



APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____

AVP 545043

AGENCY REVIEW: _____

DATE 5-17-13

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 unknown 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) James D. Campbell & Yukari Manabe

DAYTIME PHONE _____ CELL _____ FAX _____

MAILING ADDRESS 6195 Lawyers Hill Rd Elkridge MD 21075
STREET CITY/TOWN STATE ZIP

APPLICANT Benchmark Engineering, Inc. - John Carney

DAYTIME PHONE 410 465 6105 CELL _____ FAX 410 465 6644

MAILING ADDRESS 8480 Baltimore National Pk. Site 418 E.C. MD 21043
STREET CITY/TOWN STATE ZIP

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

PROPERTY LOCATION
SUBDIVISION/PROPERTY NAME 5434 Landing Road LOT NO. _____

PROPERTY ADDRESS 5434 Landing Road
STREET TOWN/POST OFFICE

TAX MAP PAGE(S) 31 GRID 23 PARCEL(S) 236 PROPOSED LOT SIZE 3.117 Ac.

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. John M. Carney

SIGNATURE OF APPLICANT

John M. Carney for Benchmark Engineering, Inc.

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

545043
#3 offset 25'

2.2' brn L
yel-brn cl
yel-brn scl
few boulders
3.8' R 3.8'

#2 offset 31'

1.2' brn L
yel-brn sl
heavy, slightly sticky

5' brn ls
many fine mica

13' dk grey & blk
ls, caprolite

#6 (added)

dk grey-brn
sl, 2 fg

0.3' dk brn sl
2 vs sbk

pale brn scl
2 f sbk, few mica

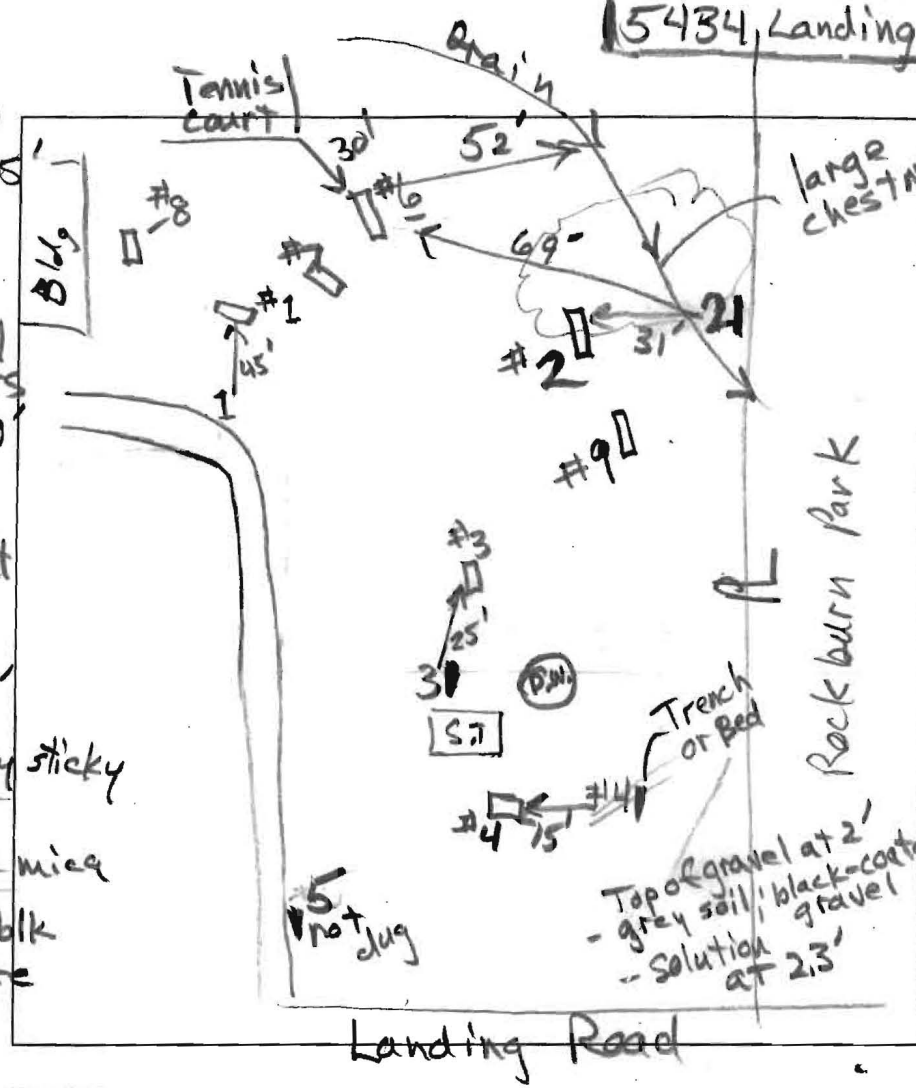
2.5' brn L
1 msbk, few mica

3' brn chsl
many mica

4' pale brn grsl
w/ m2p pale yellow
ls inclusions

4.5' pale brn ls
slightly sticky
large inclusion
of vel-red L

7.5'



#1 offset 45'
0.7' dk brn L
2.5' yel-brn cl
5.5' brn byls
grey-brn
v byls
≥60% rock
7' ↓
#4 offset 15'

4' dk brn L
dk brn cl
dk brn sl
heavy, many mica

6.8' brn L

7.8' brn L
water seeps
m2 & (pale yellow)

9.5' f 1d (blk)
f 7d (grey)
f 1p (red)

#6 cont.

7.5' pale yellow
lfs, m 1p (red)

10' dk brn ls
2 cpl, m 1d (blk)

13' many mica

grey-brn ls
3 cpl

thick red & blk
coats on
ped faces

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H
6/13/13	2	7'14"	10:05	10:06	10:08	2	P
6/13/13	6	6'13"	10:53	10:58	11:06	8	P
6/13/13	3	3.8'	Refusal				F
6/13/13	1	5.5'	Visual	greater than 50% rock			F
6/13/13	4	7.8'	Visual	fine textures to water seeps			F

REMARKS #1 & #3 offset from staked locations
Trench at #4 - offset

SANITARIAN R. Bicker BACKHOE Donnie (Hatfields) OTHERS Tio & Alex

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

TRENCH WIDTH _____ INLET DEPTH _____ MAX. BOT DEPTH _____ EFFECTIVE SW _____

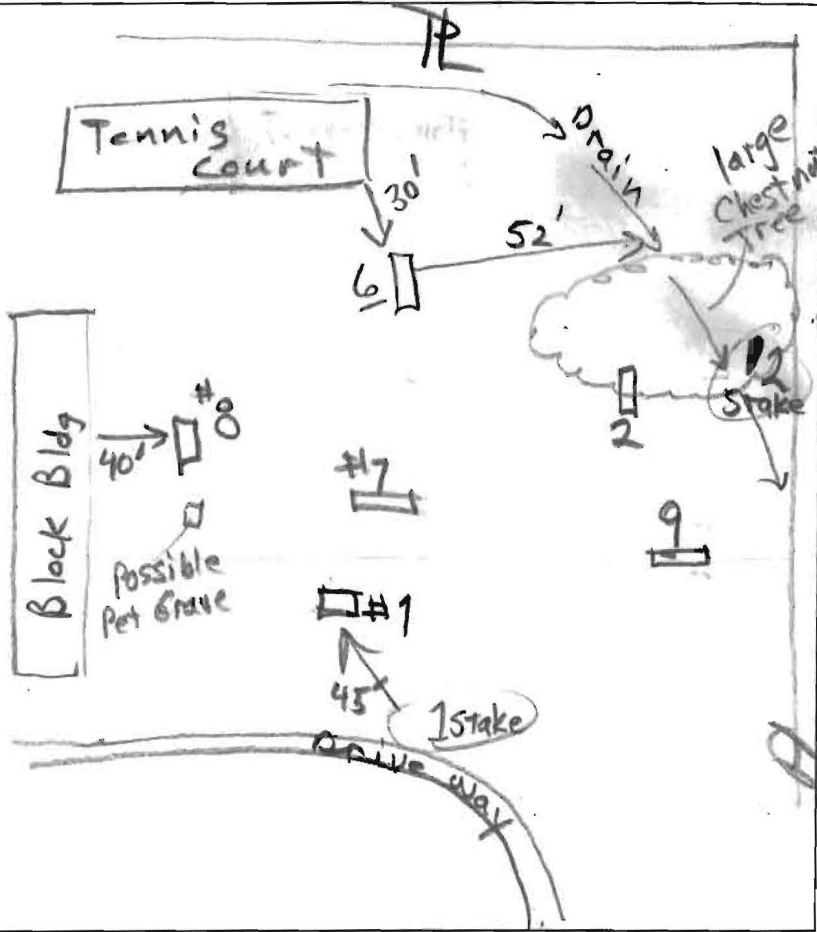
5434 Landing Road

AP 545043

9 added

7 added

dk brn L
 yel-brn cl 0.7'
 3.5'
 grey-brn ls 7'
 grey-brn sl msd (yel-red)
 R- 10'



3.5'
 dk brn L
 yel-brn cl
 dk brn sl
 w/ large inclusion
 pale brn fsc l
 5.5'
 yel-red ls
 6.5'
 brn st ls
 30-35% rock
 9'
 grey-brn ls
 10-15% rock
 11.5' - R -

9 added

0.7'
 dk grey-brn L
 dk brn L
 yel-brn L
 slightly sticky
 yel-brn scl
 slightly sticky
 5.6'
 dk brn ls
 8.5'
 dk brn ls
 10-15% flags
 11.5'
 grey-brn
 v fls
 50-55% rock

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H
6/13/13	7	10'	Visual		sidewall	3.5 to 6'	P
6/13/13	8	4.5' 11.5'	11:58	12:02	12:12	10'	P
6/13/13	9	11.5'	Visual		sidewall	5.5' - 7.5'	P

REMARKS Did not dig #5
 SANITARIAN R Bricker BACKHOE Donnie (Hot Fields) OTHERS Tio & Alex
 TEST HOLES USED IN SDA _____ AVG. PERC TIME _____ SQ. FT/BR _____
 TRENCH WIDTH _____ INLET DEPTH _____ MAX. BOT DEPTH _____ EFFECTIVE SW _____

SITE INSPECTION SHEET

OWNER: James Campbell & Yukari Manabe PHONE #: _____

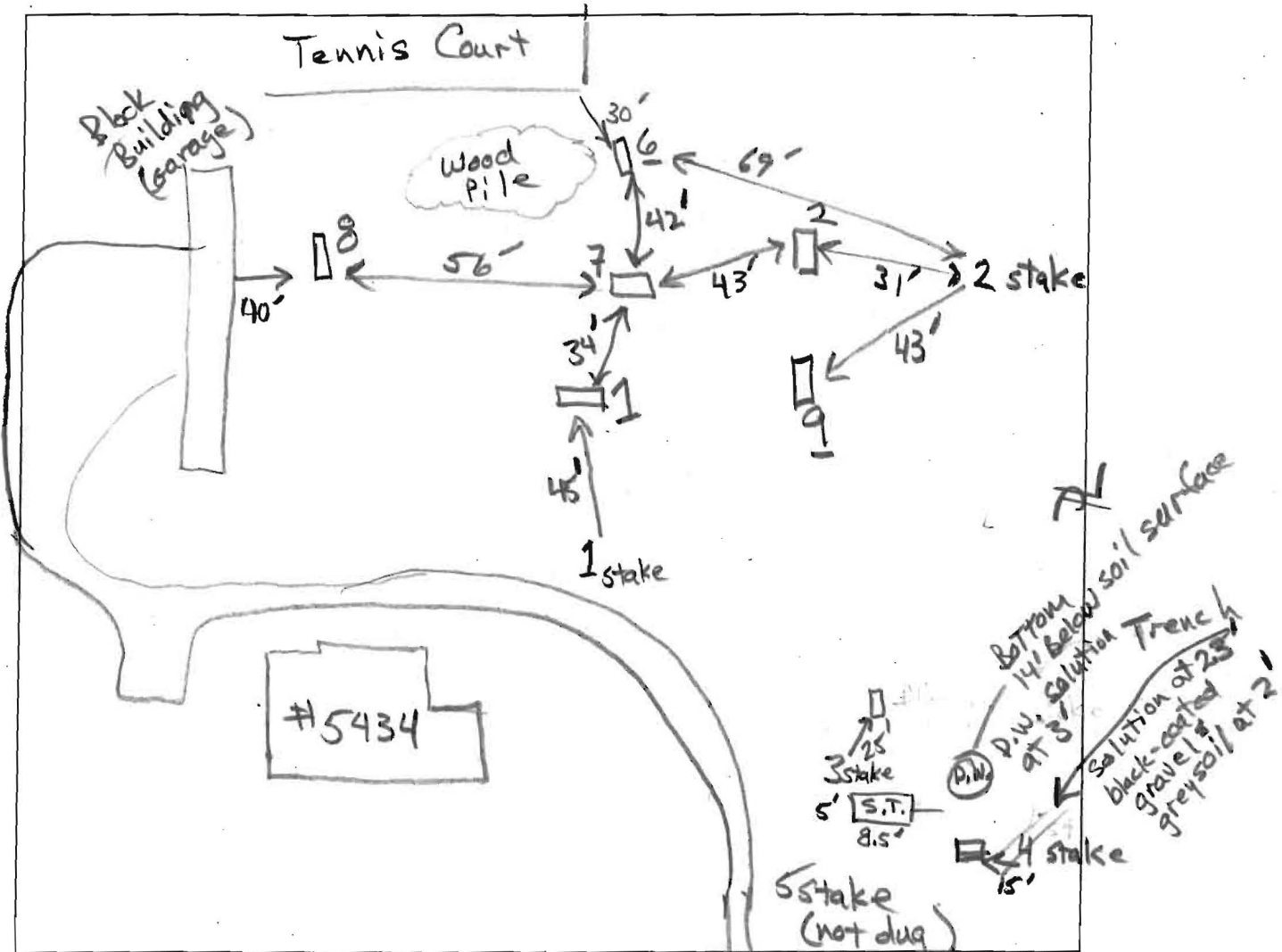
ADDRESS: 5434 Landing Road CONTRACTOR: _____

WELL TAG #: Public Water

SUBDIVISION: _____ LOT: _____ COUNTY #: _____

PROPOSAL: Sketch of Perc Test locations; #6, #7, #8 & #9 added
#1, #3 & #4 FAIL; #2, #6, #7, #8 & #9 PASS

LOCATION DIAGRAM



COMMENTS: Septic Tank approx 5' x 8.5' estimated 1500 gallon. Landing Road
Dry Well does not appear to be used; cinder block walls
3 feet depth of solution, prob. groundwater.

Trench on verge of failure; water table at 6.5' to 7'

DATE: 6/13/13 INSPECTOR: R Bricker

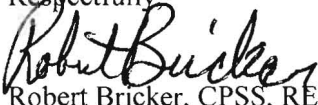
groundwater. Prior to Health Department approval of the planned improvements on the subject property, both the septic tank and the dry well are to be properly abandoned and replaced.

At this time, best available technology (BAT) systems must be installed with all septic system upgrades in Maryland. Information concerning approved technologies and BAT unit characteristics is available on the Maryland Department of the Environment website. I recommend that the BAT unit discharge by gravity to a 1500-gallon pump chamber.

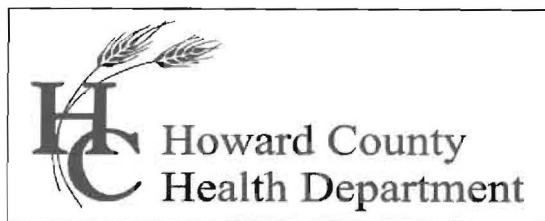
Due to the coarse properties of the subsoil in the area approvable for sewage effluent disposal, all drainfields must be designed as low-pressure distribution systems.

Signature approval of a Percolation Certification Plan is needed to release the septic system installation permit for upgrade. If you have any questions regarding this evaluation or requirements for a Percolation Certification Plan, please contact me at the above address or by calling (410) 313-2691.

Respectfully


Robert Bricker, CPSS, REHS/RS
Environmental Health Specialist
Well and Septic Program

Copy: File



Bureau of Environmental Health

7178 Columbia Gateway Drive, Columbia, MD 21046-2147

Main: 410-313-6300 | Fax: 410-313-6303

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

July 3, 2013

To: John Carney, consultant/applicant
Benchmark Engineering, Inc.
jcarney@bei-civilengineering.com

RE: Percolation Test Report: 5434 Landing Road; A545043

Percolation tests were conducted on (Tax Map 31) Parcel 236 on June 13, 2013. The total area of the parcel is 3.117 acres. Five test locations were staked for testing, and the existing septic tank and dry well were exposed upon my arrival.

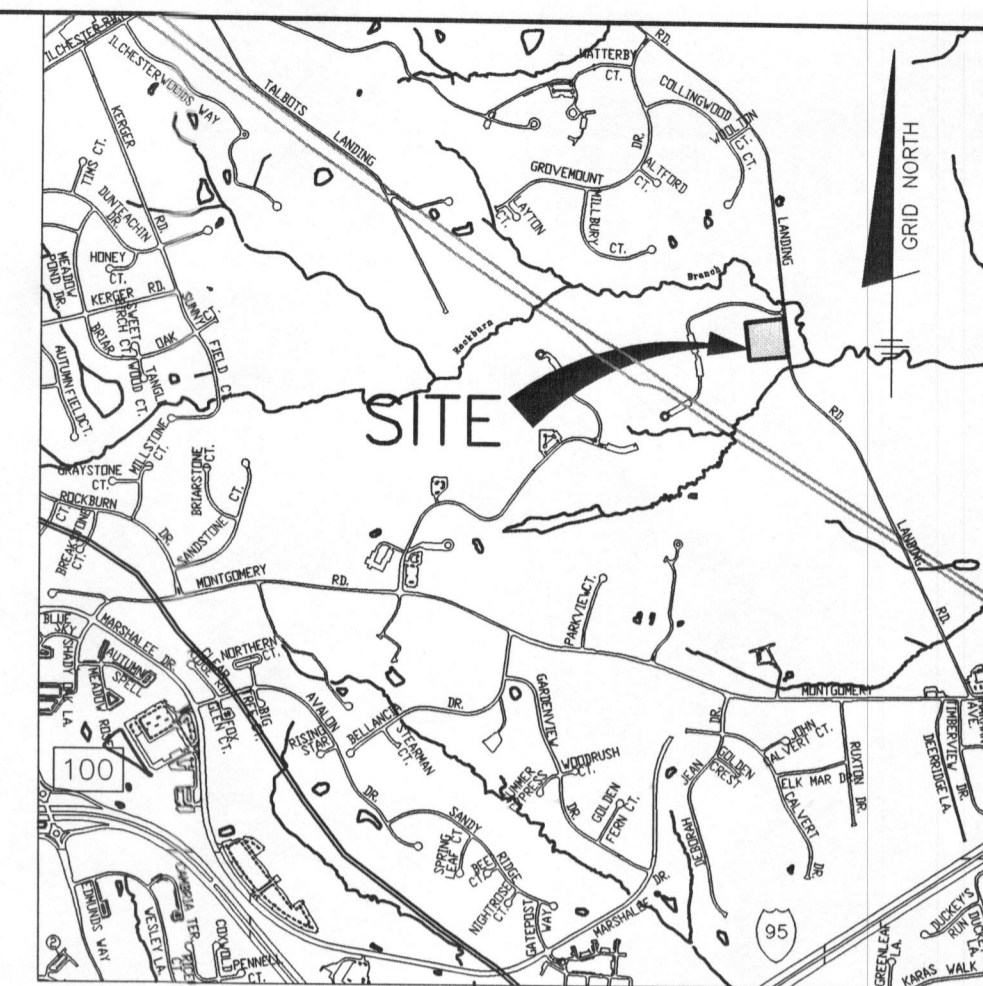
Shallow rock was encountered at locations '1' and '3', at 5.5 ft. and 3.8 ft., respectively. Near staked location '4', the existing trench was uncovered: black-coated 3-inch gravel was encountered at 2 ft. depth and there was a solution standing in the trench at about 2.3 ft. depth. The depth of the trench was not explored as this would likely have resulted in failure requiring immediate replacement. An observation hole was dug about 10 feet uphill of the trench. Water seeps and morphological indicators of water table were observed at 7.8 ft depth. The trench has reached the end of its serviceability; a replacement drainfield is needed. Locations '1', '3' and '4' FAIL as there is not a 4 foot buffer to water table, or bedded rock, from the depth that a trench would have to be installed. Location '5' was not dug.

Test location '2' was dug 31 feet from the staked location and PASSES. The boundary of approvable area near '2' is defined by an approximate 10-foot setback to a drainage channel. Beginning at the back of the tennis court, the drainage channel is about 1 foot wide and several inches deep, and bisects the northwest corner of the lot, then runs past the trunk of a large chestnut tree before ending near the property line at stake #2. The topography of the northwest corner of the lot has a rolling characteristic, apparently shaped by 'cut-and-fill' to create a flat area for the tennis court and a drain for surface runoff. As such, it is unsuitable topography for a septic system drainfield.

Four additional test locations were added: '6', '7', '8', and '9'; all PASS. Location '7' should be avoided when locating drainfields as the soil profile is not as deep as the other locations, limiting trench depth to 6 feet. Locations '6' and '8' represent an area in which a drainfield having trench depths to 7.5 feet may be located. Locations '6' and '2' represent an area where the trench depths may range to 8 feet depth. Trench depths may be 7.5 feet in the area represented by locations '2' and '9', the lowest elevations of approvable area.

The septic tank and a dry well were exposed for observation. Judging by its dimensions (~5' x ~8.5'), the septic tank capacity is 1000 gallons, meeting code requirements for a 3-bedroom residence. The septic tank has only a single compartment which does not meet current code requirements.

The dry well is constructed of cinder block. It has a concrete cap about 3 feet below soil surface, and the bottom of the dry well is at 14 feet below the soil surface. Three feet of solution was in the dry well at the time of observation. As the elevation of the water surface in the dry well is about equal to the elevation of water seeps at location '4', I assume that the solution is



VICINITY MAP
SCALE: 1" = 2000'
GENERAL NOTES

- 1.) THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- 2.) THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED.
- 3.) EXACT LENGTH OF SEPTIC TRENCHES IS TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF TRENCH LAYOUT AND INSPECTION.
- 4.) TOPOGRAPHY SHOWN IS BASED ON HOWARD COUNTY GIS AND IS FIELD VERIFIED BY BENCHMARK ENGINEERING, INC., IN JUNE, 2013.
- 5.) THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
- 6.) THE PURPOSE FOR THIS PERCOLATION TEST PLAN IS TO CREATE A SEWAGE DISPOSAL EASEMENT IN SUPPORT OF A BUILDING PERMIT APPLICATION.
- 7.) THE EXISTING WELLS, HO-73-0809 AND HO-73-3795 SHOWN ON THIS PLAN WERE NOT FOUND DURING A FIELD INSPECTION. THEY APPEAR TO BE PROPERLY ABANDONED. WATER SERVICE IS TO BE PROVIDED BY A WHC TO CONTRACT NO. 14-3799-D.
- 8.) ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- 9.) THE HEALTH DEPARTMENT REQUIRES THE EXISTING SEPTIC SYSTEM TO BE REPLACED PRIOR TO BUILDING PERMIT APPROVAL. THE REPLACEMENT WILL CONSIST OF A BAT UNIT AND REPLACEMENT TRENCHES WITHIN THE APPROVED AREA ON THE PERCOLATION CERTIFICATION PLAN.
- 10.) LOW-PRESSURE DISTRIBUTION SYSTEMS ARE REQUIRED FOR DRAINFIELDS IN THE SEWAGE DISPOSAL AREA REPRESENTED ON THIS PLAN.
- 11.) THE WOOD PILE WITHIN THE LIMITS OF THE NEW SEPTIC RESERVE AREA MUST BE RELOCATED OUTSIDE OF THE NEW SEPTIC RESERVE AREA.

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS CORRECT, TO THE BEST OF KNOWLEDGE AND BELIEF.
John M. Carney
JOHN M. CARNEY FOR BENCHMARK ENGINEERING INC.
PLAN PREPARER

APPROVED FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
Bryan M. Reardon 7/19/2013
HOWARD COUNTY HEALTH OFFICER DATE

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS
8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 • FAX: 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

OWNER: JAMES CAMPBELL
6195 LAWYERS HILL
ELKRIDGE, MARYLAND 21075

CAMPBELL PROPERTY
5434 LANDING ROAD

LOCATION: TAX MAP: 31, GRID: 23
PARCEL: 236
ELECTION DISTRICT NO. 1
HOWARD COUNTY, MARYLAND

TITLE:
PERCOLATION CERTIFICATION PLAN
A545043

DATE: JUNE, 2013 BEI PROJ. NO. 2564
SCALE: 1" = 50' SHEET 1 OF 1

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND

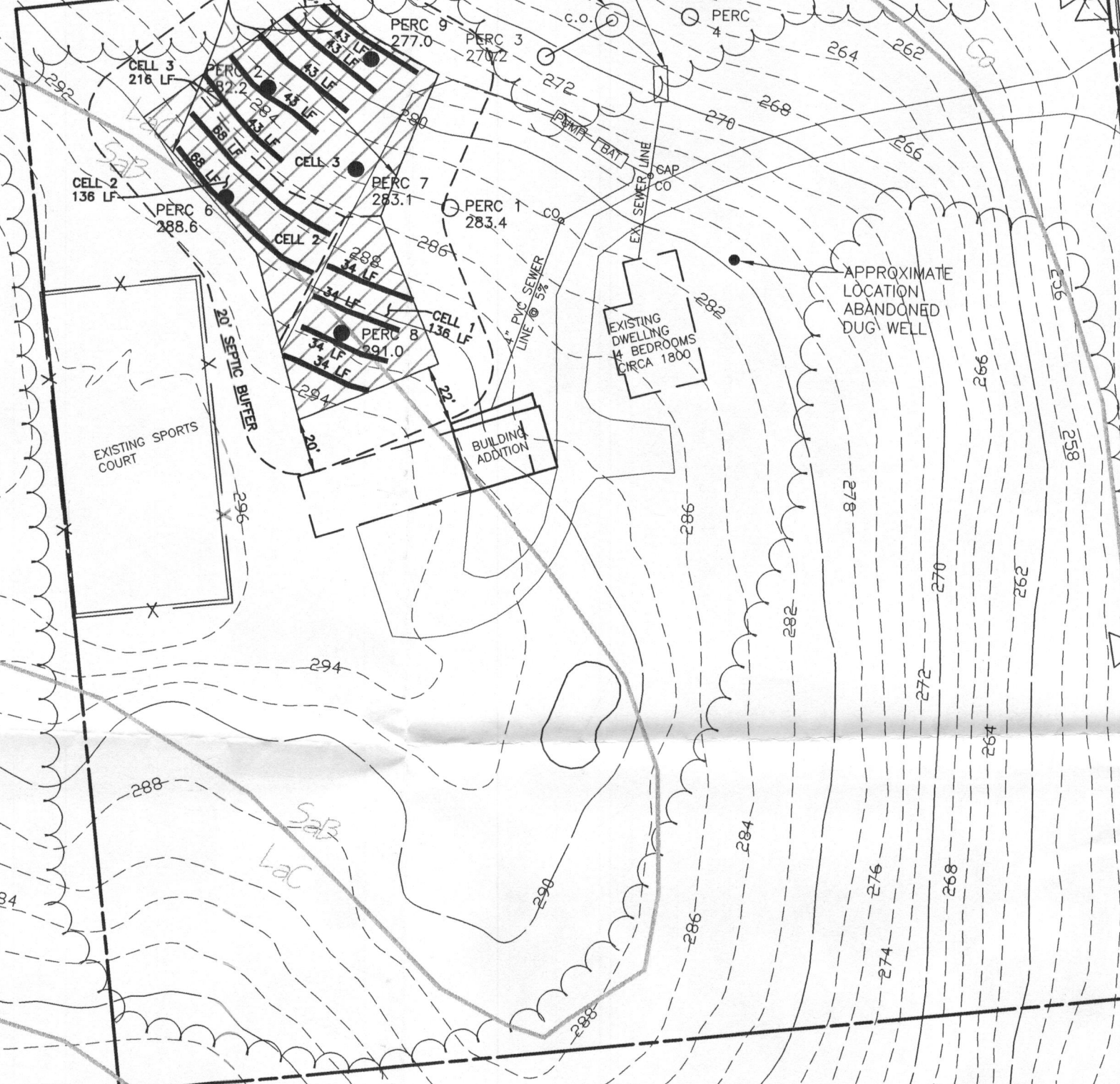
SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME
Co*	C		D	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT
LaC	B			LEGORE SILT LOAM, 8 TO 15 PERCENT SLOPES
LmB	B		C	LEGORE-MONTALTO SILT LOAM, 3 TO 8 PERCENT SLOPES, STONY
SaB	B			SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPE

- LEGEND
- SOILS DELINEATION
 - EXISTING TREELINE
 - EXISTING CONTOURS
 - FAILED PERCOLATION TEST LOCATION
 - PASSED PERCOLATION TEST LOCATION

PLAN
SCALE: 1" = 50'

HOWARD COUNTY
DEPT. PUBLIC WORKS
LIBER 704 FOLIO 646
ZONED: R-10

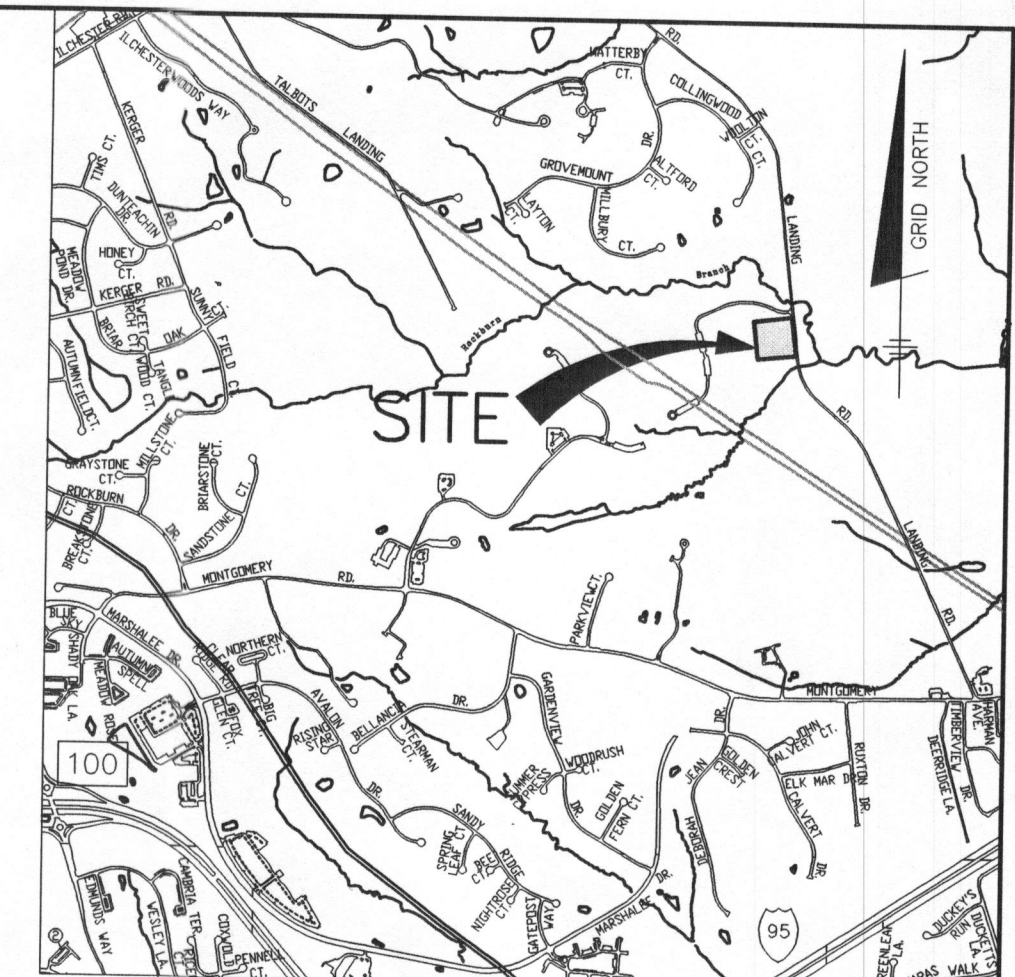
PROPOSED SEPTIC
RESERVE AREA
8,935 sf



HOWARD COUNTY
DEPT. PUBLIC WORKS
LIBER 704 FOLIO 646
ZONED: R-20

LANDING RD.

HOWARD COUNTY
DEPT. PUBLIC WORKS
LIBER 704 FOLIO 646
ZONED: R-10



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APPROVED FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
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Barbara M. Robinson
HOWARD COUNTY HEALTH OFFICER DATE 7/19/2013

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PLAN
SCALE: 1" = 50'

LEGEND

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- EXISTING TREELINE
- EXISTING CONTOURS
- FAILED PERCOLATION TEST LOCATION
- PASSED PERCOLATION TEST LOCATION

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND

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