	obs. Hole	D. Depth to so	oil moriles: in.
	்ப Depth to	weeping from side	of obs. Hole	D Groundwar	ter adjustment ft.
Index Well #:	Readin	g Date: I	ndex well Level: 、	Adj. Factor:	Adj. Ground water level:
PERCOLATI	ON TEST				
Date:		16/30/13			
Observation E		14			
Depth to Perc		<u> 33'-8 1" .</u>			
Start Presoak	Time@	1057			
End Presoak:		. 1115			
Time @ 9":		1118			
Time @ 6":	13	1125			
Time @ (9"-6"		Jum			
Rate Min./Inch		3 minin.			
tarnimum of]	rescolatio	n test must be I	performed in b	oth the primary and re	serve area.
Witnesses By:	·	VC 12.60 PM	, re.	Site Suitabilit	y: Passes
Comments:	. ,,,,	act warta.	253	Agent	Failed r
· 		·		Additional Te	sting Needed: Y D N D



FORM:	12: TITLE	5 ON-SIT	E (PAGE 2 & 3	COMBINED)	
Location a	ddress or lot	#:	388 NORTH	ST SURSUR	1
Applicant/	Owner:	42	るろい てんかい	(65TA-18)	•
DEEP HO	LE# \S	DATE:	10/30/13	WEATHER:	LIGHT RAIN. TEMP: 40
Location (identify on si	te plan): Refe	r to sketch atta	ched	•
Land Use:	RES Slop	e: <u>⊘.3ఌ</u>	Surface Stone	s: Y 🖸 🛚	N 🗹
·Vegetation	1: WOON	· <u>- 2</u>	Stone Walls:	Y 🗆 🗆	V 🖸
Landform:					* .
					y (.
Distance F	rom: Open V Drainas	Vater Bodies	ft Po	operty Line	ft. Other
		D	cep Observ	ation Hole Lo	D
Depth	Soil Horizon	Soil Texture	.Soil Color	Soil Motting	Other: Structures, Stones, Boulders, Consistency, %Gravel
0~5"	00	-	107193	• •	_
5-24	12	LOAMY	10-126/8		FRIABLE
24.79	<i>د</i> ،	LOAMY	25/6/4		FRIABLE - 150 acosous
79-101	Cz	LOAMY	7.5-N.314	979" ·	FRIADLE -15% COASLE
REFUSAL					
LOYE					
			:		
	:	. (2.80	100 - (500)		Year of the second seco
Parent Mate	rial (geologic)	<u> </u>	Depti	h to Bedrock: \01
Depth to Gr	oundwater:	Standing Wat	er in Hole:	Weet	oing from Pit Face:
	•	Estimated Sea	isonal High G	roundwater: ·	JAINTEON OF BUC. "PT.
متهار برنستان	74 777 (27 72 72 72 72 72 72 72 72 72 72 72 72 7	7 CTT 4 C/C\XT 4 T	L HIGH WAT	כל זכו גידי מינויי	
			in obs. Hole		th to sail — sails —
Metiton Ose			ic of obs. Hole _	U.Dep	th to soil mortles: in. undwater adjustment ft.
			•		
Index Well #: .	Reading	Date:	Index well Level	Adj. Factor:	Adj. Ground water level:
	ייים כותי דערוניי		•		•
PERCOLAT	TON TEST	· lale	, ,	i	
Date:	T-1-#-	10/30/13	2		
Observation Depth to Per		<u> </u>			
Start Presoal					
End Presoak		1138			
Time @ 9":		· 1153			
Time @ 6":		1203			
Time @ (9"-		5 min			
Rate Min./In		2milling	, 		
				a both the primary	and reserve area
	01001611		- Possoniou II	ر کښښيم مط حدد د	
erformed B	y: _ PAV	r Torach	A . 70 2.	Site Sur	itability: Passes
				Agent	
,			,		mai Tecting Needed: V D N D

٠.



Commonwealth of Massachusetts Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker Governor

Karyn E. Polito Lieutenant Governor Kathleen A. Theoharides Secretary

> Martin Suuberg Commissioner

MODIFIED GENERAL USE CERTIFICATION

Pursuant to Title 5, 310 CMR 15.00

Name and Address of Applicant:

Presby Environmental, Inc. 143 Airport Road Whitefield, NH 03598

Trade name of technology and models: Enviro-Septic® Wastewater Treatment System (hereinafter called the "System"). The Advanced Enviro-Septic Design & Installation Manual, System Installation Form and Inspection Checklist are part of this Certification.

Transmittal Number: Accela - 21-CLM-000073-APP

Date of Issuance: Revised March 19, 2019, Modified October 30, 2019,

February 22, 2022

Authority for Issuance

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental, Protection hereby issues this Certification for General Use to: Presby Environmental, Inc., 143 Airport Road, Whitefield, NH 03598 (hereinafter "the Company"), certifying the System described herein for General Use in the Commonwealth of Massachusetts. The sale, design, installation, and use of the System are conditioned on compliance by the Company, the Designer, the Installer and the System Owner with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

/s/ Marybeth Chubb Marybeth Chubb, Section Chief Wastewater Management Program Bureau of Resource Protection

Date

Modified General Use Certification Enviro-Septic (Alternative SAS) Revised March 19, 2019, Modified February 22, 2022 Accela - 21-CLM-000073-APP

Technology Description

The System is an alternative subsurface Soil Absorption System (SAS) that replaces a conventional SAS designed in accordance with 310 CMR 15.000. The System consists of an 11 5/8-inch diameter corrugated, high-density plastic pipe with a 9.5-inch interior diameter and a standard length per unit of 10 feet. The pipe is perforated with eight holes equally distributed around its inner circumference at each corrugation. Each hole has a plastic skimmer extending inwards. The exterior of the pipe has ridges on the peak of each corrugation and is wrapped with two layers fabric materials. The inner layer is a thick layer of coarse, randomly oriented polypropylene fibers. The outer fabric layer is a thinner non-woven geotextile polypropylene. The System includes required connectors designed to connect pipe units together. The System also includes sand surrounding the pipe units, specified as concrete sand meeting the ASTM C-33 specification, also called System Sand. The System Sand must be placed with a minimum thickness of (6") six inches below, (3") three inches above and six inches to the sides of the pipe units.

Conditions of Approval

The term "System" refers to the Alternative Soil Absorption System in combination with the other components of an on-site treatment and disposal system that may be required to serve a facility in accordance with 310 CMR 15.000.

The term "Approval" refers to the technology-specific Special Conditions, the Standard Conditions for General Use Certification of Alternative Soil Absorption Systems, the General Conditions of 310 CMR 15.287, and any Attachments.

For Alternative Soil Absorption Systems that have been issued General Use Certification for the installation of Systems to serve facilities where the site meets the requirements for new construction, the Department authorizes reductions in the effective leaching area (310 CMR 15.242), subject to the *Standard Conditions that apply to all Alternative Soil Absorption Systems* with General Use Certification found here: https://www.mass.gov/doc/standard-conditions-for-alternative-soil-absorption-systems-with-general-use-certification/download and subject to the Special Conditions below applicable to this Technology.

Special Conditions

- 1. The System is approved Patented Sand Filter for use as an Alternative Soil Absorption System. In addition to the Special Conditions contained in this Approval, the System shall comply with all Standard Conditions for Alternative Soil Absorption Systems, except where stated otherwise in these Special Conditions.
- 2. The System is approved for facilities where a conventional system with a reserve area exists or can be built on-site in full compliance with the new construction requirements of 310 CMR 15.000 and has been approved by the local approving authority.

- 3. This Certification shall not be used for the installation of a System to upgrade or replace an existing failed or nonconforming system, unless the facility meets the siting requirements for new construction, including a reserve area.
- 4. The separation distance to the estimated seasonal high groundwater elevation shall be measured from the bottom of the System sand below the Enviro-Septic Wastewater Treatment System.
- 5. The System shall only be installed in bed or field configuration, as described in 310 CMR 15.252. The System shall not be installed in trench configuration and no sidewall area shall be considered in the total effective leaching area provided. The effective leaching area shall be the bottom area only (length times width) of the sand bed.
- 6. System does not require a five foot over dig as indicated at 310 CMR 15.255(5).
- 7. Systems shall be installed with differential venting for aeration and inspection access at end of each run of pipe, section or serial bed and whenever the System is installed under impervious surfaces.
- 8. Serial distribution laterals shall be limited to no more than 500 gpd with each lateral a maximum of 100 feet, and must be laid level. Multi-level systems shall not be allowed.
- 9. The Advanced Enviro-Septic proprietary product (AES) will be sized at a minimum of seventy (70) linear feet per bedroom (lf/br) and will not exceed 100 feet in length.
- 10. System component material specifications for the pipe, plastic components, fabric and sand shall comply with the specifications identified in the initial Enviro-Septic I/A technology approval.
- 11. Prior approval from the Department for any change from these specifications shall be requested in writing.
- 12. Any changes to the approved plans must receive Local Approving Authority (LAA) approval prior to any changes. Before a Certificate of Compliance can be issued by the LAA the System Designer must include any changes to the approved plan into the as-built plans.
- 13. Design, installation and operation shall be in strict conformance with the Company's DEP approved plans and specifications of Enviro-Septic Wastewater Treatment System Massachusetts Design and Installation Manuals Copyright September 2019, Presby Environmental, Inc., 310 CMR 15.000 and this Approval.



Commonwealth of Massachusetts Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker Governor

Karyn E. Polito Lieutenant Governor Matthew A. Beaton Secretary

> Martin Suuberg Commissioner

Standard Conditions for Alternative Soil Absorption Systems with General Use Certification and/or Approved for Remedial Use

Revised: March 5, 2018

These Standard Conditions apply to Alternative Soil Absorption System (Alt. SAS) technologies for disposal-only as well as for technologies providing both treatment and disposal. Currently these approved alternative technologies include the following,

Alt. SAS Disposal-Only,

- Contactor, Field Drain Contactor, and Recharger Chambers, by Cultec, Inc.
- Biodiffuser &ARC Chambers, by Infiltrator Systems, Inc.
- **Infiltrator Chambers,** by Infiltrator Systems, Inc.
- Eljen Mantis M5, by Eljen Corp.

Alt. SAS Treatment with Disposal - Patented Sand Filters,

- Eljen GSF Geotextile Sand Filter System, by Eljen Corp.
- Enviro-Septic Wastewater Treatment System, by Presby Environmental, Inc.
- Advanced Enviro-Septic System, by Presby Environmental, Inc.
- Simple-Septic Wastewater Treatment System, by Presby Environmental, Inc.
- Infiltrator ATL system, by Infiltrator Systems, Inc.
- **GeoMat Leaching System,** by Geomatrix Systems, LLC.

An alternative SAS may be appropriate for new construction, increases in flow, or for the upgrade of an existing failing, failed, or nonconforming system where reducing the disturbance of the site is desired.

<u>Alternative Disposal-Only technologies</u> approved by the Department may be substituted for conventional SAS's allowed under Title 5. The alternative Chamber technologies, when compared to conventional Title 5 chambers, provide options from some of the Title 5 requirements such as offering plastic instead of concrete chambers and eliminating the need for stone aggregate around the chamber while allowing higher loading rates and reduced effective leaching area. Other options include Chambers installed with aggregate meeting the requirements of Title 5, however Alternative Chambers used with aggregate are not allowed higher loading rates which must remain the same as required by Title 5 for conventional chambers with aggregate. In addition to alternative Chambers,

disposal-only approved Alt. SAS technologies also include the Mantis M5 pipe and sand System design.

<u>Alternative Treatment with Disposal technologies</u> approved by the Department refer to alternative leaching systems that have demonstrated higher removal of organics and suspended matter prior to the percolation of wastewater into underlying unsaturated pervious soils when compared to conventional leaching systems. Higher loading rates are allowed than would be permissible with a conventional design and additional relief from other design standards is permissible for upgrades.

A System approved under these Standard Conditions consists of a septic tank conforming to the requirements of Title 5, either conventional or I/A approved, followed by the Alt. SAS which may provide for a reduced effective leaching area.

The use of an approved Alt. SAS, subject to these Standard Conditions, requires among other things:

- A Disclosure Notice in the Deed to the property for installed Systems according to the following:
 - when installing an Alt. SAS Disposal-Only System (chambers or Eljen Mantis M5) a Disclosure Notice in the Deed to the property is not required;
 - when installing an Alt. SAS Treatment with Disposal-Patented Sand Filters System under the General Use Certificate a Disclosure Notice in the Deed to the property is not required;
 - when installing an Alt. SAS Treatment with Disposal-Patented Sand Filters System under the Approval for Remedial Use a Disclosure Notice in the Deed to the property is required in accordance with 310 CMR 287(10);
- Certifications by the Designer and the Installer (310 CMR 15.021(3));
- Notification within 24 hours by the System Owner to the Local Approving Authority (LAA) of any System failure;
- When System requires pumping prior to the SAS, 24-hour emergency wastewater storage capacity above the elevation of the high level alarm;
- System Owner Acknowledgement of Responsibilities, in accordance with these standard conditions and the Technology Approval's Special Conditions.

This Approval **does not** address the use of the following alternative SAS's, which are covered under separate Title 5 I/A Program Approvals:

- a) Drip Dispersal Systems
- b) Bottomless Sand Filters

Definitions and References

The term "System" refers to the approved technology in combination with the other components of an on-site treatment and disposal system that may be required to serve a facility in accordance with 310 CMR 15.000.

The term "Approval" or "Certification" refers to these Standard Conditions; the Special Conditions contained in the Technology Approval, the General Conditions of 310 CMR 15.287, and any Attachments.

The phrase "new construction" always refers to construction of a new facility or any increase in actual or design flow to any existing system above the approved capacity.

The phrase "upgrade of a system" or the term "upgrade" or the term "remedial site" refers to any repair, modification, or replacement of a whole system or a component of an existing failing, failed or nonconforming system where there is no increase in the actual or design flow to the system.

The Conditions contained herein MUST be read in conjunction with any Special Conditions that are technology-specific.

I. Purpose

- 1. These Standard Conditions shall apply to all Alt. SAS technologies identified in a General Use Certification or a Remedial Use Approval as either a Disposal-Only technology or a Treatment with Disposal technology as listed above. In addition to the Special Conditions contained in the technology-specific Approvals, the System shall comply with all these "Standard Conditions for Alternative Soil Absorption Systems", except where stated otherwise in the Special Conditions.
- 2. The sale, design, installation, and use of the System shall be subject to these requirements for all systems that submit a complete Disposal System Construction Permit (DSCP) application after the effective date of these Standard Conditions. Existing systems and systems for which a complete DSCP application was submitted prior to the effective date of these requirements shall not be subject to the design and installation requirements, however, the System Owner, the Service Contractor, and the Company shall be subject to all other requirements contained herein.
- 3. With the other applicable permits or approvals that may be required by Title 5, the Approval authorizes the installation and use of the System in Massachusetts. All the provisions of Title 5, including the General Conditions for Alternative Systems (310 CMR 15.287), apply to the sale, design, installation, and use of the System, except those provisions that specifically have been varied by this Approval.
- 4. Provided that the Local Approving Authority (LAA) approves the System in conformance with the Department's Approval for the System, Department review and approval of the site-specific System design and installation is not required unless the Department determines on a case-by-case basis, pursuant to its authority at 310 CMR 15.003(2)(e), that the proposed System requires Department review and approval.

II. Design and Installation Requirements

1. Where any contradiction may exist in design standards between the Company guidance and the requirements of Title 5 or this Approval, the design shall meet the

standards of Title 5 and this Approval unless the Company guidance is more stringent.

- 2. In accordance with 310 CMR 15.240(6), absorption trenches should be used whenever possible. Accordingly, approved Disposal-Only and Treatment with Disposal Alt. SAS Systems shall be used in trench configuration whenever possible, unless a different configuration is allowed by the Approval(s) Special Conditions.
- 3. The Alternative System shall include a properly sized and constructed septic tank, designed in accordance with 310 CMR 15.223–15.229 or approved as an Alternative technology per 15.280-15.288, connected to the building sewer and followed in series by the approved Alternative Soil Absorption System. A 1,000 gallon septic tank may be allowed in accordance with the provisions of 310 CMR 15.404(3)(a).
- 4. The Alternative System shall be installed in a manner which does not intrude on, replace, or adversely affect the operation of any other component of the subsurface sewage disposal system.
- 5. The Designer shall be a Massachusetts Registered Professional Engineer or a Massachusetts Registered Sanitarian, including when designing systems for repair, provided that such Sanitarian shall not design a system with a discharge greater than 2,000 gallons per day.
- 6. <u>For new construction or increases in flow</u>, the System shall be subject to the following:
 - a) The System may only be installed in soils with a percolation rate of up to 60 minutes per inch (MPI);
 - b) A site evaluation, in compliance with 310 CMR 15.100 through 15.107, must be approved by the Approving Authority and the site must meet the siting requirements for new construction;
 - c) The record drawings, approved by the LAA, must clearly indicate an area for a full-sized conventional primary SAS and a full-sized conventional reserve area that are for the sole purpose of on-site sewage disposal;
 - d) Where the System has reduced the effective leaching area, as allowed by the Standard Conditions, the installation shall not disturb the site in any manner that would preclude the future installation of the conventional full-sized primary SAS without encroaching on the reserve area; and
 - e) Except for the installed SAS, the System Owner shall not construct any permanent buildings or structures or disturb the site in any manner that would encroach on the area approved for a full-sized conventional primary SAS or the area approved for a full-sized conventional reserve SAS.
- 7. <u>For the upgrade of a system</u>, the installation of the proposed System shall be subject to the following:
 - a) The System may only be installed in soils with a percolation rate of up to 90 minutes per inch (MPI);

- b) Prior to approving the installation of the System, the LAA must determine there is no increase in the actual or proposed design flow;
- c) Prior to Local Approval of the System, the Designer shall show on the plans the maximum available area for a conventional system (without reserve) designed in accordance with the standards of 310 CMR 15.100 through 15.255.
- d) The proposed System must include the approval by the LAA for the upgrade or replacement of all other existing components, as necessary, to comply with the standards of Maximum Feasible Compliance (MFC) of 310 CMR 15.404;
- e) The record drawings, approved by the LAA, must clearly indicate an area for the best feasible replacement system that could be installed in the event that the proposed Alternative Soil Absorption System fails or it is determined that it is not capable of providing equivalent environmental protection;
- f) When evaluating the best feasible replacement system that could be installed in the event that the proposed Alternative Soil Absorption System fails or it is determined that it is not capable of providing equivalent environmental protection, the Designer shall consider these options in the following order:
 - i. a conventional system designed in accordance with the standards of 310 CMR 15.100 through 15.255 that can be built feasibly, with the exception of providing a reserve area (15.248);
 - ii. a conventional system that can only be built feasibly under a Local Upgrade Approval (LUA);
 - iii. where a conventional system cannot be built feasibly under a LUA, a Bottomless Sand Filter, in conjunction with a Secondary Treatment Unit;
 - iv. where a System can only be built feasibly with variances, a System that has been demonstrated to vary the design requirements of 310 CMR 15.000 to the least degree necessary and have the least effect on public health, safety, welfare and the environment (the System may be an Alternative System with variances); or
 - v. a tight tank.
- g) The installation of the proposed System shall not disturb the site in any manner that would preclude the future installation of the best feasible replacement system that could be installed to replace the proposed System. Components of the proposed System may be sited in an area for the future installation of the best feasible replacement system, provided that it does not render the area unusable for a potential future replacement system; and
- h) Except for the installed SAS, the System Owner shall not construct any permanent buildings or structures in the area for the best feasible replacement system that could be installed to replace the proposed System and the System Owner shall not disturb the site in any other manner that would preclude the future installation of the best feasible replacement system.
- 8. Alternative Design Standard to 310 CMR 15.242(1)(a) Effluent Loading Rates

<u>For new construction or increases in flow</u>, the required effective leaching area may be reduced up to 40 percent when using the loading rates for gravity systems of 310 CMR 15.242(1)(a), provided:

- a) no variance is granted for a reduction in depth to groundwater;
- b) no variance is granted for a reduced depth of pervious material; and
- c) a minimum of 400 square feet of effective leaching area shall be installed if any proposed reduction in the leaching area would result in less than 400 square feet of effective leaching area; (Facilities with small flows that would not require 400 sq.ft. of effective leaching area, when designed in accordance with Title 5, may be built with less than 400 sq. ft. provided that no reduction in effective leaching area is taken).

9. <u>Alternative Design Standard to 310 CMR 15.242(1)(a) and 15.245(4), Effluent Loading Rates</u>

For the upgrade of a system, the System shall be subject to the following:

- g) For soils with a percolation rate of 60 minutes or less per inch, the size of the SAS may be sized with 40 percent less effective leaching area than required when using the loading rates for gravity systems of 310 CMR 15.242(1)(a);
- h) For soils with a percolation rate of between 60 and 90 minutes per inch, the size of the SAS may be sized with 40 percent less effective leaching area than required when using the loading rate of 0.15 gpd/square foot as specified by 310 CMR 15.245(4);
- i) Unless allowed under the Special Conditions for the Technology, no additional reduction in the effective leaching area is allowed under an LUA or a variance that would result in a reduction greater than 40% of that which would be required under 310 CMR 15.242(1)(a) and 15.245(4), respectively. Any other deviations to design standards, except the effective leaching area, may be granted under LUA or a variance; and
- j) A minimum of 400 square feet of effective leaching area shall be provided if any proposed reduction in the leaching area would result in less than 400 square feet of effective leaching area. Where 400 square feet of effective leaching is not feasible, the greatest effective leaching area shall be installed provided that no more than a 40 percent reduction is taken.

10. Specific Conditions for Treatment with Disposal Alt. SAS Technologies

- a) The use of aggregate as specified in 310 CMR 15.247 is not allowed with Patented Sand Filters.
- b) Unless determined necessary by the Designer or Company, the System shall not be used with pressure distribution for any design flow. When installed for a facility with a design flow of 2,000 gpd or greater, approved Patented Sand Filter Systems are exempt from the requirement for pressure distribution under 310 CMR 15.231.

- Patented Sand Filters shall not be installed in a Nitrogen Sensitive Area (NSA) to serve facilities with actual or design flows of 2,000 GPD or greater since those facilities require installation of a Recirculating Sand Filter (RSF) or equivalent technology. Patented Sand Filters may be installed as a disposal-only alternative technology when used in addition to an approved Secondary Treatment Unit (reduction of BOD/TSS). When a Patented Sand Filter is used in this type of septic system design, only the reductions permitted in the Secondary Treatment Unit's (STU) alternative technology approval, such as a reduction in SAS size, depth of naturally occurring pervious material or depth to groundwater, are allowed.
- d) For upgrades only, a reduction in the depth to groundwater and/or a reduction in the pervious material may be taken in accordance with Section II, paragraph 5 of the *Standard Conditions for Secondary Treatment Units Approved for Remedial Use*. In no case, shall the reductions allowed under the Standard Conditions for Secondary Treatment Units be combined with any reduction provided by this Approval, the alternative technology's Remedial Use Approval Special Conditions or with any reduction that may be allowed under the procedures of Local Upgrade Approval or variance procedures of 310 CMR 15.401-415.

11. Specific Conditions for <u>Disposal-Only</u> Alt. SAS Technologies

- a) In a NSA, as defined in 310 CMR 15.215, Alternative Systems serving facilities with actual or design flows of 2,000 GPD or greater must include treatment with a RSF or equivalent technology, as required by 310 CMR 15.202(1). Under this Approval, Disposal-Only Alt. SAS technologies shall not be installed in an NSA to serve facilities with actual or design flows of 2,000 GPD or greater unless installed in conjunction with a RSF or equivalent technology.
- b) For new construction or upgrades, a reduction in the effective leaching area may be taken in accordance with the conditions and limitations imposed by the approval of the Secondary Treatment Unit employed. (approved Alternative Chambers may be installed with or without aggregate for the disposal of effluent from an approved Secondary Treatment Unit, see paragraph 11(e) below.) For upgrades only, a reduction in the depth to groundwater and/or a reduction in the pervious material may be taken in accordance with the conditions and limitations imposed by the Remedial Use Approval of the Secondary Treatment Unit employed. In no case, shall the reductions allowed under the Secondary Treatment Unit approval be made less stringent. In no case, shall the reductions allowed under the Secondary Treatment Unit approval be combined with any reduction provided by this Approval or combined with any reduction that may be allowed under the procedures of Local Upgrade Approval or the variance procedures of 310 CMR 15.401-415.
- c) For the upgrade of a system, installations without secondary treatment are entitled to reductions in depth to groundwater or depth of naturally occurring pervious material only to the limits that may be allowed by the LAA under the procedures of Local Upgrade Approval or the variance procedures of 310 CMR 15.401-415.
- d) The use of aggregate as specified in Title 5, 310 CMR 15.247 is not required.

Chambers Specific Standard Conditions,

- e) The installation of approved Alternative Chambers with aggregate is allowed provided that it complies with the aggregate requirements of 310 CMR 15.247. However, when approved Alternative Chambers are installed with aggregate the reduction in effective leaching area provided by Standard Conditions II (8) and (9) is not allowed. Only when upgrading a system, approved Alternative Chambers installed with aggregate may be allowed a reduction in effective leaching area (up to 25%) under the limitations and procedures of a Local Upgrade Approval (310 CMR 15.401-405).
- f) Effluent pressure distribution shall be provided for actual or design flows of 2,000 gpd or greater and shall be designed in accordance with Department guidance. The effluent loading rates provided in 310 CMR 15.242(1)(b) for pressure distribution may be utilized, but no reduction in the effective leaching area as may be provided under this Approval may be taken when using the loading rates for pressure distribution, as stated in the regulation.
- 12. All System control units, valve boxes, distribution piping, conveyance lines and other System appurtenances shall be designed and installed to prevent freezing.
- 13. When pumping is required to a distribution box or to a SAS pressure distribution tank, the System pump chambers/tanks shall be equipped with sensors and high-level alarms to protect against high water due to pump failure, pump control failure, loss of power, system freeze ups, backups, etc. Emergency storage shall be provided when pumping to discharge is employed, including but not limited to, pressure distribution. Emergency storage capacity for wastewater above the high level alarm shall be provided equal to the daily design flow of the System including an additional allowance for the volume of all drainage which may flow back into the System when pumping has ceased.
- 14. System control panel(s) including alarms and controls shall be mounted in a location always accessible to the operator (Service Contractor). Any System malfunction and high water alarms shall be readily visible and audible for the facility occupants and the Service Contractor and shall be connected to circuits separate from the circuits serving the operating equipment and pumps.
- 15. The System shall not include any relief valve or outlet for the discharge of wastewater to prevent flooding of the system, back up or break out.
- 16. Any System structures with exterior piping connections located within 12 inches of or lower than the Estimated Seasonal High Groundwater elevation shall have the connections made watertight with neoprene seals or equivalent.
- 17. In compliance with 310 CMR 15.240(13), a minimum of one (1) inspection port shall be provided within the SAS consisting of a perforated four inch pipe placed vertically down to the elevation of the SAS interface with the underlying unsaturated pervious

soils to enable monitoring for ponding. The pipe shall be capped with a screw type cap and accessible to within three inches of finish grade. (A locking cap at-grade is preferred) Facilities with multiple SAS's shall have an inspection port in each.

- 18. Upon submission of an application for a Disposal System Construction Permit (DSCP), the Designer shall provide to the Local Approving Authority:
 - a) proof that the Designer has satisfactorily completed any required training by the Company for the design and installation of the Technology;
 - b) certification of the design by the Company for any residential system with a design of 2,000 gpd or more or for any proposed non-residential system or if required by the Special Conditions for an approved Technology;
 - c) certification by the Designer that the design conforms to the Approval, any Company Design Guidance, and 310 CMR 15.000; and
 - d) a certification, signed by the Owner of record for the property to be served by the Technology, stating that the property Owner:
 - i. has been provided a copy of the Title 5 I/A technology Approval, the Owner's Manual, and the Operation and Maintenance Manual, and the Owner agrees to comply with all terms and conditions;
 - ii. for Systems installed under a Remedial Use Approval, the owner agrees to fulfill his responsibilities to provide written notification of the Approval to any new Owner, as required by 310 CMR 15.287(5);
 - iii. if the design does not provide for the use of garbage grinders, the restriction is understood and accepted; and
 - iv. whether or not covered by a warranty, the System Owner understands the requirement to repair, replace, modify or take any other action as required by the Department or the LAA, if the Department or the LAA determines the System to be failing to protect public health and safety and the environment, as defined in 310 CMR 15.303.
- 19. The System Owner and the Designer shall not submit to the LAA a DSCP application for the use of a Technology under this Approval if the Approval has been revised, reissued, suspended, or revoked by the Department prior to the date of application. The Approval continues in effect until the Department revises, reissues, suspends, or revokes the Approval.
- 20. The System Owner shall not authorize or allow the installation of the System other than by a locally approved Installer and, if required by the Company, a person certified or trained by the Company to install the System.
- 21. Prior to the commencement of construction, the System Installer must certify in writing to the Designer, the LAA, and the System Owner that (s)he is a locally approved System Installer and, if required by the Company, is certified by or has received appropriate training by the Company.

- 22. The Installer shall maintain on-site, at all times during construction, a copy of the approved plans, the Owner's manual, the O&M manual, and a copy of the Approval.
- 23. Prior to the issuance of a Certificate of Compliance the following shall be provided:
 - a) the System Installer and Designer must provide certification in writing to the LAA that the System has been constructed in compliance with the terms of the Approval; and
 - b) For System upgrades installed under a Remedial Use Approval the System Owner shall provide a copy of record and/or register the Deed Notice required by 310 CMR 15.287(10), to the LAA. The Deed Notice shall be completed as follows:
 - i. a certified Registry copy of the Deed Notice bearing the book and page/or document number; and
 - ii. if the property is unregistered land, a copy of the System Owner's deed to the property as recorded at the Registry, bearing a marginal reference on the System Owner's deed to the property.

The Notice to be recorded shall be in the form of the Notice provided by the Department.

- 24. The Department has not determined that the performance of the System will provide a level of protection to public health and safety and the environment that is at least equivalent to that of a sanitary sewer system.
 - a) If it is feasible to connect a new or existing facility to the sewer, the Designer shall not propose an Alternative System to serve the facility and the facility Owner shall not install or use an Alternative System; and
 - b) When a sanitary sewer connection becomes feasible after an Alternative System has been installed, the System Owner shall connect the facility served by the System to the sewer within 60 days of such feasibility and the System shall be abandoned in compliance with current Code requirements, unless a later time is allowed in writing by the Department or the LAA.

III. Operation and Maintenance

- 1. For Systems with design flows of 2,000 gpd or greater where the effective leaching area installed is less than 75% of that required by Title 5 (310 CMR 15.240(4)), measurement of the depth of ponding within the SAS above the interface with the underlying unsaturated pervious soils shall be performed once per year by means of the inspection port(s) and any other available access to the distribution system. Inspector must be an Approved System Inspector.
- 2. Whenever an Alt. SAS system's inspection port ponding depth is measured and indicates the ponding level within the SAS is above the invert of the distribution system, an additional measurement shall be made 30 days later. If the subsequent reading indicates the elevation of ponding within the SAS is above the invert of the distribution system, the System Owner shall be responsible for the submittal to the

LAA within 60 days of the follow-up inspection, a written evaluation of the System with recommendations for changes in the design, operation, and/or maintenance. The written evaluation with recommendations shall be prepared by a Designer and the submission shall include all monitoring data and inspection reports for the previous 3 years.

Recommendations shall be implemented, as approved by the LAA, in accordance with an approved schedule, provided that all corrective measures are implemented consistent with the limitations described in Paragraph IV.4.

- 3. For Systems less than 2,000 gpd or facilities where the effective leaching area installed meets the requirements of Title 5, the System shall not be required to be inspected at any greater frequency than would be required if the facility was served by a conventional system, unless the LAA, Company, or Designer requires more frequent inspection.
- 4. If at any time a septic system with an Alt. SAS is inspected by a System Inspector, the following shall be recorded, at a minimum:
 - a) date, time, air temperature, and weather conditions;
 - b) observations for objectionable odors;
 - c) observations for signs of breakout of sanitary sewage in the vicinity of the Alternative System;
 - d) depth of ponding within the SAS;
 - e) identification of any apparent violations of the Approval;
 - f) since the last inspection, whether the system had been pumped with date(s) and volume(s) pumped;
 - g) sludge depth and scum layer thickness, if measured;
 - h) when responding to alarm events, the cause of the alarm and any steps taken to address the alarm and to prevent or reduce the likelihood of future similar alarm events;
 - i) field testing results when performed as part of the site visit;
 - i) samples taken for laboratory analysis and results of previous samples, if any
 - k) any cleaning and lubrication performed;
 - 1) any adjustments of control settings, as recommended or deemed necessary;
 - m) any testing of pumps, switches, alarms, as recommended or deemed necessary;
 - identification of any equipment failure or components not functioning as designed;
 - o) parts replacements and reason for replacement, whether routine or for repair; and
 - p) further corrective actions recommended, if any.
- 5. The System Owner shall maintain copies of any service records or inspection reports and all reports and notifications to the LAA for a minimum of three years.

6. Unless directed by the LAA to take other action, the System Owner shall immediately cease discharges or have wastewater hauled off-site, if at any time during the operation of the Alternative System the system is in failure as described in 310 CMR 15.303(1)(a), items 1 or 2 (sewage backing up into facilities or breaking out to the surface).

IV. Additional System Owner Requirements

- 1. For System upgrades installed under Remedial Use Approval, prior to signing any agreement to transfer any or all interest in the property served by the System, or any portion of the property, including any possessory interest, the System Owner shall provide written notice, as required by 310 CMR 15.287(5), of all conditions contained in the Approval to the transferee(s). Any and all instruments of transfer and any leases or rental agreements shall include as an exhibit attached thereto and made a part of thereof a copy of the Approval for the System. The System Owner shall send a copy of such written notification(s) to the LAA within 10 days of giving such notice to the transferee(s).
- 2. The System Owner shall not install, modify, upgrade, or replace the System except in accordance with a valid DSCP issued by the LAA which covers the proposed work.
- 3. Upon determining that the System is failing to protect public health and safety and the environment, as defined in 310 CMR 15.303, the System Owner shall be responsible for the notification of the LAA within 24 hours of such determination.
- 4. In the case of a System that has been determined to be failing to protect public health and safety and the environment, an equipment failure, alarm event, components not functioning as designed, components not functioning in accordance with manufacturers' specifications, or violations of the Approval, the System Owner shall provide written notification within five days, describing corrective measures to the local board of health and the Company and may only propose or take corrective measures provided that:
 - a) all emergency repairs, including pumping, shall be in accordance with the limitations and permitting requirements of 310 CMR 15.353;
 - b) the design of any repairs or upgrades are consistent with the System Approval;
 - c) the design of any repairs or upgrades requiring a DSCP shall be performed by a Designer who is a Massachusetts Registered Professional Engineer or a Massachusetts Registered Sanitarian, provided that such Sanitarian shall not design a system with a discharge greater than 2,000 gallons per day.
 - d) the installation of any repairs or upgrades requiring a DSCP shall be done by an Installer with a currently valid Disposal System Installers Permit and, if training is required, the Installer shall be certified by the Company as qualified to install the System.
- 5. To determine whether cause exists for modifying, revoking, or suspending the Approval or to determine whether the conditions of the Approval have been met, the

- System Owner shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.
- 6. The Approval shall be binding on the System Owner and on its agents, contractors, successors, and assigns, including but not limited to the Designer, Installer, and Service Contractor. Violation of the terms and conditions of the Approval by any of the foregoing persons or entities, respectively, shall constitute violation of the Approval by the System Owner unless the Department determines otherwise.

V. Company Requirements

- 1. The Approval shall only apply to the model unit(s) with the same model designation(s) specified in the System Approval and meet the same specifications, operating requirements, and plans, as provided by the Company or its authorized agent at the time of the application. Any proposed modifications of the unit(s), installation requirements, or operating requirements shall be subject to the review of the Department for inclusion under a modification of the Approval. The Designer shall be responsible for the selection of the appropriate model unit(s) as applicable. The Company shall be responsible for verification of the appropriate model unit(s) as part of any review of proposed installations that may be required by Paragraph V.3 of these Standard Conditions or the Special Conditions in the Approval.
- 2. Prior to submission of an application for a DSCP, the Company or its authorized agent shall provide to the Designer and the System Owner:
 - a) All design and installation specifications and requirements;
 - b) An owner's manual and, if alarms are provided, including response procedures;
 - c) A copy of the Company's warranty; and
 - d) If training or certification is required by the Company, lists of qualified Designers, Installers, and Service Contractors.
- 3. Prior to the submission of an application for a DSCP, for all nonresidential Systems and any System with a design flow of 2,000 gpd or greater, the Company shall submit to the Designer and the System Owner, a certification by the Company or its authorized agent that the design conforms to the Approval and all Company requirements and that the proposed use of the System is consistent with the Technology's capabilities. The authorized agent of the Company responsible for the design review shall have received technical training in the Company's products.
- 4. If the Company requires trained or certified Designers, Installers, or Service Contractors, the Company or its authorized agent shall make available programs of training and continuing education, as necessary. The Company or its authorized agent shall maintain, annually update, and make available by February 15th of each year, lists of trained or certified Designers, Installers, and Service Contractors. If training or certification is required, the Company shall not sell the Technology to an Installer unless the Installer is trained or certified to install the System by the Company. Similarly, if training is required, the Company shall ensure distributors

and resellers of the Technology shall not sell the Technology to an Installer unless the Installer is trained or certified to install the System by the Company.

- 5. As part of any training programs for Designers, Installers, or Service Contractors, the Company or its authorized agent shall provide each trainee with a copy of this Approval with the design, installation, O&M, and owner's manuals that were submitted as part of the Approval.
- 6. The Company shall provide, in printed or electronic format, the System design, installation, O&M, and Owner's manuals, and any updates associated with this System Approval, to the System Owners, Designers, Installers, Service Contractors, vendors, resellers, and distributors of the System. Prior to publication or distribution in Massachusetts, the Company shall submit to the Department for review a copy of any proposed changes to the manual(s) with reasons for each change, at least 30 days prior to issuance. The Company shall request Department approval for any substantive changes which may require a modification of the Approval.
- 7. Prior to its sale of any System that may be used in Massachusetts, the Company shall provide the purchaser with a copy of this Approval with the System design, installation, O&M, and Owner's manuals. In any contract for distribution or sale of the System, the Company shall require the distributor or seller to provide the purchaser of a System for use in Massachusetts with copies of these documents, prior to any sale of the System.
- 8. To determine whether cause exists for modifying, revoking, or suspending the Approval or to determine whether the conditions of the Approval have been met, the Company shall furnish the Department any information that the Department requests regarding the Technology within 21 days of the date of receipt of that request.
- 9. Within 60 days of issuance by the Department of these Conditions and any other revisions to the Approval, the Company shall provide written notification of changes to the Approval to all distributors and resellers of the System.
- 10. The Company shall provide written notification to the Department's Director of the Wastewater Management Program at least 30 days in advance of the proposed transfer of ownership of the technology for which this Approval is issued. Said notification shall include the name and address of the proposed owner containing a specific date of transfer of ownership, responsibility, coverage and liability between them. All provisions of this Approval applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.
- 11. The Company shall maintain copies of:
 - a) the Approval;
 - b) the installation manual specifically detailing procedures for installation of its System;

- c) an owner's manual and, if alarms are required, including alarm response procedures;
- d) a copy of the Company's warranty; and
- e) if training or certification is required, lists of qualified Designers and Installers.
- 12. The Company shall maintain the following additional information for 'Treatment with Disposal' Systems installed in Massachusetts, and make it available to the Department within 30 days of a request by the Department:
 - a) the address of each facility where the System was installed, the Owner's name and mailing address (if different), the type of use (e.g. residential, commercial, institutional, etc.), the design flow, the model installed; and
 - b) the installation date, start-up date, current operational status.
- 13. The Approval shall be binding on the Company and its officers, employees, agents, contractors, successors, and assigns, including but not limited to dealers, distributors, and resellers. Violation of the terms and conditions of the Approval by any of the foregoing persons or entities, respectively, shall constitute violation of the Approval by the Company unless the Department determines otherwise.

VI. General Requirements

- 1. Any System for which a complete Disposal System Construction Permit ("DSCP") Application is submitted while the Approval is in effect, may be permitted, installed, and used in accordance with the Approval, unless and until:
 - a) the Department issues modifications or amendments to the Approval which specifically affect the installation or use of a System installed under the Approval for the System; or
 - b) the Department, the local approval authority, or a court requires the System to be modified or removed or requires discharges to the System to cease.
- 2. All notices and documents required to be submitted to the Department by the Approval shall be submitted to:

Director
Wastewater Management Program
Department of Environmental Protection
One Winter Street - 5th floor
Boston, Massachusetts 02108

3. The Department may suspend, modify or revoke the Approval for cause, including, but not limited to, non-compliance with the terms of the Approval, for obtaining the Approval by misrepresentation or failure to disclose fully all relevant facts or any change in or discovery of conditions that would constitute grounds for discontinuance of the Approval, or as necessary for the protection of public health, safety, welfare or the environment, and as authorized by applicable law. The Department reserves its

Standard Conditions for Alternative Soil Absorption Systems General Use and Remedial Use Approvals Last revised March 5, 2018

Page 16 of 16

rights to take any enforcement action authorized by law with respect to the Approval and/or the System against the Company, a System Owner, a Designer, an Installer, and/or Service Contractor.