TEST HOLE DATA

DEEP TEST HOLES WERE PERFORMED BY PEAK ENGINEERS, LLC AND WITNESSED BY THE TOWN, ON AUGUST 20, 2014.

TEST HOLES 1-4 WERE PERFORMED BY OTHERS.

TH1 53"
0-13" TOPSOIL
13-31" RED BROWN SILTY LOAM
31-39" MOTTLED TAN SILT W/ TRACES OF SAND
39-53" MOTTLED COMPACT SILTY LOAM
21" MOTTLES
53" LEDGE
RL 21"

TH2 37"
0-10" TOPSOIL
10-23" BROWN SILTY LOAM
23-37" COMPACT TAN MOTTLED SILTY LOAM, POCKETS OF DECOMPOSED ROCK
23" MOTTLES
37" LEDGE
23" RL

TH3 33"
0-8" TOPSOIL
8-33" RED BROWN SILTY LOAM
23" LEDGE
RL 23"

TH8 52"
0-9" TOPSOIL
9-21" RED BROWN SILTY LOAM
21-28" YELLOW BROWN SILTY LOAM
28-52" MOTTLED HARDPAN
28" MOTTLES
52" LEDGE
RL 28"

TH9 29"
0-10" TOPSOIL
10-16" RED BROWN SILTY LOAM
16-28" MODERATELY COMPACT RED BROWN SILTY SANDY LOAM
10" MOTTLES
29" LEDGE
RL 19"

TH10 34"
0-9" TOPSOIL
9-19" RED BROWN SILTY LOAM
19-28" FIRM RED BROWN SILTY LOAM
28-34" MOTTLED HARDPAN
28" MOTTLES
34-" LEDGE
RL 28"

HD11 24" DOWN GRADIENT
0-5" TOPSOIL
5-24" RED BROWN SILTY LOAM

TH12 35"
0-14" TOPSOIL/POSSIBLY FILL
14-35" MOTTLED LIGHT-BROWN FINE SANDY LOAM
14" MOTTLES
35" LEDGE
RL 14"

TH13 48"
0-19" TOPSOIL/MISCELLANEOUS FILL
19-23" ORIGINAL TOPSOIL
23-46" MOTTLED TAN FINE SANDY LOAM
46" LEDGE
RL 19" (23-19)

TH14 46"
0-19" TOPSOIL/MISCELLANEOUS FILL
19-21" MOTTLED ORANGE BROWN FINE SANDY LOAM
21-44" DECOMPOSED ROCK
44" LEDGE
RL 19"

TH15 42"
0-17" MISCELLANEOUS FILL
17-26" BROWN FINE SANDY LOAM
26-42" COMPACT SILTY LOAM W/ DECOMPOSED ROCK
42" LEDGE
RL 26"

TH16 53"
0-14" MISCELLANEOUS FILL
14-24" RED BROWN SANDY LOAM
24-53" MOTTLED DECOMPOSED ROCK
39" WATER TABLE
53" LEDGE
RL 10" (24-14)

PERCOLATION DATA

PERCOLATION TEST PERFORMED BY PEAK ENGINEERS, LLC

PH 14C 10" DIAMETER, 10" DEEP, DATE 8-19-2014

	TIME	MEASURE	DROP	MIN ELAPSED	RATE
PRESOAK	2:19	PRESOAK			
	2:32	4"	-	13	
	2:42	10 1/2"	6 1/2"	10	1"/1.5 MIN.
	2:47	12 1/2"	2"	5	1"/2.5 MIN.
	2:49	DRY			
REFILL	2:50	3 3/4"			
	3:00	9 1/2"	5 3/4"	10	1"/1.7 MIN.
	3:12	DRY 15"	5 1/2"	12	1"/2.2 MIN.

SEPTIC DESIGN DATA

1. EXISTING 4 BEDROOM HOUSE.
2. DESIGN PERCOLATION RATE 1"/1.0-1"/10.0 MINUTES.
3. REQUIRED LEACHING AREA IS 580 SQUARE FEET
4. MLSR CALCULATIONS

HYDRAULIC GRADIENT (S SLOPE)	=6.1-8.08
DEPTH TO RESTRICTIVE LAYER (L INCHES)	=22.1-20.0"
HYDRAULIC FACTOR (HF)	=30
FLOW FACTOR (FF) = 4 BEDROOMS	=2.0
PERCOLATION FACTOR (PF)	=1.2
MLSR (IN FEET) = HF × FF × PF	=72'

72 LINEAL FEET OF LEACHING SPREAD PROVIDED BY THE DESIGN

5. PROPOSED PRIMARY SYSTEM-72 LINEAL FEET OF MANTIS 538-8, 12" INVERT. EFFECTIVE LEACHING RATE IS 11.0 SQUARE FEET PER LINEAL FOOT. TOTAL EFFECTIVE LEACHING AREA IS 792 SQUARE FEET.
6. THIS SYSTEM IS NOT DESIGNED TO ACCEPT WASTES FROM GARBAGE DISPOSAL UNITS OR BACKWASH EFFLUENT FROM WATER SOFTENERS OR FILTERS AND/OR WHIRLPOOL TYPE BATHS IN EXCESS OF 100 GALLONS, OR BACKWASH FROM CENTRAL VACUUM SYSTEMS. TUBS EXCEEDING 100 GALLONS AND LESS THAN 200 GALLONS REQUIRES THE SEPTIC TANK CAPACITY TO BE INCREASED BY 250 GALLONS.

CONSTRUCTION SEQUENCE

NOTIFY CALL BEFORE YOU DIG 1-800-922-4455.

1. THE PERMITTEE SHALL NOTIFY THE REVIEWING AGENCY, IN WRITING, 48 HOURS PRIOR TO COMMENCING ACTIVITIES.
2. ERECT SILT FENCE AS SHOWN ON PLAN.
3. PUMP TANKS DRY AND CRUSH IN PLACE. PLACE TOPSOIL AND SEED.
4. PUMP CONCRETE GALLERIES DRY AND CRUSH IN PLACE. PLACE TOPSOIL AND SEED.
5. UTILIZING A TRACK MACHINE, STRIP TOPSOIL IN THE SEPTIC AREA AND STOCKPILE IN DESIGNATED STOCKPILE AREAS OR REMOVE TOPSOIL FROM SITE.
6. PREPARE SEPTIC LEACHING AREA, INSTALL SEPTIC SYSTEM. IMMEDIATELY FOLLOWING REQUIRED INSPECTIONS COVER THE SEPTIC SYSTEM.
7. PERFORM FINISHED GRADING, TOPSOIL AND SEED OR PLACE SOD.
8. NOTIFY THE REVIEWING AGENCY THAT THE EROSION CONTROLS MAY BE REMOVED FOLLOWING THE 48-HOUR NOTICE.
9. AFTER DISTURBED AREAS ARE STABILIZED, REMOVE THE COLLECTED SEDIMENT FROM THE SILT FENCE AND STRAWBALES. DISPOSE OF MATERIAL IN AN APPROVED OFFSITE LOCATION.
10. REMOVE EROSION CONTROLS.

SEPTIC SYSTEM INSTALLATION

1. INSTALL 72 LF OF MANTIS 538-8, 12" INVERT PER THE MANUFACTURERS SPECIFICATIONS.
   THE TRENCH EXCAVATION SHALL BE NOT LESS THAN 48" WIDE AND THE BOTTOM SHALL BE LEVEL THROUGHOUT. THE EXCAVATOR SHALL SCARIFY THE BOTTOM OF THE TRENCH WITH THE TEETH OF THE BUCKET.
2. INSTALL 1250 GALLON SEPTIC TANK. THE TANK SHALL MEET ASTM C1227-95 AND BE EQUIPPED WITH AN APPROVED 4" IN NOM DIAMETER OUTLET FILTER. MAXIMUM COVER, ASSUMING 100 PCF LOADING, IS TWO FEET.
   MANHOLES OF THE TANK SHALL BE WITHIN 6" OF FINISHED GRADE.
3. DISTRIBUTION WIRES SHALL BE PRESENT CONNECTED WITH REMOVABLE COPPER. WIRES SHALL BE SET LEVEL ON A MINIMUM OF 3M 4" OF GOT NO. 4 OR NO 6 STONE THE WIRES SHALL BE COLD-FASTENED ON ALL SIDES.
4. STONE AGGREGATE MEANS BROKEN OR CRUSHED STONES, OR SCREENED GRAVEL MEETING DEPARTMENT OF TRANSPORTATION FORM 816 SPEC. M.01.01 FOR NO. 4 STONE.
5. DISTRIBUTION PIPE, BEYOND THE SEPTIC TANK, SHALL BE SOLID PIPE SATISFYING ASTM D3034 SERIES, WITH RUBBER COMPRESSION GASKET COUPLINGS (OR EQUAL). SEE TABLE 2-2 OF TCCH STATE.
6. BUILDING SEWER PIPE FROM THE BUILDING SERVED TO THE SEPTIC TANK, TABLE NO. 2-A, TCCH. SHALL BE 4" PVC ASTM D 1785 OR ASTM D 2665, SCHEDULE 40 WITH SOLVENT WELD COUPLINGS/FITTINGS USED BEFORE TWO STEP PVC BUILDING SOLUTION PROCEDURE OR RUBBER COMPRESSION GASKET COUPLINGS, TWEED MFG. ASTM D 3139 OR EQUAL. THE PIPE SHALL BE LAID AT PITCH NOT LESS THAN 1/4" PER LINEAL FOOT.
   THE FINAL LOCATIONS OF THE SERVICE LINE AND TANKS MAY BE ALTERED FROM PLAN DEPENDING ON SITE CONDITIONS, LINES OVER 75' IN LENGTH AND LINES WITH CUMULATIVE BENDS EXCEEDING 45 DEGREES REQUIRE CLEANOUTS TO GRADE.
7. SELECT FILL SHALL BE CLEAN SAND, RUN SAND, CLEAN SAND, PUN SAND AND GRAVEL, OR APPROVED MANUFACTURED FILL MEETING THE SPECS. IN SECTION VIII OF THE TCCH. SEWER.

SIEVE SIZE	PERCENT PASSING WET SIEVE	
#4	100	
#10	70-100	NATURAL SAND IS REQUIRED
#40	10-30*	
#100	0-20	
#200	0-3	

* PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 35% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND THE #200 SIEVE DOES NOT EXCEED 5%.

8. THE SELECT FILL SHALL BE PLACED WITHOUT THE NEED FOR HEAVY EQUIPMENT PASSING OVER THE SYSTEM AREA. THE SELECT FILL SHALL NOT BE TAMPED OR ROLLED. THE IN PLACE PERCOLATION RATE SHALL BE BETTER THAN 1" IN 10 MINUTES.
9. BERM MATERIAL, SHALL BE NATIVE SOIL OR CLEAN COMMON FILL FREE OF ORGANIC MATTER, STUMPS, AND BOULDERS 6" OR GREATER IN SIZE.
10. INSTALL 1,100 GALLON PRECAST CONCRETE PUMP CHAMBER.
    - THE PUMP CHAMBER SHALL BE WATERPROOFED ON THE OUTSIDE.
    - DIRECTIONAL SLIP IS REQUIRED AT TIME OF ASBUILT WITH THE TOWN AND ENGINEER
    - THE PUMP SHALL MEET ASTM SPEC C-1227-95.
    MANHOLES OF THE PUMP CHAMBER SHALL BE SET AT OR ABOVE GRADE.
11. THE PUMP LINE SHALL BE PVC PLASTIC RIGID PRESSURE PIPE ASTM D1785/D2665, SCH. 40, JOINTS SHALL BE SOLVENT WELDED, THREADED WITH OR CONNECTED COUPLINGS. THE PUMP LINE SHALL BE BURIED A MINIMUM OF 4' OF COVER (FROST PROTECTION) AND BE SURROUNDED BY A MINIMUM OF 6" OF SAND.
    5" 42" OF COVER CAN NOT BE PROVIDED THE DEPTH OF COVER MAY BE REDUCED TO 18" IF THE PUMP LINE IS INSTALLED TO DRAIN COMPLETELY EMPTY. THE PUMP MANUFACTURER MUST APPROVE INSTALLATION OF PUMP WITHOUT A CHECK VALVE.

UTILITY NOTES

THE CONTRACTOR SHALL PERFORM A CALL BEFORE YOU DIG BEFORE ANY CONSTRUCTION EQUIPMENT IS BROUGHT ON-SITE AND BEFORE ANY WORK IS PERFORMED. CBYD 1-800-922-4455.

ALL WORK WITHIN THE TOWN RIGHT-OF-WAY SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE TOWN PUBLIC WORKS DEPARTMENT.

ALL TRENCHING, EXCAVATION, SLOPING, SHORING, SHIELDING AND BRACING OF TRENCHES AND EXCAVATIONS SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE TOWN OF NEW CANAAN AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), LATEST DOCUMENTS.

TRENCHES 5 FEET DEEP OR GREATER REQUIRE A PROTECTIVE SYSTEM UNLESS THE EXCAVATION IS MADE ENTIRELY IN STABLE ROCK.

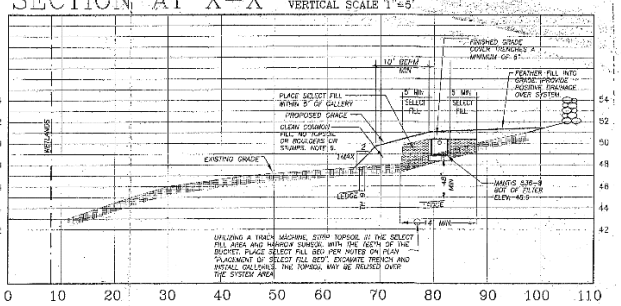
OSHA STANDARDS REQUIRE SAFE ACCESS AND EGRESS TO ALL EXCAVATIONS, INCLUDING LADDERS, SLOPE RAMPS, OR OTHER SAFE MEANS OF EXIT FOR EMPLOYEES WORKING IN TRENCH EXCAVATION 4 FEET OR DEEPER.

PLACEMENT OF SELECT FILL BED

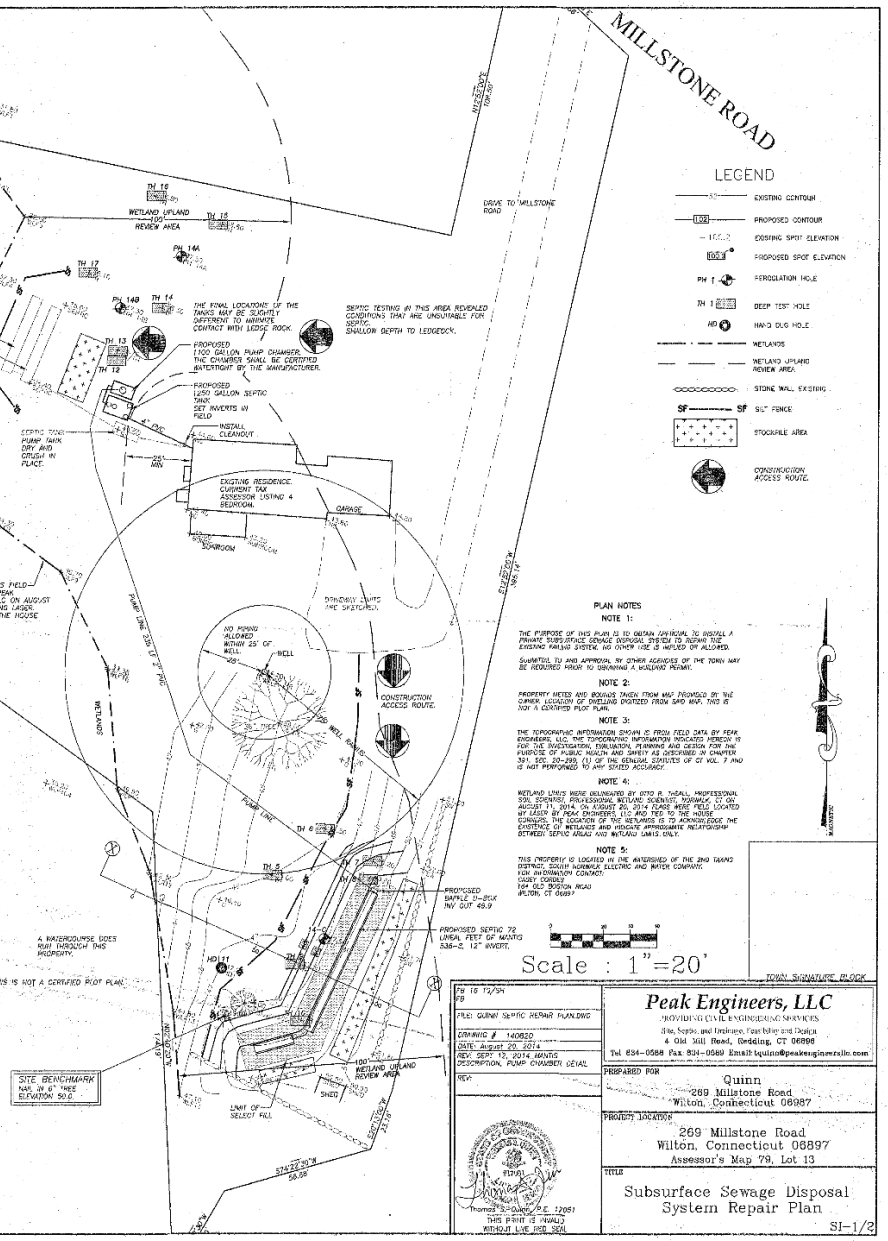
1. SELECT FILL SHALL BE PLACED ON THE SIDE OF THE BED AND SPREAD OVER THE PREPARED AREA WITH A BULLDOZER.
2. NO TRUCKS SHALL RUN OVER THE FILL UNTIL 12" OF FILL HAS BEEN PLACED.
3. THE REMAINDER OF THE FILL SHALL BE PLACED IN LIFTS OF 8-12" DEEP AND COMPACTED WITH THE BULLDOZER OR OTHER TRACK CONSTRUCTION EQUIPMENT.
4. FILLING AND COMPACTION SHALL BE DISCONTINUED DURING RAIN STORMS AND FOR 48 HOURS THEREAFTER.
5. ALL FILL SHALL BE PLACED AND COMPACTED BEFORE ANY OF THE LEACHING SYSTEM (GALLERIES/TRENCHES) IS INSTALLED.
6. THE ENGINEER SHALL PERFORM A MINIMUM OF ONE PERCOLATION TEST ON THE FILL PACKAGE PRIOR TO PLACEMENT OF THE LEACHING SYSTEM. THE IN-PLACE PERCOLATION RATE SHALL NOT EXCEED 1"/10 MINUTES.

SECTION AT X-X

HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=5'



UTILIZING A TRACK MACHINE, STRIP TOPSOIL IN THE SELECT FILL AREA AND NARROW SUMMER, WITH THE DEPTH OF THE BUCKET. PLACE SELECT FILL BED PER NOTES ON PLAN "PLACEMENT OF SELECT FILL BED". EXCAVATE TRENCH AND INSTALL GALLERIES. THE TOPSOIL MAY BE REUSED OVER THE SYSTEM AREA.



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- PERCOLATION HOLE
- DEEP TEST HOLE
- HAND DUG HOLE
- WETLANDS
- WETLAND UPLAND REVIEW AREA
- STONE WALL EXISTING
- SILT FENCE
- STOCKPILE AREA
- CONSTRUCTION ACCESS ROUTE.

PLAN NOTES

NOTE 1:

THE PURPOSE OF THIS PLAN IS TO OBTAIN APPROVAL TO INSTALL A PRIVATE SUBSURFACE SEWAGE DISPOSAL SYSTEM TO REPAIR THE EXISTING FAILING SYSTEM. NO OTHER USE IS IMPLIED OR ALLOWED.

SUBMITTAL TO AND APPROVAL BY OTHER AGENCIES OF THE TOWN MAY BE REQUIRED PRIOR TO OBTAINING A BUILDING PERMIT.

NOTE 2:

PROPERTY METES AND BOUNDS TAKEN FROM MAP PROVIDED BY THE OWNER. LOCATION OF DWELLING DIGITIZED FROM SAID MAP. THIS IS NOT A CERTIFIED PLOT PLAN.

NOTE 3:

THE TOPOGRAPHIC INFORMATION SHOWN IS FROM FIELD DATA BY PEAK ENGINEERS, LLC. THE TOPOGRAPHIC INFORMATION INDICATED HEREON IS FOR THE INVESTIGATION, FORMATION, PLANNING AND DESIGN FOR THE PURPOSE OF PUBLIC HEALTH AND SAFETY AS DESCRIBED IN CHAPTER 924, SEC. 20-299, (1) OF THE GENERAL STATUTES OF CT VOL. 7 AND IS NOT INTERPRETED TO ANY STATED ACCURACY.

NOTE 4:

WETLAND LIMITS WERE DELINEATED BY OTTO R. THEALL, PROFESSIONAL SOIL SCIENTIST, PROFESSIONAL WETLAND SCIENTIST, NORWALK, CT ON AUGUST 11, 2014. ON AUGUST 20, 2014 FLAGS WERE FIELD LOCATED BY LASER BY PEAK ENGINEERS, LLC AND TIED TO THE HOUSE CORNERS. THE LOCATION OF THE WETLANDS IS TO ACKNOWLEDGE THE EXISTENCE OF WETLANDS AND INDICATE APPROXIMATE RELATIONSHIP BETWEEN SEPTIC AREAS AND WETLAND LIMITS ONLY.

NOTE 5:

THIS PROPERTY IS LOCATED IN THE WATERSHED OF THE 2ND TAXING DISTRICT, SOUTH NORWALK ELECTRIC AND WATER COMPANY.
FOR INFORMATION CONTACT:
CASEY CORDELL
168 OLD BOSTON ROAD
WILTON, CT 06897

TOWN SIGNATURE BLOCK

FB 16 T3/SH 69	
FILE: QUINN SEPTIC REPAIR PLAN.DWG	
DRAWING # 140820	
DATE: August 20, 2014	
REV: SEPT 12, 2014 HANDS DESCRIPTION: PUMP CHAMBER DETAIL	
REV:	

Thomas S. Quinn, P.E. 12051
THIS PRINT IS INVALID WITHOUT LIVE RED SEAL

Peak Engineers, LLC
PROVIDING CIVIL ENGINEERING SERVICES
Site, Septic, and Landscape Feasibility and Design
4 Old Mill Road, Redding, CT 06896
Tel 834-0588 Fax 834-0589 Email tquinn@peakengineersllc.com

PREPARED FOR
Quinn
269 Millstone Road
Wilton, Connecticut 06897

PROJECT LOCATION
269 Millstone Road
Wilton, Connecticut 06897
Assessor's Map 79, Lot 13

TITLE
Subsurface Sewage Disposal System Repair Plan

SI-1/3