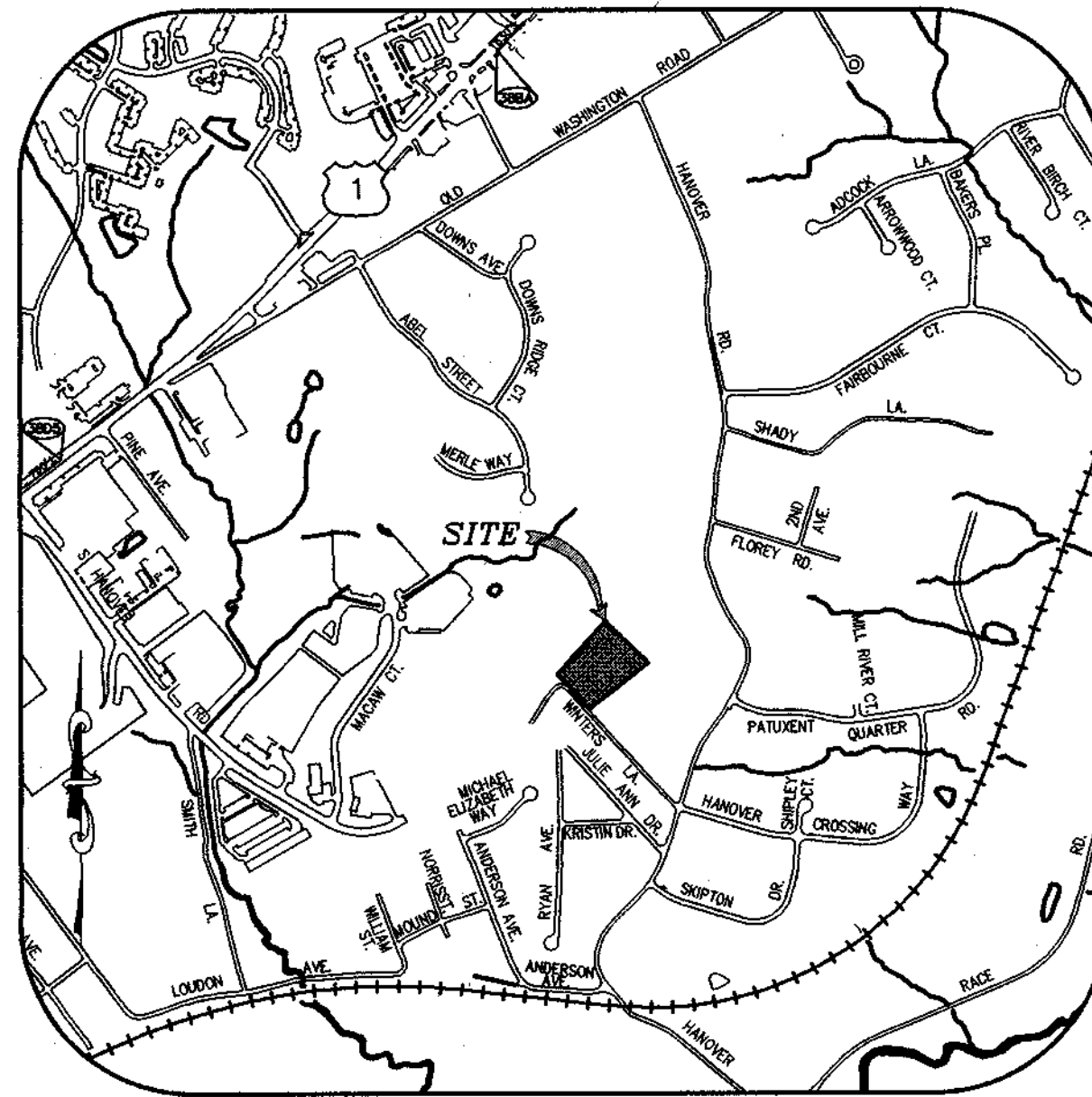


SHEET INDEX

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ROAD CONSTRUCTION PLANS WINTERS RIDGE LOTS 1 THRU 8

A RESUBDIVISION OF LOT 3
THE NORRIS E. POOL SUBDIVISION
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1"=1000'

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTIONS DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS PRIOR TO ANY EXCAVATION WORK:
 - MISS UTILITY 1-800-257-7777
 - VERIZON COMPANY (410) 725-9876
 - HOWARD COUNTY BUREAU OF UTILITIES (410) 313-4900
 - AT&T CABLE LOCATION DIVISION (410) 393-3533
 - BALTIMORE GAS & ELECTRIC (410) 685-0123
 - STATE HIGHWAY ADMINISTRATION (410) 531-5533
 - HOWARD COUNTY DEPT. OF PUBLIC WORKS/CONSTRUCTION INSPECTIONS DIVISION (410) 313-1880
- PROJECT BACKGROUND:
 - LOCATION: TAX MAP 38, PARCEL 868, GRID 15, LOT 3
 - ZONING: R-12
 - ELECTION DISTRICT: FIRST
 - TOTAL ACRES: 2.94 ± AC.
 - AREA OF BUILDABLE LOTS: 2.3 ± AC
 - AREA OF OPEN SPACE REQUIRED: 20% x 2.94 AC = 0.59 ± AC
 - AREA OF OPEN SPACE PROVIDED: 0.64 ± AC
 - NON-CREDITED OPEN SPACE: 228 S.F. (OPEN SPACE LESS THAN 35' WIDE LOCATED ON OPEN SPACE LOT)
 - NET OPEN SPACE PROVIDED: 0.64 ± AC
 - AREA OF RECREATIONAL OPEN SPACE: N/A
 - AREA OF ROAD DEDICATION: 0.00 ± AC
 - NUMBER OF BUILDABLE LOTS: 7
 - NUMBER OF OPEN SPACE LOTS: 7
 - TOTAL NUMBER OF LOTS OR PARCELS: 8
 - MINIMUM AREA OF BUILDABLE LOT: 8,600 SQ.FT.
 - DPZ FILE: F-75-18; S 99-06; P 00-10
- TWO FOOT CONTOUR TOPOGRAPHY AND EXISTING CONDITIONS BASED ON AERIAL TOPOGRAPHIC SURVEY BY WINGS AERIAL MAPPING, INC. PERFORMED ON OR ABOUT 1993.
- HORIZONTAL AND VERTICAL DATUMS BASED ON (NAD'83) MARYLAND STATE COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
 - STA. 38D5 N 558378.581 E 1386524.195
 - STA. 38BA N 562553.278 E 1390967.927
- STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- STORMWATER MANAGEMENT (QUANTITY) IS PROVIDED UNDER WILLIAMS KNOLL, SECTION 1 (F 97-110) WATER QUALITY PROVIDED VIA BIORETENTION.
- THE BIORETENTION FACILITY SHALL BE PRIVATELY OWNED AND MAINTAINED.
- GEOTECHNICAL REPORT PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC., DATED OCTOBER 1999.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-190.
- CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES ON SITE PRIOR TO COMMENCING CONSTRUCTION.
- FOREST STAND DELINEATION PERFORMED BY ECO-SCIENCE PROFESSIONALS ON OR ABOUT JULY 30, 1998.
- FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.200 OF HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT. FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF CONSERVATION EASEMENT ARE ALLOWED.
- THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION HAS BEEN FULFILLED BY RETENTION OF EXISTING FOREST IN THE AMOUNT OF 0.23 ACRES (10,047 SQ. FT. AT \$2,009.40) AND BY PURCHASE OF CREDITS AT A FOREST MITIGATION BANK FOR 1.31 ACRES. FOREST CONSERVATION SURETY IN THE AMOUNT OF \$2,009.40 HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- SLOPES IN EXCESS OF 25% EXIST AND ARE IDENTIFIED WHERE THEY EXCEED 20,000 SQ. FT.
- NO WETLANDS, STREAMS, OR FLOODPLAIN EXIST ON-SITE.
- WATER IS PUBLIC. (CONTRACT # 14-3930-D)
- SEWER IS PUBLIC. (CONTRACT # 14-3930-D)
- THE 40' R/W RESERVATION FOR THE EXTENSION OF HANOVER ROAD IS TO BE ABANDONED, SINCE IT WAS NEVER RECORDED BY THE COUNTY. THE RESERVATION IS NO LONGER NECESSARY, SINCE IT WAS REMOVED FROM THE 1990 HOWARD COUNTY GENERAL PLAN.
- LANDSCAPING FOR LOTS 1 THRU 8 IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN ON FILE WITH THIS PLAT IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$11,430.00.
- ROAD IMPROVEMENTS TO WINTERS LANE ARE TO BE PROVIDED UNDER CAPITAL PROJECT NO. J-4143.
- UNDER AIRPORT ZONING PERMIT NO. 99-138, THE MARYLAND AVIATION ADMINISTRATION HAS APPROVED THE CONSTRUCTION OF PROPOSED STRUCTURES ON THIS PROPERTY BASED ON THE FACT THAT THE PROPOSED STRUCTURES WILL NOT PENETRATE ANY NAVIGATIONAL AIRSPACE.
- ON APRIL 3, 2000, DESIGN MANUAL WAIVER WAS APPROVED BY THE DEVELOPMENT ENGINEERING DIVISION OF THE DEPARTMENT OF PLANNING AND ZONING TO ALLOW THE USE OF THE CURRENT EDITION OF THE MARYLAND STORMWATER DESIGN MANUAL.
- THE 4'X10' CONCRETE PAD (4 INCHES IN DEPTH) LOCATED WITHIN THE PUBLIC R/W WILL BE MAINTAINED BY THE OWNERS OF LOTS 2 THRU 8 PURSUANT TO THE DECLARATION OF RIGHT OF ACCESS AND MAINTENANCE OBLIGATIONS RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND.

DEVELOPER'S CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND/OR 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 APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

James C. Newburn 6/29/2001
 SIGNATURE OF DEVELOPER DATE
 JAMES C. NEWBURN
 PRINTED NAME OF DEVELOPER

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 SOIL CONSERVATION DISTRICT.

R. Jacob Hkmat 6/13/01
 SIGNATURE OF ENGINEER DATE
 R. JACOB HKMAT
 PRINTED NAME OF ENGINEER

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

Jim Nguyen 7/10/01
 USOA - NATURAL RESOURCE CONSERVATION SERVICE DATE

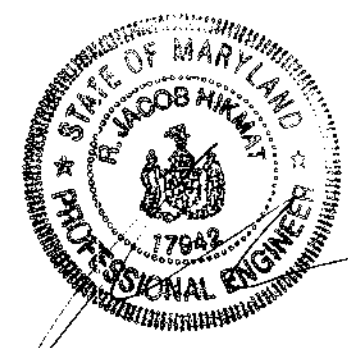
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Chella Sch... 7/10/01
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. ... 7/24/01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
... 7/26/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

... 7/27/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



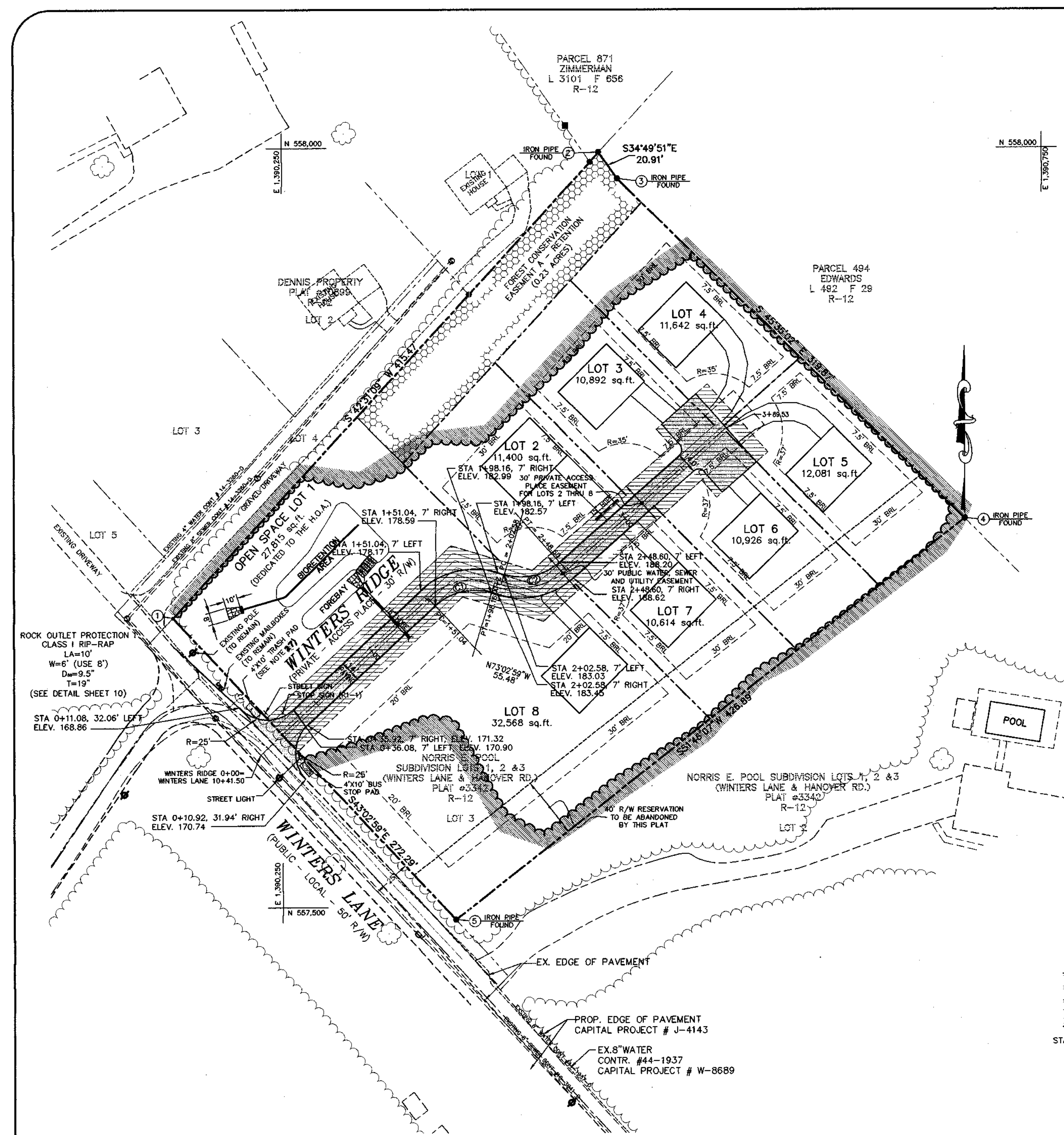
OWNER
 HOWARD-WINTERS LLC
 5570 STERRETT PLACE, SUITE 201
 COLUMBIA, MARYLAND 21044
 (410) 997-3815

project	99003	date	JUNE 2001
illustration	KR	engineering	KR
scale	AS SHOWN	approval	

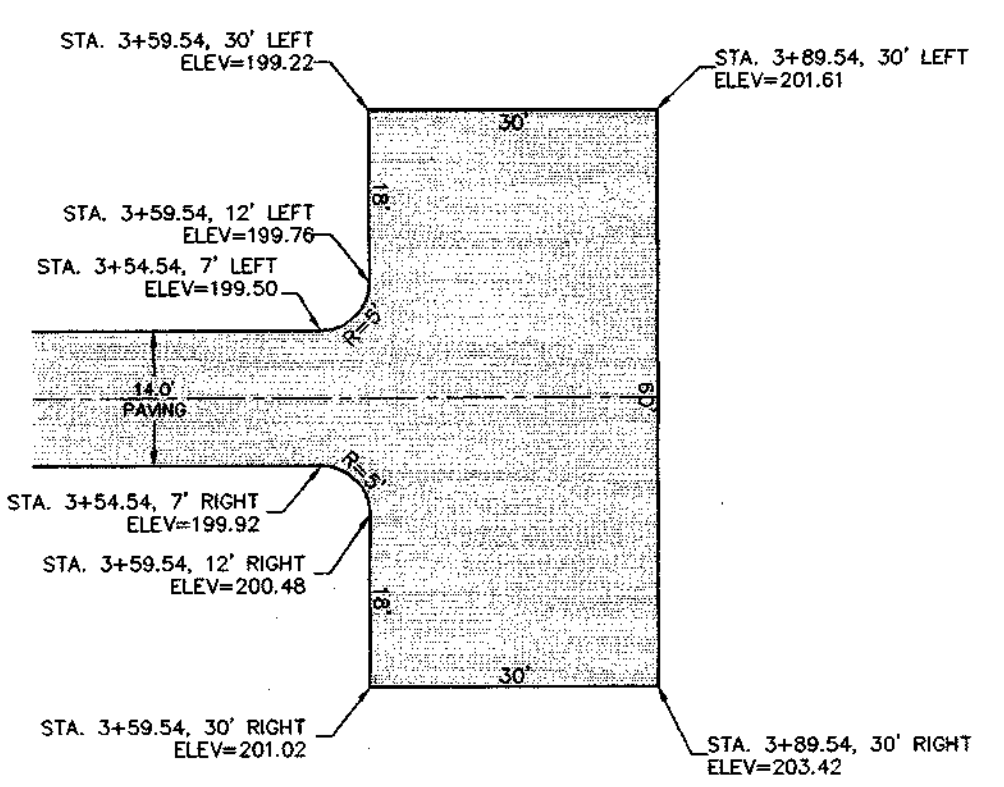
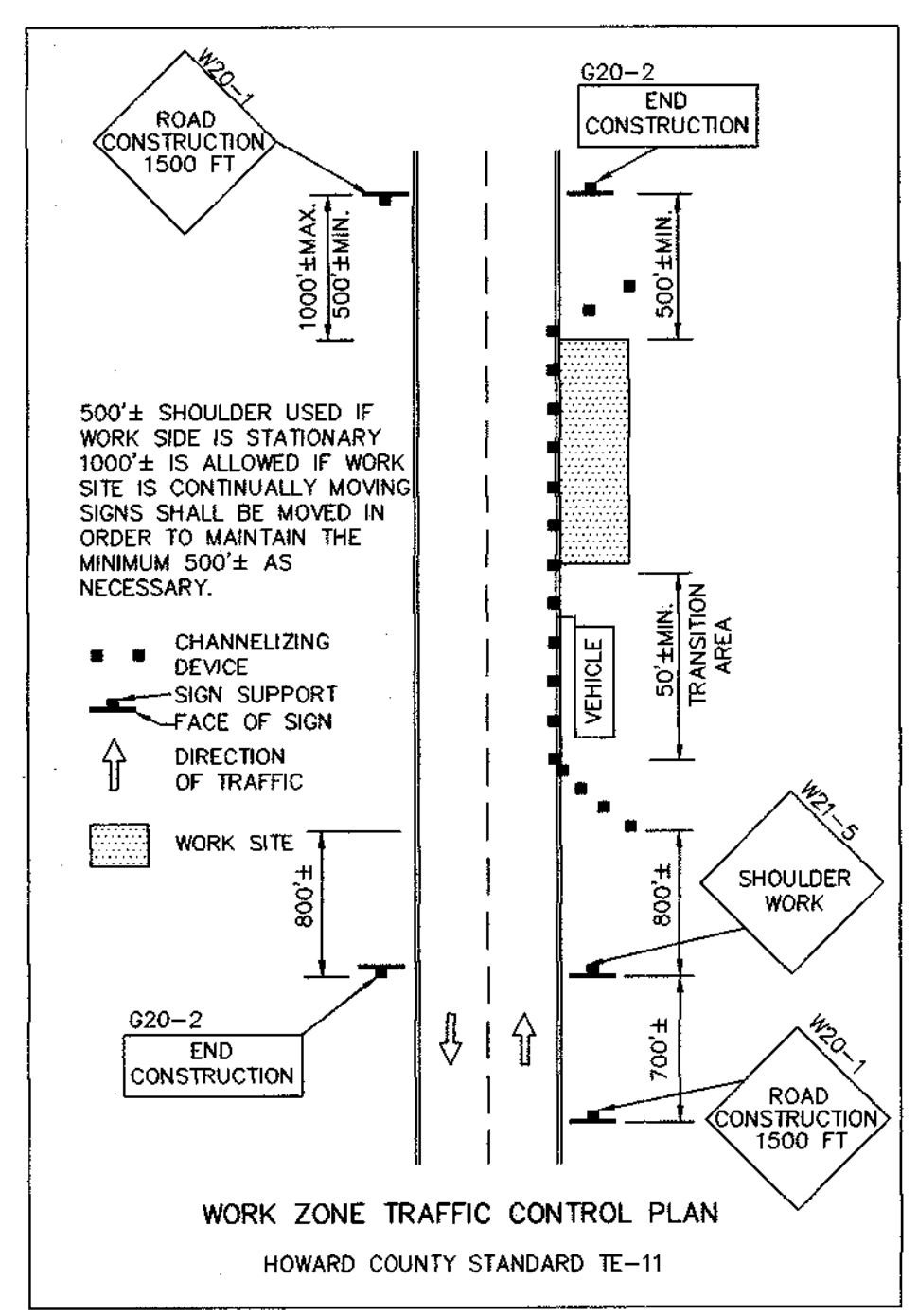
no.	description	revisions	date

COVER SHEET
 WINTERS RIDGE - LOTS 1 THRU 8
 A RESUBDIVISION OF LOT 3, NORRIS E. POOL SUBDIVISION
 TAX MAP 38 - PARCEL 868 - GRID 15
 HOWARD COUNTY, MARYLAND
 FIRST ELECTION DISTRICT

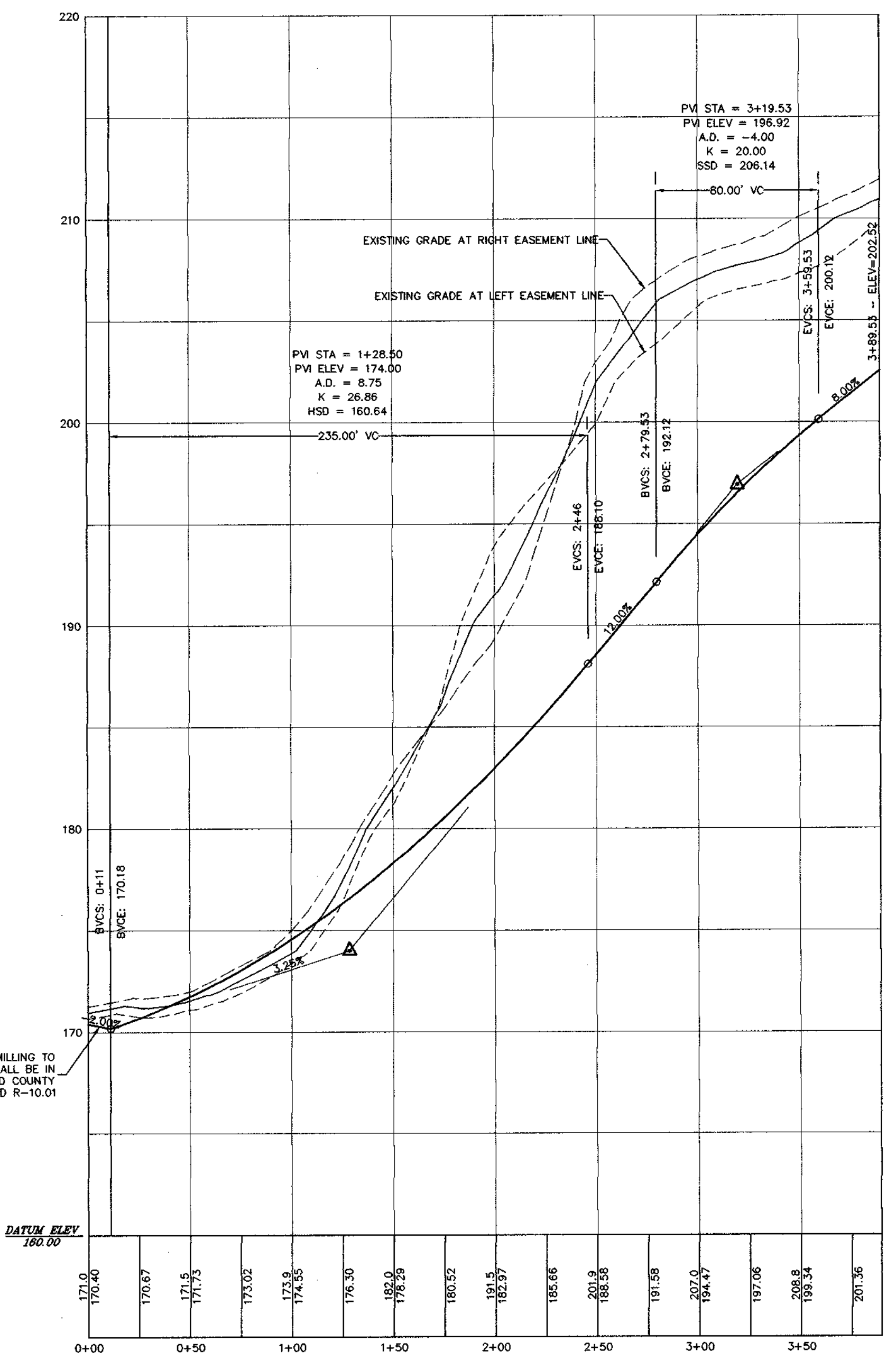
MILLENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsen Hall Drive, Suite 202, Ellicott City, Maryland, 21042
 (410) 997-0286 Fax, (301) 821-5521 Wash., (410) 997-0286 Fax



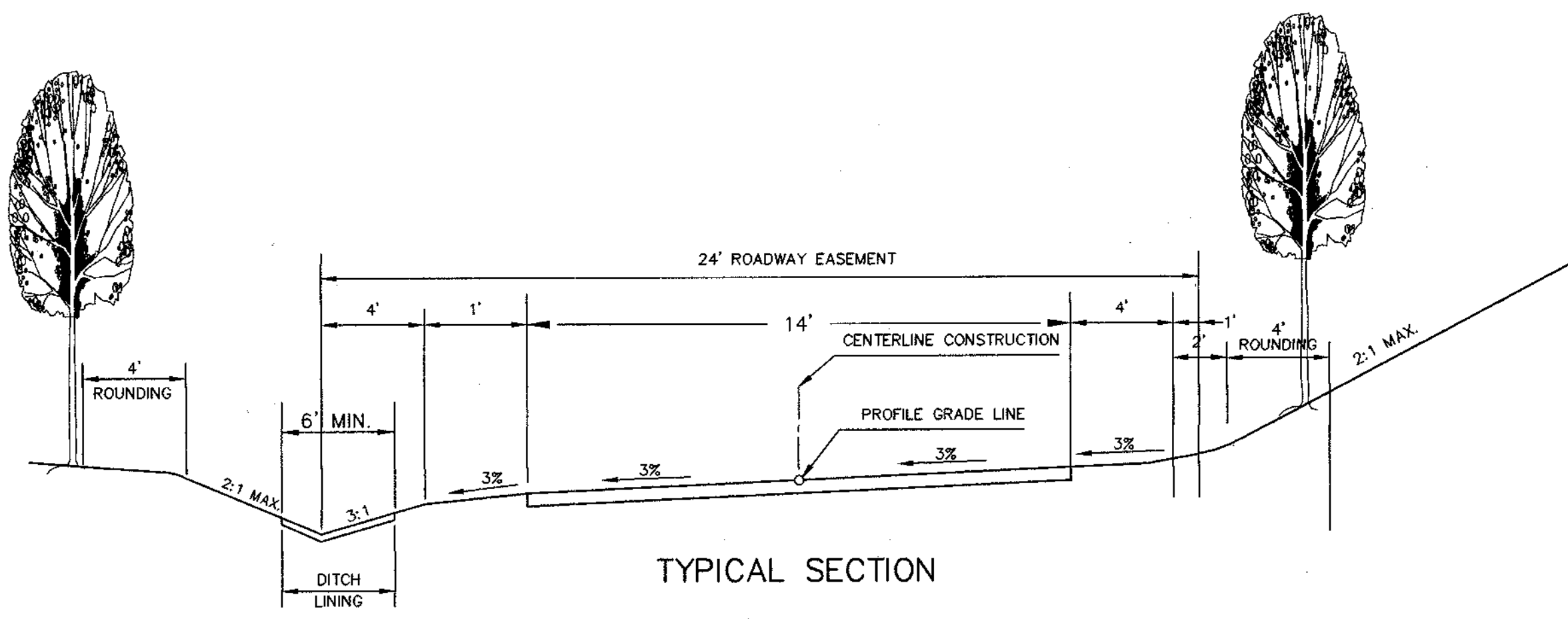
PLAN
SCALE
1"=50'



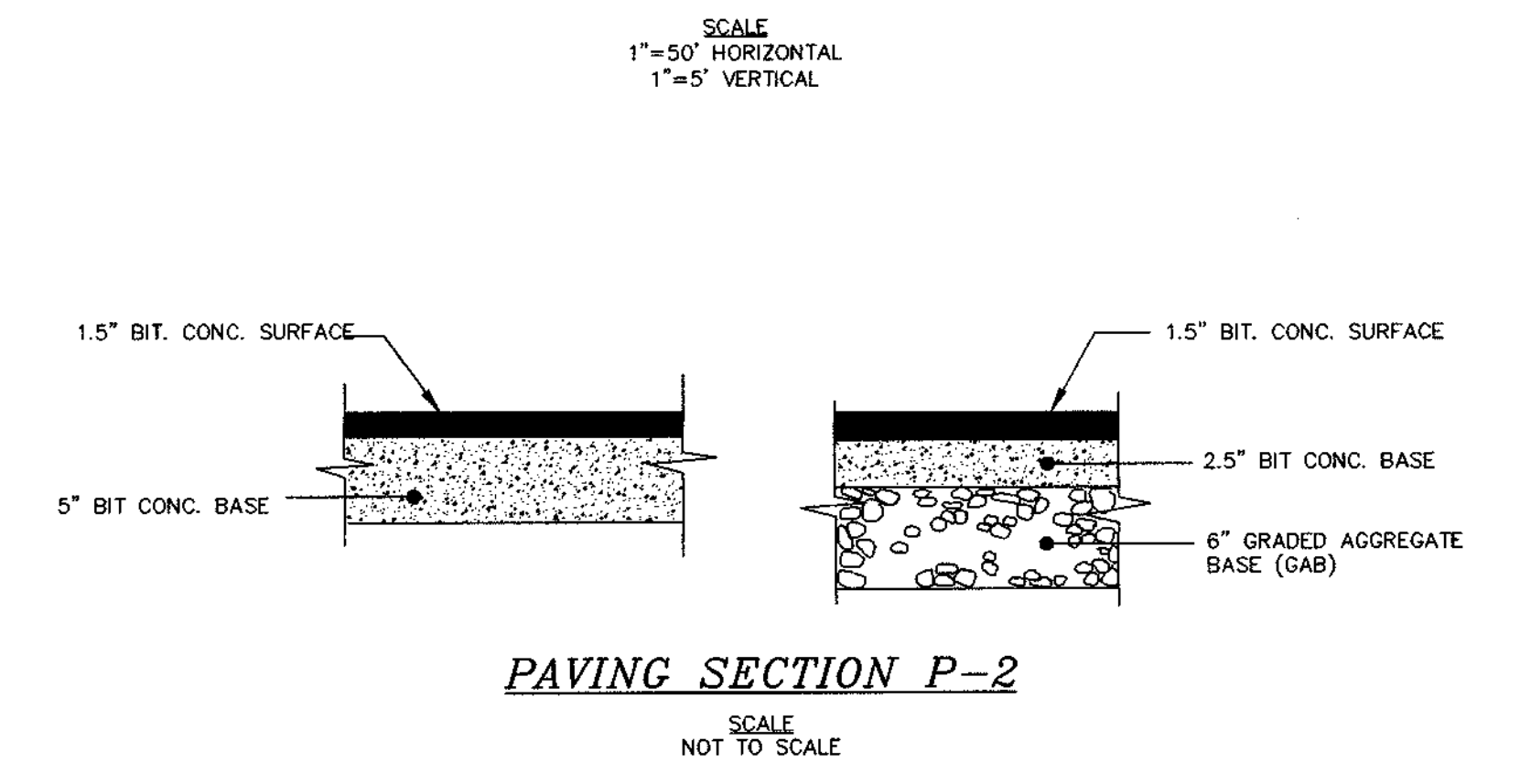
**WINTERS RIDGE
TEE TURN-AROUND DETAIL
(PRIVATE ACCESS PLACE)**
SCALE: 1"=20'



ROAD PROFILE
CLASSIFICATION: PRIVATE ACCESS PLACE
HORIZONTAL DESIGN SPEED: 15 MPH
VERTICAL DESIGN SPEED: 25 MPH



**ROAD SECTION
(STA. 0+11 TO STA. 3+89.54)**
CLASSIFICATION: PRIVATE ACCESS PLACE
DESIGN SPEED: 15 MPH
SCALE
NOT TO SCALE



PAVING SECTION P-2
SCALE
NOT TO SCALE

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C1	45.00'	47.12'	25.98'	60°00'00"	N78°57'01"E 45.00'
C2	45.00'	46.02'	26.25'	58°35'35"	N77°39'13"E 44.04'

STREET LIGHT SCHEDULE	
* PRIVATE ACCESS PLACE	100 WATT HPS VAPOR "COLONIAL" POST TOP FIXTURE MOUNTED ON A 14" FIBERGLASS POLE

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 7-24-01
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/26/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 7/27/01
CHIEF, DIVISION OF LAND DEVELOPMENT

project	99003	date	JUNE 2001
illustration	KR	engineering	KR
scale	AS SHOWN	approval	

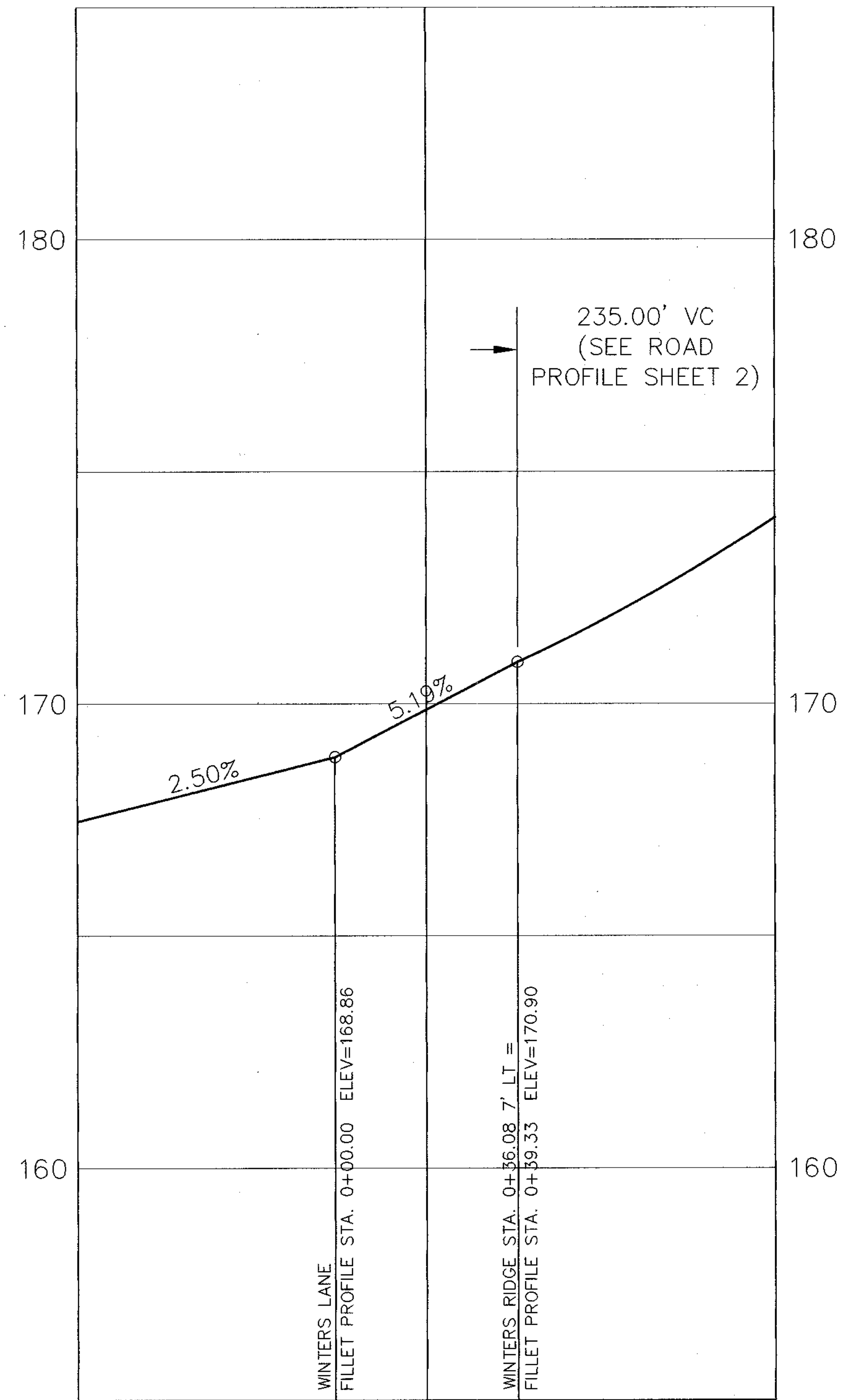
no.	description	revisions	date
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WINTERS RIDGE - LOTS 1 THRU 8
A RESUBDIVISION OF LOT 3, NORRIS E. POOL SUBDIVISION
TAX MAP 38 - PARCEL 868 - GRID 15
HOWARD COUNTY, MARYLAND
FIRST ELECTION DISTRICT
ROAD PLAN AND PROFILES

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0266 Balt. (301) 627-5521 Wash. (410) 937-0298 Fax

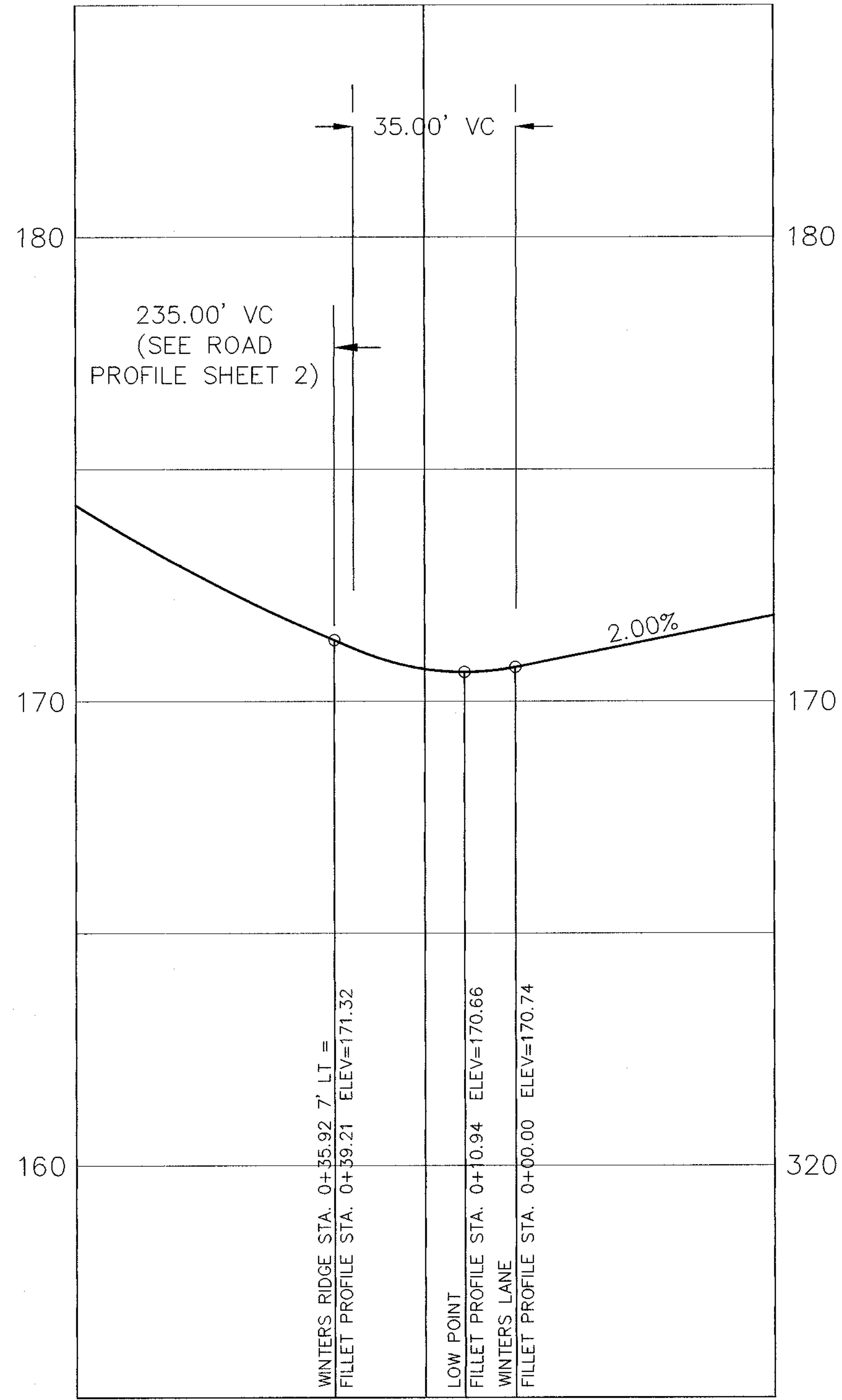
99003.DWG\FINAL (ROAD)\003-Fillets.dwg

[Handwritten Signature]
6/13/01



WINTERS RIDGE LEFT FILLET TO WINTERS LANE

SCALE: HOR. 1" = 20'
VER. 1" = 2'



WINTERS RIDGE RIGHT FILLET TO WINTERS LANE

SCALE: HOR. 1" = 20'
VER. 1" = 2'

APPROVED: DEPARTMENT OF PUBLIC WORKS <i>[Signature]</i> CHIEF, BUREAU OF HIGHWAYS	7-24-01 DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING <i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/26/01 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	7/27/01 DATE

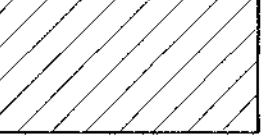
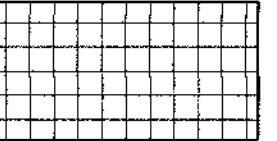
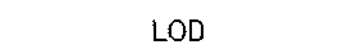

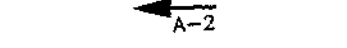
project	99003	date	JUNE 2001
illustration	KR	engineering	KR
scale	1"=20'	approval	KR

no.	description	revisions	date

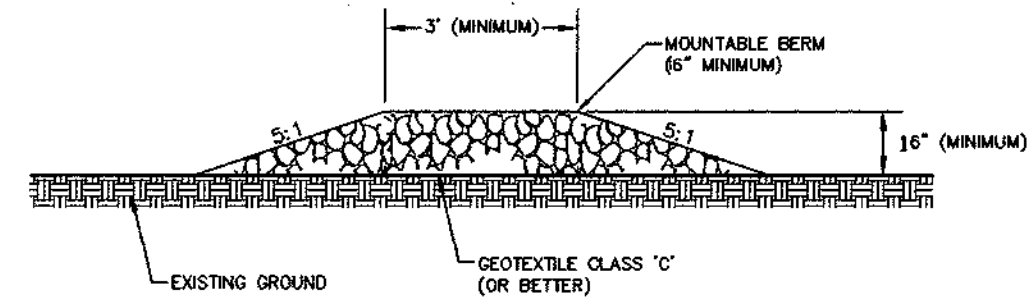
WINTERS RIDGE - LOTS 1 THRU 8
A RESUBDIVISION OF LOT 3, NORRIS E. POOL SUBDIVISION
TAX MAP 38 - PARCEL 868 - GRID 15
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 987-0296 Balt. (301) 821-5521 Wash. (410) 987-0288 Fax

LEGEND

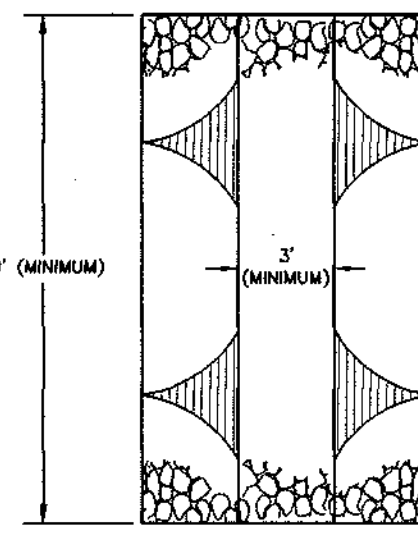
-  15-24.99% SLOPES
-  >25% SLOPES
-  LOD LIMIT OF DISTURBANCE
-  SUPER SILT FENCE
-  EARTH DIKE

MOUNTABLE BERM DETAIL



PROFILE

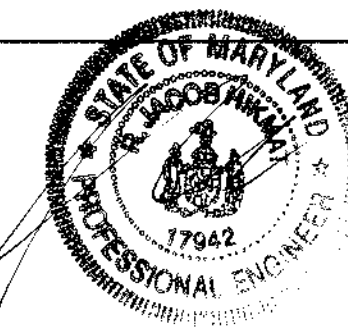
SCALE NOT TO SCALE



PLAN

SCALE NOT TO SCALE

1. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE.
2. STONE - CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 16" DEEP OVER THE LENGTH AND WIDTH OF THE BERM.



DEVELOPERS CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND/OR 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 APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

James E. Newburn 6-29-01
 SIGNATURE OF DEVELOPER DATE
 PRINTED NAME OF DEVELOPER

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 SOIL CONSERVATION DISTRICT.

R. Jacob Hymat 6/13/01
 SIGNATURE OF ENGINEER DATE
 PRINTED NAME OF ENGINEER

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

Jim Hymat 7/10/01
 USA - NATURAL RESOURCE CONSERVATION SERVICE DATE

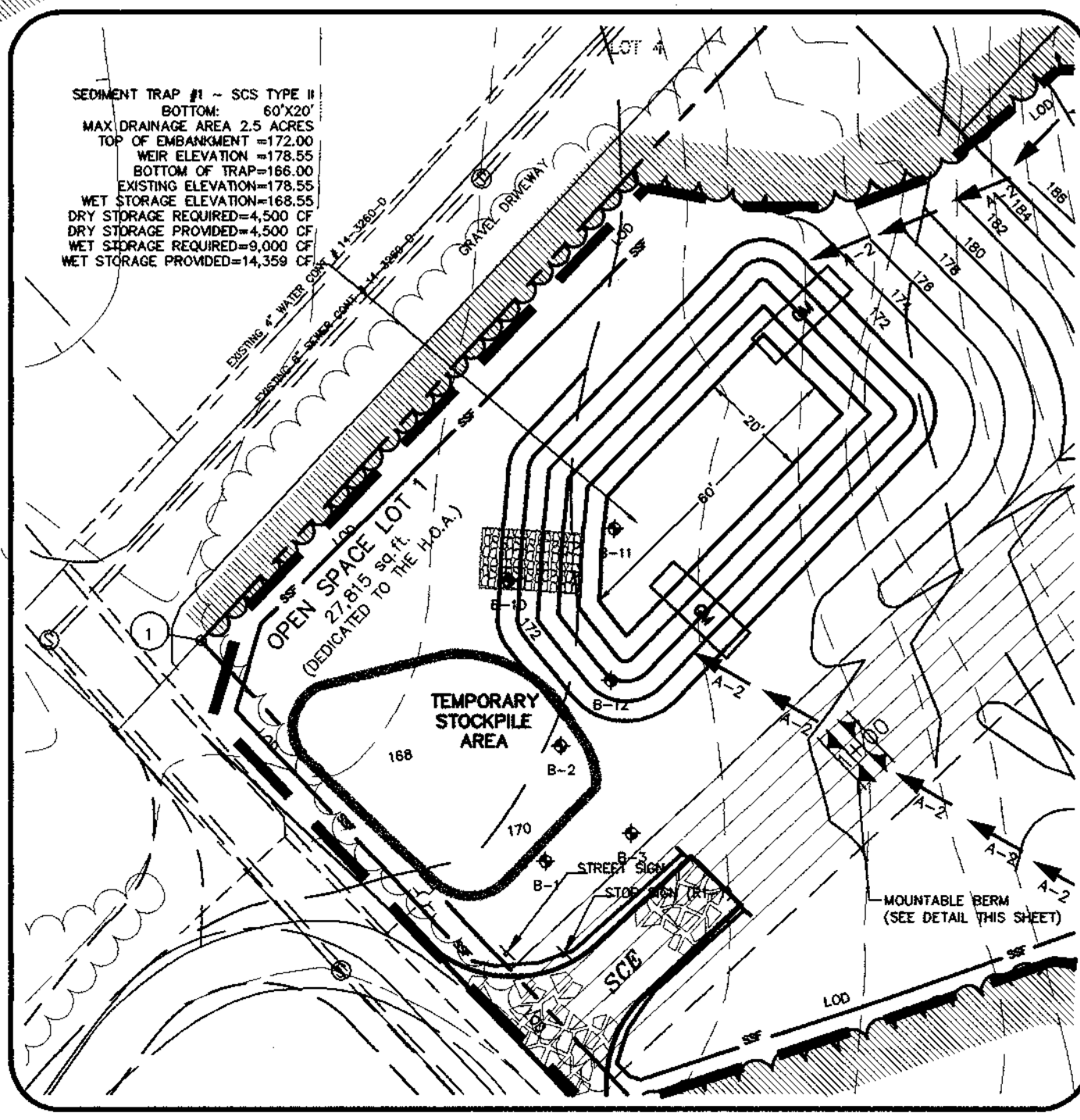
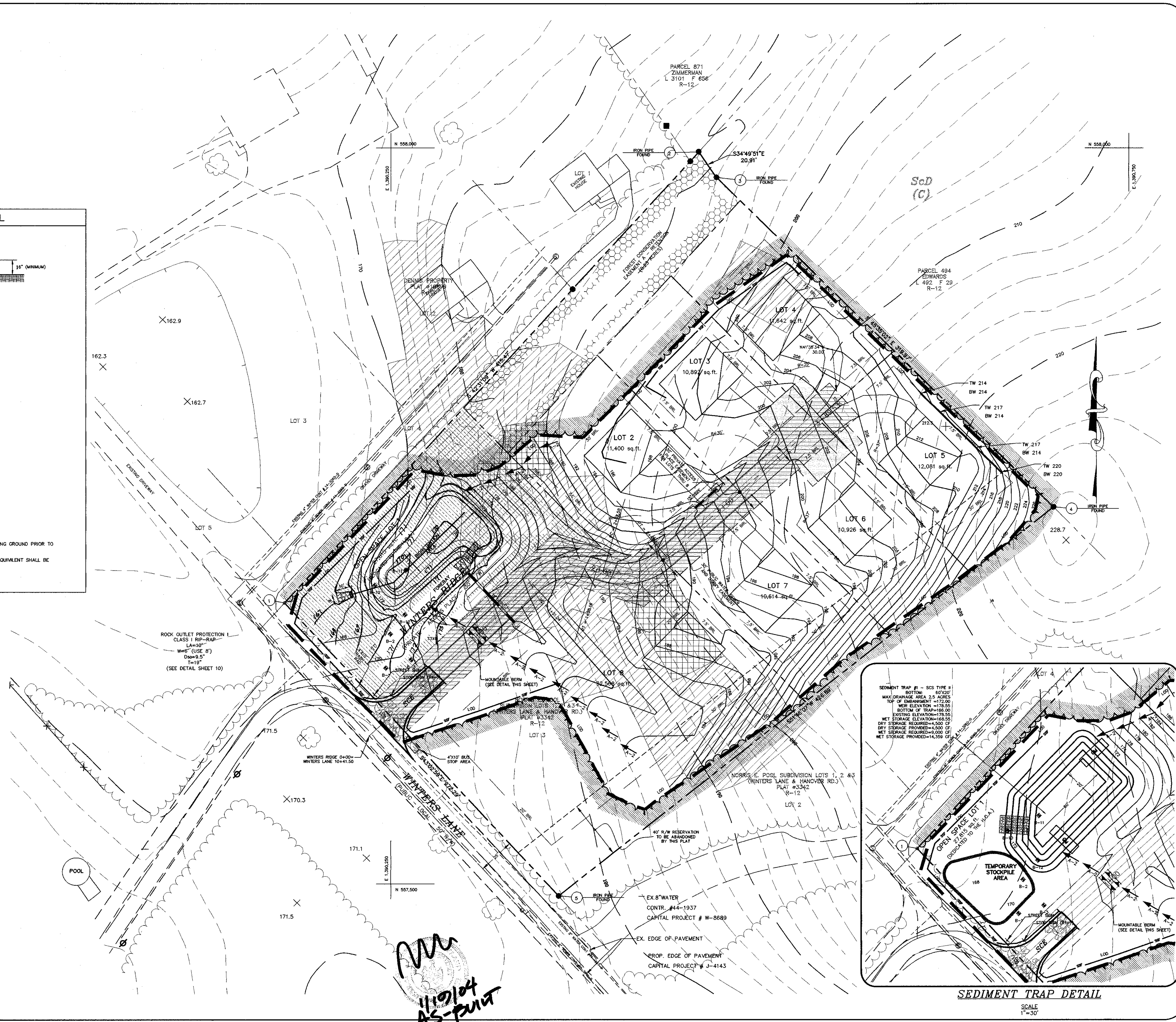
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Yuhb 7/10/01
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Christopher M. Dargatzis 7-29-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Andy 7/26/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Andy 7/27/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



SEDIMENT TRAP DETAIL

SCALE 1"=30'

Project	99003	Date	JUNE 2001
Illustration	KR	Engineering	KR
Scale	1"=66'	Approval	KR

Project	AS-BUILT TOPOGRAPHY FOR BIORETENTION	Date	1/20/03
Revision		Description	

WINTERS RIDGE - LOTS 1 THRU 9
 A RESUBDIVISION OF LOT 3, NORRIS E. POOL SUBDIVISION
 TAX MAP 36 - PARCEL 668 - GRID 15
 HOWARD COUNTY, MARYLAND
 FIRST ELECTION DISTRICT
GRADING AND EROSION AND SEDIMENT CONTROL PLAN

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
 (410) 997-0296 Fax: (301) 621-5321 Wash. (410) 997-0298 Fax

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LEAF VEGETATIVE COVER IS NEEDED. PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS...

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDEVELOPED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED. PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS...

STANDARD SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION... 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN...



DEVELOPERS CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT I AM THE RESPONSIBLE PARTY FOR ALL DEVELOPMENT AND/OR CONSTRUCTION...

Signature: L. Newhart, DATE: 6/29/01

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...

Signature: R. Jacob Hrkmat, DATE: 6/13/01

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

Signature: Jim Lewis, DATE: 7/6/01

Signature: [Signature], DATE: 7/6/01

Signature: [Signature], DATE: 7/24/01

Signature: [Signature], DATE: 7/26/01

Signature: [Signature], DATE: 7/27/01

- 7. SITE ANALYSIS: TOTAL AREA OF SITE: 2.94 ACRES, AREA DISTURBED: 2.22 ACRES, AREA TO BE REEDED OR PAVED: 0.50 ACRES, AREA TO BE VEGETATIVELY STABILIZED: 1.72 ACRES...

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH...

- 1. THIS PRACTICE APPLIES TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO SUPPORT VEGETATIVE...

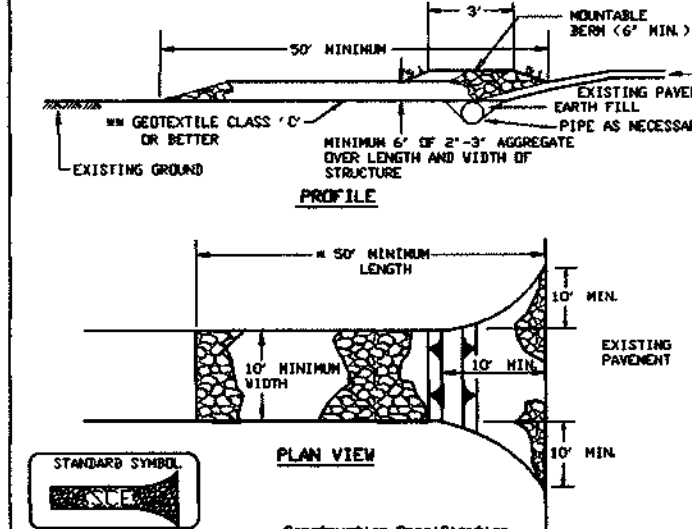
CONSTRUCTION AND MATERIAL SPECIFICATIONS

- 1. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS... 2. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

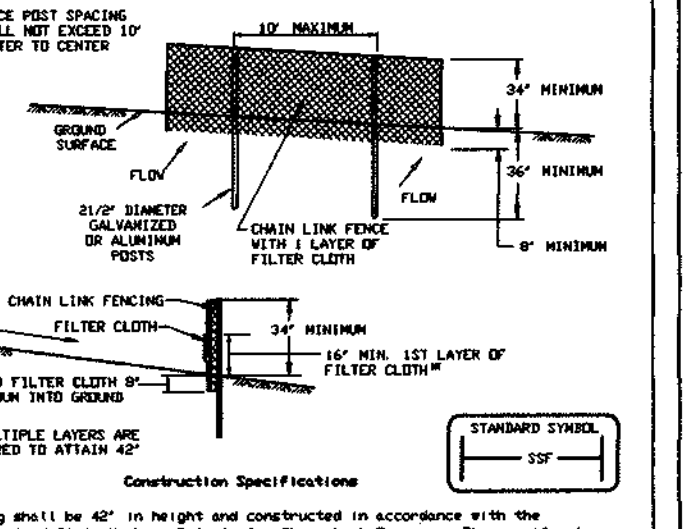
EARTH FILL

The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials...

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



DETAIL 23 - SUPER SILT FENCE



SUPER SILT FENCE

Table with columns: Slope, Slope Steepness, Slope Length (Maximum), Silt Fence Length (Minimum). Rows include 0:100, 10:100, 10:100, 2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1, 10:1.

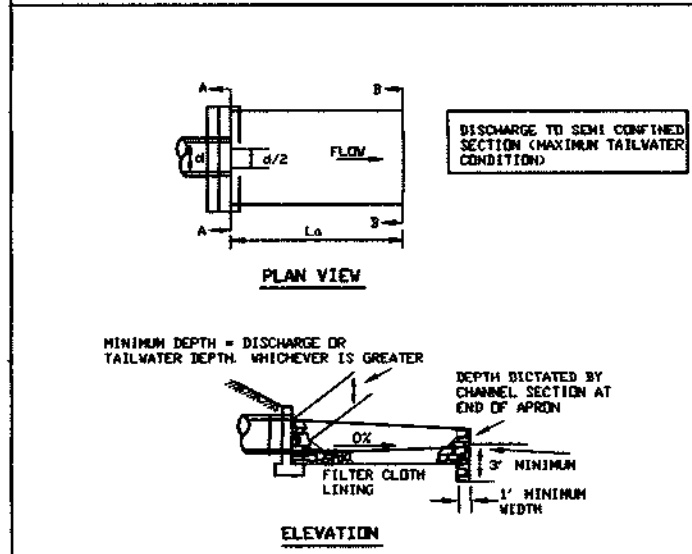
Construction Specifications: 1. Length - minimum of 30' (40' for single retention). 2. Depth - 12" minimum, shall be filled at the existing grade to provide a turning radius...

Construction Specifications: 1. Facing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Series for Chain Link Fencing... 2. Chain link fence shall be fastened securely to the fence posts at 6' intervals...

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness...

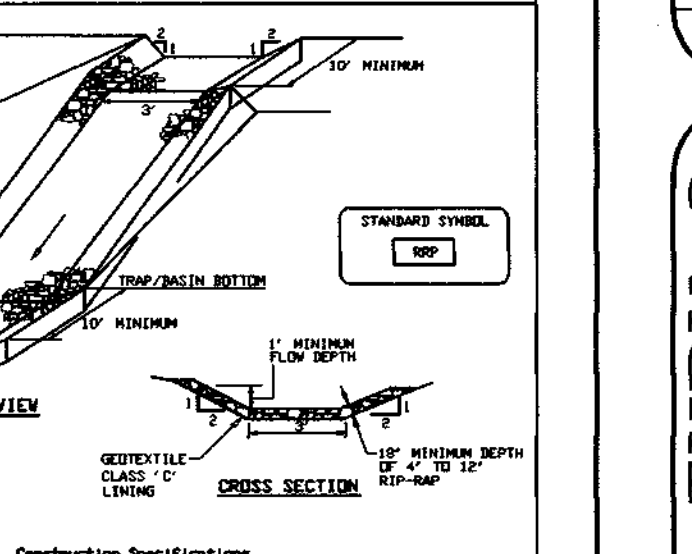
DETAIL 25 - ROCK OUTLET PROTECTION I



ROCK OUTLET PROTECTION

Construction Specifications: 1. The subgrade for the filter, rip-rap, or gabion shall be prepared in accordance with the requirements of the Maryland Department of Transportation...

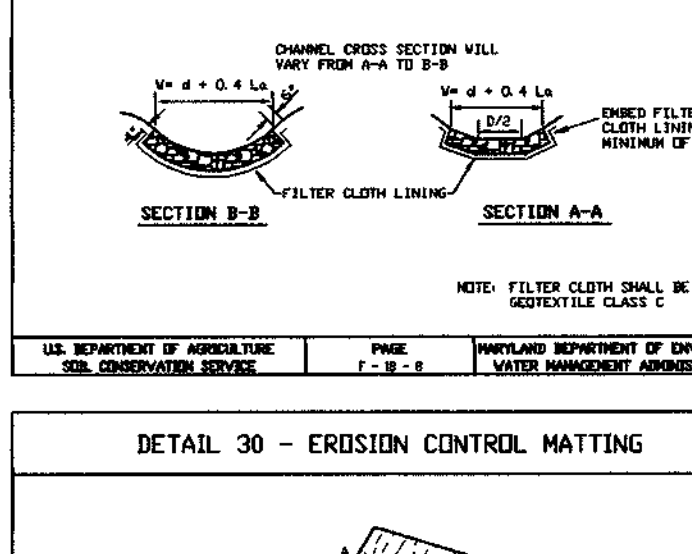
DETAIL 5 - RIP-RAP INFLOW PROTECTION



PIPE CONDUITS

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe: 1. Materials - (Polymer Coated Steel Pipe) - Steel pipes with polymer coatings shall be placed in horizontal layers not to exceed four inches in thickness...

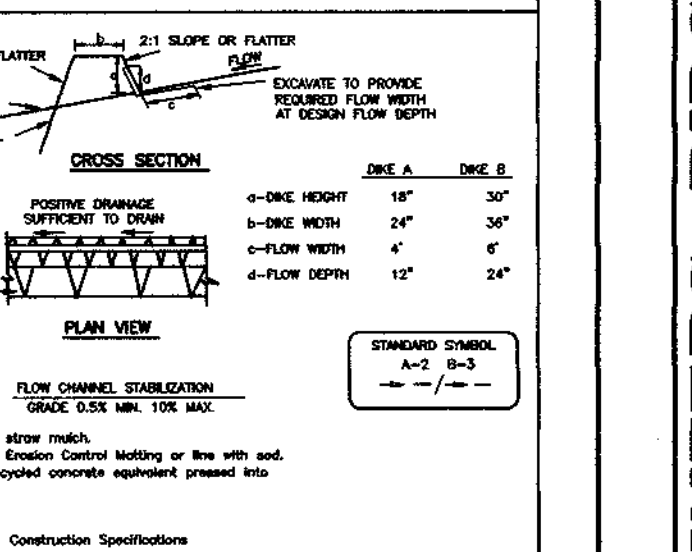
DETAIL 30 - EROSION CONTROL MATTING



EROSION CONTROL MATTING

Construction Specifications: 1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamping firmly to conform to the channel cross-section...

DETAIL 1 - EARTH DIKE



POND SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Area designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stipped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed...

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3. Back filling Rock Fills shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311...

CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in a safe free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the work...

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spill and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching...

EROSION AND SEDIMENT CONTROL

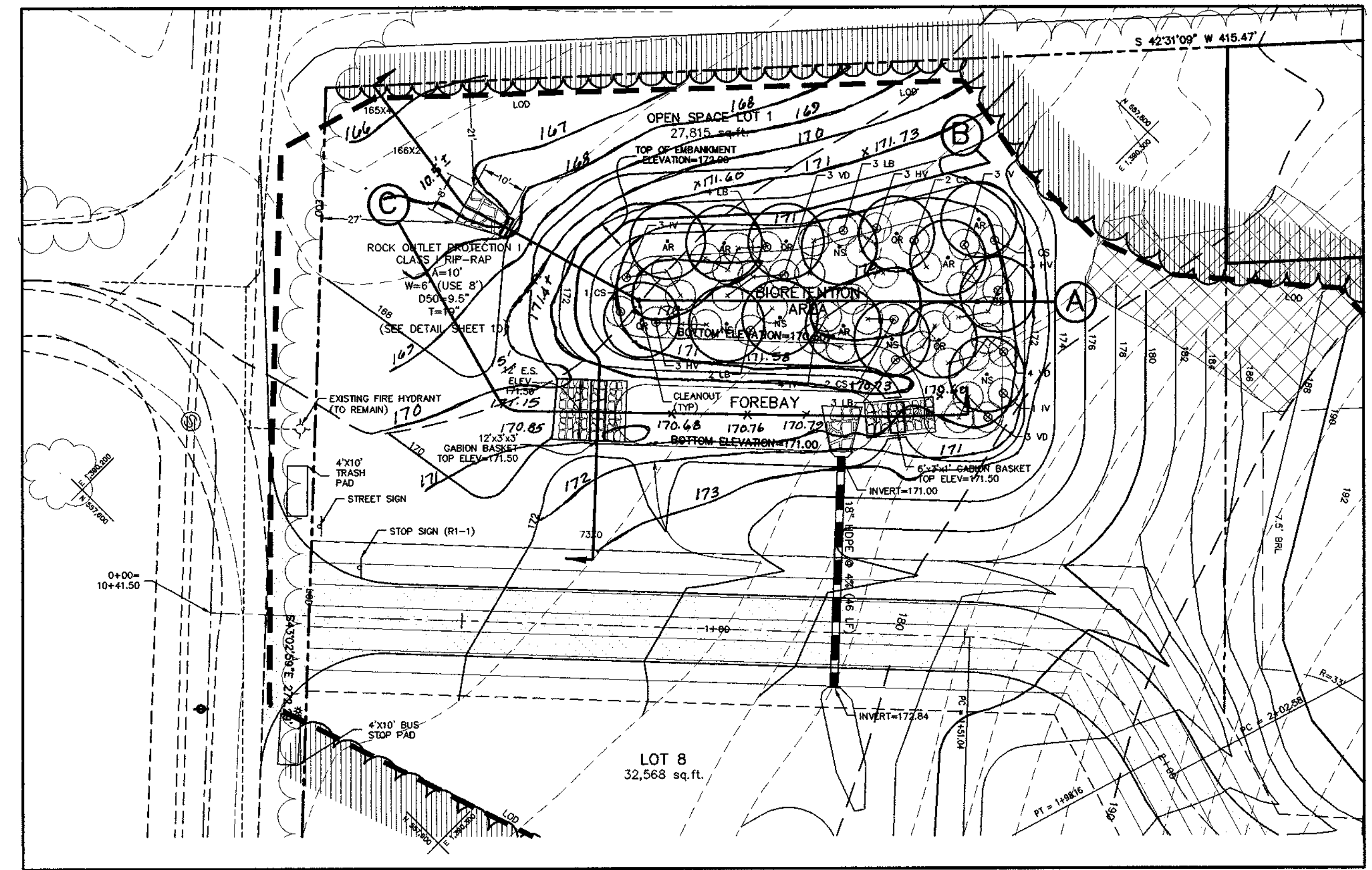
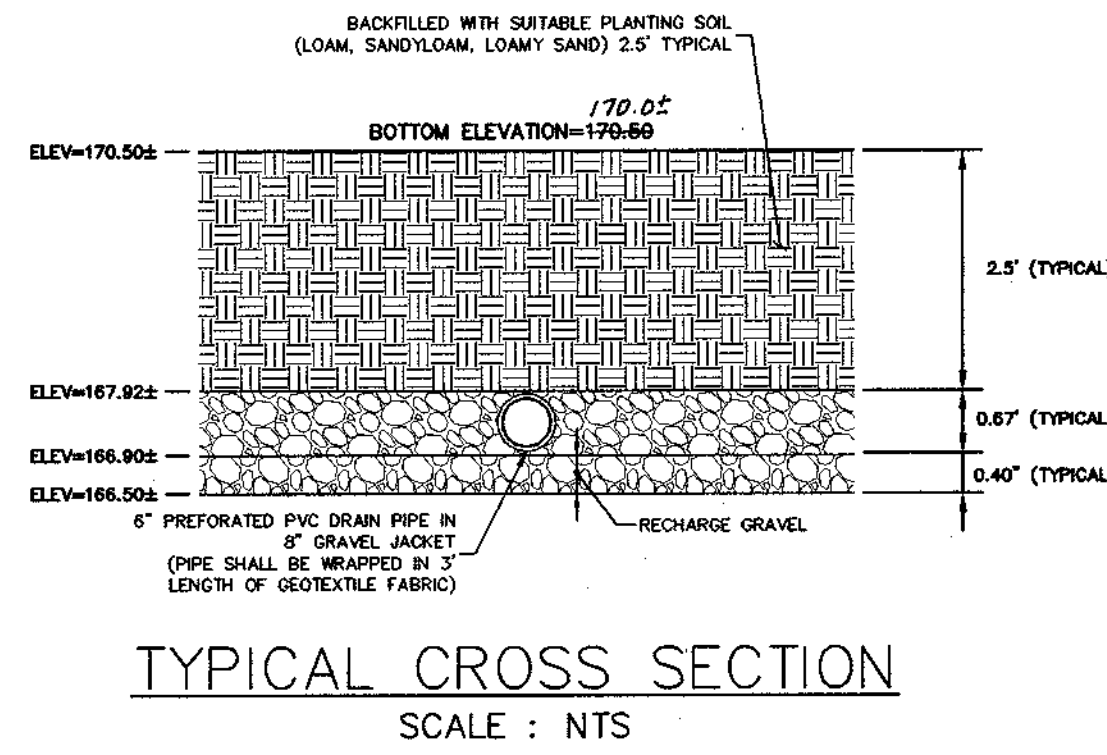
Construction operations shall be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed...

WINTERS RIDGE - LOTS 1 THRU 8. A RESUBDIVISION OF LOT 3, NORRIS E. POOL SUBDIVISION. TAX MAP 38 - PARCEL 868 - GRID 15. HOWARD COUNTY, MARYLAND. EROSION AND SEDIMENT CONTROL NOTES AND DETAILS. MILDBERG & ASSOC., INC. 5072 Dorsy Hall Drive, Suite 202, Elkton City, Maryland, 21042. (410) 987-0296 Fax: (410) 987-0298

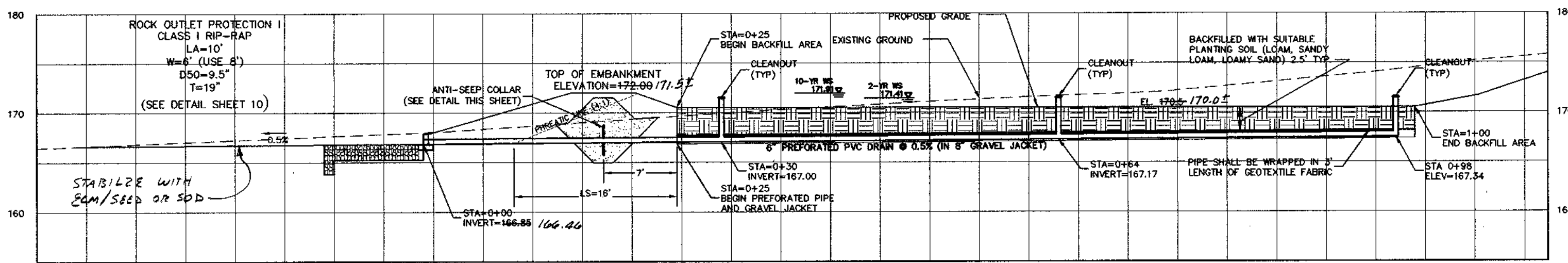
MAINTENANCE SCHEDULE FOR BIORETENTION AREA			
Note: All maintenance will be responsibility of the H.O.A.			
DESCRIPTION	METHOD	FREQUENCY	TIME OF YEAR
SOIL			
INSPECT AND REPAIR EROSION	VISUAL	MONTHLY	MONTHLY
ORGANIC LAYER			
REMULCH ANY VOID AREAS	BY HAND	WHENEVER NEEDED	WHENEVER NEEDED
REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER (OPTIONAL)	BY HAND	ONCE EVERY TWO TO THREE YEARS	SPRING
ANY ADDITIONAL MULCH ADDED (OPTIONAL)	BY HAND	ONCE A YEAR	SPRING
PLANTS			
REMOVAL AND REPLACEMENT OF ALL DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT	SEE PLANTING SPECIFICATIONS	TWICE A YEAR	3/15 TO 4/30 AND 10/1 TO 11/30
TREAT ALL DISEASED TREES AND SHRUBS	MECHANICAL OR BY HAND	N/A	VARIES, DEPENDS ON INSECT OR DISEASE INFESTATION
WATERING OF PLANT MATERIAL SHALL TAKE PLACE AT THE END OF EACH DAY FOR FOURTEEN CONSECUTIVE DAYS AFTER PLANTING HAS BEEN COMPLETED	BY HAND	IMMEDIATELY AFTER COMPLETION OF PROJECT	N/A
REPLACE STAKES AFTER ONE YEAR	BY HAND	ONCE A YEAR	ONLY REMOVE STAKES IN THE SPRING
REPLACE ANY DEFICIENT STAKES OR WRES.	BY HAND	N/A	WHENEVER NEEDED

OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION AREAS

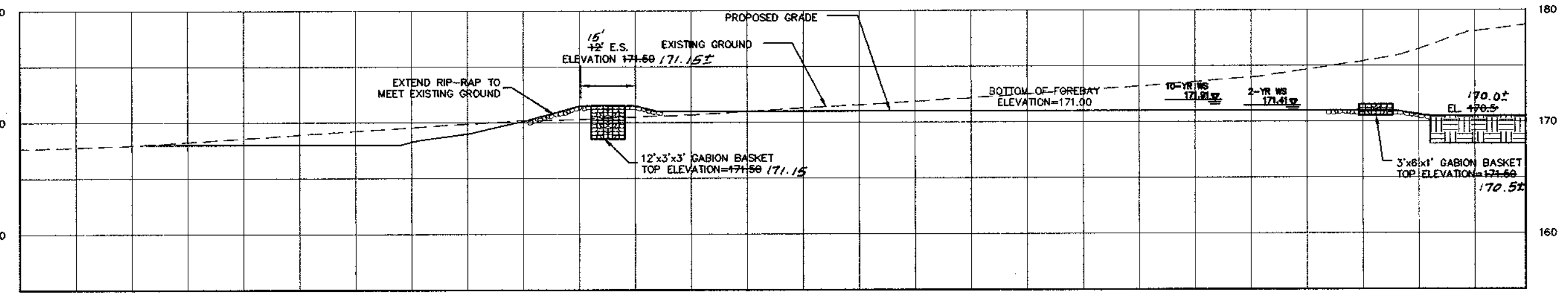
- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER, AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



PLAN VIEW
SCALE : 1"=20'



SECTION A
SCALE : 1"=10'



SECTION C
SCALE : 1"=10'

GENERAL NOTES

- THE BIORETENTION FACILITY SHALL BE PRIVATELY OWNED AND MAINTAINED.

DEVELOPER'S CERTIFICATE
I CERTIFY THAT ALL DEVELOPMENT AND/OR 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 APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT, ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

James L. Newburn 6-24-2011
SIGNATURE OF DEVELOPER DATE
L. Newburn
PRINTED NAME OF DEVELOPER

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 SOIL CONSERVATION DISTRICT.

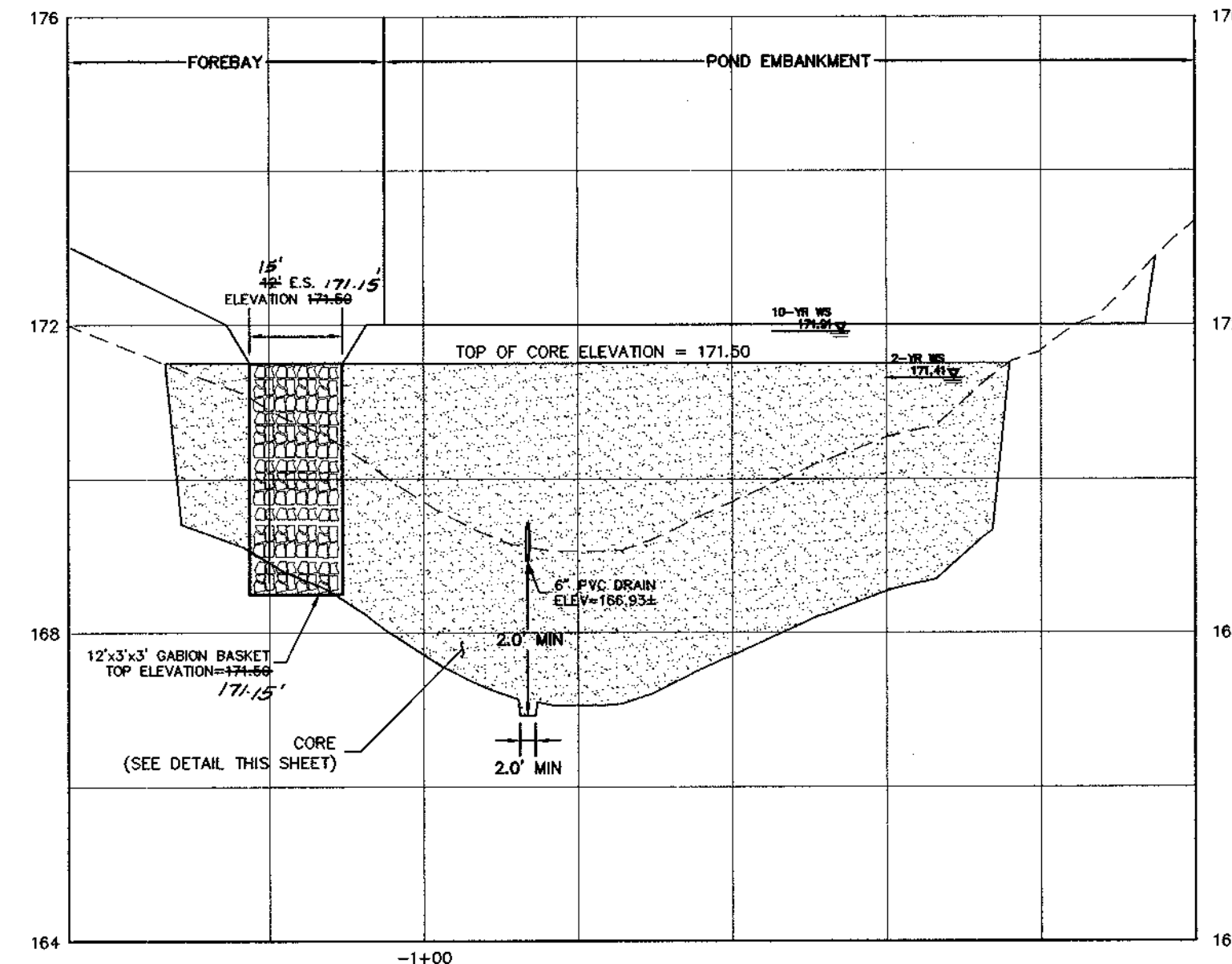
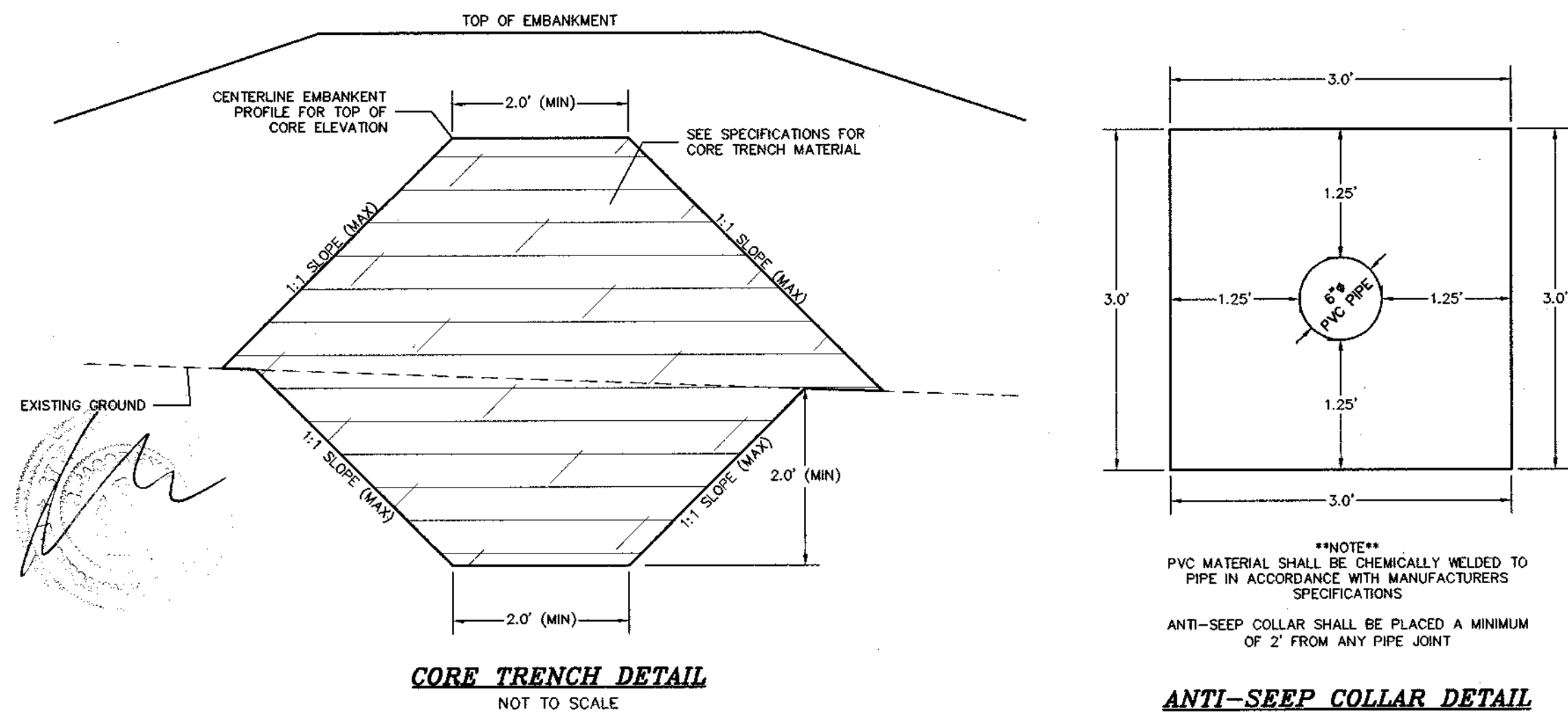
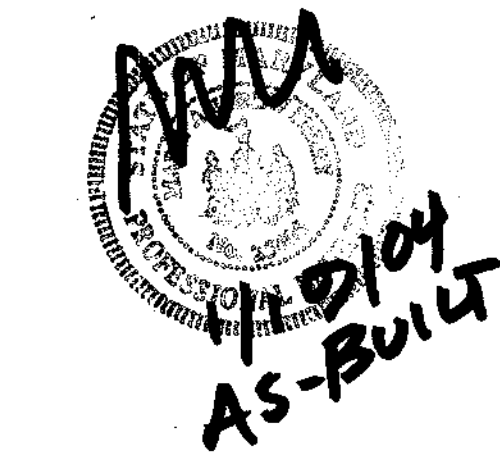
R. Jacob Hymat 6/13/11
SIGNATURE OF ENGINEER DATE
R. JACOB HYMAT
PRINTED NAME OF ENGINEER

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.
Jim Moran 7/16/11
USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Julia Selig 7/16/11
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED - DEPARTMENT OF PUBLIC WORKS
Christopher M. Cusack 7-24-11
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED - DEPARTMENT OF PLANNING AND ZONING
Michelle D. Williams 7/26/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Linda Hamata 7/27/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



SECTION B
SCALE : 1"=20' HORIZONTAL
1"=2' VERTICAL

BIORETENTION AREA PLANTING SCHEDULE

TREES				
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
5	AR	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2-1/2" - 3" CAL.
6	NS	NYSSA SYLVATICA	BLACK GUM	2-1/2" - 3" CAL.
4	OR	QUERCUS RUBRA	RED OAK	2-1/2" - 3" CAL.
SHRUBS				
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
6	CS	CORNUS STOLONIFERA	RED OSIER DOGWOOD	2.5 - 3' HT.
11	IV	ILEX VERTICILLATA	WINTERBERRY	2.5 - 3' HT.
12	LB	LINDERA BENZON	SPICEBUSH	4 - 5' HT.
9	HV	HERMAMELIS VIRGINIANA	WITCH HAZEL	2.5 - 3' HT.
10	VD	VIBURNUM DENTATUM	ARROWWOOD	2.5' - 3' HT.

TOTALS: 15 TREES AND 48 SHRUBS

date	JUNE 2001
project	99003
illustration	KR
scale	AS SHOWN
approval	KR

date	1/20/09
description	AS-BUILT BIORETENTION AREA
revisions	1

WINTERS RIDGE - LOTS 1 THRU 8
A RESUBDIVISION OF LOT 3, NORRIS E. POOL SUBDIVISION
TAX MAP 38 - PARCEL 868 - GRID 15
HOWARD COUNTY, MARYLAND
FIRST ELECTION DISTRICT
BIORETENTION AREA PROFILES AND DETAILS

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 997-0296 Fax, (301) 621-5551 Wash. (410) 997-0298 Fax

MD-378 POND SPECIFICATIONS (JANUARY 2000)

CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED TO A MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SLOTTING MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORM WATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DRAIN AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6", FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION CC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER. MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SLOTTING MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHAPED, OT, RUBBER TYRED, UNDERCARRIERS SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO BALL IT WILL NOT CRUMBLE. YET NOT SO WET THAT WATER CAN BE SQUEEZED OUT. WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH MOISTURE CONTENT WITHIN 2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).

CUT OFF TRENCH - THE CUT OFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

EMBANKMENT CORE - THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10 YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

STRUCTURAL BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 6 INCHES THICK. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10 YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

REINFORCED CONCRETE PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

1. MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.
2. BEDDING - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING/CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE A CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE "STRUCTURE BACKFILL" SECTION OF THIS STANDARD.
3. LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE SEALED FOR THE ENTIRE LENGTH. THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE AND UP THE SIDES OF THE PIPE SHALL BE FULFILLED WITH FLOWABLE FILL MEETING THE REQUIREMENTS OF AASHTO M294 TYPE S.
4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE - THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D1785 OR ASTM D-2241 CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" - 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE S, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S.
2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
3. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
4. BACKFILL SHALL CONFORM TO "STRUCTURE BACKFILL."
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921-09, CLASS C.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DRAINS, LEVEES, COFFERED DRAINS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE COMPLETED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND CURING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPILL AND BORROW AREAS, AND BEINGS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

PIPE CONDUIT

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

1. MATERIALS - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 & M-246 WITH WATER TIGHT COUPLING BANDS OR FLANGES.

2. MATERIALS - (ALUMINUM COATED STEEL PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATER TIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT THE NEED FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE 1. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARRIER CONNECTION SHALL BE WELDED AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT.

4. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

REINFORCED CONCRETE PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

1. MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.
2. BEDDING - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING/CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE A CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE "STRUCTURE BACKFILL" SECTION OF THIS STANDARD.
3. LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE SEALED FOR THE ENTIRE LENGTH. THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE AND UP THE SIDES OF THE PIPE SHALL BE FULFILLED WITH FLOWABLE FILL MEETING THE REQUIREMENTS OF AASHTO M294 TYPE S.
4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE - THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D1785 OR ASTM D-2241 CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" - 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE S, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S.
2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
3. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
4. BACKFILL SHALL CONFORM TO "STRUCTURE BACKFILL."
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921-09, CLASS C.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DRAINS, LEVEES, COFFERED DRAINS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE COMPLETED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND CURING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPILL AND BORROW AREAS, AND BEINGS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

PLANT MATERIAL GUIDELINES

BALLED AND BURLAPPED AND CONTAINERIZED TREES AND SHRUBS SHOULD BE PLANTED BETWEEN MARCH 15 AND JUNE 30 OR BETWEEN SEPTEMBER 15 AND NOVEMBER 15. GROUNDCOVERS FOLLOW TREE AND SHRUB PLANTING DATES. GRASSES AND LEGUMES SHOULD BE PLANTED IN THE SPRING.

FOR ALL PLANT INSTALLATION, THE CONTRACTOR SHALL PROVIDE A ONE (1) YEAR 80% CARE AND REPLACEMENT WARRANTY. THIS WARRANTY SHALL BEGIN AFTER INSPECTION AND APPROVAL OF THE COMPLETE INSTALLATION OF ALL PLANT MATERIAL AND CONTINUE FOR ONE (1) YEAR. REPLACEMENT OF PLANT MATERIAL SHALL CONFORM TO THE SPECIFICATIONS SET FORTH IN THE MAINTENANCE SCHEDULE.

INSTALLATION AND MAINTENANCE SCHEDULE

Note: All maintenance shall be the responsibility of the H.O.A.

SOILS:

PROVIDE A MINIMUM OF FOUR (4) FEET OF PLANTING SOIL WITH A ONE (1) FOOT SAND LAYER BENEATH. SOILS SHALL BE SANDY LOAM, LOAMY SAND, OR LOAM TEXTURE. SOIL SHALL HAVE A COMPOSITION OF AT LEAST 10 TO 25 PERCENT CLAY. LOAMY SOILS MAYBE UTILIZED BUT MUST CONSIST OF 30% SAND. SOIL SHALL BE OF UNIFORM COMPOSITION, FREE OF STONES, STUMPS, ROOTS OR SIMILAR OBJECTS LARGER THAN ONE INCH, BRUSH, OR ANY OTHER MATERIAL OR SUBSTANCE WHICH MAY BE HARMFUL TO PLANT GROWTH. PLANTING SOIL SHALL BE FREE OF PLANTS OR PLANT PARTS OF BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN CLOVER, OR OTHER SUCH NUISANCE MATERIAL. SOILS SHALL HAVE AN INFILTRATION RATE IN EXCESS OF 0.5 IN./HR. AND A SOIL ACIDITY (PH) BETWEEN 5.5 AND 6.5.

THE FOLLOWING IS THE MINIMUM ACCEPTABLE CRITERIA FOR SOILS:

PH RANGE:	5.5 - 6.5
ORGANIC MATTER:	1.5% - 3.0%
MAGNESIUM (MG):	35 LBS./ACRE
PHOSPHORUS (P2O5):	100 LBS./ACRE
POTASSIUM (K2O):	85 LBS./ACRE
SOLUBLE SALTS:	NOT TO EXCEED 500 PPM

SOIL SHOULD BE PLACED WITHIN THE PLANTING AREA IN LIFTS OF 18 INCHES OR LESS AND LIGHTLY COMPACTED. MINIMAL COMPACTION EFFORT CAN BE APPLIED TO THE SOIL BY TAMPING WITH A BUCKET FROM A DOZER OR BACKHOE.

MAINTENANCE SHALL CONSIST OF INSPECTION AND REPAIR OF EROSION ON A MONTHLY BASIS.

SAND:

SAND SHALL BE FREE OF DELETERIOUS MATERIAL AND ROCKS GREATER THAN 1 INCH IN DIAMETER AND SHALL CONFORM TO MSHA SECTION 901, FINE AGGREGATE/SAND.

ORGANIC LAYER:

ONCE TREES AND SHRUBS HAVE BEEN INSTALLED, A MULCH LAYER SHOULD BE ADDED. MULCH SHOULD BE FREE OF WEED SEEDS, SOIL, ROOTS OR ANY OTHER SUBSTANCE NOT CONSISTING OF EITHER BOLE OR BRANCH WOOD AND BARK. MULCH SHALL BE UNIFORMLY APPLIED APPROXIMATELY 2 TO 3 INCHES IN DEPTH, AND WILL CONSIST OF EITHER A STANDARD LANDSCAPE FINE SHREDDED HARDWOOD MULCH OR SHREDDED HARDWOOD CHIPS. MULCH WHICH CONTAINS LEAF LITTER AND GRASS CLIPPINGS IS NOT ACCEPTABLE. ANY GROUNDCOVERS SPECIFIED AS PLUSUS MAY BE INSTALLED ONCE THE MULCH HAS BEEN LAID DOWN. GROUNDCOVERS ESTABLISHED BY SEEDING AND/OR CONSISTING OF GRASSES SHOULD NOT BE COVERED WITH A MULCH LAYER.

ONCE A YEAR IN THE SPRING, THE ORGANIC LAYER SHALL BE TESTED TO DETERMINE THE PH OF THE SOIL. IF THE PH IS OUTSIDE THE RANGE OF 5.5 TO 6.5, THE ORGANIC LAYER SHALL BE TREATED TO RETURN THE LAYER TO ACCEPTABLE LIMITS. ANNUAL SOIL TESTING SHOULD BE CONDUCTED TO DETECT AND PREVENT THE ACCUMULATION OF TOXINS AND HEAVY METALS.

ONCE A YEAR IN THE SPRING, REMOVE THE PEROUS MULCH LAYER AND APPLY NEW MULCH LAYER AS NEEDED.

PLANT MATERIAL:

ONCE PLANTING HAS BEEN COMPLETED, PLANT MATERIAL SHOULD BE WATERED BY HAND AT THE END OF EACH DAY FOR FOURTEEN CONSECUTIVE DAYS. ANNUAL MAINTENANCE WILL BE REQUIRED FOR ALL PLANT MATERIAL. INSPECTION OF ALL VEGETATION SHALL OCCUR TWICE A YEAR. PLANT MATERIAL MAINTENANCE AND INSPECTION SHALL INCLUDE PREVENTING AND TREATING OF DISEASE OR INSECT INFESTATIONS. PRUNING TO MAINTAIN THE HEALTH OF THE PLANTS SHALL BE COMPLETED AS REQUIRED. DEAD PLANT MATERIAL SHALL BE REMOVED AND REPLACED BETWEEN MARCH 15 AND APRIL 30 OR BETWEEN OCTOBER 1 AND NOVEMBER 30.

DECENT STAKES AND WIRES SHOULD BE REPLACED BY HAND. STAKES SHOULD BE REPLACED ONCE A YEAR IN THE SPRING.

REFER TO THE "DESIGN MANUAL FOR THE USE OF BIORETENTION IN STORMWATER MANAGEMENT," AS PUBLISHED BY THE PRINCE GEORGE'S COUNTY, MARYLAND, DEPARTMENT OF ENVIRONMENTAL RESOURCES FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

BIORETENTION SPECIFICATIONS

PLANT SPECIFICATIONS:

- ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT FROM THE SOURCE TO THE JOB SITE UNTIL PLANTED.
- WALLS OF PLANTING PIT SHALL BE BUG SO THAT THEY ARE VERTICAL.
- THE DIAMETER OF THE PLANTING PIT MUST BE A MINIMUM OF SIX INCHES (6") LARGER THAN THE DIAMETER OF THE BALL OF THE TREE.
- PLANTING PIT SHALL BE DEEP ENOUGH TO ALLOW 1/4" OF THE BALL TO BE ABOVE THE FINAL GRADE. LOOSE SOIL AT THE BOTTOM OF THE PIT SHALL BE TAMPED BY HAND.
- FERTILIZER SHALL BE PLACED AT THE BOTTOM OF THE PIT AS INDICATED BELOW.
- PLANT SHALL BE REMOVED FROM THE CONTAINER AND PLACED IN THE PLANTING PIT BY LIFTING AND CARRYING THE PLANT BY ITS BALL.
- SET THE PLANT STRAIGHT AND IN THE CENTER OF THE PIT SO THAT THE TOP OF THE BALL IS APPROXIMATELY 1/4" ABOVE FINAL GRADE.
- BACKFILL PLANTING PIT WITH APPROVED SOIL.
- MAKE SURE PLANT REMAINS STRAIGHT DURING BACKFILLING.
- TREES SHALL BE BRACED BY USING 2" X 2" WHITE OAK STAKES. STAKES SHALL BE PLACED PARALLEL TO WALKWAYS AND BUILDINGS, ON THE OUTSIDE OF THE TREE BALL. THE TREE IS TO BRACE TO THE STAKES WITH HOSE AND WIRE.

FERTILIZATION:

- TREE AND SHRUB FERTILIZER SHALL BE A 21 GM. TIGHTLY COMPRESSED, LONG LASTING, SLOW RELEASE (2 YEAR) FERTILIZER TABLET WITH A MINIMUM GUARANTEED ANALYSIS OF 20-10-5:

TOTAL NITROGEN (N)	20%
WATER SOLUBLE ORGANIC NITROGEN	7%
WATER INSOLUBLE ORGANIC NITROGEN	13%
AVAILABLE PHOSPHORUS ACID (P2 O5)	10%
SOLUBLE POTASH (K2 O)	5%

- FOR CONTAINERIZED TREES AND SHRUBS, PLACE THE SPECIFIED FERTILIZER TABLET(S) IN THE BOTTOM OF THE PLANTING PIT ACCORDING TO THE FOLLOWING RATES:

1 GAL. CONTAINER	1 EA. 21 GM TABLET
3 GAL. CONTAINER	2 EA. 21 GM TABLETS
5 GAL. CONTAINER	3 EA. 21 GM TABLETS
7 GAL. CONTAINER	5 EA. 21 GM TABLETS

NON-GRASS GROUND COVER:

- GROUND COVER PLANTING HOLES SHALL BE BUG THROUGH THE MULCH WITH ONE OF THE FOLLOWING: HAND TROWEL, SHOVEL, BULB PLANTER, OR HOE.
- BIODEGRADABLE POTS SHALL BE SPLIT, AND NON-BIODEGRADABLE POTS SHALL BE REMOVED. ROOT SYSTEM OF ALL POTTED PLANTS SHALL BE SPLIT OR CRUMBLLED.
- GROUND COVER SHALL BE PLANTED SO THAT THE ROOTS ARE SURROUNDED BY THE SOIL BELOW THE MULCH. POTTED PLANTS SHALL BE SET SO THAT THE TOP OF THE POT IS EVEN WITH THE EXISTING GRADE. ROOTS OF BARE ROOT PLANTS SHALL BE COVERED TO THE CROWN.
- THE MULCHED AND PLANTED GROUND COVER BED SHALL BE TREATED WITH A PRE-EMERGENT HERBICIDE.
- THE ENTIRE GROUND COVER BED SHALL BE THOROUGHLY WATERED.

DEVELOPER'S CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND/OR 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 CERTIFICATES OF TRAINING FROM A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT, ALSO AUTHORIZES PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

James L. Newburn 6/29/01
 SIGNATURE OF DEVELOPER DATE
 PRINTED NAME OF DEVELOPER

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 SOIL CONSERVATION DISTRICT.

James L. Newburn 6/29/01
 SIGNATURE OF ENGINEER DATE
 PRINTED NAME OF ENGINEER

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

James L. Newburn 7/6/01
 USDA NATURAL RESOURCE CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

James L. Newburn 7/6/01
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
James L. Newburn 7-29-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
James L. Newburn 7/6/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

James L. Newburn 7/6/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

HILLS - CARNES ENGINEERING ASSOCIATES, INC. Page 1 of 1

RECORD OF SOIL EXPLORATION

Project Name: *Walters Ridge* Location: *Howard County, Maryland* Boring #/Job #: *8-10/99378*

Datum: *1985* Hammer Mt. *140* Lbs. Hole Diameter *6"* Sampler *Jerome Smith*
 Surf. Elev. *170.54* Hammer Drop *30* Inches Rock Core Dia. *6"* Foramen Inspector *Jerome Smith*
 Date Started *4-20-01* Pipe Size *2.0* Inches OD Boring Method *HSA* Hole Completed *4-20-01*

ELEV.	SOIL DESCRIPTION	SIBL	DEPTH	SCALE	CON.	SAMPLE NO.	REMARKS	BORING & SAMPLING NOTES
115.5	Bottom of Test Hole at 115.5'							
115.0	Light tan, moist, medium dense, silty fine sand (SM-M)		0-9-9	1/0		5		Elevation estimated from site plan
114.5	Orange-brown moist, medium dense, silty fine to medium sand (SM)		10-11-13	1/0		3		Ground layer at 7.0 to 9.0'
114.0	Orange-brown moist, medium dense, silty fine to medium sand (SM)		16-11-13	1/0		4		Ground layer at 7.0 to 9.0'
113.5	Orange-brown moist, medium dense, silty fine to medium sand (SM)		16-11-13	1/0		5		Ground layer at 7.0 to 9.0'
113.0	Orange-brown moist, medium dense, silty fine to medium sand (SM)		16-11-13	1/0		6		Ground layer at 7.0 to 9.0'
112.5	Orange-brown moist, medium dense, silty fine to medium sand (SM)		16-11-13	1/0		7		Ground layer at 7.0 to 9.0'
112.0	Orange-brown moist, medium dense, silty fine to medium sand (SM)		16-11-13	1/0		8		Ground layer at 7.0 to 9.0'
111.5	Orange-brown moist, medium dense, silty fine to medium sand (SM)		16-11-13	1/0		9		Ground layer at 7.0 to 9.0'

99003.DWG (FINAL ROAD) 003-A4LET.DWG

DEVELOPERS CERTIFICATE
 I CERTIFY THAT ALL DEVELOPMENT AND/OR 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 APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT, ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

James L. Newbar 6-29-01
 SIGNATURE OF DEVELOPER DATE
 JAMES L. NEWBAR
 PRINTED NAME OF DEVELOPER

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 SOIL CONSERVATION DISTRICT.

R. Jacob Hkmat 6/19/01
 SIGNATURE OF ENGINEER DATE
 R. JACOB HKMAT
 PRINTED NAME OF ENGINEER

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE

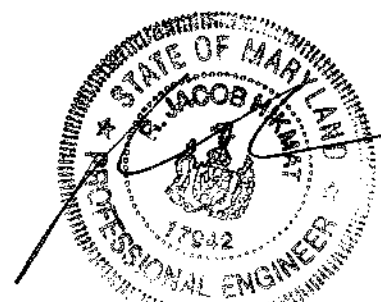
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Thomas M. C. O'Leary 7-29-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
William J. ... 7/26/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

... 7/21/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



date	JUNE 2001
project	99003
illustration	KR
scale	1" = 30'
approval	KR

no.		description	revisions	date

WINTERS RIDGE - LOTS 1 THRU 9
 A RESUBDIVISION OF LOT 3, NORRIS E. POOL SUBDIVISION
 TAX MAP 38 - PARCEL 868 - GRID 15
 HOWARD COUNTY, MARYLAND
 FIRST ELECTION DISTRICT
 DRAINAGE AREA MAP

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
 (410) 987-0296 Balt. (301) 621-5521 Wash. (410) 987-0298 Fax

SCHEDULE A : PERIMETER LANDSCAPED EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES			ADJACENT TO ROADWAYS	TOTAL
	A (PERIMETER 1)	A (PERIMETER 2)	A (PERIMETER 3)	B (PERIMETER 4)	PERIMETERS 1 THRU 4
LANDSCAPE TYPE	415.47 LF (51.47 LF AFTER CREDITS)	340.78 LF (254.78 LF AFTER CREDITS)	426.89 LF (346.89 LF AFTER CREDITS)	258.29 LF (123.29 LF AFTER CREDITS)	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES, 280 LF OF EXISTING TREES	YES, 86 LF OF EXISTING TREES	YES, 80 LF OF EXISTING TREES	YES, 135 LF OF EXISTING TREES	
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	YES, 84 LF OF BIORETENTION PLANTINGS	NO	NO	NO	
NUMBER OF PLANTS REQUIRED					
SHADE TREES	1 SHADE TREES	4 SHADE TREES	6 SHADE TREES	3 SHADE TREE	14 SHADE TREES
EVERGREEN TREES	0 EVERGREEN TREES	0 EVERGREEN TREES	0 EVERGREEN TREES	3 EVERGREEN TREE	3 EVERGREEN TREE
SHRUBS	0 SHRUBS	0 SHRUBS	0 SHRUBS	0 SHRUBS	0 SHRUBS
NUMBER OF PLANTS PROVIDED					
SHADE TREES	1 SHADE TREES	4 SHADE TREES	6 SHADE TREES	3 SHADE TREE	14 SHADE TREES
EVERGREEN TREES	0 EVERGREEN TREES	0 EVERGREEN TREES	0 EVERGREEN TREES	3 EVERGREEN TREE	3 EVERGREEN TREE
SUBSTITUTION TREES (2:1)	0 SUBSTITUTION TREES	0 SUBSTITUTION TREES	0 SUBSTITUTION TREES	0 SUBSTITUTION TREES	0 SUBSTITUTION TREES
SHRUBS	0 SHRUBS	0 SHRUBS	0 SHRUBS	0 SHRUBS	0 SHRUBS

NOTE: THIS DRAWING IS TO BE USED FOR LANDSCAPE PLAN PURPOSES ONLY.

NOTES:
 1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 2. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT FOR THE REQUIRED LANDSCAPE PLANTINGS (14 SHADE TREES, 3 EVERGREEN, 6 SHRUBS, 22 PRIVATE STREET TREES) IN THE AMOUNT OF \$11,430.00.

LEGEND

	15 TO 24% SLOPES
	STEEP SLOPES, 25% OR MORE
	FOREST CONSERVATION EASEMENT (RETENTION)
	PROPOSED TREELINE

PERIMETER LANDSCAPE REQUIREMENT PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
14		ACER RUBRUM 'RED SUNSET' OR EQUIVALENT	RED SUNSET RED MAPLE	2 1/2" - 3" CAL.
3		PINUS STROBUS OR EQUIVALENT	WHITE PINE	6' - 8' HT.
6		TAXUS MEDIA 'HICKSI' OR EQUIVALENT (TRASH PAD SCREENING)	HICKS YEW	2 1/2" - 3" HT.
TOTAL				
23 TREES & SHRUBS [14 SHADE TREES, 3 EVERGREENS, 6 SHRUBS (FOR TRASH PAD SCREENING)]				

PRIVATE STREET TREE REQUIREMENT PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
22		PYRUS CALLERYANA 'REDSPIRE' OR EQUIVALENT	REDSPIRE PEAR	2 1/2" - 3" CAL.
TOTAL				
22 SHADE TREES				

PRIVATE STREET TREE CALCULATIONS

STREET NAME	LENGTH OF ROADSIDE	NUMBER OF TREES
WINTERS RIDGE	864 LF	22
TOTAL		22 STREET TREES

DEVELOPER'S/OWNER'S CERTIFICATE

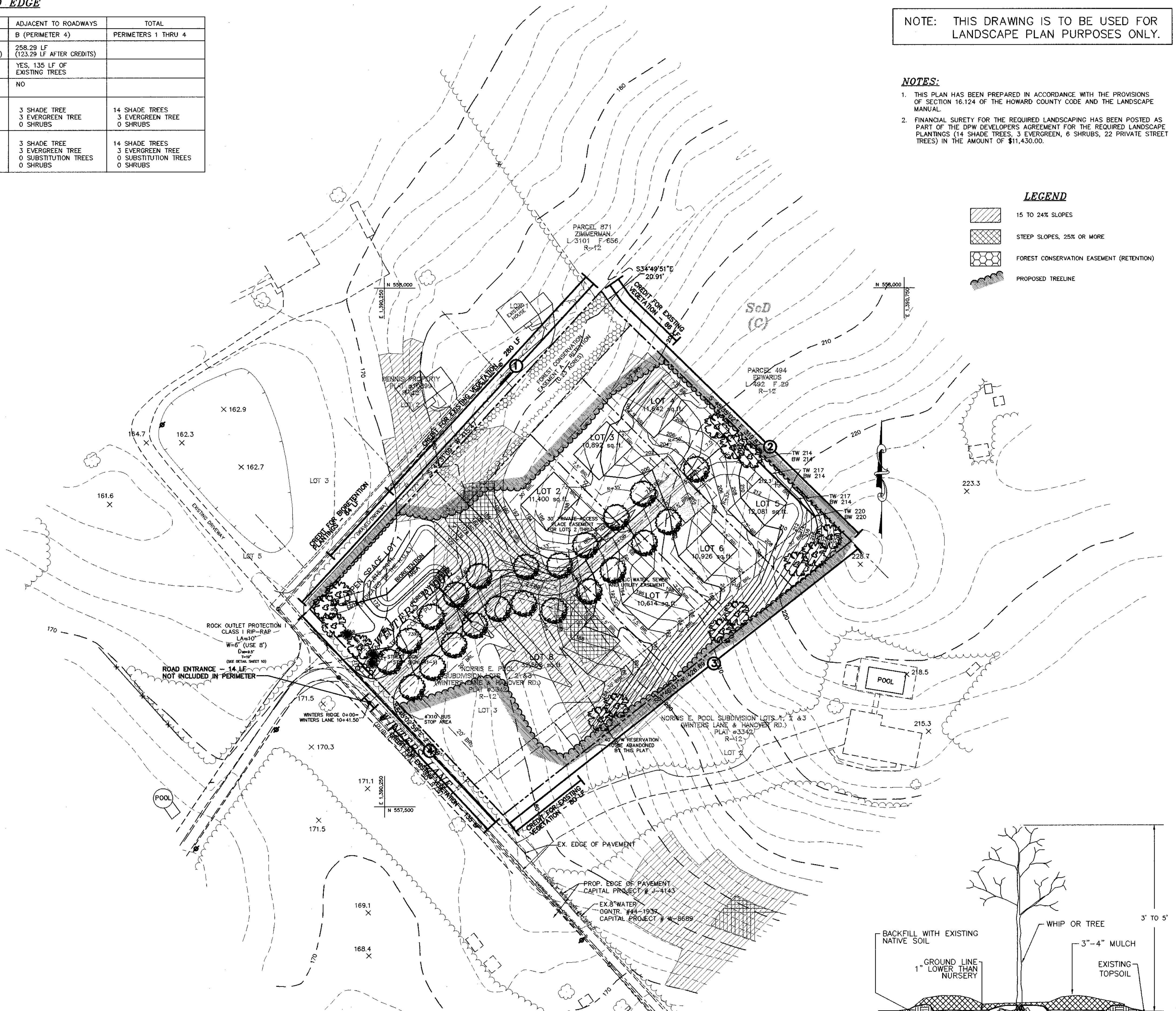
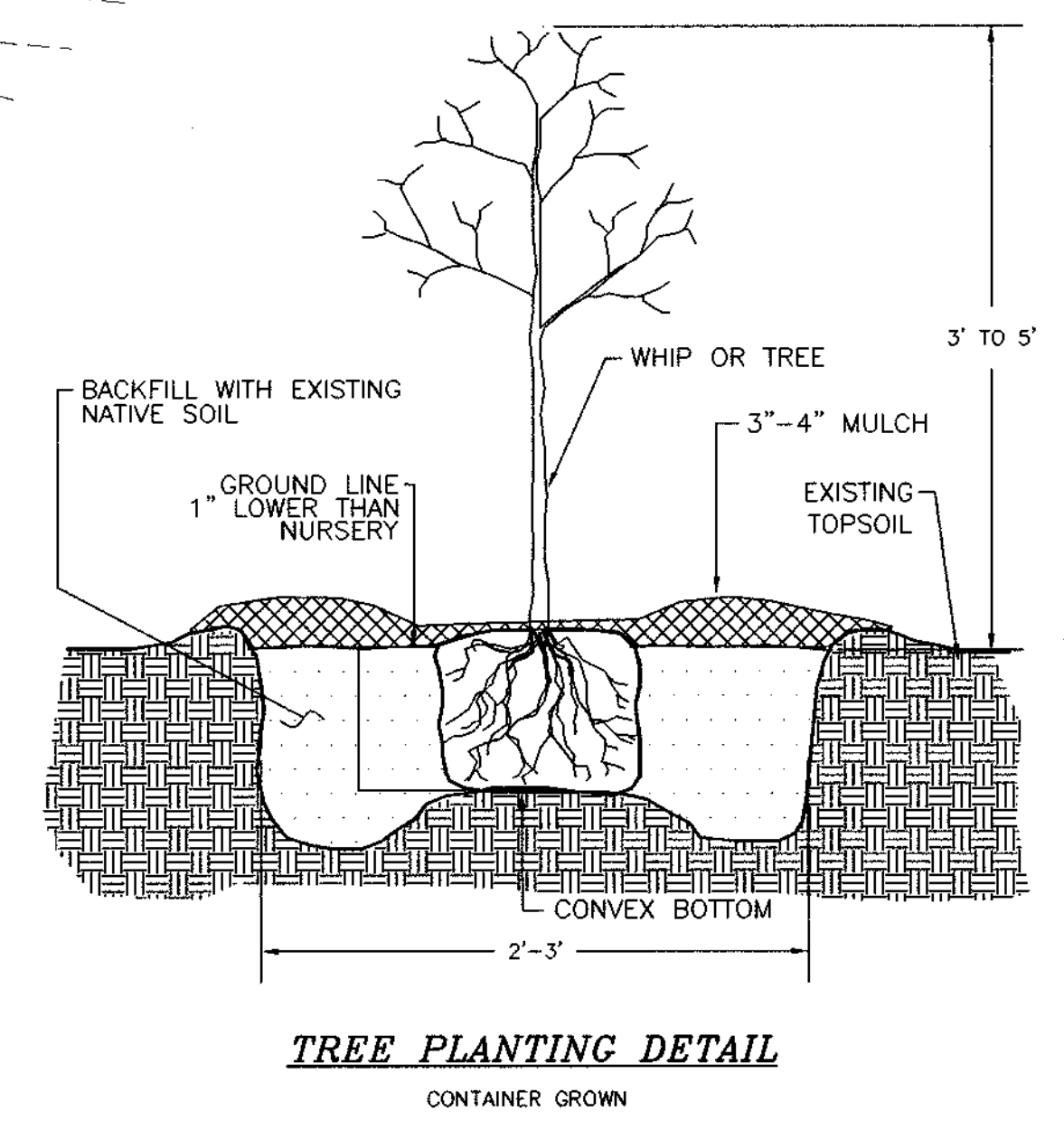
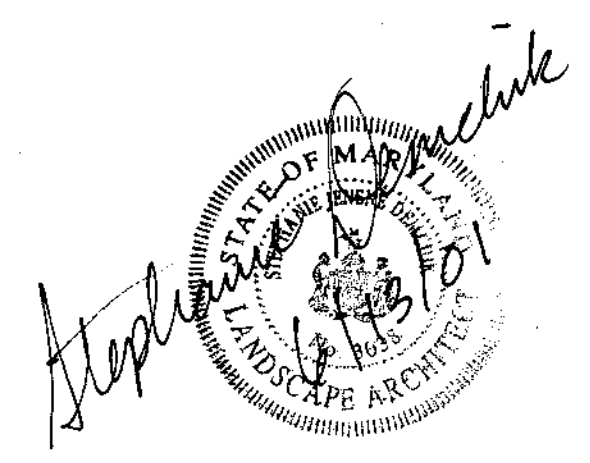
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE IN ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE, AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

James C. Jackson 6-29-01
 OWNER/DEVELOPER DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Christopher M. Daniels 7-24-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chris Danvers 7/26/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Andy Hamstra 7/27/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



date	JUNE 2001
project	99003
illustration	KR/SJD
scale	1"=60'
approval	SJD

no.		description	date
		revisions	

WINTERS RIDGE - LOTS 1 THRU 8
 A RESUBDIVISION OF LOT 3, NORRIS E. POOL SUBDIVISION
 TAX MAP 38 - PARCEL 868 - GRID 15
 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
LANDSCAPE PLAN

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Drossel Hall Drive, Suite 202, Beltsville, Md., Maryland, 21042
 (410) 997-0286; Fax: (301) 621-5521; Wash. (410) 997-0298; Fax.

GENERAL NOTES
FOREST PROTECTION

- ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
- THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES.
- ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
- ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
- INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
- THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
- REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
- THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

PRE-CONSTRUCTION MEETING

- AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
 - TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIFIC TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
 - INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
 - MAKE ALL NECESSARY ADJUSTMENTS;
 - ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

CONSTRUCTION MONITORING

- THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REPAIRED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
- THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

FOREST CONSERVATION DATA

I. BASIC SITE DATA	ACRES
GROSS SITE AREA	2.94
AREA WITHIN 100 YEAR FLOODPLAIN	0.00
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	0.00
NET TRACT AREA	2.94
LAND USE CATEGORY	RESIDENTIAL - SUBURBAN (HIGH DENSITY)
II. FOREST CONSERVATION WORKSHEET DATA SUMMARY	
B. REFORESTATION THRESHOLD (20%)	0.59
C. AFFORESTATION MINIMUM (15%)	0.44
D. EXISTING FOREST ON NET TRACT AREA	2.94
E. FOREST AREAS TO BE CLEARED	2.71
F. FOREST AREAS TO BE RETAINED	0.23
IV. REFORESTATION CALCULATIONS	
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	2.35
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0.36
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.00
REFORESTATION FOR CLEARING ABOVE THRESHOLD	
REFORESTATION FOR CLEARING BELOW THRESHOLD	0.59
TOTAL REFORESTATION REQUIRED	1.31
TOTAL REFORESTATION PROVIDED	
TOTAL FEE-IN-LIEU OF REFORESTATION	0.00
TOTAL FEE-IN-LIEU OF REFORESTATION	1.31

NOTE: THIS PLAN IS TO BE USED FOR FOREST CONSERVATION PURPOSES ONLY.

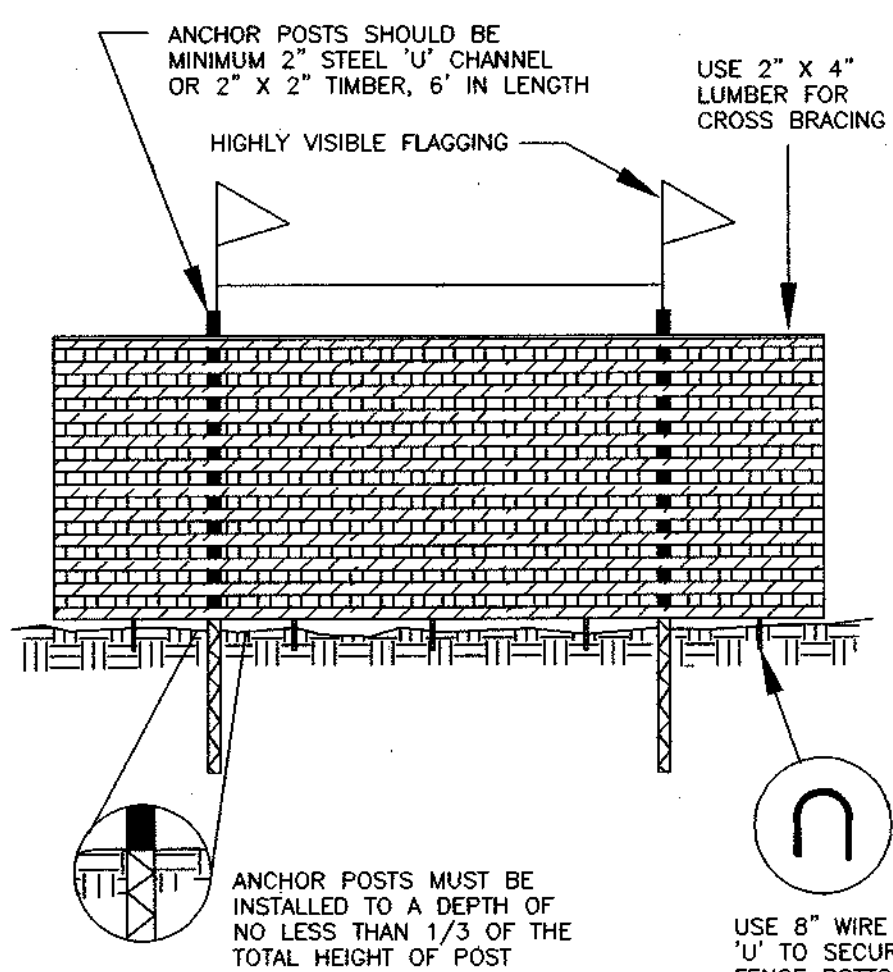
NOTE:
1. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION HAS BEEN FULFILLED BY RETENTION OF EXISTING FOREST IN THE AMOUNT OF 0.23 ACRES (10,047 SQ. FT. AT \$2,009.40) AND BY PURCHASE OF CREDITS AT A FOREST MITIGATION BANK FOR 1.31 ACRES. FOREST CONSERVATION SURETY IN THE AMOUNT OF \$2,009.40 HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT.
2. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

SOILS LEGEND

Sd SANDY AND CLAYEY LAND, MODERATELY SLOPING, READILY ERODED

PROTECTIVE FENCE DETAIL

BLAZE ORANGE PLASTIC MESH



- NOTES
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICES.
 - ROOT DAMAGE SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

** TREE PROTECTIVE FENCING TO BE ADDED ONLY IF SUPER SILT FENCE DOES NOT REMAIN IN PLACE ALONG THE TREE SAVE AREAS AND FOREST CONSERVATION EASEMENT DURING ENTIRE CONSTRUCTION PERIOD.

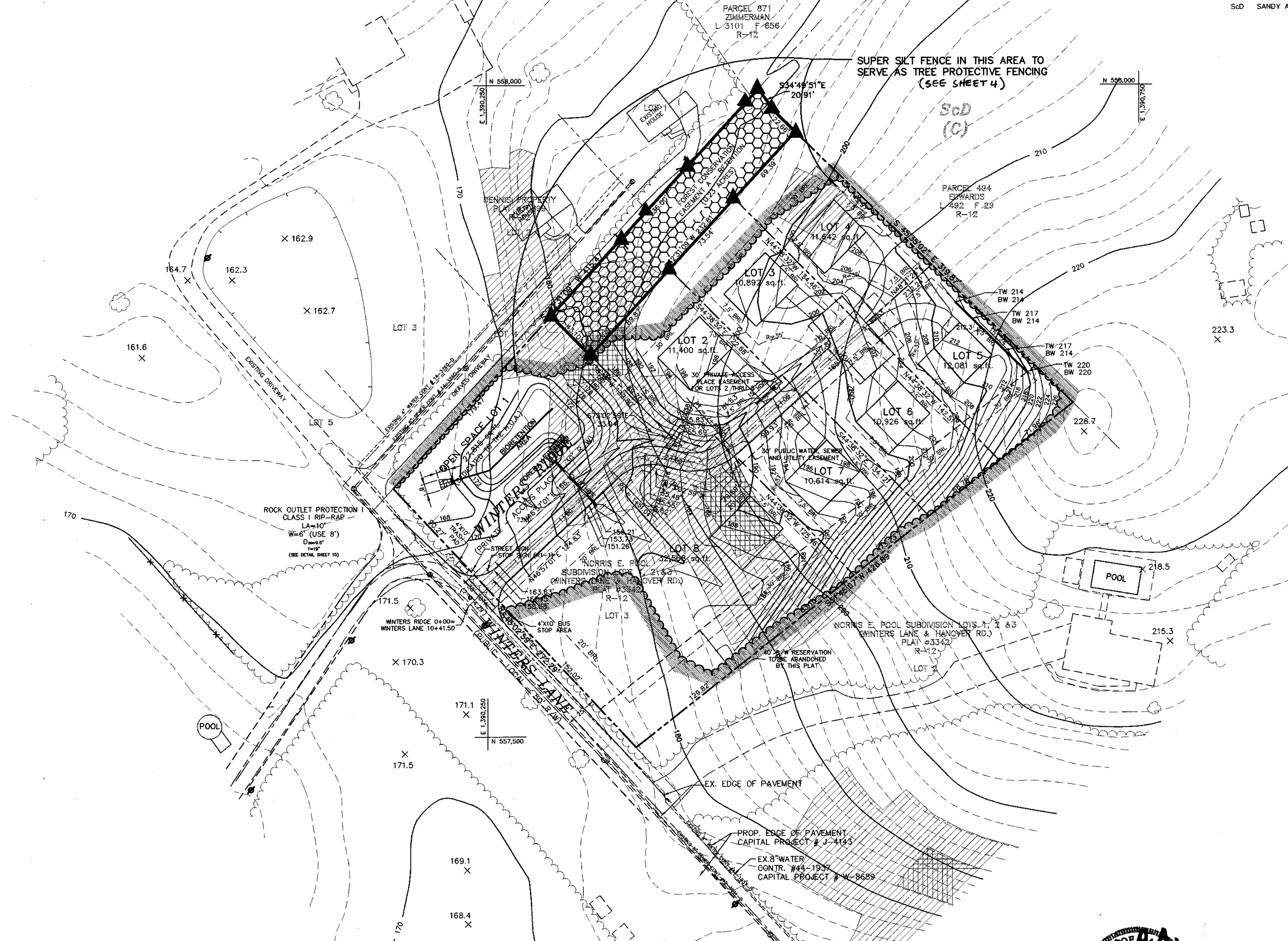
LEGEND

- 15 TO 24% SLOPES
- STEEP SLOPES, 25% OR MORE
- FOREST CONSERVATION EASEMENT (RETENTION)
- FOREST CONSERVATION SIGNAGE
- PROPOSED TREELINE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Thomas M. Daniels 7-24-01
CHIEF, BUREAU OF HIGHWAYS DATE

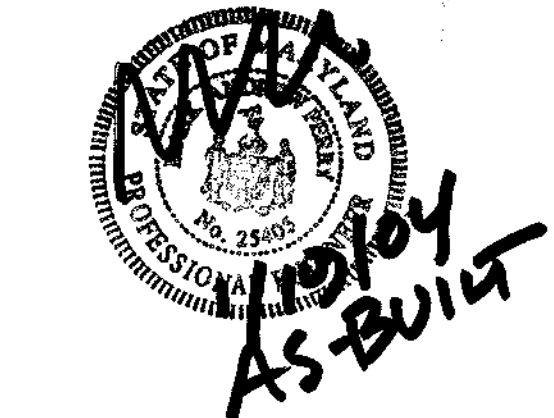
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Stephanie Demchik 7/20/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Chris Stevens 7/20/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



FOREST RETENTION AREA
MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED
VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE MARYLAND FOREST CONSERVATION ACT OF 1991

SIGNAGE DETAIL
NOT TO SCALE



MD DNR QUALIFIED PROFESSIONAL
Stephanie Demchik
STEPHANIE DEMCHIK

project: 99003
date: JUNE 2001
illustration: KR/SID
scale: 1"=60'
approval: SID

no.: 1
description: REVISED FOREST CONSERVATION SIGNAGE
revisions: 1/20/04

WINTERS RIDGE - LOTS 1 THRU 8
A RESUBDIVISION OF LOT 3, NORRIS E. POOL SUBDIVISION
TAX MAP 38 - PARCEL 688 - GRID 15
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
FOREST CONSERVATION PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 987-0296 Ext. (301) 821-5521 Wash. (410) 987-0298 Fax.