LAYOUT 9/25/09 INSP 4 10/2/09

INSP 2 9/29/09 INSP 5 10/6/09

INSP 3 10/1/09 INSP 6

ISSUE DATE: 9/14/09

APPROVAL DATE: 12/9/09

PERMIT

P 531853

A 59207

SANDMOUND SYSTEM
ON-SITE SEWAGE DISPOSAL SYSTEM
HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
Tax ID # 04-371399

Trinity Quality Homes IS PERMITTED TO INSTALL ☒ ALTER ☐

ADDRESS: 3675 Park Avenue Suite 301 Ellicott City PHONE NUMBER: 410-480-0023

SUBDIVISION: The Chase @ Stoney Brooke LOT NUMBER: 15

ADDRESS: 16326 Cattail River Drive PROPERTY OWNER: Trinity Quality Homes

SEPTIC TANK CAPACITY (GALLONS): 2000 OUTLET BAFFLE FILTER REQUIRED ☐

PUMP CHAMBER CAPACITY (GALLONS): 1000 COMPARTMENTED TANK REQUIRED ☒

NUMBER OF BEDROOMS: 4

SIZE 600 GPD Gravel bed 9 ft by 66.7 ft

LOCATION:	Sand mound to be installed, see approved plan for location, elevations and system design details.
NOTES:	Sand mound must be staked and surrounded by a protective barrier. Keep heavy equipment off location. Layout inspection required prior to installation.

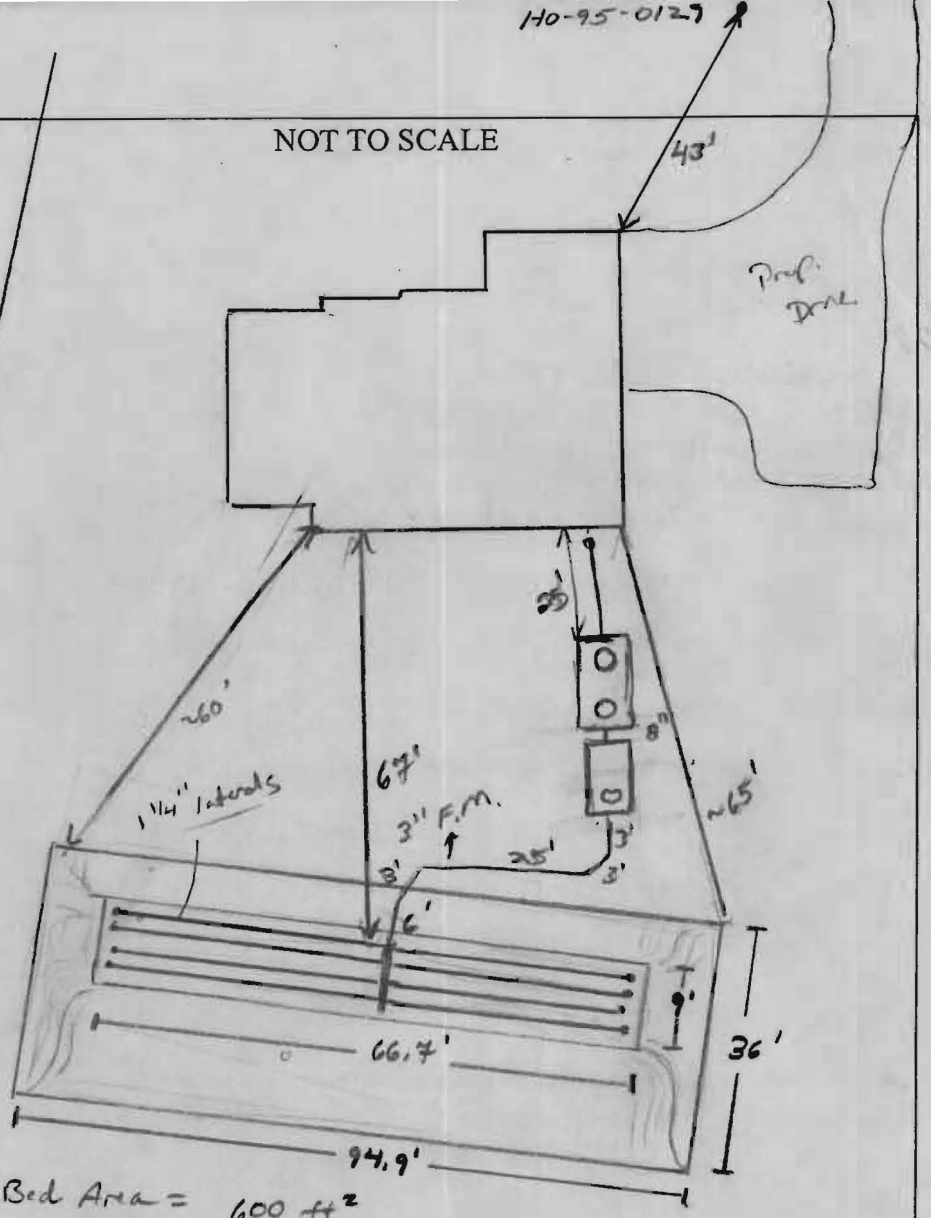
PLANS APPROVED: Sara Sappington DATE: 9/10/09

NOTES: PERMIT VOID AFTER 2 YEARS
CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION INSPECTION FOR ALL INSTALLATIONS
WATERTIGHT SEPTIC TANKS REQUIRED
ALL PARTS OF SEPTIC SYSTEM SHALL BE 100 FEET FROM ANY WATER WELL UNLESS SPECIFICALLY AUTHORIZED
MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS UNLESS SPECIFICALLY AUTHORIZED
CONTRACTOR RESPONSIBLE FOR COMPLIANCE WITH APPLICABLE REGULATIONS, GUIDELINES AND THE TERMS OF THIS PERMIT

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM
PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT
CALL 410-313-1771 FOR INSPECTION OF SEPTIC SYSTEM

HO-95-0127

NOT TO SCALE



Bed Area = 600 ft²
mound Area = 3,384 ft²

ROAD NAME

TRENCH/DRAINFIELD DATA

	WIDTH	INLET	BOTTOM
NUMBER OF TRENCHES			
TOTAL LENGTH			
ABSORPTION AREA			
DISTRIBUTION BOX LEVEL			
DISTRIBUTION BOX BAFFLE			
DISTRIBUTION BOX PORT			

SEPTIC TANK DATA

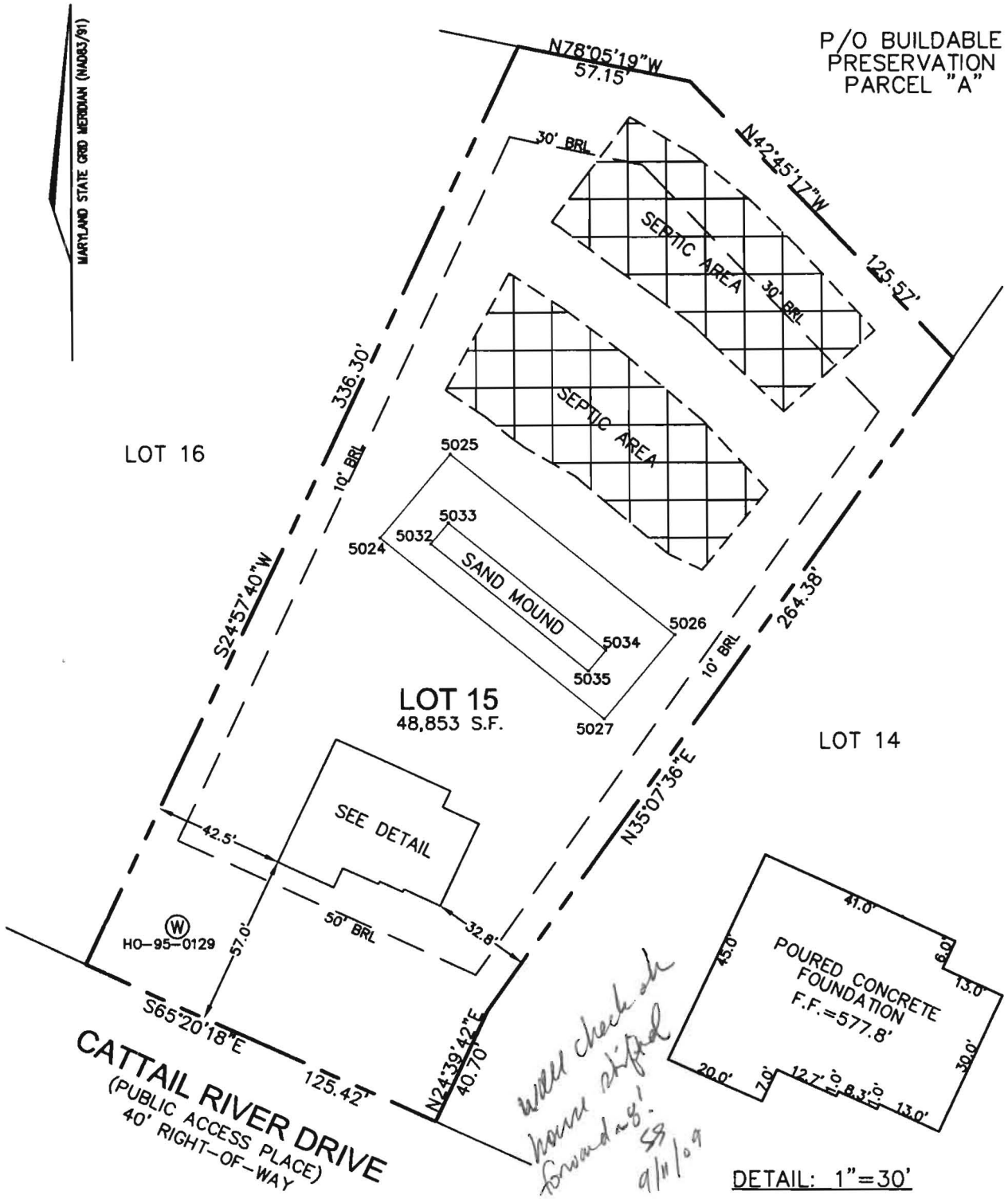
SEPTIC TANK 1 LEVEL	Yes
MANUFACTURER	Babylon
CAPACITY	2000 GAL
SEAM LOC	Top
TANK LID DEPTH	
BAFFLES	Yes
BAFFLE FILTER	—
MANHOLE LOC	Front / Rear
6" PORT LOC	none
WATERTIGHT TEST	—
SLOTTED	Yes
DATE ON LID	
PUMP/SEPTIC TANK LEVEL	Yes
MANUFACTURER	Babylon
CAPACITY	1000 GAL
SEAM LOC	Top
TANK LID DEPTH	
BAFFLES	Front
BAFFLE FILTER	—
MANHOLE LOC	Rear
6" PORT LOC	none
WATERTIGHT TEST	—
SLOTTED	no
DATE ON LID	no

PRE-CONSTRUCTION:
9/25/09 Spoke w/ contractor on phone (Freedom Septic) OK to set tanks per plan. Sand approved. 9/29/09 Layout of mound and bed given. Toe of mound dead level. Was off by 4". Told contractor still too wet to plow. Soil 'wires' in 5 diff spots of mound. Both tanks set. Slightly off of gravity flow. Told contractor to let engineer know of these changes (KW) 10/1/09 (gw) Met Brian (HCHD) stop out @ site to check moisture content of soil. He said it was OK. but could want still next week. Called contractor and told him he could plow ~10" but to cut grass first and let sit open (plowed) for a couple hours to dry out. before putting sand on (KW) 10/2/09 mound shaped. Bed being cut. OK to continue (KW) 10/6/09 Tanks set gravel in bed (~6") level, manifold and laterals set, pump test on. Everything looks good. OK to cover bed w/ gravel, septic and caps. (KW) Need final p/A test (KW) 11/17/09 Attempted P/A test Alarm working. Pump not. (KW)

INSTALLATION:

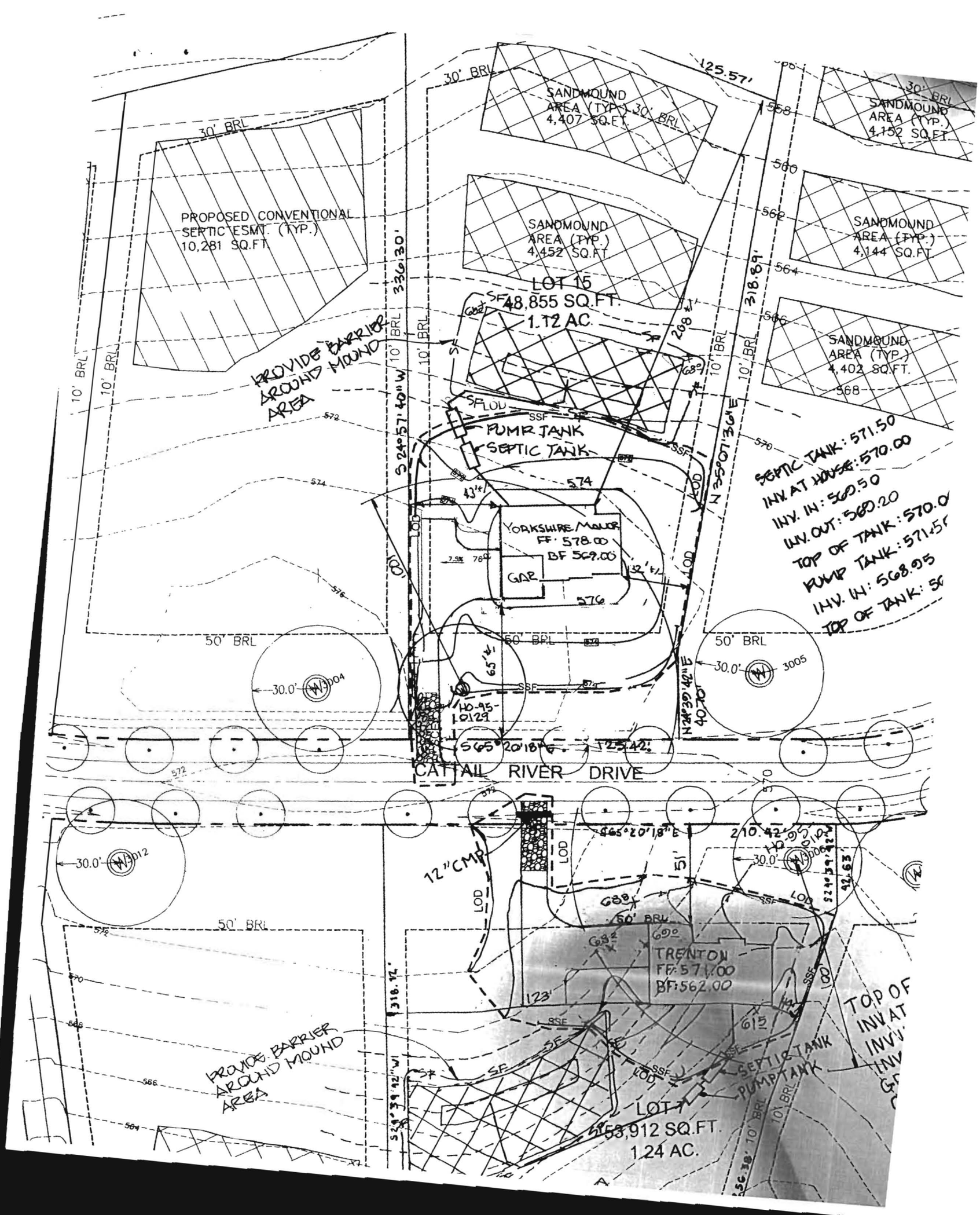
FINAL INSPECTOR K. Wall DATE OF APPROVAL 12/9/09

12/9/09 Pump in pump tank pulled 1' per m.d. to get 2' dist. head. mound design calculations wrong. P/A test good. Sys complete



I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF THAT THE IMPROVEMENTS ARE LOCATED AS SHOWN AND THERE ARE NO ENCROACHMENTS

STATE OF MARYLAND
THOMAS MAYO HOFFMAN, JR.


SANDMOUND AREA (TYP.) 4,407 SQ.FT.
SANDMOUND AREA (TYP.) 4,152 SQ.FT.
PROPOSED CONVENTIONAL SEPTIC ESMT. (TYP.) 10,281 SQ.FT.
SANDMOUND AREA (TYP.) 4,452 SQ.FT.
SANDMOUND AREA (TYP.) 4,144 SQ.FT.
SANDMOUND AREA (TYP.) 4,402 SQ.FT.
LOT 15
48,855 SQ.FT.
1.12 AC.
PROVIDE BARRIER AROUND MOUND AREA
PUMP TANK
SEPTIC TANK
YORKSHIRE MANOR
FF: 578.00
BF 569.00
GAR
SEPTIC TANK: 571.50
INV. AT HOUSE: 570.00
INV. IN: 569.50
INV. OUT: 569.20
TOP OF TANK: 570.0
PUMP TANK: 571.5
INV. IN: 568.95
TOP OF TANK: 5
CATTAIL RIVER DRIVE
12" CMP
TRENTON
FF: 571.00
BF: 562.00
PROVIDE BARRIER AROUND MOUND AREA
SEPTIC TANK
PUMP TANK
LOT 1
53,912 SQ.FT.
1.24 AC.
TOP OF
INV AT
INV
INV
GF

4	Number of Bedrooms
600	gpd Design Flow
1	Design Infiltration Rate
600	Minimum Absorption Bed SF

Department of the Environment
Water Management Administration
On-Site Systems Division
June 2003 (4th Edition)

Remember a minimum 25' wide area downslope of the mound should be designated to be protected from compaction and free of structures (driveways, buildings, etc.)

AxB=	600.3	Absorption Bed SF	
B=	66.70	Bed Length (feet)	
A=	9.00	Bed width (feet)	
D=	24	Upland sand fill depth (inches)	
E=	32.64	Downslope sand fill depth (inches)	2.72 feet
F=	10	Bed depth (inches)	
G=	12	Cap + topsoil at bed edge (inches)	
H=	18	Cap + topsoil at bed center (inches)	
I =	216.3744	Downslope setback (inches)	18.03 feet
J=	110.4	Upslope setback (inches)	9.20 feet
K=	168.96	Sideslope setback (inches)	14.08 feet
L=	1138.32	Total length of mound (inches)	94.90 feet
S=	0.08	Slope of the site	
W=	434.7744	Total width of mound (inches)	36.23 feet
Z=	24	Depth to water table (inches)	

LOADING RATE AND BASAL AREA CALCULATIONS

Linear Loading Rate: Design Flow/Bed Length	9
Soil infiltration rate based on percolation rate	0.75
Basal area required: Design Flow/soil infiltration rate	800
Basal area provided with preliminary width	1802.08

Basal Area Requirement = Passed

Central Manifold Distribution Network

10	Perforations per Lateral
31.7'	Lateral Length in feet
4	Laterals @ 2.25' Apart
1.25	Minimum Lateral Diameter (inches) for Plastic Pipe with 3.33' Perforation Spacing and 5/16" Perforation Diameter
75	3" Force Main and Manifold Length (feet)
100.00	Minimum Dose with PVC Sch. 40 Rigid Pipe (gallons)
700.00	Minimum Capacity Pumping Chamber (gallons)
15.62	Lateral Discharge Rate (gallons per minute)
130.40	Total Discharge Rate (gallons per minute)
4	3" 45 Degree Bend Total (4 Typically)
1	3" Tee Total (1 Typically)
27	Pipe Fitting Friction Loss (linear feet)
103	Total Equivalent Length of Pipe
0.83	Friction Head (feet)
6	Static Head (distance between highest point - pump off switch elev. in feet)
2	Distal Head (feet)
8.83	Design Head (feet)
0.73	Horsepower Required

Manifold, F.M. → 3" sch 40
1 1/4" → Laterals

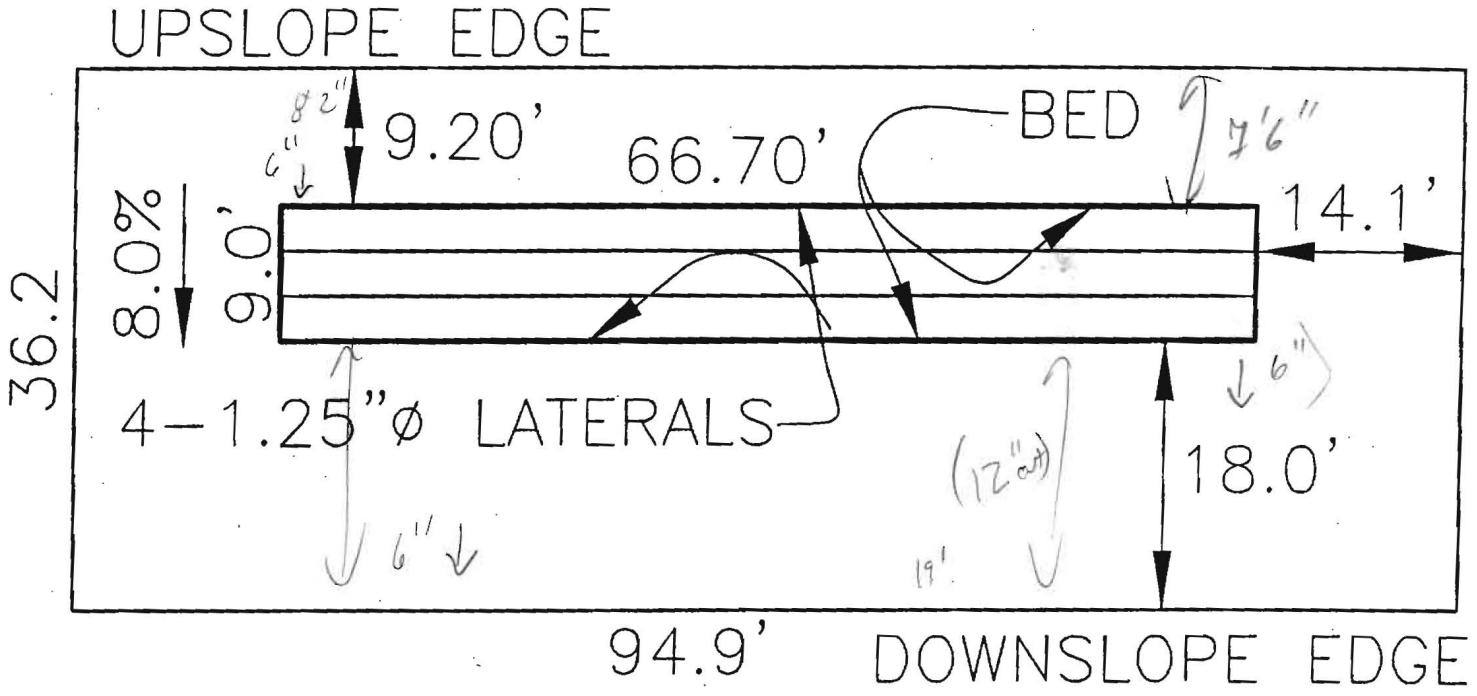
→ 5x Volume of laterals + volume of Force main & manifold.

10.6 gpf for 1 1/4"

253.6 total feet

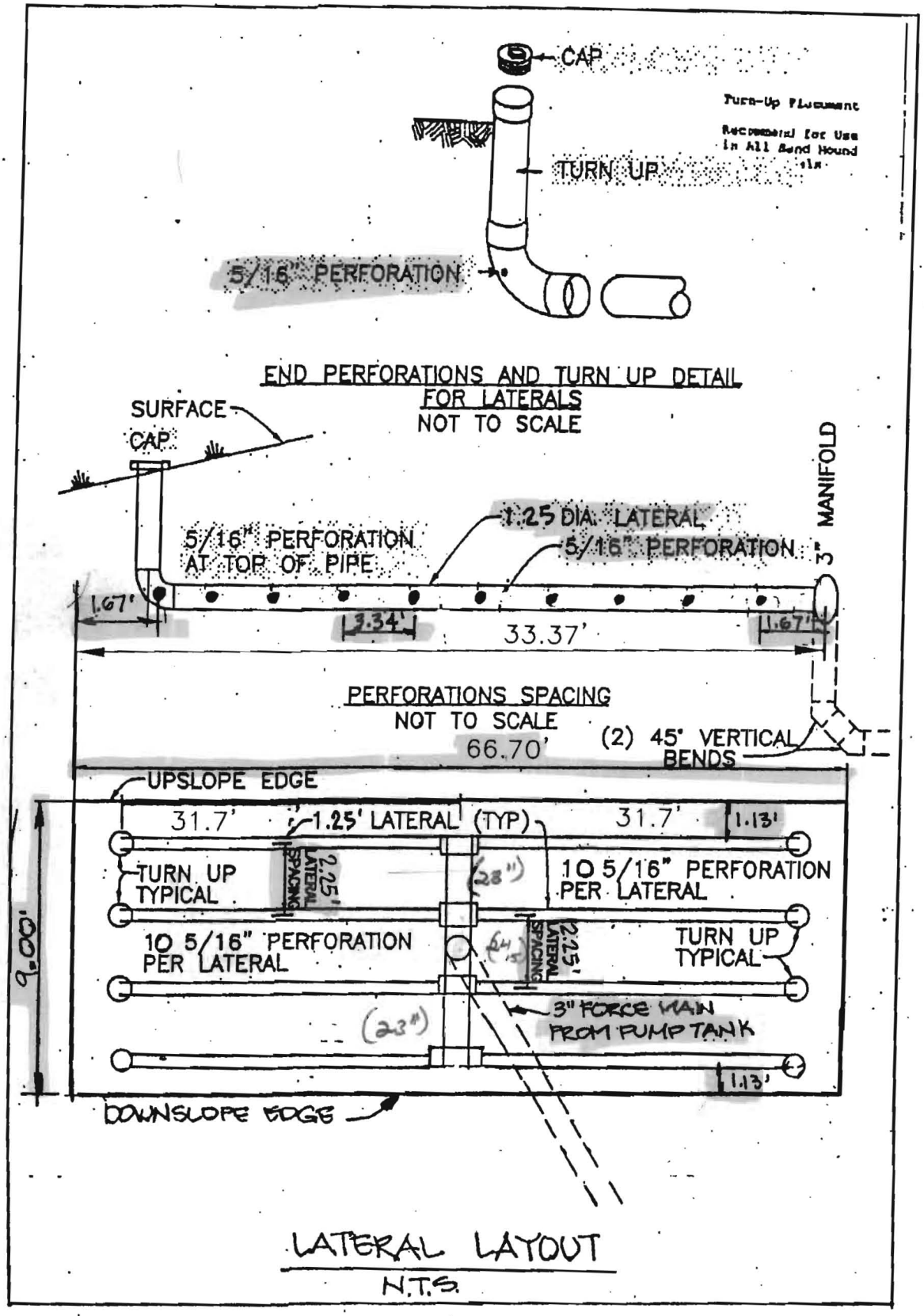
→ should be 11 ft ±

off



BED LAYOUT SCHEMATIC

1"=20'


CAP
TURN UP
5/16" PERFORATION
END PERFORATIONS AND TURN UP DETAIL
FOR LATERALS
NOT TO SCALE
SURFACE
CAP
5/16" PERFORATION
AT TOP OF PIPE
1.25 DIA. LATERAL
5/16" PERFORATION
3" MANIFOLD
1.67'
3.34'
33.37'
1.67'
PERFORATIONS SPACING
NOT TO SCALE
66.70'
(2) 45° VERTICAL
BENDS
UPSLOPE EDGE
31.7'
1.25' LATERAL (TYP)
31.7'
1.13'
TURN UP
TYPICAL
2.25'
LATERAL
SPACING
(28")
10 5/16" PERFORATION
PER LATERAL
10 5/16" PERFORATION
PER LATERAL
(24")
2.25'
LATERAL
SPACING
TURN UP
TYPICAL
3" FORCE MAIN
FROM PUMP TANK
(23")
9.00'
1.13'
DOWNSLOPE EDGE
LATERAL LAYOUT
N.T.S.

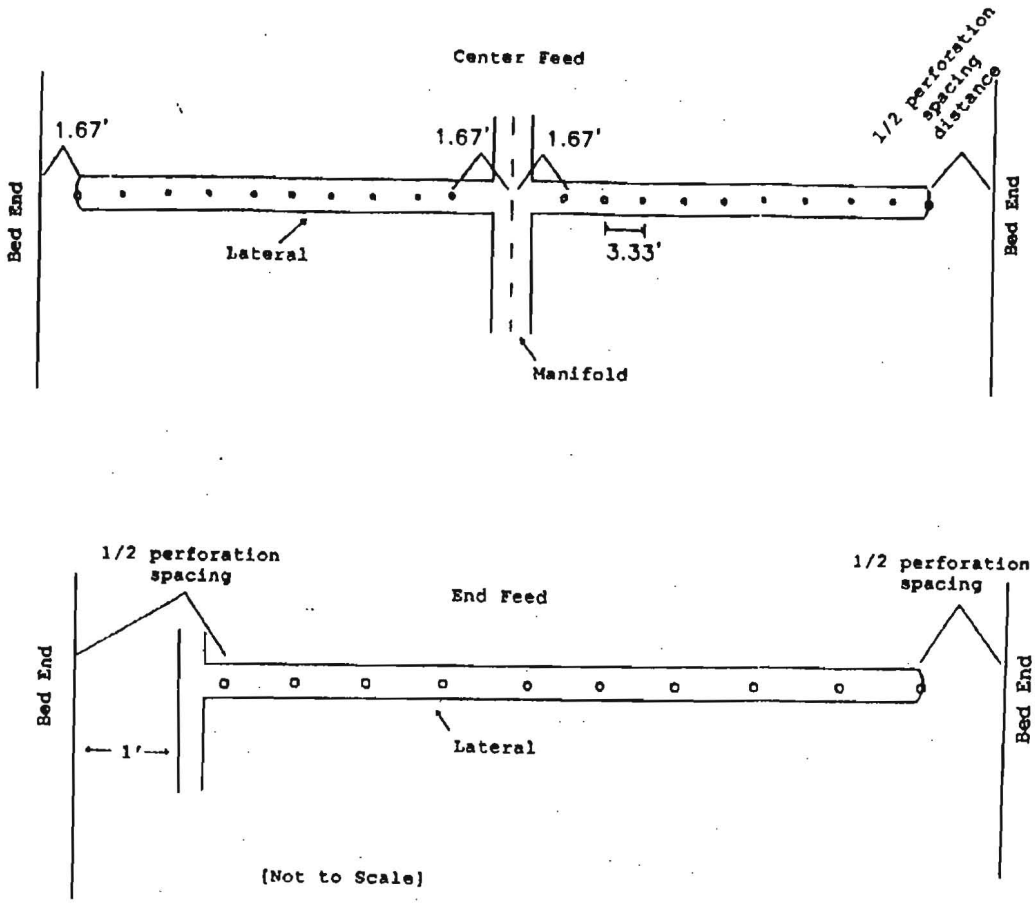
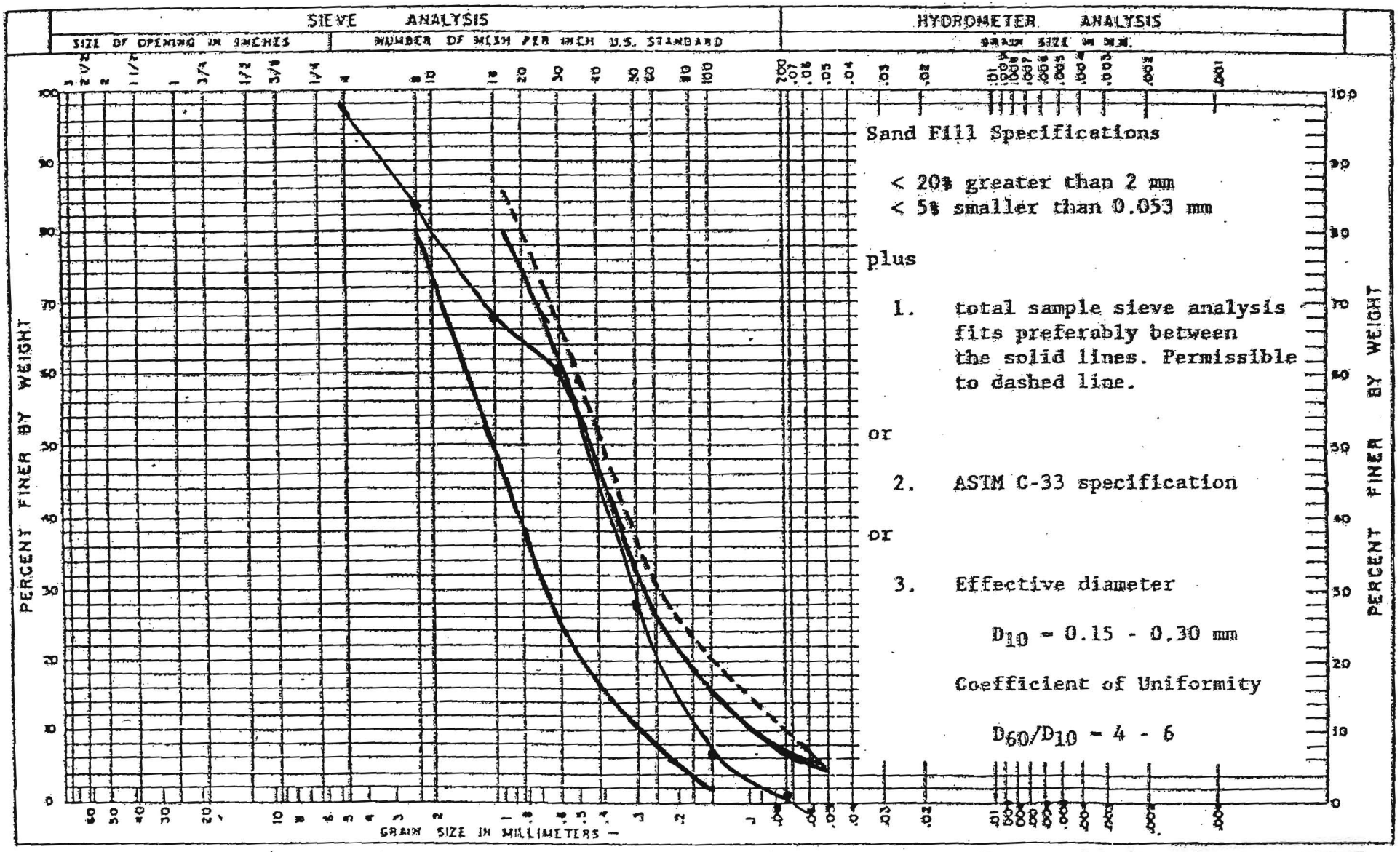
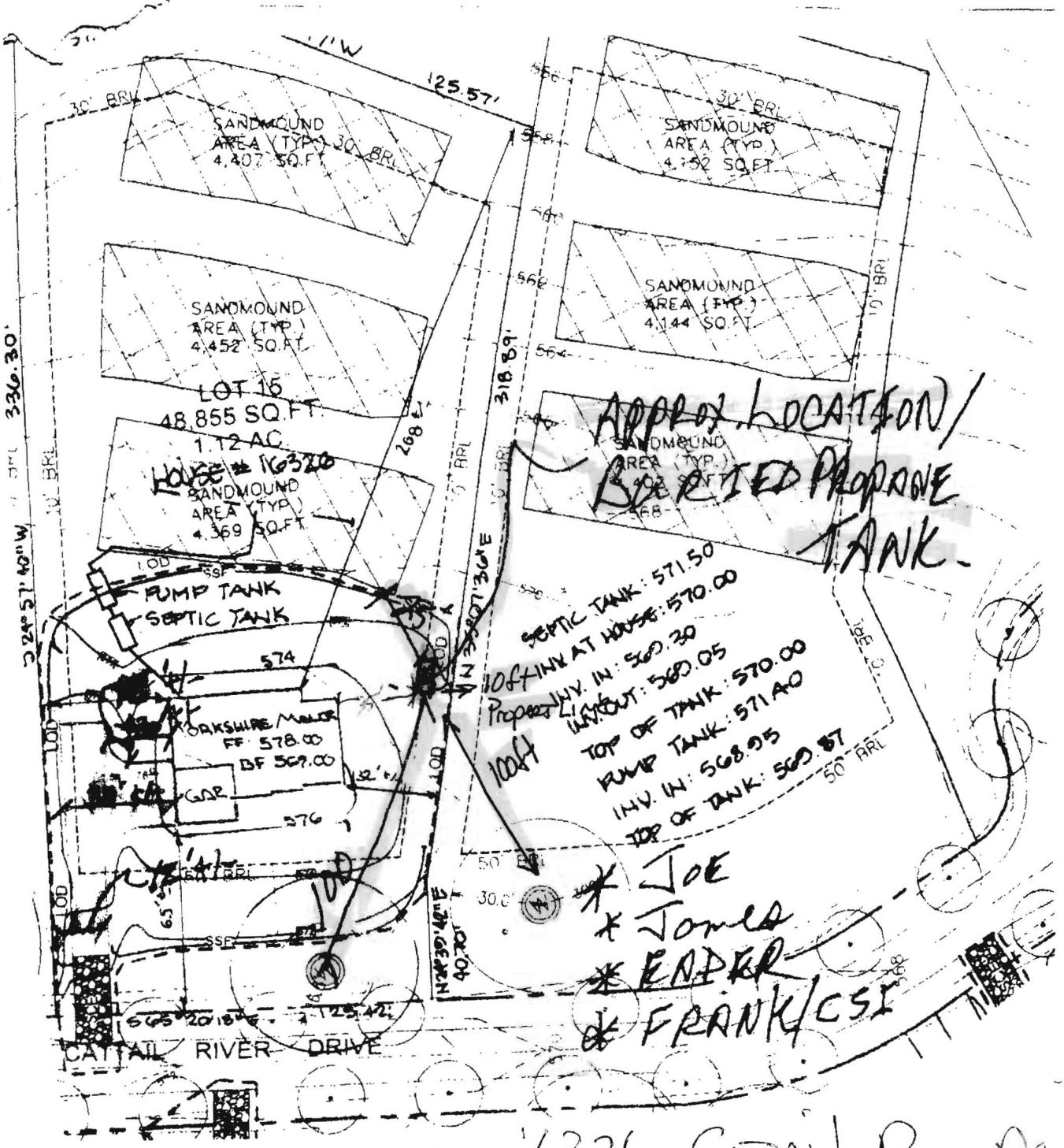


FIGURE 4.3 – PERFORATION SPACING AND LATERAL LENGTH DIAGRAMS

Blank - for Analysis



D10 = effective size = 0.185



16326 Cattail River Dr

Approved Septic System Plan
Howard County Health Department
Signature 10/14/09 Date

B09000790

Site visit confirmed on 10/2/09
Proposed Location for LP tank OK.
Maintain 150' from all wells!
Tank will be moved ~~off~~ not 100'