

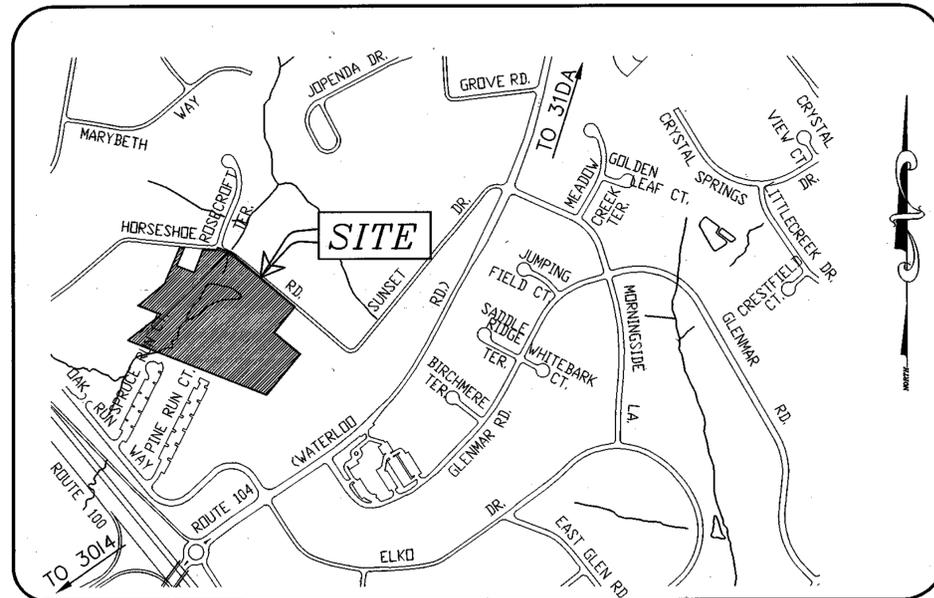
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ROAD CONSTRUCTION PLANS RED HILL BRANCH OVERLOOK LOTS 1 THRU 21 & OPEN SPACE LOTS 22-24 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER

MORRIS L.L.C.
5072 DORSEY HALL DRIVE, SUITE 202
ELLCOTT CITY, MARYLAND 21043
(410) 997-0296



VICINITY MAP
SCALE 1"=500'

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
C&P TELEPHONE COMPANY	(410) 725-9976
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 INSPECTION DIVISION	(410) 313-1880
- PROJECT BACKGROUND:

LOCATION:	TAX MAP 31, PARCEL 60, & LOT 5 OF KOCH PROPERTY
ZONING:	R-20
ELECTION DISTRICT:	2ND
TOTAL AREA:	11.62 AC ±
DPZ FILES:	SP-01-02 APPROVED 2/15/01 WP-01-08 APPROVED 12/26/00
- TOPOGRAPHIC INFORMATION IS BASED ON AERIAL TOPOGRAPHIC SURVEY BY WINGS AERIAL MAPPING CO., INC. FLOWN ON JANUARY 6, 2000. VERTICAL DATUM IS NAD 83.
- COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 301A AND 310A.
STA. 301A N567750.955, E1364842.701 EL.499.821
STA. 310A N571700.681, E1369606.396 EL.495.181
- BOUNDARY INFORMATION IS BASED ON MONUMENTED FIELD RUN SURVEY BY MILDENBERG, BOENDER AND ASSOC., INC. PERFORMED IN OR ABOUT MARCH, 2000.
- STORMWATER MANAGEMENT CONTROL WILL BE PROVIDED BY THE METHOD OF EXTENDED DETENTION STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED BY H.O.A.
- HOUSES NOT CONTROLLED BY THE SWM PONDS TO HAVE DRY WELLS AT SDP STAGE.
- WETLANDS AND STREAM DELINEATION IS BY WILDMAN ENVIRONMENTAL SERVICES, DATED APRIL, 2000. APPROVED UNDER SP-01-02 ON FEBRUARY 15, 2001.
- FLOODPLAIN STUDY PERFORMED BY MILDENBERG, BOENDER & ASSOC., INC. IN APRIL, 2000. APPROVED UNDER SP-01-02 ON FEBRUARY 15, 2001.
- GEOTECHNICAL REPORT PREPARED BY HILLIS-CARNES ENGINEERING ASSOC. INC. IN OCTOBER 1999.
- DEED REFERENCE: L 481, F 690.
- NO CEMETERIES OR HISTORIC STRUCTURES EXIST ON SITE.
- ALL EXISTING STRUCTURES AND DRIVEWAYS ARE TO BE REMOVED UNLESS OTHERWISE NOTED.
- TRAFFIC STUDY BY MARS TRAFFIC GROUP, DATED JANUARY 10, 2001.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER ARE PUBLIC WATER CONTRACT NO. 64-W. SEWER CONTRACT NO. 302-S.
- PROPOSED WATER AND SEWER ARE PUBLIC, CONTRACT # 24-4013-D
- ALL LOTS WILL HAVE A MINIMUM OF 2 ON-SITE PARKING SPACES. NO STREET PARKING SPACES ARE REQUIRED.
- 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-180.
- CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES ON SITE PRIOR TO COMMENCING CONSTRUCTION.
- ALL STORM DRAIN PIPES TO BE HDPE PIPES UNLESS OTHERWISE NOTED.
- ALL DRIVEWAYS ENTRANCES TO BE H.C.STD. R-6.03 UNLESS OTHERWISE NOTED.
- STREET LIGHTS WILL BE REQUIRED IN THE 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 2993) 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. PROVIDE A 100-WATT HPS VAPOR LAMP WITH A POST FIXTURE MOUNTED ON 14' BLACK FIBERGLASS POLE AT STA. 0+20, 25' RT; STA. 4+10, 13' RT; L.P.STA. 0+90, 3' BEHIND CURB.
- ALL ROADS ARE TO HAVE MOUNTABLE CURBS.
- AREA TABULATION:

TOTAL TRACT AREA:	11.62 AC ±
MINIMUM LOT AREA:	14,000 S.F.
AREA OF PROPOSED BUILDABLE LOTS:	7.07 AC ±
AREA OF PROPOSED ROADS (R/W):	0.97 AC ±
REQUIRED OPEN SPACE (30%)	3.49 AC ±
PROVIDED OPEN SPACE	3.61 AC ±
REQUIRED RECREATIONAL OPEN SPACE 200 S.F./UNIT	4,200 S.F.
PROVIDED RECREATIONAL OPEN SPACE	4,400 S.F.
NUMBER OF PROPOSED BUILDABLE LOTS:	21
NUMBER OF PROPOSED OPEN SPACE LOTS:	3
TOTAL NUMBER OF PROPOSED LOTS:	24
- THIS PROJECT IS SUBJECT TO W.P.-01-18 APPROVED ON DECEMBER 26, 2000, TO WAIVE SECTION 16.115(c), 16.16(a)(1) AND 16.16(a)(2)(ii) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATION. THIS WAIVER ALLOWS GRADING AND REMOVAL OF VEGETATION WITHIN THE FLOODPLAIN AREA, WITHIN 25 FEET OF WETLANDS AND WITHIN 75 FEET OF PERENNIAL STREAM. SUBJECT TO: PERMIT REQUIREMENT (AT FINAL PLAN) OF SCD AND MDE. DISTURBANCE SHALL BE THE MINIMUM NECESSARY. A CLEAR LOD SHALL BE SET PRIOR TO WORK, AND MAINTAINED DURING WORK RELATED TO THE EXISTING POND AND TO THE PROPOSED SWM POND. THIS WAIVER ALLOWED FOR REMOVAL OF AN EXISTING POND, RECONSTRUCTION OF THE STREAM UPON REMOVAL OF THE POND, AND CONSTRUCTION OF A NEW STORM WATER MANAGEMENT FACILITY.
- MDE PERMIT TRACKING NO. 200261017
- 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 ON-SITE RETENTION IN THE AMOUNT OF 1.03 ACRES OF CREDITED EASEMENT AND 0.51 ACRES OF NON-CREDITED (FLOODPLAIN) EASEMENT TO TOTAL 1.54 ACRES OF FOREST CONSERVATION EASEMENT (RETENTION), REFORESTATION IN THE AMOUNT OF 0.84 ACRES, AND OFF-SITE REFORESTATION (LISTON FARM, MAP 2, PARCEL 17) IN THE AMOUNT OF 2.30 ACRES. FINANCIAL SURETY HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT FOR THE ON-SITE RETENTION (1.03 ACRES OR 44,666 SQ. FT.) IN THE AMOUNT OF \$29,313.36, ON-SITE REFORESTATION (0.84 ACRES OR 40,946 SQ. FT.) IN THE AMOUNT OF \$20,473.20, AND OFF-SITE REFORESTATION (2.30 ACRES OR 100,140 SQ. FT.) IN THE AMOUNT OF \$50,094.00.
- THIS PROJECT IS SUBJECT TO THE 4TH EDITION SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND TO THE 1993 ZONING REGULATIONS, AS AMENDED 7-12-01.
- THIS PROJECT IS SUBJECT TO W.P.-02-89, APPROVED ON APRIL 26, 2002 TO WAIVE SECTION 16.147 REQUIRING SUBMITTAL OF A RECORD PLAT TO RECONFIGURE PARCELS.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (43 SHADE TREES, 15 EVERGREENS) HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$15,150.00.

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

8/11/02
DATE

JACOB HILMAT, AUTHORIZED MANAGER
PRINTED NAME OF DEVELOPER

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

8/13/02
DATE

HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS
8/13/02
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
9/4/02
DATE

APPROVED: DEPARTMENT OF LAND DEVELOPMENT
8/13/02
DATE

APPROVED: DEPARTMENT OF DEVELOPMENT ENGINEERING DIVISION
8/13/02
DATE



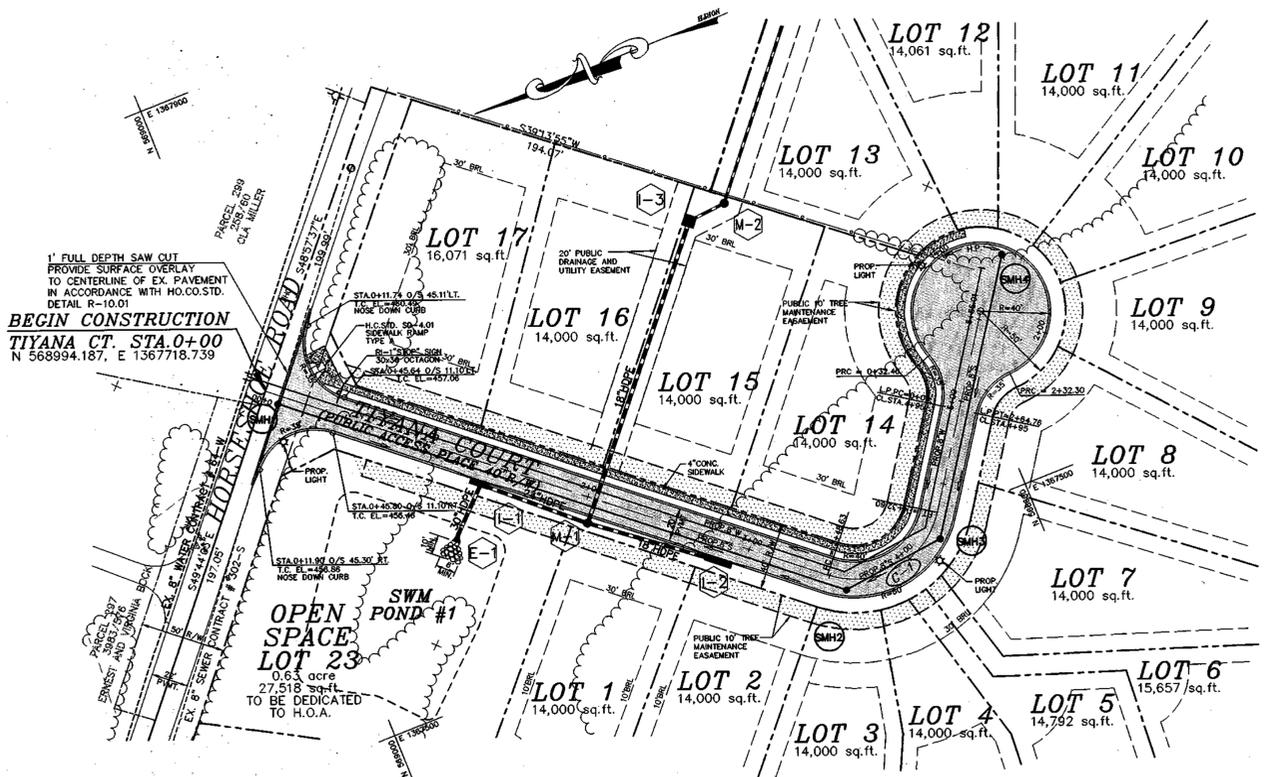
Project	99080	date	JUNE 2002
Structure	M&P	approved	JBM
Scale	NTS	revisions	

1	REV SHEET INDEX & TOTAL SHEET NOS	/E/C/S	date

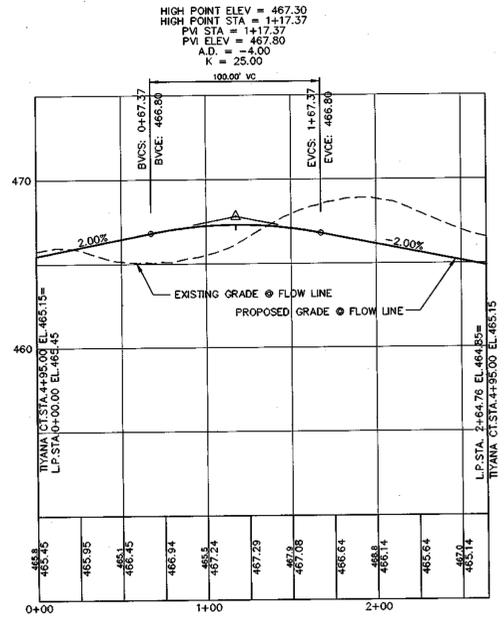
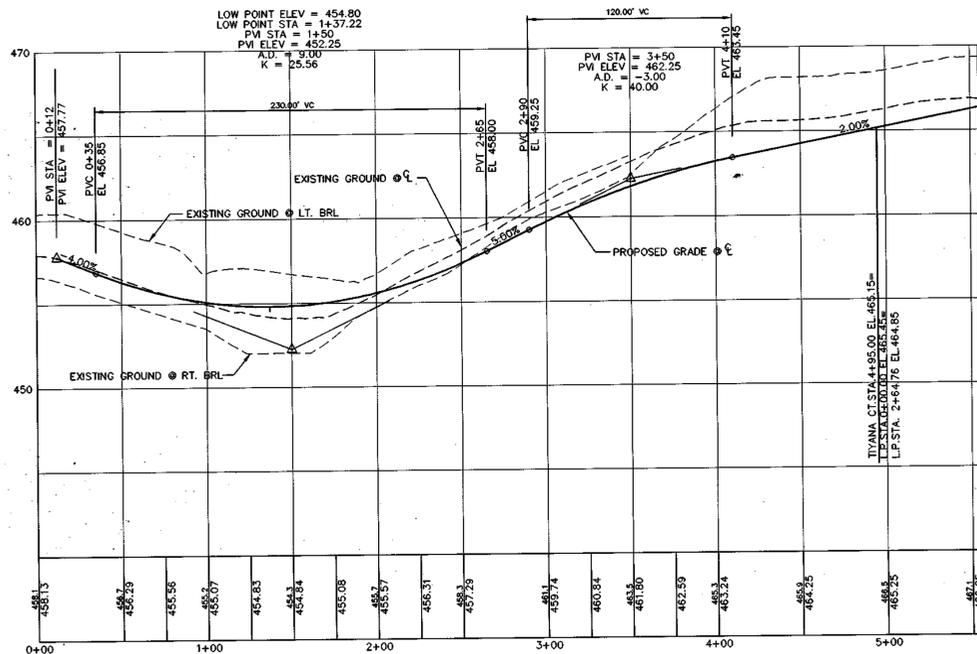
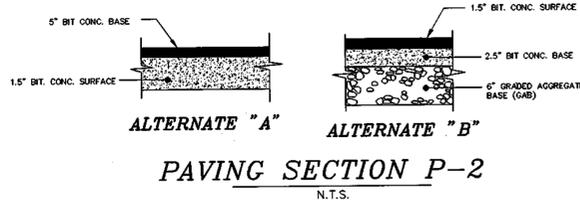
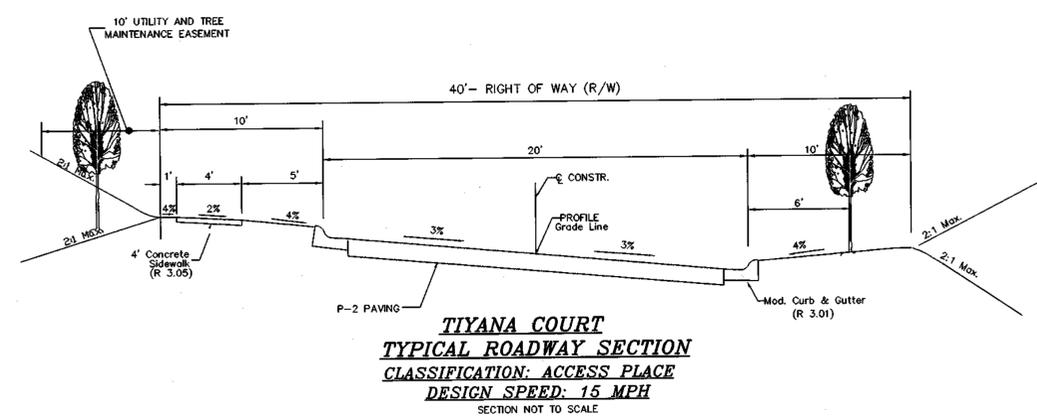
RED HILL BRANCH OVERLOOK
LOTS: 1-21 AND OPEN SPACE LOTS: 22-24
TAX MAP 31, PARCEL 60 AND LOT 5
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
COVER SHEET

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 997-0296 Fax: (410) 821-5521 Wash. (301) 997-0296 Fax

BEGIN CONSTRUCTION
 TIYANA CT. STA 0+00
 N 568994.187, E 1367718.739



CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	50.00'	83.97'	55.75'	74.44'	S07°50'40"E	98°13'15"



APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] DATE 8/14/02

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE 9/14/02

APPROVED: [Signature] DATE 8/14/02

OWNER/DEVELOPER
 MORRIS L.L.C.
 5072 DORSEY HALL DRIVE SUITE 202
 ELLICOTT CITY, MARYLAND 21072
 (410) 997-0296

project	date
99080	JUNE 2002
illustration	preparation
MMP	MMP
scale	approval
1"=50'	IBM

REV.	DATE	DESCRIPTION
1	1/21/03	TOTAL SHEET NOS.
		revisions

RED HILL BRANCH OVERLOOK
 LOTS: 1-21 AND OPEN SPACE LOTS: 22-24
 TAX MAP 31, PARCEL 60 AND LOT 5
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 ROAD PLAN, PROFILES AND TYPICAL SECTIONS

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
 (410) 997-0296 Fax: (301) 621-5621 Wash. (410) 997-0296 Fax

LEGEND

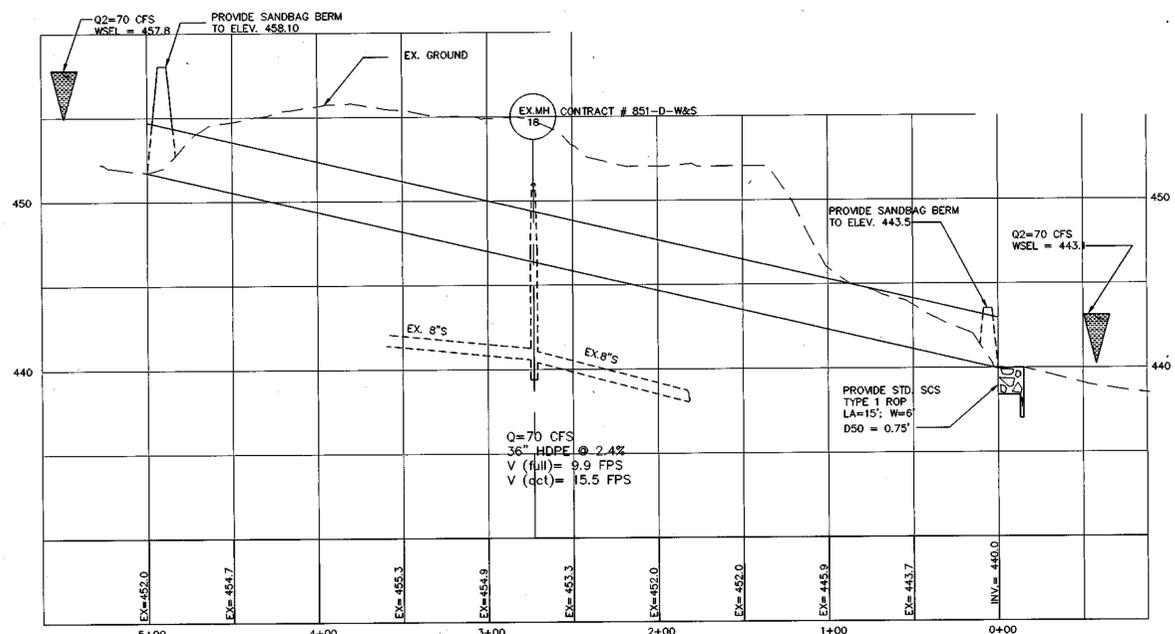
- DENOTES FLOODPLAIN
- DENOTES 15-24.99% SLOPES.
- DENOTES RIGHT-OF-WAY DEDICATION.
- DENOTES WETLANDS
- DENOTES STABILIZED CONSTRUCTION ENTRANCE
- DENOTES SILT FENCE
- DENOTES EARTH DIKE
- DENOTES WILLOW BUNDLE*
- DENOTES SOD MAT*
- SCS STANDARD REMOVABLE PUMPING STATION*
- WETLAND SEED MIX*

NOTE* SEE STREAM RESTORATION TYPICAL DETAILS FOR LOCATION AND DIMENSIONS OF STREAM STABILIZATION METHODS SHOWN



PLAN
SCALE: 1"=50'

OWNER/DEVELOPER
MORRIS L.L.C.
5072 DORSEY HALL DRIVE SUITE 202
ELLCOTT CITY, MARYLAND 21043
(401)997-0296



36" H.D.P.E. PIPE PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 8/11/02
DATE

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[Signature] 8/13/02
DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

[Signature] 8/13/02
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 8/14/02
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 9/4/02
DATE



Project	99080	Date	JUNE 2002
Illustration	MMP	engineer/na	
Scale	1"=50'	approval	JBM

1	REV TOTAL SHEET NOS. REV. GRABING IN THE STREAM	1/2/09	
2			
3			

RED HILL BRANCH OVERLOOK
LOTS: 1-21 AND OPEN SPACE LOT 22-24
TAX MAP 31, PARCEL 60 AND LOT 5
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
STREAM RESTORATION SEDIMENT CONTROL PLAN - PHASE ONE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Fax: (301) 621-5521 West: (410) 997-0298 Fax

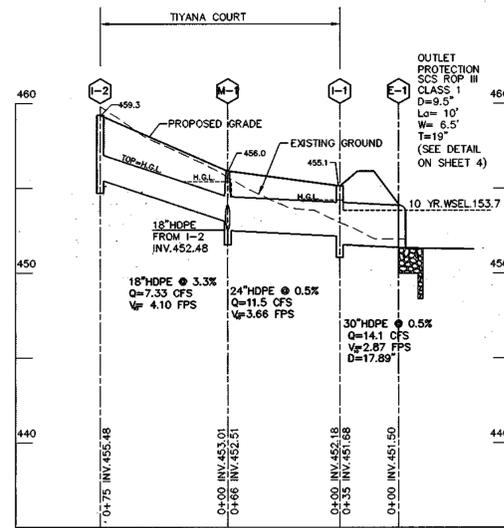
STRUCTURE SCHEDULE

NO.	LOCATION	TOP EL.	INV. IN	INV. OUT	COMMENTS
I-1	TIYANA CT. STA. 1+37, O/S 10.52' RT.	455.10	452.18	451.38	TYPE A-10, H.C.STD. SD-4.02
I-2	TIYANA CT. STA. 2+85, O/S 10.52' RT.	459.30	-	455.48	TYPE A-15, H.C.STD. SD-4.02
I-3	N 568725, E 1367719	459.50	458.44	456.32	TYPE WR, H.C.STD. SD-4.37
I-4	N 568577, E 1367870	467.50	-	462.05	TYPE WR, H.C.STD. SD-4.37
M-1	TIYANA CT. STA. 2+05, O/S 15.0' RT.	456.00	453.01	452.51	H.C.STD. G-5.12
M-2	N 568702, E 1367721	462.20	457.50	457.40	H.C.STD. G-5.12
E-1	TIYANA CT. STA. 1+34, O/S 47.0' RT.	-	451.50	-	H.C.STD. SD-5.61*

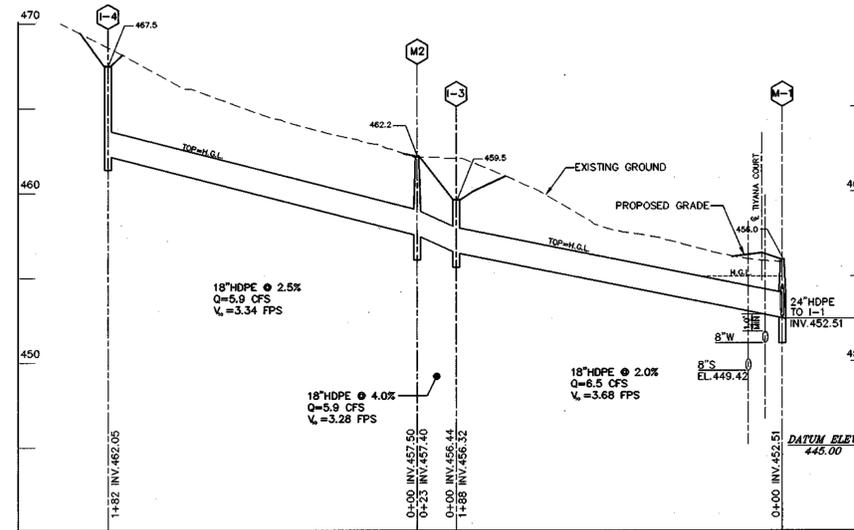
*NOTE: USE H.C.STANDARD CONNECTION SD-5.62

PIPE SCHEDULE

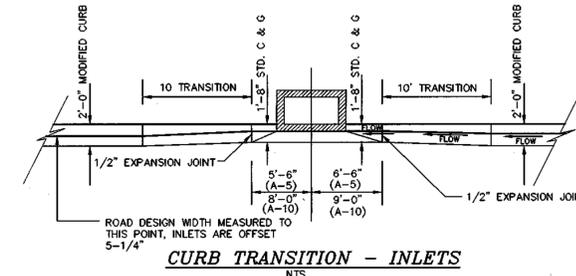
QUANTITY	PIPE SIZE
468'	18" HDPE
66'	24" HDPE
35'	30" HDPE



STORM DRAIN PROFILE



STORM DRAIN PROFILE



BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

8/11/02
 SIGNATURE OF DEVELOPER
E. JACOB HIKMAT
 PRINTED NAME OF DEVELOPER

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

4/28/02
 SIGNATURE OF ENGINEER
 PRINTED NAME OF ENGINEER

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

USDA - NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT/ENGINEERING DIVISION

OWNER/DEVELOPER

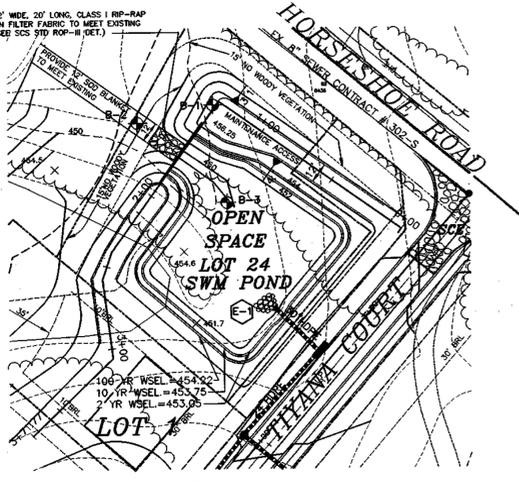
MORRIS L.L.C.
 5072 DORSEY HALL DRIVE SUITE 202
 ELLICOTT CITY, MARYLAND 21042
 (410)997-0296

project	date
99080	JUNE 2002
illustration	engineering
MMP	MMP
scale	approval
AS SHOWN	IBM

REV.	DATE	DESCRIPTION
1	1/21/03	REV. TOTAL SHEET AMTS.

RED HILL BRANCH OVERLOOK
 LOTS: 1-21 AND OPEN SPACE LOTS: 22-24
 TAX MAP 81, PARCEL 60, AND LOT 5
 HOWARD COUNTY, MARYLAND
 SECOND ELECTION DISTRICT
 STORM DRAIN PROFILES AND DETAILS

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

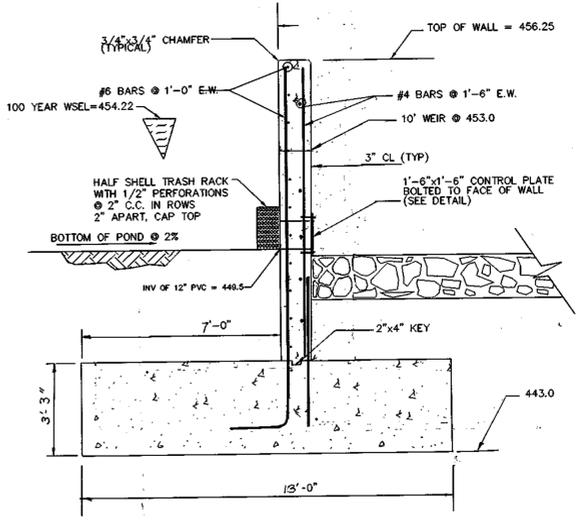


PLAN
SCALE: 1"=50'

POND DATA:

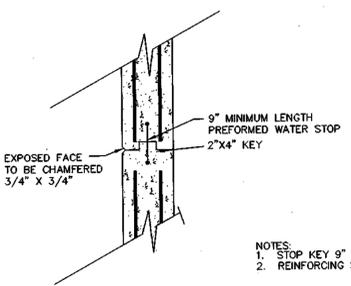
DESIGN STORM	EXISTING Q INTO SWMF	Q OUT OF SWMF	WSEL	STORAGE (AC-FT)	Q TOTAL	
Q2	109.7 CFS	8.4 CFS	1.6 CFS	453.05	0.35	103.0 CFS
Q10	274.6 CFS	24.3 CFS	20.6 CFS	453.66	0.43	260.8 CFS
Q100	N/A	45.2 CFS	42.8 CFS	454.20	0.61	N/A

STORMWATER MANAGEMENT FACILITY IS A CLASS A, EXTENDED DETENTION FACILITY PRIVATELY OWNED AND MAINTAINED.

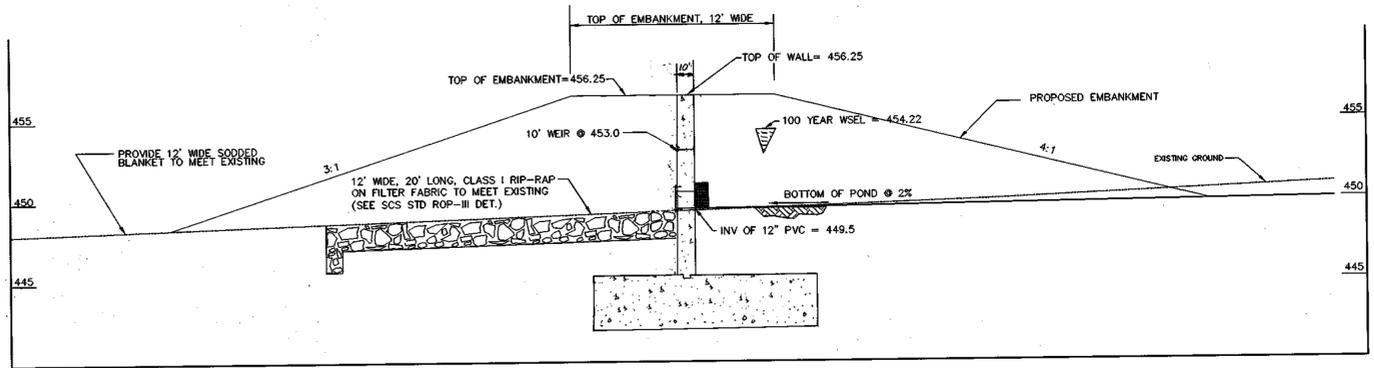


TYPICAL SECTION OF WALL
SCALE: 1"=3'

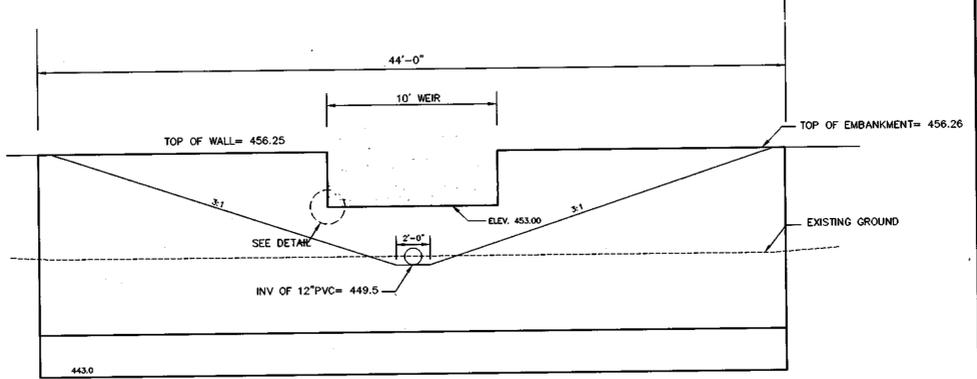
CORNER DETAIL
N.T.S.



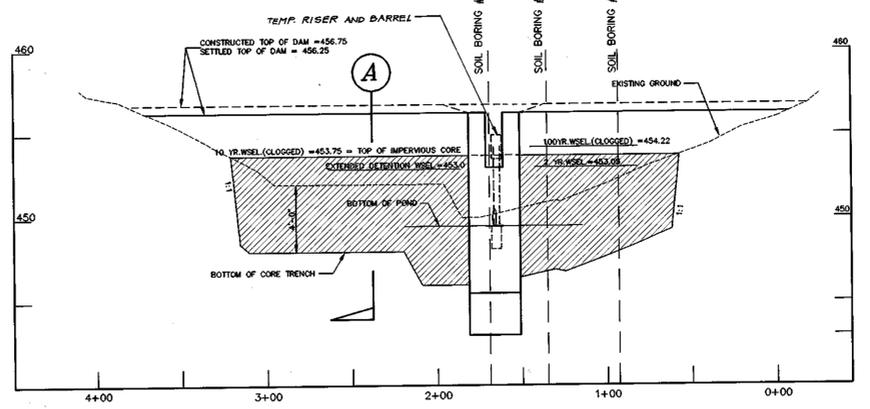
CONSTRUCTION JOINT DETAIL
N.T.S.



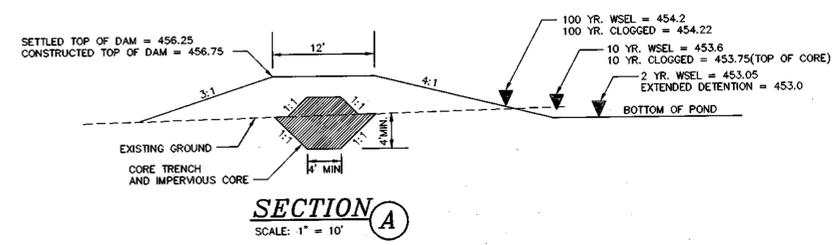
SECTION OF DAM AT SPILLWAY
SCALE: 1"=5'



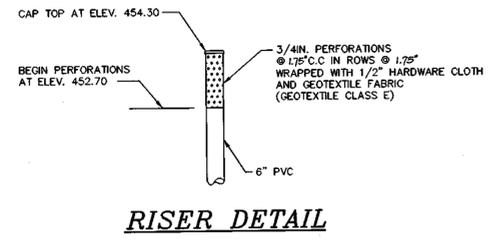
ELEVATION OF SWM OUTFALL
SCALE: 1"=5'



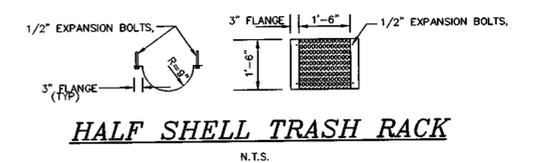
CENTERLINE DAM PROFILE
SCALE: HOR. 1"=50' VER. 1"=5'



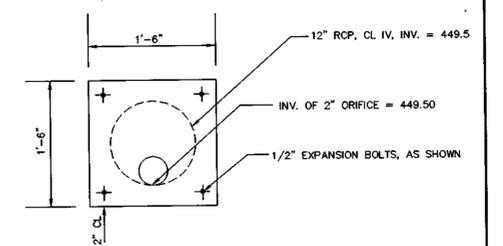
SECTION A
SCALE: 1"=10'



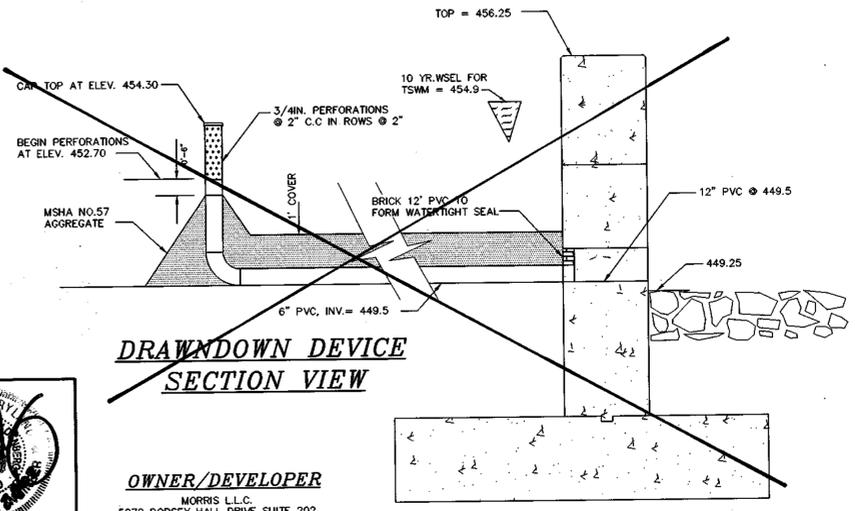
RISER DETAIL



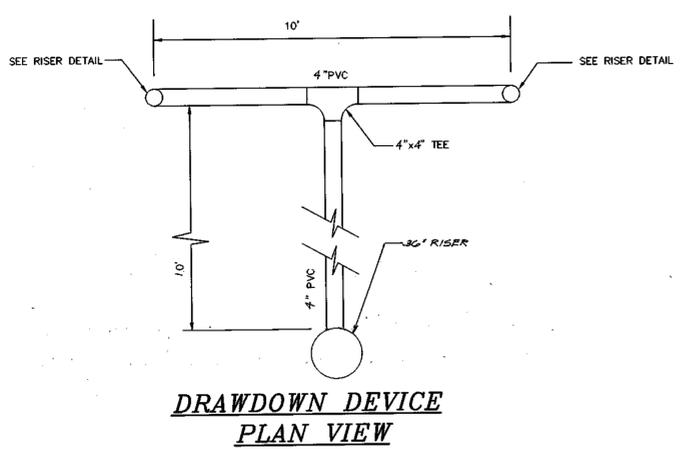
HALF SHELL TRASH RACK
N.T.S.



LOW FLOW PLATE
N.T.S.



DRAWDOWN DEVICE SECTION VIEW



DRAWDOWN DEVICE PLAN VIEW

GENERAL NOTES:

1. CONCRETE SHALL BE MSHA MIX NO. 3 (F_c = 3,500 PSI)
2. REINFORCING SHALL BE F_y = 60,000 PSI, EPOXY COATED
3. ALL WORK SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF MSHA.
4. ALL FILL UNDER FOOTERS OF PROPOSED STRUCTURE SHALL BE COMPACTED TO 99% OF AASHTO T-99, AS CERTIFIED BY AN ON-SITE GEO-TECHNICAL ENGINEER.
5. MINIMUM ALLOWABLE BEARING PRESSURE OF 7,000 PSF SHALL BE VERIFIED BY ON SITE GEO-TECHNICAL ENGINEER.
6. ALL RE-BAR SPLICES SHALL BE 24 INCH LAP SPLICES OR EQUIVALENT.
7. PROVIDE ELASTOMERIC SPLIT FACE ROCK, NO. 159 OR EQUIVALENT FORM LINERS ON ALL EXPOSED FACES OF CONCRETE WALL.

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DATE: 8/1/02
SIGNATURE OF DEVELOPER: MICHAEL L. BOENDER, AUTHORIZED MEMBER
PRINTED NAME OF DEVELOPER: MICHAEL L. BOENDER

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

DATE: 4/28/02
SIGNATURE OF ENGINEER: [Signature]
PRINTED NAME OF ENGINEER: [Name]

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

DATE: 8/13/02
SIGNATURE: [Signature]
USDA - NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DATE: 8/13/02
SIGNATURE: [Signature]
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS
DATE: 4/14/02
SIGNATURE: [Signature]
BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
DATE: 2/14/02
SIGNATURE: [Signature]
CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 8/13/02
SIGNATURE: [Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION



OWNER/DEVELOPER
MORRIS L.L.C.
5072 DORSEY HALL DRIVE SUITE 202
ELLCOTT CITY, MARYLAND 21072
(401)997-0296

date	JUNE 2002	engineering	JBM	approval	JBM
project	99080	illustration	JBM	scale	1"=50'

date	1/2/03	description	REV. IMPROVE WALL & CHAMFERING DEVICE
no.		revisions	

RED HILL BRANCH OVERLOOK
LOTS: 1-21 AND OPEN SPACE LOTS: 22-24
TAX MAP 31, PARCEL 60 AND LOT 5
HOWARD COUNTY, MARYLAND
SECOND ELECTION DISTRICT

SWM PLAN AND DETAILS

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 997-0296 Fax (301) 621-5521 Wash

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 EDITION.

SITE PREPARATION

AREAS DESIGNATED AS EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BEREAVES SHALL BE SLOPED TO NO STEEPER THAN 1:1.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED TO THE PLANS. TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY DRY STOMACH MANAGEMENT PRACTICES, A MINIMUM OF A 50 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 DAM 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. CONSIDERATION MAY BE GIVEN TO THE USE OF FULLY COMPACTED MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER.

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

COMPACTION - THE MOVEMENT OF 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 TRACK TRUCK OF THE EQUIPMENT OR COMPACTION SHALL BE BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER Tired OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL BE MOISTENED TO THE POINT THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

WHERE A MINIMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS 95% OF MAXIMUM DRY DENSITY WITH A 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.

CUT OFF TRENCH - THE CUFF 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 COVERED 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.

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 MATERIAL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED METHODS. THE MATERIAL NEEDS TO FULLY CONTACT ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE: 1. MATERIAL (STEEL PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL BE GALVANIZED AND FULLY BITUMINOUS COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A WITH WATER TIGHT COUPLING BANDS. ANY BITUMINOUS COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THE FOLLOWING COATINGS OR AN APPROVED EQUAL MAY BE USED: NEXON, PLASTIC-OUT, BLAC-KLAD, AND BETH-CO-LOY. COATED CORRUGATED STEEL PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M-245 AND M-246.

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. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND.

MATERIALS (ALUMINUM PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-211 WITH WATER TIGHT COUPLING BANDS OR FLANGES. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATER TIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL 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 WATER TIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATER TIGHT.

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE FINISHED WITH A NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BAND WIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPE LESS THAN 24" IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE, A 12" WIDE STANDARD LAP TYPE BAND WITH 12" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET, AND A 12" WIDE STANDARD LAP TYPE BAND WITH 12" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET. DIMPLE BANDS WITH 12" WIDE BY 3/8" THICK GASKETS HAVING MINIMUM DIAMETER OF 1/2" GREATER THAN THE CORRUGATION DEPTH. PIPES 24" IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24" LONG ANNULEAR CORRUGATED BAND USING RODS AND LUGS. A 12" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED ON THE END OF EACH PIPE FOR A TOTAL OF 24".

HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

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 SPOUT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM DESIGNATION C-361.
2. BEDDING - ALL REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING FOR THEIR ENTIRE LENGTH. THIS BEDDING SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE TO ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 3 INCHES, OR AS SHOWN ON THE DRAWINGS.
3. LAYING PIPE - BELL AND SPOUT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LENGTH, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE SHALL BE FILLED. THE BEDDING SHALL BE PLACED WITHIN THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 2 FEET FROM THE RISER.
4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

POLYVINYL CHLORIDE (PVC) PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR POLYVINYL CHLORIDE (PVC) PIPE:

1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241.
2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATER TIGHT.
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. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 905. THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIPRAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILTER CLOTH SHALL BE REPLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 914.7.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON THE PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, 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 THE 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 ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM OF THE REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL AND CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTION 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 TO PUMPS 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, SPOIL, AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE MARYLAND SOIL 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 TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND THE HEIR(S) SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

OPERATION, MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED EXTENDED DETENTION POND

ROUTINE MAINTENANCE:
1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF EMBANKMENT SHALL BE MOWED A MINIMUM TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIP-RAP OR GABION OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE:

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHALL BE REMOVED FROM THE POND, AND FOREBAY, NO LATER THAN WHEN THE CAPACITY OF THE POND, OR FOREBAY, IS HALF FULL OF SEDIMENT, OR, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

OWNER/DEVELOPER

MORRIS L.L.C.
5072 DORSEY HALL DRIVE, SUITE 202
ELLCOTT CITY, MARYLAND 21042
(410) 997-0296

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION									
PROJECT NAME: MORRIS PROPERTY SWM BORING # 1-1									
LOCATION: HOWARD COUNTY, MARYLAND JOB # 003202A									
DATE STARTED: 8-2-00 DATE COMPLETE: 8-2-00									
DATE STOPPED: 8-2-00									
DATE TESTED: 8-2-00									
DATE CORRECTED: 8-2-00									
DATE REVISIONS: 8-2-00									
DATE APPROVED: 8-2-00									
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STREET TREE CALCULATIONS

HORSESHOE ROAD - 790 / 40 = 20
 ROAD A - 1233 / 40 = 31
 TOTAL TREES REQUIRED = 51 TREES
 TOTAL TREES PROVIDED = 51 TREES

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

- LEGEND**
- [Symbol] DENOTES FLOODPLAIN
 - [Symbol] DENOTES 15-24.99% SLOPES.
 - [Symbol] DENOTES RIGHT-OF-WAY DEDICATION.
 - [Symbol] DENOTES WETLANDS
 - [Symbol] DENOTES PERIMETER LANDSCAPE EDGE
 - [Symbol] DENOTES WILLOW BUNDLE
 - [Symbol] DENOTES ROOT WAD
 - [Symbol] DENOTES ROCK VANE
 - [Symbol] DENOTES CROSS VANE
 - [Symbol] DENOTES SOD MAT
 - [Symbol] DENOTES CROSS WEIR

- NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (43 SHADE TREES, 15 EVERGREENS) HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$15,150.00.

SCHEDULE D : STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	115 LF (PERIMETER A)	125 LF (PERIMETER B)	110 LF (PERIMETER C)	115 LF (PERIMETER D)
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	N/A	N/A	N/A	YES, 35 LF OF EXISTING TREES TO REMAIN
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	N/A	N/A	N/A	N/A
NUMBER OF TREES REQUIRED	3 SHADE TREES 3 EVERGREEN TREES	3 SHADE TREES 3 EVERGREEN TREES	2 SHADE TREES 2 EVERGREEN TREES	2 SHADE TREES 2 EVERGREEN TREES
NUMBER OF TREES PROVIDED	3 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES	3 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES	2 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES	2 SHADE TREES 2 EVERGREEN TREES 0 SUBSTITUTION TREES

LINEAR FEET OF PERIMETER	TOTAL (465 LF)
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	YES, 115 LF OF EXISTING TREES TO REMAIN
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	N/A
NUMBER OF TREES REQUIRED	10 SHADE TREES 11 EVERGREEN TREES
NUMBER OF TREES PROVIDED	10 SHADE TREES 11 EVERGREEN TREES 0 SUBSTITUTION TREES

SCHEDULE A : PERIMETER LANDSCAPED EDGE

CATEGORY	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES	
	B (PERIMETER 1)	A (PERIMETER 2)	A (PERIMETER 2)	A (PERIMETER 3)
LANDSCAPE TYPE	148.23 LF	184.15 LF	184.15 LF	199.89 LF
LINEAR FEET OF PERIMETER	148.23 LF	184.15 LF	184.15 LF	199.89 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES, 113 LF OF EXISTING TREES TO REMAIN	NO	NO	NO
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED	1 SHADE TREE 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED	1 SHADE TREE 0 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES (2:1)	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES

CATEGORY	ADJACENT TO PERIMETER PROPERTIES			
	A (PERIMETER 4)	A (PERIMETER 5)	A (PERIMETER 6)	A (PERIMETER 7)
LANDSCAPE TYPE	296.87 LF	875.63 LF	238.46 LF	146.90 LF
LINEAR FEET OF PERIMETER	296.87 LF	875.63 LF	238.46 LF	146.90 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	YES, 365 LF OF EXISTING TREES TO REMAIN	YES, 238.46 LF OF EXISTING TREES TO REMAIN	NO
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED	5 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	9 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED	5 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES (2:1)	9 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES

CATEGORY	ADJACENT TO PERIMETER PROPERTIES			TOTAL
	A (PERIMETER 8)	B (PERIMETER 9)	B (PERIMETER 10)	
LANDSCAPE TYPE	435.21 LF	417.19 LF	68.63 LF	
LINEAR FEET OF PERIMETER	435.21 LF	417.19 LF	68.63 LF	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	YES, 262.67 LF OF EXISTING TREES TO REMAIN	NO	
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	YES, 115 LF OF SWM LANDSCAPING	NO	
NUMBER OF PLANTS REQUIRED	7 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	1 SHADE TREE 1 EVERGREEN TREE 0 SHRUBS	1 SHADE TREE 2 EVERGREEN TREES 0 SHRUBS	33 SHADE TREES 4 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED	7 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES (2:1)	1 SHADE TREE 1 EVERGREEN TREE 0 SHRUBS 0 SUBSTITUTION TREES	1 SHADE TREE 2 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES	33 SHADE TREES 4 EVERGREEN TREES 0 SHRUBS 0 SUBSTITUTION TREES

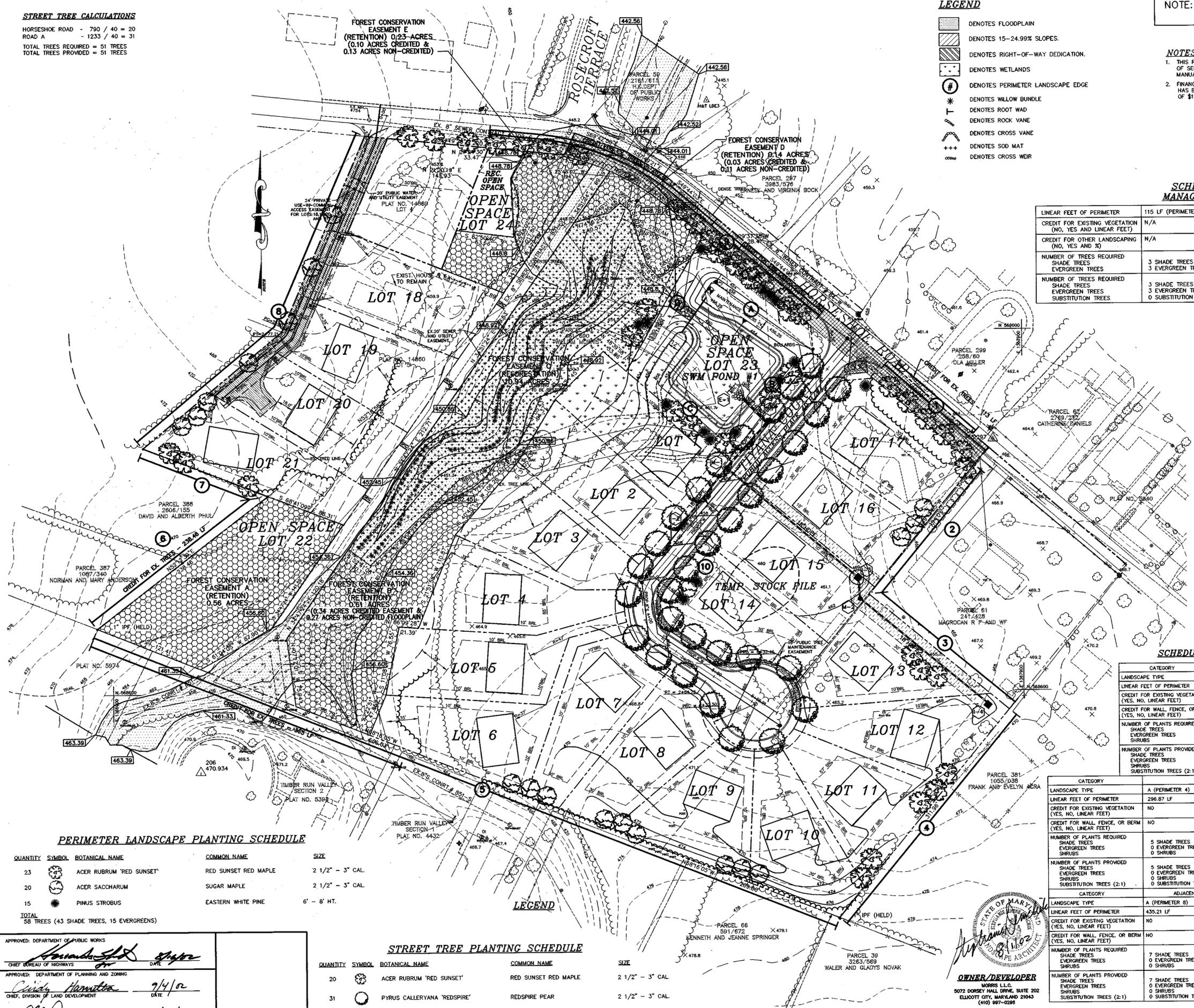
PERIMETER LANDSCAPE PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
23	[Symbol]	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2 1/2" - 3" CAL.
20	[Symbol]	ACER SACCHARUM	SUGAR MAPLE	2 1/2" - 3" CAL.
15	[Symbol]	PINUS STROBUS	EASTERN WHITE PINE	6" - 8" HT.
TOTAL 58 TREES (43 SHADE TREES, 15 EVERGREENS)				

STREET TREE PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
20	[Symbol]	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2 1/2" - 3" CAL.
31	[Symbol]	PYRUS CALLERYANA 'REDSPICE'	REDSPICE PEAR	2 1/2" - 3" CAL.
TOTAL 51 STREET TREES				

LEGEND



date: JUNE 2002
 project: 99080
 illustration: [Signature]
 scale: MAP / S/D
 approval: [Signature]
 1" = 60'
 date: [Signature]
 description: [Signature]
 revisions: [Signature]
 NO. [Signature]
 RED HILL BRANCH OVERLOOK
 LOTS: 1-21 AND OPEN SPACE LOTS: 22-24
 TAX MAP 31, PARCEL 60, AND LOT 5
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 LANDSCAPE & STREET TREE PLAN
MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 987-0286 Fax (410) 621-5521 Wash. (410) 987-0286 Fax
 12 of 17
 F-02-04

FOREST CONSERVATION DATA

I. BASIC SITE DATA	ACRES
GROSS SITE AREA	11.62
AREA WITHIN 100 YEAR FLOODPLAIN	1.48
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	0.00
NET TRACT AREA	10.14
LAND USE CATEGORY	RESIDENTIAL-SUBURBAN
II. FOREST CONSERVATION WORKSHEET DATA SUMMARY	
B. REFORESTATION THRESHOLD (202)	2.03
C. AFFORESTATION MINIMUM (15%)	1.52
D. EXISTING FOREST ON NET TRACT AREA	6.98
E. FOREST AREAS TO BE CLEARED	5.95
F. FOREST AREAS TO BE RETAINED	1.03
IV. REFORESTATION CALCULATIONS	
G. FOREST CLEARED ABOVE REFORESTATION THRESHOLD	4.95
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	1.00
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.00
REFORESTATION FOR CLEARING ABOVE THRESHOLD	1.24
REFORESTATION FOR CLEARING BELOW THRESHOLD	2.00
TOTAL REFORESTATION REQUIRED	3.24
TOTAL REFORESTATION PROVIDED	0.94
TOTAL OFF-SITE REFORESTATION REQUIRED	2.30

REFORESTATION PLANT LIST

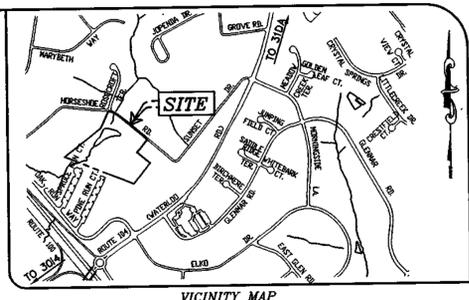
QTY	SPECIES	SHADE TOL.	MOIST. REQ.	WET. STATUS	MIN. O.C. SPACING	SIZE & REMARKS
20	Acer negundo Box Elder	T	M-W	FAC+	8'	CONT/B & B 1" CALIPER
60	Acer rubrum Red Maple	VT	D-W	FAC	20'	CONT/B & B 1" CALIPER
20	Fraxinus pennsylvanica Green Ash	I-MT	M-W	FACW	11'	CONT/B & B 1" CALIPER
10	Lindera benzoin Spicebush	T	M	FACW	6'	3" - 5" HT.
38	Nyssa sylvatica Black Gum	T	M-W	FAC	20'	CONT/B & B 1" CALIPER
20	Platanus occidentalis American Sycamore	MT	M-W	FACW	11'	CONT/B & B 1" CALIPER
9	Quercus phellos Willow Oak	I	M-W	FAC+	20'	CONT/B & B 1" CALIPER
9	Prunus serotina Black cherry	I	M	FACU	11'	CONT/B & B 1" CALIPER

TOTAL
197 TREES & SHRUBS (188 TREES REQUIRED)

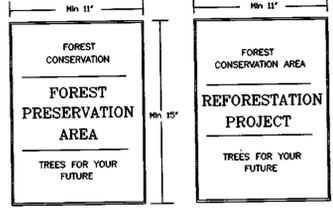
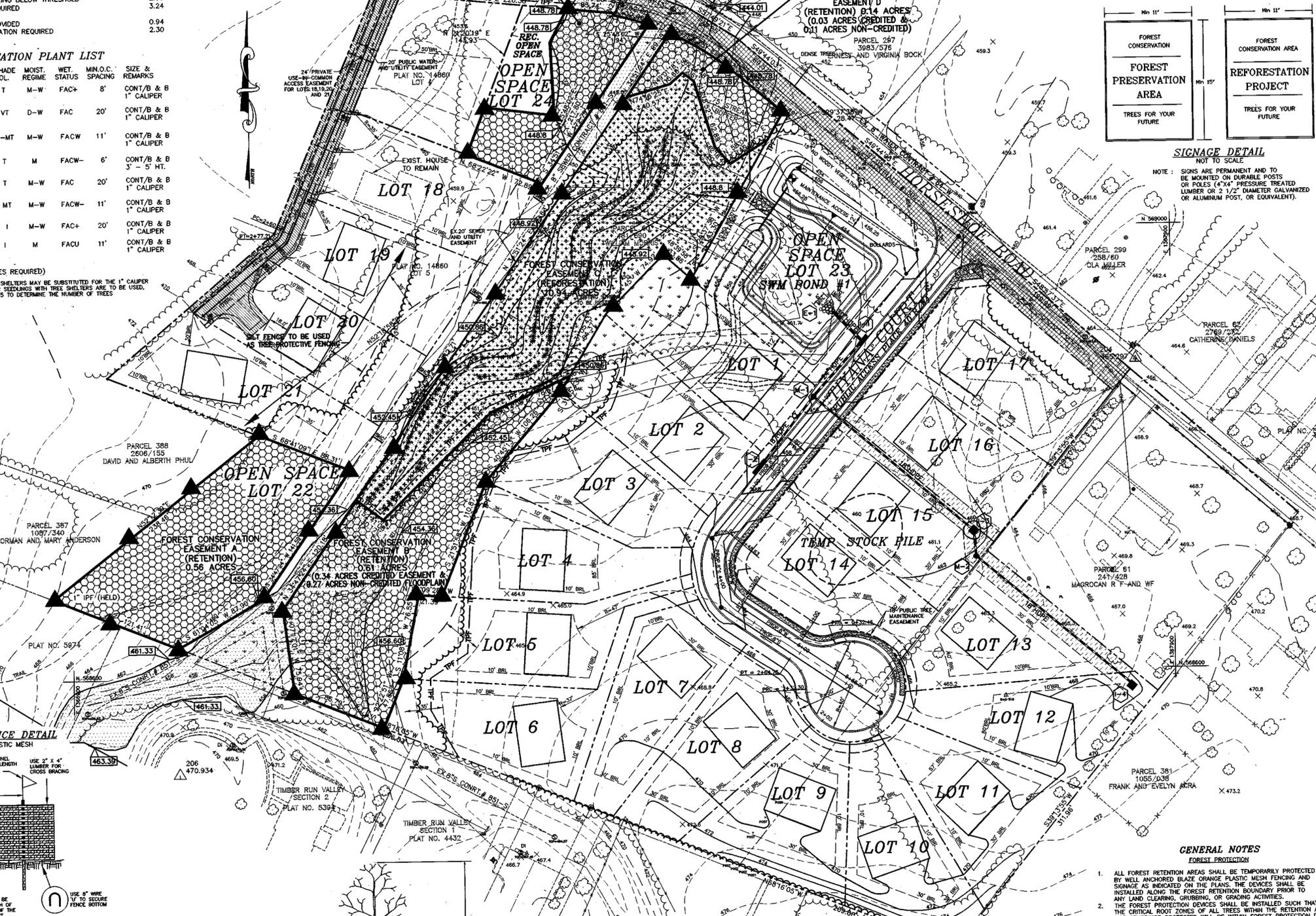
NOTE: WHIPS OR SEEDLINGS WITH TREE SHELTERS MAY BE SUBSTITUTED FOR THE 1" CALIPER OR 3" - 5" TREES. IF WHIPS OR SEEDLINGS WITH TREE SHELTERS ARE TO BE USED, MULTIPLY THE QUANTITIES BY 1.75 TO DETERMINE THE NUMBER OF TREES REQUIRED.

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

- NOTES:
1. FOREST STAND DELINEATION PREPARED BY WILDMAN ENVIRONMENTAL SERVICES, INC. IN JULY 2000.
 2. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 18.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION HAS BEEN FILLED BY ON-SITE RETENTION IN THE AMOUNT OF 1.03 ACRES OF CREDITED EASEMENT AND 0.91 ACRES OF NON-CREDITED (FLOODPLAIN) EASEMENT TO TOTAL 1.94 ACRES OF FOREST CONSERVATION EASEMENT (RETENTION). REFORESTATION IN THE AMOUNT OF 0.94 ACRES, AND OFF-SITE REFORESTATION POSTED AS PART OF THE TWP DEVELOPERS AGREEMENT FOR THE ON-SITE RETENTION (1.03 ACRES OR 44,886.8 SQ. FT.) IN THE AMOUNT OF \$3,973.36, ON-SITE REFORESTATION (0.94 ACRES OR 40,946.4 SQ. FT.) IN THE AMOUNT OF \$20,473.20, AND OFF-SITE REFORESTATION (2.30 ACRES OR 100,188 SQ. FT.) IN THE AMOUNT OF \$50,094.00.
 3. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 18.1200 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.



project	09080	date	JULY 2002
illustration	MAP/SJD	engineering	JPM
scale	1"=50'	approval	JPM
revision		date	



SIGNAGE DETAIL
NOT TO SCALE

NOTE: SIGNS ARE PERMANENT AND TO BE MOUNTED ON DURABLE POSTS OR POLES (4"x4" PRESSURE TREATED LUMBER OR 2 1/2" DIAMETER GALVANIZED OR ALUMINUM POST, OR EQUIVALENT).

- PRE-CONSTRUCTION MEETING**
1. AFTER THE BOUNDARIES OF THE FOREST RETENTION ARE FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER CONSTRUCTION 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:
 - A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS TO PROTECTED FOREST AREAS AND EQUIPMENT STAGING AREAS;
 - B. INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
 - C. MAKE ALL NECESSARY ADJUSTING AND CORRECTIVE MEASURES;
 - D. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

- CONSTRUCTION MONITORING**
1. 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.
 2. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
 3. 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.

NOTE: THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, SOIL COMPACTION, OR EXCAVATION, INTRODUCTION OF TOXIC CHEMICALS OR OTHER DISTURBANCES DETRIMENTAL TO THE LIVE SPECIES OF TREES OR CRITICAL ZONES FOR THESE TREES EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

- PLANTING SPECIFICATIONS AND NOTES**
- SITE PREPARATION AND SOILS**
1. PROTECTION FENCING IS TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
 2. DISTURBANCES TO SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 2' X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
 3. SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% VOLUME OF COMPOSTED SLUDGE.
 4. SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% VOLUME PEAT MOSS.
 5. ALL MIXING IS TO BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK, ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

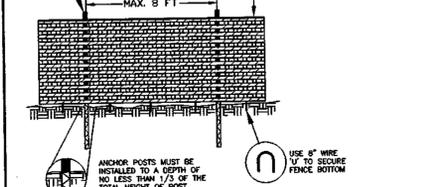
- PLANT STORAGE AND INSPECTION**
1. FOR CONTAINER GROWN NURSERY STOCK PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
 2. FOR BALL AND BURLAP NURSERY STOCK PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
 3. PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, WOOD, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
 4. UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL AND MOISTENED ENVIRONMENT.

- PLANT INSTALLATION**
1. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, PLANTING SOILS SHOULD BE COVERED WITH MULCH AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER GENEROUSLY TO SETTLE SOIL BACKFILL AROUND TREES.
 2. PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.
 3. CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP UP LARGER EXISTING ROOTS OF EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES.
 4. CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS EXCEED THE BALL, SUBSTITUTION IS STRONGLY RECOMMENDED.
 5. J-SHAPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF SOIL BORNE DISEASES.
 6. FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN PEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY.
 7. FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FIVE (5) PER PLANTING FIELD. THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED ON PLANT LIST.
 8. AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LIST TO OBTAIN A NATURAL APPEARANCE.
 9. NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONCE A WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE VERY DEEP, WELL DRAINED NATURE OF THE NATIVE SOILS FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. ONE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR DURING SUMMER AND DRY MONTHS. AFTER THAT PERIOD, TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. ANY WATERING PLAN SHOULD COMPENSATE FOR RECENT RAINFALL PATTERNS.

- FERTILIZING**
1. DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
 2. NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
 3. IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. SOME MEAN ENDANGERED AGGRESSIVE INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED NURSERY STOCK SHOULD BE REMOVED OR DESTROYED. UNLESS IT IS SMOTHERING PLANTING STOCK.
 4. 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

- MAINTENANCE SCHEDULE**
1. ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
 2. ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DAMAGED PLANTINGS.
 3. VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO BE ENCOURAGED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY EFFECTING THE PLANTED STOCK.
 4. REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE INVASIVE SPECIES, INVASIVE WEEDS AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED NURSERY STOCK.
 5. REMOVE AND DISPOSE OF FOOT-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND UNDER MATERIAL, NATURAL OCCURRING OR ACCUMULATED UNLESS IT IS SMOTHERING PLANTING STOCK.
 6. 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

- SUPERVISION**
1. ALL FOREST CONSERVATION ACTIVITIES SHALL BE DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER QUALIFIED PROFESSIONAL AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

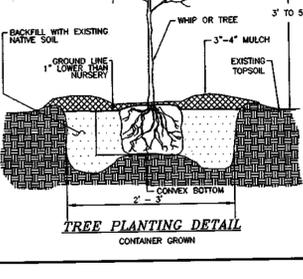


OWNER/DEVELOPER
MORRIS LLC
5072 DORSEY HALL DRIVE, SUITE 202
ELLCOTT CITY, MARYLAND 21043
(410) 997-0298

APPROVED: DEPARTMENT OF PUBLIC WORKS
Handwritten Signature 8/1/02

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Handwritten Signature 9/1/02

APPROVED: *Handwritten Signature* 8/1/02



LEGEND

[Symbol]	DENOTES FLOODPLAIN
[Symbol]	DENOTES 15-24.99% SLOPES.
[Symbol]	DENOTES RIGHT-OF-WAY DEDICATION.
[Symbol]	DENOTES WETLANDS
[Symbol]	TREE PROTECTIVE FENCING
[Symbol]	FOREST CONSERVATION SIGNAGE
[Symbol]	FOREST CONSERVATION EASEMENT (RETENTION)
[Symbol]	FOREST CONSERVATION EASEMENT (REFORESTATION)
[Symbol]	DENOTES WILLOW BUNDLE
[Symbol]	DENOTES ROCK WAD
[Symbol]	DENOTES CROSS VANE
[Symbol]	DENOTES SOD MAT
[Symbol]	DENOTES CROSS WEIR

GENERAL NOTES

FOREST PROTECTION

1. 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 BOUNDARIES PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
2. THE FOREST PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SALT TENSURE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
3. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SALT TENSURE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
4. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES 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 SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAWING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
5. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF GARBAGE WITHIN FOREST CONSERVATION EASEMENTS. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
6. THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS. ROOT PRUNING SHALL BE USED TO THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

RED HILL BRANCH OVERLOOK
LOTS: 1-21 AND OPEN SPACE LOTS: 22-24
TAX MAP 31, PARCEL 60, AND LOT 5
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

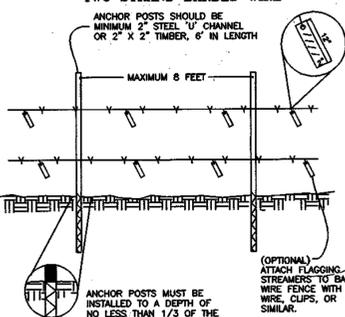
MILDENBERG, BOENDER & ASSOC., INC.
Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0298 Ext. (301) 621-6551 Wash. (410) 997-0298 Fax.

REFORESTATION PLANT LIST						
QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C. SPACING	SIZE & REMARKS
83	Prunus serotina Wild Black Cherry	I	M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
83	Robinia pseudoacacia Black Locust	VI	D-M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
83	Liriodendron tulipifera Tulip Poplar	I	D-M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
83	Quercus rubra Red Oak	MT	D-M	UPL	11'	SEEDLING/WHIP W/TREE SHELTER
83	Fraxinus americana White Ash	MT	D-M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
83	Nyssa sylvatica Black Gum	T	M-W	FAC	11'	SEEDLING/WHIP W/TREE SHELTER
83	Juglans nigra Black Walnut	VT	M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
83	Acer rubrum Red Maple	VT	D-W	FAC	11'	SEEDLING/WHIP W/TREE SHELTER
83	Cercis canadensis Eastern Redbud	T	M	UPL	11'	SEEDLING/WHIP W/TREE SHELTER
83	Diostyros virginiana Persimmon	I	D-M	UPL	11'	SEEDLING/WHIP W/TREE SHELTER

Quantities of Individual Species And Species Composition May Change Depending On Availability At Time Of Planting. Total Quantity of Trees For Entire Easement Area Will Not Change. Any Species Substitution Must Be Listed On The Howard County Forest Association List. If Quantities Are Changed, A Minimum Of Five (5) Species Must Be Planted.

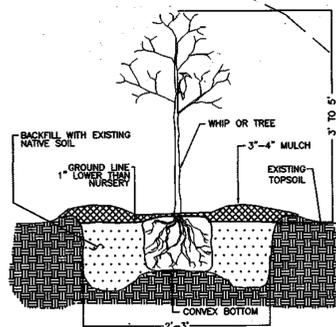
PROTECTIVE FENCE DETAIL

TWO STRAND BARBED WIRE



1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION TO ITS INTENDED USE.
7. BARBED WIRE SHOULD BE ATTACHED SECURELY TO POSTS.

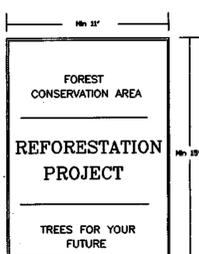
CHARLES ALAN SHARP & DENISE ROBERTS SHARP
L 4667, R 0405
PARCEL #246
AMENDED PLAT OF EASEMENT
Stn: Farm 2, Plat No. 13985



TREE PLANTING DETAIL

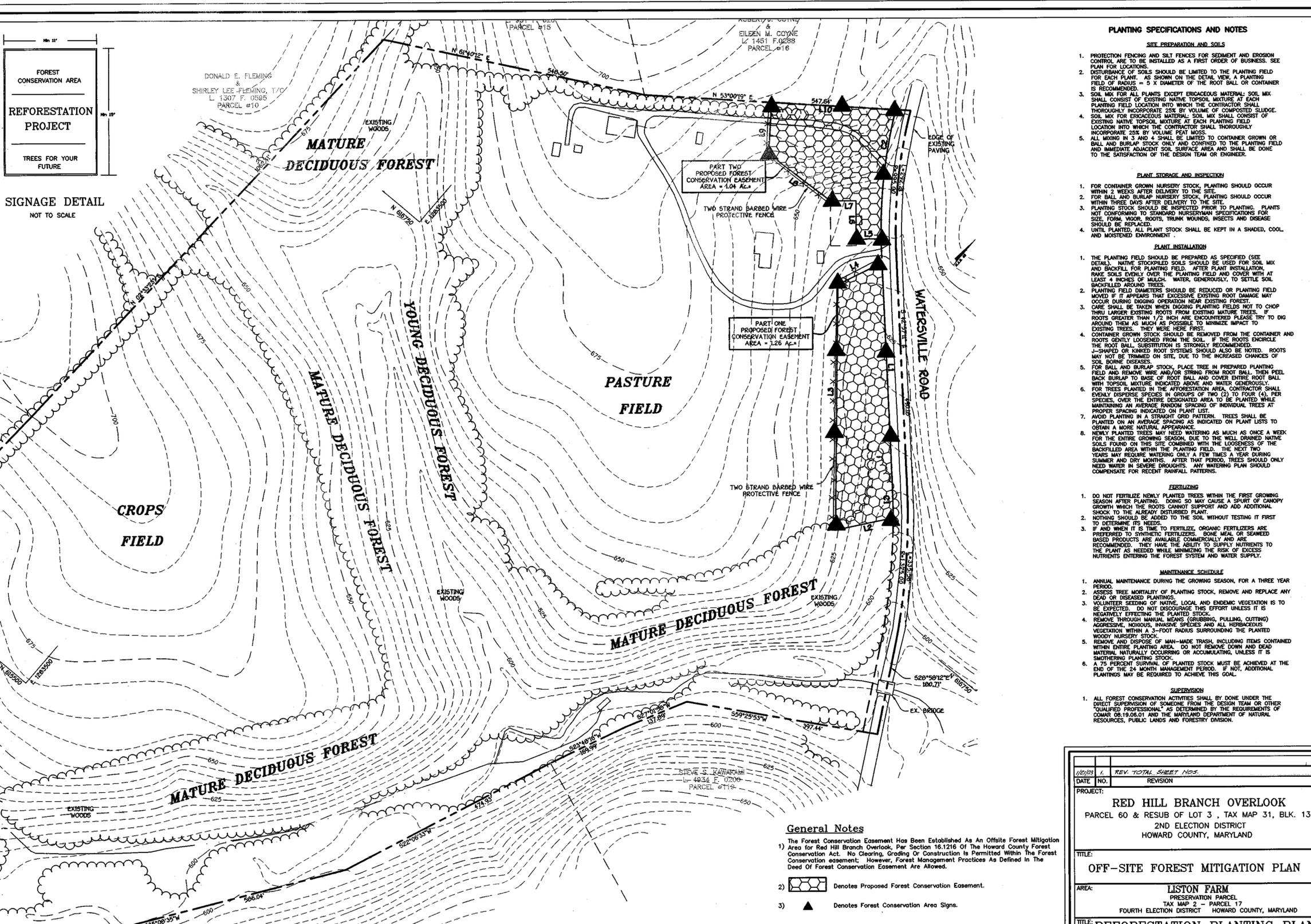
CONTAINER CROWN

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SIGNAGE DETAIL

NOT TO SCALE



General Notes

- The Forest Conservation Easement Has Been Established As An Offsite Forest Mitigation Area for Red Hill Branch Overlook, Per Section 16.1218 Of The Howard County 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.
- 1) [Symbol] Denotes Proposed Forest Conservation Easement.
 - 2) [Symbol] Denotes Forest Conservation Area Signs.

COMBINED FOREST CONSERVATION EASEMENT TABLE

LINE	BEARING	DISTANCE
L1	S 42° 57' 11" E	466.66
L2	S 37° 38' 29" V	120.97
L3	N 39° 49' 28" V	507.72
L4	N 23° 03' 15" E	101.86
L5	S 48° 30' 05" V	51.26
L6	N 40° 34' 28" V	75.84
L7	S 49° 23' 28" V	52.72
L8	S 87° 08' 25" V	160.03
L9	N 36° 59' 41" V	105.92
L10	N 53° 00' 19" E	255.31
C1	61.98	02° 38' 25" 1345.00 61.97 S 41° 37' 58" E 30.59
C2	269.24	15° 03' 00" 1025.00 268.47 S 39° 58' 24" E 135.40



DEVELOPER
WILLIAM MORRIS
C/O MILDBERG, BOENDER & ASSOC., INC.
5072 DORSEY HALL DRIVE SUITE 202
ELLICOTT CITY, MARYLAND 21042

OWNER/GRANTOR
WILLIAM & BARBARA LISTON
P.O. BOX 228
342 WATERSVILLE ROAD
MT. AIRY, MARYLAND 21771

THIS PLAN IS FOR FOREST CONSERVATION EASEMENT PLANTING PURPOSES ONLY

PLANTING SPECIFICATIONS AND NOTES

- SITE PREPARATION AND SOILS**
1. PROTECTION FENCING AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
 2. DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANTING LOCATION. THE PLANTING FIELD IS A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
 3. SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME COMPOSTED SLUDGE.
 4. SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS.
 5. INCORPORATE 25% BY VOLUME PEAT MOSS TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.
- PLANT STORAGE AND INSPECTION**
1. FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
 2. FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
 3. PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
 4. UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT.
- PLANT INSTALLATION**
1. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER, GENEROUSLY, TO SETTLE SOIL BACKFILLED AROUND TREES.
 2. PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.
 3. CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THRU LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS PRACTICABLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.
 4. CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS ENIRCLE THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF SOIL BORNE DISEASES.
 5. FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN PEEB BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY.
 6. FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FOUR (4), PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE SPACING AS INDICATED ON PLANT LIST AT PROPER SPACING INDICATED ON PLANT LIST.
 7. AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LISTS TO OBTAIN A MORE NATURAL APPEARANCE.
 8. NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONCE A WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE WELL DRAINED NATIVE SOILS FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. THE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR DURING SUMMER AND DRY MONTHS AFTER THAT PERIOD. TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. ANY WATERING PLAN SHOULD COMPENSATE FOR RECENT RAINFALL PATTERNS.
- FERTILIZING**
1. DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS DO NOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
 2. NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
 3. IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. ORGANIC OR SEAMED-BASED PRODUCTS ARE AVAILABLE COMMERCIALY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.
- MAINTENANCE SCHEDULE**
1. ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
 2. ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTING STOCK.
 3. VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY EFFECTING THE PLANTED STOCK.
 4. REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NODDUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
 5. REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK.
 6. A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.
- SUPERVISION**
1. ALL FOREST CONSERVATION ACTIVITIES SHALL BE DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER "QUALIFIED PROFESSIONAL" AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.18.02.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

11/2/02 1. REV. TOTAL SHEET NOS.
DATE NO. REVISION

PROJECT:
RED HILL BRANCH OVERLOOK
PARCEL 60 & RESUB OF LOT 3, TAX MAP 31, BLK. 13
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
OFF-SITE FOREST MITIGATION PLAN

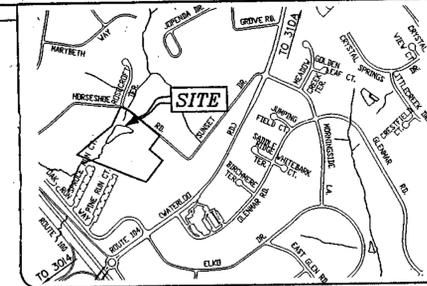
AREA:
LISTON FARM
PRESERVATION PARCEL
TAX MAP 2 - PARCEL 17
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE:
**REFORESTATION PLANTING PLAN
VEGETATIVE COVER SUMMARY**

WILDMAN ENVIRONMENTAL SERVICES
4747 BONNIE BRANCH RD.
ELLICOTT CITY, MD. 21043
PHONE: (410) 869-9999
FAX: (410) 869-9901

DESIGNED BY: R.B.W.
DRAWN BY: J.E.P.
PROJECT NO.
DATE: 7/30/02
SCALE: 1" = 100'
SHEET NO. 14 OF 17

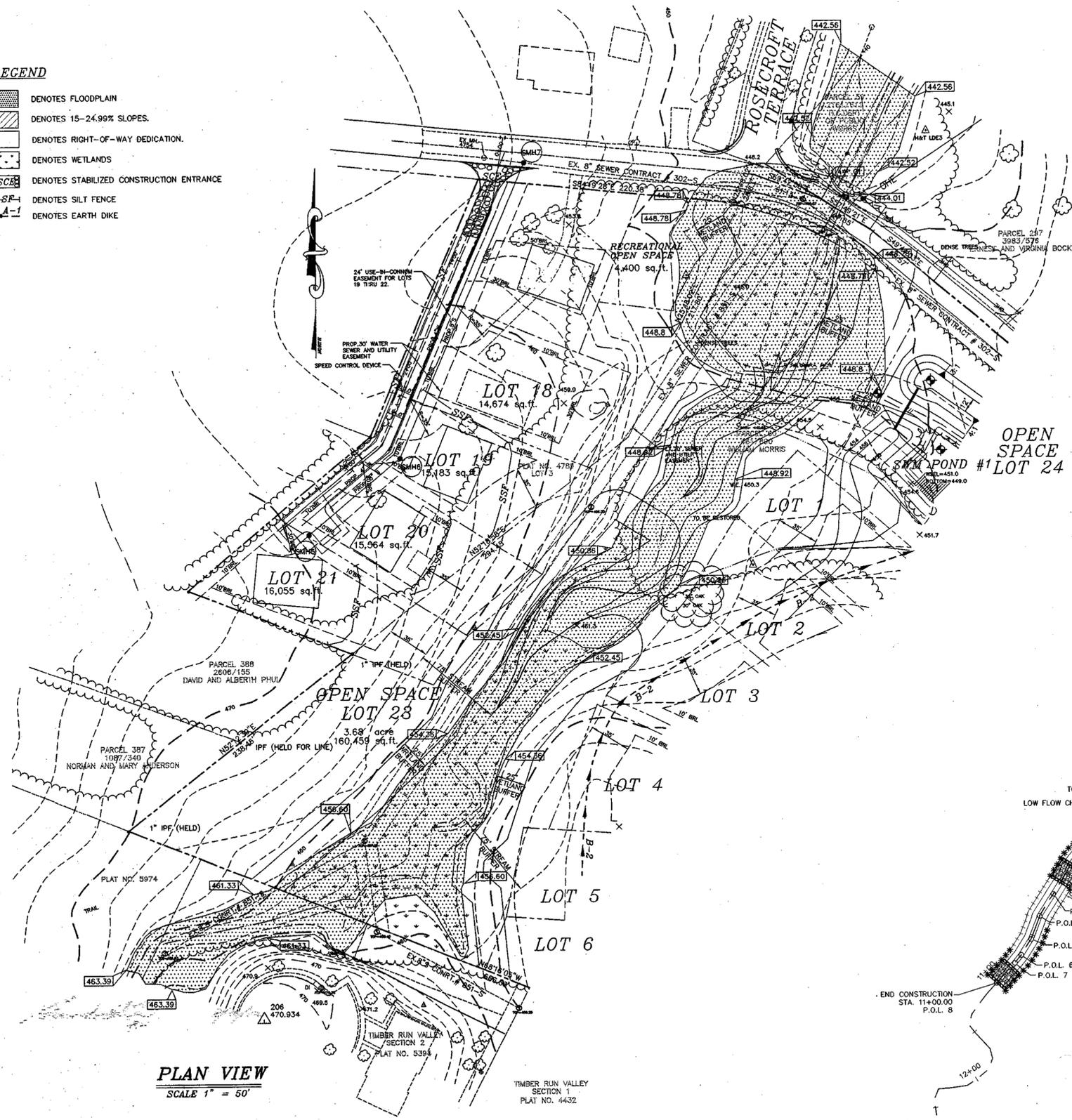
F-02-64



VICINITY MAP
Scale: 1" = 2000'

LEGEND

- DENOTES FLOODPLAIN
- DENOTES 15-24.99% SLOPES.
- DENOTES RIGHT-OF-WAY DEDICATION.
- DENOTES WETLANDS
- DENOTES STABILIZED CONSTRUCTION ENTRANCE
- DENOTES SILT FENCE
- DENOTES EARTH DIKE



PLAN VIEW
SCALE 1" = 50'

NOTE: STATION 0+00 AT HORSESHOE ROAD CULVERT. SCALE UPSTREAM FROM PRELIMINARY GRADING PLAN (50 SCALE) WHICH PUT POND OUTFALL AT 1+20.7-

OPEN SPACE #1 LOT 24

LEGEND

- SOD MAT
- WILLOW BUNDLE
- GRADE CONTROL STRUCTURE

PROPOSED STREAM RESTORATION & GEOMETRY
SCALE: 1" = 50'

COORDINATE LIST

NO.	NORTH	EAST
P.O.B.	569078.11	1367440.27
P.O.L. 1	569076.46	1367439.51
P.O.L. 2	569065.51	1367432.85
P.O.L. 3	568835.63	1367228.99
P.O.L. 4	568817.08	1367217.18
P.O.L. 5	568797.75	1367209.78
P.O.L. 6	568784.64	1367201.42
P.O.L. 7	568778.03	1367196.07
P.O.L. 8	568761.46	1367180.99

NOTE: COORDINATES AND GRID TICKS SHOWN HEREON ARE BASED ON NAD'83 AND ARE IN FEET.

PLANTING SCHEDULE

STATIONS	PLANTING TYPE	LOCATION (SIDE OF STREAM)
6+55 TO 6+73	WILLOW BUNDLES	BOTH
6+73 TO 7+22	WILLOW BUNDLES	EAST
6+73 TO 7+22	SOD	WEST
7+22 TO 7+50	WILLOW BUNDLES	BOTH
7+50 TO 7+82	WILLOW BUNDLES	WEST
7+50 TO 7+82	SOD	EAST
7+82 TO 7+97	SOD	BOTH
7+97 TO 8+23	WILLOW BUNDLES	EAST
7+97 TO 8+23	SOD	WEST
8+23 TO 8+33	SOD	BOTH
8+33 TO 8+55	WILLOW BUNDLES	WEST
8+33 TO 8+55	SOD	WEST
8+55 TO 8+80	SOD	EAST
8+80 TO 9+20	WILLOW BUNDLES	EAST
8+80 TO 9+20	SOD	WEST
9+20 TO 9+45	SOD	BOTH
9+45 TO 9+72	WILLOW BUNDLES	WEST
9+45 TO 9+72	SOD	EAST
9+72 TO 10+00	WILLOW BUNDLES	BOTH
10+00 TO 10+40	SOD	BOTH
10+40 TO 10+72	WILLOW BUNDLES	EAST
10+40 TO 10+72	SOD	WEST
10+72 TO 11+00	WILLOW BUNDLES	BOTH

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE STREAM CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE STREAM WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *William Morris* DATE: 8/14/02
 PRINTED NAME OF DEVELOPER: William Morris

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR STREAM RESTORATION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE STREAM RESTORATION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF STREAM WITHIN 30 DAYS OF COMPLETION.

Signature: *Jim Meyer* DATE: 8/13/02
 PRINTED NAME OF ENGINEER: Jim Meyer

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR STREAM RESTORATION, SOIL EROSION AND SEDIMENT CONTROL.

USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE: 8/13/02
 HOWARD SOIL CONSERVATION DISTRICT DATE: 8/13/02

1/21/03	REV. PROP. STREAM GRADING & GEOMETRY, REV. PLANTING SCHEDULE
DATE NO.	REVISION
OWNER/DEVELOPER	WILLIAM MORRIS
	C/O MILDENBERG, BOENDER & ASSOC., INC. 5072 DORSEY HALL DRIVE SUITE 202 ELLCOTT CITY, MARYLAND 21042
PROJECT:	RED HILL BRANCH OVERLOOK
	RED HILL BRANCH STREAM RESTORATION
AREA:	TAX MAP 31, PARCEL 80 & Remb. of LOT 3, BLK. 13 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	PLAN

WILDMAN
 ENVIRONMENTAL SERVICES
 4747 BONNIE BRANCH RD.
 ELLICOTT CITY, MD. 21043
 PHONE: (410) 969-9999
 FAX: (410) 869-9099

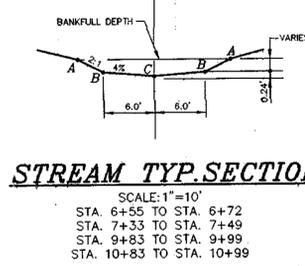
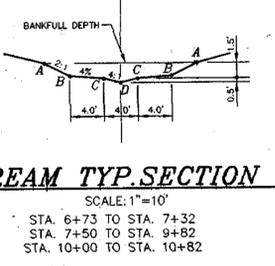
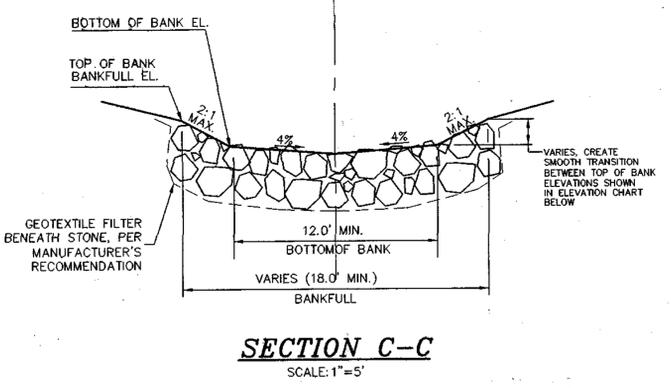
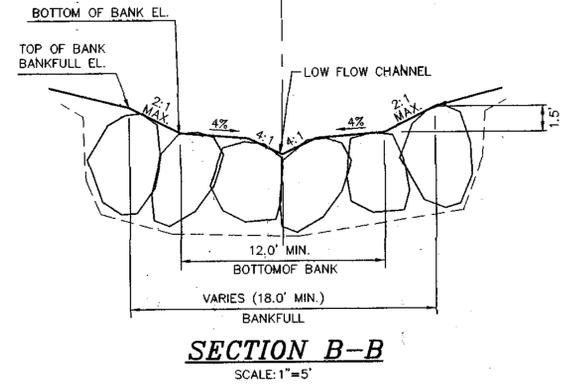
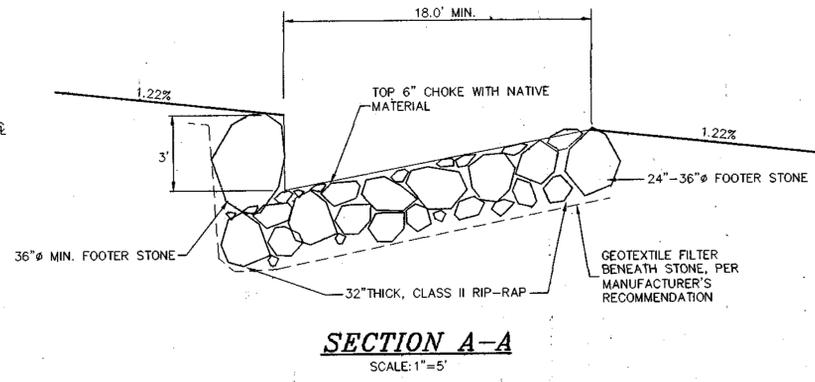
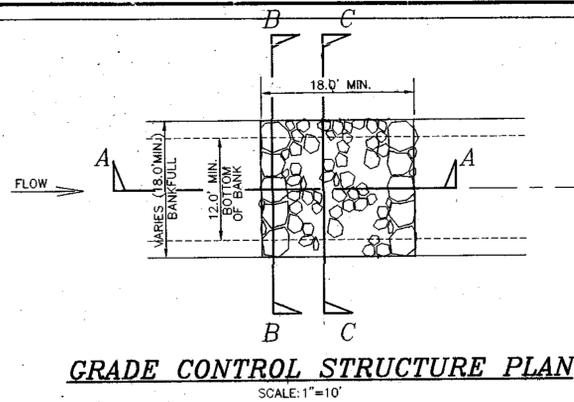
DESIGNED BY: M.E./R.B.W.
 DRAWN BY: M.E./R.B.W.
 PROJECT NO.:
 DATE: 12/05/00
 SCALE: 1" = 50'
 SHEET NO. 15 OF 17

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Paz.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

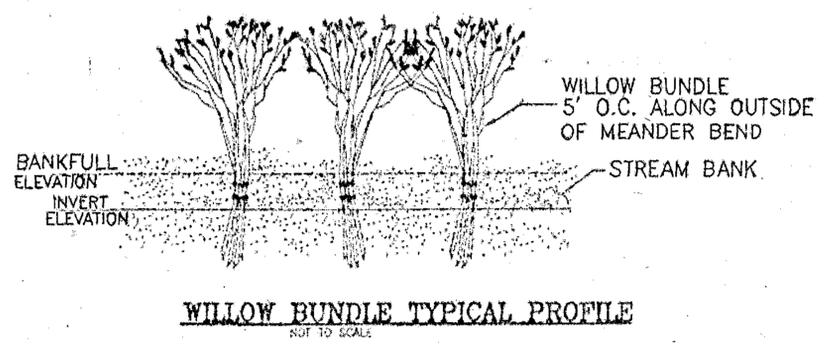
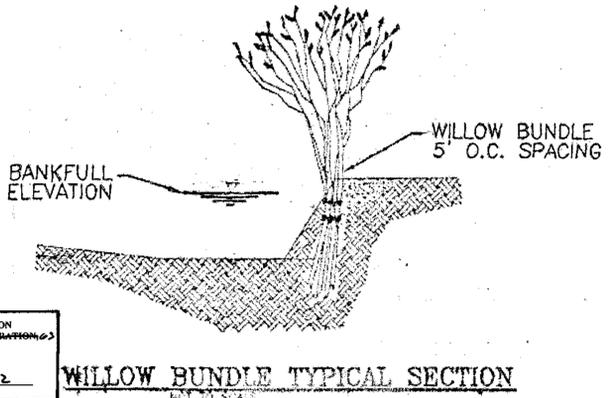
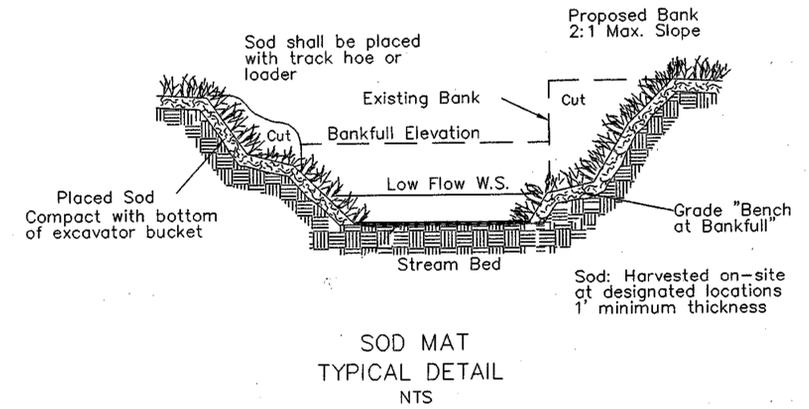
Cindy Harvick 9/14/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Dammann 8/21/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



GRADE CONTROL STRUCTURES ELEVATION CHART

GRADE CONTROL STRUCTURE NO.	STREAM C. STATION	ELEVATION A	ELEVATION B	ELEVATION C	ELEVATION D
1	11+00	452.71	451.87	451.71	451.20
	10+99	452.64	448.44	448.20	N/A
	10+82	451.50	450.66	450.50	450.00
2	10+00	450.49	449.65	449.49	448.99
	9+99	450.42	446.24	446.00	N/A
	9+82	449.28	448.44	448.28	447.78
3	7+50	446.50	445.66	445.50	445.00
	7+49	446.42	442.24	442.00	N/A
	7+32	445.11	444.27	444.11	443.61
4	6+73	444.50	443.66	443.50	443.00
	6+72	444.42	440.24	440.00	N/A
	6+55	443.02	442.18	442.02	441.52



THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim M... 8/13/02
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR STREAM RESTORATION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Mark... 8/13/02
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Howard... 8/16/02
 CHIEF BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Ham... 9/4/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

... 8/21/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

BY THE DEVELOPER:

"I HAVE CERTIFIED THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE STREAM RESTORATION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE STREAM WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

... 8/11/02
 SIGNATURE OF DEVELOPER DATE
E. JACOB HIKMAT, AUTHORIZED MEMBER
 PRINTED NAME OF DEVELOPER

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR STREAM RESTORATION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE STREAM RESTORATION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE STREAM WITHIN 30 DAYS OF COMPLETION."

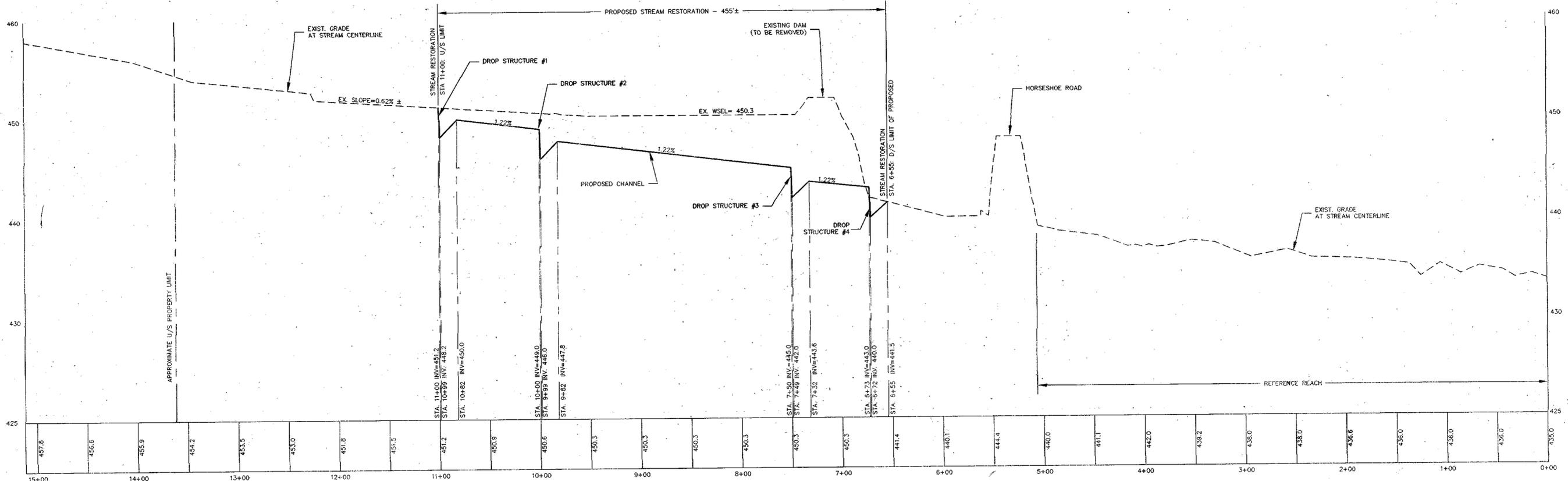
... 8/11/02
 SIGNATURE OF ENGINEER DATE
... MILDENBERG, BOENDER & ASSOC., INC.
 PRINTED NAME OF THE ENGINEER

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax

AUTOCAD FILE NAME

OWNER/DEVELOPER
 MORRIS L.L.C.
 5072 DORSEY HALL DRIVE, SUITE 202
 ELLICOTT CITY, MARYLAND 21043
 (410) 997-0296

REVISED	REV. TYP. DETAILS & SECTIONS, REV. TOTAL SHEET NOS.
DATE NO.	REVISION
OWNER/DEVELOPER	WILLIAM MORRIS C/O MILDENBERG, BOENDER & ASSOC., INC. 5072 DORSEY HALL DRIVE SUITE 202 ELLICOTT CITY, MARYLAND 21042
PROJECT:	RED HILL BRANCH OVERLOOK RED HILL BRANCH STREAM RESTORATION
AREA:	TAX MAP 31, PARCEL 80 & Resub. of LOT 3, BLK. 13 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	TYPICAL DETAILS
WILDMAN ENVIRONMENTAL SERVICES 4747 BONNIE BRANCH RD. ELLICOTT CITY, MD. 21048 PHONE: (410) 869-8999 FAX: (410) 869-8999	
DESIGNED BY: M.E./R.B.W. DRAWN BY: M.E./BEI PROJECT NO. DATE: 12/05/00 SCALE: 1"=50' SHEET NO. 16 OF 16	



STREAM PROFILE
 HORZ. SCALE: 1"=20'
 VERT. SCALE: 1"=2'

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT *AK* DATE _____

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE _____

OWNER/DEVELOPER
 MORRIS L.L.C.
 5072 DORSEY HALL DRIVE SUITE 202
 ELLICOTT CITY, MARYLAND 21043
 (401)997-0296

BY THE DEVELOPER:
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE STREAM RESTORATION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE STREAM WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."
 DATE: 8/11/02
 SIGNATURE OF DEVELOPER: *[Signature]*
 PRINTED NAME OF DEVELOPER: R. JAMES BIKMAT, ANTHONY ZED MEABER

BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR STREAM RESTORATION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE STREAM RESTORATION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE STREAM WITHIN 30 DAYS OF COMPLETION."
 DATE: 8/13/02
 SIGNATURE OF ENGINEER: *[Signature]*
 PRINTED NAME OF THE ENGINEER: *[Name]*

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR STREAM RESTORATION, SOIL EROSION AND SEDIMENT CONTROL.
 DATE: 8/13/02
 SIGNATURE: *[Signature]*
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS
 DATE: 8/13/02
 SIGNATURE: *[Signature]*
 CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 DATE: 9/4/02
 SIGNATURE: *[Signature]*
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 DATE: 8/13/02
 SIGNATURE: *[Signature]*
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE	NO.	REVISION
12/03	1	REV. STREAM PROFILE, CHANGE SHEET NO. 1, REV. TOTAL SHEET NOS.
OWNER/DEVELOPER		
WILLIAM MORRIS		
C/O MILDENBERG, BOENDER & ASSOC., INC. 5072 DORSEY HALL DRIVE SUITE 202 ELLICOTT CITY, MARYLAND 21042		
PROJECT:		
RED HILL BRANCH OVERLOOK RED HILL BRANCH STREAM RESTORATION		
AREA:		
TAX MAP 31, PARCEL 60 & Resub. of LOT 3, BLK. 13 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE:		
TYPICAL DETAILS		
WILDMAN ENVIRONMENTAL SERVICES 4747 BONNIE BRANCH RD. ELLICOTT CITY, MD. 21043 PHONE: (410) 869-9999 FAX: (410) 869-9999		
DESIGNED BY: M.E./R.B.W.		
DRAWN BY: M.E./BEI		
PROJECT NO.		
DATE: 2/05/00		
SCALE: 1"= 50'		
SHEET NO. 17 OF 17		

F-02-64

STREET TREE CALCULATIONS

HORSESHOE ROAD - 790 / 40 = 20
 ROAD A - 1233 / 40 = 31
 TOTAL TREES REQUIRED = 51 TREES
 TOTAL TREES PROVIDED = 51 TREES

FOREST CONSERVATION EASEMENT D (RETENTION) 0.23 ACRES (0.10 ACRES CREDITED & 0.13 ACRES NON-CREDITED)

FOREST CONSERVATION EASEMENT D (RETENTION) 0.14 ACRES (0.03 ACRES CREDITED & 0.11 ACRES NON-CREDITED)

NOTE: A FEE IN LIEU IS TO BE PAID FOR REFORESTATION OF 20' WIDE PUBLIC SEWER & UTILITY EASEMENT

LEGEND

- DENOTES FLOODPLAIN
- DENOTES 15-24.99% SLOPES.
- DENOTES RIGHT-OF-WAY DEDICATION.
- DENOTES WETLANDS
- DENOTES PERIMETER LANDSCAPE EDGE
- DENOTES WILLOW BUNDLE
- DENOTES ROOT WAD
- DENOTES ROCK VANE
- DENOTES CROSS VANE
- DENOTES SOD MAT
- DENOTES CROSS WEIR

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

NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (43 SHADE TREES, 15 EVERGREENS) HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$15,150.00.

SCHEDULE D : STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	115 LF (PERIMETER A)	125 LF (PERIMETER B)	110 LF (PERIMETER C)	115 LF (PERIMETER D)
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	N/A	N/A	N/A	YES, 35 LF OF EXISTING TREES TO REMAIN
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	N/A	N/A	N/A	N/A
NUMBER OF TREES REQUIRED	3 SHADE TREES 3 EVERGREEN TREES	3 SHADE TREES 3 EVERGREEN TREES	2 SHADE TREES 3 EVERGREEN TREES	2 SHADE TREES 2 EVERGREEN TREES
NUMBER OF TREES PROVIDED	3 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES	3 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES	2 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES	2 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES

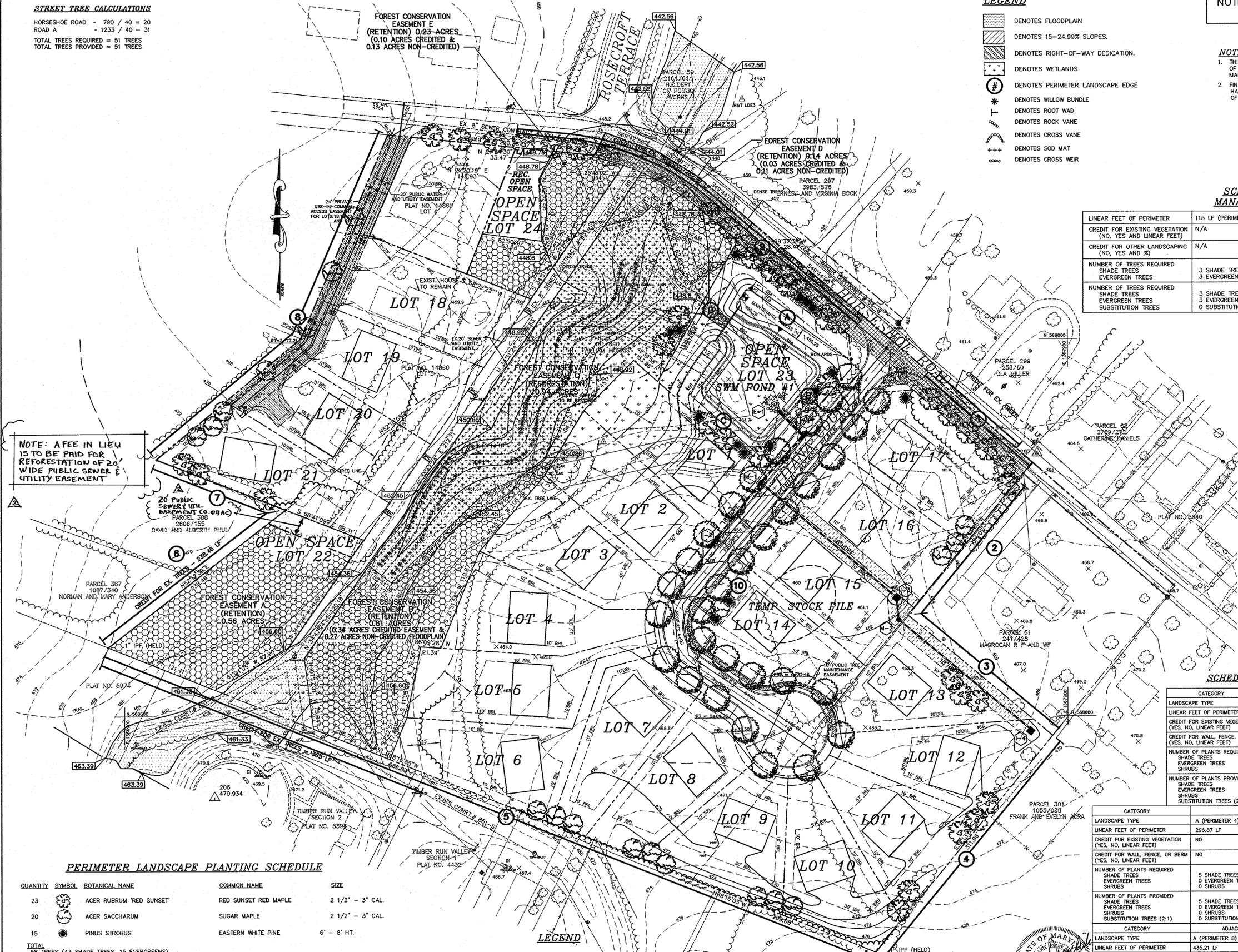
LINEAR FEET OF PERIMETER	TOTAL (465 LF)
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	YES, 115 LF OF EXISTING TREES TO REMAIN
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	N/A
NUMBER OF TREES REQUIRED	10 SHADE TREES 11 EVERGREEN TREES
NUMBER OF TREES PROVIDED	10 SHADE TREES 11 EVERGREEN TREES 0 SUBSTITUTION TREES

SCHEDULE A : PERIMETER LANDSCAPED EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES		
	B (PERIMETER 1)	A (PERIMETER 2)	A (PERIMETER 3)
LANDSCAPE TYPE	146.23 LF	184.15 LF	199.89 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES, 113 LF OF EXISTING TREES TO REMAIN	NO	NO
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO
NUMBER OF PLANTS PROVIDED	1 SHADE TREE 1 EVERGREEN TREE 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS

CATEGORY	ADJACENT TO PERIMETER PROPERTIES			
	A (PERIMETER 4)	A (PERIMETER 5)	A (PERIMETER 6)	A (PERIMETER 7)
LANDSCAPE TYPE	296.87 LF	875.63 LF	238.46 LF	146.90 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	YES, 365 LF OF EXISTING TREES TO REMAIN	YES, 238.46 LF OF EXISTING TREES TO REMAIN	NO
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO	NO
NUMBER OF PLANTS PROVIDED	5 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	9 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS

CATEGORY	ADJACENT TO ROADWAYS			
	A (PERIMETER 8)	B (PERIMETER 9)	B (PERIMETER 10)	TOTAL
LANDSCAPE TYPE	435.21 LF	417.19 LF	68.63 LF	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	YES, 202.87 LF OF EXISTING TREES TO REMAIN	NO	
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	YES, 115 LF OF SWM LANDSCAPING	NO	
NUMBER OF PLANTS PROVIDED	7 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	1 SHADE TREE 1 EVERGREEN TREE 0 SHRUBS	1 SHADE TREE 2 EVERGREEN TREES 0 SHRUBS	33 SHADE TREES 4 EVERGREEN TREES 0 SHRUBS



LEGEND

PERIMETER LANDSCAPE PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
23		ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2 1/2" - 3" CAL.
20		ACER SACCHARUM	SUGAR MAPLE	2 1/2" - 3" CAL.
15		PINUS STROBUS	EASTERN WHITE PINE	6" - 8" HT.
TOTAL 58 TREES (43 SHADE TREES, 15 EVERGREENS)				

STREET TREE PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
20		ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2 1/2" - 3" CAL.
31		PYRUS CALLERYANA 'RED SPIRE'	RED SPIRE PEAR	2 1/2" - 3" CAL.
TOTAL 51 STREET TREES				

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature]
 CHIEF BUREAU OF HIGHWAYS
 DATE: 7/4/02

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 7/4/02

APPROVED: [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 7/4/02

OWNER/DEVELOPER
 MORRIS L.L.C.
 5072 DORSEY HALL DRIVE, SUITE 202
 ELLIOTT CITY, MARYLAND 21043
 (410) 997-0298



date	JUNE 2002
project	99080
illustration	engineering
MAP/SID	MAP/SID
scale	1"=50'
approval	JBM

REMOVED FEE AREA ADDED A 20' PUBLIC SEWER & UTIL. EASEMENT IN ITS PLACE	7/28/04
REV. TOTAL SHEET NO. 2	1/2/03
description	date
revisions	no.

RED HILL BRANCH OVERLOOK
 LOTS: 1-21 AND OPEN SPACE LOTS: 22-24
 TAX MAP 31, PARCEL 60, AND LOT 5
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 LANDSCAPE & STREET TREE PLAN

MILDENBERG, BOENDER & ASSOC., INC.
 Surveyors
 Planners
 Engineers
 5072 Dorsey Hall Drive, Suite 202, Elliott City, Maryland, 21042
 (410) 997-0298 Fax. (301) 621-5521 Wash. (410) 997-0298 Fax.



SUBAREA	DRAINAGE AREA
I-3A	0.81AC
I-3B	0.91AC
I-3C	0.96AC

SOILS DESCRIPTION

SYMBOL	DESCRIPTION
AgB2	AURA GRAVELLY LOAM, 1% TO 5% SLOPES, MODERATELY ERODED --- TYPE B
AgC2	AURA GRAVELLY LOAM, 5% TO 10% SLOPES, MODERATELY ERODED --- TYPE B
AgE3	AURA GRAVELLY LOAM, 10% TO 30% SLOPES, SEVERELY ERODED --- TYPE B
BeA	BELTSVILLE SILT LOAM, 0% TO 1% SLOPES --- TYPE C
BeB2	BELTSVILLE SILT LOAM, 1% TO 5% SLOPES, MODERATELY ERODED --- TYPE C
BeC2	BELTSVILLE SILT LOAM, 5% TO 10% SLOPES, MODERATELY ERODED --- TYPE C
BrC3	BRANDYWINE LOAM, 8% TO 15% SLOPES, SEVERELY ERODED --- TYPE C
BrD3	BRANDYWINE LOAM, 15% TO 25% SLOPES, SEVERELY ERODED --- TYPE C
CiC3	CHILLUM GRAVELLY LOAM, 5% TO 10% SLOPES, MODERATELY ERODED --- TYPE B
CmB2	CHILLUM SILT LOAM, 1% TO 5% SLOPES, MODERATELY ERODED --- TYPE B
CmC2	CHILLUM SILT LOAM, 5% TO 10% SLOPES, MODERATELY ERODED --- TYPE B
CmD3	CHILLUM-FAIRFAX LOAMS, 5% TO 10% SLOPES, SEVERELY ERODED --- TYPE B
Fa	FALLSINGTON LOAM --- TYPE D
GiB2	GLENELC LOAM, 3% TO 8% SLOPES, MODERATELY ERODED --- TYPE B
GiC2	GLENELC LOAM, 8% TO 15% SLOPES, MODERATELY ERODED --- TYPE B
IuB	IUKA LOAM, LOCAL ALLUVIUM, 1% TO 5% SLOPES --- TYPE C
Lj	LEONARDSTOWN SILT LOAM --- TYPE D
NbB2	NESHAMINY SILT LOAM, 3% TO 8% SLOPES, MODERATELY ERODED --- TYPE B
NbD3	NESHAMINY SILTY CLAY LOAM, 15% TO 25% SLOPES, SEVERELY ERODED --- TYPE B
SiB2	SASSAFRAS GRAVELLY SANDY LOAM, 1% TO 5% SLOPES, MODERATELY ERODED --- TYPE B
SiC2	SASSAFRAS GRAVELLY SANDY LOAM, 5% TO 10% SLOPES, MODERATELY ERODED --- TYPE B
SiD2	SASSAFRAS GRAVELLY SANDY LOAM, 10% TO 15% SLOPES, MODERATELY ERODED --- TYPE B
SiE2	SASSAFRAS LOAM, 1% TO 5% SLOPES, MODERATELY ERODED --- TYPE B
SiC2	SASSAFRAS LOAM, 5% TO 10% SLOPES, MODERATELY ERODED --- TYPE B

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature]
DATE 8/11/02
PRINTED NAME OF DEVELOPER R. JAMES WILKINS AUTHORIZED MEMBER

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[Signature]
DATE 6/28/02
PRINTED NAME OF ENGINEER JENNIFER M. WILSON

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT DATE

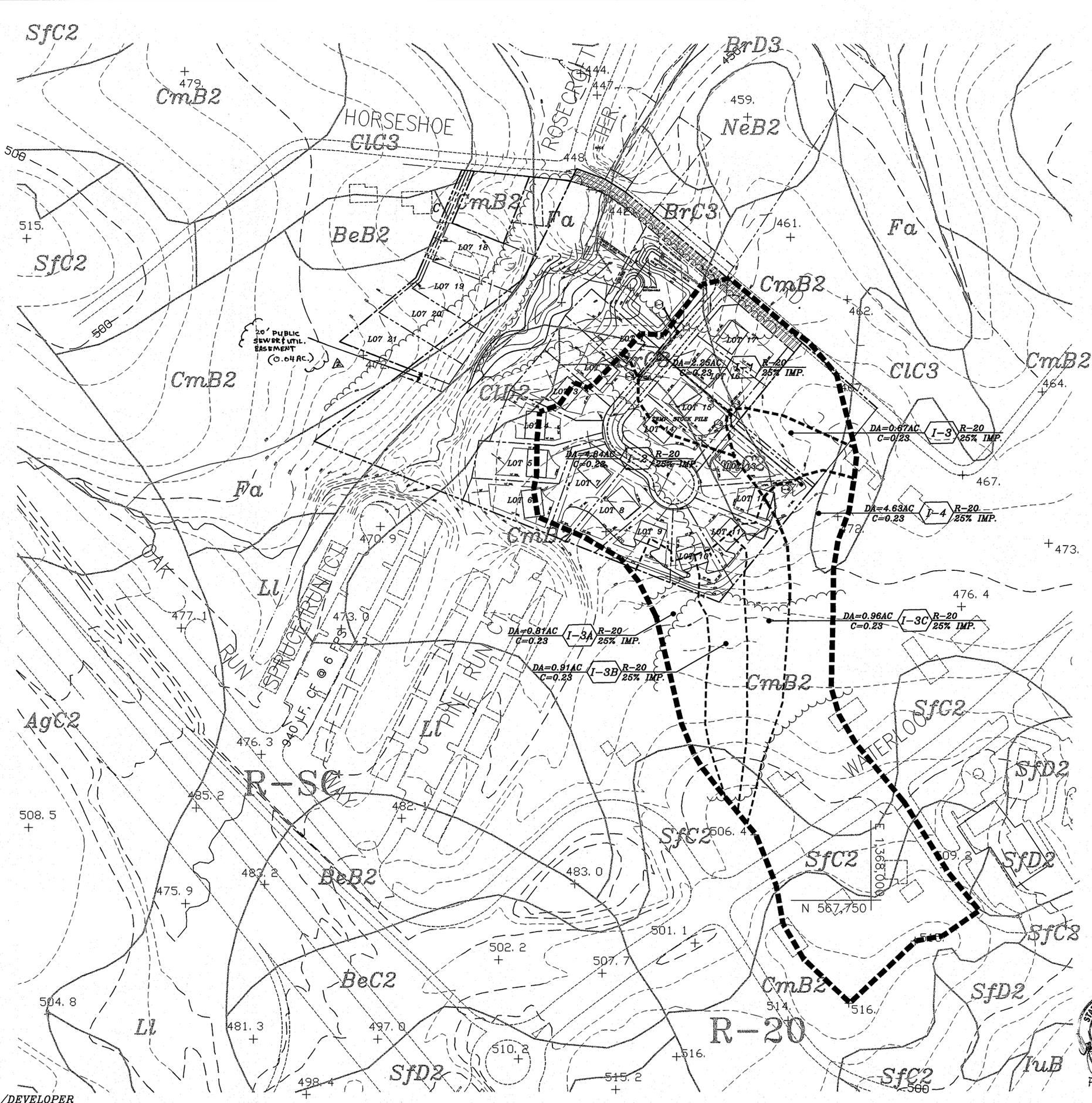
APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature]
DATE 8/11/02

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature]
DATE 9/4/02

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature]
DATE 8/11/02



OWNER/DEVELOPER
MORRIS L.L.C.
5072 DORSEY HALL DRIVE SUITE 202
ELLICOTT CITY, MARYLAND 21072
(410)997-0296

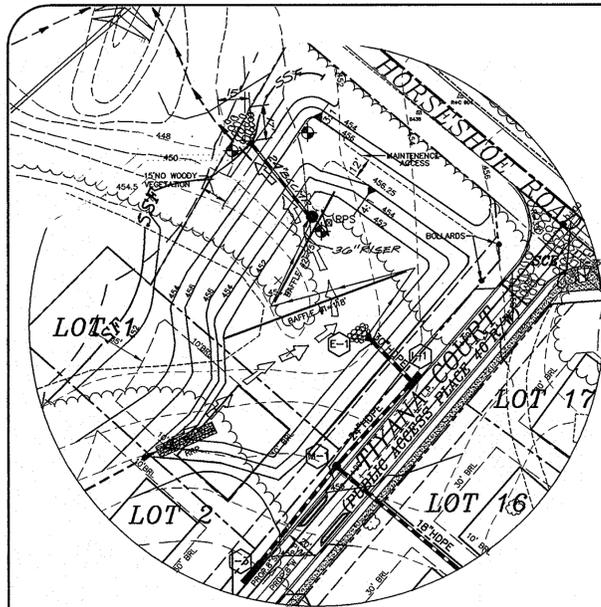


Project	90080	date	JUNE 2002
Illustration	MMP	engineering	JBM
Scale	1"=100'	approval	JBM

REV.	DESCRIPTION	DATE
1.	REV. TOTAL SHEET NO. 25.	1/27/03
2.	REMOVED PCE EASEMENT AREA & ADDED A 30' PUBLIC SEWER & UTILITY EASEMENT IN ITS PLACE	7/26/06

RED HILL BRANCH OVERLOOK
LOTS: 1 - 21 AND OPEN SPACE LOTS 22-24
TAX MAP 31, PARCEL 60 AND LOT 5
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
STORMDRAIN DRAINAGE AREA MAP

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Fax (301) 621-5521 Wash. (410) 997-0298 Fax



TEMPORARY STORMWATER MANAGEMENT AND SEDIMENT BASIN DETAIL

SCALE: 1"=50'

SEDIMENT BASIN DATA:

DRAINAGE AREA: =12.3 AC.
 TOTAL REQUIRED STORAGE: =44,280 C.F.
 REQUIRED WET STORAGE: =22,140 C.F.
 NET STORAGE EL.: =452.70
 TOTAL STORAGE EL.: =454.30
 CLEAN-OUT EL.: =451.50

TEMPORARY SWM DATA:

EX. 1 YR. STORM: =1.4 CFS AT OUTFALL
 TSMW 1 YR. STORM: =1.0 CFS AT OUTFALL
 TSMW 1 YR. EL.: =452.70
 TSMW 10 YR. STORM: =2.3 CFS AT OUTFALL
 TSMW 10 YR. EL.: =455.19

BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DATE: 8/11/02
 SIGNATURE OF DEVELOPER: *R. JACOB HIKMAT*
 PRINTED NAME OF DEVELOPER: R. JACOB HIKMAT, AUTHORIZED MEMBER

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

DATE: 8/1/02
 SIGNATURE OF ENGINEER: *John M. Henderson*
 PRINTED NAME OF ENGINEER: John M. Henderson

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

USDA - NATURAL RESOURCES CONSERVATION SERVICE
 DATE: 8/13/02

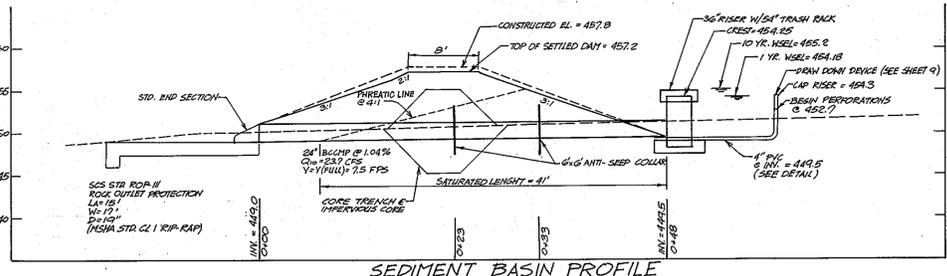
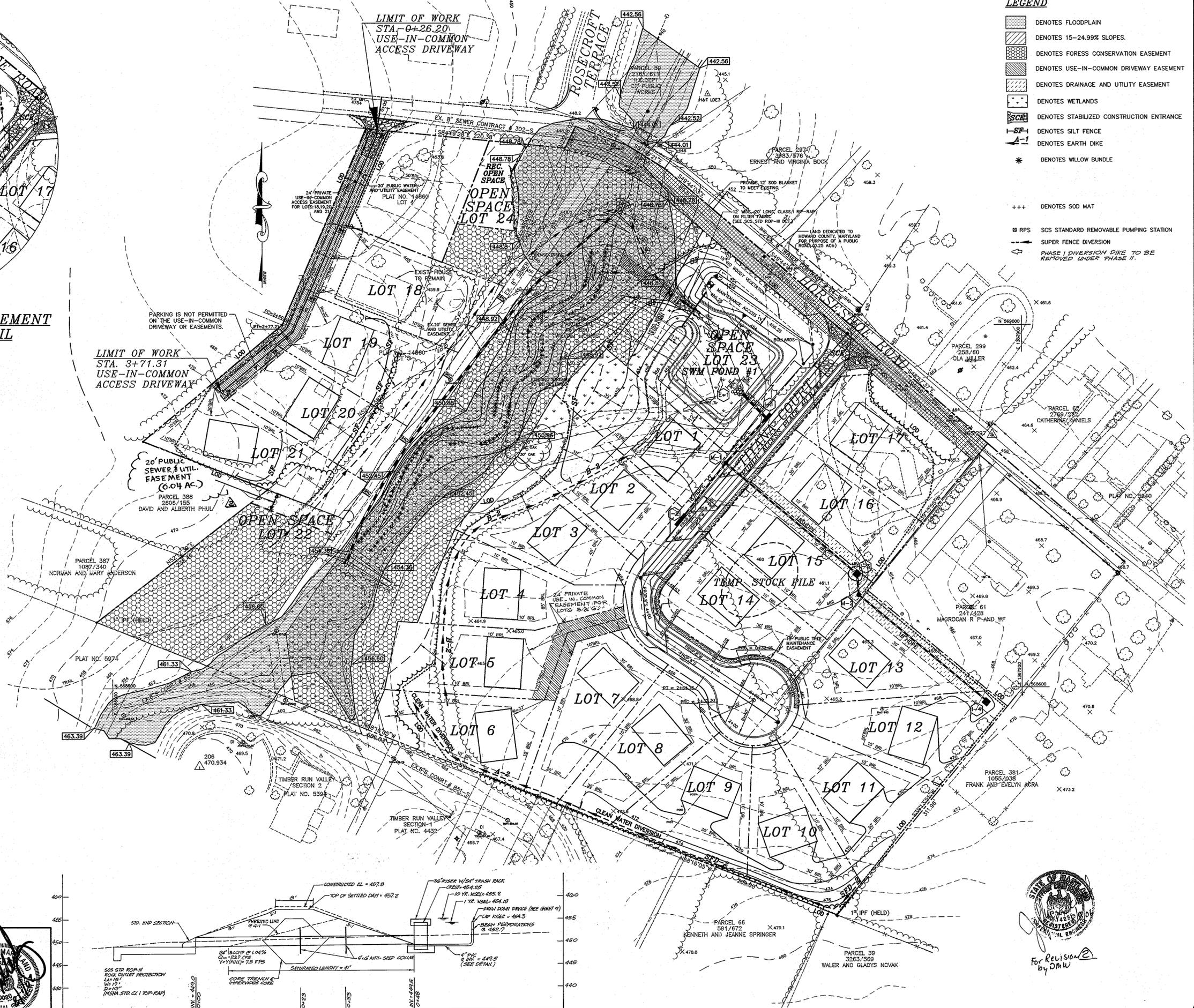
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DATE: 8/13/02

APPROVED: DEPARTMENT OF PUBLIC WORKS
 DATE: 8/13/02

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 DATE: 9/4/02

APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 8/21/02



- LEGEND**
- [Symbol] DENOTES FLOODPLAIN
 - [Symbol] DENOTES 15-24.99% SLOPES.
 - [Symbol] DENOTES FORESS CONSERVATION EASEMENT
 - [Symbol] DENOTES USE-IN-COMMON DRIVEWAY EASEMENT
 - [Symbol] DENOTES DRAINAGE AND UTILITY EASEMENT
 - [Symbol] DENOTES WETLANDS
 - [Symbol] DENOTES STABILIZED CONSTRUCTION ENTRANCE
 - [Symbol] DENOTES SILT FENCE
 - [Symbol] DENOTES EARTH DIKE
 - [Symbol] DENOTES WILLOW BUNDLE
 - [Symbol] DENOTES SOD MAT
 - [Symbol] SCS STANDARD REMOVABLE PUMPING STATION
 - [Symbol] SUPER FENCE DIVERSION
 - [Symbol] PHASE I DIVERSION DIKE TO BE REMOVED UNDER PHASE II.

Project	98080	Date	JUNE 2002
Illustration	MMP	Engineering	JBM
Scale	1"=50'	Approval	JBM

NO.	1	DATE	7/26/02	DESCRIPTION	REVISIONS
NO.	2	DATE	7/26/02	REMOVED FENCE EASEMENT AREA & ADDED A 20' PUBLIC SEWER & UTIL. EASEMENT IN ITS PLACE	
NO.	3	DATE	7/26/02	REV. GRADING & SEDIMENT CONTROL BASIN	

RED HILL BRANCH OVERLOOK
 LOTS: 1 - 21 AND OPEN SPACE LOTS 22-24
 TAX MAP 31, PARCEL 60 AND LOT 5
 HOWARD COUNTY, MARYLAND
 SECOND ELECTION DISTRICT
 GRADING AND SEDIMENT CONTROL PLAN - PHASE TWO

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsy Hall Drive, Suite 202, Ellicott City, Maryland, 21042
 (410) 997-0296 Balt. (301) 821-5521 Wash. (410) 997-0288 Fax

LEGEND

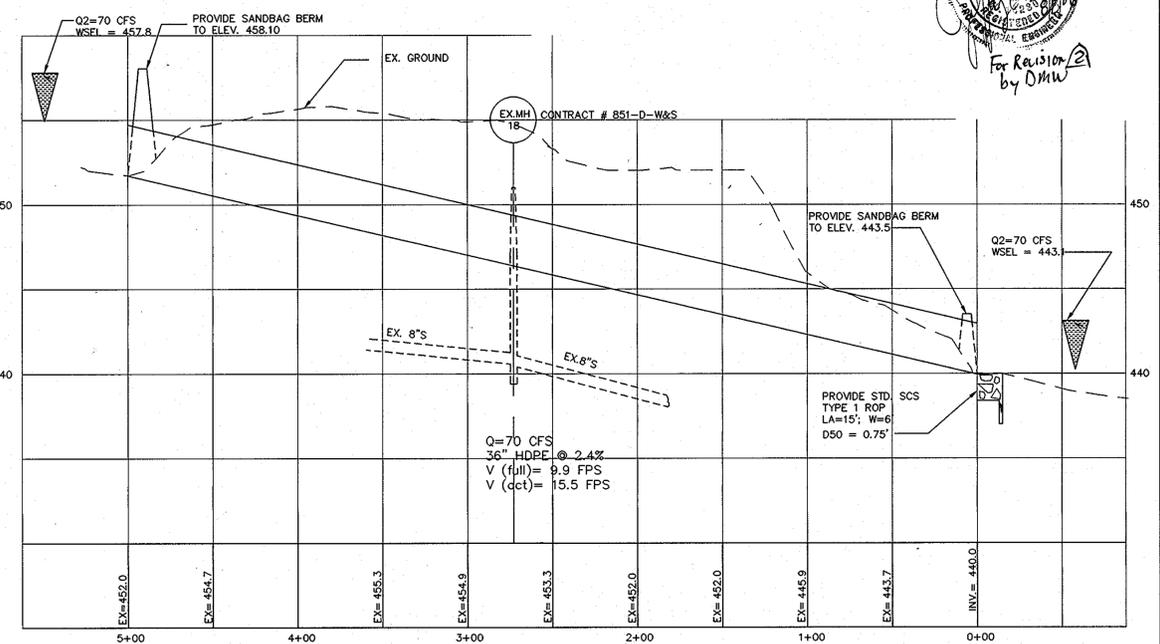
-  DENOTES FLOODPLAIN
-  DENOTES 15-24.99% SLOPES.
-  DENOTES RIGHT-OF-WAY DEDICATION.
-  DENOTES WETLANDS
-  DENOTES STABILIZED CONSTRUCTION ENTRANCE
-  DENOTES SILT FENCE
-  DENOTES EARTH DIKE
-  DENOTES WILLOW BUNDLE*
-  DENOTES SOD MAT*
-  SCS STANDARD REMOVABLE PUMPING STATION*
-  WETLAND SEED MIX*

NOTE* SEE STREAM RESTORATION TYPICAL DETAILS FOR LOCATION AND DIMENSIONS OF STREAM STABILIZATION METHODS SHOWN



PLAN
SCALE: 1"=50'

OWNER/DEVELOPER
MORRIS L.L.C.
5072 DORSEY HALL DRIVE SUITE 202
ELICOTT CITY, MARYLAND 21043
(410)997-0296



36" H.D.P.E. PIPE PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DATE: 8/11/02
SIGNATURE OF DEVELOPER: [Signature]
PRINTED NAME OF DEVELOPER: R. JACOB HENRAT, AUTHORIZED MEMBER

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

DATE: 6/28/02
SIGNATURE OF ENGINEER: [Signature]
PRINTED NAME OF ENGINEER: [Name]

USDA - NATURAL RESOURCE CONSERVATION SERVICE
DATE: 8/13/02

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
DATE: 8/13/02

APPROVED: DEPARTMENT OF PUBLIC WORKS
DATE: 8/14/02

APPROVED: DEPARTMENT OF PLANNING AND ZONING
DATE: 9/4/02

DATE: 8/21/02



Project	99080	date	JUNE 2002
Illustration	MMP	engineering	JBM
scale	1"=50'	approval	JBM

1	Removed FCE area and added a 20' Public Sewer Util. Easement in this place	7/26/02	
2	REV. TOTAL SHEET NDS. REV. GRADING IN THE STREAM	1/21/03	
no.	description	date	revisions

RED HILL BRANCH OVERLOOK
LOTS: 1-21 AND OPEN SPACE LOT 22-24
TAX MAP 31, PARCEL 60 AND LOT 5
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
STREAM RESTORATION SEDIMENT CONTROL PLAN - PHASE ONE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Elicott City, Maryland 21042
(410) 997-0296 Fax: (301) 621-5521 Wash. (410) 997-0298 Fax.