

SOIL TEST PIT & PERCOLATION TEST DATA

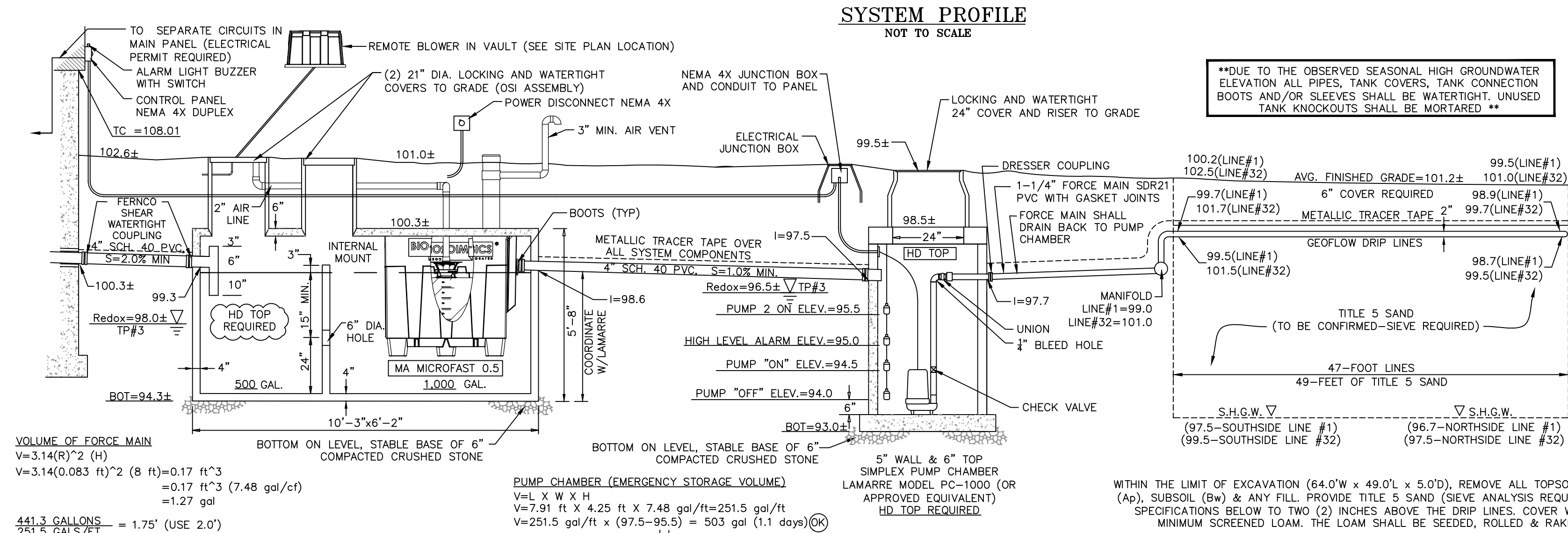
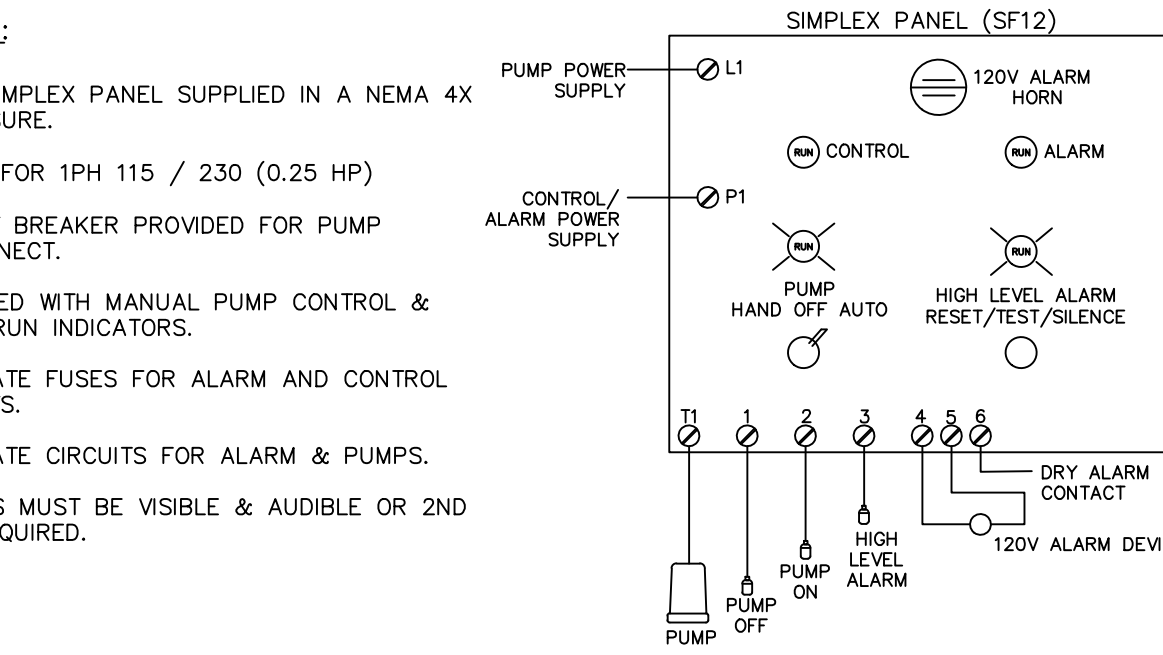
Perc. Test	Observed Groundwater
<p>Test Date(s): December 12, 2024 @ 9:00 am</p> <p>Weather: 36°-Cold & Clear</p> <p>Testing: Eric Dickinson, RS (SE#13621) - CIVILized Solutions</p> <p>Witness: Raj Gupta, RS - Ashland BOH Director</p>	
<p>Test Pit #1</p> <p>EL. 101.4</p> <p>Fill Sand, Loam, Misc. existing trench at 48", roots to 48", damp at 48", weep at 52"</p> <p>REMOVE</p> <p>36"(95.2) Redox@36" 7.5YR5/8 weep@48"</p> <p>52"(97.1) Redox@52" 7.5YR5/8</p> <p>60"(96.4)</p> <p>C Fine Sandy Loam 5Y5/2</p> <p>120"(91.4)</p> <p>Class III SCS Class Fine Sandy Loam</p>	<p>Test Pit #2</p> <p>EL. 98.2</p> <p>Ap Sandy Loam 10YR3/2</p> <p>Bw Sandy Loam 10YR4/6 Roots to 36"</p> <p>36"(95.2) Redox@36" 7.5YR5/8 weep@48"</p> <p>48"(94.2)</p> <p>60"(93.2) Sample taken from this layer for Grain Size Analysis</p> <p>C Silt Loam 5Y5/2</p> <p>120"(88.2)</p> <p>Class III SCS Class Silt Loam</p>
<p>Test Pit #3</p> <p>EL. 100.4</p> <p>Fill Sand, Loam, Misc.</p> <p>REMOVE</p> <p>24"(98.4) Ab Sandy Loam 10YR3/3 Roots to 36"</p> <p>36"(97.4) Redox@36" 7.5YR5/8</p> <p>Bw Sandy Loam 10YR4/6 weep@48"</p> <p>48"(96.4)</p> <p>C Fine Sandy Loam 5Y5/2 pockets of silt loam</p> <p>112"(91.1)</p> <p>Class III SCS Class Fine Sandy Loam</p>	<p>Unable to perform percolation test due to groundwater intrusion and safety concerns. Samples of the C layer from TP-2 was taken for a Grain Size (Sieve) Analysis.</p> <p>USDA textural class: Silt Loam (Class III soil). The loading rate for design used is a conservative 0.15 gpd/sf. The soil was determined to be uncompacted by the Approving Agent and Soil Evaluator.</p> <p>I CERTIFY THAT I AM A LICENSED SOIL EVALUATOR (SE #13621), HAVING PASSED THE TRAINING AND TESTING REQUIREMENTS IN APRIL 2013.</p> <p>ERIC I. DICKINSON, RS DATE:</p>

WATERTIGHT REQUIREMENTS FOR GEOFLOW SYSTEMS

- GEOFLOW DESIGN PLANS MUST REQUIRE WATERTIGHT TANKS
- NO PLASTIC TANKS MAY BE USED; ONLY MONOLITHIC CONCRETE TANKS
- RISERS ARE TO BE E-2 SET, CAST IN PLACE POLYPROPYLENE RISERS, OR CONCRETE RISERS SEALED WITH HYDRAULIC CEMENT
- NO POLYETHYLENE PLASTIC RISERS MAY BE USED
- PLEASE INCLUDE THE FOLLOWING SEALANT REQUIREMENT ON JOB PLANS: CONTRACTOR SHALL SUPPLY PERFORMED BUTYL RUBBER PERFORMED FLEXIBLE GASKET IN ACCORDANCE WITH ASTM C-990. SUPPLY SUFFICIENT CROSS SECTION TO ACHIEVE AT LEAST 50% COMPRESSION OF THE GASKET IN THE COMPLETED JOINT. SUPPLY AT LEAST THREE TEST REPORTS FROM INDEPENDENT THIRD PARTY SOURCES TO SHOW COMPLIANCE WITH ASTM C-990 SECTION 6.2.1 (PHYSICAL REQUIREMENTS) AND SECTION 10.1 (PERFORMANCE REQUIREMENTS FOR JOINTS) (I.E. CON SEAL OR EZ-STICK).
- INLET/OUTLET TO FIELD MUST ALSO BE WATERTIGHT
- IF ENTERING THROUGH AN E-2 SET RISER, A BULKHEAD FITTING CAN BE USED
- IF ENTERING THROUGH THE SIDE OF THE TANK, TWO HOLES CAN BE DRILLED (ONE FOR SUPPLY LINE, ONE FOR RETURN LINE) AND SEALED WITH HYDRAULIC CEMENT
- PRESS SEAL BOOTS CAN BE CAST IN PLACE FOR THE INLET/OUTLET AND ARE THE PREFERRED METHOD OF SEALANT WHEN ENTERING THROUGH THE SIDE OF THE TANK

GEOFLOW INSTALLATION GUIDELINES

- NO GEOFLOW INSTALLATIONS DECEMBER THRU MARCH
- WHEN USING THE REMOVE/REPLACE METHOD, THE FIRST FEW INCHES OF TITLE V SAND SHOULD BE INTEGRATED WITH EXISTING SOILS
- MINIMUM OF 6" OF HAY/STRAW SHOULD BE PLACED ON THE FIELD IF INSTALLED AFTER OCTOBER 1ST
- CONTROL PANEL SHOULD BE MOUNTED IN AN ACCESSIBLE LOCATION, PREFERABLE OUTSIDE OR IN AN UNLOCKED BUILDING FOR EASE IN MAINTENANCE
- ELECTRICAL JUNCTION BOXES SHOULD BE SEALED AND USE WATERTIGHT ELECTRICAL CONNECTIONS
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GEOFLOW'S WATERTIGHT REQUIREMENTS ARE MET
- J&R WILL NOT BE HELD RESPONSIBLE FOR ISSUES CAUSED BY INFILTRATION OR ITEMS NOT SUPPLIED BY J&R
- FIELD AND MANIFOLDS MUST REMAIN EXPOSED UNTIL STARTUP IS COMPLETED



Buoyancy Check:

FAST Tank (HD TOP REQUIRED):

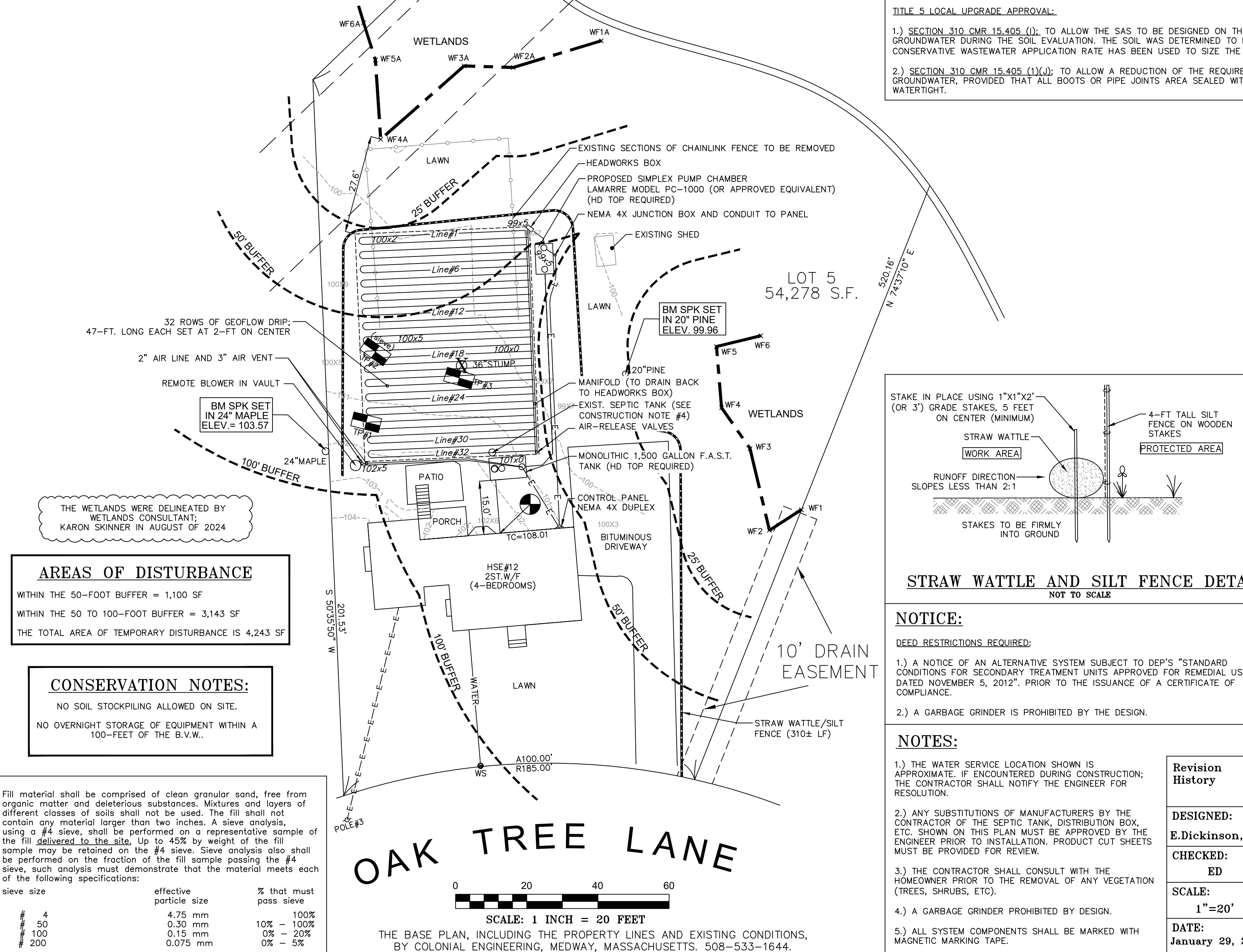
Wgt. of Tank+Soil= 13,200+(10.25x6.15)(0.8)(100)=18,243#

Wgt. of Water Displaced= (10.25x6.15)(3.7)(62.4)=14,554#

Pump Chamber (HD TOP REQUIRED):

Wgt. of Tank+Soil= 11,180+(6.6x5.0)(1.0)(100)=15,480#

Wgt. of Water Displaced= (6.6x5.0)(3.5)(62.4)=9,391#

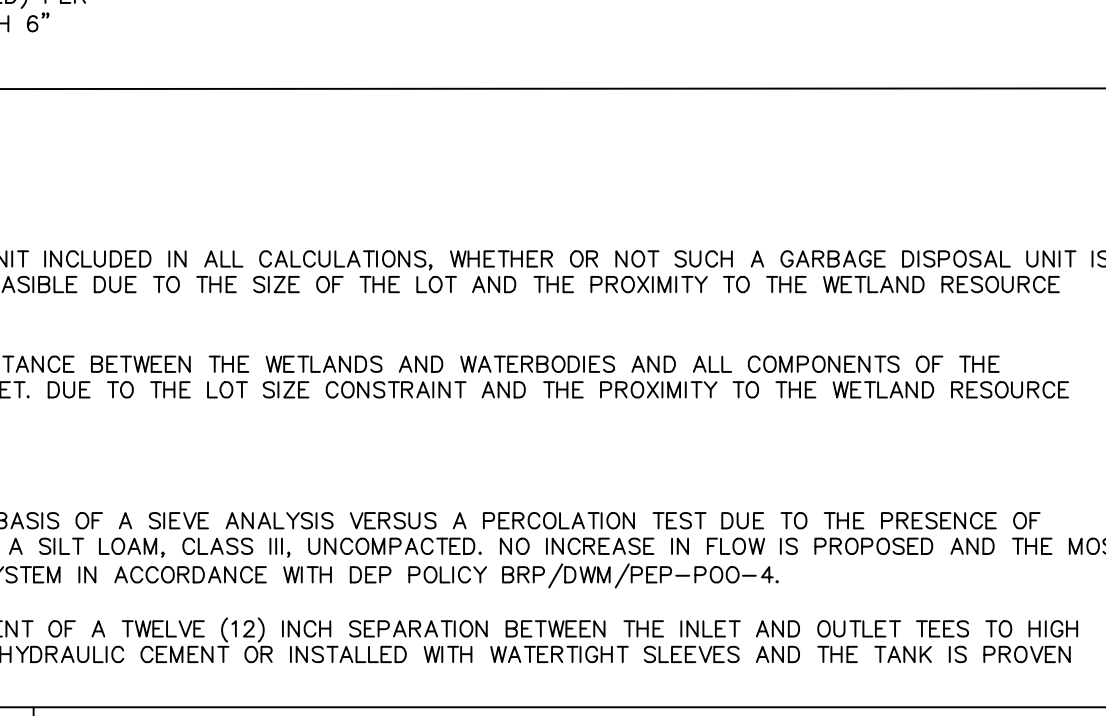


SEPTIC TANK NOTES (HD TOP REQUIRED):

- Septic Tank to be Lamarre 1500 FAST.
- Septic Tank to withstand H-20 loading.
- All pipe connections and concrete construction to be watertight. C.I.P. boots
- Inlet and Outlet tees to be SCH 40 PVC. Tees to be centered under manhole cover.

Pump Chamber Notes (HD TOP REQUIRED):

- Pump Chamber shall be steel reinforced concrete.
- Pump Chamber to withstand H-20 loading.
- All pipe connections and concrete construction to be watertight. C.I.P. boots
- Inlet and Outlet tees to be SCH 40 PVC. Tees to be centered under manhole cover.
- Recommended manufacturer-Lamarre or approved equivalent.



LEGEND

- New Meets Existing (N.M.E.)
- Limit of Excavation
- Not In Contract
- Test Pit
- Perc Hole
- Section A-A
- Spot Elevation
- Existing Contour Elevation
- Proposed Contour Elevation
- Groundwater
- Seasonal High Groundwater
- Below Grade
- Tree to be removed

DESIGN CRITERIA

DESIGN FLOW: Single-Family Residence
Existing 4-bedrooms / 8 total rooms

4 Bedrooms @ 110 GPD/Br = 440 GPD

****A GARBAGE GRINDER IS PROHIBITED****

SEPTIC TANK:
Required 440 x 3 = 1,320 Gal
Provided: 1,500 Gal
(Use a 2-Compartment, F.A.S.T. Tank)

LEACHING FACILITY:
Design Perc Rate 60 Min./Inch
Soil Class III
Loading Rate 0.15 Gal/Day/SF
Assume: Geoflow Drip @ 2 SF/LF

REQUIRED:
440 GPD
0.15 GPD/SF = 2,934 SF

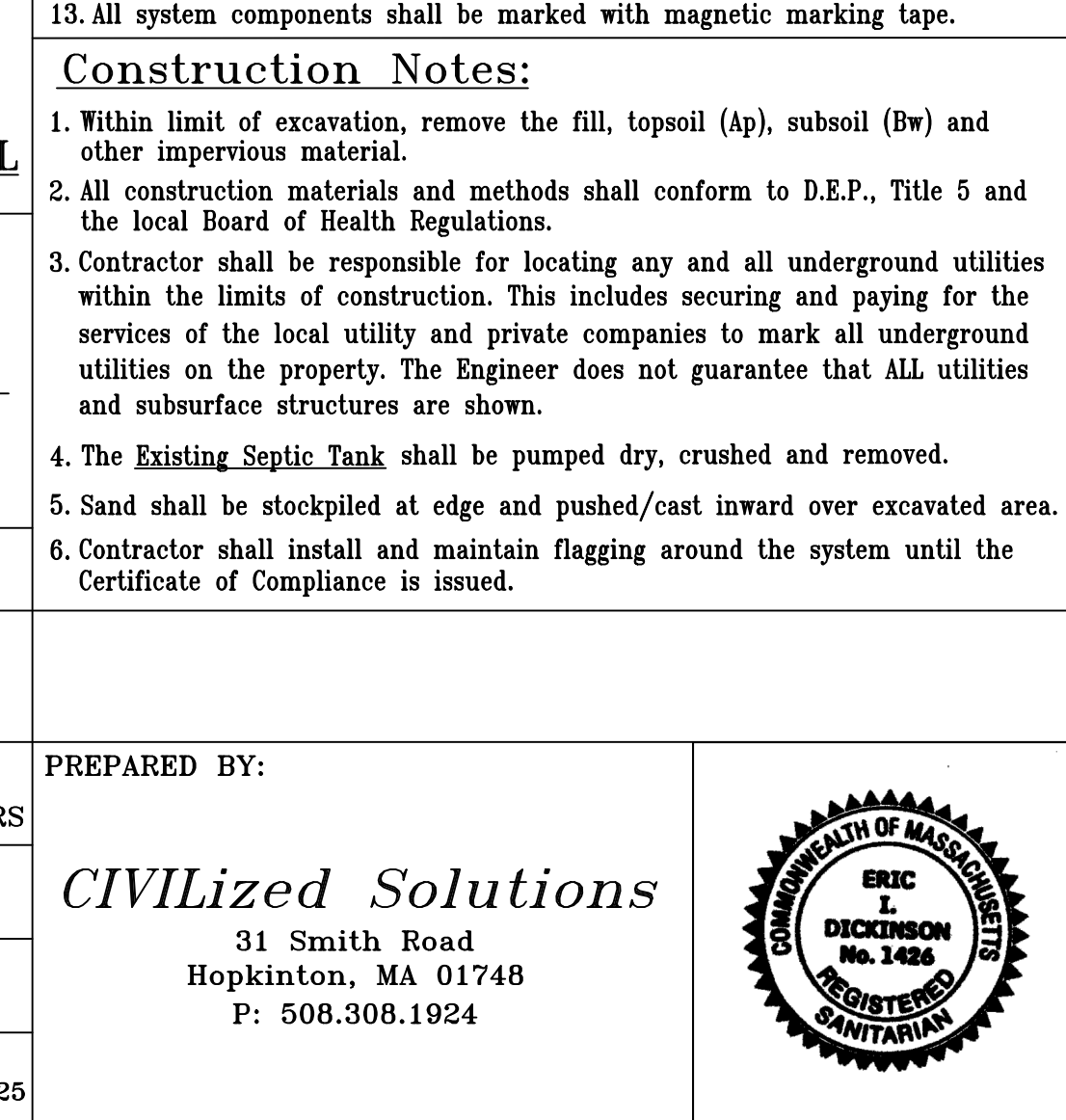
PROVIDED: 32 ROWS/47 FEET LONG EACH
32 x 47.0' x 2.0' = 3,008 SF (451.2 GPD)(OK)

SAND BED DIMENSIONS:
49.0' LONG x 64.0' WIDE = 3,136 SF

SCHEDULE OF INVERT ELEVATIONS:

4" F.A.S.T. Tank (IN)	100.3±
4" F.A.S.T. Tank (OUT)	99.3
4" Pump Chamber (IN)	97.5
1-1/4" Pump Chamber (OUT)	97.7
5/8" Leaching Pipe (IN)	101.0
5/8" Leaching Pipe (OUT)	99.0
Elev. at Bottom of Excavation	60" B.G.
Observed Groundwater Elev.	48" B.G.
High Groundwater Elev.	36" B.G.
Determination Method	Soil Morphology
B.O.H. Correction Factor	See Frimpter Note

Frimpter Note:
THE AGENT AND THE SOIL EVALUATOR AGREED THAT THE OBSERVED REDOXIMORPHIC FEATURES OBSERVED IN ALL THREE PITS IS THE ELEVATION OF SEASONAL HIGH GROUNDWATER. THEREFORE, A FRIMPTER ADJUSTMENT IS NOT REQUIRED.



AREAS OF DISTURBANCE

WITHIN THE 50-FOOT BUFFER = 1,100 SF

WITHIN THE 50 TO 100-FOOT BUFFER = 3,143 SF

THE TOTAL AREA OF TEMPORARY DISTURBANCE IS 4,243 SF

CONSERVATION NOTES:

NO SOIL STOCKPILING ALLOWED ON SITE.

NO OVERNIGHT STORAGE OF EQUIPMENT WITHIN A 100-FOOT OF THE B.V.W.

Fill material shall be comprised of clean granular sand, free from organic matter and deleterious substances. Mixtures and layers of different classes of soils shall not be used. The fill shall not contain any material larger than two inches. A sieve analysis, using a #4 sieve, shall be performed on a representative sample of the fill delivered to the site. Up to 45% by weight of the fill sample may be retained on the #4 sieve. Sieve analysis also shall be performed on the fraction of the fill sample passing the #4 sieve, such analysis must demonstrate that the material meets each of the following specifications:

sieve size	effective particle size	% that must pass sieve
# 4	4.75 mm	100%
# 50	0.30 mm	10% - 100%
# 100	0.15 mm	0% - 20%
# 200	0.075 mm	0% - 5%

OAK TREE LANE

SCALE: 1 INCH = 20 FEET

THE BASE PLAN, INCLUDING THE PROPERTY LINES AND EXISTING CONDITIONS, BY COLONIAL ENGINEERING, MEDWAY, MASSACHUSETTS. 508-533-1644.