

**SUBSURFACE
SEWAGE
DISPOSAL
SYSTEM UPGRADE**

325 IPSWICH ROAD
BOXFORD, MA 01921

REGISTRY INFORMATION:

DEED:
BOOK NO.: 29196
PAGE NO.: 60

ASSESSORS INFORMATION:

MAP: 18
BLOCK: 2
LOT: 15

PREPARED FOR:

KIM & JEFF MARKUNIS
325 IPSWICH ROAD
BOXFORD, MA 01921

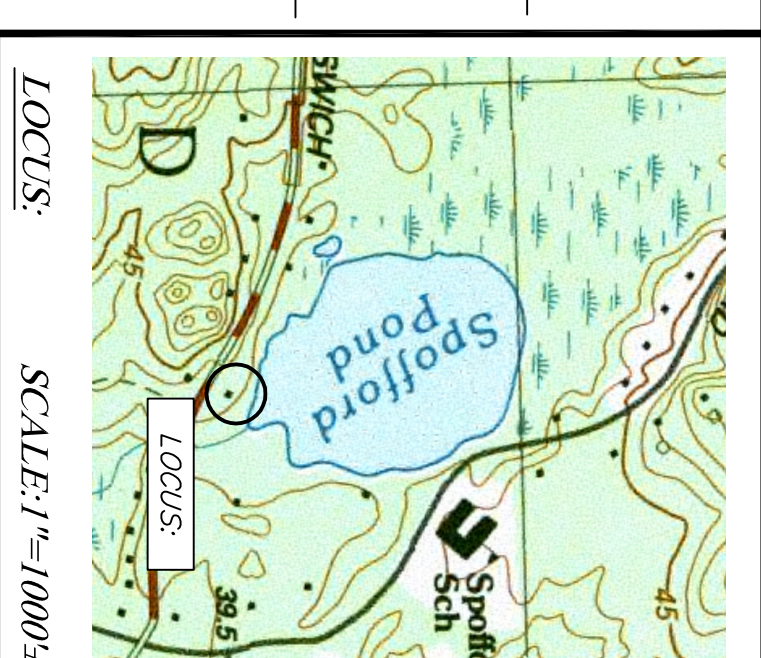


PHONE: (978) 372-3440
FAX: (978) 891-3888
EMAIL: info@scanlanengineering.com
WEB: www.scanlanengineering.com

DATE: JANUARY 15, 2020
DESIGN BY: JBS
DRAWN BY: JBS

**PLAN
& FLOW PROFILE**

SHEET 1 OF 2 SCALE: 1" = 20"
PROJECT # 0990



LEGEND:

EXISTING	100	CONTOURS	PROPOSED	100
100X10	SPOT SHOTS	APPROX. PROPERTY LINES	100	TO
WATER SERVICE LINE & WELL	GAS SERVICE LINE	FENCE		
LIMIT BORDERING VEGETATED WETLAND	APPROX. LIMIT 200 FT RIVERFRONT AREA	APPROX. LIMIT 100 FT RIVERFRONT AREA		
LIMIT OF 100'-FOOT BUFFER ZONE	LIMIT OF 50'-FOOT BUFFER ZONE	LIMIT OF 25'-FOOT NO DISTURBANCE ZONE		
APPROX. 100'-YR FLOOD PLAIN (MassGIS)	APPROX. EDGE OF POND (MassGIS)	SILTATION BARRIER TEST PIT & NO. PERC TEST		
EDGE OF PAVEMENT	FORCE MAIN	DECIDUOUS TREE		
BUSHES	TO BE ABANDONED	CLEANOUT		
TBA	TBR	CO		

SOILS INFORMATION:

SOIL EVALUATOR: JAMES SCANLAN, P.E.
(SEN2159 - APRIL 1995)
TOWN WITNESS: KENDELL LONGO
DATE: NOVEMBER 20, 2019

I CERTIFY THAT I AM CURRENTLY APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION PURSUANT TO 310CMR10.07 TO CONDUCT SOIL EVALUATIONS AND THE THE RESULTS OF MY SOIL EVALUATION AS INDICATED IN THE ATTACHED SOIL EVALUATION FORM ARE ACCURATE AND IN ACCORDANCE WITH 310CMR 15.100 THROUGH 15.107.

SIGNATURE: _____ DATE: _____

SOIL PERCOLATION RATE:
P-1: DEPTH TO 12" = 18" SOIL PERC RATE = 3 MIN/IN
P-1A: DEPTH TO 12" = 36" SOIL PERC RATE = <2 MIN/IN

SOIL ELEVATIONS:

TEST PIT	T-1	T-2
GRADE	100.8	99.5
ES.G.W.	92.5	92.0
OBS. G.W.	NONE	NONE
BOTTOM PIT	91.8	90.5

SOIL PROFILES:

T-1: 0-10" A FINE SANDY LOAM 10R3/2 GRANULAR FRAGILE
10-92" B GRAVELY SANDY LOAM 10R4/6 MASSIVE FRAGILE
92-98" C1 VERY GRAVELY LOAMY SAND 10R4/7 SINGLE GRAIN LOOSE
98-108" C2 MEDIUM SAND 2.515/6 SINGLE GRAIN LOOSE
ESHOW @ 100" ROOTS TO 65"

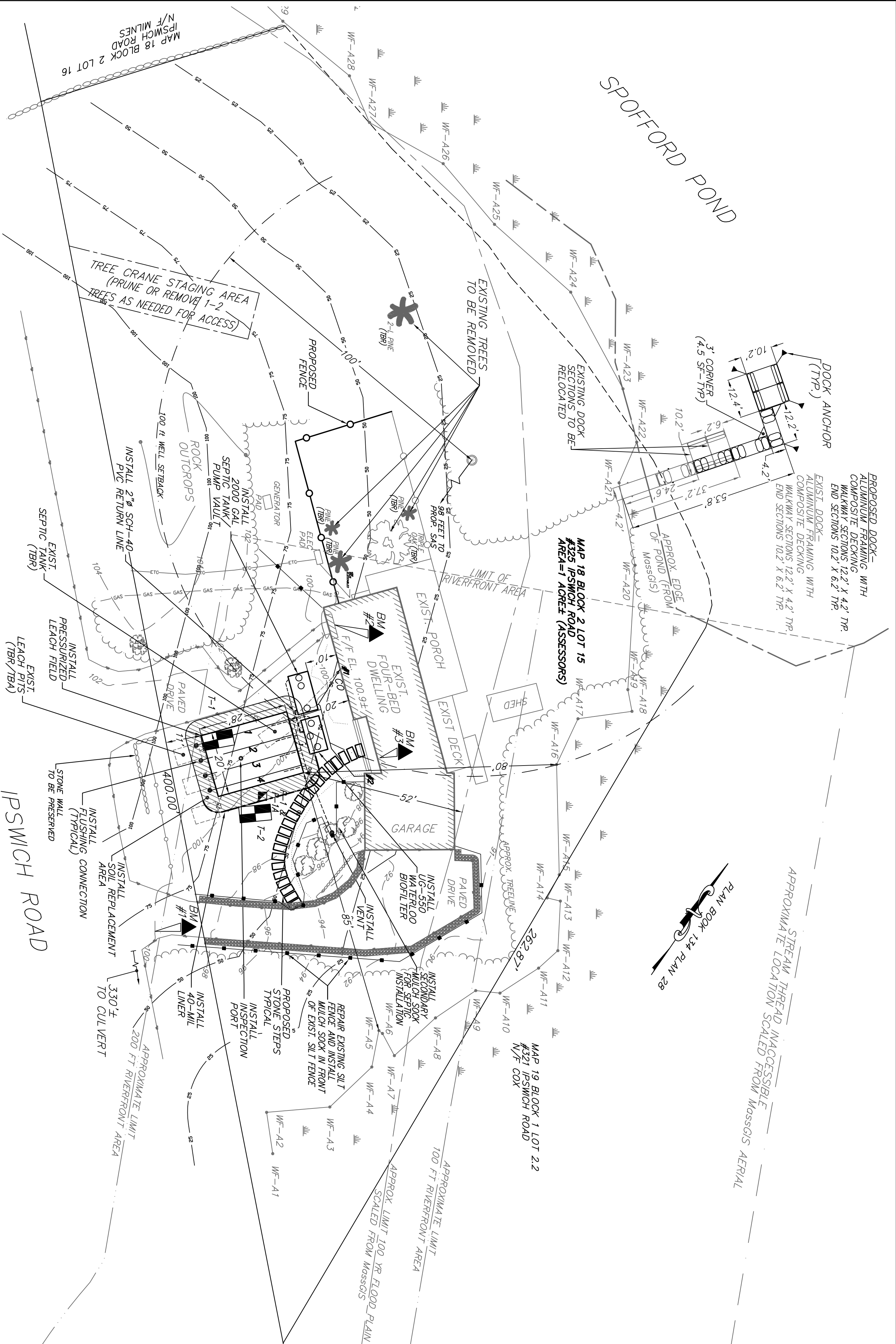
T-2: 0-15" FILL/A FINE SANDY LOAM 10R3/2 GRANULAR FRAGILE
15-30" B GRAVELY SANDY LOAM 10R4/6 MASSIVE FRAGILE
30-92" C1 VERY GRAVELY LOAMY SAND 10R4/7 SINGLE GRAIN LOOSE
92-98" C2 MEDIUM SAND 2.515/6 SINGLE GRAIN LOOSE
ESHOW @ 90" ROOTS TO 52"

DESIGN CRITERIA:

FACILITY TYPE	REQUIRED	PROVIDED
SINGLE FAMILY DWELLING	98 FOOT SEPARATION W/WATERLOO BIOTILTER	98 FOOT SEPARATION W/WATERLOO BIOTILTER
BEDROOMS	52 FOOT SEPARATION	52 FOOT SEPARATION
UNIT FLOW RATE: 110 GAL/BED/DAY	98 FOOT SEPARATION	98 FOOT SEPARATION
DAILY FLOW: 440 GAL/DAY	52 FOOT SEPARATION	52 FOOT SEPARATION
GARBAGE GRINDER: NO	98 FOOT SEPARATION	98 FOOT SEPARATION
SYSTEM DESIGN: 660 GAL/DAY	52 FOOT SEPARATION	52 FOOT SEPARATION
	REQUIRED LEACH AREA: 892 SF (STATE)	892 SF
	PROVIDED LEACH AREA: 560 SF (LEACH AREA: 20' X 28' = 560 SF)	560 SF

VARIANCES/WAIVERS:

REGULATION:	REQUIRED:	PROVIDED:
310CMR15.211(1)	100 FOOT SETBACK BETWEEN LEACHING FACILITY AND WELLS	98 FOOT SEPARATION W/WATERLOO BIOTILTER
CHAPTER 201-9(B)	100 FOOT SETBACK BETWEEN LEACHING FACILITY AND WETLANDS	52 FOOT SEPARATION
CHAPTER 201-9(D)	150 FOOT SETBACK BETWEEN LEACHING FACILITY AND WELL (PERC <5 MP)	98 FOOT SEPARATION
CHAPTER 201-9(E)	150 FOOT SETBACK BETWEEN LEACHING FACILITY AND WETLANDS (PERC <5 MP)	52 FOOT SEPARATION
310CMR15.242(1)(c)	892 SF LEACH AREA (DESIGNED WITH GARBAGE GRINDER)	560 SF WITH USE OF WATERLOO BIOTILTER (37% REDUCTION) ALLOWABLE UNDER CERTIFICATION FOR REMEDIAL USE OF WATERLOO

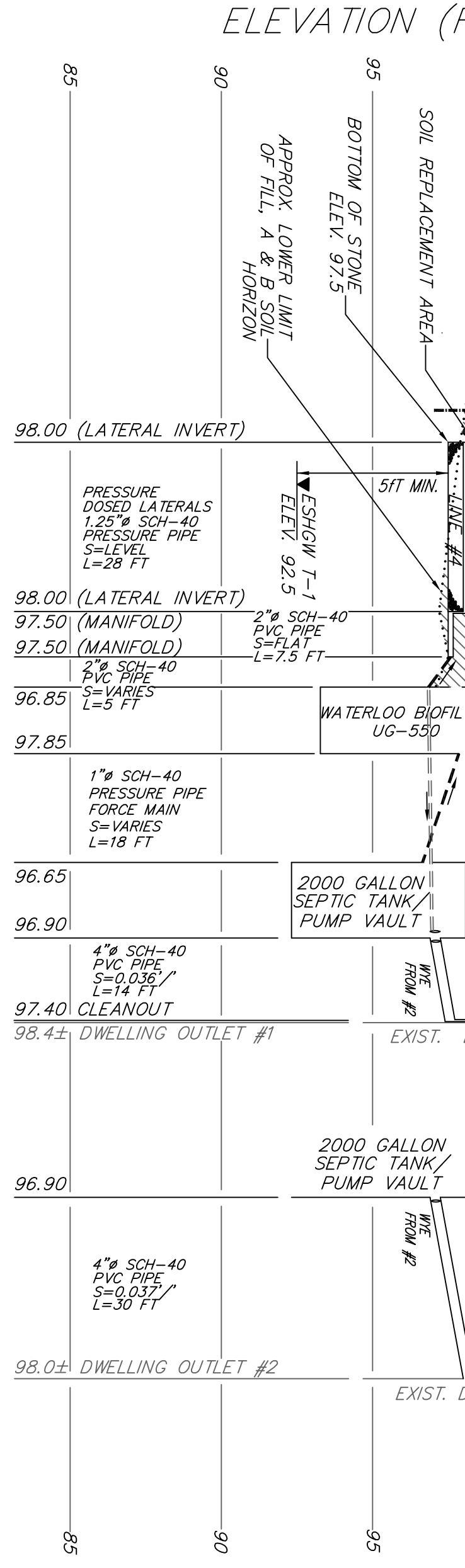


SITE PLAN:

SCALE 1" = 20'

40 MIL LINER- TOP OF LINER SHALL EXTEND TO BREAKOUT ELEVATION 98.3, BOTTOM OF FOOT INTO PARENT MATERIAL.

ELEVATION (FEET)



ELEVATION (FEET)

PLAN INTENT:

THIS PLAN IS INTENDED ONLY FOR THE CONSTRUCTION OF A SEPTIC SYSTEM TO SERVE THE SITE. NO OTHER USE OF THIS PLAN IS AUTHORIZED.

PLAN REFERENCE:

- 1) PLAN OF LAND IN BOXFORD MASS OWNED BY VERNON M HAWKINS BY CHARLES C MARTIN ASSOCIATES LAND SURVEYORS DATED MAY 1975 AND RECORDED IN PLAN BOOK 134 PLAN 28
- 2) PLAN OF LAND IN BOXFORD MASS SHOWING "PROPOSED LOT IMPROVEMENTS" DATED JUNE 30, 2010, BY THE NEW-MORN GROUP, INC.

▲ BENCHMARKS: ASSUMED DATUM	ELEV.
#1 NAIL IN PAVEMENT	100.00
#2 DOOR THRESHOLD	100.94
#3 DOOR THRESHOLD	100.80