

APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____ AP 5 2 8 9 4 6

AGENCY REVIEW: _____ DATE 5/16/08

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 5 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) Carol Cadogan

DAYTIME PHONE _____ CELL _____ FAX _____

MAILING ADDRESS P.O. Box 2235 Columbia MD 21045
STREET CITY/TOWN STATE ZIP

APPLICANT D.S. Financial Capital, Inc.

DAYTIME PHONE 410-953-0222 ^{FAX 105} CELL _____ FAX 410-953-0823

MAILING ADDRESS 2600 Snowden River Pkwy, Ste 207 Columbia MD 21045
STREET CITY/TOWN STATE ZIP

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

PROPERTY LOCATION
SUBDIVISION/PROPERTY NAME Parcel 248 LOT NO. _____

PROPERTY ADDRESS Route 40 Marriottsville, MD 21104
STREET TOWN/POST OFFICE

TAX MAP PAGE(S) 16 GRID 23 PARCEL(S) 248 PROPOSED LOT SIZE 15.805 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. Courtney Wendal
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
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

AP _____

3018

Fill

5.5' brown loam
common mica

6.5' dk brn loam

vet-brn sel
& red-brn sl

C3d
pale yellow
& white
inclusions

11'

3012

0.7' dk brn loam
1 m sbk

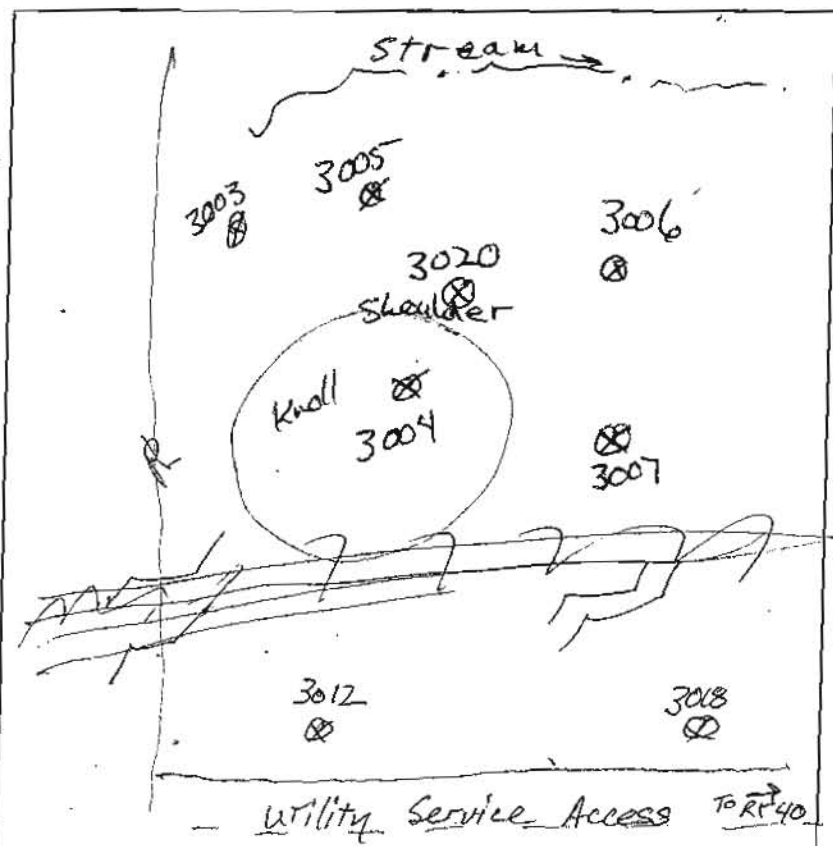
vet-brn sl
heavy

m3p sel
(grey)
common
mica

6' red sl-heavy
moist
water seeps
→ cave-in

7'

8'



3020

0.3' dk, brn sl

3' brn vst sl

5' brn st sl
many mica

8' yel-brn sl
many mica

11' pale red
& grey sl
micaceous

12' dk grey
white & pale
yellow
moist

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H
5/28/08	3020	72' 11"	3:28	3:48 th	1/2"	pulled	F
5/28/08	3018	Visual, Fill to 5.5'				heavy texture to 11'	F
5/28/08	3012						

REMARKS _____

SANITARIAN RB BACKHOE Butch OTHERS Walter, Gary Evans

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

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

AP

3004

0.6' dk brn sl
1msbk

brn scl
2msbk
common mica

4.5' red brn sl
heavy
many mica

7' yel brn fs

9' yel-brn fs
2nd grey
moist

10' ↓

3003

0.3' dk brn sl

2.5' yel-brn sl
heavy

vly sl
brn

5' R

3002

0.7' dk brn scl

red-brn scl
many mica

3' yel-brn heavy

4' many mica

pale yel-brn
& pale red-brn
micaceous sl

6' pale yellow
& white fs

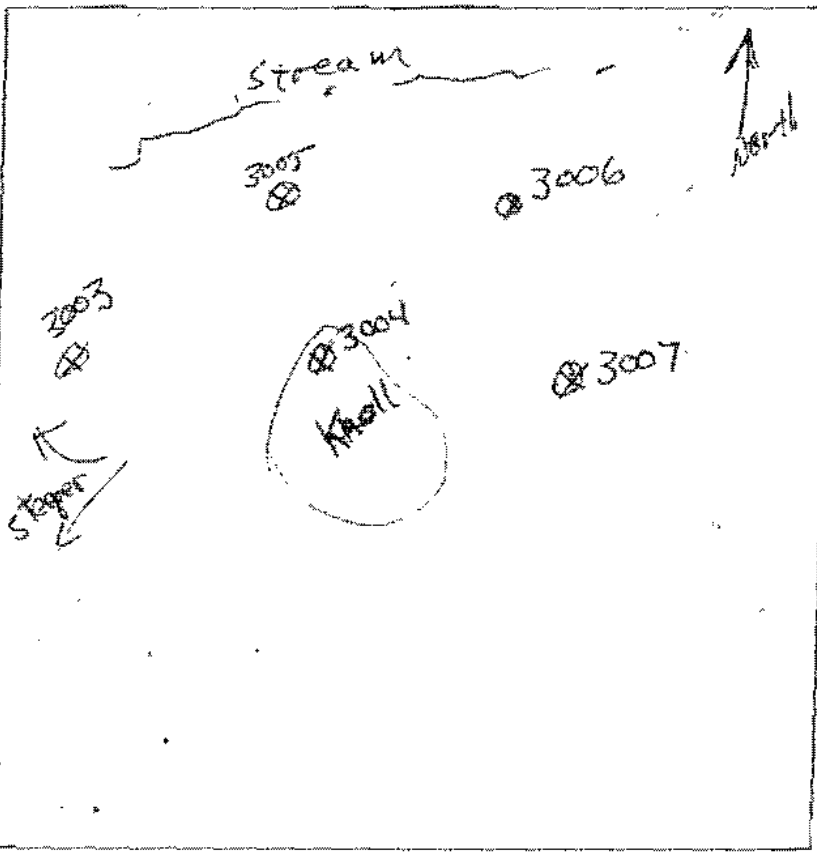
m3p brown

8' yel-brn

water seep
9' dk brn fs

m3p white
& grey

12' ↓



3005

0.4' dk brn sl
1msbk

red-brn scl
1msbk

2' red-brn gr sl
sm, heavy

3' brn gr sl
sm

11' many mica
water
2d white seeps
moist

25' ↓

3006

dk grey-brn
scl
common mica

0.5' red-brn scl
common mica

2.5' pale brn
& pale red
heavy sil
micaceous

6.5' brn & pale
sl
m 7f pale yellow
& pale brn
micaceous
water seeps

10.5' grey-brn fs

m3f grey-white
& pale red

12' ↓

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H
5/28/08	3004	5' 9"	11:09	11:24	—	—	F
5/28/08	3005	5' 3" / 11"	11:58	12:00	12:02	2	P
5/28/08	3006	4' 10"	12:50	1:06	1:26	20	P
5/28/08	3007	7' 9"	2:03	2:27	pulled		F

REMARKS _____

SANITARIAN RS BACKHOE Ditch OTHERS Gary Evans, water

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

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



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

June 11, 2008

Carol Cadogan
PO Box 2235
Columbia, MD 21045

RE: Percolation Test Report for Tax Map 26-Parcel 248, Route 40, A528946

Dear Carol Cadogan,

Percolation testing was conducted on the referenced property on May 28, 2008. The purpose for the tests was to identify an area (or areas) of soils appropriate for conventional wastewater disposal from one residence. U.S. Financial Capital, Inc. submitted the percolation test proposal, the application and the application fee. Gary Evans represented U.S. Financial and was on site during most of the testing. Percolation Test Results indicate primarily soils' conditions that are unsatisfactory for wastewater disposal in conventional subsurface trenches, and a very limited area of soils' conditions that are satisfactory for conventional trench design.

Test pits were dug at 7 of 19 staked locations. These test locations were selected as they occur at relatively higher elevations and therefore were expected to have greater depth to water table. An 8th test location (#3020) was added at measured distance between a failed location and two passing locations. Field data collected are shown on the two Percolation Test Results Worksheets enclosed with this letter.

The soil properties at location 3018 indicate about 5.5 feet of soil material has been deposited on the original soil surface. This location is adjacent to a former soil map unit identified as 'Made Land' and has the soil properties as would be found in that soil map unit. This is a disturbed soil and is regulated as 'Do Not Test'.

At location 3012, the water table is relatively shallow (6 feet) and heavy soil textures occur in the soil layers above the water table level. Location 3003 has a rock content greater than 50% beginning at 2.5 feet depth, and a layer (or bed) of consolidated rock occurs at 5 feet. Neither location is compatible with standard trench design for conventional wastewater disposal. These 2 locations were not tested for percolation rates.


Percolation tests were conducted at staked locations 3004, 3005, 3006, and 3007, and at location 3020 which was added. The soil materials tested at locations 3004, 3007 and 3008 have percolation rates greater than 30 minutes per inch which is too slow for conventional drainfield design. Percolation rates at 3005 and 3006 were 2 minutes per inch and 20 minutes per inch respectively. These rates are satisfactory, however the area represented by these two locations may not be contiguous. An additional test location will be required directly between 3005 and 3006 in order to approve location of one conventional trench system.

Overall it appears unlikely that there is enough area of suitable soils on the subject property for an easement in which wastewater may be properly disposed via conventional trenches. Howard County Code (3.805.2.X) requires that an area (or areas) large enough to accommodate initial wastewater disposal system plus 2 repair systems be defined on lots created before March 1972. Options for development of the subject property are contingent upon defining such areas.

While area for conventional drainfields on the subject property is very limited or in effect non-existent, the property has not been evaluated for potential sand mound sites, or modified drainfields that are associated with innovative treatment systems. The soils and topography of the subject property are such that wet-season testing is required for the entire property. During recent testing, water table levels were observed and recorded. With the Bureau Director's permission, alternative testing methods may be conducted when the moisture content of the soil profile is adequate though not frozen. With occasional exception due to variable precipitation, the soil moisture content is likely to be in an appropriate range beginning in late autumn or early winter.

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

Respectfully,


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

Enclosures (2)

Copy: Gary Evans, U.S. Financial Capital, Inc.
File

AP _____

3018

Fill

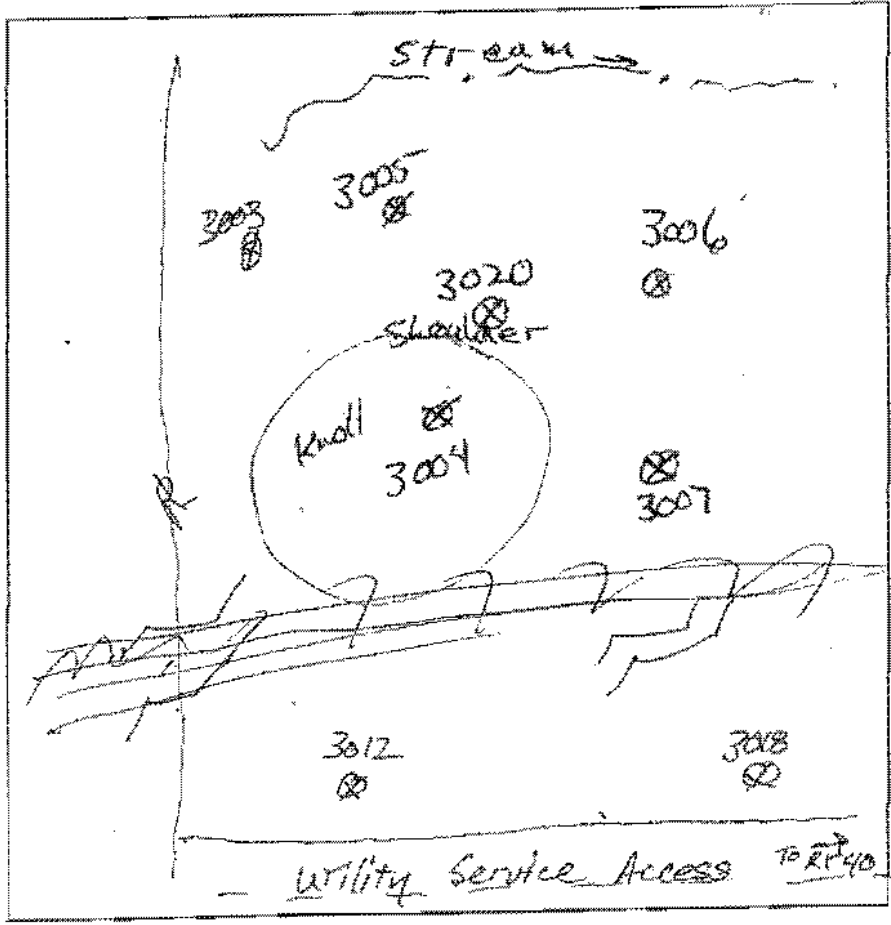
5.5' brown loam
common mica

6.5' dk brn loam

vet brn sel
& red-brn sl

c3d
pale yellow
& white
inclusions

11'



3020

0.3' dk. brn sl

3' brn vst sl

1' brn st sl

5' many mica

1' yel-brn sl

8' many mica

1' pale red
& grey sl

11' mica beads

12' dk grey
white & pale yellow
moist

3012

0.7' dk brn loam
1 m sbk

1' yel-brn sl
heavy

m3p sel
(grey)
common mica

6' red sl-heavy
moist
water seeps

7' → cave-in

8'

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REMARKS _____

SANITARIAN RB BACKHOE Batch OTHERS Walter, Gary Evans

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

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

AP

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brn scl
2msbk
common mica

4.5' red brn sl
heavy
many mica

7' yel brn fsl

9' yel-brn fsl
e 2d grey
moist

10' ↓

3003

0.3' dk brn sl

2.5' yel-brn sl
heavy

vby sl
brn

5' R

3007

0.7' dk brn scl
red-brn scl
many mica

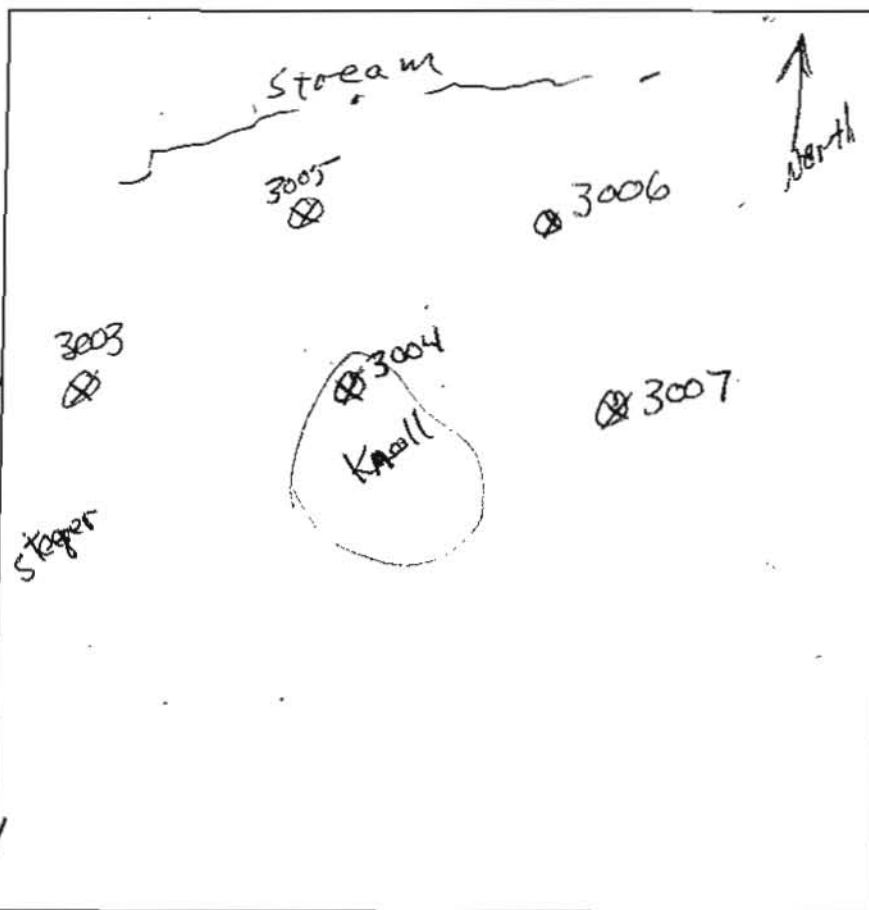
3' yel-brn heavy
5' many mica

4' pale yell brn
& pale red-brn
micaceous sl

1' pale yellow
& white fsl

1' m3p brown

8' yel-brn
e 2d dk brn fsl
m3p white
& grey



3005

0.4' dk brn sl
1msbk

2' red-brn scl
1msbk

3' red-brn fsl
sl heavy

brn gr sl
8m
many mica

11' lt. brn fsl
water
f 2d white seeps
moist

12.5' ↓

3006

dk grey-brn
scl
common mica

0.5' red-brn scl
common mica

2.5' pale brn
& pale red
heavy sl
micaceous

6.5' brn & pale
sl red-brn
m 7f pale yellow
& pale brn
micaceous
water seeps

10.5' lt. grey-brn fsl
m3f grey-white
& pale red

12' ↓

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H
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5/28/08	3005	5' 3/11'	11:58 ⁺	12:00	12:02	2	P
5/28/08	3006	6' 1/05'	12:50	1:06	1:26	20	P
5/28/08	3007	7' 1/9'	2:03	2:27	-pulled-	-	F

REMARKS _____

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APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____

APP 530963

AGENCY REVIEW: _____

DATE 4/8/08

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:

- 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)
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PROPERTY OWNER(S) JACOB HICKMAT (CADDON PROPERTY LLC)

DAYTIME PHONE 410 997-0296 CELL _____ FAX _____

MAILING ADDRESS 5072 DONSSY HALL DRIVE ELLICOTT CITY MD 21042
STREET CITY/TOWN STATE ZIP

APPLICANT ROBERT W SHESLEY, EcoSense, Inc.

DAYTIME PHONE 410 750 9925 CELL 443-~~520~~ 9925 FAX ~~410-750-0248~~

MAILING ADDRESS 8354 CHESTNUT FARM LANE ELLICOTT CITY MD 21043
STREET CITY/TOWN STATE ZIP

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

PROPERTY LOCATION
SUBDIVISION/PROPERTY NAME ROUTE 40 ACROSS FROM TURF VALLEY RD. LOT NO. ~~15~~ 1

PROPERTY ADDRESS _____
STREET 23 TOWN/POST OFFICE 248

TAX MAP PAGE(S) 16 GRID 248 PARCEL(S) 23 PROPOSED LOT SIZE 1.5 ±

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.

BEST RESULTS WILL BE MAILED TO APPLICANT. Robert W Shesley
SIGNATURE OF APPLICANT

HOWARD COUNTY HEALTH DEPARTMENT, BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM
7178 COLUMBIA GATEWAY DRIVE COLUMBIA, MARYLAND 21046 (410) 313-1771 FAX (410) 313-2648
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH



APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____ A/P _____

AGENCY REVIEW: _____ DATE _____

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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 _____

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APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____

APP 530963-A
DATE 4/8/09

AGENCY REVIEW: _____

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PROPERTY LOCATION
SUBDIVISION/PROPERTY NAME ROUTE 40 ACROSS FROM TURF VALLEY Rd. LOT NO. 1512

PROPERTY ADDRESS _____

TAX MAP PAGE(S) 16 STREET 23 GRID 248 PARCEL(S) 248 TOWN/POST OFFICE _____ PROPOSED LOT SIZE 1.5±

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7178 COLUMBIA GATEWAY DRIVE COLUMBIA, MARYLAND 21046 (410) 313-1771 FAX (410) 313-2648
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

A/P _____

Empty rectangular box for notes or data.

Empty rectangular box for notes or data.

Empty rectangular box for notes or data.

Large empty rectangular box for notes or data.

Empty rectangular box for notes or data.

Empty rectangular box for notes or data.

Empty rectangular box for notes or data.

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H

REMARKS _____

SANITARIAN _____ BACKHOE _____ OTHERS _____

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

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

Attn: Mark Mildenberg, Baender & Assoc

SITE INSPECTION SHEET

40-

OWNER: Jacob Hikmat PHONE #: FAX 997-0298

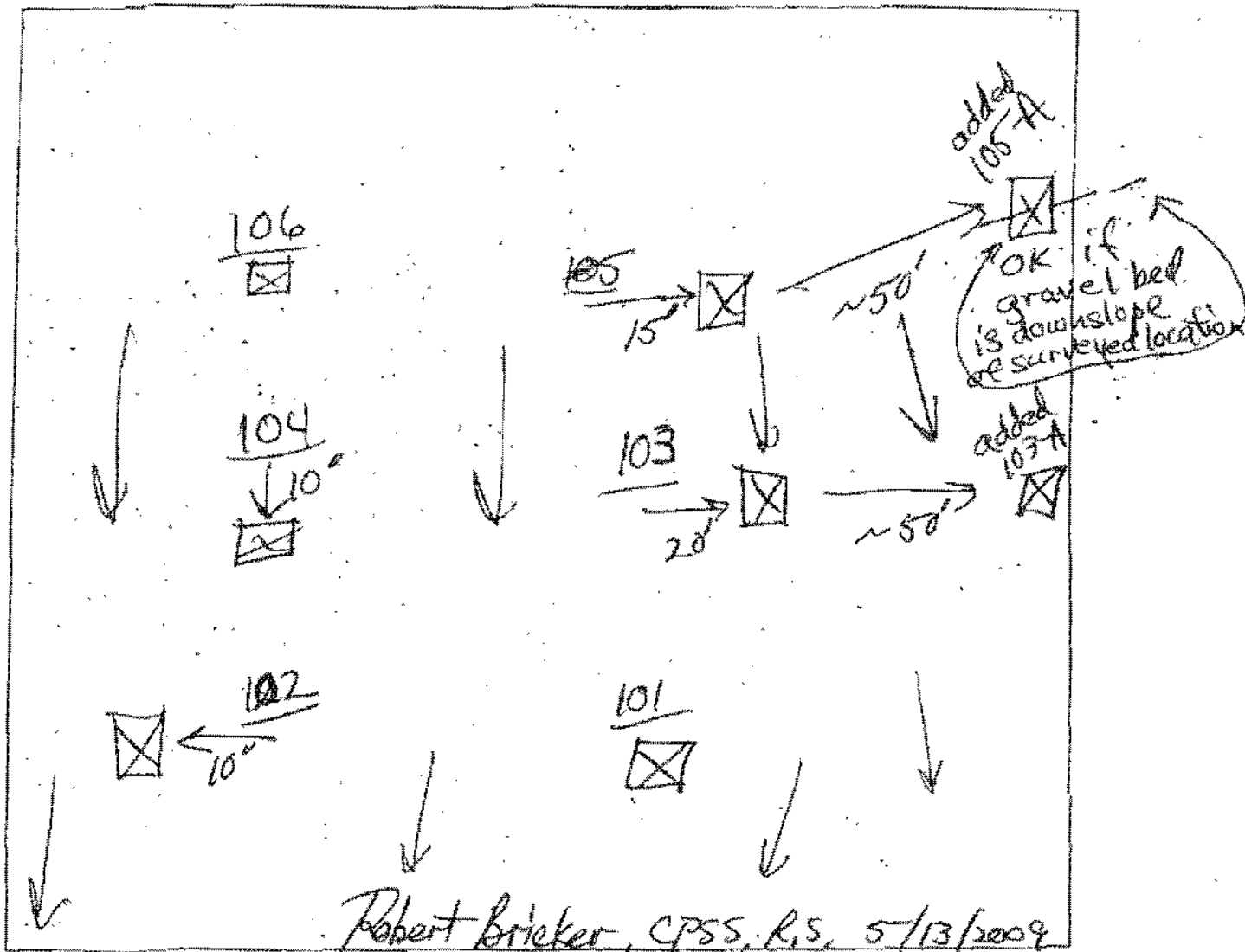
ADDRESS: U.S. Rte 40 (Cadogan Property) CONTRACTOR: _____

WELL TAG #: _____

SUBDIVISION: _____ LOT: _____ COUNTY #: _____

PROPOSAL: Layout of Infiltrometer Test Locations in relation to staked locations

LOCATION DIAGRAM



Robert Bricker, CPSS, R.S. 5/13/2009
410-313-2691

COMMENTS: _____

MOUND TEST DATA SHEETS

Property I.D. Cadogan/Hikmat Lot# _____ Date 5/13/2009

Sanitarian RB Landscape Position Side slope

% Slope 8 Soil Type _____ Contractor Fogle's (Jake & Jose)

HOLE # 101 DEPTH OF TEST 19" START TIME 12:18

101
 10" brn loam
 common mica
 2 sbk
 16" brn scl
 2 msbk
 common mica
 24" 1/2 brn sl
 Intpl
 common coarse
 mica
 42" red brn sl
 micaceous heavy
 common coarse mica

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
9 16/16	0	Begin		
9 13/16	6	3/16		
9 10/16	6	3/16		
9 5/16	12*	5/16		
9 -	12	5/16		
8 11/16	12	5/16		
8 6/16	12	5/16		

5/16 60 min/hr
 12 min/int
 Begin equilibration
 25/16 = 1 9/16" / hr (38.4 min/in) 12 noon
Pass

1:18

HOLE # 102 DEPTH OF TEST 18" START TIME 1:22

102
 2" dk brn loam
 low mica, 1 sbk
 6" brn loam 1 msbk
 4" 1/2 brn loam
 2 msbk
 red-brn scl, ss
 micaceous
 common coarse mica
 8" brn sl,
 micaceous
 common coarse mica interlayered
 1/2 red sts/
 common coarse mica

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
9 16/16	0	Begin		
9 14/16	10	2/16		
9 10/16	10	4/16		
9 8/16	10	2/16		
9 5/16	10	3/16		
9 2/16	10	3/16		
8 15/16	10	3/16		
8 11/16	10	4/16		

Begin equilibration
 1 pm

Pass

18/16/hr = 1 1/8" / hr
 2:22 (53 min/inch)

MOUND TEST DATA SHEETS

Property I.D. _____ Lot # _____ Date 5-13-09

Sanitarian HS Landscape Position _____

% Slope Sealed (4:34, 6:53) ~12% Soil Type _____ Contractor Fogles

HOLE # 103A DEPTH OF TEST 110" START TIME 1:46

brn l
2fsbk
org brn
scl
icsbk
org brn
scl
Common
mica
2fsbk
red brn scl
weat/fne
bottom 39"

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate	% Change
10 16/110				
10 14/110	6	2/110		
10 12/110	6	2/110		
10 11/110	6	1/110		
10 9/110	6	2/110		
10 8/110	6	1/110		
10 6/110	6	2/110		
10 5/110	6	1/110		
10 3/110	6	2/110		
10 2/110	6	1/110		
10 1/110	6	1/110		
9 15/110	12 ¹	2/110		
9 12/110	12 ²	3/110		
9 9/110	12 ³	3/110		
9 7/110	12 ⁴	2/110		
9 4/110	12 ⁵	3/110		

across from 103 (other side)
13/16"/hr
Alternative/Innovative

HOLE # _____ DEPTH OF TEST _____ START TIME _____

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate	% Change

equilibrate @
1:30 pm

MOUND TEST DATA SHEETS

Property I.D. Rt. 40 Lot # _____ Date 5-13-09

Sanitarian HS 1RB Landscape Position _____

% Slope Sealed 7% to 10.5% Soil Type _____ Contractor Fogles

HOLE # 103 DEPTH OF TEST 15" START TIME 11:18

brn l & fshk roots
 grey brn. scl many mica
 1msdk
 yellow brn fsl many mica
 fshk
 red brn yellow gr sl
 boulders ~ 5-10%

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate	% Change
10 16/116				
10 11/116	6	5/116		
10 7/116	6	4/116		
10 2/116	6	5/116		
9 14/116	6	4/116		
9 10/116	6	4/116		
9 6/116	6	4/116		
9 2/116	6	4/116		

$\frac{1}{4} \frac{60}{6} = \frac{10}{4} = 2.5 \text{ in/hr}$ P

equilibrate @ 10:57

HOLE # 104 DEPTH OF TEST 11" START TIME 12:42

brn l 2 fshk
 red/or scl
 1msdk
 many mica
 org scl
 1 fshk
 common mica
 org fsl
 common mica

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate	% Change
10 16/116				
10 15/116	6	1/116		
10 15/116	6	1/116		
	6			
	6			
	6			
	6			
	6			

48 10'
 54 off stake
 00
 06
 12
 18 parallel

F

equilibrate @ 12:25 pm

MOUND TEST DATA SHEETS

Property I.D. Cadogan / Hikmat Lot # _____ Date 8/18/2009

Sanitarian RB Landscape Position Shoulder

% Slope 8 Soil Type _____ Contractor Foglo's (Take & Sose)

HOLE # 105 DEPTH OF TEST 10" START TIME 11:00

105
 6" dk brn sl / 2 fsbk & msbk
 9" brn sl / msbk
 14" yel. red sel. ss
 red-brn fs / 7 msbk
 brn grs / common coarse mica
 micaceous
 20" bouldery irregular
 red fs /
 36" 2 spl, saprolite
 48" brn sl / few stones

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
9 16/16	0	Begin	—	
9 6/16	6	10/16		
8 12/16	6	10/16		
8 2/16	6	10/16		
7 12/16	6	6/16		
7 5/16	6	7/16		
6 13/16	6	8/16		
9 16/16	0	Reset	11:38 am	
9 8/16	6	8/16		
9 —	6	0/16		

abrupt irregular boundaries

Begin equilibration at 10:43

1/2" @ 6% ≈ 5" / hr
 12 min / inch

Pass
 11:50 am

HOLE # 106 DEPTH OF TEST 13" START TIME 2:24

106
 2" dk brn loam / 2 fsbk
 16" brn loam / 1 msbk
 brn sel. ss / few coarse mica
 20" few gravel
 yel-brn sl / micaceous / common coarse mica
 18" brn sl / micaceous / more dense

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate(ET/MD)	% Change
9 16/16	0	Begin	—	
9 14/16	10	2/16		
9 11/16	20*	3/16*		
9 5/16	20*	6/16*		
9 2/16	10	3/16		
9 —	10	2/16		
8 13/16	20	3/16		

Alternative / Inmo.

8:34
 70 min / inch

Begin equilibration
 2:08



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

June 3, 2009

Jacob Hickmat -Cadogan Property, LLC

RE: Percolation Test Report for Tax Map 16-Parcel 248, Route 40, A530963

Dear Mr. Hickmat,

Percolation testing was conducted on the referenced property on May 13, 2009. The proposed purpose for the tests was to identify two areas of the subject property having soils properties appropriate for conventional wastewater disposal, for a two-lot subdivision.

A preliminary evaluation of the area proposed for 'Lot 1' was conducted on April 28. I used a hand auger to drill to about 3 feet depth near the center of each of the three sand mound sites. Soil properties at all 3 locations were similar: a thin, mucky layer at the surface, and common-to-many fine depletions in the epipedon to a depth of about 10" to 12". The subsoil was yellow-red, sandy clay loam-to-sandy clay with common large depletions (grey). Over time water depth increased in the bottom of each auger hole. Visual observation indicated that the water was entering from near the surface soil layer. Also, water was observed to be standing in each of two shallow (12" depth) soil pits on this fourth successive very warm day without precipitation. The proposed sand mounds for 'Lot 1' were therefore 'Failed' due to perched water (within 1 foot of the soil surface).

Infiltrometer tests were conducted on May 13 on proposed 'Lot 2'. Three proposed sand mound sites were tested at staked, paired locations for each mound. Two additional test locations were added due to very slow infiltration rates at locations 104 and 106. Results as measured infiltration rates (inch/hour, in/hr) for the respective locations, the converted rate (minutes/inch, min/in), and the Design Loading Rate (gallons per day per square foot, gpd/sq-ft) for the mound site represented by the paired tests are shown below.

Mound 1: #101, 1.56 in/hr, and #102, **1.125 in/hr**; 53 min/in, 0.75 gpd/sq-ft

Mound 2: #103, 2.5 in/hr, and #103-A, **0.81 in/hr**; 74 min/in (0.25 gpd/sq-ft, alternative rate)

Mound 3: #105, 5 in/hr, 105-A, **4.31 in/hr**; 13 min/in, 1.2 gpd/sq-ft

(Test # 106 had 0.85 in/hr. Test #104 Failed as only 0.06 inches infiltrated in 12 minutes)

These results indicate that two sand mound locations, Mound 1 and Mound 3, may be approvable on the subject property. Mound 1 will require 800 square feet of absorption area for a 4 bedroom residence, or 1000 square feet for a 5 bedroom residence. Mound 3 will require 500 square feet of absorption area for a 4-bedroom residence, or 625 square feet for a 5-bedroom residence. [The preferred width of an absorption bed (re: gravel bed) is 9 feet.]

Both Mound 1 and Mound 3 are considered as conventional systems. Howard County Code requires that a lot (or parcel) have area for an initial system and 2 repair systems. It is the policy of Howard County Health Department to offer a variance to county code if a pre-treatment system is installed on lots created prior to March 1972, and that have only adequate soil resource for an initial system and one repair.

As the infiltration rate of Mound 2 (74 minutes per inch, i.e. greater than 60 minutes per inch) is considered an alternative rate, a sand mound constructed for such a low rate would be considered as an innovative system. Innovative wastewater distribution systems are not allowed for new construction. A sand mound designed for rates of 60 to 120 minutes per inch require 600 square feet of absorption area per bedroom.

These Notes are to appear on the Percolation Certification Plan. The residence on this property will be limited to a specified number of bedrooms based on approved design of the initial sand mound and/or the repair sand mound.

THE SAND MOUND AREA(S) DELINEATED AND IDENTIFIED ON THIS PARCEL MUST BE PROTECTED BY A FIXED BARRIER AT ALL TIMES DURING DEMOLITION, GRADING, AND CONSTRUCTION ACTIVITIES. THEREAFTER PROTECTIVE MEASURES SHOULD BE IMPLEMENTED TO PROTECT THESE AREAS FROM EROSION AND ENCROACHMENT BY WHEELED VEHICLES. SUBSEQUENT BUILDING PERMIT APPLICATIONS MAY BE DENIED SHOULD THE SAND MOUND AREAS BE EVALUATED AND FOUND TO BE UNSATISFACTORY FOR THE INTENDED USE.

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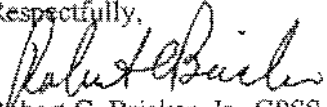
THE SUBJECT PROPERTY HAS A LIMITATION OF ___ BEDROOMS. IF MORE BEDROOMS ARE DESIRED THE HEALTH DEPARTMENT WILL CONSIDER A TECHNICAL DESIGN SHOWING THAT THE SAND MOUND AREA WILL ACCOMMODATE A SYSTEM DESIGN ADEQUATE FOR THE AMOUNT OF WASTEWATER DISCHARGE FROM THE PROPOSED STRUCTURE.

Future permit approvals by the Health Department will be conditional upon the protecting the sand mound areas from disturbance and erosion. The Health Department may require that the sand mound sites be staked for field review.

This property is in the Marriottsville Service District. Public water is available on adjoining properties, and a water main is located abutting the subject property.

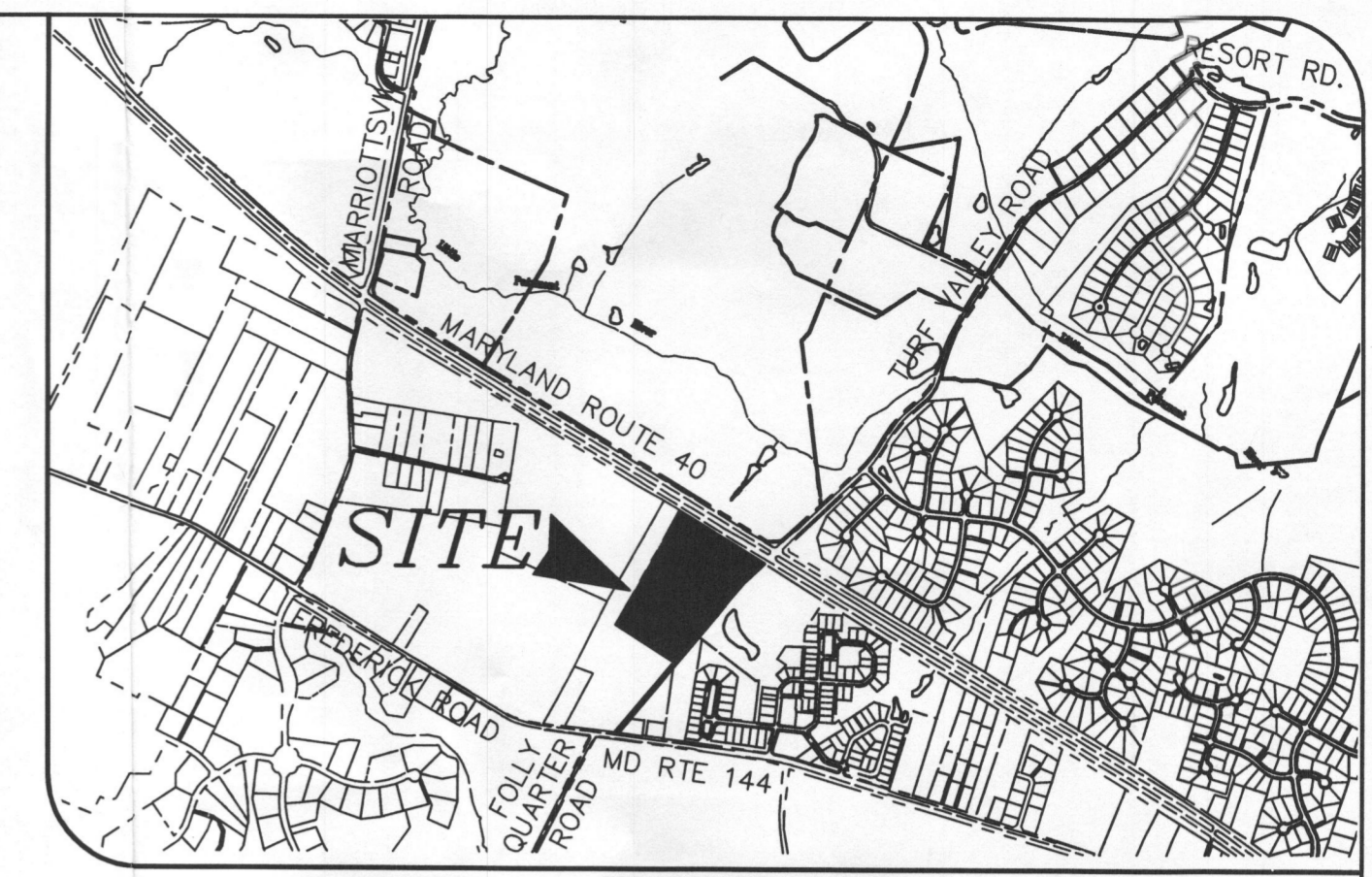
If you have any questions regarding this evaluation, please contact me at the above address or by calling (410) 313-2691.

Respectfully,


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

Enclosures (2)

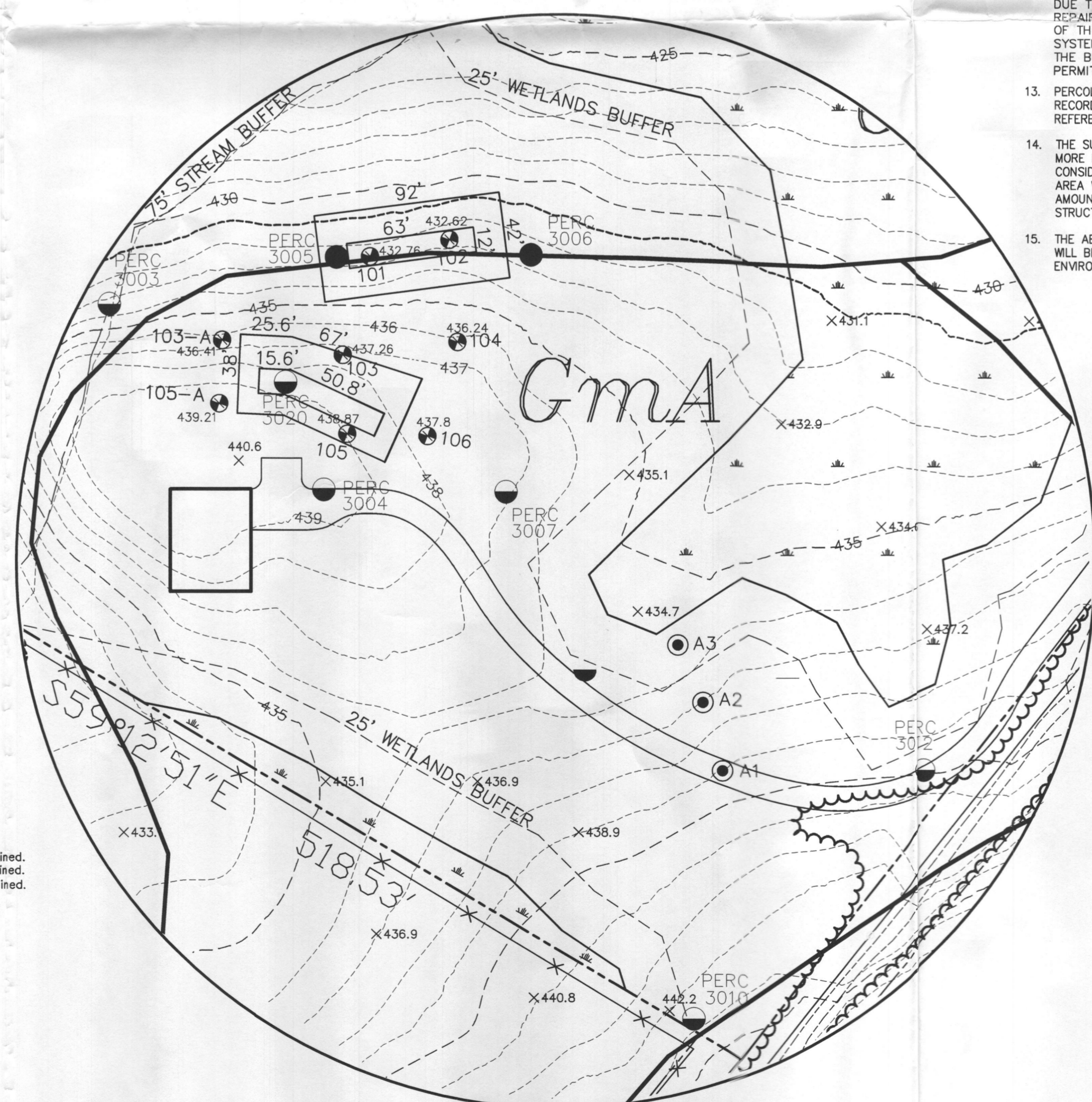
Copy: Bob Sheesley, EcoSense, Inc.
File



VICINITY MAP
SCALE: 1" = 1,000'

GENERAL NOTES:

- SUBJECT PROPERTY ZONED RC-DEO WITHIN THE AGRICULTURAL LAND PRESERVATION DISTRICT PER THE 02/02/2004 COMPREHENSIVE ZONING PLAN AND THE "COMPL. LITE" ZONING AMENDMENTS EFFECTIVE 7/28/06.
- BOUNDARY SHOWN HEREON IS BASED ON DEED INFORMATION.
- SITE LOCATION:
TAX MAP 16, PARCEL 248
DEED REFERENCE: 4918/193 & 4053/420
SITE AREA: 15.81 ACRES ±
- TOPOGRAPHIC DATA SHOWN HEREON IS BASED ON AERIAL TOPOGRAPHY PROVIDED BY WINGS AERIAL MAPPING, INC. ON OR ABOUT APRIL, 2009. PERC ELEVATIONS SHOWN ARE BASED ON FIELD RUN TOPOGRAPHY.
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- SOILS DATA BASED ON HOWARD COUNTY SOIL SURVEY DATED 1968, SHEET 6.
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- SANDMOUND DESIGN WILL BE UTILIZED.
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DETAIL
SCALE: 1" = 50'

SOILS DESCRIPTION

SYMBOL	DESCRIPTION
GmC	Gladstone loam, 8 to 15 percent slopes, well drained.
GmA	Glenville silt loam, 0 to 3 percent slopes, moderately well drained.
GmB	Glenville silt loam, 3 to 8 percent slopes, moderately well drained.
GmD	Glenville silt loam, 3 to 8 percent slopes, moderately well drained.
MaD	Manor loam, 15 to 25 percent slopes, well drained.
UaF	Udorthents, Highway, 0 to 65 percent slopes, not rated.

LEGEND

- EXISTING WETLANDS
- PASSED CONVENTIONAL PERC HOLE
- FAILED CONVENTIONAL PERC HOLES
- PROPOSED SAND MOUND SYSTEM WITH TEST PITS
- AUGER HOLE (FAIL)

OWNER/DEVELOPER
 CADOGAN PROPERTY, LLC
 C/O 5072 DORSEY HALL DRIVE
 ELLICOTT CITY, MD 21042
 (410) 997-0296

APPROVED FOR PUBLIC WATER AND PRIVATE SEWAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT

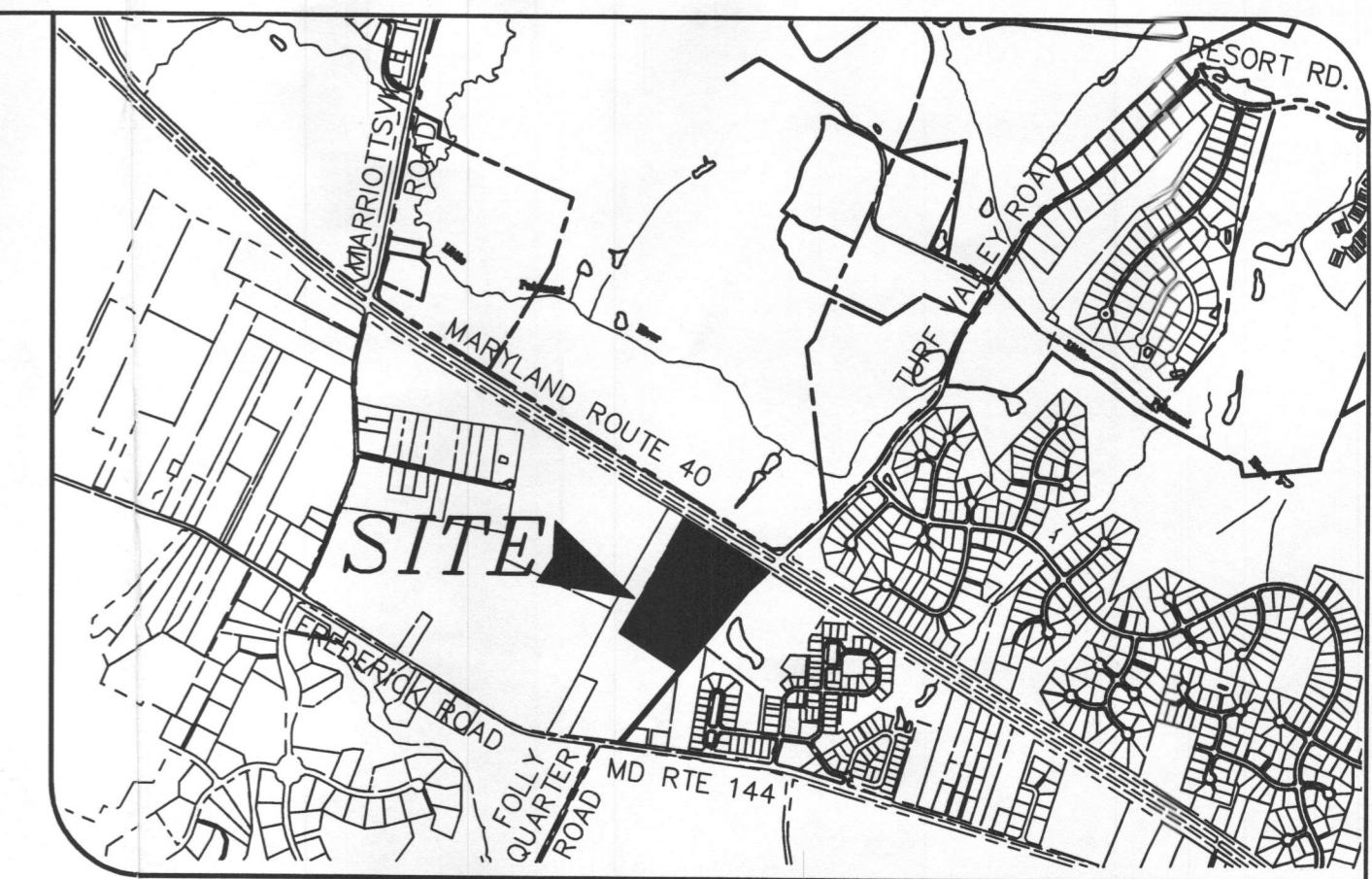
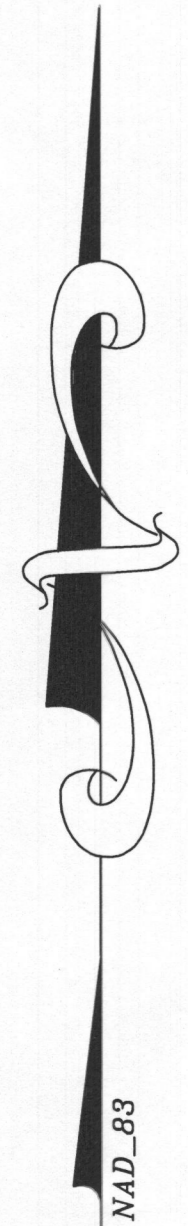
Nylon & Peter Beilenson
 HOWARD COUNTY HEALTH OFFICER
 DATE 11/24/2009
 RB nfo

date	NOV 2009
project	CADOGAN
illustration	MES
scale	RH
approval	RH
AS SHOWN	RH

no.	date	description	revisions

CADOGAN PROPERTY
 TAX MAP 16 - PARCEL 248 - GRID 23
 HOWARD COUNTY, MARYLAND
 THIRD ELECTION DISTRICT
 PERC CERTIFICATION PLAT

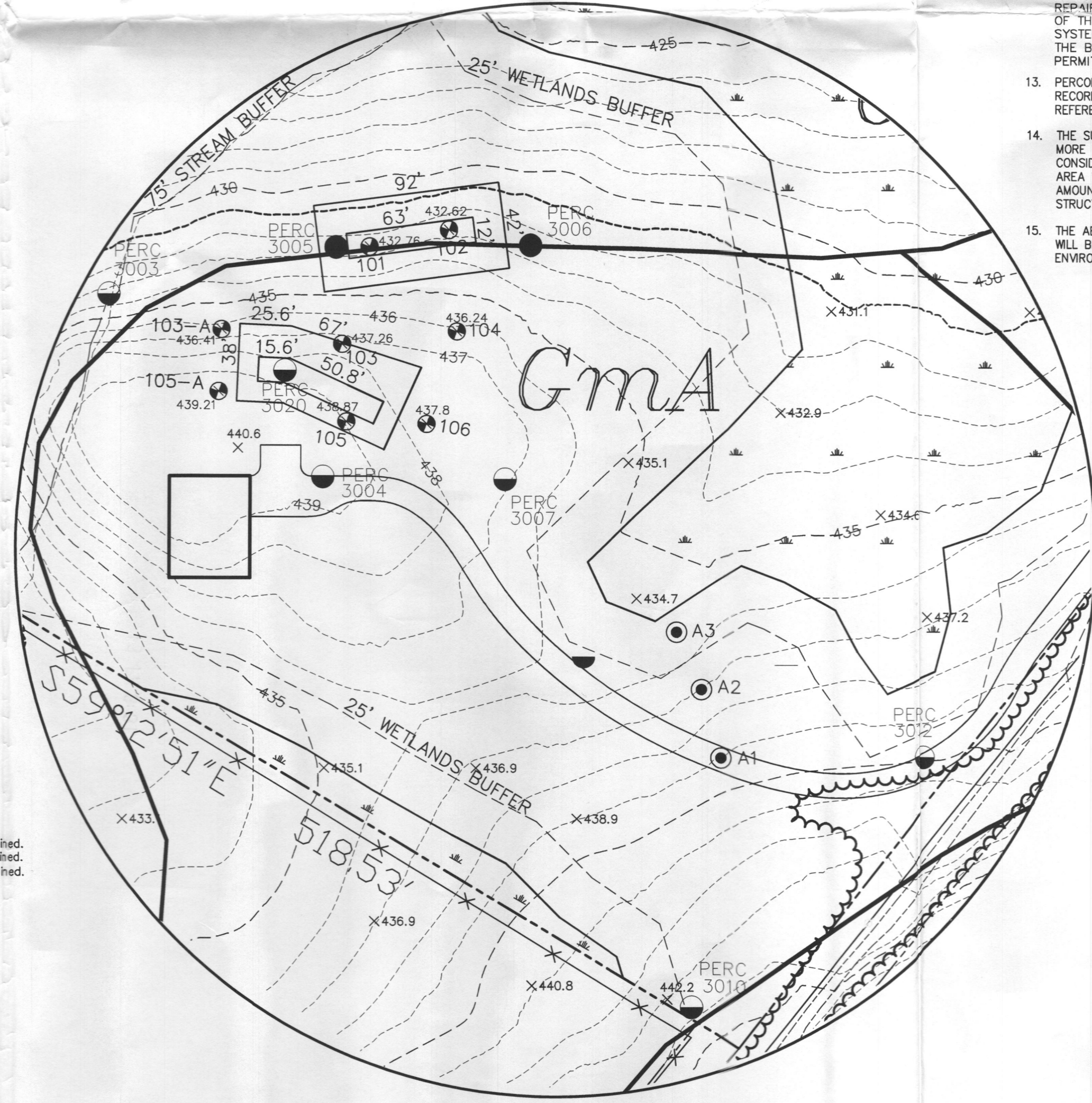
MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0296 Fax (301) 621-5521 Wash. (410) 997-0298 Fax



VICINITY MAP
SCALE: 1" = 1,000'

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DETAIL
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PLAN
SCALE: 1" = 100'

OWNER/DEVELOPER
CADOGAN PROPERTY, LLC
C/O 5072 DORSEY HALL DRIVE
ELLCOTT CITY, MD 21042
(410) 997-0296

FOLLY QUARTER ROAD
FREDERICK ROAD (MD ROUTE 144)
(MINOR ARTERIAL-PUBLIC)

APPROVED FOR PUBLIC WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

Howard County Health Officer
HOWARD COUNTY HEALTH OFFICER
DATE: 11/24/2009

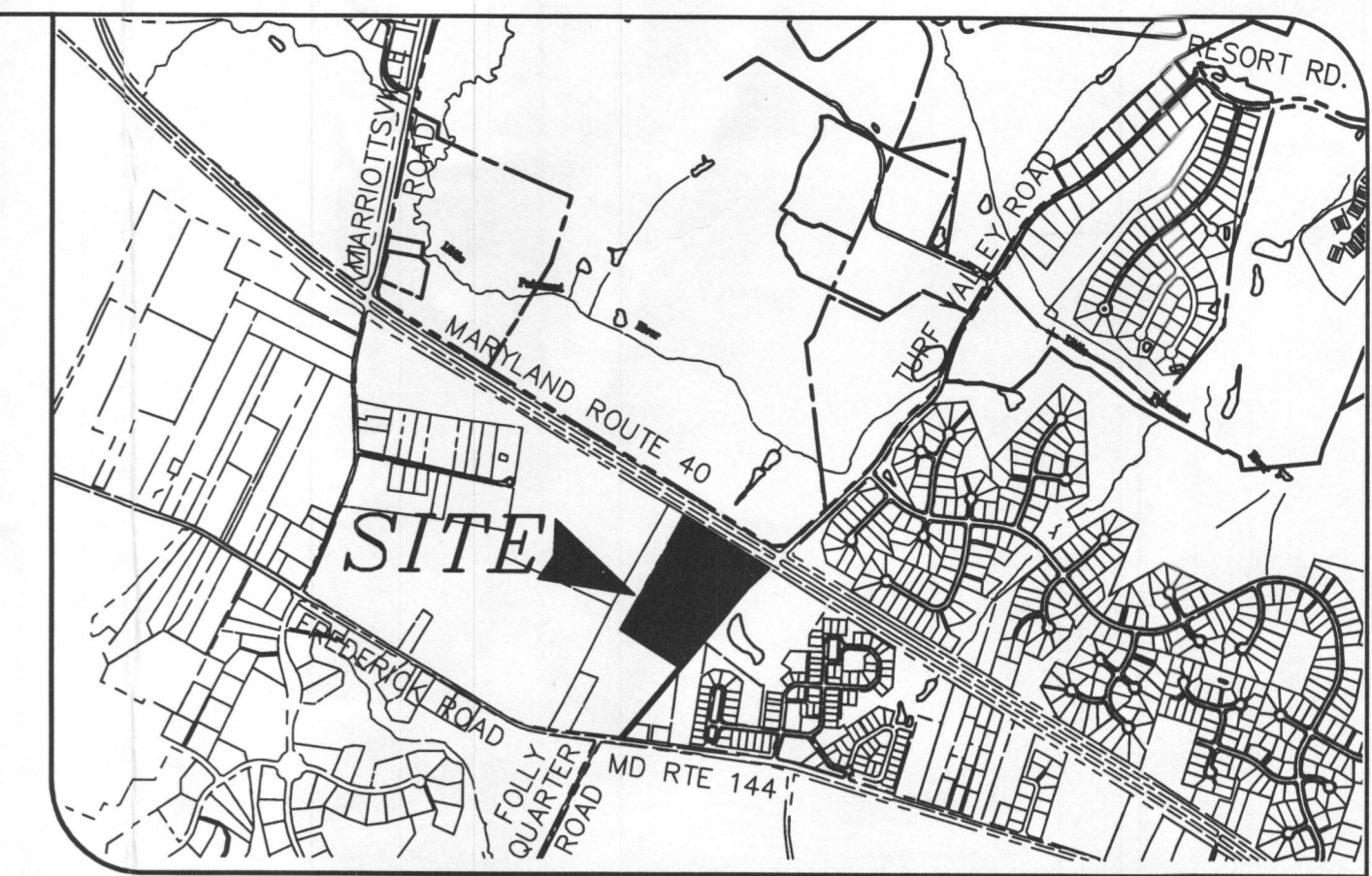
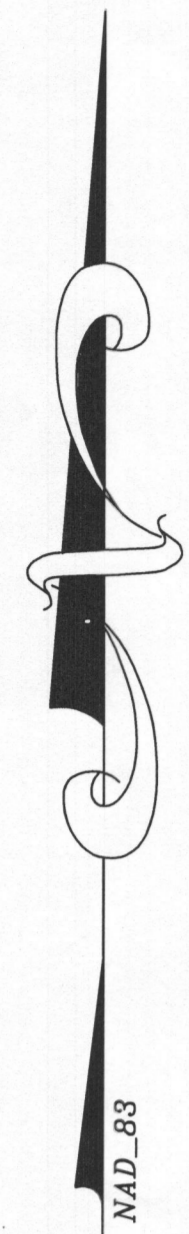


date	NOV 2009
project	CADOGAN
illustration	MES
scale	AS SHOWN
approval	RJH
revisions	RJH

description	revisions
no.	date

CADOGAN PROPERTY
TAX MAP 16 - PARCEL 248 - GRID 23
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
PERC CERTIFICATION PLAN

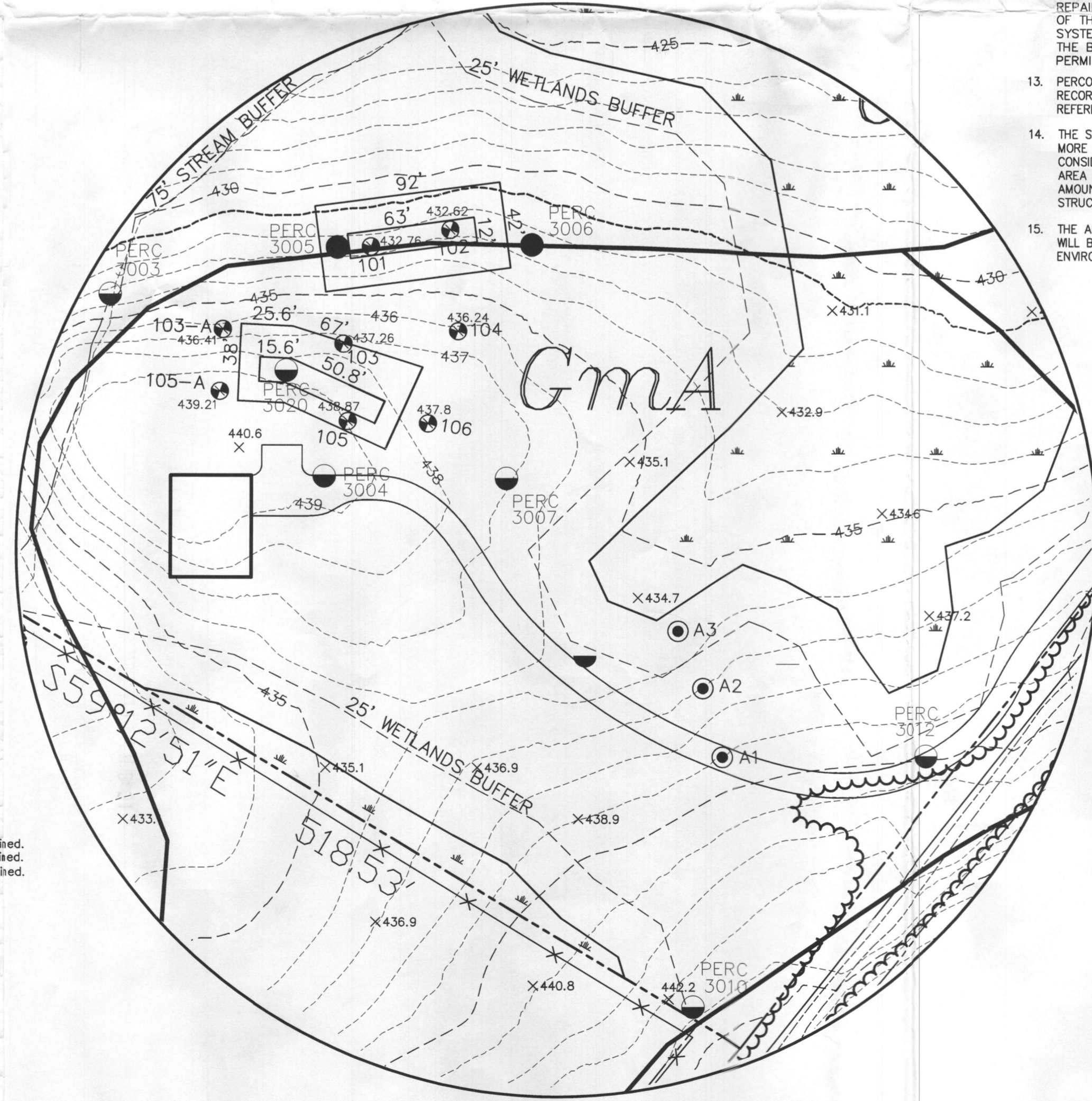
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5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
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- BUILDING PERMIT APPROVAL WILL REQUIRE THE INSTALLATION OF ADVANCED PRE-TREATMENT FOR THE SEPTIC SYSTEM. THESE DEVICES ARE DESIGNED TO REDUCE RELEASE OF NITROGEN BY USING BEST AVAILABLE TECHNOLOGY (BAT). ON-GOING MAINTENANCE IS REQUIRED. AN AGREEMENT ACKNOWLEDGING THE NEED FOR MAINTAINING SUCH A SYSTEM, A SERVICE CONTRACT WITH AN AUTHORIZED SERVICE PROVIDER MUST BE RECORDED IN THE HOWARD COUNTY LAND RECORDS PRIOR TO RELEASE OF SEPTIC SYSTEM INSTALLATION PERMIT.
- AN ADVANCED PRE-TREATMENT SYSTEM, WHICH UTILIZES BEST AVAILABLE TECHNOLOGY TO PERFORM NITROGEN REDUCTION, MUST BE INSTALLED ON THE SEPTIC SYSTEM DUE TO THERE ONLY BEING AN INITIAL SYSTEM AND ONE REPAIR SYSTEM. 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.
- PERCOLATION TEST LOCATION 3020 AND AUGER HOLES A1, A2 AND A3 WERE RECORDED AND PLOTTED BY THE INSPECTING ENVIRONMENTAL SANITARIAN AND WERE REFERENCED TO SURVEYED STAKE LOCATIONS.
- THE SUBJECT PROPERTY HAS A LIMITATION OF 5 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.
- THE ABSORPTION BED LOCATIONS, AS WELL AS THE PRIMARY SAND MOUND FOOTPRINT, WILL BE STAKED AND LEVEL LAYOUT OF THE ABSORPTION BED CONFIRMED BY ENVIRONMENTAL SANITARIAN PRIOR TO APPROVAL OF THE BUILDING PERMIT.



DETAIL
SCALE: 1" = 50'

SOILS DESCRIPTION

SYMBOL	DESCRIPTION
GbC	Gladstone loam, 8 to 15 percent slopes, well drained.
GmA	Glenville silt loam, 0 to 3 percent slopes, moderately well drained.
GmB	Glenville silt loam, 3 to 8 percent slopes, moderately well drained.
GnB	Glenville silt loam, 3 to 8 percent slopes, moderately well drained.
MaD	Minor loam, 15 to 25 percent slopes, well drained.
UaF	Udorthents, Highway, 0 to 65 percent slopes, not rated.

LEGEND

- EXISTING WETLANDS
- PASSED CONVENTIONAL PERC HOLE
- FAILED CONVENTIONAL PERC HOLES
- PROPOSED SAND MOUND SYSTEM WITH TEST PITS
- AUGER HOLE (FAIL)

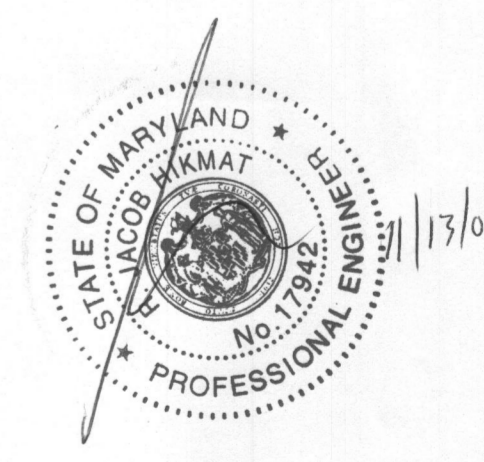
OWNER/DEVELOPER
CADOGAN PROPERTY, LLC
C/O 5072 DORSEY HALL DRIVE
ELLICOTT CITY, MD 21042
(410) 997-0296

FOLLY QUARTER ROAD
FREDERICK ROAD (MD ROUTE 144)
(MINOR ARTERIAL-PUBLIC)

APPROVED FOR PUBLIC WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

PLAN
SCALE: 1" = 100'

Walter for Peter Beilenson
HOWARD COUNTY HEALTH OFFICER
DATE: 11/24/2009



Project	CADOGAN	date	NOV 2009
Illustration	MES	engineering	RJH
scale	AS SHOWN	approval	RJH
revisions			

CADOGAN PROPERTY
TAX MAP 16 - PARCEL 248 - GRID 23
THIRD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
PERC CERTIFICATION PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Fax (301) 621-5521 Wash. (410) 997-0298 Fax