

Bureau of Environmental Health
 8930 Stanford Boulevard, Columbia, MD 21045
 Main: 410-313-2640 | Fax: 410-313-2648
 TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
 Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: 11/2/16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 559827

APPROVAL DATE: 1/17/17 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 739 Woodbine Crossing

SUBDIVISION: Woodbine Crossing LOT: 8 TAX ID: 04374479

CONTRACTOR: WTC Contractors EMAIL: _____

CONTRACTOR ADDRESS: 3033 Salem Bottom Road / Westminster, MD 21157 PHONE: 410-458-7024

PROPERTY OWNER: Lee Development Group EMAIL: info@leedg.com

OWNER ADDRESS: 8601 Georgia Ave / Silver Spring, MD 20910 PHONE: 301-585-7000

SEPTIC TANK SIZE (GALLONS): 1500 gal TANK MANUFACTURER: Babylon

PUMP MODEL: N/A PUMP SIZE N/A PUMP TANK CAPACITY: N/A

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 0.8

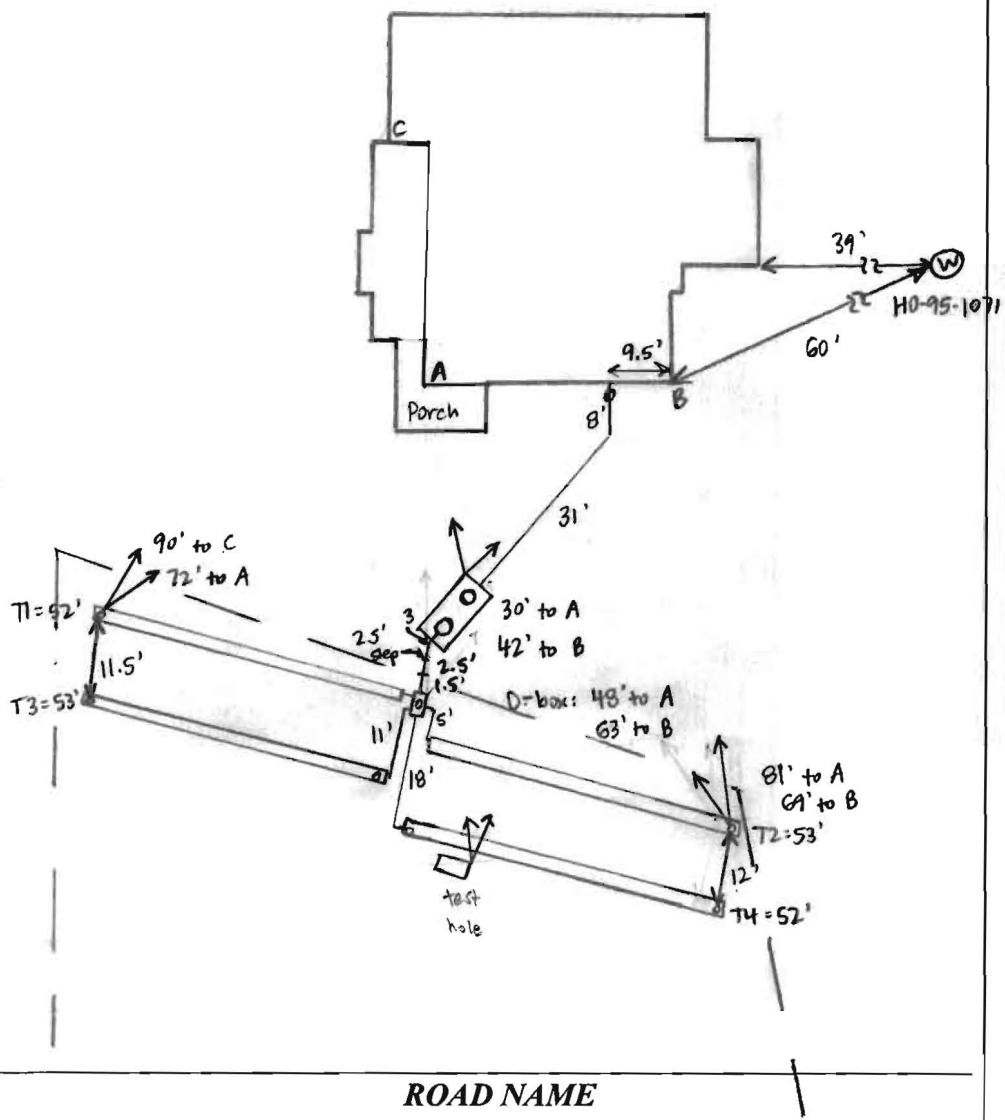
TRENCHES:	LINEAR FEET REQUIRED: <u>208</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>7</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>6</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:		

ISSUED BY: Robert Freemon ISSUE DATE: 1/13/17 EXPIRATION DATE: 1/13/18

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM
 ELECTRICAL PERMIT ISSUED E _____
- NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

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

NOT TO SCALE



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	4'	7'
NUMBER OF TRENCHES		4'
TOTAL LENGTH		210'
ABSORPTION AREA		630' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		YES
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	6'-1'
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	YES
DATE ON LID	12-10-16

PUMP/SEPTIC TANK LEVEL	
MANUFACTURER	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

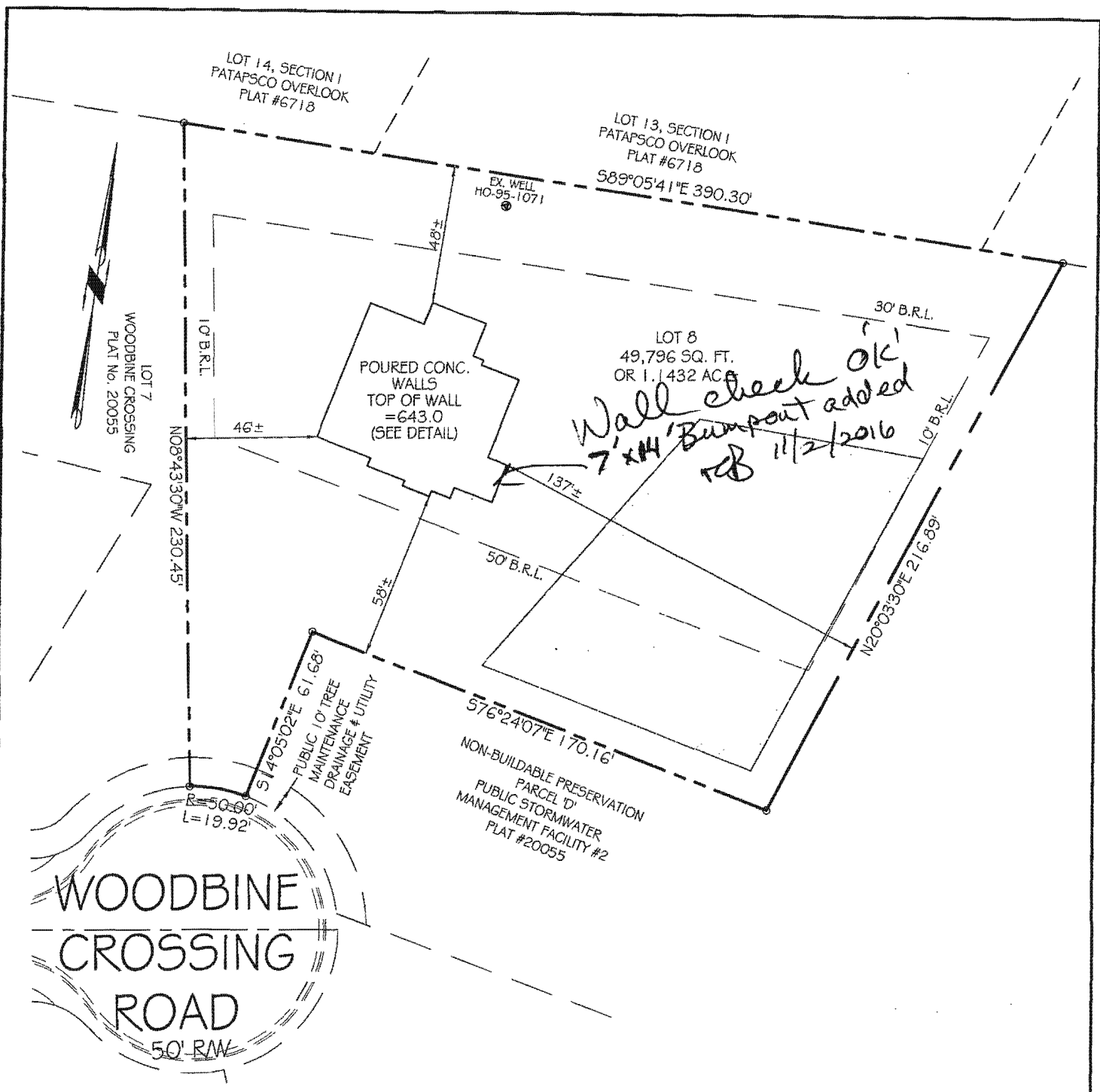
PRE-CONSTRUCTION:

1/13/17 Met WTC on site for layout. All SDA corner stakes + tank stake present. Shot contour and laid out 4x52' trenches on contour. Pulled 100' off well - tank stake > 100' from well. (SC)

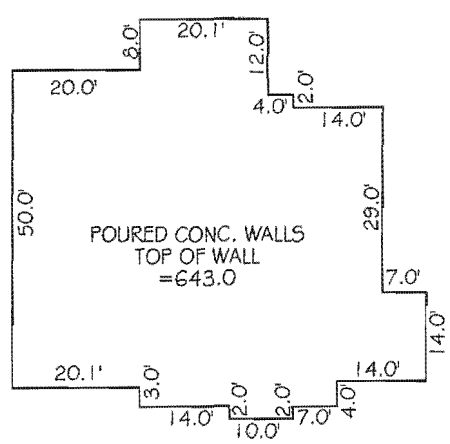
INSTALLATION: 1/13/17 On site during tank delivery. No obvious cracks on sides or bottom of tank.

House connection made. Dig a test hole below lowest trench to check for groundwater - dry at 11' depth (bottom). (SC) 1/17/17 Trenches complete + left open at ends. 3' wide 3.5' to stone. Levelled speed levelers in D-box. Line from tank to D-box bedded with stone. (SC)

FINAL INSPECTOR Sarah Collins DATE OF APPROVAL 1/17/17



*Wall check OK!
7'x14' Bumpout added
TGB 11/2/2016*



HOUSE DETAIL
SCALE: 1" = 30'

- NOTES:
- 1) FOUNDATION AND FOOTINGS ARE IN PLACE AS SHOWN HEREON.
 - 2) BUILDING TIES ARE ±0.5' UNLESS OTHERWISE NOTED.
 - 3) TOP OF WALL = 643.0

PROFESSIONAL CERTIFICATION:

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21092, EXPIRATION DATE JULY 26, 2017, IN ACCORDANCE WITH COMAR 09.13.06.12.

Thomas L. Frazier

 For VanMar Associates, Inc.
 Thomas L. Frazier, Professional Land Surveyor
 Date: 10/24/16

WALL CHECK DRAWING
 LOT 8
 WOODBINE CROSSING

PLAT No. 20055
 739 WOODBINE CROSSING ROAD
 FOURTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: 1" = 50' OCTOBER, 2016

I CERTIFY THIS PLAT TO BE CORRECT AND IS THE RESULT OF AN ACTUAL FIELD SURVEY, BASED ON DATA FOUND AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND, AS REFERENCED HEREON.

REFERENCE	JOB NO.
PLAT NO. 20055	B4-5416

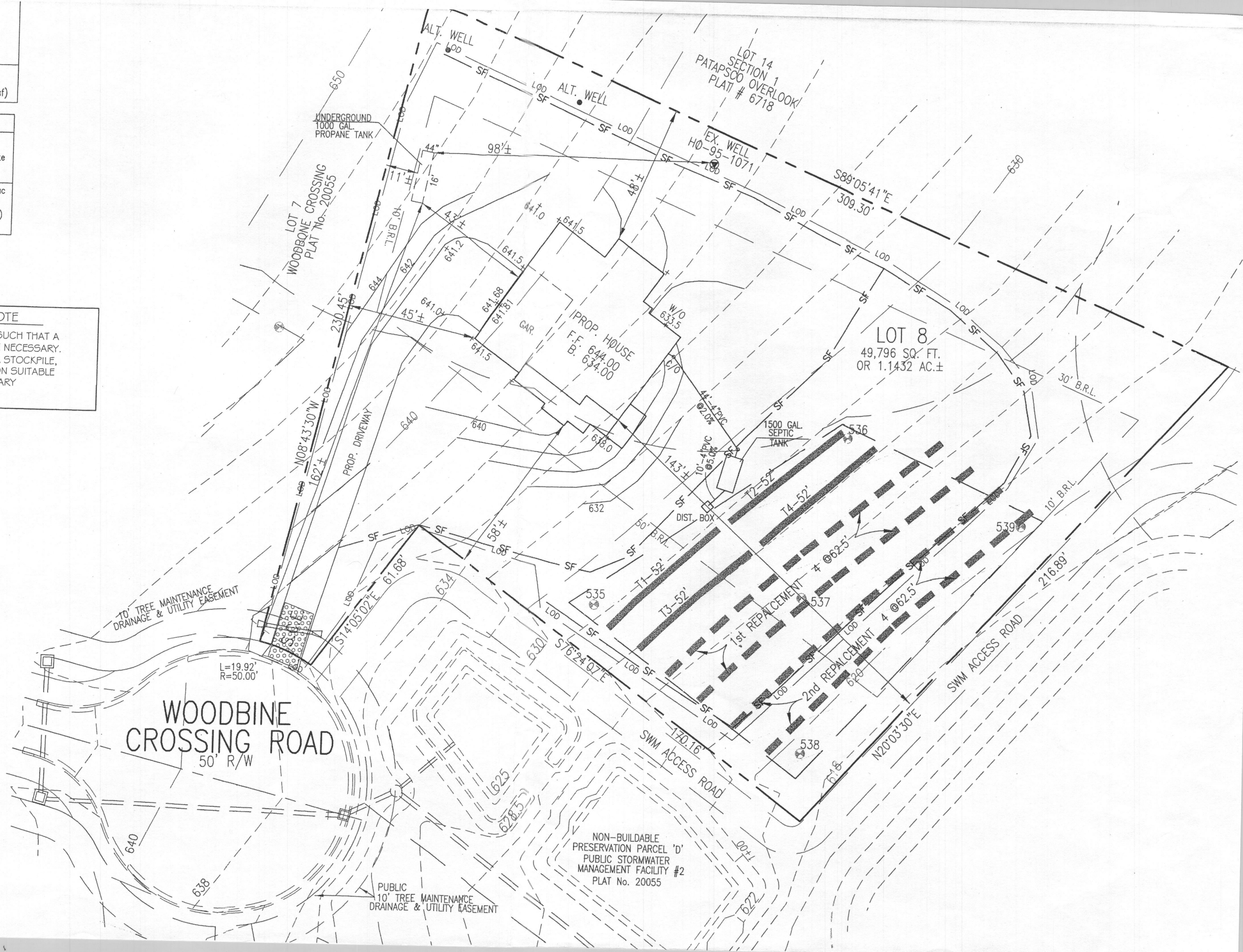


VANMAR ASSOCIATES, INC.
 Engineers Surveyors Planners
 310 South Main Street Mount Airy, Maryland 21771
 (301) 829-2890 (301) 831-5015 (410) 549-2751
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Fertilizer Rate (10-20-20)	Lime Rate
436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)

Fertilizer Rate (10-20-20)		Lime Rate
P205	K20	
90 lb/ac (2lb/1000 sf)	90 lb/ac (90 lb/1000 sf)	2 tons/ac (90 lb/ 1000 sf)

TEMPORARY STOCKPILE NOTE
 SITE EARTHWORK HAS BEEN BALANCED SUCH THAT A TEMPORARY STOCKPILE SHOULD NOT BE NECESSARY. SHOULD CONTRACTOR DECIDE TO USE A STOCKPILE, CONTRACTOR SHALL PLACE STOCKPILE ON SUITABLE AREA OF THE SITE AND FOLLOW TEMPORARY STABILIZATION NOTES.



LETTER OF TRANSMITTAL

AGENCY CLIENT FILE ACCT. CORR. OTHER

VanMar Associates, Inc.

Engineers ~ Surveyors ~ Planners
310 South Main Street, P.O.Box 328, Mt. Airy, MD 21771
301-829-2890 301-831-5015 301-695-0600
410-549-2751 (FAX) 301-831-5603

TO: Howard County Department of
Environmental Health
8930 Strafford Drive
Columbia, Maryland 21045

Attn: Hank Oswald, L.E.H.S.

DATE: January 9, 2017

PROJECT: Woodbine Crossing, Lot 1

VMA#: b45416

ENCLOSED:

COPIES	DATE	DESCRIPTION
3	1/9/17	On Site Sewage Disposal System Design Plan Lot 8, Woodbine Crossing

REMARKS: Good Morning Hank, , the plan has and revised to reflect your comments.
Thank you for your review and approval. Have a great day!

COPIES TO (ADDRESS): Catonsville Homes, 11175 Stratfield Boulevard, Marriottsville, Maryland 21104

SUBMITTED BY: dkv

g\engr\b45416 hd sewage disposal revised plan 1.9.17

December 5, 2016

Mr. Jeff Williams
Program Manager, Well & Septic Program
Bureau of Environmental Health
8930 Stanford Boulevard
Columbia, MD 21045

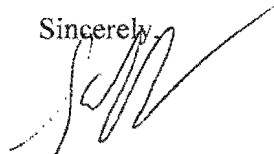
Re: Woodbine Crossing Lot 8
739 Woodbine Crossing Road, Mt. Airy, MD 21771
B16003988

Dear Mr. Williams,

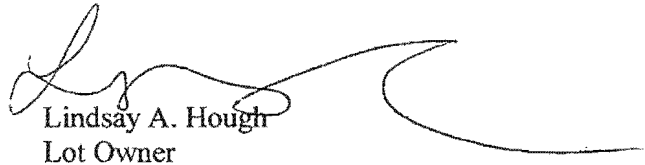
We would like to revise the septic system to be installed on our lot from the BAT unit which was previously approved, to the traditional septic tank.

Attached please find the revised plans for your review.

Sincerely,



Sean C. Lookingbill
Lot Owner



Lindsay A. Hough
Lot Owner

Cc: Pam Walter, Catonsville Homes, LLC

Freemon, Robert

From: Ron Thompson <ron@vanmar.com>
Sent: Tuesday, January 03, 2017 4:38 PM
To: Freemon, Robert
Subject: RE: 739 Woodbine Crossing

Spencer:

In the past, we have not been providing trench elevations for the replacement trench systems – only showing that they can fit in the system. Is this a change in policy to require the replacement trenches to have elevations?

Thank you.

Ronald E. Thompson, PE
VANMAR ASSOCIATES
310 South Main Street
PO Box 328
Mount Airy, Maryland 21771
301-829-2890 (O)
443-421-2164 (C)
301-831-5603 (F)

- Don't need Replacement Elevations
- Need Zen Slot in middle
Email 1/4

From: Freemon, Robert [<mailto:rfreemon@howardcountymd.gov>]
Sent: Tuesday, January 03, 2017 11:01 AM
To: Ron Thompson <ron@vanmar.com>
Subject: 739 Woodbine Crossing

Hey Ron,

Here are my comments on the OSDS plan (See attached). Also on the old BAT Plan I noticed the house elevations were changed to FF= 644.00 and CE= 634.00. Is this still true? If so I need this changed on the plan. Let me know if you have any questions.

Robert Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Well and Septic Program
Bureau of Environmental Health
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov
<https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>



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www.hchealth.org

Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

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

MEMORANDUM

TO: Vanmar Associates, Inc.
310 South Main Street
Mt. Airy, Maryland 21771

FROM: Robert Freemon *RIF*
Well & Septic Program

RE: 739 Woodbine Crossing Rd.
Mt. Airy, Maryland 21771
"OSDS Plan"

DATE: 1/3/17

I have reviewed the OSDS for Woodbine Crossing Lot 8 and here are my comments.

- The internal wall separating the two compartments of the septic tank must contain a slot 2 inches in height.
- Perc holes need to be labeled with their corresponding test number.
- ~~Relative replacement trench elevations need to be included on the plan.~~
- Change the title to: "Onsite Sewage Disposal System Design Plan".
- Alternate well site symbol needs to be shown clearly on the plan.

Freemon, Robert

To: Ron Thompson
Subject: 739 Woodbine Crossing
Attachments: 739 Woodbine Crossing.pdf

Hey Ron,

Here are my comments on the OSDS plan (See attached). Also on the old BAT Plan I noticed the house elevations were changed to FF= 644.00 and CE= 634.00. Is this still true? If so I need this changed on the plan. Let me know if you have any questions.

Robert Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Well and Septic Program
Bureau of Environmental Health
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov
<https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>

Oswald, Hank

From: Ron Thompson <ron@vanmar.com>
Sent: Tuesday, September 27, 2016 4:22 PM
To: Oswald, Hank
Subject: RE: 739 Woodbine Crossing Road_BAT Plan

Hank:

The grades should be:

FF = 644.00

B = 634.00

Ronald E. Thompson, PE
VANMAR ASSOCIATES
310 South Main Street
PO Box 328
Mount Airy, Maryland 21771
301-829-2890 (O)
443-421-2164 (C)
301-831-5603 (F)

From: Oswald, Hank [<mailto:hoswald@howardcountymd.gov>]
Sent: Tuesday, September 27, 2016 3:47 PM
To: Ron Thompson <ron@vanmar.com>
Subject: RE: 739 Woodbine Crossing Road_BAT Plan

Ron:

Quick question On the plan, it shows two different FF and B elevations. Which is it?

Thanks,

Hank

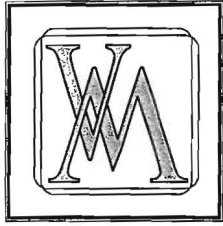
From: Ron Thompson [<mailto:ron@vanmar.com>]
Sent: Monday, September 26, 2016 5:05 PM
To: Oswald, Hank
Subject: RE: 739 Woodbine Crossing Road_BAT Plan

Hank:

I resubmitted the plan on the 21st. Do you know when it can be reviewed and hopefully approved?

Thank you.

Ronald E. Thompson, PE
VANMAR ASSOCIATES
310 South Main Street



**VANMAR
ASSOCIATES, INC.**

Engineers • Surveyors • Planners

310 South Main Street, P.O. Box 328, Mount Airy, Maryland 21771

(301) 829-2890
(301) 695-0600

(301) 831-5015

(410) 549-2751
Fax (301) 831-5603

September 20, 2016

Mr. Hank Oswald, L.E.H.S.
Howard County Health Department
Bureau of Environmental Health
8930 Stanford Blvd.
Columbia, MD 21045

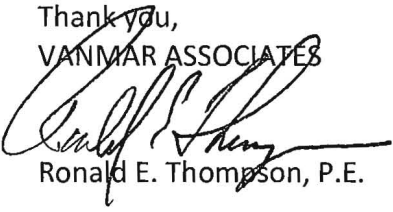
RE: Lot 8 Site Plan for BAT Installation
739 Woodbine Crossing Road
Woodbine Crossing Subdivision

The following is a response to the September 19 email comments.

1. *There is no sidewall credit for the first and second replacement.*

Response 1: The computations and layout for the first and second replacement have been revised eliminating the sidewall credit. Please note the first & second replacement systems extend slightly beyond the limits of the approved private sewerage area. Please let me know if we need to revise the perc certification plan.

Thank you,
VANMAR ASSOCIATES


Ronald E. Thompson, P.E.

LETTER OF TRANSMITTAL

AGENCY CLIENT FILE ACCT. CORR. OTHER

VanMar Associates, Inc.

Engineers ~ Surveyors ~ Planners
310 South Main Street, P.O.Box 328, Mt. Airy, MD 21771
301-829-2890 301-831-5015 301-695-0600
410-549-2751 (FAX) 301-831-5603

TO: Howard County Department of
Environmental Health
8930 Strafford Drive
Columbia, Maryland 21045

Attn: Hank Oswald, L.E.H.S.

DATE: September 20, 2016

PROJECT: Woodbine Crossing, Lot 8

VMA#: b45416

ENCLOSED:

REVISED
Site Plan for BAT Technology

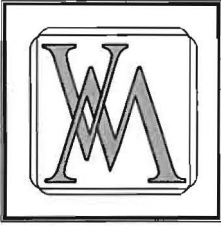
COPIES	DATE	DESCRIPTION
3	9/20/16	Letter of Response to Hank Oswald
3	9/20/16	REVISED Plot Plan for BAT Technology Lot 8, Woodbine Crossing

REMARKS: Good Morning Mr. Oswald, the plan has and revised to reflect your 9/19/16 email comments.
Thank you for your review and approval. Have a great day!

COPIES TO (ADDRESS): Catonsville Homes, 11175 Stratfield Boulevard, Marriottsville, Maryland 21104

SUBMITTED BY: dkv

g\enr\b45416 hd plot plan-bat plan lot 8 submission 9.20.16



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September 20, 2016

Mr. Hank Oswald, L.E.H.S.
Howard County Health Department
Bureau of Environmental Health
8930 Stanford Blvd.
Columbia, MD 21045

RE: Lot 8 Site Plan for BAT Installation
739 Woodbine Crossing Road
Woodbine Crossing Subdivision

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Response 1: The computations and layout for the first and second replacement have been revised eliminating the sidewall credit. Please note the first & second replacement systems extend slightly beyond the limits of the approved private sewerage area. Please let me know if we need to revise the perc certification plan.

Thank you,
VANMAR ASSOCIATES

Ronald E. Thompson, P.E.



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September 20, 2016

Mr. Hank Oswald, L.E.H.S.
Howard County Health Department
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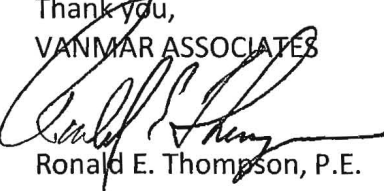
RE: Lot 8 Site Plan for BAT Installation
739 Woodbine Crossing Road
Woodbine Crossing Subdivision

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1. *There is no sidewalk credit for the first and second replacement.*

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Thank you,
VANMAR ASSOCIATES


Ronald E. Thompson, P.E.

Oswald, Hank

From: Oswald, Hank
Sent: Monday, September 19, 2016 3:45 PM
To: ron@vanmar.com
Subject: 739 Woodbine Crossing Road_BAT Plan
Attachments: Woodbine Crossing Lot 8.pdf

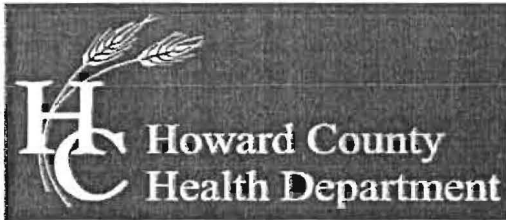
Hi Ron:

Please see attached spec sheet for Woodbine Crossing Lot 8. There is no sidewall credit for the first and second replacement.

Thanks,

Hank

Hank Oswald, L.E.H.S.
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.1786 (Office)
410.313.2648 (Fax)



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www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

**OPERATION AND MAINTENANCE AGREEMENT
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM
HAVING AN ADVANCED PRE-TREATMENT SYSTEM**

THIS AGREEMENT is made this 28 day of May, 2014, among LDG, Inc., hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 739 Woodbine Crossing, Woodbine, MD 21797 (Lot 8), in the 04 Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 1988 Folio 258.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013.

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.
- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as

long as the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Lot that the system shall require maintenance or other attention. Upon taking title to the Lot, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

_____	_____		<u>6/9/14</u>
Owner	Date	Owner	Date

Michael J. Owen, 6/18/14
Howard County Health Department

B-2-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition: The process of preparing the soils to sustain adequate vegetative stabilization. Purpose: To provide a suitable soil medium for vegetative growth.

- Conditions Where Practice Applies: Where vegetative stabilization is to be established. Criteria: A. Soil Preparation 1. Temporary Stabilization a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...

- 2. Permanent Stabilization a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are: i. Soil pH between 5.0 and 7.0 ii. Soluble salts less than 400 parts per million (ppm) iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent all plus clay) to provide the capacity to hold a moderate amount of moisture...

- 3. Topsoiling is limited to areas having 2:1 or flatter slopes where: a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth. b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish sufficient supplies of moisture and plant nutrients...

- 4. Areas having slopes steeper than 2:1 require special consideration and design. 5. Topsoil Specifications: Soil to be used as topsoil must meet the following minimum requirements: a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority...

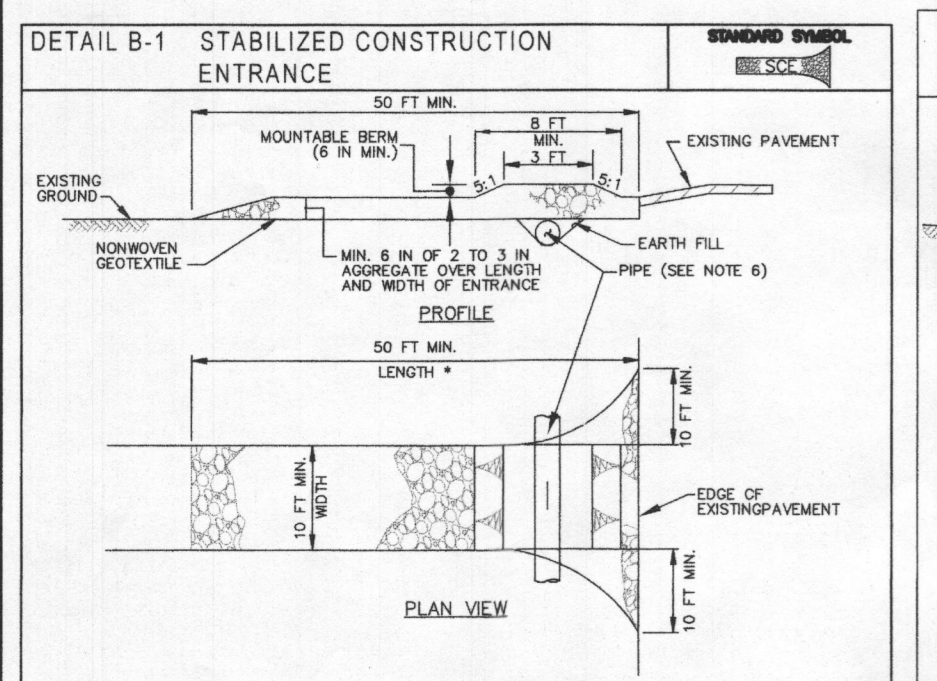
- 6. Soil Amendments (Fertilizer and Lime Specifications) a. Tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory...

B-4-8 STANDARDS AND SPECIFICATIONS STOCKPILE AREA

Definition: A mound or pile of soil protected by appropriately designed erosion and sediment control measures, sedimentation, and changes to drainage patterns.

- Conditions Where Practice Applies: Stockpile areas are utilized when it is necessary to salvage and store soil for later use. Criteria: 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan. 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading...

Maintenance: The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.



- CONSTRUCTION SPECIFICATIONS: 1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE EXISTING SURFACE OF THE SCE. USE MINIMUM LENGTH OF 30 FEET x 20 FEET FOR SINGLE RESIDENCE LOTS. USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS. 2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTAIN BERM AT 2:1 SLOPE AND A 6 INCH MIN. DRAINAGE DITCH. PROVIDE A 6 INCH MIN. DRAINAGE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTAIN BERM IS REQUIRED WHEN THE SCE IS NOT LOCATED AT A HIGH SPOT.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

Definition: The application of seed and mulch to establish vegetative cover. Purpose: To protect disturbed soils from erosion during and at the end of construction.

- Conditions Where Practice Applies: To the surface of all perimeter contours, slopes, and any disturbed area not under active grading. Criteria: A. Seeding 1. Specifications a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within 6 months immediately preceding the date of sowing such material on any project...

- 2. Application a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1. ii. Application of amendments or topsoil is required if on-site soils do not meet the above conditions. b. Broadcast Seeding: This includes use of conventional drop or broadcast spreaders. i. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact. B.16

- 3. Topsoiling is limited to areas having 2:1 or flatter slopes where: a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth. b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish sufficient supplies of moisture and plant nutrients...

- 4. Areas having slopes steeper than 2:1 require special consideration and design. 5. Topsoil Specifications: Soil to be used as topsoil must meet the following minimum requirements: a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority...

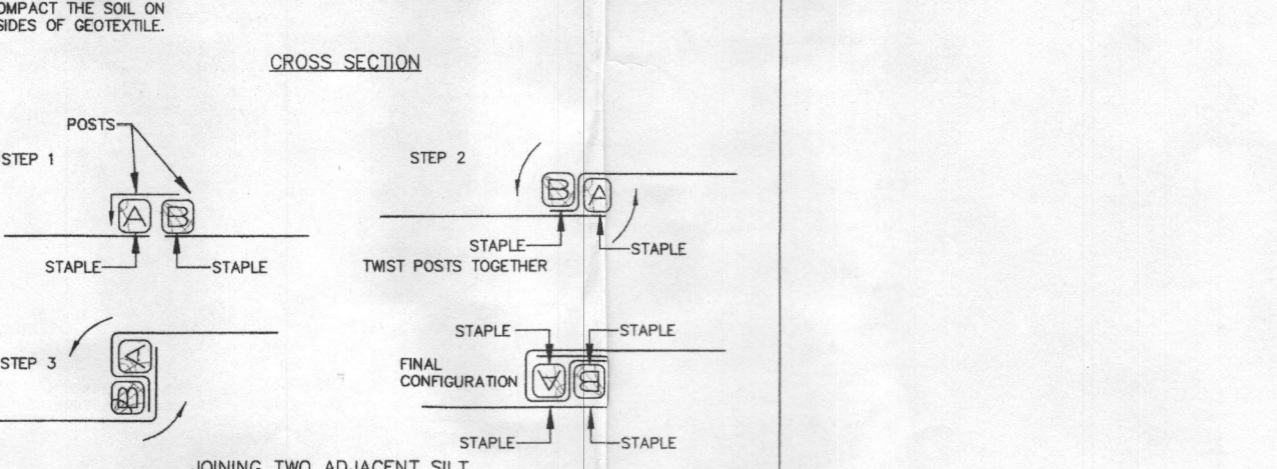
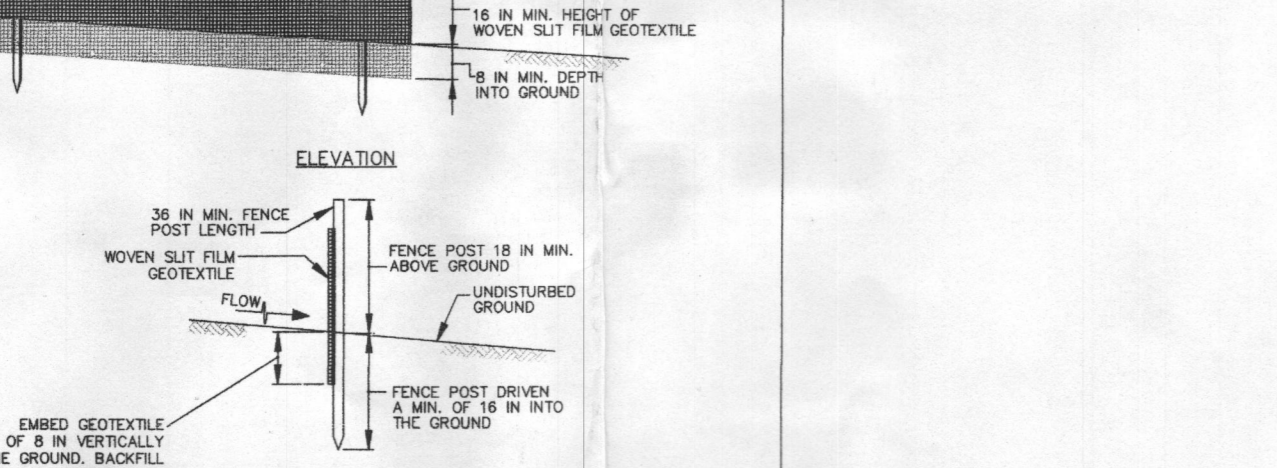
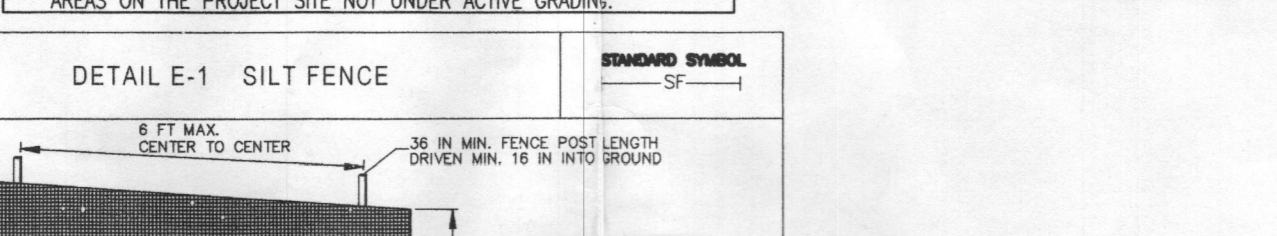
- 6. Soil Amendments (Fertilizer and Lime Specifications) a. Tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory...

TEMPORARY STABILIZATION SPECIFICATIONS TABLE. Table with columns: No., Species, Application Rate (lb/oc), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate. Includes rows for Annual Ryegrass and Fescue/Millet.

PERMANENT STABILIZATION SPECIFICATIONS TABLE. Table with columns: No., Species, Application Rate (lb/oc), Seeding Dates, Seeding Depths, N, P205, K20, Lime Rate. Includes rows for Kentucky Bluegrass and Fescue/Millet.

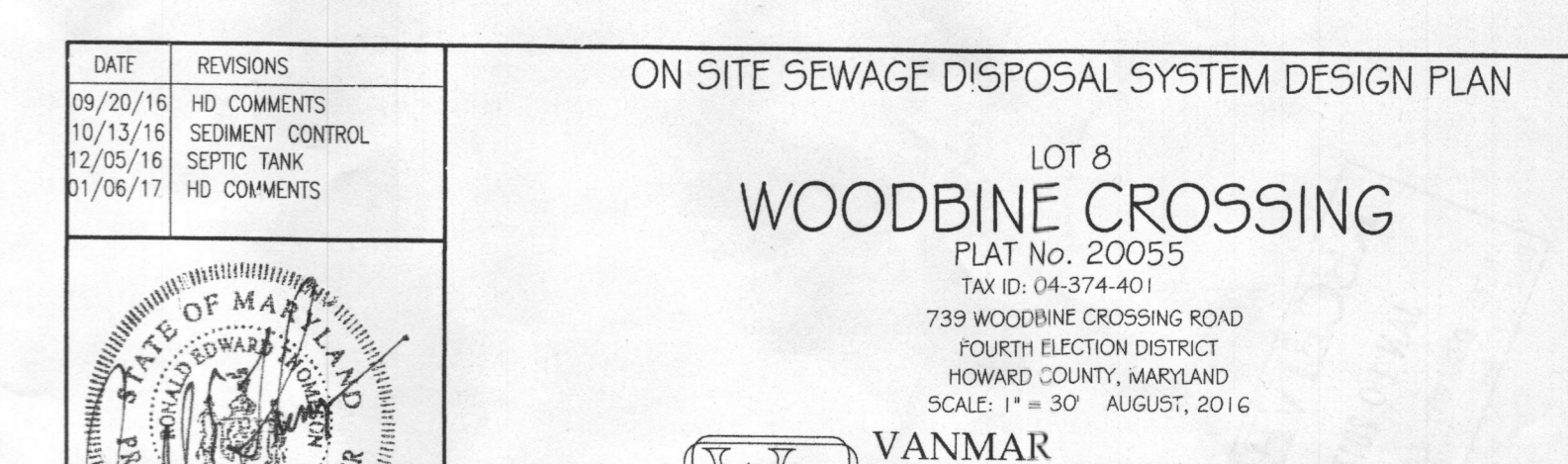
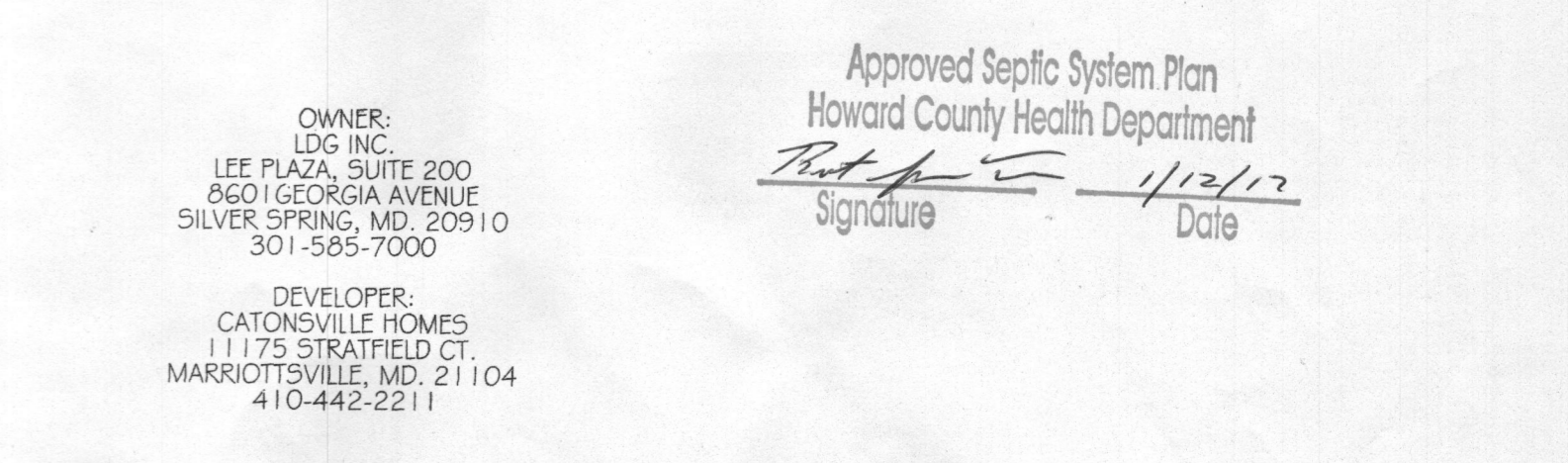
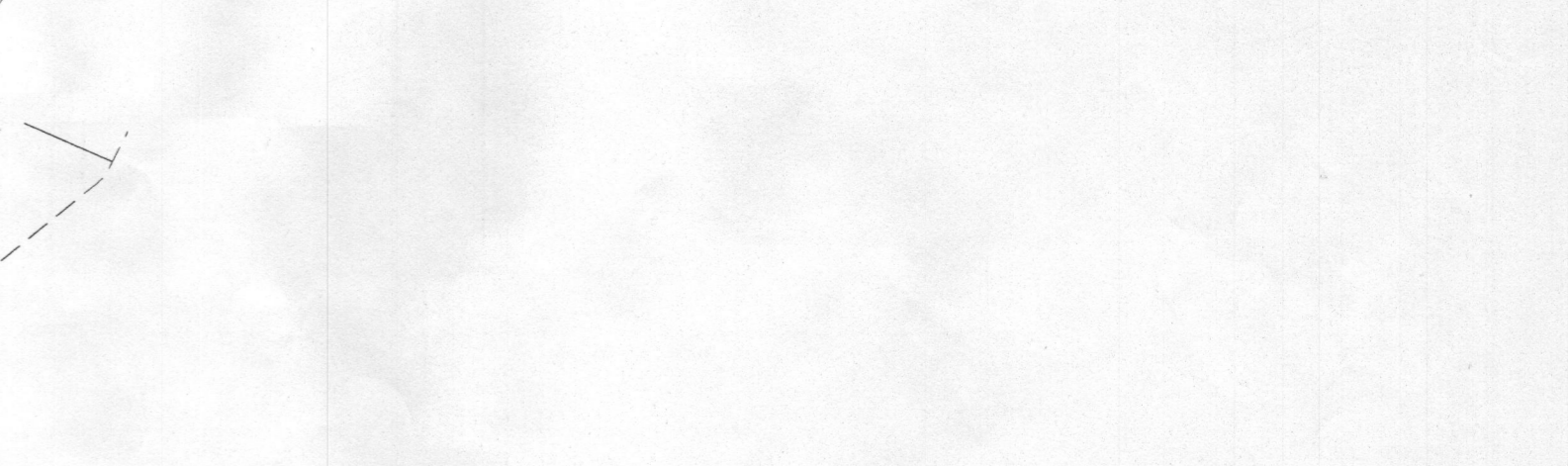
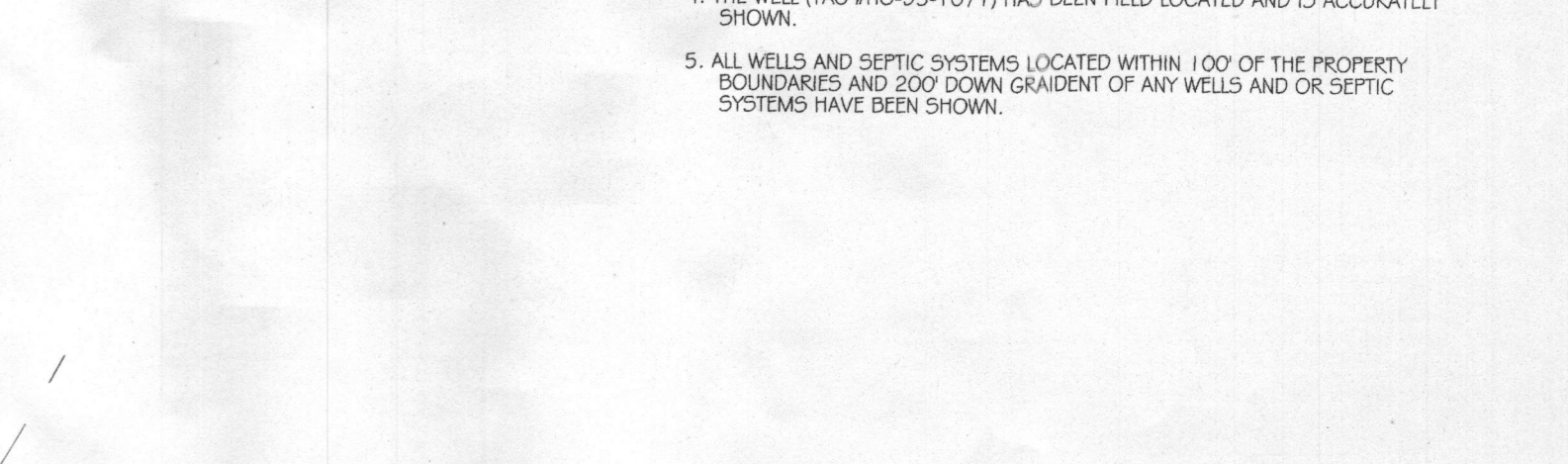
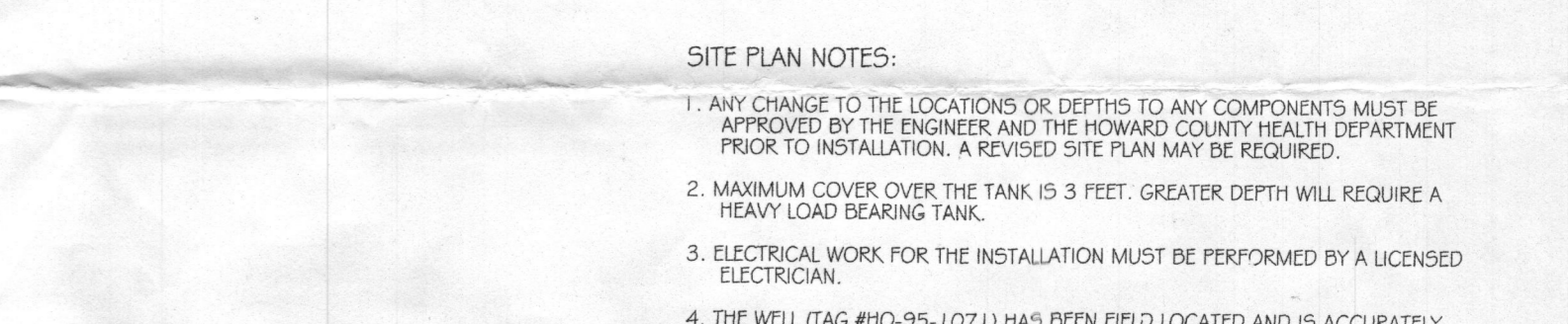
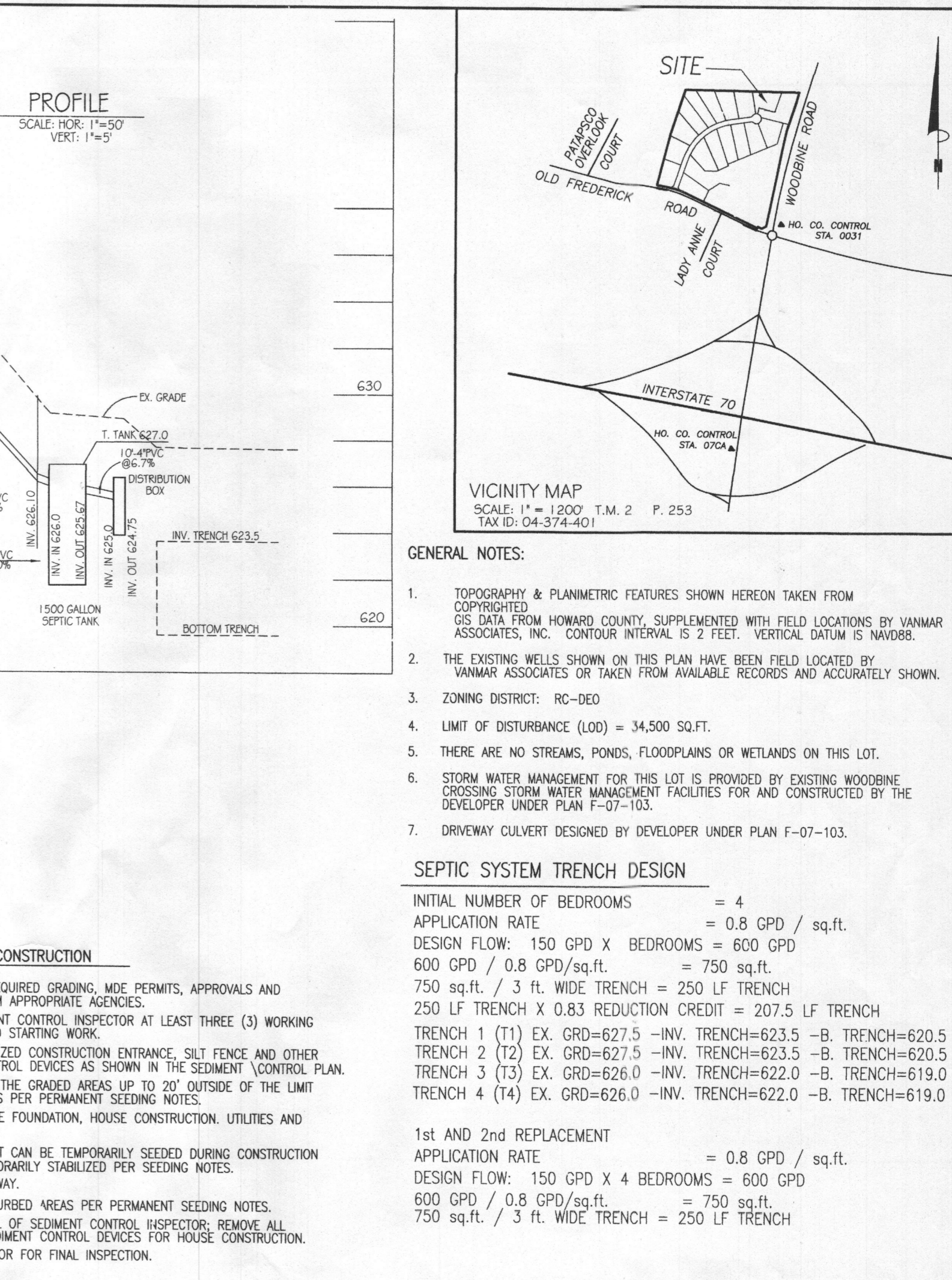
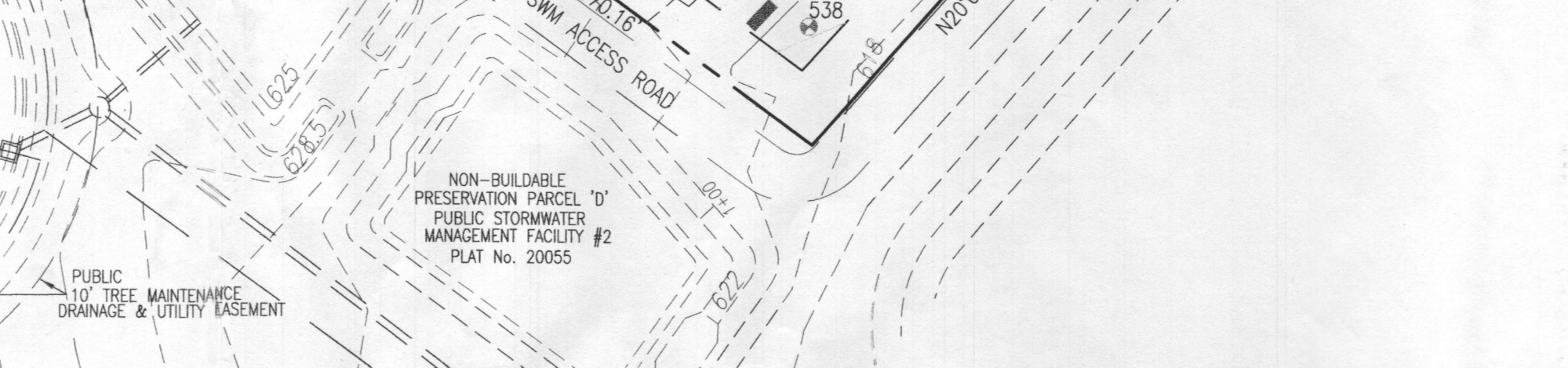
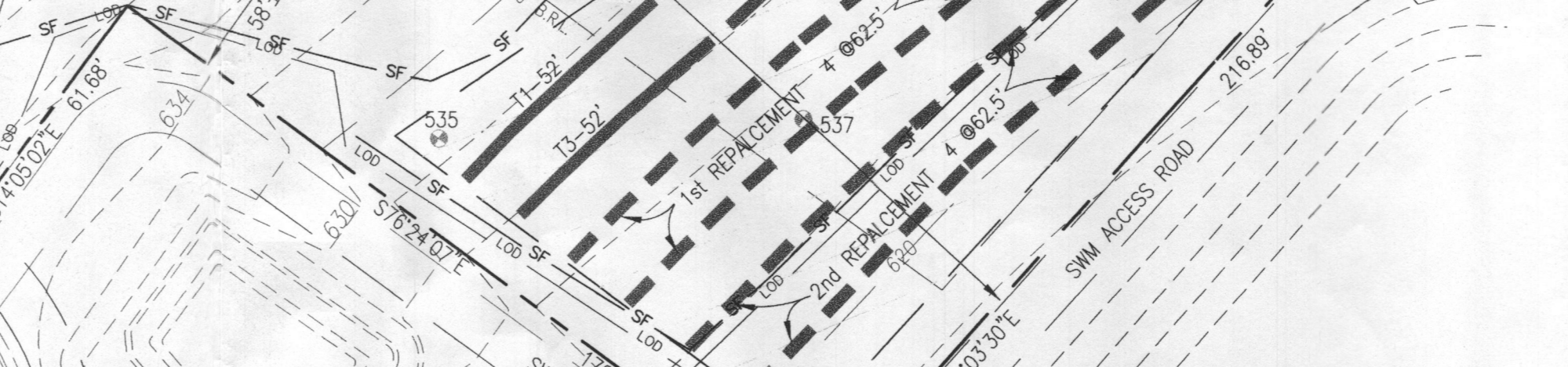
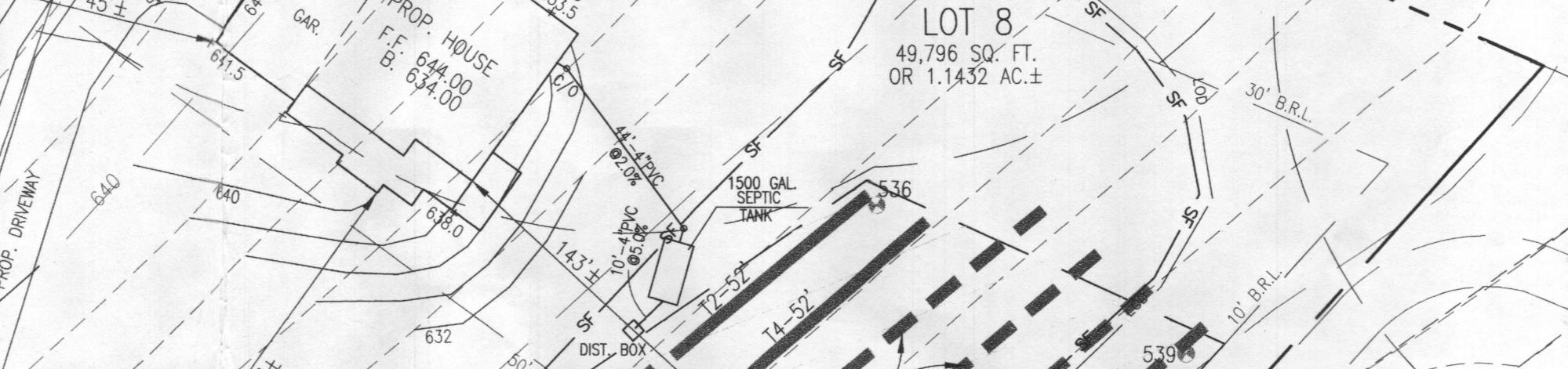
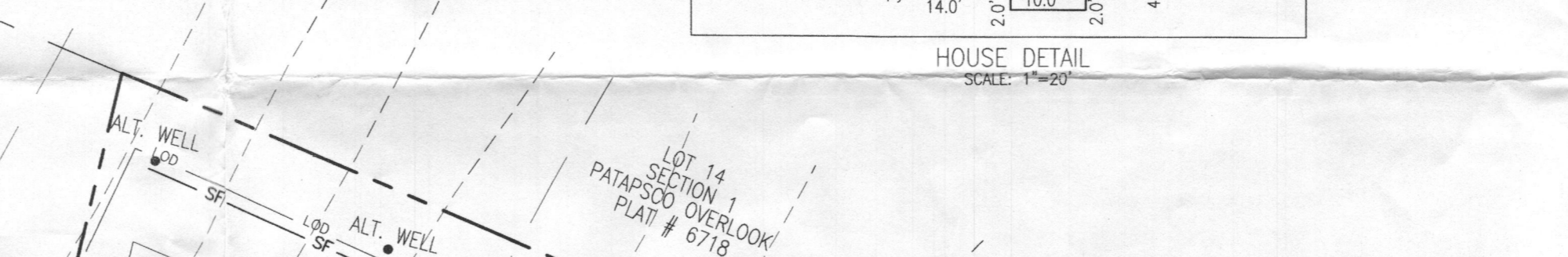
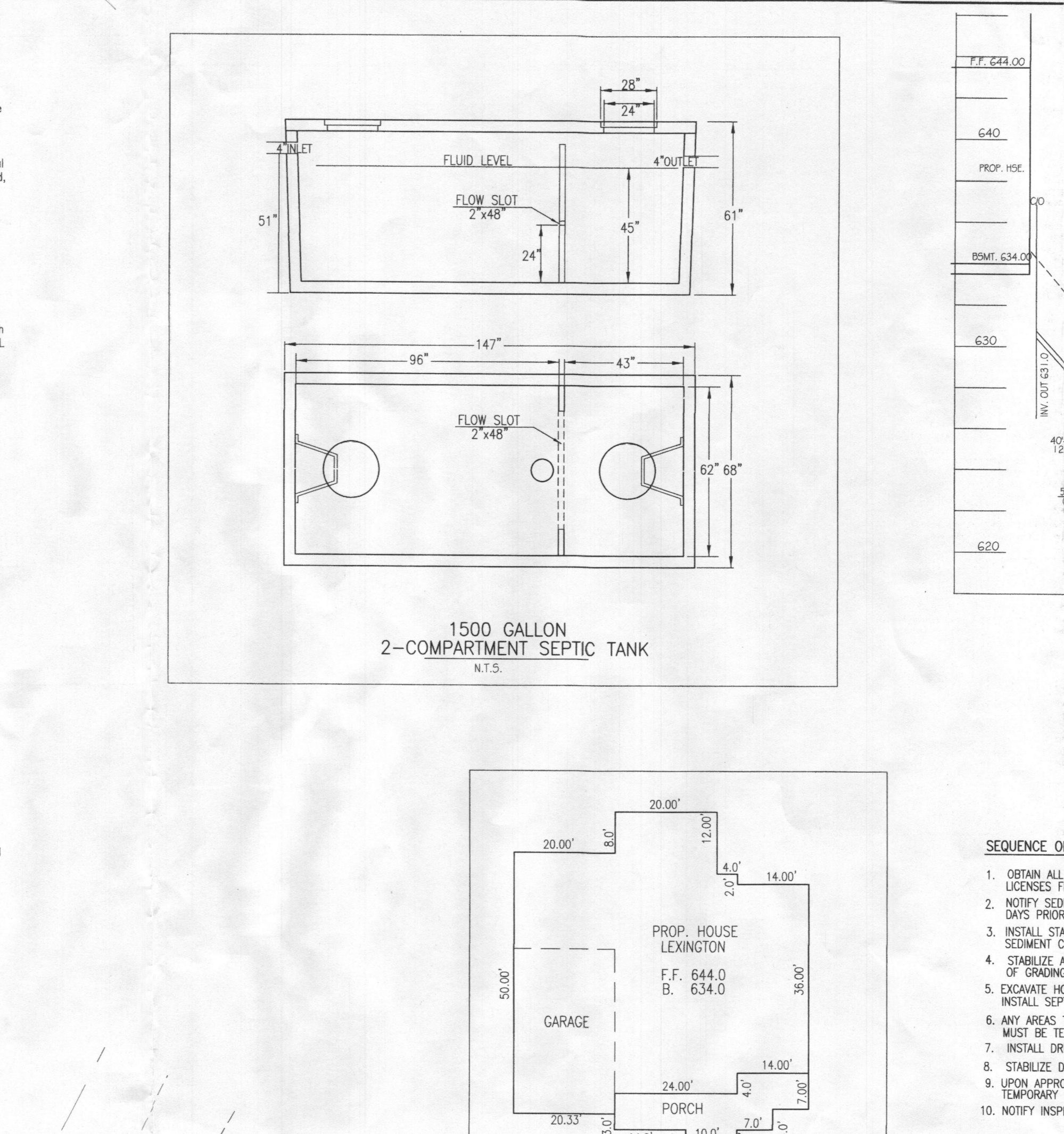
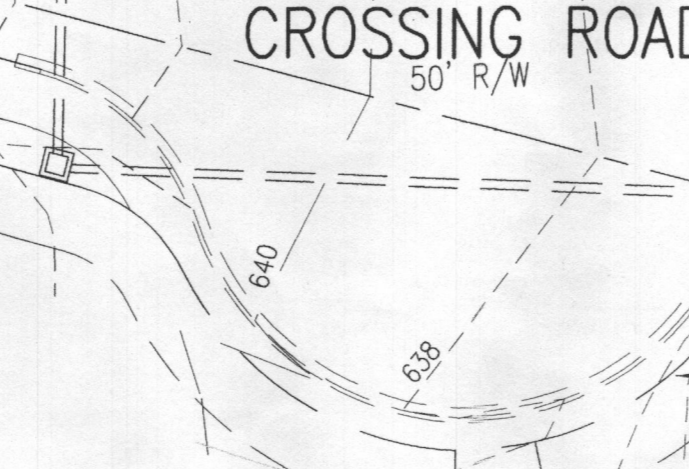
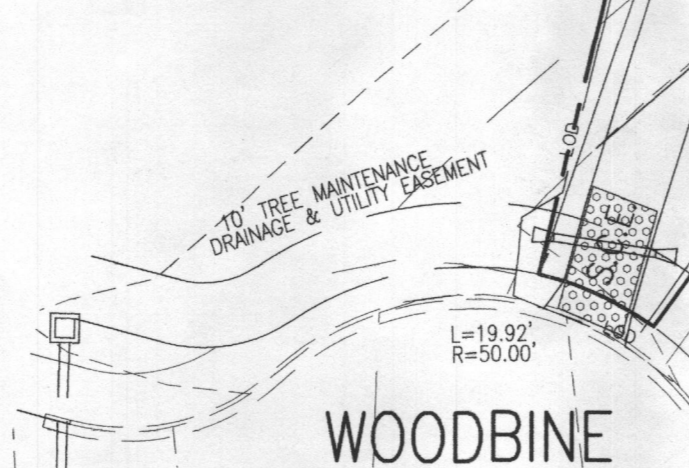
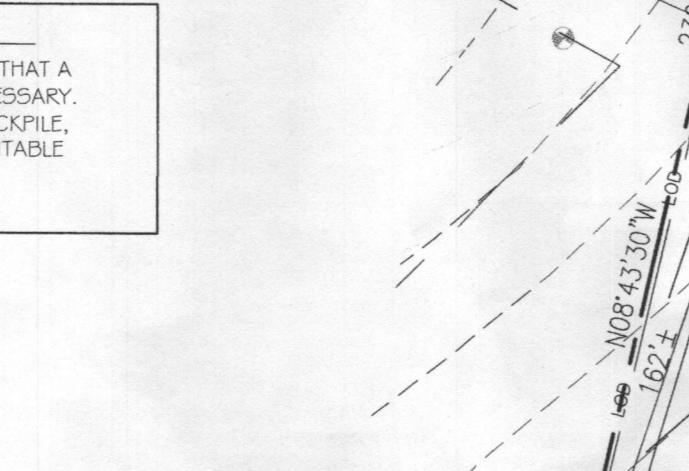
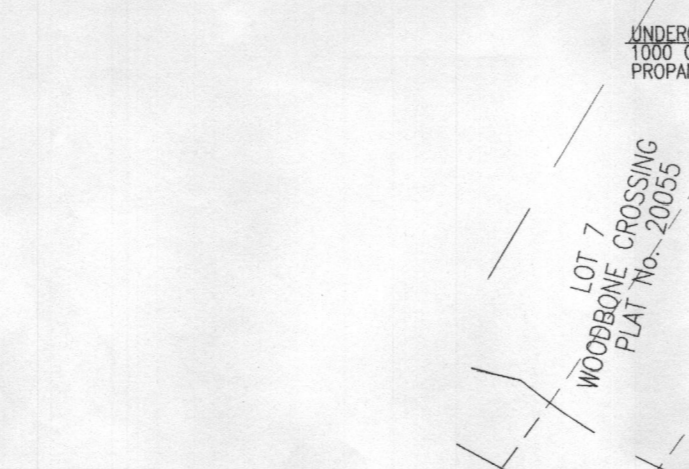
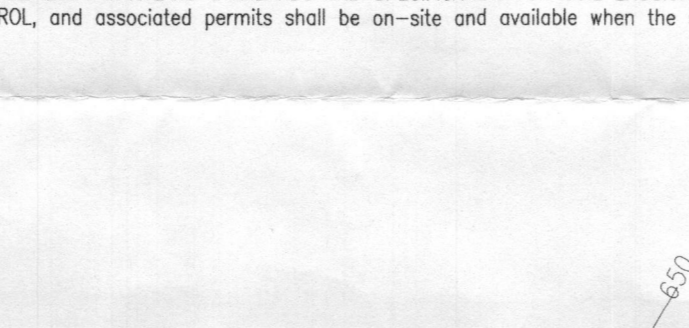
DUST CONTROL: DUST CONTROL METHOD FOR THIS SITE TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES: CALCIUM CHLORIDE SHALL BE APPLIED TO EXPOSED SURFACES AT A RATE THAT WILL KEEP SURFACE MOST UNTIL SOIL IS STABILIZED ACCORDING TO VEGETATIVE SPECS. FOR THIS SITE AND AREAS TO BE PAVED ARE COMPLETED.

STANDARD STABILIZATION NOTE: FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.



HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- 1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected area marked clearly in the field. A minimum of 48 hour notice to CID must be given a the following stages: a. Prior to the start of earth disturbance, b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading, c. Prior to the start of another phase of construction or opening of another grading unit, d. Prior to the removal or modification of sediment control practices. Other grading or grading inspection approvals may not be authorized until this initial approval by inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.



B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition:
The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose:
To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies:
Where vegetative stabilization is to be established.

Criteria:
1. Soil Preparation
a. Temporary stabilization consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must be rolled or dropped smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
2. Permanent Stabilization
a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
i. Soil pH between 6.0 and 7.0.
ii. Soil salinity less than 500 parts per million (ppm).
iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if loess will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
iv. Soil contains 1.5 percent minimum organic matter by weight.
v. Soil contains sufficient pore space to permit adequate root penetration.
b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches. B.13
c. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
d. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Make the lawn areas to smooth the surface, remove large objects like stones and boulders, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be necessary on newly disturbed areas.

E. Topsoil
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation. Topsoil is provided from an existing site or purchased. It must meet the standards set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section. The Soil Survey published by USDA-NRCS.
2. Topsoiling is limited to areas having 2:1 or flatter slopes where:
a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil is to be vegetated with material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is not feasible.
e. Areas having slopes steeper than 2:1 require special consideration and design.
3. Topsoil Specifications: Soil to be used as topsoil must meet the following specifications:
a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand.
b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, giant johnson grass, tall fescue, poison ivy, thistle, or others as specified.
c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
4. Topsoil Application
a. Erosion and sediment control practices must be maintained when applying topsoil.
b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.
5. Soil Amendments (Fertilizer and Lime Specifications)
1. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil sampling taken for engineering purposes may also be used for chemical analysis.
2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate approval authority. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must be delivered to the site fully labeled according to applicable laws and must bear the name, trade name or trademark and net weight of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime) may be substituted except when hydroseeding which contains at least 50 percent total oxide (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #200 mesh sieve.
4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

Definition:
The application of seed and mulch to establish vegetative cover.

Purpose:
To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies:
To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria:
A. Seeding
1. Seeding must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed lots must be available upon request to the inspector to verify type of seed and seeding rates.
2. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
3. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used unless the manufacturer's instructions are followed. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 70 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
4. Seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control. Use of conventional tillage has stopped (14 days min.) to permit dissipation of phytotoxic materials.
2. Application
a. Seeding: This includes use of conventional row or broadcast spreaders.
i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact. B.16
iii. Soil or cultipacker seeding: Mechanical seeders that apply and cover seed with soil.
iv. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after plowing.
b. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Equipment to roughen the surface includes, but is not limited to, normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be necessary on newly disturbed areas.
c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). If fertilizer is being applied at the time of seeding, the application rates must not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2 O5 (phosphorus), 200 pounds per acre; K2 O (potassium), 200 pounds per acre.
d. E. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied if hydroseeding). Normally, not more than 2 tons are applied.
e. Do not use burnt or hydrated lime when hydroseeding.
f. Mix seed and fertilizer or lime and seed immediately and without interruption.
g. When hydroseeding do not incorporate seed into the soil.
B. Mulching
1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw to be free of insecticide weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
i. WCFM must be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a batter-like ground cover on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
iv. WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.5 percent maximum and water holding capacity of 90 percent minimum. B.17
c. Apply mulch to all seeded areas immediately after seeding.
2. Application
a. If wood cellulose fiber mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
b. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
3. Anchoring
a. WCFM mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference, depending on the size of the area and erosion hazard from the site):
i. A mulch anchoring tool is a tractor draw implement designed to punch and anchor mulch into the soil surface to a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment cannot operate safely. If used on sloping lands, this practice should follow the contour.
ii. Wood cellulose fiber may be used for anchoring slurry. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
iii. Synthetic fiber (Agri-Tack), Patroset, Terra Tex, Terra Coat, or other approved equal may be used. Follow application of mulch as specified by the manufacturer. Application of liquid binders should be heavier at the edges where wind catches mulch and on crests of banks. Use of synthetic binders is strictly prohibited.
iv. Lightweight plastic netting may be applied over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-4 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

Definition:
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose:
To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies:
Where it is necessary to salvage and store soil for later use.

Criteria:
1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flows in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.
Maintenance
The requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

B-4-5 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION SPECIFICATIONS TABLE

Hardness Zone (from Figure B.3): B3
Seed Mixture (from Table B.1):

No.	Species	Application Rate (lb/oc)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)	Lime Rate
ANNUAL RYEGRASS	40	MAR 1 - MAY 15 AUG 1 - OCT 15	0.5 INCHES	436 lb/oc	2 tons/oc	
TOXICAL MILET	30	JUNE 1 - JULY 31	0.5 INCHES	(10 lb/1000 sf)	(90 lb/1000 sf)	

PERMANENT STABILIZATION SPECIFICATIONS TABLE

Hardness Zone (from Figure B.3): B3
Seed Mixture (from Table B.1):

No.	Species	Application Rate (lb/oc)	Seeding Dates	Seeding Depths	N	P2O5	K2O	Lime Rate
PERENNIAL BLUEGRASS	20	MAR 1 - MAY 15 AUG 1 - OCT 15	1/4-1/2 in	45 pounds per acre	90 lb/oc (90 lb/1000 sf)	90 lb/oc (90 lb/1000 sf)	2 tons/oc (10 lb/1000 sf)	

DUST CONTROL

DUST CONTROL METHOD FOR THIS SITE TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES: CALCIUM CHLORIDE SHALL BE APPLIED TO EXPOSED SURFACES AT A RATE THAT WILL KEEP SURFACE MOSTLY WET. SOIL IS STABILIZED ACCORDING TO VEGETATIVE SPECS. FOR THIS SITE AND AREAS TO BE PAVED ARE COMPLETED.

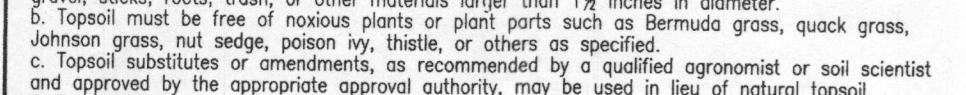
STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

TEMPORARY STOCKPILE NOTE

SITE EARTHWORK HAS BEEN BALANCED SUCH THAT A TEMPORARY STOCKPILE SHOULD NOT BE NECESSARY. SHOULD CONTRACTOR DECIDE TO USE A STOCKPILE, CONTRACTOR SHALL PLACE STOCKPILE ON SUITABLE AREA OF THE SITE AND FOLLOW TEMPORARY STABILIZATION NOTES.

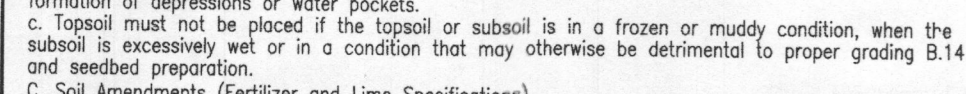
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE CURB WITH MINIMUM EXCESS OF 50 FEET (30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SIDE TO 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED THROUGH THE CURB UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE CURB WITH A MOUNTABLE BEAM WITH 2.1 SLOPES AND A MINIMUM OF 12 INCHES OVER THE PIPE. PROVIDE PER PLAN TO CONVEY A PIPE SLIP-OUT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN SIDE SLOPES ARE NOT MAINTAINED.
3. PREPARE CURB AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CURB AND AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 8 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE CURB.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, AND STONE OR ANKLE CHAINS REMAINS AS CONCRETE SURFACE WORKABLE. BENCH TO 2:1 SLOPES. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY INCLUDING SURFACE WORKABLE AND/OR BENCHING. ROADWAY TO REMOVE MUD. TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

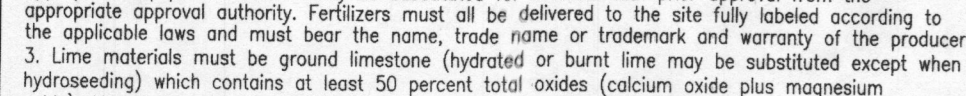
DETAIL E-1 SILT FENCE



CONSTRUCTION SPECIFICATIONS

1. PLACE SILT FENCE IN ACCORDANCE WITH THE APPROVED PLAN. THE SILT FENCE MUST BE 36 IN. MIN. HIGH ABOVE GROUND. THE SILT FENCE MUST BE 18 IN. MIN. DEPT. INTO GROUND.
2. STAPLE THE SILT FENCE TOGETHER.
3. JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW).
4. MAINTAIN SILT FENCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, AND STONE OR ANKLE CHAINS REMAINS AS CONCRETE SURFACE WORKABLE. BENCH TO 2:1 SLOPES. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY INCLUDING SURFACE WORKABLE AND/OR BENCHING. ROADWAY TO REMOVE MUD. TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

DETAIL E-2 1500 GALLON 2-COMPARTMENT SEPTIC TANK



GENERAL NOTES

1. TOPOGRAPHY & PLANIMETRIC FEATURES SHOWN HEREON TAKEN FROM COPYRIGHTED GIS DATA FROM HOWARD COUNTY, SUPPLEMENTED WITH FIELD LOCATIONS BY VANMAR ASSOCIATES, INC. CONTOUR INTERVAL IS 2 FEET. VERTICAL DATUM IS NAVD83.
2. THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY VANMAR ASSOCIATES OR TAKEN FROM AVAILABLE RECORDS AND ACCURATELY SHOWN.
3. ZONING DISTRICT: RC-DEE
4. LIMIT OF DISTURBANCE (LOD) = 34,500 SQ.FT.
5. THERE ARE NO STREAMS, PONDS, FLOODPLAINS OR WETLANDS ON THIS LOT.
6. STORM WATER MANAGEMENT FOR THIS LOT IS PROVIDED BY EXISTING WOODBINE CROSSING STORM WATER MANAGEMENT FACILITIES FOR AND CONSTRUCTED BY THE DEVELOPER UNDER PLAN F-07-103.
7. DRIVEWAY CULVERT DESIGNED BY DEVELOPER UNDER PLAN F-07-103.
SEPTIC SYSTEM TRENCH DESIGN
INITIAL NUMBER OF BEDROOMS = 4
APPLICATION RATE = 0.8 GPD / sq.ft.
DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
600 GPD / 0.8 GPD/sq.ft. = 750 sq.ft.
750 sq.ft. / 3 ft. WIDE TRENCH = 250 LF TRENCH
250 LF TRENCH X 0.83 REDUCTION CREDIT = 207.5 LF TRENCH
TRENCH 1 (T1) EX. GRD.=627.5 - INV. TRENCH=623.5 - B. TRENCH=620.5
TRENCH 2 (T2) EX. GRD.=627.5 - INV. TRENCH=623.5 - B. TRENCH=619.0
TRENCH 3 (T3) EX. GRD.=626.0 - INV. TRENCH=622.0 - B. TRENCH=620.5
TRENCH 4 (T4) EX. GRD.=626.0 - INV. TRENCH=622.0 - B. TRENCH=619.0
1st and 2nd REPLACEMENT
APPLICATION RATE = 0.8 GPD / sq.ft.
DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
600 GPD / 0.8 GPD/sq.ft. = 750 sq.ft.
750 sq.ft. / 3 ft. WIDE TRENCH = 250 LF TRENCH

SITE PLAN NOTES:

1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
2. MAXIMUM COVER OVER THE TANK IS 3 FEET. GREATER DEPTH WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. THE WELL (TAG #HO-95-1071) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
5. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND OR SEPTIC SYSTEMS HAVE BEEN SHOWN.

APPROVED SEPTIC SYSTEM PLAN

Howard County Health Department
Signature: [Signature]
Date: 11/17/17

OWNER:

LEE PLAZA, SUITE 200
8601 GEORGIA AVENUE
SILVER SPRING, MD 20910
301-585-7000

DEVELOPER:

CATONVILLE HOMES
11725 STONEYBROOK CT.
MARRIOTTVILLE, MD 21104
410-442-2211

ON SITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN

LOT 8
WOODBINE CROSSING
PLAT No. 20055

739 WOODBINE CROSSING ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
NSMAR 30 AUGUST, 2016

VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street Mount Airy, Maryland 21771
(301) 829-2890 (301) 831-5015 (410) 548-2751
Fax (301) 831-5603 ©Copyright, Latest Date Shown

PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 18417, Expiration Date: 8-18-17.

STATE OF MARYLAND
NATIONAL BOARD OF PROFESSIONAL ENGINEERS

301-831-5603

1/9/2017 11:16:52 AM

WOODBINE CROSSING

50' R/W

WOODBINE CROSSING ROAD

SWM ACCESS ROAD

PROF. HOUSE LEXINGTON

F.F. 644.0
B. 634.0

PORCH

HOUSE DETAIL SCALE: 1"=20'

LOT 8

49,796 SQ. FT. OR 1.1432 AC.±

LOT 14

SECTION 1

PATAPUSCO OVERLOOK

PLAT # 6718

EX. WELL HO-95-10711

ALT. WELL

UNDERGROUND PROPANE TANK

WOODBINE CROSSING

PLAT No. 20055

LOT 8

49,796 SQ. FT. OR 1.1432 AC.±

LOT 14

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