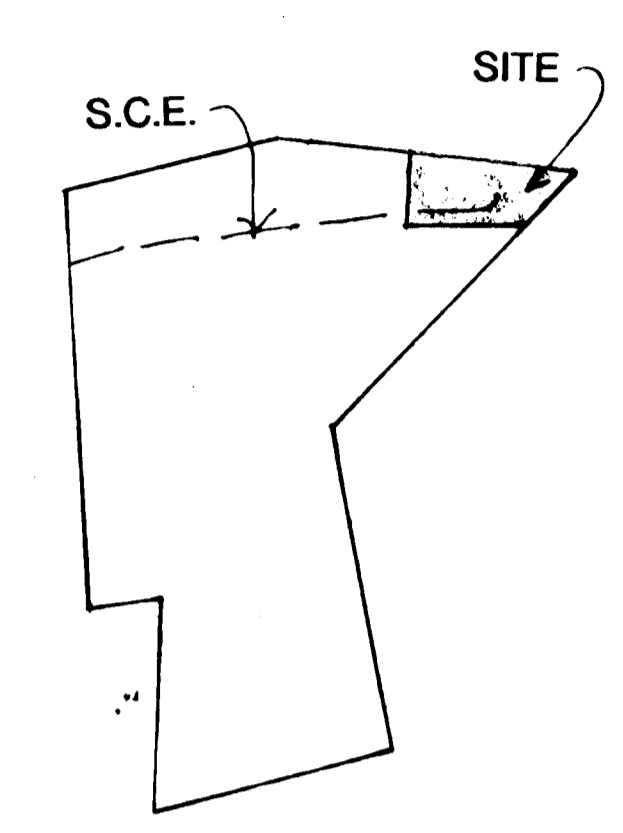
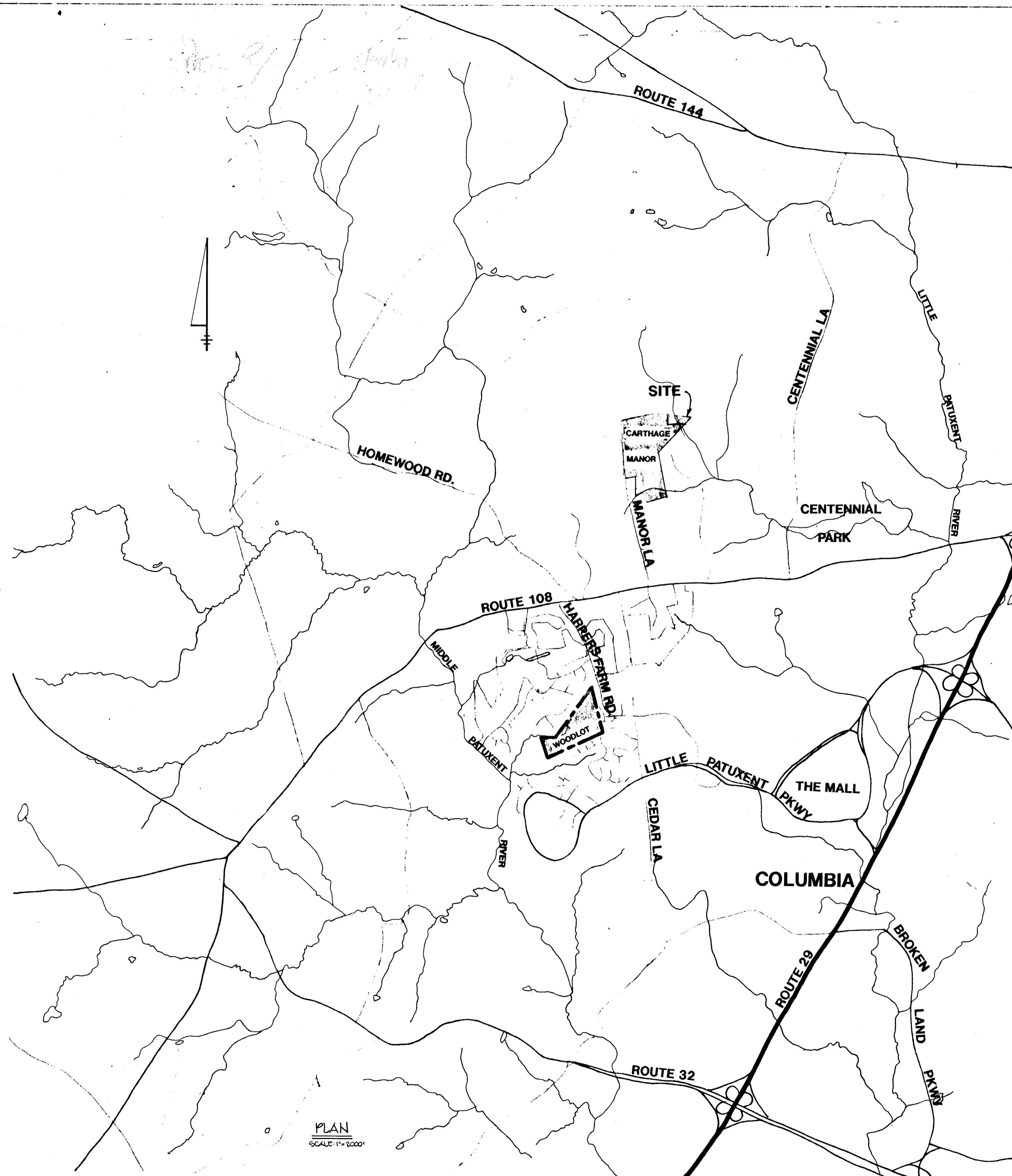


SHEET INDEX

- SHT. NO. TITLE**
- 1 VICINITY MAP
 - 2 WETLANDS MITIGATION GRADING PLAN
 - 3 SEDIMENT CONTROL PLAN
 - 4 PLANTING PLAN
 - 5 DETAILS & NOTES



STABILIZED CONSTRUCTION ENTRANCE
LOCATION DETAIL N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Thomas Scrivener CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 DATE: 3/30/94

PROPERTY OWNERS APPROVAL:
Thomas Scrivener HEREBY ACKNOWLEDGE AND APPROVE OF THE PLANNED WETLAND MITIGATION FOR WOODLOT AT CARTHAGE MANOR
 DATE: 2/4/94

TRACKING # 199363109
 ARMY CORPS OF ENG. NWP # CENAB-OP-RP 93-83109-13
 MDE WATER QUALITY CERTIFICATION # 93-WQ-0031
 MARYLAND WRA PERMIT # 93-PO 8064
 DNR NONTIDAL WETLANDS & WATERWAYS PERMIT # 93-NT-0132

PLAN
SCALE: 1" = 2000'

OWNER/DEVELOPER WOODLOT ENTERPRISES, INC. C/O THOMAS SCRIVENER 5026 DORSEY HALL DRIVE SUITE 204 ELLCOTT CITY, MARYLAND 21042	
PROJECT: WOODLOT MITIGATION AT CARTHAGE MANOR	
AREA:	TAX MAP 29 PARCEL 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	VICINITY MAP
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 8818 Centre Park Drive • Suite 200 • Columbia, Maryland 21045 410-997-8900 • FAX: 410-997-9282	
DATE: 2.3.94	DESIGNED BY: D.K.
	DRAWN BY: Z.K.
	PROJECT NO.: 83023
	DATE: SEPT. 21, 1993
	SCALE: 1" = 1000'
JAYKANT D. PAREKH # 10145	DRAWING NO. 1 OF 5

1197

BY THE DEVELOPER :
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 2/4/94
DEVELOPER DATE

BY THE ENGINEER :
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

J. Sanchez 2/21/94
ENGINEER DATE

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

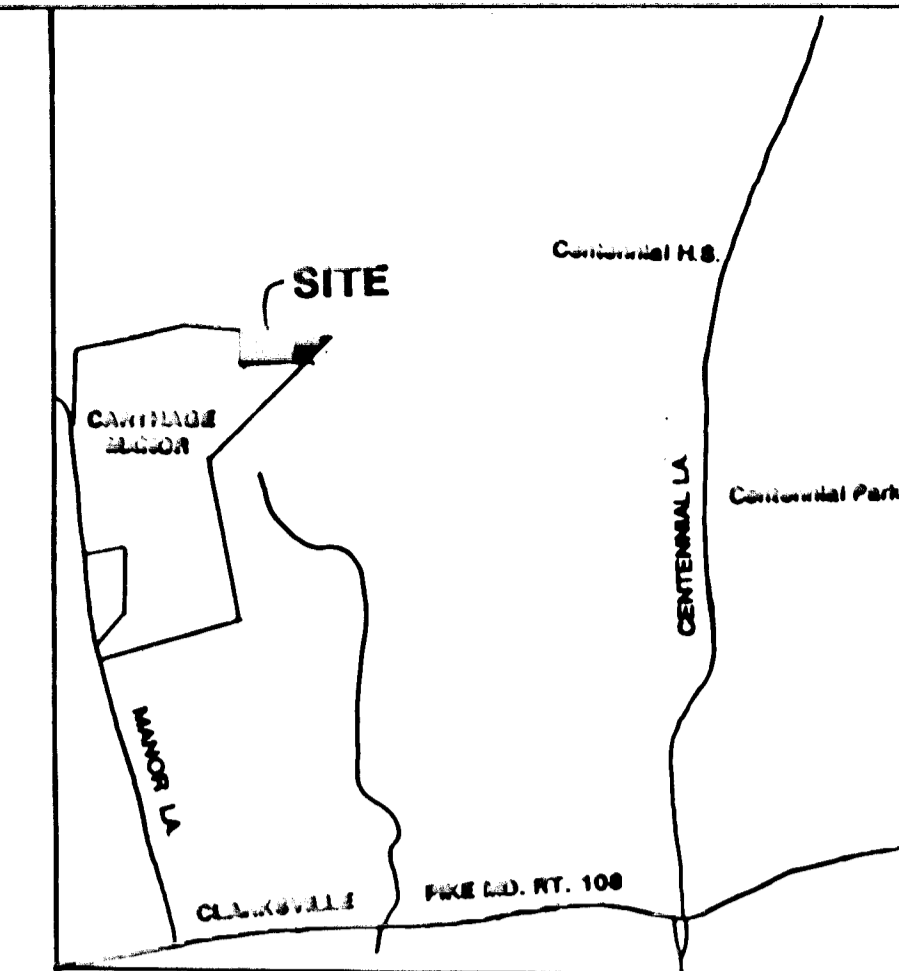
[Signature] 2/21/94
U.S. SOIL CONSERVATION SERVICE DATE

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

[Signature] 2/21/94
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
[Signature] 3/30/94
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

	WETLAND REPLACEMENT (AC.)	REPLACEMENT RATIO	REPLACEMENT SHOW (AC.)
WETLAND REPLACEMENT	.30	8 2:1	.60
WETLAND ENHANCEMENT	.05	8 4:1	.20
TOTAL:	.35		.80



VICINITY MAP 1" = 2000'

TRACKING # 199363109
ARMY CORPS OF ENG. NWP # CENAB-OP-RP 93-63109-13
MDE WATER QUALITY CERTIFICATION # 93-WQ-0031
MARYLAND WRA PERMIT # 93-PO 8064
DNR NONTIDAL WETLANDS & WATERWAYS PERMIT # 93-NT-0132



LEGEND

- LIMIT OF DISTURBANCE
- EXISTING VEGETATION TO REMAIN
- FENCE APPROXIMATE LIMIT OF 100 YR. FLOODPLAIN
- STREAM & 75' BUFFER
- LIMIT OF NON-TIDAL WETLANDS & 25' BUFFER
- EXIST. SPOT EL. 98.67
- PROP. SPOT EL. 96.0

FLOODPLAIN BY RIEMER-TRACY PER P-82-21 5/20/80.
SUPPLEMENTAL INFORMATION
NOTE: TOPO IS FIELD RUN BY R.M. & A. AUGUST 5, 1993

DATE	NO.	REVISION
OWNER / DEVELOPER		
WOODLOT ENTERPRISES, INC. C/O THOMAS SCHVENER 8028 DONSEY HALL DRIVE SUITE 204 ELLCOTT CITY, MARYLAND 21042		
PROJECT: WOODLOT MITIGATION AT CARTHAGE MANOR		
AREA: TAX MAP 29 PARCEL 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE: WETLANDS MITIGATION GRADING PLAN		
RIEMER MUECCE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 8818 Centre Park Drive • Suite 200 • Columbia, Maryland 21045 410-997-6300 • FAX: 410-997-9282		
DATE	DESIGNED BY: D.K.	
2.3.94	DRAWN BY: Z.K.	
	PROJECT NO: 83023	
	DATE: SEPT 21, 1993	
	SCALE: 1" = 30'	
	DRAWING NO. 2 OF 5	

2677

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER _____ DATE _____

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER *J. Farrell* DATE *2/2/94*

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

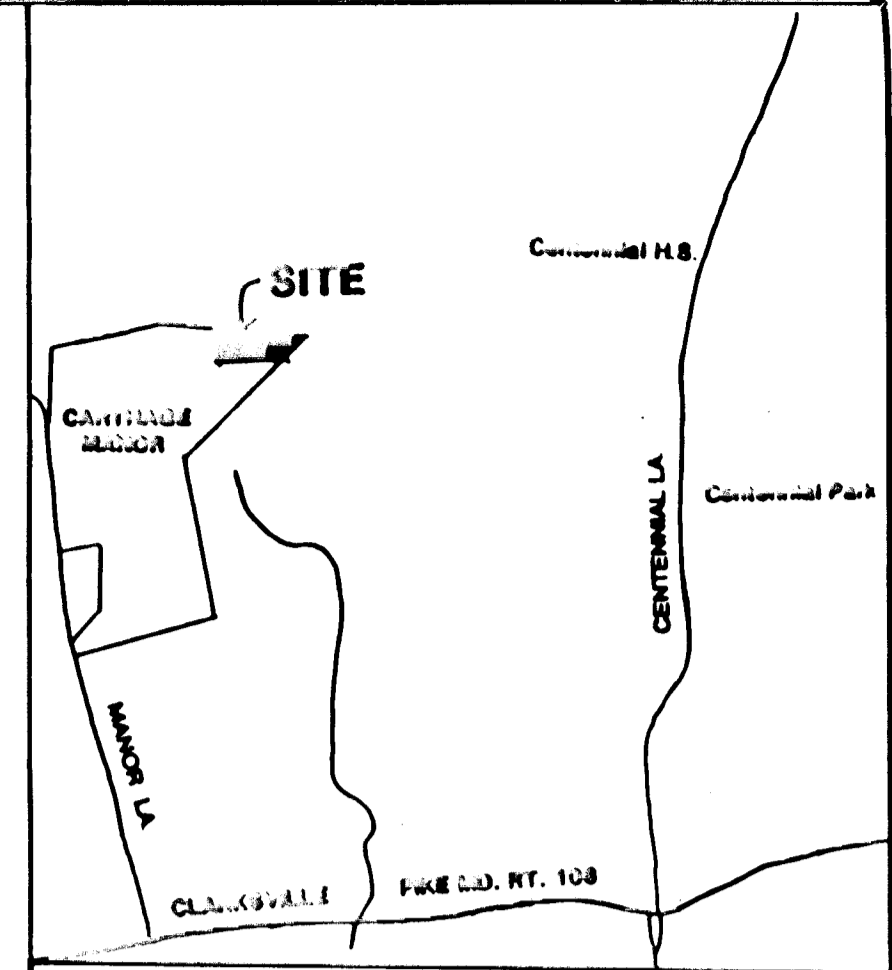
[Signature] U.S. SOIL CONSERVATION SERVICE DATE *1/1/94*

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

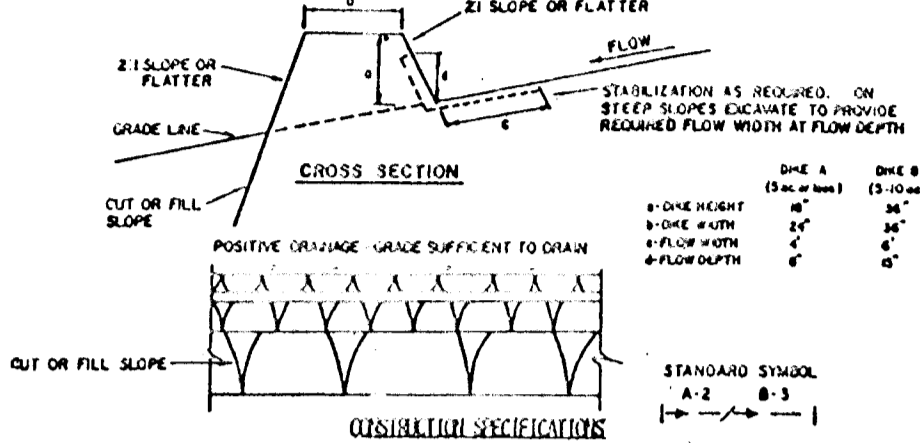
[Signature] HOWARD SOIL CONSERVATION DISTRICT DATE *1/1/94*

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE *3/30/94*



VICINITY MAP 1" = 2000'

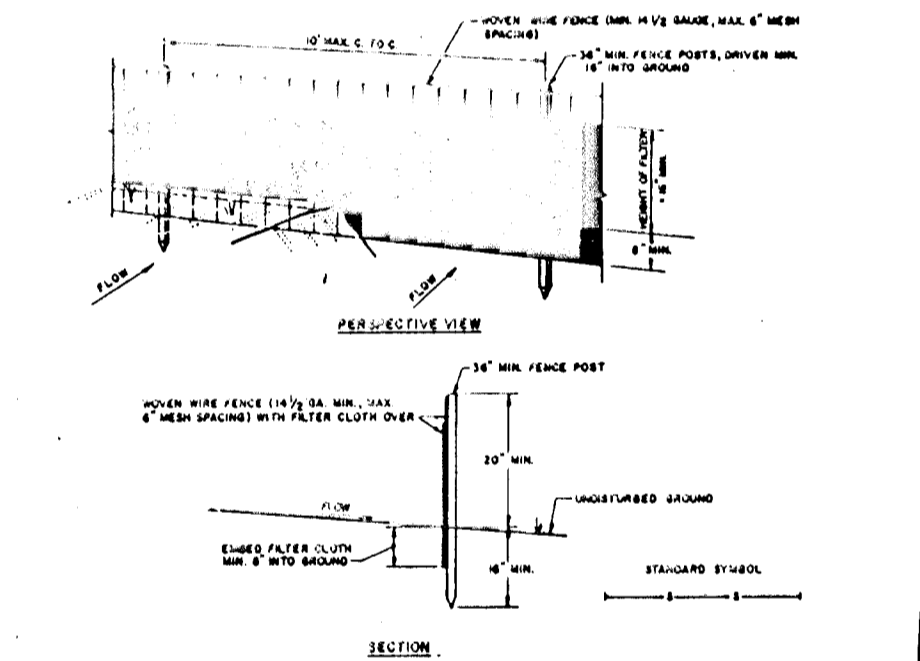


- ALL DIKES SHALL BE CONSTRUCTED BY EXCAVATING EQUIPMENT.
- DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
- TOP WIDTH MAY BE NARROWER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CONSTRUCTION BY CONSTRUCTION TRUCKS.
- FIELD LOCATION DATA TO BE PROVIDED AS REFERRED TO UTILIZE A STABILIZED SAME OUTLET.
- SOILS WHICH ARE NOT SUITABLE FOR PLANTING WITH A MINIMUM OF VEGETATION. PLANTS SHALL BE CONFINED TO A SLOTTED TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BAY. PLANTS SHALL BE CONFINED TO THE TRAPPING DEVICE AND NOT ALLOWED TO GROW UPON THE DIKE AND NOT BE REMOVED.
- STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEASON; (B) FLOW CHANNEL AS PER THE OWNER'S REQUIREMENTS.

TYPE OF TREATMENT	CHANNEL SIZE	SIDE A	SIDE B
1	5-8.00	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.00	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCESSIVE SOIL AT STONE
3	5.1-8.00	SEED WITH JUTE, OR SOIL AT STONE	LINED RIP-RAP 4-8"
4	8.1-20.00	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

- SLOPE TO BE 2" HIGH STONE, OR RECYCLED CONCRETE EQUIPMENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
- RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
- APPROVED EQUIPMENT CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
- PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

EARTH DIKE DETAIL



- WOOD FRAME FENCE TO BE FASTENED SECURELY TO POSTS WITH WIRE TIES OR STAPLES.
- FILLER CLOTH TO BE FASTENED SECURELY TO WOOD FRAME WITH WIRE TIES OR STAPLES EVERY 24" AT TOP AND MID SECTION.
- WOOD FRAME FENCE TO BE FASTENED TO WOOD FRAME WITH WIRE TIES OR STAPLES EVERY 24" AT TOP AND MID SECTION.
- MAINTENANCE SHALL BE PROVIDED AS REQUIRED TO PREVENT DAMAGE TO THE FENCE.

SILT FENCE DETAIL

LEGEND

- EARTH DIKE
- SILT FENCE
- LIMIT OF DISTURBANCE
- EXISTING VEGETATION TO REMAIN
- FENCE APPROXIMATE LIMIT OF 100 YR. FLOODPLAIN
- STREAM & 75' BUFFER
- LIMIT OF NON-TIDAL WETLANDS & 25' BUFFER



TRACKING # 199363109
ARMY CORPS OF ENG. NWP # CENAB-OP-RP 93-63109-13
MDE WATER QUALITY CERTIFICATION # 93-WQ-0031
MARYLAND WRA PERMIT # 93-PO 8064
DNR NONTIDAL WETLANDS & WATERWAYS PERMIT # 93-NT-0132

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- INSTALL SEDIMENT CONTROL DEVICES.
- CLEAR AND GRUB AREA WITHIN THE LIMIT OF DISTURBANCE.
- REMOVE 3"-6" LAYER OF TOPSOIL AND STOCKPILE.
- ROUGH GRADE TO 3"-6" BELOW FINAL FINISHED GRADE IN AREAS TO BE FORESTED. ROUGH GRADE POND AND REMAINING SITE. DE-WATER AREA AS REQUIRED.
- FINE GRADE USING TOPSOIL FROM STOCKPILE TO ESTABLISH FINISHED GRADE.
- STABILIZE USING SEED MIX AND RATE AS SHOWN (SEE DESIGNATED STABILIZATION AREAS NOTE).
- WHEN AREA IS STABILIZED, RECHECK GRADES TO DETERMINE IF ANY SETTLING HAS OCCURRED. CORRECT GRADES AS NECESSARY.
- INSTALL MITIGATION PLANTINGS AS PER PLAN.
- STABILIZE ANY AREAS DISTURBED DURING PLANT INSTALLATION.
- UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES.

STONE OUTLET SEDIMENT TRAP #1
DRAINAGE AREA = 1.76 AC.
STORAGE VOLUME REQUIRED 6,336 CUBIC FT.
STORAGE VOLUME PROVIDED 10,570 CUBIC FT. @ EL. 100.0
TOP ELEVATION = 102.0
CREST ELEVATION = 101.0
CLEANOUT ELEVATION = 99.0
DEPTH = 3'
SIDE SLOPES = 3:1
OUTLET WIDTH = 8'
BOTTOM ELEVATION = 98.0

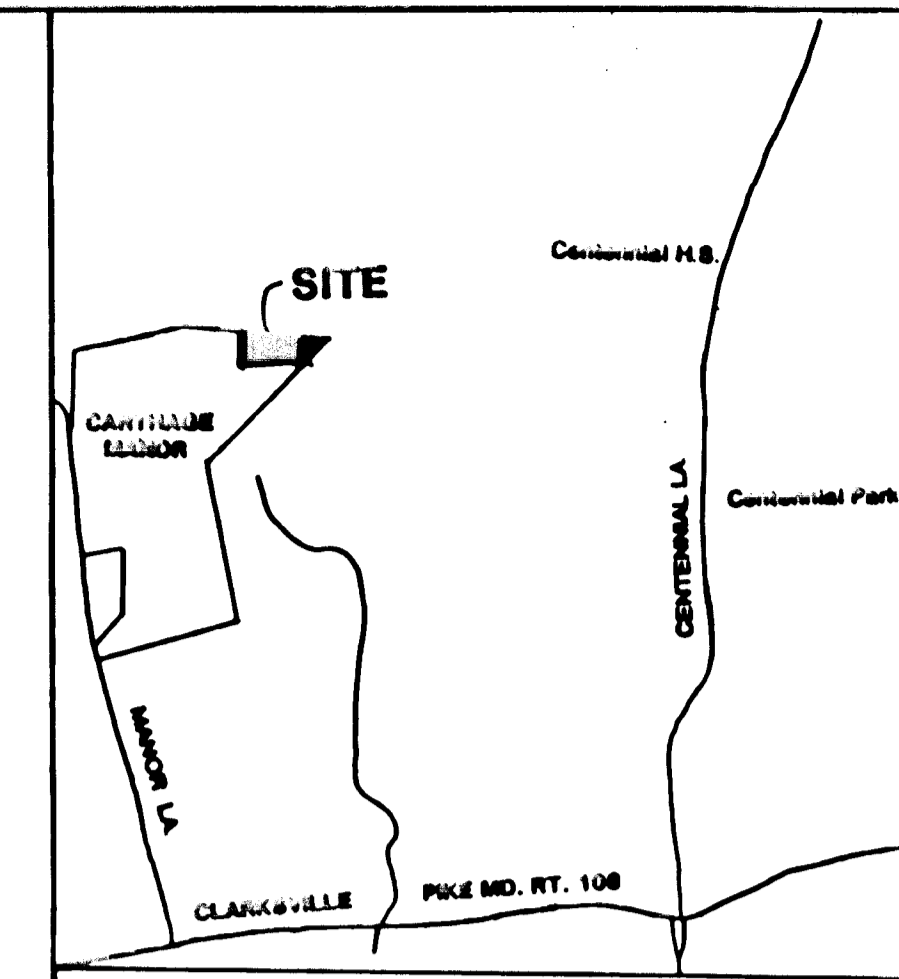
SEE SHEET 5 FOR SEEDING NOTES

FLOODPLAIN BY RIEMER-TRACY PER P-82-21 5/20/80.

SUPPLEMENTAL INFORMATION
NOTE: STABILIZED CONSTRUCTION ENTRANCE IS THE EXISTING GRAVEL DRIVE LEADING TO THE FARM PASTURE SHOWN.

DATE	NO.	REVISION
OWNER/DEVELOPER		
WOODLOT ENTERPRISES, INC. C/O THOMAS SCHWENKER 8028 DORSEY HALL DRIVE SUITE 204 ELLCOTT CITY, MARYLAND 21042		
PROJECT: WOODLOT MITIGATION AT CARTHAGE MANOR		
AREA		
TAX MAP 29 PARCEL 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE: SEDIMENT CONTROL PLAN		
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 8318 Cedar Park Drive • Suite 200 • Columbia, Maryland 21045 410-997-5300 • FAX: 410-997-9182		
DATE	DESIGNED BY: D.K.	DRAWN BY: Z.K.
DATE	PROJECT NO: 83023	DATE: SEPT. 21, 1993
DATE	SCALE: 1" = 30'	DRAWING NO. 3 OF 5

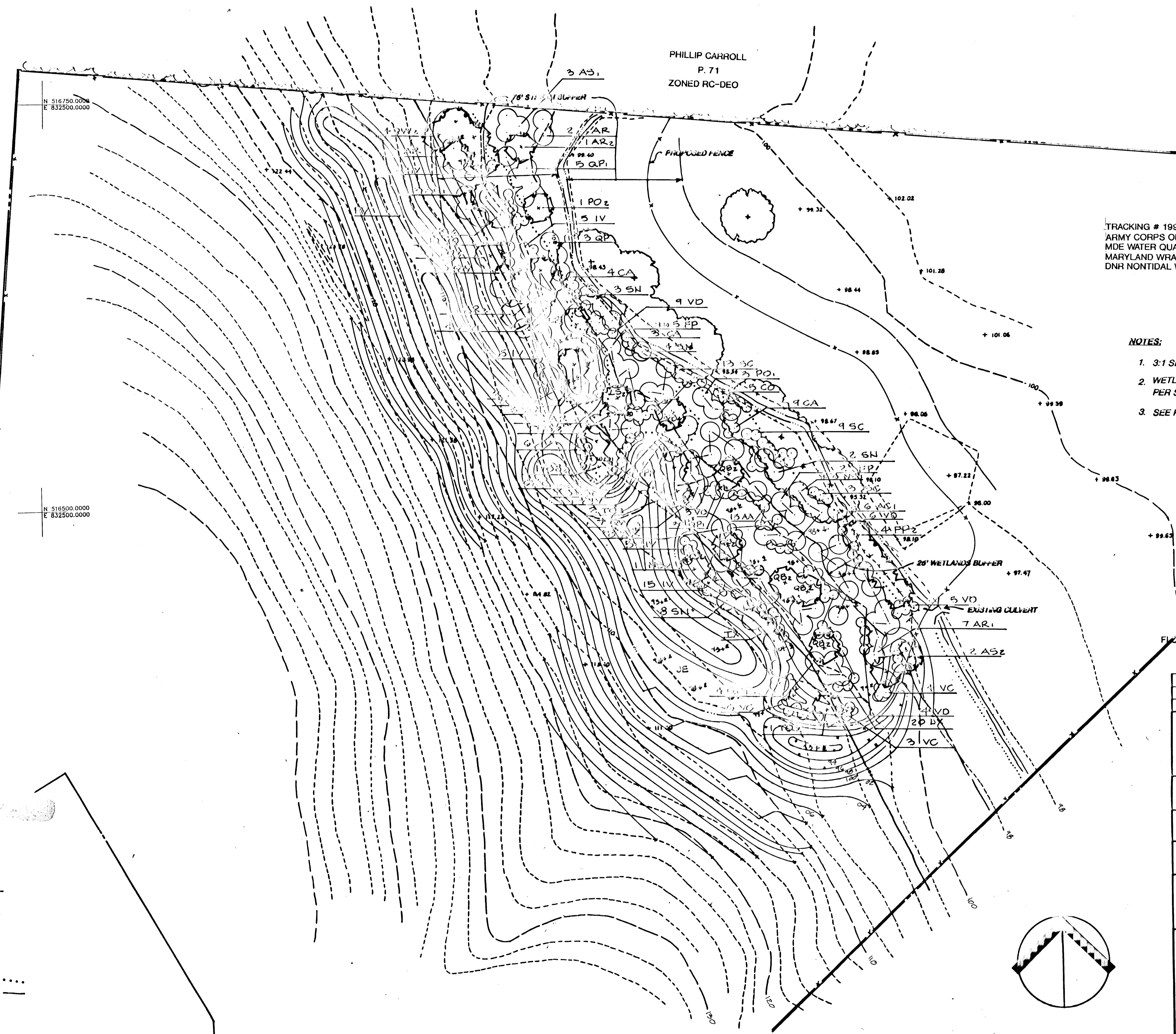
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Opma Swann
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 DATE: 3/30/94



VICINITY MAP 1" = 2000'

TRACKING # 199363109
 ARMY CORPS OF ENG. NWP # CENAB-OP-RP 93-63109-13
 MDE WATER QUALITY CERTIFICATION # 93-WQ-0031
 MARYLAND WRA PERMIT # 93-PO 8064
 DNR NONTIDAL WETLANDS & WATERWAYS PERMIT # 93-NT-0132

- NOTES:**
- 3:1 SLOPES TO BE STABILIZED PER SEEDING NOTE A.
 - WETLAND REPLACEMENT AREAS TO BE STABILIZED PER SEEDING NOTE B.
 - SEE PAGE 4 FOR PLANT SCHEDULE AND DETAILS.

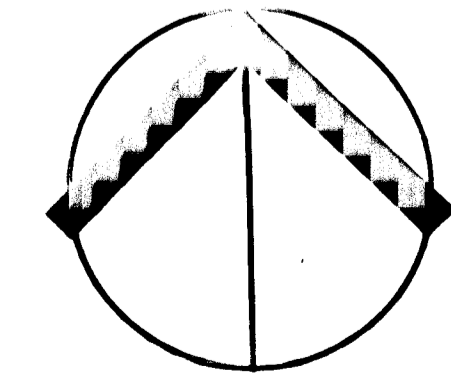


LEGEND

- PROP. SHADE TREE
- PROP. DECIDUOUS TREE
- PROP. SHRUBS
- PROP. SEEDING & ROOT ZONES
- EXISTING VEGETATION TO REMAIN
- FENCE
- FLOODPLAIN
- STREAM & 75' BUFFER
- LIMIT OF NON-TIDAL WETLANDS & 25' BUFFER

FLOODPLAIN BY RIEMER-TRACY PER P-82-21 5/20/80.
 SUPPLEMENTAL INFORMATION

DATE	NO.	REVISION
OWNER/DEVELOPER		
WOODLOT ENTERPRISES, INC. C/O THOMAS SCHWENGER 5028 DORSEY HALL DRIVE SUITE 204 ELLCOTT CITY, MARYLAND 21042		
PROJECT: WOODLOT MITIGATION AT CARTHAGE MANOR		
AREA TAX MAP 20 PARCEL 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE: PLANTING PLAN		
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 3813 Course Park Drive • Suite 200 • Columbia, Maryland 21045 410-997-8200 • FAX: 410-997-9232		
DATE 2-23-94	DESIGNED BY: D.K.	
STATE OF MARYLAND MICHAEL G. RIEMER REGISTERED PROFESSIONAL ENGINEER NO. 201 EXPIRES 12/31/98	DRAWN BY: Z.K.	
	PROJECT NO: 83023	
	DATE: SEPT. 21, 1993	
	SCALE: 1" = 30'	
	DRAWING NO. 4 OF 5	



PLANTING SPECIFICATIONS & NOTES

- Topsoil shall be salvaged from within the project limit of work as indicated on the Plan. Salvaged topsoil shall be stockpiled for ultimate application to the mitigation area.
- Topsoil mixture for all plant material: 200 lb dehydrated raw manure and two 5.5 cu. ft. bale of peat humus to 12 cu. yds. of on site furnished topsoil. Composed sledge in the amount of 4.0 cu. yds., may be substituted for the raw manure, peat moss or peat humus.
- All mixing shall be confined to the planting area and shall be accomplished to the satisfaction of the Engineer.

WETLAND PLANT ESTABLISHMENT

- Plant species required are normally unavailable from standard landscape nursery sources. The Contractor must make arrangements with competent wetlands restoration specialists to insure a supply of the required material.
- The Contractor and/or his subcontractor should be aware of the site design conditions and should take all prudent steps to insure that the plant material specified on the plans is acclimated to wetland conditions prior to delivery to the job site. If the plant material is available from sources where wetland conditions are duplicated at the nursery, the Contractor should favor these sources as the supplier.
- Fertilizer for wetland trees and shrubs shall be a 21 gr. tightly compressed, long lasting slow release (2 year) planting tablet with a minimum guaranteed analysis of 20-10-5.
- Fertilizer for container grown material shall apply the following rates:
1 gal. Container 1 ea. 21 gr. Tablets
3 gal. Container 2 ea. 21 gr. Tablets
5 gal. Container 3 ea. 21 gr. Tablets
7 gal. Container 5 ea. 21 gr. Tablets

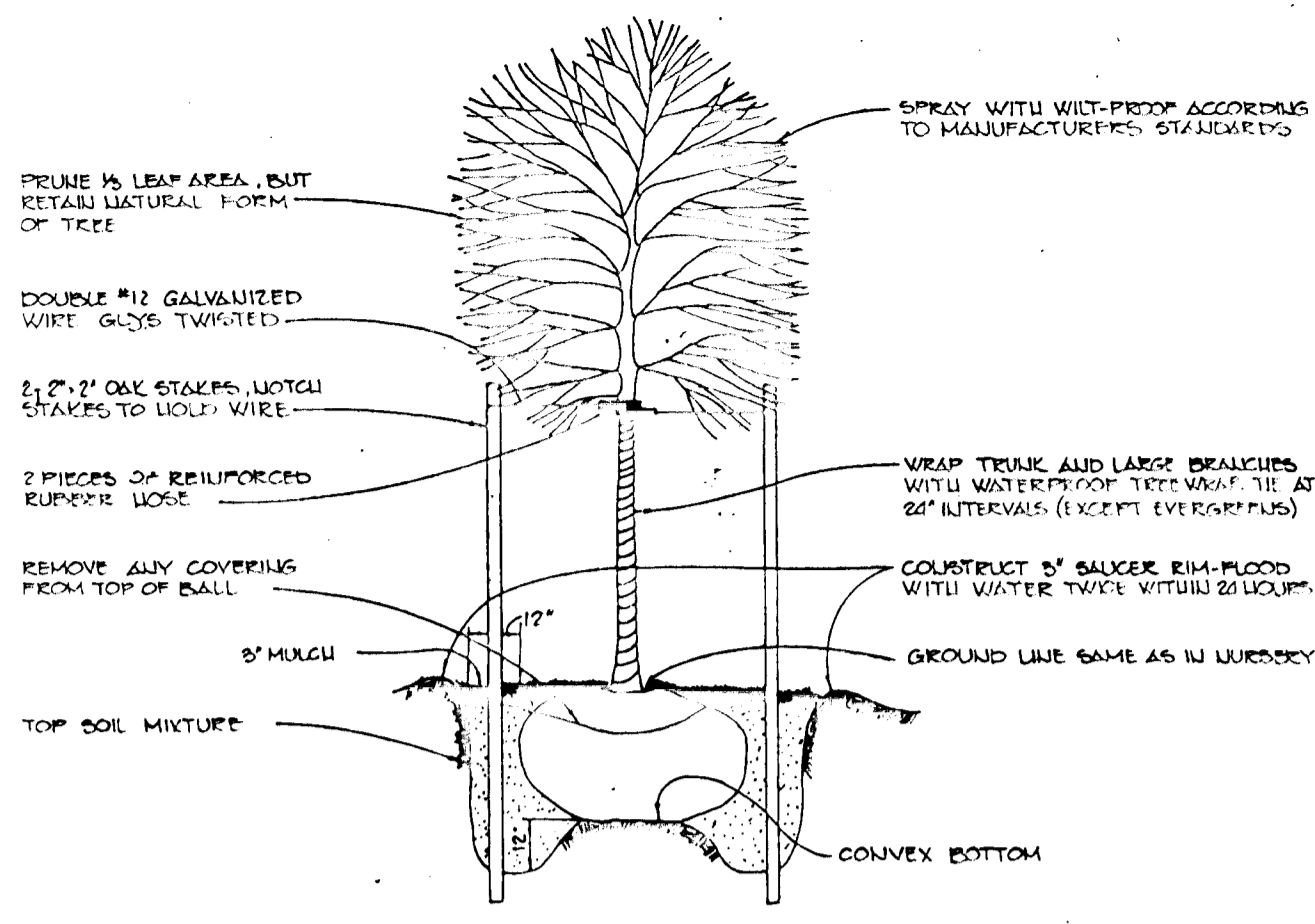
Backfill container stock shall be positioned in the planting hole. Backfill halfway up the root ball. Place tablet (s) beside the root ball approximately 1 inch from the root tips. Do not place tablets in the bottom of the hole. Complete backfill, tamp and water.

PLANTING SCHEDULE

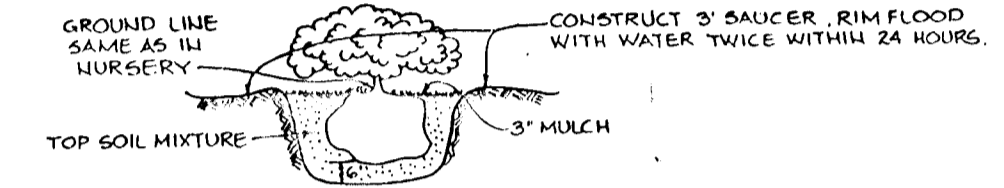
- It is recommended that planting be done early in the Spring.
- Plant material shall be planted in the soil provided with each planting pit excavated to a size sufficient to contain the entire root stock or root mass without crowding.

PLANTING MATERIAL

- Rootstock of wetland plant material shall be kept moist during the transport from the source to the job site and until planted.
- Plant material shall be planted in the soil provided with each planting pit excavated to a size sufficient to contain the entire root stock or root mass without crowding.



TREE PLANTING DETAIL N.T.S.



SHRUB PLANTING DETAIL

SEEDING NOTE B

- All excess fill, construction material or debris will be disposed in an upland area which complies with standard Soils Conservation Service standards.
- Materials will be placed in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland.
- Storage of heavy equipment will be in upland areas. Operation of the equipment will be done in a manner as to prevent damage to the 25' wetland buffer and the nontidal wetlands when otherwise indicated.
- All stabilization in the existing wetland, proposed wetland and the wetland buffers shall be of the following species: Annual Ryegrass (*Lolium multiflorum*), Millet (*setaria italica*), Barley (*hordeum sp.*), Oats (*unioia sp.*) and/or Rye (*secale cereale*). These species allow for the stabilization of the site while also allowing for the voluntary revegetation of material wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Department of Natural Resources. Kentucky 31 fescue shall not be utilized in the wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.

SEEDING NOTE A

Seeding Preparation: Flat areas and other slopes up to 3:1 slope shall be loose and stable to a depth of at least 2 inches. The top layer of soil shall be loosened by raking, disking or other acceptable means before seeding. Slopes steeper than 3:1 shall have the top 1 to 3 inches of soil loose and stable before seeding.

Soil Amendments: Use one of the following schedules.

Time and fertilizer according to soil tests. Lime and fertilizer needs can be determined by a soil testing laboratory, such as the University of Maryland's Soil Testing Laboratory.

In lieu of soil test results, use one of the following schedules.

- Preferred - Apply 2 tons per acre dolomitic limestone (92 LBS/1000 SF) and 400 LBS per acre 10-10-10 fertilizer (14 LBS/1000 SF) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 LBS per acre 30-0-0 ureaform fertilizer (01 LBS/1000 SF)
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 LBS/1000 SF) and 1000 LBS per acre 10-10-10 fertilizer (23 LBS/1000 SF) before seeding. Harrow or disc into upper three inches of soil.

On slopes steeper than 3:1 slope, the lime and fertilizer shall be worked the best way possible. On sloping land, the final harrowing or disking operation should be on the contour wherever feasible. No attempt should be made to dig any dished area to make the soil surface smooth after disking.

Seeding:

For the periods March 1 thru April 30, and August 1 thru October 15. Seed with 60 LBS per acre (1.4 LBS/1000 SF) of Kentucky 31 Tall Fescue.

For the period May 1 thru July 31. Seed with 60 LBS Kentucky 31 Tall Fescue per acre and 2 LBS per acre (.05 LBS/1000 SF) of Wreathing Lovegrass.

For the period October 16 thru February 28, protect site and apply Option (1) 2 tons per acre of well-anchored straw mulch and seed as soon as possible in the spring.

Option (2) Use seed.

Option (3) Seed with 60 LBS/acre (1.4 LBS/1000 SF) Kentucky 31 Tall Fescue and mulch with 2 tons per acre well-anchored straw.

Apply seed uniformly with a cyclone seeder, drill, outdragger seeder or hydroseeder. Uniformly include seed and fertilizer. If a firm, moist seedbed. Maximum seeding depth should be 1/4 inch on clay soils and 1/2 inch on sandy soils, when using other than hydroseeder method of application. Note: If hydroseeding is used and the seed and fertilizer is mixed, they shall be mixed on site and the seeding shall be immediate without interruption.

Mulching: See Mulching Specification.

Irrigation:

If soil moisture is deficient, supply new seedlings with adequate water for plant growth until they are firmly established. If feasible, this is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Maintenance:

Irrigation - If soil moisture becomes deficient, irrigate to prevent loss of stand of protective vegetation, if feasible.

Replants - Inspect all reseeded areas for failures and make necessary replants, replacements, and reseeding within the planting season, if possible.

- If stand is inadequate for erosion control, overseed and fertilize using half of the rates originally applied.
- If stand is over 60% damaged, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.

*** ONLY APPLIES TO AREAS OUTSIDE OF NON-TIDAL WETLANDS AND THEIR ASSOCIATED BUFFERS AS SHOWN ON SHEET 4 OF 7**

PLANT SCHEDULE

SEX	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
TREES				
AC1	13	AMARANTHUS CANADENSIS SEVEN O'CLOCK	1"-1 1/4" CAL. 8'-10" HT.	B & B
AR	17	ACER RUFOPHYLLUM RED MAPLE	3'-4" HT.	container
AR1	7	ACER RUFOPHYLLUM RED MAPLE	1"-1 1/4" CAL. 8'-10" HT.	B & B
AR2	7	ACER RUFOPHYLLUM RED MAPLE	1 3/4"-2" CAL. 10'-12" HT.	B & B
AS	2	ACER SACCHARINUM SILVER MAPLE	3'-4" HT.	container
AS1	3	ACER SACCHARINUM SILVER MAPLE	1"-1 1/4" CAL. 8'-10" HT.	B & B
AS2	2	ACER SACCHARINUM SILVER MAPLE	1 3/4"-2" CAL. 10'-12" HT.	B & B
FP	7	FRAXINUS PENNSYLVANICA GREEN ASH	3'-4" HT.	container
FP2	4	FRAXINUS PENNSYLVANICA GREEN ASH	1 1/4"-1 1/2" CAL. 8'-10" HT.	B & B
LS1	3	LIQUIDAMBAR STRACIFLUA SWEETGUM	1"-1 1/4" CAL. 8'-10" HT.	B & B plant in spring
LS2	2	LIQUIDAMBAR STRACIFLUA SWEETGUM	1 1/2"-1 3/4" CAL. 8'-10" HT.	B & B
NS1	6	NYSSA SYLVATICA BLACK GUM	1"-1 1/4" CAL. 8'-10" HT.	B & B
NS2	1	NYSSA SYLVATICA BLACK GUM	1 1/4"-1 1/2" CAL. 8'-10" HT.	B & B
PO1	3	PLATANUS OCCIDENTALIS SYCAMORE	1"-1 1/4" CAL. 8'-10" HT.	B & B
PO2	2	PLATANUS OCCIDENTALIS SYCAMORE	1 3/4"-2" CAL. 10'-12" HT.	B & B
QB2	6	QUERCUS BICOLOR SWAMP WHITE OAK	1 3/4"-2" CAL. 10'-12" HT.	B & B
QP	3	QUERCUS PAUMOTRIS PIN OAK	3'-4" HT.	container
QP1	12	QUERCUS PAUMOTRIS PIN OAK	1"-1 1/4" CAL. 8'-10" HT.	B & B
QW	10	QUERCUS PHILLIPSII WILLOW OAK	3'-4" HT.	container
QW2	4	QUERCUS PHILLIPSII WILLOW OAK	1 1/4"-1 1/2" CAL. 8'-10" HT.	B & B
SB2	1	SALIX BABYLONICA BABYLON WEeping WILLOW	1 3/4"-2" CAL. 10'-12" HT.	B & B
SW	17	SALIX NYRA BLACK WILLOW	3'-4" HT.	container
SW2	2	SALIX NYRA BLACK WILLOW	1 3/4"-2" CAL. 10'-12" HT.	B & B
TO2	3	QUERCUS NYRA WALNUT OAK	1 3/4"-2" CAL. 10'-12" HT.	B & B
SHRUBS				
AA	15	ARONIA ARBUTIFOLIA RED CHOKEBERRY	18"-24" HT.	container
CA	16	CORNUS AMOMUM SILKY DOGWOOD	18"-24" HT.	container
CO	5	CEPHALANTHUS OCCIDENTALIS BUTTERBURSH	18"-24" HT.	container
HV	10	HAMAMELIS VIRGINIANA COMMON WITCHHAZEL	18"-24" HT.	container
IWF	28	ILEX VERTICILLATA FEMALE WINTERBERRY	18"-24" HT.	container see note 1
IWN	7	ILEX VERTICILLATA MALE WINTERBERRY	18"-24" HT.	container see note 1
LX	20	LINDERA BENZOIN SPICEBUSH	18"-24" HT.	container
SC	31	SAMBUCUS CANADENSIS ELDERBERRY	18"-24" HT.	container
VC	13	VACCINIUM CORNIBOSUM HIGBUSH BLUEBERRY	18"-24" HT.	container
VD	43	VERONICA DUTAYAN ARROCKWOOD	18"-24" HT.	container

SEEDING AND ROOT SPECIFICATIONS

IX	100	IRIS VERTICOLOR BLUE MAJIC IRIS	ROOTS	6" O.C.
JE	200	JUNCUS EFFRUSUS SOFT RUSH	ROOTS	6" O.C.
LP	21.6	LOLIUM PERENNIAE PERENNIAL RYEGRASS	SEED	6 LBS./1000 S.F.
PP	100	POTAMOGETON PECTINATUS SAGO FORD WEEB	TUBER	9" O.C.
PV	1.5	FRAXINUS SYLVATICA SWITCHGRASS	SEED	8 LBS./AC.

NOTES:

- PLANT 1 MALE TO 4 FEMALE WITH AT LEAST 1 MALE IN EACH GROUPING.
- ALL PLANT MATERIAL TO BE WET GROWN OR ADAPTED TO WETLANDS CONDITIONS.

TRACKING # 199363109
ARMY CORPS OF ENG. NWP # CENAR-OP-RP 93-63109-13
MDE WATER QUALITY CERTIFICATION # 93-WQ-0031
MARYLAND WRA PERMIT # 93-PO 8064
DNR NONTIDAL WETLANDS & WATERWAYS PERMIT # 93-NT-0132

PROPERTY OWNERS APPROVAL:
[Signature] HEREBY ACKNOWLEDGE AND APPROVE THE PLANNED WETLAND MITIGATION FOR WOODLOT AT CARTHAGE MANOR
DATE: 2/4/94

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 2/4/94
DATE

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 2/3/94
DATE

ENGINEER

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

[Signature] 3/2/94
DATE

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

[Signature] 3/2/94
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 3/30/94
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

WOODLOT ENTERPRISES, INC.
C/O THOMAS SCRIVENER
5026 DORSEY HALL DRIVE SUITE 204
ELLCOTT CITY, MARYLAND 21042

PROJECT: WOODLOT MITIGATION AT CARTHAGE MANOR

AREA: 3AX MAP 29 PARCEL 2 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DETAILS & NOTES

RIEMER MUEGGI & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
8818 Centre Park Drive • Suite 200 • Columbia, Maryland 21045
301-997-8900 • FAX: 301-997-9282

DATE	NO.	REVISION
2-3-94		
		DESIGNED BY: D.K.
		DRAWN BY: Z.K.
		PROJECT NO: 83023
		DATE: SEPT. 21, 1993
		SCALE: AS SHOWN
		DRAWING NO. 5 OF 5