

project title:

## PINERIDGE SUBDIVISION

prepared for:

THE WINSLOW DRIVE REALTY GROUP, LLC  
24 WINSLOW DRIVE  
ATKINSON, NH 03811

revisions

no.	date	description
0	07/29/15	ISSUED FOR REVIEW

plan submission

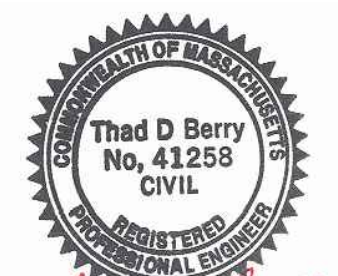
## SEPTIC SYSTEM DESIGN - NEW

date: 08.04.2015

scale: AS NOTED

job no: 2011-57 / 2704

DEP no: 114 - 1151 Roadway



drawing name

COVER SHEET:  
INDEX & NOTES  
(LOT 9)

drawing number

51

# SEPTIC SYSTEM DESIGN

-NEW-

## PINERIDGE SUBDIVISION BOXFORD, MA

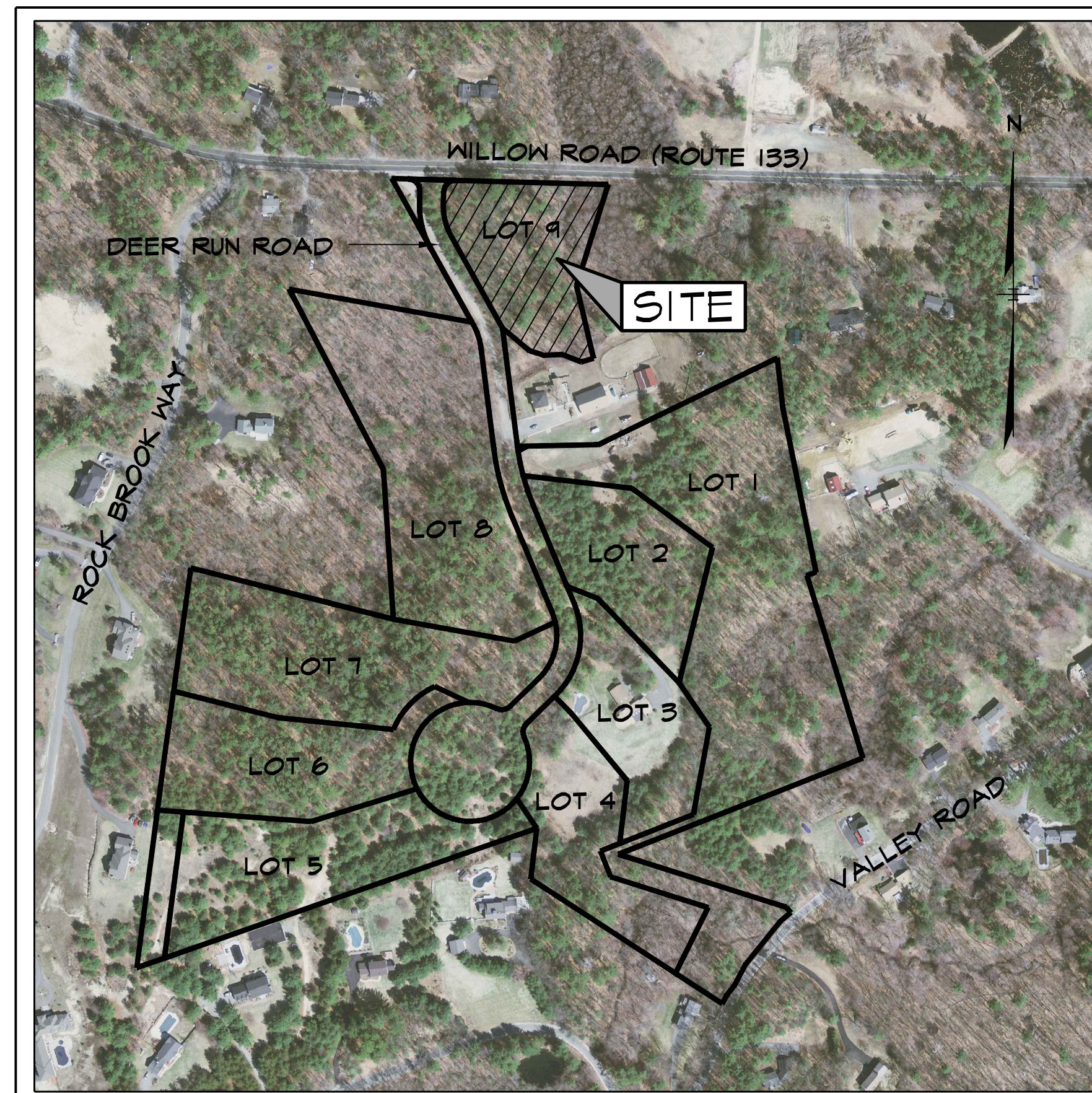
FOR:

THE WINSLOW DRIVE REALTY GROUP, LLC  
17 WINSLOW DRIVE  
ATKINSON, NH 03811

PREPARED BY:

ASB design group LLC

363 boston street, route 1  
topsfeld ma 01983  
phone 978.887.6161



### LOCATION PLAN

SCALE: 1" = 250' ±  
SOURCE: MA GIS DIGITAL RASTER GRAPHIC (DRG)

### INDEX OF SHEETS - LOT 9

SHEET	NO. OF SHEETS	DESCRIPTION
S1	1 OF 5	COVER SHEET: INDEX & NOTES
S2	2 OF 5	LOT 9 - SYSTEM DESIGN DATA
S3	3 OF 5	LOT 9 - SITE PLAN
S4	4 OF 5	LOT 9 - PROFILES
S5	5 OF 5	STANDARD DETAILS

**NOTE**  
ALL OF THE UNDERGROUND UTILITIES ARE NOT SHOWN ON THIS PLAN. CONTACT INDIVIDUAL UTILITY COMPANIES TO DETERMINE THE LOCATION OF THE LINES. BEFORE DESIGN AND CONSTRUCTION CALL "DIG SAFE" AT 1-800-DIG SAFE

**NOTE**  
NO CHANGES ARE TO BE MADE IN THE FIELD WITHOUT THE APPROVAL OF THE BOARD OF HEALTH AND THE DESIGN ENGINEER

### CONSULTANTS:

**CIVIL ENGINEER:**  
ASB DESIGN GROUP, LLC  
363 BOSTON STREET  
TOPSFELD MA 01983  
978.887.6161

**SURVEYOR:**  
DONOHOE SURVEY, INC.  
363 BOSTON STREET  
TOPSFELD MA 01983  
978.887.6161

**WETLANDS:**  
RIMMER ENVIRONMENTAL CONSULTING, LLC  
50 GREEN STREET  
NEWBURYPORT MA 01950  
978.463.9226

### SUBSURFACE DISPOSAL SYSTEM & MAINTENANCE

A SEPTIC SYSTEM IS USED TO DISPOSE AND TREAT HOUSEHOLD SEWAGE. IT CONSISTS OF A RECTANGULAR WATER TIGHT BOX (THE SEPTIC TANK) AND A LEACHING AREA.

WASTE WATER FROM THE HOUSE FLOWS DIRECTLY INTO THE SEPTIC TANK. THERE THE LARGER SOLIDS SETTLE TO THE BOTTOM, FORMING A LAYER OF SLUDGE. THE LIGHTER PARTICLES RISE TO THE SURFACE, FORMING A LAYER OF SCUM. BACTERIA IN THE TANK WORK TO DECOMPOSE THE SOLIDS IN THESE LAYERS. IN SPITE OF THIS DECOMPOSITION, REGULAR REMOVAL OF THE SLUDGE LAYER IS NECESSARY, EVEN UNDER NORMAL CONDITIONS, AS IT WILL EVENTUALLY BUILD UP TO THE POINT WHERE SLUDGE OVERFLOWS THROUGH THE OUTLET PIPE AND INTO THE LEACHING AREA. THIS MAY BLOCK THE ENTIRE LEACHING AREA, THUS CAUSING SYSTEM FAILURE. THEREFORE, A REGULAR SEPTIC TANK PUMPING SCHEDULE IS RECOMMENDED TO AVOID LEACHING AREA PROBLEMS. CONTACT THE LOCAL BOARD OF HEALTH FOR RECOMMENDED PUMPING SCHEDULE.

THE LIQUID PORTION OF THE SEWAGE FLOWS FROM THE SEPTIC TANK TO THE LEACHING SYSTEM, WHICH CONSISTS OF A SERIES OF PERFORATED PIPES OR A PRECAST PIT PLACED IN TRENCHES OR BEDS OF WASHED STONE. THIS SYSTEM DISTRIBUTES THE LIQUID SEWAGE INTO THE SURROUNDING SOIL, WHERE IT IS FILTERED AND TREATED.

### SYSTEM AS-BUILT REQUIREMENTS

CONTRACTOR SHALL COORDINATE WITH THE DESIGN ENGINEER AND AT A MINIMUM MAKE THE FOLLOWING SYSTEM COMPONENTS OPEN & ACCESSIBLE FOR HORIZONTAL AND VERTICAL LOCATION FOR AS-BUILT PLANS:

- ALL PIPES
- LEACHING FIELD, TRENCHES AND OR GALLERIES
- D-BOX
- SEPTIC TANK
- VENTS
- PUMP CHAMBER, ELECTRICAL HAND-HOLE
- IMPERVIOUS BARRIER (40 MIL HDPE POLYVINYL CHLORIDE FLEXIBLE MEMBRANE) - IF APPLICABLE.

INVERT AT BUILDING ANY OTHER APPLICABLE SYSTEM COMPONENTS

### AS-BUILT NOTES:

WHEN AN IMPERVIOUS BARRIER (40 MIL HDPE POLYVINYL CHLORIDE FLEXIBLE MEMBRANE) IS INSTALLED CONTRACTOR SHALL LEAVE TOP EXPOSED FOR HORIZONTAL AND VERTICAL LOCATION. WHEN PRESSURE DOSING, CONTRACTOR SHALL HAVE ALL ELECTRICAL CONNECTIONS INCLUDING ALARM COMPLETED PRIOR TO AS-BUILT. PUMPS SHALL BE TESTED AND PUMP DRAW DOWN CONFIRMED, WHERE APPLICABLE, THE SQUIRT HEIGHT SHALL BE MEASURED AND RECORDED.

I certify that on May 1996, I have passed the examination approved by the Department of Environmental Protection and that the above analysis was performed by me consistent with the required training, expertise, and experience as described in 310 CMR 15.01.

Signature Thad D. Berry Date 07.29.2015

### PROJECT BENCHMARK:

FROM BOXFORD MA TOWN\*  
"PINERIDGE SUBDIVISION PROJECT"

BENCHMARK: STA 13+91.11 85.98' RT  
CUT SPIKE IN 24" PINE TREE  
ELEV. = 139.39

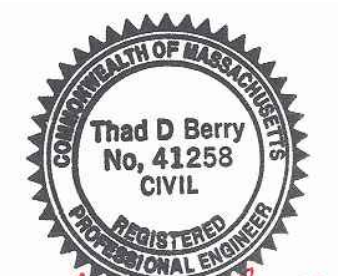
BENCHMARK: STA 18+41.40 61.90' RT  
CUT SPIKE IN UTILITY POLE #2108/4  
ELEV. = 143.96

### GENERAL NOTES

- THE GENERAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE HORIZONTAL AND VERTICAL CONTROL OF ALL SYSTEM COMPONENTS.
- THIS PLAN IS TO SHOW THE DESIGN OF THE SUBSURFACE DISPOSAL SYSTEM ONLY. THE SYSTEM IS DESIGNED FOR FLOWS ESTIMATED UNDER DESIGN CONDITIONS.
- THE SYSTEM IS DESIGNED ONLY TO ACCOMMODATE SANITARY SEWAGE ASSOCIATED WITH NORMAL DOMESTIC USAGE AND CONSISTING OF WATER-CARRIED PUTRESCIBLE WASTE.
- THIS SYSTEM IS NOT DESIGNED FOR GARBAGE GRINDERS.
- THE SYSTEM SHALL BE VENTED THROUGH THE BUILDING PLUMBING AS REQUIRED BY BUILDING CODE.
- 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 OR INTENDED.
- APPLICABLE ZONING REGULATIONS SHALL BE CONFIRMED BY THE OWNER PRIOR TO CONSTRUCTION.
- THE PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF SURVEY AND THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC., IS NOT INTENDED OR IMPLIED.
- THE INSTALLER OF THE SYSTEM MUST BE LICENSED BY THE LOCAL BOARD OF HEALTH.
- THERE ARE NO EXISTING WELLS WITHIN 150' FEET OF THE PROPOSED SEWAGE DISPOSAL SYSTEM OR WITHIN 50' OF THE SEPTIC TANK.
- DISPOSAL SYSTEM AREA IS TO BE RAKED (SCARIFIED) BEFORE INSTALLATION OF STONE. ALL STONES EXCEEDING 2-INCHES IN DIAMETER, ALL LOAM OR FOREIGN MATERIAL ENCOUNTERED DURING EXCAVATION SHALL BE REMOVED FROM THE LEACHING AREA BED SURFACE.
- FINISHED SURFACE OF THE LEACHING AREA SHALL BE GRADED TO ASSURE WATER RUN-OFF.
- ALL DISTURBED AREAS SHALL BE LOOMED, SEEDED, AND MAINTAINED TO PREVENT EROSION.
- THE SEPTIC TANK SHOULD BE PERIODICALLY INSPECTED AND MAINTAINED AND SHOULD BE PUMPED WHEN SLUDGE IN THE BOTTOM EXCEEDS 1/4 OF DEPTH.
- ALTERNATE MANUFACTURERS FOR CONCRETE STRUCTURES AND EQUIPMENT SHOWN ON THESE PLANS MAY BE USED UPON THE WRITTEN APPROVAL OF THE DESIGN ENGINEER. ALTERNATE MANUFACTURERS SHALL NOT BE USED IF THE USE OF THE EQUIPMENT REQUIRES DESIGN CHANGES.
- IF ANY PART OF THE DESIGN IS TO BE ALTERED IN ANY WAY, THE DESIGN ENGINEER, AS WELL AS THE APPROVING AUTHORITIES SHALL BE NOTIFIED IN WRITING PRIOR TO CONSTRUCTION.
- ALL WORK SHALL COMPLY WITH THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION - STATE SANITARY CODE TITLE 5 AND ANY BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
- THE LOCAL BOARD OF HEALTH WILL CONDUCT PERIODIC INSPECTIONS AS NEEDED.
- A RESIDENT INSPECTOR FROM ASB design group llc SHALL BE ON SITE TO: (a) INSPECT THE INSTALLATION OF ALL CONCRETE STRUCTURES PRIOR TO BEING BACKFILLED, (b) INSPECT THE BOTTOM OF THE LEACH BED AT THE TIME IT IS SCARIFIED, AND (c) INSPECT THE LEACH BED AREA PRIOR TO BEING BACKFILLED. THE DESIGN ENGINEER AND THE LOCAL BOARD OF HEALTH SHALL BE GIVEN AT LEAST 48 HOURS NOTICE BY THE GENERAL CONTRACTOR PRIOR TO COMMENCEMENT OF THE ABOVE CONSTRUCTION OPERATIONS. THE DESIGN ENGINEER SHALL SUBMIT AN AS-BUILT SKETCH OF THE SYSTEM TO THE BOARD OF HEALTH WITHIN 2 WEEKS OF COMPLETION.
- THESE PLANS AND SPECIFICATIONS ARE INTENDED TO ENCOMPASS THE PROPOSED WORK. SHOULD ANY OMISSIONS, ERRORS, OR DISCREPANCIES OCCUR, THE ENGINEER MUST BE NOTIFIED IMMEDIATELY AND THESE PLANS AND SPECIFICATIONS SHALL BE SUBJECT TO CORRECTION AND INTERPRETATION BY THE DESIGN ENGINEER, THEREBY DEFINING AND FULFILLING THE INTENT OF THE DESIGN.
- THERE ARE NO SURFACE WATER SUPPLIES OR TRIBUTARIES TO RESERVOIRS WITHIN 150' OF THE PROPOSED LEACHING AREA AND 50' OF THE PROPOSED SEPTIC TANK.
- THERE ARE NO EXISTING OR PROPOSED CATCH BASINS, SUBSURFACE DRAINS, INCLUDING FOUNDATION DRAINS OR DRYWALLS WITHIN 25' OF THE PROPOSED LEACHING AREA AND SEPTIC TANK.
- ALL CONNECTIONS AND JOINTS SHALL BE MECHANICALLY SOUND AND TIGHT.
- EFFLUENT DISTRIBUTION LINE OUTLET ORIFICES SHALL BE EVENLY SPACED ALONG TWO ROWS RUNNING THE LENGTH OF THE LINE, ON EACH SIDE, MIDWAY BETWEEN THE INVERT AND CENTERLINE WHICH SEPARATES THE UPPER AND LOWER HALVES OF THE PIPE. FOR GRAVITY DISTRIBUTION, ORIFICES SHALL BE NO SMALLER THAN 3/8-INCH AND NO LARGER THAN 3/8-INCH DIAMETER.
- EFFLUENT DISTRIBUTION LINES SHALL HAVE A SLOPE OF 0.005 FEET PER FOOT AND SHALL HAVE ENDS CAPPED OR CONNECTED TOGETHER BY UNPERFORATED PIPE OF THE SAME MATERIAL SPECIFICATIONS.
- DISTRIBUTION LINES CONNECTING THE DISTRIBUTION BOX OR PUMP CHAMBER TO THE SOIL ABSORPTION SYSTEM DISTRIBUTION LINES SHALL BE UNPERFORATED WITH WATER TIGHT CONNECTIONS AND JOINTS.
- DISTRIBUTION LINES EXCEEDING 50- FEET IN LENGTH SHALL BE CONNECTED AND VENTING PROVIDED IN ACCORDANCE WITH 310 CMR 15.241.
- THE 15' DISTANCE FOR BREAKOUT IS MEASURED HORIZONTALLY FROM THE TOP OF STONE. \*SEE PLAN & PROFILE.
- BOTTOM AND SIDEWALL AREA TO BE SCARIFIED TO A DEPTH OF 1-INCH PRIOR TO PLACEMENT OF STONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL PLUMBING FOR THE PROPOSED DWELLING AND IS TO ASSURE THAT ALL INTERIOR PLUMBING IS PROPERLY CONNECTED TO THE PROPOSED SEPTIC TANK. IN CASES OF REPAIRS, CONTRACTOR SHALL CONFIRM THAT ALL INTERIOR PLUMBING WILL BE ABLE TO FLOW TO THE PROPOSED SEPTIC TANK PRIOR TO CONSTRUCTION. AT A MINIMUM, THE CONTRACTOR SHALL USE A DYE TEST OR CAMERA TO CONFIRM EXISTING PLUMBING. CONTRACTOR SHALL REPORT ANY DISCREPANCY TO THE LOCAL BOARD OF HEALTH AND DESIGN ENGINEER PRIOR TO CONSTRUCTION.
- WETLANDS: FLAGGED BY RIMMER ENVIRONMENTAL CONSULTING, LLC, AND APPROVED BY THE BOXFORD CONSERVATION COMMISSION.

ASB design group LLC

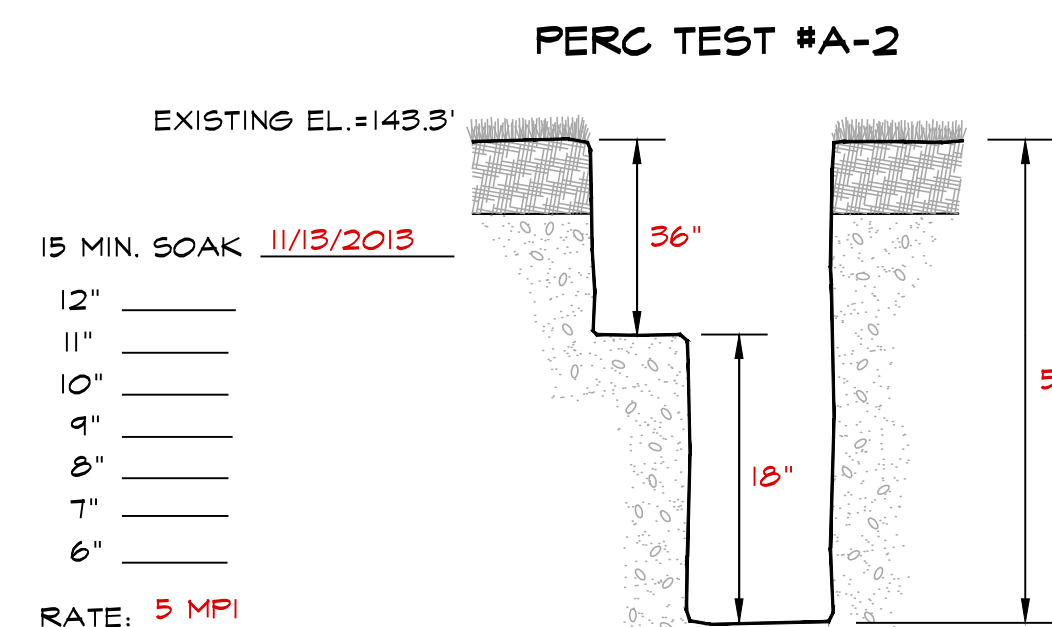
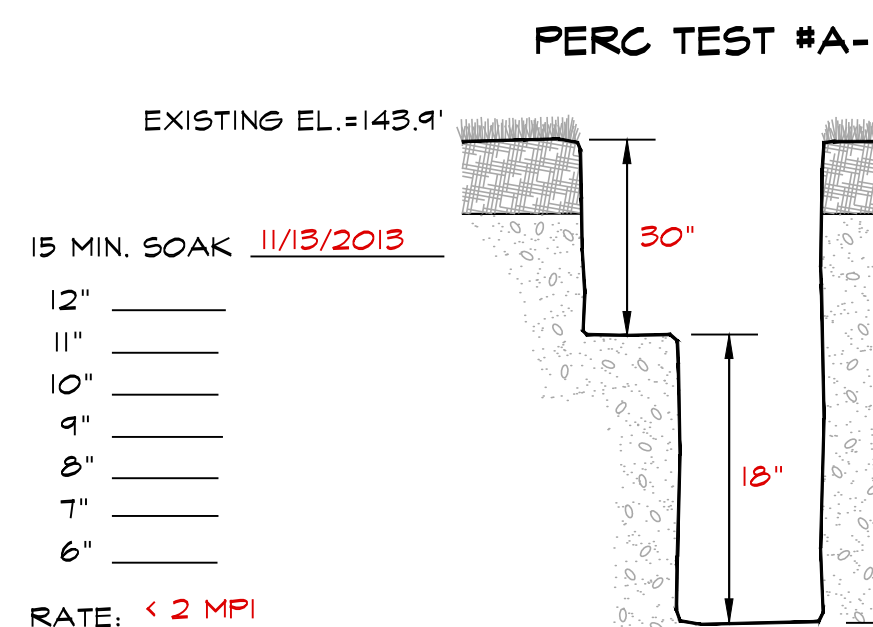
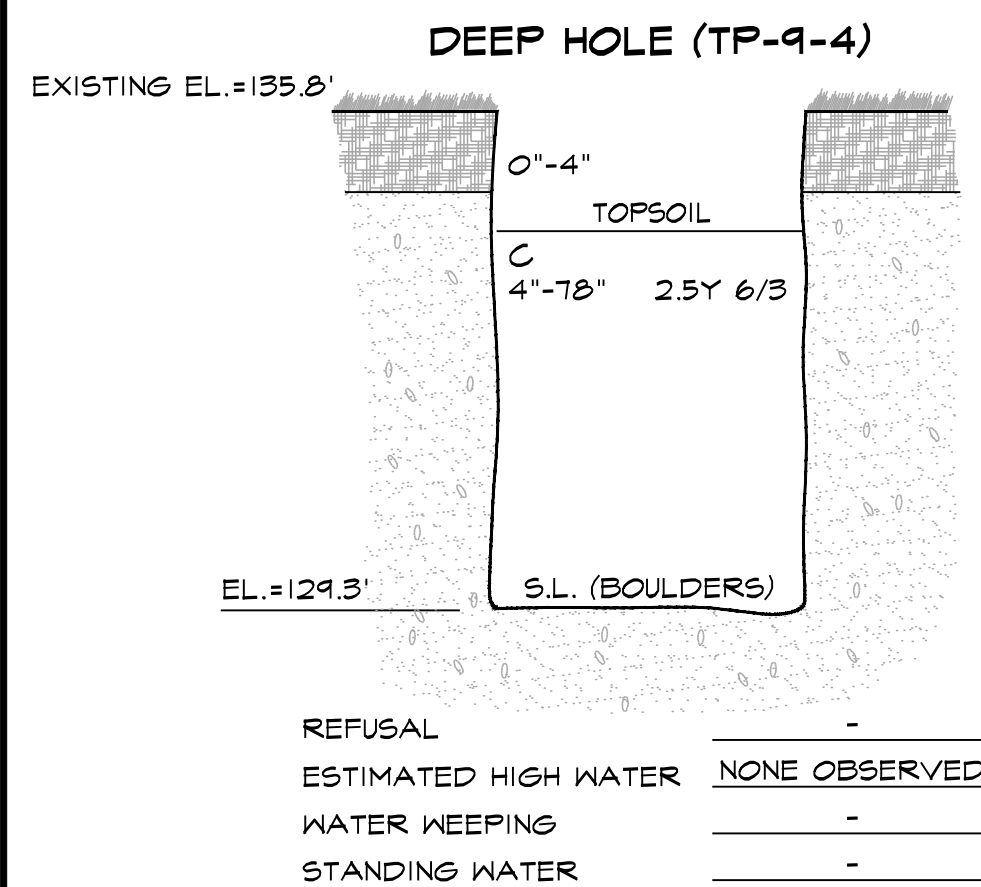
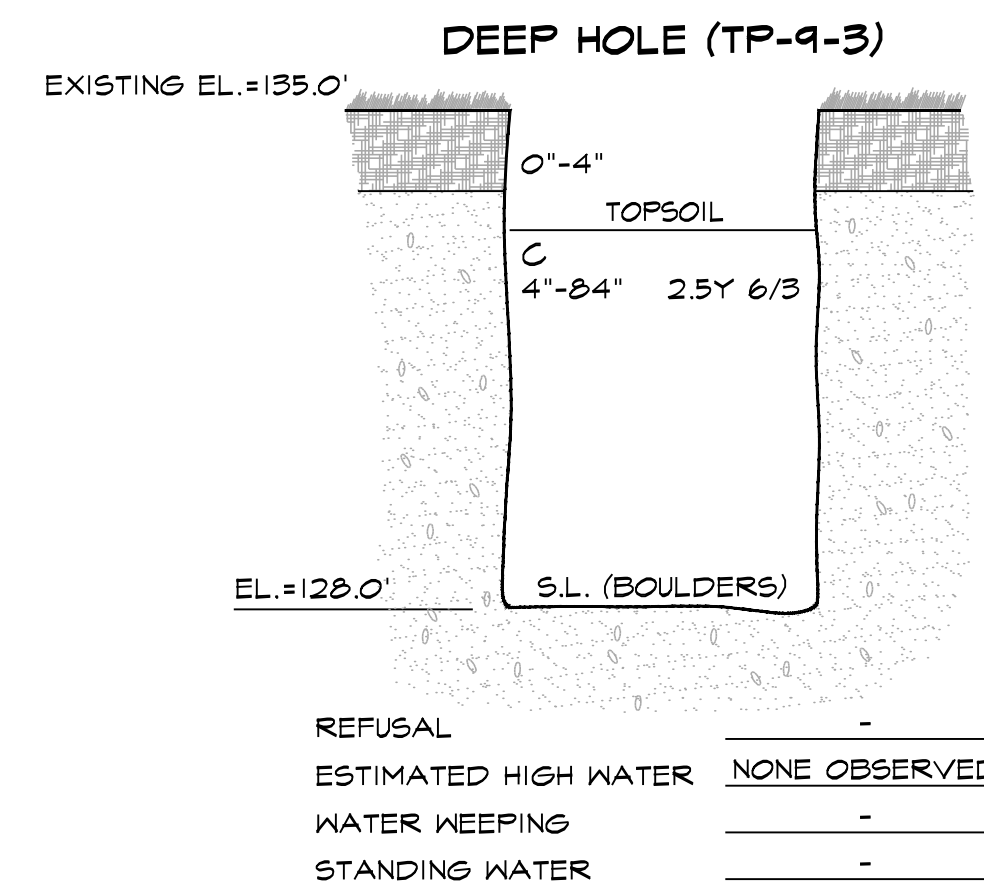
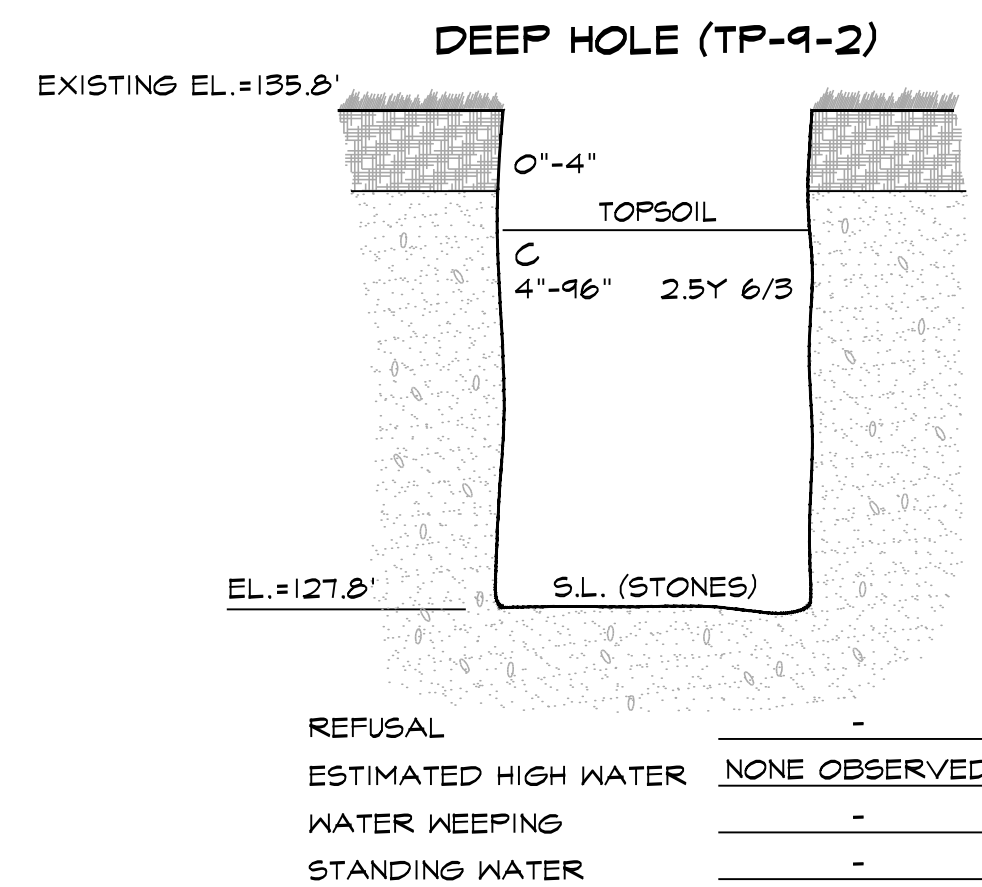
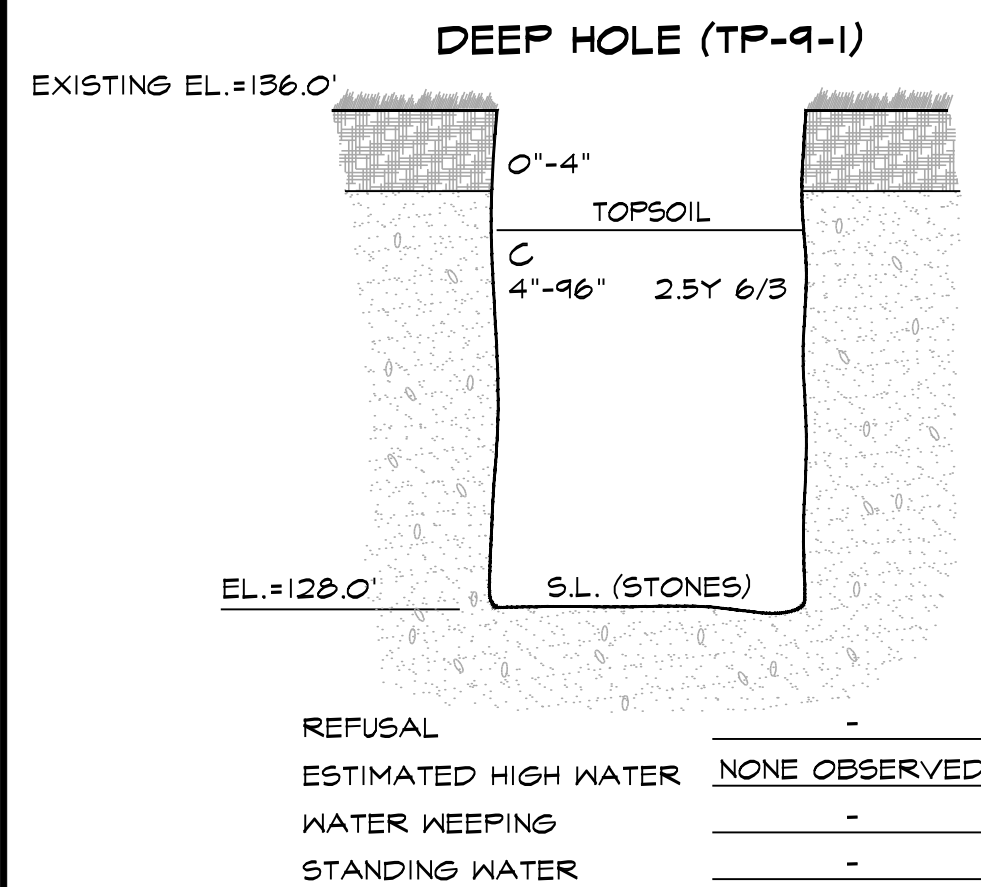
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*Thad D. Berry*

### LOT 1 DEEP HOLE / PERC. TESTING

PERFORMED BY: THAD BERRY, P.E., ASB DESIGN GROUP, LLC  
WITNESSED BY: BOXFORD BOARD OF HEALTH  
DATE: MAY 11, 2013 & MAY 28, 2014



### LOT 9 CALCULATIONS

#### SOIL DATA

##### SOIL CLASS:

- CLASS I: SANDS, LOAMY SANDS
- CLASS II: SANDY LOAMS, LOAM
- CLASS III: SILTY LOAMS
- CLASS IV: CLAYS, SILTY CLAY, LOAM
- SOIL UNSUITABLE FOR SUBSURFACE DISPOSAL SYSTEM.

PERC. RATE: < 2 MIN/IN DESIGN RATE: 5 MIN/IN

#### EFFLUENT LOADING RATE (GPD/SQ.FT)

PERC. RATE (MIN./INCH)	CLASS I	CLASS II	CLASS III	CLASS IV
5	0.74(3.0)	0.60(2.5)	-	-
6	0.70(2.9)	0.60(2.5)	-	-
7	0.68(2.8)	0.60(2.5)	-	-
8	0.66(2.7)	0.60(2.5)	-	-
10	-	0.60(2.5)	-	-
15	-	0.56(2.3)	0.37(1.5)	-
20	-	0.53(2.2)	0.34(1.4)	-
25	-	0.40(1.6)	0.33(1.3)	-
30	-	0.33(1.3)	0.29(1.2)	-
40	-	-	0.25(1.0)	-
50	-	-	0.20(0.8)	0.20(0.8)
60	-	-	0.15(0.6)	0.15(0.6)

LOADING RATE CRITERIA LISTED BELOW APPLY TO THE UPGRADE OF EXISTING SYSTEMS PURSUANT TO 310 CMR 15.405(1)(C), OR SYSTEMS CONSTRUCTED PURSUANT TO 310 CMR 15.417

#### SIZING CALCULATIONS

- DESIGN FLOW: 5 BEDROOMS X 110 GAL/BEDROOM = 550 GPD
- ADD GARBAGE DISPOSAL: 825 GPD
- LEACHING AREA REQUIRED: 825 GPD / 0.74 GPD/SF = 1,115 SF
- SYSTEM AREA PROVIDED: 28' WIDE X 40' LONG = 1,120 SF
- RESERVE AREA PROVIDED: 28' WIDE X 40' LONG = 1,120 SF

#### LEACHING AREA SIZING

NO. OF BEDROOMS	5
GALLONS PER DAY/BEDROOM	110
BASE DESIGN FLOW	550 GPD
ADD GARBAGE DISPOSAL	825 GPD
PERCOLATION RATE	5 MIN/IN
CLASS I SOIL	0.74 GPD/SF
* TOTAL AREA REQUIRED	1,115 S.F.
* LEACHING AREA PROVIDED	1,120 S.F.
RESERVE AREA PROVIDED	1,120 S.F.

#### SEPTIC TANK SIZING

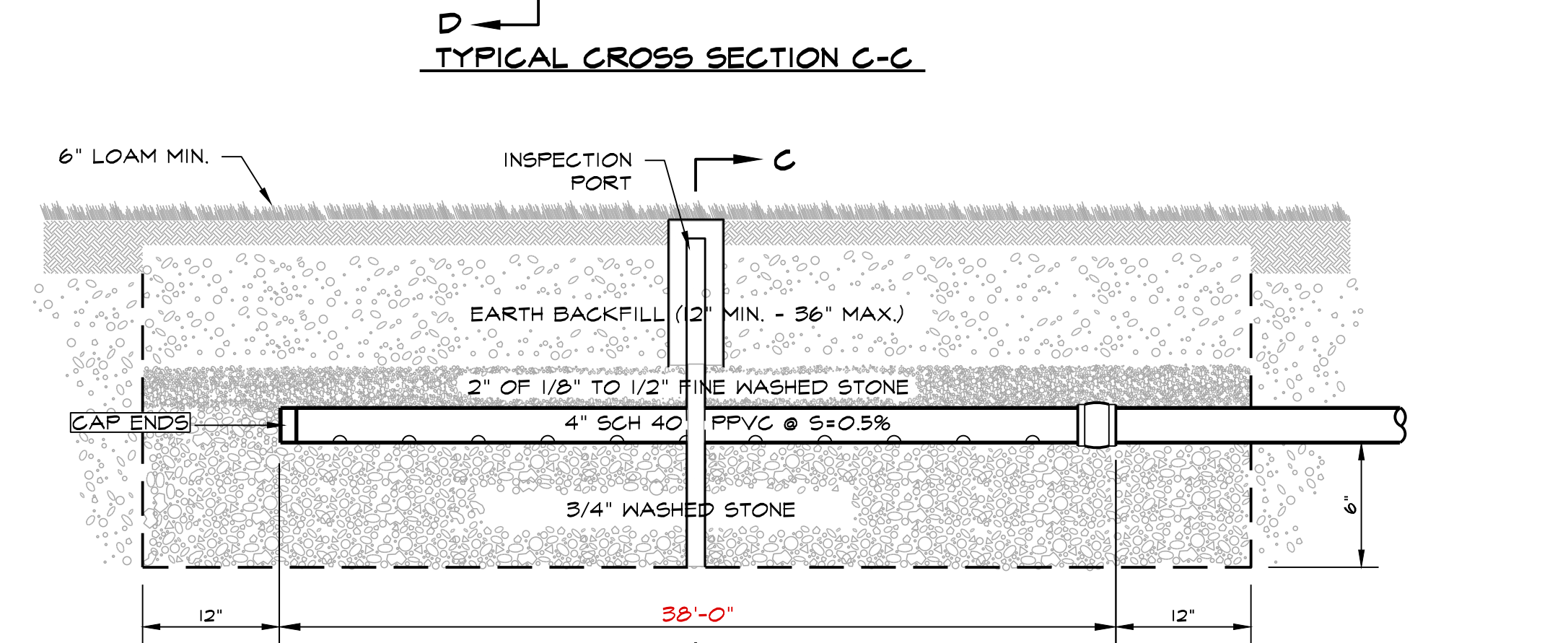
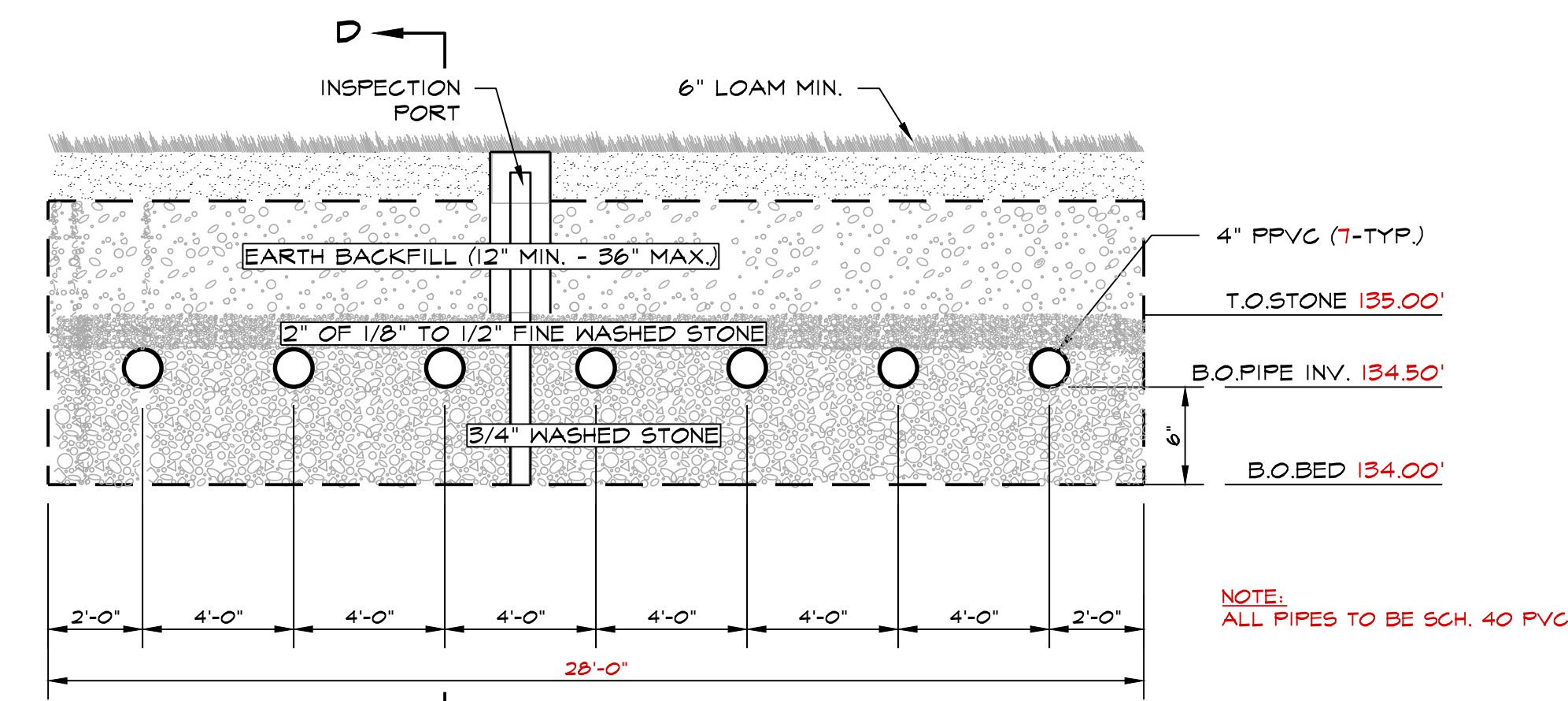
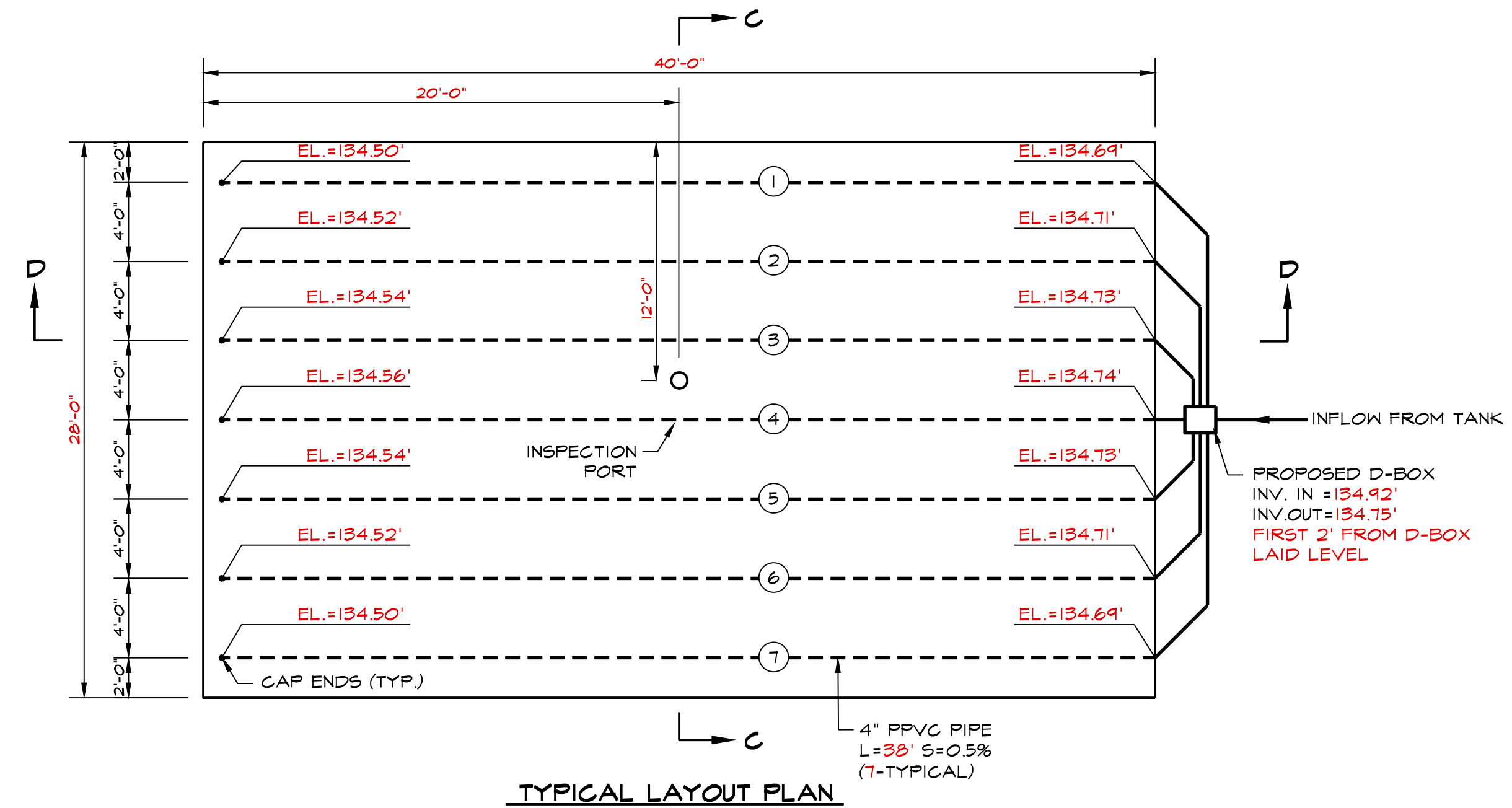
200% DESIGN FLOW	825 GPD
TOTAL DESIGN FLOW	825 GPD
200% X 825 GALS/DAY = 1,650 GPD (MIN. REQUIRED)	
* SEPTIC TANK USED	2000 GAL 2-COMPARTMENT

#### DESIGN ELEVATIONS

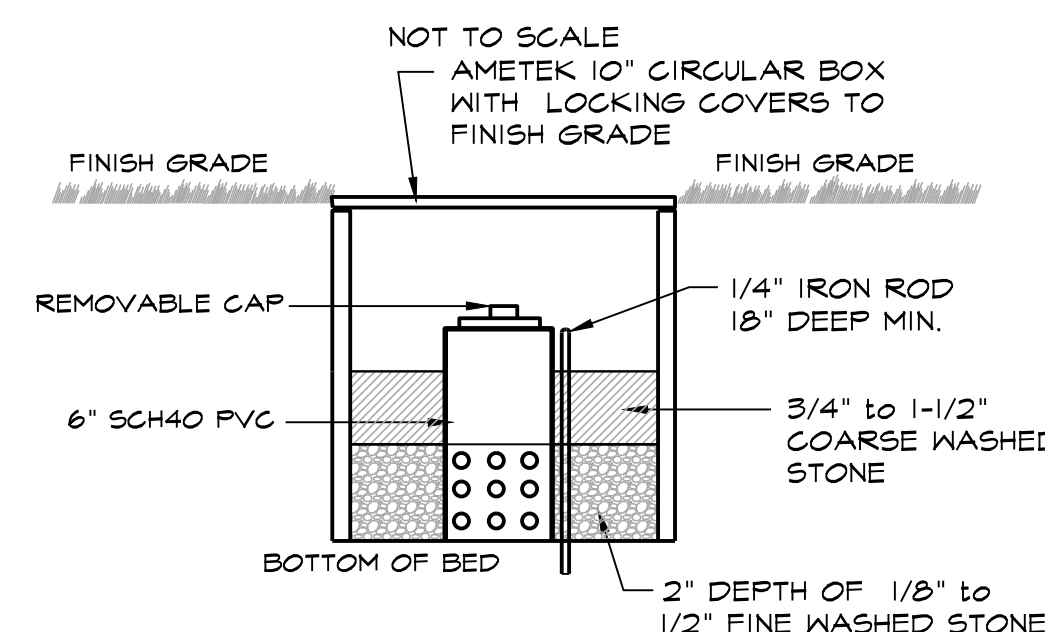
(ALSO SEE PROFILE, CROSS-SECTIONS & PLANS)

	BED
EXISTING DESIGN ELEVATION	135.50'
S.H.W.T (NONE @ 6.5')	129.00'
BOTTOM OF BED (+5.0' MIN.)	134.00'
BOTTOM OF PIPE (MIN. +0.5')	134.50' (PIPES 1&7)
TOP OF STONE (+0.5')	135.00'
D-BOX OUT	134.75'
D-BOX IN (+0.17')	134.92'
SEPTIC TANK OUT	135.24'
SEPTIC TANK IN (+0.25')	135.49'
INV AT HOUSE	135.75'
TOP OF FOUNDATION	138.00'
TOP OF FOUNDATION (GARAGE)	135.00'

NOTE:  
CONTRACTOR SHALL EXCAVATE AND CONFIRM INVERT AT BUILDING. CONTRACTOR SHALL REPORT ANY DISCREPANCY TO THE BOARD OF HEALTH AND THE DESIGN ENGINEER. CONTRACTOR SHALL UPON APPROVAL MAKE ALL NECESSARY FIELD ADJUSTMENTS THAT MAY BE REQUIRED.



#### LOT 9 LEACHING BED DETAILS NOT TO SCALE



#### INSPECTION PORT DETAIL NOT TO SCALE

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SUBDIVISION**

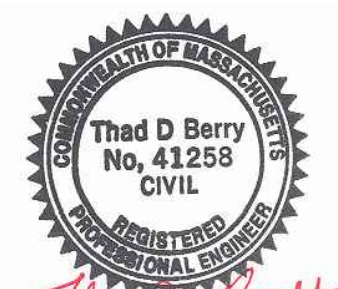
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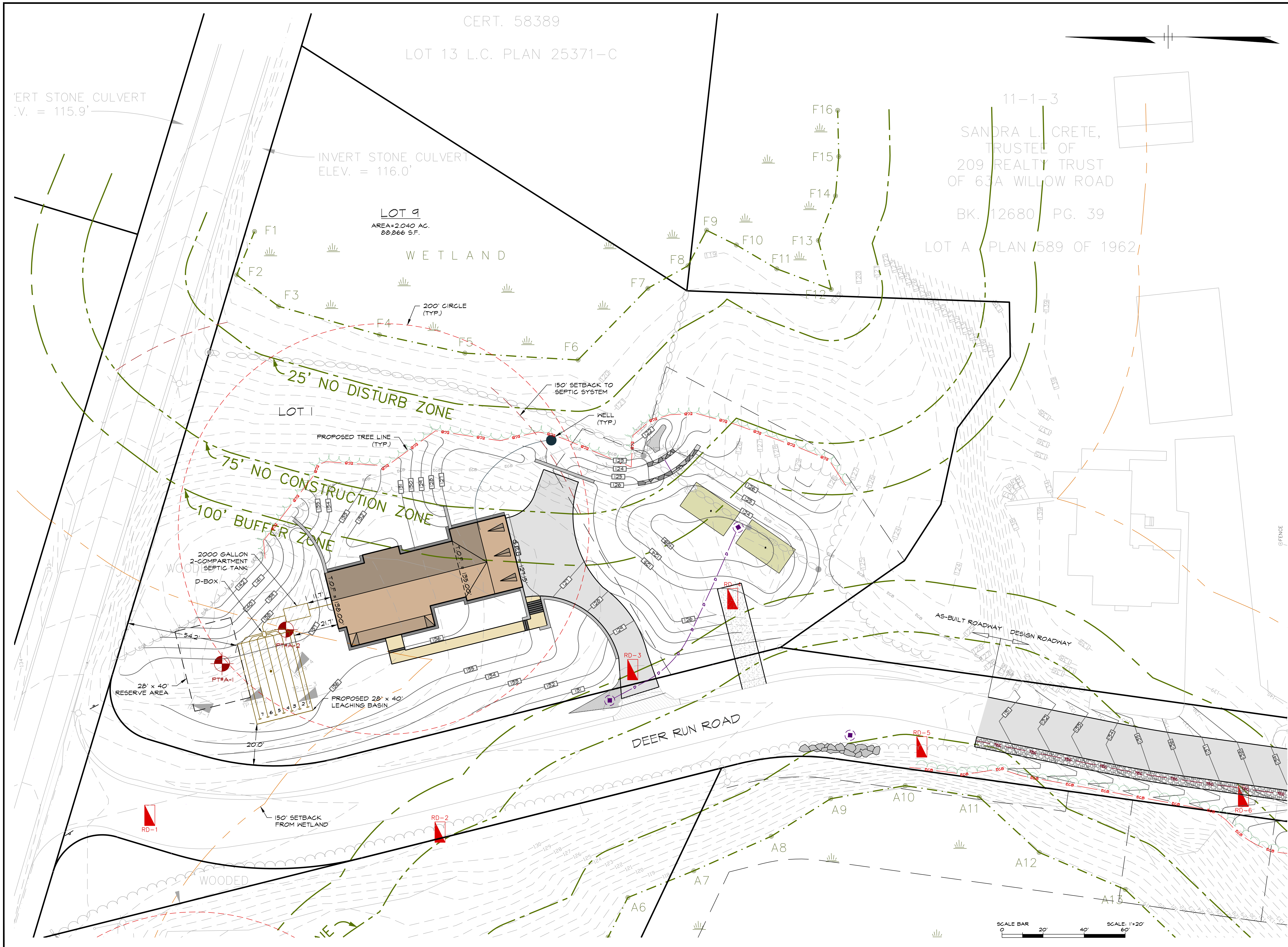
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*Thad D. Berry*

drawing name  
**LOT 9  
SITE PLAN**

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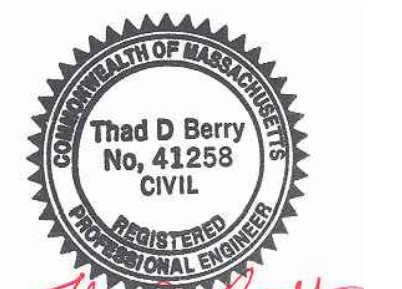
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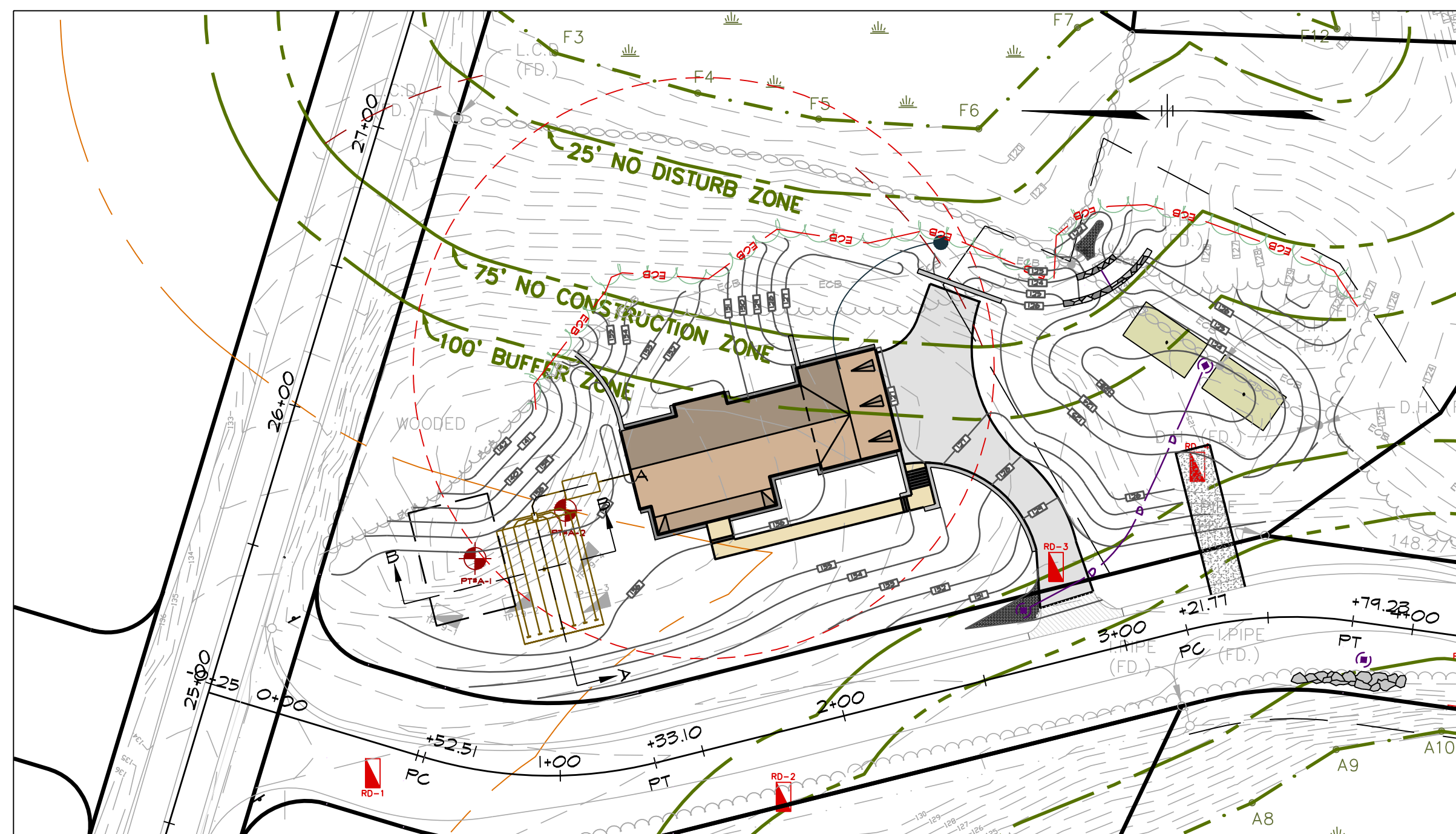
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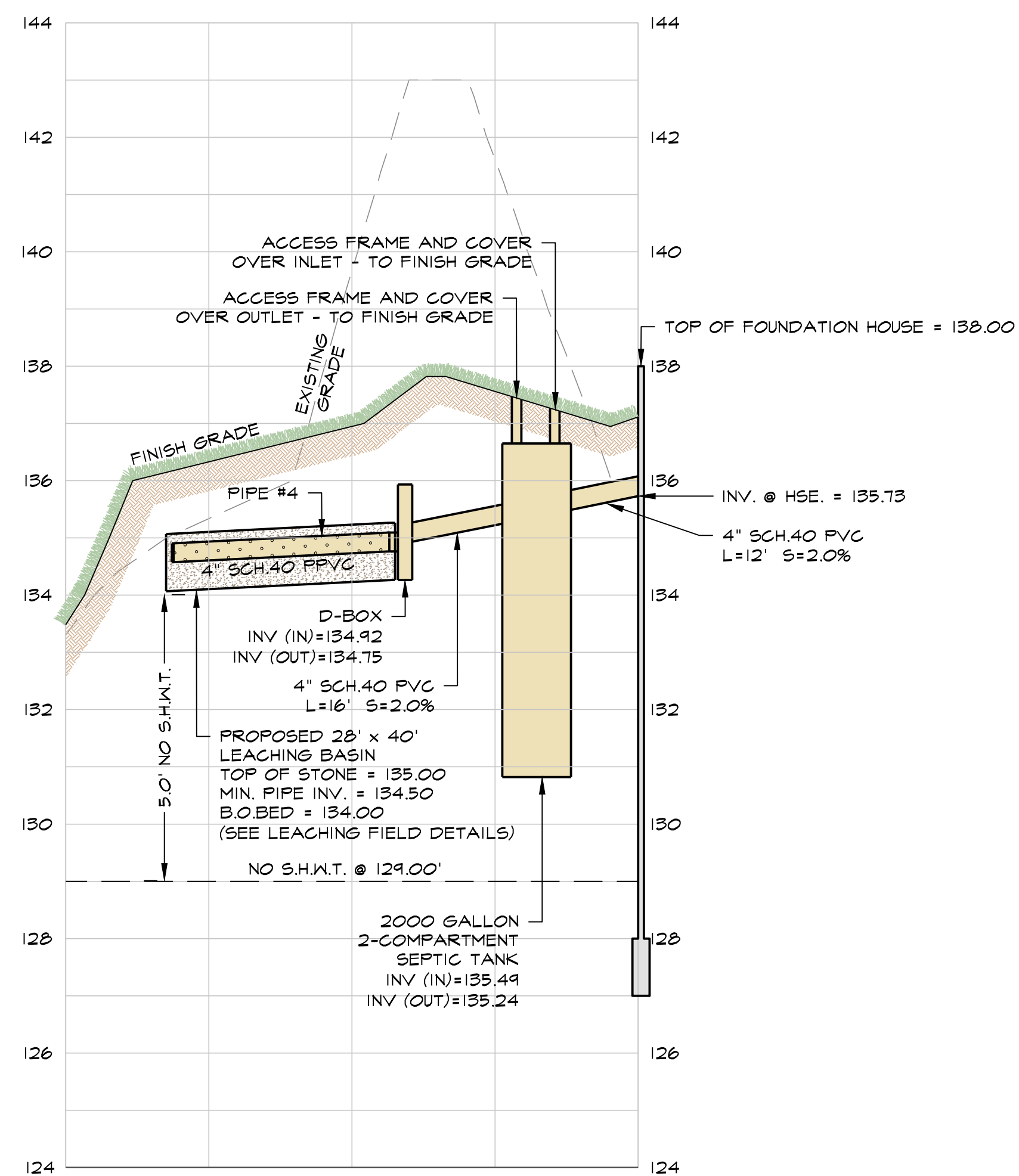
LOT 9  
PROFILES

drawing number

S4

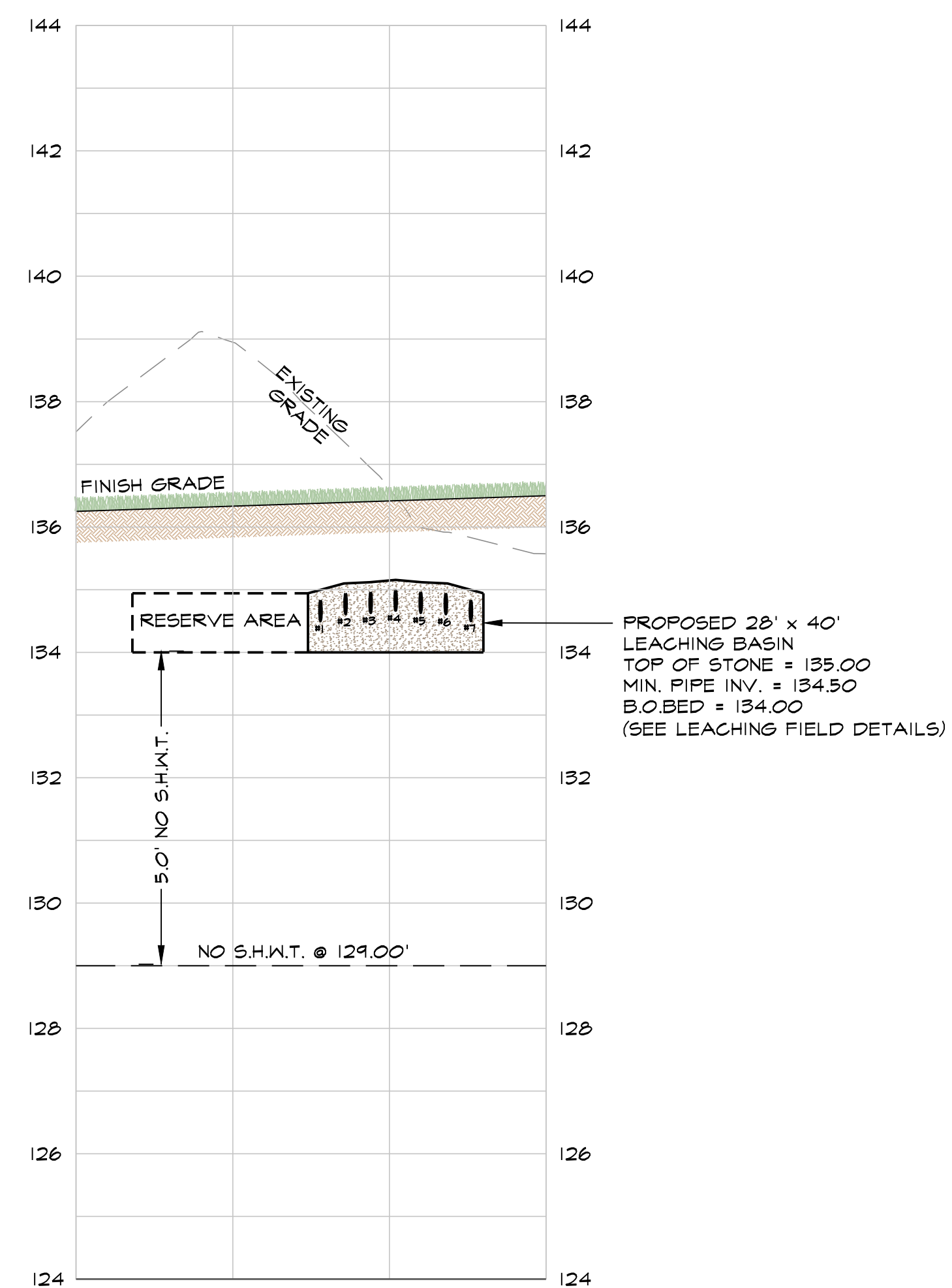


**LOT 9  
SITE PLAN**  
SCALE: 1" = 40'



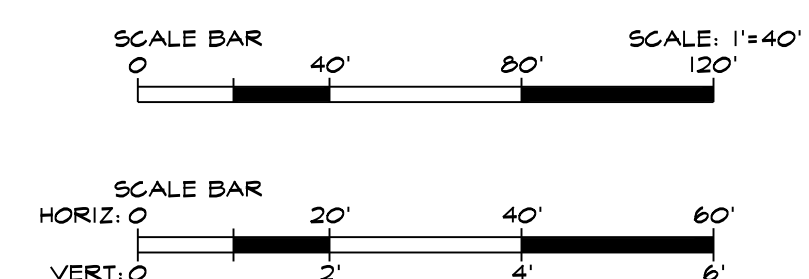
**LOT 9 - SYSTEM PROFILE A-A ALONG PIPE 4**  
SCALE: 1" = 20' HORIZONTAL  
1" = 2' VERTICAL

NOTE:  
ALL PIPES TO BE SCH. 40 PVC

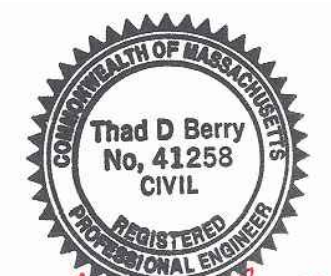


**LOT 9 - SYSTEM CROSS SECTION B-B**  
SCALE: 1" = 20' HORIZONTAL  
1" = 2' VERTICAL

NOTE:  
ALL PIPES TO BE SCH. 40 PVC



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*Thad D. Berry*

### GENERAL NOTES

- CONTRACTOR SHALL INSTALL SILTATION FENCING PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL STOCKPILE ALL LOAM AND SURROUND AREA WITH SILTATION FENCE.

### LOAM & SEEDING NOTES

#### LOADING, SEEDING AND FERTILIZING

- IF REQUIRED THE CONTRACTOR SHALL FURNISH ALL TOPSOIL OR ADDITIONAL TOPSOIL NEEDED TO COMPLETE THE JOB. IF THE EXISTING TOPSOIL IS SUFFICIENT TO COMPLETE THE JOB, ANY EXCESS TOPSOIL WILL REMAIN ON SITE. AN AREA WILL BE PROVIDED ON SITE FOR FINAL STORAGE.
- THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED ON THE DESIGNATED AREAS AND IT SHALL BE A MINIMUM DEPTH OF SIX INCHES AFTER FIRING. SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SEEDING.
- AFTER LOAM HAS BEEN PLACED, LIME AND FERTILIZER SHALL BE UNIFORMLY MIXED INTO THE TOP FOUR INCHES OF SOIL BY DISCING, HARROWING OR USING OTHER APPROVED METHODS.
- ANY UNDULATIONS OR IRREGULARITIES IN THE SURFACE RESULTING FROM FERTILIZING, LIMING, SURFACE ROUGHENING OR OTHER CAUSES SHALL BE LEVELED PRIOR TO SEEDING. FLOODED, WASHED-OUT OR OTHERWISE DAMAGED AREAS SHALL BE RECONSTRUCTED AND ALL GRADES RE-ESTABLISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE DRAWINGS AND/ OR OTHER APPLICABLE SPECIFICATIONS.
- PRIOR TO SEEDING THE SURFACE SHALL BE CLEARED OF ALL TRASH, DEBRIS AND STONES LARGER THAN ONE AND ONE-HALF INCHES IN DIAMETER, AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING OR MAINTENANCE OPERATIONS.
- BROADCAST SEED AND MULCH. PLACE STRAW AND ANCHOR IT TO TOPSOIL. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDLINGS WITH ADEQUATE WATER FOR PLANT GROWTH. (1/2"-1" EVERY 3-4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED.

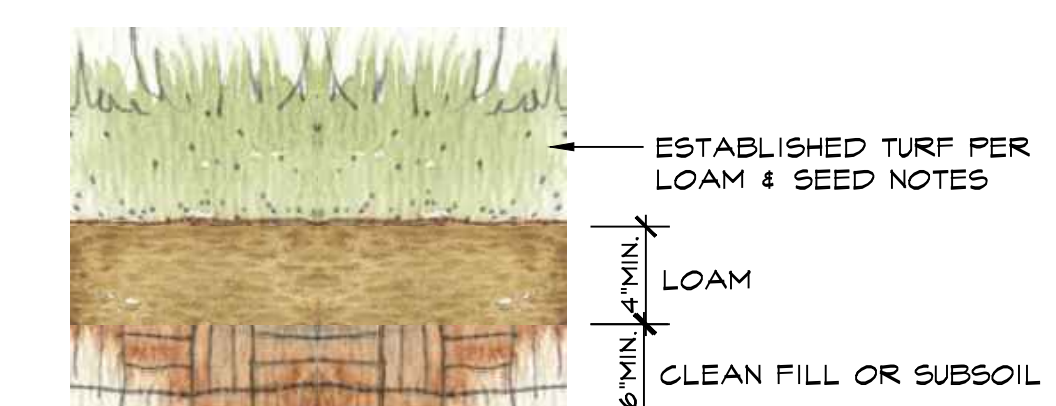
#### REPAIRS AND MAINTENANCE

INSPECT ALL SEEDED AREAS FOR FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND RESEEDINGS WITHIN THE PLANTING SEASON.

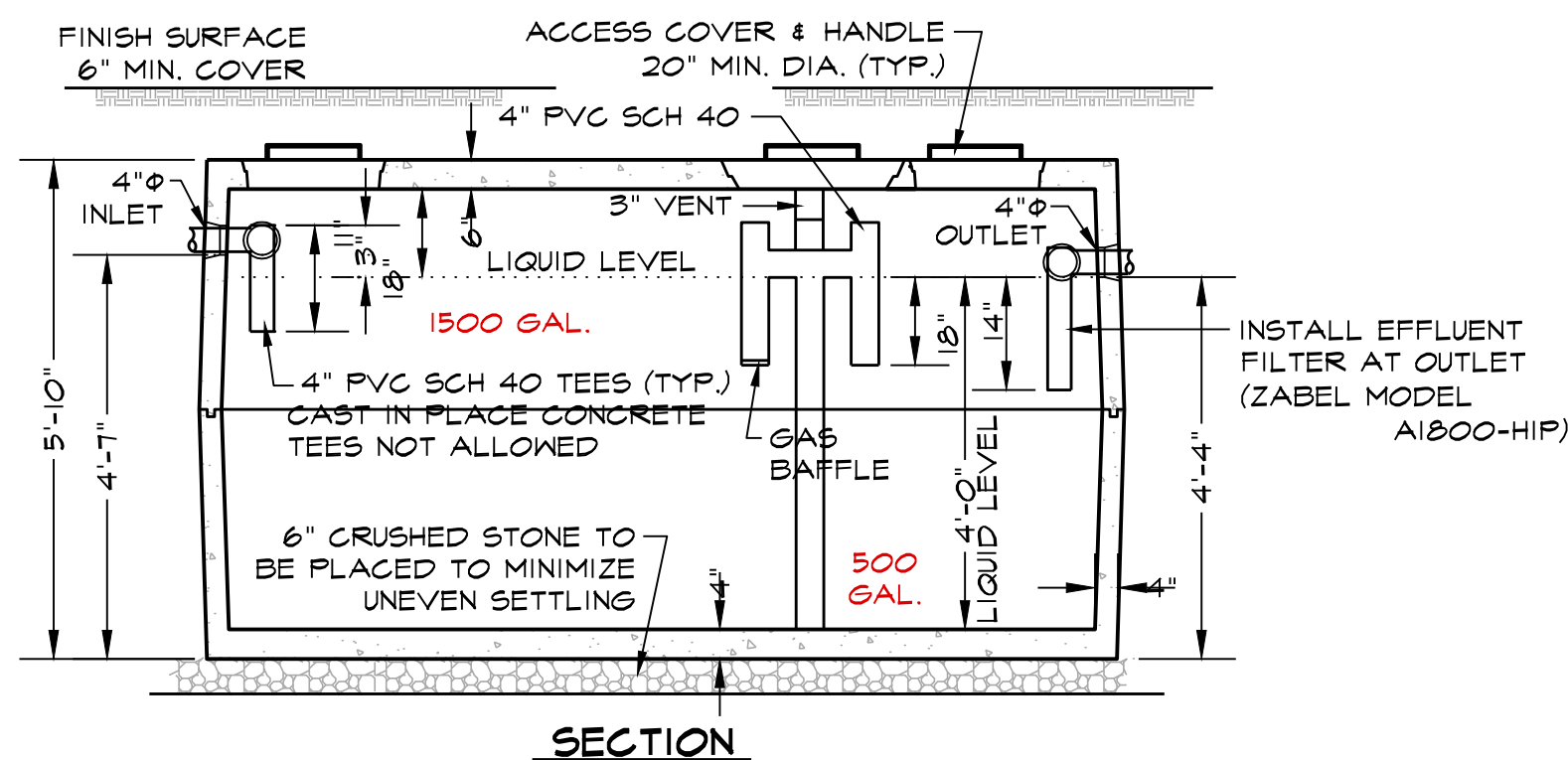
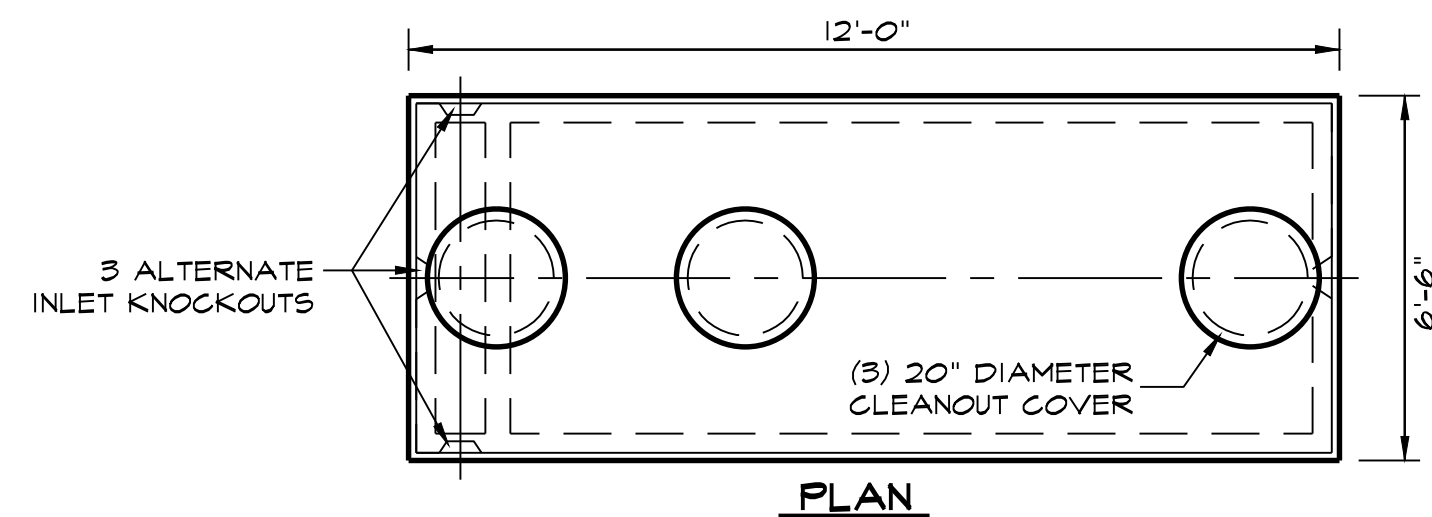
- ONCE THE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 95% GROUND COVER TO BE CONSIDERED ADEQUATELY STABILIZED.
- IF THE STAND PROVIDES LESS THAN 40% GROUND COVERAGE, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS.
- IF THE STAND PROVIDES BETWEEN 40% AND 94% GROUND COVER AGE, OVERSEEDING AND FERTILIZING USING HALF OF THE RATES ORIGINALLY APPLIED MAY BE NECESSARY.

#### SURFACE PREPARATION

- STRIP AND STOCKPILE ALL EXISTING LOAM FROM PROPOSED WORK AREAS. PROTECT LOAM FROM EROSION. ALL LOAM WILL REMAIN ON SITE UNLESS THE OWNER APPROVES OFF SITE REMOVAL.
- SET FIELD GRADES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. PROVIDE PROPER SURVEY CONTROL AND MAINTAIN THROUGHOUT CONSTRUCTION. PROVIDE ENGINEER WITH COPIES OF ALL SURVEY NOTES AND LOCATIONS OF BOTH VERTICAL AND HORIZONTAL CONTROL.
- BRING BASE MATERIAL TO FINISH GRADE. PROVIDE ENGINEER WITH AS-BUILT DRAWINGS SHOWING FINISH ELEVATIONS AND CONTOURS PRIOR TO PLACEMENT OF LOAM.
- SOIL TESTS SHALL BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER. SOIL TESTS SHALL BE CONDUCTED BY A STATE LABORATORY OR RECOGNIZED COMMERCIAL LABORATORY. PROVIDE ENGINEER WITH COPY OF TEST RESULTS AND RECOMMENDATIONS FOR LIMING AND FERTILIZING.
- AFTER THE AREAS TO BE TOPSOILED HAVE BEEN APPROVED BY THE OWNER OR ENGINEER, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENEED BY ROUGHENING TO THE DEPTH OF AT LEAST TWO INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL AND TO INCORPORATE THE LIME.
- ACCEPTANCE SHALL BE GIVEN BY THE OWNER OR ENGINEER UPON SATISFACTORY COMPLETION OF EACH SECTION OR AREA AS INDICATED ON THE DRAWINGS OR AS OTHERWISE SPECIFIED BEFORE PLACEMENT OF TOPSOIL.



LOAM & SEED DETAIL  
NOT TO SCALE

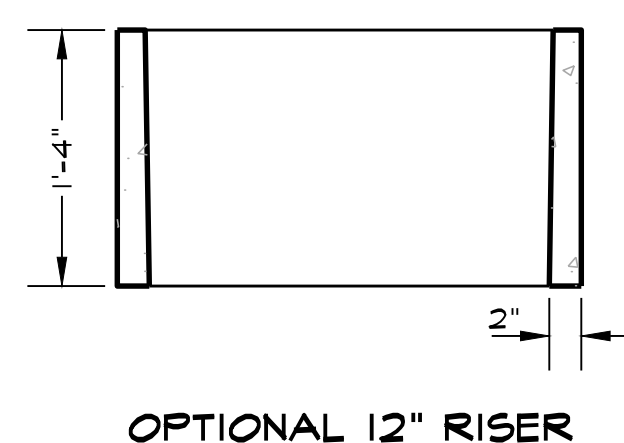
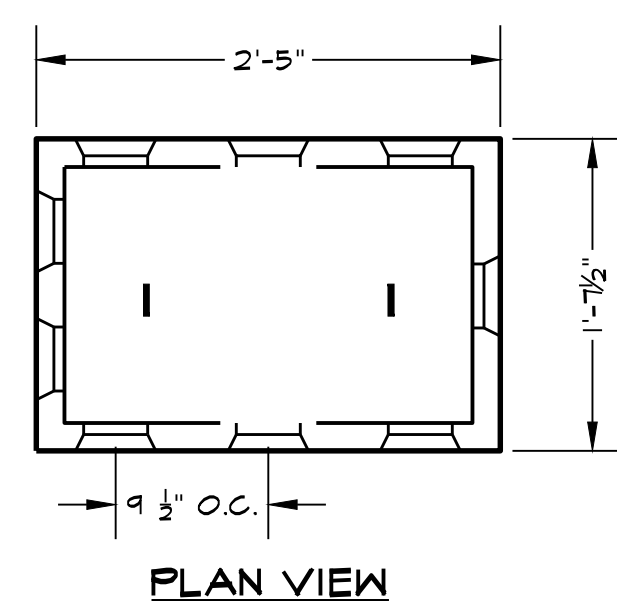


#### NOTES:

- PROVIDE A MINIMUM 2,000 GALLON MONOLITHIC TANK.
- CONCRETE MINIMUM STRENGTH: 4,000 PSI AFTER 28 DAYS.
- ALL JOINTS SHALL BE SEALED WITH 1"Ø BUTYL RUBBER OR EQUAL.
- INSTALL LEVEL AND TRUE ON A LEVEL BASE THAT HAS BEEN MECHANICALLY COMPACTED.
- USE SHEA CONCRETE MODEL 'TK-COMBO H-20' OR EQUAL.

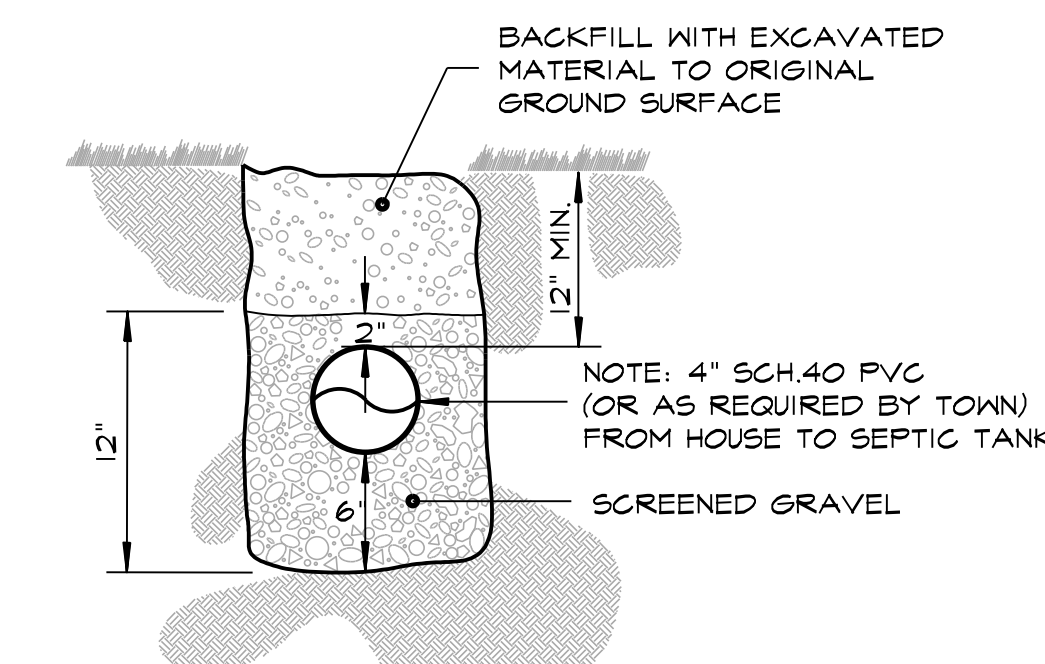
### SEPTIC TANK 2-COMPARTMENT 2,000 GALLON TANK

NOT TO SCALE



### TYPICAL CONNECTION TRENCH

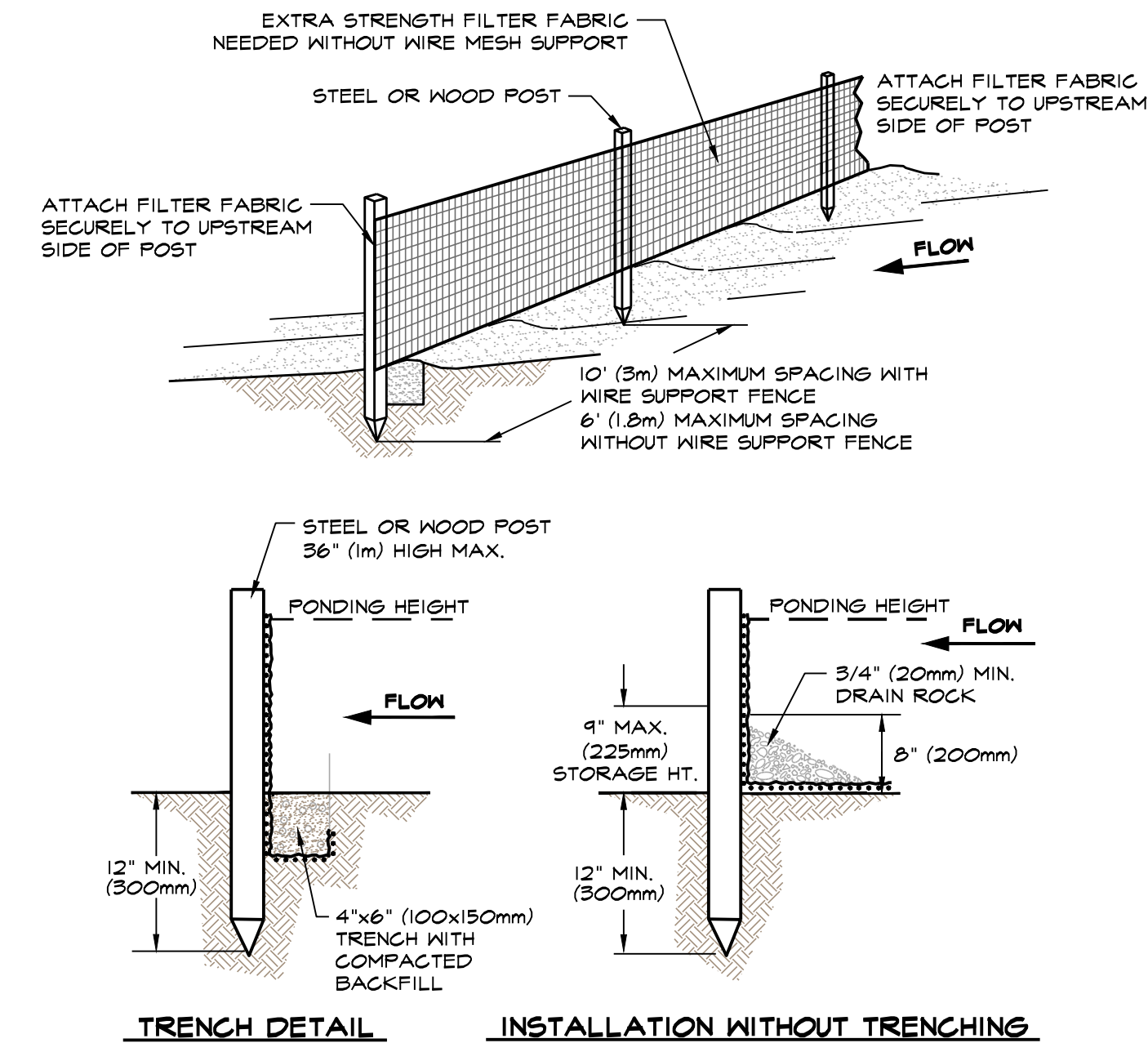
NOT TO SCALE



### EROSION CONTROL BARRIER

NOT TO SCALE

EROSION CONTROL BARRIER: SILT FENCE, HAY BALES, OR SILT SOCK  
EROSION CONTROL BARRIER SHALL BE PLACED AROUND ALL TEMPORARY STOCKPILE AREAS AND MAINTAINED AS DEFINED ON OMI (SHEET 10 OF 12).

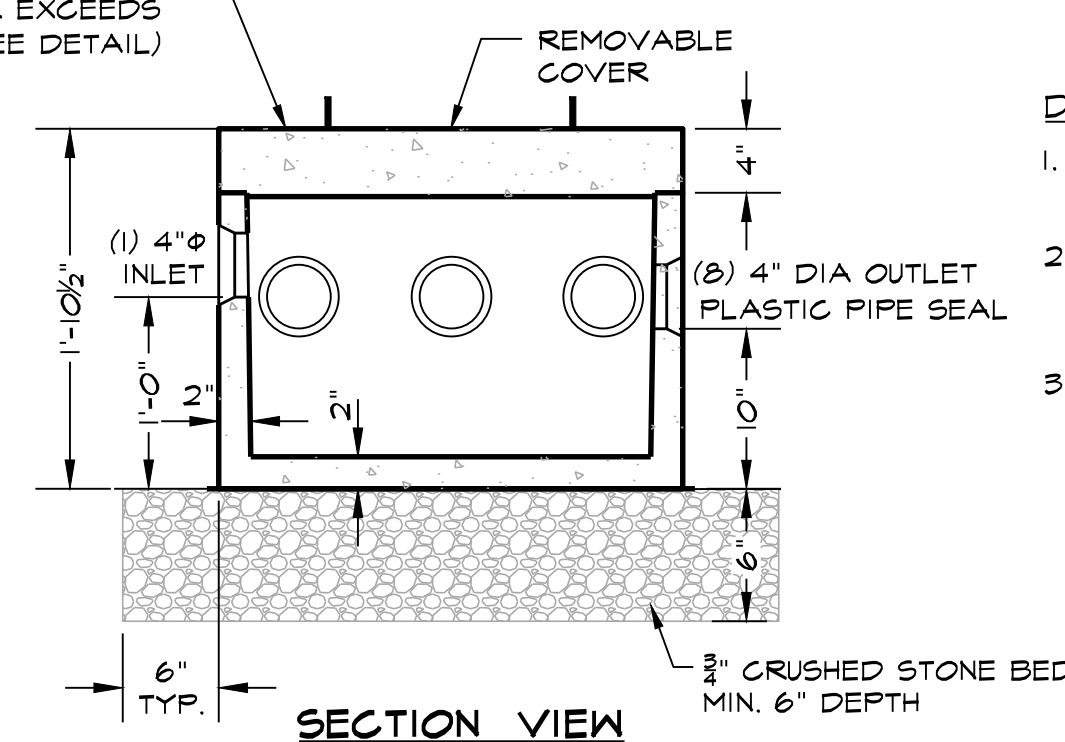


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PROVIDE WATER-TIGHT RISER TO GRADE WITH FRAME & COVER WHERE GRADING COVER EXCEEDS 6-INCHES (SEE DETAIL)

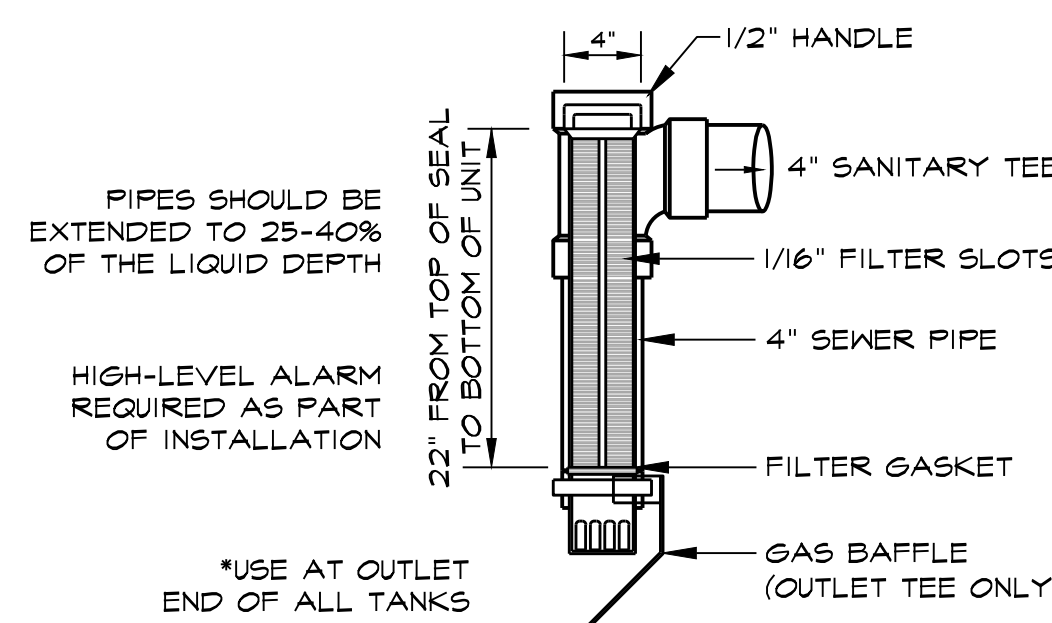


### 8-OUTLET DISTRIBUTION BOX (H-20)

NOT TO SCALE

#### D-BOX NOTES:

- CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
- REINFORCEMENT SHALL BE ASTM A-165 GRADE 60, A-185 OR A-497 WITH A MINIMUM COVER OF 1-INCH.
- THE D-BOX SHALL BE SET LEVEL ON A SOLID BASE. FLOW EQUALIZERS SHALL BE INSTALLED AT EACH OUTLETS AFTER THE DISTRIBUTION BOX IS SET LEVEL.



### OUTLET EFFLUENT FILTER

NOT TO SCALE

ZABEL ENVIRONMENTAL MODEL A1800 4x22 OR EQUAL