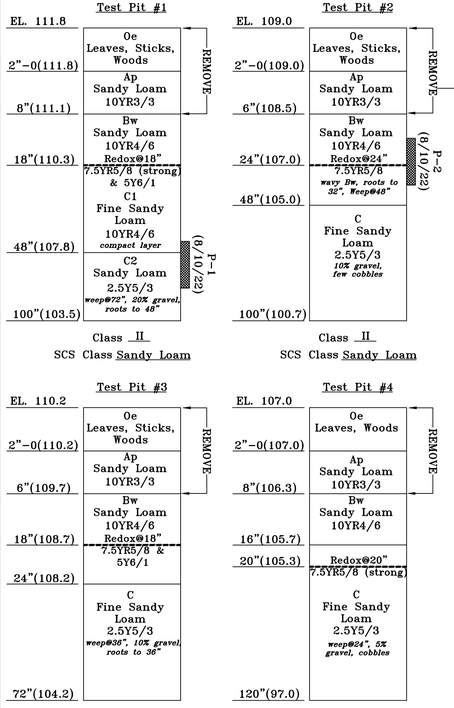
SOIL TEST PIT DATA

Perc. Test Observed Groundwater

Test Date: December 13, 2021 @ 9:10 am
Weather: 33°-Sunny/Clear
Test Pits: TP#1, TP#2, TP#3
Testing: Eric Dickinson, RS - CIVILized Solutions
Witness: Tom Ryder, PE - Ashland BOH Agent
Rajit Gupta, RS - Ashland Director of Public Health

Test Date: October 19, 2022 @ 12:20 pm
Weather: 52°-Sunny/Clear
Test Pit: TP#4
Testing: Eric Dickinson, RS - CIVILized Solutions
Witness: Rajit Gupta, RS - Ashland Director of Public Health



PERCOLATION TEST DATA

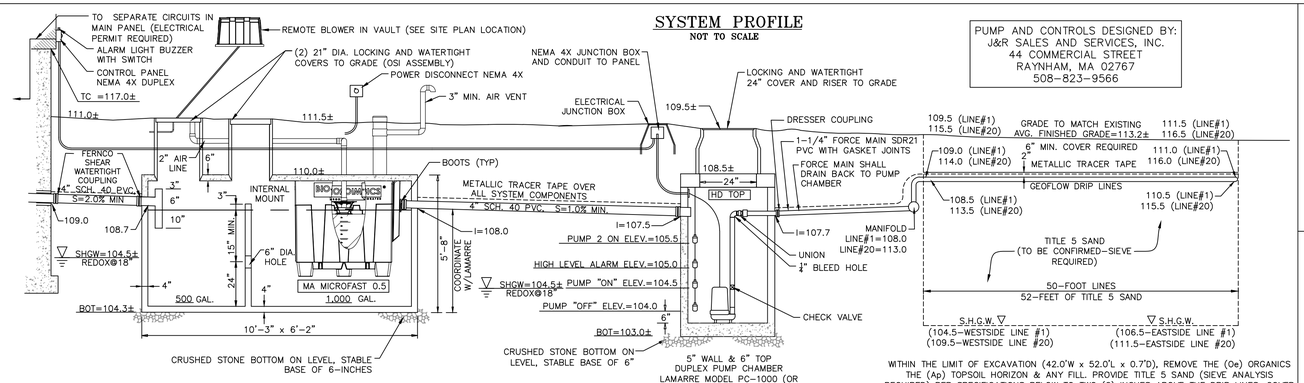
Percolation testing could not be performed during the original test date of December 13, 2021 due to groundwater intrusion. Percolation testing was performed on August 10, 2022.

Test Date: August 10, 2022 @ 8:30 am
Weather: 70°-Cloudy/Overcast
Test Pit: TP#1 & TP#2
Testing: Eric Dickinson, RS - CIVILized Solutions
Witness: Rajit Gupta, RS - Ashland Director of Public Health

PERCOLATION TEST DATA		
Hole	P-1 (TP#1 (C2-Layer))	P-2 (TP#1 (Bw-Layer))
Depth (in.)	40"-58"	18"-36"
Presoak	9:43 am	9:46 am
Time @ 12"	9:59 am	10:04 am
9"	10:35 am	10:34 am
6"	12:24 pm	11:02 am
Time (9-6")	109 min.	28 min.
Rate (Min/")	40 mpi	10 mpi

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

ERIC I. DICKINSON DATE:



PUMP AND CONTROLS DESIGNED BY:
J&R SALES AND SERVICES, INC.
44 COMMERCIAL STREET
RAYNHAM, MA 02767
508-823-9566

Septic Tank Notes (HD Top):

1. Septic Tank to be LaMarre 1500 FAST with HD top.
2. Septic Tank to withstand H-20 loading.
3. All pipe connections and concrete construction to be watertight. C.I.P. boots
4. Inlet and Outlet tees to be SCH 40 PVC. Tees to be centered under manhole cover.

Pump Chamber Notes (HD Top):

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

Buoyancy Check (HD Tops required on both):

Septic Tank (HD TOP Required):
Wgt. of Tank+Soil= 12,000+(10.25x6.15)(1.5)(100)=21,456#
Wgt. of Water Displaced= (10.25x6.15)(0.2)(62.4)=787# OK

Pump Chamber (HD TOP Required):
Wgt. of Tank+Soil= 11,000+(8.6x5.0)(1.0)(100)=15,300#
Wgt. of Water Displaced= (8.6x5.0)(1.5)(62.4)=4,025# OK

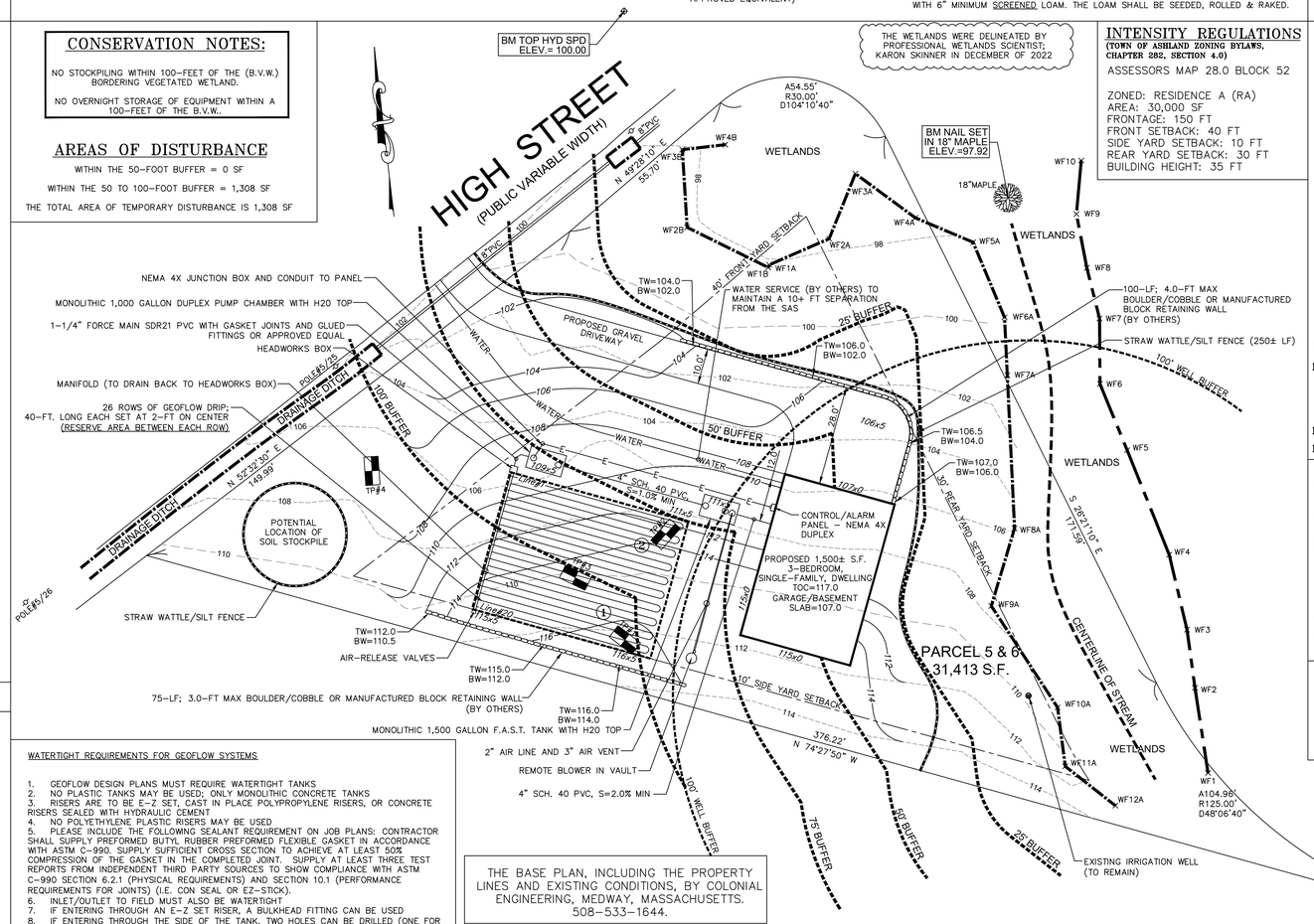
CONSERVATION NOTES:

NO STOCKPILING WITHIN 100-FEET OF THE (B.V.W.) BORDERING VEGETATED WETLAND.

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

AREAS OF DISTURBANCE

WITHIN THE 50-FOOT BUFFER = 0 SF
WITHIN THE 50 TO 100-FOOT BUFFER = 1,308 SF
THE TOTAL AREA OF TEMPORARY DISTURBANCE IS 1,308 SF



INTENSITY REGULATIONS
(TOWN OF ASHLAND ZONING BYLAWS, CHAPTER 282, SECTION 4.0)

ASSESSORS MAP 28.0 BLOCK 52

ZONED: RESIDENCE A (RA)
AREA: 30,000 SF
FRONTAGE: 150 FT
FRONT SETBACK: 40 FT
SIDE YARD SETBACK: 10 FT
REAR YARD SETBACK: 30 FT
BUILDING HEIGHT: 35 FT

General Notes:

1. This plan is for the construction of the sewage disposal facility ONLY.
2. All pipes shall be SCH 40 PVC or equivalent, unless otherwise noted.
3. Contractor shall call for inspections and approvals from the Board of Health and the Engineer after:
   a.) excavation
   b.) installation of system components
   c.) backfilling and final grading
4. Engineer shall certify installation and final grades on "As-built" plan. Contractor shall certify that installation conforms to approved As-built plan.
5. 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.
6. Contractor shall keep vehicles and materials off of the S.A.S. at all times.
7. No industrial wastes or categories are applicable.
8. Fill shall not be placed during rain or snow.
9. Excavation to be dry and scarified. Dewatering is required if fill is to be placed below groundwater.
10. No existing or proposed wells are within 200' of S.A.S., except as shown.
11. 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.
12. Area is Nitrogen Sensitive.
13. All system components shall be marked with magnetic marking tape.

Construction Notes:

1. Within limit of excavation remove the (Oe) Organics, (Ap) topsoil, and other impervious material.
2. All construction materials and methods shall conform to D.E.P., Title 5 and the local Board of Health Regulations.
3. 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.
4. Sand shall be stockpiled at edge and pushed/cast inward over excavated area.
5. Contractor shall install and maintain flagging around the system until the Certificate of Compliance is issued.

DEED RESTRICTION

DEED RECORDING - THE PROPOSED SYSTEM HAS BEEN SIZED TO ACCOMODATE A GARBAGE GRINDER. HOWEVER, IT HAS BEEN SUGGESTED THAT THE USE OF GARBAGE GRINDER CAN HARM THE SYSTEM. THEREFORE, A DEED RESTRICTION PROHIBITING THE USE OF A GARBAGE GRINDER IS REQUIRED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF COMPLIANCE.

NOTE: THE AGENT AND THE SOIL EVALUATOR AGREED THAT THE OBSERVED REDOXIMORPHIC FEATURES BELOW GRADE WERE A CONSERVATIVE INDICATOR OF SEASONAL HIGH GROUNDWATER. THERFORE, A FRIMPTER ADJUSTMENT IS NOT REQUIRED.

0 20 40 60
SCALE: 1 INCH = 20 FEET

WATERTIGHT REQUIREMENTS FOR GEOFLOW SYSTEMS

1. GEOFLOW DESIGN PLANS MUST REQUIRE WATERTIGHT TANKS
2. NO PLASTIC TANKS MAY BE USED; ONLY MONOLITHIC CONCRETE TANKS
3. RISERS ARE TO BE E-Z SET, CAST IN PLACE POLYPROPYLENE RISERS, OR CONCRETE RISERS SEALED WITH HYDRAULIC CEMENT
4. NO POLYETHYLENE PLASTIC RISERS MAY BE USED
5. PLEASE INCLUDE THE FOLLOWING SEALANT REQUIREMENT ON JOB PLANS: CONTRACTOR SHALL SUPPLY PREFORMED BUTYL RUBBER PREFORMED 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).
6. INLET/OUTLET TO FIELD MUST ALSO BE WATERTIGHT
7. IF ENTERING THROUGH AN E-Z SET RISER, A BULKHEAD FITTING CAN BE USED
8. 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
9. 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

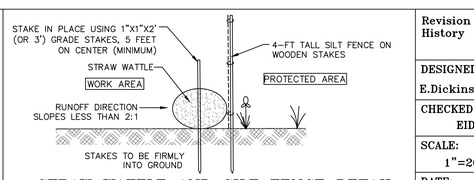
GEOFLOW INSTALLATION GUIDELINES

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

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

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:

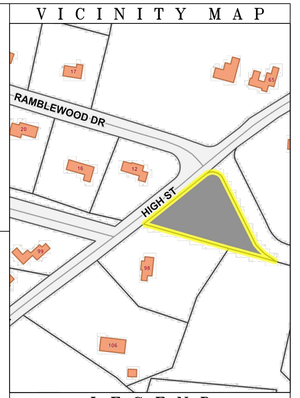
sieve size	effective particle size	% that must pass sieve
# 4	4.75 mm	100%
# 50	0.30 mm	10% - 100%
# 100	0.15 mm	0% - 20%
# 200	0.075 mm	0% - 5%



STRAW WATTLE AND SILT FENCE DETAIL
NOT TO SCALE

Revision History	
	December 16, 2022 - Conservation Agent comments
DESIGNED:	PREPARED BY:
E.Dickinson, RS	CIVILized Solutions
CHECKED: EID	1102 Highland Street
SCALE: 1"=20'	Holliston, MA 01746
DATE: Nov. 11, 2022	P: 508.429.7192

VICINITY MAP



LEGEND

- New Meets Existing (N.M.E.)
- L.O.E. Limit of Excavation
- N.I.C. Not In Contract
- Test Pit
- (2) Perc Hole
- A A Section A-A
- 99x1 Spot Elevation
- -- 99 -- Existing Contour Elevation
- ---100--- Proposed Contour Elevation
- Groundwater
- S.H.GW Seasonal High Groundwater
- BG Below Grade
- X Tree to be removed

DESIGN CRITERIA

DESIGN FLOW: Single-Family Residence
Proposed 3-bedrooms
3 Bedrooms @ 110 GPD/Br = 330 GPD
**GARBAGE GRINDER IS NOT PERMITTED

SEPTIC TANK:
Required 330 x 3 = 990 Gal
Provided: 1,500 Gal
(Use a 2-Compartment, F.A.S.T. Tank)

LEACHING FACILITY:
Design Perc Rate 40 Min./Inch
Soil Class III
Loading Rate 0.25 Gal/Day/SF
Assume: Geoflow Drip @ 2 SF/LF

REQUIRED:
330 GPD / 0.25 GPD/SF = 1,320 SF
(includes 50% increase for garbage grinder)
1,320 SF X 150% = 1,980 SF (495 GPD)

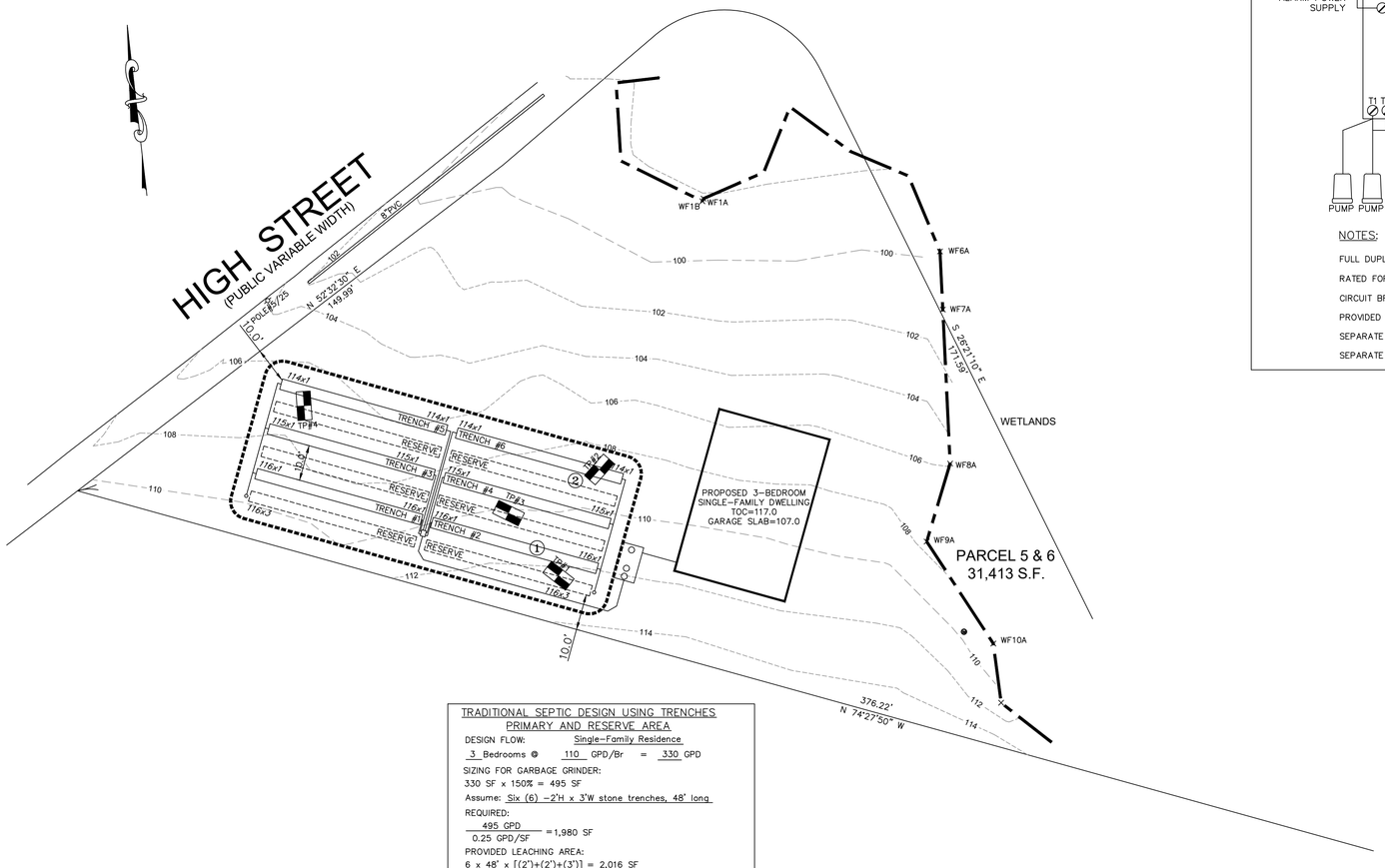
PROVIDED: 26 ROWS/40 FEET LONG EACH 26 x 40.0' x 2'=2,040 SF (510 GPD) OK

SCHEDULE OF INVERT ELEVATIONS:

4"@ Foundation (Proposed)	109.0
4"@ F.A.S.T. Tank (IN)	108.7
4"@ F.A.S.T. Tank (OUT)	108.0
4"@ Pump Chamber (IN)	107.5
1-1/4"@ Pump Chamber (OUT)	107.7
5/8"@ Leaching Pipe (IN)	108.5
5/8"@ Leaching Pipe (OUT)	110.5
Elev. at Bottom of Excavation	8" B.G.
Observed Groundwater Elev.	36" B.G.
High Groundwater Elev.	18" B.G.
Determination Method	Soil Morphology
B.O.H. Correction Factor	See Note

SEPTIC SYSTEM CONSTRUCTION
Lot 0 High Street
Ashland, Massachusetts

OWNER(S):	ASSESSOR'S:
Charna Daly	MAP 13.0
54 High Street	BLOCK 160.0
Ashland, MA 01721	SHEET 1 OF 2



TRADITIONAL SEPTIC DESIGN USING TRENCHES
PRIMARY AND RESERVE AREA

DESIGN FLOW: Single-Family Residence

3 Bedrooms @ 110 GPD/Br = 330 GPD

SIZING FOR GARBAGE GRINDER:

330 SF x 150% = 495 SF

Assume: Six (6) –2'H x 3'W stone trenches, 48' long

REQUIRED:

$\frac{495\ GPD}{0.25\ GPD/SF}$ = 1,980 SF

PROVIDED LEACHING AREA:

6 x 48' x [(2')+(2')+(3')] = 2,016 SF

RESERVE LEACHING AREA:

6 x 48' x [(2')+(2')+(3')] = 2,016 SF

GENERAL NOTES

1.) THE WATER SERVICE LOCATION SHOWN IS APPROXIMATE. IF ENCOUNTERED DURING CONSTRUCTION; THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR RESOLUTION.

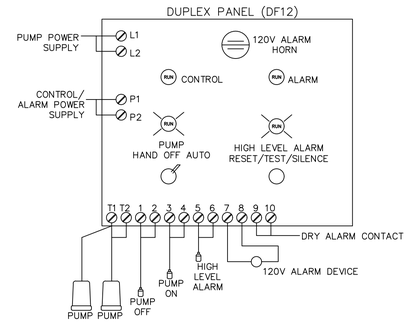
2.) ANY SUBSTITUTIONS OF MANUFACTURERS BY THE CONTRACTOR OF THE SEPTIC TANK, PUMP CHAMBER, ETC. SHOWN ON THIS PLAN MUST BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. PRODUCT CUT SHEETS MUST BE PROVIDED FOR REVIEW.

3.) THE CONTRACTOR SHALL CONSULT WITH THE HOMEOWNER PRIOR TO THE REMOVAL OF ANY VEGETATION (TREES, SHRUBS, ETC).

4.) A GARBAGE GRINDER NOT PERMITTED BY DESIGN.

5.) ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE.

DUPLEX PANEL (DF12)



NOTES:

FULL DUPLEX PANEL SUPPLIED IN A NEMA4X ENCLOSURE.

RATED FOR 1PH 115 / 230 (MAX 0.25 HP)

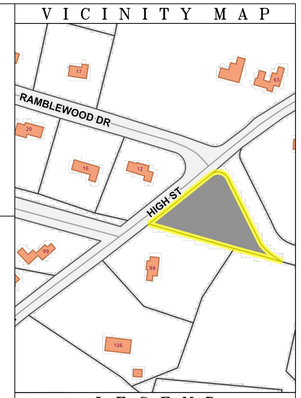
CIRCUIT BREAKER PROVIDED FOR PUMP DISCONNECT.

PROVIDED WITH MANUAL PUMP CONTROL & PUMP RUN INDICATORS.

SEPARATE FUSES FOR ALARM AND CONTROL CIRCUITS.

SEPARATE CIRCUITS FOR ALARM & PUMPS.

VICINITY MAP



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DESIGNED: E.Dickinson, RS	PREPARED BY:
CHECKED: EID	*CIVILized Solutions* 1102 Highland Street Holliston, MA 01746 P: 508.429.7192
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Lot 0 High Street
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OWNER(S):
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ASSESSOR'S:
MAP 13.0
BLOCK 160.0

SHEET 2 OF 2