

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

Twitter: HowardCoHealthDep

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

DATE: 5/12/2021

TO: Marks and Associates, LLC
4531 College Avenue
Ellicott City, MD 21043

FROM: Robert Freemon *RIF*
Well & Septic Program

RE: **Perc Test Results**
14695 Triadelphia Mill Rd.
Dayton, MD 21036

Percolation tests were conducted at 14695 Triadelphia Mill Rd. (Tax Map 27, Parcel 124) on April 30th, 2021. Test and profile descriptions were documented for locations 1, 2, 3, 4, 5, 6, 7 and 8. Out of 8 test locations 6 passed (2, 3, 4, 5, 7 and 8)

All percolation tests conducted were standard tests, measuring rate of fall for a pre-wet period followed by measurement and recordation of the time required for the water level to drop 1 inch. Areas that may be included in a septic reserve area are represented by test locations having satisfactory soil condition. The sewage disposal area must be able to accommodate 3 systems (initial and two replacements). The next step in the process is to have an engineer/consultant submit a finalized percolation certification plan to the Health Dept. for review and signature.

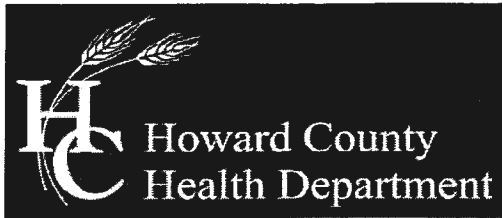
Should you have any questions regarding this evaluation, please contact me. I may be reached at (410) 313-6357 or by email rfreemon@howardcountymd.gov

Respectfully,

A handwritten signature in black ink, appearing to read 'Robert Freemon'.

Robert Freemon
Bureau of Environmental Health
Well & Septic Program

Attachment: Percolation Field Notes



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SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 14695 Triadelphia Mill Rd.

Subdivision: Lot:

Table with 4 columns: System type, Application rate, Effective area beginning depth, Bottom maximum depth. Values include .8, 4, and 8.

Design Flow = 150 gallons per day per bedroom
Design flow ÷ application rate = square footage of drainfield required
Linear length of trench required = drainfield square footage x sidewall reduction percentage ÷ trench width

Sidewall reduction credit formula:

(W + 2) / (W + 1 + 2D) x 100 = Percent of length of standard trench where W=trench width and D= depth between effective area beginning depth and trench bottom.

Standard design requirements:

- Trenches must be located to provide room for 3 systems in the disposal area
All trenches must be equal length unless low pressure dosed
All trenches must be on contour
Minimum trench spacing: 10' for all trenches utilizing sidewall reduction credit. Additional spacing may be necessary for any trench using over 3.5' of effective sidewall. In those cases, the spacing formula is 2D +W up to a maximum spacing of 18'.
Minimum trench spacing for trenches with no sidewall credit (bottom area only) is 6' for a 2' wide trench and 9' for a 3' wide trench (spacing is measured edge to edge)
Maximum trench length is 100'
Maximum pipe depth is 4'

Additional requirements:

Approved: [Signature] Date: 5/12/2021

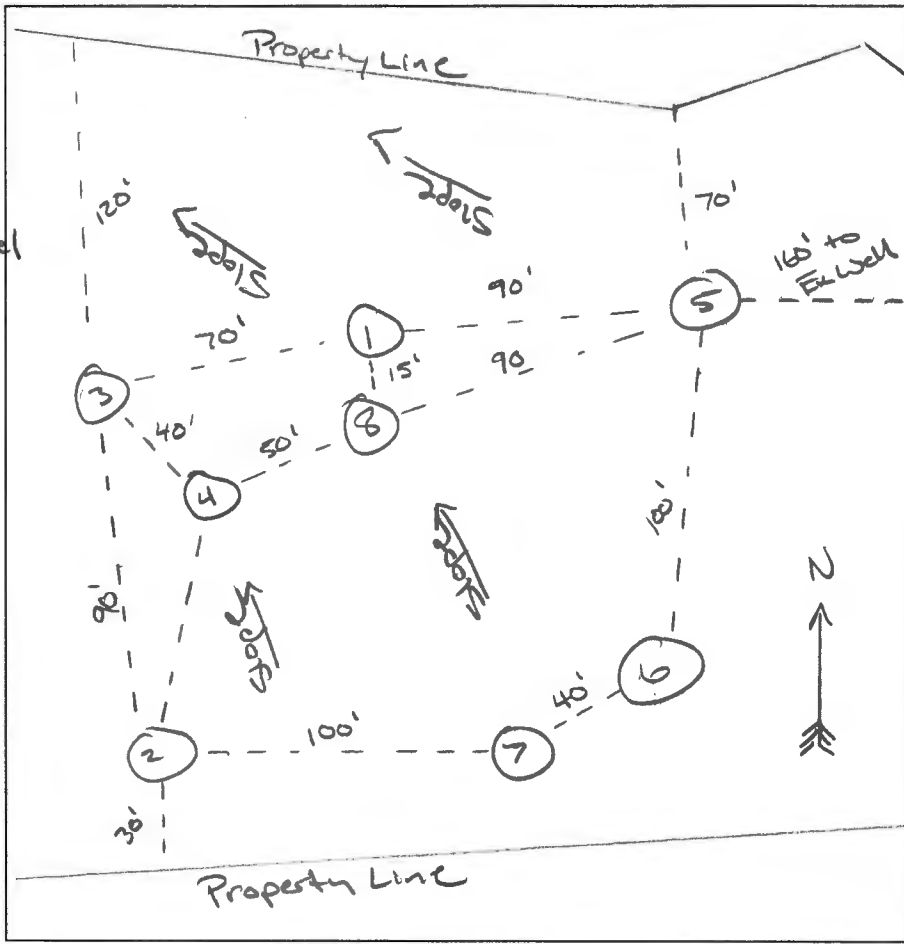
7

1	DB to .5, YE, SBK, Loan
2	YB, SBK to Platy @ 3, CL, mfi, wss, Dress Sidewall
3	YB, Platy, SCL, mfi, CW, YR@
5.5	YB, Platy, FSL/LS, mfi
13	

8

1	DB, YB, Loan
2	YB, Platy, CL, SBK
4	Platy, mfi YB, SBK, Platy, SCL, mfi, CW
6	YB, SBK/Platy, SL, compacted sidewall, mfi
7	YB, Platy, LS
15	

AP



2
 DB to .2',
 YB, Thin
 Platy, Loam,
 muf, some gravel
 2'
 R, Thin
 Platy, CL,
 muf,
 2.9'
 YR, YB, Thin
 Platy, Loam
 to 3' to
 SL to LS,
 muf
 ↓

3
 DB to .2',
 YB, Thick
 Platy, Loam
 1.2'
 YB, SB,
 Platy, CL,
 m fi, WSS
 3'
 SB, YB, Thin
 Platy, SCL,
 muf, CW
 6'
 YB, Thin
 Platy, SL
 to LS,
 muf
 13'

4
 DB to .4',
 YB, SBK/Platy,
 loam, muf
 2.5'
 SB, YR,
 Thin Platy,
 CL, m fi,
 WSS
 5.5'
 LPB, YB,
 Thin Platy,
 Loam to
 6', to FSL
 ↓

1
 PB to .5',
 YB, Platy,
 Loam, muf
 1.5'
 YB, SB,
 Platy, CL,
 WSS, m fi,
 YB, PB @
 3' and 4'
 (Faint Mottles),
 SB @ 5' and 6',
 YB, PB @ 7' and 8'
 (Faint Mottles),
 to SB

6
 DB, Thick
 Platy, Loam,
 m fi
 1'
 YB, SBK to
 Platy @ 2',
 CL, muf,
 Dense sidewall
 ↓
 13'

5
 DB, YB, Loam,
 many roots
 1'
 YR, FSBK,
 CL, m fi,
 WSS
 3'
 YR, Thin
 Platy, SCL,
 CW, muf
 4'
 YR + YB Mix,
 Platy, SL,
 muf
 ↓
 15'

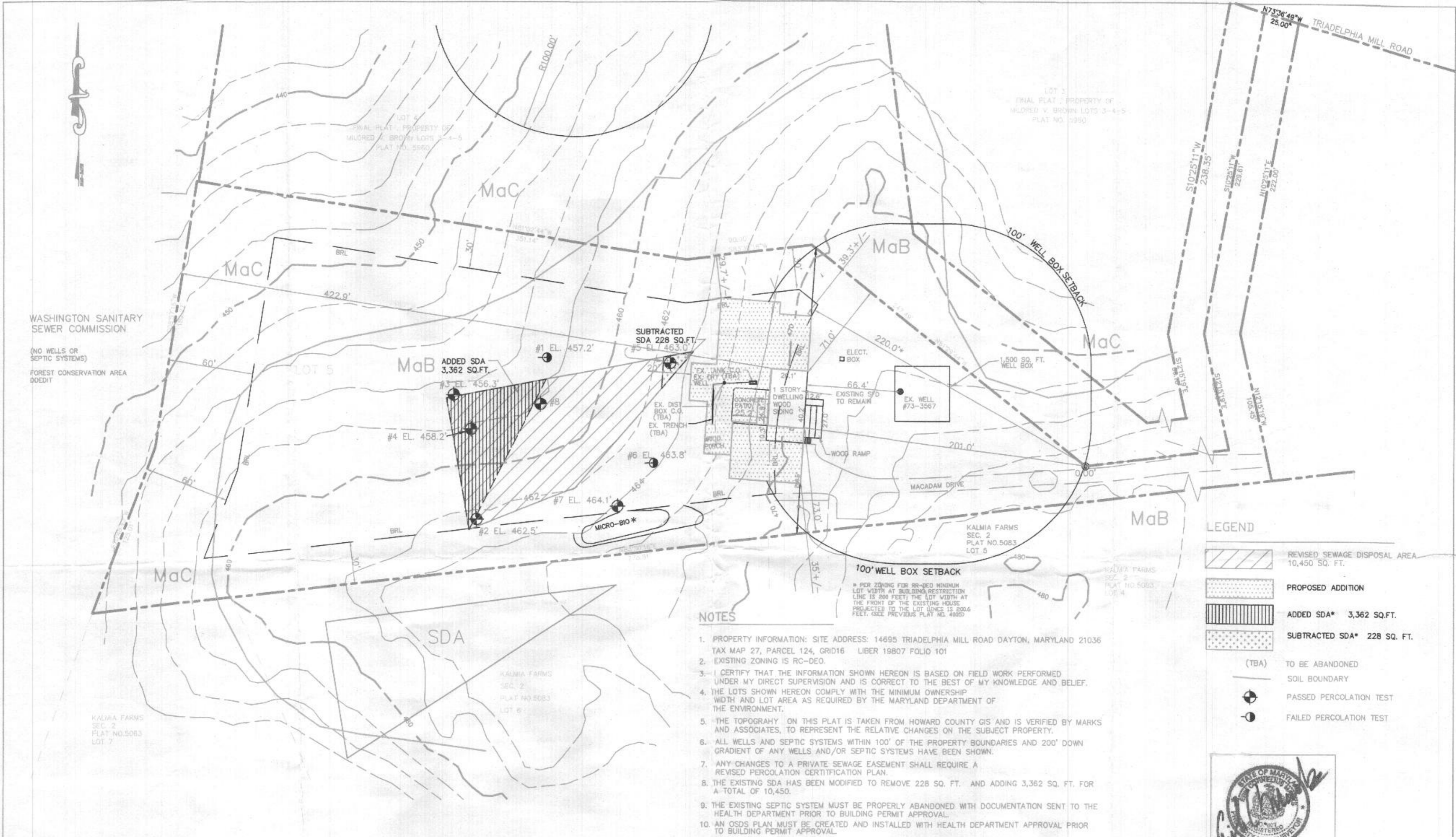
DATE	TEST #	DEPTH 4' Duff	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H
4/30/2021	1	4/9	8:46	9:20	R. muf	SLOW	F
	3	7/9	9:24	9:26 ⁱⁿ 15	9:28	2	P
	1	7/9	9:54	10:22	Filled	SLOW	F
	2	5/9	9:58	10:02	10:08	6	P
	4	7/9	10:29	10:32	10:35	3	P
	5	4/9	12:27	12:33	12:43	10	P
	6	0/0	OBSERVATION				F
	7	6/9	1:20	1:26	1:29	3	P
	8	7/9	2:05	2:10	2:18	8	P

REMARKS _____
 SANITARIAN RSF BACKHOE Fogles OTHERS Singh Charanpreet
 TEST HOLES USED IN SDA _____ AVG. PERC TIME _____ SQ. FT/BR _____
 TRENCH WIDTH _____ INLET DEPTH _____ MAX. BOT DEPTH _____ EFFECTIVE SW _____

14695 Tridelphia Mill Rd.

See Back for 7+8

1 of 1



WASHINGTON SANITARY SEWER COMMISSION
(NO WELLS OR SEPTIC SYSTEMS)
FOREST CONSERVATION AREA DEDIT

KALMIA FARMS SEC. 2 PLAT NO. 5083 LOT 7

KALMIA FARMS SEC. 2 PLAT NO. 5083 LOT 6

LOT 5
FINAL PLAT, PROPERTY OF MILDRED V. BROWN LOTS 3-4-5 PLAT NO. 5960

SOIL CLASSIFICATION DESCRIPTION

MaB MANOR LOAM, 3 TO 8 PERCENT SLOPES WELL DRAINED
MaC MANOR LOAM, 8 TO 15 PERCENT SLOPES WELL DRAINED

THIS AREA DESIGNATES A MINIMUM 10,000 SQUARE FOOT PRIVATE SEWAGE AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THIS SEWAGE DISPOSAL AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.

NOTES

- PROPERTY INFORMATION: SITE ADDRESS: 14695 TRIADELPHIA MILL ROAD DAYTON, MARYLAND 21036 TAX MAP 27, PARCEL 124, GRID16 LIBER 19807 FOLIO 101
- EXISTING ZONING IS RC-DEO.
- I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED UNDER MY DIRECT SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- THE TOPOGRAPHY ON THIS PLAT IS TAKEN FROM HOWARD COUNTY GIS AND IS VERIFIED BY MARKS AND ASSOCIATES, TO REPRESENT THE RELATIVE CHANGES ON THE SUBJECT PROPERTY.
- ALL WELLS AND SEPTIC SYSTEMS WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
- ANY CHANGES TO A PRIVATE SEWAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- THE EXISTING SDA HAS BEEN MODIFIED TO REMOVE 228 SQ. FT. AND ADDING 3,362 SQ. FT. FOR A TOTAL OF 10,450.
- THE EXISTING SEPTIC SYSTEM MUST BE PROPERLY ABANDONED WITH DOCUMENTATION SENT TO THE HEALTH DEPARTMENT PRIOR TO BUILDING PERMIT APPROVAL.
- AN OSDS PLAN MUST BE CREATED AND INSTALLED WITH HEALTH DEPARTMENT APPROVAL PRIOR TO BUILDING PERMIT APPROVAL.
- FEATURES LABELED DENOTE STORM WATER DEVICES PROPOSED ON AN ECP BY CMS ASSOCIATES.
- TOTAL AREA OF REVISED SDA IS 10,450 SQUARE FEET.

LEGEND

- REVISED SEWAGE DISPOSAL AREA 10,450 SQ. FT.
- PROPOSED ADDITION
- ADDED SDA* 3,362 SQ. FT.
- SUBTRACTED SDA* 228 SQ. FT.
- (TBA) TO BE ABANDONED
- SOIL BOUNDARY
- PASSED PERCOLATION TEST
- FAILED PERCOLATION TEST



ERIK C. MARKS R.P.L.S. NO. 607
I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREIN IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

THE PURPOSE OF THIS PERCOLATION CERTIFICATION PLAN IS TO MODIFY THE EXISTING SDA TO ACCOMMODATE FUTURE ADDITIONS TO THE EXISTING HOUSE.

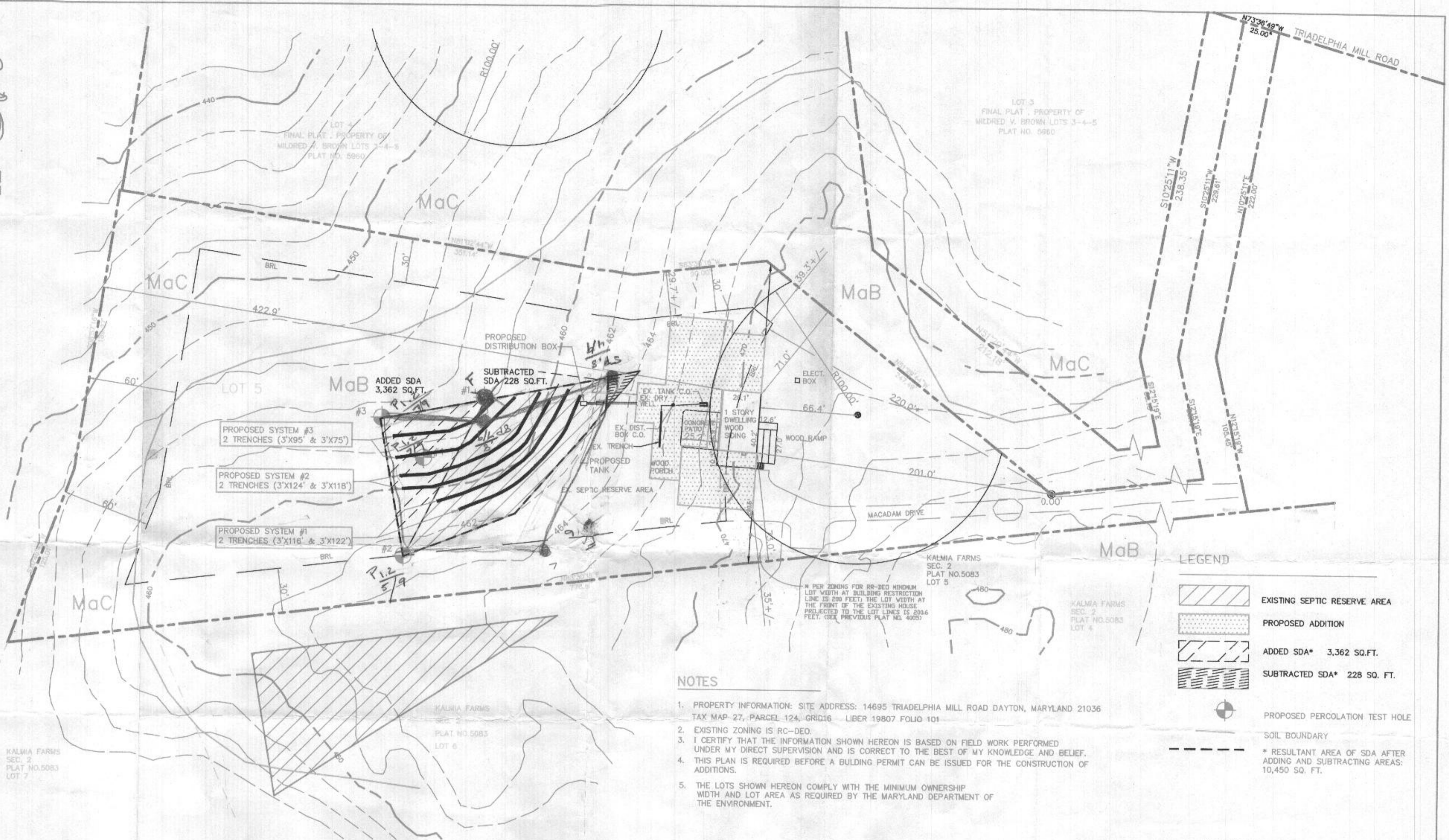
APPROVED FOR PRIVATE WATER & PRIVATE SEWERAGE SYSTEMS
[Signature]
HEALTH OFFICER, HOWARD COUNTY HEALTH DEPT. DATE 9/22/21

OWNER \ BUILDER INFORMATION:
OWNER: SINGH CHARANPREET JOHAL & DIVPREET KAUR
BUILDER: SINGH CHARANPREET JOHAL & DIVPREET KAUR
14695 TRIADELPHIA MILL ROAD
DAYTON, MARYLAND 21036-1216
PHONE: 443-844-9088

Marks & Associates, LLC
Engineering-Surveying-Land Planning
4531 College Avenue
email: marks.aa@comcast.net
Ellicott City, Maryland 21043
Phone (410) 747-8738 Fax (410) 747-8738

SCALE 1"=50'
DRAWN BY J.J.
CHECKED BY ECM
DATE 08/30/2021
REVISED:

PERCOLATION CERTIFICATION PLAN
14695 TRIADELPHIA MILL ROAD
LOT 5
FINAL PLAT, PROPERTY OF MILDRED V. BROWN LOTS 3-4-5 PLAT NO. 5960
TAX MAP #27 4TH ELECTION DISTRICT
PARCEL 124 HOWARD COUNTY, MARYLAND



SOIL CLASSIFICATION DESCRIPTION

MaB MANOR LOAM, 3 TO 8 PERCENT SLOPES
WELL DRAINED

MaC MANOR LOAM, 8 TO 15 PERCENT SLOPES
WELL DRAINED

APPROVED FOR PRIVATE WATER
& PRIVATE SEWERAGE SYSTEMS

HEALTH OFFICER, HOWARD COUNTY HEALTH DEPT.

OWNER \ BUILDER INFORMATION:

OWNER: SINGH CHARANPREET JOHAL & DIVPREET KAUR
BUILDER: SINGH CHARANPREET JOHAL & DIVPREET KAUR
14695 TRIADELPHIA MILL ROAD
DAYTON, MARYLAND 21036-1216
PHONE: 443-844-9088

Marks & Associates, LLC
Engineering-Surveying-Land Planning
4531 College Avenue
email: marks.aa@comcast.net
Ellicott City, Maryland 21043
Phone (410) 747-8738 Fax (410) 747-8738

SCALE 1"=50'
DRAWN BY J.J.
CHECKED BY ECM
DATE 03/06/2021
REVISED:

PERCOLATION TEST PLAN
14695 TRIADELPHIA MILL ROAD
LOT 5
FINAL PLAT, PROPERTY OF
MILDRED V. BROWN LOTS 3-4-5
PLAT NO. 5960

TAX MAP #27 PARCEL 124
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

NOTES

1. PROPERTY INFORMATION: SITE ADDRESS: 14695 TRIADELPHIA MILL ROAD DAYTON, MARYLAND 21036
TAX MAP 27, PARCEL 124, GRID16 LIBER 19807 FOLIO 101
2. EXISTING ZONING IS RC-DEO.
3. I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED UNDER MY DIRECT SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
4. THIS PLAN IS REQUIRED BEFORE A BUILDING PERMIT CAN BE ISSUED FOR THE CONSTRUCTION OF ADDITIONS.
5. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.

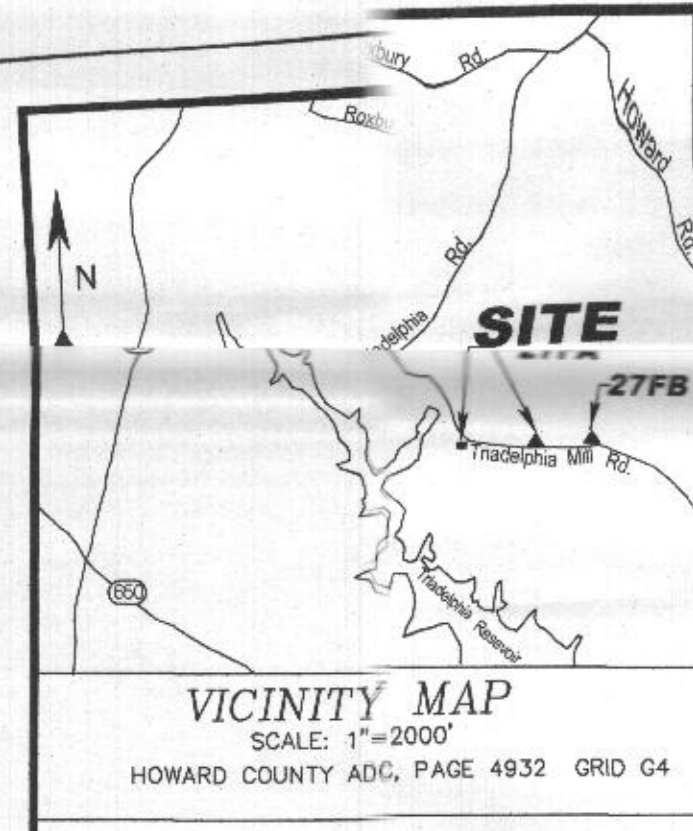
LEGEND

- EXISTING SEPTIC RESERVE AREA
- PROPOSED ADDITION
- ADDED SDA* 3,362 SQ.FT.
- SUBTRACTED SDA* 228 SQ. FT.
- PROPOSED PERCOLATION TEST HOLE
- SOIL BOUNDARY
- * RESULTANT AREA OF SDA AFTER ADDING AND SUBTRACTING AREAS: 10,450 SQ. FT.

THIS IS TO CERTIFY THAT THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH THE PRINCIPALS AND PRACTICE OF ACCEPTED SURVEYING PROCEDURES



ERIK C. MARKS R.P.L.S. NO. 607



CONCEPTUAL SITE DRAINAGE & STORMWATER RUNOFF PROPOSAL

The proposal replacement home construction on this R-200 zoned family detached subdivision lot is subject to the Stormwater Management requirements of the Howard County Code. Site soils have been evaluated per the onsite soils manual for water management procedures dated August 14, 2020. The development summary and specific stormwater management proposal is described as follows and depicted in plan view herein:

Existing on-site impervious area = 16,985 sf
 Existing on-site impervious area (to be removed) = 1,290 sf
 Existing on-site impervious area = 22,715 sf
 Total NET on-site impervious area (within LOD) = 13,280 sf

Environmental Site Design (ESD)
 Site area = 3.48 acres = 151,588 sf
 Soil typing results:
 B - loam

USDA NRCS Soil Survey = MaB - Manor Loam, HSG = B - 22.4%
 MaC - Manor Loam, HSG = B - 77.6%
 Theoretical pre-development site conditions = wooded, good condition
 Total Limit of Disturbance (LOD) = 61,685 sf

ESDv summary
 On-site percent impervious = 22,715 sf / 151,588 sf = 0.1498 = 14.98%
 On-site percent impervious (within LOD) = 13,280 sf / 61,685 sf = 0.2153 or 21.5%
 Soil typing composite rainfall target to site runoff volume (P₄ = 1.0 inch)
 Runoff volume factor (RV) = 0.05 = (0.009 x 100) + 0.55 (for roof area)
 Environmental site design target volume required (1.0" = 1.0" x 0.85 x 8,147' / 12 = 645 cf (Roof Area only)
 Volume required above bottom Micro-Bio™ (645 x 0.75) = 484 cf
 Volume required below bottom (Micro-Bio) = (645 x 0.25) = 162 cf
 Micro-Bio Provided = Above Volume Provided = 921 cf above + 163 below (0.5 Foot Deep)
 Micro-Bio outfall at 464.00' Bottom at 463.00' Storage depth = 1 foot

Stormwater Management Proposal
 Modify the site's disturbed area's re-development runoff characteristics to hydraulically emulate woods in good condition using the standard ESD provisions as shown in plan view and summarized as follows:
 ESD provided by non-rooftop disconnect and Micro-Bio facility (infiltration)

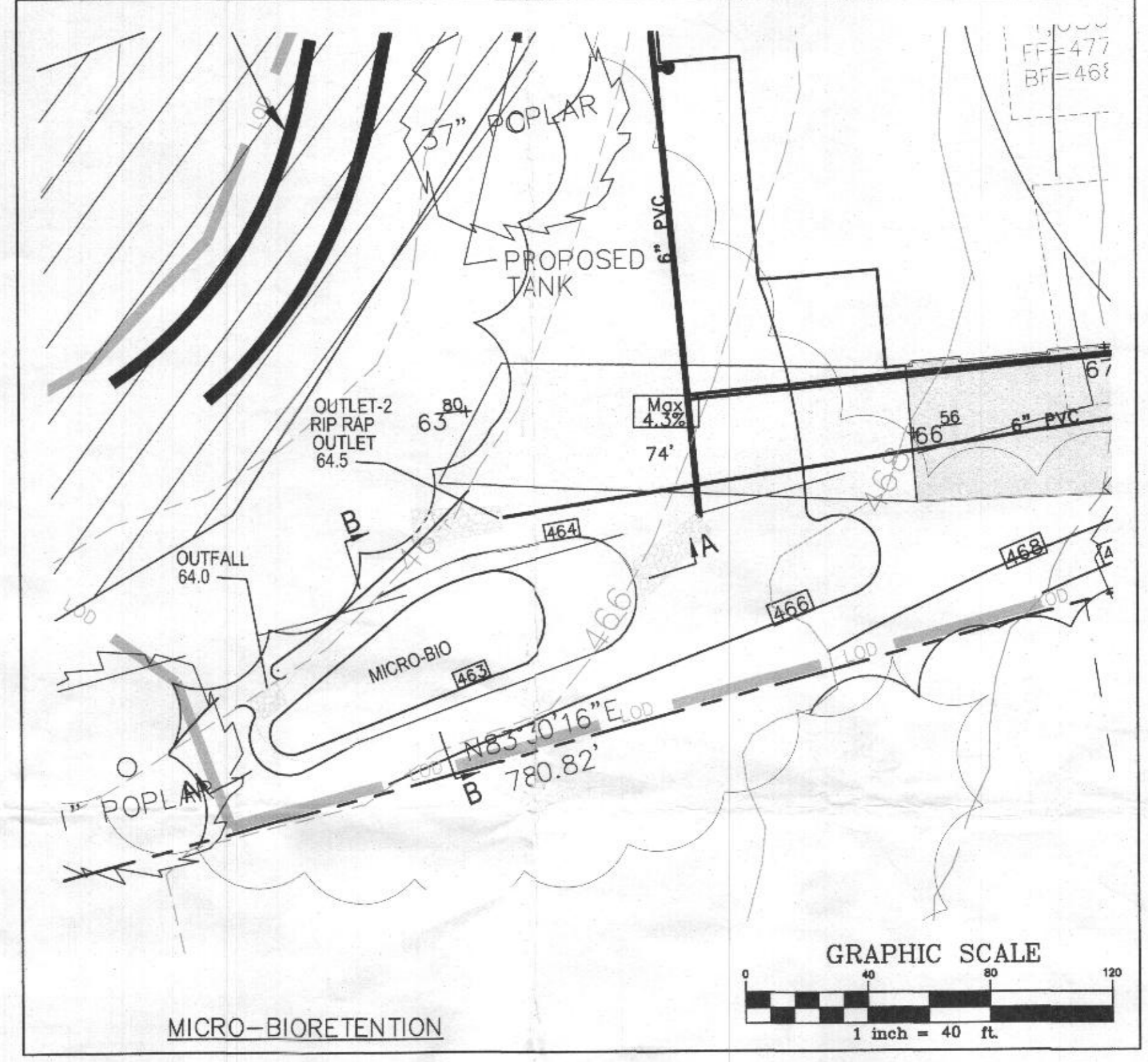
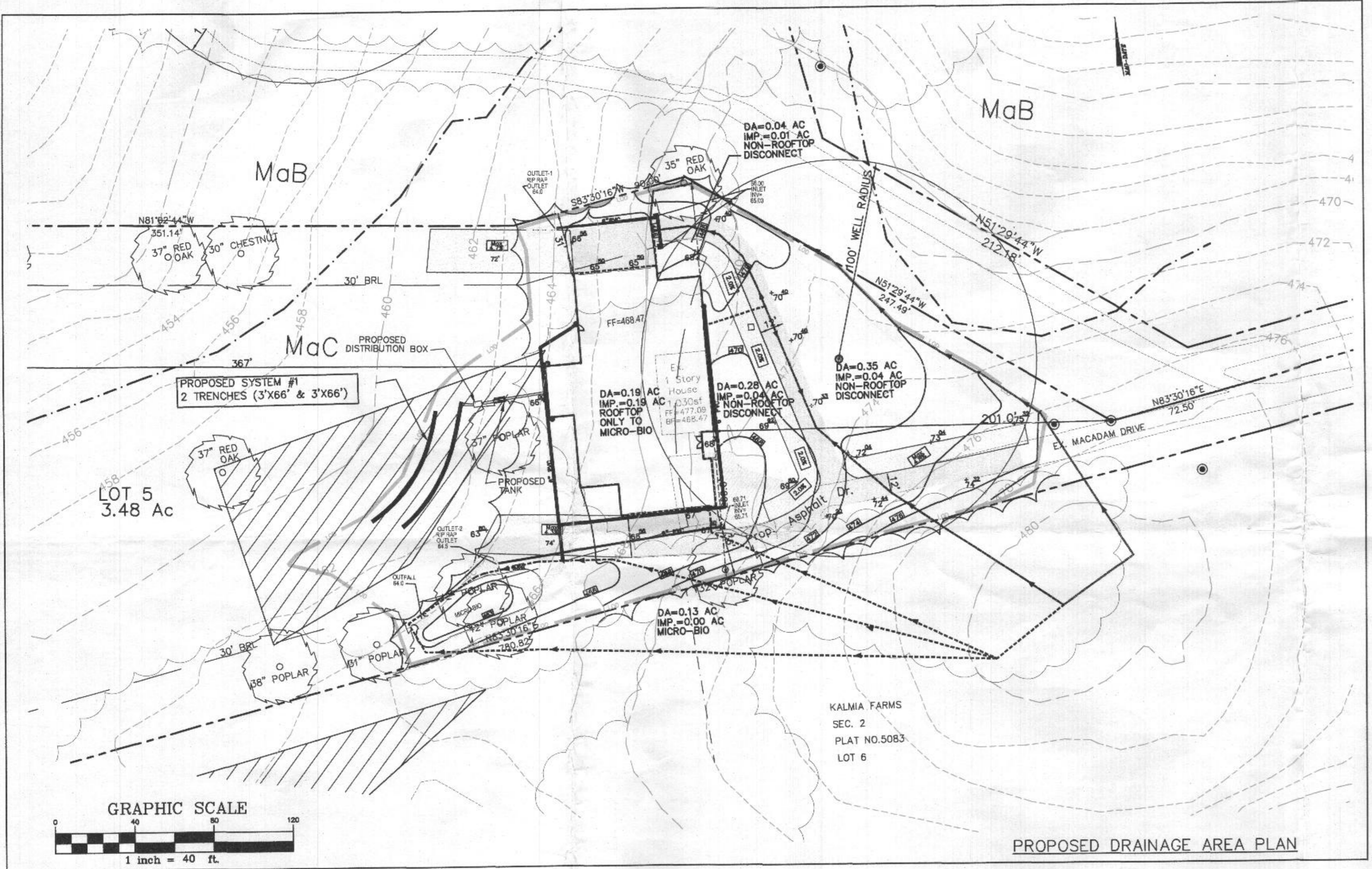
Site Grading (non-rotated) Runoff Proposal
 Yard areas shall be graded and/or re-graded to provide positive lawn surface drainage away from foundation walls and to minimize impact on adjacent property. Yard surface areas and drainage swales shall be maintained at a 2.0% minimum slope.

Recharge Volume
 $REV = (LOD) \times (RV) \times (A) / 12 = (0.28) \times (0.05) \times (8,147) / 12 = 168$ cf

ESDv SUMMARY TABLE: UIC, Driveway & House

Existing UICs	Symbol	Vol. Req. (cf)	Vol. Prov. (cf)
Water Quality Volume	WQv	645	1,063
Optional Flood Protection	Op	0	0
Optional Flood Protection	Op	0	0
Recharge Volume	REV	168	168

Non-Rooftop Disconnect and a Micro-Bio Facility



PIPE OUTLET #1

PLAN VIEW

SECTION A-A

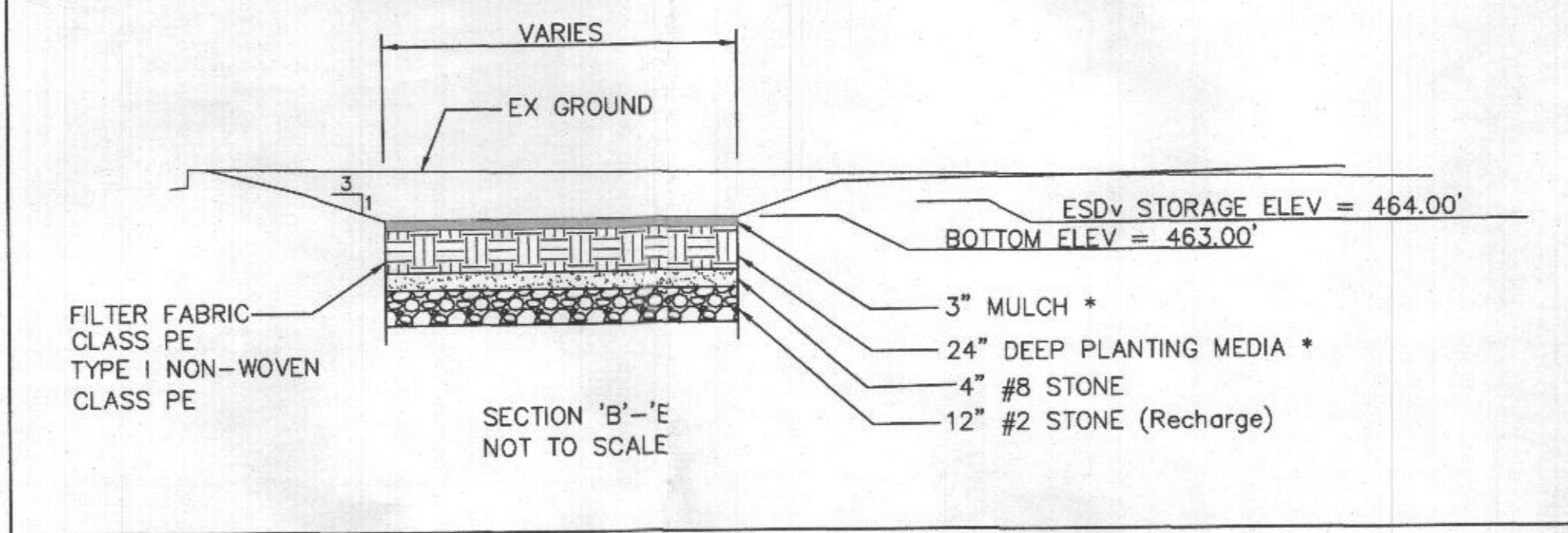
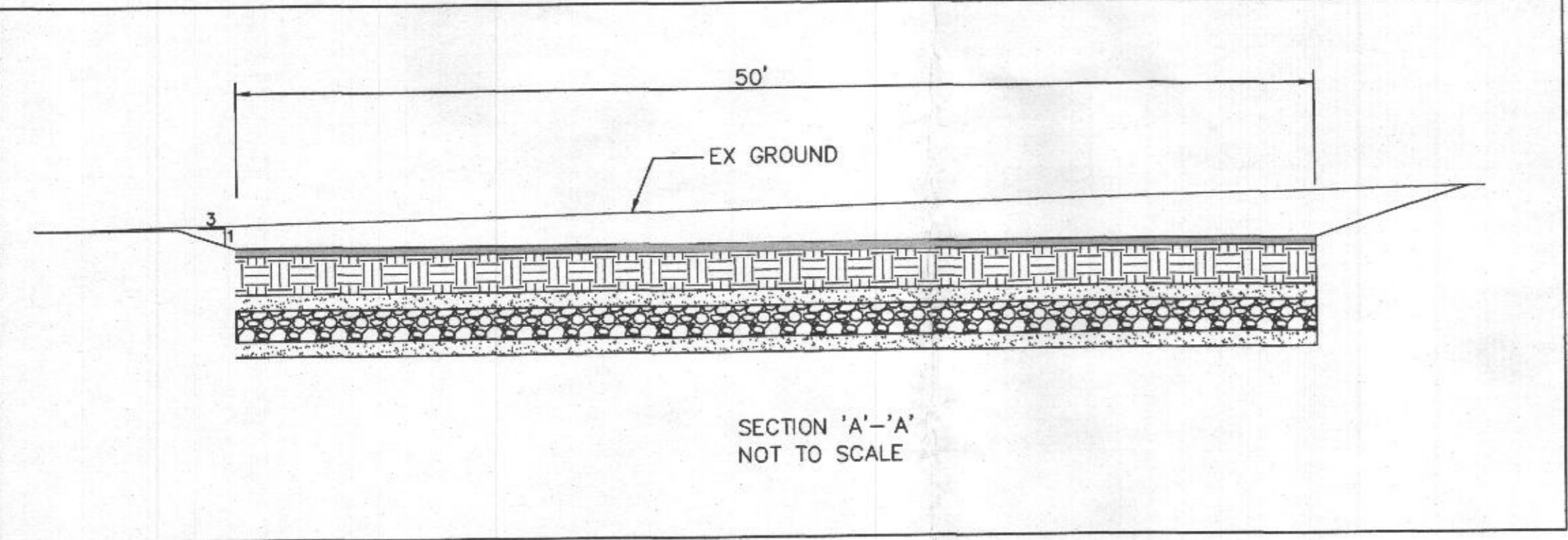
PIPE OUTLET #2

PLAN VIEW

SECTION A-A

BIORETENTION: Operation and Maintenance

- Annual maintenance of plant material, mulch layer, sand/mulch and soil layer is required. Maintenance of mulch and soil is limited to correction areas of erosion or washout. Check for downspout within 6" from 100% coverage, replace filter media per plan.
- Schedule of plant inspection will be twice a year in spring and fall. The inspection will include removal of dead, diseased and excessive vegetation considered beyond trimming. Replacement of all diseased trees, shrubs, deficient shrubs and more will be required.
- Mulch layer shall be inspected each spring. Once every 2 to 3 years, remove percent mulch layer and apply new 2 to 3 inch layer.
- Soil erosion and flow blockage to be addressed on an as needed basis with a minimum of once per month and after heavy rains. Inspect clean out and observation wells along with overflow/outfall pipe.



LEGEND

	EXISTING TREES		EXISTING LIGHT POLE
	EX. OVERHEAD ELECTRIC		EXISTING TREE LINE
	EXISTING CONTOUR		PROPOSED TREE LINE
	PROPOSED CONTOUR		LIMIT OF DISTURBANCE
	PROPOSED ASPHALT		EX. ASPHALT TO BE REMOVED
	PROPOSED DRAINAGE AREA		

OWNER/DEVELOPER
 MR. CHARANPREET SINGH
 14695 TRIADDELPHIA MILL ROAD
 DAYTON, MD. 21036
 PHONE: (443) 844-9088

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. 22538
 Expiration Date: 11-24-23

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION _____ DATE _____

CHIEF, DIVISION OF LAND DEVELOPMENT _____ DATE _____

CIVIL ENGINEER

CMS ASSOCIATES LLC
 4925 Ellis Lane
 Ellicott City, Maryland 21043
 Tel. (410) 988-2436
 Contact: Geoffrey L. Ciniero, PE
 www.cms-engineering.net

14695 TRIADDELPHIA MILL ROAD
 STORMWATER MANAGEMENT PLAN
 LOT 5
 PLAT 5960
 TAX MAP 27 GRID 16
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

REVISIONS PRIOR TO APPROVAL

REV. NO.	DATE	DESCRIPTION

Professional Engineer
 GEOFFREY L. CINIERO
 No. 22538
 10/02/2021

PLAN NO.:
 SCALE: AS NOTED
 DATE: 10/02/2021
 SHEET 3 OF 3
 FILE NO: 21-012