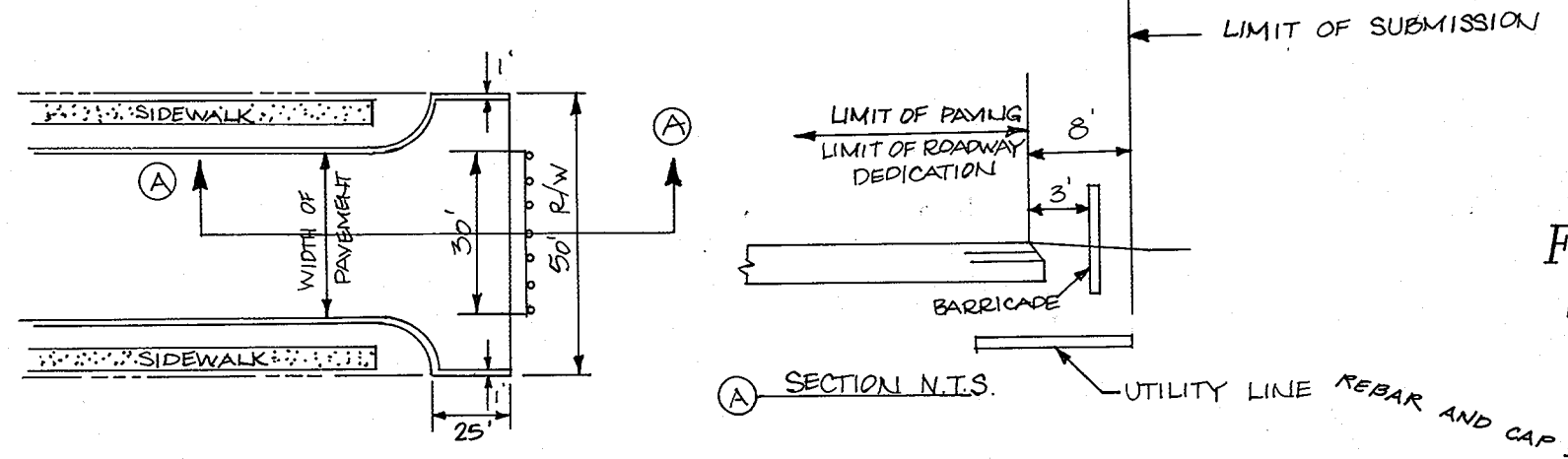


N 529250
E 834250

N 529000
E 834250



TEMPORARY TEE TURNAROUND DETAIL
NOT TO SCALE

Parcel 57
Nam Soon & Joee Choe
&
Hong Koo & Young Ja Lee
1097/778
Zoned: R

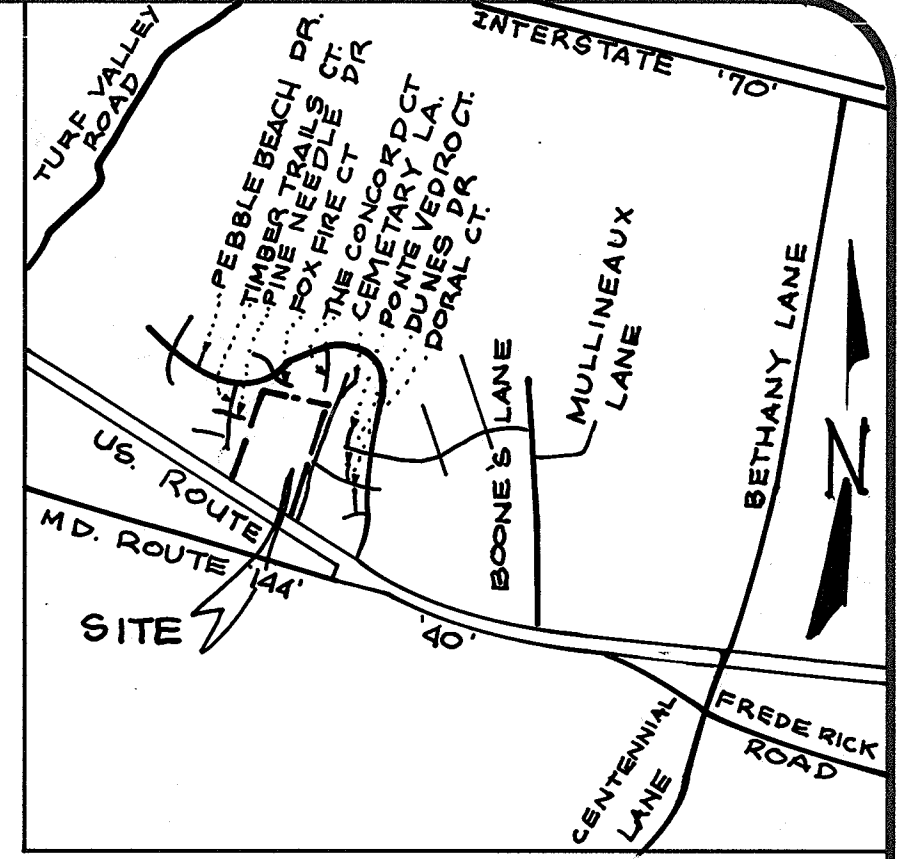
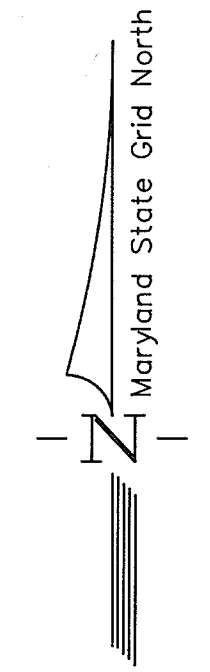
FOR PLAN AND PROFILE
SEE SHEET 2 OF 8

BENCHMARK 3440001 CONC. MON. B SURFACE 2' S. OF N. EDGE MAC SHOULDER OF WESTBOUND LANE OF R.T.E. 70, 242' W. OF W. END OF GUARDRAIL STA. IS 155 MILES EAST OF MARRIOTTVILLE RD.

BENCHMARK 3440002 CONC. MON. B SURFACE ON SLOPE, 3,000:1 W. OF BETHANY LANE, 14' S. OF MAC SHOULDER OF E. BOUND LANE, 485' E. OF E. END OF GUARDRAIL AT W. END OF 3/4 CUT.

BENCHMARKS
HOWARD COUNTY BM NO. 3440001
N 534735.478
E 836285.297
ELEV. 486.841

HOWARD COUNTY BM NO. 3440002
N 533583.800
E 837983.249
ELEV. 462.306



VICINITY MAP
Scale: 1" = 2000'

GENERAL NOTES

All work shall be done in accordance with Howard County Standards, Specifications and Details for Construction.

All utility companies must be notified in advance of any construction.

Storm drainage trenches within road rights-of-way shall be backfilled and compacted in accordance with Howard County Road Code.

Any damage to public rights-of-way or paving will be corrected at the contractor's expense.

Contractor to notify the Howard County Inspection and Survey Division at least three days before starting work shown on these drawings (Telephone: (301) 792-7272)

All traffic control devices shall be installed in accordance with the Manual of Uniform Traffic Control Devices, 1984 Revised Edition.

Location of existing utilities shall be verified by the contractor prior to starting any work shown on these drawings. Any damage to existing utilities will be corrected at the contractor's expense.

In accordance with the study performed by Exploration Research, dated Oct. 27, 1989, I hereby certify that to the best of my knowledge the proposed construction for the referenced project does not affect any non-tidal wetland areas.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John Damm 3/20/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

Francis W. Chesand 3/19/90
CHIEF, BUREAU OF HIGHWAYS DATE

William S. Day 3/20/90
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

Charles J. ... 3/20/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

DUNES DRIVE
Curve Data
STA. 6+64.67 to STA. 6+88.83

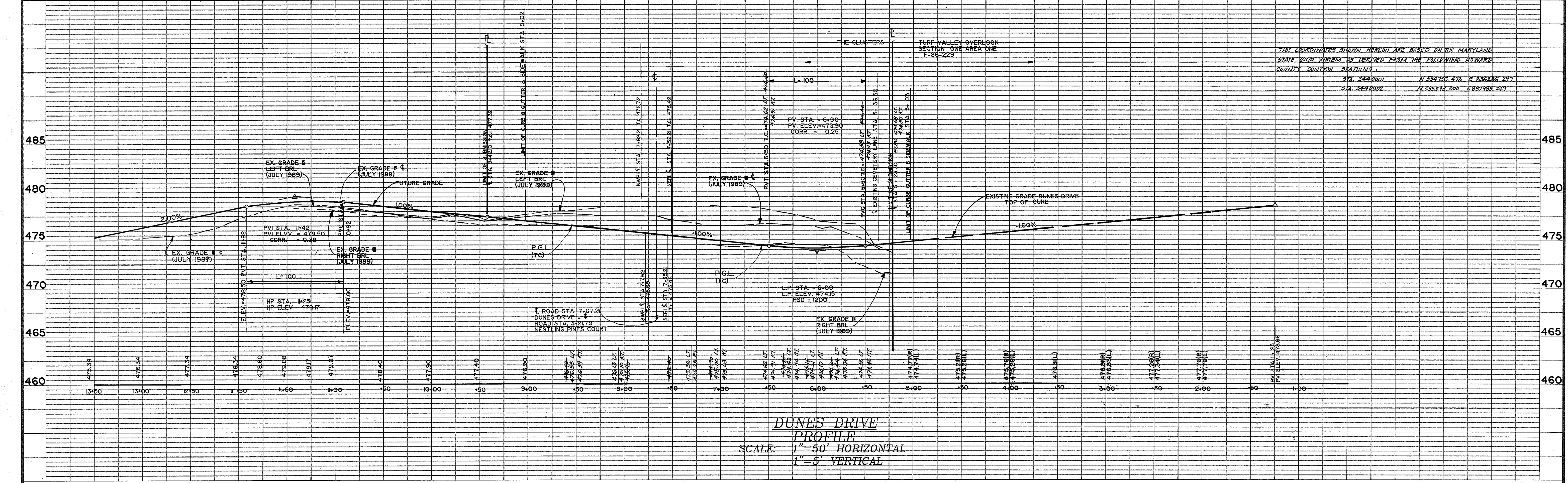
Radius = 500.00'
Length = 24.16'
Tan = 12.08'
Delta = 02°46'07"
Chord = N 71°30'59" W, 24.158'

Owner/Developer
Pedicord Property Development Corp.
c/o Land Design & Development Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-7100

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

FOR PLAN AND PROFILE
SEE SHEET 2 OF 8

DUNES DRIVE PLAN VIEW
SCALE: 1"=50'



DUNES DRIVE PROFILE
SCALE: 1"=50' HORIZONTAL
1"=5' VERTICAL

THE COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND STATE GRID SYSTEM AS DERIVED FROM THE FOLLOWING HOWARD COUNTY CONTROL STATIONS:

STA. 3440001	N 534735.478	E 836285.297
STA. 3440002	N 533583.800	E 837983.249

project date 89059-00 SEPT 1989
illustration engineering
CAM/LPR. CAM approval
scale 1" = 50'
JEM

REVISED COMMENTS PER JAN 31/1990 LETTER & SUBMIT FOR SIGNATURE APPROVAL 2/2/90
First submission to Howard County DPZ 10/27/89
description date
revisions

THE CLUSTERS
TAX MAP 16 PARCELS 101 & 58
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND
DUNES DRIVE PLAN & PROFILE

MILDENBERG, MOCHI & ASSOCIATES, INC.
ENGINEERS - ARCHITECTS - PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro: (301) 621-5766

1547

Project date 8/05/90
 Illustration CAM/LPR
 Scale 1" = 50'
 Approval JEM

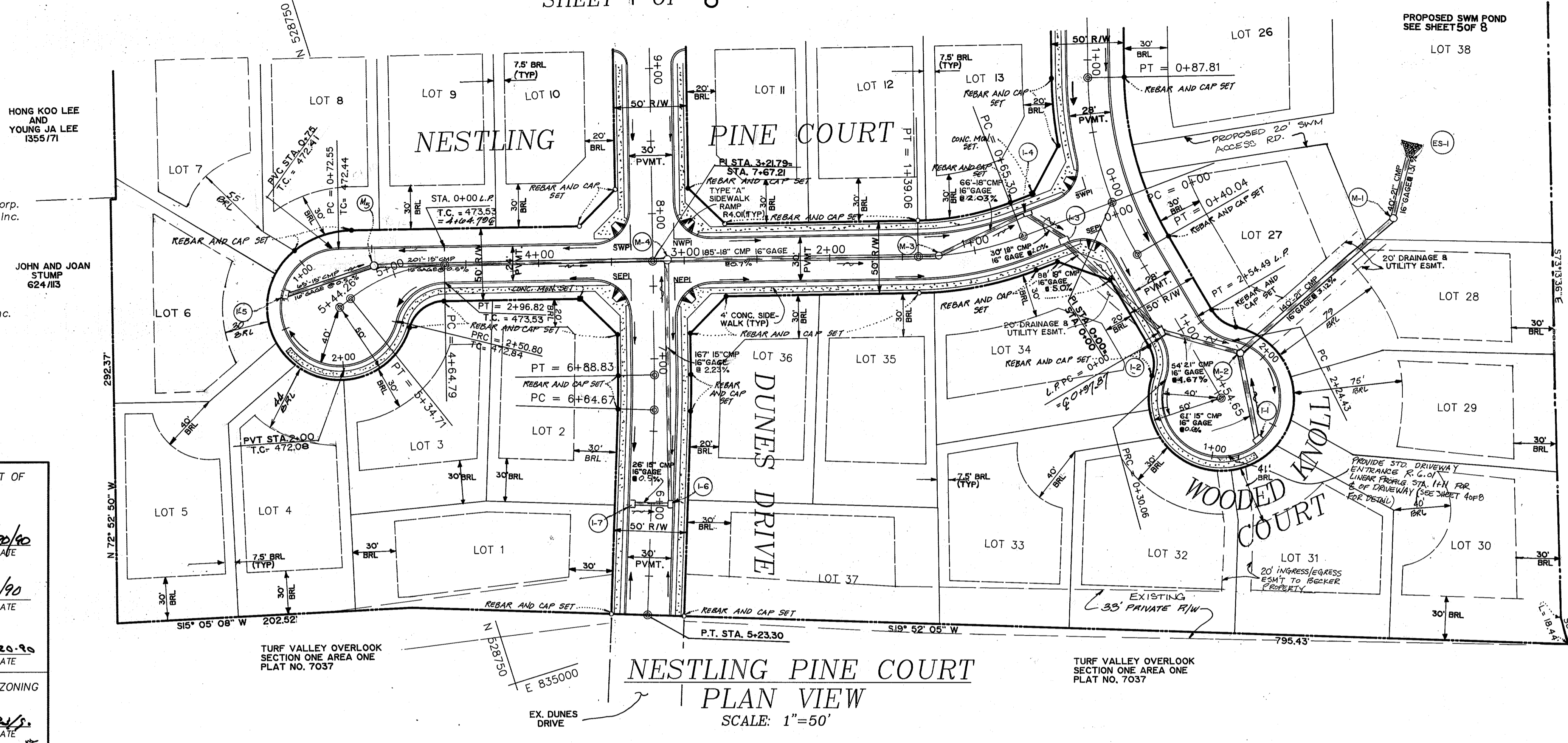
REVISED COMMENTS PER JAN 3rd 1990 LETTER & SUBMIT FOR SIGNATURE APPROVAL
 2/2/90
 10/27/89
 First submission to Howard County DPZ
 description date
 revisions

THE CLUSTERS
 TAX MAP No. 16 PARCELS 101 & 58
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND
NESTLING PINE COURT PLAN & PROFILE

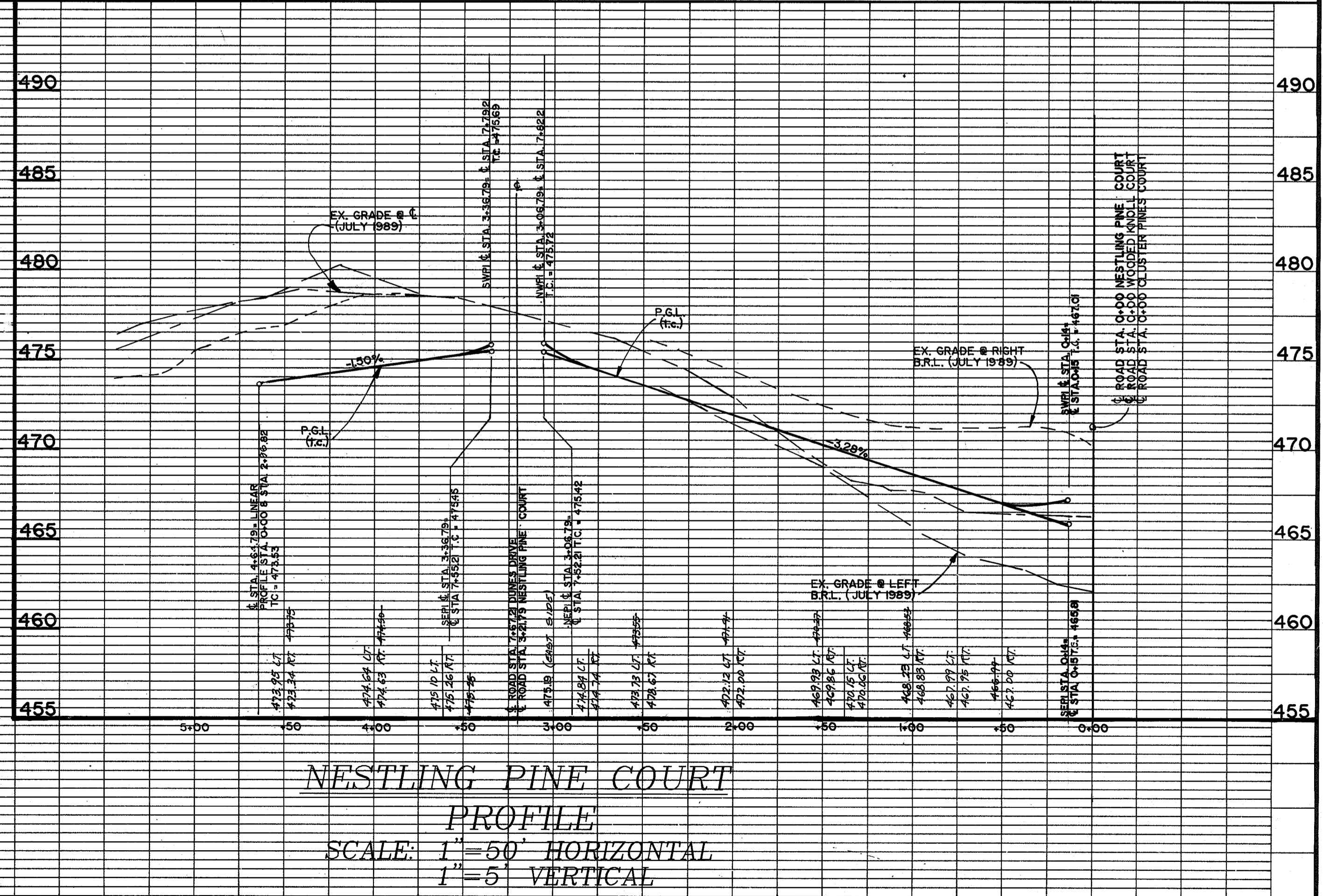
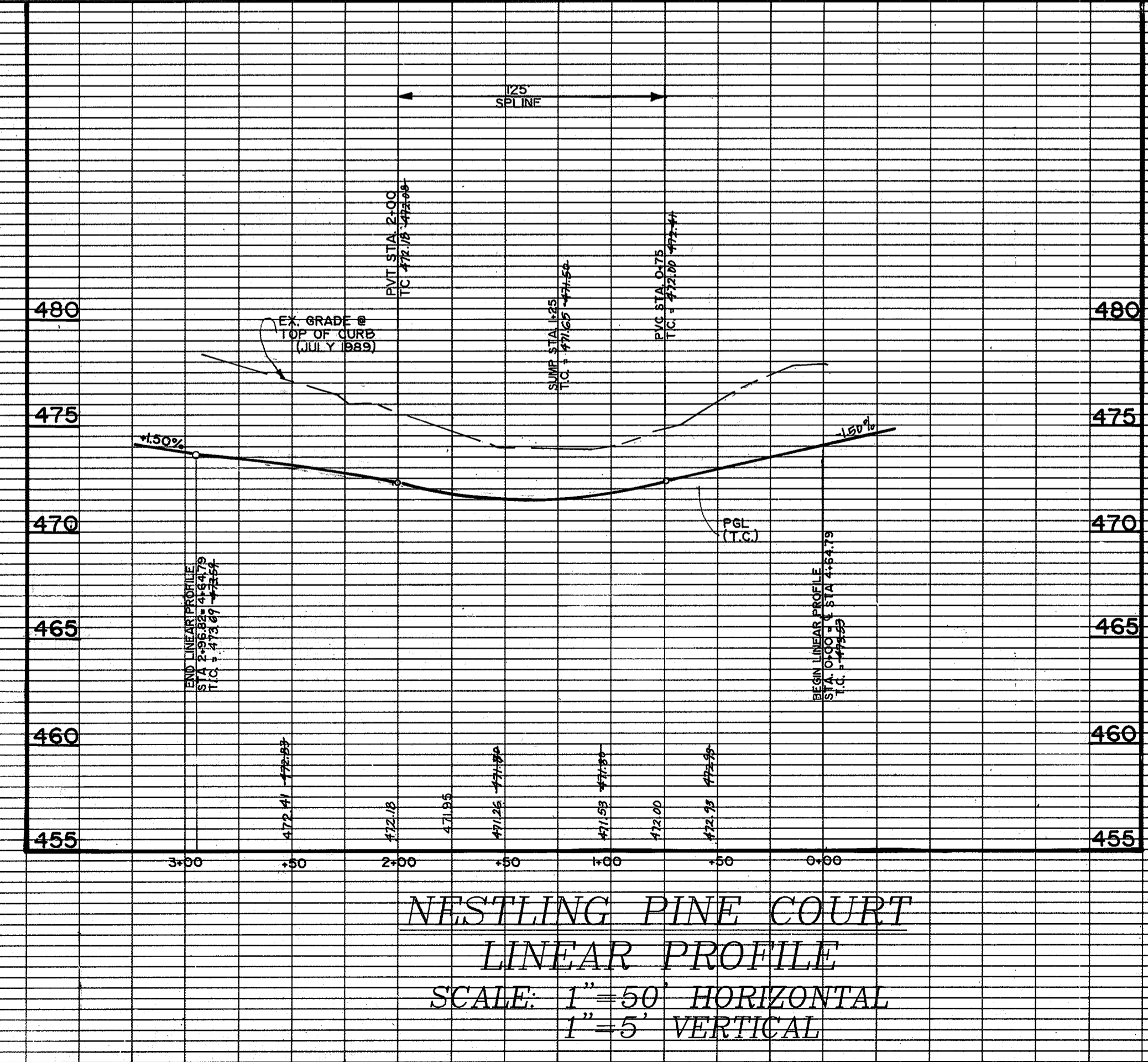
MILDENBERG, MOCHI & ASSOCIATES, INC.
 ENGINEERS
 3300 North Ridge Road, Suite 235, Ellicott City, Maryland, 21043-3350
 (301) 461-0078 D.C. Metro: (301) 621-5768

FOR PLAN AND PROFILE
 SHEET 3 OF 8

FOR PLAN AND PROFILE
 SHEET 1 OF 8



NESTLING PINE COURT
 PLAN VIEW
 SCALE: 1"=50'



NESTLING PINE COURT

Curve Data	Station Range	Radius	Length	Tan	Delta	Chord
NESTLING PINE COURT	STA. 0+65.30 to STA. 1+39.06	210.00'	73.76'	37.26'	20°07'33"	S 07°02'11" W, 73.38'
NESTLING PINE COURT	STA. 4+64.79 to STA. 5+34.71	106.37'	69.92'	36.27'	37°39'44"	S 01°43'54" E, 68.66'



Owner/Developer
 Pedicord Property Development Corp.
 c/o Land Design & Development Inc.
 8307 Main Street
 Ellicott City, Maryland
 (301) 461-7100

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 3/22/90
 CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
 [Signature] 3-20-90
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
 [Signature] 3/22/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

OWNER/DEVELOPER
 Pedicord Property Development Corp.
 c/o Land Design & Development Inc.
 8307 Main Street
 Ellicott City, Maryland 21043
 (301) 461-7100

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

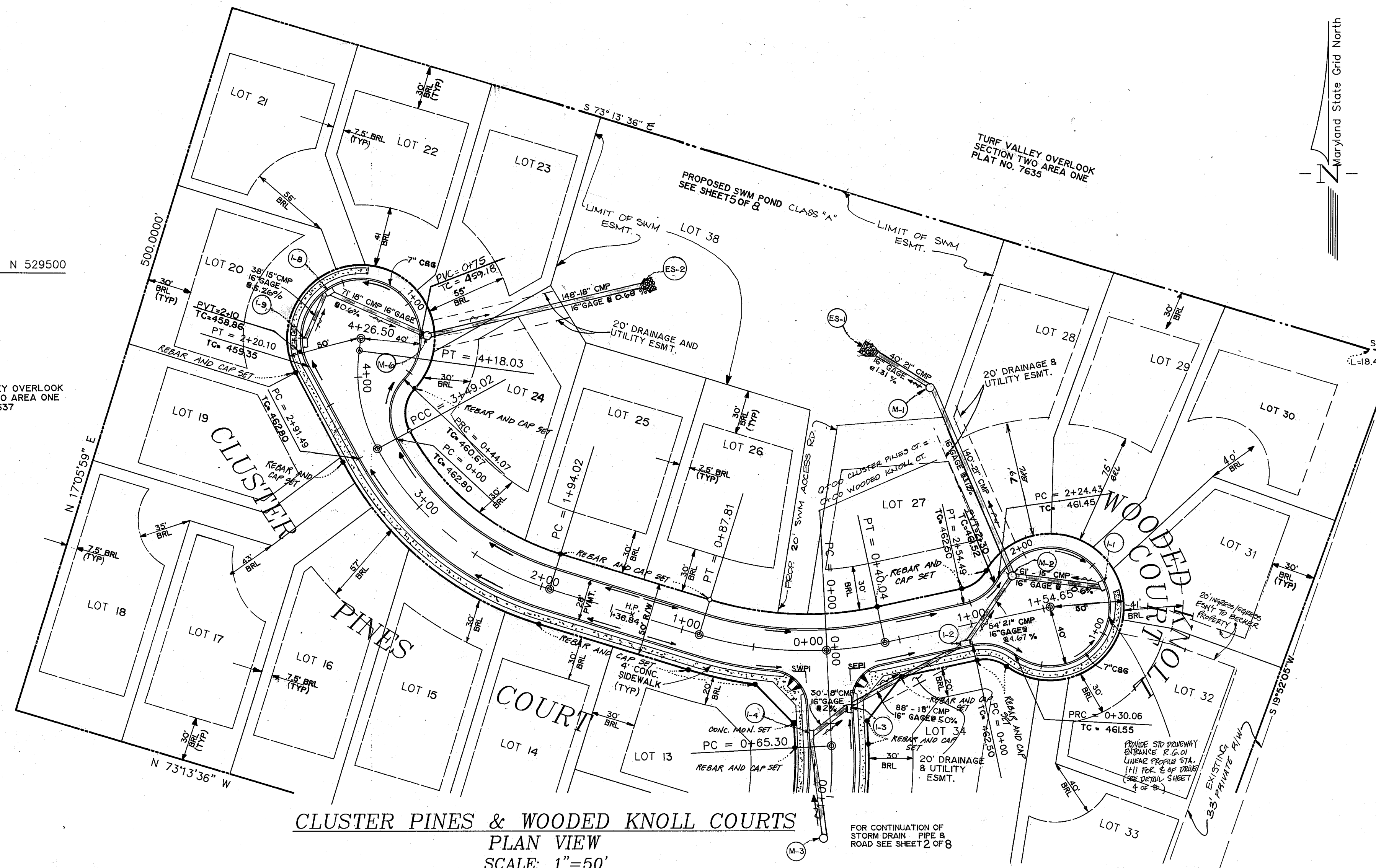
Howard P. ... 3/20/90
 CHIEF, LAND DEVELOPMENT DIVISION DATE

James W. ... 3/9/90
 CHIEF, BUREAU OF HIGHWAYS DATE

James R. ... 3/20/90
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

Mark ... 3/20/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

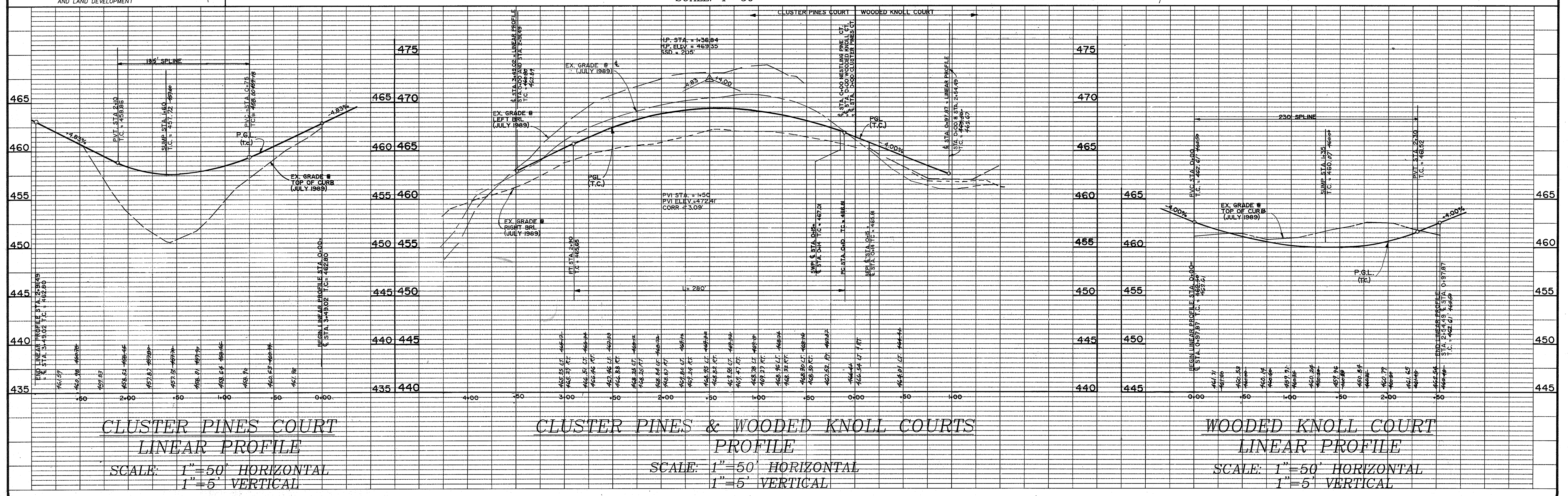


WOODED KNOLL COURT
 Curve Data
 STA. 0+00 TO STA. 0+40.04
 Radius = 250.00'
 Length = 40.04'
 Tan = 20.06'
 Delta = 09°10'36"
 Chord = N 82°23'12" E, 39.99'

CLUSTER PINES COURT
 Curve Data
 STA. 0+00 TO STA. 0+87.81
 Radius = 250.00'
 Length = 87.81'
 Tan = 44.36'
 Delta = 20°07'31"
 Chord = S 82°57'44" E, 87.36'

CLUSTER PINES COURT
 Curve Data
 STA. 1+94.02 TO STA. 3+49.02
 Radius = 200.00'
 Length = 155.00'
 Tan = 81.62'
 Delta = 44°24'15"
 Chord = N 50°41'51" W, 151.15'

CLUSTER PINES COURT
 Curve Data
 STA. 3+49.02 TO STA. 4+18.03
 Radius = 109.62'
 Length = 69.01'
 Tan = 35.69'
 Delta = 36°04'12"
 Chord = N 10°27'38" W, 67.87'



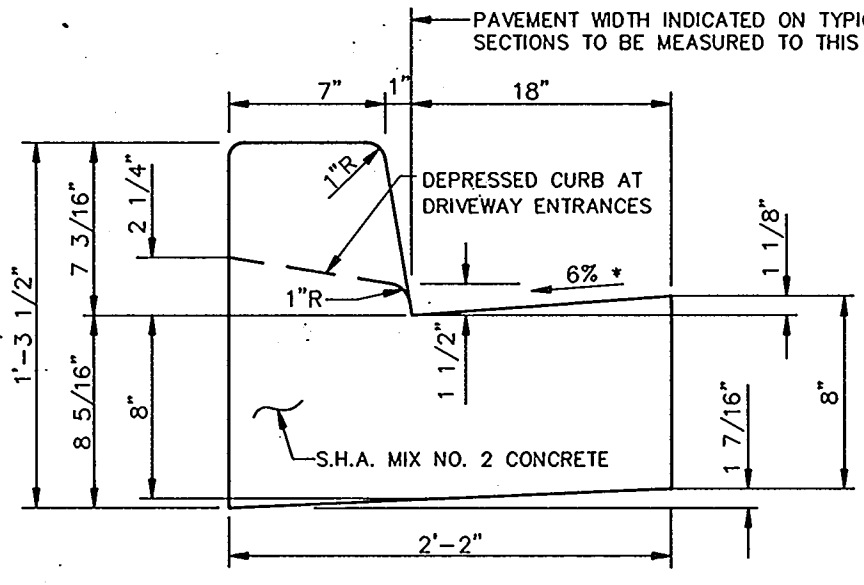
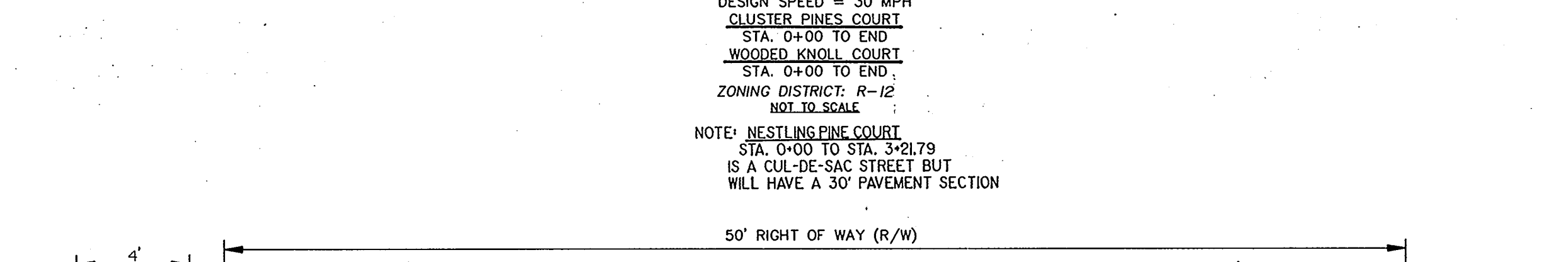
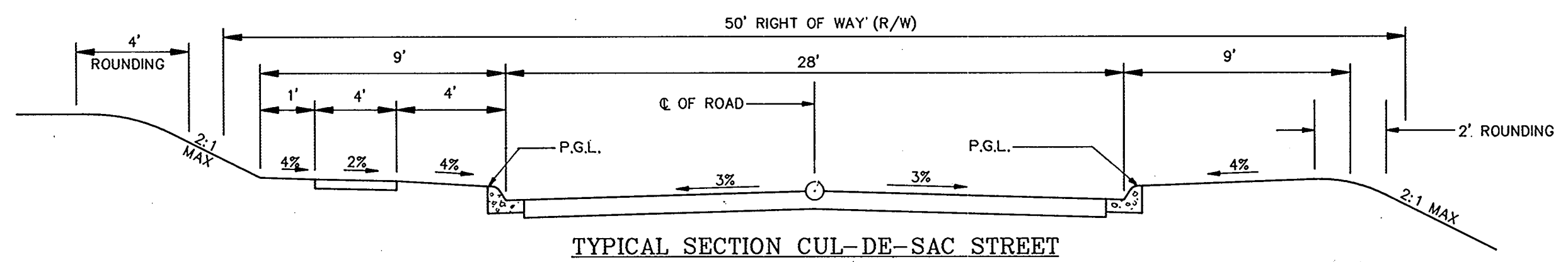
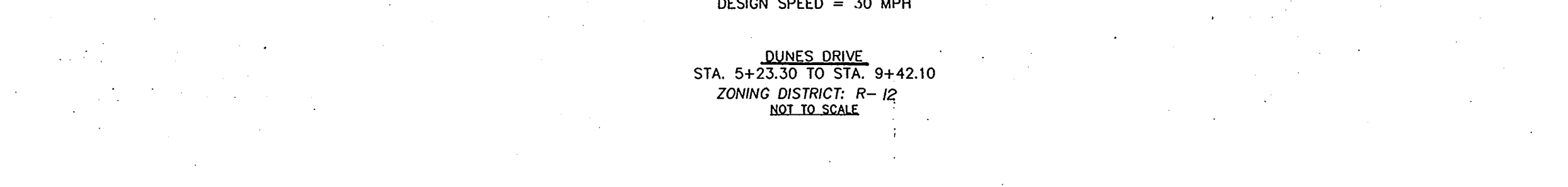
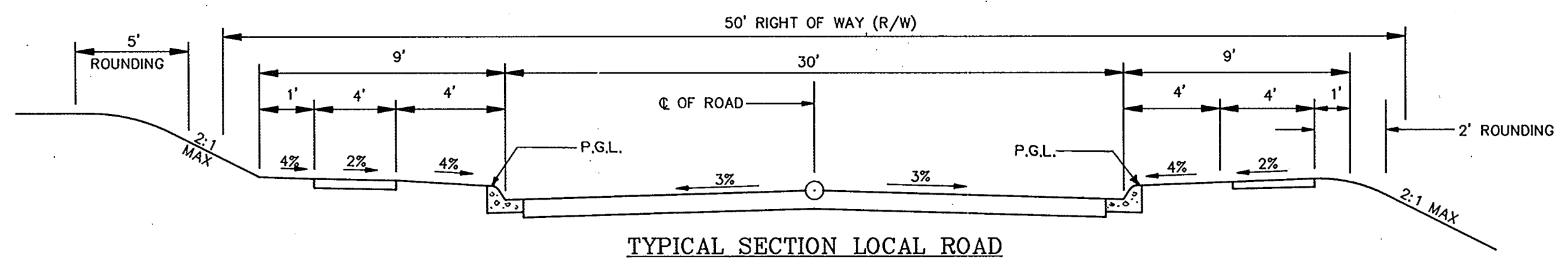
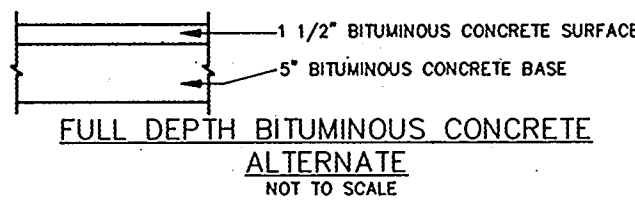
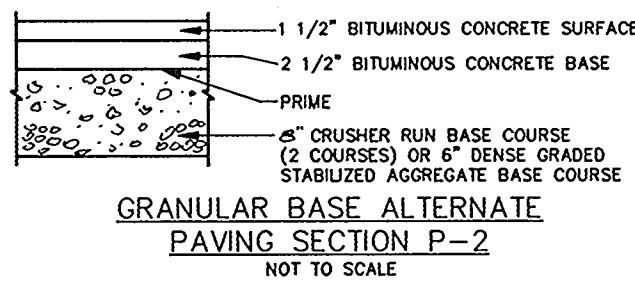
Project	80059-00	Date	SEPT. 1989
Illustration	CAM/LPR	Engineering	CAM
Scale	1" = 50'	Approval	JBM

Revised Comments	PER 144 244 890 LETTER & SUBMIT FOR SIGNATURE APPROVAL	Date	2/2/90
First Submission	to Howard County DPZ	Date	10/27/89
Revisions		Date	

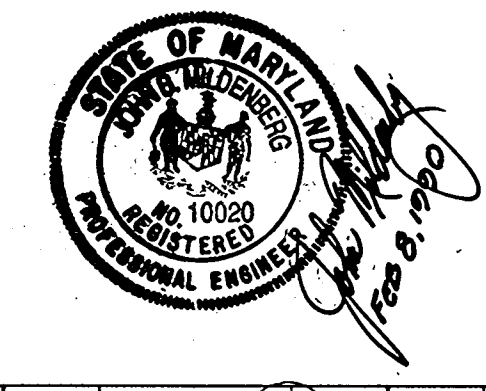
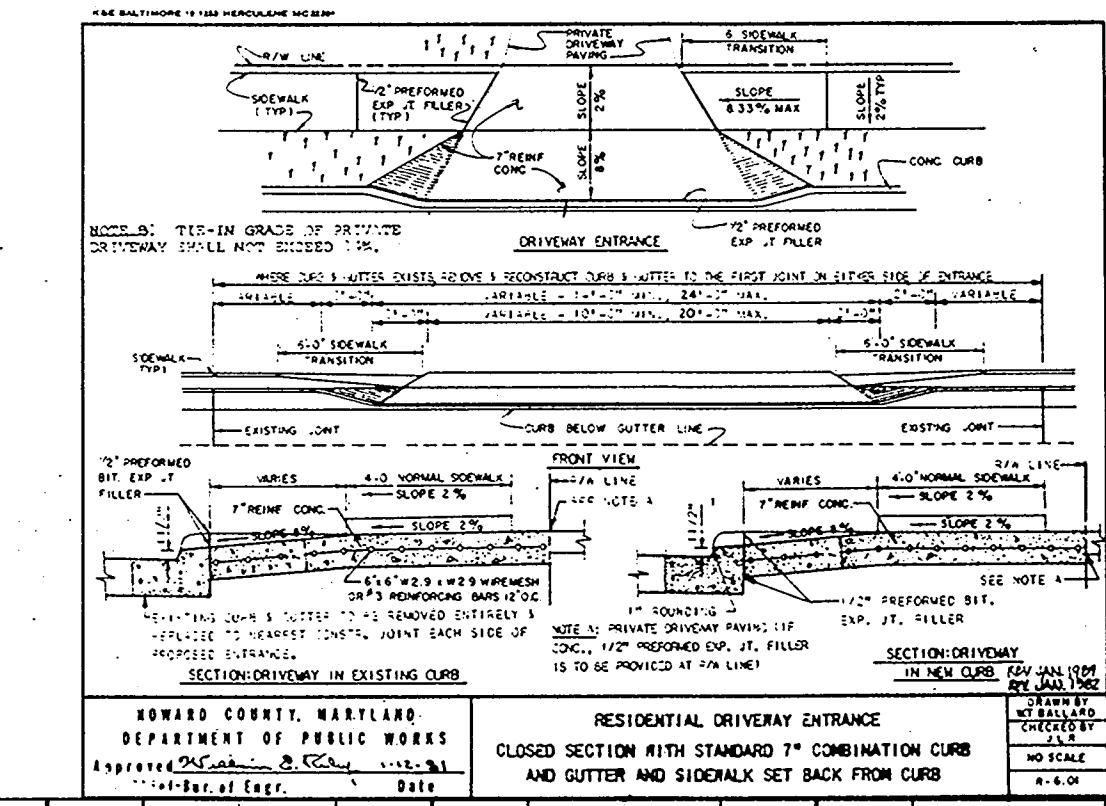
THE CLUSTERS
 TAX MAP 16 PARCEL 101 & 58
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND
 CLUSTER PINES & WOODED KNOLL COURT PLAN & PROFILE

MILDENBERG, MOCHI & ASSOCIATES, INC.
 ENGINEERS - PLANNERS
 3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
 (301) 461-0078
 D.C. Metro: (301) 627-5766

1547



* PROVIDE A 10' TRANSITION BEFORE AND AFTER ALL INLETS TO PROVIDE FOR THE 7" STANDARD CURB AND THE 5" INLET CURB.

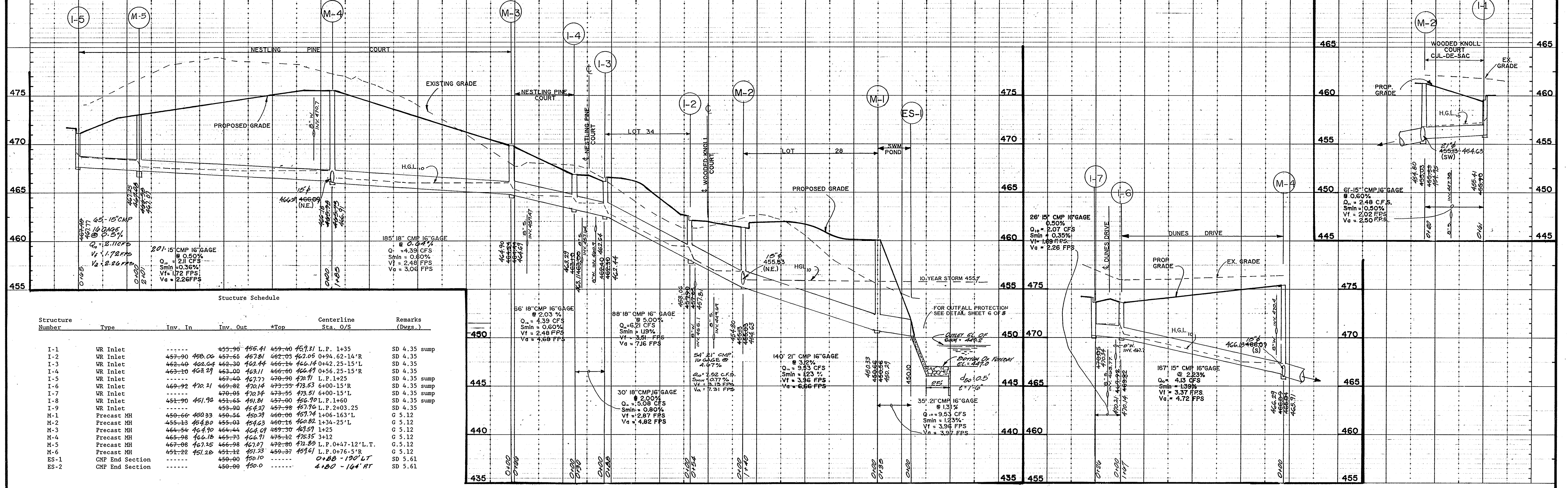


Owner/Developer
Pedicord Property Development Corp.
c/o Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-7100

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Howard County Seal
DATE: 3/20/90

APPROVED: DEPARTMENT OF PLANNING & ZONING
Department Seal
DATE: 3/20/90



Structure Schedule

Structure Number	Type	Inv. In	Inv. Out	*Top	Centerline Sta. O/S	Remarks (Drgs.)
I-1	WR Inlet	459-90	459-90	459-90	459.31 L.P. 1+35	SD 4.35 sump
I-2	WR Inlet	459-90	459-90	459-90	459.31 L.P. 1+35	SD 4.35
I-3	WR Inlet	462-04	462-30	462-44	466.14 0+42.25-15'L	SD 4.35
I-4	WR Inlet	463-10	463-29	463-11	466.60 0+56.25-15'R	SD 4.35
I-5	WR Inlet	467-40	467-77	467-90	470.91 L.P. 1+25	SD 4.35 sump
I-6	WR Inlet	469-92	470-21	469-82	470.14 0+73-77	SD 4.35 sump
I-7	WR Inlet	470-98	470-34	470-55	470.51 6+00-15'L	SD 4.35 sump
I-8	WR Inlet	451-90	451-66	451-66	450.70 L.P. 1+60	SD 4.35 sump
I-9	WR Inlet	453-90	453-27	453-27	452.70 L.P. 2+03.25	SD 4.35
M-1	Precast MH	450-66	450-36	450-29	450.74 1+06-163'L	G 5.12
M-2	Precast MH	455-13	454-80	454-23	450.18 1+34-25'L	G 5.12
M-3	Precast MH	464-54	464-40	464-49	464.59 0+77-30	G 5.12
M-4	Precast MH	465-98	466-18	466-71	470-35 3+12	G 5.12
M-5	Precast MH	467-08	467-25	467-07	472-80 L.P. 0+47-12'L.T.	G 5.12
M-6	Precast MH	451-22	451-23	451-23	451.61 L.P. 0+76-5'R	G 5.12
ES-1	CMP End Section	450-90	450-10	450-90	0+88 - 190' LT	SD 5.61
ES-2	CMP End Section	450-90	450-0	450-90	4+80 - 164' RT	SD 5.61

* Top of Inlet - Street Grade Elevation at Gate/Rim
L.P. - Linear Profile Station

Project	89059.00	Date	10/89
Illustration	CAM 1 LFR	Engineering	AS Shown
Scale	1/8" = 1'-0"	Approval	
Revisions			

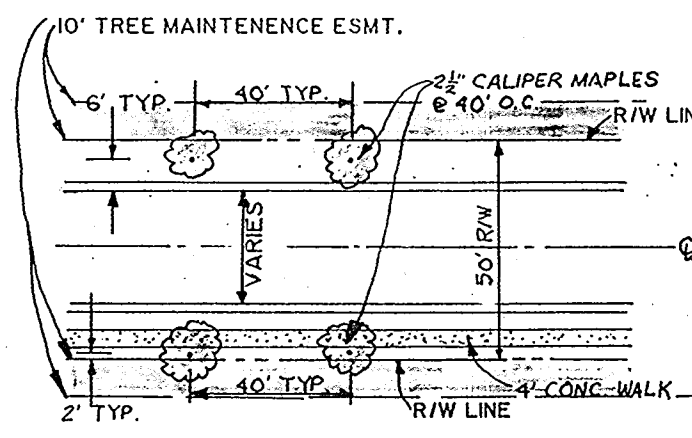
Revised Comments	PER JAN 3/4 LETTER & SUBMIT FOR SIGNATURE APPROVAL	Date	2/2/90
1	M-4 TO ES-2, M-1 TO ES-1, STREET WIDENED	Date	1/21/90
2	First submission to Howard County DPZ	Date	10/27/89

THE CLUSTERS
Parcel 16
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND
STORM DRAIN PROFILES & DETAILS

MILDENBERG, MOCHI & ASSOCIATES, INC.
3300 North Ridge Road, Suite 235, Ellicott City, Maryland, 21043-3350
(301) 461-0078 D.C. Metro (301) 621-5768

SEDIMENT TRAP NO. 2	
TYPE OF TRAP	ST IV
DRAINAGE AREA	3.56 AC
STORAGE REQUIRED	6408 FT ³
STORAGE PROVIDED	6792 FT ³
BOTTOM DIM.	30'x35'
DEPTH	4 FT
BOTTOM ELEVATION	435 FT
TOP OF EMBANKMENT	441 FT
SIDE SLOPE	2:1
CREST ELEVATION	440 FT
WEIR LENGTH	14 FT

SEDIMENT TRAP NO. 3	
TYPE OF TRAP	ST IV
DRAINAGE AREA	2.52 AC
STORAGE REQUIRED	4536 FT ³
STORAGE PROVIDED	4963 FT ³
BOTTOM DIM.	30'x30'
DEPTH	3.5'
BOTTOM ELEVATION	453.5 FT
TOP OF EMBANKMENT	459 FT
SIDE SLOPE	2:1
CREST ELEVATION	458 FT
WEIR LENGTH	10 FT



STREET TREE DETAIL
NOT TO SCALE
NOTE: TREES SHALL BE PLANTED 2' FROM THE SIDEWALK NEAR THE PROPOSED R/W LINE WHERE THERE IS SIDEWALK. WHERE THERE ARE NO SIDEWALKS TREES SHALL BE PLANTED 6' BEHIND THE CURB.

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

Owner/Developer
Pedicord Property Development Corp.
c/o Land Design & Development Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-7100

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
James M. Helm 2-12-90
U.S. SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Robert W. Ziehm 2/12/90
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chad Dumas 3/20/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

Francis W. Weiland 3/19/90
CHIEF, BUREAU OF HIGHWAYS DATE

William S. Ray 3-20-90
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
Charles C. DeAngelis 3/23/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

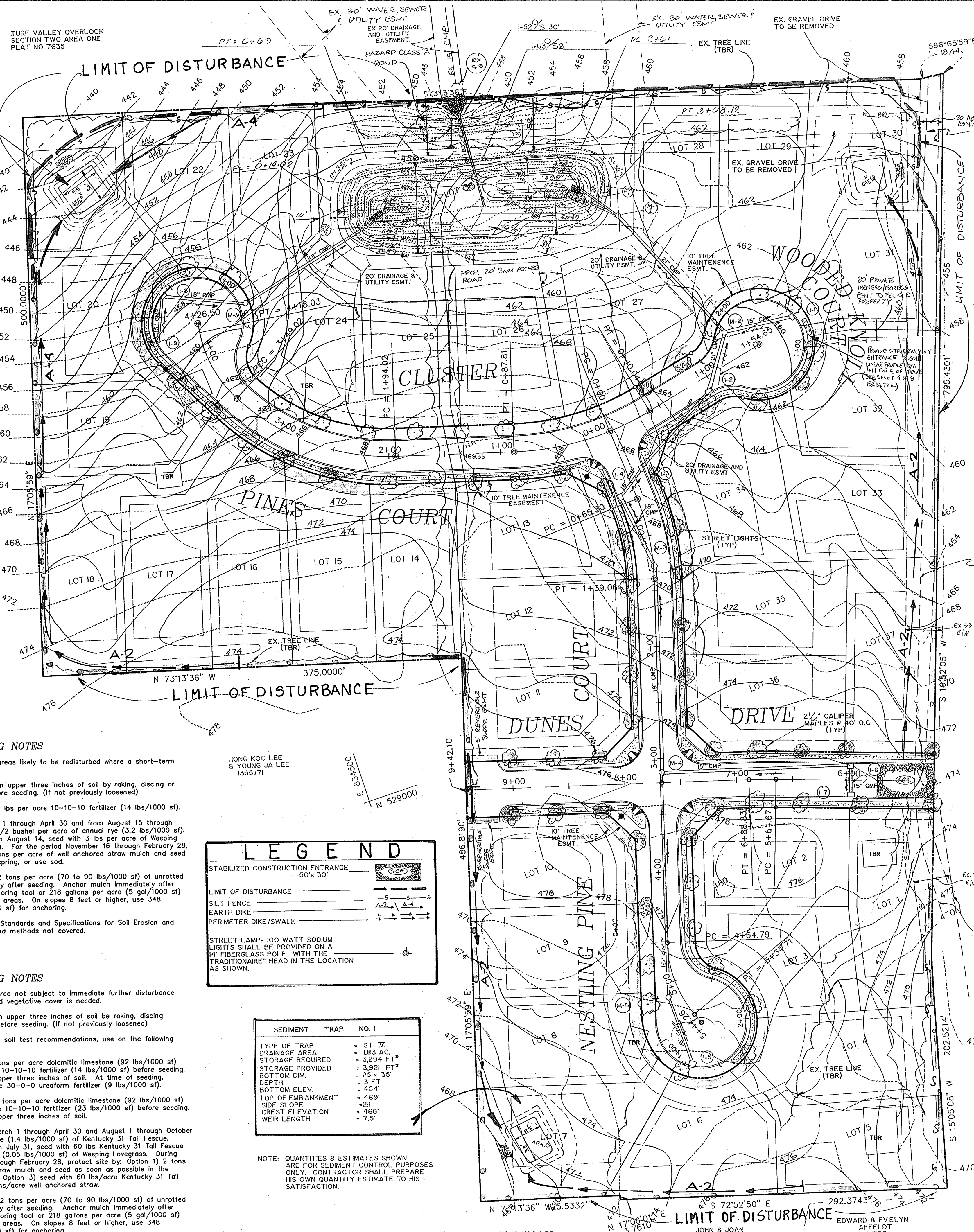
ENGINEER'S CERTIFICATE
I hereby certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

John M. Kelly FEB. 8, 1990
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 Soil Conservation District or their authorized agents, as are deemed necessary.

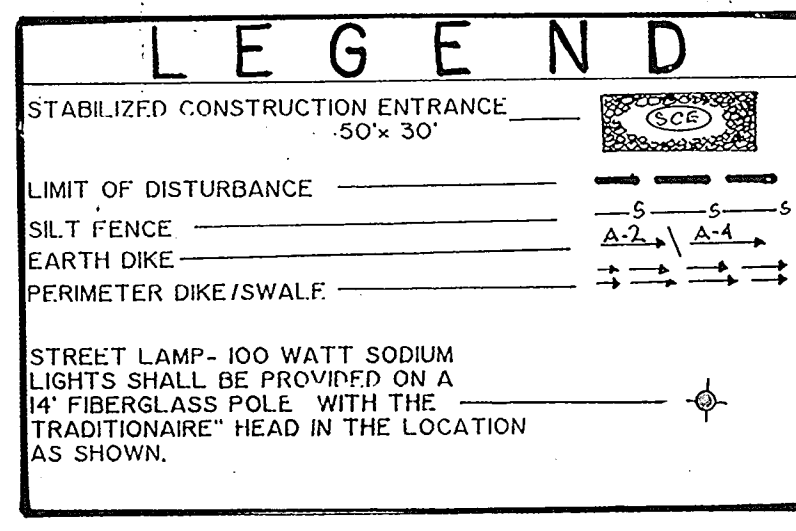
Christine A. Richards 2-7-90
Signature of Developer Date

TURF VALLEY OVERLOOK SECTION TWO AREA ONE PLAT NO. 7639



TEMPORARY SEEDING NOTES
Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
Seedbed 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 rye (3.2 lbs/1000 sf). For the period May 1 through August 14, seed with 3 lbs per acre of Weeping Lovegrass (0.07 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 rotted 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.
Seedbed 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 rotted 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.



SEDIMENT TRAP NO. 1	
TYPE OF TRAP	ST IV
DRAINAGE AREA	1.83 AC
STORAGE REQUIRED	3,294 FT ³
STORAGE PROVIDED	3,321 FT ³
BOTTOM DIM.	25'x35'
DEPTH	3 FT
BOTTOM ELEVATION	464'
TOP OF EMBANKMENT	469'
SIDE SLOPE	2:1
CREST ELEVATION	468'
WEIR LENGTH	7.5'

NOTE: QUANTITIES & ESTIMATES SHOWN ARE FOR SEDIMENT CONTROL PURPOSES ONLY. CONTRACTOR SHALL PREPARE HIS OWN QUANTITY ESTIMATE TO HIS SATISFACTION.

- SEQUENCE OF CONSTRUCTION**
- Obtain grading permit.
 - Construct stabilized construction entrance.
 - Clear and grub areas surrounding sediment control features.
 - Construct permanent stormwater management pond, sediment traps and stabilize using temporary seeding method. Block 8' outlet of stormwater management pond.
 - Construct silt fence and earth dikes. Stabilize earth dikes with temporary seeding.
 - Clear proposed roads.
 - Do not place inlet protection devices per SCS request.
 - Grade roads, construct base course and concrete curb and gutter and stabilize side slopes with permanent seed and mulch.
 - Upon stabilization of graded areas, all accumulated sediment shall be removed from the storm drain system.
 - During construction, sediment shall be removed from the stormwater management pond and traps when the stream elevation has been reached. (See SWM profile for elevations).
 - Stabilized construction entrance may be removed with approval of Sediment Control Inspector to facilitate paving activities.
 - Clean base course. Apply tack coat to base course and by surface course. Stabilize all shoulders using permanent seeding method.
 - Inspect all sediment control devices daily and after each rainfall. Repair as necessary.
 - When all contributing areas to sediment control devices have been permanently stabilized, remove sediment control devices, grade areas disturbed, and provide permanent seed and mulch.
 - Contractor shall remove sediment and flush storm drain system at end of construction period.
 - Contractor shall dewater the stormwater management pond and remove accumulated sediment. 12' perforated pipe and #2 stone shall be cleaned of accumulated sediment or replaced. Open 8' outlet.
 - Contractor shall proceed with final grading of the stormwater management pond in accordance with this plan and stabilize using permanent seeding methods.
 - Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed with: a) 7 calendar days for all perimeter slopes and all slopes greater than 3:1; or b) 14 days for all other disturbed graded areas on the project site.
 - Notify Howard County Office of Inspection and Permits for final inspection at duration of project.

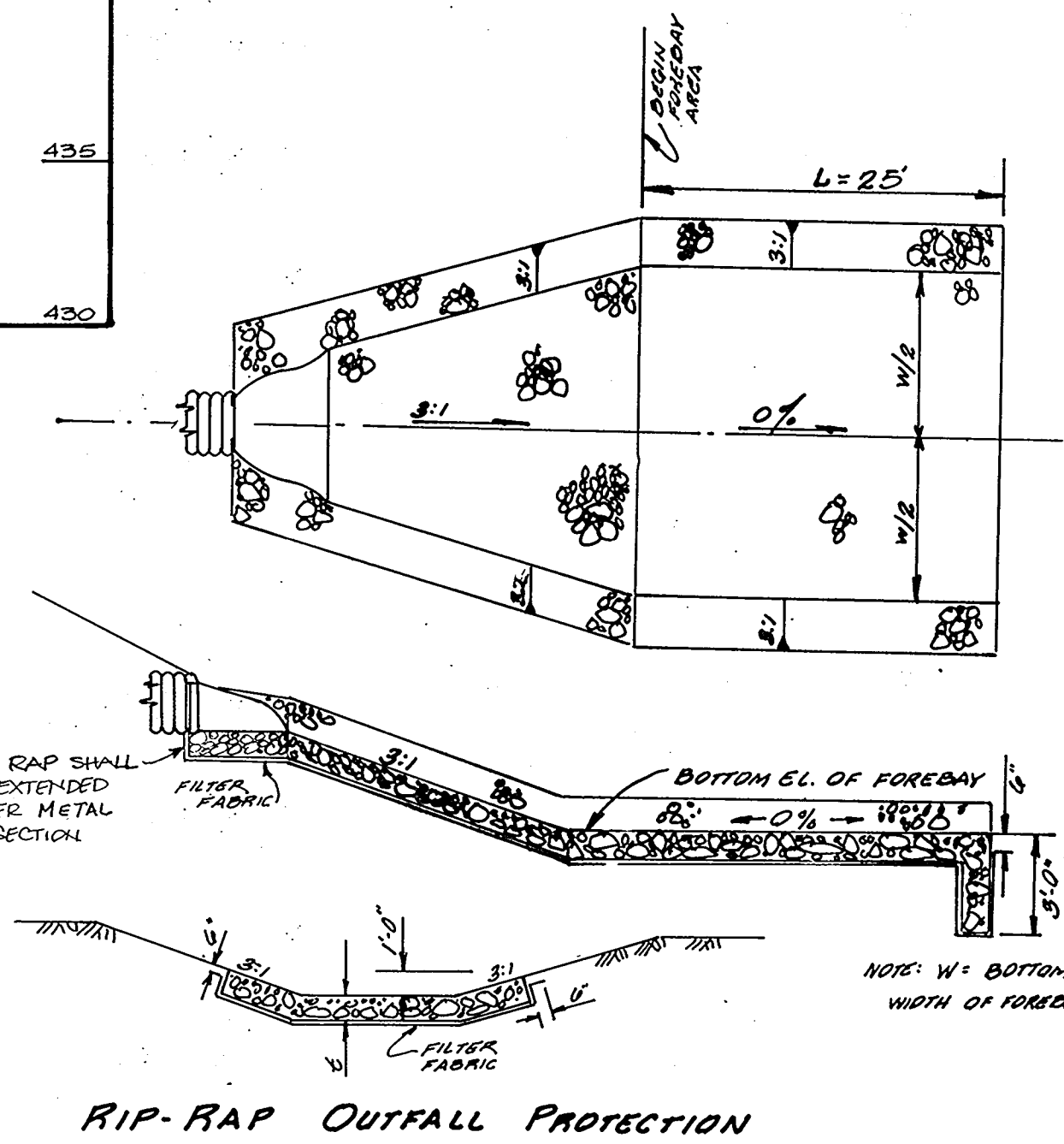
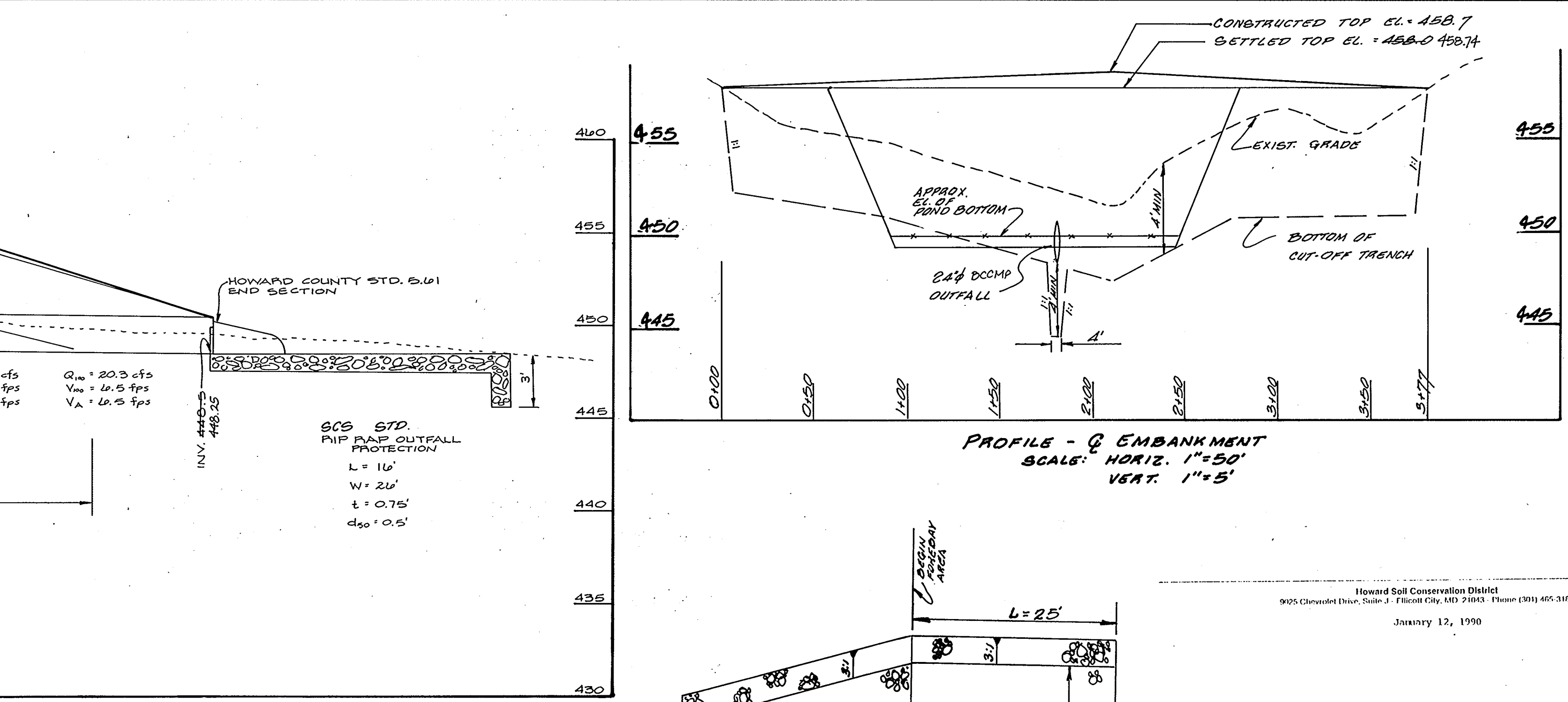
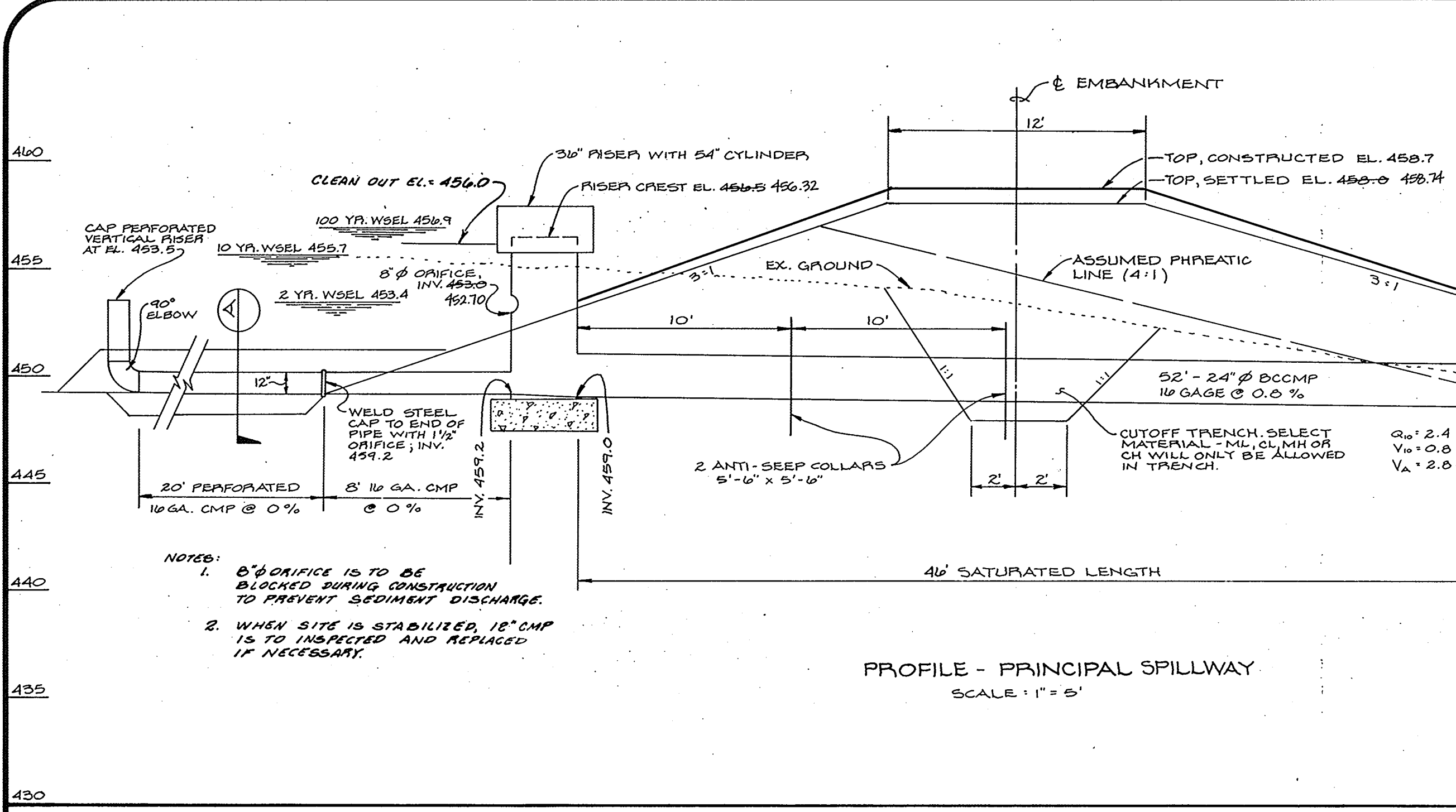
- SEDIMENT CONTROL NOTES**
- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
 - All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control.
 - Following initial soil disturbances or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter slopes and all slopes greater than 3:1; or b) 14 calendar days for all other disturbed or graded areas on the project site.
 - 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 Seeding (Sec. 51) Sod (Sec. 54), Temporary Seeding (Sec. 50) 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.
 - 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.
 - Site Analysis:
Total Area of Site: 14.00[±] AC.
Area to be Disturbed: 14.00[±] AC.
Area to be roofed or paved: 2.15 AC.
Area to be vegetatively stabilized: 11.85 AC.
Total Cut: 35664 yd³
Total Fill: 14028 yd³
Off-Site Waste/Borrow Area Location
Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
Additional sediment controls must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.

Project	80059-00	date	SEPT. 1989
illustration	CAM/LPR	engineering	approval
scale	1" = 50'	date	10/27/89

1. REVIEWED SWM PLAN, PREPARED BY: SCS, AS COM. BY: 8/11/89
0 First submission to Howard County DPZ
no. description revisions

THE CLUSTERS
TAX MAP 16 PARCELS 58 & 101
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND
GRADING & SEDIMENT CONTROL PLAN

MILDENBERG, MOCHI & ASSOCIATES, INC.
ENGINEERS • PLANNERS • SURVEYORS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro: (301) 621-0766



Howard Soil Conservation District
905 Chesapeake Drive, Suite 2, Pikesville, MD 21093, Phone (301) 465-3100
January 12, 1990

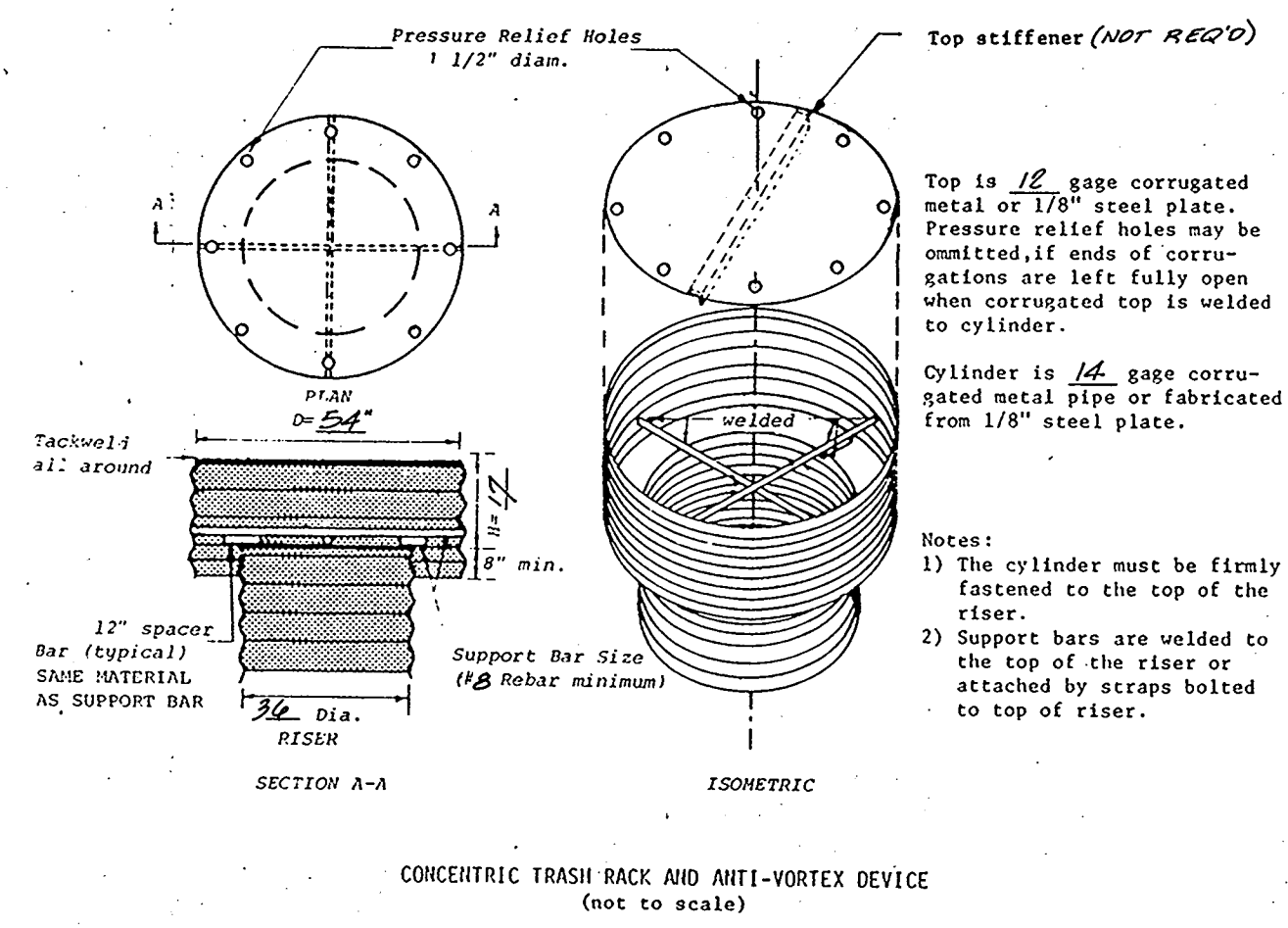
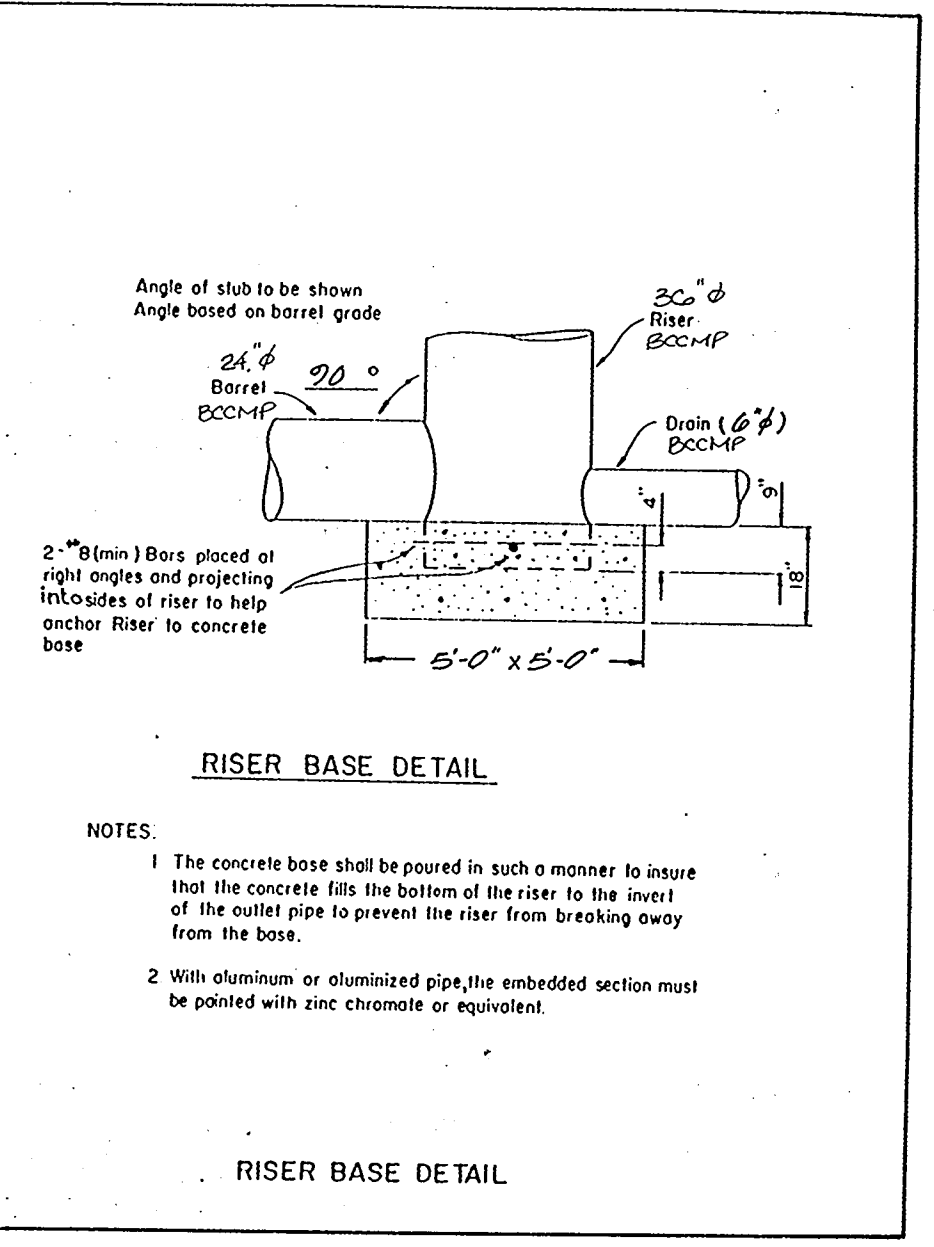
Chris Holmquist
Hiltsberg & Mochi
3300 North Ridge Road, Suite 235
Pikesville, MD 21093-3350

Re: The Clusters (Dwa Branch)
F-90-93

Dear Chris:

Please consider this formal notification that the dam breach analysis for F-90-93 has been reviewed and approved by the SES State Engineer. If we can be of any further assistance, please do not hesitate to call.

Sincerely,
Bob Robertson
Bob Robertson
Conservation Planner



SOIL EXPLORATION LOG

Client: Land Design & Development Inc.
Project: The Clusters
Location: Howard County, Maryland

Test Pit # 1P1
Project #: 20-90120
Elevation: 450.0

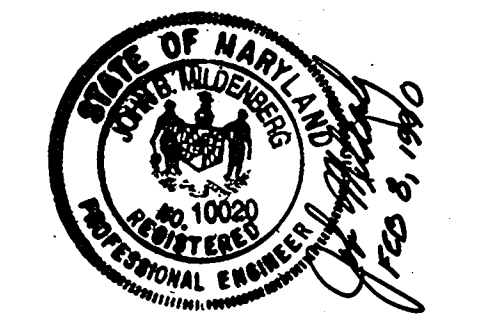
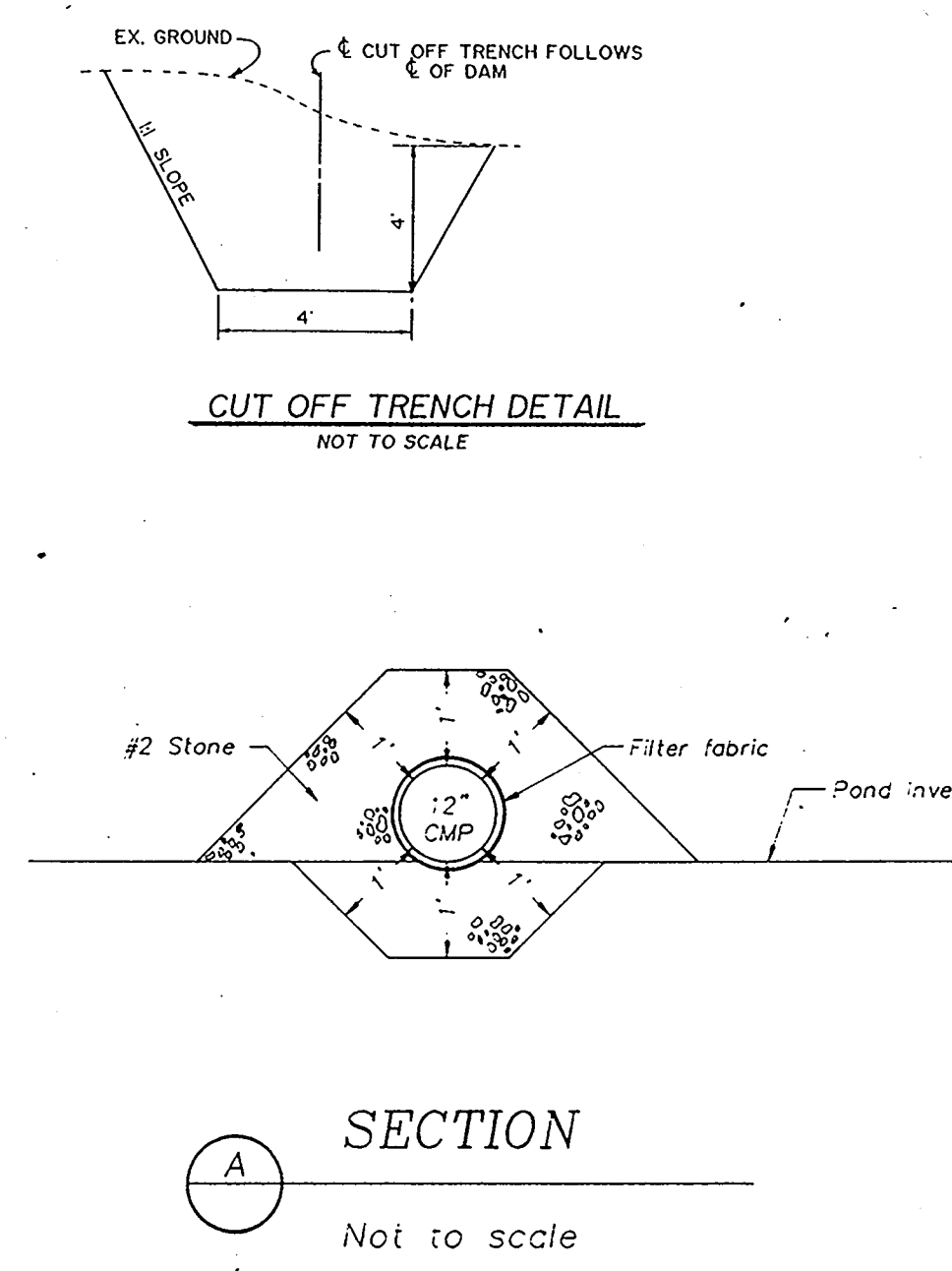
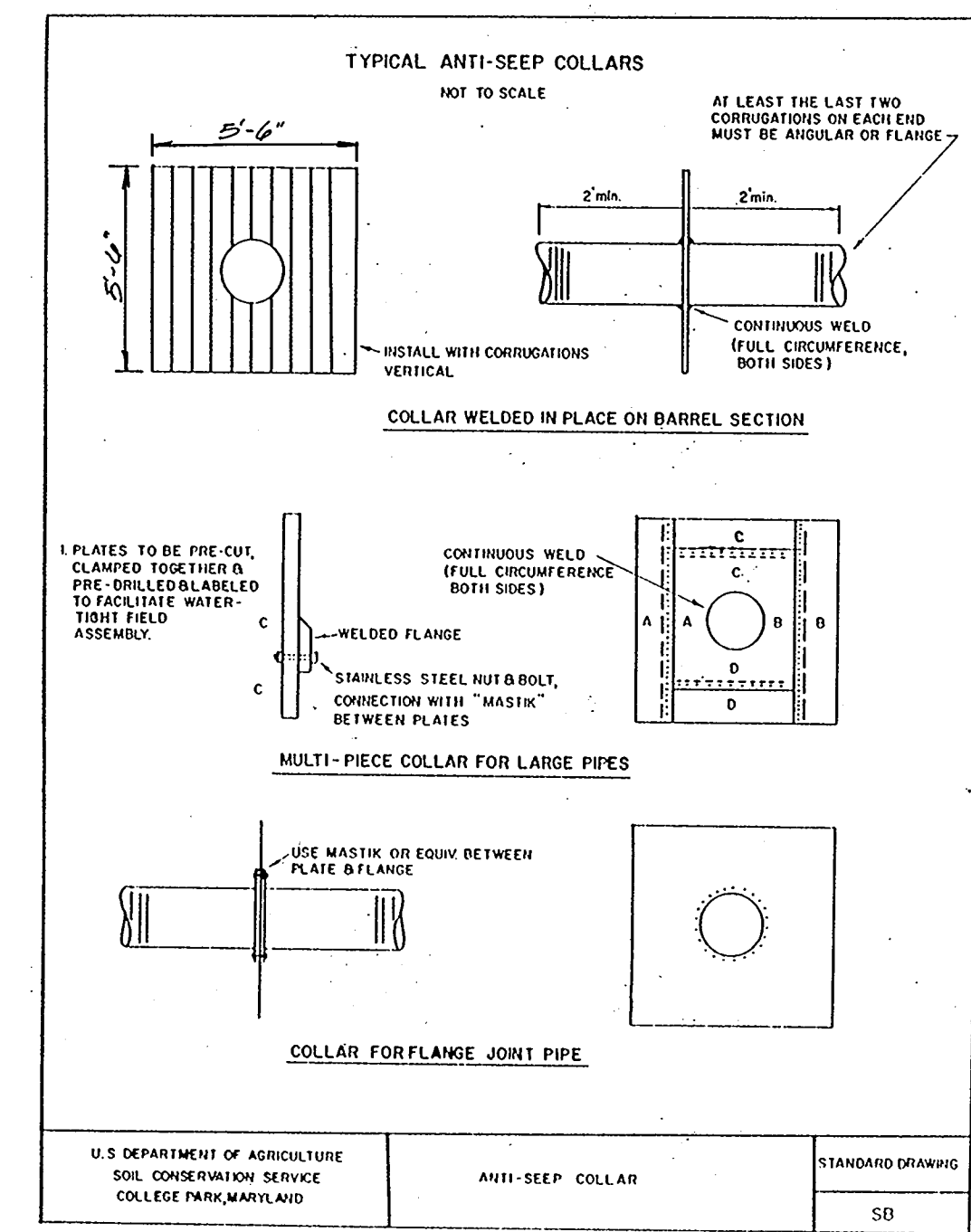
ELEV.	DESCRIPTION OF MATERIALS (Classification)	STRATA DEPTH	DEPTH SCALE	SAMPLE			
				Cond.	Blows/6"	Mo.	Type Rec.
450.0	1" Topsoil		2.5				
446.0	Brown micaceous coarse to fine SAND and SILT, trace fragmented rock (SH-TH)	4.0	5				
	Red/Brown micaceous medium to fine SAND, some silt (SH)		7.5				
			10				
			15				
434.5	Test Pit terminated at 15.5'		15				

SOIL EXPLORATION LOG

Client: Land Design & Development Inc.
Project: The Clusters
Location: Howard County, Maryland

Test Pit # 1P2
Project #: 20-90120
Elevation: 453.0

ELEV.	DESCRIPTION OF MATERIALS (Classification)	STRATA DEPTH	DEPTH SCALE	SAMPLE			
				Cond.	Blows/6"	Mo.	Type Rec.
453.0	8" Topsoil		2.5				
	Orange/Brown to Red/Brown micaceous medium to fine SAND, some silt (SH)		5				
			7.5				
			10				
			15				
437.0	Test Pit terminated at 16.0'		16.0				



Owner/Developer
Pedicord Property Development Corp.
c/o Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-7100

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

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

James H. Hester 2-12-90
HOWARD SOIL CONSERVATION SERVICE DATE

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

Robert W. Ziehm 2/12/90
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Bob Danner 5/26/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

Denise W. Clelland 3/9/90
CHIEF, BUREAU OF HIGHWAYS DATE

CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

David J. Langley 2/23/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

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 Soil Conservation District.

Chris Holmquist Feb 1990
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 Soil Conservation District or their authorized agents, as are deemed necessary.

Christine A. Roberts 2-7-90
Signature of Developer Date

date	10/89
project	89059.00
illustration	JBM
scale	CAM/JBM
approval	JBM

2	REVISED COMMENTS PER PLAN 34 LETTER & SUBMIT FOR SIGNATURE APPROVAL	2/28/90	
1	PROV. SCHEDULE: RIP-RAP DETAIL	1/31/90	
0	First submission to Howard County DPZ	10/27/89	
	description		
	revisions		

THE CLUSTERS
Tax Map 16 Parcels 101 & 58
ELECTION DISTRICT No. 2

HOWARD COUNTY, MARYLAND

STORMWATER MANAGEMENT PROFILES & DETAILS

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

6 OF 8

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 CL, ML, MH or CH.

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 waterlight 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 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.

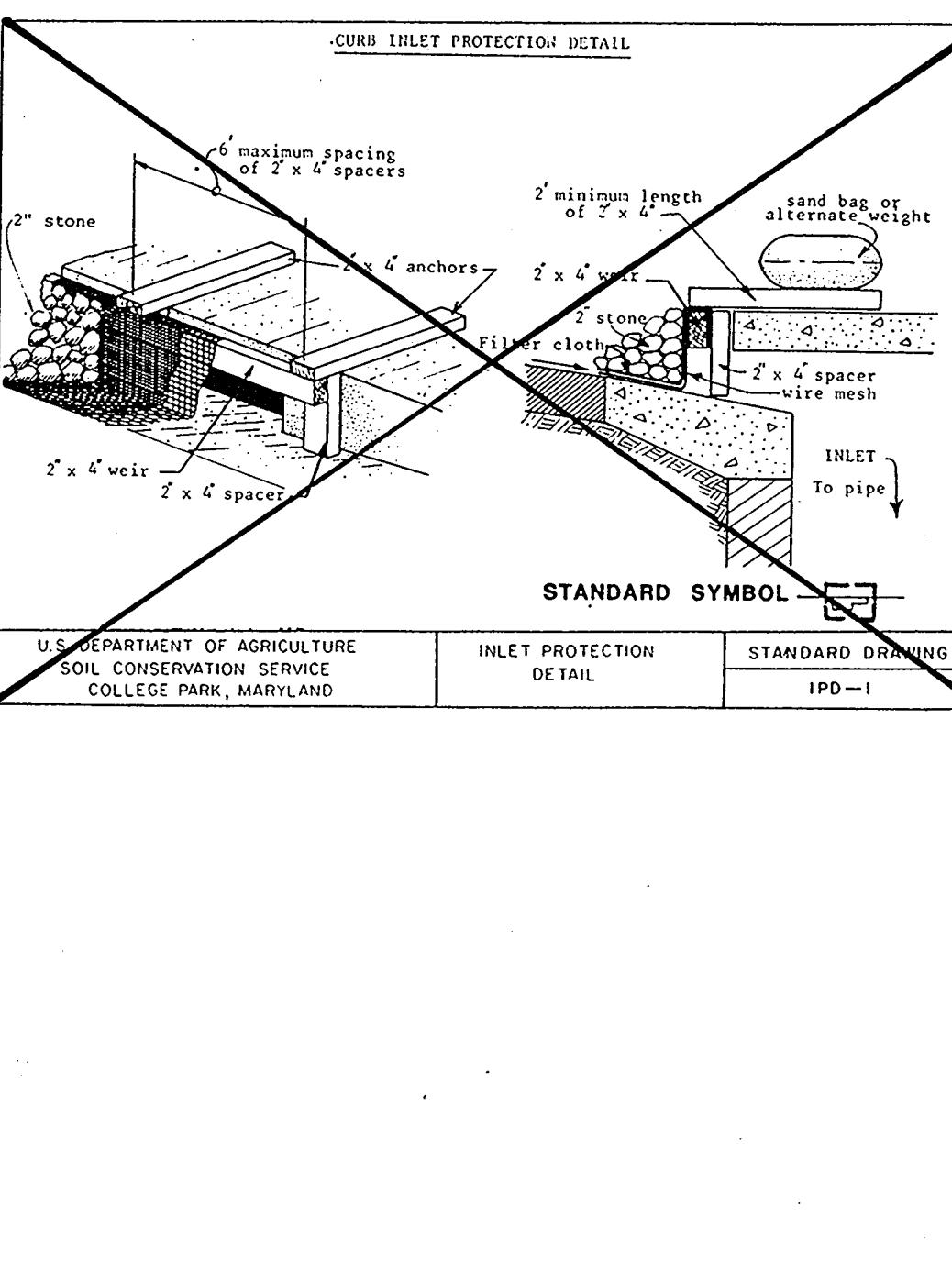
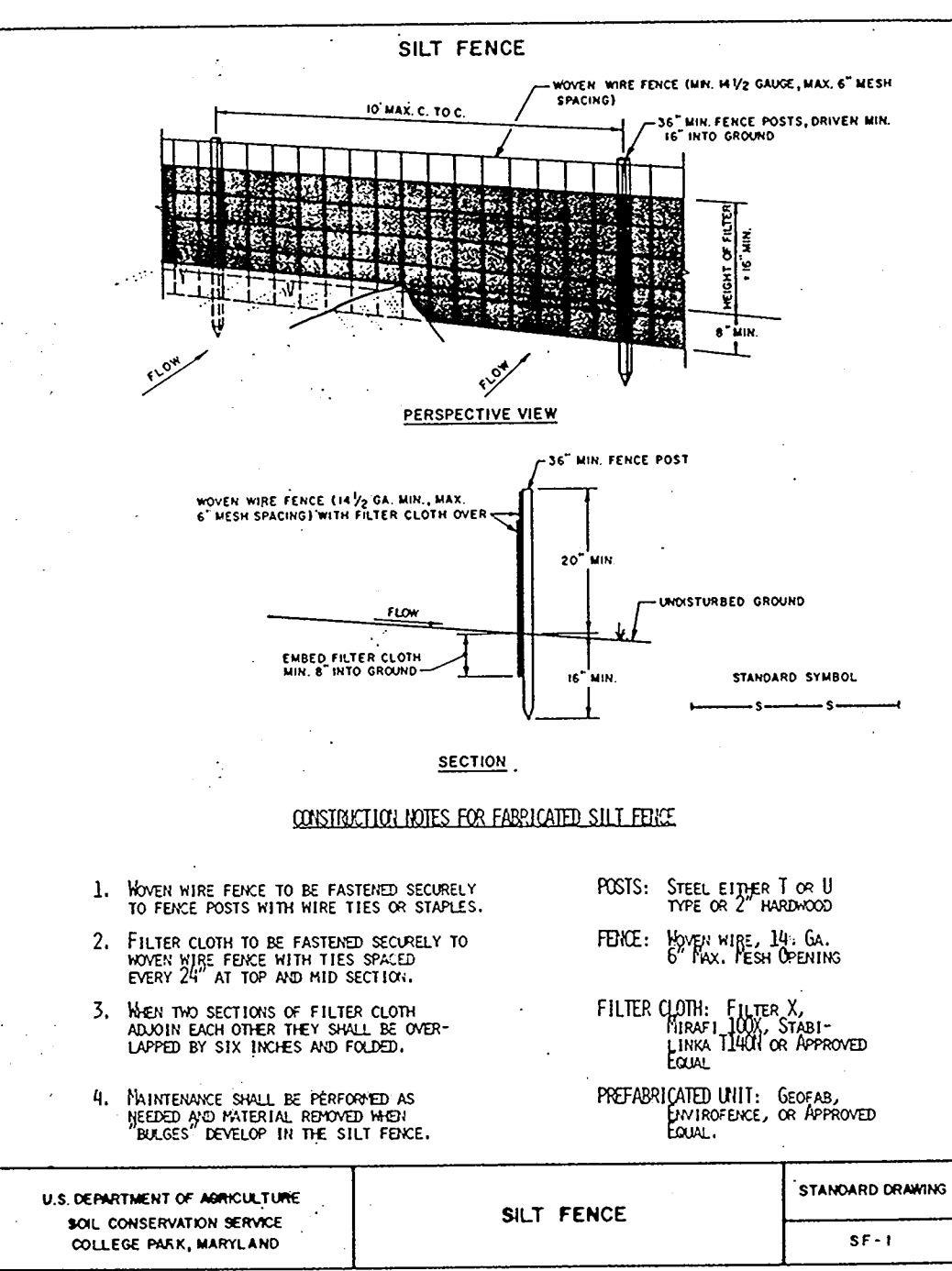
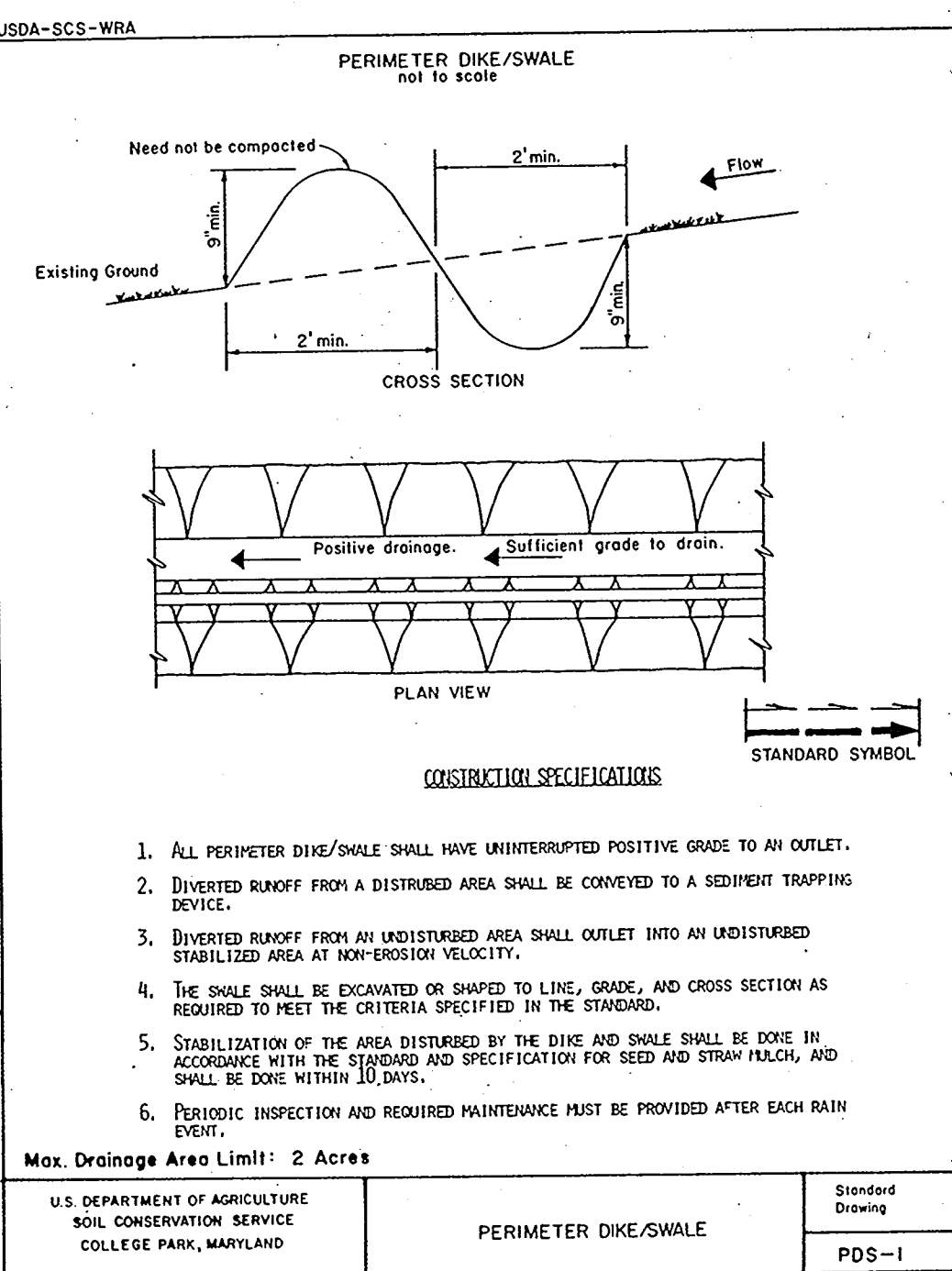
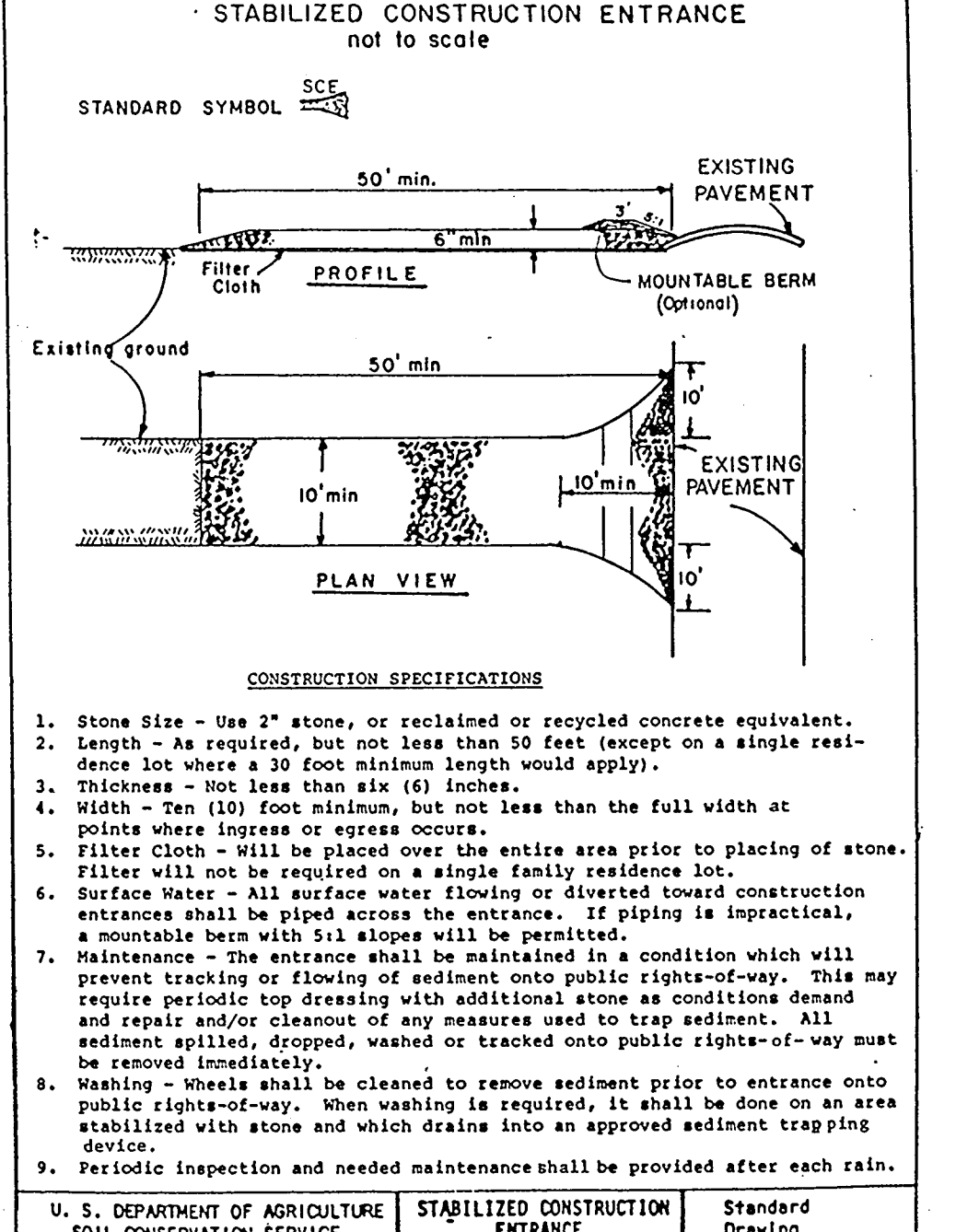
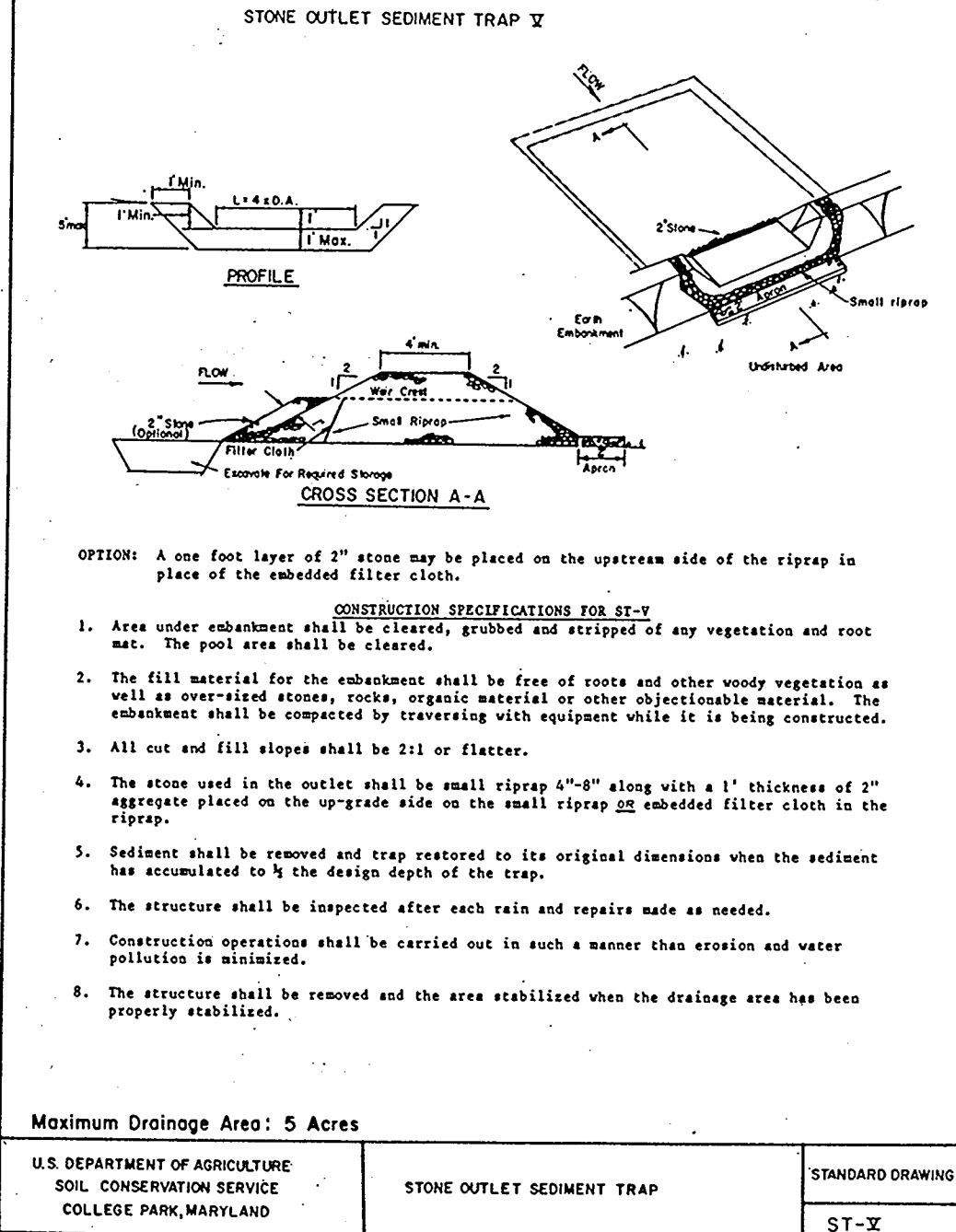
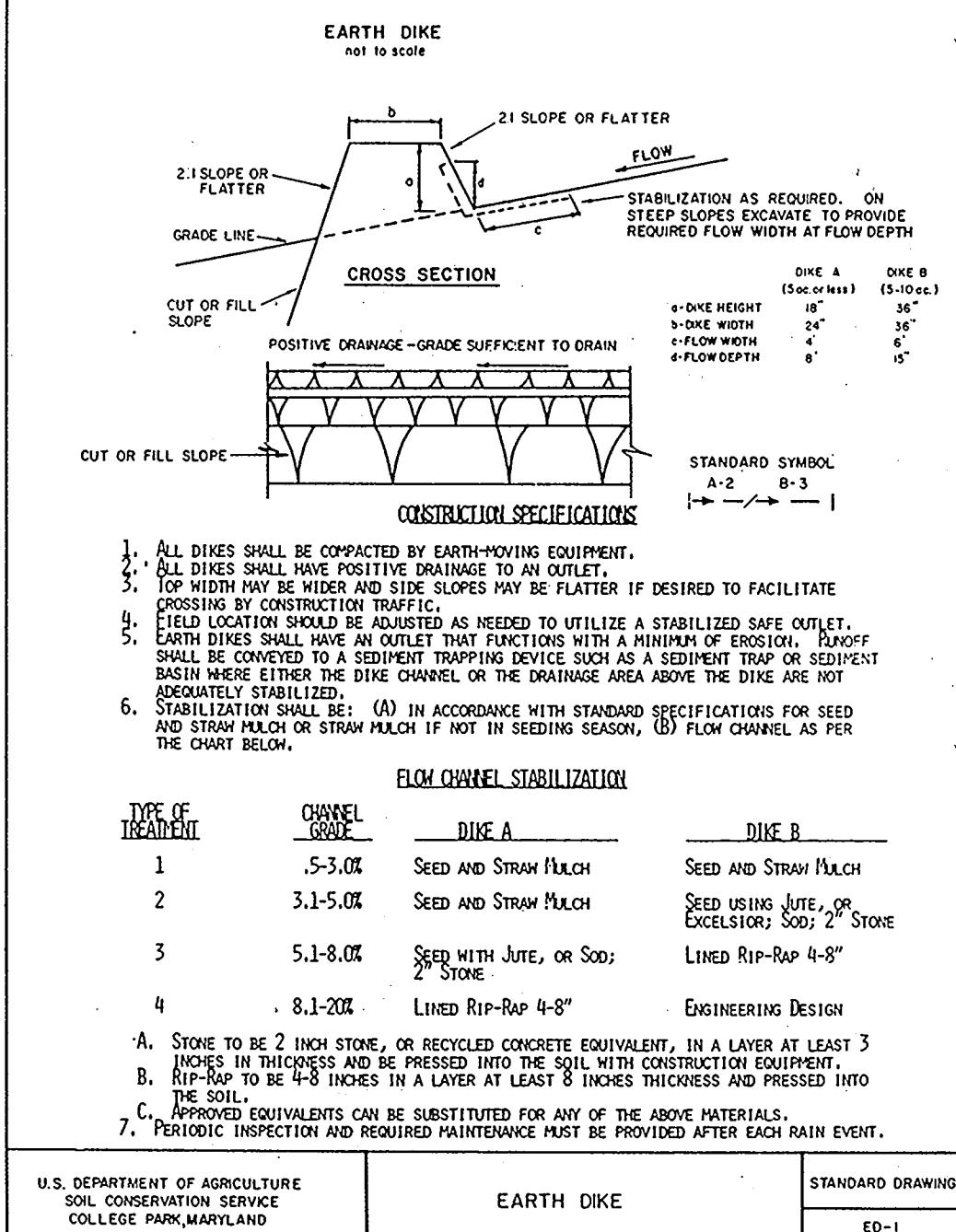
Fertilizer: 10-10-10 @ 11.5 lbs./1000 sq. ft.
Seed: Crownvetch inoculated @ 0.5 lbs./1000 sq. ft.
KY-31 Tall Fescue @ 1.5 lbs./1000 sq. ft.
Mulch: Straw @ 80 lbs./1000 sq. ft.
Asphalt Tie-down: Slopes @ 8 gal./1000 sq. ft.
Flat areas @ 5 gal./1000 sq. ft.

7. EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and soil 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, MIRAFI 1405 or equivalent shall be used.



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.

Robert W. Ziehm 2-12-90
HOWARD SOIL CONSERVATION DISTRICT DATE

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

Robert W. Ziehm 2/12/90
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chris Demmons 3/2/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

Francis M. McLeod 3/9/90
CHIEF, BUREAU OF HIGHWAYS DATE

Michael R. Kelly 3-20-90
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

David V. Taylor 3/23/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

ENGINEER'S CERTIFICATE

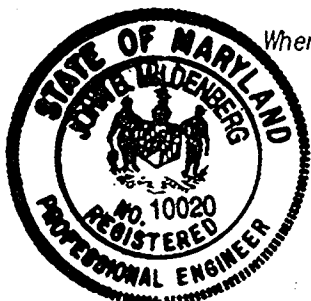
I certify this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the Developer that he must provide the Howard Soil Conservation District with an "As-Built" plan of the pond within 30 days of completion.

John M. Mah FEB 8, 1990
Date

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.

Christina A. Richards 2-7-90
Signature of Developer Date



Owner/Developer: **Pedicond Property Development Corp.**
c/o Land Design & Development, Inc.
8307 Main Street
Ellicott City, Maryland 21043
(301) 461-7100

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

date	10/89
project	89059.00
illustration	CAM
scale	AS SHOWN
approval	JBM

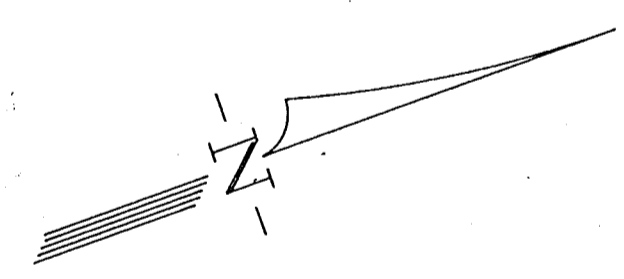
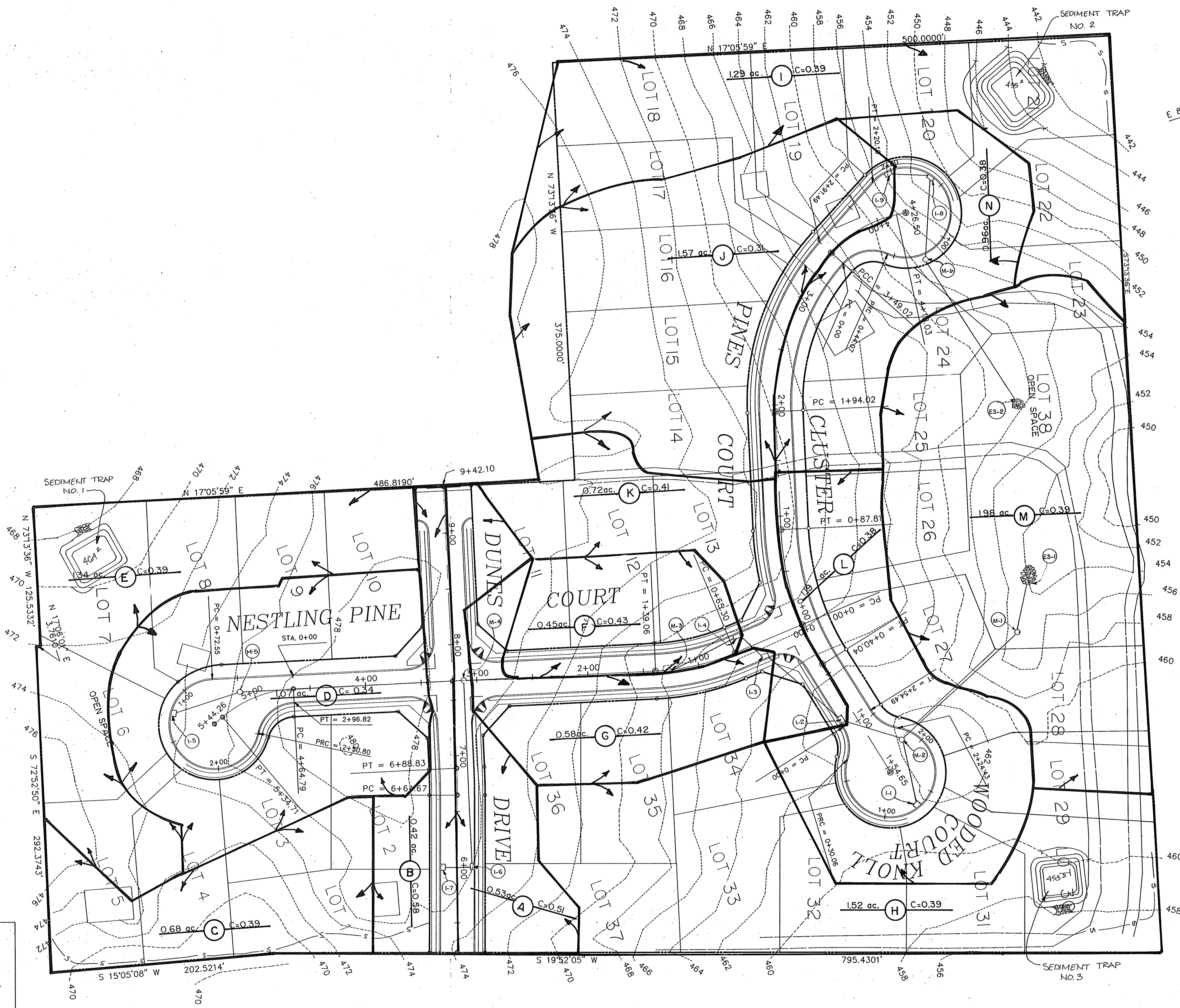
date	10/27/89
description	First submission to Howard County DPZ
revision	0
no.	

THE CLUSTERS
Parcels 101 & 58
Tax Map 16
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND
SWM NOTES & SEDIMENT CONTROL DETAILS

MILDENBERG, MOCHI & ASSOCIATES, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland
(301) 461-0078 (301) 461-5788

1547

1547



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John Cummings 3/20/90
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Francis W. Weiland 3/19/90
 CHIEF, BUREAU OF HIGHWAYS DATE

K. S. Ryan 3-20-90
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
David J. Anger 3/23/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

Owner/Developer
 Pedicord Property Development Corp.
 c/o Land Design & Development, Inc.
 8307 Main Street
 Ellicott City, Maryland 21043
 (301) 461-7100

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



THIS SHEET IS FOR DRAINAGE AREA ONLY!
 NOT TO BE USED FOR SEDIMENT CONTROL CONSTRUCTION

F-90-93

project no.	89059-00	date	10/89
illustration	CAM/LAKS	engineering	CAM
scale	1" = 50'	approval	JBM

no.	1	description	REVISED COMMENTS PER JAN 3/4-LETTER & SUBMIT FOR SIGNATURE APPROVAL	date	2/2/90
no.	2	description	First Submission To Ho. Co. DPZ	date	10/27/89

THE CLUSTERS
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND
 DRAINAGE AREA MAP

MILDENBERG, MOCHI & ASSOCIATES, INC.
 ENGINEERS
 3300 North Ridge Road, Suite 235, Ellicott City, Maryland, 21043-3350
 (301) 461-0078 D.C. Metro: (301) 621-5768