

**DEEP TEST HOLE RESULTS**

DEEP TEST PIT DATA WAS RECORDED BY RYAN MCCAMMON, R.S., OF THE LEDGE LIGHT HEALTH DISTRICT AND SUSAN CAMP, L.S. OF BOUNDARIES, LLC ON JUNE 15, 2005.

- TP#1**  
0'-5" BLACK TOPSOIL  
5'-24" MEDIUM BROWN SILTY SANDY LOAM W/ ROOTS  
24"-56" LIGHT GRAY COMPACT SILTY SAND W/ HEAVILY MOTTLING  
56"-77" MEDIUM GRAY SILTY SAND, WET AND SEEPING  
MOTTLING @ 24", GROUNDWATER @ 77", NO LEDGE, ROOTS TO 24"  
RESTRICTIVE LAYER @ 24"
- TP#2**  
0'-6" BLACK TOPSOIL  
6'-24" MEDIUM BROWN SILTY SANDY LOAM W/ ROOTS  
24"-54" LIGHT GRAY COMPACT SILTY SAND W/ HEAVILY MOTTLING  
MOTTLING @ 24", NO GROUNDWATER, LEDGE @ 54", ROOTS TO 24"  
RESTRICTIVE LAYER @ 24"
- TP#3**  
0'-6" BLACK TOPSOIL  
6'-25" MEDIUM BROWN SILTY SANDY LOAM W/ ROOTS  
25"-60" LIGHT GRAY COMPACT SILTY SAND W/ HEAVILY MOTTLING  
60"-78" MEDIUM GRAY SILTY SAND, WET AND SEEPING W/ ROCKS  
MOTTLING @ 25", GROUNDWATER @ 78", SEEPING @ 60", NO LEDGE  
ROOTS TO 25", RESTRICTIVE LAYER @ 25"
- TP#4**  
0'-6" BLACK TOPSOIL  
6'-29" MEDIUM BROWN SILTY SANDY LOAM W/ ROOTS  
29"-44" LIGHT GRAY COMPACT SILTY SAND W/ HEAVILY MOTTLING  
44"-75" MEDIUM GRAY SILTY SAND, WET AND SEEPING W/ ROCKS  
MOTTLING @ 29", GROUNDWATER @ 74", NO LEDGE, ROOTS TO 29"  
RESTRICTIVE LAYER @ 29"

**PERCOLATION TEST RESULTS**

PERCOLATION TEST WAS PERFORMED ON JUNE 16, 2005 BY BOUNDARIES, LLC.

**PERC**  
PERCOLATION TEST BETWEEN TP#2 AND TP#3  
DEPTH = 28"  
PRESOAK @ 2:15

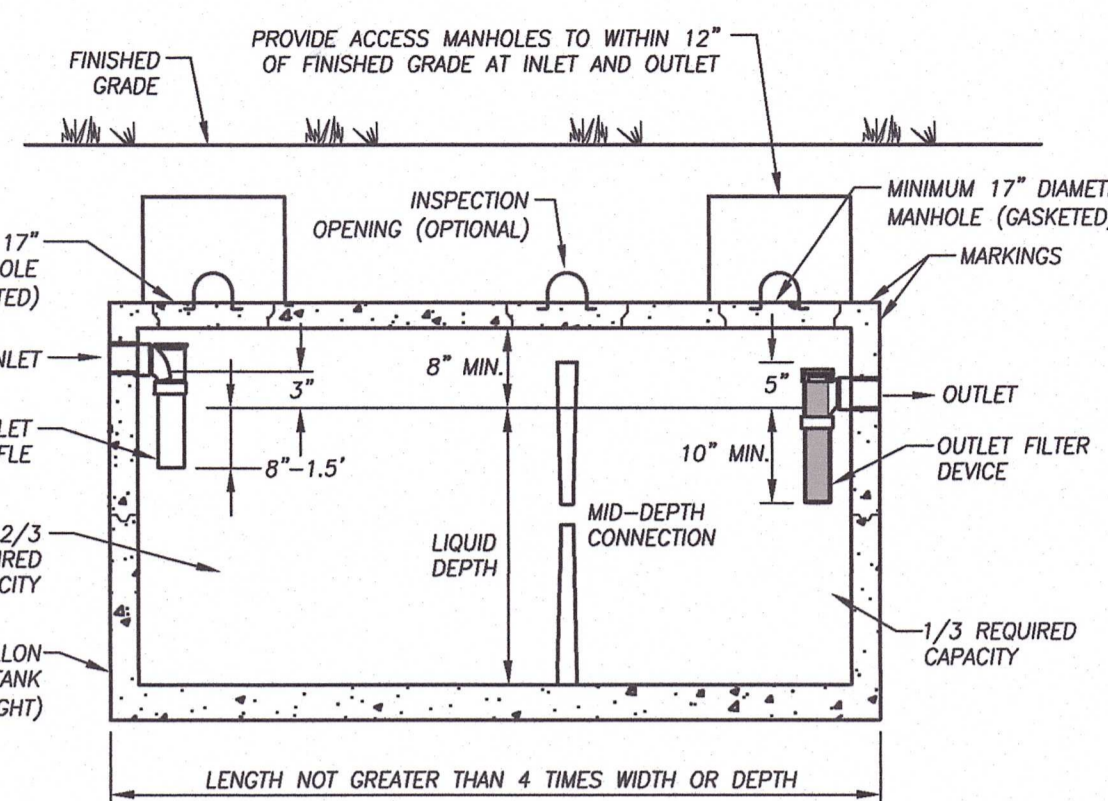
TIME	READING
3:22	6-1/2"
3:27	9-1/2"
3:32	11-3/4"
3:37	12-3/4"
3:42	14-1/2"
3:47	15-1/2"
3:52	16-1/2"
3:57	17"
4:02	17-1/2"
4:07	18-1/4"
4:12	18"
4:17	19-1/2"
4:22	20"

PERCOLATION RATE AT 28" DEPTH = 10.0 MINUTES/INCH

**SANITARY DESIGN CRITERIA**

**PROPOSED 4-BEDROOM HOUSE**  
DESIGN PERCOLATION RATE = <10.1 MINUTES/INCH  
LEACHING AREA REQUIRED = 577.5 SF EFFECTIVE (495 SF + 82.5 SF)  
DESIGN: 1,250 GALLON SEPTIC TANK AND 3 ROWS OF 65" OF 4" WIDE, 12" HIGH LEACHING TRENCHES BY SERIAL DISTRIBUTION  
LEACHING AREA PROVIDED = 585 SF EFFECTIVE (3 X 65 LF X 3.0 SF/LF)  
100% RESERVE AREA PROVIDED (2 ROWS OF 50" OF 12" HIGH CONCRETE LEACHING GALLERIES SURROUNDED WITH 12" OF CRUSHED STONE)

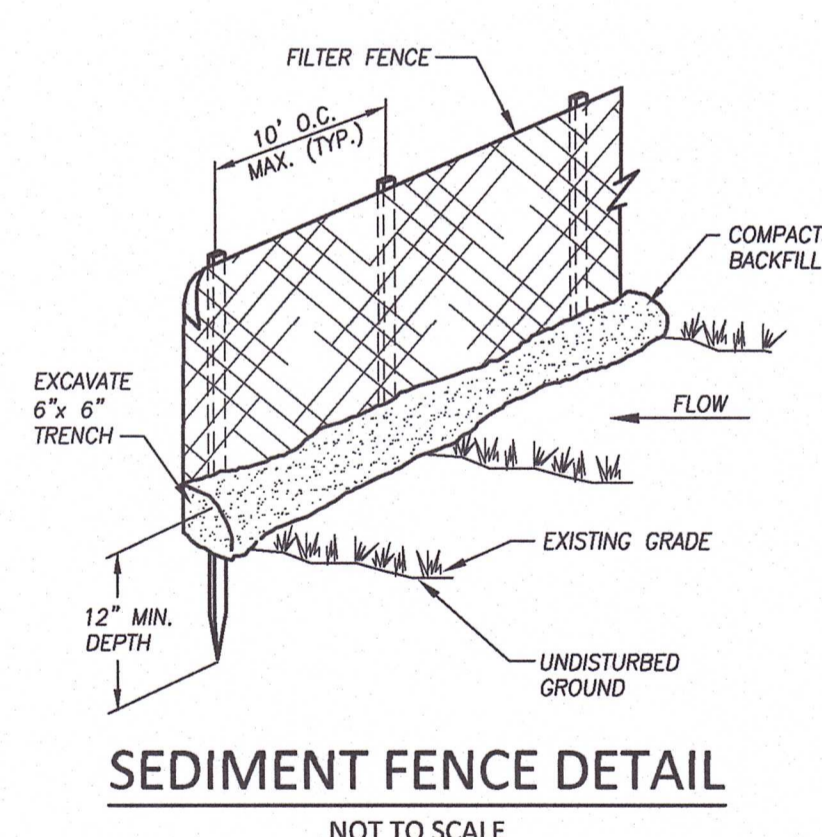
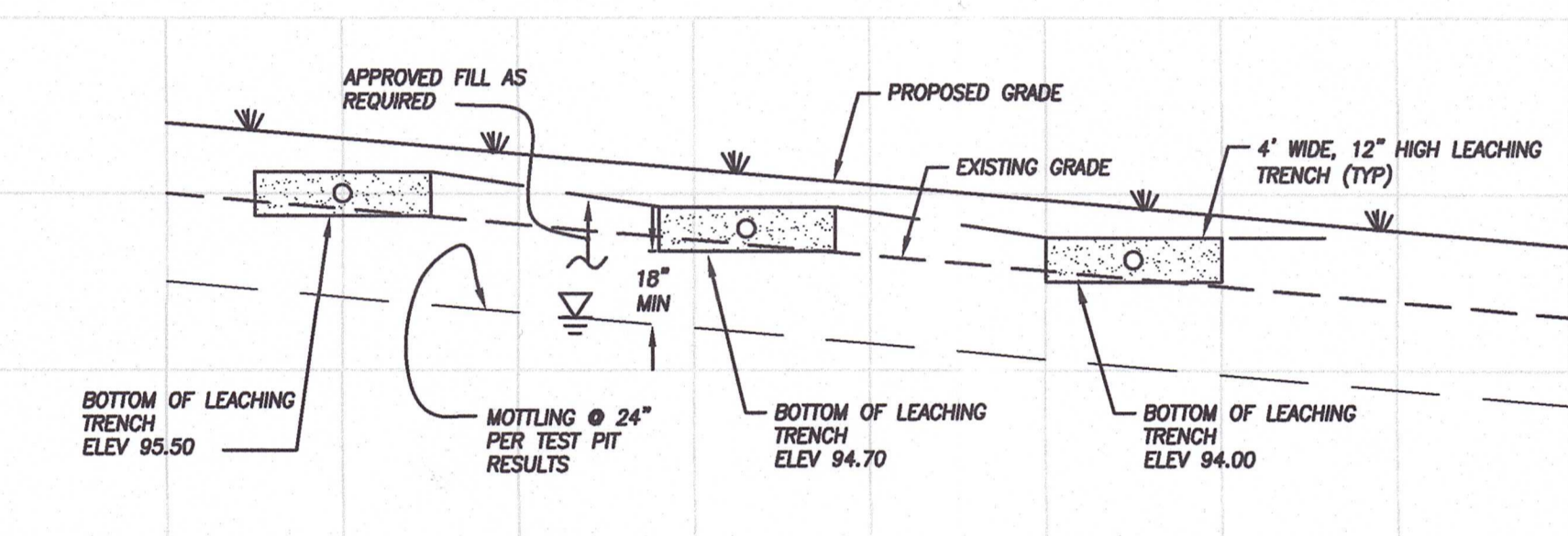
**MINIMUM LEACHING SYSTEM SPREAD (MLSS) CALCULATION**  
HYDRAULIC GRADIENT = 8.9%  
RECEIVING SOIL (PER TP#1 & TP#2) = 24"  
HYDRAULIC FACTOR = 28  
FLOW FACTOR FOR 3 BEDROOMS = 1.75  
PERCOLATION FACTOR FOR UP TO 10.0 MIN/INCH = 1.0  
MLSS REQUIRED = 49"  
MLSS PROVIDED = 65"



**SEPTIC TANK DETAIL**  
NOT TO SCALE

**SEPTIC SYSTEM CROSS SECTION**

SCALE: 1" = 4'



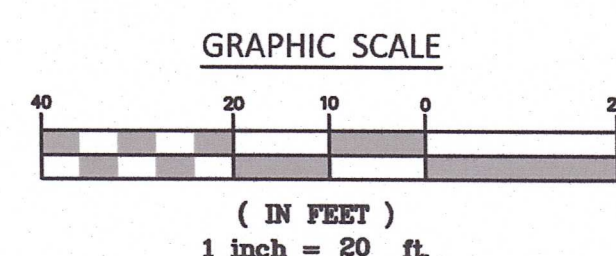
**SEDIMENT FENCE DETAIL**  
NOT TO SCALE

**LEGEND & ABBREVIATIONS**

- UTILITY POLE
- MORE OR LESS
- FEET
- RECOVERED
- TYP. TYPICAL
- PVC POLYVINYL CHLORIDE
- S.F. SQUARE FEET
- FF FINISH FLOOR
- CO CLEANOUT
- TEST PIT
- STONEWALL
- MON. MONUMENT
- BSMT BASEMENT
- SAN. SANITARY
- INV. INVERT
- ELEV. ELEVATION
- WITH
- BUILDING SETBACK LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PERCOLATION TEST HOLE
- IRON PIPE OR REBAR
- WETLAND FLAG
- UNDERGROUND UTILITIES
- SEDIMENT FENCE

**BOUNDARIES**  
CIVIL ENGINEERING LAND SURVEYING LAND USE PLANNING SOIL SCIENCE  
179 Pachaug River Drive, Griswold, CT 06351  
860.376.2006 | www.boundariesllc.net

**811** Know what's below. Call before you dig.



N/F  
Lisa M. England &  
Jason R. England  
36 Coachman Pike  
Volume 592, Page 644

N/F  
Town of Ledyard  
48 Coachman Pike  
Volume 143, Page 223

N/F  
J U Trust For  
Mashantucket Pequot Tribe  
28 Coachman Pike  
Volume 411, Page 918

"I HEREBY DECLARE THE WETLAND SOIL BOUNDARY AS SHOWN ON THIS MAP IS SUBSTANTIALLY CORRECT."

"TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON."

DAVID C. MCKAY, P.E. 29102 1/9/23  
LICENSE NO. DATE

ROBERT C. RUSSO, C.S.S. 1/9/23  
DATE

JOHN U. FAULISE JR. L.S. 70016 1/9/23  
LICENSE NO. DATE

**SURVEY NOTES**

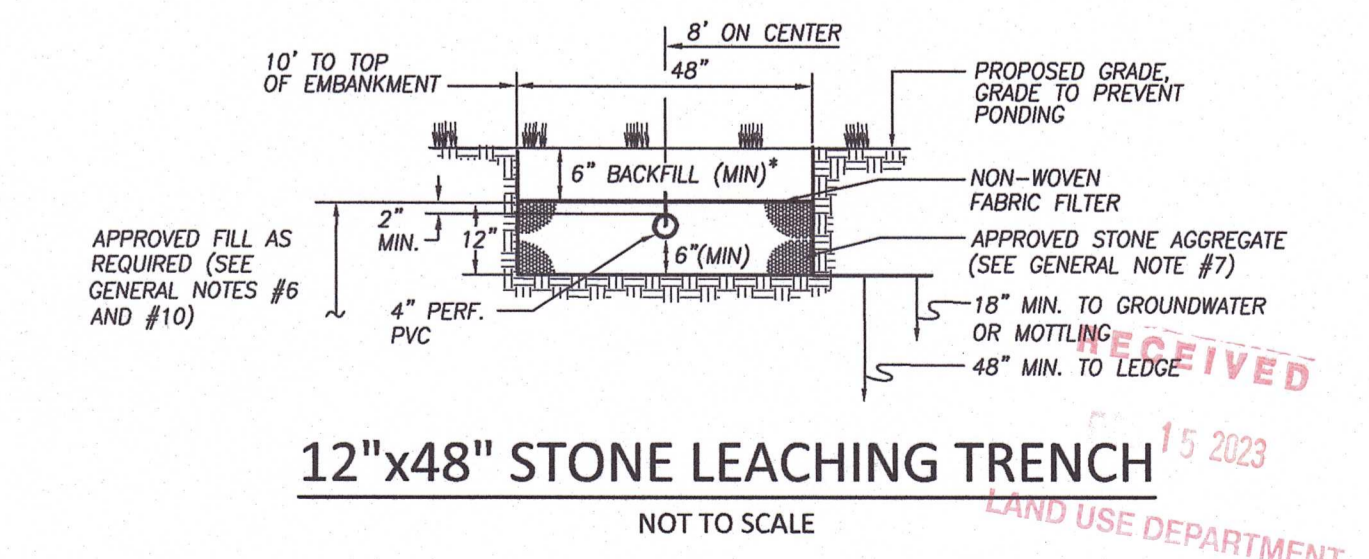
- THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300B-1 THROUGH 20-300B-20 AND THE STANDARDS AND SUGGESTED METHODS AND PROCEDURES FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT AS ADOPTED FOR USE BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON AUGUST 29, 2019. IT IS AN "IMPROVEMENT LOCATION" SURVEY WHICH REFERENCES THE "CLASS A-2" SURVEY OF THE SUBJECT PARCEL. (SEE REFERENCE MAP NOTED BELOW). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON HAS BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY AND CONFORMS TO TOPOGRAPHIC ACCURACY CLASS T-2.
- REFERENCE MAY BE MADE TO THE FOLLOWING DEED RECORDED IN THE TOWN OF LEDYARD LAND RECORDS:  
VOLUME: 409 PAGE: 235 TYPE: WARRANTY  
GRANTORS: GIORGIO CELICO AND ANGELA CELICO  
GRANTEES: JOHN MOULSON
- REFERENCE MAY BE MADE TO THE FOLLOWING PLAN:  
"RESUBDIVISION PLAN, STONEHENGE SUBDIVISION, SECTION "H", PROPERTY OF KEVIN MCBRIDE, COACHMAN PIKE AND SHENVILLE ROAD, LEDYARD, CONNECTICUT, SCALES AS SHOWN, AUGUST 1990, REVISED SEPTEMBER 14, 1990, SHEETS 1-2 OF 2", PREPARED BY GEORGE H. DIETER, LAND SURVEYOR.
- SAD PARCEL IS SUBJECT TO A RIGHT TO DRAIN STORMWATER IN FAVOR OF THE TOWN OF LEDYARD AS SHOWN ON THE ABOVE NOTED REFERENCE PLAN.
- THE SITE IS ZONED R-40.
- THE WETLAND BOUNDARY DEPICTED HEREON WAS DELINEATED IN THE FIELD BY ROBERT C. RUSSO, CERTIFIED SOILS SCIENTIST ON 5-17-05.
- PER SOIL SURVEY OF NEW LONDON COUNTY CONNECTICUT, WETLAND SOILS ARE CLASSIFIED AS Rm; RIDGEBURY, LEICESTER AND WITMAN EXTREMELY STONY FINE SANDY LOAM; LEICESTER AND WITMAN EXTREMELY STONY FINE SANDY LOAM; LEICESTER AND WITMAN EXTREMELY STONY FINE SANDY LOAM; CHARLTON-HOLLIS FINE SANDY LOAMS, VERY ROCKY, 3 TO 5 PERCENT SLOPES.
- THE ORIENTATION OF NORTH IS BASED ON A MAGNETIC AZIMUTH TAKEN ON 5-18-2005.

**GENERAL NOTES**

- THIS SEPTIC SYSTEM INSTALLATION INCLUDING ALL MATERIAL (PIPING, SEPTIC TANK, STONE, FILL, ETC.) USED FOR THIS SEPTIC SYSTEM SHALL CONFORM TO THE CURRENT EDITION/REVISION OF THE "TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS" REVISED JANUARY 1, 2018 OF THE CONNECTICUT PUBLIC HEALTH CODE BY THE STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH.
- THE PROPOSED HOUSE SEWER FROM THE BUILDING TO THE SEPTIC TANK SHALL BE SCHEDULE 40 PVC ASTM D 1785/ASTM D 2665 OR APPROVED EQUAL AND INDICATED IN TABLE NO. 2 OF THE "TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS". ALL OTHER SEWER PIPE FOR THIS SEPTIC SYSTEM SHALL BE 4" PVC ASTM D 3034, SDR 35 WITH RUBBER COMPRESSION GASKET OR BELL AND SPIGOT OR APPROVED EQUAL.
- THERE ARE NO WELLS (POTABLE, GEOTHERMAL, OR IRRIGATION) WITHIN 75' OF THE PROPOSED SEPTIC SYSTEM. THERE IS NO SEPTIC SYSTEM WITHIN 75' OF THE PROPOSED WELL.
- THERE SHALL BE NO STUMPS OR BOULDERS BURIED WITHIN 50' DOWN GRADIENT OF THE SEPTIC SYSTEM. SHOULD ANY SIGNIFICANT VARIATIONS FROM THE TEST HOLE DATA BE ENCOUNTERED DURING EXCAVATIONS (LEDGE, GROUNDWATER, MOTTLING, SOIL TYPE, ETC.), THE DESIGN ENGINEER SHALL BE NOTIFIED PRIOR TO INSTALLATION OF THE SEPTIC SYSTEM.
- ALL EXISTING UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS AND ELEVATIONS PRIOR TO ANY CONSTRUCTION. CONTRACTOR SHALL CONTACT "CALL-BEFORE-YOU-DIG" AT 1-800-922-4455 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.
- THE PROPOSED FILL FOR THIS SEPTIC SYSTEM SHALL MEET THE FOLLOWING SPECIFICATIONS:
  - 100% OF FILL SHALL PASS THROUGH A 3" SIEVE.
  - MAXIMUM % OF GRAVEL (BETWEEN #4 & 3" SIEVE) = 45%.
  - GRADATION OF FILL WITHOUT THE GRAVEL SHALL MEET THE FOLLOWING CRITERIA:
 

SIEVE SIZE	% PASSING (WET)	% PASSING (DRY)
#4	100%	100%
#10	70 - 100%	70 - 100%
#40	10 - 50%	10 - 75%
#100	0 - 20%	0 - 5%
#200	0 - 5%	0 - 2.5%
  - \*PERCENT PASSING THE #40 WET SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND THE #200 SIEVE DOES NOT EXCEED 5%.
  - PERCOLATION RATE AFTER PLACEMENT AND COMPACTION SHALL BE FASTER THAN OR EQUAL TO 10.0 MINUTES/INCH. A WET OR DRY SIEVE ANALYSIS MAY BE REQUIRED PRIOR TO THE FILL PLACEMENT TO VERIFY THAT IT MEETS THESE SPECIFICATIONS. THE FILL SHALL BE APPROVED BY THE LEDGE LIGHT HEALTH DISTRICT OR DESIGN ENGINEER PRIOR TO ITS PLACEMENT ON SITE.
- APPROVED AGGREGATE SHALL BE STONE AGGREGATE OR OTHER PRODUCTS APPROVED BY THE COMMISSIONER OF PUBLIC HEALTH. STONE AGGREGATE SHALL BE BROKEN STONE, CRUSHED STONE, OR SCREENED GRAVEL MEETING THE CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 818 SPECIFICATION FOR 4" STONE, FREE OF SILT, DIRT, OR DEBRIS, SHALL SHOW A LOSS OF ABRASION OF NOT MORE THAN 50% USING AASHTO METHOD T-96 AND CONFORM TO THE FOLLOWING:
 

SIEVE SIZE	% PASSING
2 INCH	100%
1.5 INCH	90 - 100%
1 INCH	20 - 55%
3/4 INCH	0 - 15%
3/8 INCH	0 - 5%
- NO DEVIATION FROM THE APPROVED DESIGN PLAN SHALL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE LEDGE LIGHT HEALTH DISTRICT AND THE DESIGN ENGINEER.
- THE SEPTIC TANK SHALL BE PRECAST CONCRETE UNLESS OTHERWISE AUTHORIZED BY THE DESIGN ENGINEER.
- SITE PREPARATION PROCEDURE FOR THE INSTALLATION OF THE PROPOSED SEPTIC SYSTEM:
  - STRIP ALL TOPSOIL, VEGETATION AND ORGANIC MATERIAL IN THE AREA OF AND 5' SURROUNDING THE PRIMARY LEACHING TRENCHES.
  - USING A HEAVY RAKE OR EQUAL, THOROUGHLY SCARIIFY AND ROUGHEN UP THE EXPOSED SUBSOIL. PREVENT ANY VEHICULAR TRAFFIC, BACKHOE, TRUCKS, ETC. FROM SMOOTHING/COMPACTING THIS EXPOSED SUBSOIL.
  - PLACE AND COMPACT SELECT FILL MATERIAL MEETING SPECIFICATIONS INDICATED ABOVE (NOTE #6) IN LIFTS OF NOT GREATER THAN 12" IN THE AREA OF THE PROPOSED LEACHING TRENCHES UP TO AT LEAST THE ELEVATION OF THE TOP OF THE LEACHING TRENCHES.
  - PERFORM AT LEAST 1 PERCOLATION TEST ON PLACED FILL. FILL MUST HAVE A PERCOLATION RATE EQUAL TO OR FASTER THAN THAT AS INDICATED IN NOTE #6C. IF PERCOLATION RATE IS SLOWER THAN THAT RATE, ALL FILL SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE FILL MEETING PROPER SPECIFICATIONS.
  - INSTALL SEPTIC SYSTEM PER PLAN USING APPROVED AGGREGATE AS INDICATED IN NOTE #7.
  - COVER SYSTEM WITH A MINIMUM OF 6" OF LOAM IN LAWN AREAS, GRADE TO PREVENT PONDING AND SEED WITH GRASS TO STABILIZE. THE FINISHED GRADE 10' FROM ANY PART OF THE PROPOSED LEACHING TRENCHES SHALL BE AT LEAST THE SAME ELEVATION AS THE TOP OF THE RESPECTIVE LEACHING TRENCH.
  - CLEANOUT MANHOLES AT THE INLET BAFFLE AND AT THE OUTLET FILTER OF THE SEPTIC TANK OR ASSOCIATED RISERS AT THESE LOCATIONS IF REQUIRED SHALL BE LOCATED AT A DEPTH NOT GREATER THAN 12" BELOW FINAL GRADE.
- FOR EXACT HOUSE DIMENSIONS, SEE BUILDING PLANS.
- ALL UTILITIES WILL BE INSTALLED UNDERGROUND.
- THE HOUSE AND SEPTIC SYSTEM SHALL BE STAKED OUT BY A LICENSED LAND SURVEYOR FOLLOWING LOT CLEARING BUT PRIOR TO CONSTRUCTION. A BENCHMARK SHALL BE SET NO MORE THAN 40' FROM THE SEPTIC SYSTEM.



**12"x48" STONE LEACHING TRENCH**  
NOT TO SCALE

**IMPROVEMENT LOCATION AND TOPOGRAPHIC SURVEY**  
PREPARED FOR  
**JOHN MOULSON**

34 COACHMAN PIKE  
LEDYARD, CONNECTICUT  
SCALE: 1"=20' JULY 2005 JOB I.D. NO. 05-1177  
"A" REVISED 9-29-05  
"B" REVISED 1-04-23