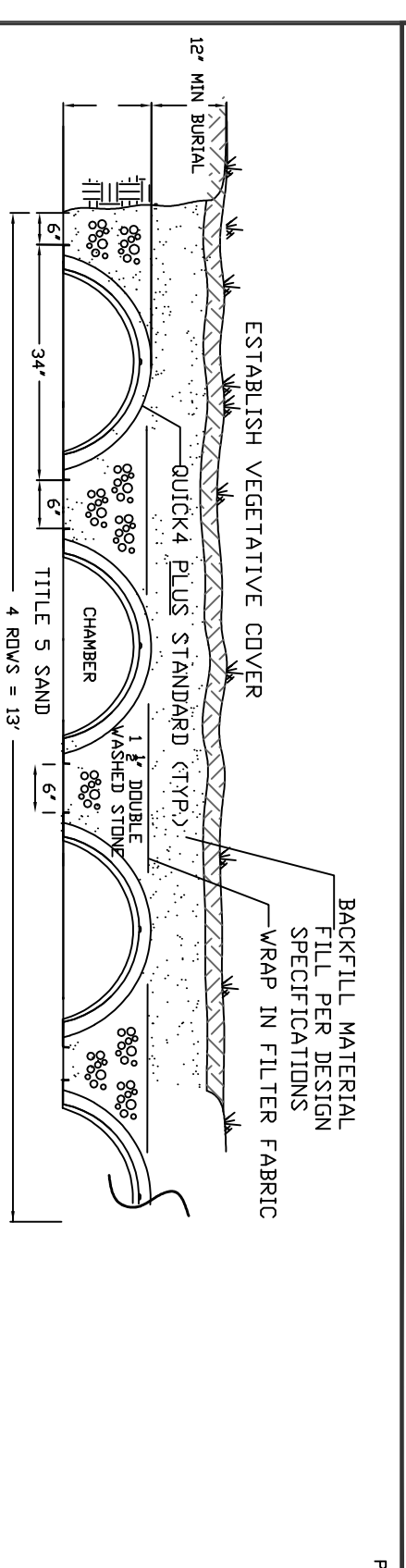
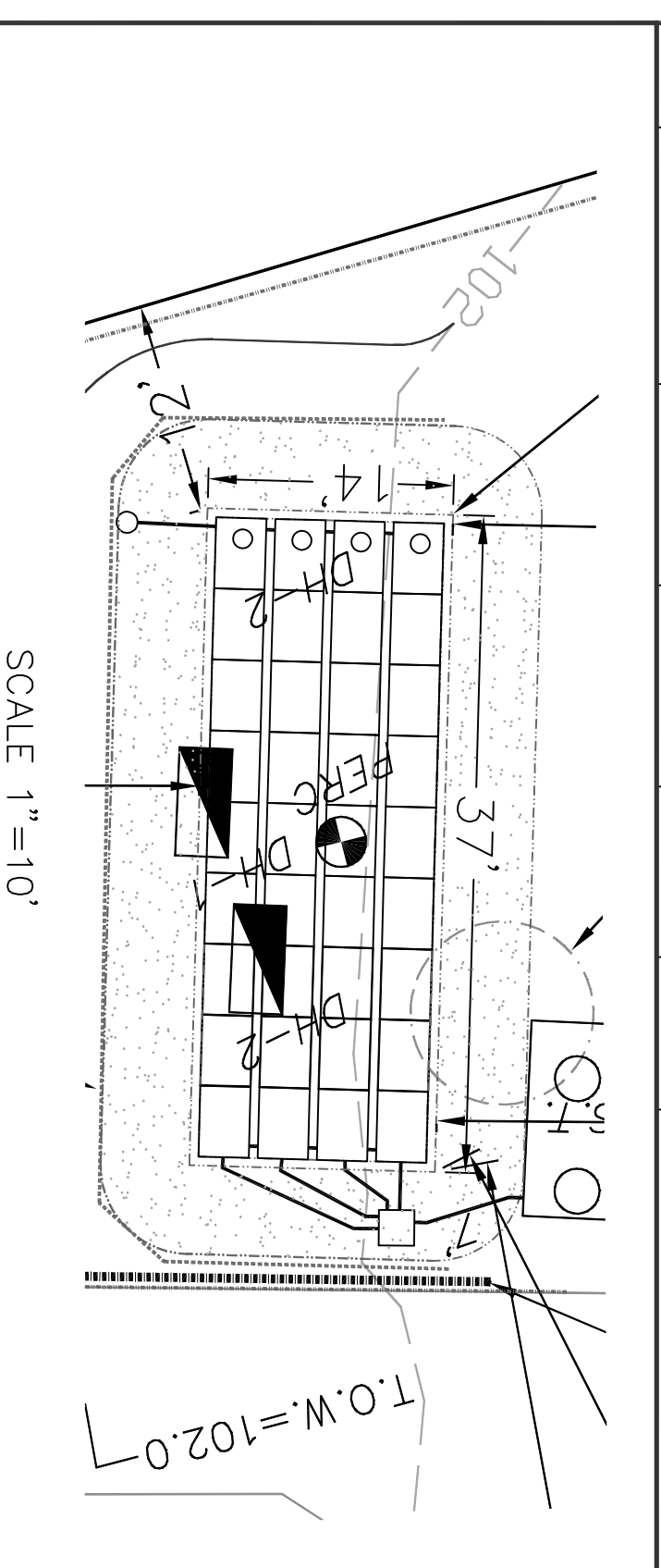


NO.	DATE	DEPTH	RATE	1 STAR
P-1	6/22/2020	56"	20 MIN/WIN	0.53

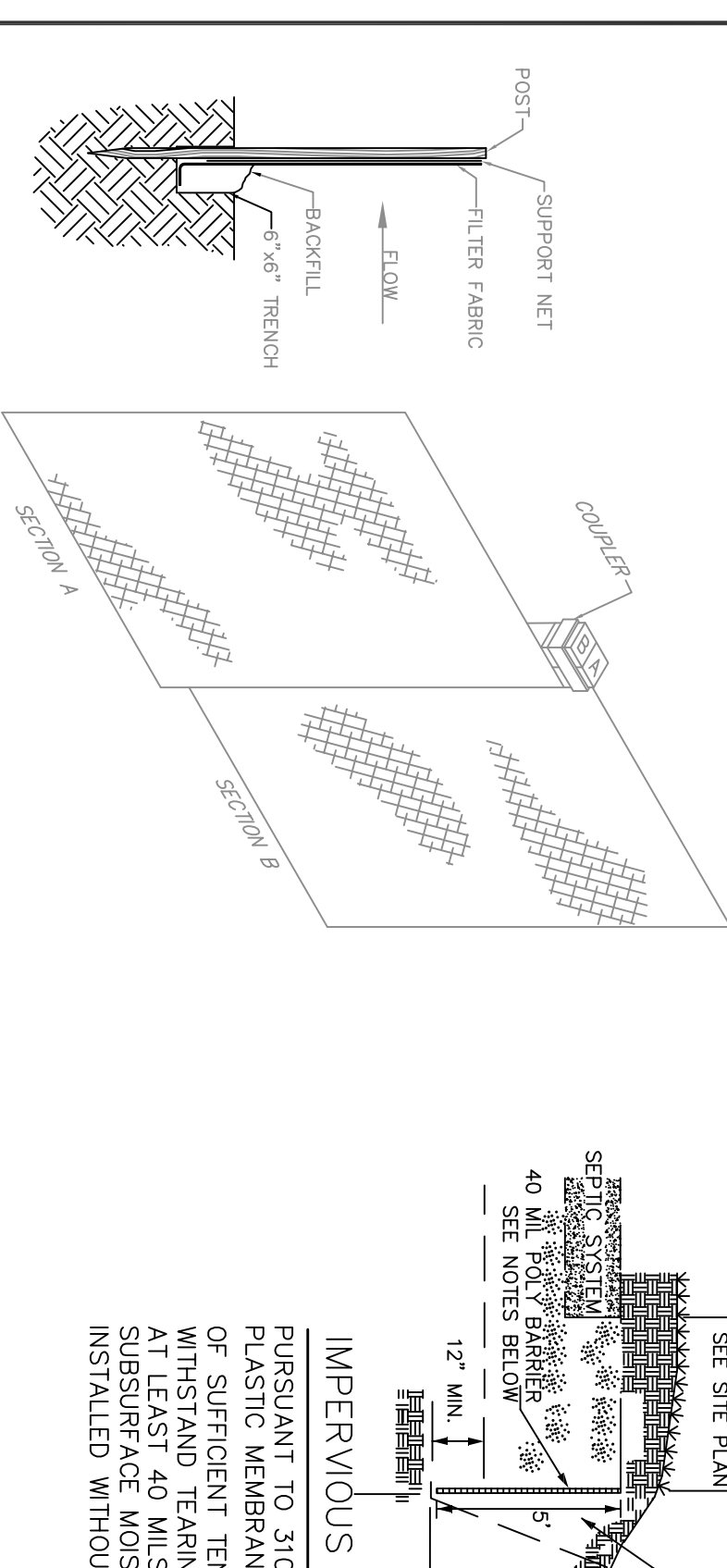
SOIL TEST DATA
PERFORMED BY: RAOUF MANKARYOUS
WITNESSED BY: STEVE DONATIELL - Health Agent
DATE OF TEST: 06-22-2019

I CERTIFY THAT I AM CAREFULLY APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION PURSUANT TO 310 CMR 15.017 TO CONDUCT SOIL EVALUATION AND THAT THE ABOVE ANALYSIS HAS BEEN PERFORMED BY ME CONSENTING WITH THE REQUIRED TRAINING, EXPERIENCE, AND EXPERIENCE DESCRIBED IN 310 CMR 15.017. I FURTHER CERTIFY THAT THE RESULTS OF MY SOIL EVALUATION, AS INDICATED ON THE ATTACHED SOIL EVALUATION FORM, ARE ACCURATE AND IN ACCORDANCE WITH 310 CMR 15.100 THROUGH 15.103.

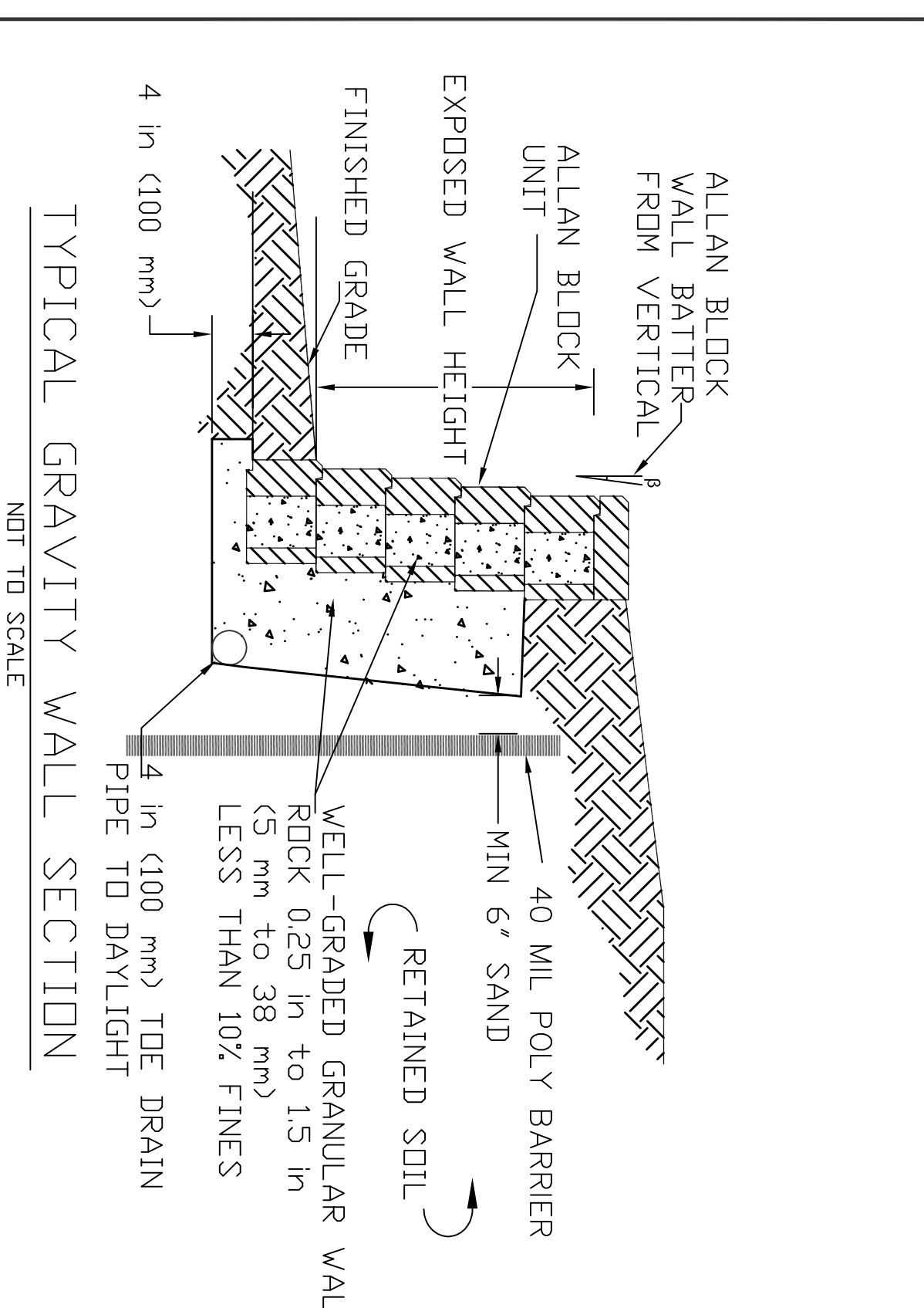
O.H. #	Depth (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Moisture	Other (Structures, Stones, % Gravel)
1	00-14"	FILL	SL	10 YR 3/4	FRABLE, LOOSE	
	14-17"	Ap	SL	10 YR 5/6	FRABLE, SINGLE GRAIN	
	17-40"	B	SL	2.5 Y 4/3	FRABLE, SINGLE GRAIN	
	40-92"	C	SL	10 YR 3/4	FRABLE, SINGLE GRAIN	
2	00-14"	FILL	SL	10 YR 3/4	FRABLE, LOOSE	
	14-17"	Ap	SL	10 YR 5/6	FRABLE, SINGLE GRAIN	
	17-40"	B	SL	2.5 Y 4/3	FRABLE, SINGLE GRAIN	
	40-92"	C	SL	10 YR 3/4	FRABLE, SINGLE GRAIN	



INFILTRATOR SYSTEMS, INC.
QUICK 4 PLUS STANDARD CHAMBER BED
 NOT TO SCALE



SILT FENCE DETAIL

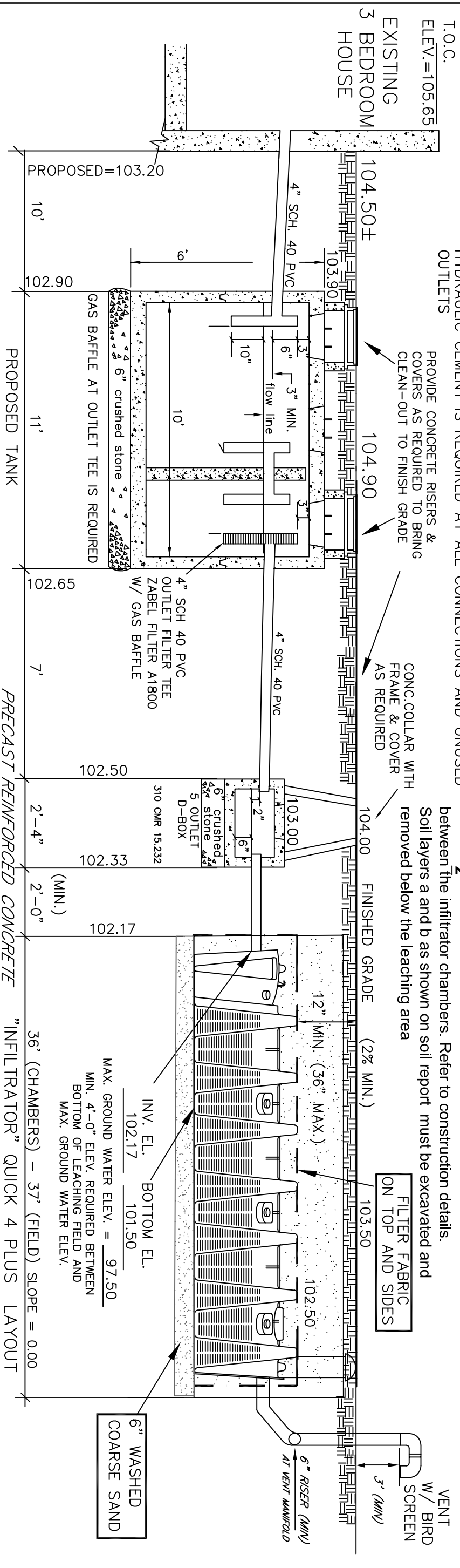


TYPICAL GRAVITY WALL SECTION
 NOT TO SCALE

GRAPHIC SCALE
 1 inch = 20 ft

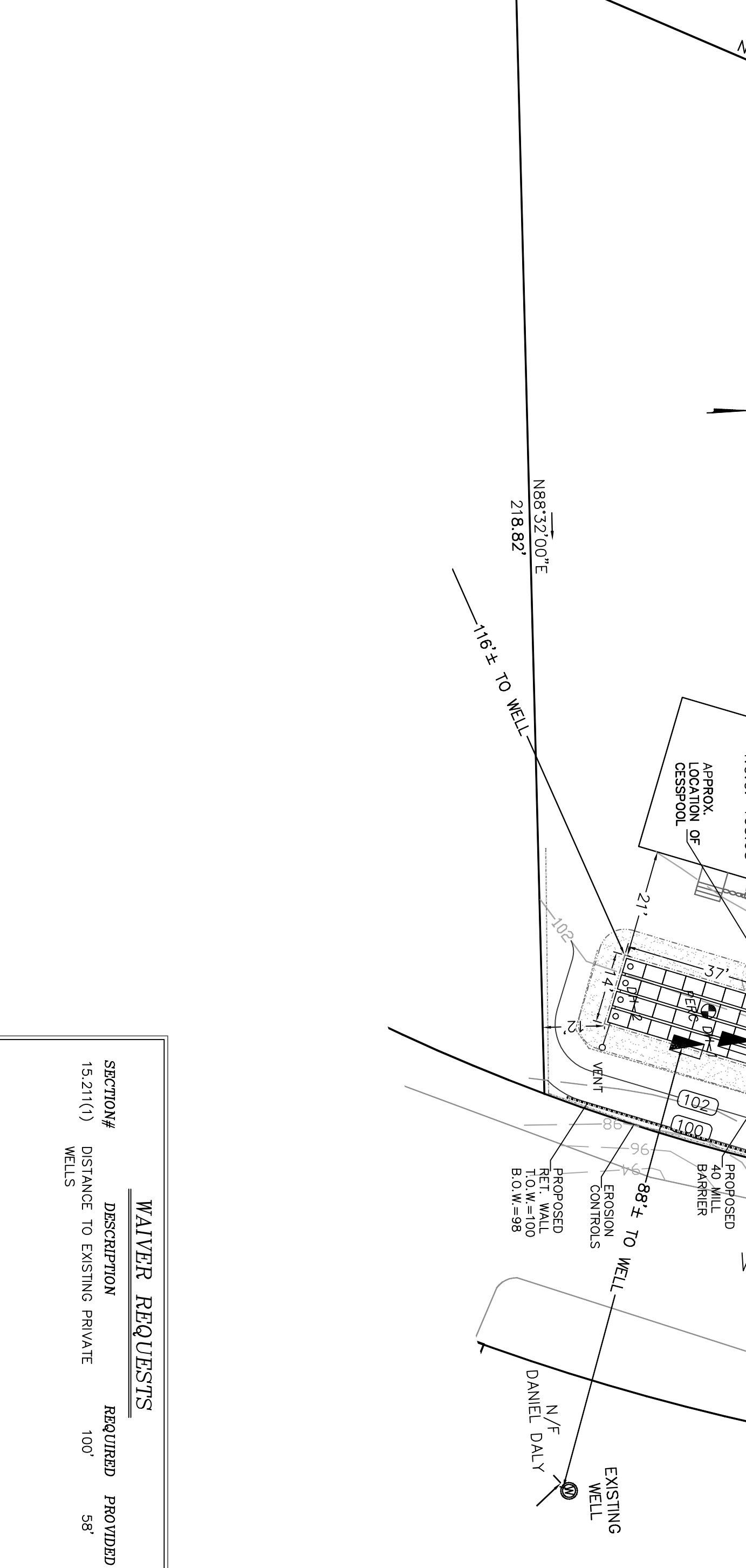
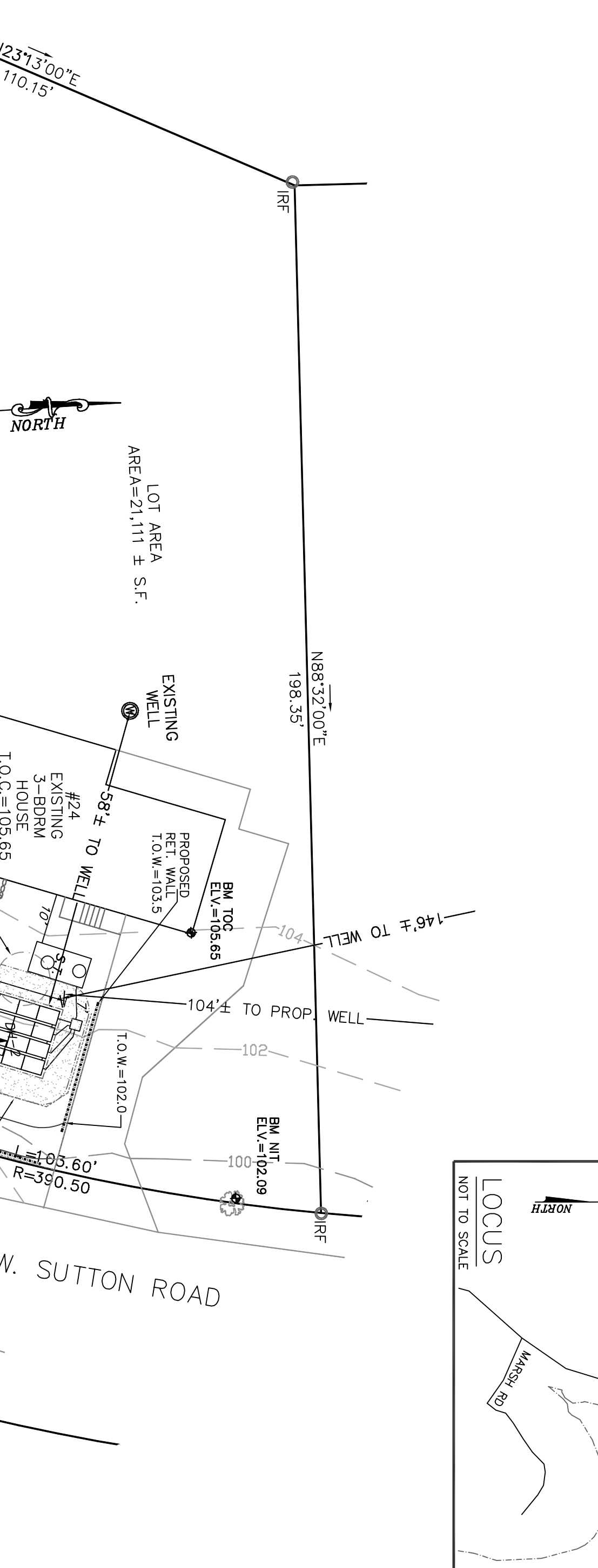
SYSTEM PROFILE NO SCALE

NOTES:
 1. ALL SYSTEM COMPONENTS SHALL BE MARKED BY MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
 2. 1" DOUBLE WASHED STONE IS TO BE PLACED AND COMPACTED BETWEEN THE INFILTRATOR CHAMBERS. REFER TO CONSTRUCTION DETAILS.
 3. SOIL LAYERS A AND B AS SHOWN ON SOIL REPORT MUST BE EXCAVATED AND REMOVED BELOW THE LEACHING AREA.



SECTION & INSPECTION PORT DETAIL

NOTE: 2-24" MANHOLES SHALL BE PROVIDED. THE OUTLET TEE SHALL BE EQUIPPED WITH GAS BATTLE. THE INSIDE WIDTH OF THE TANK SHALL BE A MINIMUM OF THREE FEET. INLET OR OUTLET TEE IN SIDE WALL SHALL BE WITHIN 12" OF END OF WALL.



GENERAL CONSTRUCTION NOTES

- ALL CONSTRUCTION TO CONFORM TO TITLE 5 OF THE MASSACHUSETTS STATE ENVIRONMENTAL CODE (310 CMR 15.000) AND THE BOARD OF HEALTH REQUIREMENTS FOR THE TOWN OF SUTTON MASSACHUSETTS.
- TIGHT JOINT (TJ) PIPING TO CONSIST OF POLYVINYL CHLORIDE PIPE (PVC) SCHEDULE 40, UNLESS OTHERWISE NOTED, OR AUTHORIZED. ALL PIPES TO BE Laid ON A FIRM BASE. TIGHT JOINT PIPES TO BE WATER TIGHT 3. ALL TOPSOIL AND DELETERIOUS MATERIAL, IF ANY, MUST BE EXCAVATED AND REMOVED BELOW THE LEACHING AREA AND TO A DISTANCE OF 5 FEET FROM ALL SIDES OF THE LEACHING AREA BACK FILL AS REQUIRED. UNLESS OTHERWISE NOTED, ALL MATERIAL, FREE FROM FINES, MUST BE PLACED AND COMPACTED TO THE ORIGINAL LOCATION AND ATTER PERCENT OF 2 MINUTES PER INCH SETTLEMENT. FILL AS PER 310CMR 15.255 (3) AND COMPACTED TO MINIMIZE SETTLEMENT. FILL AS PER 310CMR 15.255 (3)
- HEAVY MACHINERY SHALL NOT BE PERMITTED TO PASS OVER THE LEACHING AREA.
- FOR PROPER PERFORMANCE, SEPTIC TANK SHOULD BE INSPECTED AT LEAST ONCE A YEAR AND WHEN THE TOTAL DEPTH OF SCUM AND SOLIDS SHOULD BE 1/3 OF THE LIQUID DEPTH OF THE TANK. THE SEPTIC TANK SHOULD BE PUMPED. UNLIFT EVERY 2 YEARS.
- ANY CONDITIONS ENCOUNTERED DURING CONSTRUCTION DIFFERING FROM THE DESIGN SHALL BE REPORTED IMMEDIATELY TO THE DESIGN ENGINEER BEFORE CONSTRUCTION COMMENCES.
- THE SUBSURFACE SEWAGE DISPOSAL SYSTEM SHALL NOT BE BACK-FILLED PRIOR TO INSPECTION BY THE SUTTON BOARD OF HEALTH AND RAOUF MANKARYOUS, THE DESIGN ENGINEER.
- UNDERGROUND, AS WELL AS OVERHEAD UTILITY DATA INDICATED IS PLOTTED FROM VISIBLE FIELD LOCATIONS AND AVAILABLE RECORDS. THE LOCATIONS ARE APPROXIMATE ONLY AND VERIFICATION SHOULD BE MADE IN THE FIELD. DIAL 1-888-DIG-SAFE PRIOR TO CONSTRUCTION.
- NO PROPERTY SURVEY WAS MADE AS PART OF THIS PLAN. PROPERTY LINE INFORMATION INDICATED TO REMAIN UNCHANGED.
- TOPOGRAPHIC SURVEY CONDUCTED BY RAOUF MANKARYOUS AND IS BASED UPON AN ASSUMED (B.M.) ELEV. = SEE PLAN
- THE PROPOSED CONSTRUCTION IS NOT SUBJECT TO THE WETLANDS PROTECTION ACT. THE SUTTON CONSERVATION COMMISSION NEED NOT BE CONTACTED. WETLANDS OVER 100' AWAY.
- ALL KNOWN AND PROPOSED WATER SUPPLIES WITHIN 200' OF SYSTEM ARE SHOWN.
- SEPTIC TANK AND LEACHING FACILITY TO BE A MIN. OF 25' FROM ALL SURFACE AND SUBSURFACE DRAINS.
- WATER SOFTENERS ARE NOT TO BE CONNECTED TO SEPTIC TANK.
- HYDRAULIC CEMENT REQUIRED AT ALL CONNECTIONS.
- AREA IS NOT A TRIBUTARY TO A PUBLIC DRINKING WATER SUPPLY. PUBLIC DRINKING WATER SUPPLIES: NONE WITHIN 500' OF SEPTIC SYSTEM.
- DEED REFERENCE: WORCESTER COUNTY, BOOK 3699 PAGE 391 ASSESSOR MAP B PARCEL 75

SEIVE SIZE	EFFECTIVE PARTICLE SIZE	% THAT MUST PASS SEIVE
#4	4.75 mm	100%
#50	0.30 mm	100%-100%
#100	0.15 mm	0%-20%
#200	0.075 mm	0%-5%

DESIGN CRITERIA - TITLE 5

- TYPE OF ESTABLISHMENT: 3. BEDROOM HOUSE
- DESIGN FLOW: 3.30 gpd
- BEDROOMS AT 110 gpd = 330 gpd
- SEPTIC TANK SIZE: 1,500 GALLONS
- DESIGN PERCOLATION RATE: 20 min./inch
- SOIL CLASS: II
- LONG TERM ACCEPTANCE RATE (LTA): 0.53 gpd/54 ft
- MINIMUM REQ. PER TITLE V = 330 gpd
- LEACHING AREA REQUIRED = 330/0.53 = 623 sq'
- EFFECTIVE LEACHING AREA IN BED SYSTEM = 4.72 SP/LF
- TOTAL LENGTH REQUIRED = 623/4.72 = 132 LF
- NUMBER OF QUICK 4 PLUS STD CHAMBERS REQUIRED = 132/4 = 33
- NUMBER OF QUICK 4 PLUS STD CHAMBERS PROPOSED = 36

RAOUF MANKARYOUS R.S. #1355

DESIGN CRITERIA - TITLE 5

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- TEST PIT LOCATION
- PERCOLATION TEST LOCATION

ALPHA OMEGA ENGINEERING INC.
 CIVIL ENGINEERS, LAND SURVEYORS
 ENVIRONMENTAL CONSULTANTS
 25 HIGHLAND VIEW DR
 SUTTON, MA 01590
 508-865-9551
 WWW.ALPHAOmegaENGINEERING.NET

BERTH GVAZDUSKAS
 SEPTIC SYSTEM REPAIR FOR:
 24 W. SUTTON ROAD
 SUTTON, MASSACHUSETTS

WAIVER REQUESTS

SECTION#	DESCRIPTION	REQUIRED	PROVIDED
15.2(1)	WELLS	100'	58'

DISIGNED BY: R. MANKARYOUS **DRAWN BY: R. MANKARYOUS** **DATE: 06-29-2020**
SCALE: 1" = 20' **SHEET: 1 OF 1**

REFUSION: [] B.O.H. PERMIT # S20-22 [] JOB # 20-0473