

**PLAN INTENT:**

EXPANSION OF USE / ADDITION OF 1-BEDROOM APARTMENT

EXISTING SYSTEM (CA13411, OA 5/9/85) IS WORKING ADEQUATELY AT THE TIME OF THIS SUBMITTAL AND IS INTENDED TO BE USED UNTIL FAILURE.

**DESIGN CALCULATIONS:**

HYDRAULIC LOADINGS: 4 BEDROOM HOME PLUS PROPOSED 1 BEDROOM APARTMENT OVER PROPOSED GARAGE = 600 GPD + 225 GPD = 825 GALLONS PER DAY TOTAL (DESIGN FOR 6 BEDROOMS PER AES MANUAL)

DESIGN PERCOLATION RATE: 30 MIN./INCH

EFFLUENT DISPOSAL AREA REQUIRED: 390 LINEAR FEET

EFFLUENT DISPOSAL AREA PROVIDED: 400 LINEAR FEET - 10 ROWS X 40'; 1.5" ON CENTER

WIDTH X LENGTH: 14.5' X 40' DIAGONAL MEASUREMENT: 42.5'

**SEPTIC TANK SIZING:**

4 BRS = 1250 GAL  
1 BR APT = 375 GAL  
REQUIRED = 1625 GAL.  
PROVIDED: 1750 GAL.

**DESIGN INTENT STATEMENT:**

THE BOTTOM OF THE EFFLUENT DISPOSAL AREA SHALL BE CONSTRUCTED AT ELEVATION: 99.25

THIS IS APPROXIMATELY 2.25 FEET (27") BELOW THE EXISTING GROUND ON THE HIGH CONTOUR OF THE DESIGNED EFFLUENT DISPOSAL AREA, EL. 101.5.

THIS PROVIDES A MINIMUM SEPARATION TO ESTIMATED SEASONAL HIGH WATER TABLE OF 2 FT (24") AS IS APPROVED BY NHDES FOR NEW CONSTRUCTION STANDARDS.

FOUNDATION DRAINS: NONE  
NEAREST ABUTTING WELL: 125+ FT  
NEAREST SURFACE WATER: 125+ FT  
NEAREST POORLY DRAINED SOILS: 125+ FT  
NEAREST VERY POORLY DRAINED SOILS: 125+ FT

DISPOSAL SYSTEM IS NOT DESIGNED FOR A GARBAGE DISPOSAL. DISPOSAL SYSTEM IS NOT DESIGNED FOR A SEWAGE EJECTOR PUMP. LOT IS NOT IN A SPECIAL FLOOD HAZARD AREA. THERE ARE NO KNOWN BURIAL SITES OR CEMETERIES WITHIN 100' OF ANY COMPONENT OF THE ISDS.

WETLANDS HAVE BEEN IDENTIFIED/DELINEATED BY SERGIO BONILLA, CERTIFIED WETLAND SCIENTIST #261, ON 7/18/2017, PER ENV-WQ 1014.06

SOIL CLASSIFICATION FROM NRCS WEB SOIL SURVEY: BzBBUXTON SILT LOAM

**NHDES WAIVERS REQUESTED:**

NONE

**MUNICIPAL SEPTIC SYSTEM WAIVERS REQUESTED:**

PLAN CONFORMS WITH ALL LOCAL SEPTIC SYSTEM ORDINANCES AND REGULATIONS VARIANCE MAY BE REQUIRED FOR WETLAND SETBACK TO PROPOSED STRUCTURES

**PLAN SPECIFIC NOTES:**

1. BOUNDARY INFORMATION FROM REFERENCE PLAN: SCRD PLAN 0089-010. \*CONSERVATION EASEMENT PLAN OF LAND GERALD L. SMITH AND DOROTHY K. SMITH IRREVOCABLE TRUST, JEFFREY G. SMITH AND HEATHER M. SMITH REVOCABLE TRUST, AND CAROL S. AND ERIN M. TUVESON FOR THE NATURE CONSERVANCY\* BY DOUCET SURVEY, NEWMARKET, NH DEC. 29, 2006

2. GRADING SHOWN FOR SEPTIC SYSTEM ONLY. ADDITIONAL GRADING IS AT THE DISCRETION OF THE CONTRACTOR OR OWNER.

**PRODUCT MANUFACTURER (OR EQUIVALENT):**

PRECAST CONCRETE PRODUCTS AVAILABLE THROUGH: AJ FOSS PRECAST CONCRETE, 100 COCHEO RD, FARMINGTON, NH 603-755-2515

**TEST PIT DATA:**

SUSAN J. FARETRA DESIGNER #946 DATE: 8/7/2017  
WITNESS: AUDREY CLINE

TEST PIT #1:  
0-22" 10YR3/4 DARK YELLOWISH BROWN VERY FINE SANDY LOAM, GRANULAR, FRIABLE  
22-26" 10YR5/4 YELLOWISH BROWN VERY FINE SANDY LOAM, GRANULAR, FRIABLE  
26-65" 2.5Y4/4 OLIVE BROWN SILT LOAM, BLOCKY, FIRM

ESHW: 26" RESTRICTIVE: 26"  
ROOTS: 12" NO OBSERVED WATER REFUSAL: NONE

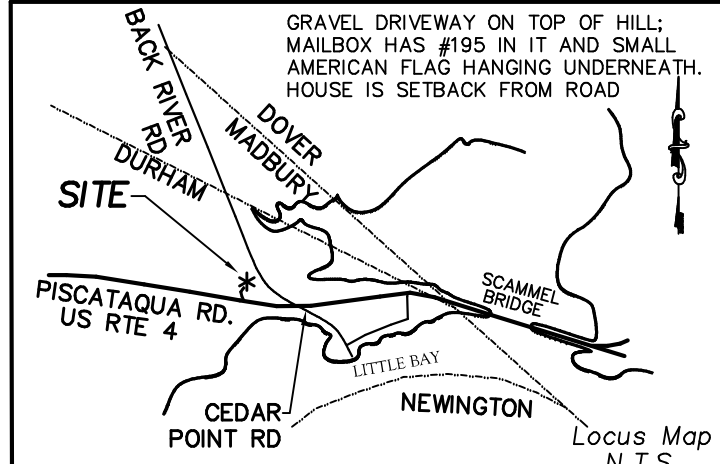
TEST PIT #2:  
0-7" 10YR3/3 DARK YELLOWISH BROWN FINE SANDY LOAM, GRANULAR, FRIABLE  
7-19" 2.5Y5/4 LIGHT OLIVE BROWN FINE SANDY LOAM, GRANULAR, FRIABLE  
19-32" 2.5Y3/3 DARK OLIVE BROWN FINE SANDY LOAM, GRANULAR, FRIABLE  
32-51" 10YR4/4 DARK YELLOWISH BROWN FINE SANDY LOAM, GRANULAR, FRIABLE  
51-68" 2.5Y4/4 OLIVE BROWN SILT LOAM, BLOCKY, FIRM

ESHW: 51" RESTRICTIVE: 51" ROOTS: 48"  
NO OBSERVED WATER REFUSAL: NONE  
PERC RATE: 8 MIN/IN AT 30"

TEST PIT FROM CA113411, 6/13/1984 (IN ORIGINAL SOIL FOR LOT DEVELOPMENT; PRIOR TO FILLING FOR DEVELOPMENT)

0-12" FIELD LOAM  
12-18" GRAY VERY FINE SILTY SAND (SOFT)  
18-24" GRAY SILTY CLAY (FIRM)  
24" - 5" LAYERED FINE BROWN SILT AND CLAY  
5"-7" LAYERED FINE BROWN SILT AND SOME CLAY  
7" LEDGE, NO WATER, ESHW 18"  
PERC: 30 MIN/IN @ 24" DEPTH

(DESIGN INTENT WAS BED BOTTOM TO BE 2.5' ABOVE ORIGINAL GRADE TO PROVIDE 4' SEPARATION TO ESHWT)



**INDIVIDUAL SEWAGE DISPOSAL SYSTEM DESIGN**

**SITE LOCATION:** 195 PISCATAQUA RD. TAX MAP 12, LOT 3-5 DURHAM, NH

**SUBDIVISION APPROVAL:** N/A > 5 ACRES **LOT SIZE:** 12.741 ACRES **DEED BOOK/PAGE:** SCRD 2742/0142

**FOR:** JEFFREY & HEATHER SMITH REVOCABLE TRUST 195 PISCATAQUA RD. DURHAM, NH 03824

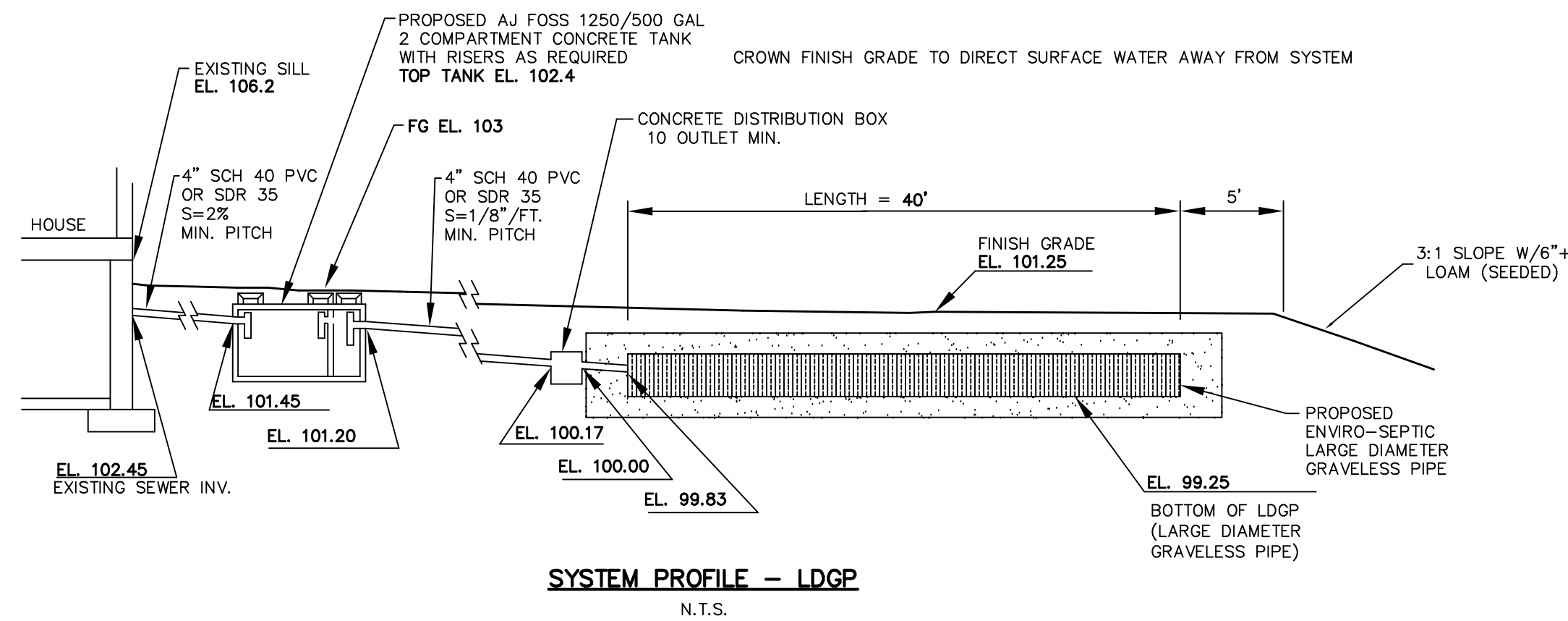
**DESIGNER:** FARETRA SEPTIC DESIGN, LLC

SUSAN J. FARETRA  
NH DESIGNER #946  
181 GILE ROAD, NOTTINGHAM, NH 03290  
PHONE: 603-659-6556  
sjfaretra@comcast.net

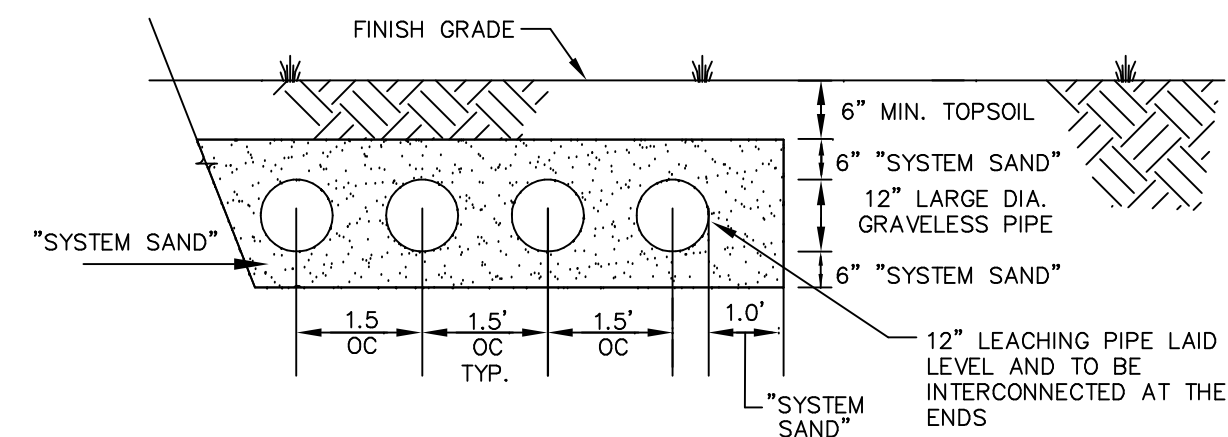
NEW HAMPSHIRE  
Designer of  
Subsurface Disposal  
Systems  
\*\*\*  
Susan J. Faretra  
No. 946  
Department of Environmental Services  
NH Designer Stamp

**PLAN SCALE:** 1" = 20' **PLAN DATE:** AUG 18, 2017

Date	Revision/Amendment Description	By	Sheet
			1 of 2
			17-122

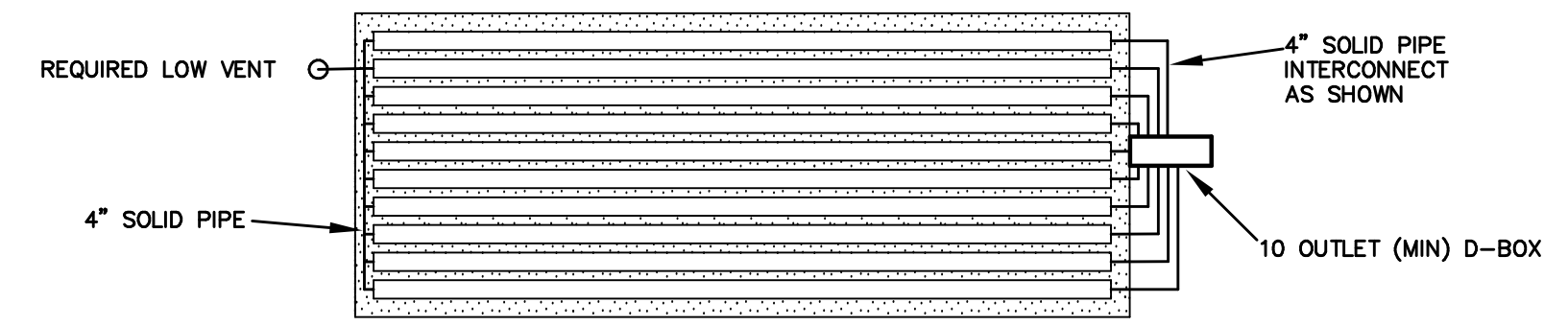


ADVANCED ENVIRO-SEPTIC PIPE NOT TO BE SUBSTITUTED



FIELD CROSS SECTION - LDGP  
N.T.S.

ENVIRO-SEPTIC PIPE EDA  
10 ROWS WIDE X 40' LONG, 1.5' ON CENTER  
PIPE DIM. 14.5' X 40'  
SYSTEM SAND BED DIM. 16.5' X 42'

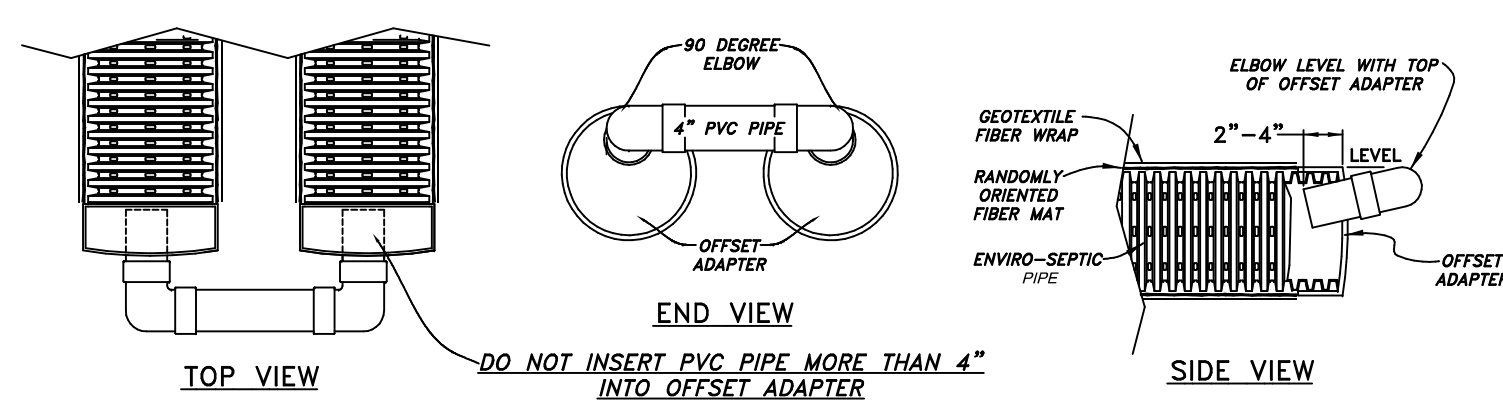


REFER TO "THE PRESBY WASTEWATER TREATMENT SYSTEM,  
NH DESIGN AND INSTALLATION MANUAL" IF UNFAMILIAR  
WITH PRODUCT  
MANUAL CONTAINS SPECIFIC REQUIREMENTS FOR  
INSTALLATION AND VENTING OPTIONS

ADVANCED ENVIRO-SEPTIC EDA (LEACH FIELD) LAYOUT  
NOT TO SCALE

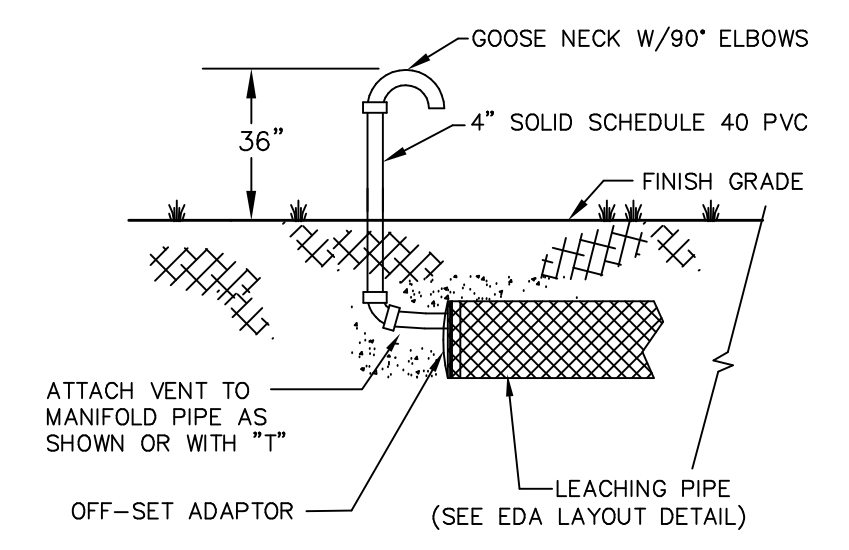
**GENERAL NOTES:**

- THIS PLAN DOES NOT REPRESENT A BOUNDARY SURVEY OR ENGINEERED SITE PLAN. THIS PLAN NOT INTENDED FOR BUILDING LAYOUT. A LICENSED LAND SURVEYOR SHOULD BE RETAINED TO LAY OUT ALL BUILDINGS ON THE SITE AND VERIFY THAT THEY WILL BE IN COMPLIANCE WITH ALL APPLICABLE LOCAL ZONING REQUIREMENTS PRIOR TO CONSTRUCTION.
- THIS DISPOSAL SYSTEM MUST BE INSTALLED IN COMPLIANCE WITH CURRENT NHDES RULES. MOST CURRENT NHDES APPROVED VERSION OF MANUFACTURER'S DESIGN MANUAL, AS APPLICABLE, AND SPECIFICATIONS OF THIS PLAN. SEE NHDES CONSTRUCTION APPROVAL FOR ANY ADDITIONAL CONDITIONS. IT IS THE RESPONSIBILITY OF THE INSTALLER TO BE FAMILIAR WITH THE RULES AND INSTALLATION GUIDELINES, AS THEY CAN NOT BE REPRODUCED IN THEIR ENTIRETY ON THIS PLAN.
- INSTALLER IS RESPONSIBLE FOR CLEARING EXCAVATION WITH DIG-SAFE ® 1-888-DIG-SAFE BEFORE CONSTRUCTION.
- INSTALLER MUST REPORT DISCREPANCIES TO THE DESIGNER PRIOR TO CONSTRUCTION OF THE DISPOSAL SYSTEM.
- EROSION AND SEDIMENTATION INTO WETLANDS OR WATER BODIES OR ONTO ABUTTING PROPERTY MUST BE PREVENTED BY INSTALLER.
- AMENDED PLANS FROM THE DESIGNER WILL BE REQUIRED PRIOR TO NHDES INSPECTION IF CHANGES HAVE BEEN MADE TO THE LOCATION OF SYSTEM COMPONENTS (EXCLUDING THE BED) OR PROPOSED STRUCTURE. IF THE BED IS NOT INSTALLED AT THE LOCATION SHOWN AND ELEVATION SHOWN, A NEW APPROVAL WILL BE REQUIRED.
- TANK, D-BOX AND ALL PIPE CONNECTIONS MUST BE SEALED AND WATER TIGHT. TANK TO BE SEALED WITH JOINT SEALANT MEETING ASTM C990-09. CONNECTIONS BETWEEN TANK AND PIPES TO BE SEALED WITH A WATERTIGHT, FLEXIBLE JOINT CONNECTOR.
- SEPTIC TANK MUST HAVE ACCESSIBLE Baffles ON INLET, OUTLET, AND BETWEEN COMPARTMENTS IF MULTI-COMPARTMENT TANK IS SPECIFIED. ACCESS TO ALL COMPARTMENTS REQUIRED. SECURED COVER AND RISERS TO BE PROVIDED WHEN FILL OVER TANK IS 12" OR GREATER. SECURED COVER AND RISER TO FINISH GRADE IS REQUIRED OVER ACCESS TO EFFLUENT FILTER, IF SPECIFIED. ACCESS TO THE INTERIOR OF THE TANK SHALL CONFORM TO ENV-WQ 1010.05.
- 4 INCH GRAVITY SEWER TO BE SDR 35 OR SCHEDULE 40 PVC, UNLESS OTHERWISE NOTED. WHERE GRAVITY SEWER IS LESS THAN 75' TO WELL, 4" GRAVITY SEWER TO BE SDR 26. FORCE MAINS TO BE SDR 26, SCHEDULE 40 PVC, OR POLYETHYLENE PIPE ("POLY PIPE"), 100-150 PSI RATING. ALL PIPE USED FOR EFFLUENT CONDUIT (SUCH AS PIPE IN STONE AND PIPE FIELDS) SHALL BE SDR 35 OR STRONGER.
- DISTRIBUTION BOX MUST BE SET ON LEVEL STABLE SOIL BASE OR CONCRETE PAD. DISTRIBUTION BOX SHALL HAVE FLOW EQUALIZER OUTLET FITTINGS, UNLESS SYSTEM UTILIZES A PUMP. IF EFFLUENT IS PUMPED, THE DISTRIBUTION BOX MUST HAVE VELOCITY REDUCING Baffle OR T. T SHALL NOT RESTRICT AIR FLOW.
- ALL TOPSOIL, ROOTS AND ORGANIC MATTER SHALL BE REMOVED FROM THE AREA TO BE FILLED, INCLUDING THE AREA UNDER THE FILL EXTENSION. DO NOT COMPACT OR SMEAR SUBSOIL WITH MACHINERY. SCARIFY WITH TEETH OF EXCAVATOR BEFORE PLACING FILL. SCARIFY PARALLEL WITH CONTOURS, WORKING FROM THE CENTER OUTWARD. SOIL MUST BE DRY PRIOR TO PREPARATION.
- IF DISPOSAL AREA IS RAISED, SEPTIC SAND FILL TO BE PUSHED ONTO PREPARED SURFACE FROM THE SIDE. DO NOT ALLOW EQUIPMENT ON THE SCARIFIED SOIL SURFACE. CONTINUOUS GRADING AND SHAPING SHALL BE CARRIED OUT TO ASSURE UNIFORM DENSITY.
- MATERIAL SPECIFICATIONS:  
TOPSOIL: 6 INCH MINIMUM LOAM, SEEDED AND MULCHED TO PREVENT EROSION.  
BACKFILL: CLEAN, PERMEABLE SAND FILL WITH NO STONES GREATER THAN 3 INCHES OR IN ACCORDANCE WITH CURRENT NHDES APPROVED VERSION OF MANUFACTURER'S DESIGN MANUAL AS APPLICABLE.  
SEPTIC STONE (STONE AND PIPE EDA AND CONCRETE CHAMBERS): CLEAN, 1.5" UNIFORMLY SIZED WASHED CRUSHED STONE OR WASHED ROCK PER AASHTO T011-85 AND ENV-WQ 1016.04, TABLE 1014-2.  
SYSTEM SAND (ENVIRO-SEPTIC AND ADVANCED ENVIRO-SEPTIC LDGP EDA): CLEAN COARSE CONCRETE SAND MEETING ASTM C-33 WITH NOT MORE THAN 3% PASSING THE #200 SIEVE (VERIFIED BY WASHING SAMPLE PER REQUIREMENTS OF ASTM C-117) OR SAND MEETING PERCENTAGE AND QUALITY RESTRICTIONS PER MANUFACTURER'S SAND SPECIFICATIONS.  
SEPTIC SAND (6" DIRECTLY BELOW CONCRETE OR PLASTIC CHAMBER EDA AND STONE AND PIPE EDA): MEDIUM TO COARSE SAND, WITH EFFECTIVE SIZE OF 0.25 - 2.0 MM, 5% OR LESS PASSING #200 SIEVE, AND WITH NO STONES GREATER THAN 3/4 INCH OR SAND MEETING ASTM C-33.  
FILL TO RAISE EDA AND IN SIDE SLOPES: CLEAN BANK RUN SAND, FREE OF TOPSOIL, HUMUS, DREDGED MATERIAL OR STONES GREATER THAN 6".
- EFFLUENT CONDUITS (LEACH LINES) AND BED BOTTOM SHALL BE LEVEL PER ENV-WQ 1017.05(H) AND LEACH LINES SHALL BE INSTALLED PER ENV-WQ 1017.01.
- DISPOSAL SYSTEMS MUST BE INSPECTED BY NHDES PRIOR TO BACKFILL. TOWNS MAY HAVE INDEPENDENT INSPECTION REQUIREMENTS.
- ONE FOOT OF COVER IS RECOMMENDED FOR THE DISPOSAL AREA; WHERE COVER IS MORE THAN 18 INCHES, DISPOSAL AREA MUST BE VENTED. VENTING IS REQUIRED FOR ALL ENVIRO SEPTIC SYSTEMS.
- DO NOT ALLOW HEAVY WHEELED MACHINERY, VEHICULAR TRAFFIC, LIVESTOCK OR OTHER HEAVY OBJECTS ON ANY COMPONENT OF SYSTEM UNLESS THAT STRUCTURE IS DESIGNED TO WITHSTAND AN H-20 WHEEL LOAD. DO NOT PUNCTURE ANY COMPONENT OF SYSTEM WITH POLES, STAKES, ETC.
- LAWN IRRIGATION IS NOT TO BE LOCATED OVER EFFLUENT DISPOSAL AREA. TREES AND SHRUBS TO BE MINIMUM OF 10' FROM EFFLUENT DISPOSAL AREA, INCLUDING THE FILL EXTENSION.
- WATER TREATMENT SYSTEM (WATER SOFTNER) BACKWASH SHOULD NOT BE DISCHARGED INTO THE SEPTIC SYSTEM. NHDES ALLOWS BACKWASH TO BE DISCHARGED INTO A MINI DRY WELL, LEACHING PIT OR TRENCH WITHOUT NHDES APPROVAL PROVIDED THE DISPOSAL SYSTEM MEETS ENV-WQ 1022.04 REQUIREMENTS.
- DO NOT DISCHARGE SUMP PUMPS INTO THE SEPTIC SYSTEM.
- OWNERS RESPONSIBILITY: PROPERLY MAINTAIN THIS SYSTEM THROUGH REGULAR PUMPING OF THE SEPTIC TANK. THE SEPTIC TANK NEEDS PUMPING WHEN THE COMBINED THICKNESS OF THE ACCUMULATED SLUDGE AND SURFACE SCUM LAYERS EQUAL 1/3 OR MORE OF THE TANK DEPTH (1/4 TANK DEPTH FOR ENVIRO-SEPTIC SYSTEMS). THE OWNER MUST NOT EXCEED DESIGN CAPACITY. DO NOT DISPOSE OF GREASE, OIL, PAINT, MEDICINES, PAPER TOWELS, DIAPERS OR OTHER INAPPROPRIATE, BULKY, HAZARDOUS OR TOXIC MATERIAL INTO THE SYSTEM. FACIAL TISSUE, "FLUSHABLE" WIPES AND "FLUSHABLE" KITTY LITTER DO NOT DECOMPOSE WELL AND CAN CLOG THE PIPES AND THE DISPOSAL AREA. USE CLEANING PRODUCTS, BLEACH AND ANTIBACTERIAL SOAPS JUDICIOUSLY. LIQUID FABRIC SOFTNER IS NOT RECOMMENDED. HEAVY WATER USE, SUCH AS LAUNDRY WASHING, SHOULD BE SPREAD OUT OVER TIME TO AVOID OVERLOADING THE SYSTEM.
- KEEP A COPY OF THIS PLAN AND MARK THE LOCATION OF THE TANK(S) CLEAN OUT COVERS FOR EASY ACCESS TO TANK INTERIOR.
- EFFLUENT DISPOSAL AREA MAY BE REBUILT IN PLACE, WITH REGULATORY APPROVAL, SHOULD FAILURE OCCUR.



RAISED CONNECTION DETAIL  
(NOT TO SCALE)

LOW VENT MAY BE DISGUISED WITH A VARIETY OF PRODUCTS SPECIFICALLY MADE FOR THIS PURPOSE. DO NOT INSTALL A CHARCOAL FILTER OR ANY ATTACHMENT TO THE VENT THAT MAY OBSTRUCT AIR FLOW INTO SYSTEM.



LOW VENT DETAIL  
N.T.S.

**CONSTRUCTION DETAILS**

**INDIVIDUAL SEWAGE DISPOSAL SYSTEM DESIGN**

**SITE LOCATION:** 195 PISCATAQUA RD.  
TAX MAP 12, LOT 3-5  
DURHAM, NH

**SUBDIVISION APPROVAL:** N/A > 5 ACRES      **LOT SIZE:** 12.741 ACRES      **DEED BOOK/PAGE:** SCRD 2742/0142

**FOR:** JEFFREY & HEATHER SMITH REVOCABLE TRUST  
195 PISCATAQUA RD.  
DURHAM, NH 03824

**DESIGNER:** FARETRA SEPTIC DESIGN, LLC  
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sjfaretra@comcast.net

NEW HAMPSHIRE  
Designer  
of  
Subsurface Disposal  
Systems  
\*\*\*  
Susan J. Faretra  
No. 946  
Department of Environmental Services

NH Designer Stamp

**PLAN SCALE:** 1" = 20'      **PLAN DATE:** AUG 18, 2017

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			2 of 2
			17-122