

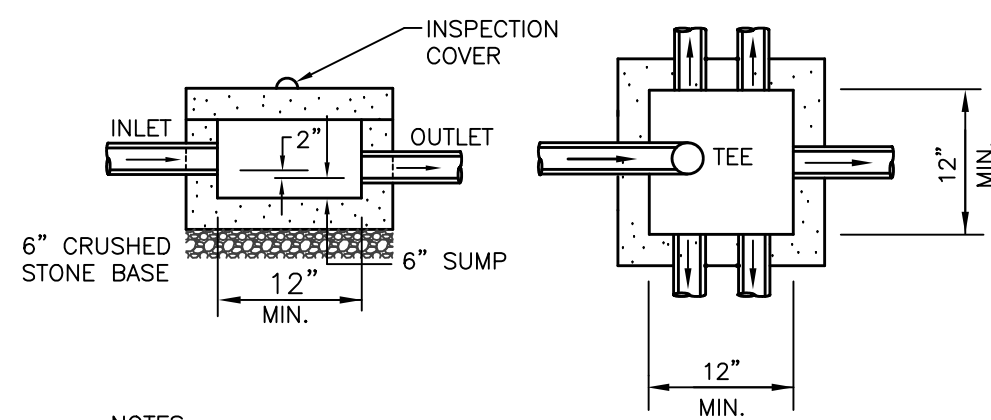
VICINITY MAP  
NO SCALE

### SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: JAMES GARFIELD, SE#14162  
SOIL TESTING WITNESSED BY: RALPH H. COLE, P.L.S.  
DATE: MARCH 26, 2020

TP-1	APPROX. GRADE EL. 90.5	TP-2	APPROX. GRADE EL. 91.8
EL. 89.8	A HORIZON LOAMY SAND 10YR 3/2	EL. 91.1	A HORIZON LOAMY SAND 10YR 3/2
EL. 89.0	B HORIZON LOAMY SAND 10YR 5/6	EL. 90.3	B HORIZON LOAMY SAND 10YR 5/6
EL. 84.7	C1 HORIZON LOAMY SAND 2.5Y 5/4	EL. 81.8	C1 HORIZON LOAMY SAND 2.5Y 5/4
EL. 80.5	C2 HORIZON SANDY LOAM 2.5Y 6/5		
WEeping OBSERVED: 50" (EL. 86.3) MOTTling OBSERVED: 50" (EL. 86.3) PERC. RATE: 5 MPI @ 30-48" ESHW: 50" (EL. 86.3)		WEeping OBSERVED: 48" (EL. 87.8) MOTTling OBSERVED: 48" (EL. 87.8) PERC. RATE: NONE ESHW: 48" (EL. 87.8)	

### 5 OUTLET DISTRIBUTION BOX

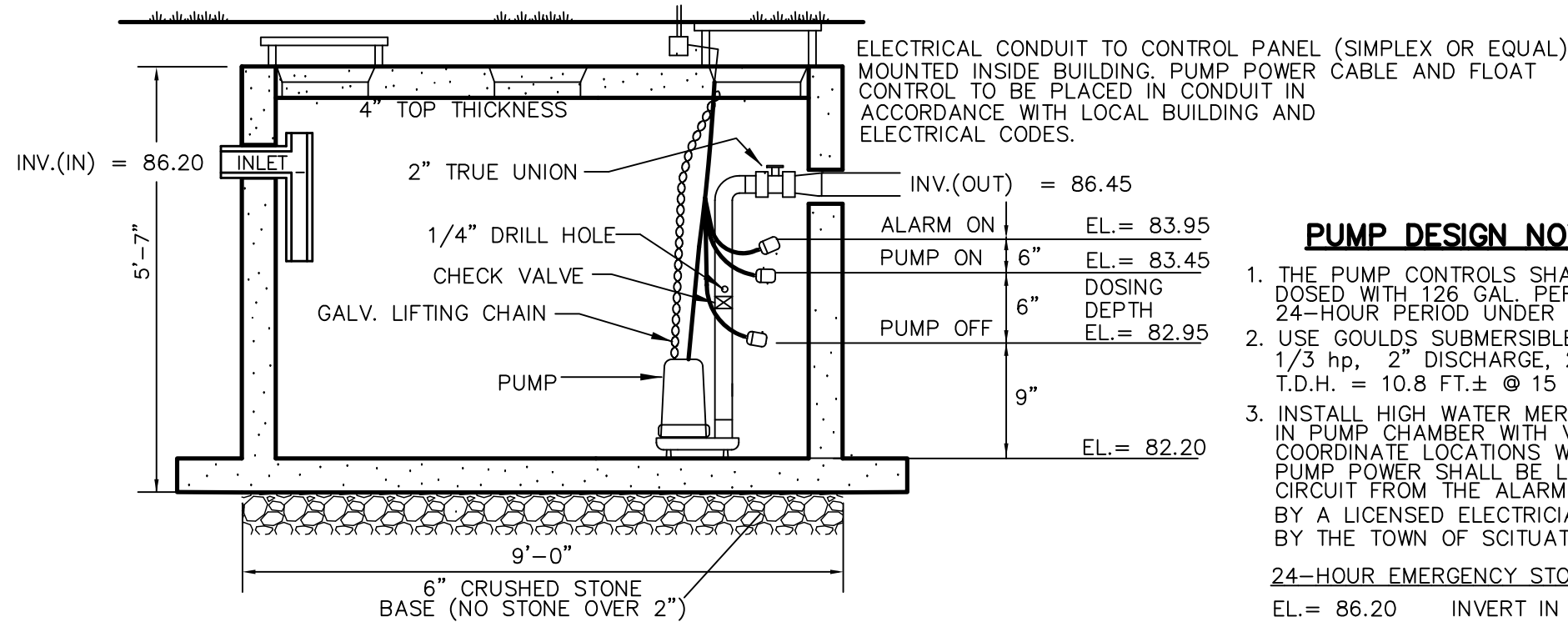


#### NOTES:

- DISTRIBUTION BOX COVER SHALL BE EQUIPPED WITH RISERS AS NECESSARY TO BRING THE COVER TO WITHIN 6" OF FINISHED GRADE.
- ALL PIPE CONNECTION AND CONSTRUCTION JOINTS SHALL BE SEALED WITH HYDRAULIC CEMENT.
- DISTRIBUTION BOX TO BE INSTALLED ON A LEVEL 6" CRUSHED STONE BASE.
- THE FIRST 2 FT. OF PIPE EXITING THE DISTRIBUTION BOX SHALL BE INSTALLED LEVEL.
- THE INLET SHALL BE EQUIPPED W/2" PVC TEE

### 1,000 GAL. PUMP CHAMBER (MONOLITHIC EXT. BASE) DETAIL

NOTE: OUTLET COVER (20" DIA.) BROUGHT TO FINISHED GRADE.  
INLET COVER (20" DIA.) BROUGHT TO WITHIN 6" OF FINISHED GRADE



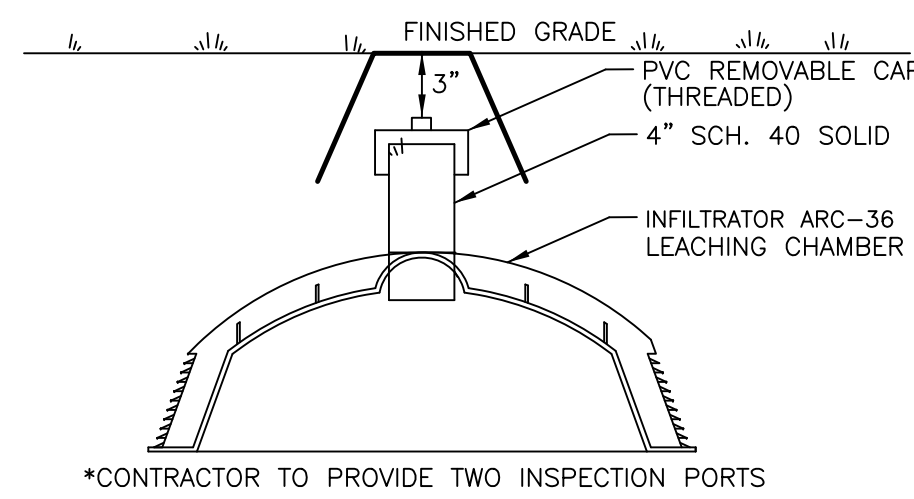
#### PUMP DESIGN NOTES:

- THE PUMP CONTROLS SHALL BE DESIGNED TO ALLOW THE FIELD TO BE DOSED WITH 126 GAL. PER DOSE (APPROX. 2.8 TIMES IN 24-HOUR PERIOD UNDER NORMAL OPERATING CONDITIONS).
- USE GOULDS SUBMERSIBLE EFFLUENT PUMP W503B, 1/3 hp, 2" DISCHARGE, 2" SOLIDS CAPACITY T.O.H. = 10.8 FT. ± @ 15 GPM OR APPROVED EQUAL.
- INSTALL HIGH WATER MERCURY FLOAT LEVEL CONTROL IN PUMP CHAMBER WITH VISIBLE FLASHING AND AUDIBLE ALARMS. CONTRACTOR TO COORDINATE LOCATIONS WITH HOMEOWNER. PUMP POWER SHALL BE LOCATED ON SEPARATE CIRCUIT FROM THE ALARM CIRCUIT. ALL ELECTRICAL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIAN WITH A VALID ELECTRICAL PERMIT AND TO BE INSPECTED BY THE TOWN OF SCITUATE WIRING INSPECTOR.

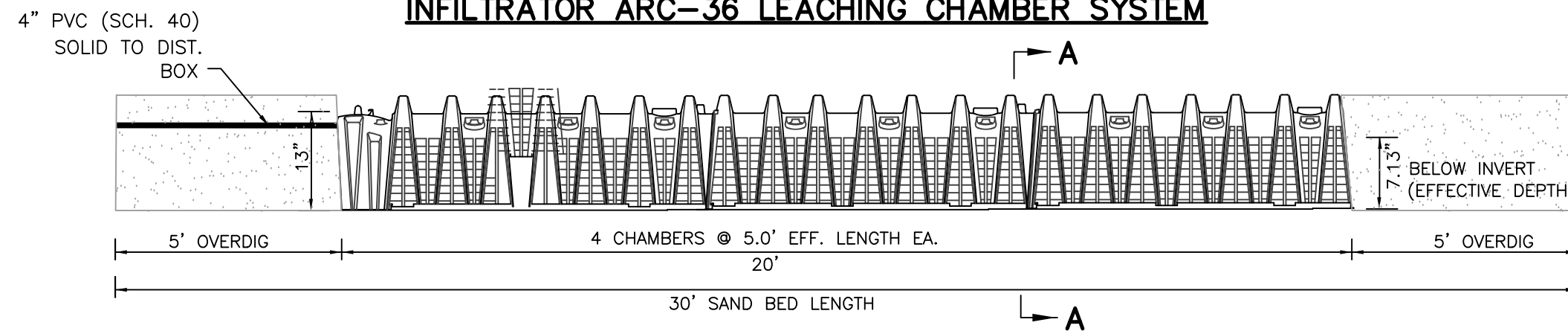
#### 24-HOUR EMERGENCY STORAGE (330 GAL. MIN)

EL. = 86.20 INVERT IN  
EL. = 83.95 ALARM ON  
2.25' AVAILABLE STORAGE  
x 250 GAL./VERT. FOOT = 562.5 GALLONS

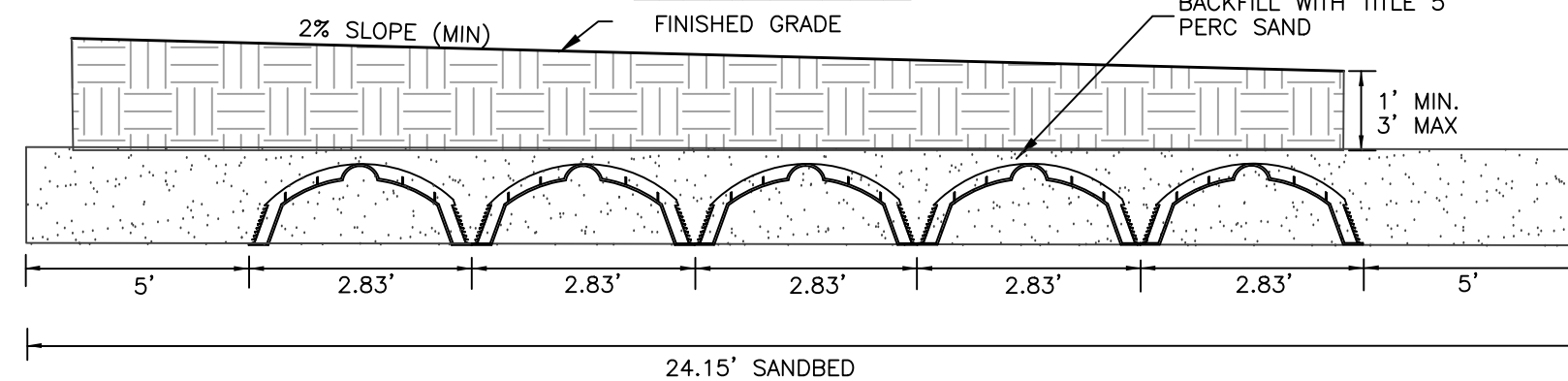
### INSPECTION PORT



### INFILTRATOR ARC-36 LEACHING CHAMBER SYSTEM



### INFILTRATOR ARC 36 LEACHING CHAMBERS SECTION A-A



#### NOTES:

- NO STONE BELOW OR AROUND CHAMBERS IS REQUIRED.
- BACKFILL CHAMBERS WITH CLEAN COARSE SAND IN ACCORDANCE WITH 310 CMR 15.255 (3) TO THE TOP OF THE CHAMBER.
- DO NOT BACKFILL WITH ANY STONES 3" OR LARGER AGAINST CHAMBERS.
- CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

### LOCAL UPGRADE APPROVAL REQUESTS

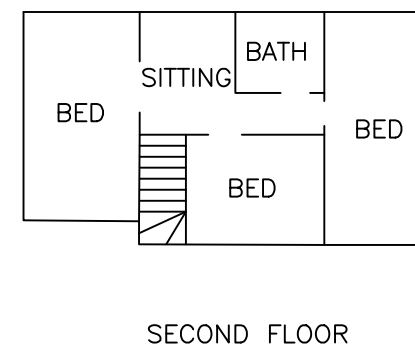
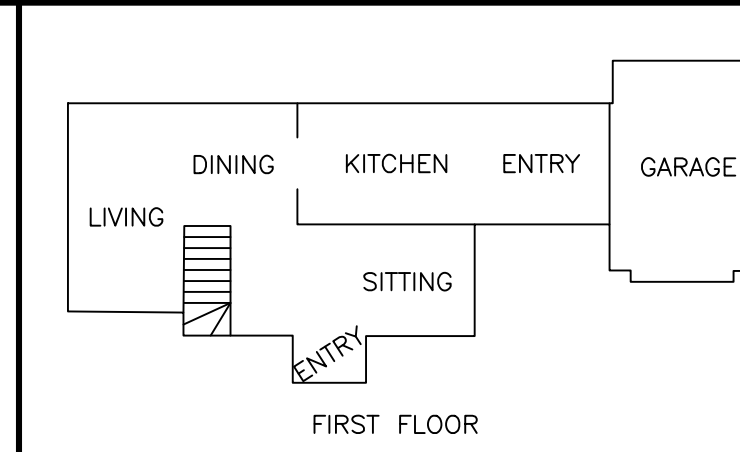
310 CMR 15.405(h): TO ALLOW A REDUCTION FROM 4" (REQ'D) TO 3" (PROP.) BETWEEN GROUNDWATER AND THE BOTTOM OF THE SAS.

### DESIGN DATA

- BUILDING TYPE: RESIDENTIAL
- NO. OF BEDROOMS: 3
- DESIGN FLOW: 3 BEDROOMS x 110 G.P.D./BED = 330 G.P.D.
- DESIGN PERCOLATION RATE: 5 MPI (TP-1)
- GARBAGE DISPOSAL: NO
- SEPTIC TANK DESIGN REQUIREMENT: 200% DESIGN FLOW  
330 X 2 = 660 GAL. (USE 1500 GAL. SEPTIC TANK)
- LEACH AREA REQUIREMENTS GALLONS/SQ. FT. (CLASS I SOILS)  
BOTTOM: 0.74 GAL./S.F. SIDE: 0.74 GAL./S.F.
- TOTAL LEACH AREA REQUIRED:  
TITLE 5: 330 GPD / (0.74 GPD/S.F.) = 445.9 S.F.  
PROVIDED: 5 ROWS OF 4 INFILTRATOR ARC-36 LEACHING CHAMBERS  
20 CHAMBERS x 5'L (EA.) x 4.8 S.F./L.F.\* = 480 S.F.  
CAPACITY: 480 S.F. x 0.74 GPD/S.F. = 355.2 GPD  
\*EFFECTIVE AREA PER GENERAL USE CERTIFICATION ISSUED BY DEP.

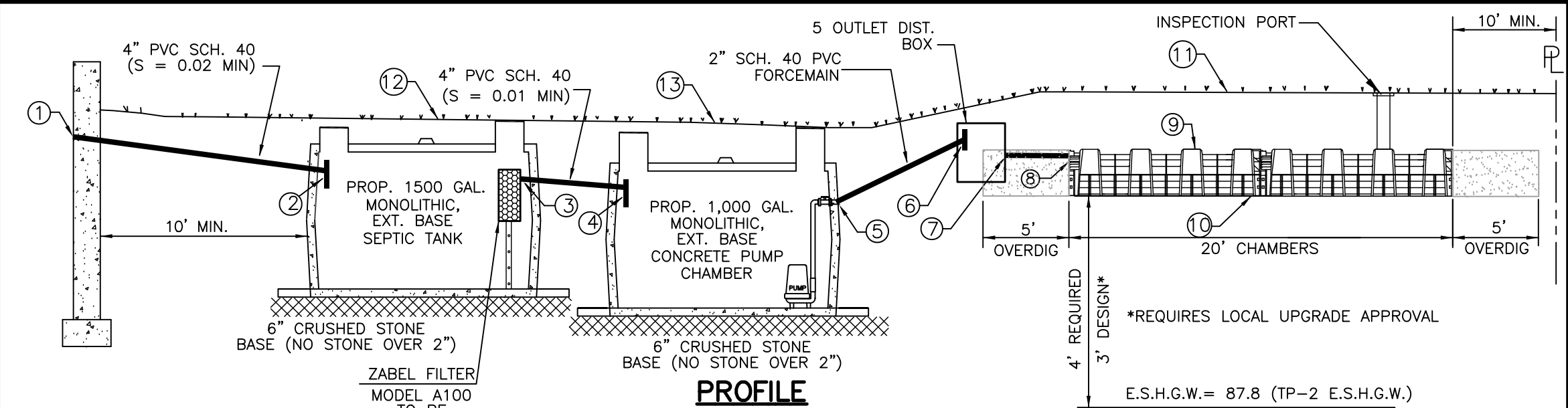
### \*\*REMOVE & REPLACE\*\*

CONTRACTOR TO EXCAVATE ALL UNSUITABLE MATERIAL TO A DEPTH OF 18" ± (TO C1 HORIZON) & REPLACE WITH CLEAN TITLE 5 PERC SAND TO EL. = 91.88 DIRECTLY UNDER AND WITHIN 5-FT. HORIZONALLY OF THE PROPOSED SOIL ABSORPTION SYSTEM.  
(APPROX. SAND VOL. = 1.2% x 30'L x 24.15'W x (91.88-89.0) / 27 = 93 CY. ±



### FLOOR PLAN

NOT TO SCALE



### PROFILE SCHEDULE OF ELEVATIONS

1. INV. OF PIPE AT FOUNDATION = 92.1 ± (CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION)	8. INV. OF 4" PIPE @ CHAMBER INLET = 91.39
2. INV. OF PIPE AT SEPTIC TANK INLET = 86.50	9. TOP OF CHAMBER (BREAKOUT) = 91.88
3. INV. OF PIPE AT SEPTIC TANK OUTLET = 86.25	10. BOTTOM OF CHAMBER = 90.80
4. INV. OF PIPE AT PUMP CHAMBER INLET = 86.20	11. FINISHED GRADE OVER LEACHING CHAMBERS = 92.9(MIN.) - 94.9(MAX.)
5. INV. OF PIPE AT PUMP CHAMBER OUTLET = 86.45	12. FINISHED GRADE OVER SEPTIC TANK = 88.3(MIN.) - 90.5(MAX.)
6. INV. OF 2" FORCEMAIN AT DIST. BOX INLET = 91.62	13. FINISHED GRADE OVER PUMP CHAMBER = 88.2(MIN.) - 90.5(MAX.)
7. INV. OF 4" PIPE AT DIST. BOX OUTLET = 91.45	

### GENERAL NOTES

- SEPTIC SYSTEM INSTALLATION CONTRACTORS SHALL BE LICENSED BY THE BOARD OF HEALTH AND MUST COMPLY WITH ALL REQUIREMENTS OF THE BOARD OF HEALTH DISPOSAL WORKS CONSTRUCTION PERMIT AND ANY CONDITIONS, IF ISSUED BY THE CONSERVATION COMMISSION.
- ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE 310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
- THERE SHALL BE NO CHANGES MADE IN THIS PLAN WITHOUT THE WRITTEN PERMISSION OF THE BOARD OF HEALTH AND DESIGN ENGINEER.
- ANY CHANGE IN SITE CONDITIONS, DISCREPANCIES, ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF MORSE ENGINEERING PRIOR TO THE COMMENCEMENT OF WORK.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH TITLE 5 (310 CMR 15) AND THE LOCAL BOARD OF HEALTH REQUIREMENTS TO THE FULLEST EXTENT PRACTICABLE. NO GUARANTEE TO THE SYSTEMS PERFORMANCE IS EXPRESSED OR IMPLIED.
- SOIL TEST DATA SHOWN IS LIMITED TO THE CONDITIONS EXISTING AT THE SUBJECT TEST PIT LOCATION ONLY. IF DIFFERENT SOIL CONDITIONS ARE FOUND IN THE AREA OF THE PROPOSED SOIL ABSORPTION SYSTEM THEY SHALL BE BROUGHT TO THE ATTENTION OF MORSE ENGINEERING IMMEDIATELY.
- THE CONTRACTOR SHALL NOTIFY DIGSAFE PRIOR TO ANY EXCAVATION AT THE SUBJECT PROPERTY. IT IS SPECIFICALLY CAUTIONED THAT THE SUBSURFACE UTILITIES SHOWN ARE APPROXIMATE ONLY AND HAVE BEEN COMPILED FROM AVAILABLE RECORDS AND OBSERVABLE SITE FEATURES. UTILITIES OTHER THAN THOSE SHOWN MAY BE PRESENT AT THIS LOCATION.
- THIS PLAN HAS BEEN PREPARED SPECIFICALLY AS A SEPTIC SYSTEM DESIGN AND IS NOT TO BE USED TO ESTABLISH PROPERTY LINES OR BUILDING SETBACKS. PROPERTY LINES AND BUILDING LOCATIONS ARE GRAPHIC ONLY, PROPERTY LINES NOT HAVING BEEN VERIFIED. NO REPRESENTATION OR CERTIFICATION AS TO THE ACCURACY OF THOSE SHOWN IS IMPLIED.
- CONTRACTOR TO VERIFY AND ENSURE THAT ALL INTERIOR PLUMBING IS DIRECTED INTO PROPOSED SEPTIC SYSTEM. ANY VARIATIONS FROM THE DESIGN AS SHOWN SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.

### CONSTRUCTION NOTES

- CONTRACTOR SHALL COORDINATE INSPECTION TIMES WITH THE LOCAL BOARD OF HEALTH AND DESIGN ENGINEER 24-HOURS IN ADVANCE OF THE FOLLOWING INSPECTIONS:
  - AFTER EXCAVATION OF ALL UNSUITABLE MATERIAL FROM SOIL ABSORPTION AREA.
  - PRIOR TO COVERING THE CONSTRUCTED SYSTEM.
  - AFTER SYSTEM BACKFILL AND FINAL GRADING.
- ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE 310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
- ALL TIGHT-JOINT PLUMBING SHALL BE CONSTRUCTED OF SCH. 40 PVC PIPE WITH CLEANED AND CEMENTED FITTINGS, UNLESS OTHERWISE NOTED.
- ALL PRECAST/PIPE CONSTRUCTION JOINTS AND FITTINGS SHALL BE MADE WATERTIGHT BY PARGING WITH HYDRAULIC CEMENT.
- THE CONTRACTOR SHALL PROVIDE A SIEVE ANALYSIS OF THE TITLE 5 PERC SAND UTILIZED FOR FILL TO VERIFY THAT IT MEETS THE REQUIREMENTS OF 310 CMR 15.255(3). TITLE 5 SAND FILL SHALL COMPLY WITH THE FOLLOWING:

SIEVE SIZE	PARTICLE SIZE
#4	4.75 mm
#10	0.30 mm
#150	0.15 mm
#200	0.075 mm
- THE CONTRACTOR SHALL PREVENT ANY HEAVY CONSTRUCTION MACHINERY AND/OR TRUCKS FROM DRIVING OVER THE PROPOSED SOIL ABSORPTION SYSTEM LOCATION UNTIL FINISHED GRADE IS ESTABLISHED.
- THE CONTRACTOR SHALL INSTALL MAGNETIC TAPE OVER SYSTEM PIPING & COMPONENTS
- THE DESIGN ENGINEER SHALL CERTIFY AND PREPARE AN "AS-BUILT" PLAN FOR SUBMITTAL TO THE BOARD OF HEALTH UPON SEPTIC SYSTEM COMPLETION.
- ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" LOAM & SEED POST CONSTRUCTION.
- CONTRACTOR SHALL ABANDON EXISTING SEPTIC COMPONENTS IN ACCORDANCE WITH 310 CMR SEC. 15.354 OF TITLE 5 AND LOCAL REGULATIONS BY PUMPING DRY, CRUSHING AND ABANDONING

### SITE NOTES

- LOCUS DOES NOT LIE WITHIN A DEP DESIGNATED ZONE II RESOURCE AREA.
- ALL WETLANDS OBSERVED WITHIN 100' OF PROPOSED WORK ARE SHOWN.
- PROPERTY LINE DATA WAS OBTAINED FROM LOCUS DEED (BK. 3973, PG. 728) AND RECORD PLANS ON FILE AT THE PLYMOUTH COUNTY REGISTRY OF DEEDS.
- THERE WERE NO ACTIVE/POTABLE WELLS OBSERVED WITHIN 100' OF THE PROPOSED SYSTEM.
- LOCUS LIES IN FEMA FLOOD ZONE "X" AS SHOWN ON FEMA COMMUNITY MAP PANEL 25023C 0109K DATED NOVEMBER 4, 2016. ZONE X IS DESCRIBED AS AN AREA OF MINIMAL FLOODING ABOVE THE 100-YR. FLOOD BOUNDARY.

### \*CONTRACTOR TO BE INFILTRATOR CERTIFIED\*

		PREPARED BY: 	
PROJECT: SEPTIC SYSTEM DESIGN PLAN 10 UTILITY ROAD ASSESSOR'S PARCEL: 32-6-6 SCITUATE, MASSACHUSETTS		DESIGN: JDG CHECK: JMH JOB NO: 20-157	
PREPARED FOR: BERTRAND E. & SHARON PLOURDE 10 UTILITY ROAD SCITUATE, MA 02066		DATE: 4/2/2020 REV: -	
PLAN TITLE: SEPTIC SYSTEM DESIGN PLAN		SHEET: 1	



### UTILITY ROAD

### SEPTIC LAYOUT

