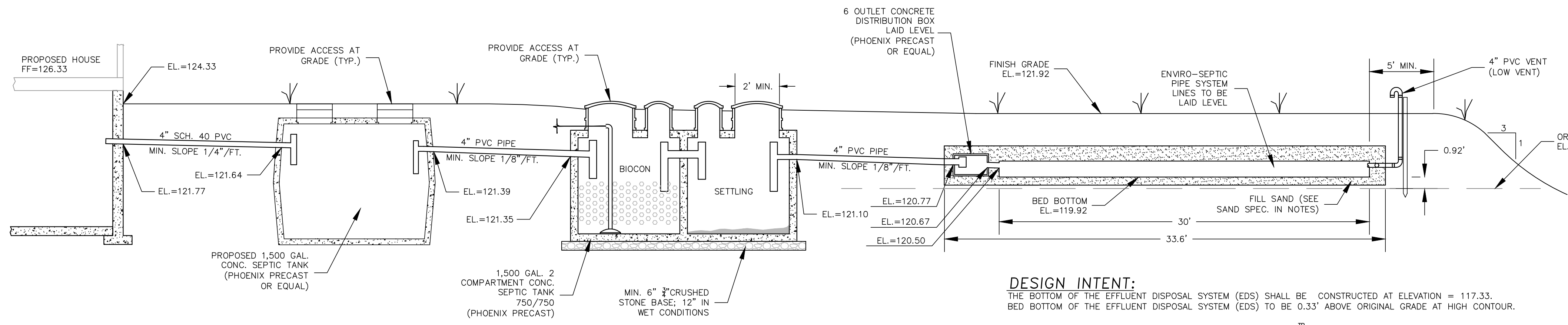
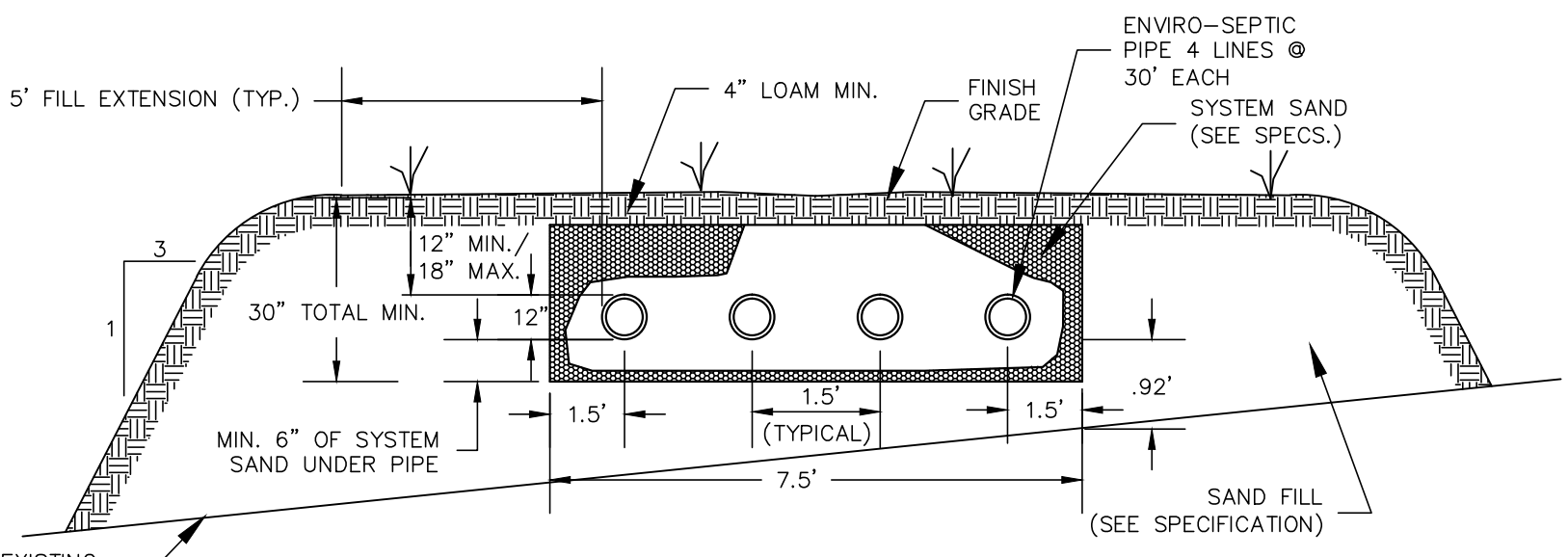


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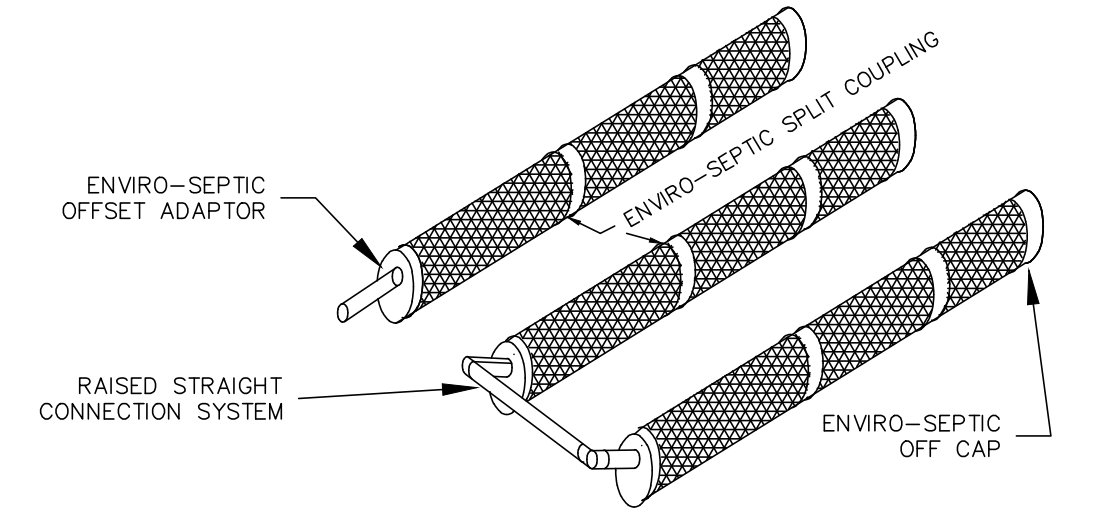


DESIGN INTENT:
 THE BOTTOM OF THE EFFLUENT DISPOSAL SYSTEM (EDS) SHALL BE CONSTRUCTED AT ELEVATION = 117.33. BED BOTTOM OF THE EFFLUENT DISPOSAL SYSTEM (EDS) TO BE 0.33' ABOVE ORIGINAL GRADE AT HIGH CONTOUR.

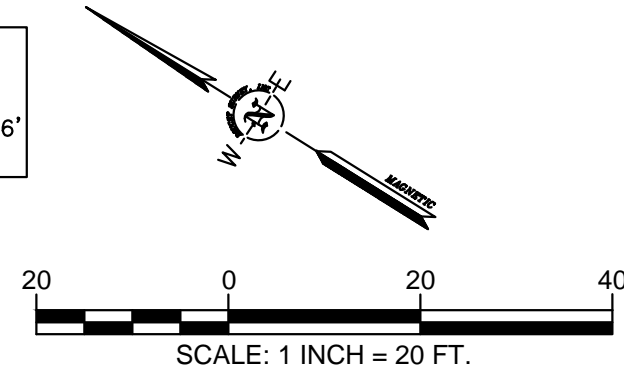


LEACHFIELD CROSS-SECTION
 NOT TO SCALE

- NOTES:**
1. REMOVE TOPSOIL BEFORE PLACING SAND.
 2. SYSTEM SAND SHALL MEET SPECIFICATIONS LISTED IN CONSTRUCTION SEQUENCE NOTES.
 3. THERE SHALL BE A MINIMUM OF 6" SYSTEM SAND AROUND THE CIRCUMFERENCE OF THE PIPES.
 4. ALL SAND FILL AND CLEAN FILL SHALL MEET SPECIFICATIONS LISTED IN CONSTRUCTION SEQUENCE NOTES.



ENVIRO-SEPTIC LEACHING SYSTEM
 PATENT PENDING



TEST PIT DATA:

- TEST PIT 3:**
- 2-0" FOREST MATT
 - 0-4" DARK BROWN, VERY FINE SANDY LOAM, GRANULAR, FRIABLE (10YR3/3)
 - 4-14" STRONG BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE (7.5YR4/6)
 - 14-26" LIGHT OLIVE BROWN SANDY LOAM, GRANULAR, FRIABLE (2.5Y5/4)
 - 26-38" LIGHT OLIVE BROWN WITH REDOXIMORPHIC FEATURES, LOAMY SAND, MASSIVE, FIRM (2.5Y5/3)
 - ESHW @ 26" RESTRICTIVE @ 26" REFUSAL @ 38"

- TEST PIT 4:**
- 0-4" DARK BROWN, VERY FINE SANDY LOAM, GRANULAR, FRIABLE (19YR3/3)
 - 4-14" STRONG BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE (7.5YR4/6)
 - 14-20" LIGHT OLIVE BROWN, SANDY LOAM, GRANULAR, FRIABLE (2.5Y5/4)
 - NO ESHWT REFUSAL @ 20"

- TEST PIT 5:**
- 2-0" FOREST MATT
 - 0-4" DARK BROWN, VERY FINE SANDY LOAM, GRANULAR, FRIABLE (10YR3/3)
 - 4-16" STRONG BROWN, FINE SANDY LOAM, GRANULAR, FRIABLE (7.5YR4/6)
 - 16-28" LIGHT OLIVE BROWN, SANDY LOAM, GRANULAR, FRIABLE (2.5Y5/4)
 - 26-42" LIGHT OLIVE BROWN WITH REDOXIMORPHIC FEATURES, LOAMY SAND, MASSIVE, FIRM (2.5Y5/3)
 - ESHW @ 26" RESTRICTIVE @ 26"

- TEST PIT PERFORMED ON 11/25/08, BY JAMES H. LONG, CPPS, CSS WITNESSED BY TOM JOHNSON.**
- TEST PIT 8:**
- 0-6" TOP SOIL
 - 6-19" FINE SANDY LOAM GRANULAR LOOSE (5YR5/4)
 - REFUSAL @ 19"
- TEST PIT 9:**
- 2-0" FOREST MATT
 - 0-18" FINE SANDY LOAM GRANULAR LOOSE (5YR4/4)
 - 18-36" LOAMY FINE SAND GRANULAR LOOSE (10YR4/6)
 - SHWT @ 26" REFUSAL @ 36"

TEST PIT PERFORMED ON 6/8/17, BY MICHAEL J. SIEVERT, MJS ENGINEERING, PC, WITNESSED BY AUDREY CLINE BUILDING INSPECTION DURHAM.

PERCOLATION TEST DATA:

DATE CONDUCTED: 11/25/08
 RESULT: 8 MIN./INCH
 DEPTH: 26"

THE SOIL TYPE ON THE SITE IS PRIMARILY B2B, BUXTON SILT LOAM, SHOWN ON NRCS WEB SOIL SURVEY.

FLOW CALCULATIONS:

RESIDENTIAL SITE:
 5 BEDROOMS
 BOB FLOW = 750 GPD

LEACH BED SIZING:

Env-Wq TABLE 1016.01:
 REQUIRED:
 PERC. RATE = 8 MPI REQUIRES 1255 SF EDA

PROPOSED:
 AOS CLEAN SOLUTIONS SYSTEM ALLOWS 80% REDUCTION IN EDA
 0.20 X 1255 SF = 251 SF

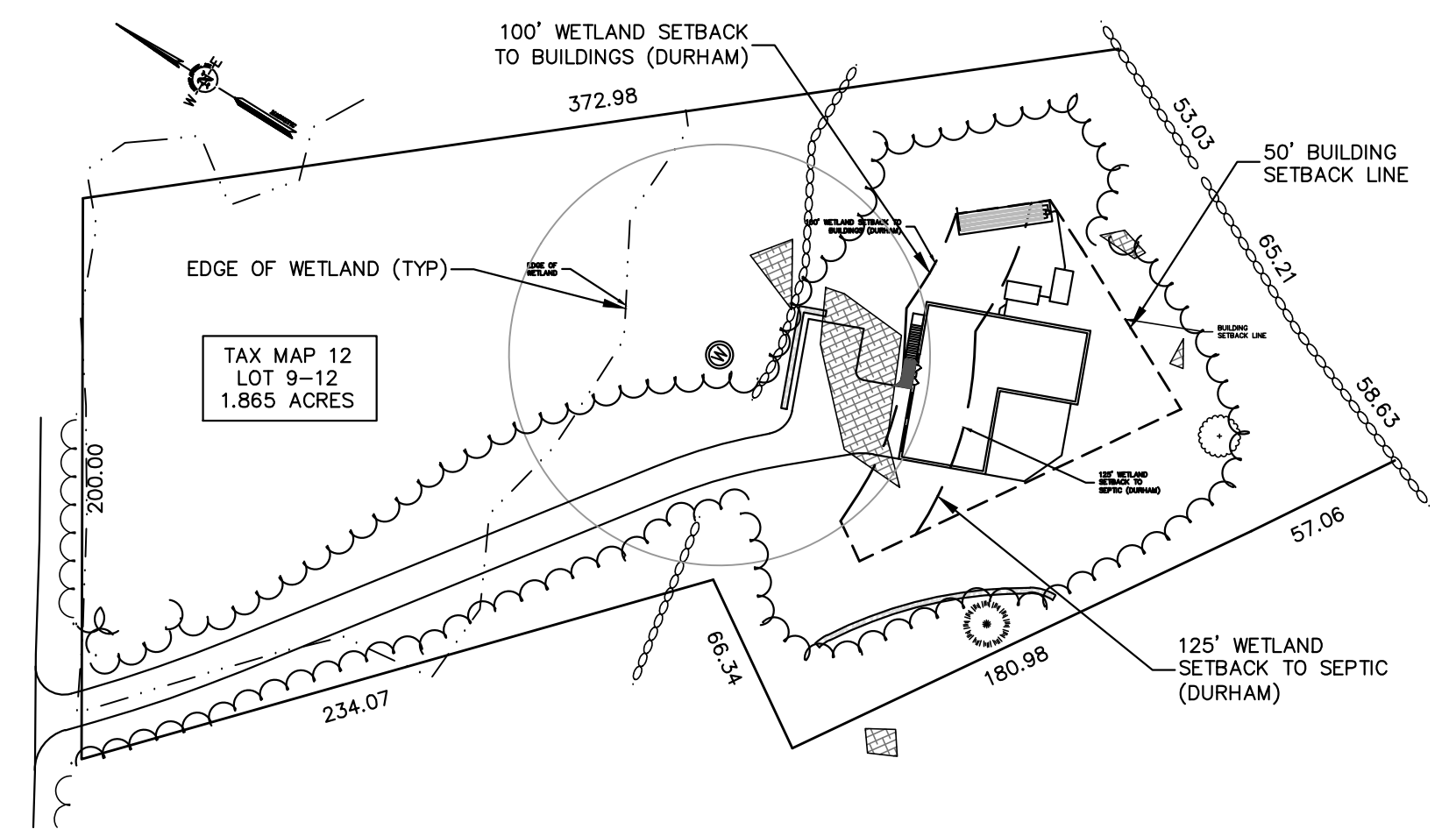
SEPTIC TANK SIZING:

Env-Wq 1010.01(d):
 FOR A SINGLE-FAMILY RESIDENCE HAVING NO MORE THAN 4 BEDROOMS, MINIMUM SEPTIC TANK LIQUID CAPACITY SHALL BE 1,250 GALLONS.

Env-Wq 1010.01(g):
 FOR EACH ADDITIONAL BEDROOM UP TO 10, THE LIQUID CAPACITY OF THE SEPTIC TANK SHALL BE INCREASED BY 250 GALLONS PER BEDROOM.

REQUIRED:
 1,250 + 250 = 1,500 GAL

PROVIDE:
 1500 GAL (750/750) 2-COMPARTMENT CONCRETE TANK



LOT SKETCH
 1"=60'

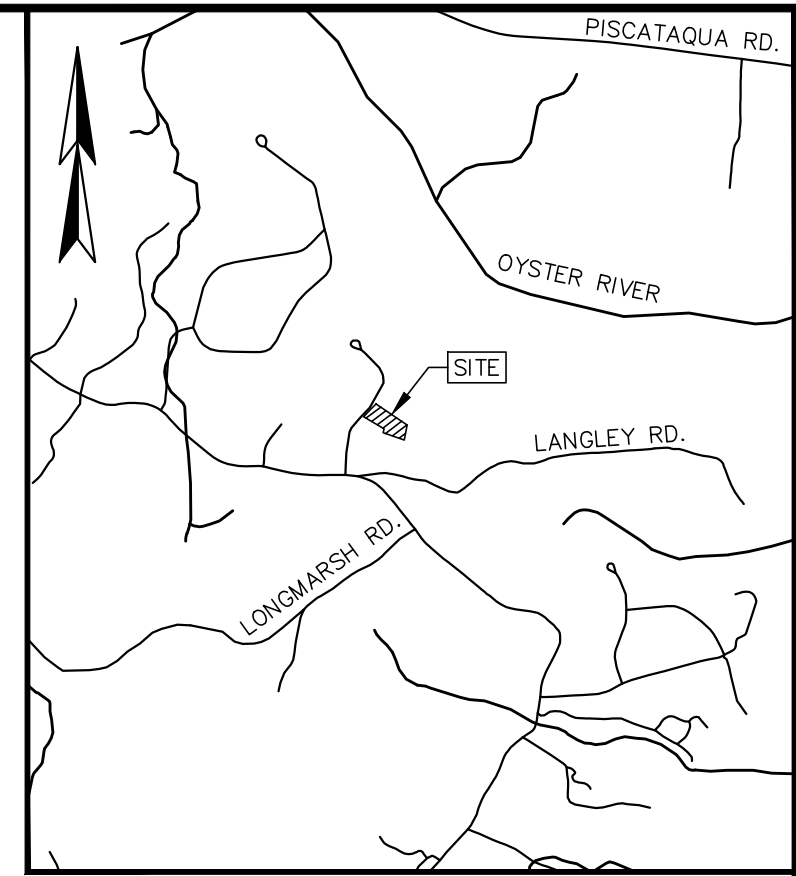
GENERAL NOTES:

1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING THE PROPOSED LEACH FIELD.
2. THIS PLAN IS TO SHOW THE DESIGN OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM ONLY. THE SYSTEM IS DESIGNED FOR FLOW ESTIMATED UNDER THE DESIGN CRITERIA.
3. THE SYSTEM IS DESIGNED ONLY TO ACCOMMODATE SANITARY SEWER ASSOCIATED WITH NORMAL DOMESTIC USAGE AND CONSISTING OF WATER-CARRIED PUTRESIBLE WASTE.
4. THE SYSTEM IS NOT DESIGNED FOR GARBBAGE GRINDERS. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. IS NOT INTENDED OR IMPLIED.
5. THE DISPOSAL SYSTEM AREAS ARE TO BE RAKED (SCARIFIED) BEFORE INSTALLATION OF FILL OR SEPTIC SAND. ALL STONES EXCEEDING 6" IN DIAMETER, ALL LOAM OR FOREIGN MATERIAL ENCOUNTERED DURING EXCAVATION ARE TO BE REMOVED FROM THE LEACHING AREA BED SURFACE.
6. THE FINISHED SURFACE OF THE LEACHING AREA SHALL BE GRADED TO ASSURE PROPER RUNOFF.
7. ALL DISTURBED AREAS SHALL BE LOAMED, SEEDED AND MAINTAINED TO PREVENT EROSION.
8. THE SEPTIC TANK SHOULD BE PERIODICALLY INSPECTED AND MAINTAINED, AND SHOULD BE PUMPED WHEN SLUDGE IN THE BOTTOM EXCEEDS 1/4 THE DEPTH.
9. ALTERNATE MANUFACTURERS FOR STRUCTURES AND EQUIPMENT SHOWN ON THESE PLANS MAY BE USED UPON THE WRITTEN APPROVAL OF THE DESIGN ENGINEER. ALTERNATE MANUFACTURERS SHALL NOT BE USED IF THEIR EQUIPMENT REQUIRES DESIGN CHANGES.
10. IF ANY PART OF THE DESIGN IS TO BE ALTERED IN ANY WAY, THE DESIGN ENGINEER, AS WELL AS THE APPROVING AUTHORITIES, SHALL BE NOTIFIED IN WRITING BEFORE CONSTRUCTION.
11. ALL WORK IS TO COMPLY WITH THE STATE OF NEW HAMPSHIRE SANITARY CODE FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS AND ANY LOCAL BOARD OF HEALTH SUPPLEMENTARY REGULATIONS.
12. THE LOCAL BOARD OF HEALTH AGENT OR STATE INSPECTOR MAY CONDUCT PERIODIC INSPECTIONS IF NEEDED.
13. THESE PLANS AND SPECIFICATIONS ARE INTENDED TO BE EXPLANATORY OF THE WORK TO BE DONE AND OF EACH OTHER, BUT SHOULD ANY OMISSION, ERRORS OR DISCREPANCIES APPEAR, THEY SHALL BE SUBJECT TO CORRECTION AND INTERPRETATION BY THE DESIGN ENGINEER.
14. USE NEOPRENE SEALS AT SEPTIC TANK INLET AND OUTLET. PLASTIC CEMENT SHALL BE USED AT ALL PIPE JOINTS. MASTIC SEALANT SHALL BE USED AT ALL TANK AND RISER JOINTS.
15. NO FOUNDATION DRAIN OUTLET WITHIN 25' OF SYSTEM.
16. ANY REPLACEMENT SYSTEM WILL BE AT THE SAME LOCATION AFTER RE-DESIGN.
17. THE LOT IS SERVICED BY AN ON-SITE WELL.
18. NO SURFACE WATER WITHIN 75' OF SYSTEM.
19. VENTED INLET AND OUTLET TEE Baffles SHALL EXTEND ABOVE THE LIQUID LINE TO NOT LESS THAN 1 INCH FROM THE INTERIOR OF THE TOP OF THE SEPTIC TANK OR COVER. THE INLET Baffle SHALL PENETRATE AT LEAST 8 INCHES BELOW THE LIQUID LEVEL BUT IN NO CASE GREATER THAN THE DEPTH OF THE OUTLET Baffle. THE OUTLET Baffle SHALL EXTEND TO A DISTANCE BELOW THE SURFACE OF THE LIQUID EQUAL TO 40% OF THE LIQUID DEPTH.
20. GRADE TOP OF BED TO MATCH PROPOSED GRADE. FINISH GRADE SHALL BE SLOPED TO PREVENT WATER PONDING.
21. PROVIDE ACCESS AT GRADE TO SEPTIC TANKS.

CONSTRUCTION SEQUENCE:

1. CONTRACTOR SHALL FOLLOW ALL INSTALLATION, HANDLING, AND STORAGE GUIDELINES AS DESCRIBED IN THE "THE PRESBY WASTEWATER TREATMENT SYSTEM, NH DESIGN AND INSTALLATION MANUAL, SEPTEMBER 2013".
2. INSTALL EROSION CONTROL MEASURES TO PREVENT SOIL EROSION FROM THE SITE.
3. STRIP TOP SOIL AND OTHER DELETERIOUS MATERIALS WITHIN LIMITS OF EDA AND STOCKPILE FOR REUSE.
4. PLACE CLEAR FILL PER NOTE 8 TO WITHIN 2" BELOW BED BOTTOM. BED BOTTOM IS THE BOTTOM OF THE E-S PIPE. THE FIRST 6 INCHES DIRECTLY BENEATH THE E-S SYSTEM SAND AND EXTENDING LATERALLY ACROSS THE FILL EXTENSION SHALL BE SAND FILL PER NOTE 9.
5. PLACE 6" OF ENVIRO SEPTIC (E-S) SYSTEM SAND, LAY ENVIRO-SEPTIC TUBES LEVEL, AND SPACING AS DESIGN AND BACKFILL WITH SYSTEM SAND, MAKING SURE TO CHINK THE SAND UNDER THE HAUNCH OF THE TUBES. SPREAD A MINIMUM OF 6" OF SYSTEM SAND OVER THE PIPE AND AROUND THE PERIMETER OF THE E-S TUBE SYSTEM. A MINIMUM OF 12" SAND IS REQUIRED BETWEEN TOP OF ENVIRO-SEPTIC PIPES AND TRACKED VEHICLES.
6. CONSTRUCTION EQUIPMENT CAN PASS OVER THE ADVANCED E-S TUBES ONLY AFTER THERE IS AT LEAST 12" OF COMBINED COVER OVER THE TUBES.
7. FILL EXTENSIONS AND SIDE SLOPES SHALL BE COVERED BY 4 TO 6 INCHES OF LOAM SUITABLE FOR SEEDING.
8. CLEAN FILL REQUIREMENTS:
 CLEAN FILL SHALL COMPLY WITH ENV-WQ 1021.03(a) AND SHALL BE CLEAN BANK RUN SAND, FREE OF TOPSOIL OR HUMUS, DREDGINGS, OR STONES MORE THAN 6 INCHES IN ANY DIMENSION.
9. SAND FILL REQUIREMENTS:
 SAND FILL SHALL COMPLY WITH ENV-WQ 1021.03(b)(1) OR (2) AS FOLLOWS:
 (1) MEDIUM TO COARSE TEXTURED SAND, WITH AN EFFECTIVE SIZE OF 0.25 TO 2 MM, NO GREATER THAN 5% PASSING THE NUMBER 200 SIEVE, AND NO PARTICLE SIZE LARGER THAN 3/4 INCH, OR
 (2) MATERIAL MEETING ASTM C-33 SPECIFICATION THE FIRST 6 INCHES DIRECTLY BENEATH THE E-S SYSTEM SAND AND EXTENDING LATERALLY ACROSS THE FILL EXTENSION SHALL CONSIST OF ONE OF THE ABOVE.
10. E-S SYSTEM SAND REQUIREMENTS:
 SYSTEM SAND SHALL MEET THE FOLLOWING REQUIREMENTS OR ASTM C-33 CONCRETE SAND AS FOLLOWS:
 (NOTE ONLY 2% MAY PASS THE NO. 200 SIEVE)

SIEVE SIZE	PERCENTAGE BY WEIGHT PASSING
3/8 INCH	100
NO. 4	95 - 100
NO. 8	80 - 100
NO. 16	50 - 80
NO. 30	25 - 60
NO. 50	5 - 30
NO. 100	0 - 10
NO. 200	0 - 2



LOCATION MAP (n.t.s.)

DIRECTIONS: FROM DURHAM GO SOUTH ON ROUTE 108 ABOUT 0.6 MILES, TURN LEFT ONTO DURHAM POINT RD, AND GO 2 MILES, TURN LEFT ONTO MATHES COVE ROAD. TRAVEL 0.2 MILES AND DRIVEWAY IS ON THE RIGHT.

NO.	REVISIONS	DATE	INT.
1.	REVISED DESIGN PER FIRST ZONING BOARD MEETING	7/5/17	EHK
0.	INITIAL SUBMISSION TO TOWN DES	6/8/17	EHK

SEAL

DATE: 6/8/17
 SCALE: AS SHOWN
 DESIGNED BY: MS
 DRAWN BY: EHK
 APPROVED BY: MJS
 DWG FILE: 170061C SEPTIC D.dwg

SEPTIC PLAN
 prepared for

SIRLES REV TRUST

TAX MAP 12, LOT 9-12
 12 MATHES COVE ROAD DURHAM, NH

MJS ENGINEERING, P.C.
 CIVIL - STRUCTURAL - ENVIRONMENTAL

5 Railroad St., P.O. Box 359
 Durham, NH 03824
 PHONE: (603) 659-6479, FAX: (603) 659-6427
 E-MAIL: MJS@MJS-ENGINEERING.COM

JOB: 17-006

SEPTIC