

SOIL TEST PIT & PERCOLATION TEST DATA

Perc. Test Observed Groundwater

Test Date: **December 13, 2022 @ 9:00 am**
 Weather: **24°-Clear/Sunny**
 Testing: **Eric Dickinson, RS - CIVILized Solutions**
 Witness: **Raj Gupta, RS - Ashland BOH Director**

Test Pit #1		Test Pit #2	
EL. 97.1	Fill Loam, Sand, Misc.	EL. 96.8	Fill Loam, Sand, Misc.
18"(95.6)	REMOVE	12"(95.8)	REMOVE
24"(95.1)	Ap Sandy Loam 10YR3/2	18"(95.3)	Ap Sandy Loam 10YR3/3
32"(94.4)	Bw Sandy Loam 10YR4/6 Wavy layer	36"(93.8)	Bw Sandy Loam 10YR4/6 Wavy layer
72"(91.1)	C Sandy Loam 5Y5/3 Roots to 60", 10% cobbles, 5% gravel, no water observed Redox @ 72" 10YR5/8		C Sandy Loam 5Y5/3 Roots to 60", 10% cobbles, 10% gravel, no water observed
108"(88.1)	Cr		
120"(77.5)	Boulder/Refusal	120"(86.8)	

Class II
SCS Class Sandy Loam

Test Pit #3	
EL. 96.8	Fill Loam, Sand, Misc.
24"(94.8)	REMOVE
30"(94.3)	Ap Sandy Loam 10YR3/3
36"(93.8)	Bw Sandy Loam 10YR4/6 Wavy layer
72"(91.1)	C Sandy Loam 5Y5/3 Few boulders, no water observed Redox @ 72" 10YR5/8 (Paint)
120"(86.8)	

PERCOLATION TEST DATA

Hole	P-1 (TP#1 Bw-Layer)	P-2 (TP#3 C-Layer)
Depth (in.)	28"-46"	40"-58"
Presoak	10:43 am	10:23 am
Time @ 12"	10:58 am	10:38 am
9"	11:11 am	10:49 am
6"	11:28 am	11:04 m
Time (9-6")	17 min.	15 min.
Rate (Min/")	6 mpi	5 mpi

I CERTIFY THAT I AM A LICENSED SOIL EVALUATOR (SEE #13621), HAVING PASSED THE TRAINING AND TESTING REQUIREMENTS IN APRIL 2013.
 ERIC I. DICKINSON DATE:

General Notes:

- This plan is for the construction of the sewage disposal facility ONLY.
- All pipes shall be SCH 40 PVC or equivalent, unless otherwise noted.
- Contractor shall call for inspections and approvals from the Board of Health and the Engineer after:
 - excavation
 - installation of system components
 - backfilling and final grading
- Engineer shall certify installation and final grades on "As-built" plan. Contractor shall certify that installation conforms to approved As-built plan.
- Prior to final backfill inspection, the contractor shall submit to B.O.H. a sketch with dimensions to system components from building corners and depth to access covers.
- Contractor shall keep vehicles and materials off of the S.A.S. at all times.
- No industrial wastes or categories are applicable.
- Fill shall not be placed during rain or snow.
- Excavation to be dry and scarified. Dewatering is required if fill is to be placed below groundwater.
- No existing or proposed wells are within 200' of S.A.S., except as shown.
- There are no known public wells or surface water supplies within 400 feet; private wells within 200 feet; inland banks or wetlands within 150 feet; no surface or subsurface drains of any kind except as shown; and no foundation drains. The work area is within the regulatory floodway and the 100-year floodplain.
- Area is not Nitrogen Sensitive.
- All system components shall be marked with magnetic marking tape.

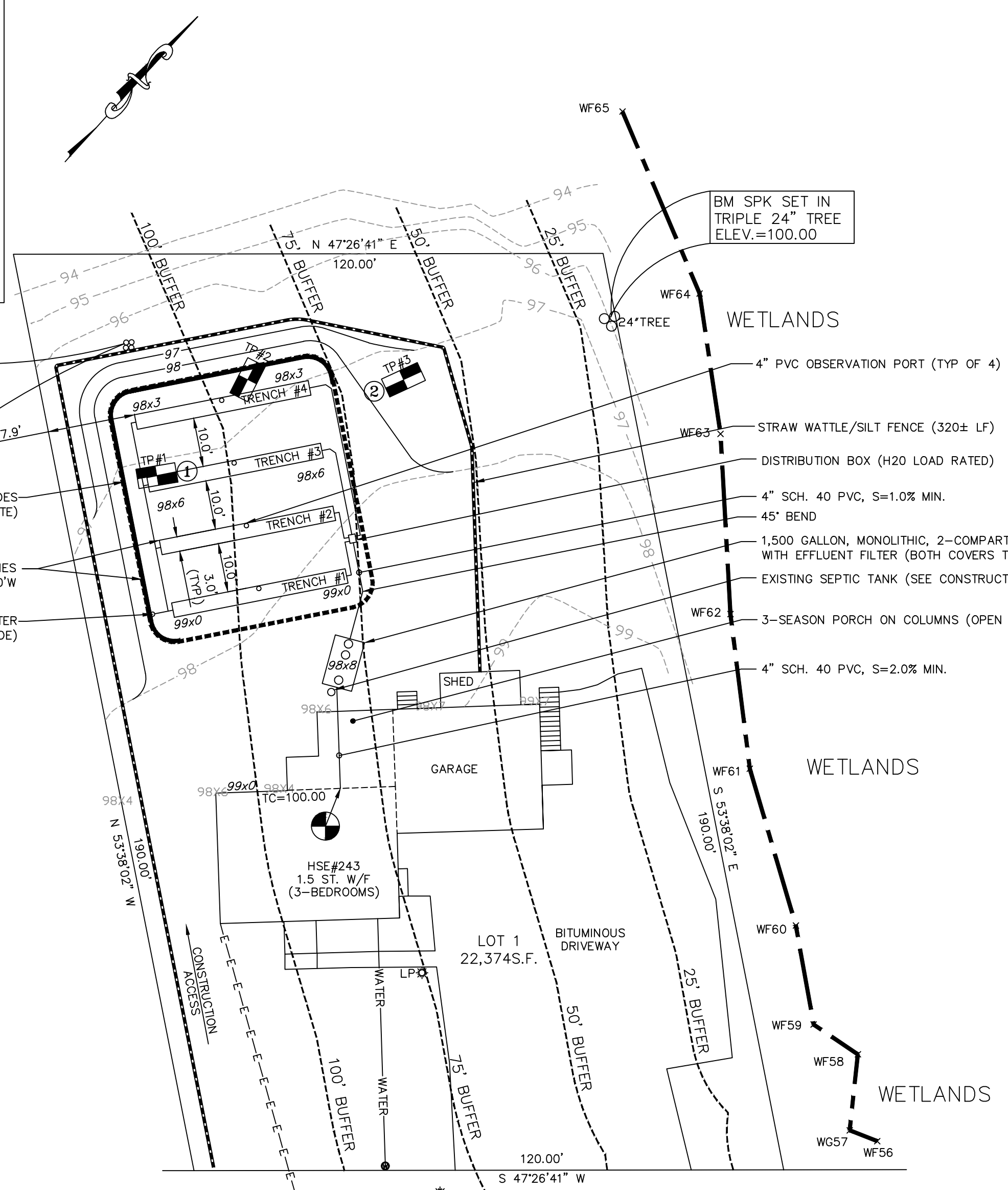
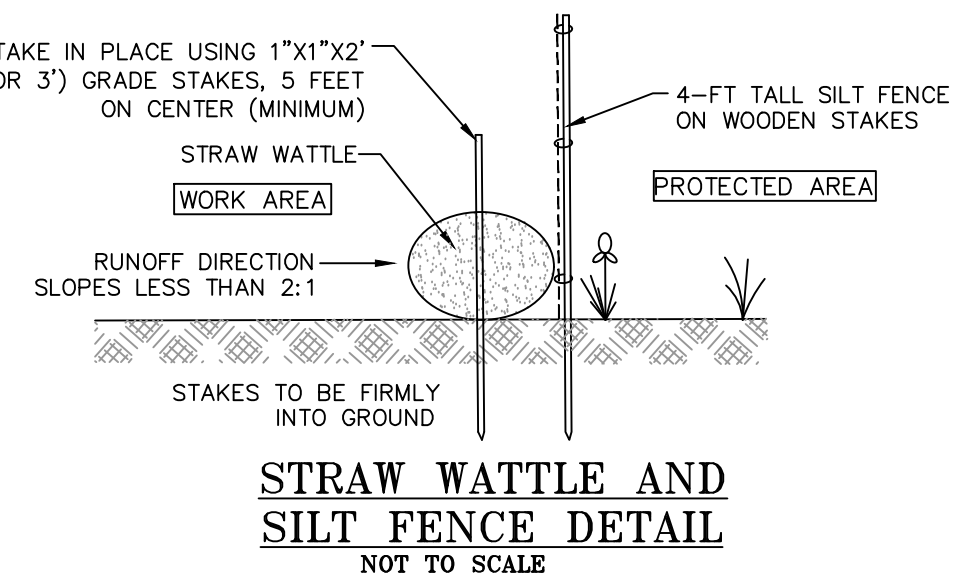
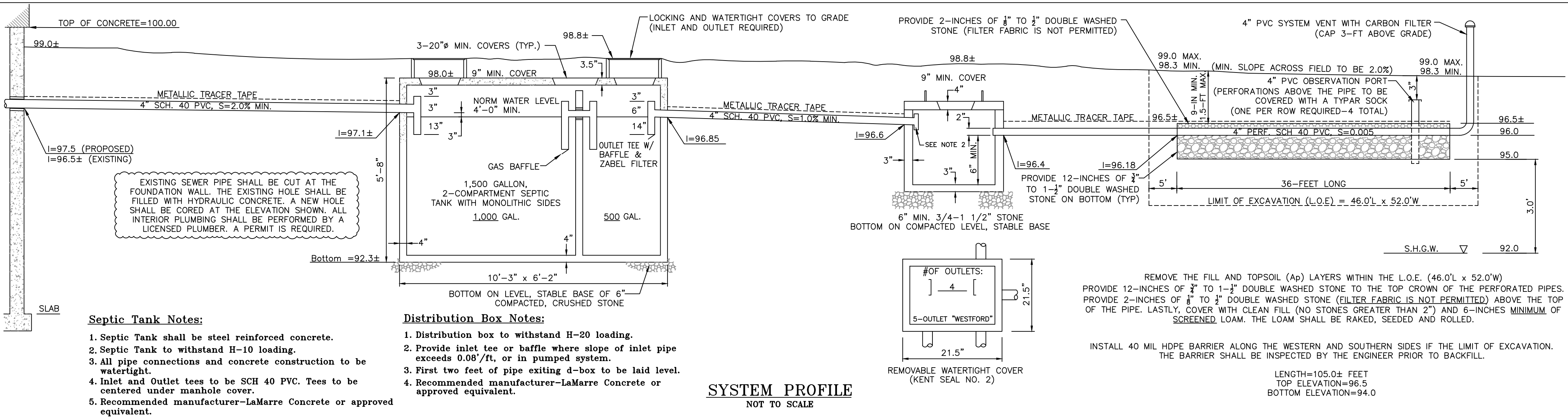
Construction Notes:

- Within limit of excavation, remove all fill, (Ap) topsoil and other impervious material.
- All construction materials and methods shall conform to D.E.P., Title 5 and the local Board of Health Regulations.
- Contractor shall be responsible for locating any and all underground utilities within the limits of construction. This includes securing and paying for the services of the local utility and private companies to mark all underground utilities on the property. The Engineer does not guarantee that ALL utilities and subsurface structures are shown.
- The Existing Septic Tank shall be abandoned by pumping dry, crushing in and filling the hole with sand.
- Sand shall be stockpiled at edge and pushed/cast inward over excavated area.
- Contractor shall install and maintain flagging around the system until the Certificate of Compliance is issued.

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%

- Notes:**
- THE WATER SERVICE LOCATION SHOWN IS APPROXIMATE. IF ENCOUNTERED DURING CONSTRUCTION; THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR RESOLUTION.
 - ANY SUBSTITUTIONS OF MANUFACTURERS BY THE CONTRACTOR OF THE SEPTIC TANK, DISTRIBUTION BOX, ETC. SHOWN ON THIS PLAN MUST BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. PRODUCT CUT SHEETS MUST BE PROVIDED FOR REVIEW.
 - THE CONTRACTOR SHALL CONSULT WITH THE HOMEOWNER PRIOR TO THE REMOVAL OF ANY VEGETATION (TREES, SHRUBS, ETC).
 - A GARBAGE GRINDER PERMITTED BY DESIGN BUT NOT SUGGESTED.
 - ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE.
 - 4-INCH ZABEL OR APPROVED EQUAL EFFLUENT FILTER REQUIRED.



VARIANCES & RESTRICTIONS:

A.) TITLE V LOCAL UPGRADE APPROVAL:

- SECTION 310 CMR 15.405 (1)(d)(2). TO ALLOW A REDUCTION FROM 4- FEET TO 3- FEET SEPARATION FOR SOILS WITH PERCOLATION RATES GREATER THAN 2- MINUTES PER INCH BETWEEN THE BOTTOM OF THE SOIL ABSORPTION SYSTEM AND THE SEASONAL HIGH GROUNDWATER ELEVATION, THE REDUCTION ELIMINATES THE NEED FOR A COSTLY PUMP CHAMBER, AND RETAINING WALLS.

B.) MA DEP VARIANCES - NONE

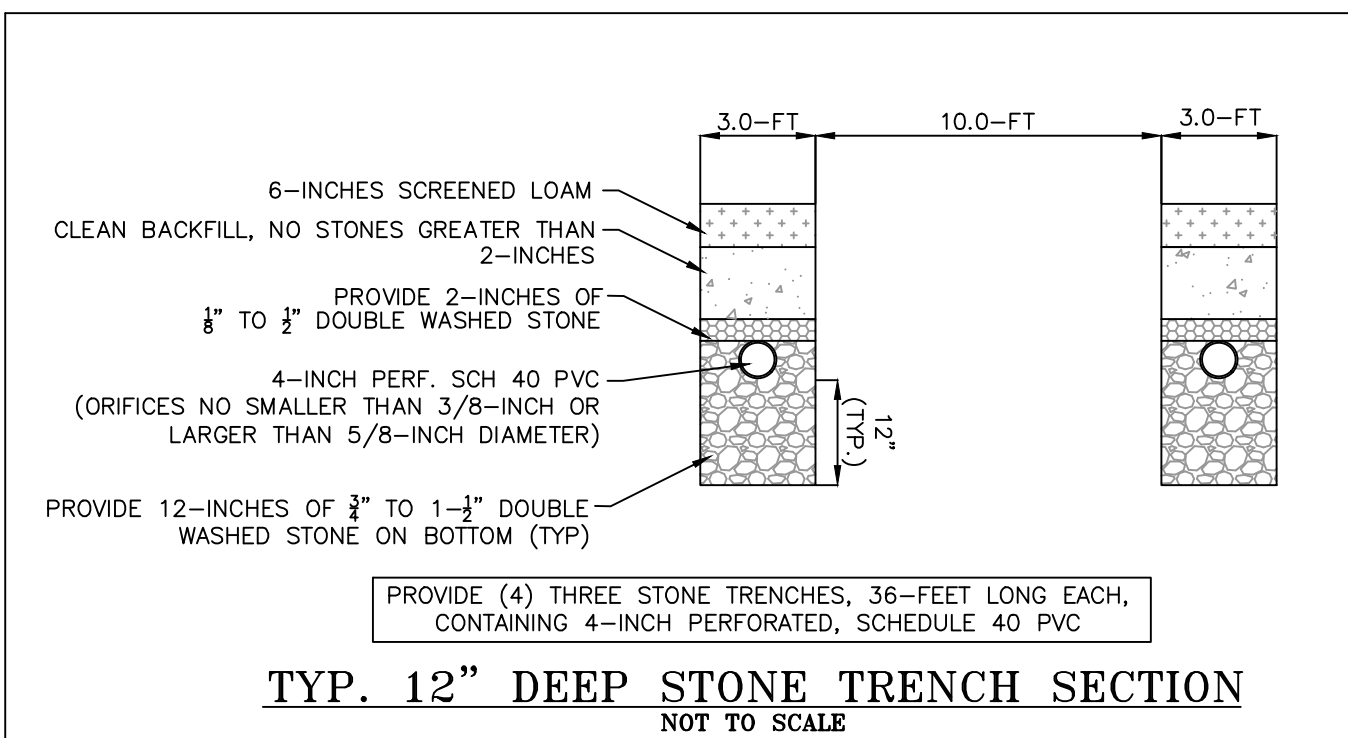
1.) A GARBAGE GRINDER IS PERMITTED BY THE DESIGN BUT NOT SUGGESTED.

AREAS OF DISTURBANCE

WITHIN THE 50-FOOT BUFFER = 0 SF
 WITHIN THE 50 TO 100-FOOT BUFFER = 2,776 SF
 THE TOTAL AREA OF TEMPORARY DISTURBANCE IS 2,776 SF

CONSERVATION NOTES:

NO SOIL STOCKPILING ALLOWED ON SITE.
 NO OVERNIGHT STORAGE OF EQUIPMENT WITHIN A 100- FEET OF THE B.V.V..



REVISION HISTORY

NO.	DATE	DESCRIPTION
1	DEC 22, 2022	ISSUED FOR PERMITS

DESIGNED: **E. Dickinson, RS**
 CHECKED: **EID**
 SCALE: **1"=20'**
 DATE: **Dec. 22, 2022**

PREPARED BY: **CIVILized Solutions**
 1102 Highland Street
 Holliston, MA 01746
 P: 508.308.1924



- LEGEND**
- New Meets Existing (N.M.E.)
 - L.O.E. Limit of Excavation
 - N.I.C. 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 **3-bedrooms/6 total rooms**
3 Bedrooms @ 110 GPD/Br = 330 GPD

****GARBAGE GRINDER IS PERMITTED****

SEPTIC TANK:
 Required **330 x 3 = 990 Gal**
 Provided: **1,500 Gal**
 (Use a 2-Compartment Monolithic Tank)

LEACHING FACILITY:
 Design Perc Rate **6 Min./Inch**
 Soil Class **II**
 Loading Rate **0.70 Gal/Day/SF**
 Assume: **4-1.0'H x 3'W trenches, 36.0' long**

REQUIRED:
330 GPD
0.70 GPD/SF = 471.4 SF
472 SF X 150% = 708 SF (495.6 GPD)
PROVIDED LEACHING/RESERVE AREA:
4 x 36' x [(1.0')+(1.0')+(3.0')] = 720 SF
720 SF x 0.70 GPD/SF = 504 GPD (OK)

SCHEDULE OF INVERT ELEVATIONS:

4" @ (Proposed)	97.5+
4" @ Septic Tank (IN)	97.1
4" @ Septic Tank (OUT)	96.85
4" @ Distribution Box (IN)	96.6
4" @ Distribution Box (OUT)	96.4
4" @ Beg. Leaching Pipe	96.18
4" @ End Leaching Pipe	96.0
Elev. at Bottom of Stone	95.0
Elev. at Bottom of Excavation	24" B.G.
Observed Groundwater Elev.	None
High Groundwater Elev.	72" B.G.
Determination Method	Soil Morphology
B.O.H. Correction Factor	See Frimpter Note

SEPTIC SYSTEM CONSTRUCTION

243 OLIVE STREET, ASHLAND

OWNER(S): **Dawna Bosworth**
 243 Olive Street
 Ashland, MA 01721
 Ph: 508-688-4310

ASSESSOR'S:
 MAP **27.0**
 BLOCK **70.0**

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.

