

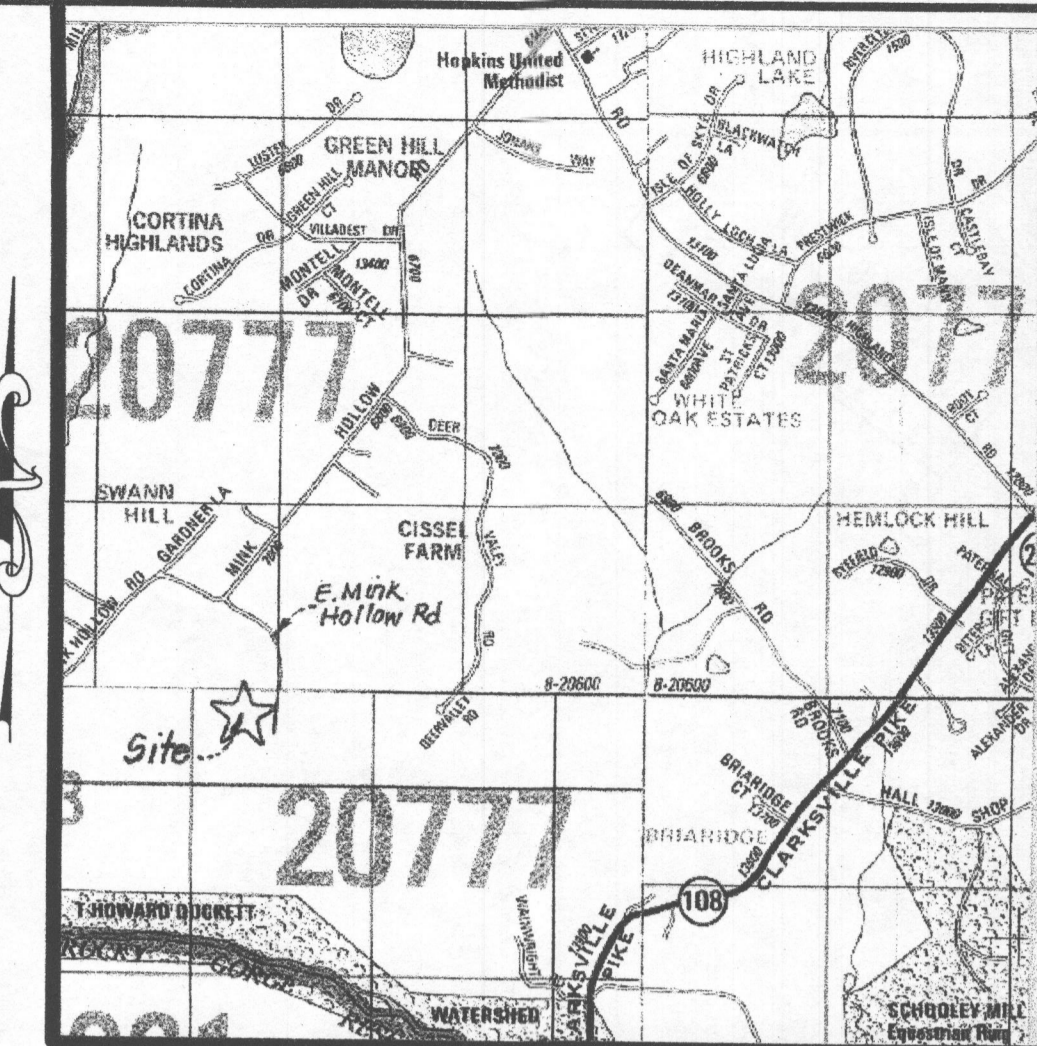
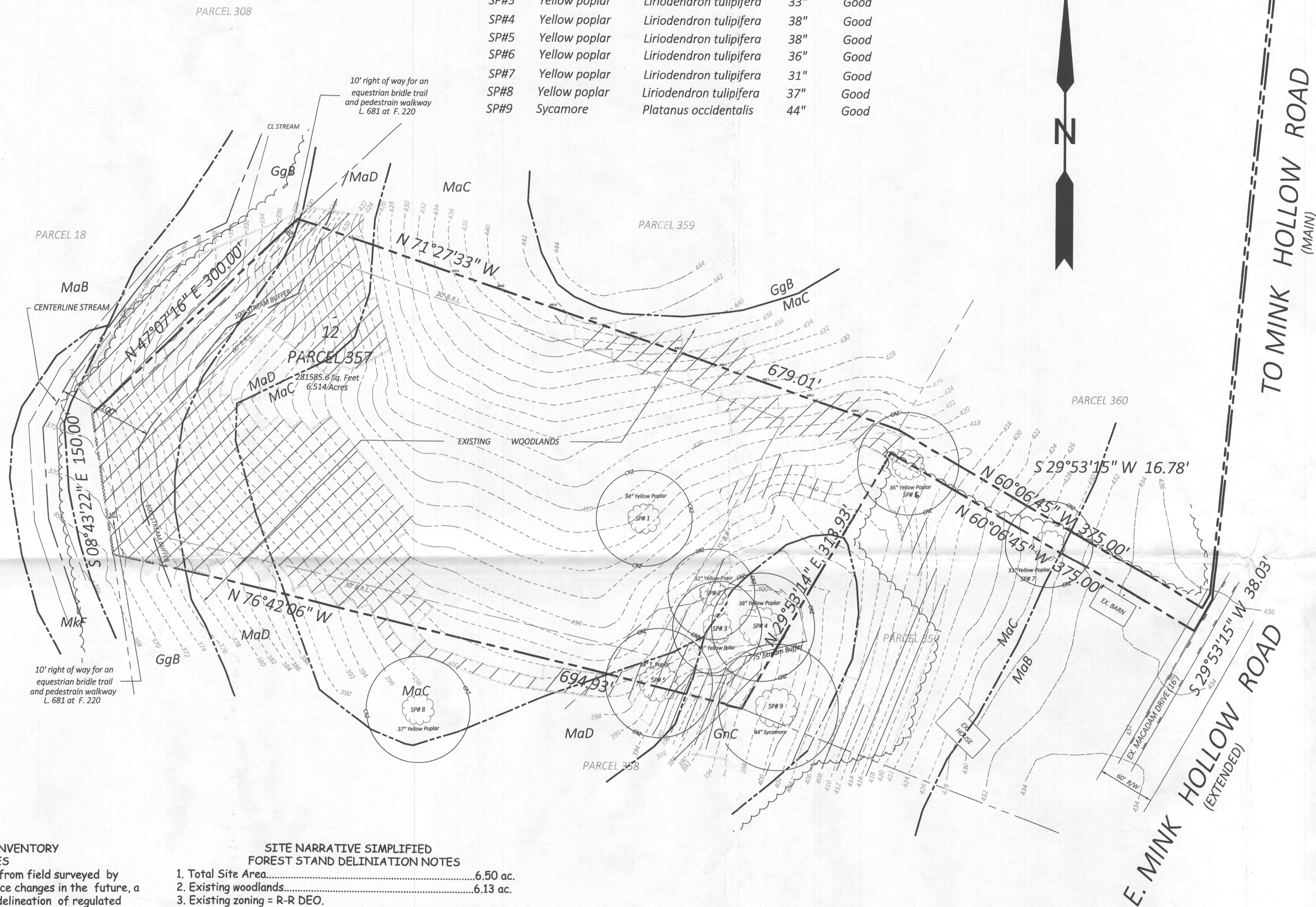
LEGEND

These standard symbols will be found in the drawing.

- x EX. ELEVATIONS
- + PROP. ELEVATIONS
- EX. CONTOURS
- PROP. CONTOURS
- EX. WOODLINE
- SPECIFIC TREES
- STREAM/CREEK
- CONC. CURB
- SEWER LINE
- WATER LINE
- TREE CONSERVATION
- SEWER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- UTILITY POLE
- UTILITY POLE W/LGHT
- ELEC. LINE
- ED. ROAD
- SPEC. FENCE
- 15% SLOPES OR GREATER
- STREAM BUFFER
- SOILS DELINEATION LINE
- CRZ CRITICAL ROOT ZONE

SPECIMAN TREE LIST

No.	Common Name	Botanical Name	DBH	Condition
SP#1	Yellow poplar	<i>Liriodendron tulipifera</i>	34"	Good
SP#2	Yellow poplar	<i>Liriodendron tulipifera</i>	32"	Good
SP#3	Yellow poplar	<i>Liriodendron tulipifera</i>	33"	Good
SP#4	Yellow poplar	<i>Liriodendron tulipifera</i>	38"	Good
SP#5	Yellow poplar	<i>Liriodendron tulipifera</i>	38"	Good
SP#6	Yellow poplar	<i>Liriodendron tulipifera</i>	36"	Good
SP#7	Yellow poplar	<i>Liriodendron tulipifera</i>	31"	Good
SP#8	Yellow poplar	<i>Liriodendron tulipifera</i>	37"	Good
SP#9	Sycamore	<i>Platanus occidentalis</i>	44"	Good



VICINITY MAP

SCALE: 1"=2000'
 COPYRIGHT: A.D.C., "THE MAP PEOPLE" PERMITTED USE No 20492158

GENERAL NOTES:

- SITE ZONED: R-R DEO.
- AREA OF SITE: 281,586 SF OR 6.50 ACRES
- SITE IS LOCATED ON TAX MAP 40, GRID 08, PARCEL 357.
- SITE IS LOCATED ON ADC MAP PAGE 18, GRID 9-C.
- PROPERTY ACCOUNT NUMBER: 353238.
- WATER AND SEWER IS TO BE PRIVATE.
- OWNER: WHITE, DOUGLAS C TRUSTEE
17705 HOLLINGSWORTH DRIVE
ROCKVILLE, MD 20855
- DEVELOPER/APPLICANT:
DANNER DEVELOPMENT
DENNIS DANNER
6823 HIGHLAND DR., PO Box 355
HIGHLAND, MD 20777
240-375-4934
- PROPERTY DESCRIPTION: DEED LIBER 669 AT FOLIO 287.
- TOPOGRAPHY OBTAINED FROM HOWARD COUNTY RECORDS AND FIELD VERIFIED AND ADJUSTED BY SURVEY'S INC. MARCH 15, 2016.
- PROPERTY ADDRESS: 76 T. J. E. MINK HOLLOW ROAD
HIGHLAND, MARYLAND 20777

NATURAL RESOURCE INVENTORY GENERAL NOTES

- The topography shown on this plan is from field surveyed by Surveys, Inc. If the topography source changes in the future, a revised NRI May be required if the delineation of regulated areas change significantly.
- The wetland information on this plan is from field observations and MDE mapping dated June 27, 2016
- The floodplain information on this plan is from FEMA, FIRM Community panel No. 24027C0140D of Howard County, Maryland zoned X.
- Site is not within or adjacent to rare, threatened or endangered species evaluation area as per the Natural Heritage Program.
- There are 9 specimen trees located on or adjacent to the property. These trees were located by actual field measurements.

SITE NARRATIVE SIMPLIFIED FOREST STAND DELINEATION NOTES

- Total Site Area.....6.50 ac.
- Existing woodlands.....6.13 ac.
- Existing zoning = R-R DEO.
- This site consist of the following tree species: Red maples, american holly, yellow poplar, american beech, pin cherry, virginia pine, dogwood, pignut hickory, white, english and pin oaks and eastern hemlock. The dominate species is yellow poplar and co dominate red maple. There are specimen trees as shown and were measured at diameter at breast height. (DBH). Ground cover consist of seedling and sappling of the above mentioned tree species, various vines and viburnums. Ferns scattered throughout the site. There are standing dead trees, mostly thin and down woody debris and leaf litter. There's a stream at the west side ofsite of the property.
- No rare, threatened or endangered plant or animal species were observed on this site.
- No wetlands were observed on this site.
- This site does not contain sny dwellings. Although a well was recently installed on the upper northwstly area of the site.
- No presence of senic and historic roads on or adjacent to this site.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
GgB	Clermont loam, 3 to 8 percent slopes	Kc - 2B	0.7	9.0%
GnC	Clermont silt loam, 8 to 15 percent slopes	Kc - 2B	0.6	7.3%
GnB	Clermont-Sallis silt loam, 0 to 8 percent slopes	Kc - 4B	0.1	1.0%
GnB	Clermont-Codorus silt loam, 0 to 8 percent slopes	Kc - 4B	0.3	4.3%
MaB	Manor loam, 3 to 8 percent slopes	Kc - 2B	0.1	1.7%
MaC	Manor loam, 8 to 15 percent slopes	Kc - 2B	4.8	63.0%
MaD	Manor loam, 15 to 25 percent slopes	Kc - 2B	1.0	12.0%
Totals for Area of Interest			7.8	100.0%

I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS CORRECT, TO THE BEST OF MY KNOWLEDGE AND BELIEF.

June 24, 2016
DATE

GREGORY C. O'BRIEN
REGISTERED PROFESSIONAL
LAND SURVEYOR, MD No. 10984
Qualified Professional COMAR Sec. 08.13.06.01

OWNER/DEVELOPER

Dennis Danner
Danner Development
6823 HIGHLAND DR. PO Box 355
HIGHLAND, MD 20777
240-375-4934

SURVEYS, INC.
 SURVEYORS • ENGINEERS • LAND PLANNERS
 PERMIT SERVICES
 950 MAIN STREET
 LAUREL, MARYLAND, 20707
 PHONE 301-716-0941 FAX 301-716-0642 E-MAIL SURVEYS@GVERZON.NET

DATE	REVISION

SIMPLIFIED FOREST STAND DELINEATION PLAN E. MINK HOLLOW ROAD TAX MAP 40, PARCEL 357 DANNER PROPERTY

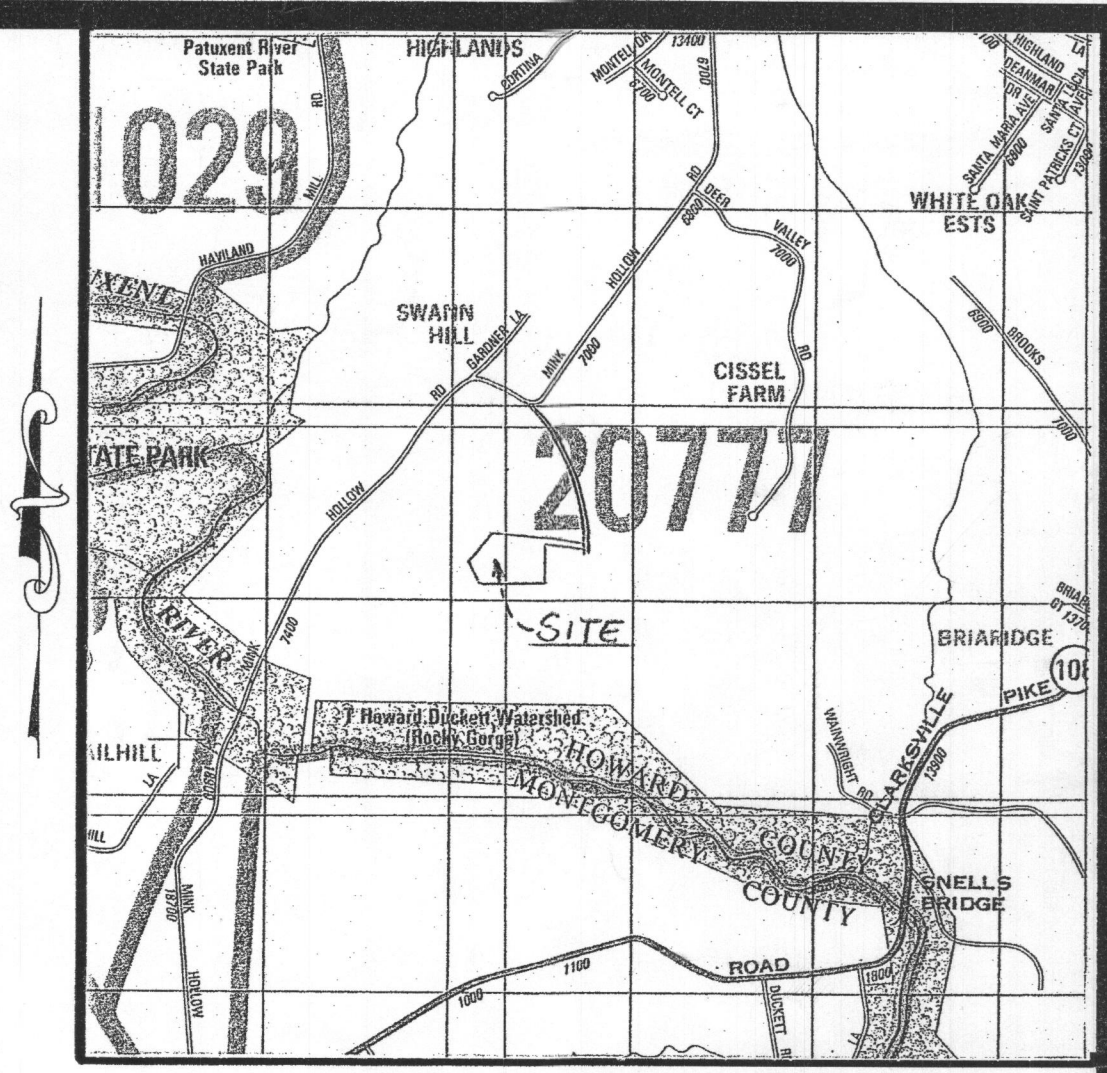
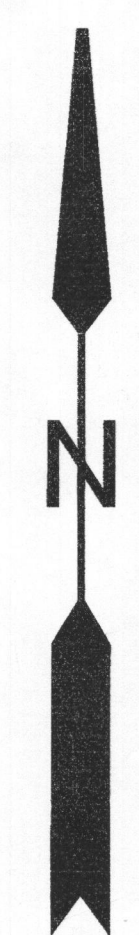
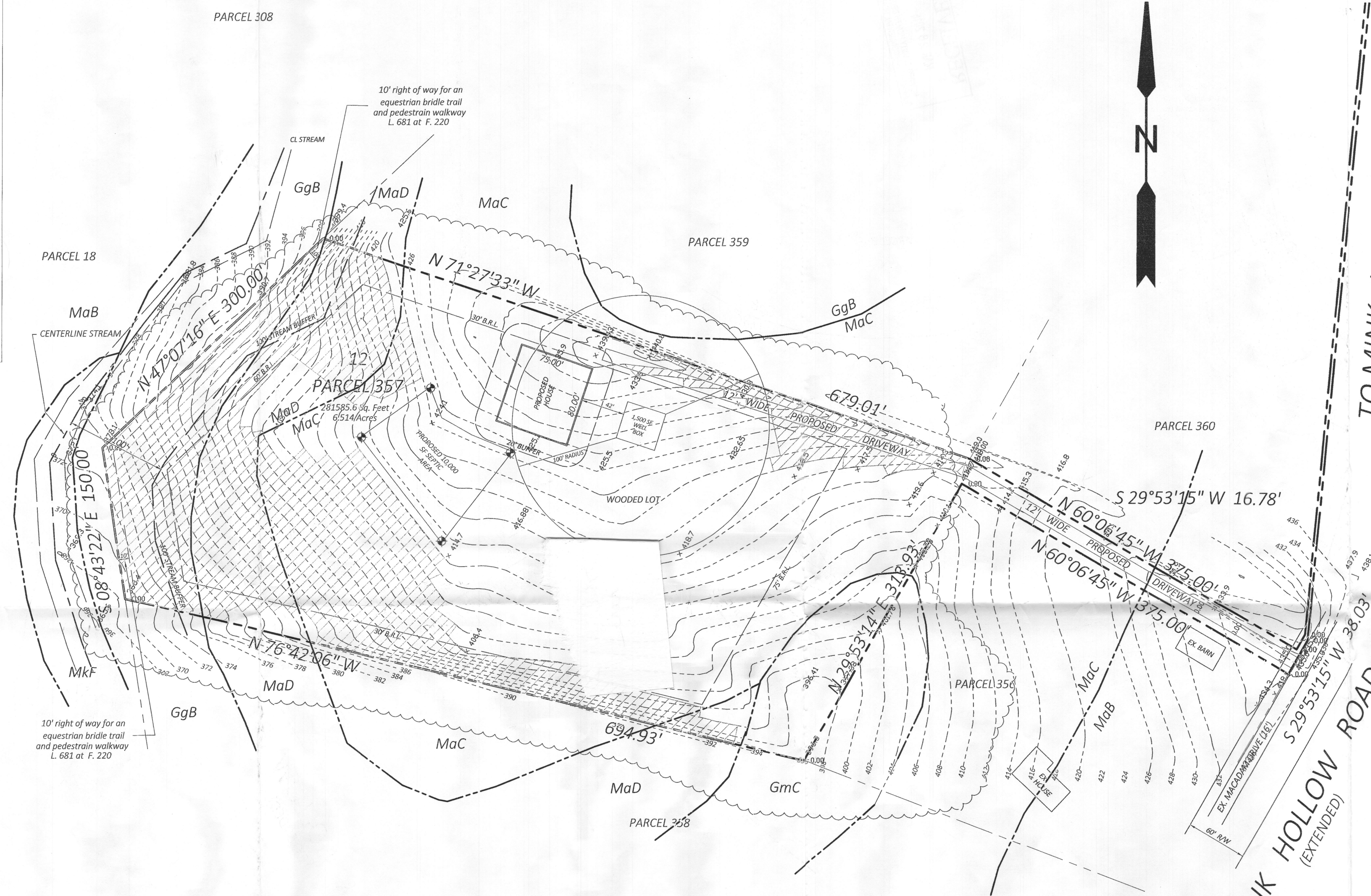
5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 B16.00 3107

SCALE	DESIGNER	CHECKED BY
1"=60'	DB	GB
DATE	DRAFTER	FIELD BOOK
JULY 2014	DB	BK 60 / P. 30
JOB NUMBER	SHEET NUMBER	FILE NUMBER
16-24	1 OF 1	L-421

LEGEND

These standard symbols will be found in the drawing.

- x EX. ELEVATIONS
- + PROP. ELEVATIONS
- - - EX. CONTOURS
- - - PROP. CONTOURS
- - - EX. WOODLINE
- SPECIFIC TREES
- - - STREAM/CREEK
- - - CONC. CURB
- - - SEWER LINE
- - - WATER LINE
- ▨ TREE CONSERVATION
- SEWER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- UTILITY POLE
- UTILITY POLE W/LIGHT
- ELEC. LINE
- - - ED. ROAD
- - - SPEC. FENCE
- ▨ 25% SLOPES OR GREATER
- PROP. PERK TEST LOCATIONS
- - - SOILS DELINEATION LINE



VICINITY MAP

SCALE: 1"=2000'
 COPYRIGHT: A.D.C., "THE MAP PEOPLE" PERMITTED USE No 20492158

GENERAL NOTES:

1. SITE ZONED: R-R DEO.
2. AREA OF SITE: 281,586 SF OR 6.50 ACRES
3. SITE IS LOCATED ON TAX MAP 40, GRID 08, PARCEL 357.
4. SITE IS LOCATED ON ADC MAP PAGE 18, GRID 9-C.
5. PROPERTY ACCOUNT NUMBER: 353238.
6. WATER AND SEWER IS TO BE PRIVATE.
7. OWNER: WHITE, DOUGLAS C TRUSTEE
 17705 HOLLINGSWORTH DRIVE
 ROCKVILLE, MD 20855
8. DEVELOPER/APPLICANT:
 DANNER DEVELOPMENT
 DENNIS DANNER
 P.O. Box 3655
 HIGHLAND, MD 20777
 240-375-4934
9. PROPERTY DESCRIPTION: DEED LIBER 669 AT FOLIO 287.
10. ANY CHANGES TO A PRIVATE SEWER EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
11. ALL WELLS ARE TO BE DRILLED PRIOR TO PERMIT ISSUANCE. IT IS THE DEVELOPER'S RESPONSIBILITY TO SCHEDULE WELL DRILLING PRIOR TO PERMIT ISSUANCE. IT WILL NOT BE CONSIDERED GOVERNMENT DELAY IF THE WELL DRILLING HOLDS UP TO THE HEALTH DEPARTMENT SIGNATURE OF THE PERMIT.
12. TOPOGRAPHY OBTAINED FROM HOWARD COUNTY RECORDS AND FIELD VERIFIED AND ADJUSTED BY SURVEY'S INC. MARCH 15, 2016.
13. PER FEMA FLOOD INSURANCE RATE MAP, PROPERTY IS IN ZONE C, COMMUNITY PANEL NUMBER 240044-0037B.
14. PROPERTY ADDRESS: E. MINK HOLLOW ROAD
 HIGHLAND, MARYLAND 20777
15. PRIOR PERK TEST APPLICATION A-19279 PERFORMED ON NOVEMBER 13, 1973.

OWNER/DEVELOPER

Dennis Danner
 Danner Development
 6583 HIGHLAND CT.
 HIGHLAND, MD 20777
 240-375-4934

CALL "MISS UTILITY" TELEPHONE NUMBER 1-800-257-7777
 FOR UTILITY LOCATIONS AT LEAST 48 HOURS BEFORE
 BEGINNING CONSTRUCTION.

MDE Sewage Area Statement
 This area designate a private sewage disposal area as required by the Maryland Department of Environment for individual sewage disposal; Improvement of any nature in this area are restricted. This sewage disposal area shall become null and void upon connection to a public sewerage system. The County Health Officer shall have authority to grant adjustments to the private sewage disposal area.

I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS CORRECT, TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARCH 25, 2016
 DATE

[Signature]
 DENNIS DANNER
 REGISTERED PROFESSIONAL
 LAND SURVEYOR, MD No. 0994



SURVEYS, INC.
 SURVEYORS * ENGINEERS * LAND PLANNERS
 PERMIT SERVICES
 350 MAIN STREET
 LAUREL, MARYLAND, 20707
 PHONE 301-716-0661 FAX 301-716-0662 E-MAIL SURVEYS@GVERIZON.NET

DATE	REVISION

PERCOLATION TEST PLAN
 E. MINK HOLLOW ROAD
 TAX MAP 40, PARCEL 357
DANNER PROPERTY
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE	DESIGNER	CHECKED BY
1"=60'	DB	GB
DATE	DRAWER	FIELD BOOK
JULY 2014	DB	BK 60 / P 30
JOB NUMBER	SHEET NUMBER	FILE NUMBER
16-24	1 OF 1	L-421

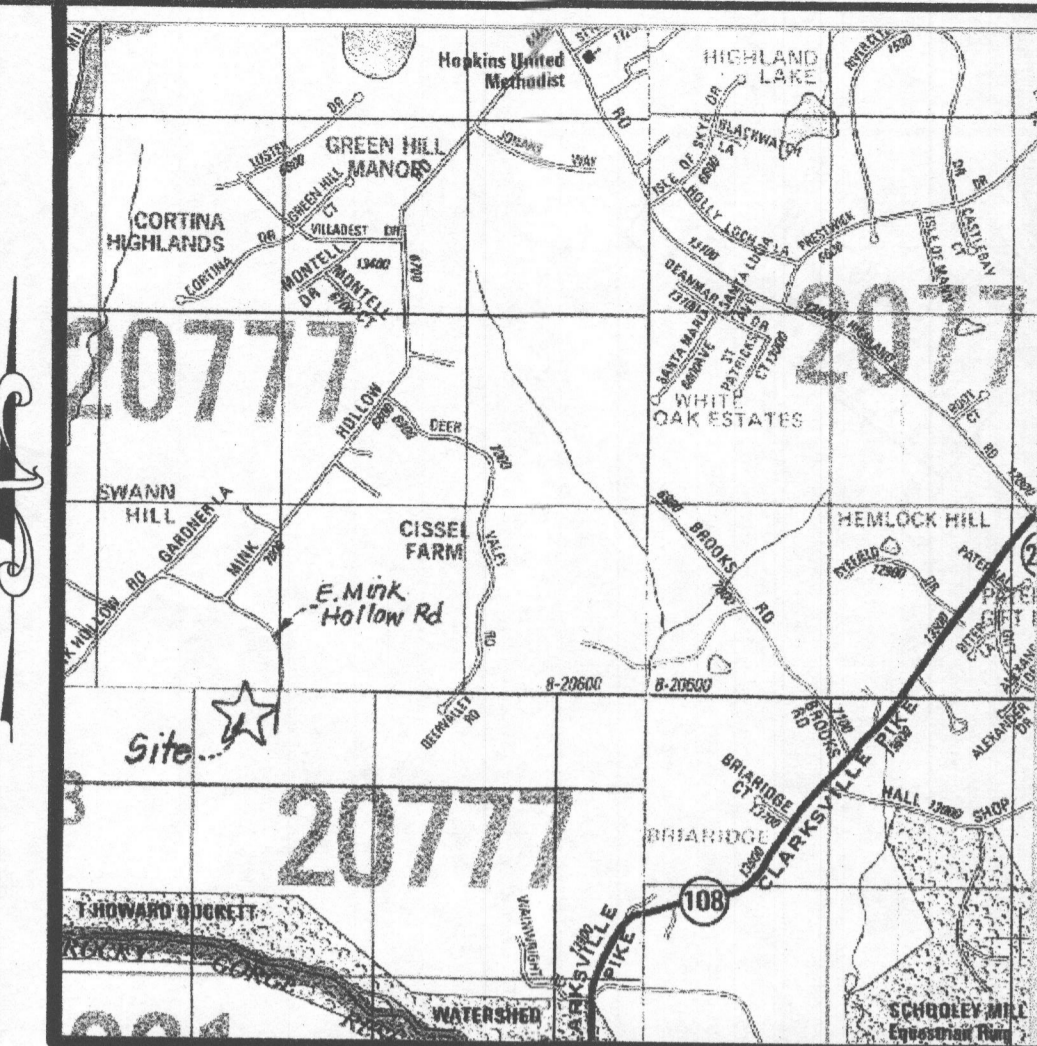
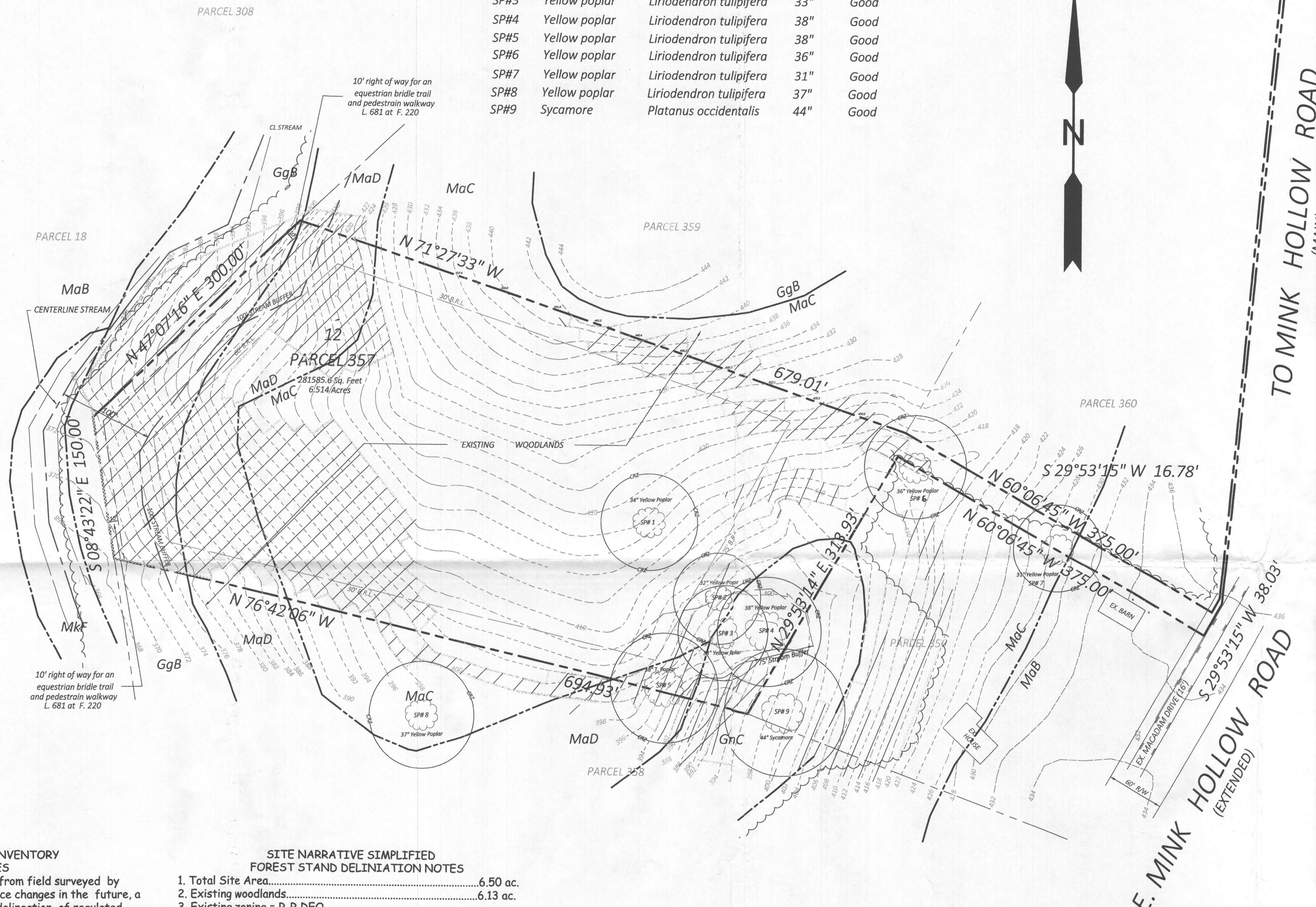
LEGEND

These standard symbols will be found in the drawing.

- x EX. ELEVATIONS
- + PROP. ELEVATIONS
- EX. CONTOURS
- PROP. CONTOURS
- EX. WOODLINE
- SPECIFIC TREES
- STREAM/CREEK
- CONC. CURB
- SEWER LINE
- WATER LINE
- ▨ TREE CONSERVATION
- SEWER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- UTILITY POLE
- UTILITY POLE W/LGHT
- ELEC. LINE
- ED. ROAD
- SPEC. FENCE
- ▨ 15% SLOPES OR GREATER
- STREAM BUFFER
- SOILS DELINEATION LINE
- CRZ — CRITICAL ROOT ZONE

SPECIMAN TREE LIST

No.	Common Name	Botanical Name	DBH	Condition
SP#1	Yellow poplar	<i>Liriodendron tulipifera</i>	34"	Good
SP#2	Yellow poplar	<i>Liriodendron tulipifera</i>	32"	Good
SP#3	Yellow poplar	<i>Liriodendron tulipifera</i>	33"	Good
SP#4	Yellow poplar	<i>Liriodendron tulipifera</i>	38"	Good
SP#5	Yellow poplar	<i>Liriodendron tulipifera</i>	38"	Good
SP#6	Yellow poplar	<i>Liriodendron tulipifera</i>	36"	Good
SP#7	Yellow poplar	<i>Liriodendron tulipifera</i>	31"	Good
SP#8	Yellow poplar	<i>Liriodendron tulipifera</i>	37"	Good
SP#9	Sycamore	<i>Platanus occidentalis</i>	44"	Good



VICINITY MAP

SCALE: 1"=2000'
 COPYRIGHT: A.D.C., "THE MAP PEOPLE" PERMITTED USE No 20492158

- GENERAL NOTES:
- SITE ZONED: R-R DEO.
 - AREA OF SITE: 281,586 SF OR 6.50 ACRES
 - SITE IS LOCATED ON TAX MAP 40, GRID 08, PARCEL 357.
 - SITE IS LOCATED ON ADC MAP PAGE 18, GRID 9-C.
 - PROPERTY ACCOUNT NUMBER: 353238.
 - WATER AND SEWER IS TO BE PRIVATE.
 - OWNER: WHITE, DOUGLAS C TRUSTEE
17705 HOLLINGSWORTH DRIVE
ROCKVILLE, MD 20855
 - DEVELOPER/APPLICANT:
DANNER DEVELOPMENT
DENNIS DANNER
6833 HIGHLAND DR., PO Box 355
HIGHLAND, MD 20777
240-375-4934
 - PROPERTY DESCRIPTION: DEED LIBER 669 AT FOLIO 287.
 - TOPOGRAPHY OBTAINED FROM HOWARD COUNTY RECORDS AND FIELD VERIFIED AND ADJUSTED BY SURVEYS INC. MARCH 15, 2016.
 - PROPERTY ADDRESS: 76 T.I. E. MINK HOLLOW ROAD
HIGHLAND, MARYLAND 20777

NATURAL RESOURCE INVENTORY GENERAL NOTES

- The topography shown on this plan is from field surveyed by Surveys, Inc. If the topography source changes in the future, a revised NRI May be required if the delineation of regulated areas change significantly.
- The wetland information on this plan is from field observations and MDE mapping dated June 27, 2016
- The floodplain information on this plan is from FEMA, FIRM Community panel No. 24027C0140D of Howard County, Maryland zoned X.
- Site is not within or adjacent to rare, threatened or endangered species evaluation area as per the Natural Heritage Program.
- There are 9 specimen trees located on or adjacent to the property. These trees were located by actual field measurements.

SITE NARRATIVE SIMPLIFIED FOREST STAND DELINEATION NOTES

- Total Site Area.....6.50 ac.
- Existing woodlands.....6.13 ac.
- Existing zoning = R-R DEO.
- This site consist of the following tree species: Red maples, american holly, yellow poplar, american beech, pin cherry, virginia pine, dogwood, pignut hickory, white, english and pin oaks and eastern hemlock. The dominate species is yellow poplar and co dominate red maple. There are specimen trees as shown and were measured at diameter at breast height. (DBH). Ground cover consist of seedling and sappling of the above mentioned tree species, various vines and viburnums. Ferns scattered throughout the site. There are standing dead trees, mostly pines and down woody debris and leaf litter. There's a stream at the west side ofsite of the property.
- No rare, threatened or endangered plant or animal species were observed on this site.
- No wetlands were observed on this site.
- This site does not contain sny dwellings. Although a well was recently installed on the upper northwstly area of the site.
- No presence of senic and historic roads on or adjacent to this site.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
GgB	Clematis loam, 3 to 8 percent slopes	Kc - 2B	0.7	9.0%
GgC	Clematis silt loam, 8 to 15 percent slopes	Kc - 2B	0.6	7.3%
GgD	Clematis-Bulle silt loam, 0 to 8 percent slopes	Kc - 4B	0.1	1.0%
GgE	Clematis-Codonus silt loam, 0 to 8 percent slopes	Kc - 4B	0.3	4.3%
MaB	Manor loam, 3 to 8 percent slopes	Kc - 2B	0.1	1.7%
MaC	Manor loam, 8 to 15 percent slopes	Kc - 2B	4.8	63.0%
MaD	Manor loam, 15 to 25 percent slopes	Kc - 2B	1.0	12.0%
Totals for Area of Interest			7.8	100.0%

I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS CORRECT, TO THE BEST OF MY KNOWLEDGE AND BELIEF.

June 24, 2016
 DATE

GREGORY C. OBBENEHL
 REGISTERED PROFESSIONAL
 LAND SURVEYOR, MD No. 10954
 Qualified Professional COMAR Sec. 08.13.06.01

OWNER/DEVELOPER
 Dennis Danner
 Danner Development
 6833 HIGHLAND DR. PO Box 355
 HIGHLAND, MD 20777
 240-375-4934

SURVEYS, INC.
 SURVEYORS • ENGINEERS • LAND PLANNERS
 PERMIT SERVICES
 950 MAIN STREET
 LAUREL, MARYLAND, 20701
 PHONE 301-716-0941 FAX 301-716-0942 E-MAIL SURVEYS@GVERIZON.NET

DATE	REVISION

SIMPLIFIED FOREST STAND DELINEATION PLAN
 E. MINK HOLLOW ROAD
 TAX MAP 40, PARCEL 357
DANNER PROPERTY

5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 B16.00 3107

SCALE	DESIGNER	CHECKED BY
1"=60'	DB	GB
DATE	DRAFTER	FIELD BOOK
JULY 2014	DB	BK 60 / P. 30
JOB NUMBER	SHEET NUMBER	FILE NUMBER
16-24	1 OF 1	L-421

LEGEND

These standard symbols will be found in the drawing.

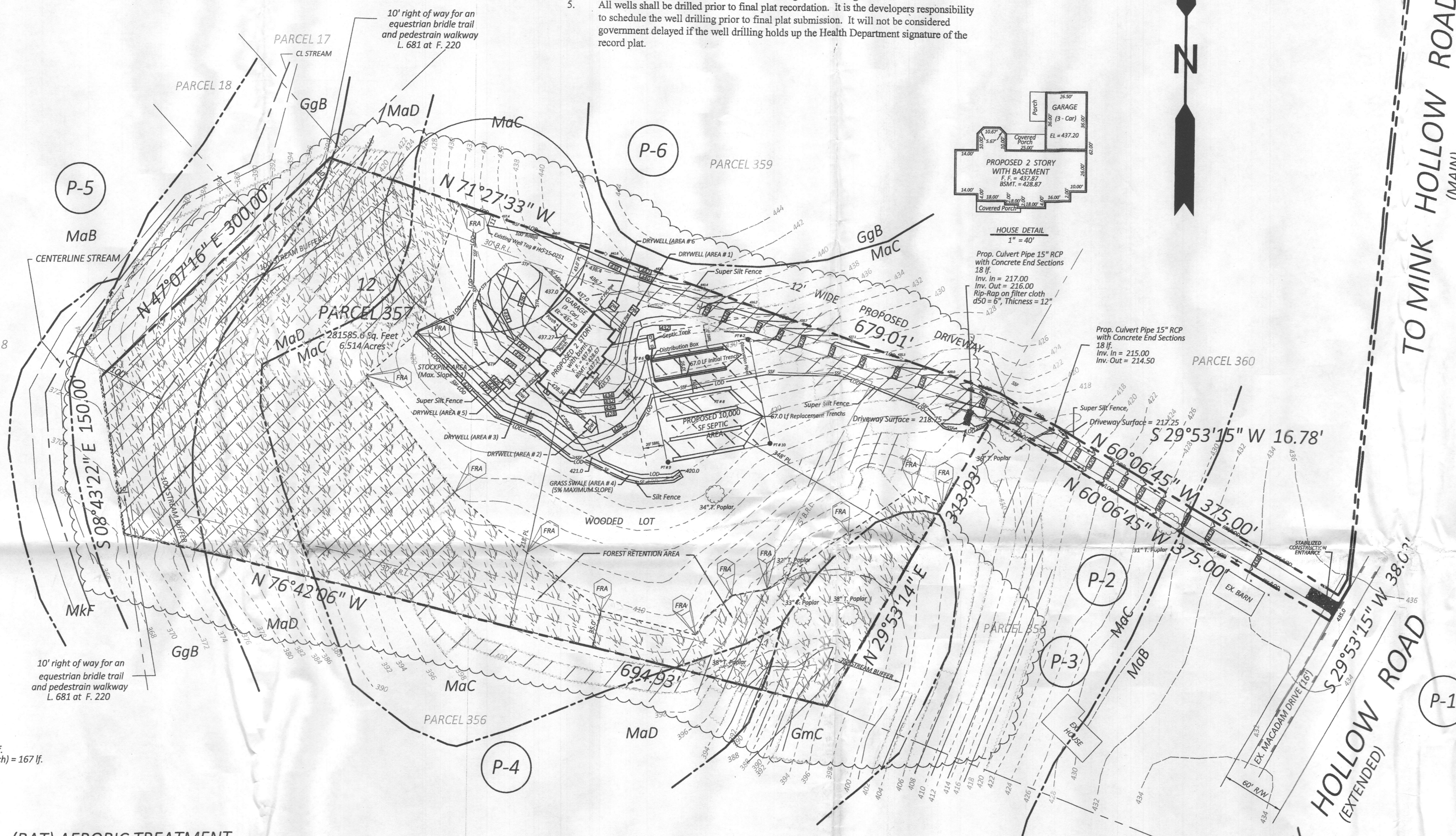
- × EX. ELEVATIONS
- + PROP. ELEVATIONS
- EX. CONTOURS
- PROP. CONTOURS
- EX. WOODLINE
- SPECIFIC TREES
- STREAM/CREEK
- CONC. CURB
- SEWER LINE
- WATER LINE
- ▨ TREE CONSERVATION
- SEWER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- UTILITY POLE
- UTILITY POLE W/LGHT
- ELEC. LINE
- ED. ROAD
- SPEC. FENCE
- ▨ 15% SLOPES OR GREATER
- PASSING PERK TEST LOCATIONS
- SOILS DELINEATION LINE
- STREAM BUFFER
- SSF SUPER SILT FENCE
- LOD LIMIT OF DISTURBANCE
- STP STOCKPILE AREA
- ▨ FOREST RETENTION AREA
- ◊ FRA FOREST RETENTION SIGNAGE
- P-1 LANDSCAPE PERIMETER
- DW DRYWELL

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
GgB	Glenside loam, 3 to 8 percent slopes	C	K = .28	0.7
GmC	Glenside silt loam, 8 to 15 percent slopes	C	K = .35	0.6
GaB	Glenside-Balle silt loams, 0 to 8 percent slopes	C	K = .43	0.1
GaB	Glenside-Coulson silt loams, 0 to 8 percent slopes	C	K = .43	0.3
MaB	Manor loam, 3 to 8 percent slopes	B	K = .28	0.1
MaC	Manor loam, 8 to 15 percent slopes	B	K = .28	4.8
MaD	Manor loam, 15 to 25 percent slopes	B	K = .28	12.6
Totals for Area of Interest				7.6

GENERAL NOTES (Health Department)

- This area designates a private sewerage easement at least 10,000 square feet as required by the Maryland State Department of the Environment for individual sewerage disposal. Improvements of any nature in this area are restricted until public sewerage is available. These easements shall become null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant adjustments to the private sewerage easement recordation of a modified sewerage easement shall not be necessary.
- The lot shown hereon complies with the minimum ownership width and lot areas as required by the Maryland State Department of the Environment.
- Existing wells and/or sewerage easement within 100 feet of the property have been shown from the best available information.
- All house sites comply with minimum building restriction regulations.
- All wells shall be drilled prior to final plat recordation. It is the developers responsibility to schedule the well drilling prior to final plat submission. It will not be considered government delayed if the well drilling holds up the Health Department signature of the record plat.

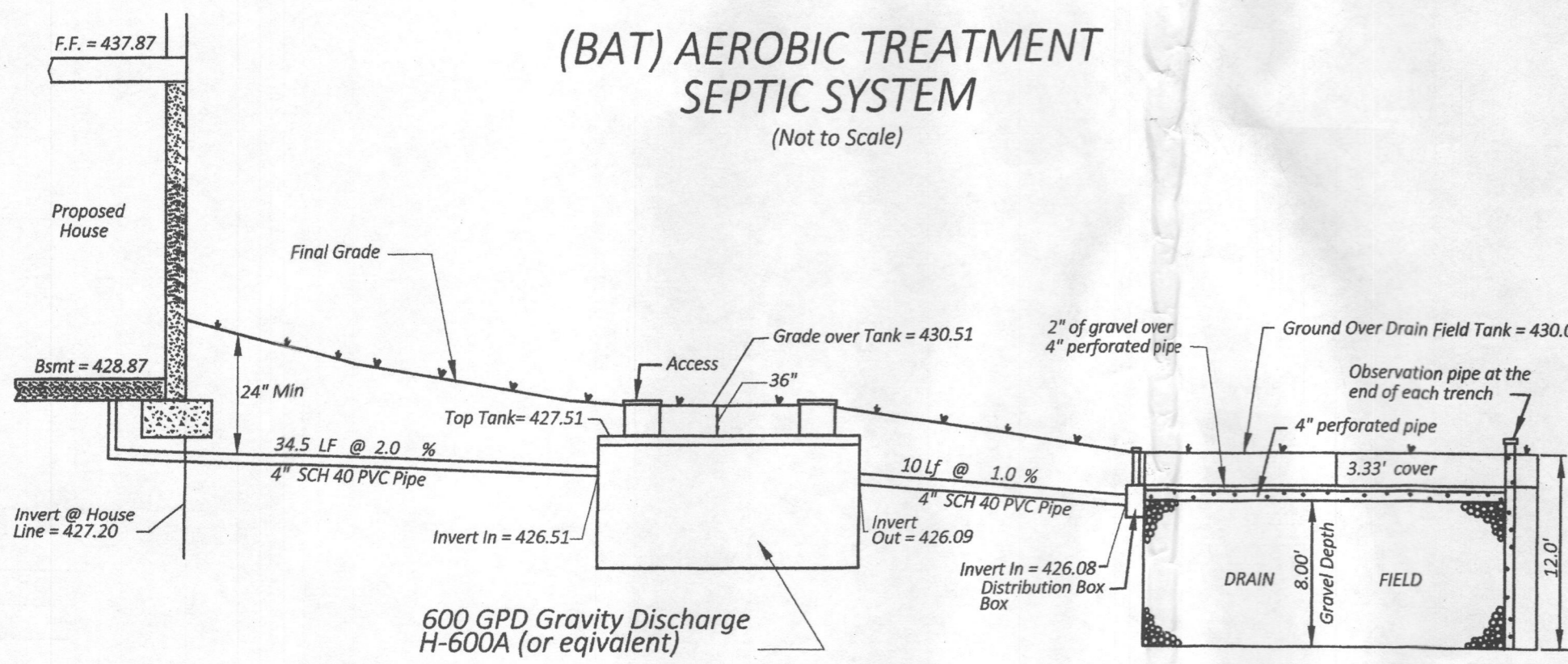


SEPTIC TRENCH INFORMATION
 Depth of trench.....12.0'
 Length of trench.....167 lf
 Width of trench.....3.0'
 Trenches to be 16.0' apart edge to edge
 Invert at initial trench.....426.08
 1st replacement.....421.2
 2nd replacement trench.....418.0

TRENCH DESIGN
 Proposed 4 Bedroom House
 Application Rate = 1.2
 Effective area beginning depth = 12.0'
 Bottom maximum depth = 12.0'
 Design flow = 150 gallons per day (gpd) per bedroom
 Design flow = 4 x 150 = 600 gpd.
 Square footage of trench required = 600 gpd / 1.2 = 500 sf.
 Linear length of trench required = 500 sf / 3' (wide of trench) = 167 lf.
 167 lf / 2 = 83.5 lf each trench.

(BAT) AEROBIC TREATMENT SEPTIC SYSTEM

(Not to Scale)



- Required BAT Site Plan Notes**
- 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.
 - The maximum depth of the BAT per the manufacturer's specification is 3-5 feet.
 - The blower may not be located more than 50 feet from the tank based on the manufacturer's specifications.
 - The BAT system shall be maintained and operated for the life of the system.
 - The BAT shall be installed by and maintained by a certified service provider.
 - Within one month of installation, a person installing the BAT system shall report to the Maryland Department of the Environment (MDE) in a manner acceptable to MDE, the address and date of completion of the BAT installation and the type of BAT installed.
 - Electrical work for the BAT installation must be performed by a licensed electrician.
 - An Agreement and Easement must be completed and signed by all applicable parties, and recorded in Land Records of Howard County.
 - The Health Department requires documentation for the start-up certification from the manufacturer prior to final approval of the installation.

- SEQUENCE OF CONSTRUCTION**
- Pre construction meeting..... Day 1
 - Obtain necessary permits..... Day 2-3
 - Notify "MISS UTILITY" at least 48 hours prior to beginning construction 1-800-257-7777..... Day 2-4
 - PHASE - I**
 - Install sediment control devices..... Day 5-36
 - Super Silt Fence
 - Stabilized Construction Entrance
 - Constructed Driveway and culvert pipes..... Day 37-70 for access to the house area.
 - Vegetatively stabilize all areas disturbed by driveway..... Day 71-93 construction.
 - PHASE - II**
 - Construct dwelling and finalize driveway area..... Day 94-365
 - Final grade and construct SWM facilities and..... Day 365-367
 - Vegetatively stabilize all areas disturbed by construction. Remove all sediment control devices when written permission has been granted by the inspector.
 - Total Disturbed Area.....1.41 acres

OWNER/ DEVELOPER
 Dennis Danner
 Danner Development
 350 Main Street
 Highland, MD 20777
 240-375-4934

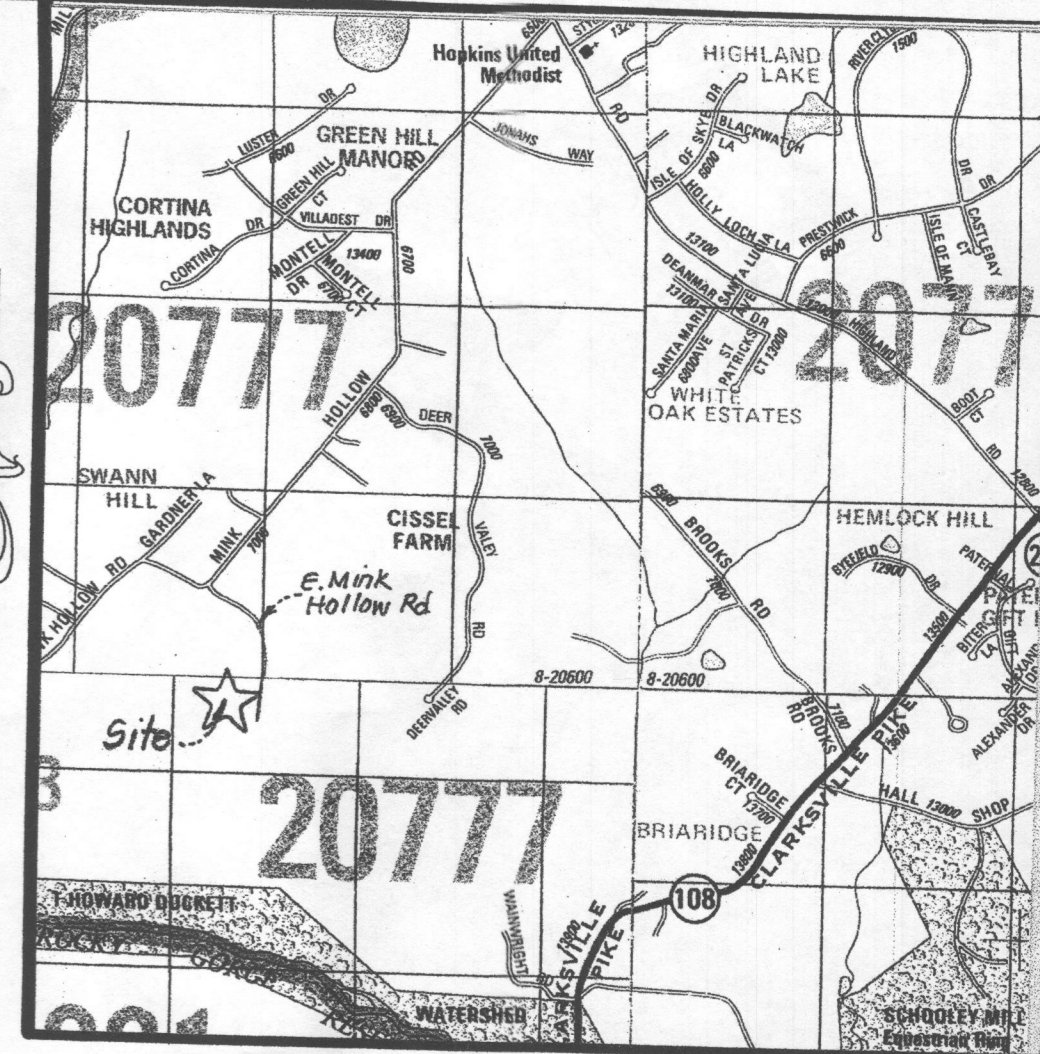
CALL "MISS UTILITY" TELEPHONE NUMBER 1-800-257-7777 FOR UTILITY LOCATIONS AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.

ENGINEER'S CERTIFICATE
 I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Conservation District.
 Gregory C. Benefiel
 Registered Professional
 Land Surveyor, Md. # 20994
 License Exp. Aug. 8, 2016
 Date: 7-9-2016

DEVELOPER'S CERTIFICATE
 I hereby certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Training Program for the control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard County Conservation District.
 Dennis Danner
 Owner / Developer
 Danner Development
 Date: 7/14/16

APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEMS IN CONFORMANCE WITH THE MASTER PLAN OF HOWARD COUNTY
 Health Officer, Howard County Health Dept. Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division Date
 Chief, Division of Land Development Date
 Director Date



VICINITY MAP

SCALE: 1"=200'
 COPYRIGHT: A.D.C. "THE MAP PEOPLE" PERMITTED USE No 20492158

- GENERAL NOTES:**
- SITE ZONED: R-R DEO
 - AREA OF SITE: 281,586 SF OR 6.50 ACRES
 - SITE IS LOCATED ON TAX MAP 40, GRID 08, PARCEL 357.
 - SITE IS LOCATED ON ADC MAP PAGE 18, GRID 9-C.
 - PROPERTY ACCOUNT NUMBER: 353238.
 - WATER AND SEWER IS TO BE PRIVATE.
 - OWNER: WHITE, DOUGLAS C TRUSTEE
 17705 HOLLINGSWORTH DRIVE
 ROCKVILLE, MD 20855
 - DEVELOPER/APPLICANT:
 DANNER DEVELOPMENT
 DENNIS DANNER
 350 Main Street, P.O. Box 355
 Highland, MD 20777
 240-375-4934
 - PROPERTY DESCRIPTION: DEED LIBER 669 AT FOLIO 287.
 - ANY CHANGES TO A PRIVATE SEWER EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
 - ALL WELLS ARE TO BE DRILLED PRIOR TO PERMIT ISSUANCE. IT IS THE DEVELOPERS RESPONSIBILITY TO SCHEDULE WELL DRILLING PRIOR TO PERMIT ISSUANCE. IT WILL NOT BE CONSIDERED GOVERNMENT DELAY IF THE WELL DRILLING HOLDS UP TO THE HEALTH DEPARTMENT SIGNATURE OF THE PERMIT.
 - TOPOGRAPHY OBTAINED FROM HOWARD COUNTY RECORDS AND FIELD VERIFIED AND ADJUSTED BY SURVEY'S INC. MARCH 15, 2016.
 - PER FEMA FLOOD INSURANCE RATE MAP, PROPERTY IS IN ZONE X, COMMUNITY PANEL NUMBER 24027C0140D.
 - PROPERTY ADDRESS: 7077 E. MINK HOLLOW ROAD
 HIGHLAND, MARYLAND 20777
 - PRIOR PERC TEST APPLICATION A-19279 PERFORMED ON NOVEMBER 13, 1973.
 - CURRENT PERC TEST APPLICATION A-19279 PERFORMED ON APRIL 8, 2016.
 - ALL PERC TEST HOLES PASSED AS SHOWN ON THIS PLAN
 - THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THE PROPERTY LINES.

SURVEYS, INC.
 SURVEYORS • ENGINEERS • LAND PLANNERS
 PERMIT SERVICES
 350 MAIN STREET
 LAUREL, MARYLAND, 20701
 PHONE 301-716-0944 FAX 301-716-0942 E-MAIL SURVEYS@GOWERNET.COM

DATE	REVISION

ENVIRONMENTAL CONCEPT, GRADING EROSION SEDIMENT CONTROL, FOREST CONSERVATION AND LANDSCAPE PLAN
 7077 E. MINK HOLLOW ROAD
 TAX MAP 40, PARCEL 357
DANNER PROPERTY
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE	DESIGNER	CHECKED BY
1"=60'	DB	GB

DATE	DRAFTER	FIELD BOOK
JULY 2014	DB	BK 60 / P. 30

JOB NUMBER	SHEET NUMBER	FILE NUMBER
16-24	1 of 3	L-421

B-4.5 STANDARDS AND SPECIFICATIONS

FOR

PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

Criteria

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Circular, Section 342 - Critical Area Planting.
 - For sites having disturbed areas over 2 acres, use and show the rates recommended by the soil testing agency.
 - For areas receiving low maintenance, apply urea from fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
 - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - Kentucky Bluegrass/Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Partial Shade Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Partial Shade Kentucky Bluegrass Cultivars Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixtures include: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 15 to 20 pounds per 1000 square feet.

Note: Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland". Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.
- Ideal Times of Seeding for Turfgrass Mixtures
 - Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zones: 5b, 6a)
 - Central MD: March 1 to May 15, August 15 to October 15 (Hardness Zones: 6b)
 - Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zones: 7a, 7b)
- Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
- If soil moisture is deficient, supply new seedlings with adequate water for plant growth 1/2 to 1 inch every 3 to 4 days depending on soil texture until they are firmly established. This is especially true when seedlings are made late in the planting season, in unusually dry or hot seasons, or on adverse soils.

Permanent Seeding Summary

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth	Fertilizer Rate (10-20-20)			Lime Rate
					N	P ₂ O ₅	K ₂ O	
1	Tall Fescue	100	8/1/15 to 8/1/16	1/2"	45 pounds per acre (10 lb/1000 sf)	90 lb/acre (2 lb/1000 sf)	90 lb/acre (2 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)

B. Soil: To provide quick cover on disturbed areas (2:1 grade or flatter).

- General Specifications
 - Class of turfgrass seed must be Maryland State Certified. Seed labels must be made available to the job foreman and inspector.
 - Soil must be machine cut at a uniform soil thickness of 1/4 inch, plus or minus 1/8 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken peds and bits of uncut ends will not be acceptable.
 - Standard size sections of soil must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
 - Soil must not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
 - Soil must be harvested, delivered, and installed within a period of 36 hours. Soil not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
- Soil Installation
 - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the soil.
 - Lay the first row of soil in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that soil is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
 - Whenever possible, lay soil with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the soil to prevent slippage on slopes. Ensure solid contact exists between soil roots and the underlying soil surface.
 - Water the soil immediately following rolling and tamping until the underside of the new soil pad and soil surface below the soil are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of soil within eight hours.
- Soil Maintenance
 - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water soil during the heat of the day to prevent wilting.
 - After the first week, soil watering is required as necessary to maintain adequate moisture content.
 - Do not mow until the soil is firmly rooted. No more than 1/2 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

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

- Specifications
 - All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to testing by a recognized seed laboratory. All seed 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 tags must be available upon request to the inspector to verify type of seed and seeding rate.
 - Mulch alone may be applied between the fall and spring seedings only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 - Inoculant: 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 later than the date indicated on the container. 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 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Soil or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min) to permit dissipation of phytotoxic materials.
- Application
 - Day Seeding: This includes use of conventional drop or broadcast spreaders.
 - 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.
 - 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.
 - Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total; available nitrogen, P₂O₅ (phosphorus), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
 - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - Mix seed and fertilizer on site and seed immediately without interruption.
 - When hydroseeding do not incorporate seed into the soil.
- Mulching
 - Mulch Materials (in order of preference)
 - Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious 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.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibers physical characteristics:
 - WCWM is to 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.
 - WCWM, including dye, must contain no germination or growth inhibiting factors.
 - WCWM 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 biotene-like ground cover, on application, having moisture absorption and permeation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WCWM material must not contain elements or compounds at concentration levels that will be phytotoxic.
 - WCWM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range 4.0 to 8.5, ash content of 1.0 percent maximum and water holding capacity of 90 percent minimum.
- Application
 - Apply mulch to all seeded areas immediately after seeding.
 - When straw 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.
 - Wood cellulose fiber seed mulch must be applied at a net dry weight of 1300 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.
- Anchoring
 - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or erosion. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
 - Wood cellulose fiber may be used for anchoring straw. 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.
 - Synthetic binders such as Axyline BLR (Ago-Tack), DCA-70, Penosol, Terra Tex II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valley-and-on crests of banks. Use of asphalt binders is strictly prohibited.
 - Lightweight plastic netting may be stapled 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.

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

- Soil Preparation
 - Temporary Stabilization
 - Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural construction equipment, such as disc harrows or chisel plows of rippers mounted on construction equipment. After the soil has been loosened, it must be rolled or dragged smooth but left in the loosened condition. Slopes 3:1 or flatter are to be tilled with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
 - Permanent Stabilization
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - Soil contains less than 10 percent clay but enough fine grained material (greater than 20 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.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
 - 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 3 1/2 inches.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed 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 2 inches of soil loose and friable. Seeding loosening may be unnecessary on newly disturbed areas.
- Topsoiling
 - Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soil of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
 - Topsoil salvaged from an existing site may be used provided it meets 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 in the Soil Survey published by USDA-NRCS.
 - Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish confining supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
 - Areas having slopes steeper than 2:1 require special consideration and design.
 - Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
 - Topsoil must be a loam, sandy loam, clay loam, silt loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textural materials and must contain less than 5 percent by volume of cinders, stones, slag, coars, fragments, gravel, sticks, roots, twigs, or other materials larger than 1/4 inch in diameter.
 - Topsoil must be free of noxious plants or plant parts such as: Bindweed grass, truck grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - 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.
 - Topsoil Application
 - Erosion and sediment control practices must be maintained when applying topsoil.
 - Uniformly distribute topsoil in a 3 to 6 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading 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.
 - 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 seedbed preparation.
- Soil Amendments (Fertilizer and Lime Specifications)
 - 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 samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
 - Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when topsoiling) which contains at least 50 percent total oxides (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 #20 mesh sieve.

B-4.4 STANDARDS AND SPECIFICATIONS

FOR

TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

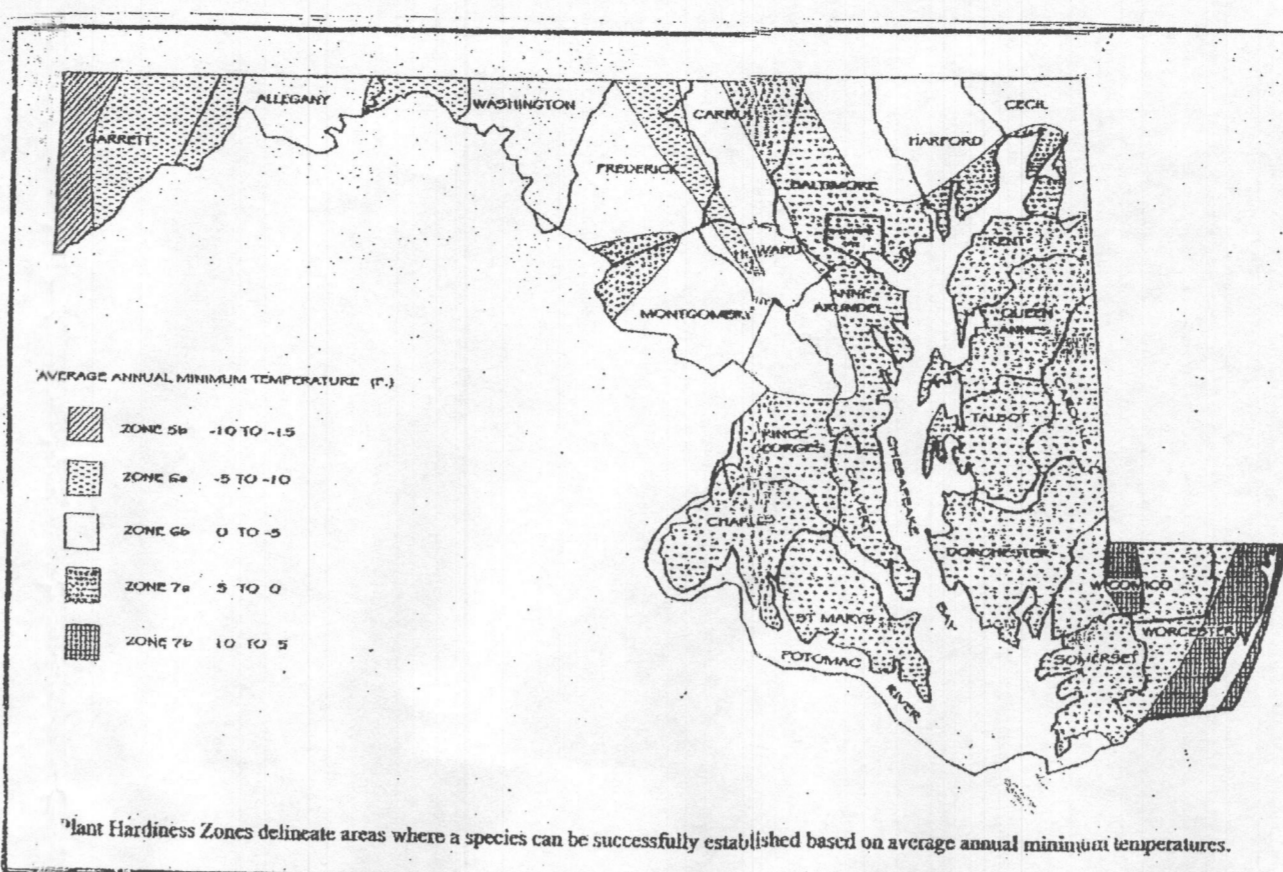
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch of straw mulch alone as prescribed in Section B-4-3-A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth	Fertilizer Rate (10-20-20)			Lime Rate
					N	P ₂ O ₅	K ₂ O	
1	Annual Ryegrass	40	8-11-15 to 8-11-16	1/2"	436 lb/acre (10 lb/1000 sf)	872 lb/acre (2 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)	
2	Festulolol	30	6-1-15 to 7-31	1/2"				



B-4.8 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

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- 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.
- Ruoff from the stockpile area must drain to a suitable sediment control practice.
- Access the stockpile area from the upgrade side.
- Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary water or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
- Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- Stockpile 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.
- 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 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 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.

HOWARD COUNTY CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

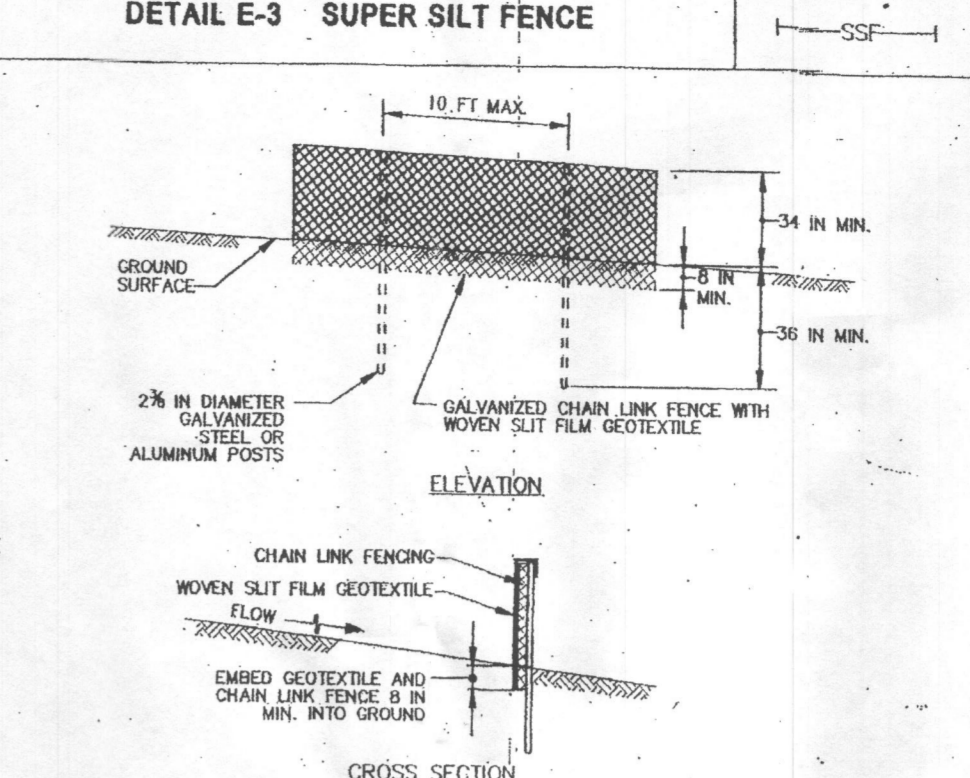
- A minimum of 48 hours notice must be given to the Howard County Department of Public Works, Construction Inspection Division (CID) prior to the start of any construction (410-313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within a 3 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, but 7 days to all other disturbed or graded areas on the project site.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	6.50	Acres
Area Disturbed	1.61	Acres
Area to be seeded or paved	0.34	Acres
Area to be vegetatively stabilized	1.06	Acres
Total Cut	522	Cu. Yds.
Total Fill	600	Cu. Yds.
Offsite waste/borrow are location	N/A	
- Any sediment control practice that is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be required upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each workday, whichever is shorter.
- Any changes or revisions to the sequence of construction must be reviewed and approved by the plan approval authority prior to proceeding with construction.
- A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the enforcement authority. Unless otherwise specified and approved by the approval authority, no more than 30 acres cumulatively may be disturbed at a given time.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date
Chief, Division of Land Development	Date
Director	Date

STANDARD SYMBOL



CONSTRUCTION SPECIFICATIONS

- INSTALL 2 IN DIAMETER GALVANIZED STEEL POSTS OF 0.605 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 IN HIGH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR RING BOLTS.
- FASTEN MOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURED TO THE UPSIDE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 6 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

B-4 STANDARDS AND SPECIFICATIONS

FOR

VEGETATIVE STABILIZATION

Definition

Using vegetation as cover to protect exposed soil from erosion.

Purpose

To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization, soil preparation, soil amendments and topsoiling, seeding and mulching, temporary stabilization, and permanent stabilization.

Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by stabilizing those substances present within the root zone.

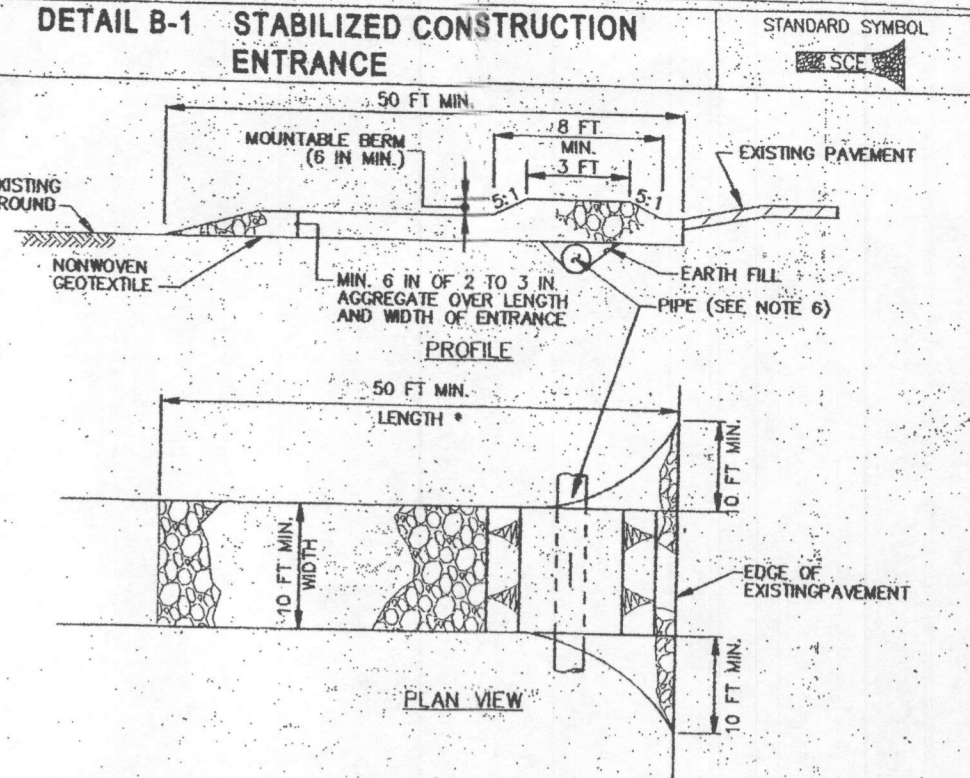
Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

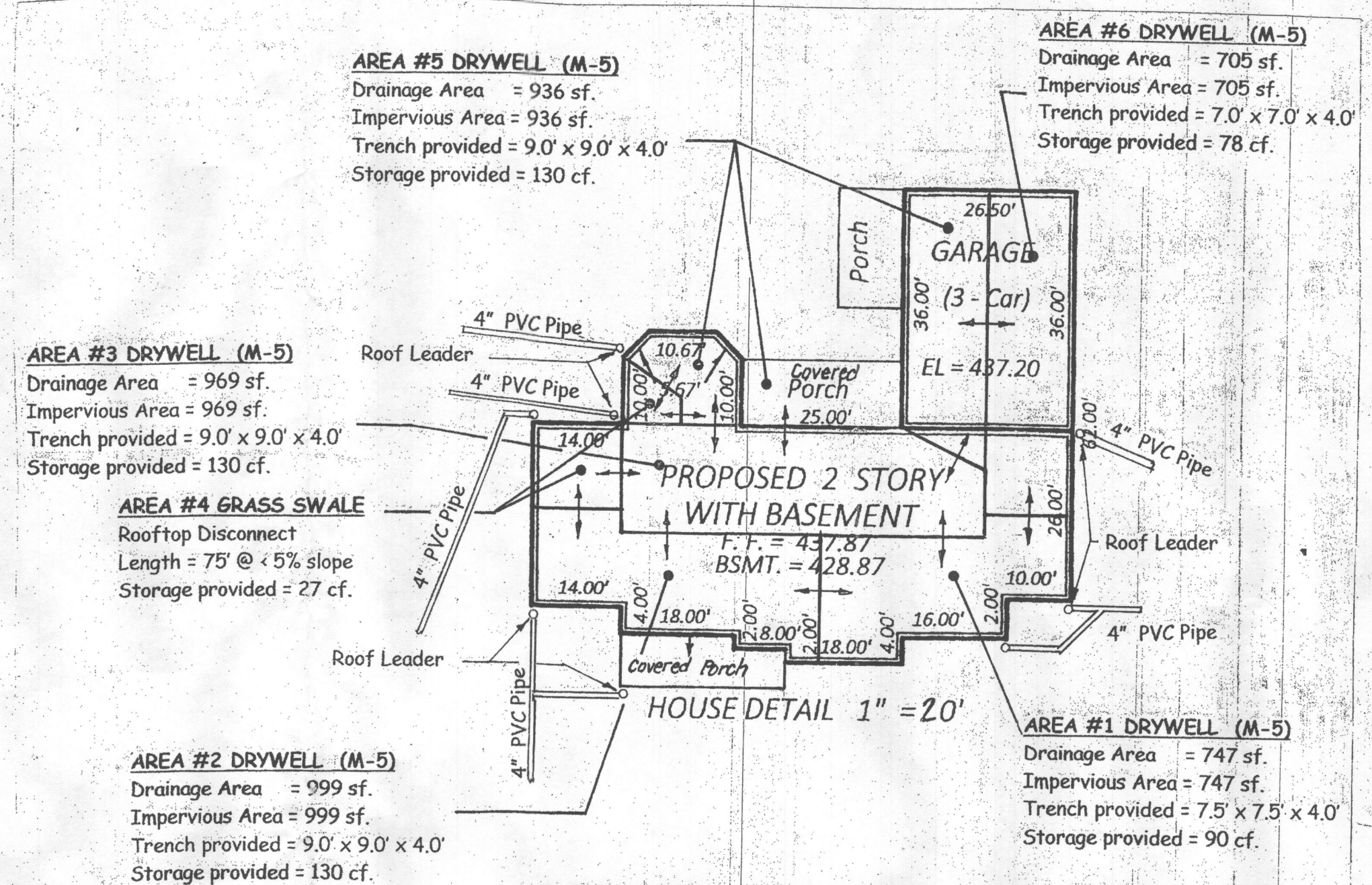
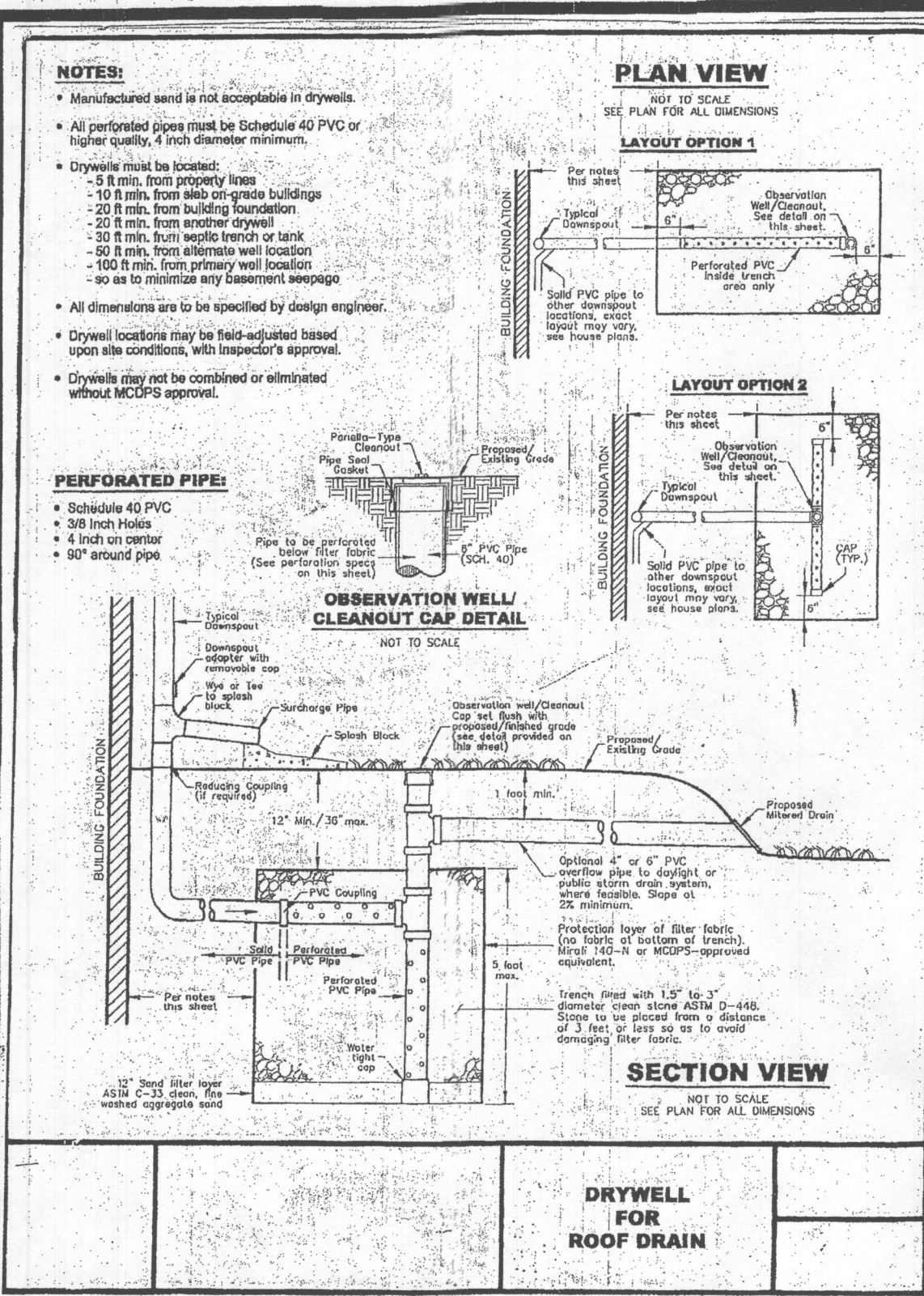
Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within 1 planting season.

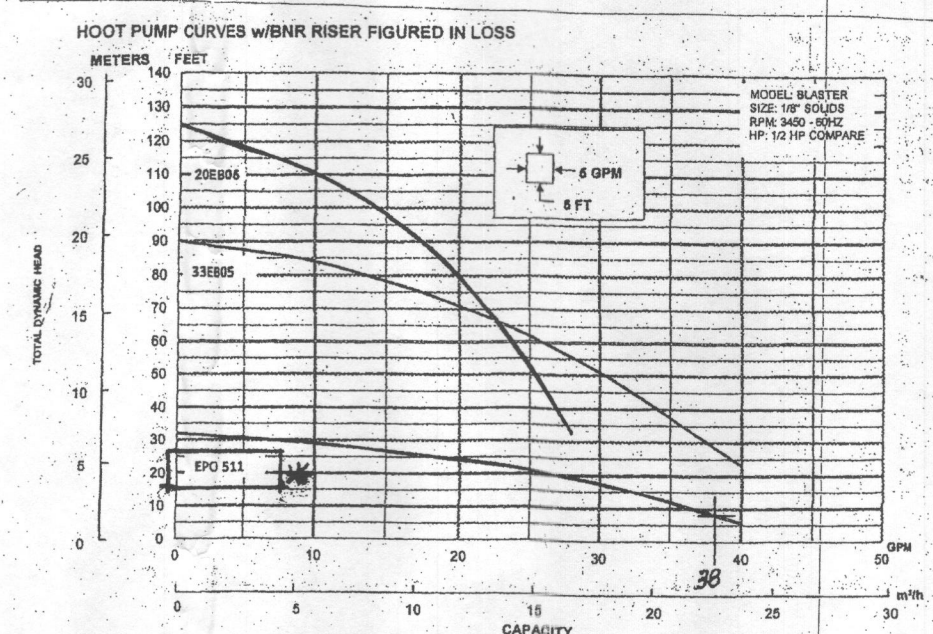
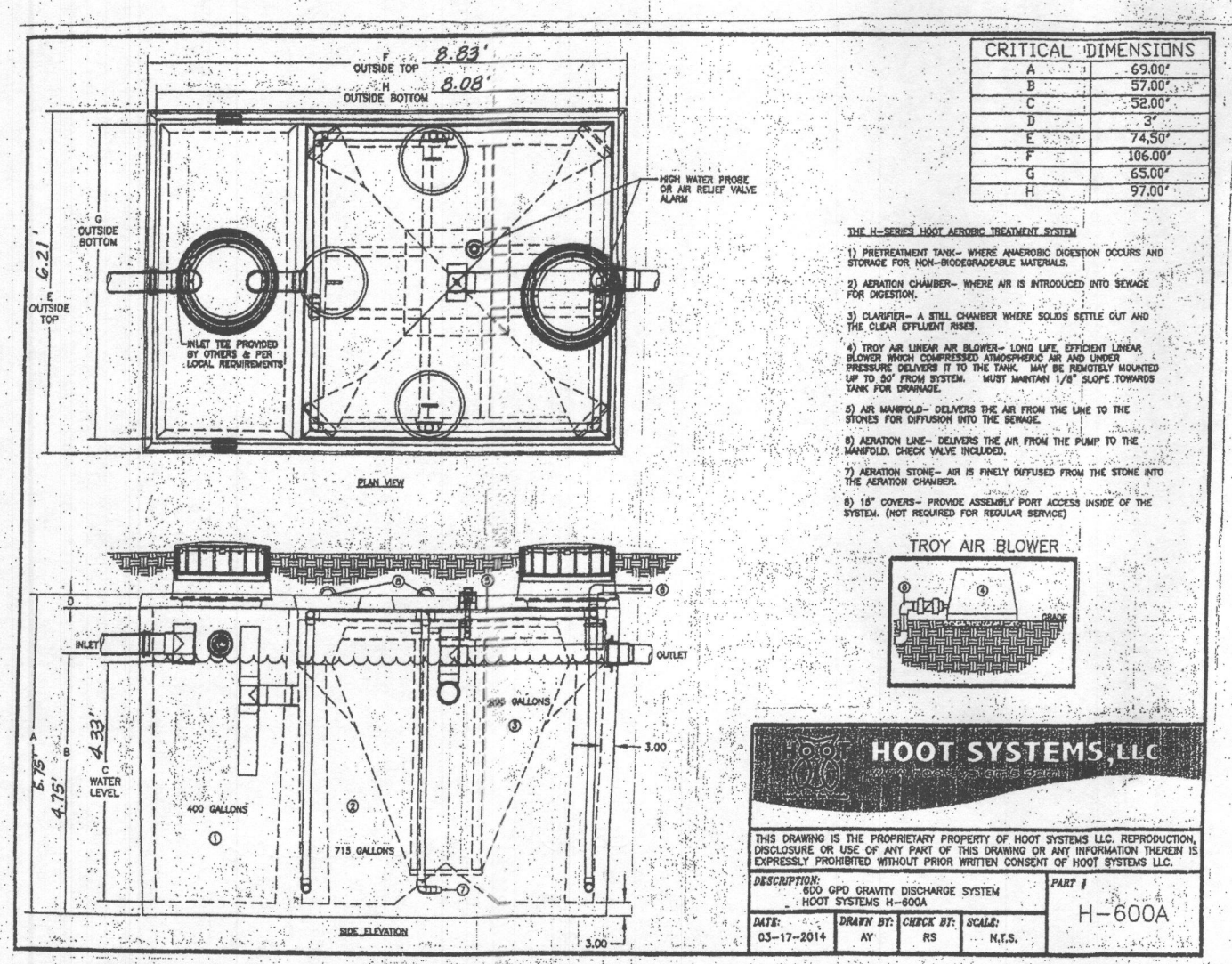
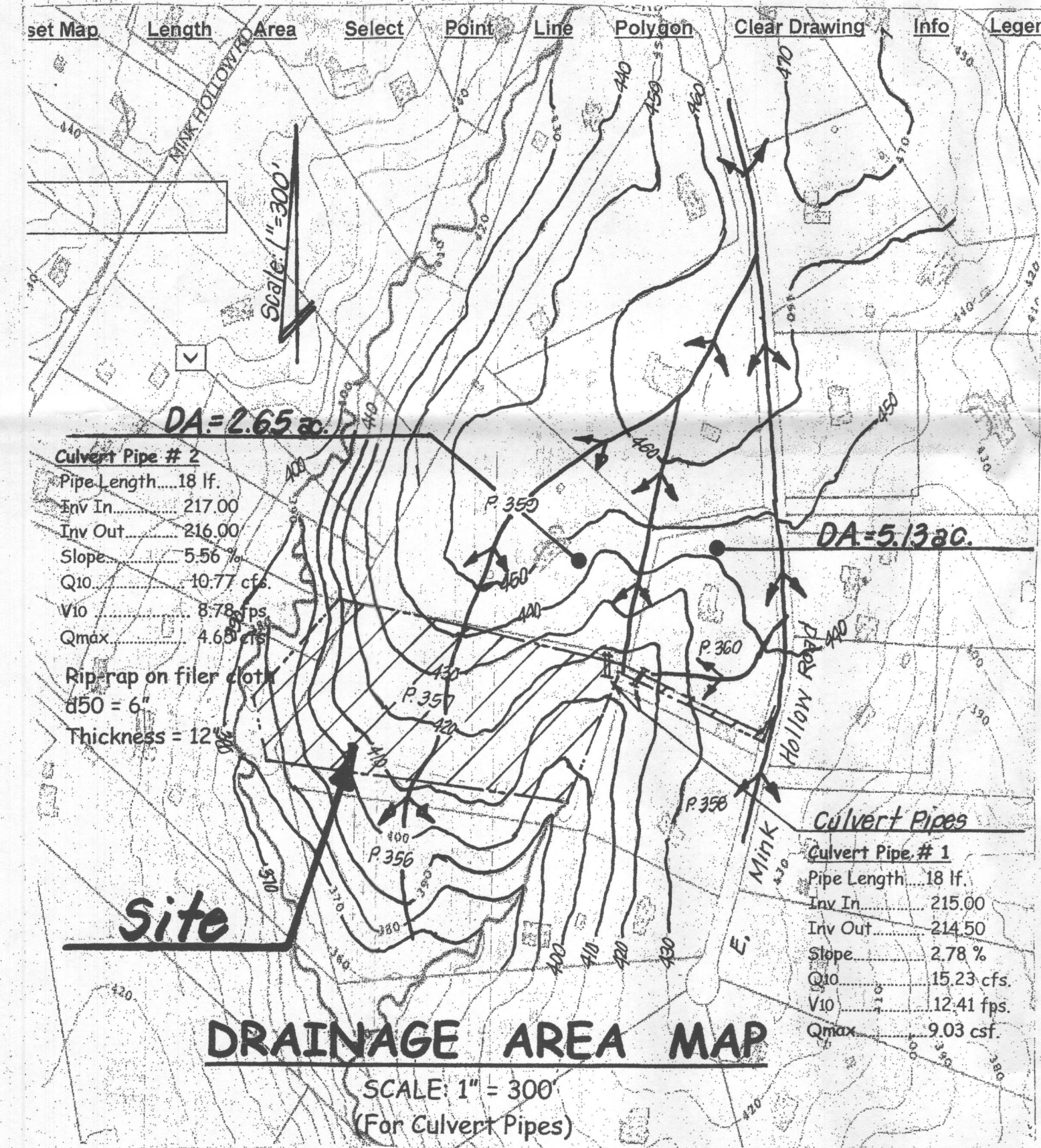
- Adequate vegetative stabilization requires 95 percent groundcover.
- If an area has less than 40 percent groundcover, reestablish following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.
- If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
- Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

STANDARD SYMBOL





DRAINAGE AREA MAP
 (For SWM Rooftop Areas)



Pump: Blaster EPO 511 1/2 HP
 Total Dynamic Head = 8.11 feet for 2" pipe.
 38 gpm at 50 gallons 1 min. 18 seconds draw down time.

SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties			
	P-1 (None)	P-2 (A)	P-3 (A)	P-4 (A)	P-5 (A) P-6 (A)
Linear Feet of Roadway Frontage/Perimeter	25'	375.0'	313.93'	694.93'	450.0' 1,054.01'
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	None	Yes 375'	Yes 313.93'	Yes 694.93'	Yes 450.0' 1,054.01'
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	None	None (Existing)	None (Existing)	None (Existing)	None (Existing)
Number of Plants Required					
Shade Trees	None	7	6	12	8 18
Evergreen Trees	None	0	0	0	0 0
Shrubs	None	0	0	0	0 0
Number of Plants Provided					
Shade Trees	None	None	None	None	None
Evergreen Trees	None	None	None	None	None
Other Trees (2:1 substitution)	None	None	None	None	None
Shrubs (10:1 substitution)	None	None	None	None	None

FOREST CONSERVATION WORKSHEET
 VERSION 1.0
 (Enter in Yellow Cells)

NET TRACT AREA = 6.50

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

Input the number "1" under the appropriate land use zoning, and limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	1	0	0	0	0

E. Afforestation Threshold... 20% x 0 = 1.30
 F. Conservation Threshold... 25% x 0 = 1.63

EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain)... 6.13
 H. Area of forest above afforestation threshold... 4.83
 I. Area of forest above conservation threshold... 4.51

BREAK EVEN POINT:

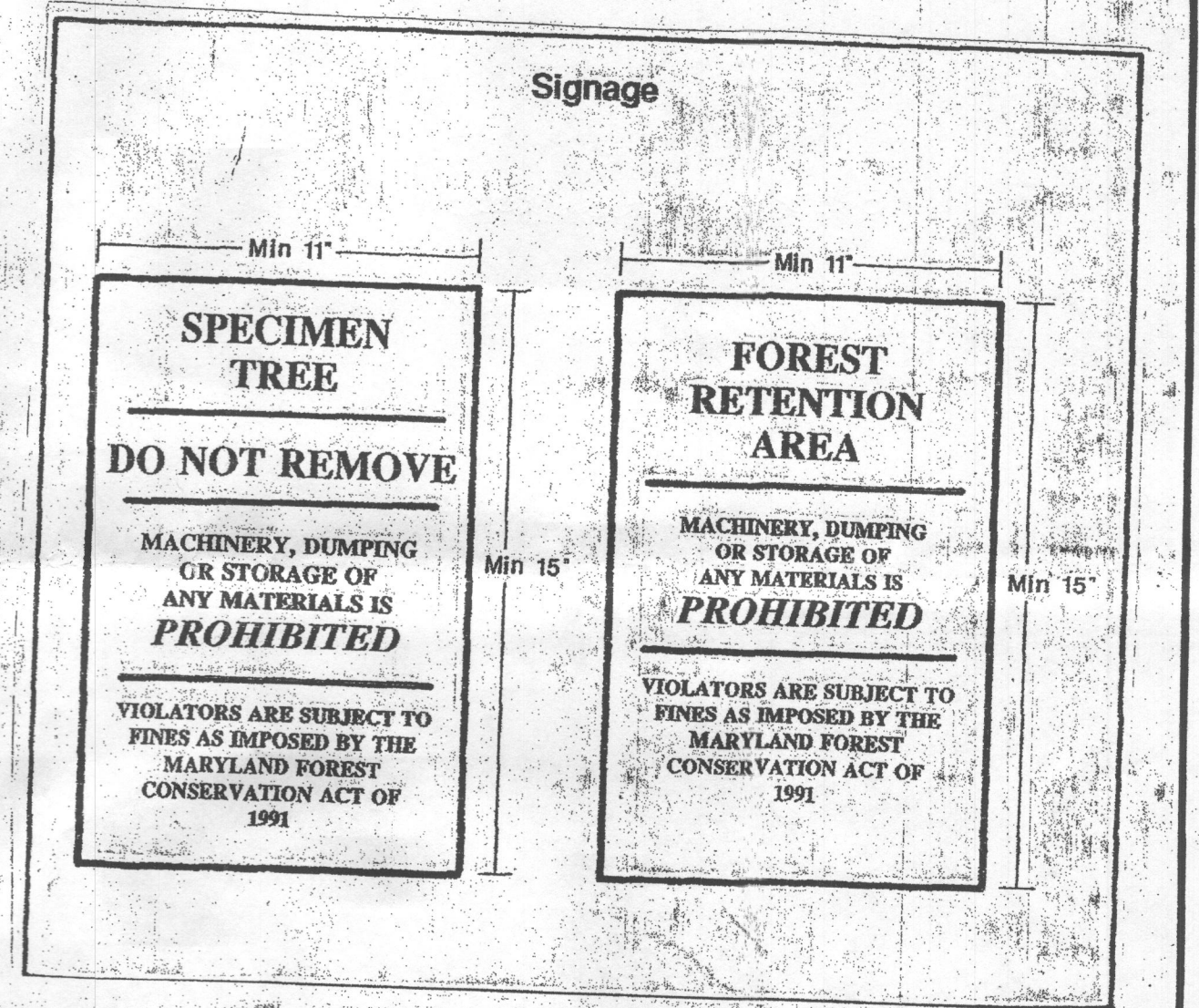
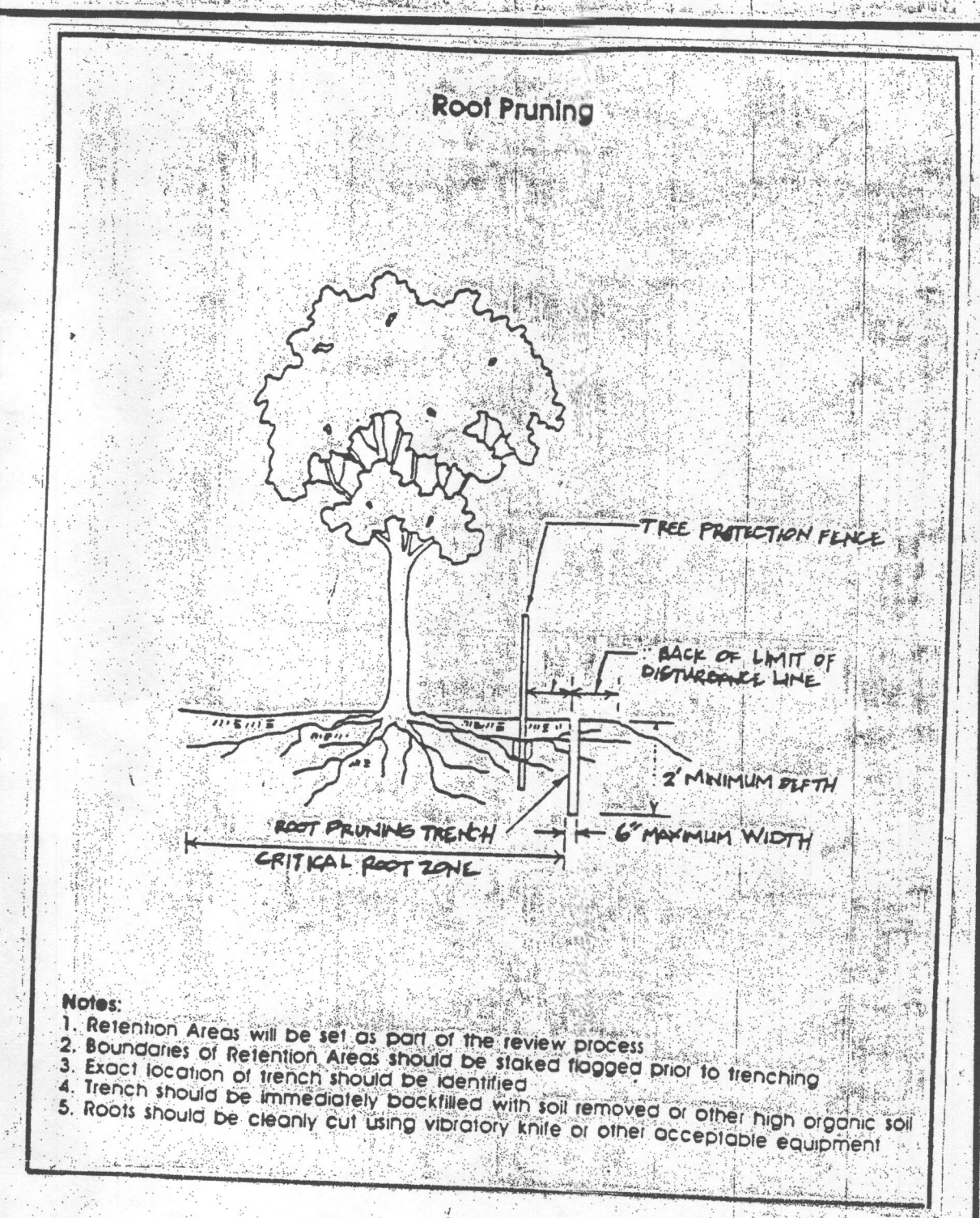
J. Forest retention above threshold with no mitigation... 2.53
 K. Clearing permitted without mitigation... 3.90

PROPOSED FOREST CLEARING:

L. Total area of forest to be cleared... 3.10
 M. Total area of forest to be retained... 3.03

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold...	0.78		
P. Reforestation for clearing below conservation threshold...	0.00	0.0	0.0
Q. Credit for retention above conservation threshold...	1.41		
R. Total reforestation required...	0.00		
S. Total afforestation required...	0.00	0.0	0.0
T. Total reforestation and afforestation required...	0.00		



SURVEYS, INC.
 SURVEYORS * ENGINEERS * LAND PLANNERS
 PERMIT SERVICES
 950 MAIN STREET
 LAUREL, MARYLAND, 20707
 PHONE 301-714-2541 FAX 301-714-2442 E-MAIL SURVEYS@GVERIZON.NET

ENVIRONMENTAL CONCEPT, GRADING, EROSION AND SEDIMENT CONTROL, FOREST CONSERVATION AND LANDSCAPE PLAN
 7077 E. Mink Hollow Road
 Tax Map 40, Parcel 357

"DANNER PROPERTY"
 5th Election District
 Howard County, Maryland

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division Date
 Chief, Division of Land Development Date
 Director Date

SCALE: As Shown DESIGNER: GB CHECKED BY: GB
 DATE: July 2010 DRAFTER: EBL FIELD BOOK
 JOB NUMBER: 16-24 SHEET NUMBER: 2 of 3 FILE NUMBER: L-421