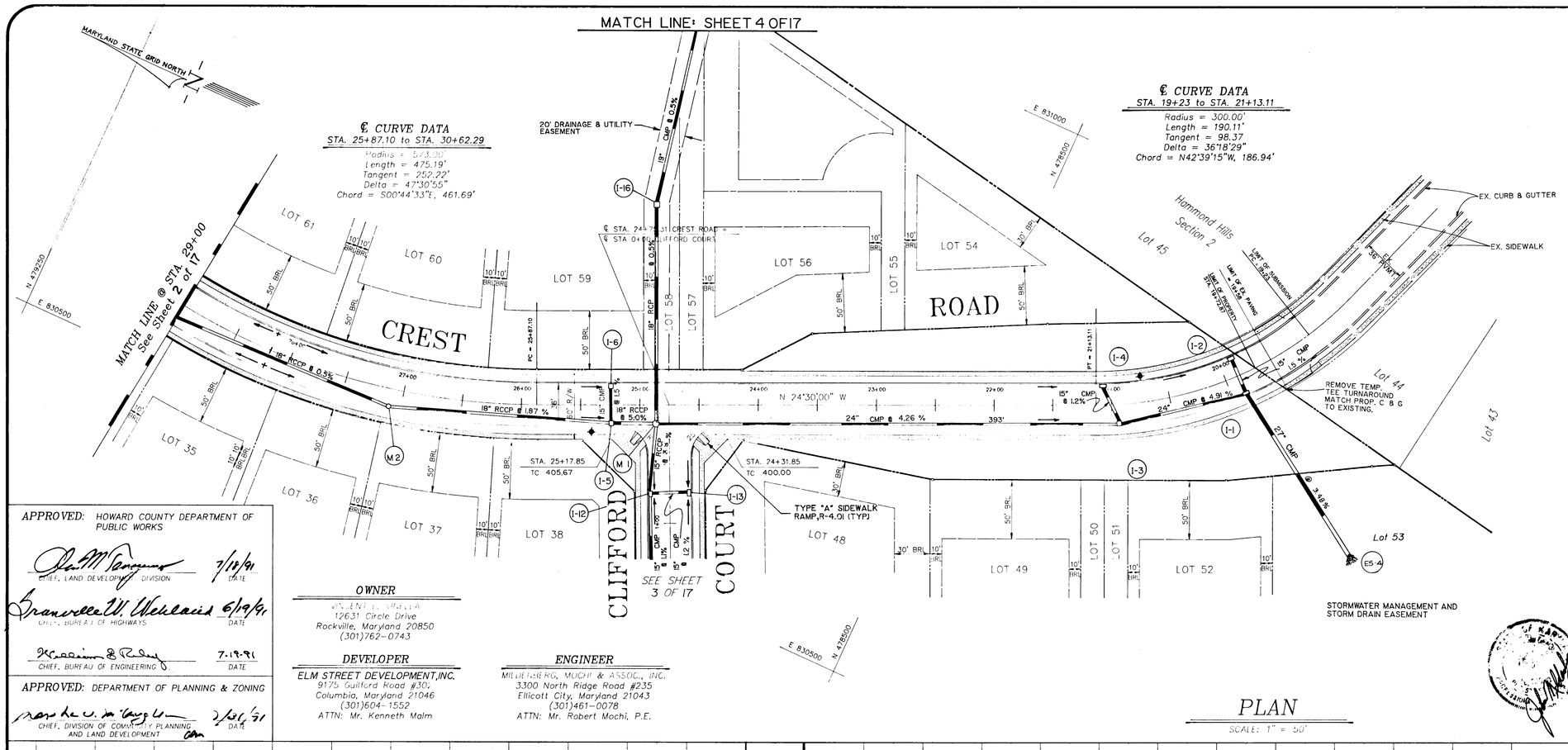
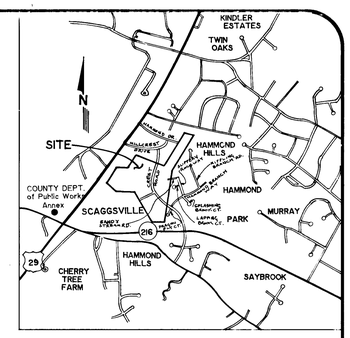
MATCH LINE: SHEET 4 OF 17

MARYLAND STATE GRID NORTH

℄ CURVE DATA
STA. 25+87.10 to STA. 30+62.29
Radius = 575.00'
Length = 475.19'
Tangent = 252.22'
Delta = 47°30'55"
Chord = S00°44'33"E, 461.69'

℄ CURVE DATA
STA. 19+23 to STA. 21+13.11
Radius = 300.00'
Length = 190.11'
Tangent = 98.37
Delta = 36°18'29"
Chord = N42°39'15"W, 186.94'





VICINITY MAP
Scale: 1" = 2000'

BENCHMARK

No. 2039003	N 477222.641	E 830705.905
No. 2039002	N 477493.563	E 829043.326

GENERAL NOTES

1. All work shall be done in accordance with Howard County Standards, Specifications and Details for Construction.
2. All utility companies must be notified in advance of any construction.
3. Storm drainage trenches within road rights-of-way shall be backfilled and compacted in accordance with Howard County Road Code.
4. Any damage to public rights-of-way or paving will be corrected at the contractor's expense.
5. 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).
6. All traffic control devices shall be installed in accordance with the Manual of Uniform Traffic Control Devices, 1988 Edition.
7. 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.
8. Street lights shall be provided in accordance with the Howard County Design Manual.
Street lights are shown thusly: ✦

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 3/18/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/9/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 3/27/91

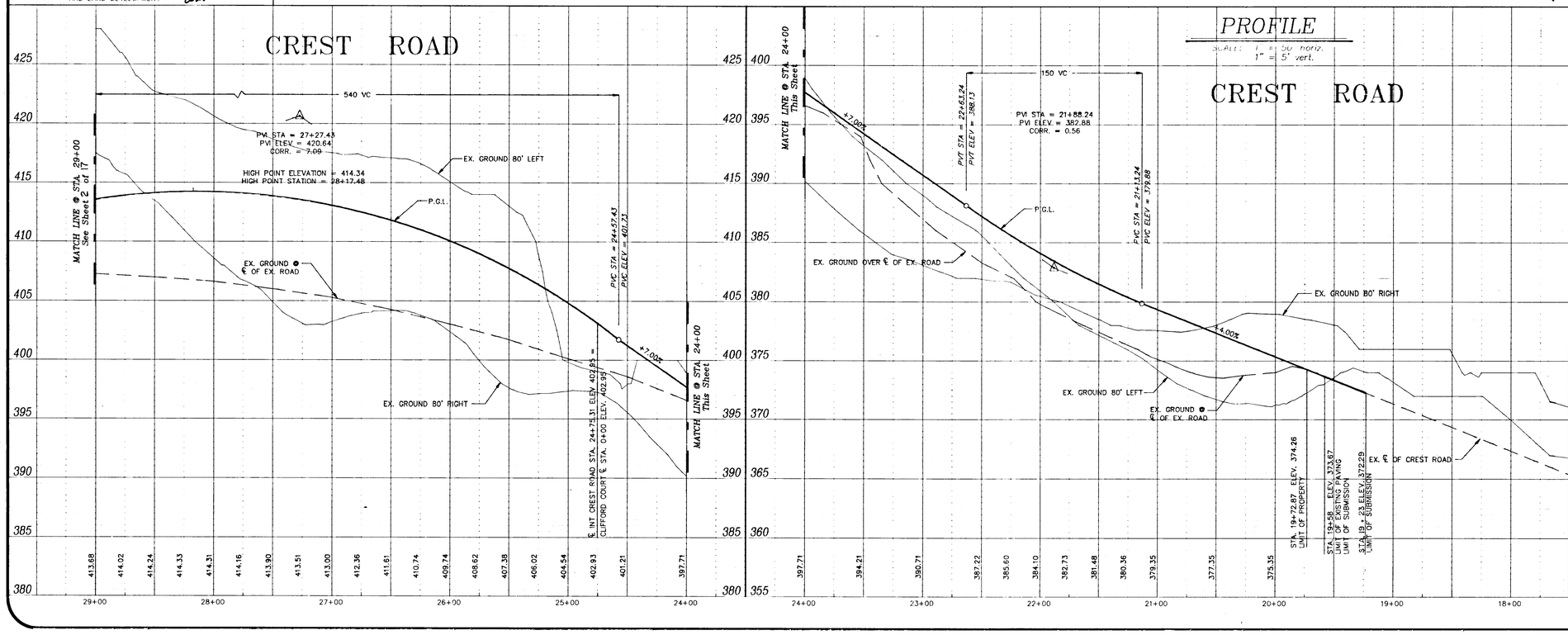
OWNER
WILLIAM L. MALM
12631 Circle Drive
Rockville, Maryland 20850
(301)762-0743

DEVELOPER
ELM STREET DEVELOPMENT, INC.
9175 Guilford Road #30,
Columbia, Maryland 21046
(301)604-1552
ATTN: Mr. Kenneth Malm

ENGINEER
MILDENBERG, MOCHI & ASSOC., INC.
3300 North Ridge Road #235
Ellicott City, Maryland 21043
(301)461-0078
ATTN: Mr. Robert Mochi, P.E.

PLAN
SCALE: 1" = 50'

PROFILE
SCALE: 1" = 50' horiz.
1" = 5' vert.



project	89004.03	date	6/90
illustration		engineering	LJG
scale	As Shown	approval	RMM

no.	description	date
2	ADD CONSTRUCTION DETAIL NOTES ON PAGE 17	1/17/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/5/90	9/13/90
0	First Submission to Howard County DPZ	

LOTS 1 - 73
PATUXENT SPRINGS
Tax Map 46 Parcel 194 Howard County, Maryland
Election District No 6

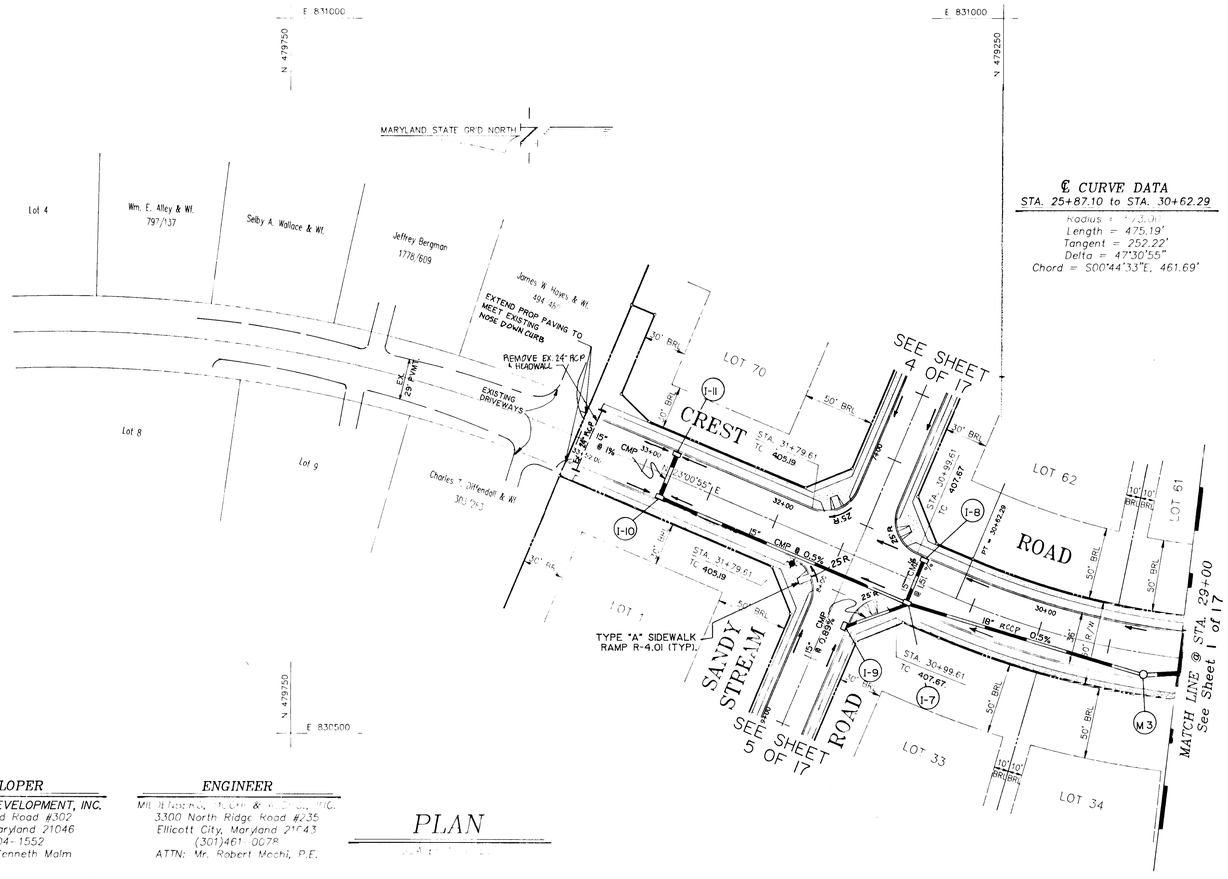
CREST ROAD — PLAN & PROFILE

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

1 OF 17

16628

F90 201 HS



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/12/91

DIRECTOR OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-18-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/24/91

OWNER

[illegible]
12631 Circle Drive
Rockville, Maryland 20850
(301)762-0743

DEVELOPER

ELM STREET DEVELOPMENT, INC.
9115 Guilford Road #302
Columbia, Maryland 21046
(301)604-1552
ATTN: Mr. Kenneth Malm

ENGINEER

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

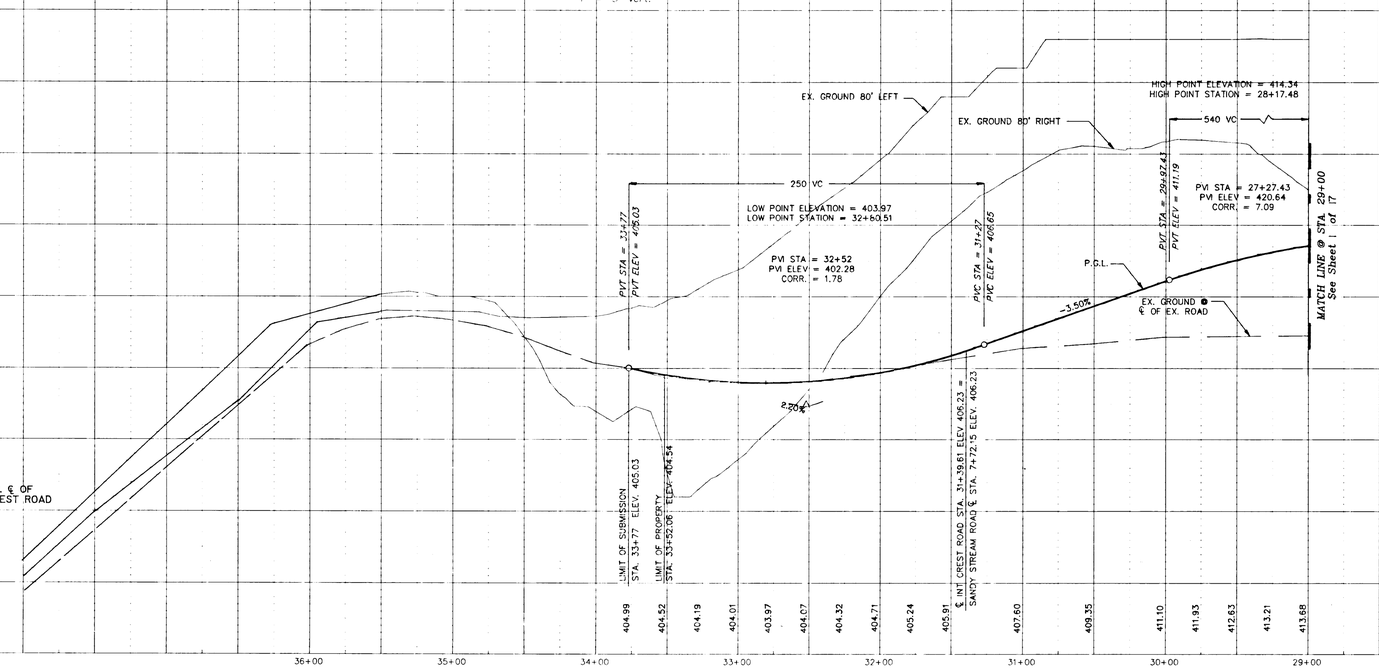
PLAN

SCALE: 1" = 50'

PROFILE

SCALE: Horiz. 1" = 50'
Vert. 1" = 5'

CREST ROAD



No.	Revision	Date
2	ADD CONSTRUCTION DETAILS & NOTES TO PAGE 12 & 17	7/11/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90

Date 8/24/03 — Drawn by [illegible]
Illustration — engineering — L.J.G.
Scale As Shown — approval RMM

PATUXENT SPRINGS
Tax Map 46 Parcel 194 Howard County, Maryland
Election District No. 6
CREST ROAD - PLAN & PROFILE

MILDENBERG, BOCH & ASSOCIATES, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro: (301) 627-5768

2 OF 17

1628

F90201 HS

OWNER

VINCENT L. VINELLA
12631 Circle Drive
Rockville, Maryland 20850
(301)762-0743

DEVELOPER

ELM STREET DEVELOPMENT,INC.
9175 Guilford Road #302
Columbia, Maryland 21046
(301)604-1552
ATTN: Mr. Kenneth Malm

ENGINEER

MILDENBERG, MOCHI & ASSOC., INC.
3300 North Ridge Road #235
Ellicott City, Maryland 21043
(301)461-0078
ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

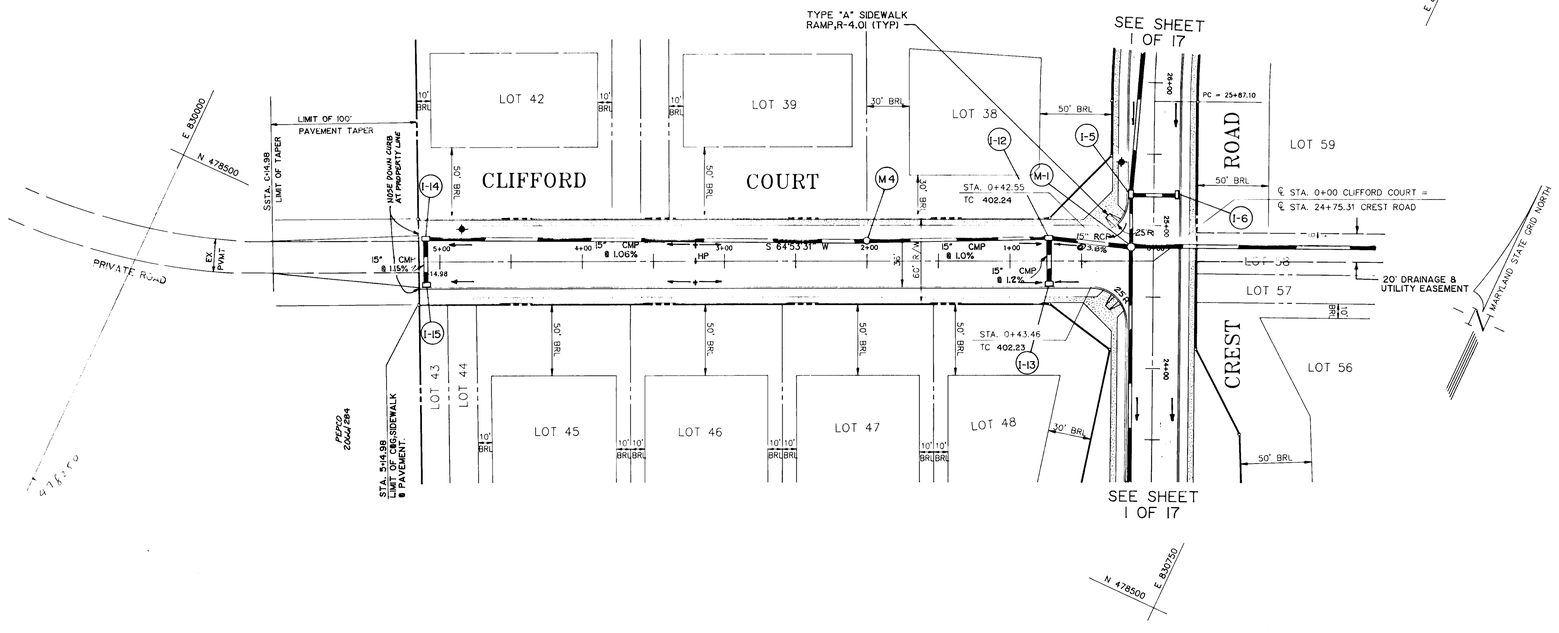
CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/18/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-18-91

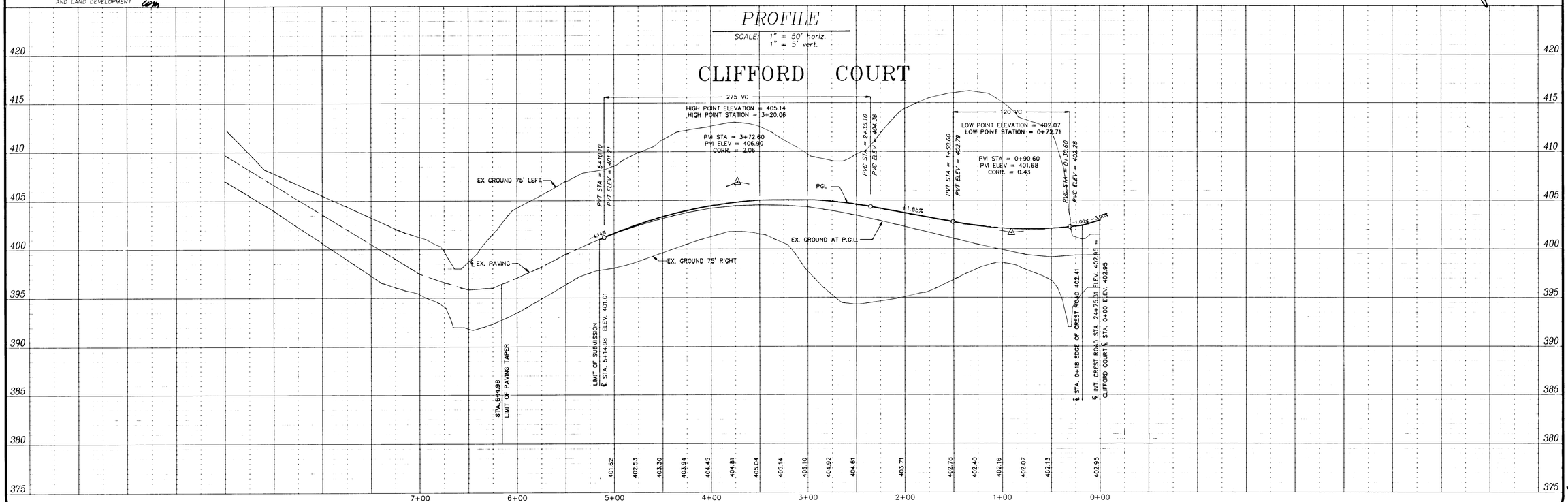
APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/2/91



PLAN

SCALE: 1" = 50'



project 89004.03 | date 6/90
illustration | engineering LJC
date | approval As Shown RMM

no.	description	date
2.	ADD CONSTRUCTION DETAIL 1 NOTES TO PAGE 12 OF 17	7/11/91
1.	REVISED PER COMMENTS FROM DPZ DATED 8/6/90	9/13/90
	First Submission to Howard County DPZ	

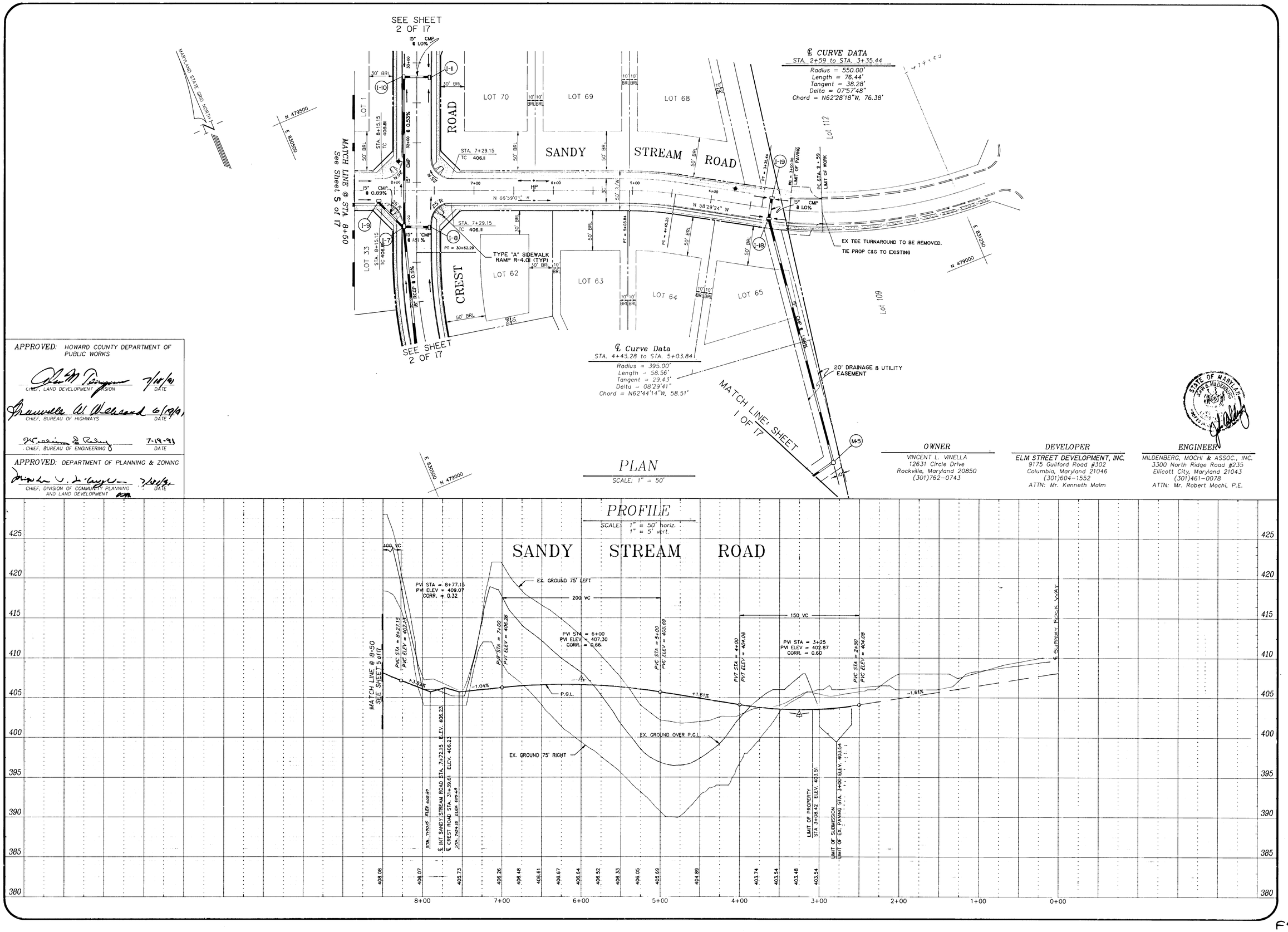
LOTS 1 - 73
PATUXENT SPRINGS
Tax Map 46 Parcel 194
Election District No. 6 Howard County, Maryland
CLIFFORD COURT - PLAN & PROFILE

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

3 OF 17

1628

F90201 HS



PLAN

SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/18/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/30/91

OWNER	DEVELOPER	ENGINEER
VINCENT L. VINELLA 12631 Circle Drive Rockville, Maryland 20850 (301)762-0743	ELM STREET DEVELOPMENT, INC. 9175 Guilford Road #302 Columbia, Maryland 21046 (301)604-1552 ATTN: Mr. Kenneth Malm	MILDENBERG, MOCHI & ASSOC., INC. 3300 North Ridge Road #235 Ellicott City, Maryland 21043 (301)461-0078 ATTN: Mr. Robert Mochi, P.E.

no.	description	date
2	ADD CONSTRUCTION DETAIL NOTES TO PG 12 OF 17	7/17/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90
0	First submission to Howard County DPZ	

project	date
89004.03	6/90
illustration	engineering
	LJG
scale	approval
As Shown	RMM

LOTS 1 - 73

PATUXENT SPRINGS

Parcel 194

Tax Map 46

Howard County, Maryland

Election District No. 6

SANDY STREAM ROAD - PLAN & PROFILE

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

F90201

1628

OWNER

VINCENT L. VINELLA
12631 Circle Drive
Rockville, Maryland 20850
(301)762-0743

DEVELOPER

ELM STREET DEVELOPMENT, INC.
9175 Guilford Road #302
Columbia, Maryland 21046
(301)604-1552
ATTN: Mr. Kenneth Malm

ENGINEER

MILDENBERG, MOCHI & ASSOC., INC.
3300 North Ridge Road #235
Ellicott City, Maryland 21043
(301)461-0078
ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/11/91

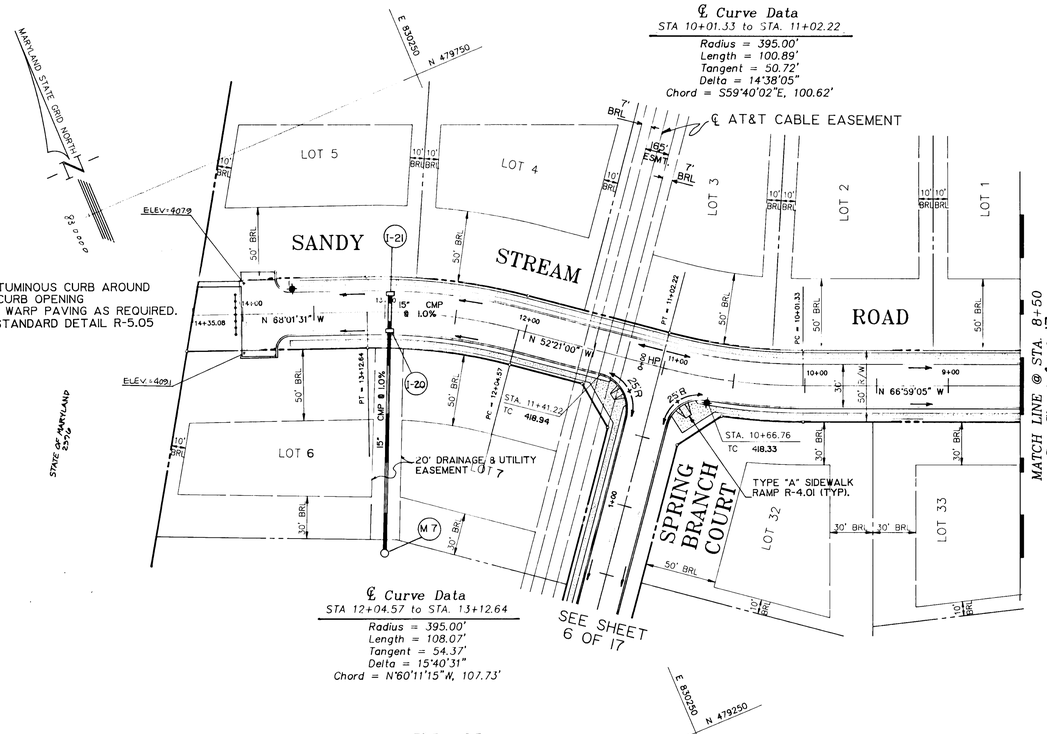
CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

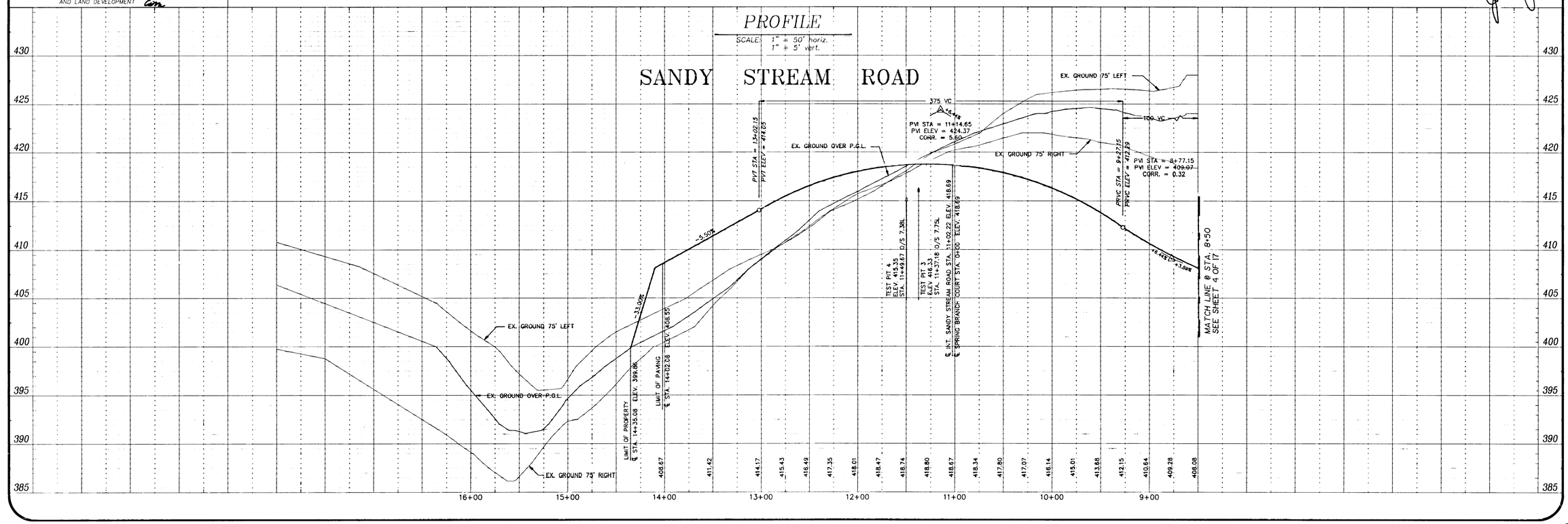
APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/10/91

INSTALL TEMPORARY BITUMINOUS CURB AROUND TEE-TURNAROUND W/3' CURB OPENING & BITUMINOUS CHANNEL. WARP PAVING AS REQUIRED. SEE HOWARD COUNTY STANDARD DETAIL R-5.05



PLAN
SCALE: 1" = 50'



project	date
89004.03	6/90
ustration	engineering
	LJC
date	approval
As Shown	RMM

no.	description	date
2	ADD CONSTRUCTION DETAIL & NOTES TO PAGE 12 OF CT	7/17/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90
0	First Submission to Howard County DPZ	
revisions		

PATUXENT SPRINGS
LOTS 1 - 73
Tax Map 46 Parcel 194
Election District No. 6 Howard County, Maryland

SANDY STREAM ROAD - PLAN & PROFILE

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

1628

F 90 201

OWNER
VINCENT L. VINELLA
12631 Circle Drive
Rockville, Maryland 20850
(301)762-0743

DEVELOPER
ELM STREET DEVELOPMENT, INC.
9175 Guilford Road #302
Columbia, Maryland 21046
(301)604-1552
ATTN: Mr. Kenneth Malm

ENGINEER
MILDENBERG, MOCHI & ASSOC., INC.
3300 North Ridge Road #235
Ellicott City, Maryland 21043
(301)461-0078
ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

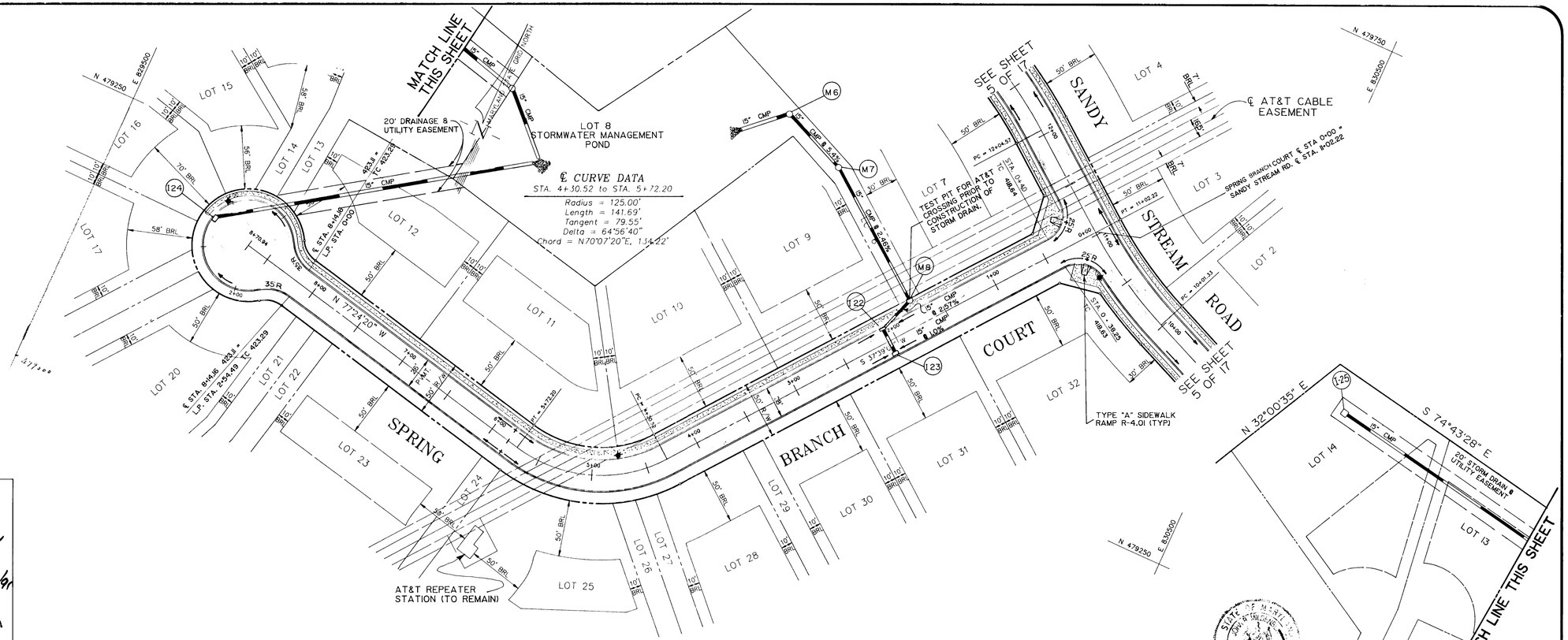
CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/16/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

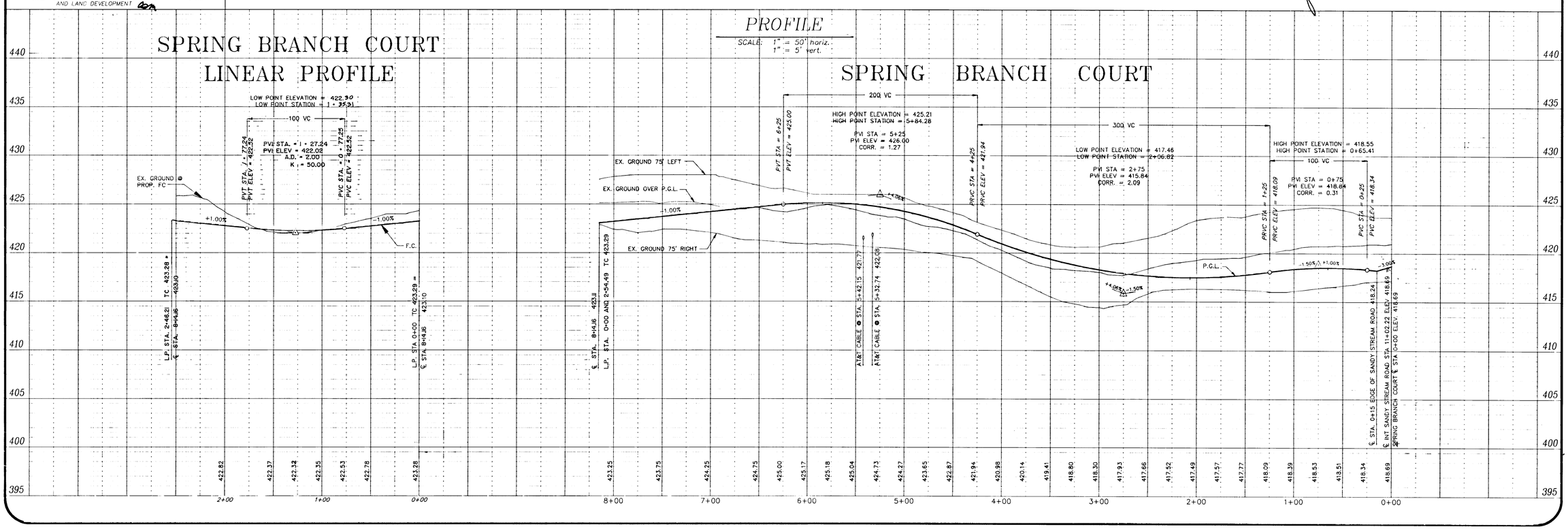
CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/16/91



PLAN
SCALE: 1" = 50'



project	date
89004.03	6/90
illustration	engineering
	LJC
scale	approval
As Shown	RMM

no.	description	date
2	ADD CONSTRUCTION DETAIL NOTES TO PAGE 12 of 17	7/17/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90
	First submission to Howard County DPZ	

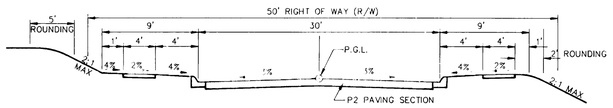
LOTS 1 - 73
PATUXENT SPRINGS
Tax Map 46 Parcel 194
Election District No. 6 Howard County, Maryland
SPRING BRANCH COURT PLAN & PROFILE

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

1628

F90201 HS

STRUCTURE SCHEDULE						
NUMBER	TYPE	INV. IN	INV. OUT	TOP	℄ STA. ; O/S	REMARKS
I-1	STANDARD 'WR'	368.00	**367.70**	374.41	19+90.00; 18' L	
I-2	DBL'S COMBINATION		370.00	374.41	19+90.00; 18' R	DEPRESSED
I-3	STANDARD 'WR'	374.00	373.55	378.94	20+90.00; 18' L	
I-4	STANDARD 'WR'		374.72	379.00	21+08.00; 18' R	
I-5	SINGLE 'WR'	395.50	395.40	405.90	25+23.00; 18' L	
I-6	SINGLE 'WR'		401.25	405.90	25+23.00; 18' R	
I-7	STANDARD 'WR'	398.85	398.60	407.25	30+94.61; 18' L	
I-8	SINGLE 'WR'		403.88	407.25	30+94.61; 18' R	
I-9	STANDARD 'WR'		403.75	406.41	8+20.15; 15' L	
I-10	SINGLE 'WR'	399.95	399.85	403.43	32+80.51; 18' R	SUMP
I-11	SINGLE 'WR'		400.30	403.43	32+80.51; 18' L	SUMP
I-12	DBL'S COMBINATION	393.21	393.00	401.53	0+72.71; 18' R	SUMP
I-13	SINGLE 'WR'		398.00	401.53	0+72.71; 18' L	SUMP
I-14	DBL'S COMBINATION	398.10	398.00	400.67	5+10.00; 18' R	**DEPRESSED**
I-15	SINGLE 'WR'		398.50	400.67	5+10.00; 18' L	
I-16	YARD INLET	391.60	391.50	**398.00**	**N 478799.43 E 830794.60**	**SUMP**
I-18	SINGLE 'WR'	399.50	399.40	403.48	34+25.00; 15' L	SUMP
I-19	SINGLE 'WR'		399.75	403.48	34+25.00; 15' R	SUMP
I-20	SINGLE 'WR'	410.47	410.37	413.92	12+96.00; 15' L	
I-21	SINGLE 'WR'		410.75	413.92	12+96.00; 15' R	
I-22	SINGLE 'WR'	413.12	413.00	417.04	2+06.87; 14' R	SUMP
I-23	SINGLE 'WR'		413.40	417.04	2+06.82; 14' L	SUMP
I-24	SINGLE 'WR'		**413.40**	422.30	1+35.31; LINEAR PROFILE	SUMP
M-1	MANHOLE	390.58	390.25	403.05	24+86.59; 18' L	
M-2	MANHOLE	396.55	396.45	412.67	27+08.00; 16' L	
M-3	MANHOLE	397.75	397.65	412.76	29+24.00; 16' L	
M-4	MANHOLE	394.70	394.60	403.29	2+00.00; 14' R	
M-5	MANHOLE	392.75	392.50	**396.00**	**N 478939.17 E 830975.63**	
M-6	MANHOLE	406.85	406.75	412.50	**N 479478.288 830039.15**	
M-7	MANHOLE	408.70	408.60	414.50	**N 479452.034 830098.61**	
M-8	MANHOLE	412.10	412.00	418.00	1+73.00; 23' R	
ES-1	METAL END SECTION		**406.00**		N 479341.53; E 829846.75	
ES-2	METAL END SECTION		**406.00**		**N 479354.98; E 829847.93**	
ES-3	METAL END SECTION		**406.00**		**N 479448.22; E 830003.97**	
ES-4	**METAL END SECTION**		**362.00**		**N 478138.39; E 83077.45**	
I-75	**YARD INLET**		**408.0**	**418.5**	N 479458.85 829566.32	
M-9	**MANHOLE**	**406.73**	**406.63**	**414.0**	N 479394.30 829802.67	

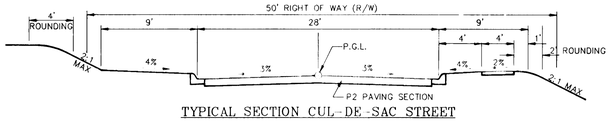


TYPICAL SECTION LOCAL ROAD

50' RIGHT OF WAY
DESIGN SPEED = 30 MPH

SANDY STREAM ROAD - STA. 3+50 to END

ZONING DISTRICT R-20
NOT TO SCALE

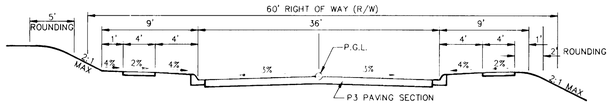


TYPICAL SECTION CUL-DE-SAC STREET

50' RIGHT OF WAY
DESIGN SPEED = 35 MPH

SPRING BRANCH COURT - STA. 0+00 to 8+70.94

ZONING DISTRICT R-20
NOT TO SCALE

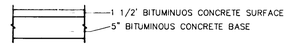


TYPICAL SECTION MINOR COLLECTOR STREET

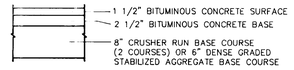
60' RIGHT OF WAY
DESIGN SPEED = 35 MPH

CREST ROAD - STA. 19+58 to STA. 33+52.06
CLIFFORD COURT - STA. 0+00 to 5+14.98

ZONING DISTRICT R-20
NOT TO SCALE

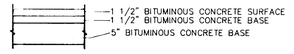


FULL DEPTH BITUMINOUS CONCRETE ALTERNATE
NOT TO SCALE

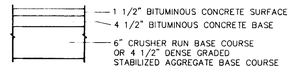


GRANULAR BASE ALTERNATE
NOT TO SCALE

PAVING SECTION P-2
NOT TO SCALE

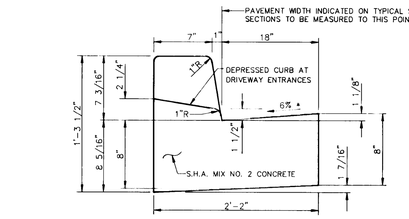


FULL DEPTH BITUMINOUS CONCRETE ALTERNATE
NOT TO SCALE

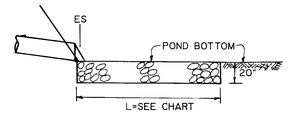


GRANULAR BASE ALTERNATE
NOT TO SCALE

PAVING SECTION P-3
NOT TO SCALE

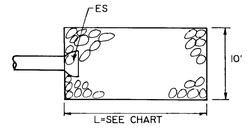


STANDARD 7" COMBINATION CURB AND GUTTER



PROFILE

d50= 9"
dmax= 14"
THICKNESS= 20"



PLAN

END SECTION	L(FT.)
ES-1	10
ES-2	10
ES-3	10
ES-4	20

RIP RAP OUTLET PROTECTION(ES-1thru ES-4)
not to scale

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/16/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-18-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/10/91

no.	description	date
2	ADD CONSTRUCTION DETAILS & NOTES TO PAGE 12 OF 17 REVISED PER COMMENTS FROM DPZ DATED 8/15/90	2/11/91
1	First submission to Howard County DPZ	9/13/90
	revisions	

project 89004.03	date JUNE '90
drawn JDC	engineering MDC
scale 1" = 50'	approval RMM

PATUXENT SPRINGS

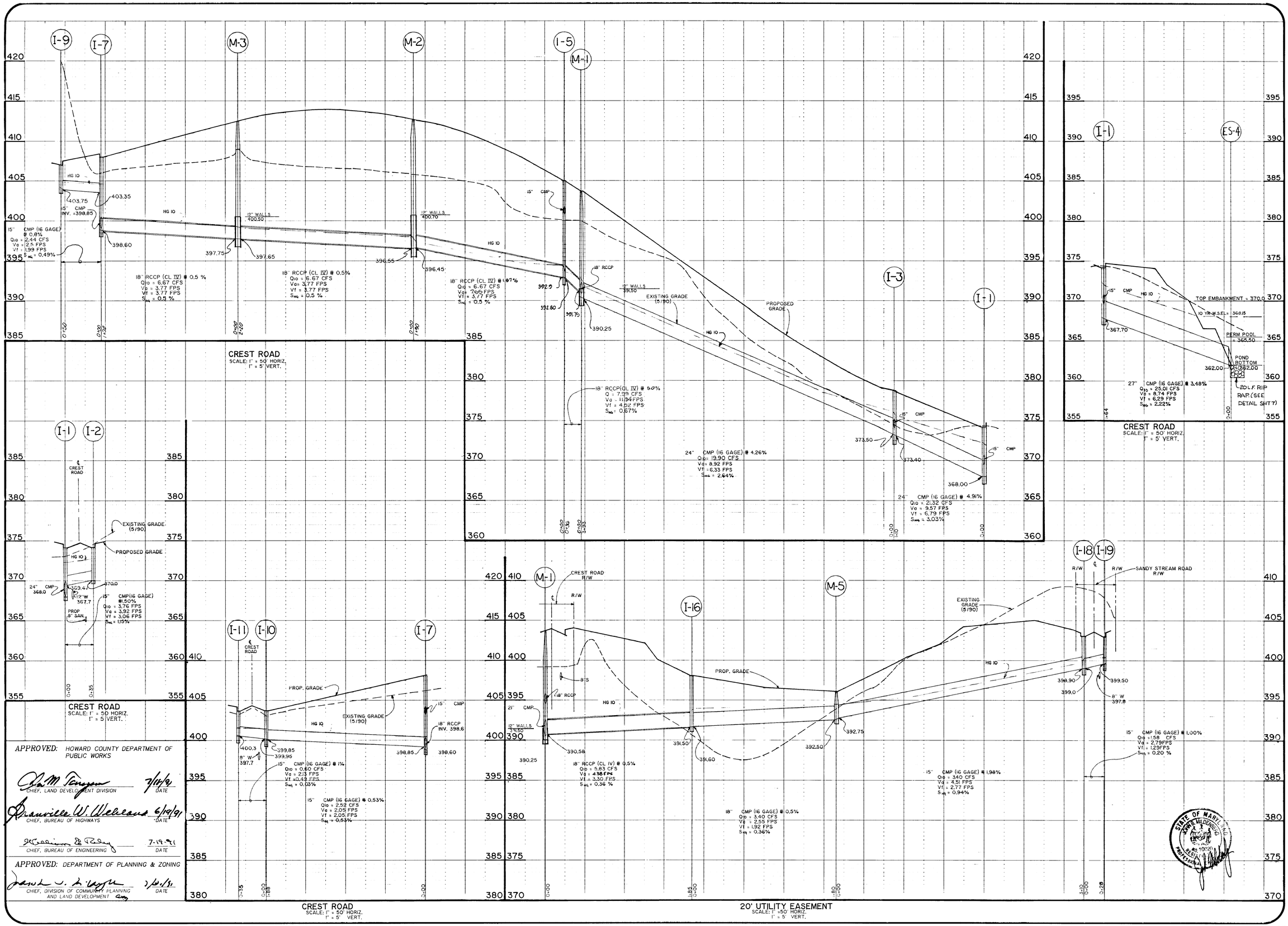
Parcel 194 Tax Map 46
ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND

DETAILS

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

1628

F90 201



project 89004.00 | date 6/90
station | engineering DAB
scale HORZ. 1"=50' VERT. 1"=5' | approval JBM

no.	date	description
2	7/11/91	ADD CONSTRUCTION DETAIL + NOTES TO PAGE 12 of 17
1	9/13/90	REVISED PER COMMENTS FROM DPZ DATED 8/5/90
		First submission to Howard County DPZ
		revisions

LOTS 1 - 73
PATUXENT SPRINGS
Tax Map 46 Parcel 194
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 6
STORM DRAIN PROFILES

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/11/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

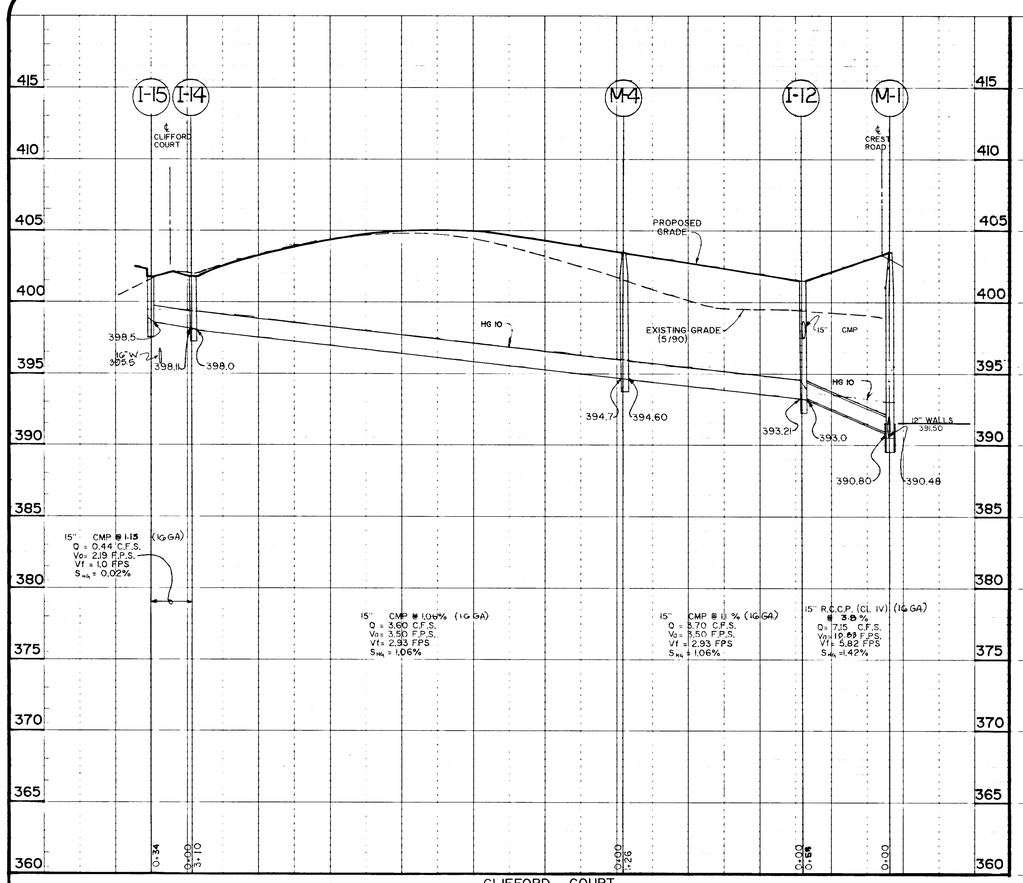
APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/10/91

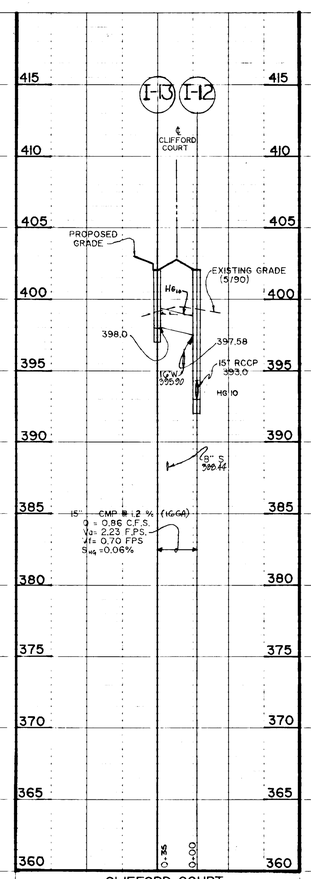
WILDENBERG, BOCH & ASSOCIATES, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro (301) 621-5788

STATE OF MARYLAND — GENE WILDENBERG — No. 10090 — REGISTERED PROFESSIONAL ENGINEER

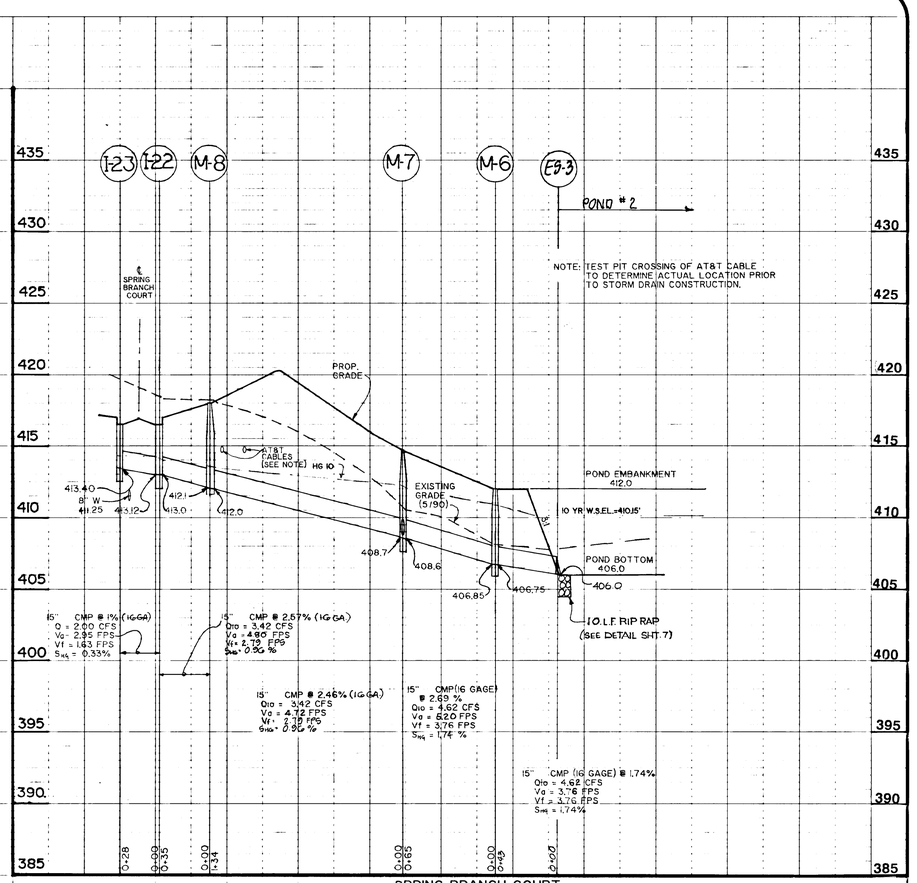
F 90-201



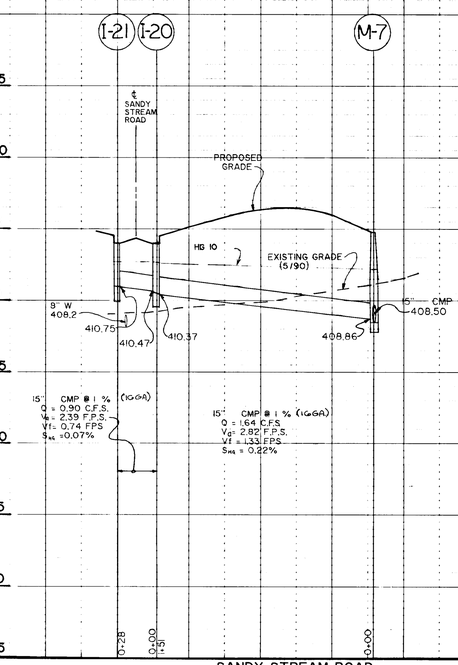
CLIFFORD COURT
SCALE: 1" = 50' HORIZ.
1" = 5' VERT



CLIFFORD COURT
SCALE: 1" = 50' HORIZ.
1" = 5' VERT



SPRING BRANCH COURT
SCALE: 1" = 50' HORIZ.
1" = 5' VERT



SANDY STREAM ROAD
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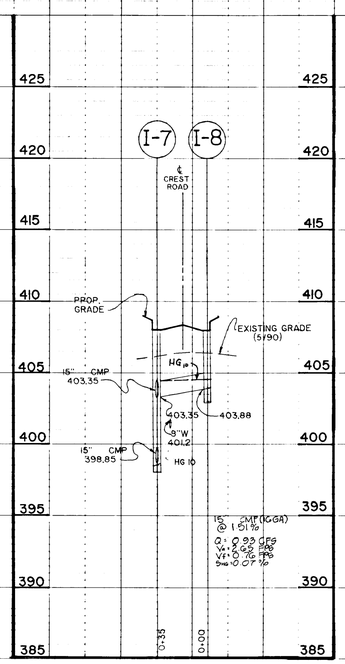
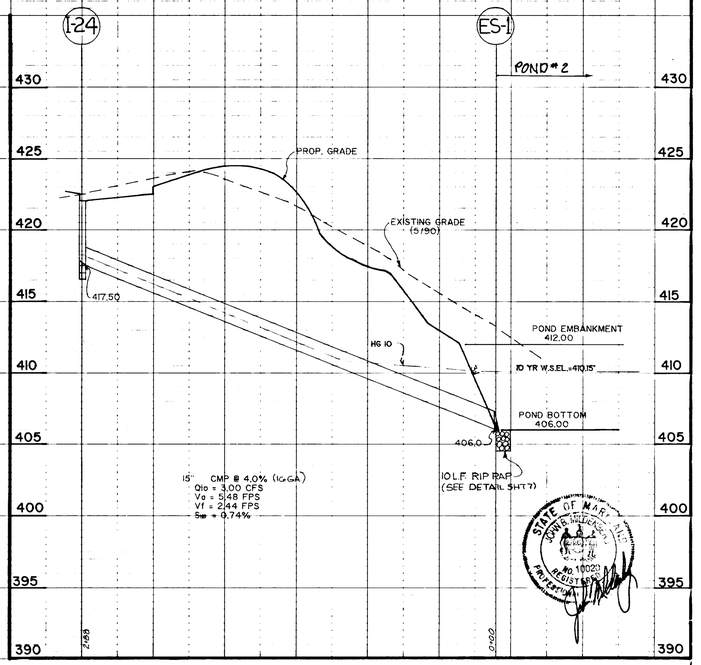
1" = 5' VERT





APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/19/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 6/6/91

SANDY STREAM ROAD
SCALE: 1" = 50' HORIZ.
1" = 5' VERT

project	date
89004.00	6/90
illustration	engineering
LAR	DAB
scale	approval
HORZ. 1" = 50' VERT. 1" = 5'	JBM

no.	description revisions	date
2	ADD CONSTRUCTION DETAIL & NOTES TO PAGE 12 OF 17	7/19/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/3/90
0	First Submission to Howard County DPZ	

LOTS 1 - 73
PATUXENT SPRINGS
Tax Map 46 Parcel 194 HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 6
STORM DRAIN PROFILES

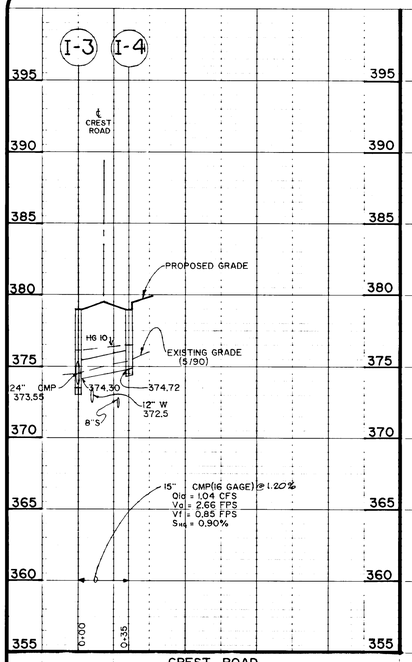
ILDENBERG, OCHI & ASSOCIATES, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro: (301) 621-5768

STATE OF MARYLAND — JAMES B. MARTIN — No. 10021 — REGISTERED PROFESSIONAL ENGINEER

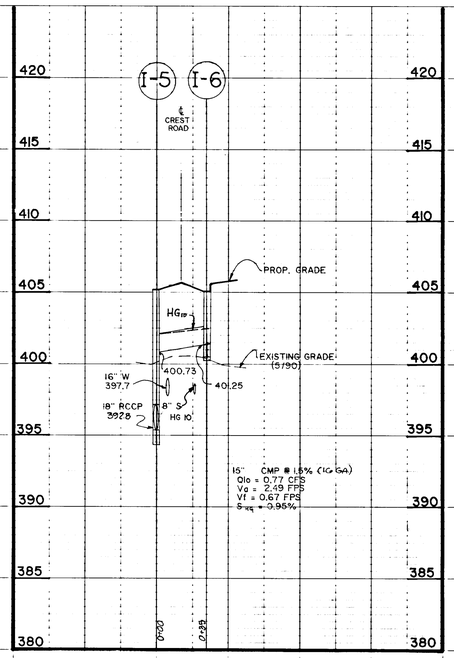
9 OF 17

16028

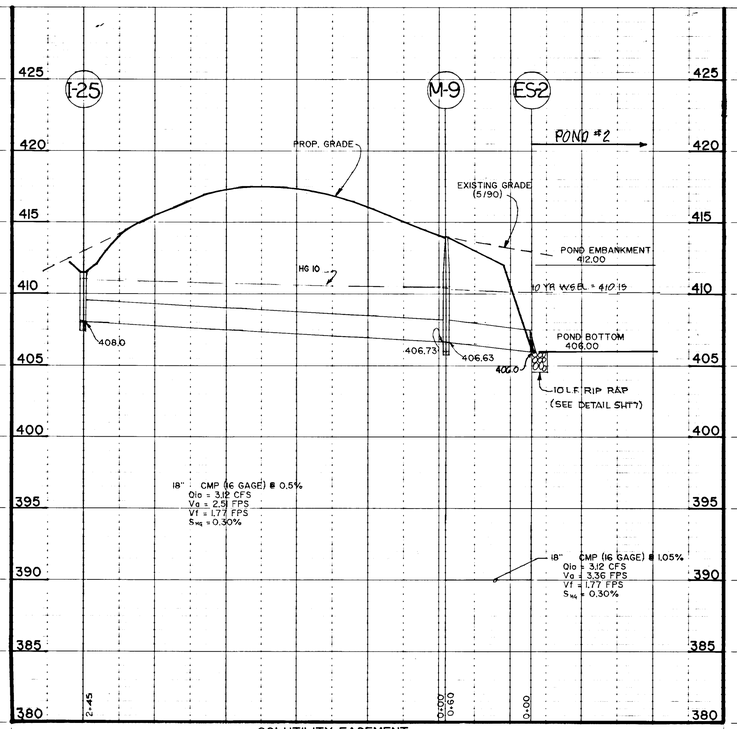
F90 201



CREST ROAD
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



CREST ROAD
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



20' UTILITY EASEMENT
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/19/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/11/91

STATE OF MARYLAND — No. 10020 — REGISTERED PROFESSIONAL ENGINEER

project	date
89004.00	6/90
illustration	engineering
LAR	DAB
scale	approval
HORZ. 1" = 50' VERT. 1" = 5'	JBM

no.	description	date
revisions		
0	First submission to Howard County DPZ	9/13/90
1	REVISED PER COMMENTS FROM DPZ DATED 9/13/90	11/1/91
2	ADD CONSTRUCTION DETAIL & NOTES TO PAGE 12 of 17	

LOTS 1 - 73
PATUXENT SPRINGS
Tax Map 46 Parcel 194
ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND
STORM DRAIN PROFILES

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

1628

F 90 201

MD Route 29
150' R/W

Storm Drainage Computation

Area	Drainage Area (Acres)	"C" Factor
A	0.73	.23
B	3.00	.23
C	0.86	.23
D	0.76	.23
E	0.74	.27
F	0.55	.23
G	0.77	.27
H	0.49	.27
I	1.48	.27
J	1.36	.23
K	0.42	.23
L	2.72	.23
M	0.60	.23
N	2.57	.23
O	0.30	.23
P	1.96	.27
Q	1.26	.23
R	1.07	.23
S	0.92	.23
T	1.30	.23
U	0.54	.23
V	0.61	.23
W	2.14	.23
X	2.49	.23

E 879500
N 478500

N 480500
E 831250

N 478250
E 831250

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/18/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7.19.91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/2.1/91

LEGEND

EXISTING CONTOURS .....

PROPOSED CONTOURS —380—

DRAINAGE BOUNDARY — — —

STATE OF MARYLAND
JOHN W. LEWIS
No. 10001
PROFESSIONAL ENGINEER

project	date
88004.03	JUNE '90
illustration	engineering
MDG	LJG
scale	approval
1" = 100'	PMM

no.	description / revisions	date
2	ADD CONSTRUCTION DETAIL & NOTES ON PAGE 12 OF 17	7/17/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/8/90	9/13/90

PATUXENT SPRINGS

HOWARD COUNTY, MARYLAND

ELECTION DISTRICT No. 6

DRAINAGE AREA MAP

ILDENBERG, OCHI & ASSOCIATES, INC.
ENGINEERS · SURVEYORS · PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro. (301) 621-5768

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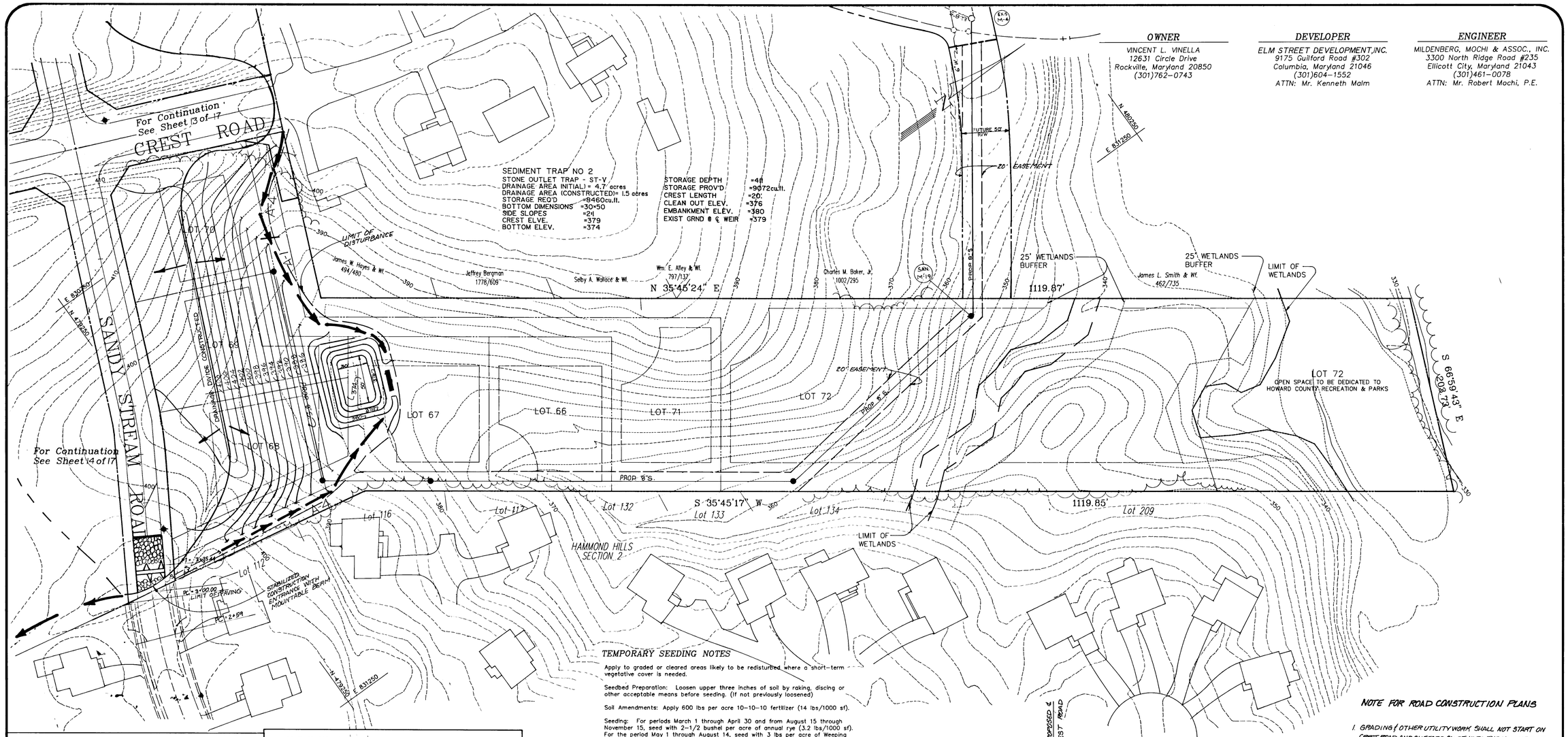


OWNER

VINCENT L. VINELLA
12631 Circle Drive
Rockville, Maryland 20850
(301)762-0743

DEVELOPER

ELM STREET DEVELOPMENT,INC.
9175 Guilford Road #302
Columbia, Maryland 21046
(301)604-1552
ATTN: Mr. Kenneth Malm

ENGINEER

MILDENBERG, MOCHI & ASSOC., INC.
3300 North Ridge Road #235
Ellicott City, Maryland 21043
(301)461-0078
ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/12/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/31/91

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.

SEPT. 13, 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.

Signature of Developer — Date 6/25/90

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

U.S. SOIL CONSERVATION SERVICE — DATE 10-4-90

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/5/90

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. (992-2437)
2. All vegetative and structural practices are to be installed accordingly 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 redisturbance, 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. 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.
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: 43.27 Ac.±
   Area to be Disturbed: 32.92 Ac.±
   Area to be Paved: 2.36 Ac.±
   Area to be vegetatively stabilized: 30.56 Ac.±
   Total Cut: 155,856 cy.
   Total Fill: 154,061 cy.
   Off-Site Waste/Borrow Area Location N/A.
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.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed 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 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.

Seedbed Preparation: Loosen upper three inches of soil be 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.

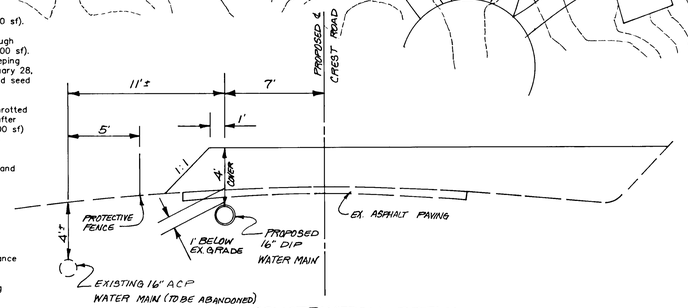
1) Preferred – Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sf).

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 1-1/12 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.



CONSTRUCTION DETAIL

16" DIP FROM STA. 31+15 to STA. 24+4 CREST ROAD
& STA 0+00 + STA 5+20 CLIFFORD COURT

SCALE = 1"=5'

NOTE: Quantities and estimates shown are for sediment control purposes only. Contractor shall prepare his own quantity estimate to his satisfaction.

NOTE FOR ROAD CONSTRUCTION PLANS

1. GRADING & OTHER UTILITY WORK SHALL NOT START ON CREST ROAD AND CLIFFORD COURT UNTIL THE NEW 16" D.I.P. WATER MAIN IS CONSTRUCTED AND PLACED IN OPERATION.
2. THE CONTRACTOR SHALL STAKE OUT THE EXISTING 16" A.C.P. WATER MAIN ALONG ITS CENTER LINE WITHIN CREST ROAD AND CLIFFORD COURT. PROTECTIVE FENCE SHALL INSTALLED PRIOR TO ANY CONSTRUCTION AS SHOWN ON THE WATER & SEWER CONSTRUCTION PLAN CONTRACT 24-3134-D.
3. CONSTRUCTION EQUIPMENT WILL CROSS THE EXISTING 16" ACP ONLY AT SELECTED POINTS PROTECTED WITH APPROPRIATE STEAL PLATES OR RAMPS OVER THE MAIN.
4. TEMPORARY ACCESS SHALL BE PROVIDED TO THE EXISTING WATER TOWER, AS SHOWN ON THE WATER & SEWER CONSTRUCTION PLANS, CONTRACT 24-3134-D. THOSE PORTIONS OF SANDY STREAM ROAD AND SPRING BRANCH COURT IN USE FOR THIS PURPOSE SHALL BE BROUGHT TO ROUGH GRADE AND SURFACE WITH GRAVEL. THIS TEMPORARY ACCESS MAY BE ABANDONED ONCE CREST ROAD & CLIFFORD COURT ARE AT GRADE WITH SUB BASE SURFACE.

STATE OF MARYLAND — JOHN MILDENBERG — NO. 10021 — REGISTERED PROFESSIONAL ENGINEER

project	date
89004.03	JUNE '90
illustration	engineering
MDC	CAM
scale	approval
1" = 50'	RMM

no.	description	date
2	ADD CONSTRUCTION DETAIL & NOTES ON PAGE 12 of 17	7/1/90
1	REVISED PER COMMENTS FROM DPZ DATED 8/31/90	9/13/90

PATUXENT SPRINGS

Tax Map 46 Parcel 194
ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND

GRADING & SEDIMENT CONTROL PLAN

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

12 OF 17

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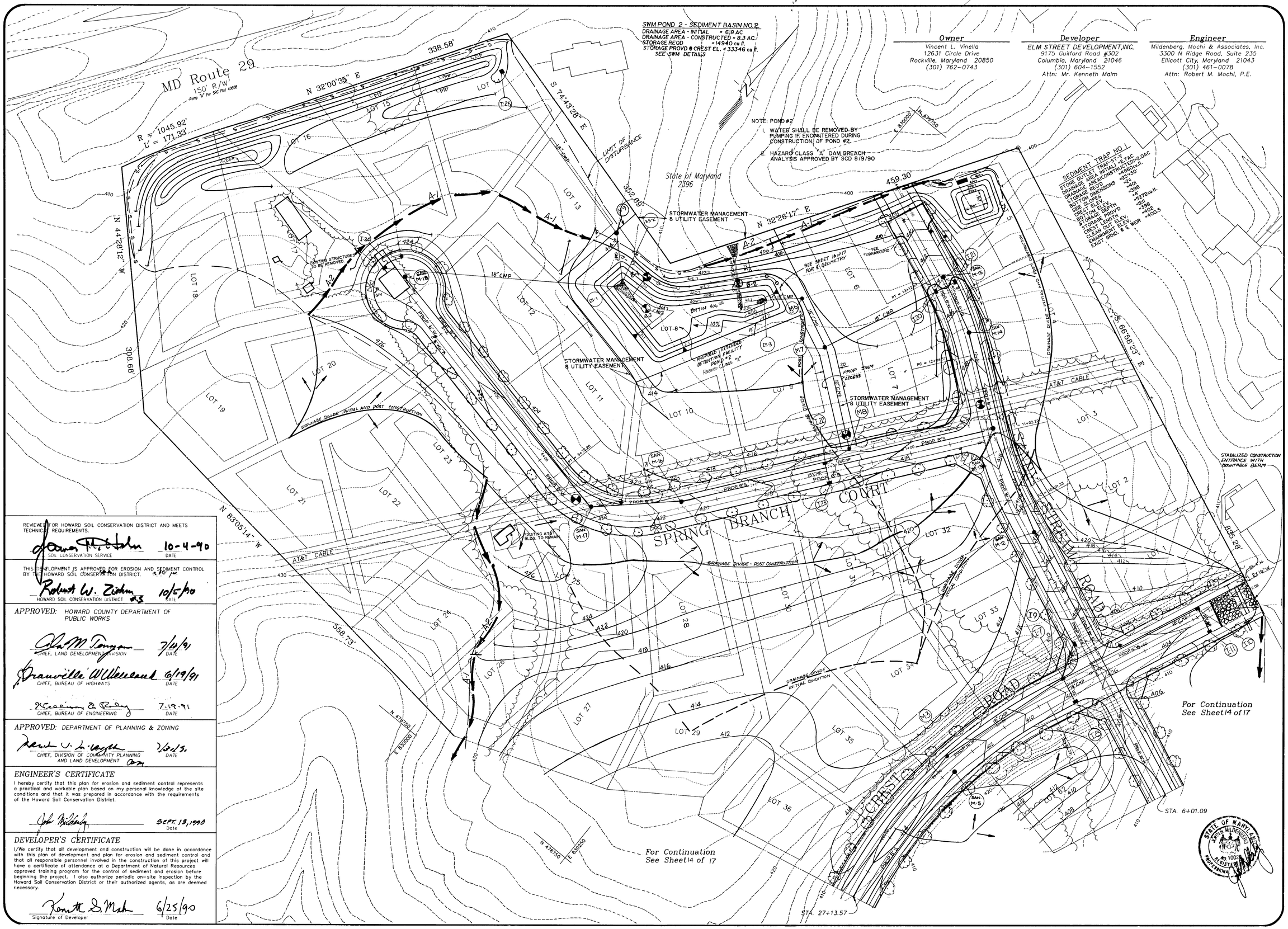

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION SERVICE — DATE 10-4-90

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

HOWARD SOIL CONSERVATION DISTRICT #3 — DATE 10/5/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/24/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/24/91

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.

SEPT. 19, 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.

Signature of Developer — Date 6/25/90

no.	description revisions	date
2	ADD CONSTRUCTION DETAIL & NOTES TO PAGE 12 OF 17	7/17/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90

project 89004.03 | date JUNE '90
illustration MDC | engineering CAM
scale 1" = 50' | approval RMM

PATUXENT SPRINGS

Tax Map 46 Parcel 194 HOWARD COUNTY, MARYLAND

ELECTION DISTRICT No. 6

GRADING & SEDIMENT CONTROL PLAN

MILDENBERG, MOCHI & ASSOCIATES, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro (301) 627-5788

STATE OF MARYLAND — DOYLE MILDENBERG — No. 10021 — REGISTERED PROFESSIONAL ENGINEER

13 OF 17

1628

F 90 201 MS

OWNER	DEVELOPER	ENGINEER
VINCENT L. VINELLA	ELM STREET DEVELOPMENT, INC.	MILDENBERG, MOCHI & ASSOC., INC.
12631 Circle Drive	9175 Guilford Road #302	3300 North Ridge Road #235
Rockville, Maryland 20850	Columbia, Maryland 21046	Ellicott City, Maryland 21043
(301)762-0743	(301)604-1552	(301)461-0078
	ATTN: Mr. Kenneth Malm	ATTN: Mr. Robert Mochi, P.E.

LEGEND

- EARTH DIKES
- EXISTING GROUND
- PROPOSED GROUND
- LIMIT OF DISTURBANCE
- SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- DRAINAGE DIVIDE INITIAL
- DRAINAGE DIVIDE CONSTRUCTED
- STREET LAMP - 100 WATT SODIUM LIGHTS SHALL BE PROVIDED ON A 14 FOOT FIBERGLASS POLE WITH THE "TRADITIONAIRE" HEAD IN THE LOCATION AS SHOWN

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

10-4-90
U.S. SOIL CONSERVATION SERVICE — DATE

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

Robert W. Ziehm — 10/5/90
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

7/18/91
CHIEF, LAND DEVELOPMENT DIVISION — DATE

Granville W. Wehland — 6/19/91
CHIEF, BUREAU OF HIGHWAYS — DATE

7-19-91
CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

7/21/91
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.

John Mildenberg — SEPT. 13, 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.

Kenneth S. Malm — 6/25/90
Signature of Developer — Date

NOTE: POND #1

1. WATER SHALL BE REMOVED BY PUMPING IF ENCOUTERED DURING CONSTRUCTION. OF POND #1.
2. HAZARD CLASS "A". THIS CLASSIFICATION HAS BEEN JUSTIFIED USING THE DANGER REACH CHART AS SHOWN IN THE SCD POND DESIGN MANUAL.

SWM POND #1 - SEDIMENT BASIN NO 1

DRAINAGE AREA - INITIAL	= 19.6 AC
DRAINAGE AREA - CONSTRUCTED	= 25.6 AC
STORAGE REQD	= 46080 CU FT.
STORAGE PROVD @ CREST EL.	= 89700 CU FT.

SEE SWM DETAILS

project	date
89004.03	JUNE '90
illustration	engineering
MDG	CAM
scale	approval
1" = 50'	RMM

no.	description	date
2.	ADD CONSTRUCTION DETAIL & NOTES TO PAGE 12 of 17	7/17/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90
0		

revisions

STATE OF MARYLAND ... NO. 10220 ... REGISTERED PROFESSIONAL ...

PATUXENT SPRINGS

Tax Map 46 Parcel 194

ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND

GRADING & SEDIMENT CONTROL PLAN

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

1628

F90201

EARTH DIKE
not to scale

	DIKE A (5 ac or less)	DIKE B (5-10 ac)
a-DIKE HEIGHT	18"	36"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	8"	15"

CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	EARTH DIKE	STANDARD DRAWING ED-1

10.03

STONE OUTLET SEDIMENT TRAP V

OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

CONSTRUCTION SPECIFICATIONS FOR ST-V

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small riprap 4"-8" along with a 1' thickness of 2" aggregate placed on the up-grade side on the small riprap or embedded filter cloth in the riprap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to ½ the design depth of the trap.
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 than erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

Maximum Drainage Area: 5 Acres

U.S DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	STONE OUTLET SEDIMENT TRAP	STANDARD DRAWING ST-V

16.12

STABILIZED CONSTRUCTION ENTRANCE
not to scale

CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 ft. (except on a single residence lot where a 30 ft minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) ft. 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 will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. 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 stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels 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.
9. Periodic inspection and needed maintenance shall be provided after each rain.

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE College Park, Md.	STABILIZED CONSTRUCTION ENTRANCE	Standard Drawing SCE-1

14.03

SILT FENCE

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABI-LINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

U.S DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	SILT FENCE	STANDARD DRAWING SF-1

12.03

SEQUENCE OF OPERATIONS

1. Obtain grading permit
2. Construct stabilized construction entrances and install temporary 15" CMP at Clifford Court.
3. Clear and grub areas surrounding sediment control features.
4. Construct permanent stormwater management ponds, and sediment traps and stabilize using temporary seeding methods. Open valve on Stormwater Management Pond 1 to function as dewatering device.
5. Construct silt fences and earth dikes. Stabilize earth dikes with temporary seeding.
6. Clear site per limits indicated.
7. Construct site to the grades indicated on the plan and construct storm drain system and utilities.
8. Do not place inlet protection devices per S.C.S. request.
9. Upon stabilization of graded areas, all accumulated sediment shall be removed from the storm drain system.
10. During construction, sediment shall be removed from the Sediment Traps and Stormwater Management Ponds when their cleanout elevations have been reached.
11. Construct asphalt berms to divert flows to inlets when base course pavement has been constructed.
12. Stabilize all roadway areas with permanent seeding.
13. Inspect all sediment control devices daily and after each rainfall, repair as necessary.
14. 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.
15. Contractor shall remove sediment and flush storm drain system at end of construction period.
16. Contractor shall dewater the Stormwater Management Ponds and remove accumulated sediments. Replace the perforated pipes serving as dewatering devices and reconstruct to function as low flow outlets for the Ponds. The valve on Pond 1 is to be closed when the Pond is to serve as a Stormwater Management Pond.
17. Following initial soil disturbance or redisturbance, 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 days for all other disturbed graded areas on the project site.

NOTE: TREES SHALL BE PLANTED 2' FROM SIDEWALK NEAR PROPOSED R/W WHERE THERE IS SIDEWALK. WHERE THERE ARE NO SIDEWALKS, TREES SHALL BE PLANTED 6' BEHIND THE CURB.

TREE PLANTING DETAIL FOR PATUXENT SPRINGS

NOT TO SCALE

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

[signature] 10/4/90
U.S. SOIL CONSERVATION SERVICE — DATE

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

Robert W. Ziehm 10/5/90
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 7/18/91
CHIEF, LAND DEVELOPMENT DIVISION — DATE

Granville W. Welland 6/19/91
CHIEF, BUREAU OF HIGHWAYS — DATE

[signature] 7-19-91
CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

[signature] 7/3/91
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 Mildenberg Sept. 13, 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.

[signature] 6/25/90
Signature of Developer — Date

project	date
89004.03	JUNE '90
illustration	engineering
MDG	CAM
scale	approval
1" = 50'	RMM

no.	description	date
2	ADD CONSTRUCTION DETAIL & NOTES TO PAGE 12 of 17	7/17/91
-	REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90

revisions

PATUXENT SPRINGS
Tax Map 46 Parcel 194
ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND

SEDIMENT CONTROL NOTES and DETAILS

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

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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 that 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 sheepsfoot, 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 ASSHTO T-99 and is to be certified by the Geotechnical Engineer.

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

[signature] SOIL CONSERVATION SERVICE — DATE 10-4-90

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

Robert W. Zichm, Jr. HOWARD SOIL CONSERVATION DISTRICT — DATE 10/5/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/11/91

[signature] CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

[signature] CHIEF, BUREAU OF ENGINEERING — DATE 7-19-91

APPROVED: DEPARTMENT OF PLANNING & ZONING

[signature] CHIEF, DIVISION OF COMPREHENSIVE PLANNING AND LAND DEVELOPMENT — DATE 7/2/91

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.

[signature] — Date SEPT. 10, 1990

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.

[signature] Signature of Developer — Date 6/25/90

1628

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 ML,CL,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 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.

4.3 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 sightly 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.

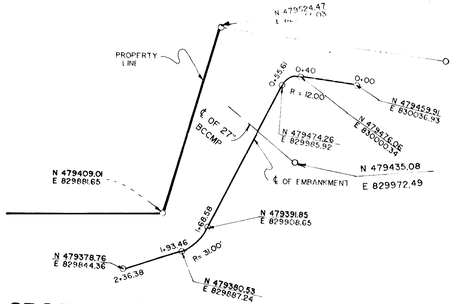
Fertilizer:	10-10-10	@ 11.5 lbs./1000 sq. ft.
Seed:	Crownvetch inoculated	@ 0.5 lbs./1000 sq. ft.
	'KY-31' Tall Fescue	@ 1.5 lbs./1000 sq. ft.
Mulch:	Straw	@ 80 lbs./1000 sq. ft.
Asphalt Tie-down:	Slopes	@ 8 gal./1000 sq. ft.
	Flat areas	@ 5 gal./1000 sq. ft.

7. EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and 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.

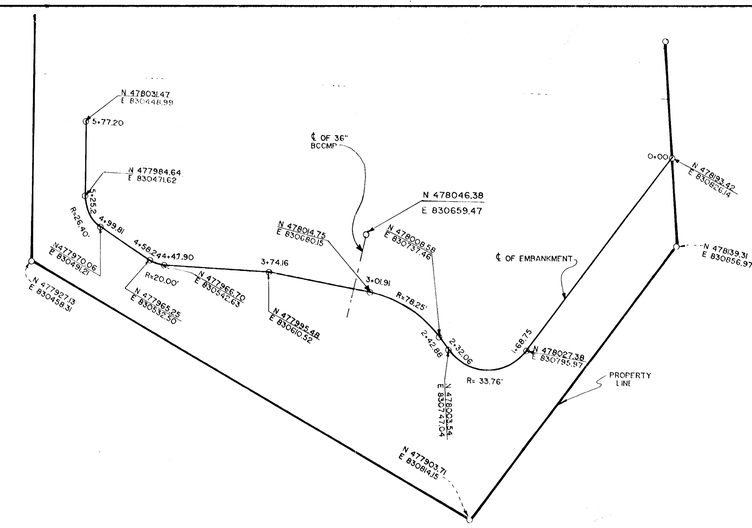
8. FILTER FABRIC

Where specified, MIRAFI 1405 or equivalent shall be used.



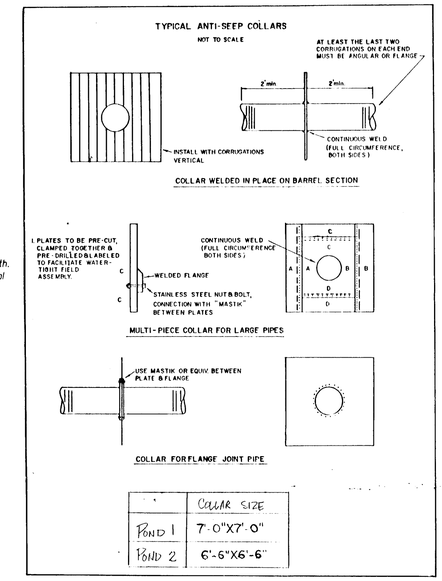
℄ OF S.W.M. EMBANKMENT LAYOUT DETAIL (POND # 2)

SCALE: 1" = 50'

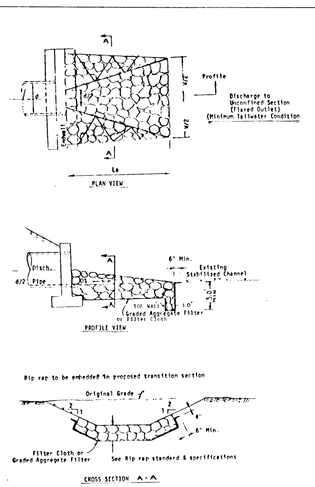


℄ OF S.W.M. EMBANKMENT LAYOUT DETAIL

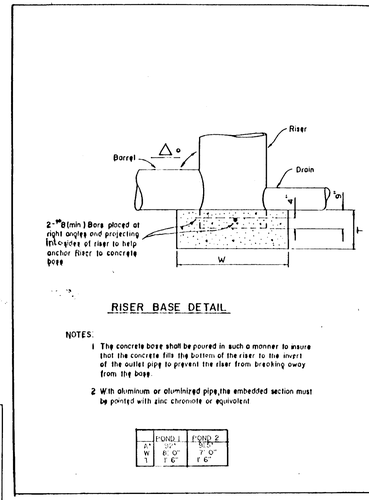
(POND # 1) SCALE: 1" = 50'



	COLLAR SIZE
POND 1	7'-0"X7'-0"
POND 2	6'-6"X6'-6"



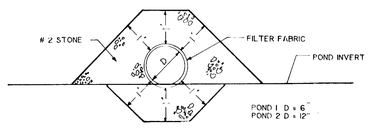
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	RIPRAP OUTLET PROTECTION I	STANDARD DRAWING ROP-1



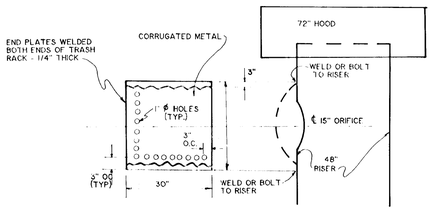
NOTES:

1. The concrete base shall be poured in such a manner to insure that the concrete fills the bottom of the riser to the invert of the outlet pipe to prevent the riser from bracking away from the base.
2. With aluminum or aluminized pipe, the embedded section must be painted with zinc chromate or equivalent

	POND 1	POND 2
A*	2'-0"	2'-0"
W	8'-0"	7'-0"
T	1'-6"	1'-6"



1 SECTION
POND 1 & 2 NOT TO SCALE
LOW FLOW PROTECTION



DETAIL - TRASH RACK
POND # 1 NOT TO SCALE

OWNER	DEVELOPER	ENGINEER
VINCENT L. VIOLA	ELM STREET DEVELOPMENT, INC.	MILDENBERG, MOCHI & ASSOC., INC.
12631 Circle Drive	9175 Guilford Road #300	3300 North Ridge Road #235
Rockville, Maryland 20850	Columbia, Maryland 21046	Ellicott City, Maryland 21043
(301)762-0743	(301)604-1552	(301)461-0078
	ATTN: Mr. Kenneth Malm	ATTN: Mr. Robert Mochi, P.E.

STATE OF MARYLAND — JOHN W. MILDENBERG — NO. 10,000 — REGISTERED PROFESSIONAL ENGINEER

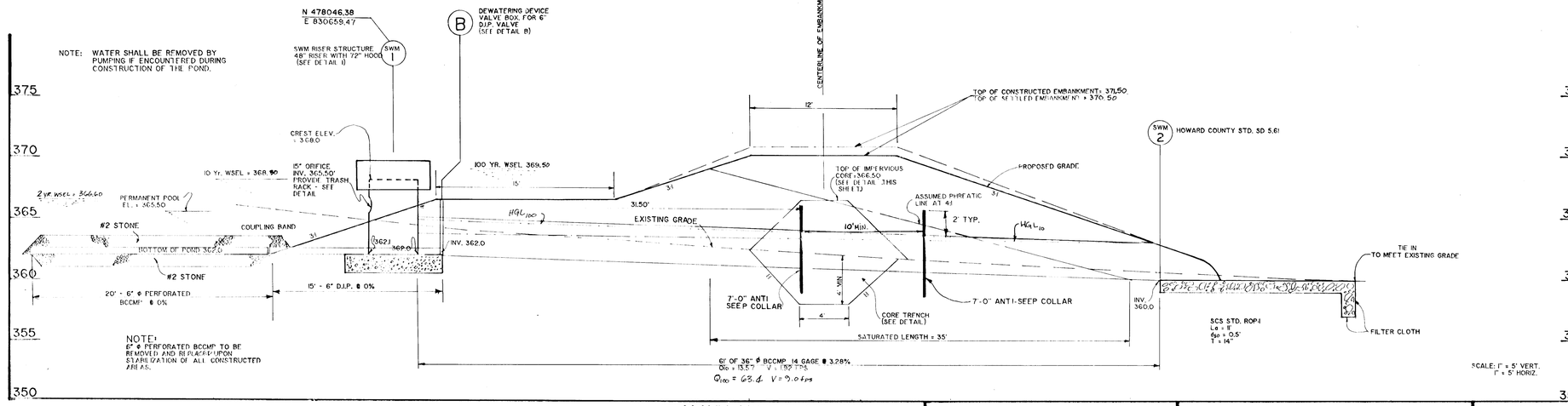
project	date
89004.03	JUNE 1990
illustration	designed
VDS	CAV
scale	approved
1" = 50'	RWM

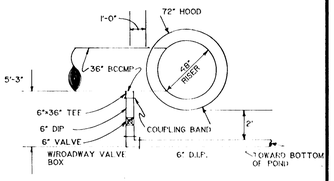
no.	description	date
2	ADD CONSTRUCTION DETAIL & NOTES TO PAGE 16 OF 17	7/11/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/13/90	9/13/90
-	First Submission to Howard County DPZ	

PATUXENT SPRINGS
Parcel 194
Tax Map 46
ELECTION DISTRICT No. 6
SWM PROFILES, DETAILS AND NOTES

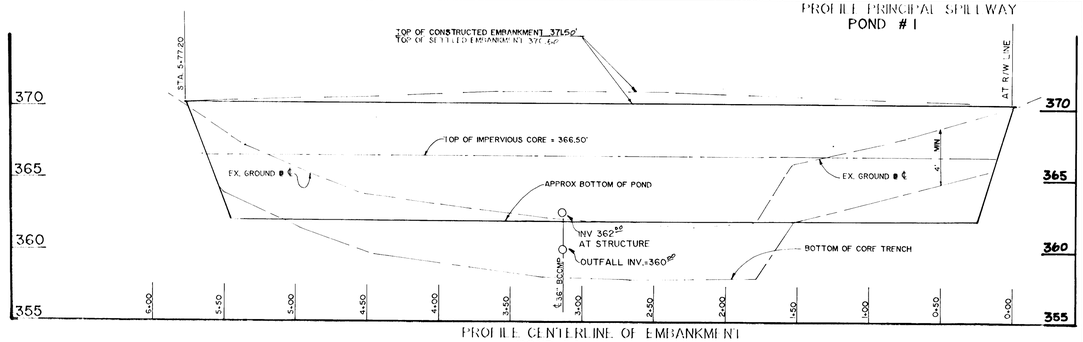
MILDENBERG, MOCHI & ASSOCIATES, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro: (301) 652-5768

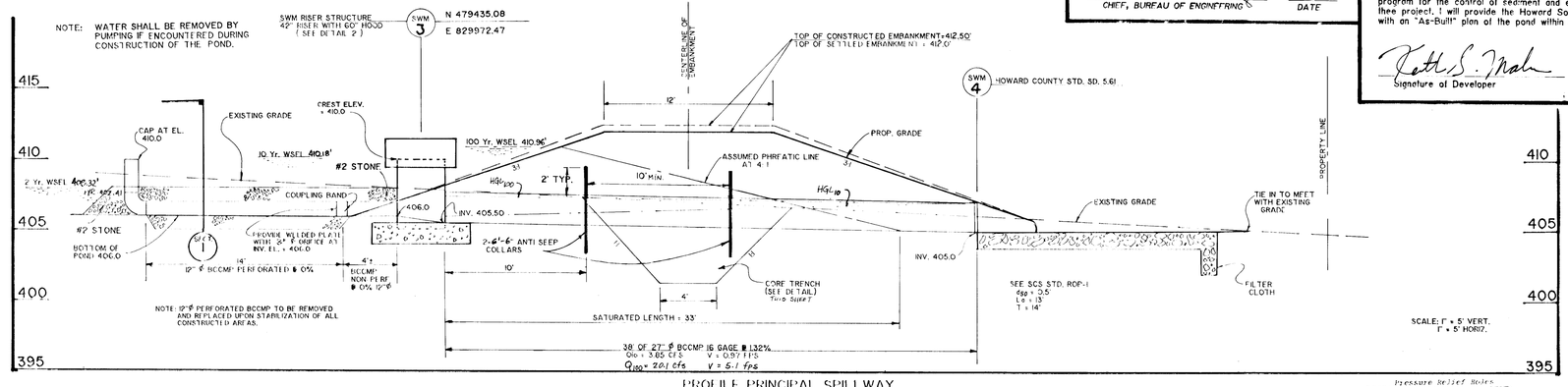
F90-201



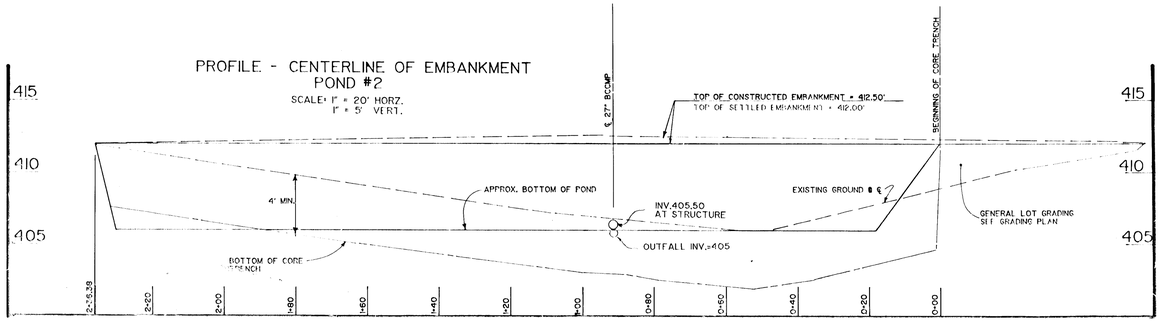


DETAIL PLAN VIEW
POND I (B)
SCALE: 1" = 5'





PROFILE PRINCIPAL SPILLWAY
POND # 2



These plans have been reviewed for the Howard Soil Conservation District and meet technical requirements for small pond construction. Soil erosion and sediment control.

U.S. SOIL CONSERVATION SERVICE — 10/5/90 DATE

These plans for small pond construction. Soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

HOWARD SOIL CONSERVATION DISTRICT — 10/5/90 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISON — 7/12/91 DATE

CHIEF, BUREAU OF HIGHWAYS — 6/19/91 DATE

CHIEF, BUREAU OF ENGINEERING — 7-19-91 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — 7/31/91 DATE

ENGINEER'S CERTIFICATE

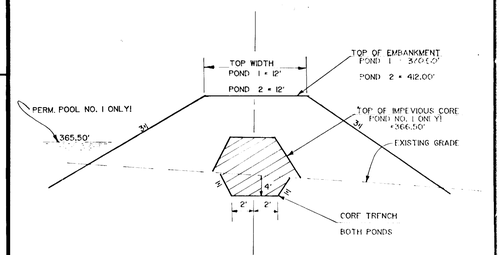
I certify this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the Developer that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

Sept 25 '90 Date

DEVELOPER'S CERTIFICATE

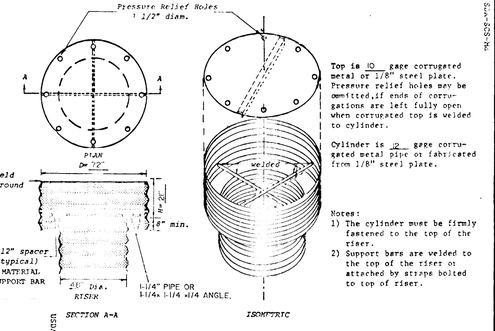
I hereby certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning thee project. I will provide the Howard Soil Conservation District with an "As-Built" plan of the pond within 30 days of completion.

Signature of Developer — 6/25/90 Date

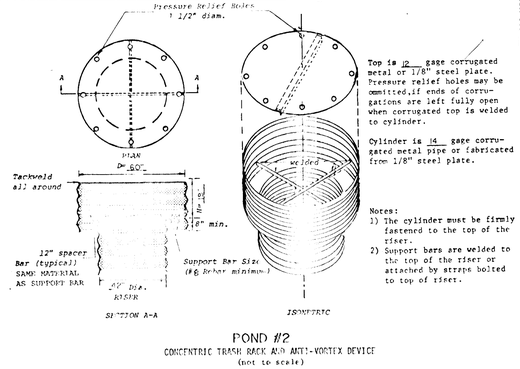


DETAIL IMPERVIOUS FILL
N.T.S.

NOTES:
1. CENTER IMPERVIOUS FILL ON CENTERLINE OF EMBANKMENT
2. TRENCH TO BE EXTENDED A MINIMUM OF 4' BELOW EXISTING GRADE



POND #1
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
(not to scale)
DETAIL 1



POND #2
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
(not to scale)
DETAIL 2

STATE OF MARYLAND — No. 10022 — REGISTERED PROFESSIONAL ENGINEER

project	date
89004.03	JUNE '90
drawn by	engineer
MDG	CAM
checked by	approved
	RMM
scale	
1" = 50'	

no.	description	date
2	ADD CONSTRUCTION DETAIL, NOTES TO PAGE 12 of 17 REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/23/90
1		7/17/91

PATUXENT SPRINGS
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 6
STORMWATER MANAGEMENT PROFILES & DETAILS

ENGINEERING SOILS & ASSOCIATES, INC.
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350
(301) 461-0078 FAX (301) 461-8768 Job No. (301) 552-5788

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F 90 201