

Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: [www.hchealth.org](http://www.hchealth.org)

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Penny E. Borenstein, M.D., M.P.H., Health Officer

October 19, 2005

Sanitary/ Environmental Eng., Inc.  
1414 Washington Road  
Westminster, MD 21157

Re: Percolation Certification Plat  
Indian Hills, Lot 7

Dear Jim,

Our office, once again, has reviewed a new percolation certification plan in response to our last plan review. The faxed requested changes were not changed, as identified by my supervisor, Mike Davis. We have provided detailed percolation test notes with measurements yet the plan fails to support the locations. An error in the Percolation Test Data chart on the plan still has the same incorrect test result for #5. The Percolation Test Data is even labeled with tile fields although both systems will be sand mounds. I changed my test note percolation test hole labels to match your newly revised labels on percolation holes but there are still outstanding issues with the locations and labels of the holes as well. When we receive a correct plan, my supervisor will be comfortable sending it to the Health Officer for signature.

Sincerely,  
*Kacie Noonan*  
Kacie Noonan, R. S.

KN

Cc: Mr. Ron Phillips  
file

ATTN: Robert Bricker



# APPLICATION

## FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) \_\_\_\_\_ TEST TIME \_\_\_\_\_

AP 530311

AGENCY REVIEW: \_\_\_\_\_

DATE 2/23/09

DO NOT WRITE ABOVE THIS LINE

I HEREBY APPLY FOR THE NECESSARY TESTING/EVALUATION PRIOR TO ISSUANCE OF SEWAGE DISPOSAL SYSTEM PERMIT(S) TO:

CHECK AS NEEDED:

- CONSTRUCT NEW SEPTIC SYSTEM(S)
- REPAIR/ADD TO AN EXISTING SEPTIC SYSTEM
- REPLACE AN EXISTING SEPTIC SYSTEM

CHECK AS NEEDED:

- NEW STRUCTURE(S)
- ADDITION TO AN EXISTING STRUCTURE
- REPLACE AN EXISTING STRUCTURE

CHECK ONE:

- CREATE NEW LOT(S)
- BUILD ON AN EXISTING LOT IN A SUBDIVISION
- BUILD ON AN EXISTING PARCEL OF RECORD

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?

- YES
- NO

THE TYPE OF STRUCTURE IS:

- RESIDENTIAL WITH 3 PROPOSED BEDROOMS IN THE COMPLETED STRUCTURE (NOTE **UNKNOWN** IF APPROPRIATE)
- COMMERCIAL (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/ CUSTOMERS ON ACCOMPANYING PLAN)
- INSTITUTIONAL/GOVERNMENT (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/USERS ON ACCOMPANYING PLAN)

PROPERTY OWNER(S) Ronald Phillips

DAYTIME PHONE 443 377 9493 CELL 443 377 9493 FAX None

MAILING ADDRESS 12551 Indian Hill dr Stokesville MD 21784

APPLICANT SAME

DAYTIME PHONE \_\_\_\_\_ CELL \_\_\_\_\_ FAX \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_ STREET \_\_\_\_\_ CITY/TOWN \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

APPLICANT'S ROLE: DEVELOPER BUILDER BUYER RELATIVE/FRIEND REALTOR CONSULTANT

PROPERTY LOCATION Indian Hill EST  
SUBDIVISION/PROPERTY NAME Indian Hill D.O. LOT NO. 7

PROPERTY ADDRESS Indian Hill dr Stokesville  
STREET TOWN/POST OFFICE

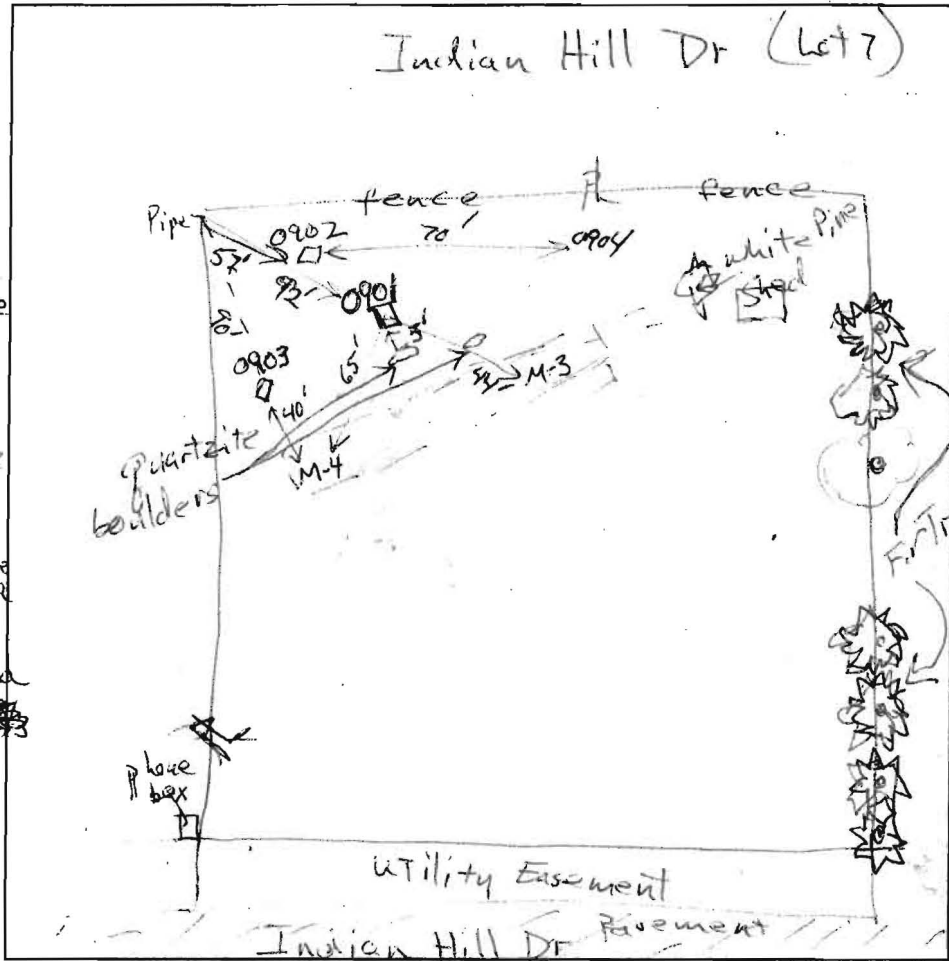
TAX MAP PAGE(S) 9 GRID ? PARCEL(S) 136 PROPOSED LOT SIZE 1 1/4 acres

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS APPLICATION IS COMPLETE WHEN ALL APPLICABLE FEES AND A SUITABLE SITE PLAN HAVE BEEN RECEIVED. I ACCEPT THE RESPONSIBILITY FOR COMPLIANCE WITH ALL M.O.S.H.A. AND "MISS UTILITY" REQUIREMENTS. APPROVAL IS BASED UPON SATISFACTORY REVIEW OF A PERC CERTIFICATION PLAN.

TEST RESULTS WILL BE MAILED TO APPLICANT. CALL AND MAIL  
SIGNATURE OF APPLICANT

HOWARD COUNTY HEALTH DEPARTMENT, BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM  
7178 COLUMBIA GATEWAY DRIVE COLUMBIA, MARYLAND 21046 (410) 313-2640 FAX (410) 313-2648  
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# Indian Hill Dr (Lot 7)



0901

0.8' dk. brn loam  
2fg  
brn cl  
1 fsbk  
10% gravel & stone  
1.5' yel brn scl  
few boulders  
quartzite  
3' yel brn vst fsl  
35% small stone  
common mica  
6' brn fsl  
many fine mica  
C 1 2.5YR 8/3  
8' yel-red fsl  
mld H grey  
many Mn  
coatings  
8.5' water

0903

0.8' dk brn loam  
2' brn cl  
2 fsbk  
yel brn  
gr  
3.5' brn & red  
& yel brown  
(heavy loam, & m  
dense  
3.8'

0902

0.8' dk. brn loam  
2fg & boulder  
brn cl  
2 fsbk  
10% gravel & stone  
1.0' yel brn fsl  
dense  
3' common mica  
yel-red fsl  
common fine mica  
& m  
6.5' yel red fsl  
many fine mica  
2 fpl  
8' yel. red fsl  
7.5YR 5/8  
C 1 d H grey  
pale brown  
10YR 7/2  
8.5' - water  
yel red fsl  
3 fpl  
mld H grey  
many Mn  
coatings  
8.7' ↓

0904

0.9' dk brn loam  
few stone  
brn scl  
2 fsbk  
common mica  
2' brn scl  
1 fsbk  
com. mica  
2.8' brn fsl  
10% gravel  
common mica  
3.5' brn fsl  
many fine mica  
1 fpl  
4'

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H	
4/16/2009	0901	4' 8"	11:35	11:41	11:45	4	P	
4/16/2009	0902	4' 3.5"	11:55	11:57	11:59	2	P	
4/16/2009	0903	3.8' B assumed	12:46	1:46 <sup>+</sup>	—	—	F	
4/16/09	0904	4' 8" assumed	1:01	1:36	2:31	55	Alternative rate	
	0902	Repaired 3 times consistent rate of absorption was observed (2-3 min/inch)						

REMARKS Site has few quartzite boulders at surface  
 SANITARIAN RB BACKHOE Ron Phillips OTHERS  
 TEST HOLES USED IN SDA 0901 & 0902 AVG. PERC TIME 3 min SQ. FT/BR 125  
 TRENCH WIDTH 3' INLET DEPTH 3' MAX. BOT DEPTH 4' EFFECTIVE SW 1

2 reb

# APPLICATION

FREE AUGER  
PERCOLATION TESTING  
TESTING

A N/A  
P \_\_\_\_\_

HOWARD COUNTY HEALTH DEPARTMENT  
BUREAU OF ENVIRONMENTAL HEALTH  
3525-H ELLICOTT MILLS DRIVE/ELLICOTT CITY, MARYLAND 21043  
TELEPHONE: 313-2640

DISTRICT \_\_\_\_\_  
DATE 11-30-04

TO: THE COUNTY HEALTH OFFICER  
ELLICOTT CITY, MARYLAND

I HEREBY APPLY FOR THE NECESSARY TEST PRIOR TO APPLICATION FOR PERMIT TO CONSTRUCT (OR RECONSTRUCT) A SEWAGE DISPOSAL SYSTEM.

PROPERTY OWNER Ronald Phillips  
ADDRESS 12561 Indian Hill DR PHONE 410-247-5766

AGENT OR PROSPECTIVE BUYER \_\_\_\_\_  
ADDRESS \_\_\_\_\_ PHONE \_\_\_\_\_

PROPERTY LOCATION:

SUBDIVISION Indian Hill LOT NO. 7

ROAD AND DESCRIPTION \_\_\_\_\_

TAX MAP 9 PARCEL # 136

SIZE OF LOT \_\_\_\_\_ TYPE BLDG. \_\_\_\_\_  
(SINGLE FAMILY DWELLING OR COMMERCIAL)

THE SYSTEM INSTALLED UNDER THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC FACILITIES BECOME AVAILABLE. I FULLY UNDERSTAND THE FEE CONNECTED WITH THE FILING OF THIS PERC TEST APPLICATION IS NON-REFUNDABLE UNDER ANY CIRCUMSTANCES. I ALSO AGREE TO COMPLY WITH ALL M.O.S.H.A. REQUIREMENTS IN TESTING THIS LOT. \_\_\_\_\_  
(SIGNATURE OF APPLICANT)

APPROVED BY \_\_\_\_\_ FOR \_\_\_\_\_ DATE \_\_\_\_\_

DISAPPROVED BY \_\_\_\_\_ FOR \_\_\_\_\_ DATE \_\_\_\_\_

HOLD PENDING FURTHER TESTS \_\_\_\_\_

REASONS FOR REJECTION OR HOLDING \_\_\_\_\_

PERCOLATION TEST PLAT/PRELIMINARY PLAT - TITLE OR I.D. # \_\_\_\_\_ DATE \_\_\_\_\_

SITE DEVELOPMENT PLAN/FINAL PLAT - TITLE OR I.D. # \_\_\_\_\_ DATE \_\_\_\_\_

## THIS IS NOT A PERMIT





# APPLICATION

## FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) \_\_\_\_\_ TEST TIME \_\_\_\_\_ A/P \_\_\_\_\_

AGENCY REVIEW: \_\_\_\_\_ DATE \_\_\_\_\_

DO NOT WRITE ABOVE THIS LINE

I HEREBY APPLY FOR THE NECESSARY TESTING/EVALUATION PRIOR TO ISSUANCE OF SEWAGE DISPOSAL SYSTEM PERMIT(S) TO:

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- REPLACE AN EXISTING SEPTIC SYSTEM

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- ADDITION TO AN EXISTING STRUCTURE
- REPLACE AN EXISTING STRUCTURE

CHECK ONE:

- CREATE NEW LOT(S)
- BUILD ON AN EXISTING LOT IN A SUBDIVISION
- BUILD ON AN EXISTING PARCEL OF RECORD

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?

- YES
- NO

THE TYPE OF STRUCTURE IS:

- RESIDENTIAL WITH \_\_\_\_\_ PROPOSED BEDROOMS IN THE COMPLETED STRUCTURE (NOTE *UNKNOWN* IF APPROPRIATE)
- COMMERCIAL (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/ CUSTOMERS ON ACCOMPANYING PLAN)
- INSTITUTIONAL/GOVERNMENT (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/USERS ON ACCOMPANYING PLAN)

PROPERTY OWNER(S) \_\_\_\_\_

DAYTIME PHONE \_\_\_\_\_ CELL \_\_\_\_\_ FAX \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_  
STREET CITY/TOWN STATE ZIP

APPLICANT \_\_\_\_\_

DAYTIME PHONE \_\_\_\_\_ CELL \_\_\_\_\_ FAX \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_  
STREET CITY/TOWN STATE ZIP

APPLICANT'S ROLE: DEVELOPER BUILDER BUYER RELATIVE/FRIEND REALTOR CONSULTANT

PROPERTY LOCATION  
SUBDIVISION/PROPERTY NAME \_\_\_\_\_ LOT NO. \_\_\_\_\_

PROPERTY ADDRESS \_\_\_\_\_  
STREET TOWN/POST OFFICE

TAX MAP PAGE(S) \_\_\_\_\_ GRID \_\_\_\_\_ PARCEL(S) \_\_\_\_\_ PROPOSED LOT SIZE \_\_\_\_\_

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS APPLICATION IS COMPLETE WHEN ALL APPLICABLE FEES AND A SUITABLE SITE PLAN HAVE BEEN RECEIVED. I ACCEPT THE RESPONSIBILITY FOR COMPLIANCE WITH ALL M.O.S.H.A. AND "MISS UTILITY" REQUIREMENTS. APPROVAL IS BASED UPON SATISFACTORY REVIEW OF A PERC CERTIFICATION PLAN.

TEST RESULTS WILL BE MAILED TO APPLICANT. \_\_\_\_\_  
SIGNATURE OF APPLICANT

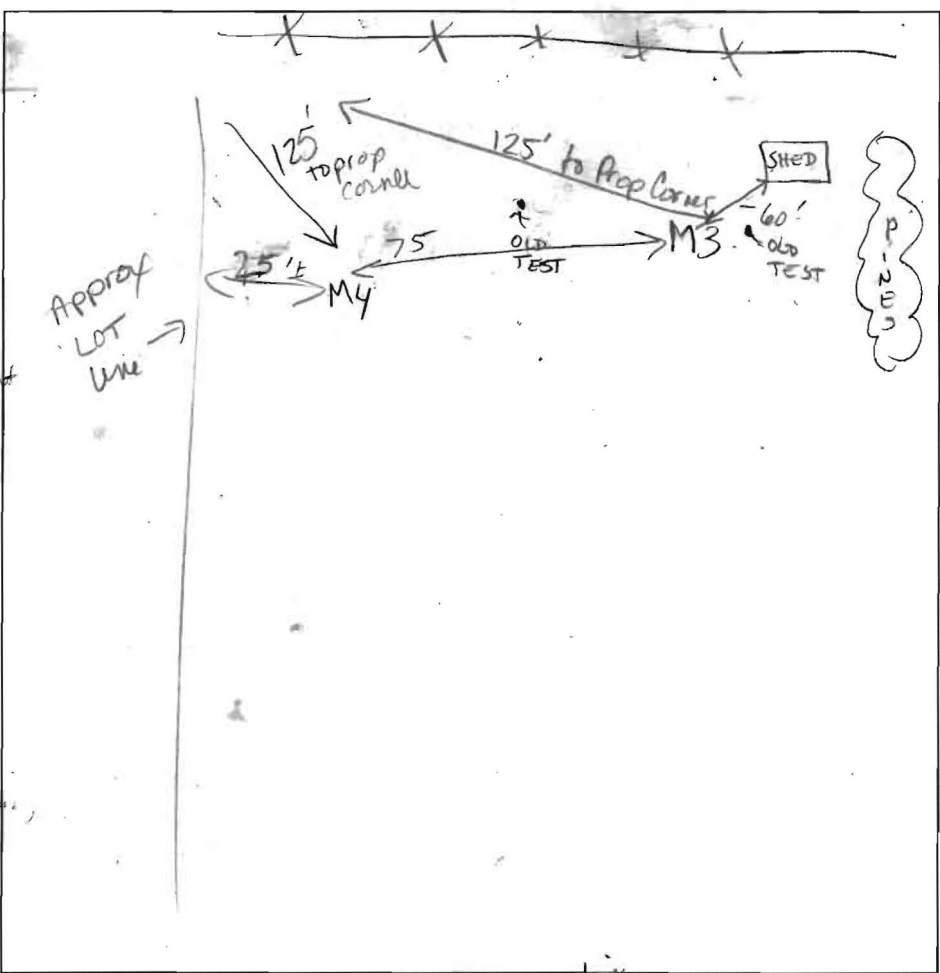
HOWARD COUNTY HEALTH DEPARTMENT, BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM  
3525-H ELLICOTT MILLS DRIVE, ELLICOTT CITY, MARYLAND 21043-4544 (410) 313-1771 FAX (410) 313-2648  
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

M4

A/P

MB

Loam  
org sil  
Dense WK rbrn sil 18"  
bik Macropores present 26"  
stopped digging



MB

organic  
wk pl/structure sil 16"  
sbk 10 mm  
sil  
bik peds 1" x 1/2"  
w/ macro pores  
w.c.s.g. Few sm peds bik sbk

Time reading A

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
	M3	21"	9:44:40	9 10/16	8 1/16	= 1/2"	
			10:00 - 10:15	9 8/16 8 12/16	8 1/16	= 1/2"	
			10:30 - 10:45	8 8/16 7 16/16	8 1/16	= 1/2"	
			11:00 - 11:15	7 8/16	8 1/16	= 1/2"	30 min/in
	M4	10"	10:22	8 10/16	7 1/16		
			10:37	6 15/16 5 4/16	9 1/16		
			10:52 - 11:07	3 14/16	1 4/16		
			11:22	2 8/16	1 6/16		
			11:37	1 6/16	1 2/16		< 15 min/in

MB

org brn dk brn gr sbk sil  
org brn CL to 27"  
sil faint matter @ 31  
moist sil begins 3 1/4"

REMARKS \_\_\_\_\_

SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_

TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_

TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE S/W \_\_\_\_\_



# APPLICATION

## FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) A-21-05 TEST TIME 900 AP522402

AGENCY REVIEW: \_\_\_\_\_ DATE 4.18.05

DO NOT WRITE ABOVE THIS LINE

I HEREBY APPLY FOR THE NECESSARY TESTING/EVALUATION PRIOR TO ISSUANCE OF SEWAGE DISPOSAL SYSTEM PERMIT(S) TO:

CHECK AS NEEDED:

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- REPLACE AN EXISTING SEPTIC SYSTEM

CHECK AS NEEDED:

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- ADDITION TO AN EXISTING STRUCTURE
- REPLACE AN EXISTING STRUCTURE

CHECK ONE:

- CREATE NEW LOT(S)
- BUILD ON AN EXISTING LOT IN A SUBDIVISION
- BUILD ON AN EXISTING PARCEL OF RECORD

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?

- YES
- NO

THE TYPE OF STRUCTURE IS:

- RESIDENTIAL WITH 3 PROPOSED BEDROOMS IN THE COMPLETED STRUCTURE (NOTE **UNKNOWN** IF APPROPRIATE)
- COMMERCIAL (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/ CUSTOMERS ON ACCOMPANYING PLAN)
- INSTITUTIONAL/GOVERNMENT (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/USERS ON ACCOMPANYING PLAN)

PROPERTY OWNER(S) Ronald Phillips

DAYTIME PHONE 410 247 5766 CELL 443 324 0397 FAX 410 247 5247

MAILING ADDRESS 12561 Indian Hill Dr. Skunk MD 21784

APPLICANT Ronald Phillips

DAYTIME PHONE 410 247 5766 CELL 443 324 0397 FAX 410 247 6247

MAILING ADDRESS 12561 Indian Hill Dr Skunk MD 21784

APPLICANT'S ROLE: DEVELOPER BUILDER BUYER RELATIVE/FRIEND REALTOR CONSULTANT

PROPERTY LOCATION SUBDIVISION/PROPERTY NAME Lot 7 Indian Hill Sub Divise LOT NO. 7

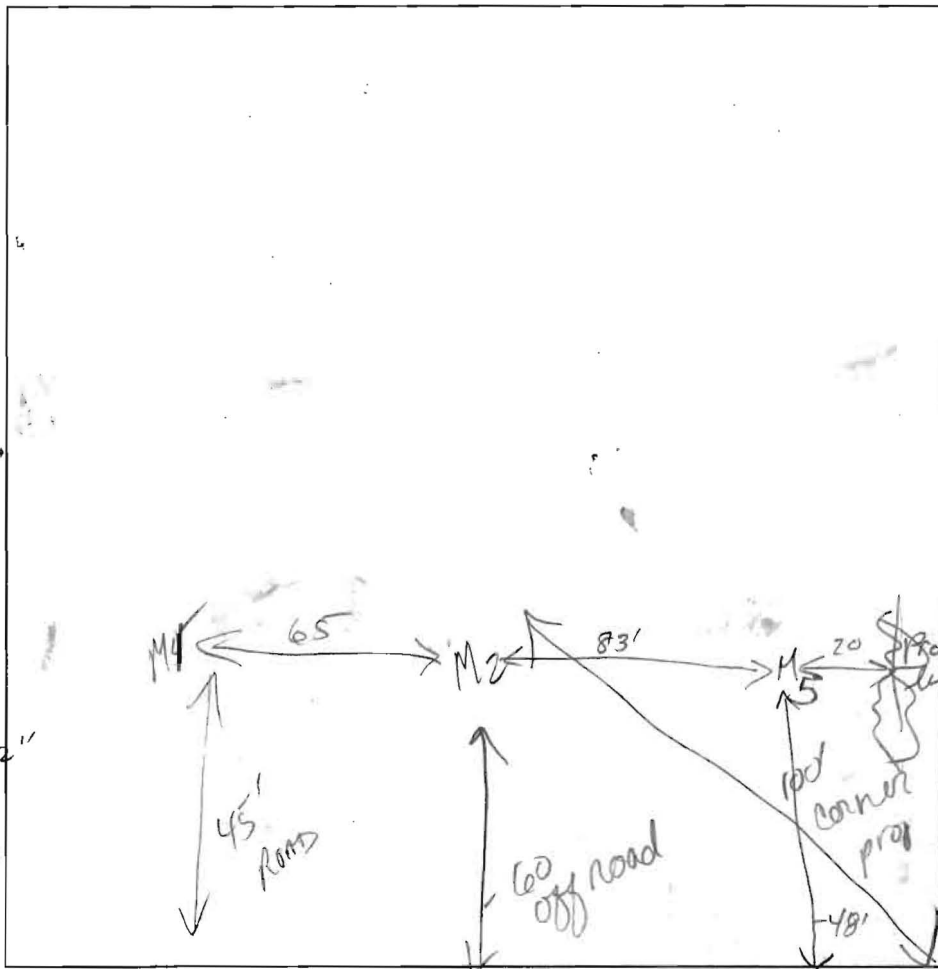
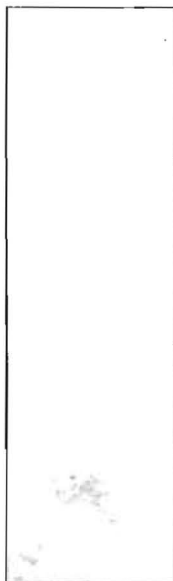
PROPERTY ADDRESS None

TAX MAP PAGE(S) \_\_\_\_\_ GRID \_\_\_\_\_ PARCEL(S) \_\_\_\_\_ PROPOSED LOT SIZE 1.25

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS APPLICATION IS COMPLETE WHEN ALL APPLICABLE FEES AND A SUITABLE SITE PLAN HAVE BEEN RECEIVED. I ACCEPT THE RESPONSIBILITY FOR COMPLIANCE WITH ALL M.O.S.H.A. AND "MISS UTILITY" REQUIREMENTS. APPROVAL IS BASED UPON SATISFACTORY REVIEW OF A PERC CERTIFICATION PLAN.

TEST RESULTS WILL BE MAILED TO APPLICANT. [Signature] SIGNATURE OF APPLICANT

HOWARD COUNTY HEALTH DEPARTMENT, BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM  
3525-H ELLICOTT MILLS DRIVE, ELLICOTT CITY, MARYLAND 21043-4544 (410) 313-1771 FAX (410) 313-2648  
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH



M5

DK brn  
1/2 platy loam  
20-12"  
denudely packed  
scl  
20"  
distinct  
mottles  
in scl  
Water @  
3'

M5

13"  
dark brn  
platy L gr  
massive silt  
str. brn  
scl  
2 1/4"  
yellow brn  
cemented  
s.g  
sil

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
	M2	20"	11:15	9 1/16	6/16	12:45	8 1/16
			11:30	9 10/16	5/16	1:00	7 13/16
			11:45	9 5/16	5/16		
			12:00	8 16/16	4/16		
			12:15	8 12/16	5/16		
	M5		12:30	8 7/16			F
	M5	20"	12:33	8 16/16	15/16	1:33	5 12/16
			12:48	8 1/16	13/16		1 13/16
			1:03	7 4/16	12/16		4 16/16
			1:18	6 8/16			12/16

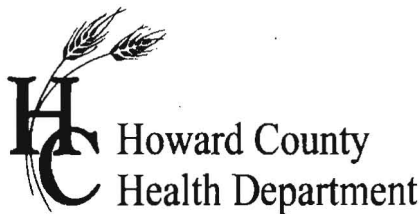
REMARKS \_\_\_\_\_

SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_

TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_

TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE SW \_\_\_\_\_

3 1/2



# APPLICATION

## FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) \_\_\_\_\_ TEST TIME \_\_\_\_\_ AP 520837

AGENCY REVIEW: Soil Genelg/Manor soils - Gentle Slope DATE 8/19/2004

DO NOT WRITE ABOVE THIS LINE

I HEREBY APPLY FOR THE NECESSARY TESTING/EVALUATION PRIOR TO ISSUANCE OF SEWAGE DISPOSAL SYSTEM PERMIT(S) TO:

CHECK AS NEEDED:

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CHECK ONE:

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- BUILD ON AN EXISTING LOT IN A SUBDIVISION
- BUILD ON AN EXISTING PARCEL OF RECORD

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?

- YES
- NO

THE TYPE OF STRUCTURE IS:

- RESIDENTIAL WITH 3 PROPOSED BEDROOMS IN THE COMPLETED STRUCTURE (NOTE **UNKNOWN** IF APPROPRIATE)
- COMMERCIAL (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/ CUSTOMERS ON ACCOMPANYING PLAN)
- INSTITUTIONAL/GOVERNMENT (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/USERS ON ACCOMPANYING PLAN)

PROPERTY OWNER(S) Ronald Lee Phillips 6247

DAYTIME PHONE 443 324 0397 CELL SAME FAX 410 247 5766

MAILING ADDRESS 12561 Indian Hill Dr. MO 21784  
STREET CITY/TOWN STATE ZIP

APPLICANT Ronald Phillips

DAYTIME PHONE 410 247 5766 CELL 443 324 0397 FAX 410 247 5766

MAILING ADDRESS Same as above CITY/TOWN STATE ZIP

APPLICANT'S ROLE: DEVELOPER  **BUILDER** BUYER RELATIVE/FRIEND REALTOR CONSULTANT

PROPERTY LOCATION  
SUBDIVISION/PROPERTY NAME EXTENSION OF Indian Hills LOT NO. 7

PROPERTY ADDRESS Indian Hill Dr. Sylkesville 21784  
STREET TOWN/POST OFFICE

TAX MAP PAGE(S) 9 GRID 12 PARCEL(S) 136 PROPOSED LOT SIZE 54.993.

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS APPLICATION IS COMPLETE WHEN ALL APPLICABLE FEES AND A SUITABLE SITE PLAN HAVE BEEN RECEIVED. I ACCEPT THE RESPONSIBILITY FOR COMPLIANCE WITH ALL M.O.S.H.A. AND "MISS UTILITY" REQUIREMENTS. APPROVAL IS BASED UPON SATISFACTORY REVIEW OF A PERC CERTIFICATION PLAN.

TEST RESULTS WILL BE MAILED TO APPLICANT.

R. Phillips  
SIGNATURE OF APPLICANT

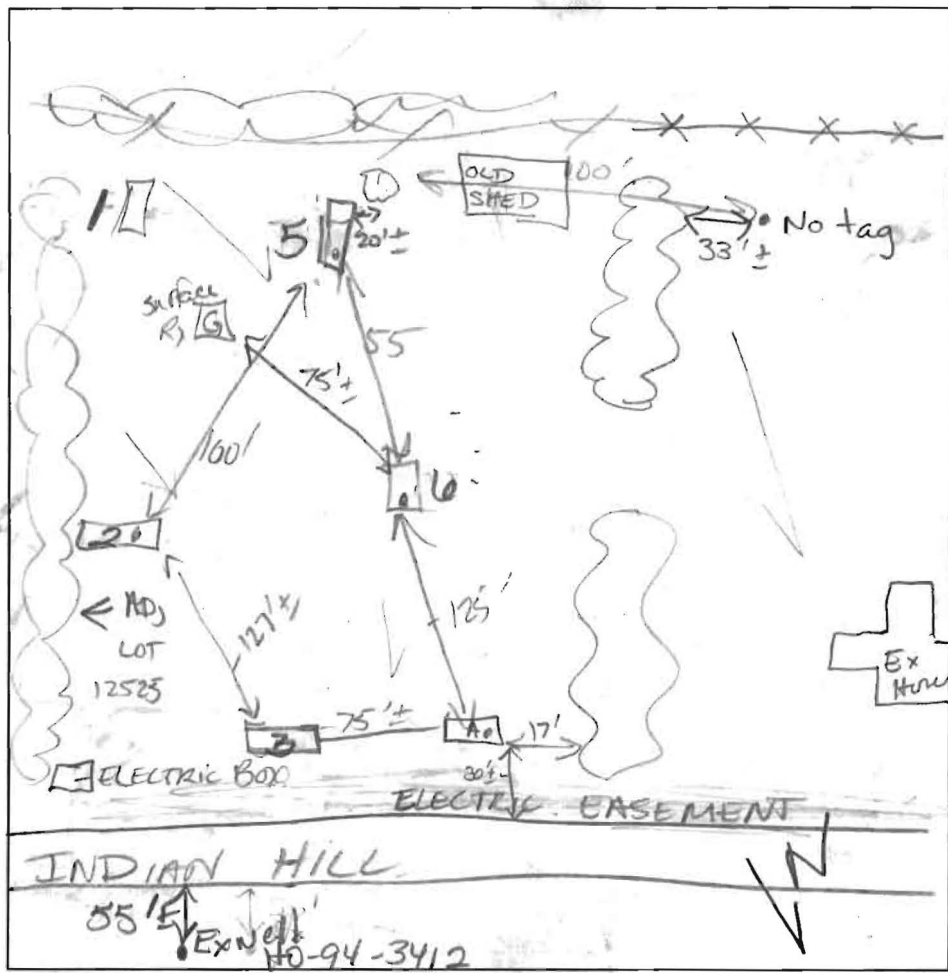
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TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

AP

3 1/2'  
 STRONG Brown  
 L  
 grey rdbrn Mn  
 10 1/2" V. faint  
 water pouring  
 Bottom

4 1/2'  
 Strong Brn  
 CL  
 massive  
 SIL - hyl  
 some mud  
 Inpl - decom.  
 parent material  
 3d mass SIL-L  
 Mn on lg.  
 PED concrete  
 9' water seepage

8"  
 organic brn  
 Brn  
 lg shly  
 5 1/2'  
 wk rd brn  
 Dky brn  
 Loom -  
 hyl  
 greenish yellow  
 org L  
 Bottom  
 8 1/2'



5'  
 org brn  
 SIL - hyl  
 4 brn  
 SL  
 Rock 10%  
 Sq. wt  
 Bottom  
 12'  
 6  
 org brn  
 SIL  
 ?  
 org SL  
 S.g.  
 w.c.  
 11' water coming in  
 13' Bottom

1 1/2'  
 RED SBK  
 CL  
 3'  
 Str yellow  
 4 brn  
 SIL-L  
 7 1/2'  
 Skip decided  
 to pull  
 then dig  
 deeper  
 passing

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
9/2/04	(A)	4' 5"	9:42	10:08	Still on 1st peg		F
	(3)	5' M	9:50	10:35	2nd peg	H2O TABLE @	8' F
	(2)	6 1/2' M	10:11	TOO SLOW			F
	(5)	5 1/2' M	10:30	10:38	10:40	2"	F
	(6)	5 1/2' M	10:39	1st inch 28 min	10"	hole	M
	(1)	7 1/2'	10:43	Little more NOT	10:57	ON 2nd peg	F
	(6)	5' S	10:58	11:06	11:12	2nd peg	P

REMARKS Generally flat H2O hole (A) @ 9 1/2 At 10:30  
 SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_  
 TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_  
 TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE SW \_\_\_\_\_

No water

D - will work for S.M.A.U.D



Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046-2147  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: [www.hchealth.org](http://www.hchealth.org)

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Peter L. Beilenson, M.D., M.P.H., Health Officer

April 23, 2009

To: Ronald & Chiquita Phillips  
Owners

From: Robert Bricker, CPSS, RS  
Environmental Sanitarian  
Well and Septic Program

RE: Tax Map 9, Parcel 136, Lot 7 (Indian Hill Subdivision); Percolation Test Results,  
A530311

Dear Mr. & Mrs. Phillips,

Percolation testing was conducted on the referenced property on April 16, 2009. All percolation tests conducted were standard tests, measuring rate of fall for a pre-wet period followed by measurement and recordation of the time required for the water level to drop 1 inch. The soils tested are within soil map unit GgB (Glenelg loam, 3% to 8% slopes). Percolation Test Results indicate areas of soils' conditions that are both satisfactory and unsatisfactory for onsite wastewater disposal. Subsequently, a limited area could be designated as having properties suitable for inclusion in a septic easement.

Four test holes were dug for profile description and standard percolation tests. Two test locations 'Passed' (at specific depths), and two 'Failed'. Depth of percolation test was affected by the depth to groundwater. The observed seasonal water table at all locations was 8 feet to 8.5 feet, restricting test depth to 4 feet or above. The two locations that Failed, #0903 and #0904, both had very slow percolation rates (much slower than 30 minutes per measured inch).

Area in the vicinity of, and between, test locations #0901 and #0902 has a moderately rapid rate of permeability at 3 to 4 feet depth. Therefore, an area adequate for at least one subsurface drainfield may be defined. The Depth of Trench Bottom between the two locations is limited to 4 feet. With an Inlet at 3 feet, trenches 3-feet wide would need to be 103 (total) linear feet to accommodate the estimated daily flow of a 3-bedroom residence, or 138 (total) linear feet to accommodate the estimated daily flow of a 4-bedroom residence.

The Howard County Code (3.805.A.2.X) requirement for an initial drainfield system and 2 replacement systems may not be achievable. In addition, the proposed septic easement is upgradient of both the only potential location for a replacement well on the lot, and the only possible foundation location on the subject property. Implementation of pre-treatment will be required as a condition of approval of any subsequent Building Permit application, or a Use & Occupancy Permit. (Please see the enclosed brochure for the MDE Bay Restoration Fund.)

The COMAR requirement (26.04.02.02.B.1.b.i) for an initial system and one replacement appears to be achievable. [As the original residence on Lot 4 was built in 1969, this lot (Lot 7) apparently predates the effective date (November 17, 1985) of regulations requiring approval by the Department of Health and Mental Hygiene of septic disposal areas large enough to accommodate an initial system and two repair systems.]

A sand mound site may be defined by infiltrometer test locations M-3 and M-4. The soil absorption area represented by these two test locations appears to be large enough to accommodate the wastewater discharge of a 3-bedroom home. If a residence with greater number of bedrooms is to be proposed, a technical design drawing and supporting data must be submitted with (or prior to) the Site Plan.

The area proposed for the sand mound and the soil surface within 20 feet downhill of the sand mound foot, must be protected during site development and beyond. Prevent erosion, rutting and compaction in these areas. As a general rule, there should be no wheeled vehicles to travel on these areas when the soil is wet. Also, vehicles such as ATVs should be prohibited from driving over this area.

Field data collected are shown on the Percolation Test Results Worksheets enclosed with this letter. Recommended Inlet and Trench Bottom depths, and Usable Sidewall are all based on observed soil properties and characteristics at respective test locations as well as the particular soils materials tested.

A well will have to be established on the subject property prior to submittal of a Building Permit Application.

If you have any questions regarding this evaluation or requirements for the Percolation Certification Plan, please contact me at the above address or by calling (410) 313-2691.

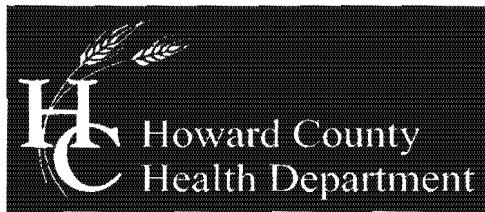
Respectfully,



Robert Bricker, CPSS, RS  
Well and Septic Program  
Development Coordination Section

Enclosure: 5 field data sheets

Copy: File



Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046-2147  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: www.hchealth.org

Peter L. Beilenson, M.D., M.P.H., Health Officer

1/7/2009

TO: Ronald L. and Chiquita L. Phillips  
Property owners: Tax Map 9, Parcel 136, Lot 7

FROM: Robert Bricker, R.S., Environmental Sanitarian  
Well and Septic Program *RB*

RE: Evaluation for potential Health Department approval of new construction,  
Tax Map 9 Parcel 136 Lot 7

Dear Mr. and Mrs. Phillips,

In November 2008, you personally inquired about the potential for the Health Department to approve a Building Permit Application for new construction on the subject property. The Health Department is required by Howard County Code (3.805.A) to have record of a Percolation Certification Plan for the subject property in order to approve permits for construction. We found that the most recent drawing you have depicting such a plan was produced by S/E Engineering, Inc. in September 2005. As indicated by handwritten notes on a copy of that plan, there were deficiencies in the plan and as a result it was not approved by the Health Officer. There is no evidence in our files that completion of the plan has been pursued since September 2005.

The Well and Septic Program has thoroughly reviewed the plans proposed in 2005 and supporting documentation. In addition, we conducted a site analysis in late November, and on December 5 we conducted a field review. Our findings and suggestions are as follows:

1. This is a 'lot-of-record' and therefore by Howard County Code (3.805.A.2.X) is required to have area for three septic system effluent disposal areas. Howard County Health Department may grant a variance to this requirement if area for 2 disposal systems is found and pre-treatment (re: denitrification) of the effluent is implemented.
2. There is a sand mound site that may be approved if the well on the adjacent property (12514 Indian Hill Drive) is re-located so as not to be downgradient of a sand mound located over location M2.
3. The sand mound site represented by tests M3 and M4 is approvable and will remain so as long as the soil surface is not disturbed by rutting or compaction.
4. Test results for locations downslope of M3 and M4, toward Indian Hill Drive, consistently indicate that the water table is too near to the soil surface for a conventional septic system drainfield.

5. Upslope of M3 and M4, toward the back property line, test locations were poorly described and test results were inadequately documented to justify approval of that area for wastewater disposal. Additional testing will be required in the area between the sand mound site (M3-M4) and the back property line. Two or three 'passing' tests representing a contiguous area of soil with a consistent soil layer through which water will infiltrate would be required.
6. A variance of 5 feet to property line may be granted for a well location near the northwest property corner.
7. A well location may be considered on the front corner of the subject property, if there is minimal impact to usable area of Lot 4 (12561 Indian Hill Drive) for wastewater disposal.
8. A pre-treatment system to reduce nitrogen in the septic system effluent will likely be required on this property. At this time, grants are available to offset the pre-treatment system cost. Grants are awarded from the Bay Restoration Fund administered by Maryland Department of Environment.

You may contact the Bureau of Environmental Health, 410-313-1771 if you have questions about these requirements.

RB

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Howard County  
Health Department


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TDD (410) 313-2323 Toll Free 1-866-313-6300  
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Peter L. Beilenson, M.D., M.P.H., Health Officer

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**MEMORANDUM**

TO: Brooks Grasso  
The Columbia Bank

FROM: Sara Sappington   
Well and Septic Program

RE: 12561 Indian Hill Dr.

DATE: June 29, 2009

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Percolation testing has been completed for the referenced property and two areas have been certified for septic use. One area is designated for a sand mound system. The other area is designated for a subsurface system using standard trenches.

*Memo sent per the  
request of Billy Davidson  
owner of 12561 property.  
Needed it in order to  
secure her loan for  
building.  
6/29/09 ss*

## SAND MOUND CALCULATIONS

Total mound width:	<u>38.1</u>	feet
Total mound length:	<u>77.8</u>	feet

### SITE SPECIFIC INFORMATION

Slope Percent:	<u>5</u>	%
Z- Restrictive Depth to rock or water:	<u>24</u>	inches
Percolation Rate:	<u>30</u>	minutes/inch
Design Flow:	<u>600</u>	gallons per day

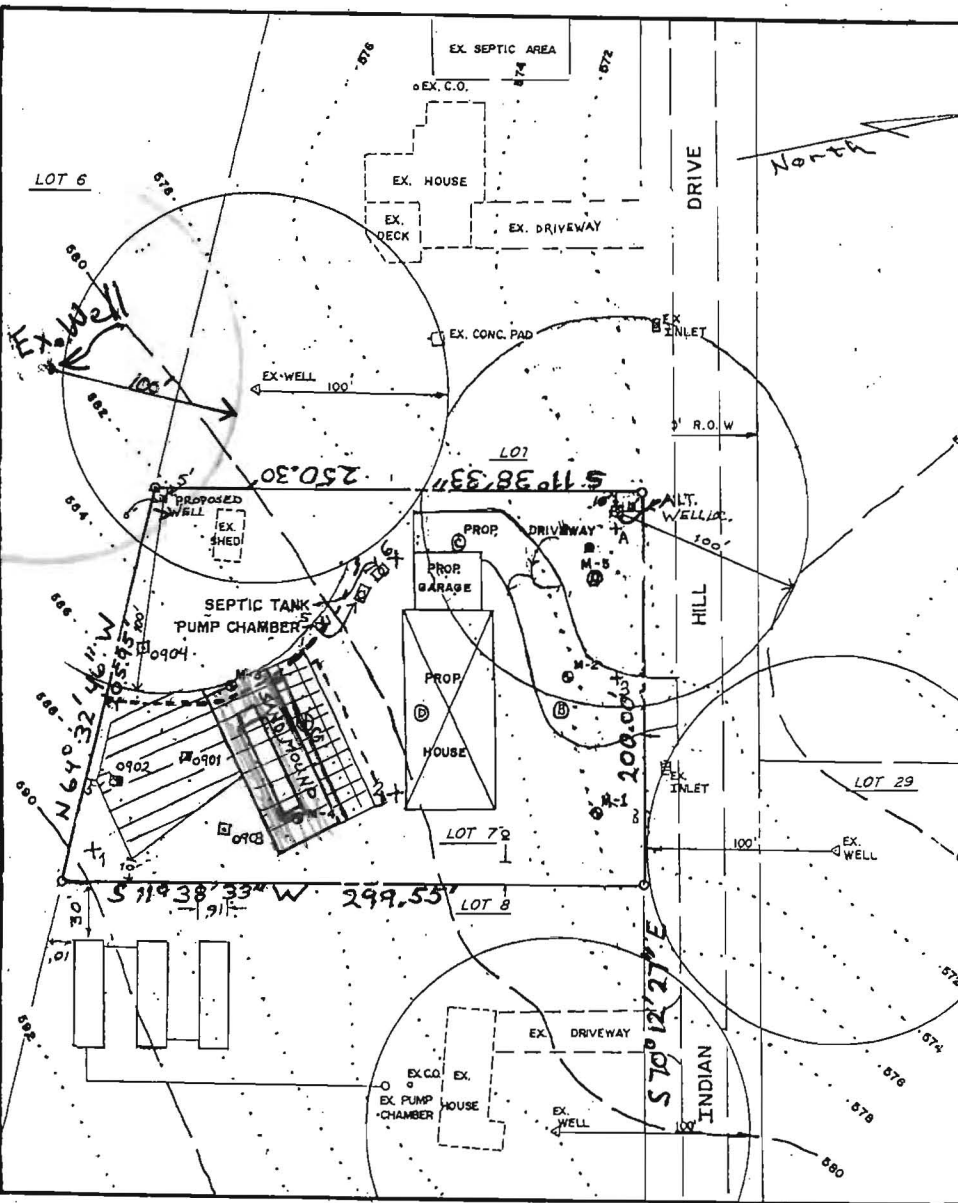
### BED/MOUND CALCULATIONS

Design infiltration rate for sand (1.2 for comar sand spec or 1.0 for alt sand spec):	<u>1</u>	gal. per sq. ft. per day
Absorption bed: Design flow / Design infiltration rate =	<u>600</u>	square feet
A- Bed width (12 for comar sand/less than 9 for alt sand):	<u>12.00</u>	feet
B- Bed length: Absorption bed (sq.ft)/Bed width (ft) = (21 to 101 feet)	<u>50.00</u>	feet
D- Upslope sand fill depth: 48 in - Z =	<u>24</u>	inches
E- Downslope sand fill depth: 12 A x % slope + D in. =	<u>31</u>	inches
H- Cap + topsoil at bed center =	<u>18</u>	inches
G- Cap + topsoil at bed edge =	<u>12</u>	inches
F- Total Bed Depth:	<u>10</u>	inches
K- Sideslope setback: { ( ( D + E ) / 2 ] + 28 in.) / 12 } x 3=	<u>13.90</u>	feet
Upslope correction factor (from chart):	<u>0.86</u>	
J- Upslope setback: ( ( 22 in + D ) / 12 ) x 3 x Upslope corr. Factor =	<u>9.89</u>	feet
Downslope correction factor (from chart):	<u>1.22</u>	
I- Downslope setback: ( ( 22 in + E ) / 12 ) x 3 x Downslope corr. Factor =	<u>16.23</u>	feet
W- Preliminary Width of Mound: A + J + I =	<u>38.1</u>	feet
L- Total Length of Mound: B + 2K =	<u>77.8</u>	feet

*4 Bedroom*

### LOADING RATE AND BASAL AREA CALCULATIONS

Linear loading rate: Design flow / Bed Length =	<u>12.0</u>	gallons per linear ft.
Soil infiltration rate based on percolation rate:	<u>1.2</u>	gal. per sq. ft. per day
Basal area required: Design flow / infiltration =	<u>500</u>	square feet
Basal area provided with preliminary width: Level Site = L x W; Slope Site (A+I)xB	<u>1411</u>	square feet



**LEGEND**

- + Perc Test FAIL, 9/2/04
- ⊕ Perc test PASS, 9/2/04
- Ⓟ Profile described, 11/30/04
- Sand Mound, Fail (Spring 2005)
- ⊙ Sand Mound, Pass (Spring 2005)
- ⊠ Perc test, FAIL 4/16/2009
- ⊡ Perc test, PASS 4/16/2009
- ▨ Sand Mound Treatment area  
Protect from rutting or compaction; NO GRADING
- ▩ Conventional Septic System

Scale: 1 inch = 100 feet

**NOTES**

1. THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
2. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
3. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN USING ALL REASONABLE EFFORTS.
4. THE WELL SHALL BE DRILLED PRIOR TO SUBMITTAL OF THE BUILDING PERMIT APPLICATION AS THE SURVEYED LOCATION OF THE WELL MUST BE SHOWN ON THE SITE PLAN.
5. TOPOGRAPHY SHOWN IS AT TWO-FOOT CONTOUR INTERVALS AND HAS BEEN FIELD VERIFIED BY S/E ENGINEERING, INC (JANUARY 2005).
6. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN
7. THE SAND MOUND AREA DELINEATED AND IDENTIFIED ON THIS PARCEL MUST BE PROTECTED BY A BARRIER AT ALL TIMES DURING GRADING AND CONSTRUCTION ACTIVITIES. THEREAFTER PROTECTIVE MEASURES SHOULD BE IMPLEMENTED TO PROTECT THIS AREA FROM EROSION, RUTTING OR COMPACTION. SUBSEQUENT BUILDING PERMIT APPLICATIONS MAY BE DENIED SHOULD THE SAND MOUND AREA BE EVALUATED AND FOUND UNSATISFACTORY FOR THE INTENDED USE.
8. AN ADVANCED PRE-TREATMENT SYSTEM, WHICH UTILIZES BEST AVAILABLE TECHNOLOGY TO PERFORM NITROGEN REDUCTION, MUST BE INSTALLED ON THE SEPTIC SYSTEM LOCATED ON THE SUBJECT PROPERTY DUE TO INSUFFICIENT SOIL RESOURCES TO SUPPORT THREE DRAINFIELD SYSTEMS. A SUPPLEMENTAL SITE PLAN WITH ALL OF THE NECESSARY DETAILS FOR INSTALLATION OF THE SYSTEM WILL BE REQUIRED PRIOR TO THE RELEASE OF THE BUILDING PERMIT AND SEPTIC SYSTEM INSTALLATION PERMIT. IN ADDITION, AN OPERATION AND MAINTENANCE CONTRACT AGREEMENT MUST BE FILED WITH HOWARD COUNTY LAND RECORDS PRIOR TO HEALTH DEPARTMENT APPROVAL OF THE BUILDING PERMIT.
9. THE SUBJECT PROPERTY HAS A LIMITATION OF 3 BEDROOMS. IF MORE BEDROOMS ARE DESIRED THE HEALTH DEPARTMENT WILL CONSIDER A TECHNICAL DESIGN SHOWING THAT THE SAND MOUND AREA WILL ACCOMMODATE A SYSTEM DESIGN ADEQUATE FOR THE AMOUNT OF WASTEWATER DISCHARGE FROM THE PROPOSED STRUCTURE.

**PERCOLATION CERTIFICATION PLAN  
INDIAN HILL SUBDIVISION, LOT 7  
Tax Map 9, Parcel 136, Lot 7**

OWNERS: RONALD AND CHIQUITA PHILLIPS  
12561 INDIAN HILL DRIVE  
SYKESVILLE, MD 21784

PC 530311

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON WORK PERFORMED IN MY PRESENCE OR BY MY DIRECTION, AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*R. Phillips*

4.21.09

(SIGNATURE)

(DATE)

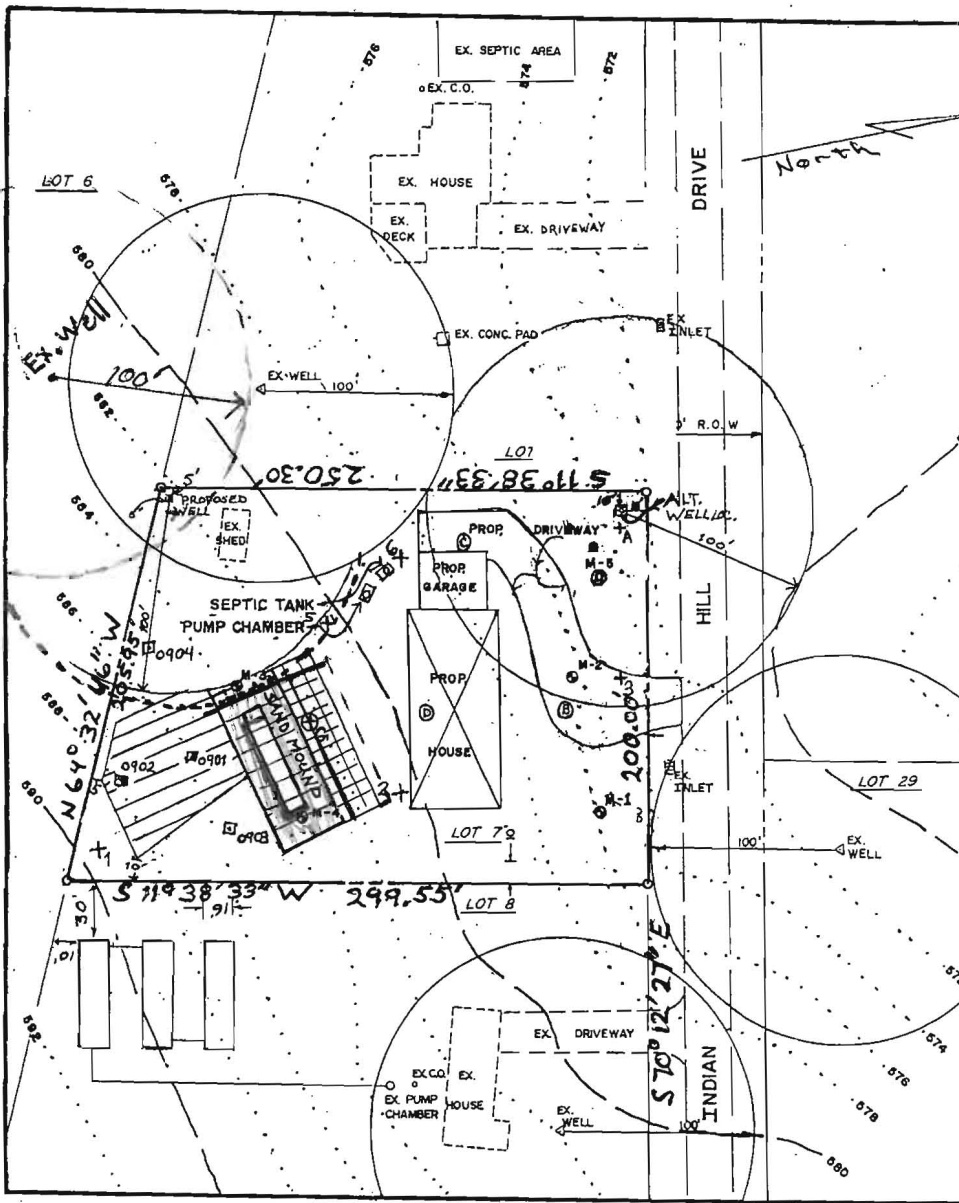
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

*B. Nye for P. B. Bensen* 5/20/2009

(SIGNATURE)

*PB*

(DATE)



**LEGEND**

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- ⊕ Perc Test PASS, 9/2/04
- ⊙ Profile described, 11/30/04

- Sand Mound, Fail (Spring 2005)
- ⊙ Sand Mound, Pass (Spring 2005)

- ⊠ Perc Test FAIL 4/14/2009
- ⊡ Perc Test PASS 4/16/2009

⊠ Sand Mound Treatment area  
Protect from rutting or compaction; NO GRADING

⊠ Conventional Septic System

Scale: 1 inch = 100 feet

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INDIAN HILL SUBDIVISION, LOT 7  
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OWNERS: RONALD AND CHIQUITA PHILLIPS  
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PC 5303 11

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*R. Phillips* 4.21.09  
(SIGNATURE) (DATE)

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.  
*B. Nifan for Peter Breulson* 5/20/2009  
(SIGNATURE) (DATE)

overall rock  
in holes  
< 10%

# MOUND TEST DATA SHEETS

Property I.D. Indian Hills Lot # 7 Date 4/21/05  
 Sanitarian KN/SF Landscape Position Flat  
 % Slope ~3% Soil Type WET SEASON Contractor OWNER

HOLE # M3 DEPTH OF TEST 21 START TIME 9:44<sup>40</sup>

M3

	Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
DK brn organic LOAM ± 8"	9 16/16	15 min	8 1/16 = 1/2"		
	9 8/16		"		
org brn SIL 18"	8 16/16	↓	"		
	8 8/16		"		
DENSE WK rd brn SIL blk structure some macropores present in massive sil	7 16/16	↓	"		
	7 8/16		"		
26" Stopped digging		↓		1/2" drop per 15min	
				2" drop in 1 hr	

HOLE LOC. 60' OFF NE CORNER OF SHED, 125' TO SE prop. corner, 75' to SM TEST HOLE M4, and located between two previously dug test holes.

HOLE # M4 DEPTH OF TEST 16" START TIME 10:22

M4

	Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
DK brn org brn granular sbk Loam 8"	8 16/16	15	<del>10 1/16</del>		
	6 15/16		2 1/16		
	5 4/16		1 11/16		
SIL w/ MACROPORES blk peds 1" x 1 1/2" 27"	3 14/16	↓	1 6/16		
	2 8/16		1 6/16		
w.c. s.g. few sm peds blk, sbk	1 6/16	↓	1 6/16	~ 1 3/8" drop per 15min	
					~ 5.5" per hour

HOLE LOCATION: 125' from SE corner of lot, 75' from SM TEST HOLE M3, approximately 25' to eastern lot line



overall rock  
in holes  
<10%

# MOUND TEST DATA SHEETS

Property I.D. Indian Hills Lot # 7 Date 4/21/05

Sanitarian KN/SF Landscape Position Flat

% Slope ~3% Soil Type WETSETSON Contractor OWNER

HOLE # M5 DEPTH OF TEST \_\_\_\_\_ START TIME \_\_\_\_\_

M5  
DK brn  
wk pl structure  
Loam  
8-12"  
DENSELY  
PACKED  
ORG CL  
5  
20"  
SIDE  
N. SIDE  
26" joint  
distinct  
mottles  
in CL  
water @  
3'

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
		FAILED DUE TO MOTTLES ABOVE		
	24"			

Hole Location: 20' FROM WEST LOT LINE, ~48'  
TO ROAD EDGE, 83' FROM SMTEST HOLE M2

HOLE # M1 DEPTH OF TEST 20" START TIME 12:33

M1  
dk brn  
gr Loam  
3"  
3" brn  
s.c.L.  
massive s.sbk  
Structure  
MACROPORES  
present to  
~17"  
24"  
yellow brn  
Cemented  
S.g. SiL  
3'5"

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
8 16/16	15	<del>15/16</del>		
8 1/16	"	15/16		
7 4/16	"	13/16		
6 8/16	"	12/16		
5 12/16	"	12/16		
4 16/16	"	12/16		

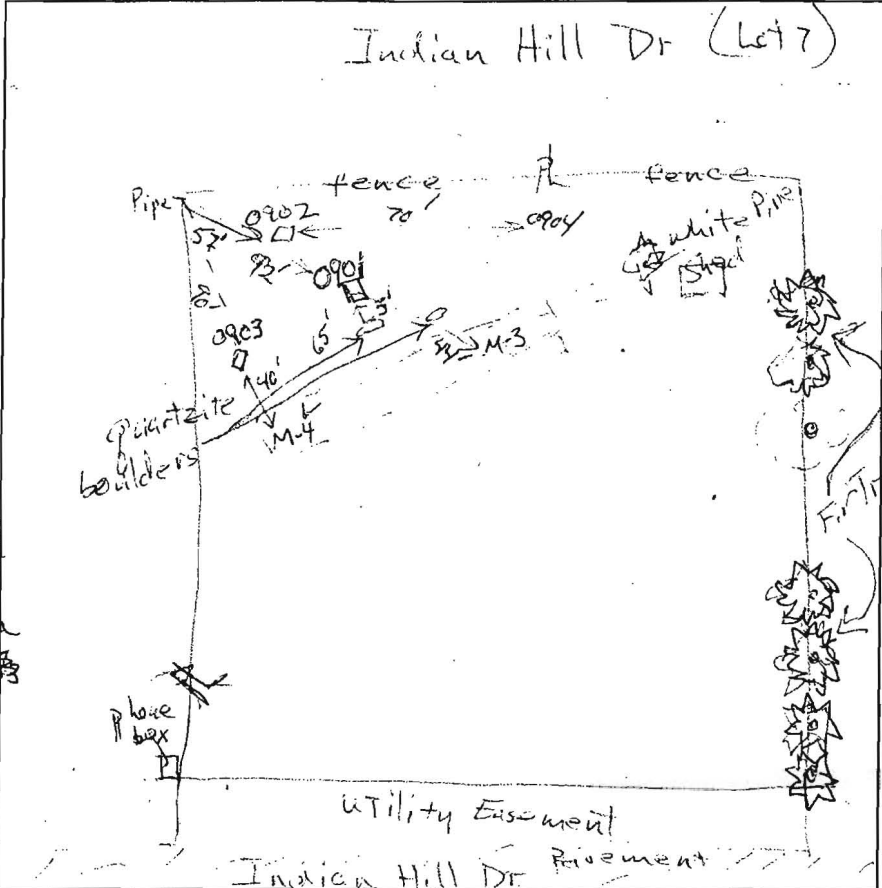
Hole Location: 45' from edge  
of road, 65' East of M2, 60' off EASTERN LOT LINE  
3/4" drop per 15 min

AP

Indian Hill Dr (Lot 7)

0901

0.8' dk. brn loam  
2 fsl  
brn cl  
1 fslbk  
10% gravel & stone  
1.5' yel brn scl  
few boulders  
quartzite  
3' yel brn vst fsl  
35% small stone  
common mica  
6' 2.5YR 4/8 brn fsl  
many fine mica  
3' 2.5YR 8/3  
8' yel-red fsl  
mld H. grey  
many Mn  
coatings  
8.5' water



0907  
0.8' dk brn loam  
brn cl  
2 fslbk  
2' yel brn  
gr  
3.5' brn & red  
& yel brown  
(heavy) loam, & m  
dense  
3.8'

0902

0.8' dk. brn loam  
2 fsl & boulders  
brn cl  
2 fslbk  
10% gravel & stone  
1.08' yel brn fsl  
dense  
3' common mica  
yel-red fsl  
common fine mica  
1' & m  
6.5' yel-red fsl  
many fine mica  
2 fsl  
8' yel-red fsl  
7.5YR 5/8  
C1d H. grey  
pale brown  
10YR 7/3, 10YR 7/2  
8.5' water  
yel-red fsl  
3 fsl  
mld H. grey  
many Mn  
coatings  
8.7'

0904

0.9' dk brn loam  
Lewstone  
brn scl  
2 fslbk  
common mica  
2' brn scl  
1 fslbk  
com. mica  
2.8' brn fsl  
10% gravel  
common mica  
3.5' brn fsl  
many fine mica  
4' 1 fsl

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H	
4/16/2009	0901	4' 8"	11:35	11:41	11:45	4	P	
4/16/2009	0902	4' 8.5"	11:55	11:57	11:59	2	P	
4/16/2009	0903	3.8' / 8 assumed	12:46	1:46 <sup>+</sup>	—	—	F	
4/16/09	0904	4' 8"	1:01	1:36	2:31	55	Alternative Rate	
	0902	Repaired 3 times. consistent rate of absorption was observed (= 3 min/inch)						

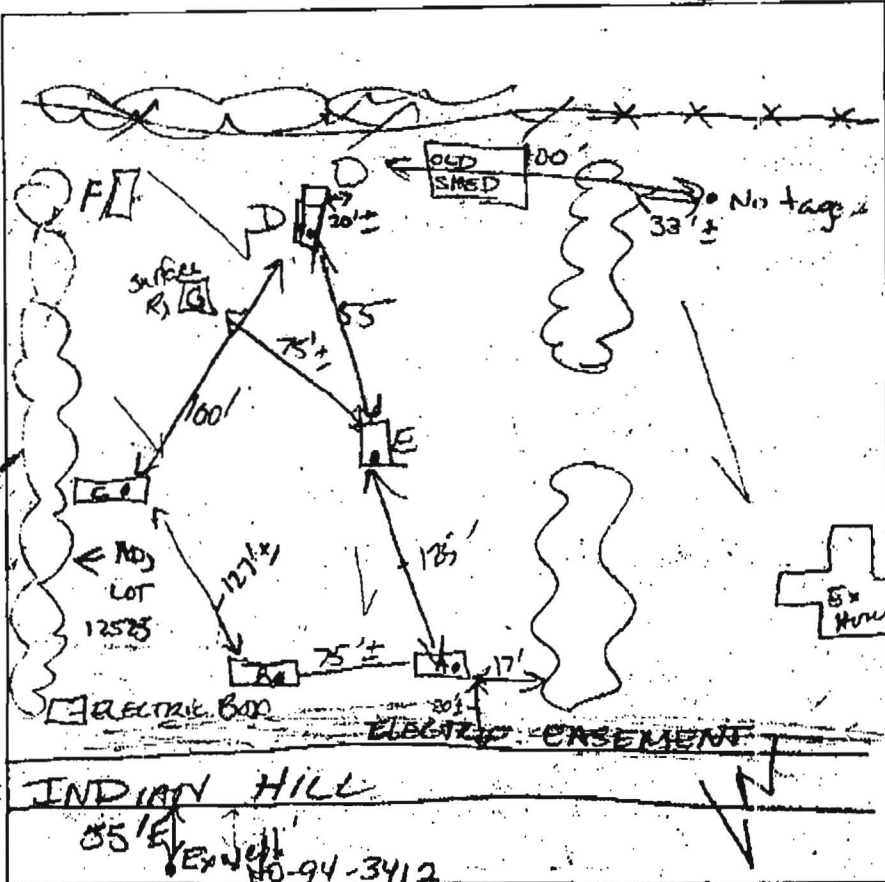
REMARKS Site has few quartzite boulders at surface  
 SANITARIAN RB BACKHOE Ram Phillips OTHERS  
 TEST HOLES USED IN SDA 0901 & 0902 AVG. PERC TIME 3 min SQ. FT/BR 125  
 TRENCH WIDTH 3' INLET DEPTH 3' MAX. BOT DEPTH 4' EFFECTIVE SW 1

# First Peak TEST. dd

AP  
 31'  
 Strong brn hvy L SIL massive  
 STRONG Broken L  
 grey rd brn Mn 10 1/2" V. Fine water pouring bottom  
 12'

41.5  
 Strong Brn CL massive  
 Sil hvy L  
 Impl. decom. parent material  
 8" Mn brn lg. red concrete  
 9' water seepage

8'  
 5 1/2'  
 8 1/2'  
 13'  
 No water



(A)  
 org. m sil hvy L  
 46 m  
 5'  
 Ro: K/102  
 Sq. wk  
 B: 100 m  
 (E)  
 0 m y brn  
 S L  
 00' SL  
 S L  
 11'  
 13'  
 wa  
 con  
 B: 100 m

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
9/2/04	(A)	4' S	9:42	10:08	SH 11 on 1st peg		F
	(B)	5' M	9:56	10:35	2nd peg	8' F	
	(C)	6 1/2' M	10:11	TOO SLOW			F
	(D)	5 1/2' M	10:30	10:38	10:40	2"	F
	(E)	5 1/2' S	10:39	1st inch 20" hole			M/F
	(F)	7 1/2' S	10:43	1st inch NOT ON 2nd peg			F
	(G)	5' S	10:58	11:06	11:12	2" Down	P

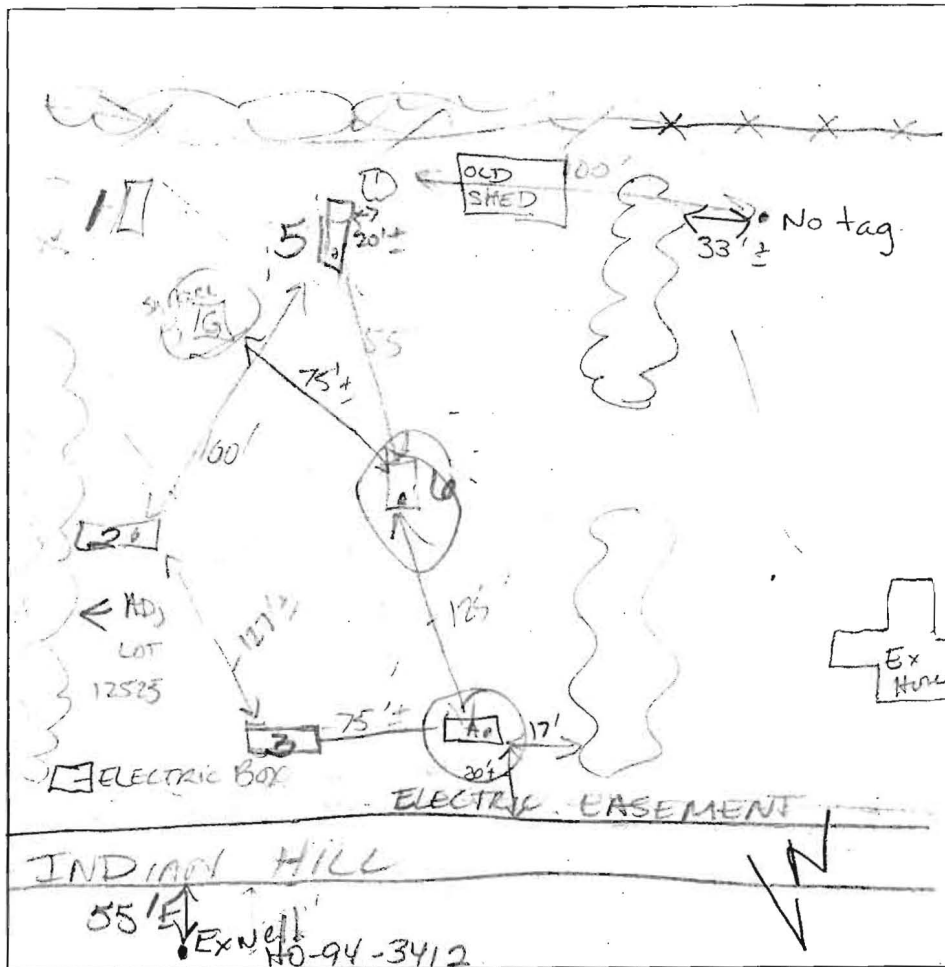
11'  
 13'  
 1'  
 3'  
 7 1/2'  
 RE: 56K CL  
 Str yellow  
 46 m  
 S L  
 SKP decided to 12th m dig ch. per p

REMARKS Generally flat H<sub>2</sub>O hole (A) @ 9/12 At 10:08  
 SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_  
 TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ S2. FT/BR \_\_\_\_\_  
 TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE SAW \_\_\_\_\_

AP  
 (A)  
 Strong brn hvy L SIL  
 MASSIVE  
 3 1/2'  
 STRONG Brown L  
 grey, rdbrn, Mn  
 10 1/2' V. faint  
 water pouring  
 Bottom  
 12'

(3)  
 Strong Brn  
 CL  
 massive  
 4 1/2'  
 SiL hvy L  
 SAND Hvy  
 1 wpl - decom.  
 parent material  
 3d Mn sil.L  
 Mn lg  
 PED concrete  
 9' water seepage

(2)  
 organic  
 brn  
 Brn  
 2g silt  
 5 1/2'  
 wkrd Brn,  
 SiL  
 8 1/2'  
 wk rdbrn  
 Dky brn  
 Lamin  
 hvy L  
 greenish yellow Mn  
 3g L  
 Bottom  
 B'



(5)  
 org brn  
 SiL hvy L  
 5'  
 ybrn  
 SL  
 Rock 10%  
 sig. we  
 Bottom  
 12'

(6)  
 org brn  
 SiL  
 ?  
 org SL  
 sig  
 we  
 11'  
 water seepage  
 13'  
 Bottom

1/G  
 RED SBK  
 CLL  
 3'  
 Str yellow  
 ybrn  
 SiL-L  
 7 1/2'  
 skip  
 discolored  
 and  
 water seepage

DATE	TEST #	DEPTH	START	BREAK 1' DROP	STOP 2' DROP	TIME OF 2nd INCH	P/F/H
9/2/04	(A)	4'5"	9:42	10:08	Skilled on 1st peg		F
	(3)	5' M	9:50	10:35 2nd Peg	NOT ABLE @		8' F
	(2)	6 1/2' M	10:11	T80 SLOW			F
	(5)	5 1/2' P	10:30	10:38	10:40	2"	F
	(6)	5 1/2' S	10:39	1st inch 228mm 10" hole			M
	(1)	7 1/2'	10:43	1st inch 228mm NOT ON 2nd peg			F
	(6)	5' S	10:58	11:06	11:12	2" 10mm	P
				10' POST HOLE	DIGGER SITE	holes	

REMARKS Generally flat H<sub>2</sub>O hole (A) @ 9' 1/2" @ 10:30  
 SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_  
 TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_  
 TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE SW \_\_\_\_\_

D - will work for Silt...

AVP MB

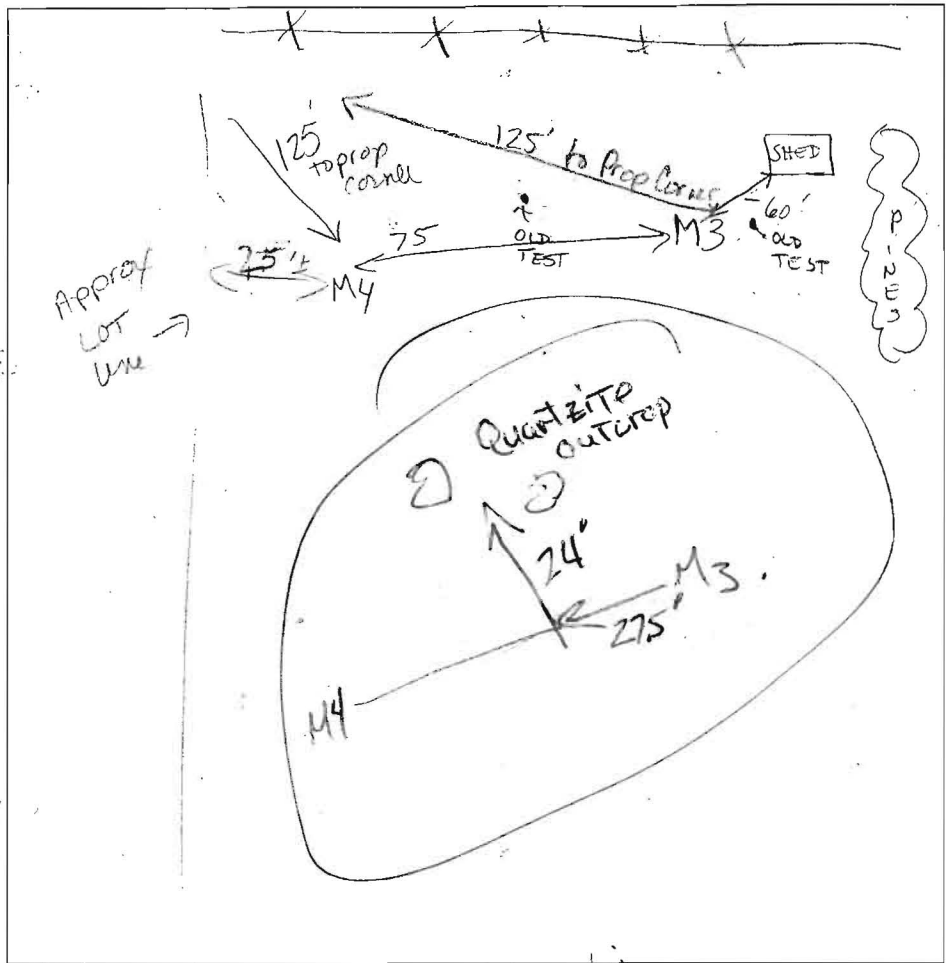
Loam

org sil

Dense wk rdbrn sil

18"

stopped digging



MB

organic L

wk pl structure sil

16"

17"

sil

blk peds

1" x 1/2"

w/ macro pores

27"

w.c. s.g. Feo sp. peds blk blk

MB

rdbrn dk brn gr sil

18"

27"

sil

fairly mottled @ 3'

34"

modest sil. impure

Time Reading A

DATE	TEST #	DEPTH	START	BREAK 1 <sup>st</sup> DROP	STOP 2 <sup>nd</sup> DROP	TIME OF 2nd INCH	P/F/H
	M3	21"	9:44:40	9 16/16	8 1/16	= 1/2"	
			10:00 - 10:15	9 8/16 - 8 16/16	8 1/16	= 1/2"	
			10:30 - 10:45	8 8/16 - 7 16/16	8 1/16	= 1/2"	
			11:00 - 11:15	7 8/16	8 1/16	= 1/2"	
	M4	10"	10:22	8 16/16	7 1/16		
			10:37	6 15/16 - 5 4/16	9 1/16		
			10:52 - 11:07	3 14/16	1 9/16		
			11:22	2 8/16	1 6/16		
			11:37	1 6/16	1 2/16		

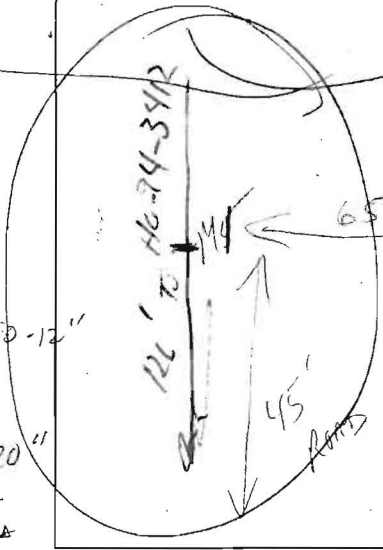
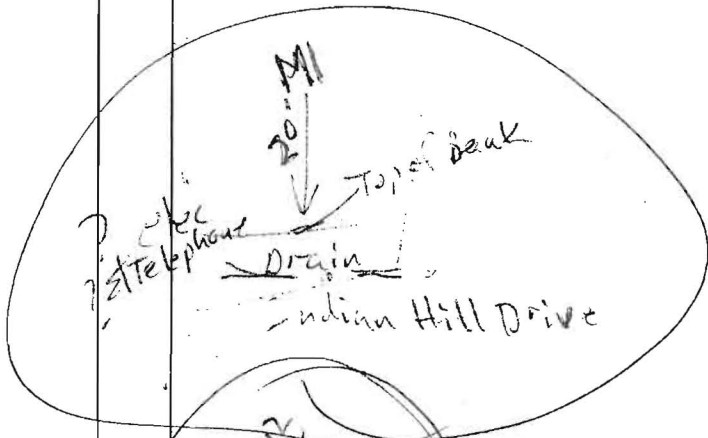
REMARKS \_\_\_\_\_

SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_

TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_

TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE SW \_\_\_\_\_

M4



**M5**  
 DK br  
 1/2 platy loam  
 densely packed  
 CL  
 20"  
 toward  
 ROAD  
 26"  
 fast  
 mottles  
 in CL  
 dishin. of  
 mottles  
 Water @  
 3'

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
	M <sub>2</sub>	20"	11:15	9 1 1/16	6 1/16	12:45	8 1/16
			11:30	9 10/16	5 1/16	1:00	13 1/16
			11:45	9 5/16	5 1/16		
			12:00	8 16/16	4 1/16		
			12:15	8 12/16	5 1/16		
	M <sub>5</sub>		12:30	8 7/16			F
	M <sub>5</sub>	20"	12:33	8 16/16	15/16	1:30	5 12/16
			12:48	8 1/16	13/16		1 15/16
			1:03	7 4/16	12/16		4 16/16
			1:18	6 8/16			12/16

REMARKS \_\_\_\_\_  
 SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_  
 TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_  
 TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE S/W \_\_\_\_\_

3 1/2"

**SANITARY/ENVIRONMENTAL ENG, INC**

Consulting Engineers  
 1414 Washington Road  
 WESTMINSTER, MARYLAND 21157  
 (410) 876-7740  
 FAX (410) 840-9924

JOB TRON PHILLIPS - HOWARD Co.

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY SANDMOUND DATE \_\_\_\_\_

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

SCALE 12561 INDIAN HILL DRIVE

3 BEDROOMS X 150 = 450 GPD  
 LOADING RATE - 1 GPD/SQ. FT. = 450 SQ. FT.  
 BED 9' X 50' = 450 SQ. FT.  
 LINEAR LOADING RATE - 450 GPD / 50' = 9 GAL./FT.

UPSIDE SAND DEPTH - 24"  
 DOWN SIDE SAND DEPTH - 24" + (.05 x 108") = 29 1/2"

UP SLOPE SETBACK - 24" + 22" (3) (0.87) = 120" = 10'  
 DOWN SLOPE SETBACK - 29.5" + 22" (3) (1.18) = 182" = 15'-2"  
 SIDE SLOPE SETBACK -  $\frac{24" + 29.5"}{2} + 28" (3) = 164" = 13'-8"$

MOUND WIDTH = 9' + 10' + 15'-2" = 34'-2"  
 MOUND LENGTH = 50' + 13'-8" + 13'-8" = 77'-4"

PUMP RATE - 42 PERFORATIONS @ 1.63 = 68 GPM

PUMP DOSE - 2" PVC @ 17.4 GAL/100'  
 5 X 3 X 46' = 690' (LATERALS)  
 PLUS - 43' + 1' + 6' = 50' F.M. - DOSE = 7.4 x 17.4 = 129 GAL (130 GAL)  
 130 GAL / 7.48 = 17.4 cu ft / 40 sq. ft = 0.43' (0.5') = 6"  
 EMERGENCY STORAGE = 40 sq. ft x 2.08' = 93.3 cu ft = 623 GAL.

TDH - 68 GPM - 2" PVC @ ELEV. DIFFERENCE 586.66 - 574.25 = 12.41'  
 DISTAL HEAD 2.0

F - @ 7' / 100'  
 2" = 6' + VALVE + L + UNION + L + L + 43' + L + 3' + T  
 6' + 1.2' + 7' + 2' + 7' + 7' + 43' + 7' + 3' + 10' = 93.2'  
 F = 0.932 x 7 = 6.5' TDH = 12.41' + 2.0' + 6.5' = 20.91'

October 3, 2005

Sanitary/ Environmental Eng., Inc.  
1414 Washington Road  
Westminster, MD 21157

Re: Percolation Certification Plat  
Indian Hills, Lot 7

Dear Jim,

Our office reviewed the location of the percolation test holes on the percolation certification plat and found quite a few discrepancies. I can understand the confusion due to two different days and the labeling of holes the same. So, I took your hole labels, adjusted my perc notes to match and identified a few more holes that need to be added or adjusted. If you can make these changes so I can submit the plan back to Mike for signature, I think this will be the final round. He noticed the discrepancies with the holes so I have to ask for the adjustments. Just add them as I have shown, hole "G" and relocate hole #5.

Thanks,



Kacie Nonan

by field

SCALE: 1" = 2000'

ounty Soils

## PERCOLATION TEST DATA

### TILE FIELDS

- 1) > 30 Min. - Failed  
2) > 30 Min. - Failed  
3) > 30 Min. - Failed  
4) > 30 Min. - Failed  
5) > 30 Min. - Failed  
6) < 30 Min. - Passed

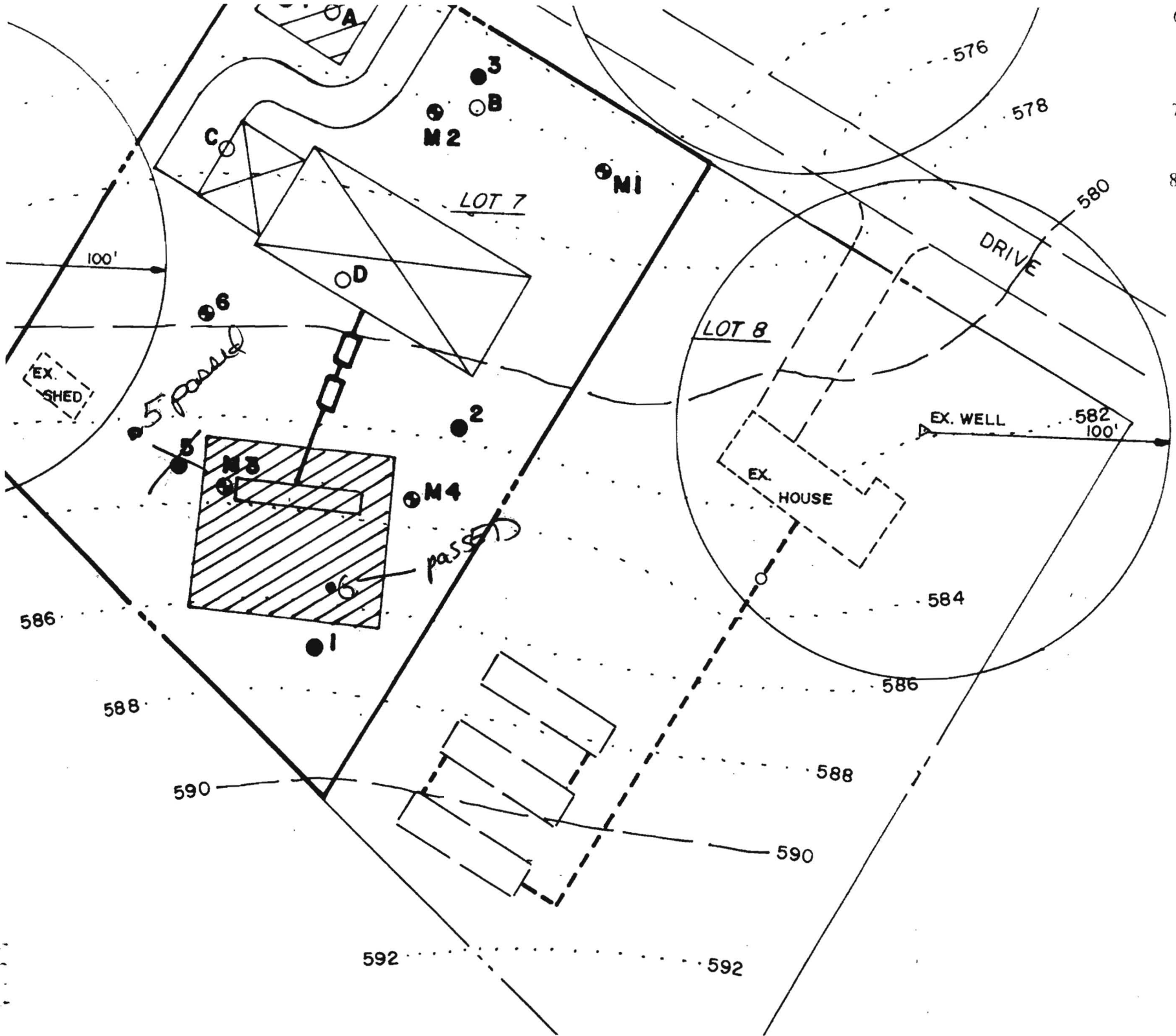
*passed*

### SANDMOUND

- M-1 3/4" in 17 Min. @ 20"  
M-2 1" in 48 Min. @ 20"  
M-3 1" in 30 Min. @ 21"  
M-4 1" in 11 Min. @ 16"  
M-5 Failed

### OBSERVATION HOLES

- A Water @ 5'  
B Water @ 4' - 6"  
C ok to 4' - 3"  
D Water @ 6' - 8"



- 6. Topography sho  
5' contours inter  
locations are fro
- 7. Boundary outlin  
run survey.
- 8. All soils on this l  
Survey Map # 8

**SANITARY/ENVIRONMENTAL ENGINEERING, INC.**  
1414 WASHINGTON ROAD  
WESTMINSTER, MARYLAND 21157

James D. Clise, PE

(410) 876-7740  
Fax (410) 840-9924

**MEMORANDUM**

September 28, 2005

**To:** Ms. Kacie Noonan  
Howard County Health Dept.  
Bureau of Environmental Health  
7178 Columbia Gateway Drive  
Columbia, Maryland 21046

**Re:** Lot 7 – Indian Hills  
Perc. Certification Plat

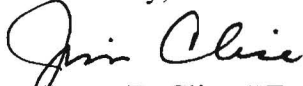
Dear Ms. Noonan,

In response to your telephone call of September 26 concerning our source of information used to identify the first test holes on Lot 7, these sites were field located using your notes dated September 2, 2004. A copy is enclosed.

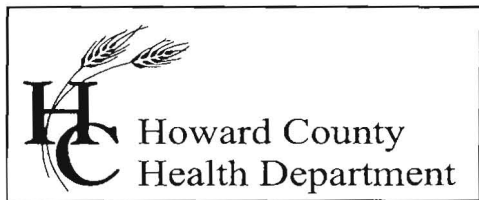
You will note that your notes identified Tests A through G. The perc. certification plat has them numbered 1 through 7. This numbering was done to avoid confusion with the sites you augered Nov. 30, 2004 which were identified A, B, C & D. We have added your letter designations to the plats number list to facilitate review. Additional prints containing these lettered designations are enclosed.

I understand, if this is ever approved, that I will be sent an approved copy. I really hope this can happen soon.

Sincerely,

  
James D. Clise, PE

cc: Ron Phillips



7178 Columbia Gateway Drive, Columbia, MD 21046  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: [www.hchealth.org](http://www.hchealth.org)

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Penny E. Borenstein, M.D., M.P.H., Health Officer

DATE: September 7, 2005  
TO: Jim Clise  
FROM: Kacie Noonan/ Howard County Health Dept.

RE: Indian Hills, Lot 7


Jim, see the attached letter. Your sand mound specs look fine but this is not a perc cert. See the bulleted list on the June 3<sup>rd</sup> letter. You do great work for sand mound prep but this isn't a perc cert plat nor a combination of perc cert/building site plan if that is what you are wanting to create. If you need to see a copy of a perc cert plat, schedule to come in and we can review one together.

KN

Prior to submitting a new sand mound testing plan, we recommend proposing an area for percolation testing no closer than 60 to the east lot line due to the existing well location on Lot 29 adjacent from your unimproved lot. On any future plans, have a licensed engineer field locate the old test holes, as they are still seen in the field. The enclosed notes should help you in this process.

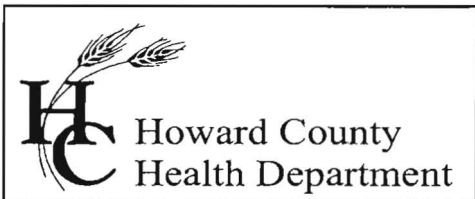
If you have any other questions, contact me at 410-313-1775. Thank you for your time in this important matter.

Sincerely,



Kacie Noonan, R. S.

Well and Septic Program



7178 Columbia Gateway Drive, Columbia, MD 21046  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: www.hchealth.org

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Penny E. Borenstein, M.D., M.P.H., Health Officer

June 3, 2005

Sanitary/ Environmental Eng., Inc.  
1414 Washington Road  
Westminster, MD 21157

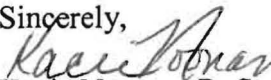
Re: Percolation Certification Plat  
Indian Hills, Lot 7

Dear Jim,

Review of your proposed well box location appears satisfactory for the Lot's own septic area, however, I just realized the eastern Lot's SDA is upslope of the proposed well. Your plan shows 10,000 square feet of SDA for the adjacent Lot 8. I will pull the file to see if it is actually so. Due to the age of the house, I believe that 10,000 square feet has not been established. In any case, I believe the plan may be acceptable to the Director of our program due to the fact it is an existing lot of record. The following list should help you expedite your percolation certification plat:

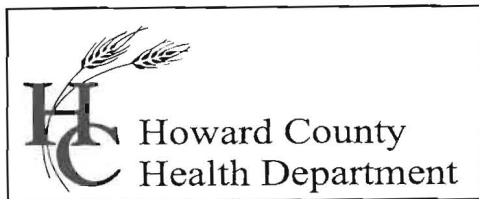
- Remove proposed well on Lot 4
- Show all percolation test holes as passed or failed
- Categorize holes as conventional trench tests and sand mound tests
- Add to the plan a soil overlay
- Add to General Notes the date the lot was established
- Add to General Notes, "Due to extensive percolation testing and soil profiling, the sand mound replacement area has been established"

I will contact you by phone or submit another fax for the Lot 8's septic records for accurate placement on your plan, if different. Call me if you have any questions.

Sincerely,  
  
Kacie Noonan, R. S.

KN

Cc: file



Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: [www.hchealth.org](http://www.hchealth.org)

Penny E. Borenstein, M.D., M.P.H., Health Officer

April 22, 2005

Mr. Ron Phillips  
12561 Indian Hill Drive  
Sykesville, MD 21784

Re: Sand Mound Test Results  
Indian Hills, Lot 7  
Tax Map: 9 Parcel: 136

Dear Mr. Phillips,

Sand mound testing conducted on April 22, 2005 resulted in satisfactory percolation rates for four tested holes. The fifth, northeastern hole on the lot, hole M5 in my notes and not per plan, resulted in mottles at 20" and not useable for sand mound location.

Further review for the development and approval of a percolation certification plan requires the following criteria shown by a certified surveyor/ engineer:

- Two-foot contours including the two adjacent lots and the lot north of your property
- Locate the exact location of the well and septic on the eastern lot as well as for your existing home
- Field locate holes M1- M5 and mark as passed and failed per sanitarian notes
- Include any previous water table studies which may have been conducted in the past which may show evidence of water flow underground away from the existing well across the street.

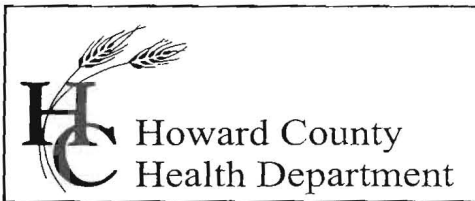
Although sand mound testing was conducted and passed the percolation test at hole M1, it is no guarantee this area is approvable due to the existing well down slope on the northern lot. It is highly recommended that the second sand mound system be relocated. Due to the number of holes on the property, additional test holes on the property should not be necessary.

Enclosed are copies of all field notes. If you have any questions, call 410-313-1771. Thank you for your time in this important matter.

Sincerely,

Kacie Noonan, R. S.  
Well & Septic Program

Cc: file



7178 Columbia Gateway Drive, Columbia, MD 21046

(410) 313-2640 Fax (410) 313-2648

TDD (410) 313-2323 Toll Free 1-866-313-6300

website: [www.hchealth.org](http://www.hchealth.org)

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Penny E. Borenstein, M.D., M.P.H., Health Officer

December 1, 2004

Mr. Ron Phillips  
12561 Indian Hill Drive  
Sykesville, MD 21784

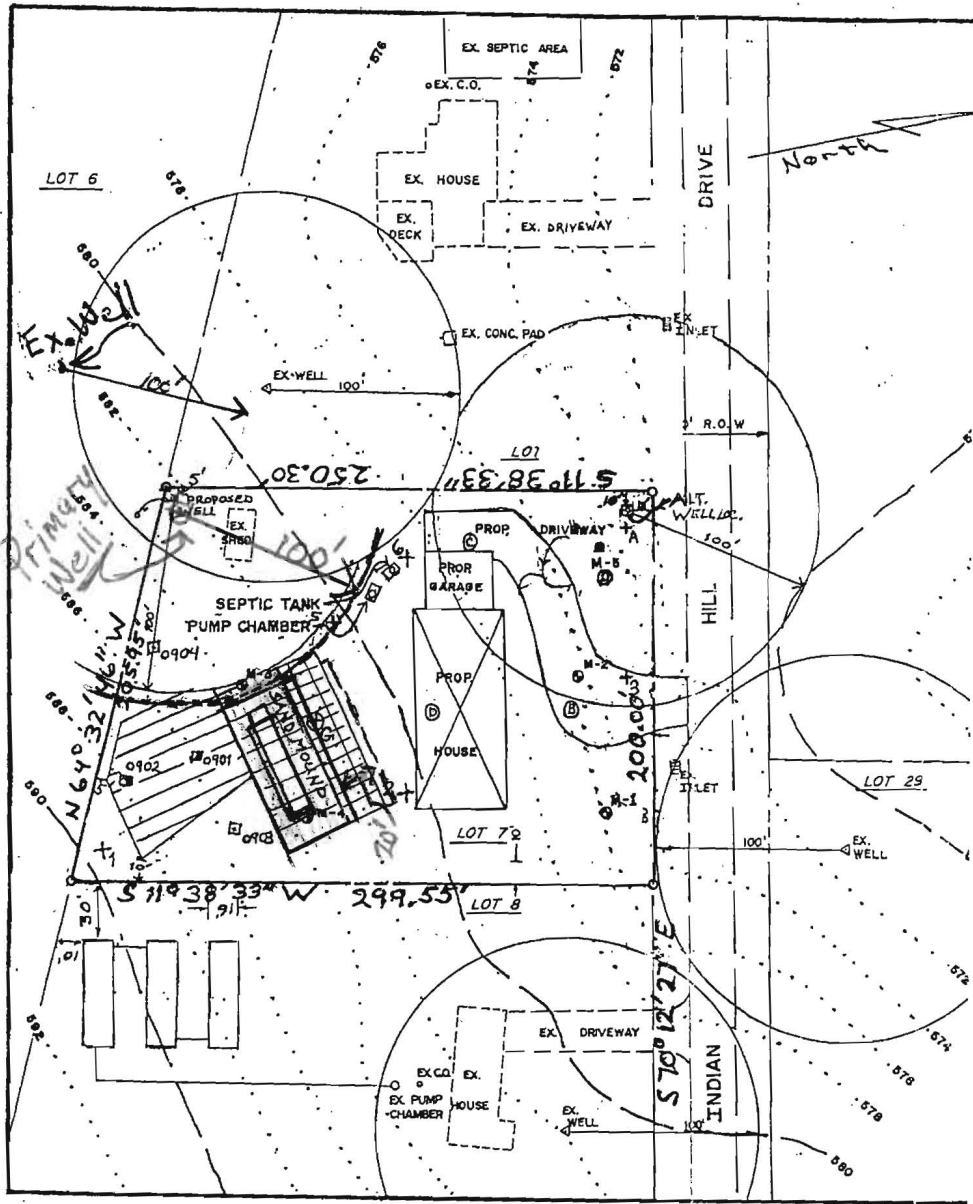
Re: Auger Soil Results/ Site Inspection  
Indian Hills, Lot 7  
Tax Map: 9 Parcel: 136

Dear Mr. Philips

Due to the misplacement of the notes from a previous, recent percolation test date scheduled with Fyock Septic, our office conducted an auger analysis of the soils for the above mentioned lot on November 30, 2004 at no cost. A summary of the previous and current results are as follows:

- An old test hole, located 100 feet of the rear lot line and approximately 50 feet off the NE corner of the existing shed, passed for conventional trench. Soils had shown low rock content, no high water table concerns, and soil texture of a sandy loam, friable.
- Holes dug on the east lot line and in the SE corner of the property had failed due to slow percolation test rates and deep clay. Rock content is not recalled by my memory
- Holes near the front, northern lot line contained small percentage of rock, deep clay and high water table
- Augured holes on November 30<sup>th</sup>, 2004 confirmed high water table and deep clay as recalled from previous percolation testing. The high water table supports the need for wet season testing around February.

Auger testing resulted in water table levels ranging from 4'10" to 6' below grade. Soil descriptions and location of each hole are shown on the field notes enclosed.



**NOTES**

1. THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
2. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
3. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN USING ALL REASONABLE EFFORTS.
4. THE WELL SHALL BE DRILLED PRIOR TO SUBMITTAL OF THE BUILDING PERMIT APPLICATION AS THE SURVEYED LOCATION OF THE WELL MUST BE SHOWN ON THE SITE PLAN.
5. TOPOGRAPHY SHOWN IS AT TWO-FOOT CONTOUR INTERVALS AND HAS BEEN FIELD VERIFIED BY S/E ENGINEERING, INC (JANUARY 2005).
6. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN
7. THE SAND MOUND AREA DELINEATED AND IDENTIFIED ON THIS PARCEL MUST BE PROTECTED BY A BARRIER AT ALL TIMES DURING GRADING AND CONSTRUCTION ACTIVITIES. THEREAFTER PROTECTIVE MEASURES SHOULD BE IMPLEMENTED TO PROTECT THIS AREA FROM EROSION, RUTTING OR COMPACTION. SUBSEQUENT BUILDING PERMIT APPLICATIONS MAY BE DENIED SHOULD THE SAND MOUND AREA BE EVALUATED AND FOUND UNSATISFACTORY FOR THE INTENDED USE.
8. AN ADVANCED PRE-TREATMENT SYSTEM, WHICH UTILIZES BEST AVAILABLE TECHNOLOGY TO PERFORM NITROGEN REDUCTION, MUST BE INSTALLED ON THE SEPTIC SYSTEM LOCATED ON THE SUBJECT PROPERTY DUE TO INSUFFICIENT SOIL RESOURCES TO SUPPORT THREE DRAINFIELD SYSTEMS. A SUPPLEMENTAL SITE PLAN WITH ALL OF THE NECESSARY DETAILS FOR INSTALLATION OF THE SYSTEM WILL BE REQUIRED PRIOR TO THE RELEASE OF THE BUILDING PERMIT AND SEPTIC SYSTEM INSTALLATION PERMIT. IN ADDITION, AN OPERATION AND MAINTENANCE CONTRACT AGREEMENT MUST BE FILED WITH HOWARD COUNTY LAND RECORDS PRIOR TO HEALTH DEPARTMENT APPROVAL OF THE BUILDING PERMIT.
9. THE SUBJECT PROPERTY HAS A LIMITATION OF 3 BEDROOMS. IF MORE BEDROOMS ARE DESIRED THE HEALTH DEPARTMENT WILL CONSIDER A TECHNICAL DESIGN SHOWING THAT THE SAND MOUND AREA WILL ACCOMMODATE A SYSTEM DESIGN ADEQUATE FOR THE AMOUNT OF WASTEWATER DISCHARGE FROM THE PROPOSED STRUCTURE.

**PERCOLATION CERTIFICATION PLAN  
INDIAN HILL SUBDIVISION, LOT 7  
Tax Map 9, Parcel 136, Lot 7**

OWNERS: RONALD AND CHIQUITA PHILLIPS  
12561 INDIAN HILL DRIVE  
SYKESVILLE, MD 21784

PC 530311

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON WORK PERFORMED IN MY PRESENCE OR BY MY DIRECTION, AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*[Signature]* 4.21.09  
(SIGNATURE) (DATE)

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

*B Nielsen for Pster Bsilensen* 5/20/2009  
(SIGNATURE) (DATE)

THE PURPOSE OF THIS PERCOLATION CERTIFICATION PLAN MODIFICATION IS TO MOVE THE PRIMARY WELL LOCATION SO THAT IT IS 10 FEET FROM THE 'BACK' PROPERTY LINE AND 15 FEET FROM THE NEAR PROPERTY CORNER, WHICH IS MARKED.

ADJUSTMENTS SHOWN ARE AS FOLLOWS: THE 100-FOOT WELL SETBACK; SAND MOUND GRAVEL BED WIDTH AND LENGTH; SAND MOUND BASAL AREA WIDTH AND LENGTH, AND 20-FOOT SETBACK FROM TOE OF SAND MOUND.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT

*B Nielsen for Pster Bsilensen* 8/7/2009  
(SIGNATURE) (DATE)

- LEGEND**
- + Perc Test FAIL, 9/2/04
  - ⊕ Perc test PASS, 9/2/04
  - ⊙ Profile described, 11/30/04
  - ⊙ Sand Mound, Fail (Spring 2005)
  - ⊙ Sand Mound, Pass (Spring 2005)
  - ⊙ Perc test, FAIL 4/16/2009
  - ⊙ Perc test, PASS 4/16/2009
  - ▨ Sand Mound Treatment area  
Protect from rutting or compaction; NO GRADING
  - ▨ Conventional Septic System

Scale: 1 inch = 100 feet



Keep  
in file

## FILE INQUIRY NOTES

DATE	RESULTS OF REVIEW FOR FILE
------	----------------------------

6/20/86	Indian Hill, Lot 7 NJR
---------	------------------------

Discussed w/ Engineer sand mound criteria needed on plan. Also, ensure all perc holes shown. Note: previous engineer surveyed & labeled holes incorrectly & this file lost once which led to augering. Holes to be labeled as accurately as possible.

Need to show 3 smounds,  
calcs

Sideview of sm & turn-ups  
manifold & lateral layout w/ holes  
Pump & Tank data

(KN)





overall rock  
in holes  
< 10%

# MOUND TEST DATA SHEETS

Property I.D. Indian Hills Lot # 7 Date 4/21/05

Sanitarian KN/SF Landscape Position Flat

% Slope ~3% Soil Type WET SEASON Contractor OWNER

HOLE # M3 DEPTH OF TEST 21 START TIME 9:44<sup>40</sup>

M3

	Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
DK brn organic LOAM	9 16/16	15 min	8/16 = 1/2"		
org brn SIL	9 8/16	↓	"		
	8 16/16		"		
	8 8/16		"		
DENSE WK rd brn SIL	7 16/16		"		
blk structure some macropores present in MASSIVE SIL	7 8/16		"		
					1/2" drop per 15MIN 2" drop in 1 hr

26" Stopped digging

HOLE LOC. 60' OFF NE CORNER OF SHED, 125' TO SE prop. corner, 75' to SM TEST HOLE M4, and located between two previously dug test holes.

HOLE # M4 DEPTH OF TEST 16" START TIME 10:22

M4

	Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
DK brn org brn granular sbk Loam	8 16/16	15	<del>1 16/16</del>		
	6 15/16	"	2 1/16		
	5 4/16	↓	1 11/16		
SIL w/ MACROPORES	3 14/16		1 6/16		
blk peds 1" x 1 1/2"	2 8/16		1 6/16		
	1 6/16		1 6/16	~ 1 3/8" drop per 15min	
					~ 5.5" per hour

w.c. s.g. Few sm peds blk, sbk

HOLE LOCATION: 125' from SE CORNER OF lot, 75' from SM TEST HOLE M3, approximately 25' to eastern lot line

overall rock  
in holes  
<10%

# MOUND TEST DATA SHEETS

Property I.D. Indian Hills Lot # 7 Date 4/21/05

Sanitarian KN/SF Landscape Position Flat

% Slope ~3% Soil Type WETSEASON Contractor OWNER

HOLE # M5 DEPTH OF TEST \_\_\_\_\_ START TIME \_\_\_\_\_

M5  
DKbrn  
wk pl. structure  
Loam  
8-12"  
DENSELY  
PACKED  
org CL  
20"  
N. SIDE  
26" Mn ↑ distinct  
Joint mottles in all  
Mottles  
water @  
3'

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
FAILED DUE TO MOTTLES ABOVE				
	24"			

Hole Location: 20' FROM WEST LOT LINE, ~48'  
TO ROAD EDGE, 83' FROM SMTTEST HOLE M<sub>2</sub>

HOLE # M1 DEPTH OF TEST 20" START TIME 12:33

M1  
dk brn  
gr Loam  
3"  
str brn  
SiCL  
massive ssbk  
Structure  
MACROPORES  
present to  
~17"  
24"  
yellow brn  
Cemented  
s.g. SiL  
3'5"

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
8 16/16	15	<del>15/16</del>		
8 1/16	"	15/16		
7 4/16	"	13/16		
6 8/16	"	12/16		
5 12/16	"	12/16		
4 16/16	"	12/16		

HOLE LOCATION: 45' from edge  
of road, 65' East of M<sub>2</sub>, 60' off EASTERN LOT LINE  
3/4" drop per 15 min

SANITARY/ENVIRONMENTAL ENG., INC.

Consulting Engineers  
1414 Washington Road  
WESTMINSTER, MARYLAND 21157  
(410) 876-7740  
FAX (410) 840-9924

JOB PHILLIPS - LOT 7

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY \_\_\_\_\_ DATE 12/14/04

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

SCALE INDIAN HILL ROAD

3 BEDROOMS x 150 = 450 GPD SLOPE - 3%  
LOADING RATE - 1 GPD/SQ. FT. = 450 SQ. FT.  
BED 50' x 9' = 450 - LINEAR LOADING RATE = 9 GPD / FT.

WITH WATER DEPTH  $\geq$  3' -

UP SIDE SAND DEPTH = 12"

DOWN SIDE SAND DEPTH = 12" + (0.03 x 108") = 15.25"

UP SLOPE SET BACK = 12" + 28' (3) (0.92) = 94" = 7'-10"

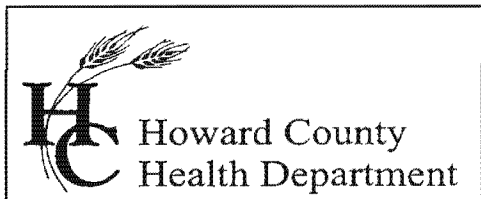
DOWN SLOPE SET BACK = 15 1/4" + 28' (3) (1.10) = 123" = 10'-3"

SIDE SLOPE SET BACK =  $\frac{12" + 15 1/4"}{2} + 28" (3) = 125" = 10'-5"$

MOUND LENGTH = 50' + 10'-5" + 10'-5" = 70'-10"

MOUND WIDTH = 9' + 7'-10" + 10'-3" = 27'-1"

WITH WATER DEPTH  $\geq$  4' - SHOULD ALSO BE EVALUATED  
FOR POSSIBLE AT GRADE SYSTEM.



7178 Columbia Gateway Drive, Columbia, MD 21046  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: [www.hchealth.org](http://www.hchealth.org)

---

Penny E. Borenstein, M.D., M.P.H., Health Officer

December 1, 2004

Mr. Ron Phillips  
12561 Indian Hill Drive  
Sykesville, MD 21784

Re: Auger Soil Results/ Site Inspection  
Indian Hills, Lot 7  
Tax Map: 9 Parcel: 136

Dear Mr. Phillips


Due to the misplacement of the notes from a previous, recent percolation test date scheduled with Fyock Septic, our office conducted an auger analysis of the soils for the above mentioned lot on November 30, 2004 at no cost. A summary of the previous and current results are as follows:

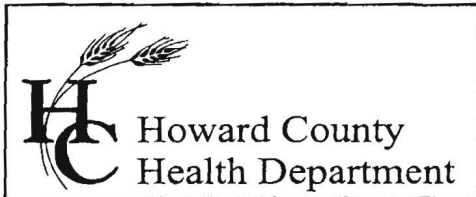
- An old test hole, located 100 feet of the rear lot line and approximately 50 feet off the NE corner of the existing shed, passed for conventional trench. Soils had shown low rock content, no high water table concerns, and soil texture of a sandy loam, friable.
- Holes dug on the east lot line and in the SE corner of the property had failed due to slow percolation test rates and deep clay. Rock content is not recalled by my memory
- Holes near the front, northern lot line contained small percentage of rock, deep clay and high water table
- Augured holes on November 30<sup>th</sup>, 2004 confirmed high water table and deep clay as recalled from previous percolation testing. The high water table supports the need for wet season testing around February.

Auger testing resulted in water table levels ranging from 4'10" to 6' below grade. Soil descriptions and location of each hole are shown on the field notes enclosed.

Prior to submitting a new sand mound testing plan, we recommend proposing an area for percolation testing no closer than 60 to the east lot line due to the existing well location on Lot 29 adjacent from your unimproved lot. On any future plans, have a licensed engineer field locate the old test holes, as they are still seen in the field. The enclosed notes should help you in this process.

If you have any other questions, contact me at 410-313-1775. Thank you for your time in this important matter.

Sincerely,  
  
Kacie Noonan, R. S.  
Well and Septic Program



7178 Columbia Gateway Drive, Columbia, MD 21046  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: [www.hchealth.org](http://www.hchealth.org)

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Penny E. Borenstein, M.D., M.P.H., Health Officer

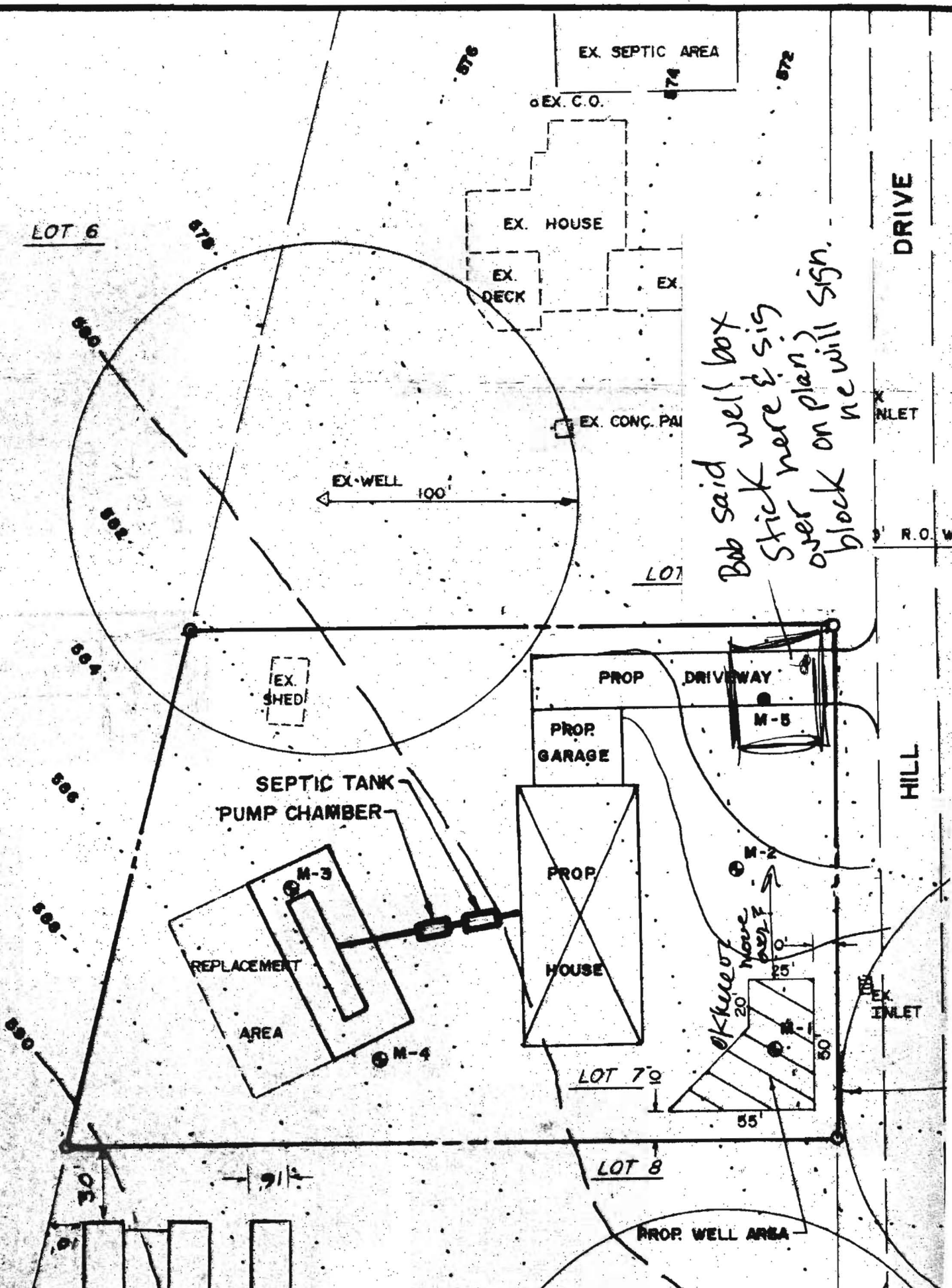
DATE: September 7, 2005  
TO: Jim Clise  
FROM: Kacie Noonan/ Howard County Health Dept.

RE: Indian Hills, Lot 7

Jim, see the attached letter. Your sand mound specs look fine but this is not a perc cert. See the bulleted list on the June 3<sup>rd</sup> letter. You do great work for sand mound prep but this isn't a perc cert plat nor a combination of perc cert/building site plan if that is what you are wanting to create. If you need to see a copy of a perc cert plat, schedule to come in and we can review one together.

KN

LOT 6



Bob said well box  
stick here & sig  
over on plan?  
ne will sign.

OK move  
20' over

DRIVE

HILL

INLET

R.O.W

LOT

LOT 7

LOT 8

PROP. WELL AREA

SEPTIC TANK  
PUMP CHAMBER

REPLACEMENT  
AREA

PROP  
GARAGE

PROP  
HOUSE

PROP  
DRIVEWAY

EX. SEPTIC AREA

EX. C.O.

EX. HOUSE

EX.  
DECK

EX. CONC. PAI

EX.  
SHED

EX. WELL

100'

M-2

M-1

M-4

M-3

30'

91'

55'

75'

50'



**SANITARY/ENVIRONMENTAL ENG., INC.**

**Consulting Engineers**

1414 Washington Road  
WESTMINSTER, MARYLAND 21157

(410) 876-7740  
FAX (410) 840-9924

**LETTER OF TRANSMITTAL**

TO HOWARD Co. HEALTH DEPT.  
BUREAU OF ENV. HEALTH  
7178 COLUMBIA GATEWAY DRIVE  
COLUMBIA, MD. 21046

DATE	6/22/05	JOB NO.
ATTENTION	KACIE NOONAN	
RE:	INDIAN HILLS - LOT 7	
	(LOT 9 SEWAGE AREA)	

WE ARE SENDING YOU  Attached  Under separate cover via \_\_\_\_\_ the following items:

- Shop drawings     Prints     Plans     Samples     Specifications  
 Copy of letter     Change order     \_\_\_\_\_

COPIES	DATE	NO.	DESCRIPTION
2			PRINTS - PLANS + SPECIFICATIONS

THESE ARE TRANSMITTED as checked below:

- For approval     Approved as submitted     Resubmit \_\_\_\_\_ copies for approval  
 For your use     Approved as noted     Submit \_\_\_\_\_ copies for distribution  
 As requested     Returned for corrections     Return \_\_\_\_\_ corrected prints  
 For review and comment     \_\_\_\_\_  
 FOR BIDS DUE \_\_\_\_\_     PRINTS RETURNED AFTER LOAN TO US

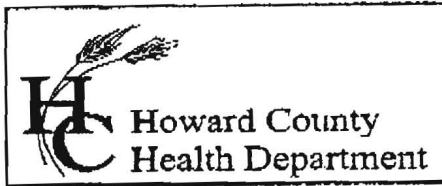
REMARKS 7/6/05 Bob, this is ex lot of record.

Well box closest pt 160' from adj SDA. Area potable wells w/ good yield. I strongly believe a well drilled 200' from nearest septic ok for yield. Soils high in silt & clay. I don't think contamination would be an issue. THIS SITE IS TOUGH LIKE Long Corner Road, however better soils. Could place special conditions on well permit (depth of grant to 50')  
FOOD FOR THOUGHT - let me know what you decide.

Thanks KC

COPY TO file

SIGNED: Jim Clise



7178 Columbia Gateway Drive, Columbia MD 21046  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6306  
website: www.hchealth.org

Penny E. Borenstein, M.D., M.P.H., Health Officer

December 1, 2004

Mr. Ron Phillips  
12561 Indian Hill Drive  
Sykesville, MD 21784

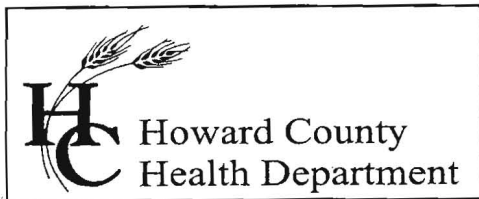
Re: Auger Soil Results/ Site Inspection  
Indian Hills, Lot 7  
Tax Map: 9 Parcel: 136

Dear Mr. Philips

Due to the misplacement of the notes from a previous, recent percolation test date scheduled with Fyock Septic, our office conducted an auger analysis of the soils for the above mentioned lot on November 30, 2004 at no cost. A summary of the previous and current results are as follows:

- An old test hole, located 100 feet of the rear lot line and approximately 50 feet off the NE corner of the existing shed, passed for conventional trench. (TWO TESTS PASSED) Soils had shown low rock content, no high water table concerns, and soil texture of a sandy loam, friable.
- Holes dug on the east lot line and in the SE corner of the property had failed due to slow percolation test rates and deep clay. Rock content is not recalled by my memory
- Holes near the front, northern lot line contained small percentage of rock, deep clay and high water table
- Augured holes on November 30<sup>th</sup>, 2004 confirmed high water table and deep clay as recalled from previous percolation testing. The high water table supports the need for wet season testing around February.

Auger testing resulted in water table levels ranging from 4' 10" to 6' below grade. Soil descriptions and location of each hole are shown on the field notes enclosed.



Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046  
(410) 313-2640 Fax (410) 313-2648  
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website: [www.hchealth.org](http://www.hchealth.org)

Penny E. Borenstein, M.D., M.P.H., Health Officer

April 22, 2005

Mr. Ron Phillips  
12561 Indian Hill Drive  
Sykesville, MD 21784

Re: Sand Mound Test Results  
Indian Hills, Lot 7  
Tax Map: 9 Parcel: 136

Dear Mr. Phillips,

Sand mound testing conducted on April 22, 2005 resulted in satisfactory percolation rates for four tested holes. The fifth, northeastern hole on the lot, hole M5 in my notes and not per plan, resulted in mottles at 20" and not useable for sand mound location.

Further review for the development and approval of a percolation certification plan requires the following criteria shown by a certified surveyor/ engineer:

- Two-foot contours including the two adjacent lots and the lot north of your property
- Locate the exact location of the well and septic on the eastern lot as well as for your existing home
- Field locate holes M1- M5 and mark as passed and failed per sanitarian notes
- Include any previous water table studies which may have been conducted in the past which may show evidence of water flow underground away from the existing well across the street.

Although sand mound testing was conducted and passed the percolation test at hole M1, it is no guarantee this area is approvable due to the existing well down slope on the northern lot. It is highly recommended that the second sand mound system be relocated. Due to the number of holes on the property, additional test holes on the property should not be necessary.

Enclosed are copies of all field notes. If you have any questions, call 410-313-1771. Thank you for your time in this important matter.

Sincerely,

Kacie Noonan, R. S.  
Well & Septic Program

Cc: file

**SANITARY/ENVIRONMENTAL ENGINEERING, INC.**  
1414 WASHINGTON ROAD  
WESTMINSTER, MARYLAND 21157

James D. Clise, PE

(410) 876-7740  
Fax (410) 840-9924

**MEMORANDUM**

September 28, 2005

**To:** Ms. Kacie Noonan  
Howard County Health Dept.  
Bureau of Environmental Health  
7178 Columbia Gateway Drive  
Columbia, Maryland 21046

**Re:** Lot 7 – Indian Hills  
Perc. Certification Plat

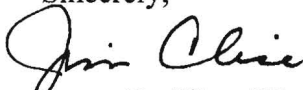
Dear Ms. Noonan,

In response to your telephone call of September 26 concerning our source of information used to identify the first test holes on Lot 7, these sites were field located using your notes dated September 2, 2004. A copy is enclosed.

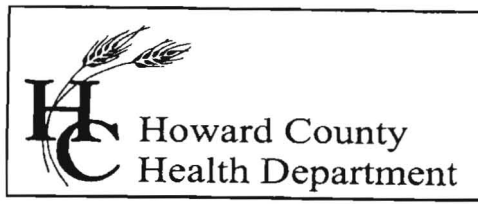
You will note that your notes identified Tests A through G. The perc. certification plat has them numbered 1 through 7. This numbering was done to avoid confusion with the sites you augered Nov. 30, 2004 which were identified A, B, C & D. We have added your letter designations to the plats number list to facilitate review. Additional prints containing these lettered designations are enclosed.

I understand, if this is ever approved, that I will be sent an approved copy. I really hope this can happen soon.

Sincerely,

  
James D. Clise, PE

cc: Ron Phillips



7178 Columbia Gateway Drive, Columbia, MD 21046  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: www.hchealth.org

Penny E. Borenstein, M.D., M.P.H., Health Officer

June 3, 2005

Sanitary/ Environmental Eng., Inc.  
1414 Washington Road  
Westminster, MD 21157

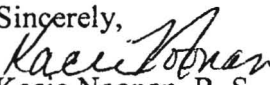
Re: Percolation Certification Plat  
Indian Hills, Lot 7

Dear Jim,

Review of your proposed well box location appears satisfactory for the Lot's own septic area, however, I just realized the eastern Lot's SDA is upslope of the proposed well. Your plan shows 10,000 square feet of SDA for the adjacent Lot 8. I will pull the file to see if it is actually so. Due to the age of the house, I believe that 10,000 square feet has not been established. In any case, I believe the plan may be acceptable to the Director of our program due to the fact it is an existing lot of record. The following list should help you expedite your percolation certification plat:

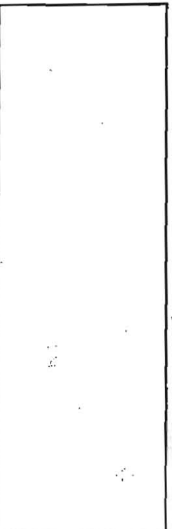
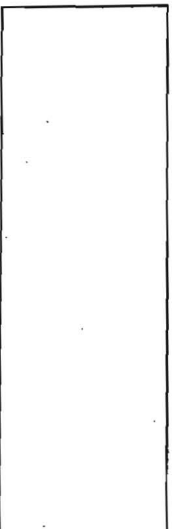
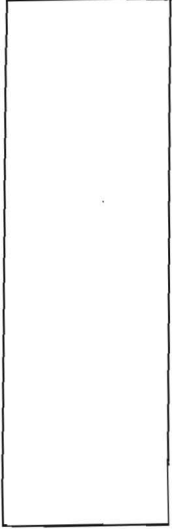
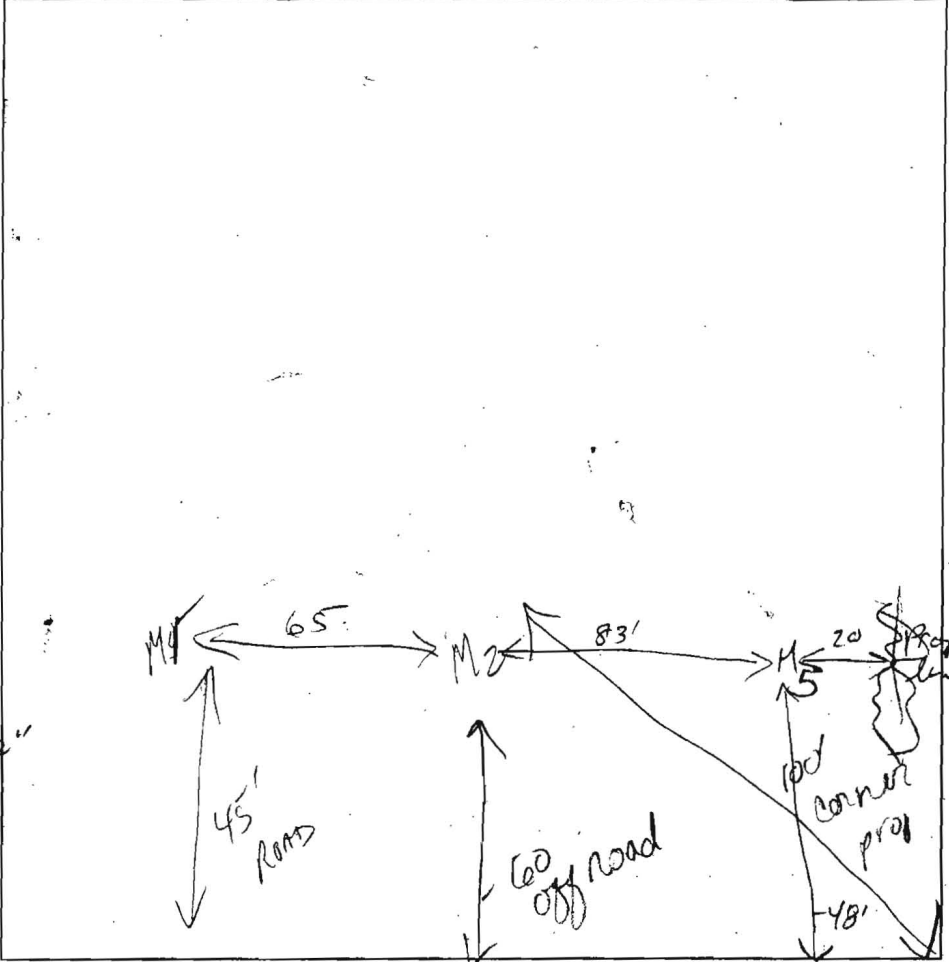
- Remove proposed well on Lot 4
- Show all percolation test holes as passed or failed
- Categorize holes as conventional trench tests and sand mound tests
- Add to the plan a soil overlay
- Add to General Notes the date the lot was established
- Add to General Notes, "Due to extensive percolation testing and soil profiling, the sand mound replacement area has been established"

I will contact you by phone or submit another fax for the Lot 8's septic records for accurate placement on your plan, if different. Call me if you have any questions.

Sincerely,  
  
Kacie Noonan, R. S.

KN

Cc: file



**M5**  
 DK brn  
 1/2 platy loam  
 densely packed  
 CL  
 20-12"  
 20"  
 distinct  
 mottles  
 in CL  
 Water @  
 3'

**M5**  
 dark brn  
 platy L gr  
 massive silt  
 silt  
 yellowish  
 cemented  
 s-s  
 silt

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
	M2	20"	11:15	9 1/16	6/16	12:45	8 1/16
			11:30	9 10/16	5/16	1:00	7 13/16
			11:45	9 5/16	5/16		
			12:00	8 10/16	4/16		
			12:15	8 12/16	5/16		
	M5		12:30	8 7/16			F
	M5	20"	12:33	8 16/16	15/16	1:33	5 12/16
			12:48	8 1/16	13/16		12/16
			1:03	7 4/16	12/16		4 10/16
			1:18	6 8/16			12/16

REMARKS \_\_\_\_\_

SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_

TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_

TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE SW \_\_\_\_\_

3 1/2"

A/P MB

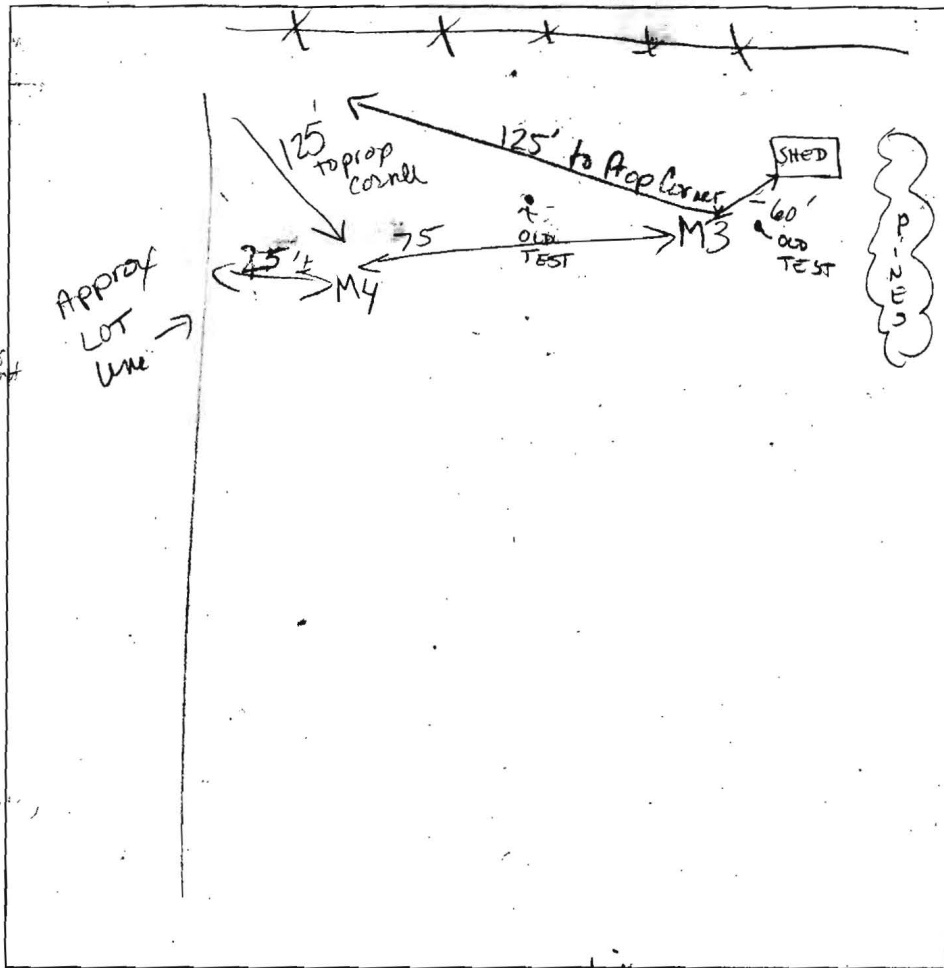
Loam

org sil

Dense WK rdbrn sil 18"

btk Mac pores present 26"

stopped digging



M4

MB

organic

wk pl structures 16"

SBK 10 14

17"

sil

btk peds 1" x 1 1/2"

w/ macro pores

27"

w.c.s.g.

Few sm peds btk SBK

MB

org brn dk brn gr, sbk L

28"

org brn CL to 27"

27"

sil

found matter @ 31"

34"

moist sil begins

Time Reading A

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
	M3	21"	9:44:40	9 8/16	8/16	= 1/2"	
			10:00 - 10:15	8 8/16 - 8 14/16	8/16	= 1/2"	
			10:30 - 10:45	8 8/16 - 7 14/16	8/16	= 1/2"	
			11:00 - 11:15	7 8/16	8/16	= 1/2"	
	M4	10"	10:22	8 10/16	1 1/16		
			10:37	6 15/16 - 5 4/16	9/16		
			10:52 - 11:07	3 14/16	1 1/16		
			11:22	2 8/16	1 6/16		
			11:37	1 6/16	1 2/16		

REMARKS \_\_\_\_\_

SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_

TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_

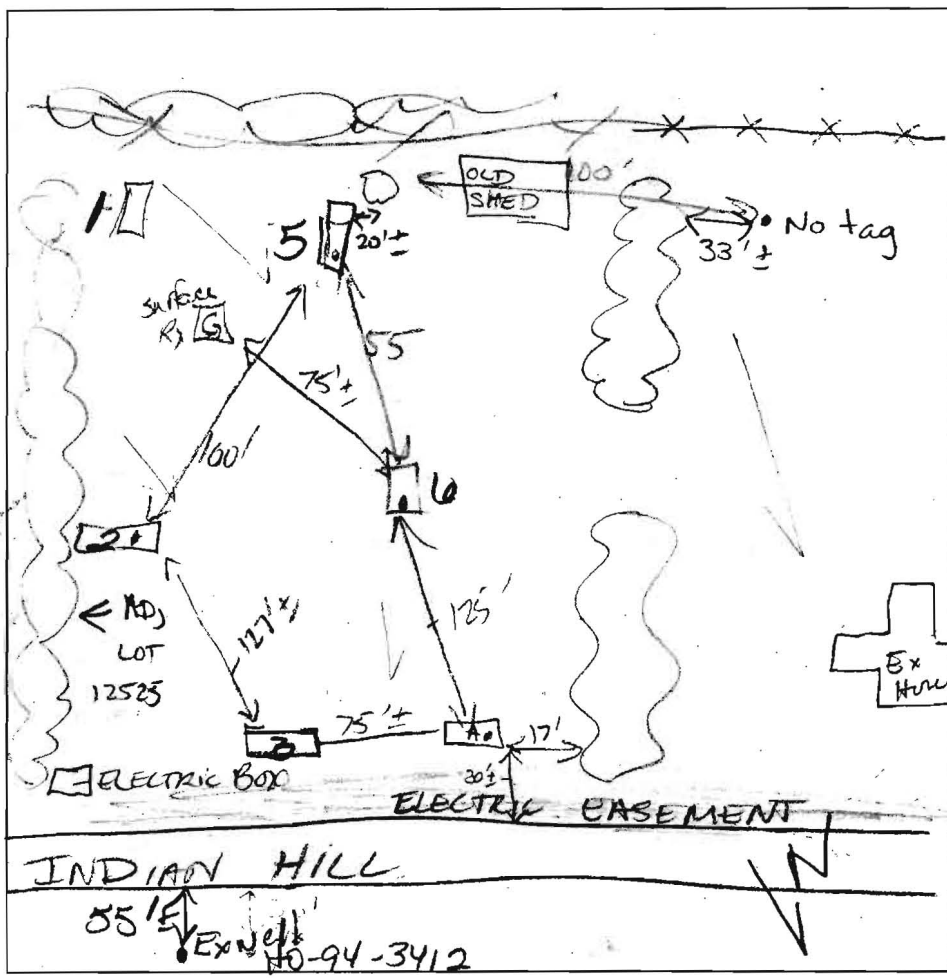
TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE SM \_\_\_\_\_



A/P  
 (A)  
 Strong brn hvy L-SL  
 MASSIVE  
 3 1/2'  
 STRONG Brown  
 grey rdbrn, Mn  
 10 1/2' V. faint water pouring Bottom  
 12'

(3)  
 Strong Brn CL  
 massive  
 4 1/2'  
 SiL hvyL  
 3d MASS sil-L  
 Mn on lg  
 RED concrete  
 9' water seepage

(2)  
 orange brn  
 Brn  
 lg sbk peds  
 5 1/2'  
 Wkrd Brn  
 SiL  
 8 1/2'  
 wk rdbrn  
 Dky brn  
 loam-hvyL  
 greenish yellow, Mn  
 org L  
 Bottom  
 13'



(5)  
 org brn  
 SiL hvyL  
 5'  
 ybrn  
 SL  
 Rock 10%  
 sq. wk  
 Bottom  
 12'  
 (6)  
 org brn  
 SiL  
 ?  
 org SL  
 sq  
 wk  
 11'  
 water coming in  
 Bottom  
 13'

INDIAN HILL  
 55' E  
 Ex 10-94-3412  
 House 12520

DATE	TEST #	DEPTH	START	BREAK 1' DROP	STOP 2' DROP	TIME OF 2nd INCH	P/F/H
9/2/04	(A)	4' 5"	9:42	10:08	still on 1st peg		F
	(3)	5' M	9:56	10:35	2nd peg	H <sub>2</sub> O TABLE @ 8' F	F
	(2)	6 1/2' M	10:11	TOO SLOW			F
	(5)	5 1/2' SL	10:30	10:38	10:40	2"	F
	(6)	5 1/2' S	10:39	1st inch ~ 28 min 10" hole			M
	(1)	7 1/2'	10:43	10:57	11:12	quite on 2nd peg	F
	(6)	5' S	10:58	11:06	11:12	quite on 2nd peg	P

10' POST HOLE DIGGER SIZED holes

1 (5)  
 RED SBK  
 CLL  
 3'  
 Str yellow  
 ybrn  
 SiL-L  
 7 1/2'  
 Skip decided to pare from dig deeper if possible

REMARKS Generally flat H<sub>2</sub>O hole (A) @ 9 1/2' At 10:30  
 SANITARIAN \_\_\_\_\_ BACKHOE \_\_\_\_\_ OTHERS \_\_\_\_\_  
 TEST HOLES USED IN SDA \_\_\_\_\_ AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_  
 TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE S/W \_\_\_\_\_

No water

D - will work for S.M. and

**SANITARY/ENVIRONMENTAL ENG, INC**

Consulting Engineers  
 1414 Washington Road  
 WESTMINSTER, MARYLAND 21157  
 (410) 876-7740  
 FAX (410) 840-9924

JOB IRON PHILLIPS - HOWARD Co.

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY SANDMOUND DATE \_\_\_\_\_

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

SCALE 12561 INDIAN HILL DRIVE

3 BEDROOMS x 150 = 450 GPD 5% SLOPE  
 LOADING RATE - 1 GPD / SQ. FT. = 450 SQ. FT.  
 BED 9' x 50' = 450 SQ. FT.  
 LINEAR LOADING RATE - 450 GPD / 50' = 9 GAL./FT.

UP SIDE SAND DEPTH - 24"  
 DOWN SIDE SAND DEPTH - 24" + (1.05 x 108") = 29 1/2"

UP SLOPE SETBACK - 24" + 22" (3) (0.87) = 120" = 10'  
 DOWN SLOPE SETBACK - 29.5" + 22" (3) (1.18) = 182" = 15'-2"  
 SIDE SLOPE SETBACK -  $\frac{24" + 29.5" + 28" (3)}{2}$  = 164" = 13'-8"

MOUND WIDTH = 9' + 10' + 15'-2" = 34'-2"  
 MOUND LENGTH = 50' + 13'-8" + 13'-8" = 77'-4"

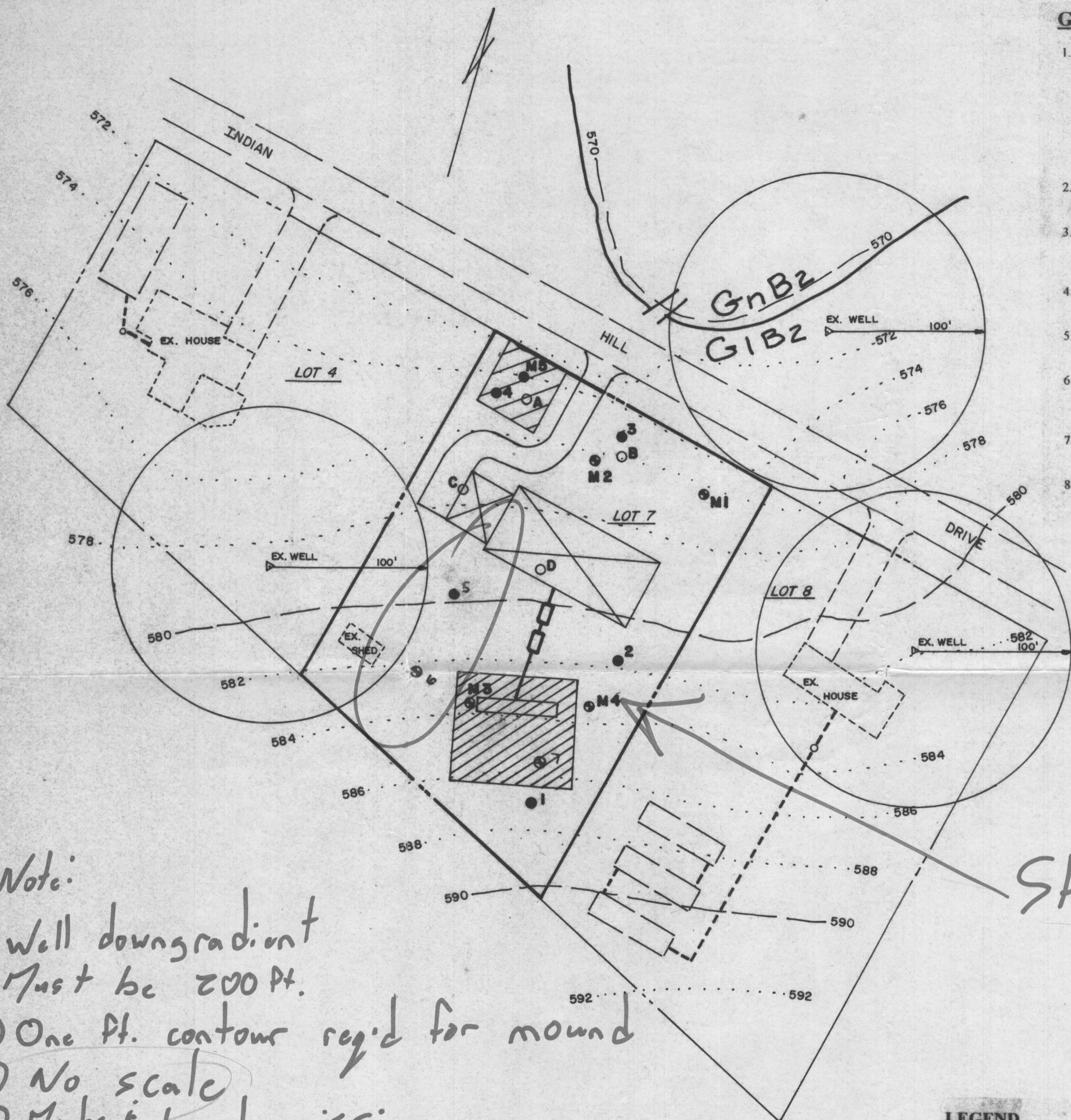
PUMP RATE = 42 PERFORATIONS @ 1.63 = 68 GPM

PUMP DOSE - 2" PVC @ 17.4 GAL/100'  
 5 x 3 x 46' = 690' (LATERALS)  
 PLUS - 43' + 1' + 6' = 50' F.M. - DOSE = 7.4 x 17.4 = 129 GAL (130 GAL)  
 130 GAL / 7.48 = 17.4 CU FT / 40 SQ. FT. = 0.43' (0.5') = 6"  
 EMERGENCY STORAGE = 40 SQ. FT. x 2.08' = 83.3 CU FT = 623 GAL.

TDH - 68 GPM - 2" PVC @ ELEV. DIFFERENCE 586.66 - 574.25 = 12.41'  
 DISTAL HEAD 2.0

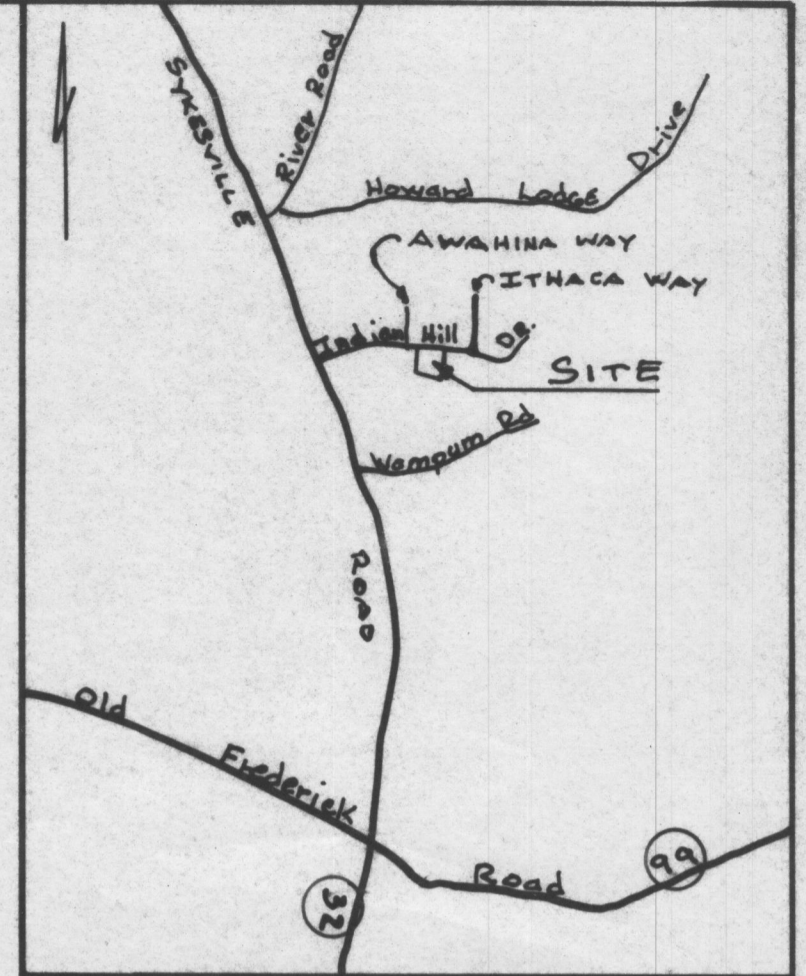
F - @ 7' / 100'

2" = 6' + VALVE + L + UNION + L + L + 43' + L + 3' + T  
 6' + 1.2' + 7' + 2' + 7' + 7' + 43' + 7' + 3' + 10' = 93.2'  
 F = 0.932 x 7 = 6.5' TDH = 12.41' + 2.0' + 6.5' = 20.91'



**GENERAL NOTES**

1. [Hatched Area] This area designates a private sewage easement to accommodate installation of two (2) private systems as required by the Maryland Department of The Environment for existing Lots of Record. Improvements of any nature in this area is restricted until public sewerage becomes available. These easements shall become null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant adjustments to the easement.
2. Adjustment of the sewage easement is not permitted without additional testing. Use is limited to a three (3) bedroom house.
3. The lot shown hereon complies with the minimum ownership width and lot area as required by the Maryland Department of the Environment.
4. Existing wells and sewage easements within 100 feet of the property has been accurately shown.
5. House site shown complies with minimum Building Restriction Regulations.
6. Topography shown is from Howard County GIS Topography at 5' contours intervals. Establishment of 2' contours and all soil test locations are from field run survey.
7. Boundary outline based on plat of record and verified by field run survey.
8. All soils on this lot are GIB2 as shown on Howard County Soils Survey Map # 8.



VICINITY MAP  
SCALE: 1" = 2000'

**PERCOLATION TEST DATA**

TILE FIELDS	FIELD #
1) > 30 Min. - Failed	F
2) > 30 Min. - Failed	C
3) > 30 Min. - Failed	B
4) > 30 Min. - Failed	A
5) > 30 Min. - Failed	D
6) < 30 Min. - Passed	G
7) < 30 Min. - Passed	G

SANDMOUND
M-1 1/2" in 17 Min. @ 20"
M-2 1" in 48 Min. @ 20"
M-3 1" in 30 Min. @ 21"
M-4 1" in 11 Min. @ 16"
M-5 Failed

OBSERVATION HOLES
A Water @ 5'
B Water @ 4' - 6"
C ok to 4' - 3"
D Water @ 6' - 8"

*Still Wrong*

*Note:*  
 ① Well down gradient must be 200 ft.  
 ② One ft. contour req'd for mound  
 ③ No scale  
 ④ Meets & bounds missing

**LEGEND**

- ..... Existing 2' Contours
- - - - - Existing 10' Contours
- [Hatched Box] Denotes Proposed Well Area
- [Diagonal Lines Box] Denotes Sewage Reserve Area
- Passed Perc Test
- Failed Perc Test
- Observation Hole
- [Crossed Box] Proposed House



*James D. Clise*

**OWNER**  
 Ronald L. Phillips  
 Chiquita L. Phillips  
 12561 Indian Hill Drive  
 Sykesville, Md. 21784



**PERC CERTIFICATION**  
 I certify that the perc's shown hereon are based on a field survey performed by me and that the locations shown are correct to the best of my professional knowledge.  
*Richard S. Krebs* 9/15/05  
 Richard S. Krebs, Professional Surveyor No. 10873 Date

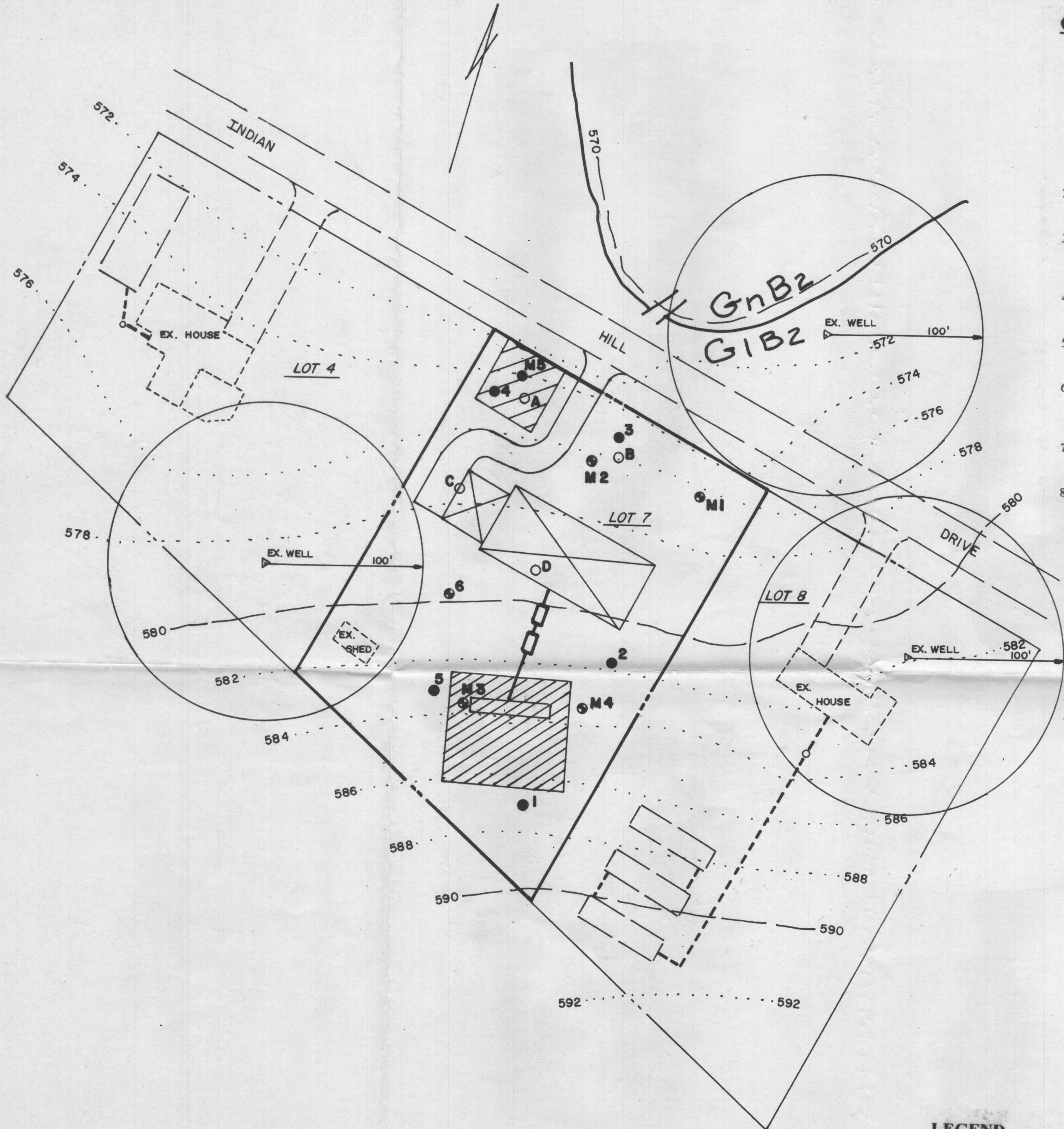
Approved for private water and private sewerage systems.  
 Howard County Health Department.  
 County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

**S/E ENGINEERING, INC.**  
 WESTMINSTER, MARYLAND

SCALE: AS SHOWN	APPROVED: J.D.C.	DRAWN BY: R.S.K.
DATE: September, 2005		DESIGN BY: J.D.C.

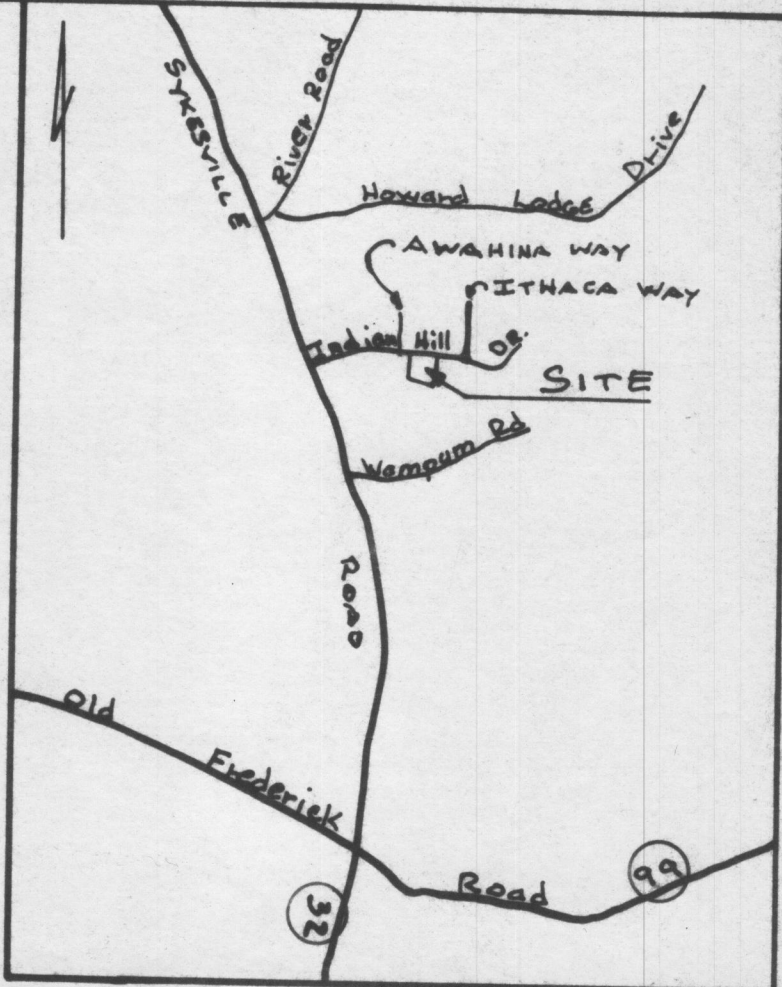
**PERC CERTIFICATION PLAT**  
 LOT 7 - INDIAN HILLS - HOWARD COUNTY

TAX MAP 9 - PARCEL 136 FILED APRIL 15, 1968	DRAWING NO. 1 OF 1
--	-----------------------



**GENERAL NOTES**

1. This area designates a private sewage easement to accommodate installation of two (2) private systems as required by the Maryland Department of The Environment for existing Lots of Record. Improvements of any nature in this area is restricted until public sewerage becomes available. These easements shall become null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant adjustments to the easement.
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8. All soils on this lot are GIB2 as shown on Howard County Soils Survey Map # 8.



VICINITY MAP  
SCALE: 1" = 2000'

**PERCOLATION TEST DATA**

**TILE FIELDS**

- 1) > 30 Min. - Failed
- 2) > 30 Min. - Failed
- 3) > 30 Min. - Failed
- 4) > 30 Min. - Failed
- 5) > 30 Min. - Failed
- 6) < 30 Min. - Passed

**SANDMOUND**

- M-1 1/4" in 17 Min. @ 20"
- M-2 1" in 48 Min. @ 20"
- M-3 1" in 30 Min. @ 21"
- M-4 1" in 11 Min. @ 16"
- M-5 Failed

**OBSERVATION HOLES**

- A Water @ 5"
- B Water @ 4' - 6"
- C ok to 4' - 3"
- D Water @ 6' - 8"

*9/16/05 These are the perc results for*

**LEGEND**

- Existing 2' Contours
- Existing 10' Contours
- Denotes Proposed Well Area
- Denotes Sewage Reserve Area
- Passed Perc Test
- Failed Perc Test
- Observation Hole
- Proposed House



*James P. Clise*

**OWNER**

Ronald L. Phillips  
Chiquita L. Phillips  
12561 Indian Hill Drive  
Sykesville, Md. 21784

Approved for private water and private sewerage systems.  
Howard County Health Department.

County Health Officer *KN* Date

**PERC CERTIFICATION**

I certify that the perc's shown hereon are based on a field survey performed by me and that the locations shown are correct to the best of my professional knowledge.

*Richard S. Krebs* 9/15/05  
Richard S. Krebs, Professional Surveyor No. 10873 Date



**S/E ENGINEERING, INC.**

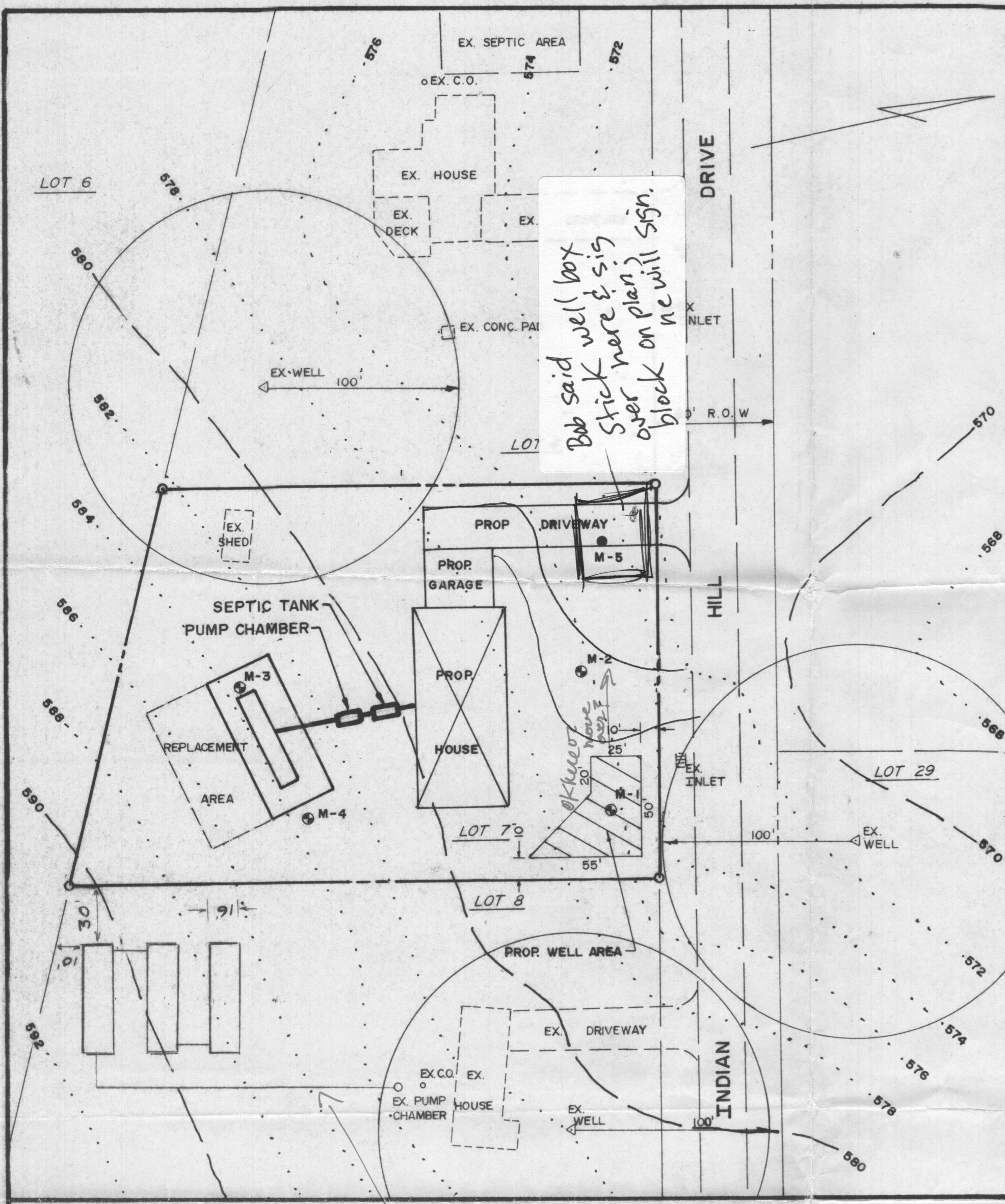
WESTMINSTER, MARYLAND

SCALE: AS SHOWN APPROVED: DRAWN BY: R.S.K.  
DATE: September, 2005 J.D.C. DESIGN BY: J.D.C.

**PERC CERTIFICATION PLAT  
LOT 7 - INDIAN HILLS - HOWARD COUNTY**

TAX MAP 9 - PARCEL 136  
FILED APRIL 15, 1968

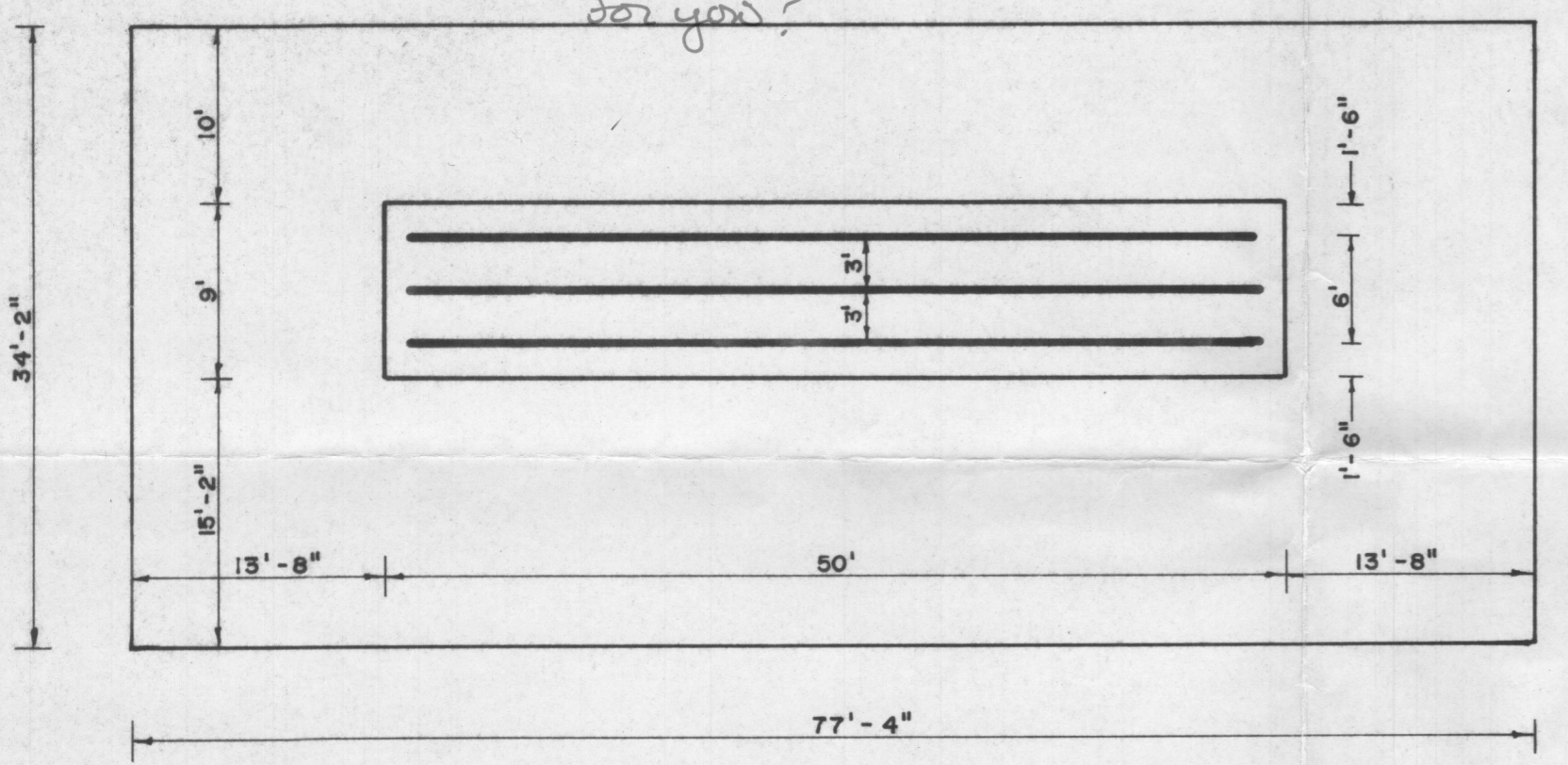
DRAWING NO.  
1 OF 1



**SITE PLAN**  
SCALE: 1" = 50'

Future SDA where?

7/6/05  
Bob, tell me what you think. Need variance letter for spec, well conditions, or not? which corner works best for you?



**MOUND LAYOUT**  
SCALE: 1" = 10'

**SPECIFICATIONS**

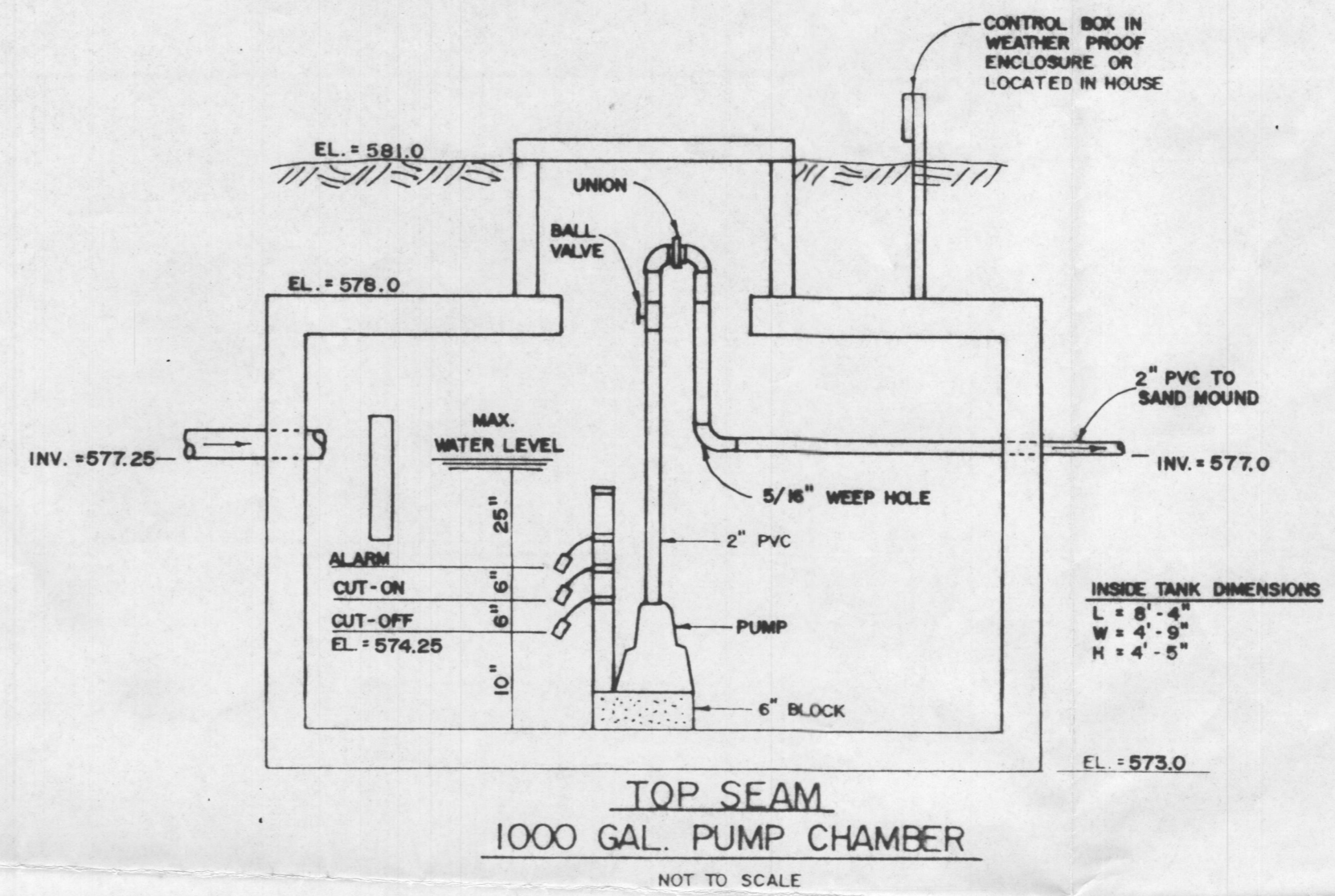
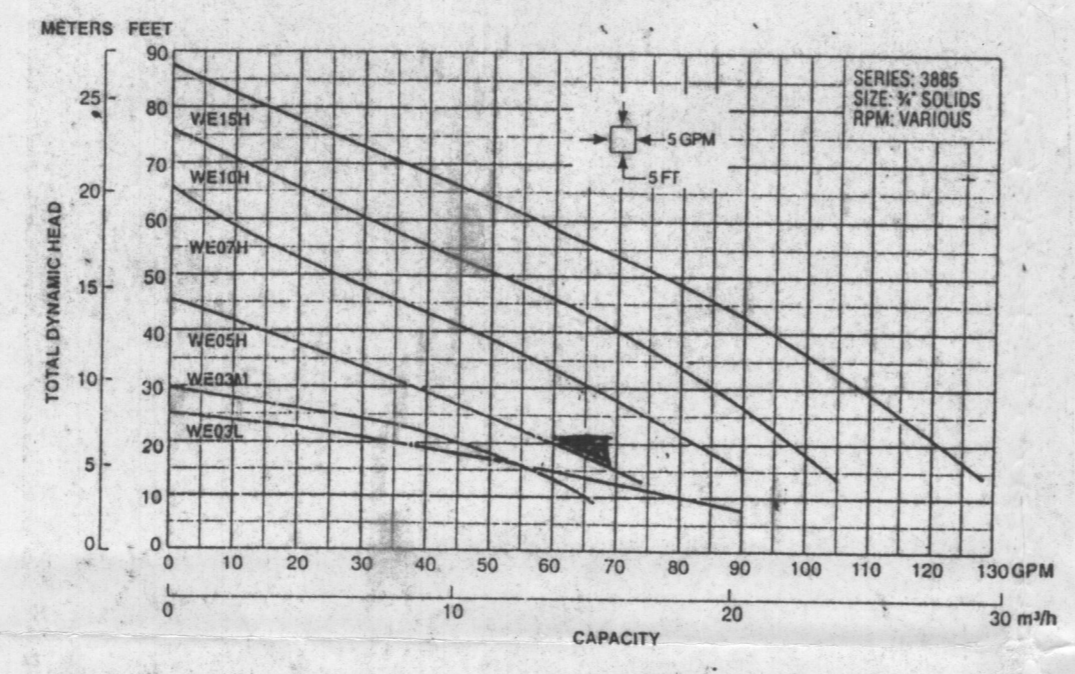
- Tank measurements and elevations are based on septic tanks and pump chambers as manufactured by Mayer Bros., Elkridge, Md. (410) 796-1434.
- All piping to be schedule 40 PVC of sizes shown.
- The force main from the pump chamber to the sand bed is to be installed with a continuous slope back to the chamber to assure complete drainage following each pump cycle.
- A submersible pump to remove 68 GPM against 21' TDH to be provided. Pump to be a Goulds Model 3885-WE-07H, or equal.
- A test of the pump system and distribution piping is required prior to covering the system.
- The High Water Alarm is to be on a separate circuit.
- Alarm to be located in the house.
- Stone bed to be 1/2" to 2 1/2" clean gravel. Crushed lime stone is not acceptable.

**DESIGN CRITERIA**

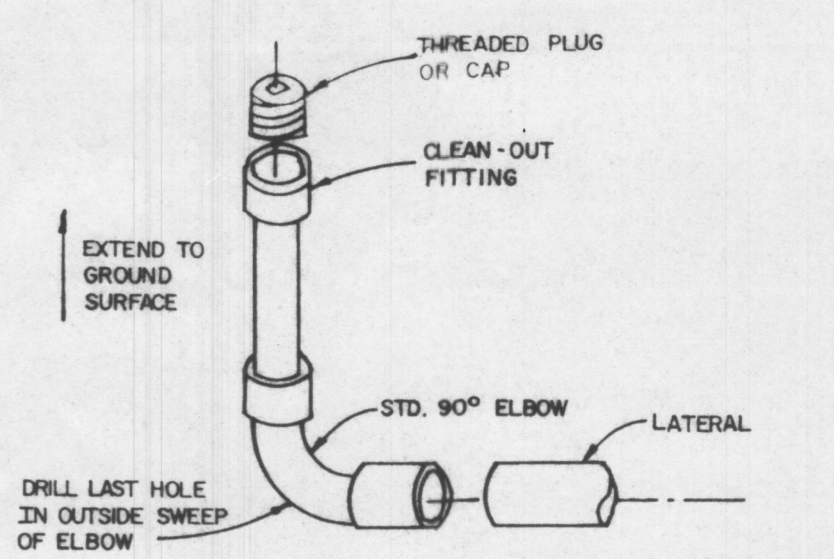
3 Bed Rooms x 150 = 450 GPD  
 Loading Rate: 1.0 GPD/Sq Ft. = 450 Sq. Ft.  
 Bed 9' x 50' = 450 Sq. Ft.  
 1 - 1,500 GAL. Top Seam Septic Tank  
 1 - 1,000 GAL. Top Seam Pump Chamber  
 Pump Rate - 42 Perforations @ 1.63 GPM = 68GPM  
 Mound Width = 34' - 2"  
 Mound Length = 77' - 4"

**SOIL TEST**

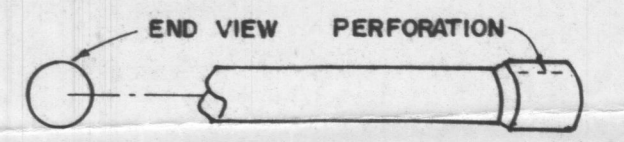
- M-1 - 3/4 in. 17 min. @ 20"
- M-2 - 1 in. 48 min. @ 20"
- M-3 - 1 in. 30 min. @ 21"
- M-4 - 1 in. 11 min. @ 16"



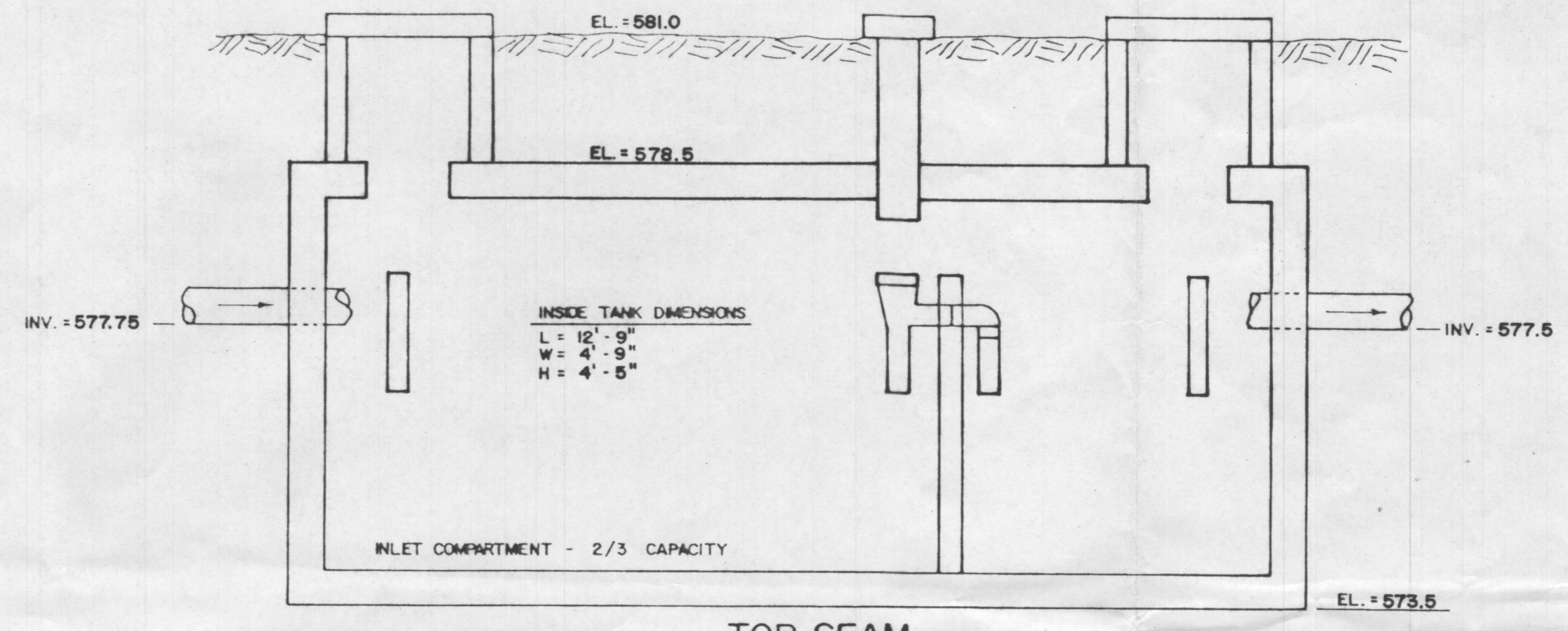
**TOP SEAM  
1000 GAL. PUMP CHAMBER**  
NOT TO SCALE



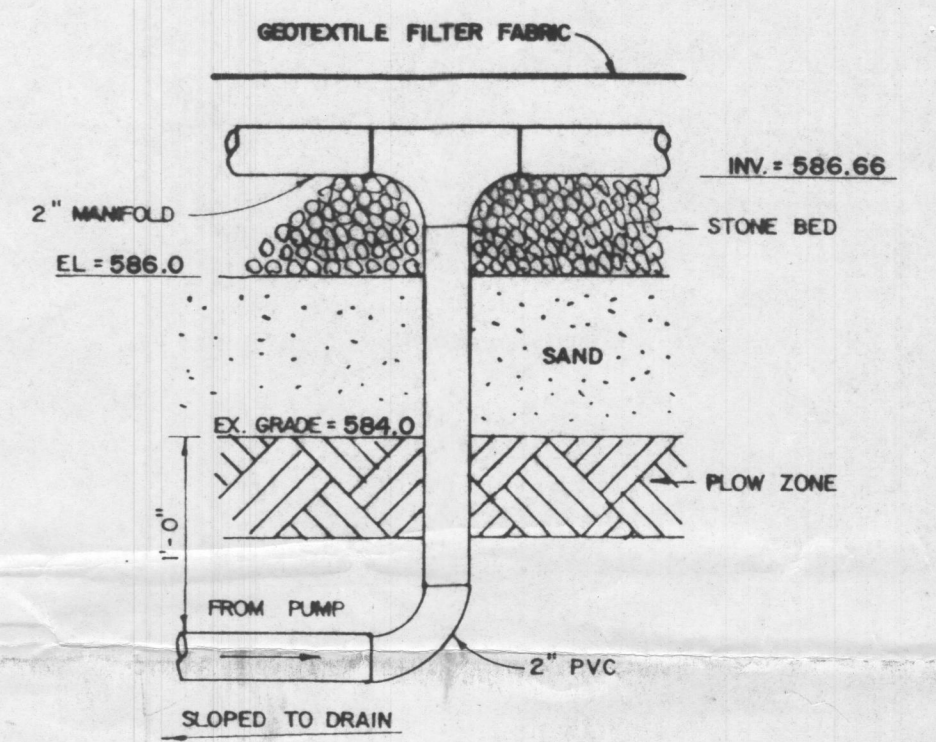
**LATERAL END TURN-UP**  
USE ON LATERAL FARTHEST FROM PUMP  
AND ON LATERAL DIAGONALLY ACROSS BED  
NOT TO SCALE



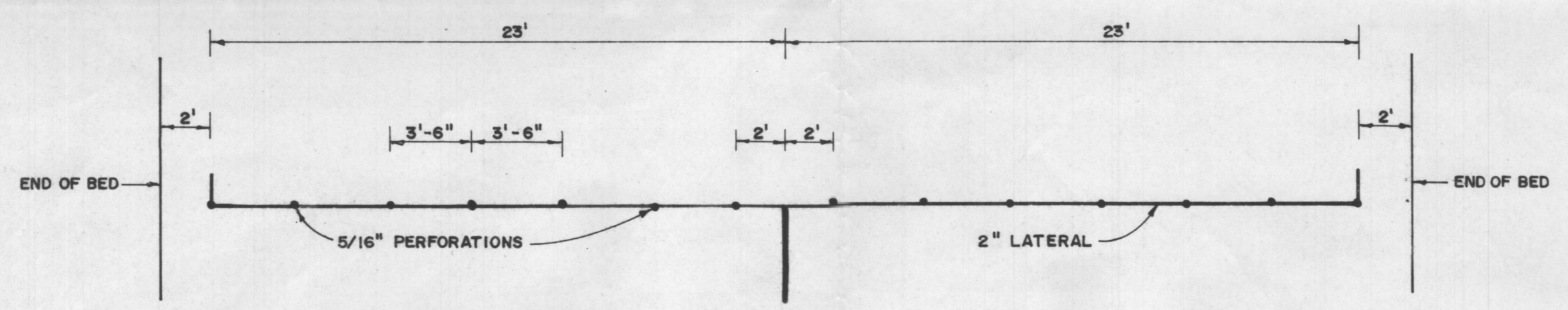
**LATERAL END CAP**  
USE ON LATERALS NOT  
EQUIPPED WITH TURN-UP  
NOT TO SCALE



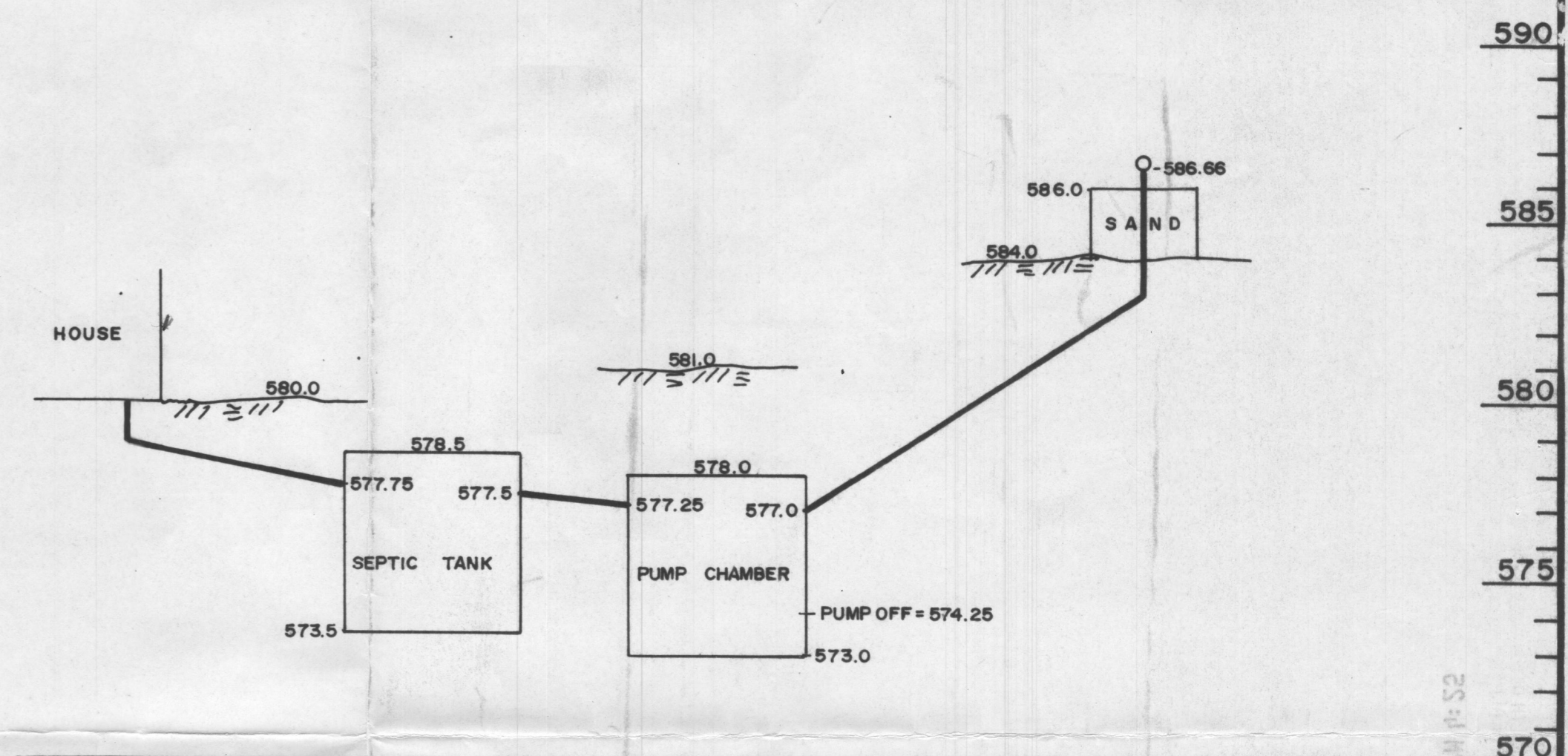
**TOP SEAM  
1500 GAL. SEPTIC TANK**  
NOT TO SCALE



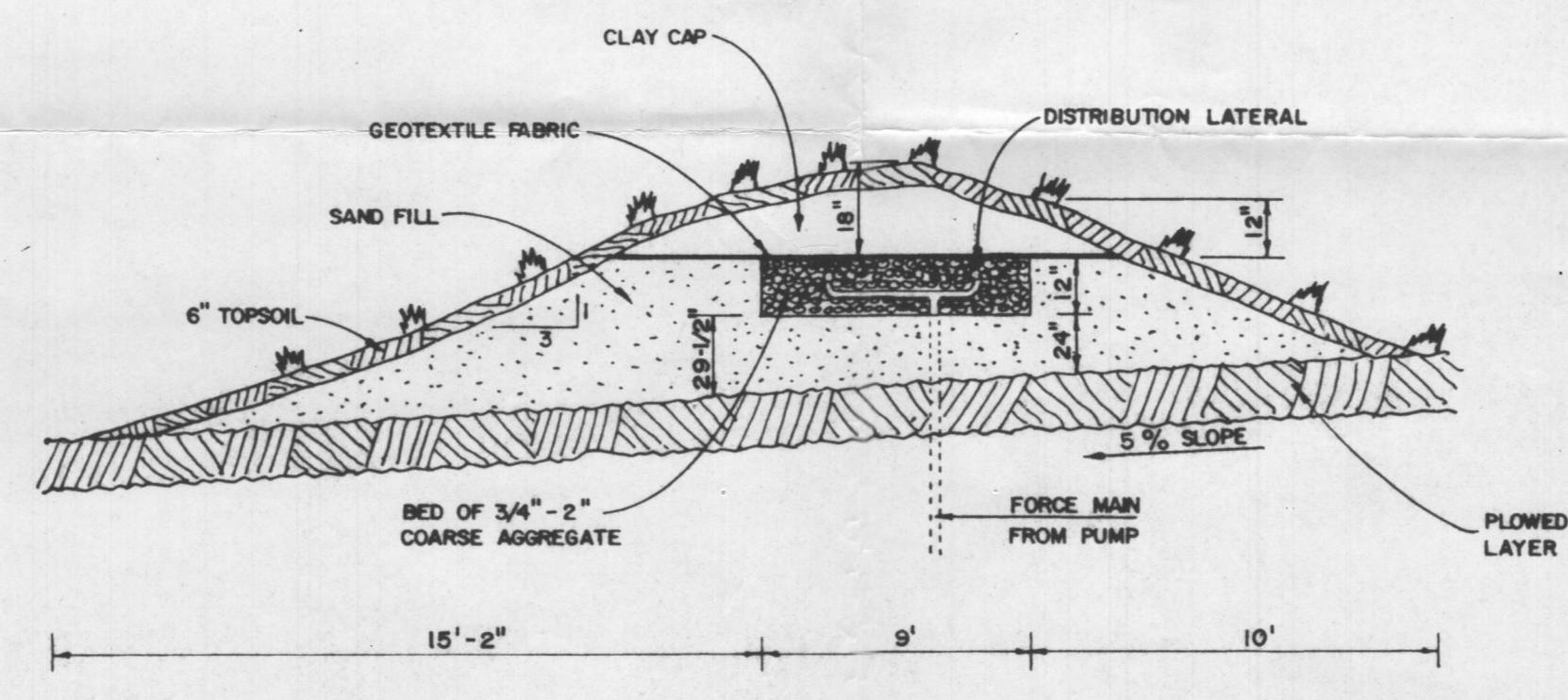
**SUPPLY LINE - MANIFOLD DETAIL**  
NOT TO SCALE



**LATERAL DETAIL**  
SCALE: 3/16" = 1'



**HYDRAULIC PROFILE**  
SCALE: V: 1/4" = 1'  
H: N.T.S.



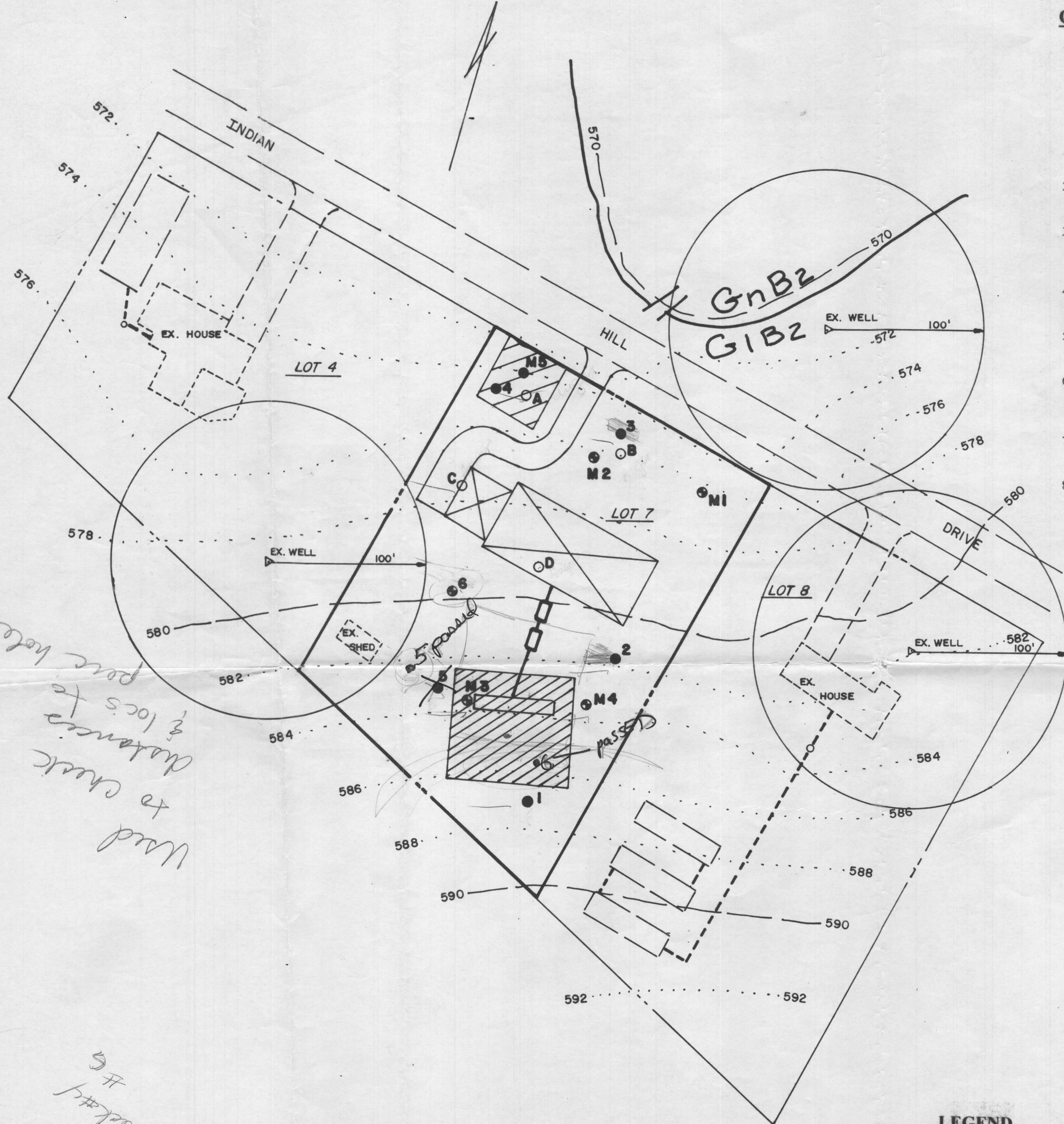
**MOUND DESIGN**  
NOT TO SCALE



James R. Chise

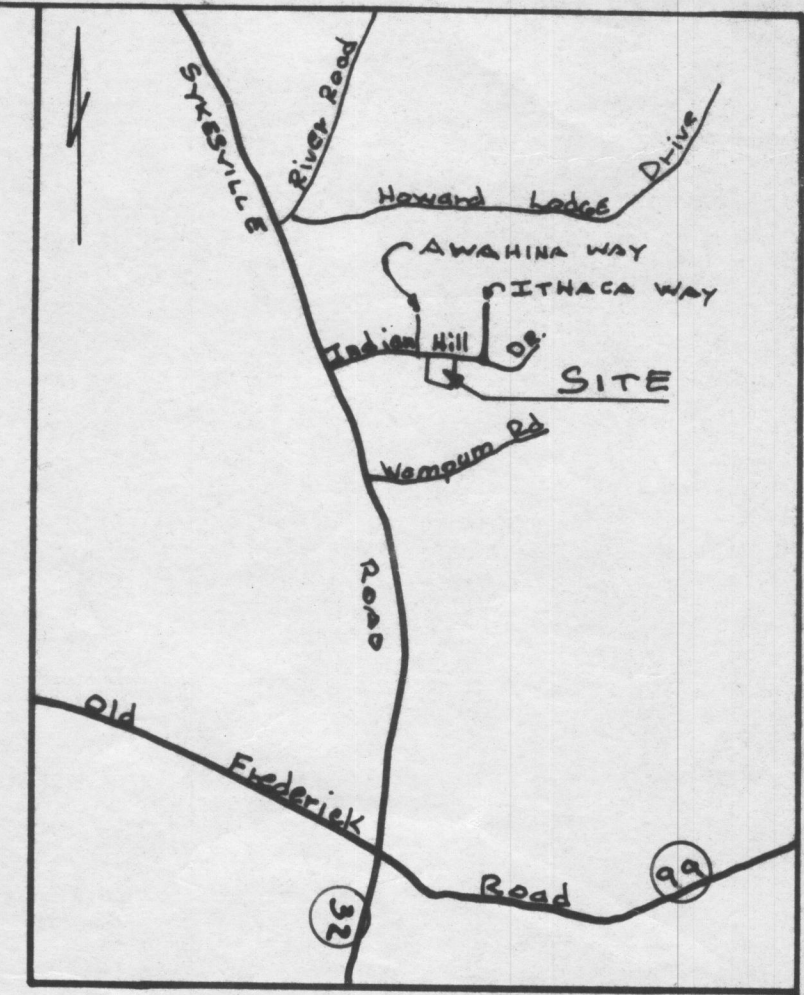
**S/E ENGINEERING, INC.**  
WESTMINSTER, MARYLAND

SCALE: AS SHOWN	APPROVED: JDC	DRWN: RSK
DATE: MAY, 2005	JDC	DES: JDC
RON PHILLIPS LOT 7 INDIAN HILLS		
<b>SANDMOUND</b>		DRAWING NO. 1 OF 1



**GENERAL NOTES**

1. This area designates a private sewage easement to accommodate installation of two (2) private systems as required by the Maryland Department of The Environment for existing Lots of Record. Improvements of any nature in this area is restricted until public sewerage becomes available. These easements shall become null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant adjustments to the easement.
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VICINITY MAP  
SCALE: 1" = 2000'

**PERCOLATION TEST DATA**

**TILE FIELDS**

- 1) > 30 Min. - Failed
- 2) > 30 Min. - Failed
- 3) > 30 Min. - Failed
- 4) > 30 Min. - Failed
- 5) > 30 Min. - Failed
- 6) < 30 Min. - Passed

**SANDMOUND**

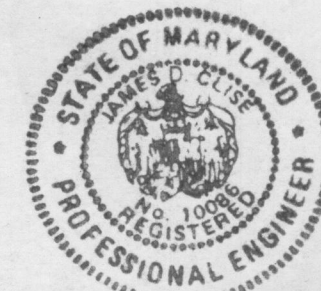
- M-1 3/4" in 17 Min. @ 20"
- M-2 1" in 48 Min. @ 20"
- M-3 1" in 30 Min. @ 21"
- M-4 1" in 11 Min. @ 16"
- M-5 Failed

**OBSERVATION HOLES**

- A Water @ 5'
- B Water @ 4' - 6"
- C ok to 4' - 3"
- D Water @ 6' - 8"

**LEGEND**

- Existing 2' Contours
- Existing 10' Contours
- Denotes Proposed Well Area
- Denotes Sewage Reserve Area
- Passed Perc Test
- Failed Perc Test
- Observation Hole
- Proposed House



*James D. Clise*

**OWNER**

Ronald L. Phillips  
Chiquita L. Phillips  
12561 Indian Hill Drive  
Sykesville, Md. 21784



**PERC CERTIFICATION**

I certify that the perc's shown hereon are based on a field survey performed by me and that the locations shown are correct to the best of my professional knowledge.

*Richard S. Krebs*  
Richard S. Krebs, Professional Surveyor No. 10873  
9/15/05  
Date

Approved for private water and private sewerage systems.  
Howard County Health Department.

County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

**S/E ENGINEERING, INC.**  
WESTMINSTER, MARYLAND

SCALE: AS SHOWN APPROVED: J.D.C. DRAWN BY: R.S.K.  
DATE: September, 2005 DESIGN BY: J.D.C.

**PERC CERTIFICATION PLAT**  
LOT 7 - INDIAN HILLS - HOWARD COUNTY

TAX MAP 9 - PARCEL 136 FILED APRIL 15, 1968 DRAWING NO. 1 OF 1