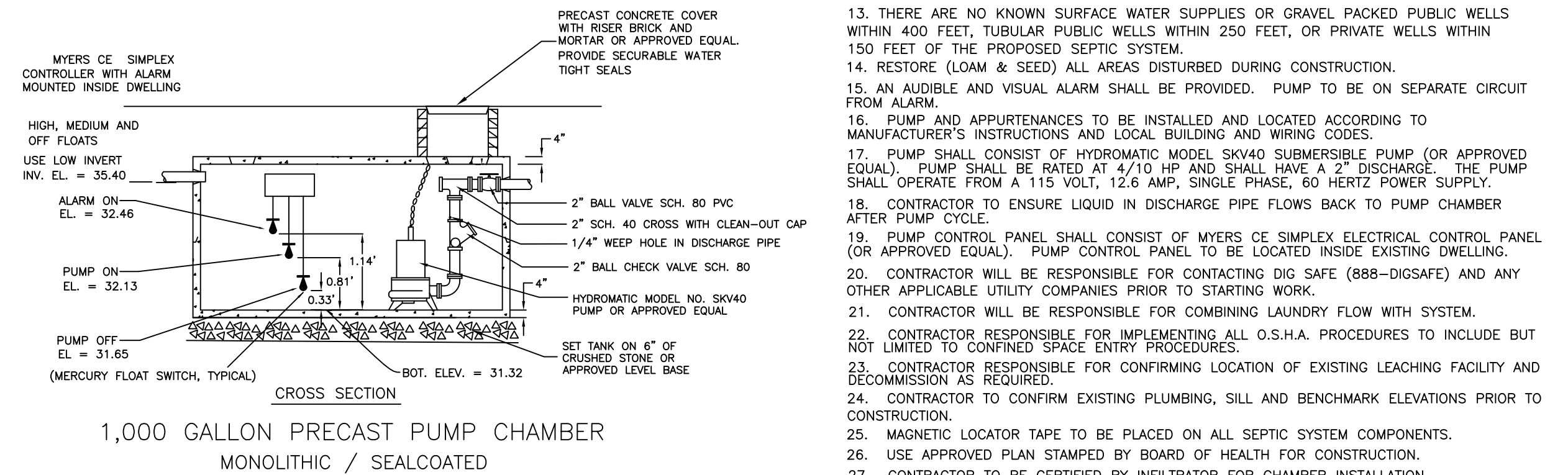
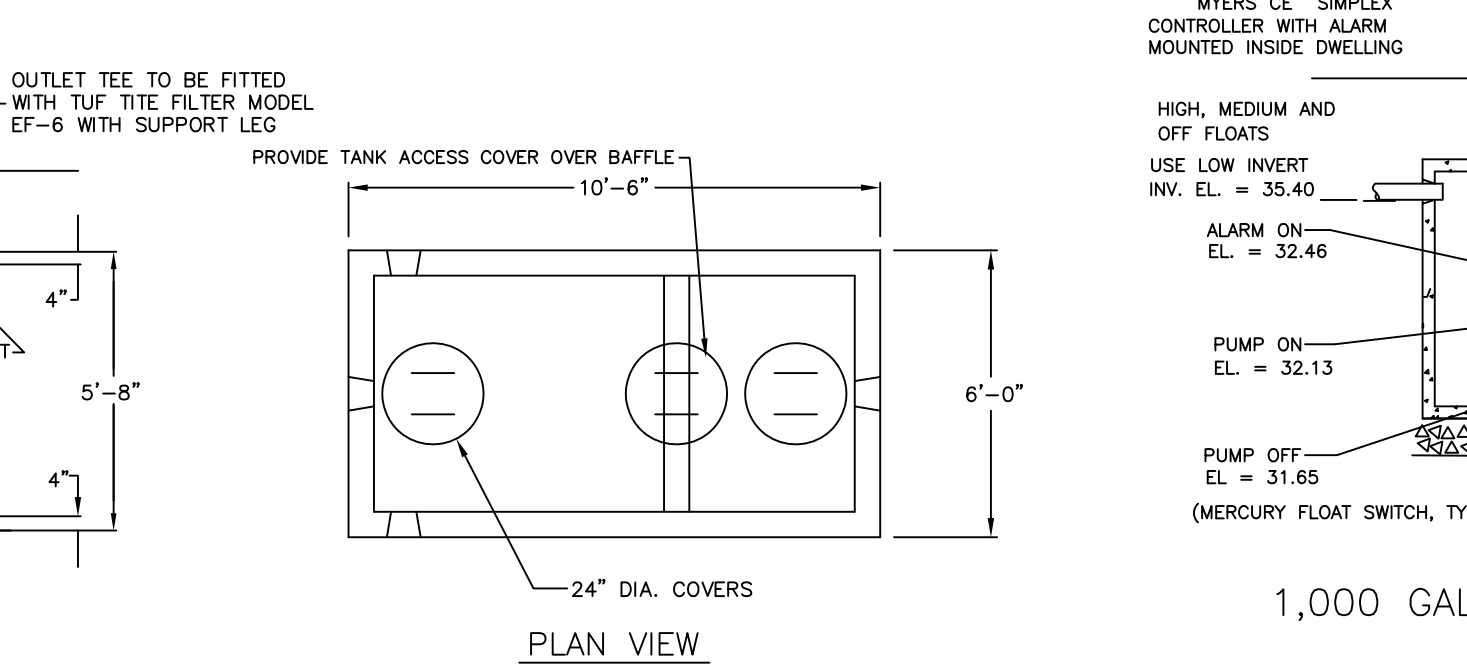
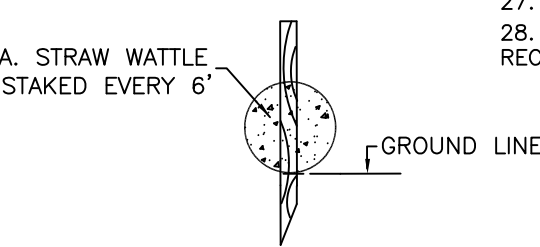


DESCRIPTION	ELEVATION
4" INV. AT BUILDING (ESTIMATED)	36.3
4" INV. AT SEPTIC TANK (IN)	35.75
4" INV. AT SEPTIC TANK (OUT)	35.50
4" INV. AT PUMP CHAMBER (IN)	35.40
2" INV. AT PUMP CHAMBER (OUT)	35.65
2" INV. AT DIST. BOX (IN)	43.10
4" INV. AT DIST. BOX (OUT)	42.93
4" INV. AT BEGINNING OF SAS	42.84
ELEVATION AT BOTTOM OF SAS	42.40
GROUNDWATER ELEVATION	39.23

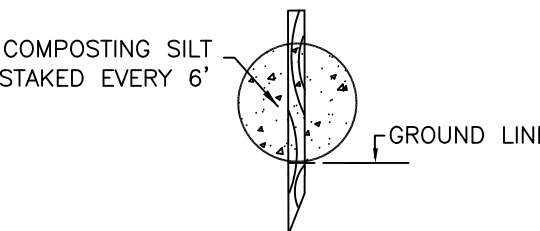
1. THE CONTRACTOR SHALL NOTIFY THE LOCAL BOARD OF HEALTH AND COLLINS CIVIL ENGINEERING GROUP AT LEAST 48 HOURS PRIOR TO REQUIRED INSPECTIONS.
2. SITE BENCHMARK IS THE TOP OF THE LOWEST FRONT STEP AS INDICATED ON THIS PLAN, E.L. = 44.83 (NAVD 85).
3. HEAVY FURNISHMENT SHALL NOT BE ALLOWED TO OPERATE OVER THE LIMITS OF THE SEWAGE DISPOSAL FIELD DURING THE COURSE OF CONSTRUCTION OF THE SYSTEM.
4. NO FIELD MODIFICATIONS TO THE SEWAGE SYSTEM SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER AND THE LOCAL BOARD OF HEALTH.
5. UNLESS OTHERWISE NOTED ALL SYSTEM COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF THE STATE ENVIRONMENTAL CODE DATED JANUARY 2014 AND ANY APPLICABLE LOCAL RULES.
6. DISTRIBUTION BOX SHALL BE MANUFACTURED BY J&R PRECAST, INC. OR APPROVED EQUAL.
7. GROUT TO BE USED AT ALL POINTS WHERE PIPES ENTER OR LEAVE ALL CONCRETE STRUCTURES IN ORDER TO PROVIDE A WATERTIGHT SEAL.
8. THE FIRST TWO FEET OF EACH LINE EXITING THE DISTRIBUTION BOX SHALL BE LEVEL.
9. THIS SYSTEM IS NOT DESIGNED TO ACCOMMODATE A GARBAGE GRINDER OR WATER FILTRATION SYSTEM BACKWASH.
10. SYSTEM COMPONENTS TO WITHSTAND H-10 LOADING CRITERIA.
11. PROPERTY LINE SHOWN IS APPROXIMATE ONLY AND IS NOT A RESULT OF A PROPERTY LINE OR VERTICAL SURVEY.
12. THE CONTRACTOR SHALL DECOMMISSION (PUMP & FILL OR REMOVE) THE EXISTING SEPTIC SYSTEM IN ACCORDANCE WITH 310 CMR 15.354.
13. THERE ARE NO KNOWN SURFACE WATER SUPPLIES OR GRAVEL PACKED PUBLIC WELLS WITHIN 400 FEET, TUBULAR PUBLIC WELLS WITHIN 250 FEET, OR PRIVATE WELLS WITHIN 150 FEET OF THE PROPOSED SEWER, SUMP, SINGLE PHASE, 80 HERTZ POWER SUPPLY.
14. RESTORE (LOAM & SEED) ALL AREAS DISTURBED DURING CONSTRUCTION.
15. AN AUDIBLE AND VISUAL ALARM SHALL BE PROVIDED. PUMP TO BE ON SEPARATE CIRCUIT FROM ALARM.
16. PUMP AND APPURTENANCES TO BE INSTALLED AND LOCATED ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND LOCAL BUILDING AND WIRING CODES.
17. PUMP SHALL CONSIST OF HYDROMATIC MODEL SKV40 SUBMERSIBLE PUMP (OR APPROVED EQUAL). PUMP SHALL BE RATED AT 4/10 HP AND SHALL HAVE A 2" DISCHARGE. THE PUMP SHALL OPERATE ON FULL OR PART LOAD, 12.5 AMP SINGLE PHASE, 80 HERTZ POWER SUPPLY.
18. CONTRACTOR TO ENSURE LIQUID IN DISCHARGE PIPE FLOWS BACK TO PUMP CHAMBER AFTER PUMP CYCLE.
19. PUMP CONTROL PANEL SHALL CONSIST OF MYERS CE-16PLEX ELECTRICAL CONTROL PANEL (OR APPROVED EQUAL). PUMP CONTROL PANEL TO BE LOCATED INSIDE EXISTING DWELLING.
20. CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING DIG SAFE (888-DIGSAFE) AND ANY OTHER APPLICABLE UTILITY COMPANIES PRIOR TO STARTING WORK.
21. CONTRACTOR WILL BE RESPONSIBLE FOR COMBINING LAUNDRY FLOW WITH SYSTEM.
22. CONTRACTOR RESPONSIBLE FOR IMPLEMENTING ALL O.S.H.A. PROCEDURES TO INCLUDE BUT NOT LIMITED TO CONFINED SPACE ENTRY PROCEDURES.
23. CONTRACTOR RESPONSIBLE FOR CONFIRMING LOCATION OF EXISTING LEACHING FACILITY AND DECOMMISSION AS REQUIRED.
24. CONTRACTOR TO CONFIRM EXISTING PLUMBING, SILL AND BENCHMARK ELEVATIONS PRIOR TO CONSTRUCTION.
25. MAGNETIC LOCATOR TAPE TO BE PLACED ON ALL SEPTIC SYSTEM COMPONENTS.
26. USE APPROVED PLAN STAMPED BY BOARD OF HEALTH FOR CONSTRUCTION.
27. CONTRACTOR TO BE CERTIFIED BY INFILTRATOR FOR CHAMBER INSTALLATION.
28. A LICENSED ELECTRICIAN MUST PUT A PERMIT FOR THE PUMP INSTALLATION, WHO MUST RECEIVE A PERMIT AND HAVE WORK INSPECTED BY THE TOWN WRITING INSPECTOR.



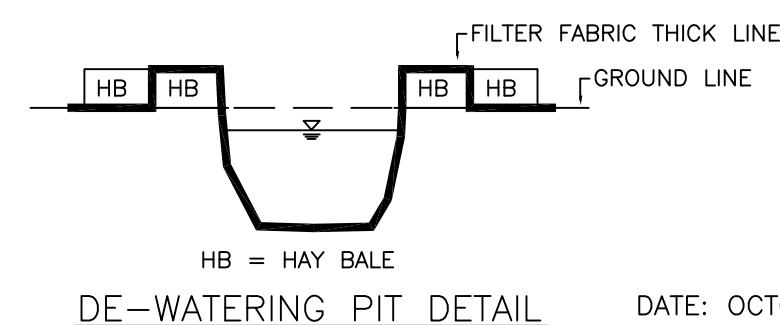
1,000 GALLON PRECAST PUMP CHAMBER  
MONOLITHIC / SEALCOATED



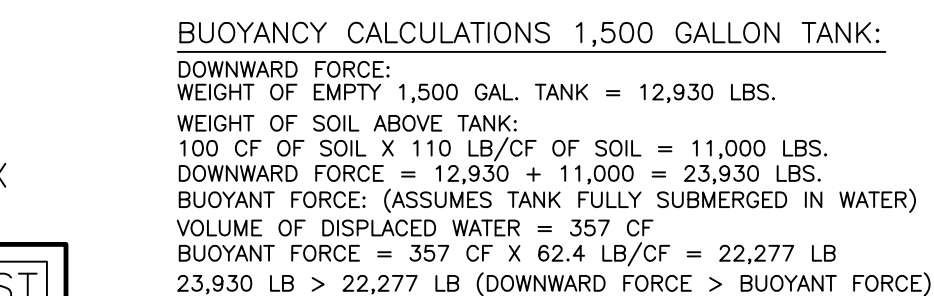
STRAW WATTLE  
EROSION CONTROL DETAILS  
NOT TO SCALE



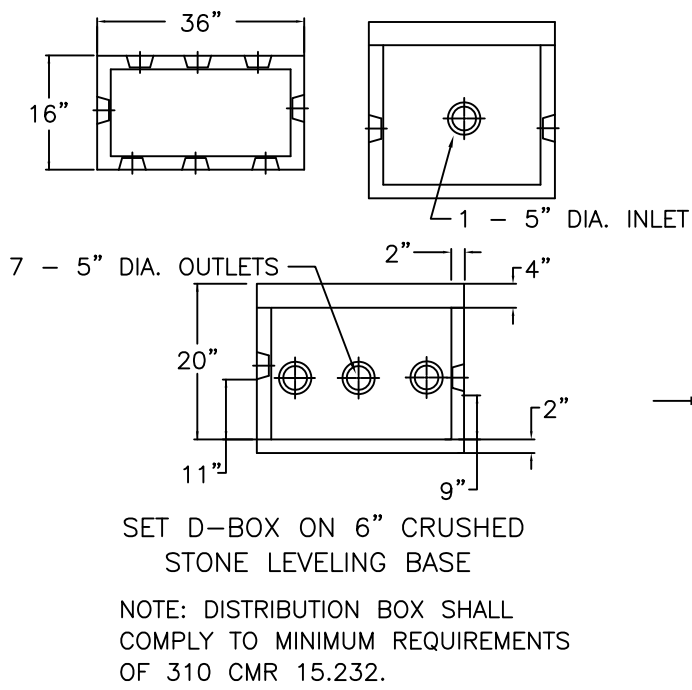
COMPOSTING SILT SOCK  
EROSION CONTROL DETAIL  
NOT TO SCALE



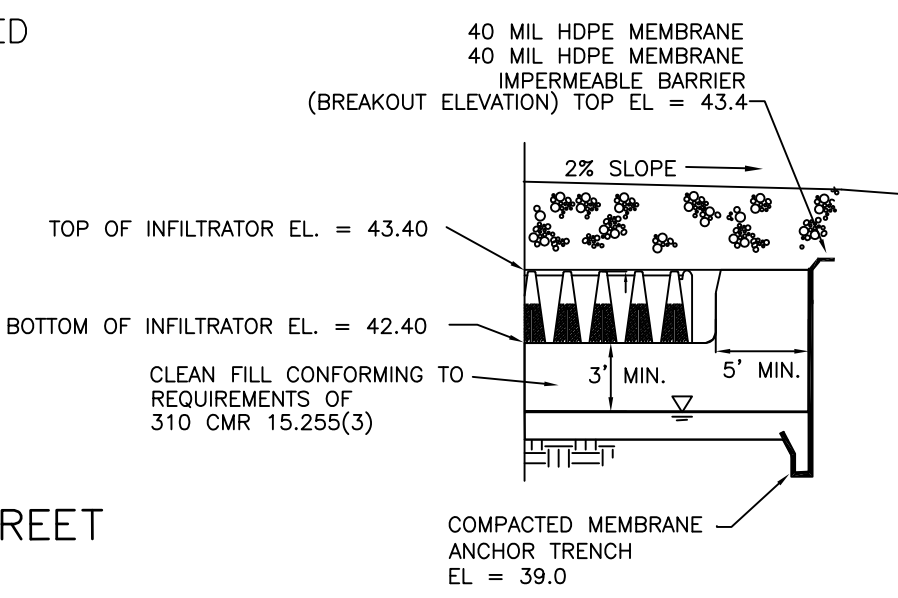
DE-WATERING PIT DETAIL



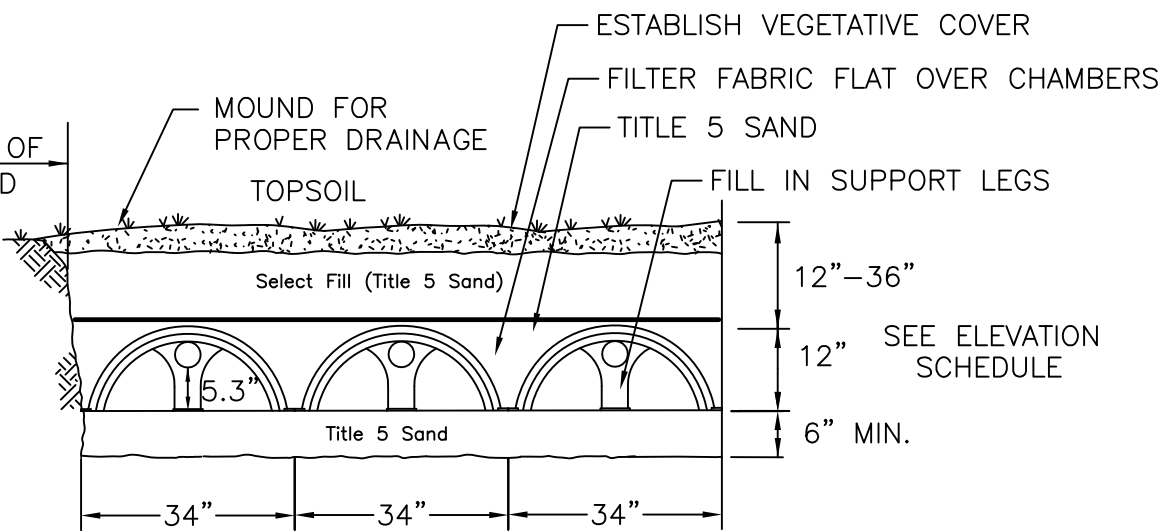
**BUOYANCY CALCULATIONS 1,000 GALLON TANK:**  
 DOWNWARD FORCE:  
 WEIGHT OF EMPTY 1,000 GAL. TANK = 8,800 LBS.  
 WEIGHT OF SOIL ABOVE TANK:  
 $72.25 \text{ CF OF SOIL} \times 110 \text{ LB/CF OF SOIL} = 7,947.5 \text{ LBS.}$   
 DOWNWARD FORCE =  $8,800 + 7,947.5 = 16,747.5 \text{ LBS.}$   
 BUOYANT FORCE: (ASSUMES TANK FULLY SUBMERGED IN WATER)  
 VOLUME OF DISPLACED WATER = 255 CF  
 BUOYANT FORCE =  $255 \text{ CF} \times 62.4 \text{ LB/CF} = 15,912 \text{ LB}$   
 $16,747.5 \text{ LB} > 15,912 \text{ LB}$  (DOWNWARD FORCE > BUOYANT FORCE)



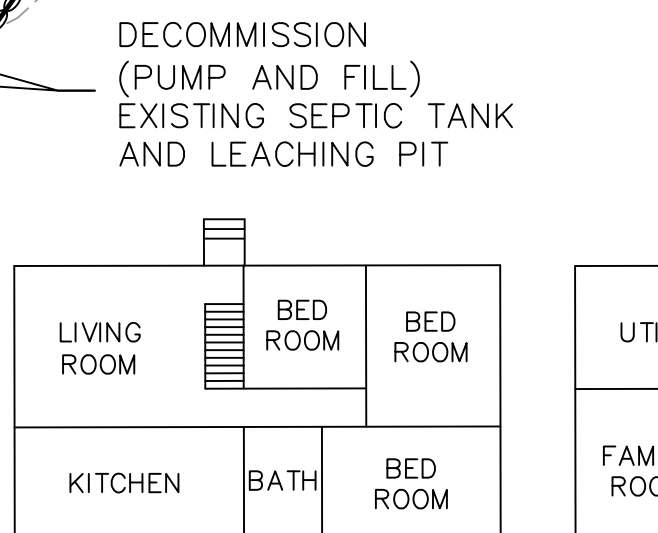
## 7 OUTLET DISTRIBUTION BOX



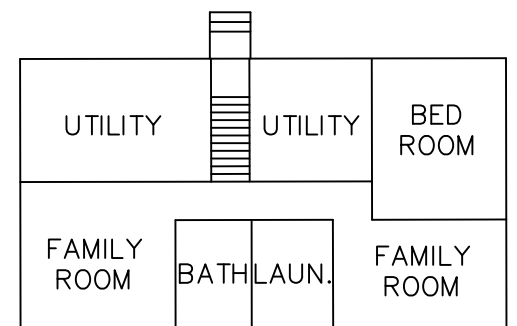
### CROSS SECTION IMPERMEABLE BARRIER



QUICK 4 PLUS STANDARD™ CONFIGURATION



UPPER LEVEL FLOOR PLANS  
NOT TO SCALE



LOWER LEVEL

WETLAND AND EROSION CONTROL NOTES

1. WETLAND DELINEATION PERFORMED BY BROOKE MONROE, BOTANIST.
2. EROSION CONTROL (WORK LIMIT) LINE TO BE INSTALLED PRIOR TO ANY ACTIVITY AND REMAIN IN PLACE UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.
3. CONTRACTOR RESPONSIBLE FOR IMPLEMENTING ALL CONSERVATION CONSIDERATIONS AND EROSION CONTROL MEASURES TO PROTECT HEALTH OF WETLANDS.
4. THE SITE IS NOT LOCATED IN AN AREA OF CRITICAL ENVIRONMENTAL CONCERN, ANY NHPSP OR WATER PROTECTION DISTRICTS.
5. CONTRACTOR TO SWEEP STREET AT THE END OF EACH WORK DAY.
6. THE DEP FILE NUMBER MUST BE POSTED ON SITE PRIOR TO STARTING WORK.
7. A COPY OF THE REGISTRY RECORDED ORDER OF CONDITIONS MUST BE ON SITE AT ALL TIMES DURING WORK.
8. THE NAME AND CONTACT NUMBERS OF THE GENERAL CONTRACTOR MUST BE PROVIDED TO THE ENGINEER AND CONSERVATION COMMISSION PRIOR TO STARTING WORK.
9. CONTRACTOR TO MONITOR, REPAIR AND MODIFY EROSION CONTROL TO ASSURE THAT THERE IS NO WETLAND LOSS OR DAMAGE TO THE SLOTTED GRATER.
10. SILT SACK (1") TO BE INSTALLED AT THE 1' CATCH BASIN IN THE STREET AS SHOWN.
11. CONTRACTOR TO MAINTAIN AND MONITOR DURING WORK AND REMOVED AFTER WORK IS DONE.
12. THE SITE IS LOCATED IN A ZONE X FLOOD ZONE (NOT IN A FLOOD ZONE).
13. THE SITE IS NOT LOCATED IN A ZONE I, ZONE II, ZONE 3, OR A WPA.
14. THE ZONE A IS LOCATED APPROXIMATELY 70 FEET AWAY FROM THE SAS AND RUNS ALONG THE SOUTHWESTLY LOT LINE.
15. THE SITE IS NOT LOCATED NEAR ANY PUBLIC WATER SUPPLIES OR VERNAL POOLS.

## LOCAL UPGRADE APPROVAL REQUESTS

1. VARIANCE FROM SECTION 310 CMR 15.212 OF THE STATE SANITARY CODE WHICH REQUIRES THAT THE MINIMUM VERTICAL SEPARATION FROM THE SOIL UNDERLYING THE SOIL ABSORPTION SYSTEM TO THE HIGH GROUND-WATER ELEVATION SHALL BE FOUR (4) FEET WITH A RECORDED PERC RATE GREATER THAN TWO MINUTES PER INCH. A VARIANCE THAT WOULD ALLOW A VERTICAL SEPARATION REDUCTION FROM THE REQUIRED FOUR (4) FEET TO THREE (3) FEET IS REQUESTED.
2. LOCAL UPGRADE APPROVAL FROM SECTION 310 CMR 15.227 OF THE STATE SANITARY CODE WHICH REQUIRES A 12" VERTICAL SEPARATION BETWEEN THE HIGH GROUNDWATER ELEVATION AND THE LOWEST TANK INVERT. A VARIANCE ALLOWING A REDUCTION OF THE REQUIRED 12 INCHES TO A MINIMUM OF 4 INCHES IS REQUESTED.

PLAN TO ACCOMPANY A CONSERVATION NOTICE OF INTENT FOR THE PROPOSED SEPTIC SYSTEM AND 2 EXISTING DECKS

																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

ESTIMATED SEASONAL HIGH GROUNDWATER ELEV. = 39.23  
DESIGN PERC RATE = 1" IN 20 MIN.

NOTE: LAYERS FILL/A, B, C1, AND C2 TO BE REMOVED TO A DEPTH OF 60" BELOW GRADE AND REPLACED WITH CLEAN FILL IN ACCORDANCE WITH 310 CMR 15.255(3). UNSUITABLE SOIL TO BE REMOVED TO A DISTANCE OF 5'-0" BEYOND THE LIMITS OF THE SOIL ABSORPTION SYSTEM.

## LEGEND

- 
- 49 --- EXISTING CONTOURS
  - 49 PROPOSED CONTOURS
  - TP-1 OBSERVATION HOLE LOCATION
  - PROPERTY LINES

MAP 49  
BLOCK 1  
LOT 74  
0 COUNTRY WAY

SOIL REMOVE AND REPLACE DATA:  
REMOVE AND REPLACE AREA = 1,111 S.F.  
REMOVE AND REPLACE VOLUME = 206 C.Y.

SOIL DATA:

DATE: OCTOBER 15, 2020

PERFORMED BY: GEORGE R. COLLINS, PE, COLLINS CIVIL ENGINEERING GROUP, INC.  
WITNESSED BY: RALPH COLE, SCITUATE BOH

DESIGN FLOW:

4 BEDROOMS x 110 GPD/BEDROOM = 440 GPD  
SEPTIC TANK:  
 440 GPD x 2.0 = 880 GALLONS  
 USE NEW 1,500 GALLON, 2-COMPARTMENT SEPTIC TANK

SOIL ABSORPTION SYSTEM:

PERCOLATION RATE = 20 MIN./INCH (CLASS II SOIL)  
 DESIGN LOADING RATE = 0.53 GPD/SF  

$$\text{LEACHING AREA REQ'D} = \frac{(440 \text{ GPD})}{0.53 \text{ GPD/SF}} = 830 \text{ SF}$$
 USE 19.8' X 29.1' LEACHING BED WITH 7 ROWS OF 7 IN  
 QUICK4 PLUS LEACHING CHAMBERS WITH END CAPS = 20  
 EACH ROW (7) 4' UNITS PLUS 1.1' END CAP CREDIT = 28'  
 29.1' PER ROW X 7 ROWS = 203.7 L.F.

QUICK 4 CHAMBER LEACHING AREA = 4.73 S.F./L.F.  
LEACHING AREA PROVIDED:  
203.7 L.F. X 4.73 S.F./L.F. = 963 SF > 830 SF REQUIRED  
DAILY FLOW CAPACITY:  
963 SF X 0.53 GPD/SF = 510 GPD > 440 GPD REQ'D

S O I L   D A T A :

DATE: OCTOBER 15, 2020

PERFORMED BY: GEORGE R. COLLINS, PE, COLLINS CIVIL ENGINEERING GROUP, INC.  
WITNESSED BY: RALPH COLE, SCITUATE BOH