

Construction Specifications

Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.

- The posts do not need to set in concrete.
- Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildups removed when "bunches" develop in the silt fence.

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.

David E. M... 11/15/94
DEVELOPER DATE

BY THE ENGINEER:

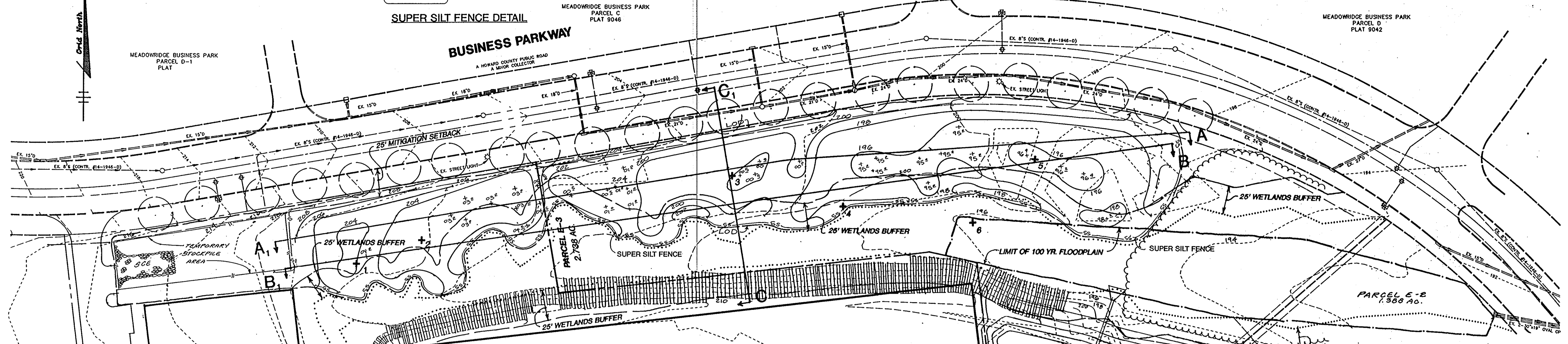
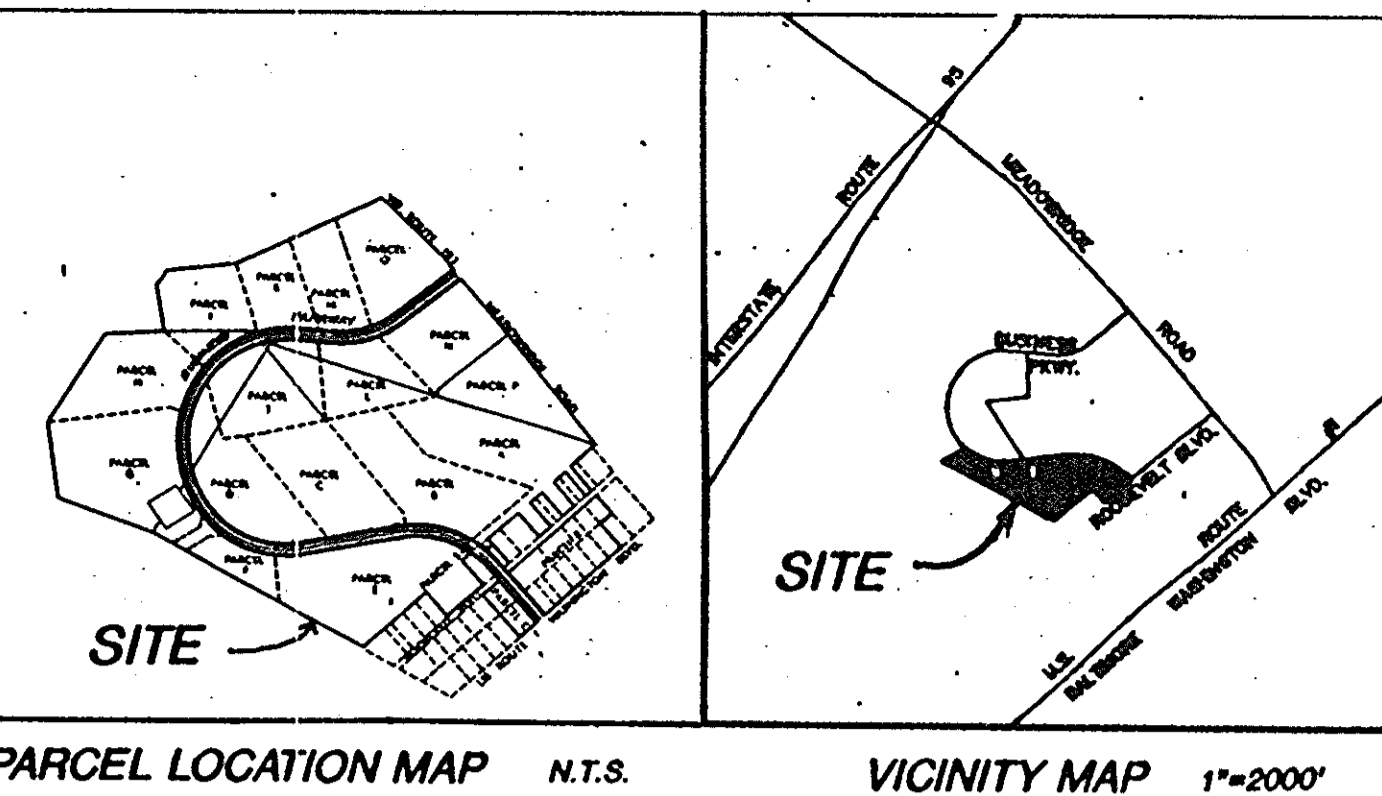
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

J. Farrell 11/14/94
ENGINEER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Mark J. ... 11/30/94
DIRECTOR DATE

Jim ... 11/21/94
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



EXISTING BUILDING F.F. = 213.0
PARCEL E - 1
8.180 AC.

TABULATION CHART

	Replacement Credit (Ac.)	Replacement Ratio	Replacement shown (Ac.)
Wetland Replacement	.71	@ 2:1	1.42 Ac.
Wetland Enhancement	.16	@ 4:1	.67 Ac.
TOTAL:	.87		2.09 Ac.

SUPPLEMENTAL INFORMATION

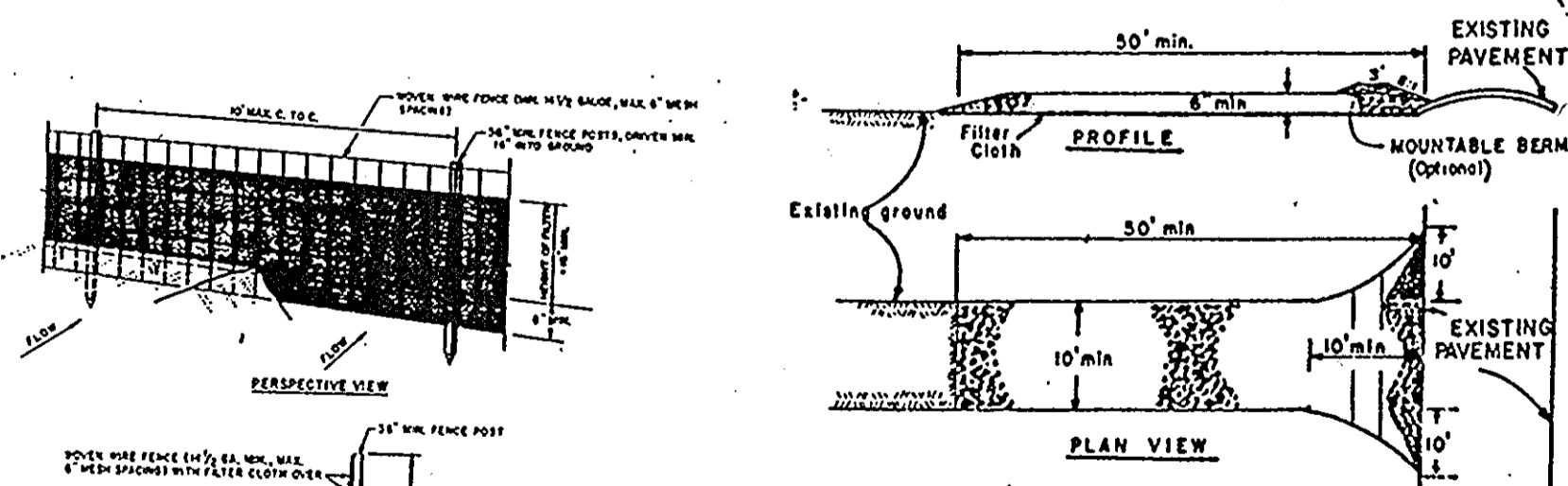
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SWALE-POUND CONSTRUCTION; SOIL EROSION AND SEDIMENT CONTROL.

Patricia ... 11/22/94
U.S. SOIL CONSERVATION SERVICE DATE

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

... 11/21/94
HOWARD SOIL CONSERVATION DISTRICT DATE

- LEGEND**
- LIMIT OF NON-TIDAL WETLANDS
 - 25' WETLANDS BUFFER
 - LIMIT OF 100 YR. FLOODPLAIN
 - EXISTING VEGETATION TO REMAIN
 - SLOPES 15%-24.9%
 - SLOPES 25% OR GREATER
 - MITIGATION SETBACK
 - GROUNDWATER MONITORING TEST POINT
 - LOD? LIMIT OF DISTURBANCE
 - SILT FENCE
 - SUPER SILT FENCE
 - STABILIZED CONSTRUCTION ENTRANCE



- CONSTRUCTION NOTES FOR STABILIZED SILT FENCE**
- POSTS: STEEL REINFORCED OR TYPE OF WOODWORK
 - POSTS: STEEL REINFORCED OR TYPE OF WOODWORK
 - POSTS: STEEL REINFORCED OR TYPE OF WOODWORK
 - POSTS: STEEL REINFORCED OR TYPE OF WOODWORK

- CONSTRUCTION SPECIFICATIONS**
- Stone Size - Use 3" stones, or recycled or recycled concrete equivalent.
 - Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 - Thickness - Not less than six (6) inches.
 - Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
 - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
 - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mounatable beam with silt slopes will be permitted.
 - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stones as conditions demand and repair and/or cleanup of any measures used to trap sediment. All sediment applied, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 - Washing - Trucks shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 - Periodic inspection and needed maintenance shall be provided after each rain.

SEQUENCE OF CONSTRUCTION

- Obtain grading permit.
- Install sediment control devices.
- Clear and grub area within the Limit of Disturbance.
- Remove 6"-12" layer of reddish brown sandy silt soil layer.
- Excavate 12"-36" of light grey clay layer and stockpile in designated area. Soil must be kept moist at all times!
- Rough grade to 6" below final finished grade. De-water area as specified.
- Fine grade using light grey clay from stockpile to establish finished grade.
- Stabilize using seed mix & rate as shown. (See designated stabilization areas note)
- When area is stabilized, re-check grades to determine if any settling has occurred. Correct grades as necessary.
- Install mitigation plantings as per plans.
- Stabilize any areas disturbed during plant installation.
- Upon approval of the Howard County Sediment Control Inspector, remove sediment control devices.

MARYLAND DEPT. OF THE ENVIR.
WOC # 89-WO-0063R NOV. 1, 1994
DEPARTMENT OF THE ARMY BALTIMORE DISTRICT, CORPS OF ENGINEERS
AUTHORIZATION No.: GENAD-OP-RW-20-1001-01, AUG. 23, 1994

OWNER / DEVELOPER
WINCHESTER HOMES
6305 IVY LANE
SUITE 700
GREENBELT, MD 20770
301-489-1200

PROJECT MEADOWRIDGE INDUSTRIAL PARK
MITIGATION PLAN
FOR PARCEL 'R' @ PARCEL E-1 & E-3

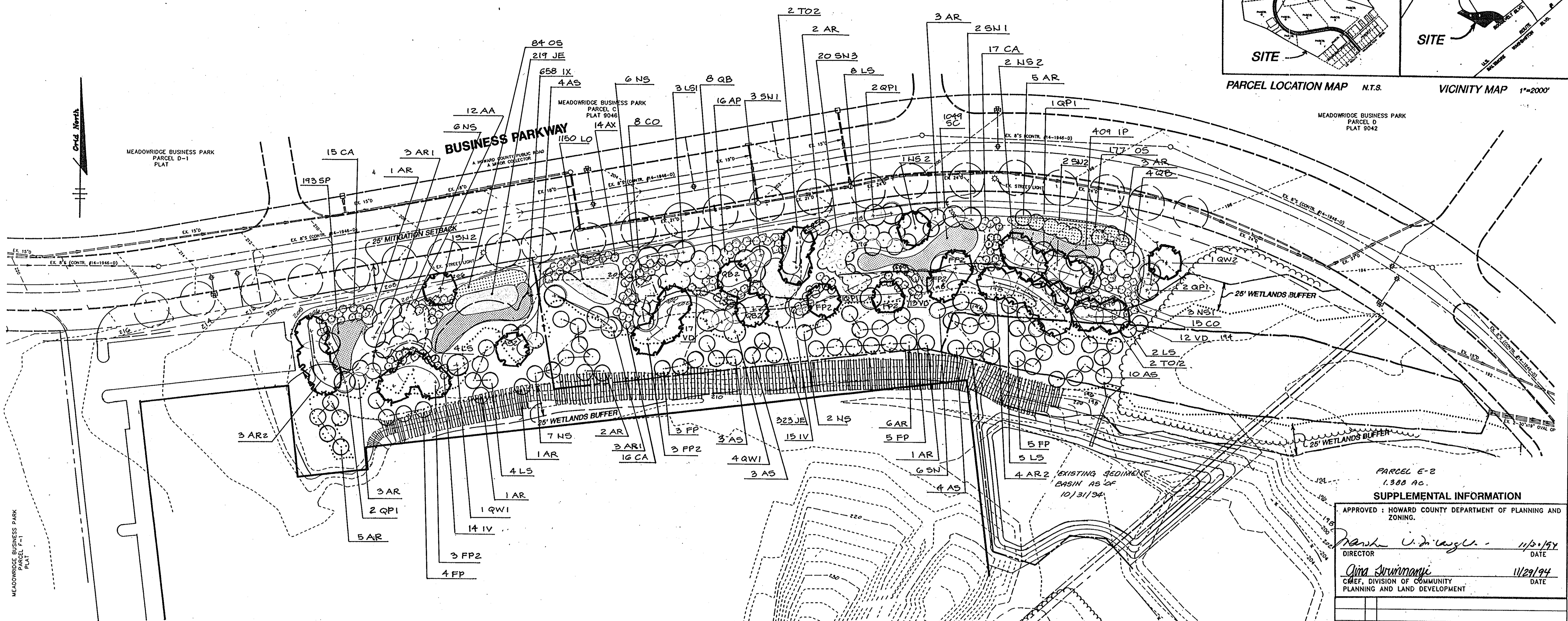
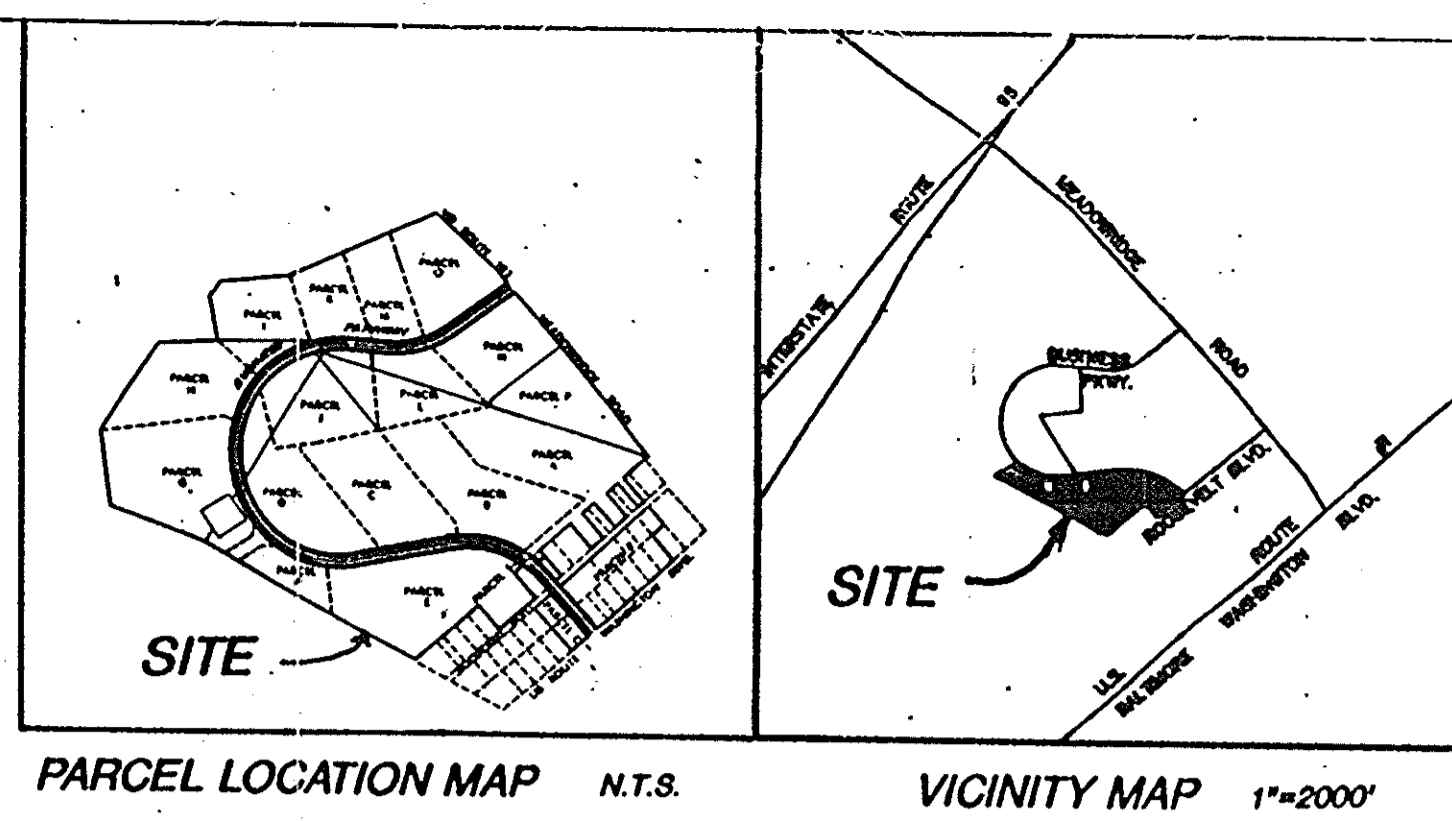
AREA TAX MAP 37 PARCEL 382 ZONED M-1
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE SUPPLEMENTAL INFORMATION
GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
PLANNING, ENGINEERING SURVEYING
8818 Centre Park Drive Suite 200 Columbia, Md 21045
410-997-8900 FAX: 410-997-9282

11/14/94
DATE

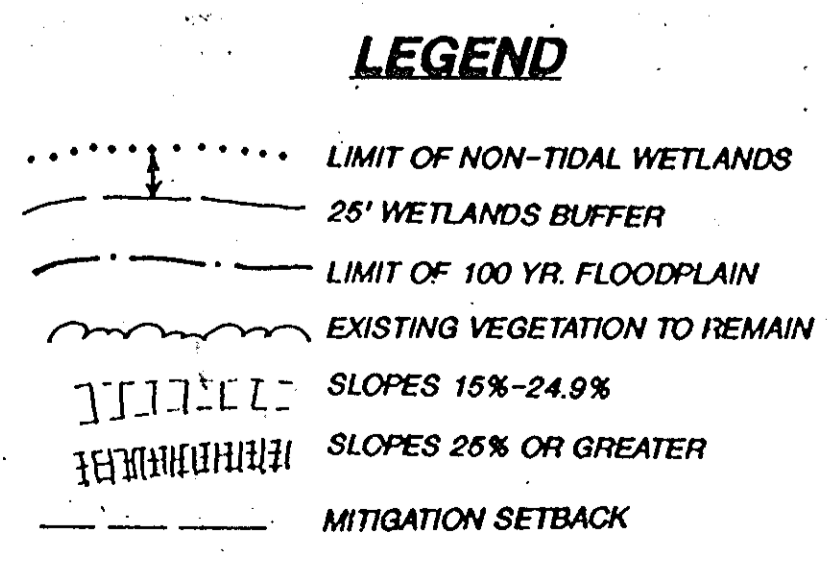
DESIGNED BY: D.K.
DRAWN BY: Z.K.
PROJECT NO: 83501
DATE: 08/09/93
SCALE: 1"=40'
DRAWING NO. 1 OF 4



KEY	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
AR	33	ACER RUBRUM RED MAPLE	3'-4' HT.	container
AR1	6	ACER RUBRUM RED MAPLE	1"-1 1/4" CAL. 8'-10" HT.	B & B
AR2	7	ACER RUBRUM RED MAPLE	1 3/4"-2" CAL. 10'-12" HT.	B & B
AS	24	ACER SACCHARINUM SILVER MAPLE	3'-4' HT.	container
AS2	1	ACER SACCHARINUM SILVER MAPLE	1 3/4"-2" CAL. 10'-12" HT.	B & B
FP	17	FRAXINUS PENNSYLVANICA GREEN ASH	3'-4' HT.	container
FP2	10	FRAXINUS PENNSYLVANICA GREEN ASH	1 3/4"-2" CAL. 10'-12" HT.	B & B
LS	23	LIQUIDAMBAR STRYCILOEA SWEETGUM	3'-4' HT.	container plant in spring
LS1	3	LIQUIDAMBAR STRYCILOEA SWEETGUM	1"-1 1/4" CAL. 8'-10" HT.	B & B plant in spring
NS	21	NYSSA SYLVATICA BLACK GUM	3'-4' HT.	container
NS1	3	NYSSA SYLVATICA BLACK GUM	1"-1 1/4" CAL. 8'-10" HT.	B & B
NS2	3	NYSSA SYLVATICA BLACK GUM	1 3/4"-2" CAL. 10'-12" HT.	B & B
QB	12	QUERCUS BICOLOR SWAMP WHITE OAK	3'-4' HT.	container
QB2	2	QUERCUS BICOLOR SWAMP WHITE OAK	1 3/4"-2" CAL. 10'-12" HT.	B & B
QP1	8	QUERCUS PALUSTRIS PIN OAK	1"-1 1/4" CAL. 8'-10" HT.	B & B

HERBACEOUS		QTY	PLANT NAME	SIZE	REMARKS
IVH	6	ILEX VERTICILLATA MALE WINTERBERRY	18"-24" HT.	container	
VD	42	VIBURNUM DENTATUM ARROWWOOD	18"-24" HT.	container	
IP	409	IRIS PSEUDACORUS YELLOW FLAG	1 QT. POT B.R.	1.5' O.C.	
IX	658	IRIS VERSICOLOR BEAU FLAG	1 QT. POT B.R.	1.5' O.C.	
JE	542	JUNCUS EFFUSUS SOFT RUSH	1 QT. POT B.R. CLUMP/PLUG	2' O.C.	
LO	1150	LEERSIA ORYZOIDES RICE CUTGRASS	1 3/4" P.P.	1' O.C.	
OS	261	OMOCLEA SENSIBILIS SENSITIVE FERN	2 QT. POT	3' O.C.	
SC	1049	SADRUS CERNUUS LIZARD'S TAIL	1 QT. POT, B.R. DORMANT RHIZOME	4' O.C.	
SP	193	SCIRPUS PUNGENS THREESQUARE	1 3/4" P.P., B.R. DORMANT RHIZOME	2' O.C.	

SHRUBS		QTY	PLANT NAME	SIZE	REMARKS
AA	12	ARONIA ARBUTIFOLIA RED CHOKEBERRY	18"-24" HT.	container	
AP	16	ARONIA PRUNIFOLIA PURPLE CHOKEBERRY	18"-24" HT.	container	
AX	14	ALNUS SERRULATA SMOOTH ALDER	18"-24" HT.	container	
CA	48	CORNUS AMOMUM SILKY DOGWOOD	18"-24" HT.	container	
CO	23	CEPHALANTHUS OCCIDENTALIS BUTTBUSH	18"-24" HT.	container	
IVF	23	ILEX VERTICILLATA FEMALE WINTERBERRY	18"-24" HT.	container	



SUPPLEMENTAL INFORMATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director: *Mark U. ...* 11/5/94
 Chief, Division of Community Planning and Land Development: *Anna ...* 11/29/94

DATE	NO.	REVISION

OWNER / DEVELOPER: WINCHESTER HOMES, 6305 IVY LANE, SUITE 700, GREENBELT, MD 20770, 301-489-1200

PROJECT: MEADOWRIDGE INDUSTRIAL PARK MITIGATION PLAN FOR PARCEL 'R' @ PARCEL E-1 & E-3

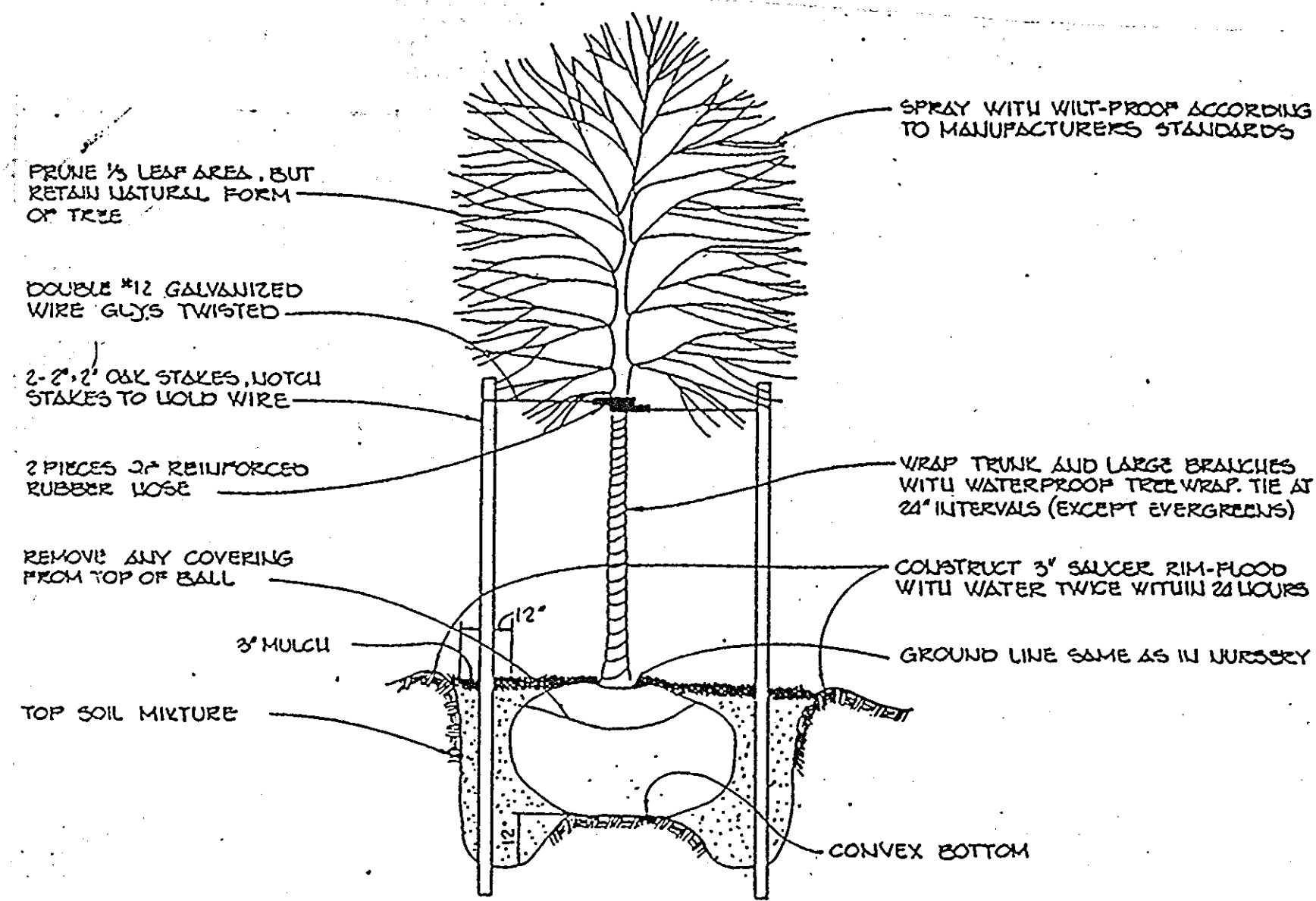
AREA: TAX MAP 37 PARCEL 362 ZONED M-1 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: SUPPLEMENTAL INFORMATION PLANTING PLAN

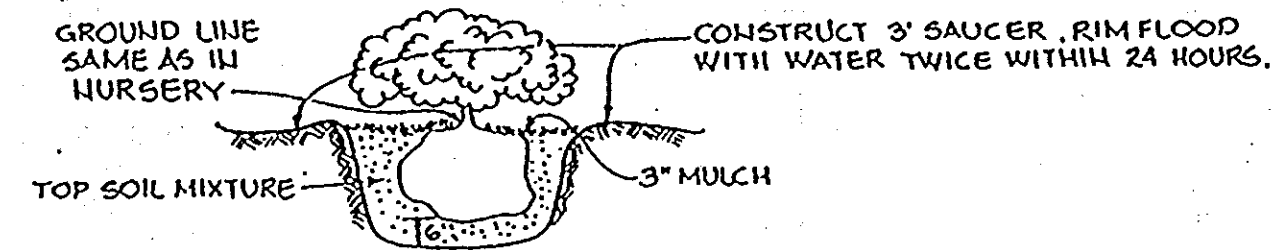
RIEMER MUEGGE & ASSOCIATES, INC. PLANNING, ENGINEERING, SURVEYING
 8818 Centre Park Drive Suite 200 Columbia, Md 21045
 410-997-8900 FAX: 410-997-9262

DESIGNED BY: DK
 DRAWN BY: ZK
 PROJECT NO: 83501
 DATE: 8/19/93
 SCALE: 1"=40'
 DRAWING NO. 2 OF 4

SDP91-49



TREE PLANTING DETAIL N.T.S.



SHRUB PLANTING DETAIL

PLANTING SPECIFICATION AND NOTES

WETLAND PLANT SOILS

1. 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.
2. Topsoil mixture for all plant material: 200 lb dehydrated raw manure and ten 5.5 cu. ft. bale of peat humus to 12 cu. yds. of on site furnished topsoil. Composed sludge in the amount of 4.0 cu. yds., may be substituted for the raw manure, peat moss or peat humus.
3. All mixing shall be confined to the planting area and shall be accomplished to the satisfaction of the Engineer.

WETLAND PLANT ESTABLISHMENT

1. 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.
2. 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.
3. 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.
4. 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
5. B&B or 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.

PLANTING MATERIAL

1. Rootstock of wetland plant material shall be kept moist during the transport from the source to the job site and until planted.
2. 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 cramping.

GENERAL NOTES

A THREE (3) YEAR MAINTENANCE & REPLACEMENT WARRANTY SHALL BE REQUIRED. THE MITIGATION AREA MUST BE ASSESSED BY RIEMER MUEGGE & ASSOCIATES, INC. TO DETERMINE AN 85% SURVIVAL RATE AT THE END OF THE THREE YEAR PERIOD. PLANT SUBSTITUTIONS MAY ONLY BE MADE UPON APPROVAL BY RIEMER MUEGGE & ASSOCIATES, INC. PLANTING LOCATIONS ARE TO BE AS SHOWN UNLESS AUTHORIZED BY RIEMER MUEGGE & ASSOCIATES, INC.

PERMANENT SEEDING

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

Soil Amendments: Use one of the following schedules.

Lime 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.

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 LBS/1000 SF) and 800 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)
- 2) 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 discing operation should be on the contour wherever feasible. No attempt should be made to drag any disced area to make the soil surface smooth after discing.

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 Weeping Lovegrass.

For the period October 16 thru February 28, protect alle by:
 Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
 Option (2) Use sod.
 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, disc, cultipacker seeder or hydroseeder (slurry includes seed and fertilizer) on a firm, moist seedbed. Maximum seeding depth should be 1/4 inch on clayey 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.

Repots - Inspect all seeded areas for failures and make necessary repots, replacements, and reseeding within the planting season, if possible.

- 1) If stand is inadequate for erosion control, overseed and fertilize using half of the rates originally applied.
- 2) If stand is over 50% damaged, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Mark S. McLaughlin 11/25/94
 DIRECTOR DATE

Anna Trummari 11/29/94
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

DATE NO. REVISION

OWNER/DEVELOPER
 WINCHESTER HOMES
 6305 IVY LANE
 SUITE 700
 GREENBELT, MD 20770
 301-489-1200

PROJECT: MEADOWRIDGE INDUSTRIAL PARK
 MITIGATION PLAN
 FOR PARCEL 'R' @ PARCEL E-1 & E-3

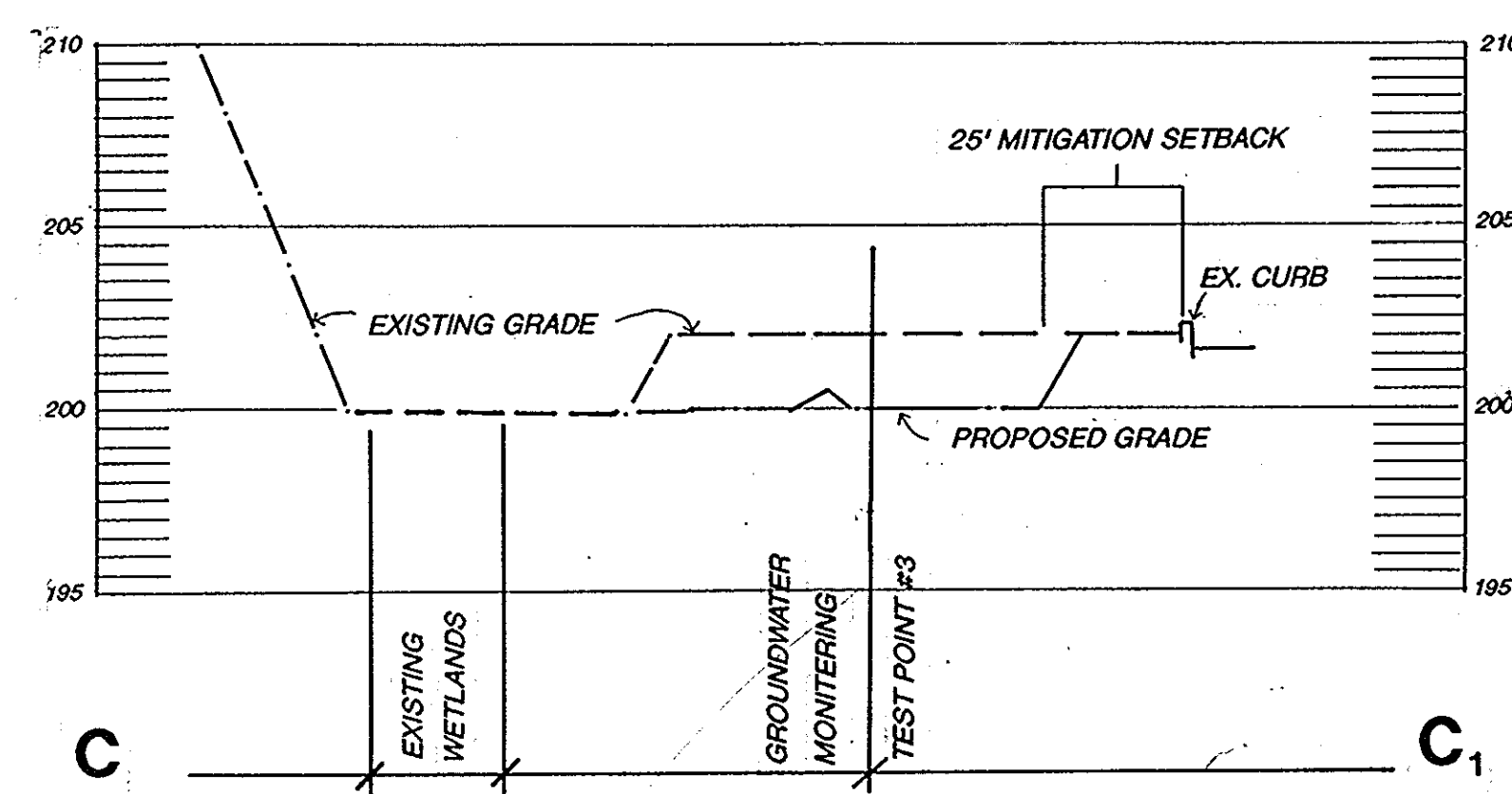
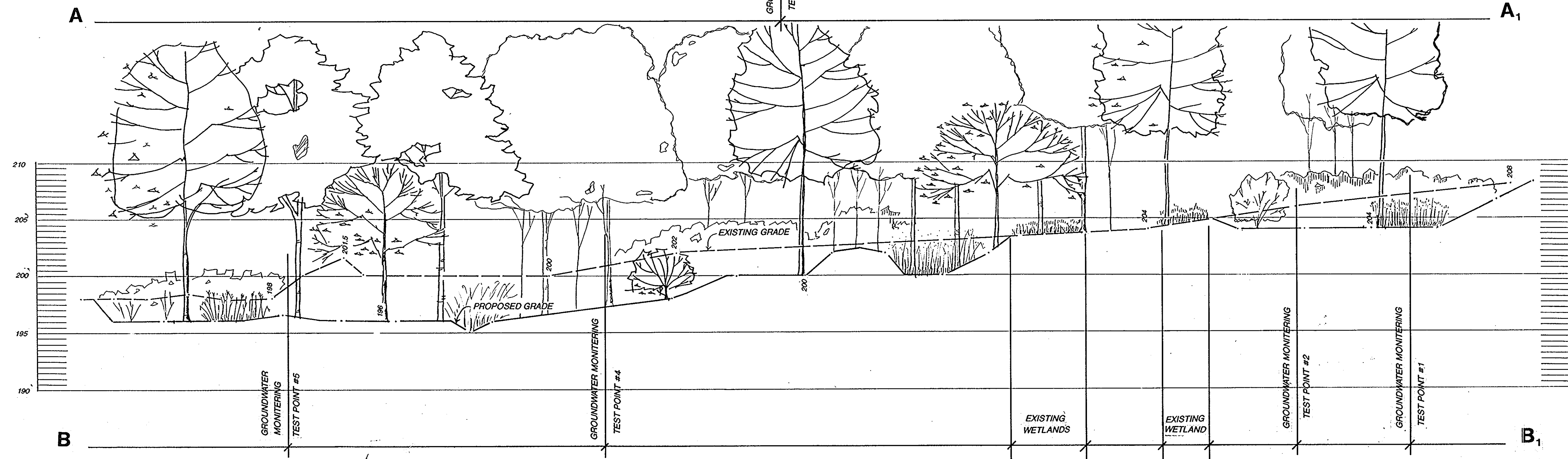
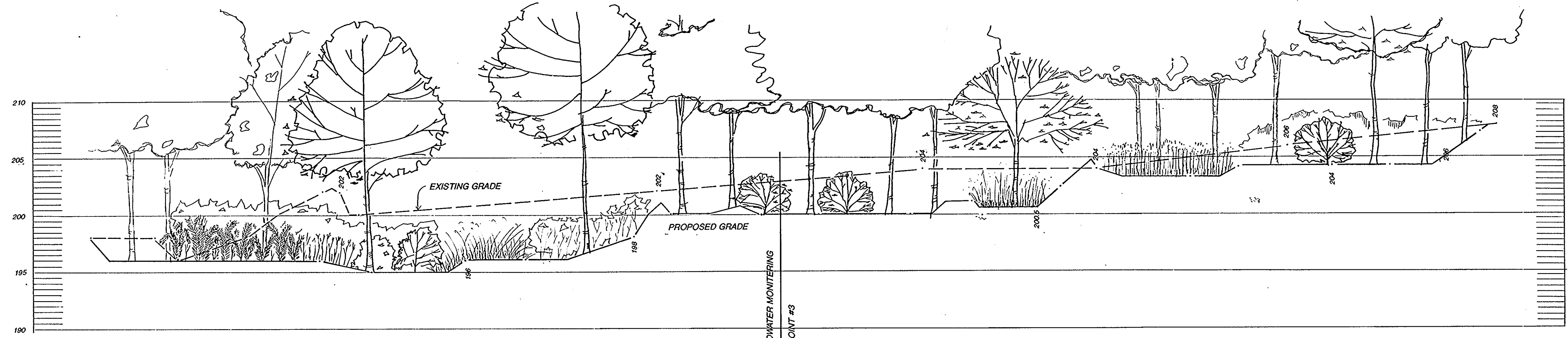
AREA TAX MAP 37 PARCEL 362 ZONED M-1
 1ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: SUPPLEMENTAL INFORMATION
 PLANTING DETAILS

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

11-29-94 DATE

DESIGNED BY:
 DRAWN BY:
 PROJECT NO: 83501
 DATE: 8/19/93
 SCALE:
 DRAWING NO. 3 OF 4



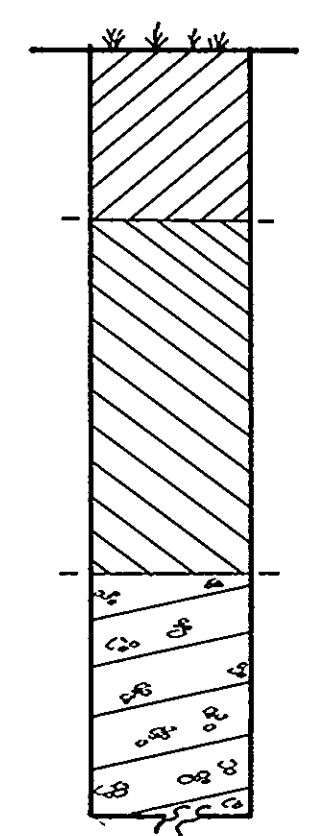
TEST POINT NO.	DEPTH TO GROUND WATER (1993)							
	4-27	5-4	5-10	5-18	5-24	6-2	6-7	6-16
1	4"	32"	-	-	-	-	-	-
2	15"	26"	14"	4"	18"	20"	10"	
3	11"	28"	22"	13"	17"	22"	18"	
4	24"	36"	34"	24"	22"	23"	24"	
5	7"	24"	28"	17"	28"	33"	28"	
6	0"	7"	10"	1"	12"	13"	10"	

DESIGN HYDROLOGY

The source of hydrology for the proposed mitigation will be ground water and direct precipitation. There is approximately one-half an acre of surface water contributing to the mitigation hydrology, however this runoff was not considered relevant to the design hydrology. Information obtained from eight (8) weeks of groundwater monitoring was utilized in establishing proposed ground elevations to support a diversity of hydrophytic plant materials. The finished elevations within the wetland replacement areas are at or below groundwater elevations as determined by piezometer readings from 4-27-93 to 6-15-93.

Several designed pool elevations for the wetland replacement are shown. The replacement area is designed so that soils are saturated at or near the surface. Some pools that are inundated to depths of 0-6" and pools that are inundated to depths of up to 1' have been included to add diversity. The majority of the wetland replacement area is to be in saturated soils with a maximum temporary pool elevation of less than 6". A 3" tolerance in final grades is acceptable.

Because of uncertainties associated with hydrology in wetland replacement, construction is based on hydrologic and geohydrologic study results. The created wetland areas are to be vegetated only after the hydrology stabilizes and elevations that control the wetland pool level have been adjusted, where necessary. (Refer to grading plan with significant spot elevations and the sections which graphically depict hydrologic relationships between existing and proposed conditions.)



SOIL PROFILE

6" to 12" - reddish brown to brown moist to wet sandy silt with clay (water may be perched or stand within the strata over the light grey clay).

24" to 36" - light grey moist plastic/moist sandy clay - No water within the clay, water is below clay as ground water and above clay as perched water table.

Clayey reddish brown moist to wet sandy silt (mottled or marbled) - ground water occurs in this strata - some gravel (quartz fragments) found.

SCALE: VERTICAL: 1"=5'
HORIZONTAL: 1"=30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Frank V. Dwyer 1/30/94
DIRECTOR DATE

Ann Stumm 11/29/94
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

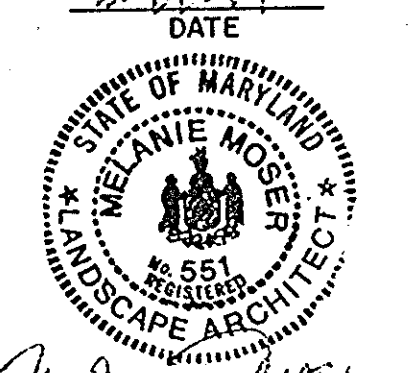
DATE	NO.	REVISION

OWNER/DEVELOPER
WINCHESTER HOMES
6305 IVY LANE
SUITE 700
GREENBELT, MD 20770
301-489-1200

PROJECT: MEADOWRIDGE INDUSTRIAL PARK
MITIGATION PLAN
FOR PARCEL 'R' @ PARCEL E-1 & E-3
AREA: TAX MAP 37 PARCEL 362 ZONED M-1
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TITLE: SUPPLEMENTAL INFORMATION SECTIONS

RIEMER MUEGGE & 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: _____
DESIGNED BY: DK
DRAWN BY: ZK.
PROJECT NO: 83501
DATE: 8/19/93
SCALE: AS SHOWN
DRAWING NO. 4 OF 4



SDP.91.49