

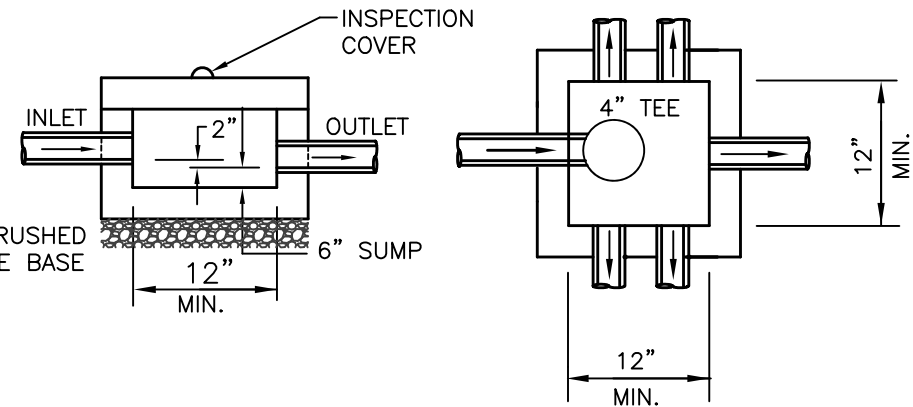
VICINITY MAP
NO SCALE

SOIL TEST DATA

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

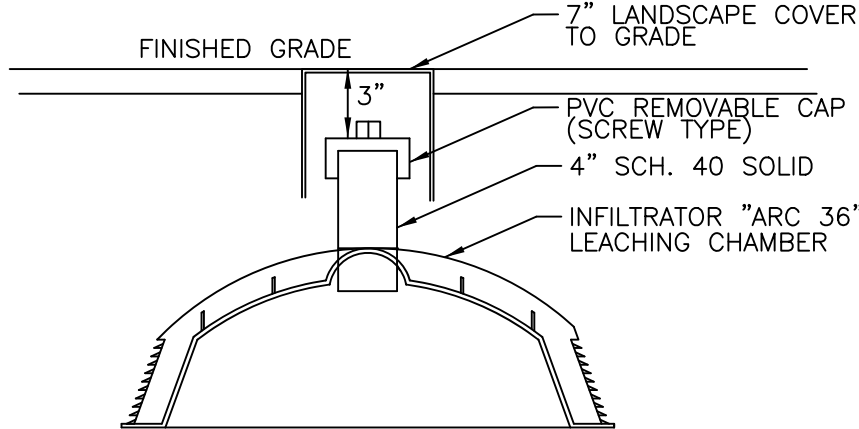
TP-1	APPROX. GRADE EL. 46.3	TP-2	APPROX. GRADE EL. 47.6
EL. 43.8	FILL	EL. 42.7	FILL
EL. 43.5	A HORIZON SANDY LOAM 10YR 3/2	EL. 41.8	OLD SAS (SURCHARGED)
EL. 42.8	B HORIZON SANDY LOAM 10YR 5/6	EL. 37.6	C HORIZON SANDY LOAM 2.5Y 5/3
EL. 36.3	C HORIZON SANDY LOAM 2.5Y 5/3		
	WEeping OBSERVED: NONE MOTTling OBSERVED: 51" (EL. 42.0) PERC. RATE: 17 MPI @ 45-63" ESHGW: 51" (EL. 42.0)		WEeping OBSERVED: 58" (OLD SAS) MOTTling OBSERVED: NONE PERC. RATE: NONE ESHGW: USE TP-1

DISTRIBUTION BOX



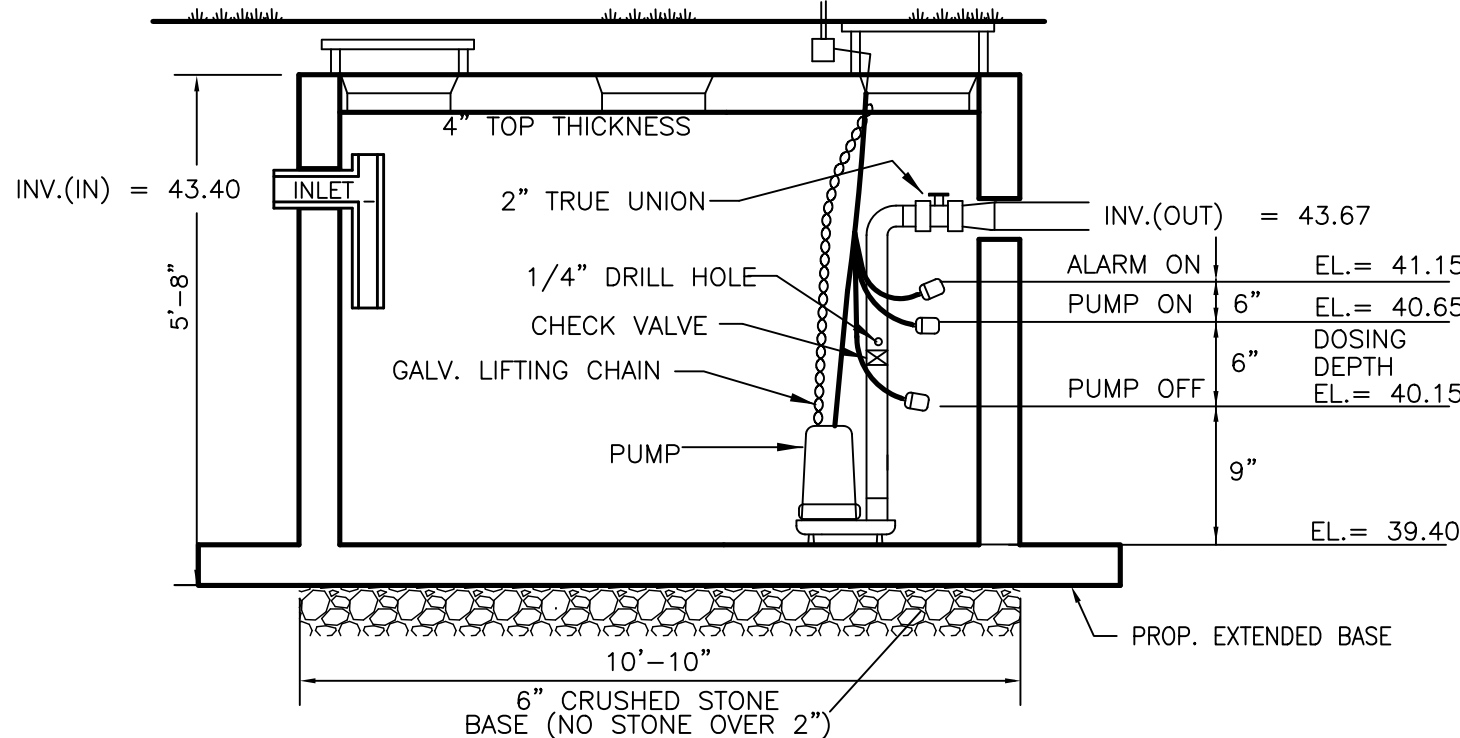
- NOTES:
- DISTRIBUTION BOX COVER SHALL BE EQUIPPED WITH RISERS AS NECESSARY TO BRING THE COVER TO WITHIN 6" OF FINISHED GRADE.
 - ALL PIPE CONNECTION AND CONSTRUCTION JOINTS SHALL BE SEALED WITH HYDRAULIC CEMENT.
 - DISTRIBUTION BOX TO BE INSTALLED ON A LEVEL 6" CRUSHED STONE BASE.
 - PROVIDE CAST IRON FRAME & GRATE TO GRADE.

INSPECTION PORT



1,000 GAL. PUMP CHAMBER DETAIL

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



ELECTRICAL CONDUIT TO CONTROL PANEL (SIMPLEX OR EQUAL)
MOUNTED INSIDE BUILDING. PUMP POWER CABLE AND FLOAT
CONTROL TO BE PLACED IN CONDUIT IN
ACCORDANCE WITH LOCAL BUILDING AND
ELECTRICAL CODES.

PUMP DESIGN NOTES:

- THE PUMP CONTROLS SHALL BE DESIGNED TO ALLOW THE FIELD TO BE DOSED WITH 125 GAL PER DOSE (APPROX. 3.5 TIMES IN A 24-HOUR PERIOD UNDER NORMAL OPERATING CONDITIONS).
 - USE GOULDS SUBMERSIBLE EFFLUENT PUMP WS03B, 1/3 hp, 2" DISCHARGE, 2" SOLIDS CAPACITY. T.D.H. = 7 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 PERMIT AND INSPECTED BY THE TOWN OF SCITUATE WIRING INSPECTOR.
- 24-HOUR EMERGENCY STORAGE (440 GAL. MIN)
EL = 43.40 INVERT OUT
EL = 41.15 ALARM ON
2.25" AVAILABLE STORAGE
x 250 GAL./VERT. FOOT = 562 GALLONS

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 PARING 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
#50	0.30 mm
#100	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.
- ALL SEPTIC SYSTEM COMPONENTS TO BE STAKED OUT BY PROFESSIONAL LAND SURVEYOR PRIOR TO SYSTEM INSTALLATION.
- 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

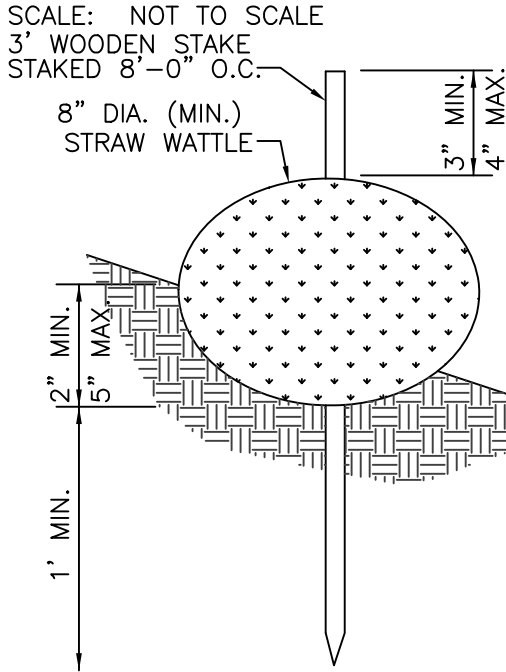
SITE NOTES

- LOCUS DOES NOT LIE WITHIN A DEP DESIGNATED ZONE II RESOURCE AREA.
- ONSITE BORDERING VEGETATED WETLAND DELINEATED BY JOHN ZIMMER, PWS ON 10/7/2020.
- PROPERTY LINE DATA WAS OBTAINED FROM RECORDED DEED (BOOK 12116 PAGE 318). AND RECORDED 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 ZONE "X" AS SHOWN ON FEMA COMMUNITY MAP PANEL 25023C0109K DATED NOVEMBER 4, 2016. ZONE "X" IS NOT A SPECIAL FLOOD HAZARD AREA.

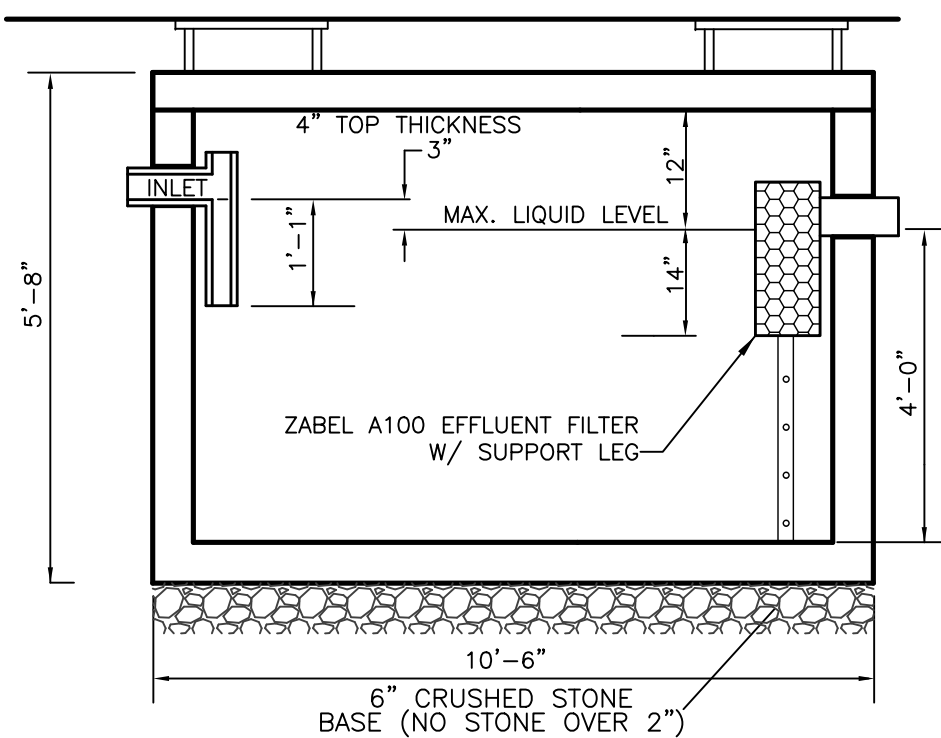
CONTRACTOR TO BE ADS/INFILTRATOR CERTIFIED

PREPARED BY:			
PROJECT:	SEPTIC SYSTEM UPGRADE PROJECT 96 LAWSON TERRACE (ASSESSOR'S PARCEL: 33-4-16) SCITUATE, MASSACHUSETTS		DESIGN: CKB
APPLICANT:	DAVID & LYNNE MINER 96 LAWSON TERRACE SCITUATE, MA 02066		CHECK: GJM
PLAN TITLE:	SEPTIC SYSTEM DESIGN PLAN		JOB NO: 20-357
			DATE: 10/28/2020
			REV: -
			SHEET: 1

STAKED STRAW WATTLE DETAIL

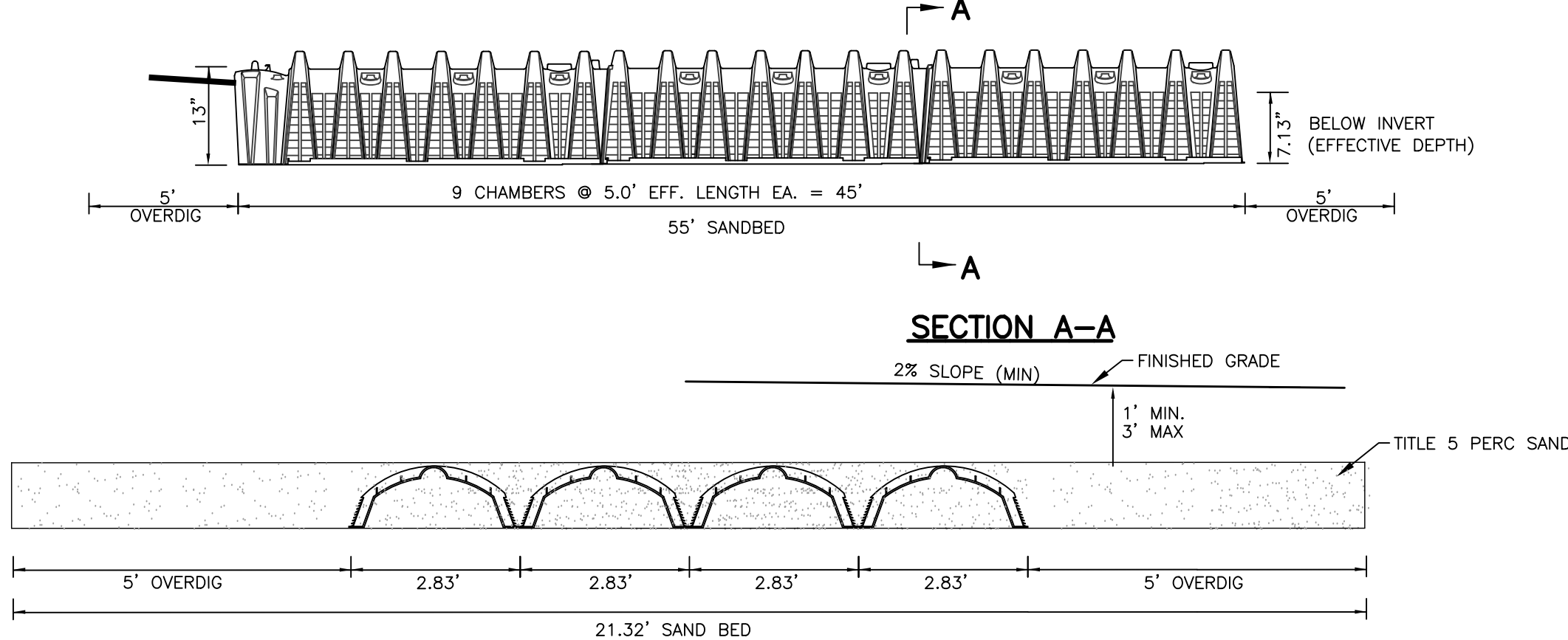


1,500 GAL. SEPTIC TANK DETAIL



- THE SEPTIC TANK INLET & OUTLET COVERS SHALL BE EXTENDED TO FINISHED GRADE & EQUIPPED WITH 20" DIA. CAST IRON FRAME & COVERS.
- ALL PIPE CONNECTION AND CONSTRUCTION JOINTS SHALL BE SEALED WITH HYDRAULIC CEMENT.
- SEPTIC TANK SHALL BE INSTALLED ON A LEVEL 6" CRUSHED STONE BASE.
- OUTLET SHALL BE EQUIPPED WITH A ZABEL A100 EFFLUENT FILTER (OR APPROVED EQUAL).

INFILTRATOR ARC 36 CHAMBER SYSTEM



- 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.

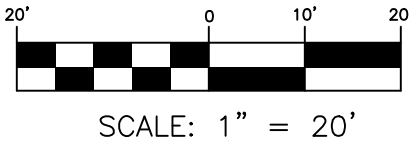
BENCHMARK

BRICK CORNER
EL=46.17
MEAN SEA LEVEL



BENCHMARK
MAG NAIL EL=52.05
MEAN SEA LEVEL

SEPTIC LAYOUT



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: SINGLE FAMILY DWELLING
- NO. OF BEDROOMS: 4
- DESIGN FLOW: 4 x 110 GPD/BEDROOM = 440 GPD (GALLONS PER DAY)
- DESIGN PERCOLATION RATE: 17 MPI (TP-1)
- GARBAGE DISPOSAL: NO
- SEPTIC TANK DESIGN REQUIREMENT: 200% DESIGN FLOW
440 X 2 = 880 GAL. (PROVIDE NEW 1500 GAL. SEPTIC TANK)
- LEACH AREA REQUIREMENTS GALLONS/SQ. FT.
BOTTOM: 0.53 GAL./S.F. SIDE: 0.53 GAL./S.F.
- TOTAL LEACH AREA REQUIRED:
TITLE 5: 440 GPD / (0.53 GPD/S.F.) = 830.2 S.F.
PROVIDED: 4 ROWS OF 9 INFILTRATOR ARC 36 LEACHING CHAMBERS
EFFECTIVE AREA: (36 CHAMBERS x 5.00'L x 4.8 S.F./L.F.* = 864 S.F.
CAPACITY = 864 S.F. x 0.53 GPD/S.F. = 457 GPD
*EFFECTIVE AREA PER GENERAL USE CERTIFICATION ISSUED BY DEP

REMOVE & REPLACE NOTE

CONTRACTOR TO EXCAVATE ALL UNSUITABLE MATERIAL TO A DEPTH OF C HORIZON (41-70") DIRECTLY UNDER & WITHIN 5' OF PROPOSED LEACHING AREA AND REPLACE CLEAN TITLE 5 PERC SAND TO TOP OF CHAMBER ELEVATION. CONTRACTOR TO REMOVE ANY PORTIONS OF EXIST. SAS WITHIN 5-FT. OF PROPOSED CHAMBERS AND REPLACE WITH CLEAN TITLE 5 PERC SAND.
APPROX. VOL. OF SAND = (21.32'W x 55'L x (46.08-41.8)D x 1.2) / 27 = 223 C.Y. ±