

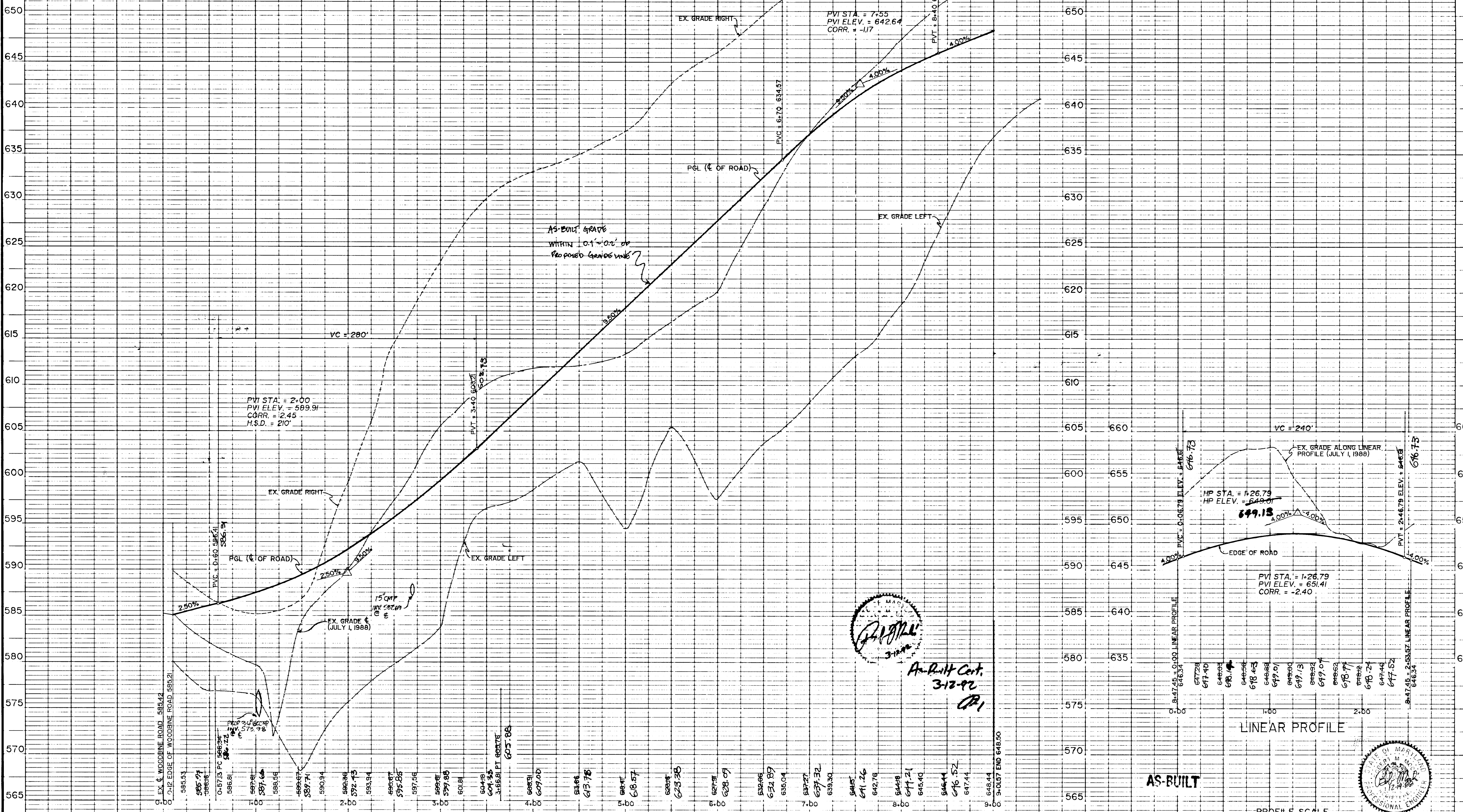
APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Emilio Lopez 9/26/89
CHIEF, LAND DEVELOPMENT DIVISION DATE

Francisco W. Welton 9/14/89
CHIEF, BUREAU OF HIGHWAYS DATE

John S. Ray 9-27-89
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
David J. ... 1/2/84
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



SOBRINA FARM COURT

project	date	description
88010.00	NOV. 1988	engineering
LSM	CAM	approval
1" = 50'		scale

no.	description	revisions
1	AS-BUILT CHANGES - 8/85	
2	REVISED INVI. ELEV. OF 15' BCCAP	
3	REVISED AS-BUILT PRINT	
4	REVISED PER. HOW. CO. COMMENTS (7/1/89)	
5	SUBMITTED TO HO. CO. DPZ	
6		

SOBRINA FARMS SUBDIVISION
FORMERLY LOT 2 OF MONTGOMERY INDUSTRIAL PARK
TAX MAP 2 PARCEL 39
ELECTION DISTRICT No. 4 HOWARD COUNTY, MARYLAND
SOBRINA FARM COURT PROFILE

MILDBERG
JOCH & ASSOCIATES, INC.
ENGINEERS - SURVEYORS - PLANNERS
3300 North Ridge Road, Suite 235, Elliott City, Maryland 21045-3300
(301) 461-0078 D.C. Metro: (301) 691-5768

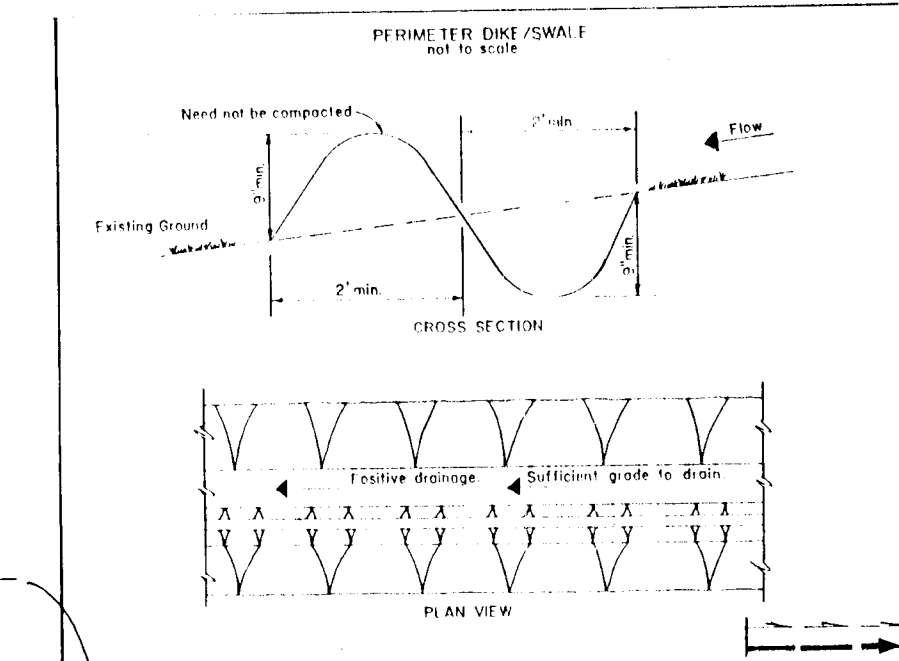
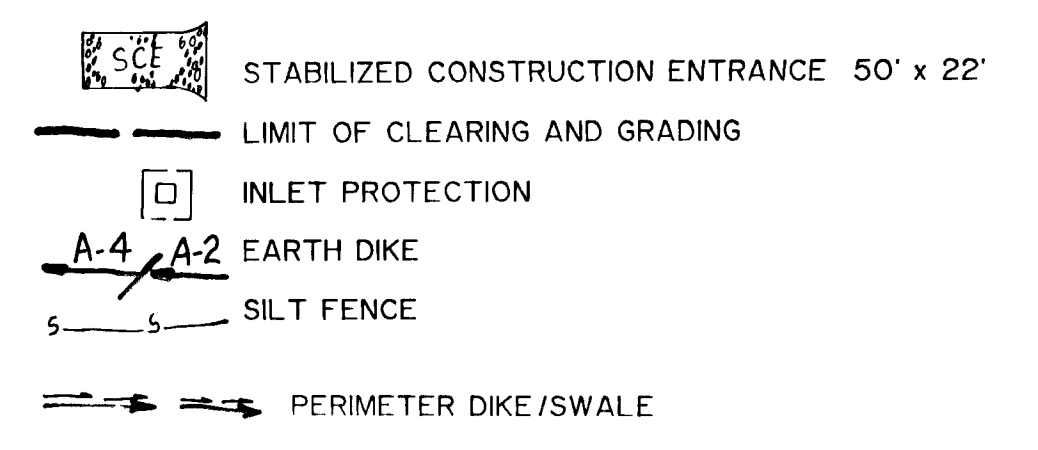
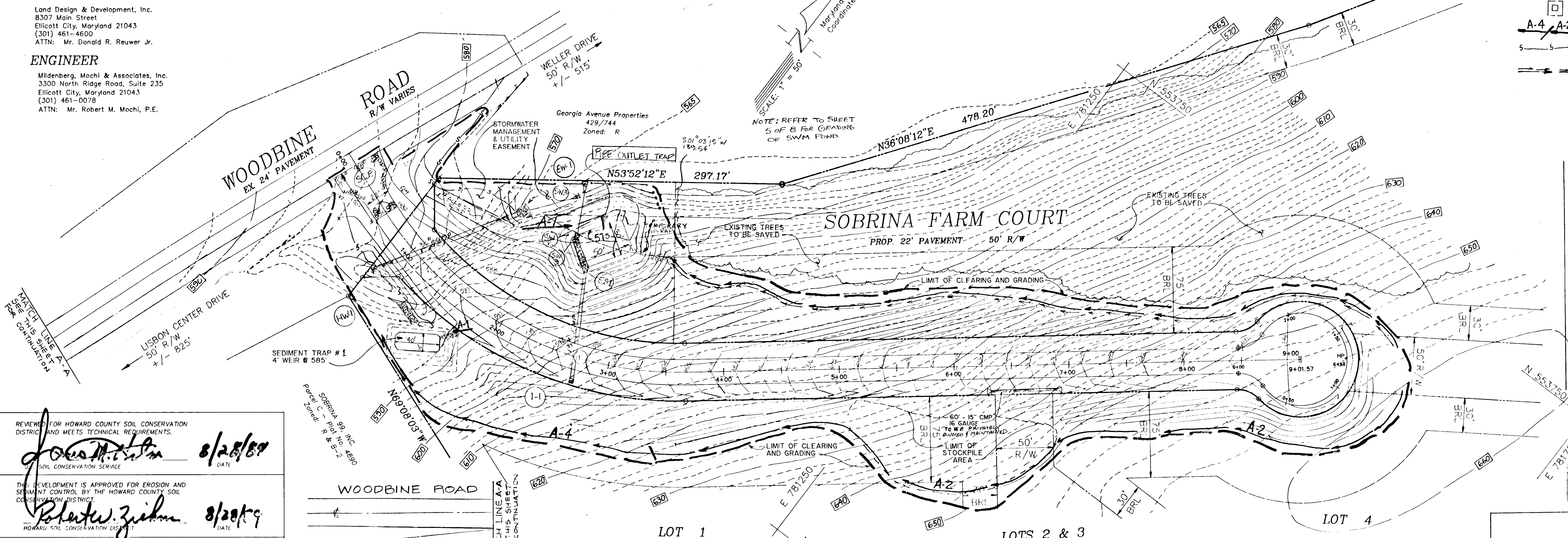
1471

137-14

OWNER
Sobrina 99, Inc.
c/o Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4600
ATTN: Mr. Erwin Gudelsky

DEVELOPER
Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4600
ATTN: Mr. Donald R. Reuser, Jr.

ENGINEER
Mildenberg, Mochi & Associates, Inc.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(301) 461-0078
ATTN: Mr. Robert M. Mochi, P.E.



1. All erosion control devices shall be constructed in accordance with the specifications herein.
2. Erosion control devices shall be installed in accordance with the specifications herein.
3. Erosion control devices shall be installed in accordance with the specifications herein.
4. Erosion control devices shall be installed in accordance with the specifications herein.
5. Erosion control devices shall be installed in accordance with the specifications herein.
6. Erosion control devices shall be installed in accordance with the specifications herein.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS:
John M. ... 8/28/89
DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT:
Robert M. Mochi, P.E. 8/28/89
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William R. ... 9/21/89
DATE

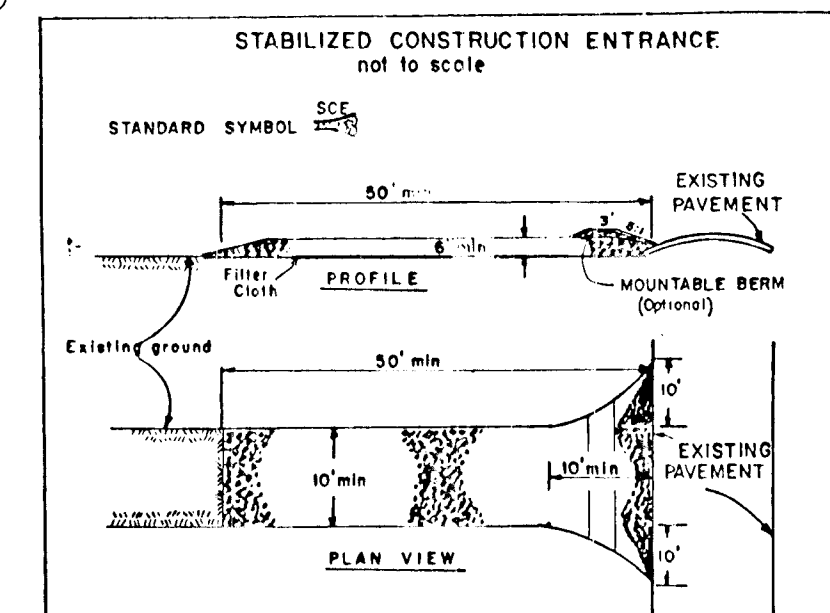
APPROVED: DEPT. OF PLANNING AND ZONING
Mark J. ... 11/2/89
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Ernie W. ... 9/26/89
DATE

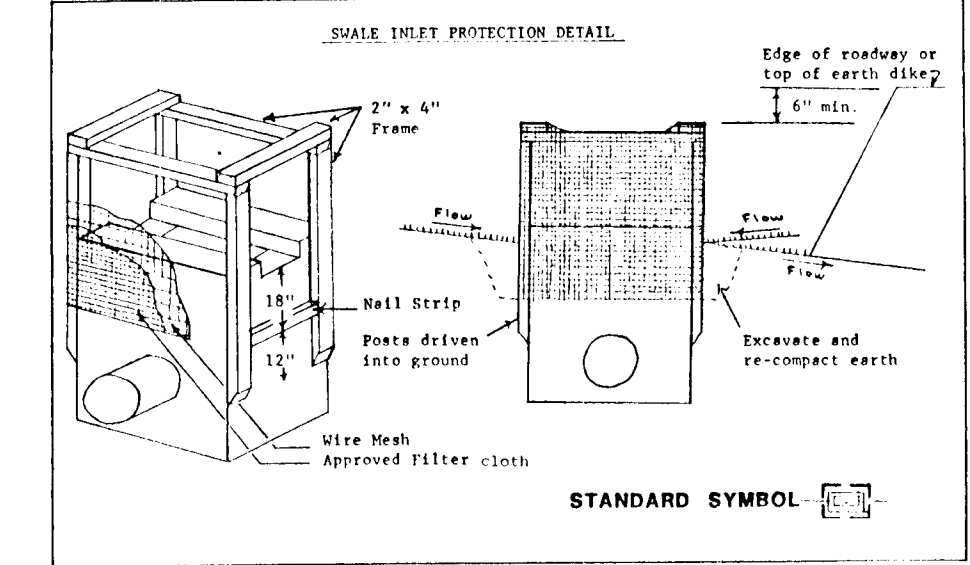
APPROVED: DEPT. OF PLANNING AND ZONING
Ernie W. ... 9/19/89
DATE

TEMPORARY SEDIMENT TRAP #4

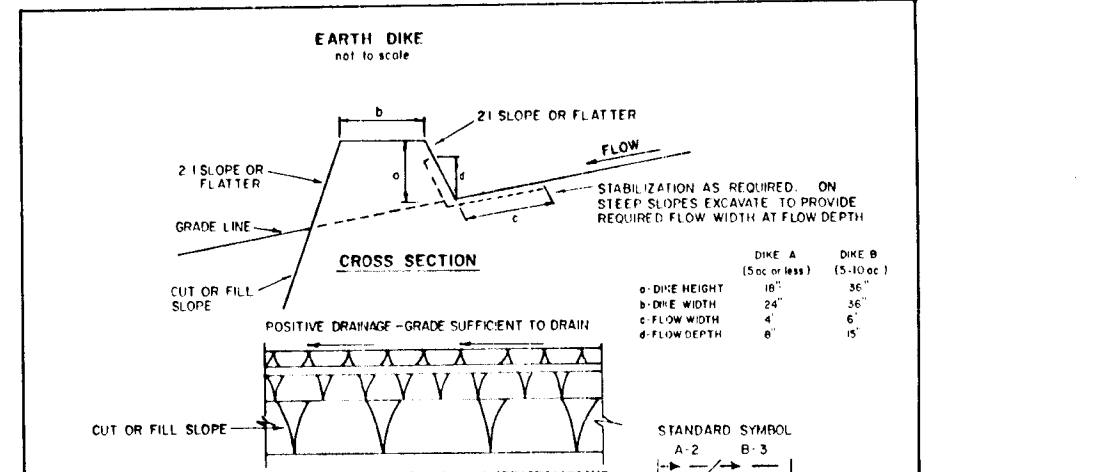
TYPE OF TRAP	ST-V
DRAINAGE AREA	1.45 AC
STORAGE REQUIRED	2000 H ₂ O
BOTTOM DIMENSIONS	15' x 40'
DEPTH	3.0 FT.
BOTTOM ELEVATION	± 0.86'
SIDE SLOPE	2:1
CREST ELEVATION	± 0.86'
WEIR LENGTH	± 6.0 FT.



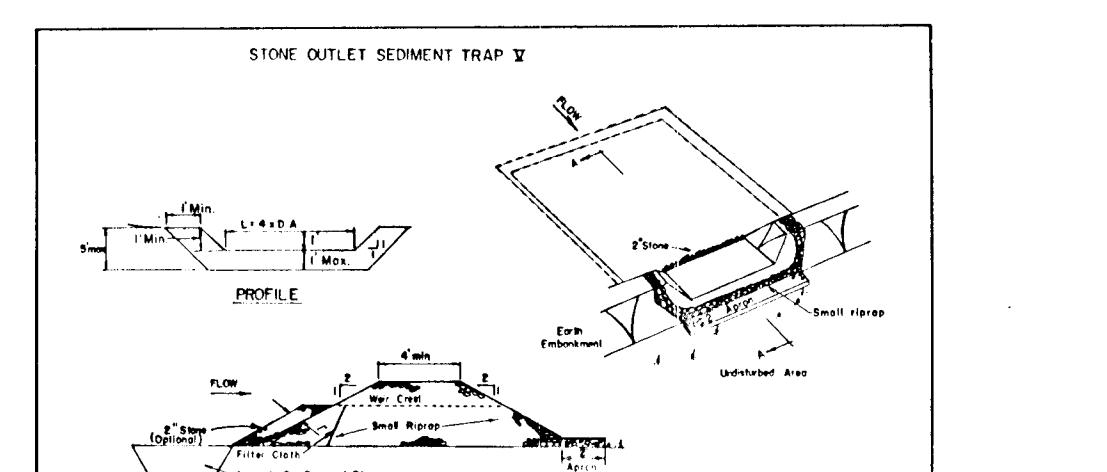
- CONSTRUCTION SPECIFICATIONS**
1. Stone size - use 3/4" stone, or equivalent or recycled concrete equivalent.
 2. Length - As required, but not less than 10 feet (except on a slope steeper than 1:1).
 3. Thickness - Not less than six (6) inches.
 4. Width - Two (2) foot minimum, but not less than the full width at points where ingress or egress occurs.
 5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter cloth shall be secured on a single family residence lot.
 6. Surface Water - All surface water flowing on diverted toward construction entrance shall be placed across the entrance.
 7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measure used to trap sediment. All sediment spilled, dropped, washed or tracked onto public right-of-way must be removed immediately.
 8. Washing - Vehicle shall be cleaned to remove sediment prior to entrance onto public right-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.
 9. Periodic inspection and needed maintenance shall be provided after each rain.



- CONSTRUCTION NOTES FOR STABILIZED SILT FENCE**
1. When wire fence is to be fastened securely to fence posts with wire ties or staples.
 2. Filter cloth to be fastened securely to stakes with wire ties or staples every 2' at top and mid section.
 3. When the sections of filter cloth are joined, the joints shall be overlapped by six inches and overlapped by six inches and overlapped by six inches.
 4. Maintenance shall be performed as needed to keep the silt fence in good working order.



- CONSTRUCTION SPECIFICATIONS**
1. All dikes shall be constructed by earthmoving equipment.
 2. All dikes shall have positive drainage to an outlet.
 3. Erosion control devices shall be installed in accordance with the specifications herein.
 4. Erosion control devices shall be installed in accordance with the specifications herein.
 5. Erosion control devices shall be installed in accordance with the specifications herein.
 6. Erosion control devices shall be installed in accordance with the specifications herein.
 7. Erosion control devices shall be installed in accordance with the specifications herein.



- CONSTRUCTION SPECIFICATIONS FOR ST-IV**
1. Area under embankment shall be cleared, graded and stripped of any vegetation and root mat.
 2. The fill material for the embankment shall be free of roots and other woody vegetation as well as any material that may be detrimental to the structure.
 3. The embankment shall be constructed by layering with equipment while it is being constructed.
 4. All cut and fill slopes shall be 2:1 or flatter.
 5. The stone used in the outlet shall be small stones 1/2" to 1" in diameter with a 1" thickness of 2" aggregate placed on the upstream side on the small stone to prevent filter cloth from being displaced.
 6. The structure shall be inspected after each rain and repairs made as needed.
 7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
 8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

ENGINEER'S CERTIFICATE
I hereby 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 County Soil Conservation District.
Robert M. Mochi, P.E. 12-15-88
Date

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this project will have a certificate of attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic on-site inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.
Ernie W. ... 12-15-88
Signature of Developer Date

- SEDIMENT CONTROL NOTES**
1. A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction. (SD-2437)
 2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control.
 3. Following initial soil disturbances or disturbances, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 calendar days as to all other disturbed or graded areas on the project site.
 4. All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for Permanent Seedings (Sec. 51) Sod (Sec. 54), Temporary Seeding (Sec. 52) and Mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
 5. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
 6. Site Analysis:
Total Area of Site: 62.7843 ACRES
Area to be Disturbed: 3.67 ACRES
Area to be roofed or paved: 0.47 ACRES
Area to be vegetatively stabilized: 3.20 ACRES
Total Cut: 6933 CY
Total Compacted Fill: 6734 CY
Off-Site Waste/Borrow Area Location: NOT APPLICABLE
 7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
 8. Additional sediment controls must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
 9. Note: unacceptably silts have been found on site. Suitable silts may be required to be brought in if acceptable material cannot be found.

- TEMPORARY SEEDING NOTES**
- Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
- Seeding Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened)
- Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf).
- Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushel per acre of annual ryegrass (3.2 lbs/1000 sf). For the period May 1 through August 14, seed with 3 lbs per acre of Weeping Lovegrass (0.7 lbs/1000 sf). For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.
- Refer to the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

- PERMANENT SEEDING NOTES**
- Apply to graded or cleared area not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seeding Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened)
- Soil Amendments: In lieu of soil test recommendations, use on the following schedules:
- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 600 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 (9 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.
- Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site 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 Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
- Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.
- Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

- SEQUENCE OF CONSTRUCTION**
1. Obtain grading permit.
 2. Construct Stabilized Construction Entrance.
 3. Construct Stone Outlet Trap and stabilize with temporary seeding.
 4. Construct Silt Fences and Earth Dikes. Stabilize Earth Dikes with temporary seeding.
 5. Construct Storm Drain Systems as shown on plan. Place Straw Bale Dikes or Silt Fences downgrade of daily construction activities before commencing work.
 6. Construct Inlet Protection device.
 7. Grade roads, construct paving, stabilize shoulders, ditch areas and side slopes with permanent seed and mulch. Stabilized Construction Entrance may be removed with approval of Sediment Control Inspector to facilitate paving activities.
 8. All sediment shall be removed from sediment traps when cleanout elevations have been reached.
 9. Inspect all sediment control devices daily and after each rainfall. Repair as necessary.
 10. Upon stabilization of all contributing areas to sediment control devices, and with approval from the SEDIMENT CONTROL INSPECTOR, REMOVE DEVICES. DISTURBED AREAS SHALL BE PROVIDED WITH PERMANENT SEEDING & MULCH.

Project No.	88010.00
Date	NOV. 1988
Illustration	Engineering
Scale	1" = 50'
Approval	ERM

Revised	12/14/89
By	ERM
For	ERM
Submitted to	ERM
Submitted by	ERM
Checked by	ERM
Drawn by	ERM
Scale	1" = 50'
Approval	ERM

SOBRINA FARMS SUBDIVISION
FORMERLY LOT 2 OF MONTGOMERY INDUSTRIAL PARK
TAX MAP 2 PARCEL 39
ELECTION DISTRICT No. 4 HOWARD COUNTY, MARYLAND
GRADING, SEDIMENT CONTROL PLAN & DETAILS

MILDENBERG, MOCHI & ASSOCIATES, INC.
CONSULTING ENGINEERS - EROSION CONTROL
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-1550
(301) 461-0078

1471

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Paul D. [Signature] 2/26/87
CHIEF, LAND DEVELOPMENT DIVISION DATE

Francis W. [Signature] 9/1/87
CHIEF, BUREAU OF HIGHWAYS DATE

Richard [Signature] 9-17-87
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT.
OF PLANNING AND ZONING

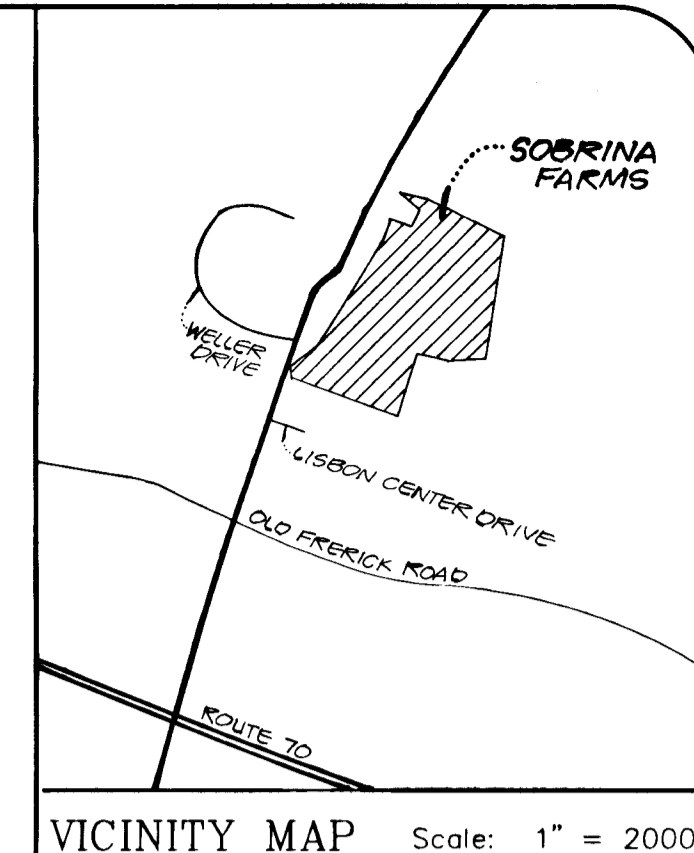
Richard [Signature] 9/1/87
CHIEF, DIVISION OF COMMUNITY PLANNING
AND LAND DEVELOPMENT DATE

COORDINATE TABLE

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4	781582.928	553420.522
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7	782374.402	553419.556
8	782634.402	553403.277
9	782894.059	553404.622
10	783154.044	553393.337
11	783414.116	553431.841
12	783674.090	553442.515
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15	784454.345	553407.891
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18	785234.144	553372.815
19	785494.045	553357.095
20	785754.045	553342.125
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CURVE DATA FOR SOBRINA FARM COURT RIGHT-OF-WAY

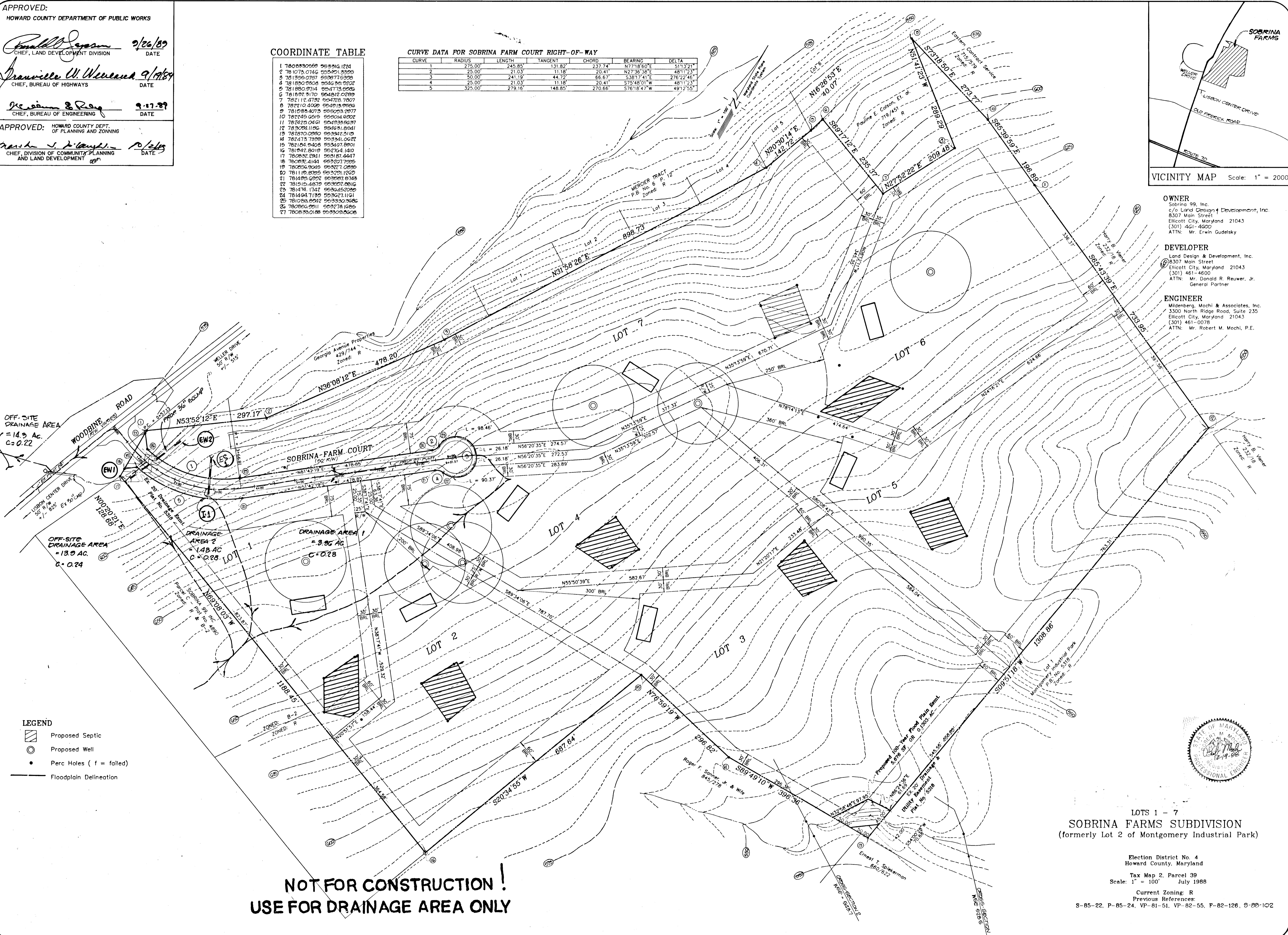
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	275.00'	245.85'	131.82'	237.74'	N77°18'60"E	51°13'21"
2	25.00'	21.03'	11.18'	20.41'	N27°36'38"E	48°17'23"
3	50.00'	24.19'	11.18'	44.72'	S38°17'41"E	27°24'46"
4	25.00'	21.03'	11.18'	20.41'	S78°48'01"W	48°17'23"
5	325.00'	279.16'	148.85'	270.66'	S76°18'47"W	49°12'55"



OWNER
Sobrina 99, Inc.
c/o Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4600
ATTN: Mr. Erwin Gudelsky

DEVELOPER
Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4600
ATTN: Mr. Donald R. Reuwer, Jr.
General Partner

ENGINEER
Mildenberg, Mochi & Associates, Inc.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(301) 461-0078
ATTN: Mr. Robert M. Mochi, P.E.



LEGEND

- Proposed Septic
- Proposed Well
- Perc Holes (f = failed)
- Floodplain Delineation

NOT FOR CONSTRUCTION!
USE FOR DRAINAGE AREA ONLY

LOTS 1 - 7
SOBRINA FARMS SUBDIVISION
(formerly Lot 2 of Montgomery Industrial Park)

Election District No. 4
Howard County, Maryland

Tax Map 2, Parcel 39
Scale: 1" = 100' July 1988

Current Zoning: R
Previous References:
S-85-22, P-85-24, VP-81-51, VP-82-55, F-82-126, 9-88-102



project	date	description	revisions
881010-00	JULY, 1988	engineering	
		illustration	
		approval	
		scale	1" = 100'

REVISED AND LINE PRINT	9/17/87	DATE
REVISED FOR H.M. COMMENTS	5/11/88	DATE
REVISED SUBMITTAL	5/12/88	DATE
SUBMITTED TO PG. CO. OPZ	12/20/88	DATE
	0	
	0	

SOBRINA FARMS SUBDIVISION
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

STORM DRAINAGE AREA MAP

MILDENBERG, MOCHI & ASSOCIATES, INC.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metric (301) 571-5788

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Paul J. Sorenson 2/26/89
CHIEF, LAND DEVELOPMENT DIVISION

Erwin W. Cleveland 9/19/89
CHIEF, BUREAU OF HIGHWAYS

Deborah E. Raley 9-22-89
CHIEF, BUREAU OF ENGINEERING

APPROVED: DEPT. OF PLANNING AND ZONING

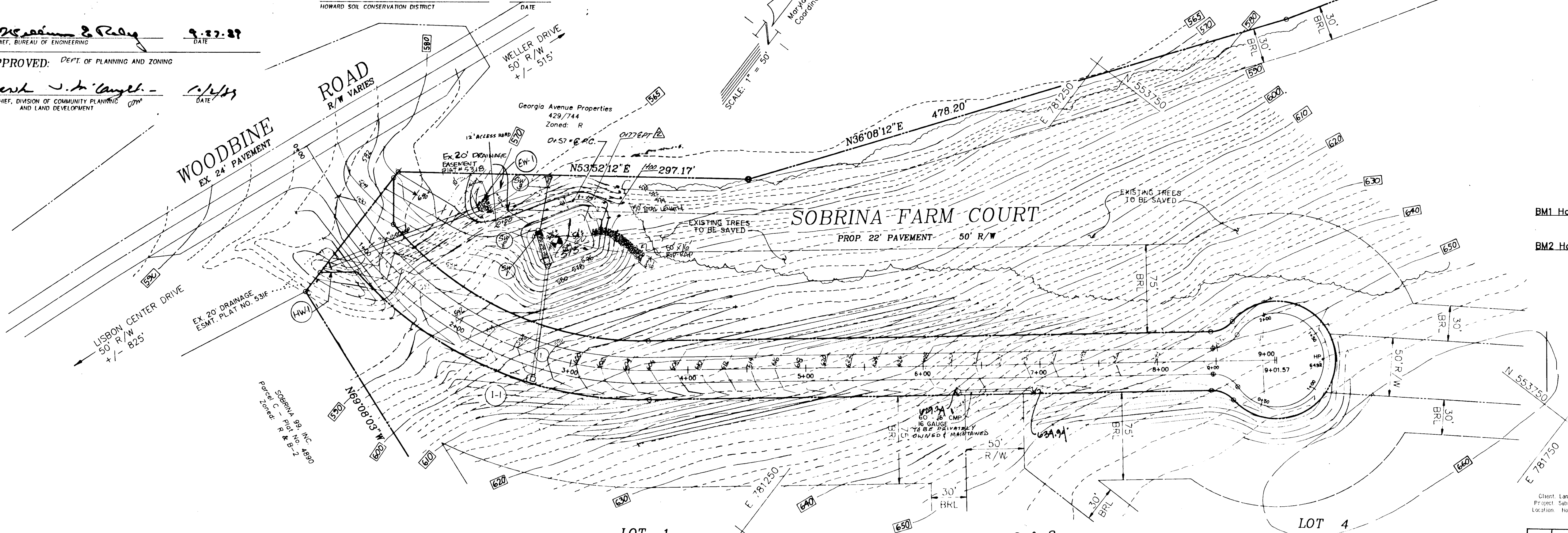
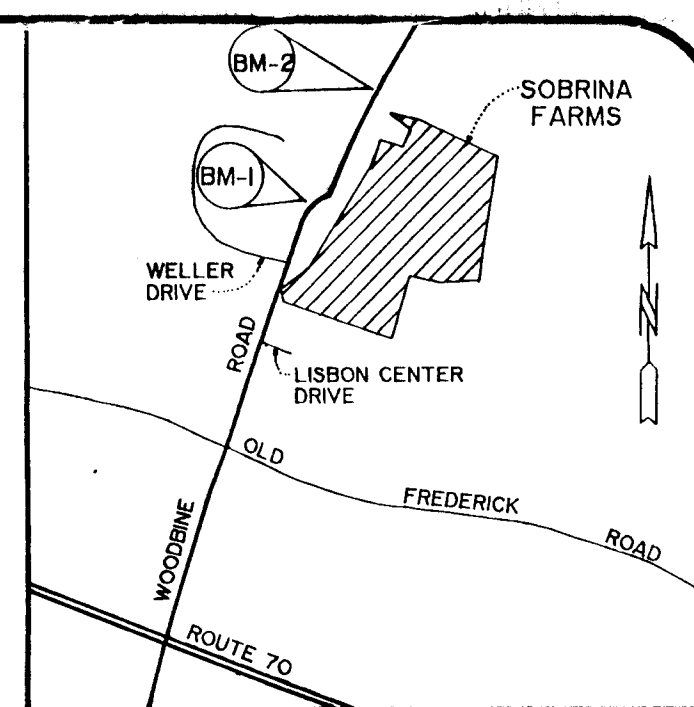
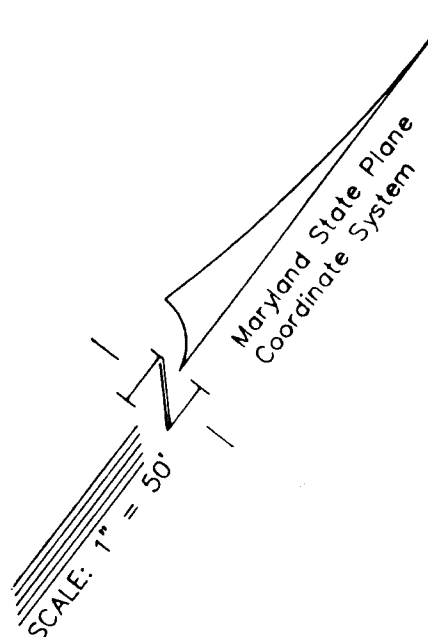
Mark J. Langell 1/1/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

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.

U.S. SOIL 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

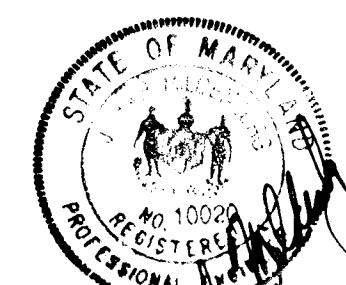
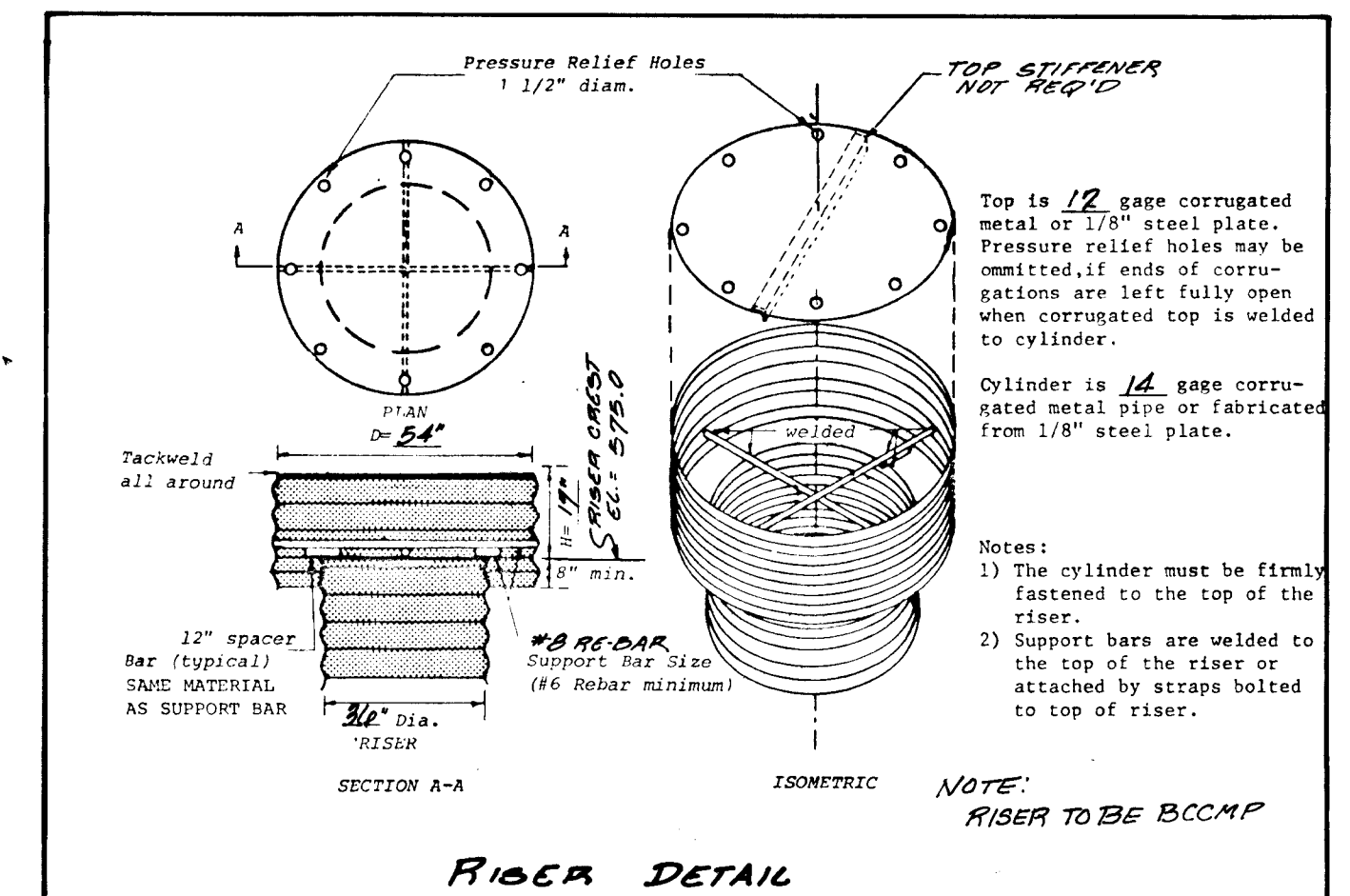
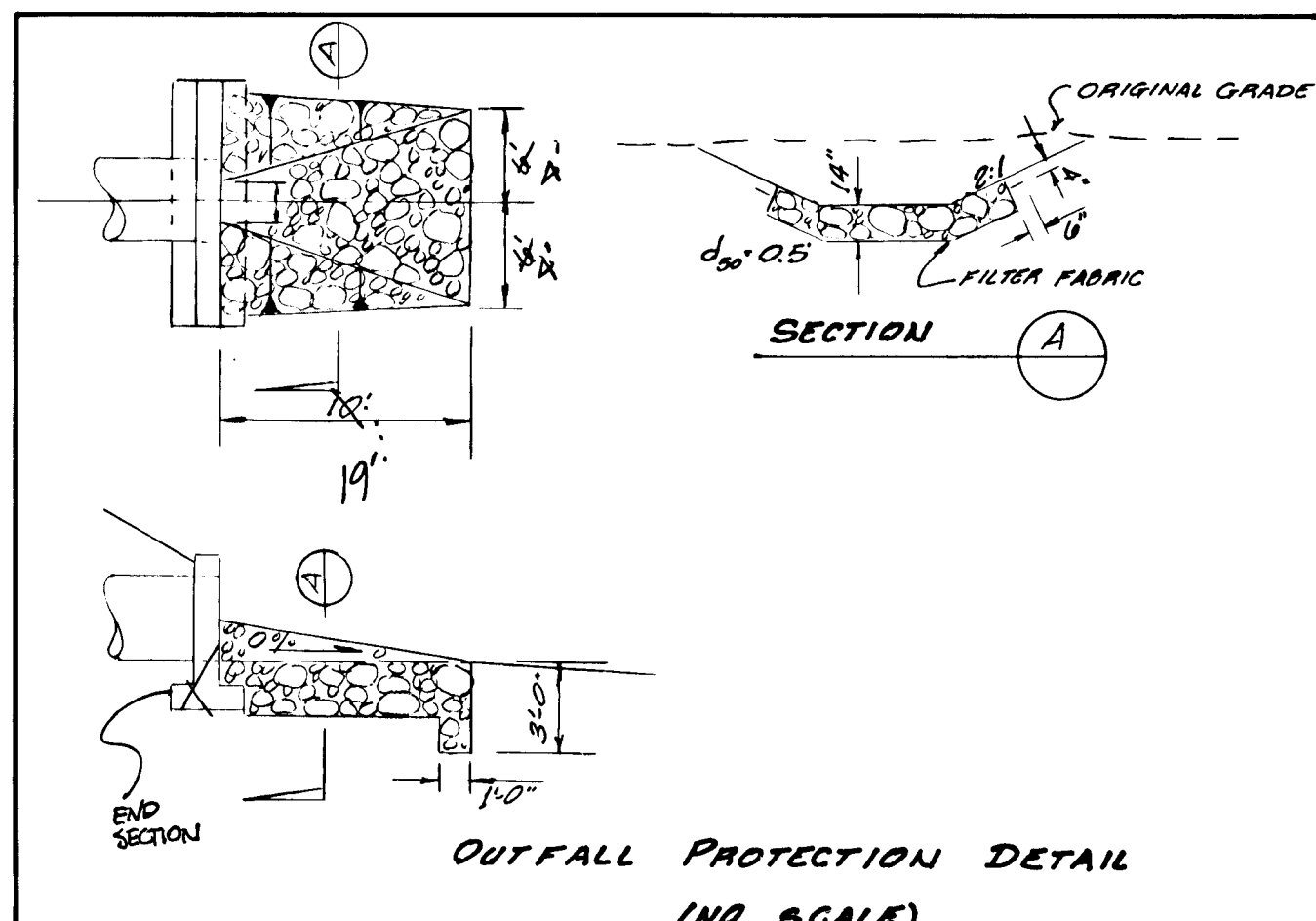
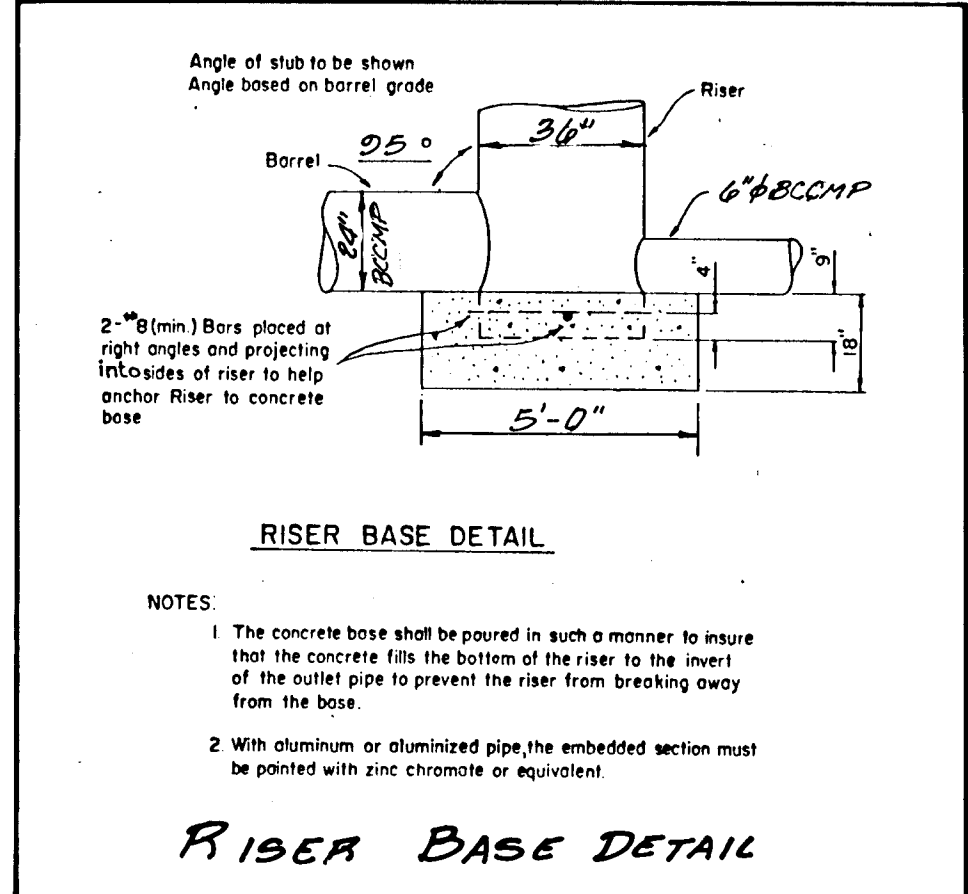
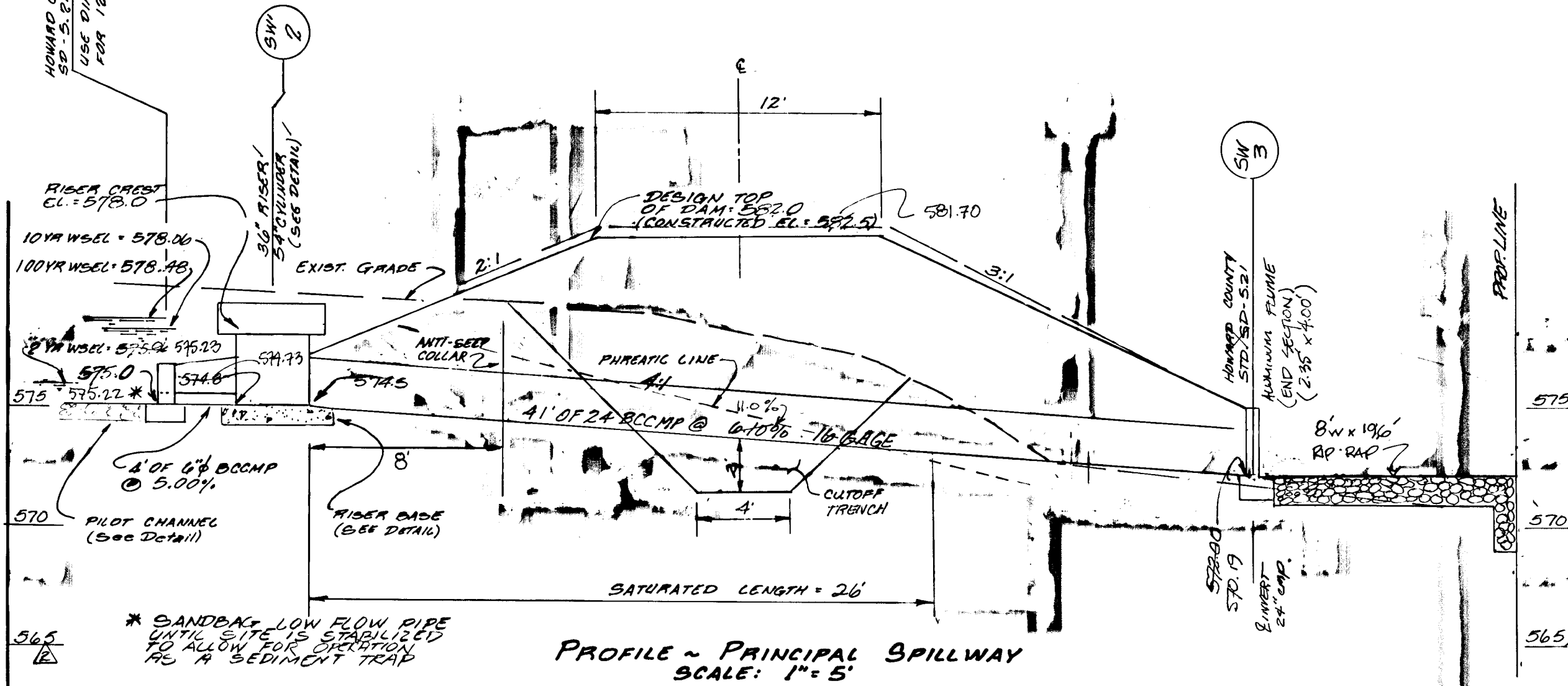
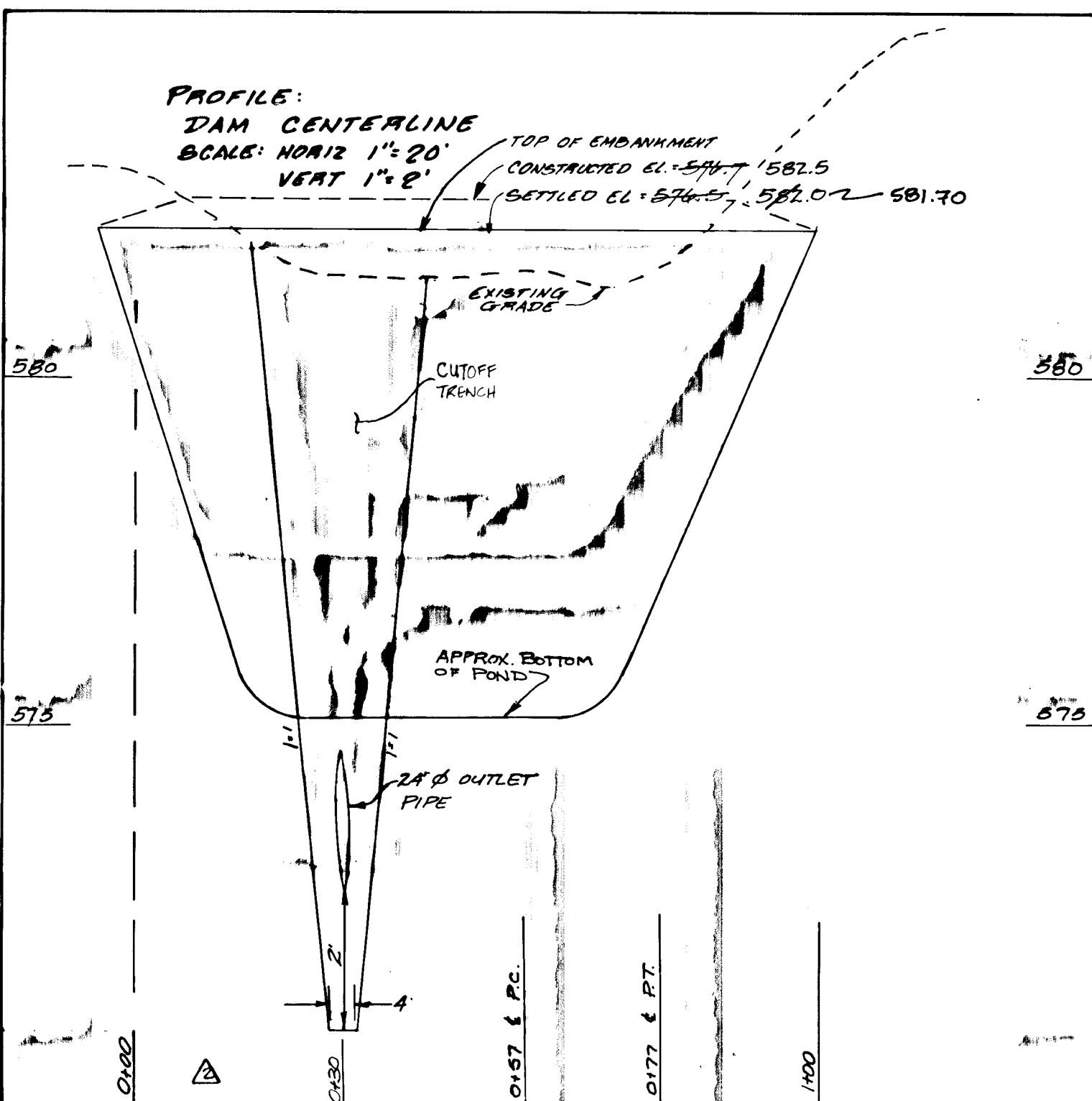
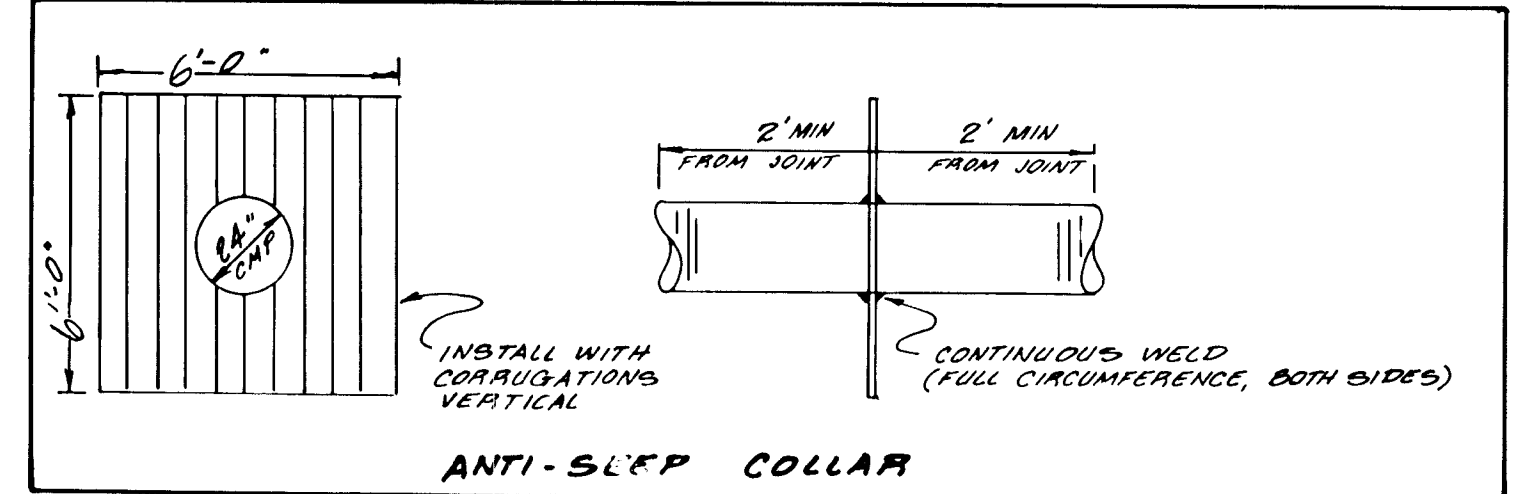


BM1 Ho. Co. No. 3931003 N 554365.055
E 781384.741
ELEVATION: 539.858'
BM2 Ho. Co. No. 3931002 N 555379.245
E 781822.027
ELEVATION: 506.843'

SOIL EXPLORATION LOG

ELEV.	DEPTH	CLASSIFICATION	REMARKS
579.0	1.0'	Topsoil 1.0'	
578.0	10.0'	Orange and Brown silty sand and decomposed rock fragments	
576.0	16.0'	Test pit terminated at 16.0'	
	18.0'	Backhoe refusal at 18.0'	

USE THIS SHEET FOR STORMWATER MANAGEMENT POND CONSTRUCTION ONLY!



Project date: NOV. 1988
Illustration: engineering
Scale: 1" = 50'

Revisions table with columns for No., Description, and Date.

SOBRINA FARMS SUBDIVISION
FORMERLY LOT 2 OF MONTGOMERY INDUSTRIAL PARK
TAX MAP 2, PARCEL 39
ELECTION DISTRICT No. 4, HOWARD COUNTY, MARYLAND
STORMWATER MANAGEMENT PLAN & PROFILE

M. HILDEBERG, OCHI & ASSOCIATES, INC.
3300 North Ridge Road, Suite 235, Ellicott City, Maryland, 21043-3350
(301) 461-0078, (301) 671-5768

STORMWATER MANAGEMENT CONSTRUCTION SPECIFICATIONS

1. GENERAL

Unless otherwise noted, all materials and construction shall conform to these plans and specifications, and to the following:

"Standard Specifications and Details for Construction" of the Howard County, Maryland, Department of Public Works, 1986 and as amended.

"Standard Specifications for Construction and Materials" of the Maryland State Highway Administration, 1982 and as amended.

"Standards and Specifications for Ponds" of the Soil Conservation Service of Maryland (MD-378), July 1981 and as amended.

2. SITE PREPARATION

Areas designated for borrow areas, 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 breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on these plans. Trees, brush and stumps shall be cut approximately level with the ground surface.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam or reservoir as directed by the Developer 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.

3. EARTHWORK AND EARTH FILL

3.1 Material

The earth fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable material. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased ten (10) percent above the design elevation (including freeboard) unless otherwise shown on the plans. All fill material shall meet the requirements of the Unified Soil Classifications CL or ML unless otherwise noted.

3.2 Placement

Areas on which earth fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in eight (8) inches maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.

3.3 Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed a minimum of four (4) complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture so that it can be formed into a ball without crumbling. If water can be squeezed out of the ball, it is too wet to compact properly. Each layer of fill shall be compacted as necessary to obtain ninety-five (95) percent of AASHTO T-99 and is to be certified by the Geotechnical Engineer.

3.4 Cutoff Trench

Where specified, a Cutoff Trench shall be excavated along or parallel to the centerline of the embankment as shown on these plans. The bottom width of the Trench shall be as shown on the drawings, with the minimum width being four (4) feet. The depth shall be as shown on the plans and shall be at least four (4) feet below existing grade. The side slopes of the Trench shall be 1:1 or flatter. The backfill material for the Cutoff Trench shall be compacted with equipment or rollers to assure maximum density and minimum permeability. Compact as outlined above to ninety-five (95) percent of AASHTO T-99 density. All Cutoff Trench backfill material shall meet the requirements of Unified Soil Classification SC or CL.

3.5 Structural Backfill

Backfill material to be placed adjacent to structures shall be of the type and quality conforming to that specified for the adjoining fill material. The backfill shall be placed in horizontal layers not to exceed four (4) inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely 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 (4) feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is compacted fill of twenty-four (24) inches or greater over the structure pipe.

4. PIPE CONDUITS

4.1 Corrugated Metal Pipe

Materials - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to all of the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around. Watertight coupling bands shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered watertight.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unsuitable soil is encountered, all such material shall be removed and replaced with suitable earth to provide adequate support.

Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

4.2 Reinforced Concrete Pipe

Materials - Reinforced concrete pipe conduits shall have a rubber gasket joint and shall equal or exceed ASTM Specifications C-361. An approved equivalent is AWWA Specification C-301.

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 the sides of the pipe at least ten (10) percent of its outside diameter with a minimum thickness of three (3) inches or as shown on the drawings.

Laying Pipe - Bell and spigot 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 line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.

4.3 Backfilling and Other Details

Backfilling shall conform to Structural Backfill as shown above. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

5. STRUCTURES

Concrete structures shall meet minimum requirements set forth in the Maryland State Highway Administration "Standards and Specifications for Construction and Materials," 1982, as amended, including:

5.1 Concrete

Section 918 (Portland Cement Concrete Mixtures), Mix No. 3

5.2 Reinforcement

Section 610 (Reinforcement for Concrete Structures)
Section 911 (Reinforcing Steel, Wire Rope and Wire Fabric)

In addition, reinforcing steel shall meet ASTM Specification A615, Grade 60. Steel angles, anchor bars and appurtenances shall be ASTM A36.

6. 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 in accordance with the specifications shown hereon and with the "1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control" as amended, immediately after finishing grading. All 2:1 slopes shall be sodded. Unless otherwise noted, all other disturbed areas shall be stabilized with permanent seeding.

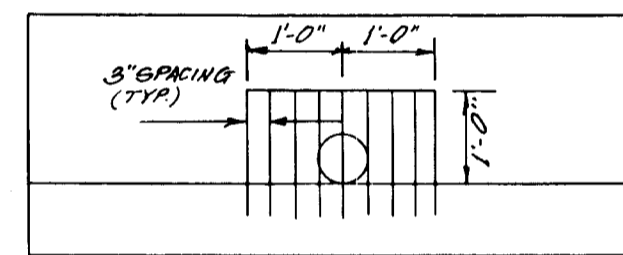
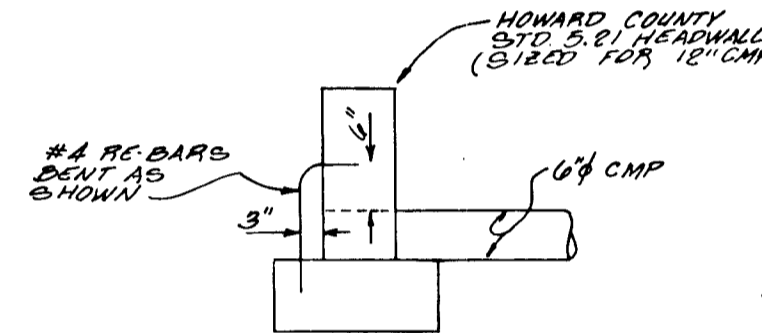
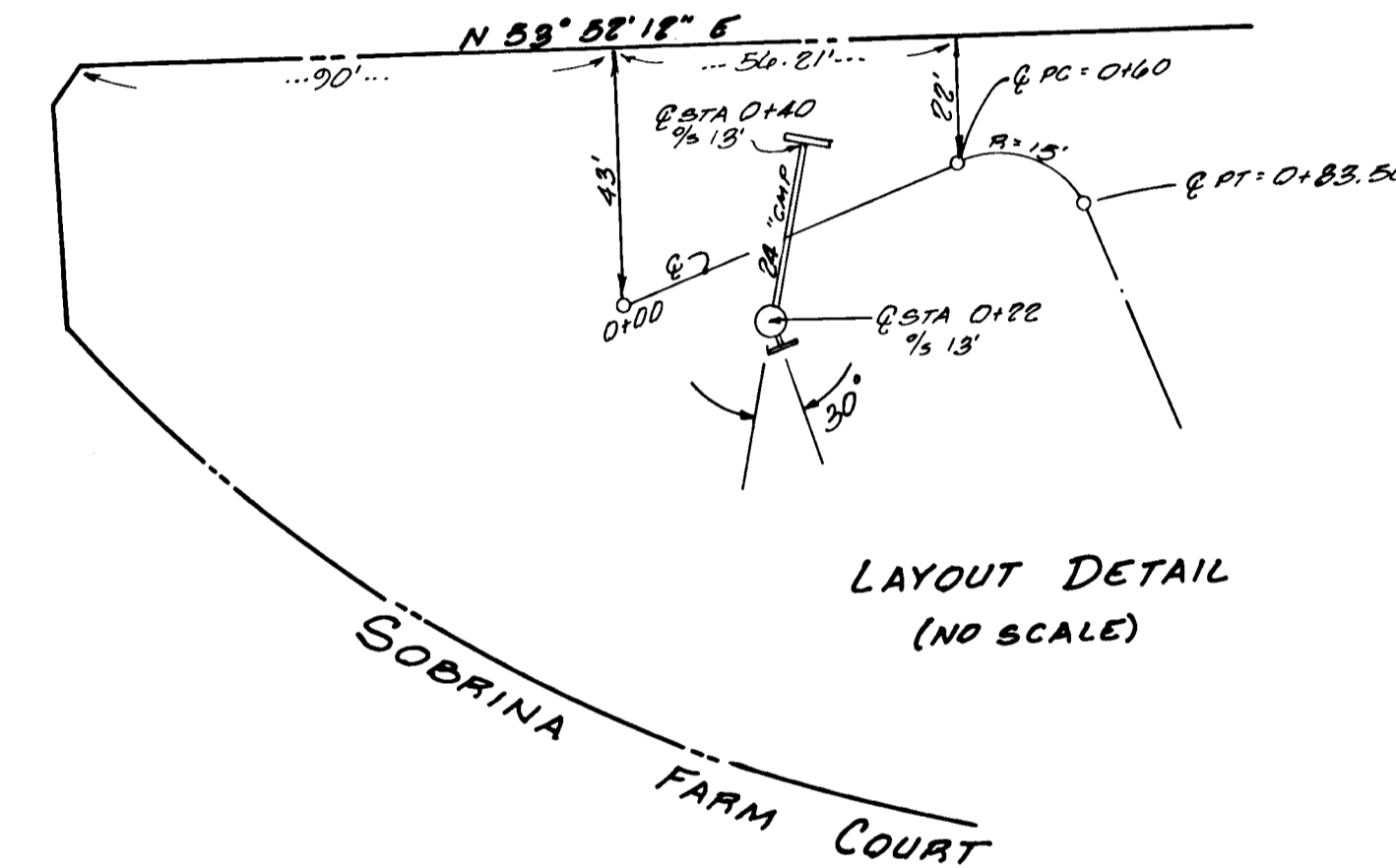
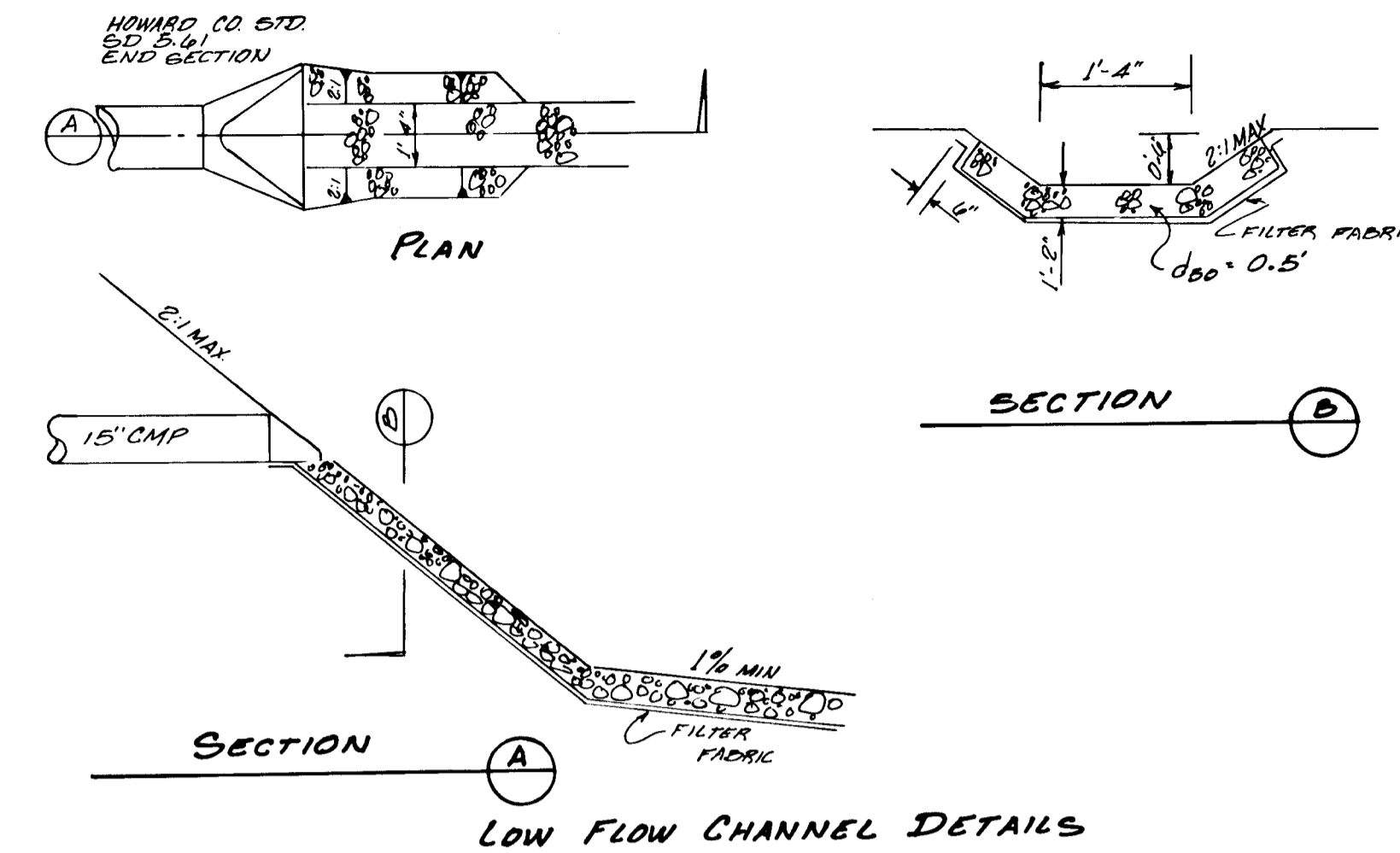
Fertilizer: 10-10-10 ● 11.5 lbs./1000 sq. ft.
Seed: Crownvetch inoculated ● 0.5 lbs./1000 sq. ft.
 KY-31 Tall Fescue ● 1.5 lbs./1000 sq. ft.
Mulch: Straw ● 80 lbs./1000 sq. ft.
Asphalt Tie-down: ● 8 gal./1000 sq. ft.
 Flat areas ● 5 gal./1000 sq. ft.

7. 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, as shown on these plans and as set forth in the "1983 Standards and Specifications for Soil Erosion and Sediment Control" of the Soil Conservation Service of Maryland, Howard County Soil Conservation District, as amended.

8. FILTER FABRIC

Where specified, MIRAF1 1405 or equivalent shall be used.

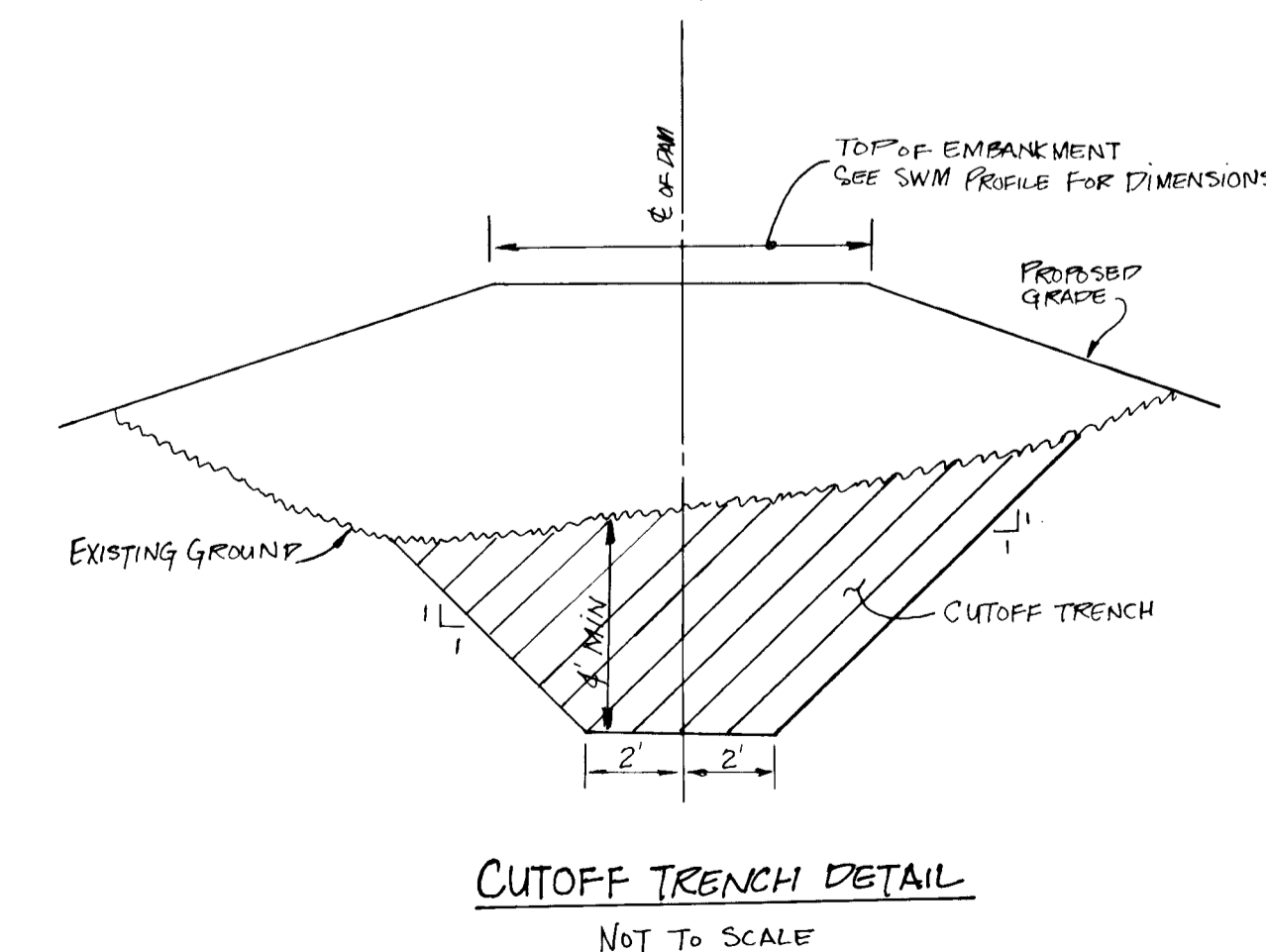


RUNOFF DESIGN DATA	
Drainage area to structure	3.9 AC
Soil group	B
Runoff curve number	0.62
Time of concentration	0.10

STRUCTURE DESIGN DATA	
Pond type	DETENTION
Top width	18 FT.
Type	EXHAUSTED
Location	URBAN
Structure class	A
Storage - height product	0.54 AC-FT

Total Discharge from Site			Discharge from SWM Pond		
Storm	Existing	Design	Q max.	Volume	Elevation
2 year	2.8	1.9	0.8	0.05 AC-FT	575.96
10 year	15.4	12.1	3.3	0.18 AC-FT	578.06
100 year	N/A	N/A	15.9	0.21 AC-FT	578.48

HYDROLOGIC CRITERIA	
Principal spillway	2 YR; 10 YR; 100 YR
Emergency spillway	N/A
Freeboard	N/A



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.

John M. Wilson 8/28/89
DISTRICT ENGINEER

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

Robert J. Zichner 8/28/89
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Donald E. Ryan 7/26/89
CHIEF, LAND DEVELOPMENT DIVISION

Draville W. Weiland 9/19/89
CHIEF, BUREAU OF HIGHWAYS

Ernest D. Ray 9-27-89
CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Frank J. Langley 10/14/89
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

ENGINEER'S CERTIFICATE

I CERTIFY 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 MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

John Mildenberg 5/23/89
JOHN MILDENBERG, P.E.

DEVELOPER'S CERTIFICATE

I HEREBY 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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Christine A. Richards 5-23-89
Signature of Developer Date

OWNER

Sabrina 99, Inc.
c/o Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4500
Attn: Mr. Erwin Gudelsky

DEVELOPER

Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-4600
ATTN: Mr. Donald R. Reuser Jr.

ENGINEER

Mildenberg, Mochi & Associates, Inc.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(301) 461-0078



project	88010.00	date	5/89
illustration	LSM	engineering	CAM
scale	AS SHOWN	approval	RMK

no.	1	date	12/14/89	description	REVISED POND
no.	2	date	9/17/89	description	REVISED HEADLINE PRINT
no.	3	date	7/24/89	description	REVISED PER SCS
no.	4	date	5/21/89	description	0 FIRST SUBMITTAL - PER DOW REQUEST

SOBRINA FARMS SUBDIVISION
FORMERLY LOT 2 OF MONTGOMERY INDUSTRIAL PARK
PARCEL 39
ELECTION DISTRICT NO. 4 HOWARD COUNTY, MARYLAND

STORMWATER MANAGEMENT NOTES & SPECIFICATIONS

MILDENBERG, MOCHI & ASSOCIATES, INC.
ENGINEERS - SURVEYORS - PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078

1471

F87-114

GENERAL NOTES

- Subject property is zoned - R
- Water and sewer systems shall be private.
- Area Tabulation:
Number of Lots: 7 lots
Area of Lots: 61.80 acres
Area of Public Road: 1.10 acres
Area of Floodplain: 0.10 acres
Gross Area of Tract: 69.20 acres
- Soils information taken from Map 2 of the Soil Survey, Howard County, Maryland, July, 1968
- Boundary Survey information based on a plat prepared by Boender Associates in March, 1982 and recorded as Plat 5318 on 11-19-82
- Topographic information based on County 200 sheets.
- Floodplain limits based on a study prepared by Mildenberg, Mochi & Associates, Inc., dated April 1988
- Woodbine Road is County maintained.
- Property Deed Reference: 810/579, Plat Reference: 5318.

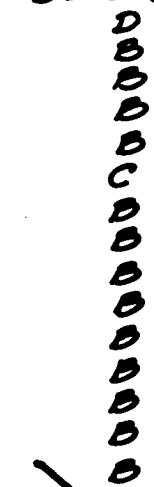
LEGEND

- Proposed Septic Area (10,000 S.F.)
- Proposed Well Location
- Proposed Soils Delineation
- Existing Perc Holes
- Proposed Perc Holes
- Floodplain Delineation

SOILS

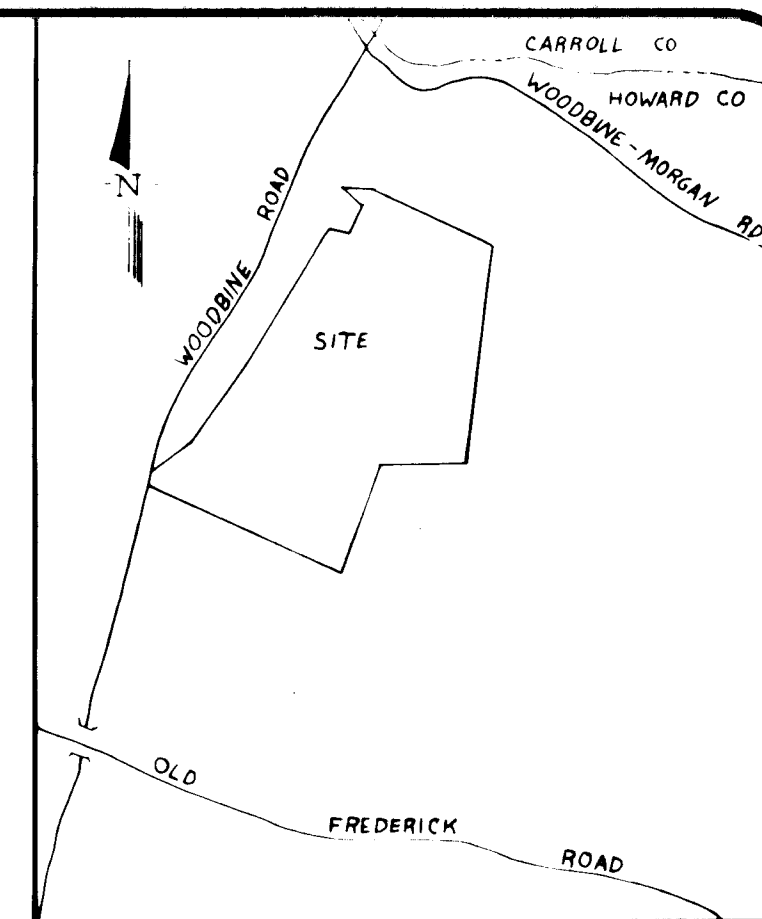
- Ba Baile Silt Loam
- CuB Comus Silt loam, local alluvium
- EnB2 Elsinboro loam
- EnC2 Elsinboro loam
- GIC2 Glenelg loam
- GnB2 Glenville Silt loam
- MIB2 Manor loam
- MIC3 Manor loam
- MIO3 Manor loam
- MIE2 Manor loam
- MIB2 Mount Airy channery loam
- MIC2 Mount Airy channery loam
- MIC3 Mount Airy channery loam
- MID2 Mount Airy channery loam
- MIE Mount Airy channery loam

SOIL GROUP



DRAINAGE AREA NO 1

DRAINAGE AREA NO 2



VICINITY MAP
SCALE 1" = 120'

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Paul D. Lapan 9/26/89
CHIEF, LAND DEVELOPMENT DIVISION DATE

David W. Clavess 9/19/89
CHIEF, BUREAU OF HIGHWAYS DATE

James B. Kelly 9-27-89
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPT. OF PLANNING AND ZONING

Mark St. Cyr 10/2/89
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

OWNER
Sobrina 99, Inc.
c/o Howard County Land Services, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 465-5855
ATTN: Mr. Erwin Guidelsky

DEVELOPER
Howard County Land Services, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 465-5855
ATTN: Mr. Donald R. Reuser, Jr.
General Partner

ENGINEER
Mildenberg, Mochi & Associates, Inc.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(301) 461-0078; (301) 621-5768
ATTN: Robert M. Mochi, P.E.



LEGEND

- WOODS
- MEADOW
- TC PATH

SOBRINA FARMS

Election District No. 4
Howard County, Maryland

Tax Map 2, Parcel 39

Scale: 1" = 100' April 1988

Current Zoning: R
Previous References: S-85-22; S-85-24

EXISTING CONDITIONS

SOBRINA FARMS SUBDIVISION

ELECTION DISTRICT NO. 4 HOWARD CO., MARYLAND

TAX MAP NO. 2 PARCEL NO. 39

STORMWATER MANAGEMENT / DRAINAGE AREA MAP

PROJECT NO.	8800 00	DATE	5/89
DESIGNED BY	JEM	APPROVAL	JEM
DRAWN BY	JEM	APPROVAL	JEM
CHECKED BY	JEM	APPROVAL	JEM
SCALE	1" = 100'	APPROVAL	JEM

NO.	1	DATE	5/12/89
DESCRIPTION	REVISED PER HOW. CO. COMMENTS		
REVISIONS	2. REVISED PER HOW. CO. COMMENTS		
	3. SUBMITTED TO COUNTY PER SAN REQUEST		

MILDENBERG, MOCHI & ASSOCIATES, INC.

ENGINEERS & SURVEYORS & PLANNERS

3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3590
(301) 461-0078 D. C. Metro: (301) 821-5768

1471

GENERAL NOTES

1. Subject property is zoned - R
2. Water and sewer systems shall be private.
3. Area Tabulation:
Number of Lots: 7 lots
Area of Lots: 61.80 acres
Area of Public Road: 1.10 acres
Area of Floodplain: 0.10 acres
Gross Area of Tract: 69.20 acres
4. Soils information taken from Map 2 of the Soil Survey, Howard County, Maryland, July, 1968
5. Boundary Survey information based on a plat prepared by Boender Associates in March, 1982 and recorded as Plat 5318 on 11-19-82.
6. Topographic information based on County 200 sheets.
7. Floodplain limits based on a study prepared by Mildenberg, Mochi & Associates, Inc. dated April 1983.
8. Woodbine Road is County maintained.
9. Property Deed Reference: 810/579, Plat Reference: 5318.

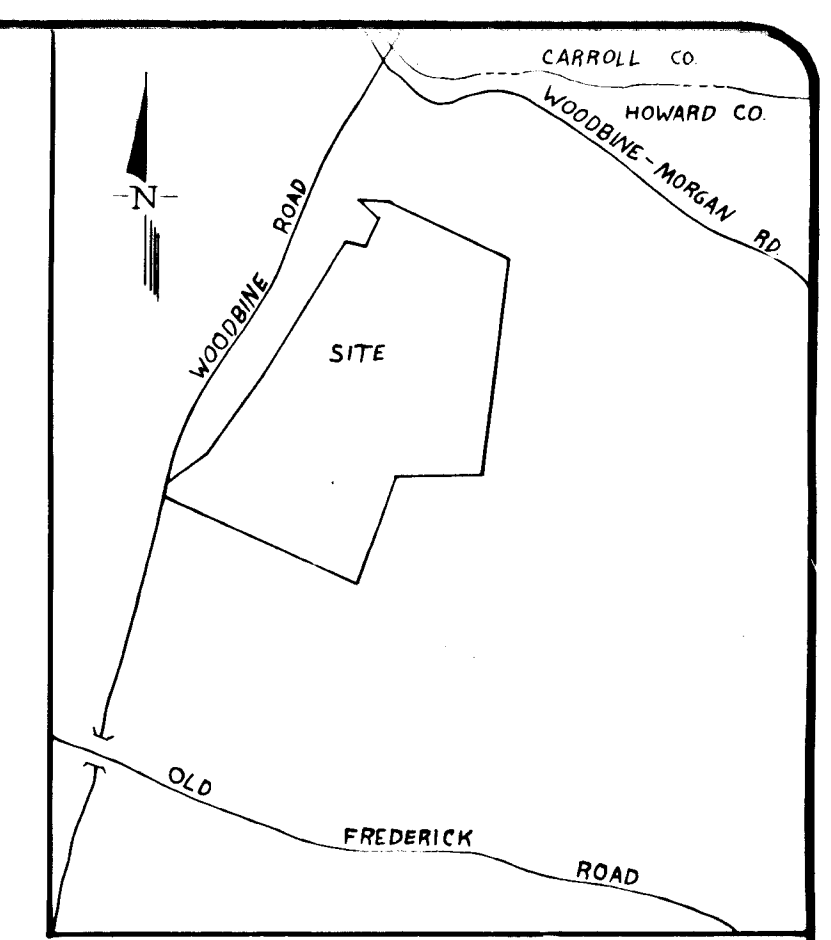
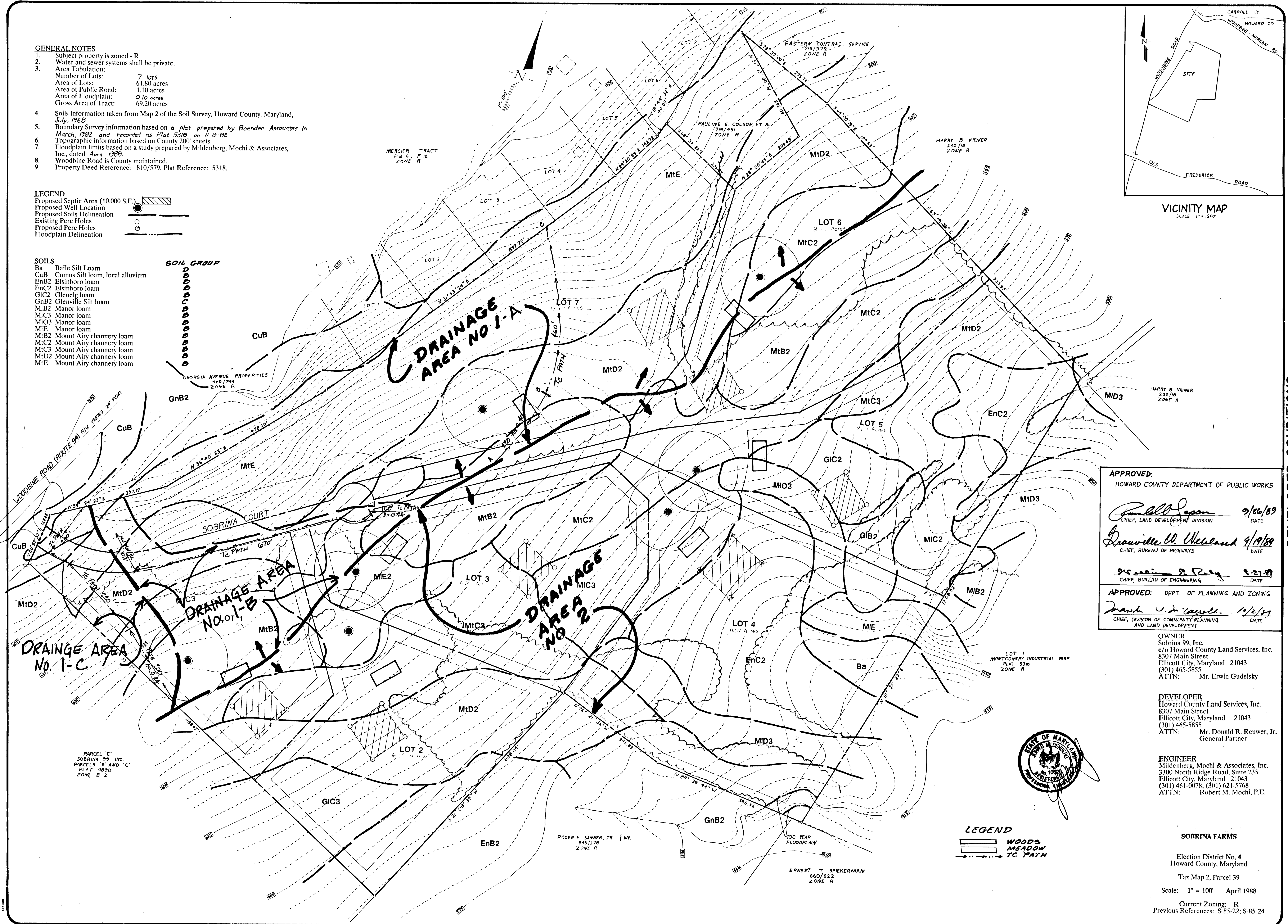
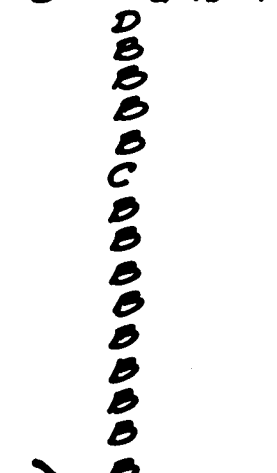
LEGEND

- Proposed Septic Area (10,000 S.F.) [Symbol]
- Proposed Well Location [Symbol]
- Proposed Soils Delineation [Symbol]
- Existing Perc Holes [Symbol]
- Proposed Perc Holes [Symbol]
- Floodplain Delineation [Symbol]

SOILS

- Ba Baile Silt Loam
- CuB Cornus Silt loam, local alluvium
- EnB2 Elsinboro loam
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- MID2 Mount Airy channery loam
- MIE Mount Airy channery loam

SOIL GROUP



APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Paul D. Seaman 9/26/89
CHIEF, LAND DEVELOPMENT DIVISION DATE

Graville W. Ueland 9/19/89
CHIEF, BUREAU OF HIGHWAYS DATE

Debra S. Ruby 9-27-89
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPT. OF PLANNING AND ZONING

Frank J. Campbell 10/2/89
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

OWNER
Sobrina 99, Inc.
c/o Howard County Land Services, Inc.
8307 Main Street
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ATTN: Mr. Erwin Gudelsky

DEVELOPER
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ATTN: Mr. Donald R. Reuser, Jr.
General Partner

ENGINEER
Mildenberg, Mochi & Associates, Inc.
3300 North Ridge Road, Suite 235
Ellicott City, Maryland 21043
(301) 461-0078; (301) 621-5768
ATTN: Robert M. Mochi, P.E.

SOBRINA FARMS

Election District No. 4
Howard County, Maryland

Tax Map 2, Parcel 39

Scale: 1" = 100' April 1988

Current Zoning: R

Previous References: S'85-22; S-85-24

Project	8800.00	Date	5/89
Prepared by	JEM	Checked by	JEM
Approved by	JEM	Scale	1" = 100'
Revision		Description	

Revised	9/26/89	By	JEM
Revised	9/19/89	By	JEM
Submitted	8/17/89	By	JEM
Submitted	5/89	By	JEM
Submitted		By	
Submitted		By	
Submitted		By	
Submitted		By	
Submitted		By	
Submitted		By	

DEVELOPED CONDITIONS

SOBRINA FARMS SUBDIVISION

ELECTION DISTRICT NO. 4 HOWARD COUNTY, MARYLAND

TAX MAP NO. 2 PARCEL NO. 39

STORMWATER MANAGEMENT / DRAINAGE AREA MAP

MILDENBERG, MOCHI & ASSOCIATES, INC.

3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078, (301) 621-5768

1471