COMMONWEALTH OF VIRGINIA
VIRGINIA DEPARTMENT OF HEALTH
THREE RIVERS HEALTH DISTRICT

Westmoreland County Health Department
P.O. Box 303
Montross, Virginia 22520 (804) 493-1235

AOSE CERTIFICATION LETTER (SINGLE LOT)

October 5, 2005

Murphy's Mill Association
PO Box 340
Warsaw, Virginia 22572

Re: Tax Map #: 56F-7 Murphy's Mill Subdivision 7
HDID #: 196-05-619

Dear Murphy's Mill Association,

This letter is issued in lieu of sewage disposal system construction permit in accordance with § 32.1-163, et seq., and § 32.1-164 H. of the *Code of Virginia* . The application for a certification letter was submitted pursuant to § 32.1-163.5 of the *Code of Virginia* which requires the Health Department to accept private soil evaluations and designs from an Authorized Onsite Soil Evaluator (AOSE) or a Professional Engineer working in consultation with an AOSE for residential development. The site for an individual onsite sewage system was certified as being in compliance with the Board of Health's regulations (and local ordinances if the locality has authorized the local health department to accept private evaluations for compliance with local ordinances) by: Mathews, Harold L., Ph.D., CPSS, Phone (804) 271-0136. This letter is issued in reliance upon that certification.

The Board of Health hereby recognizes that the soil and site conditions acknowledged by this correspondence, and documented by additional records on file at the local health department, are suitable for the installation of an onsite sewage disposal system. The attached plat shows the approved area for the sewage disposal system. This letter is valid until a permit for construction is issued and the system is installed, inspected and approved. This letter is void if there is any substantial physical change in the soil or site conditions where the sewage disposal system is to be located.

A permit to construct the sewage disposal system must be issued before construction of a system. If the property owner (current or future) applies for a construction permit within 18 months of the

date of this letter, the application fee paid for this letter shall be applied to any state fees for a permit to construct a system. After 18 months, the applicant is responsible for paying all state fees for a permit application.

This letter, and accompanying plat of survey showing the specific location of the sewage disposal system area and well area (if applicable), may be recorded in the land records by the clerk of the circuit court in the jurisdiction where all or part of the site or proposed site of the system is to be located. The site shown on the plat is specific and must not be disturbed or encroached upon by any construction. To do so voids this letter. Upon the sale or transfer of the land that is the subject of this letter, the letter shall be transferred with the title to the property.

Future owners are advised to review the plat for the location of the onsite sewage disposal area to make sure their building plans do not interfere with the area. If they have any questions regarding the location of the area, they should contact the AOSE or PE identified above *prior* to contacting the local health department for assistance.

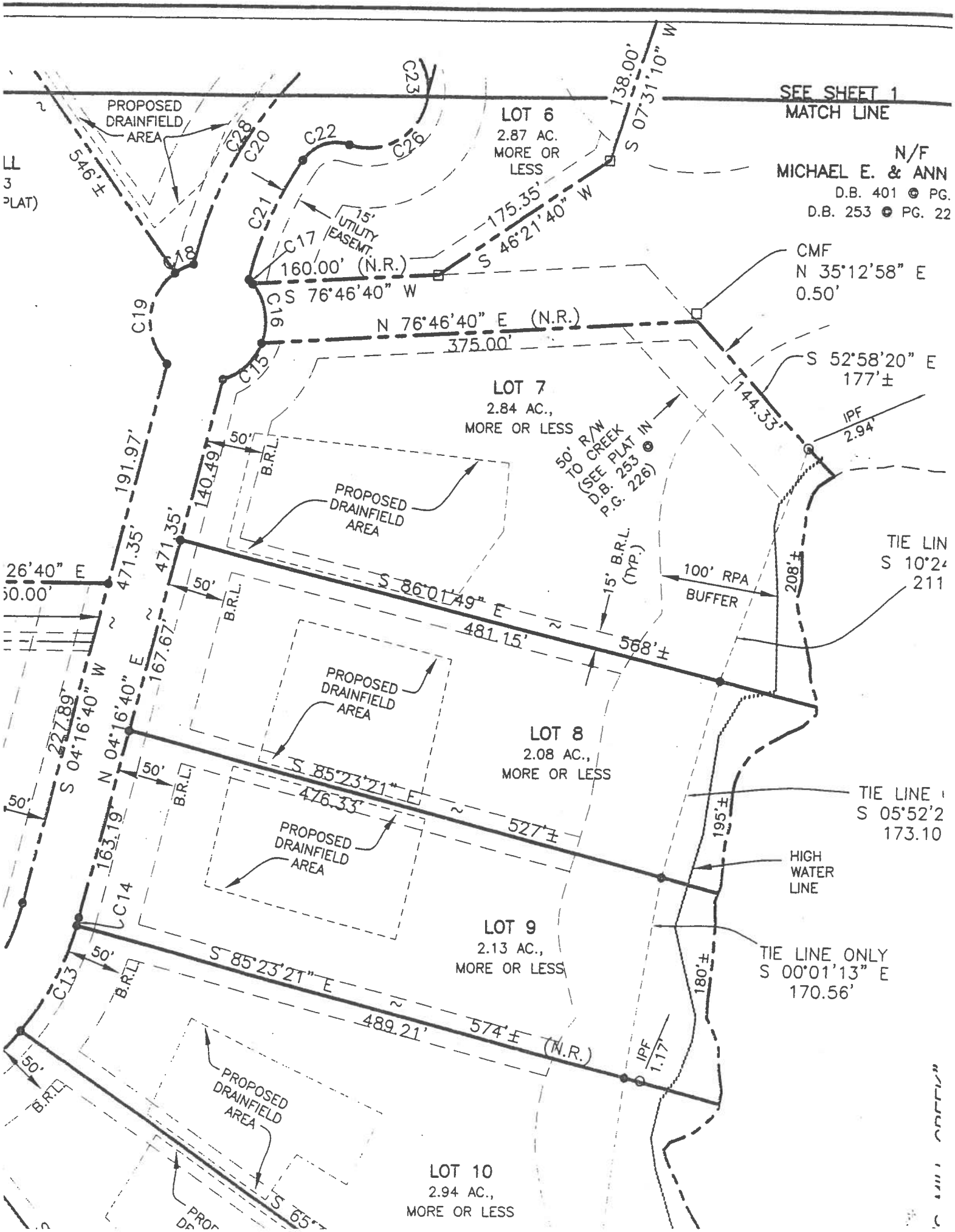
The area certified by this letter is suitable to accommodate an onsite sewage disposal system for a 4 bedroom house using a system design of **600 gallons per day**. The property will be served by a private water supply as shown on the attached plat. Owners are further advised that when connection to a public water system is proposed and the public water system has reached its permited capacity, a permit for construction may not be issued until such time that a connection is approved and available for use.

This letter is an assurance that a sewage disposal system construction permit will be issued (provided there have been no substantial physical changes in the soil or site conditions where a system would be located); however, it is not a guarantee that a permit for a specific type of system will be issued. The design of the sewage system will be determined at the time of application for a building permit and sewage system construction permit. The design will be based on the site and soil conditions certified by this letter, structure size and location, water well location (final determination to be made at time of permit issuance), the regulations in effect at the time, and any off-site impacts that may have occurred since the date of the issuance of this letter. In some cases, engineered plans may be required prior to issuance of the construction permit. In accordance with § 32.1-164.1:1 of the *Code of Virginia* , owners are advised to apply for a sewage disposal construction permit only when ready to begin construction.

This certification letter may be subject to and must comply with any applicable local ordinances.

Sincerely,

Hank Becker
EHSS, WCHD
Attachments (plats and certifications)
Pc: Mathews, Harold L.


SEE SHEET 1
MATCH LINE
LOT 6
2.87 AC.
MORE OR
LESS
N/F
MICHAEL E. & ANN
D.B. 401 @ PG.
D.B. 253 @ PG. 22
PROPOSED
DRAINFIELD
AREA
546'±
138.00'
S 07°31'10" W
175.35'
S 46°21'40" W
15'
UTILITY
EASEMT.
160.00' (N.R.)
S 76°46'40" W
CMF
N 35°12'58" E
0.50'
N 76°46'40" E (N.R.)
375.00'
S 52°58'20" E
177'±
144.33'
IPF
2.94'
LOT 7
2.84 AC.,
MORE OR
LESS
50' R/W
TO CREEK
(SEE PLAT IN
D.B. 253 @
P.G. 226)
50'
B.R.L.
140.49'
191.97'
471.35'
15' B.R.L.
(TYP.)
100' RPA
BUFFER
208'±
S 86°01'49" E
481.15'
568'±
TIE LIN
S 10°24
211
26'40" E
60.00'
S 04°16'40" W
227.89'
N 04°16'40" E
167.67'
163.19'
LOT 8
2.08 AC.,
MORE OR
LESS
S 85°23'21" E
476.33'
527'±
195'±
TIE LINE
S 05°52'2
173.10
HIGH
WATER
LINE
LOT 9
2.13 AC.,
MORE OR
LESS
S 85°23'21" E
489.21'
574'± (N.R.)
180'±
TIE LINE ONLY
S 00°01'13" E
170.56'
IPF
1.17'
LOT 10
2.94 AC.,
MORE OR
LESS
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C26
C28

Application for a Sewage Disposal and/or Water Supply Permit

Health Department ID# _____.(VDH Use)

Owner:	Address	Office Phone: Home Phone:
Agent: H. L. Mathews	Address: Post Office Box 34099 Richmond, Virginia 23112	Office Phone: 804-271-0136

Directions to Property; Rt. 604 to Rt. 607, left on Jackson Lane, right about 1/4 mi on gravel lane

Subdivision: MURPHY,S MILL POINT Section _____ Block____ Lot M

Other Property Identification _____ Map Reference 56F-7

Dimension/size of Lot/Property ± Acres

Residential Use:	(X) Y es	( ) No
Termite Treatment	(X) Yes	( ) No
Single family	(X) Yes	( ) No
Number of bedrooms	___	
Multi-family	( ) Yes	(X) No
Number of units	_____	
Basement	Yes	(X) No
Fixtures in basement	Yes	(X)No

Proposed Sewage Disposal Method:

Onsite Sewage Disposal System ( ) SepticTank Drainfield ☐ LPD ☐ Mound (X)Other
Alternative System Required

Water Supply: ( ) Public (X) New ( ) Existing
IIIB Recommended

The property lines, building location and sewage disposal system sites are clearly marked and the property is sufficiently visible to see the topography. I give permission to the Department to enter onto the property described for the purpose of processing this application and to perform quality assurance checks as necessary until the sewage disposal system has been constructed and approved.

Signature of Owner/Agent: _____ Date: December, 19, 2003

SOIL EVALUATION REPORT
TAX MAP # _____

HEALTH DEPARTMENT
IDENTIFICATION NO. _____
PAGE 2 OF 8

MATHEWS SOIL CONSULTANTS INC.

LOT #7; MURPHY'S MILL POINT; WESTMORELAND COUNTY, VIRGINIA

SUMMARY OF SOIL OBSERVATIONS & DESIGN SUGGESTIONS

Depth to Redoximorphic colors: 16-36 in.; Depth to Chroma 2 Mottles: 23-36 in.
Soil Texture at the proposed installation depth: IIA Estimated Rate 35 mpi
Average soil texture one foot below the proposed installation depth: III
Average percolation rate for subdivision using a Precision Permeameter: 70-90 mpi
Separation Distance Required: 8 in. Recommended Trench Bottom: 7 in. (See GMP #112 & #114)

Recommended Design Rate: 90 mpi
System Type: Pretreatment System Required

Number of bedrooms 4 ; design flow: 600 gpd
Surface area required for a drip irrigation or bed system 3145 ft.^{2}.
Drainfield required for trench system 1245 ft.^{2}

Minimum Drainfield Area Recommended: 1200-1500 (dependent on design) ft.^{2}

Approximately 110' x 200' area available = 22,000 ft^2 (includes reserve area)

REQUIRES A DRAINFIELD DESIGN BY AN AOSE OR P.E.

Reserve Drainfield: Required Yes (X) No ( ) % Available 100+

Water Supply: Public ( ); Class IIIA ( ); Class IIIB (X); Class IIIC ( )

Depth to Rock: Max __ Min. > 200' None X
Depth to Impervious (clay) Strata: Max. ___ Min. > 5' None X
Free Water Present: No X Yes ___ Range (in inches) ___
Slope 0-1 % Position in Landscape Satisfactory: Yes X No __

REMARKS RE: Rock, Free Water & Landscape Position: The soils of this site have developed from sandy and loamy sediments of the Coastal Plain Physiographic Province. Some profiles have "silty" wind blown sediments in their upper 24 to 30 inches. The proposed drainfield site occupies an upland topo position and has fair surface drainage.

COMMENTS: **It is important that clearing and construction work in the vicinity of the drainfield be carefully planned to protect the drainfield site. The drainfield should be treated as a sensitive environmental area. It should be protected from vehicular, construction and foot traffic. The drainfield should not be used for storage of construction materials. WE RECOMMEND THAT THE DRAINFIELD ADJACENT TO THE CONSTRUCTION AREA BE ROPED OFF TO PREVENT COMPACTION. FAILURE TO DO SO MAY RESULT IN THE DRAINFIELD PERMIT BEING VOIDED!!!**

The drainfield should be cleared by hand or by the use of a track mounted excavator during "DRY SOIL" conditions. It is very important that compaction is avoided and that topsoil is not removed during clearing. Wooded sites should have the leaf litter remaining after the trees are removed. Trees larger than 12 inches in diameter 3.0 feet above the soil surface are to be cut as near the soil surface as possible and the stump left in place. Stumps are not to be removed by excavation with a backhoe! Stump removal should be done with a stump grinder. The maximum depth of stump grinding is 18 inches below the natural soil surface. The site is not to be "root raked."

The location of the homesite is important. The house, driveway and drainfield should be located as shown on the homesite planning map. Careful consideration should be given to the location of the homesite and other structures in order to be sure that a drainfield and reserve drainfield site is available.

It is important that this drainfield system is installed on grade with the maximum ditch bottom being at the recommended depth or within the specified range in depth. The drainfield should be installed in a manner where it will not "buck grade".

This drainfield and reserve drainfield have been located to meet the limits of the Chesapeake Bay Ordinance. The documented drainfield area is of sufficient size to accommodate a minimum of two drainfields for the use indicated in this report.

The driveway should be located as shown on the homesite sketch. It is especially important that driveways be constructed within 12 to 15 feet of property lines when the location is shown parallel to side property lines! This will conserve available soils for drainfield and reserve drainfield use.

We recommend that the well be installed and flow tested before the start of construction of the structure to be placed on this site. We also recommend that someone skilled in the location of water supply wells be consulted regarding the type and depth of the well to be constructed. The location of the well can be changed with the approval of the local health department or the design AOSE. Care must be taken to be sure that separation distances between all drainfields and other sources of contamination are maintained. Changes in well locations should be done by a professional. No warranties are given or implied regarding yield of water at the well site shown on the site sketch. The location and drilling of the well must be approved by the local health department.

The use of low flush (1.6 gallons or less) toilets and restricted flow shower heads is recommended. This will allow for a 10 to 20% reduction in water use for single family structures and a 20 to 70% reduction for commercial uses. This practice will prolong drainfield life and reduce water consumption.

NOTE: See the homesite planning map or site sketch for the location of the homesite, drainfield, well and drive (when applicable).

SOIL PROFILE DESCRIPTIONS*

*The location of soil evaluation profile holes is shown on the schematic drawing or site plan which accompanies this report. The site sketch includes the estimated or measured location of all known wells, sewage disposal systems, springs, and structural features within 100 feet of the proposed drainfield and/or reserve drainfield site.

HORIZON	DEPTH INCHES	DESCRIPTION OF COLOR, TEXTURE, ETC	TEXTURE GROUP
HOLE #50	RDM		
A	0-8	strong brown to light yellowish-brown; very friable; very fine sandy loam to loam	IIB
Bt1	8-16	yellowish-brown; very friable; clay loam	III
Bt2	16-36+	yellowish-brown mottled with light olive brown, gray, grayish-brown and brownish-yellow; friable; clay; chroma 2 and redox start at about 16" and increase in intensity with depth; percolation rate = ~ 50 mpi at 18 inches using a Precision Permeameter	III

SOIL EVALUATION REPORT
SOIL PROFILE DESCRIPTIONS
LOT #7; MURPHY'S MILL POINT
WESTMORELAND COUNTY, VIRGINIA

HEALTH DEPARTMENT
IDENTIFICATION NO. _____
PAGE 4 **OF** 8

The location of soil evaluation profile holes is shown on the schematic drawing or site plan which accompanies this report. The site sketch includes the estimated or measured location of all known wells, sewage disposal systems, springs, and structural features within 100 feet of the proposed drainfield and/or reserve drainfield site.

HORIZON	DEPTH INCHES	DESCRIPTION OF COLOR, TEXTURE, ETC	TEXTURE GROUP
HOLE #51	RDM		
A	0-8	strong brown to light yellowish-brown; very friable; very fine sandy loam to loam	IIB
Bt1	8-18	yellowish-brown; very friable; clay loam	III
Bt2	18-36+	yellowish-brown mottled with light olive brown, gray, grayish-brown and brownish-yellow; friable; clay; chroma 2 and redox start at about 36" and increase in intensity with depth	III
HOLE #52	AMD		
AE	0-10	olive brown; friable sandy loam to loam	IIA
Bt1	10-18	olive brown; friable; clay loam	III
Bt2	18-36	olive brown, gray, strong brown and yellow; firm; clay to clay loam; chroma 2 and redox start at about 18" and increase in intensity with depth; percolation rate = ~ 105 mpi at 18 inches using a Precision Permeameter	
HOLE #53	RDM		
A	0-8	strong brown to light yellowish-brown; very friable; very fine sandy loam to loam	IIB
Bt1	8-19	yellowish-brown; very friable; clay loam	III
Bt2	19-36+	yellowish-brown mottled with light olive brown, gray, grayish-brown and brownish-yellow; friable; clay; chroma 2 and redox start at about 19" and increase in intensity with depth; percolation rate = ~ 105 mpi at 18 inches using a Precision Permeameter	III
HOLE #54	RDM		
A	0-8	strong brown to light yellowish-brown; very friable; very fine sandy loam to loam	IIB
Bt1	8-18	yellowish-brown; very friable; clay loam	III
Bt2	18-36+	yellowish-brown mottled with light olive brown, gray, grayish-brown and brownish-yellow; friable; clay; chroma 2 and redox start at about 36" and increase in intensity with depth; percolation rate = ~ 45 mpi at 18 inches using a Precision Permeameter	III

SITE EVALUATED: May - June 2003 HLM, JDH, RDM, AMD

DATE OF REPORT: November 20, 2003

JOB NUMBER 6119

MATHEWS SOIL CONSULTANTS, INC.

Richard D. Michniak, APSSc

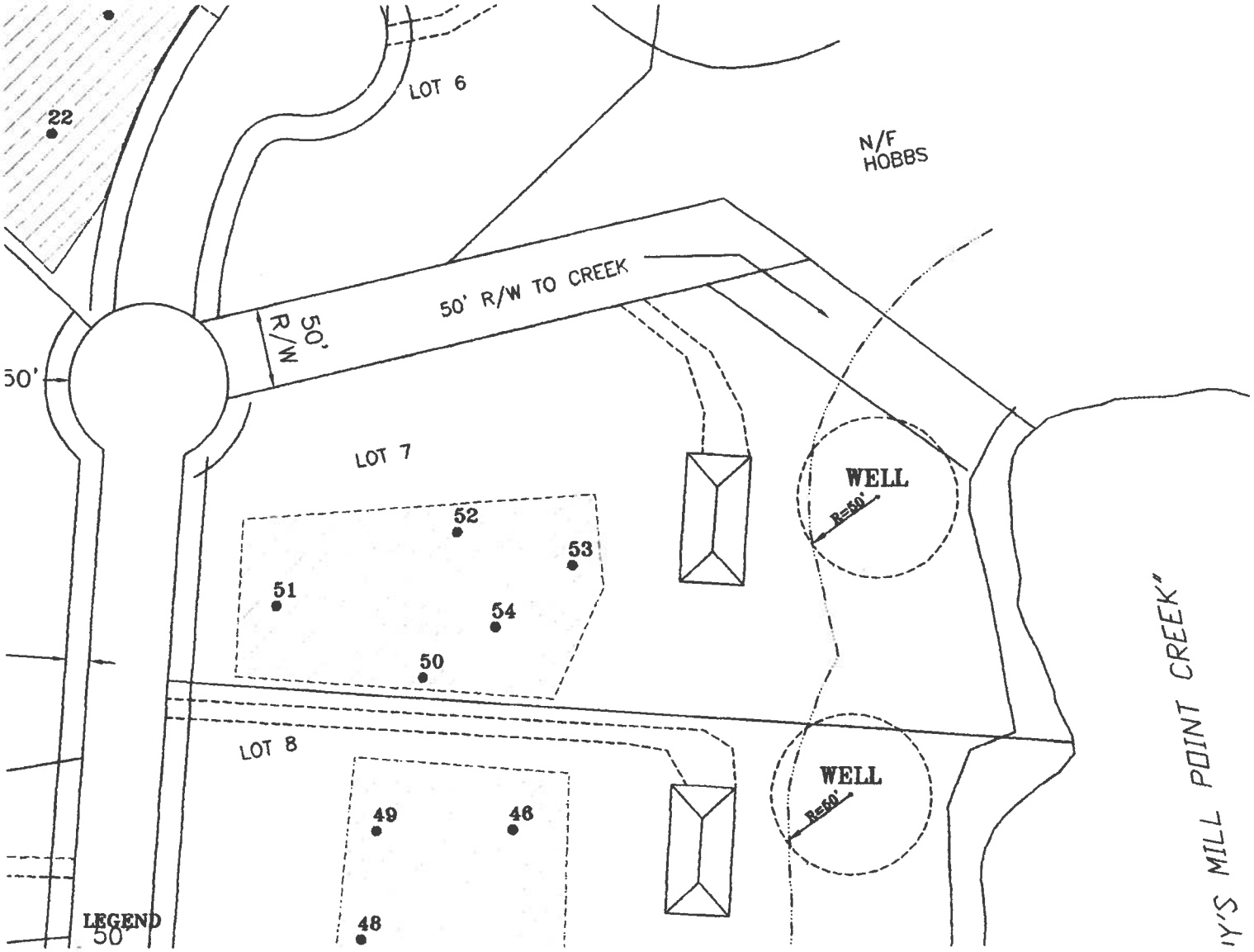
Anne M. Durica, AOSE

SITE SKETCH
LOT #7
MURPHY'S MILL POINT SUBDIVISION
WESTMORLAND COUNTY, VIRGINIA

SITE SKETCH DRAWN TO SCALE FROM A DIGITAL FILE BY BAY DESIGN GROUP.

DRAINFIELD MUST BE INSTALLED ON GRADE.

NO WELLS OR SEPTIC FIELDS WERE OBSERVED WITHIN 200' OF THE PROPOSED DRAINFIELD.



LEGEND

- ●4 SOIL BORE # & LOCATION
- DOCUMENTED SOIL AREA
- TOPO
- GULLY
- NATURAL DRAINAGE SWALE
- PROPOSED HOUSESITE
- PROPOSED DRIVEWAY
- PROPOSED WELL SITE

0' 100 200 300

DECEMBER 19, 2003
JOB NUMBER: 6119
FILE: MURPHYS MILL POINT
WORKING

MATHEWS SOIL CONSULTANTS INC.
5700-C HOPKINS ROAD
POST OFFICE BOX 34099
RICHMOND, VIRGINIA 23234
EMAIL: MSCINC@CAVTEL.NET
PHONE: 804-271-0136
FAX: 804-271-7148

IMPORTANT FACTORS TO CONSIDER WHEN INSTALLING AND MAINTAINING SEPTIC TANK DRAINFIELD SYSTEMS

Harold L. Mathews, Ph.D., CPSS

SURFACE DRAINAGE AND USE OF THE DRAINFIELD AREA: Surface and roof water should be directed away from the drainfield, and the finished grade should promote good surface drainage without ponding of water near the drainfield. Cut and fill of the drainfield or the natural soil within 25' of the drainfield should be avoided. Drainfields should not be used for parking automobiles or other secondary uses which would cause compaction. Trucks, tractors, and other heavy equipment should not be driven across drainfields or septic tanks. Drainfields should be graded and seeded to an appropriate lawn grass and maintained as a lawn area. Consult your local Extension Service office for seed and fertilizer recommendations.

WATER TREATMENT EQUIPMENT: The back flush from home water treatment systems and swimming pools should not be discharged into a sewer system leading to a septic tank drainfield. The drainfield design does not include allowances for this type of discharge. Most treatment units use salt. Sodium causes clays to disperse and soil structure to break down. Soil structure is essential for good percolation in clayey soils and failure of drainfield systems will result from sodium rich back flush waters being place in drainfield systems. The back flush water from the home water treatment systems and swimming pool filters should be discharged on the surface at a point well away from the house and any part of the septic tank drainfield system. It is important that water from these treatment units does not flow over any part of a drainfield system including the septic tanks, distribution lines or drainfield trenches.

JACUZZI (jetted tubs): MSCI recommends that those homes which utilize indoor hot tubs or Jacuzzi tubs (large jetted bathtubs) provide a separate absorption system or dedicated septic tank for the disposal of this effluent. The sudden release of 40 to 100 gallons of water into the primary septic tank will cause suspension of sediments within the tank. Solids suspended in the effluent will subsequently flow into the drainfield system and can lead to premature failure of the system. A separate plumbing outlet is required.

GARBAGE DISPOSER: If the homeowner desires the installation of a garbage disposer, the kitchen plumbing should be plumbed to a separate outlet and a 1250 or 1500 gallon septic tank/grease trap installed to receive only kitchen effluent. Effluent from this tank can flow to the primary drainfield or to a separate drainfield. This grease trap should be pumped to remove grease and solids once every two years. We do not recommend that kitchen garbage disposer units be installed with conventional septic tank drainfield systems which do not have dedicated septic tanks (grease traps).

TREES, SHRUBS, GARDENS AND THE DRAINFIELD: Trees and plants such as weeping willow, maple, locust, sycamore, cottonwood, tree of heaven and bamboo should be removed if within 50 feet of drainfield lines, septic tanks, or distribution boxes. The roots of these trees have an affinity for water and will enter distribution lines, distribution boxes and drainfield trenches. These roots frequently cause clogging of distribution lines and failure of the drainfield system. We do not recommend that these species be utilized as landscape vegetation in the vicinity of the drainfield system because of this problem. They should not be planted within 50' of any part of the drainfield and should not be used as landscape materials near adjacent drainfield systems. We do not recommend that any vegetable garden practices be conducted in the vicinity of a drainfield. Common sense dictates that the production of home gardens and sewage disposal are not compatible practices.

BURIED UTILITIES AND DRAINFIELD PROBLEMS: It is the responsibility of the builder, developer, utility contractor, sub-contractor, realtor, and the homeowner to be sure that cable routes for buried utilities (e.g., electric, natural gas, water, telephone, cable tv) do not cross the drainfield/reserve drainfield. Trenches for buried cables and other utilities frequently cause drainfield failure by providing an avenue for lateral movement of effluent. Contractors and sub-contractors must be made aware of the problems and held responsible for staying clear of designated drainfield zones. Detailed site plans are recommended for their use.

MULCH: We do not recommend the use of bark, sawdust or plastic sheeting mulch on drainfield sites. Septic tank drainfield systems are designed to percolate water into the soil system and evapotranspiration is a principal part of the removal of water from that system. Mulches are designed to prevent evaporation and hold water in the soil system. The use of mulch over drainfields often contributes to premature failure of the system.

SPRAY IRRIGATION SYSTEMS: Spray irrigation systems should not be installed over or near the drainfield and reserve drainfield site. Septic tank drainfield systems are designed for percolation of water into the soil system. Those designs take into consideration annual rainfall but do not allow for irrigation. Spray irrigation systems may lead to failure of the drainfield system because of additional water being placed in the drainfield area and the improper design and installation of piping systems.

PRINCIPLES OF GOOD DRAINFIELD MAINTENANCE

Harold L. Mathews, Ph.D., CPSS

1. DO use water saving fixtures - use sensible water conservation practices.
2. DO use the washing machine sparingly on a daily basis. Wash one (1) or two (2) loads daily rather than saving for a wash day.
3. DO maintain faucets and other fixtures on a regular basis, so that leaking does not occur when not in use.
4. DO have septic tanks, boxes, and the drainfield system evaluated regularly; pump and clean all tanks and distribution boxes once every three (3) to (4) four years.
5. DO pump grease traps for garbage disposer every one (1) to two (2) years.
6. DO add additional tanks if you install a garbage disposer or hot tub.
7. DO keep a record of the septic tank(s), distribution box(es), and drainfield design layout and of the pumping schedule.
8. DO consult your local health department or consultant before installing structures, home additions, swimming pools, decks, patios, parking, or other soil disturbing practices.
9. DO consider preventative design practices. The installation of multiple tanks in series is a good practice which will insure longer drainfield life. This practice is very cost effective when the expense and inconvenience of repairs is considered.

1. DON'T use excessive amounts of water in short periods of time.
2. DON'T dump grease or coffee grounds down the drain or dispose of household and automotive chemicals, insecticides, herbicides or petroleum products in a drainfield system. Septic tank systems are not designed to decompose these materials.
3. DON'T dispose of sanitary napkins, disposable diapers, plastics or synthetic rubber products.
4. DON'T use excessive amounts of drain cleaner, plumber's helper, yeast, bacteria, enzymes, etc. These materials <u>are not good</u> for the septic tank system and are normally a waste of money.
5. DON'T place bark, sawdust, or plastic mulch over drainfield systems.
6. DON'T place lawn irrigation systems on or contiguous to septic tank drainfields.
7. DON'T plant maple, weeping willow, sycamore, cottonwood, locust or bamboo in or near a drainfield.
8. DON'T use the drainfield area for growing a vegetable garden.
9. DON'T park, place structures, cut and fill, or otherwise abuse the drainfield or the reserve drainfield or any area within 25' of the drainfield.
10. DON'T destroy old drainfields after a repair. They will become serviceable after five (5) to eight (8) years.
11. DON'T discharge waste water from water treatment equipment or swimming pools into a septic system. Sodium from this process causes soils to lose structure which is essential to good percolation. Failure of the system will result from improper discharge from these systems.

(HLM - 08/01/96)

(Revised 10/25/99)

Certification Statement

County: Westmoreland Date: 11/21/03

Property Identification: Lot # 7 ; Murphy's Mill Point Subdivision

Submitted by: Mathews Soil Consultants, Inc.

This is to certify according to §32.1-163.5 of the Code of Virginia that work submitted for the referred property is in accordance to and complies with the Sewage Handling and Disposal Regulations of the Virginia Department of Health. I recommend this lot for subdivision approval.

AOSE _____ AOSE #189 Date: 23 Dec 03

Soil Consultant _____ Date: _____

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Services rendered by MSCI are specifically limited to twenty four (24) months (services are hereinafter referred to "services") and are provided without warranty or representation other than the warranty that such services were rendered in accordance with §32.1-163.5 of the Code of Virginia. MSCI makes no warranties or representations of any kind, express or implied, including, without limitation, any warranty of or representation that the property can be used for any purpose other than a drainfield and reserve drainfield for single family home construction or that the property can be utilized for any particular use twenty four (24) months subsequent to the date of the rendition of the services. MSCI shall have no liability or responsibility to any person or entity in the event the topographical features of either the property inspected or adjoining properties are altered and MSCI shall have no liability for any indirect, incidental or consequential damages, resulting from the rendition of any services by MSCI. Any claim for any damages, whatsoever, shall be waived unless asserted within twenty four (24) months of the date the services were rendered.