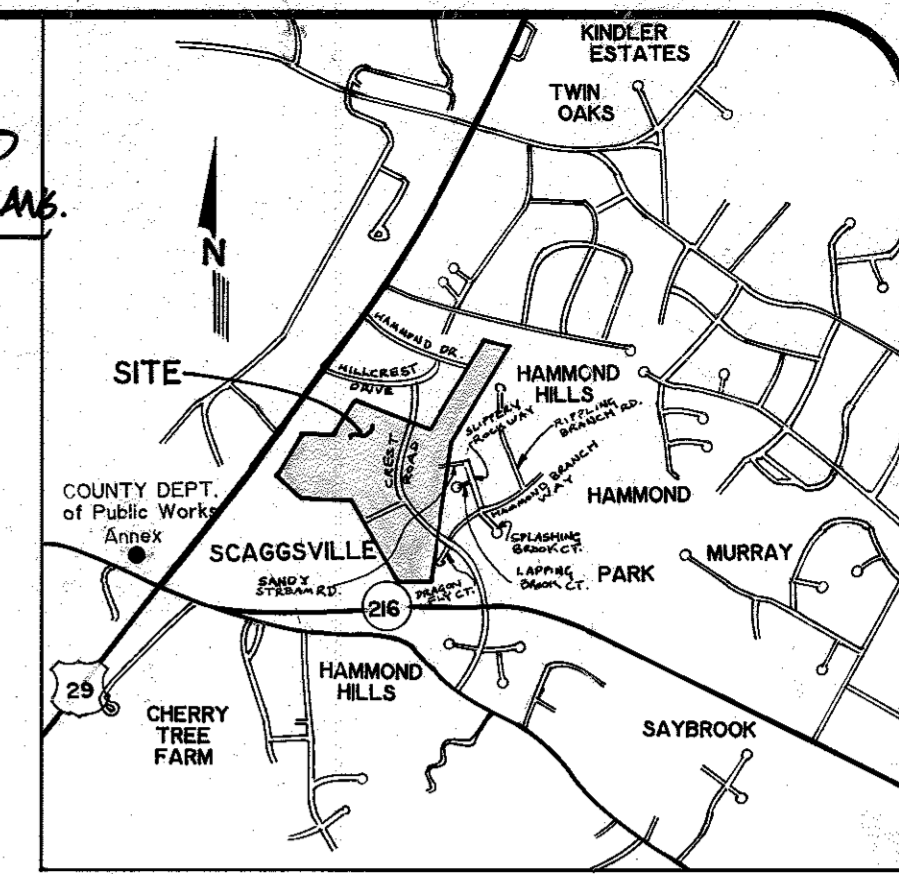


MATCH LINE: SHEET 4 OF 17

ON OR ABOUT 10/26/2015 CAPITAL PROJECT D-1159, TITLED PATUXENT SPRINGS PRINCIPAL SPILLWAY REPLACEMENT PROJECT, WAS CREATED TO REPAIR AND REPLACE THE PRINCIPAL SPILLWAY PIPE AND OUTFALL OF THE EXISTING STORMWATER MANAGEMENT POND, LOCATED APPROXIMATELY AT 8347 CREST ROAD LAUREL, MD ILLUSTRATED WITHIN THE LIMITS OF THIS PLAN. FOR THE DETAILED CONDITIONS OF APPROVAL AND THE CURRENT SITE CONDITIONS WITHIN THE DISTURBED AREA, PLEASE SEE THE CAPITAL PROJECT PLAN.



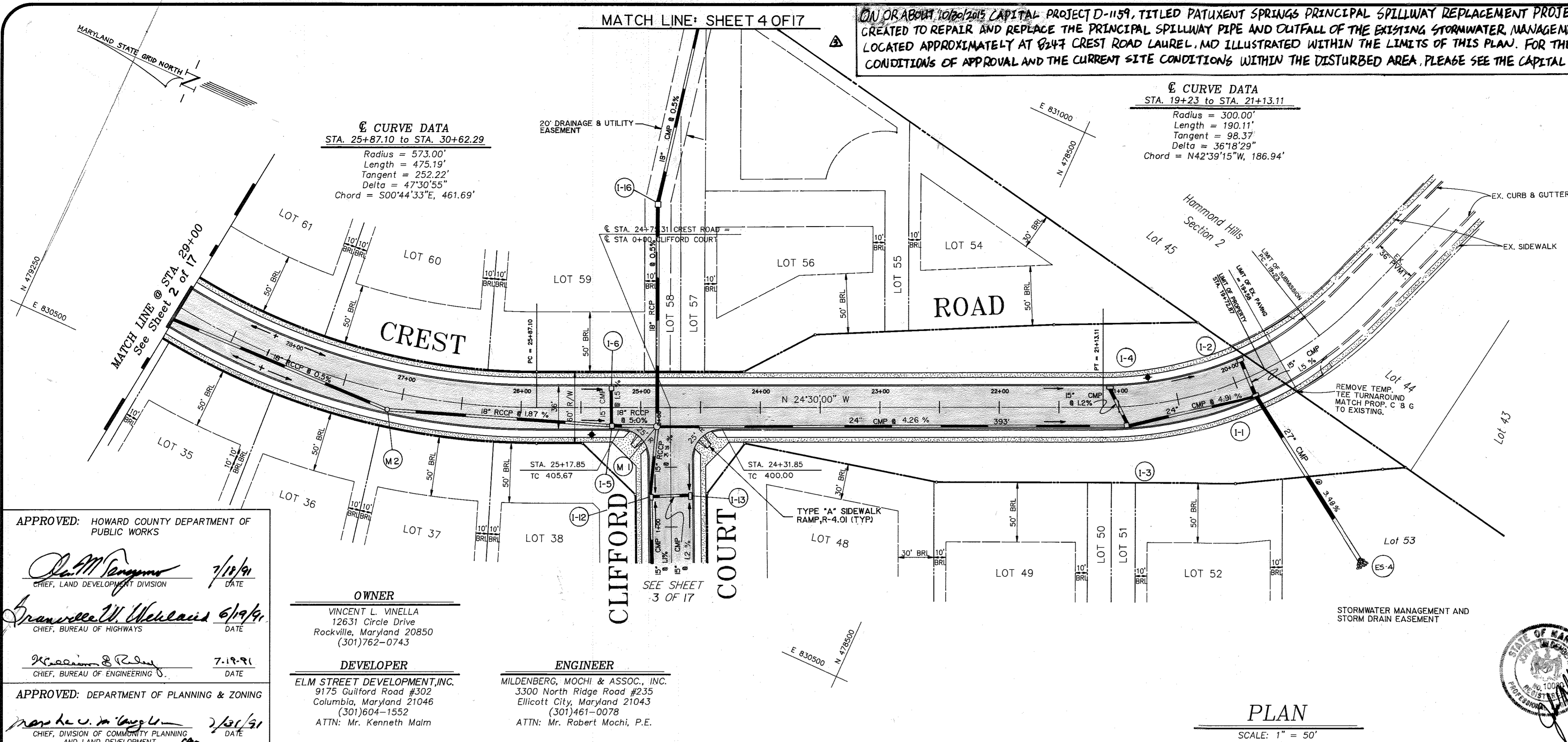
VICINITY MAP
Scale: 1" = 2000'

BENCHMARK

No. 2039003 N 47722.641
E 830705.905
No. 2039002 N 477493.563
E 829043.326

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, 1988 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.
- Street lights shall be provided in accordance with the Howard County Design Manual. Street lights are shown thusly:

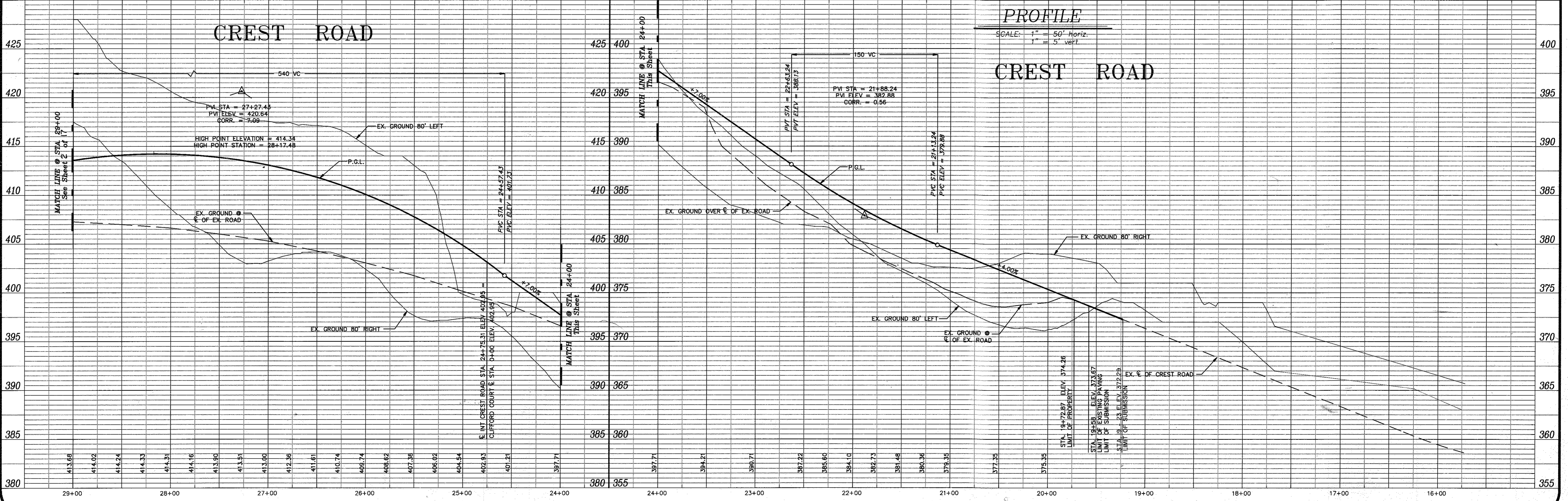


PLAN

SCALE: 1" = 50'

PROFILE

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



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 7/18/21
CHIEF, LAND DEVELOPMENT DIVISION
[Signature] 6/19/21
CHIEF, BUREAU OF HIGHWAYS
[Signature] 7-19-21
CHIEF, BUREAU OF ENGINEERING
APPROVED: DEPARTMENT OF PLANNING & ZONING
[Signature] 2/21/21
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

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.

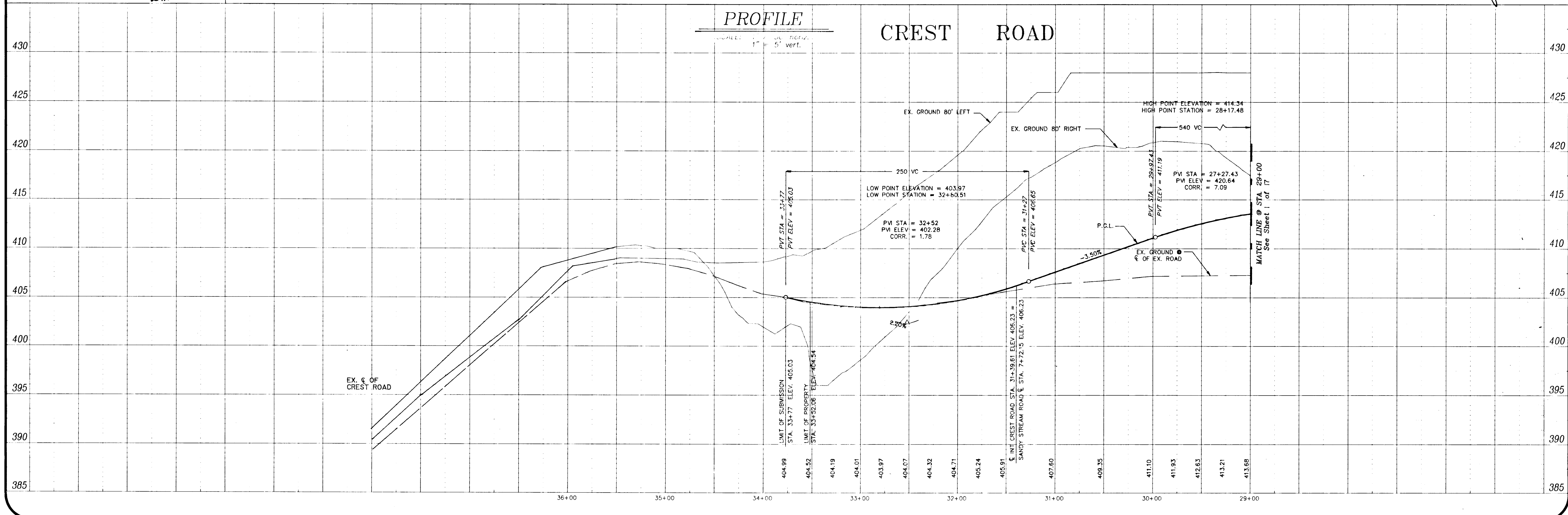
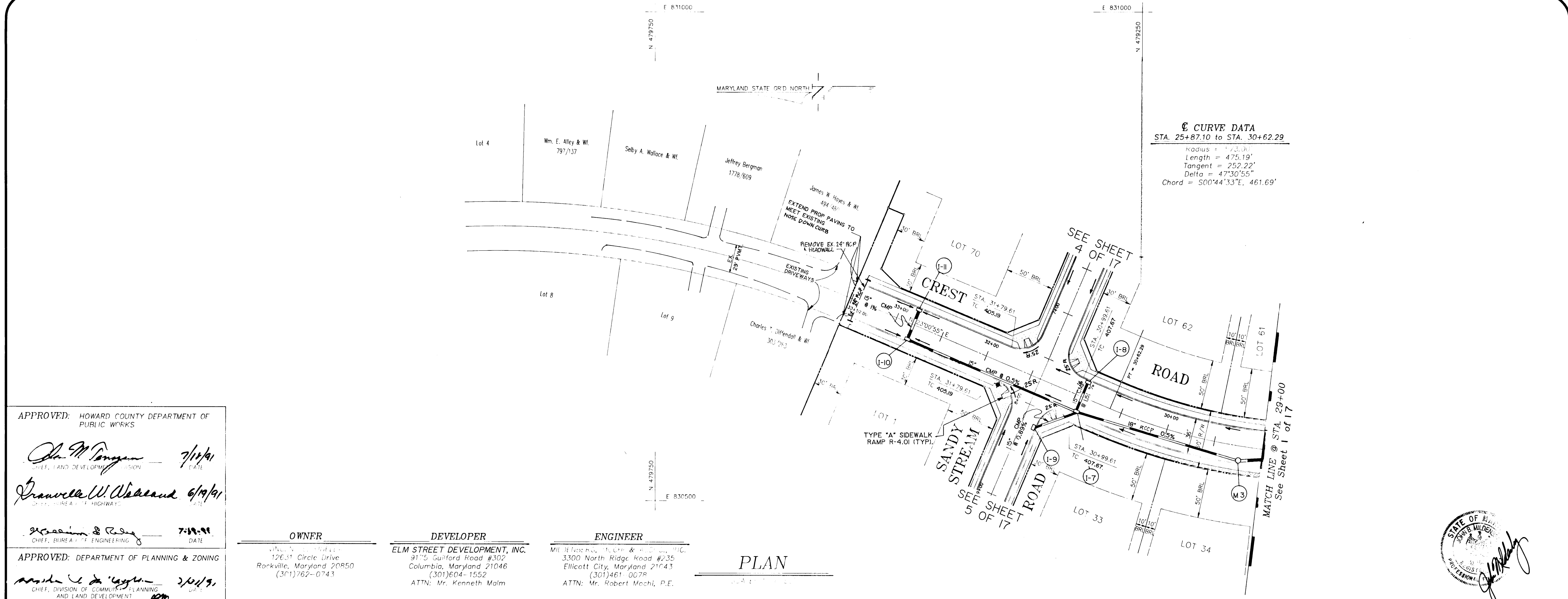
Project	88004.03	Date	6/90
Illustration	LJC	Engineering	MM
Scale	As Shown	Approval	

ADD CAPITAL PROJECT NOTES	4/24/21	Date	
ADD CONSTRUCTION DETAILS FROM PAGE 62 FT	7/17/21	Date	
REVISED PER COMMENTS FROM DPZ DATED 8/18/20	9/13/20	Date	
1 First submission to Howard County DPZ		Date	
0		Date	
description	revisions		

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

1628



1628

89004.03	6/90
Illustration	Engineering
Scale	LUS
As Shown	Approval

2 ADD CONSTRUCTION DETAILS NOTES TO PAGE 604FT
 REVISED PER COMMENTS FROM DPZ DATED 08/19/90
 DATE: 08/19/90
 DRAWN BY: J. M. [Signature]

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

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

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

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

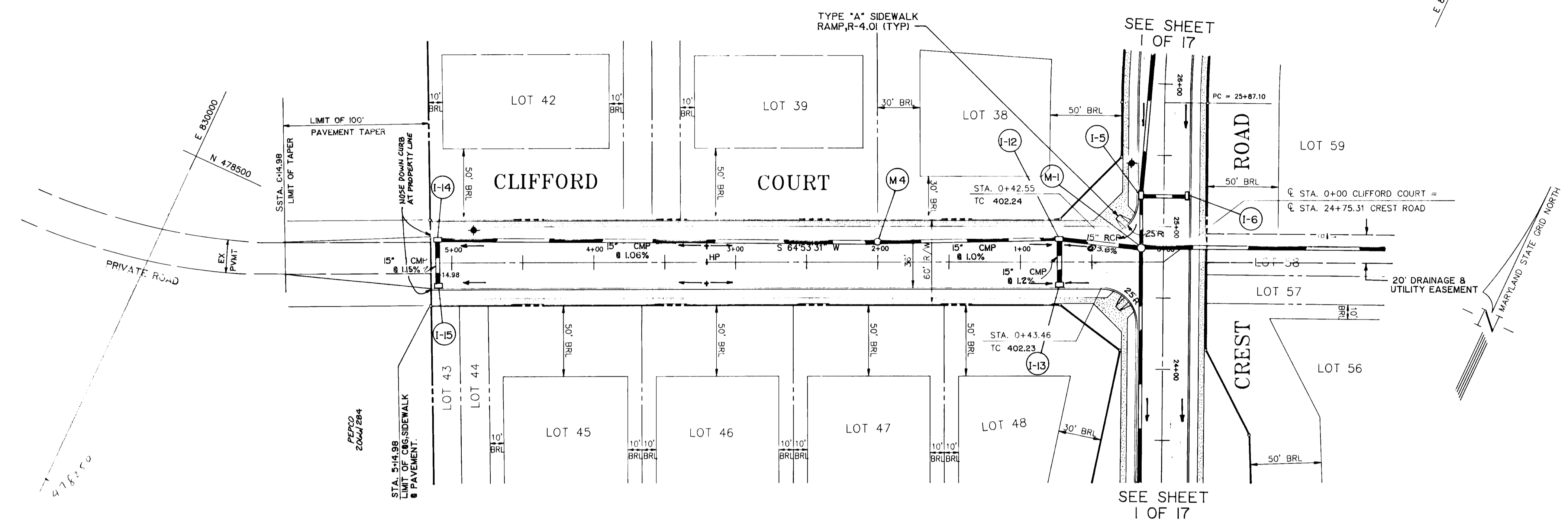
ENGINEER
MILDENBERG, MOCHI & ASSOC., INC.
3300 North Ridge Road #235
Ellicott City, Maryland 21043
(301)461-0078
ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Colin Ferguson 7/16/91
CHIEF, LAND DEVELOPMENT DIVISION DATE

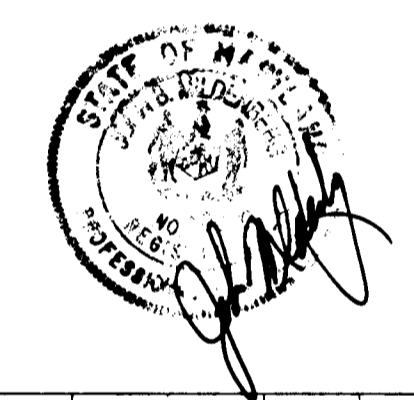
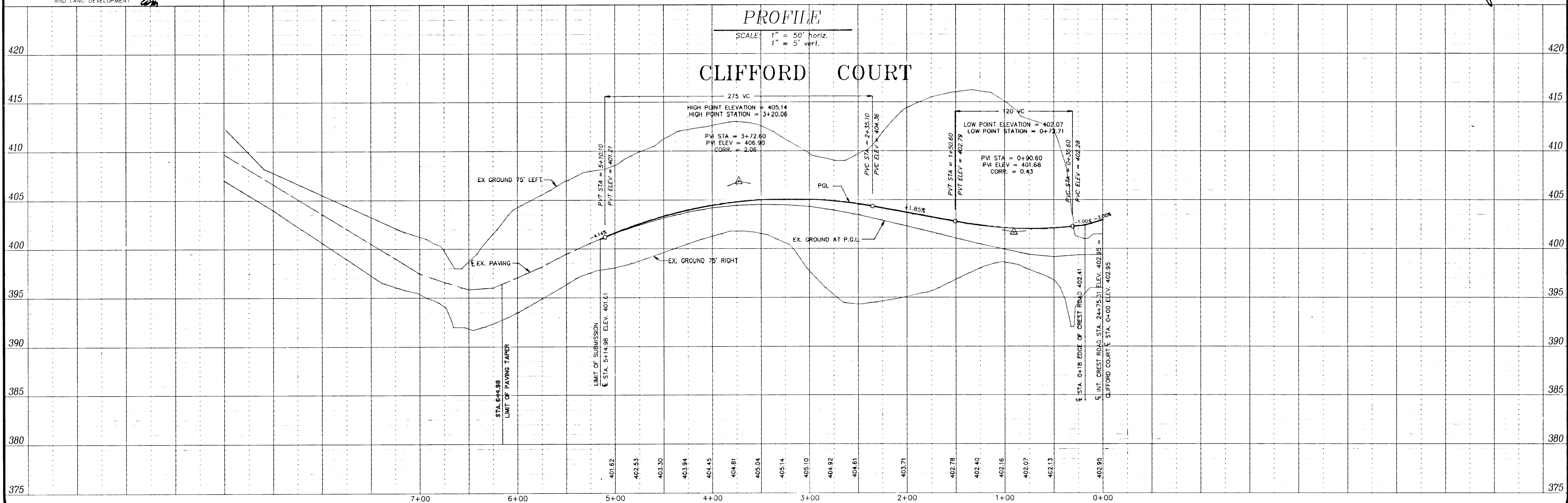
Shawella W. Alexander 6/19/91
CHIEF, BUREAU OF HIGHWAYS DATE

McMahon & Riley 7-19-91
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
Wanda V. ... 7/20/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



PLAN
SCALE: 1" = 50'



project	89004.03	date	6/90
description	engineering	engineer	LJC
scale	AS SHOWN	approval	RMM

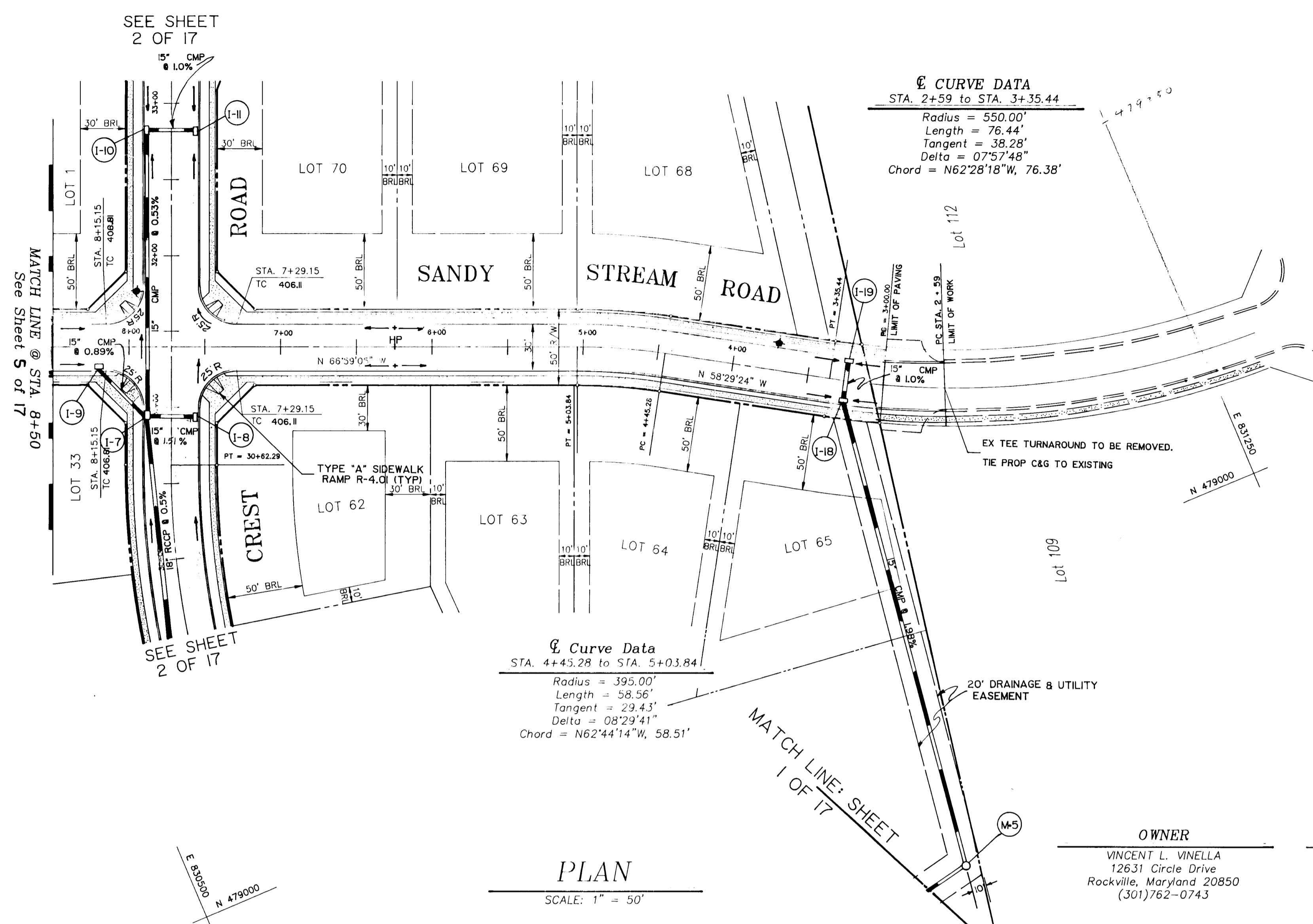
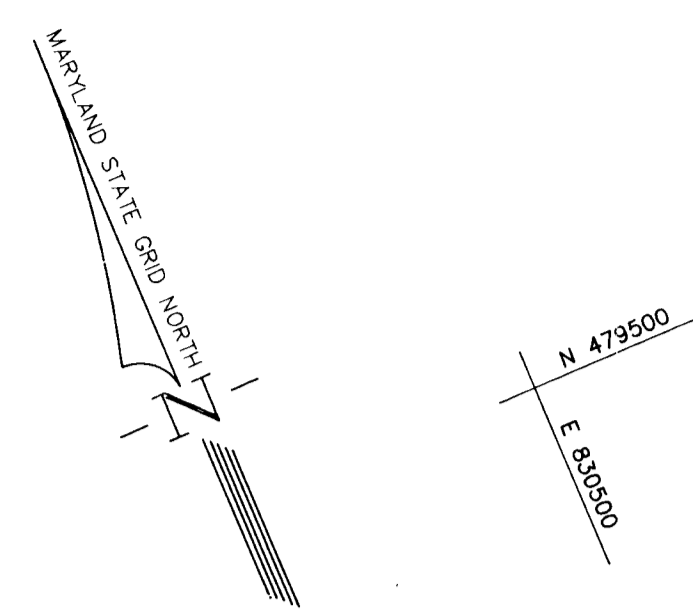
ADD CONSTRUCTION DETAIL NOTES TO PAGE 12 OF 17	7/17/91	date	7/17/91
REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/19/90	description	DPZ
First submission to Howard County DPZ		revisions	

LOTS 1 - 73
PATUXENT SPRINGS
Parcel 194
Tax Map 46
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 21043-3550
(301)461-0078

1628



PLAN
SCALE: 1" = 50'

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

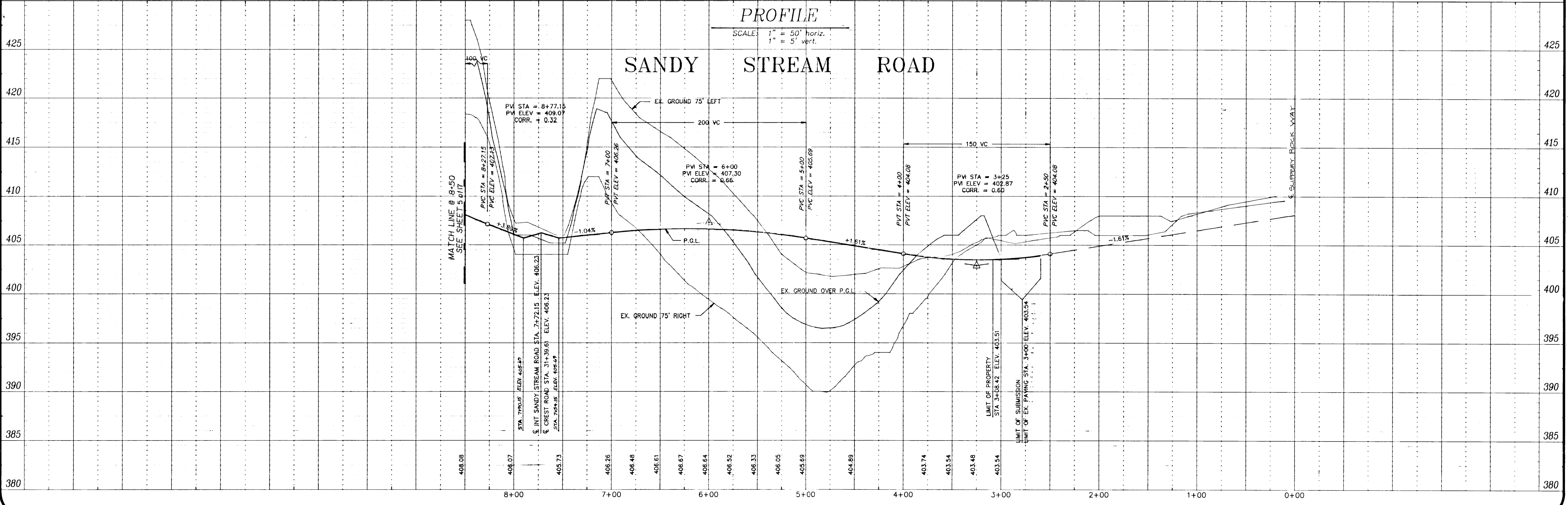
ENGINEER
MILDENBERG, MOCHI & ASSOC., INC.
3300 North Ridge Road #235
Ellicott City, Maryland 21043
(301)461-0078
ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 7/10/91
CHIEF, LAND DEVELOPMENT DIVISION DATE

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

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

APPROVED: DEPARTMENT OF PLANNING & ZONING
[Signature] 7/10/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



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

project	date
89004.03	6/90
illustration	engineering
scale	LUC
AS Shown	approval
	RMM

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

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

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

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

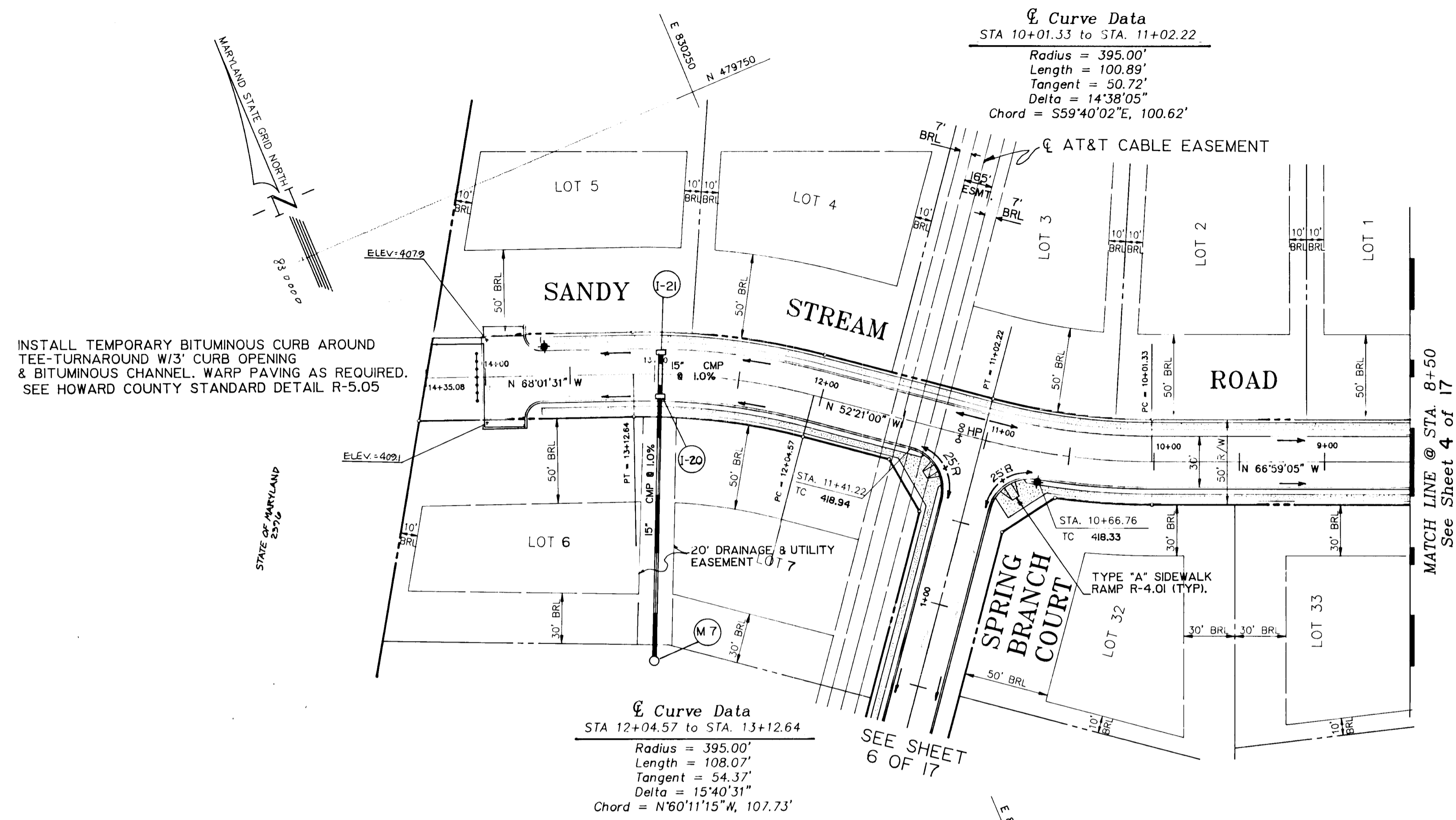
ENGINEER
MILDENBERG, MOCHI & ASSOC., INC.
3300 North Ridge Road #235
Ellicott City, Maryland 21043
(301)461-0078
ATTN: Mr. Robert Mochi, P.E.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 7/11/91
CHIEF, LAND DEVELOPMENT DIVISION DATE

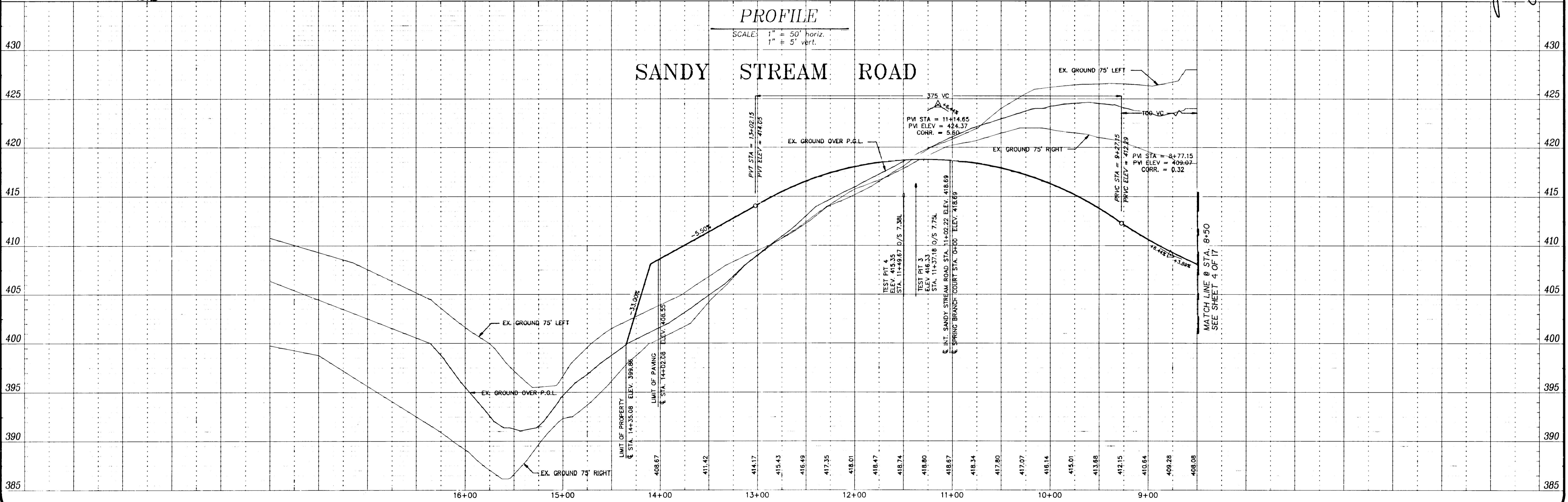
[Signature] 6/19/91
CHIEF, BUREAU OF HIGHWAYS DATE

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

APPROVED: DEPARTMENT OF PLANNING & ZONING
[Signature] 7/11/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



PLAN
SCALE: 1" = 50'



project	89004.03	date	6/90
station		engineering	LJC
scale	As Shown	approval	RMH

ADD CONSTRUCTION DETAIL NOTES TO PAGES 12&17	1/1/91	date	
REVISED PER COMMENTS FROM DPZ DATED 8/19/90	9/3/90		
FIRST SUBMISSION TO HOWARD COUNTY DPZ			
description			
revisions			

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 ARCHITECTS
3300 North Ridge Road, Suite 202
Ellicott City, Maryland 21043-3350
(301) 461-0078 D.C. Metro: (301) 627-5768

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

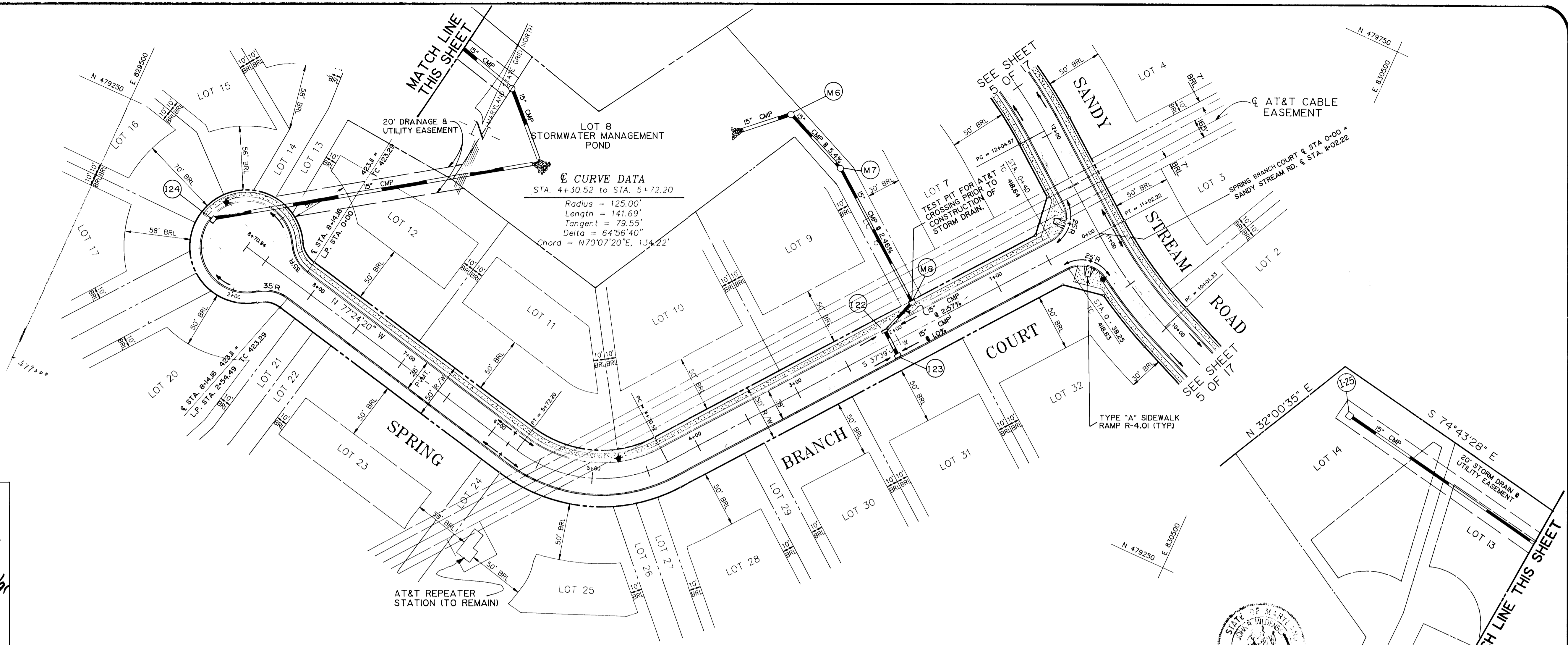
Howard M. Torgerson 7/16/91
CHIEF, LAND DEVELOPMENT DIVISION DATE

Lawrence W. Welton 6/19/91
CHIEF, BUREAU OF HIGHWAYS DATE

McCaslin & Rely 7-19-91
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

Charles D. Wright 7/21/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

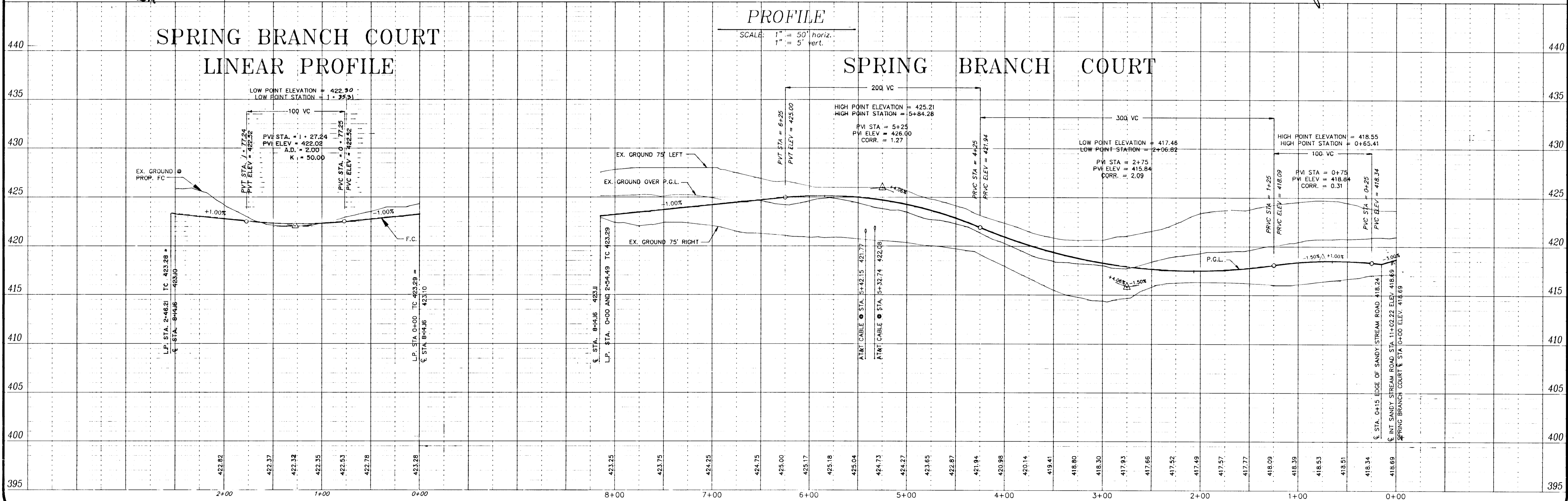


**SPRING BRANCH COURT
LINEAR PROFILE**

PROFILE

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

SPRING BRANCH COURT



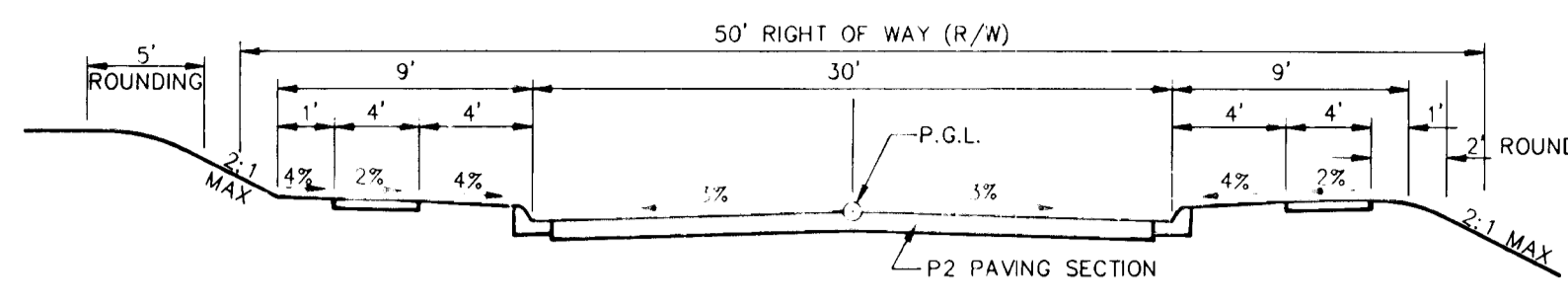
Project	89004.03	date	6/90
Stationing	LJC	engineering	LJC
Scale	As Shown	approval	RMM

no.	description	revisions	date
2	ADD CONSTRUCTION DETAILS NOTES TO PAGE 16 OF 17		7/17/91
3	REVISED PER COMMENTS FROM PR2 DATED 8/15/90		9/13/90
3	First Submission to Howard County DPZ		

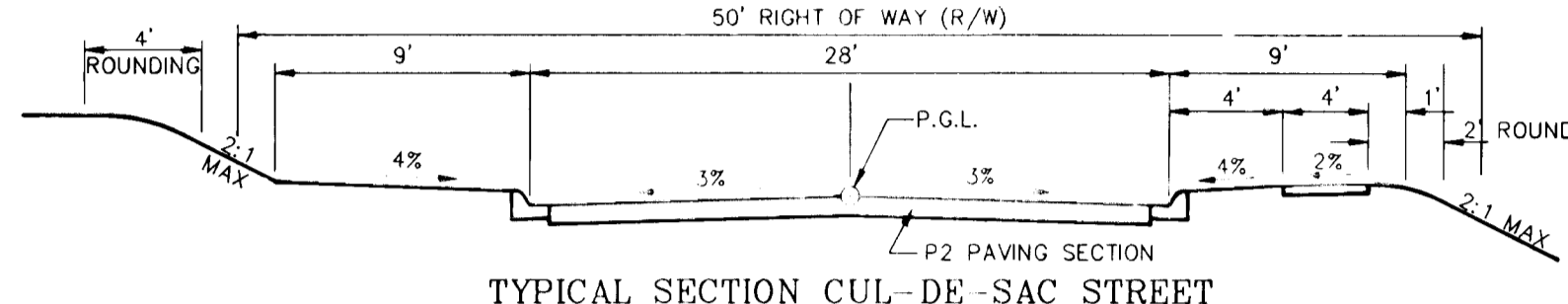
LOTS 1 - 73
PATUXENT SPRINGS
Parcel 194
Tax Map 46
Howard County, Maryland
Election District No. 6
SPRING BRANCH COURT PLAN & PROFILE

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

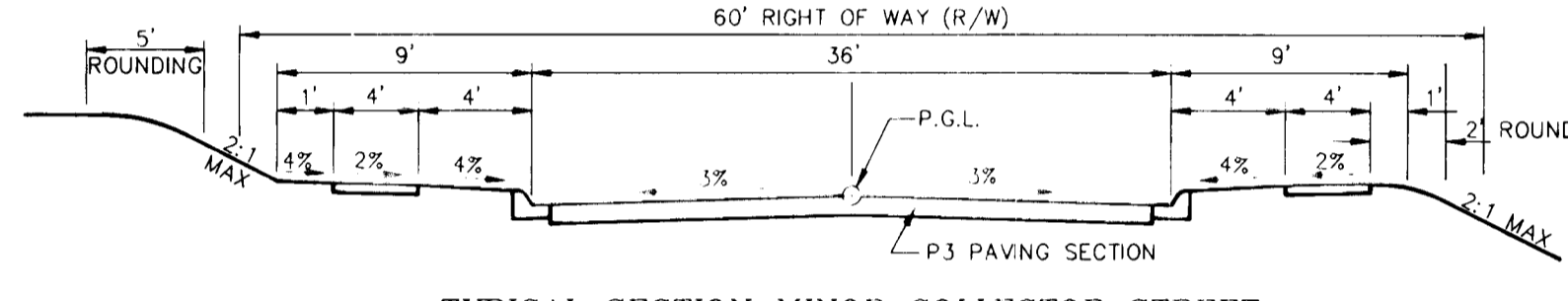
STRUCTURE SCHEDULE						
NUMBER	TYPE	INV. IN	INV. OUT	TOP	STA. : O/S	REMARKS
I-1	STANDARD WR	368.00	367.70	374.41	19+90.00: 18' L	
I-2	DBL'S COMBINATION	374.00	373.55	378.94	19+90.00: 18' R	DEPRESSED
I-3	STANDARD WR	374.00	373.55	378.94	20+00.00: 18' L	
I-4	STANDARD WR	374.72	373.00	379.00	21+08.00: 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	402.25	30+94.61: 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	409.41	32+80.51: 18' R	
I-9	STANDARD WR	403.75	403.75	406.41	32+80.51: 18' 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	401.53	04+72.71: 18' R	SUMP
I-12	DBL'S COMBINATION	393.21	393.00	401.53	04+72.71: 18' L	DEPRESSED
I-13	SINGLE WR	398.00	398.00	401.53	04+72.71: 18' L	
I-14	DBL'S COMBINATION	398.10	398.00	400.67	5+10.00: 18' R	
I-15	SINGLE WR	398.50	400.67	400.67	5+10.00: 18' L	
I-16	YARD INLET	391.60	391.50	398.00	N 478799.43 E 830799.60	SUMP
I-18	SINGLE WR	399.50	399.40	403.48	3+25.00: 15' L	SUMP
I-19	SINGLE WR	399.50	399.75	403.48	3+25.00: 15' R	SUMP
I-20	SINGLE WR	410.47	410.37	413.92	12+96.00: 18' L	
I-21	SINGLE WR	410.75	410.75	413.92	12+96.00: 18' R	
I-22	SINGLE WR	413.12	413.00	417.04	2+06.82: 14' R	SUMP
I-23	SINGLE WR	413.40	417.04	417.04	2+06.82: 14' L	SUMP
I-24	SINGLE WR	403.40	422.30	422.30	14+35.31: LINEAR PROFILE	
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: 18' L	
M-3	MANHOLE	397.75	397.65	412.76	29+24.00: 18' L	
M-4	MANHOLE	394.70	394.60	403.29	2+00.00: 14' R	
M-5	MANHOLE	392.75	392.50	398.00	N 478839.17 E 830975.63	
M-6	MANHOLE	406.85	406.75	412.50	N 479478.28 E 830039.15	
M-7	MANHOLE	408.70	408.60	414.50	N 479452.03 E 830098.61	
M-8	MANHOLE	412.10	412.00	418.00	1+73.00: 23' R	
ES-1	METAL END SECTION	406.00			N 479344.53 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 47838.98 E 830771.45	
I-9	YARD INLET	408.0	408.0	415.0	N 479458.85 E 825663.32	
M-9	MANHOLE	406.73	406.63	414.0	N 479394.30 E 829802.67	



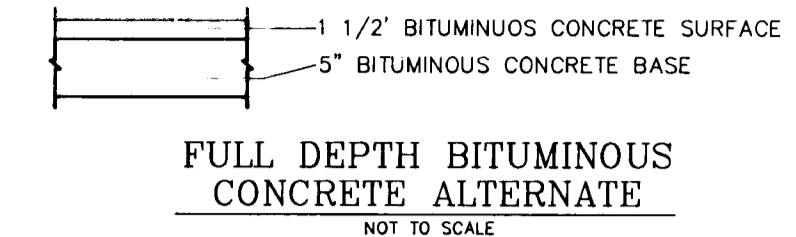
TYPICAL SECTION LOCAL ROAD
50' RIGHT OF WAY
DESIGN SPEED = 30 MPH
SANDY STREAM ROAD - STA. 3+50 to END
ZONING DISTRICT R-20
NOT TO SCALE



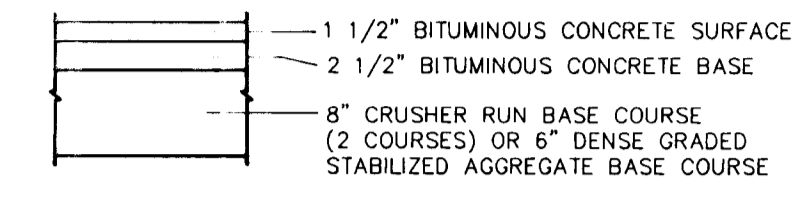
TYPICAL SECTION CUL-DE-SAC STREET
50' RIGHT OF WAY
DESIGN SPEED = 35 MPH
SPRING BRANCH COURT - STA. 0+00 to 8+70.94
ZONING DISTRICT R-20
NOT TO SCALE



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



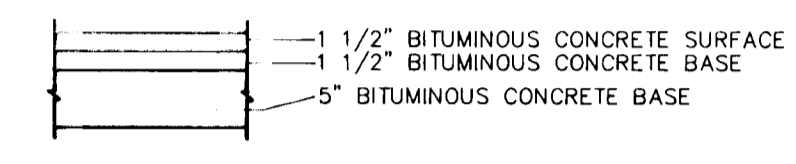
FULL DEPTH BITUMINOUS CONCRETE ALTERNATE
NOT TO SCALE



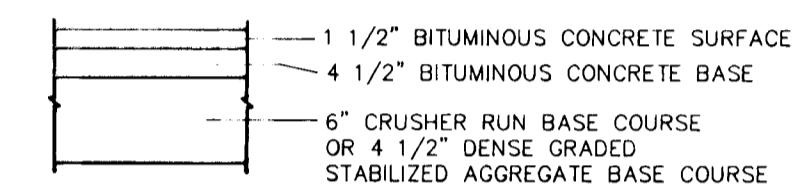
GRANULAR BASE ALTERNATE
NOT TO SCALE



PAVING SECTION P-2
NOT TO SCALE



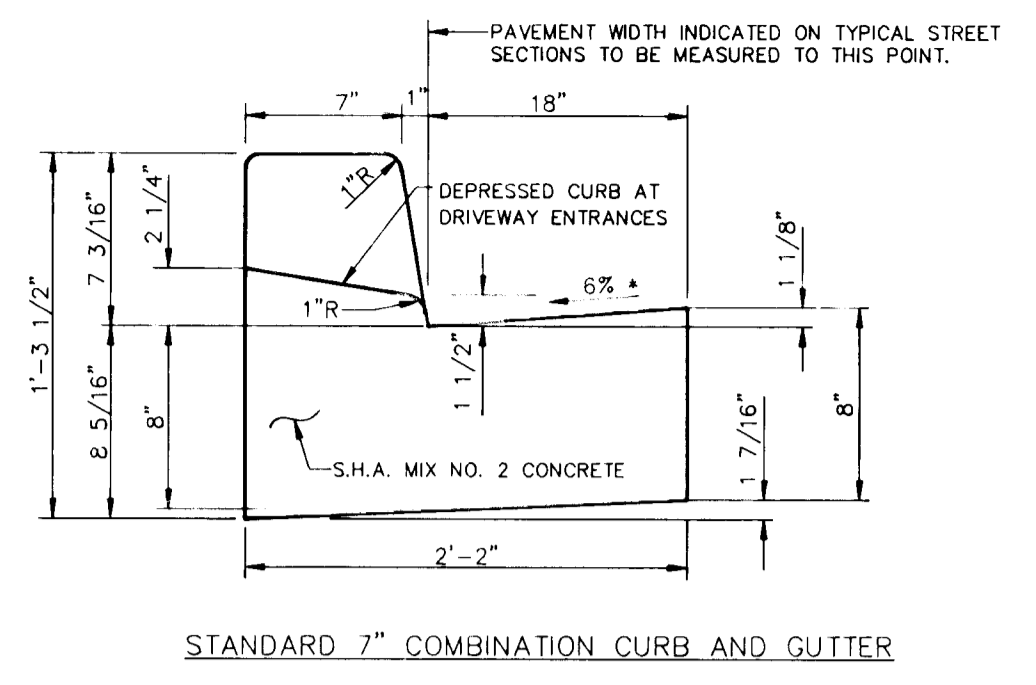
FULL DEPTH BITUMINOUS CONCRETE ALTERNATE
NOT TO SCALE



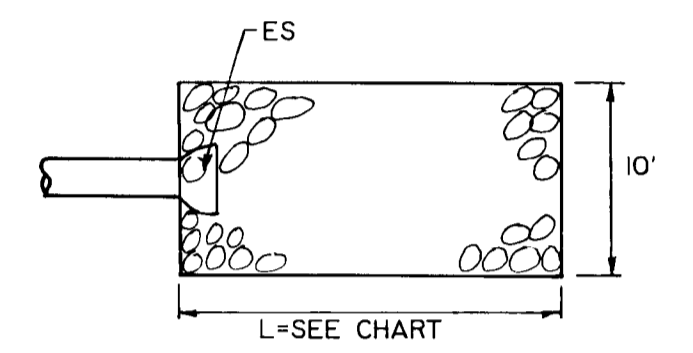
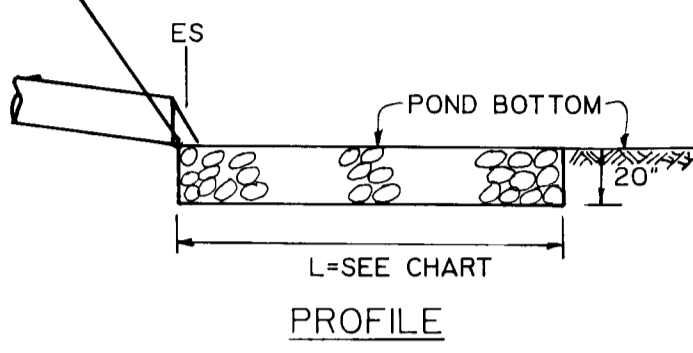
GRANULAR BASE ALTERNATE
NOT TO SCALE



PAVING SECTION P-3
NOT TO SCALE



STANDARD 7" COMBINATION CURB AND GUTTER
POND BOTTOM
L=SEE CHART
PROFILE
PLAN
d50 = 9"
dmax = 14"
THICKNESS = 20"



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

END SECTION	LET.
ES-1	00
ES-2	00
ES-3	00
ES-4	20

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Colon M. Dargatzis 7/10/91
 CHIEF, LAND DEVELOPMENT DIVISION DATE
Drew W. Wilstead 6/19/91
 CHIEF, BUREAU OF HIGHWAYS DATE
Wesley E. Kelly 7-19-91
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED: DEPARTMENT OF PLANNING & ZONING
Michael A. Gagliardi 7/10/91
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PROJECT NO. 89004.03
 DATE JUNE '90
 ENGINEERING MDC
 CHECK MDC
 APPROVAL [Signature] RMW
 SCALE 1" = 50'

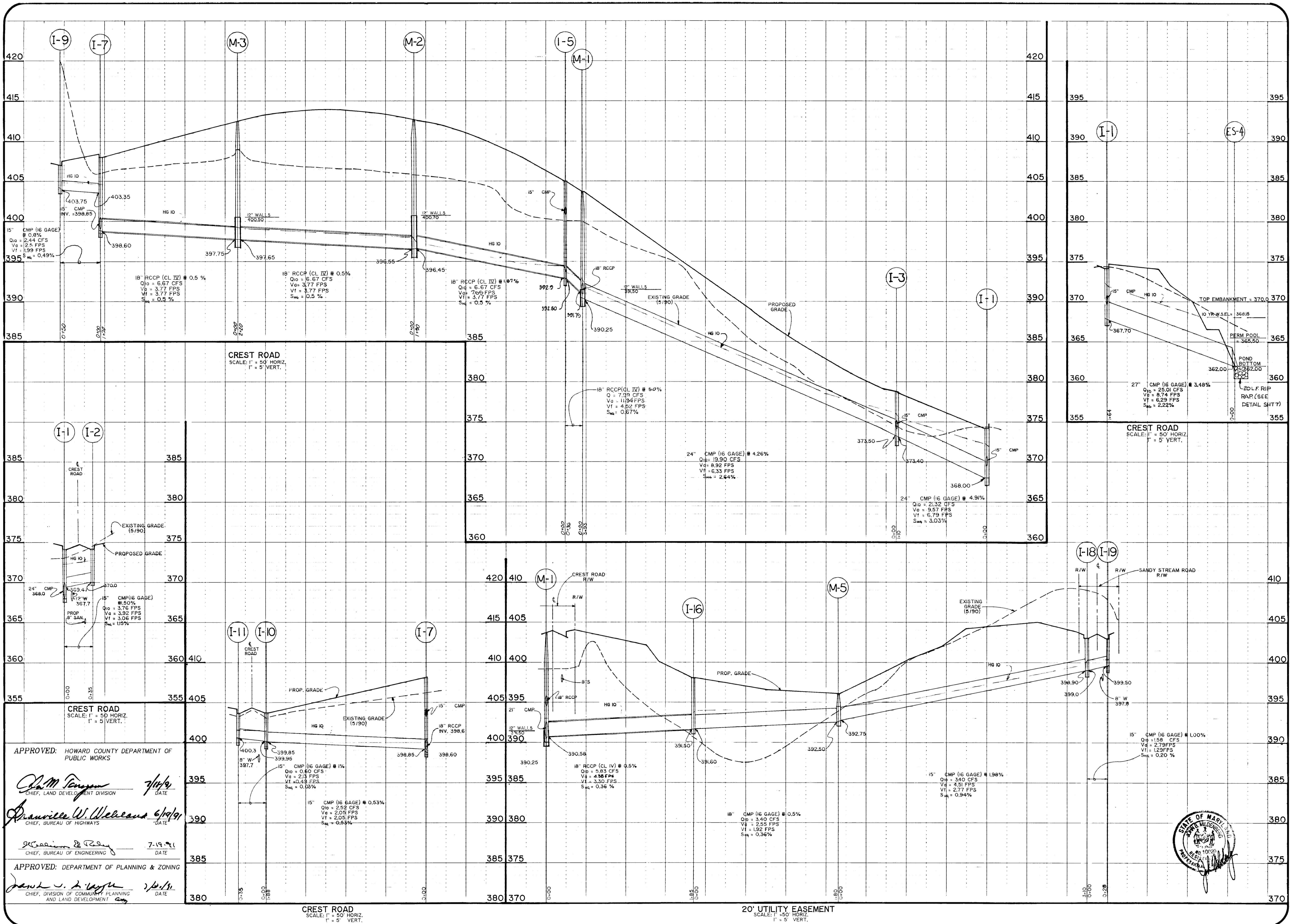
ADD CONSTRUCTION DETAILS, NOTES TO THIS SET
 7/17/91
 REVISIONS FROM DPZ DATED 8/19/90
 1. First submission to Howard County DPZ
 2. [Signature] [Signature]

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

MILDENBERG, JOCH & ASSOCIATES, INC.
 ENGINEERS, ARCHITECTS, PLANNERS
 3300 North Ridge Drive, Suite 202, Ellicott City, MD 21041-3350
 (301) 461-0076
 F.C. No. 621-5768

1628

90201



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chad M. Torgerson 7/14/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Francille W. Welles 6/14/91
 CHIEF, BUREAU OF HIGHWAYS DATE

William E. Torgerson 7-19-91
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

Janet J. S. ... 1/10/91
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

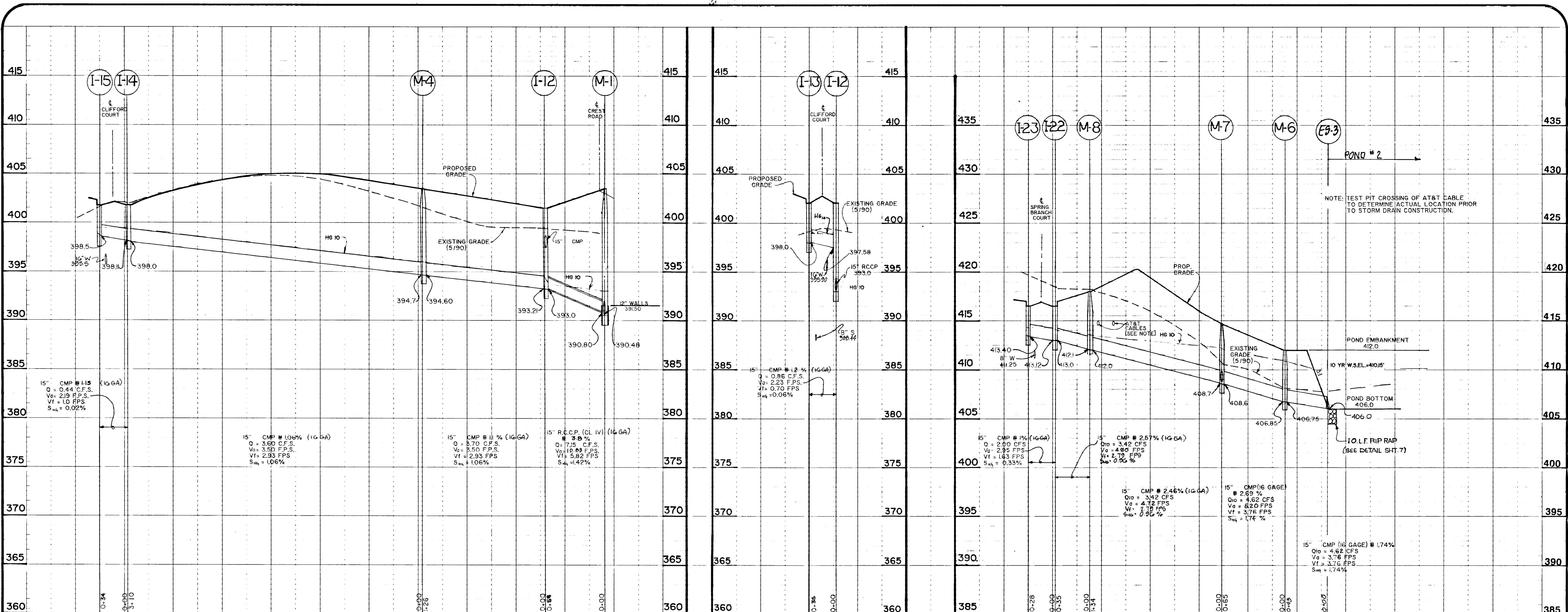


Project	89004.00
Date	6/90
Stationing	Engineering
Case	LAR
Scale	DAB
Drawn by	approval
Checked by	date

2	ADD CONSTRUCTION DETAIL NOTES TO PAGE 2 LEFT	7/17/91
1	REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90
0	First submission to Howard County DPZ	
	description	date
	revisions	

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

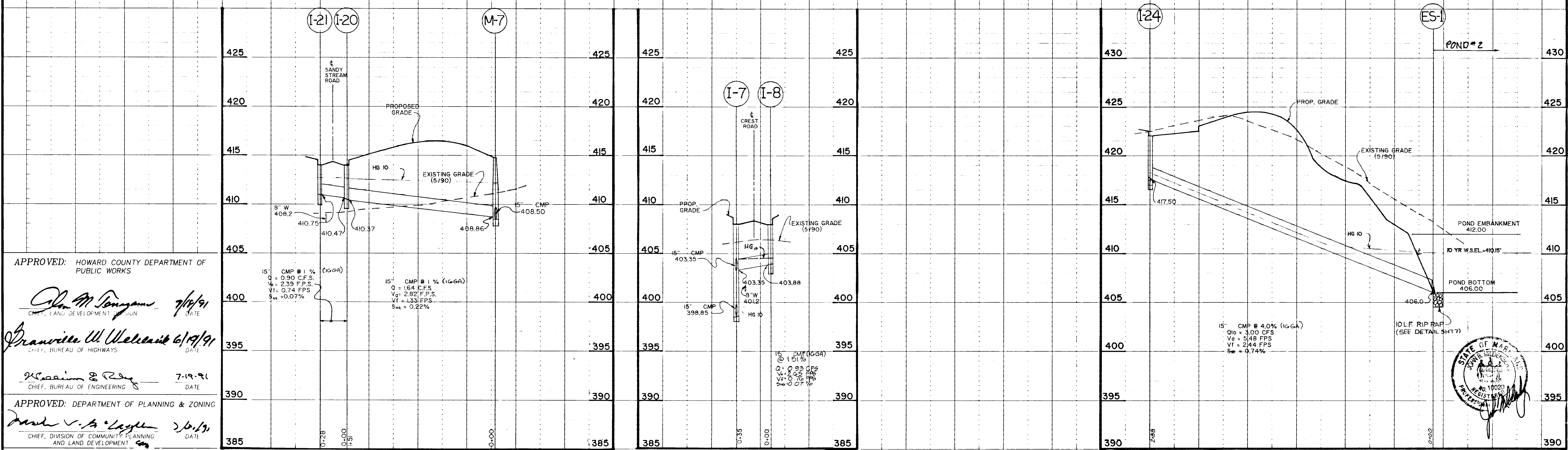
ILDENBERG, COCH & ASSOCIATES, INC.
 ENGINEERS - PLANNERS - SURVEYORS
 3300 North Ridge Road, Suite 200, Beltsville, MD 21043-3350
 (301) 461-6076 E.C. Merz (301) 621-5768



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

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

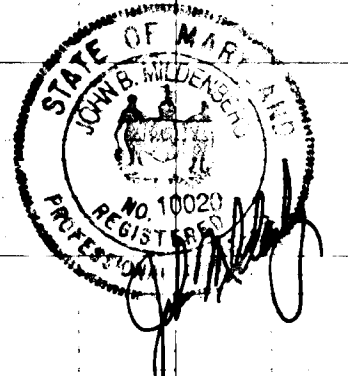
SPRING BRANCH COURT
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



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

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. Sangani 7/14/91
CHIEF, LAND DEVELOPMENT DIVISION
Pranville W. Welles 6/17/91
CHIEF, BUREAU OF HIGHWAYS
William E. Reid 7-19-91
CHIEF, BUREAU OF ENGINEERING
APPROVED: DEPARTMENT OF PLANNING & ZONING
David V. A. Layton 7/16/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

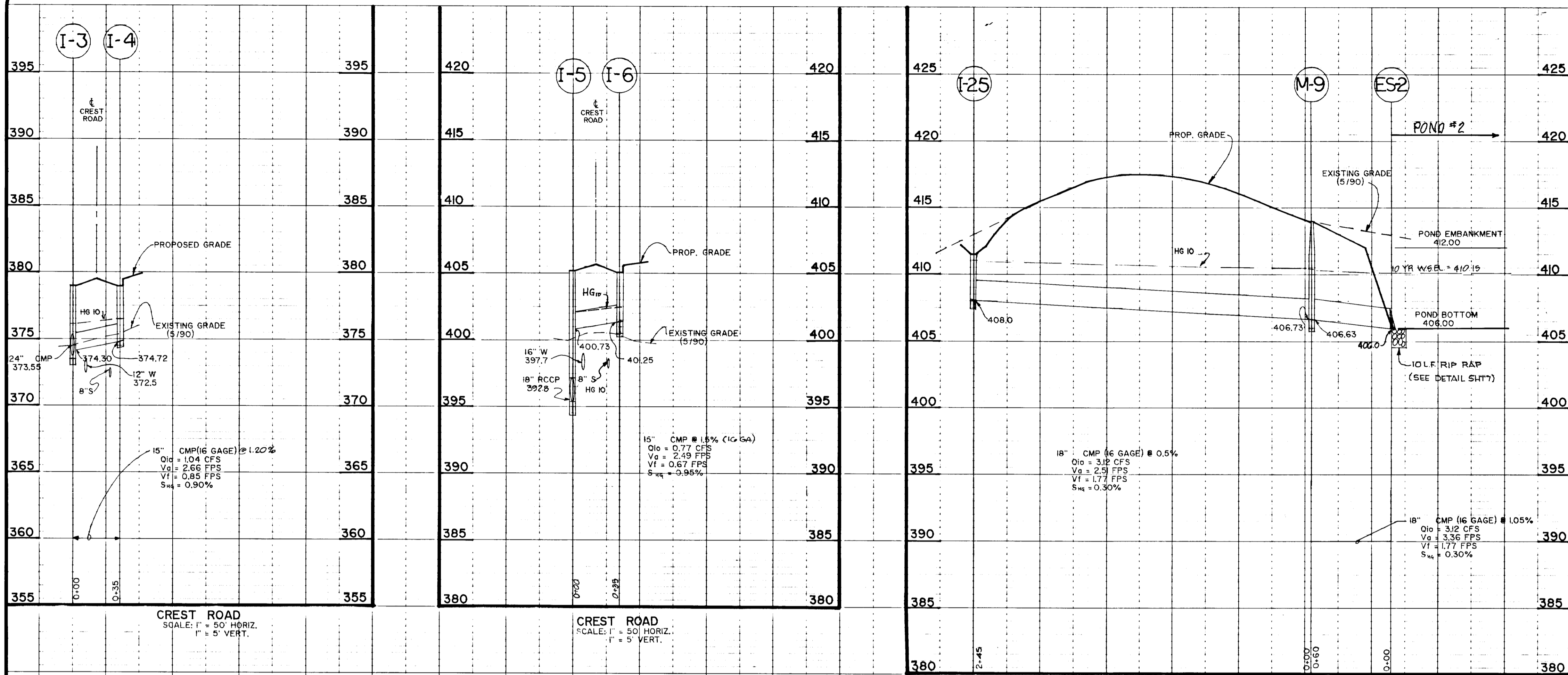


Project	89004.00
Illustration	LAR
Scale	As Shown
Engineering	DAB
Approval	JBM
Date	6/90

2 ADD CONSTRUCTION DETAILS NOTES TO PAGE 2 LEFT
1 REVISED PER COMMENTS FROM DPZ DATED 6/19/90
0 FIRST SUBMISSION TO HOWARD COUNTY DPZ
NO. description revision

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

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



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

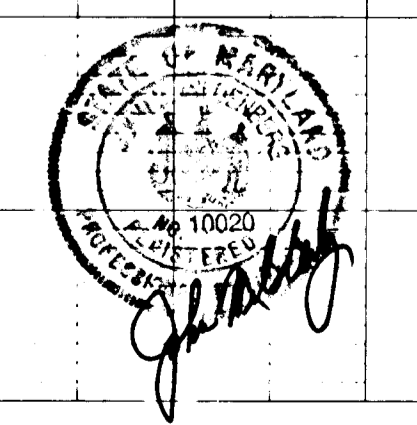
Ch. M. Poyman 7/6/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Shawville W. Wescott 6/19/94
 CHIEF, BUREAU OF HIGHWAYS DATE

K. Caseman & R. Bly 7-19-91
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

Paul V. S. Taylor 7/19/94
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



project	89004.00	date	6/90
illustration	LAR	engineering	DAB
scale	1" = 5'	approval	JEM

2	ADD CONSTRUCTION DETAIL NOTES TO THESE SHEETS	7/1/94	date
1	REVISED PER COMMENTS FROM DPZ DATED 6/19/90	9/19/90	date
0	FIRST SUBMISSION TO HOWARD COUNTY DPZ		date
no.	description	revisions	

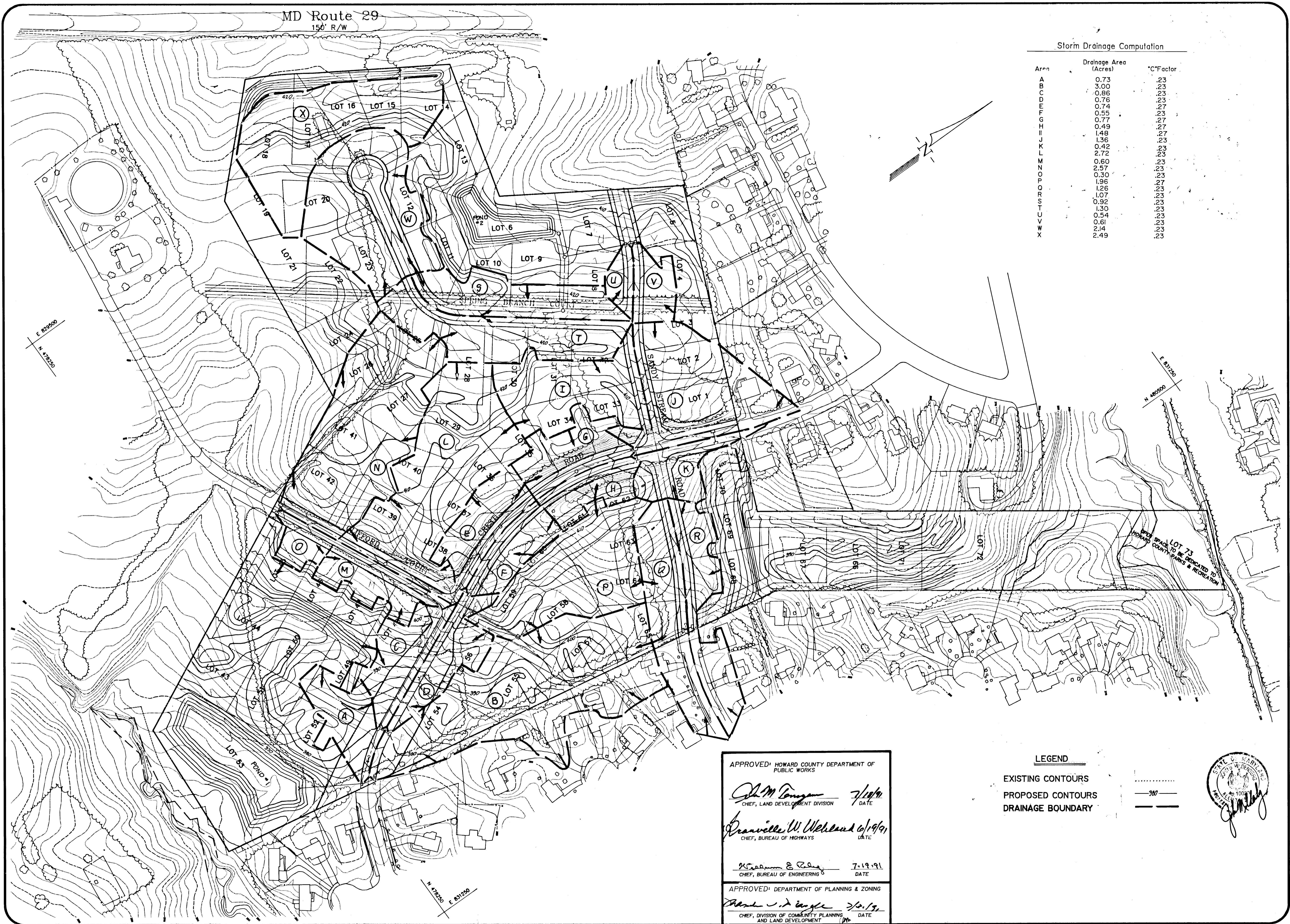
LOTS 1 - 73
PATUXENT SPRINGS
 Tax Map 46 Parcel 194
 ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND
STORM DRAIN PROFILES

MILDBERG, MOCH & 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

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	0.74	.23
E	0.55	.27
F	0.77	.23
G	0.49	.27
H	1.48	.27
I	1.36	.23
J	0.42	.23
K	2.72	.23
L	0.60	.23
M	2.57	.23
N	0.30	.23
O	1.96	.27
P	1.26	.23
Q	1.07	.23
R	0.92	.23
S	1.30	.23
T	0.54	.23
U	0.61	.23
V	2.14	.23
W	2.49	.23
X		



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John M. Longman 7/19/91
CHIEF, LAND DEVELOPMENT DIVISION DATE

Francis W. Weiland 6/19/91
CHIEF, BUREAU OF HIGHWAYS DATE

William E. Reay 7-19-91
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

Robert A. Sample 7/19/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

LEGEND

EXISTING CONTOURS -----

PROPOSED CONTOURS -380-----

DRAINAGE BOUNDARY - - - - -



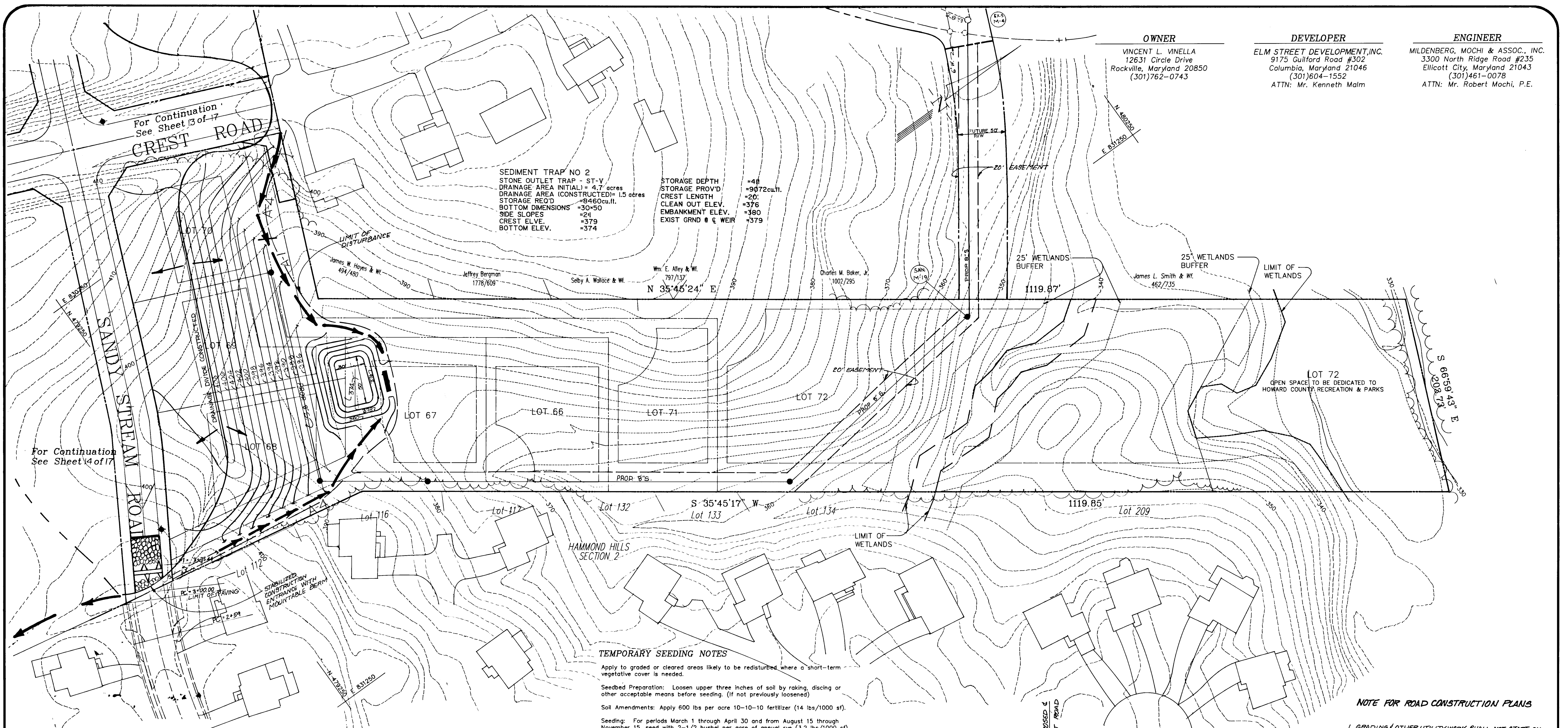
project	89004.03	date	JUNE '90
illustration	MDG	engineering	LIG
scale	1" = 100'	approval	RMM

no.	description	date	BY
1	REVISION PER COMMENTS FROM DPZ DATED 8/15/90		
2	ADD CONSTRUCTION DETAILS NOTES ON PAGE 12 OF 17	7/11/91	8/19/90

PATUXENT SPRINGS
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 6
DRAINAGE AREA MAP

MILDENBERG, ROYCH & ASSOCIATES, INC.
ENGINEERS - ARCHITECTS - PLANNERS
3300 North Ridge Road, Suite 232, Ellicott City, Maryland, 21043-3350
(301) 461-0078 D.C. Metro: (301) 621-5788

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.

SEDIMENT TRAP NO 2
STONE OUTLET TRAP - ST-V
DRAINAGE AREA INITIAL = 4.7 acres
DRAINAGE AREA (CONSTRUCTED) = 1.5 acres
STORAGE REQ'D = 8460 cu.ft.
BOTTOM DIMENSIONS = 30'x50'
SIDE SLOPES = 2:1
CREST ELEV. = 379
BOTTOM ELEV. = 374

STORAGE DEPTH = 4ft
STORAGE PROVIDED = 9672 cu.ft.
CREST LENGTH = 20'
CLEAN OUT ELEV. = 376
EMBANKMENT ELEV. = 380
EXIST GRND @ WEIR = 379

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 15 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 by raking, discing or other acceptable means before seeding. (If not previously loosened)

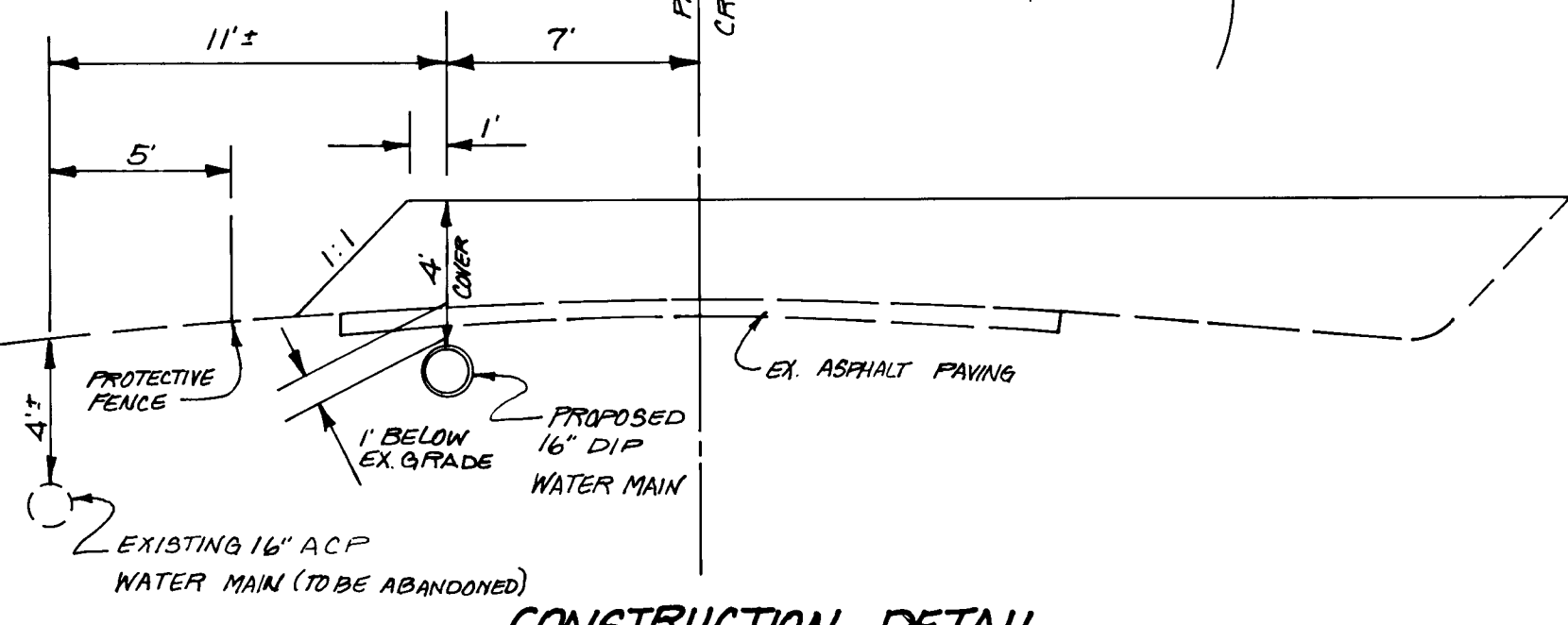
Soil Amendments: In lieu of soil test recommendations, use on the following schedules:

- 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).
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by Option 1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2) use sod. Option 3) seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.



CONSTRUCTION DETAIL
16" DIP FROM STA 3+15 to STA 2+4 CREST ROAD
4" 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

- 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.
- THE CONTRACTOR SHALL STAKE OUT THE EXISTING 16" ACP WATER MAIN ALONG ITS CENTER LINE WITHIN CREST ROAD AND CLIFFORD COURT. PROTECTIVE FENCE SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION AS SHOWN ON THE WATER & SEWER CONSTRUCTION PLAN CONTRACT 24-3134-D.
- CONSTRUCTION EQUIPMENT WILL CROSS THE EXISTING 16" ACP ONLY AT SELECTED POINTS PROTECTED WITH APPROPRIATE STEEL PLATES OR RAMPS OVER THE MAIN.
- 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 PROUGH GRADE AND SURFACE WITH GRANUL. THIS TEMPORARY ACCESS MAY BE ABANDONED ONCE CREST ROAD & CLIFFORD COURT ARE AT GRADE WITH SUB BASE SURFACE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. Tolson 7/1/91
CHIEF, LAND DEVELOPMENT DIVISION

Erwin W. Uhlir 6/19/91
CHIEF, BUREAU OF HIGHWAYS

William E. Pugh 7-19-91
CHIEF, BUREAU OF ENGINEERING

APPROVED: DEPARTMENT OF PLANNING & ZONING

David C. Zappala 7/2/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

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 M. Malm 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.

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

REVIEWER FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

James M. Tolson 10-4-90
S. SOIL CONSERVATION SERVICE

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

Robert W. Zick 10/5/90
HOWARD SOIL CONSERVATION DISTRICT C.S.

SEDIMENT CONTROL NOTES

- 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. (892-2437)
- 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 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.
- 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.
- 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: 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 cu. yd.
Total Fill: 154,061 cu. yd.
Off-Site Waste/Borrow Area Location N/A.
- 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	88004.03	Date	JUNE '90
Illustration	MDC	Engineering	CM
Scale	1" = 50'	Approval	RM

ADD CONSTRUCTION DETAIL & NOTES ON PAGE 12 OF 17	7/17/90
REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/15/90
description	date
revisions	

PATUXENT SPRINGS
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
D.C. Metro: (301) 821-5768
(301) 461-0078



SWM POND 2 - SEDIMENT BASIN NO. 2
 DRAINAGE AREA - INITIAL = 6.8 AC
 DRAINAGE AREA - CONSTRUCTED = 8.3 AC
 STORAGE RECD = 14940 cu ft.
 STORAGE PROVIDED CREST EL. = 333.46 cu ft.
 SEE SWM DETAILS

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 & Associates, Inc.
 3300 N Ridge Road, Suite 235
 Ellicott City, Maryland 21043
 (301) 461-0078
 Attn: Robert M. Mochi, P.E.

date	JUNE '90
project	8900403
illustration	engineering
MDC	CAM
scale	1" = 50'
approval	

no.	1	description	ADD CONSTRUCTION DETAIL 1, 10/15/90 TO PAGE 12 OF 17	date	7/17/91
no.	2	description	REVISED PER COMMENTS FROM DPZ DATED 8/19/90	date	9/19/90

PATUXENT SPRINGS
 Parcel 194
 Tax Map 46
 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, Md. 21043-3350
 (301) 461-0078



NOTE: POND #2
 1. WATER SHALL BE REMOVED BY PUMPING IF ENCOUNTERED DURING CONSTRUCTION OF POND #2.
 2. HAZARDOUS CLASS "A" DAM BREACH ANALYSIS APPROVED BY SCD 8/9/90

SEDIMENT TRAP NO. 1
 STONE OUTLET TRAP ST. 6+00
 DRAINAGE RECD = 2.0 AC
 STORAGE RECD = 4860 cu ft.
 STORAGE PROVIDED = 4860 cu ft.
 STORAGE DIMENSIONS = 22' x 30' x 4' 6"
 BOTTOM ELEV. = 423.30
 TOP ELEV. = 427.90
 BOTTOM ELEV. = 423.30
 STORAGE PROVIDED = 4860 cu ft.
 STORAGE DIMENSIONS = 22' x 30' x 4' 6"
 CLEAN OUT ELEV. = 423.30
 CLEAN OUT ELEV. = 423.30
 EXIST. GRD. ELEV. = 420.5

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
James H. Johnson 10-4-90
 SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.
Robert W. Zickm 10/5/90
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chas M. Dwyer 7/10/91
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Drewville W. Willebrand 6/19/91
 CHIEF, BUREAU OF HIGHWAYS DATE

Kearney & Pridem 7-19-91
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
David V. L. Lough 7/2/91
 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 Mildberg 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.
Kenneth S. Malm 6/25/90
 Signature of Developer Date

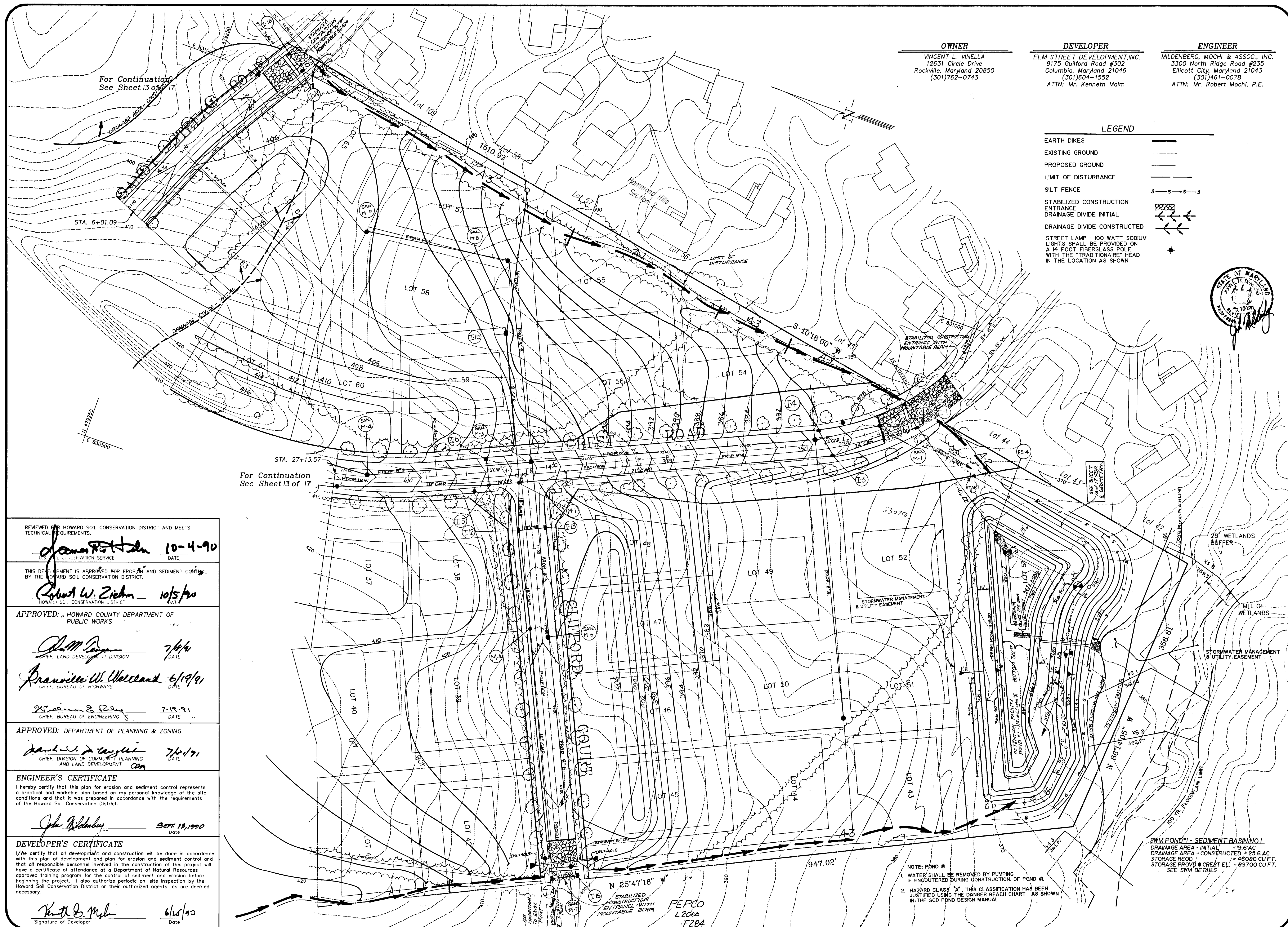
For Continuation
 See Sheet 14 of 17

For Continuation
 See Sheet 14 of 17



162B

162B



REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
James P. Hahn 10-4-90
DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Robert W. Ziehm 10/5/90
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Sam Payne 7/16/91
DATE

Francis W. Ueland 6/19/91
DATE

William S. Ray 7-19-91
DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
David L. Casper 7/6/91
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 Malm 6/15/90
DATE

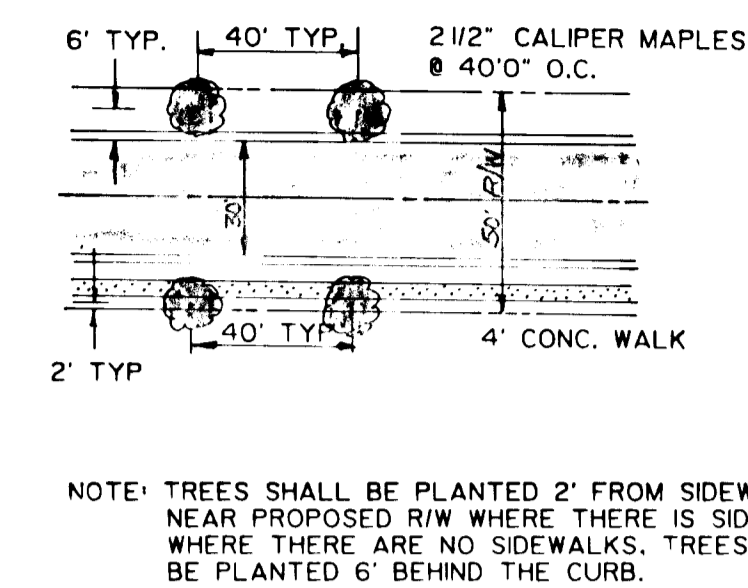
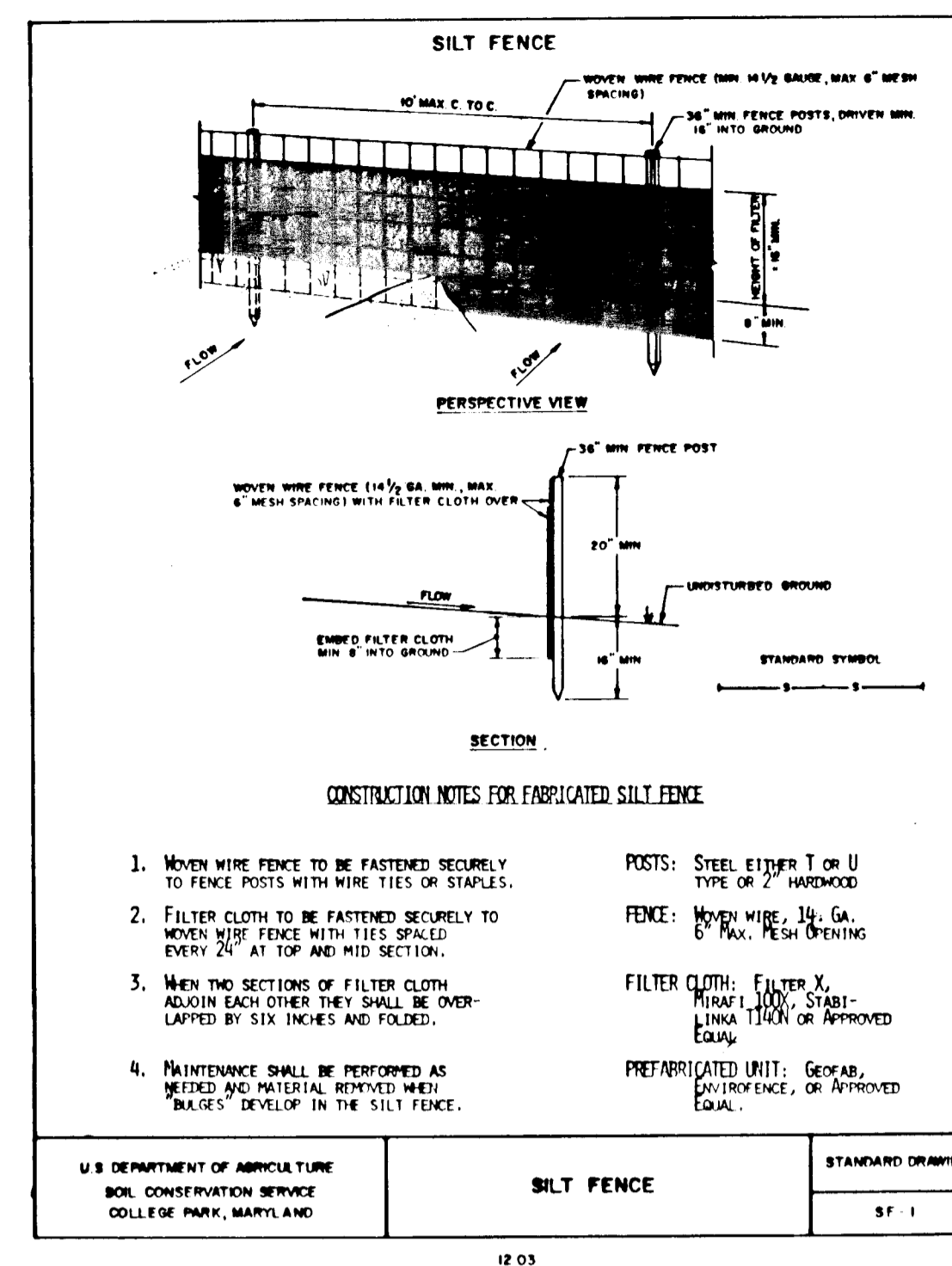
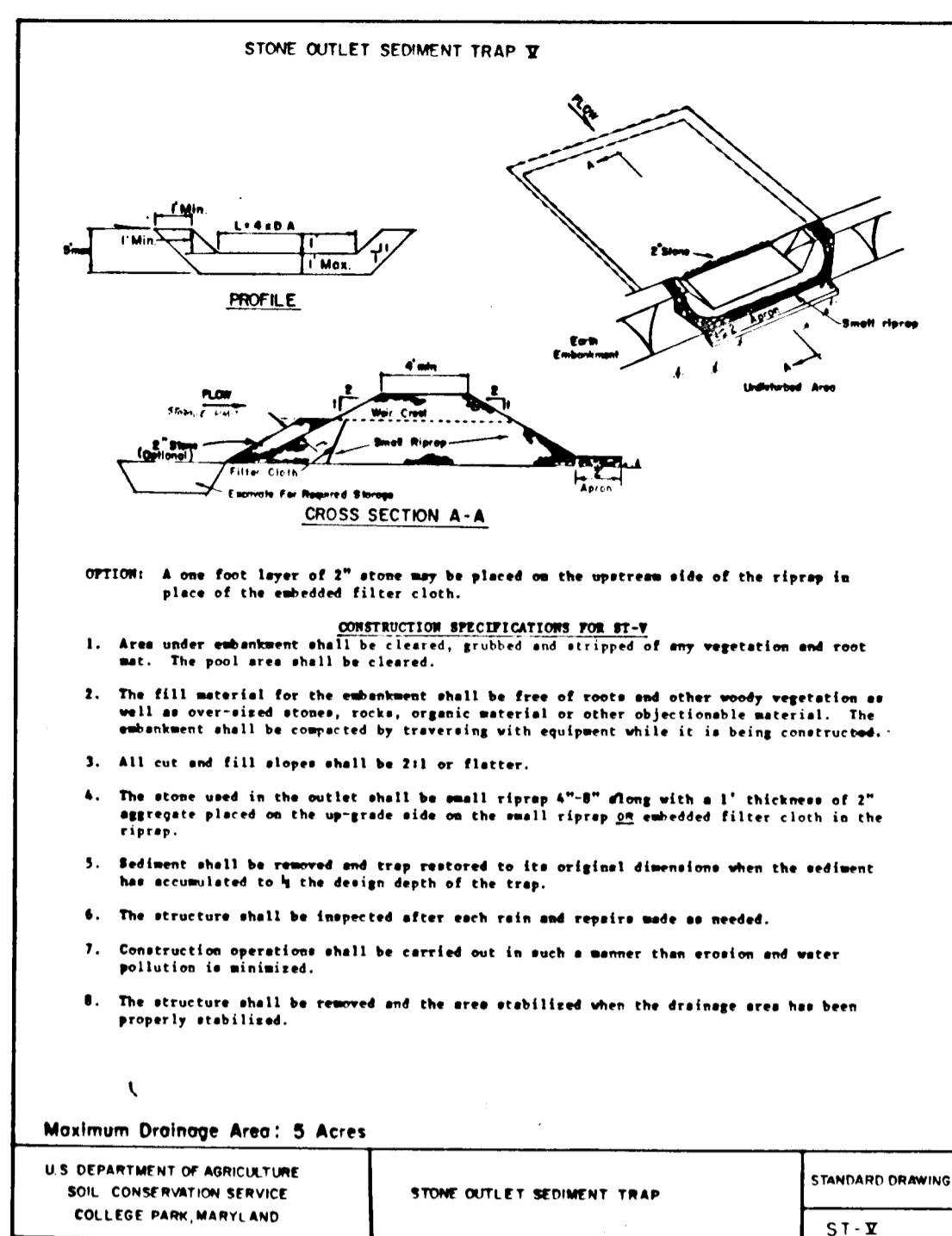
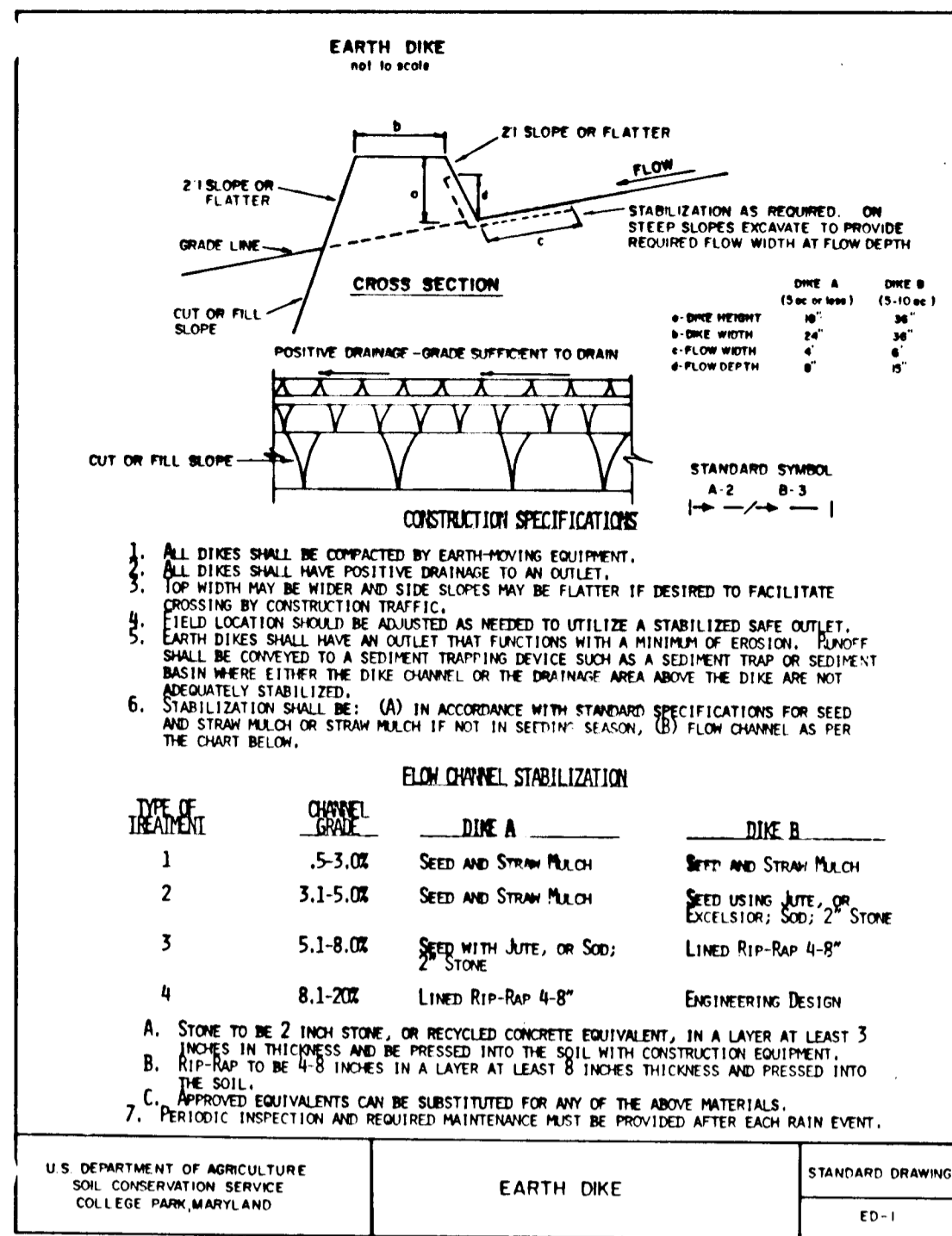
DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this project will have a certificate of attendance at a Department 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 B. Malm 6/15/90
DATE

Project	89004.03	Date	JUNE '90
Illustration	MDC	Engineering	CAM
Scale	1" = 50'	Approval	RIM

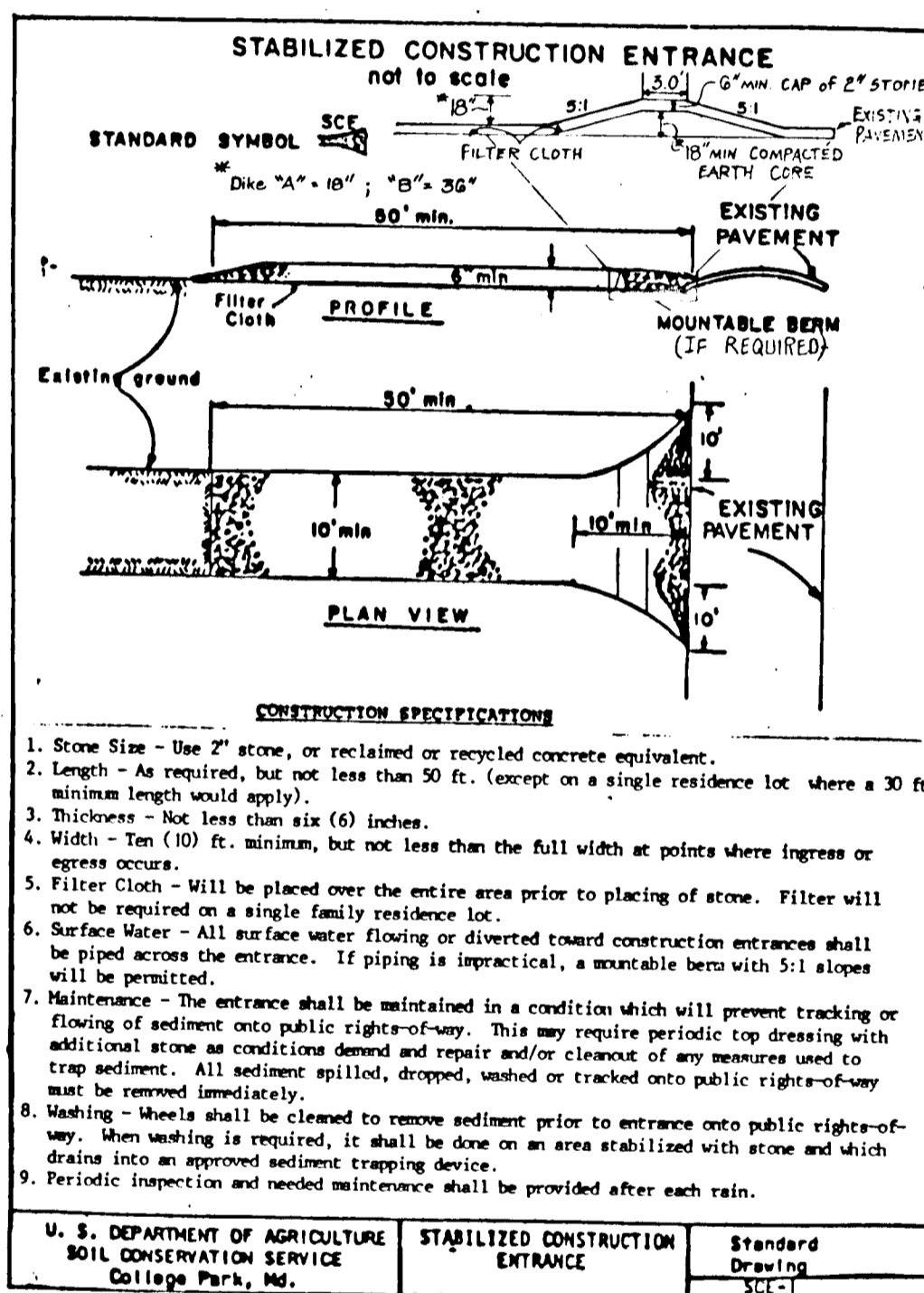
No.	2	Date	7/7/91
Description	ADD CONSTRUCTION DETAILS TO PLAN 2417		
Revisions	REVISED PER COMMENTS FROM DPZ DATED 6/19/90		

PATUXENT SPRINGS
Parcel 194
Tax Map 46
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) 621-5768



- SEQUENCE OF OPERATIONS
- Obtain grading permit.
 - Construct stabilized construction entrances and install temporary 15" CMP at Clifford Court.
 - Clear and grub areas surrounding sediment control features.
 - 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.
 - Construct silt fences and earth dikes. Stabilize earth dikes with temporary seeding.
 - Clear site per limits indicated.
 - Construct site to the grades indicated on the plan and construct storm drain system and utilities.
 - Do not place inlet protection devices per S.C.S. request.
 - Upon stabilization of graded areas, all accumulated sediment shall be removed from the storm drain system.
 - During construction, sediment shall be removed from the Sediment Traps and Stormwater Management Ponds when their cleanout elevations have been reached.
 - Construct asphalt berms to divert flows to inlets when base course pavement has been constructed.
 - Stabilize all roadway areas with permanent seeding.
 - 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 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.
 - Following initial soil disturbance 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 days for all other disturbed graded areas on the project site.



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
 SOIL CONSERVATION SERVICE DATE

[Signature] 10/5/90
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[Signature] 7/12/91
 CHIEF, LAND DEVELOPMENT DIVISION DATE

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

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

APPROVED: DEPARTMENT OF PLANNING & ZONING

[Signature] 7/2/91
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

ENGINEER'S CERTIFICATE

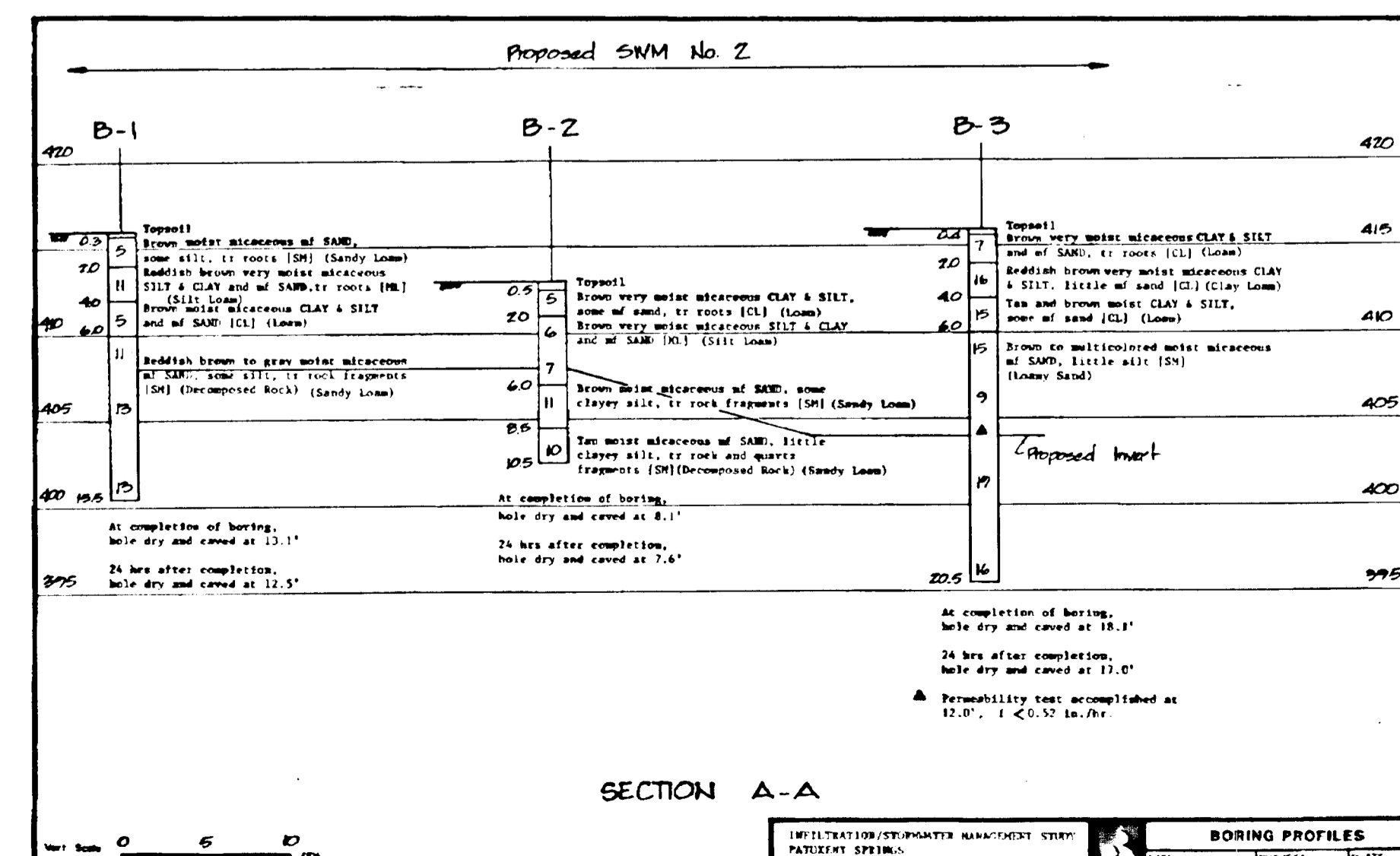
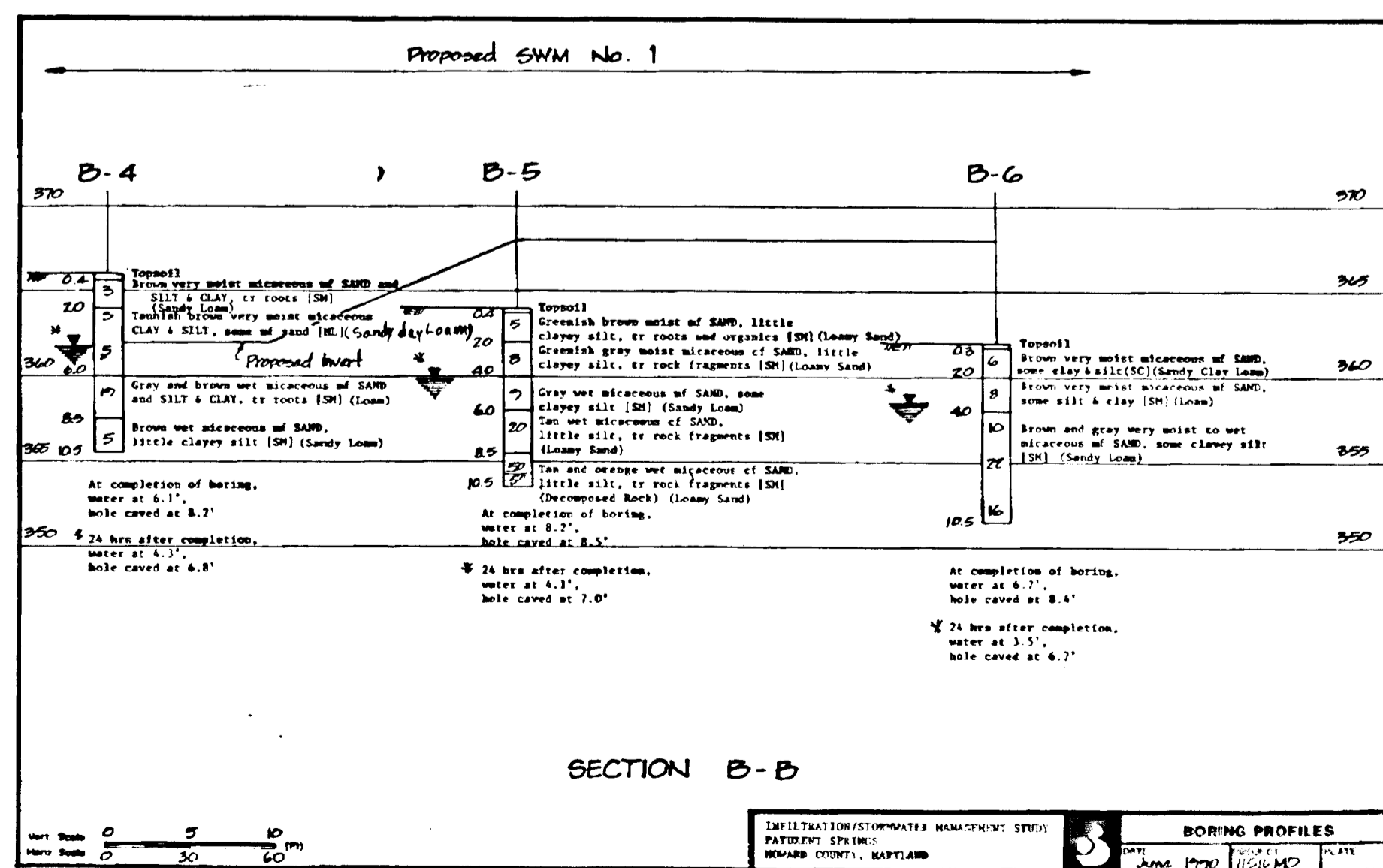
I certify this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the Developer that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

[Signature] 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	89004.03	date	JUNE '90
Illustration	MDC	engineering	CAM
scale	1" = 50'	approval	RAM

ADD CONSTRUCTION DETAILS TO PLAN	7/17/91	date	
REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90	description	
REVISED PER COMMENTS FROM DPZ DATED 8/15/90	9/13/90	revisions	

PATUXENT SPRINGS
 Parcel 194
 Tax Map 46
 HOWARD COUNTY, MARYLAND
 ELECTION DISTRICT No. 6
SEDIMENT CONTROL NOTES and DETAILS

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) 627-5768

STATE OF MARYLAND
 JOHN B. MILDENBERG
 No. 10,000
 PROFESSIONAL ENGINEER

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 (MSP 3/16), 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 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 AASHTO 1-99 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 1-99 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, 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 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 KY-31 Tall Fescue	0.5 lbs./1000 sq. ft. 1.5 lbs./1000 sq. ft.
Mulch:	Straw	80 lbs./1000 sq. ft.
Asphalt Tie-down:	Slopes Flat areas	8 gal./1000 sq. ft. 5 gal./1000 sq. ft.

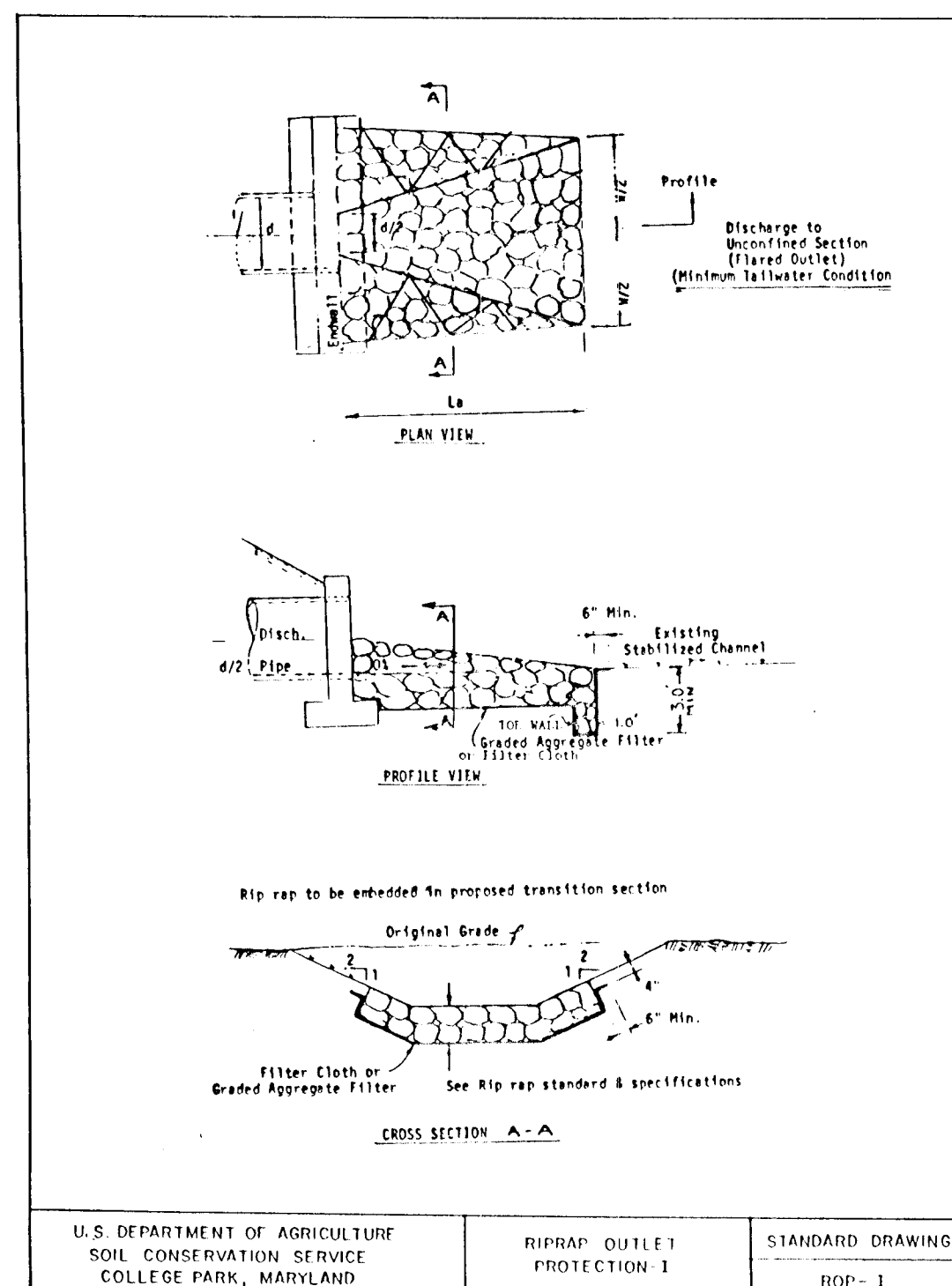
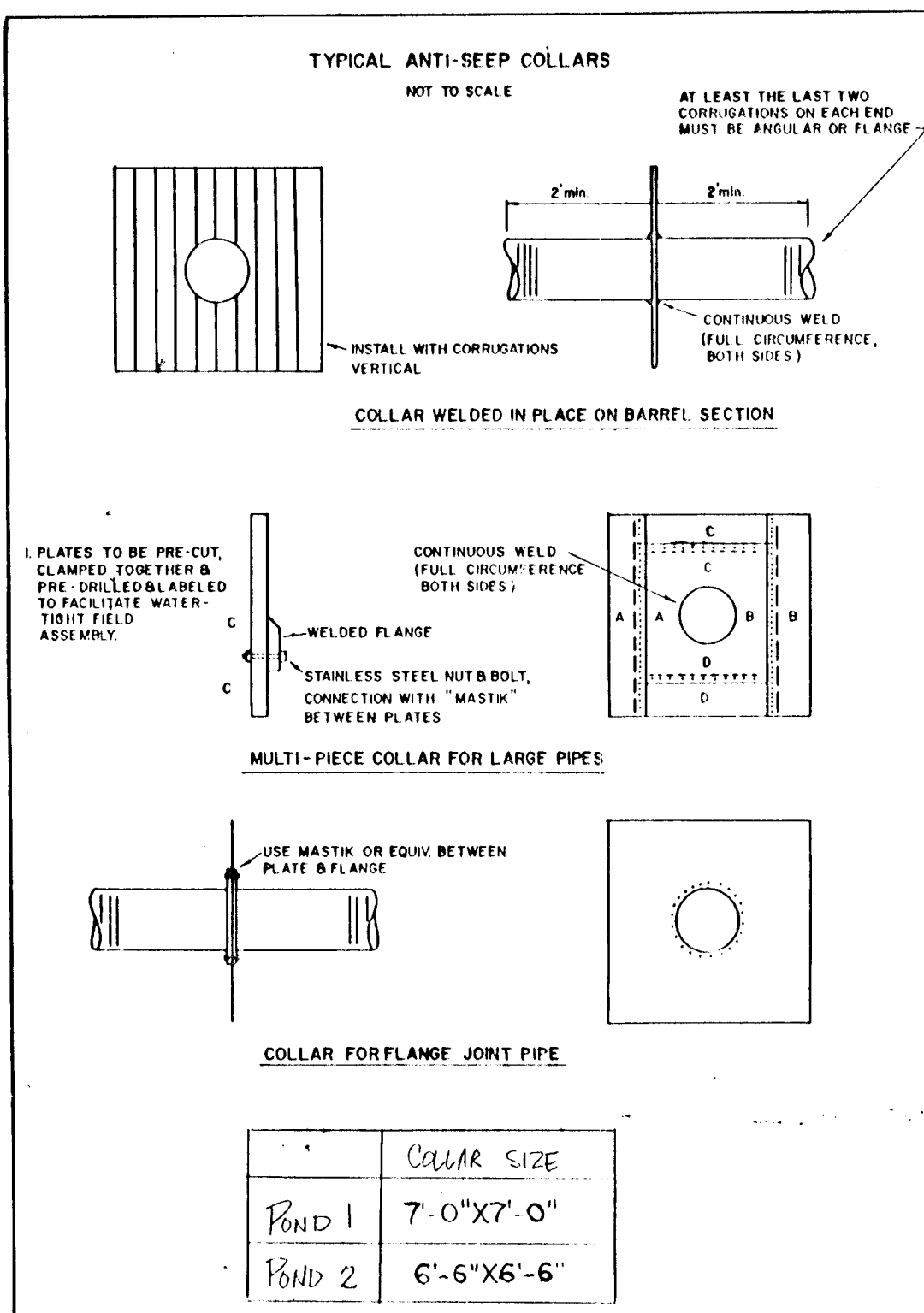
7. EROSION AND SEDIMENT CONTROL

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

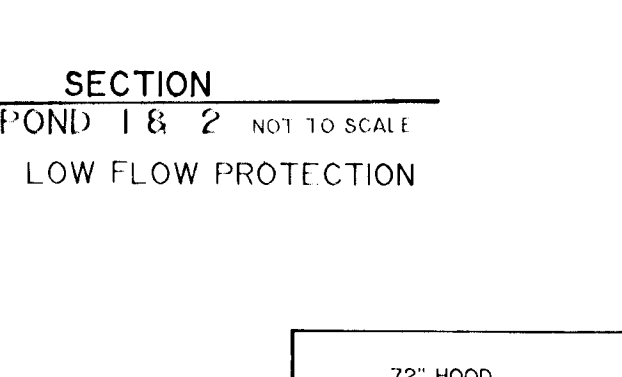
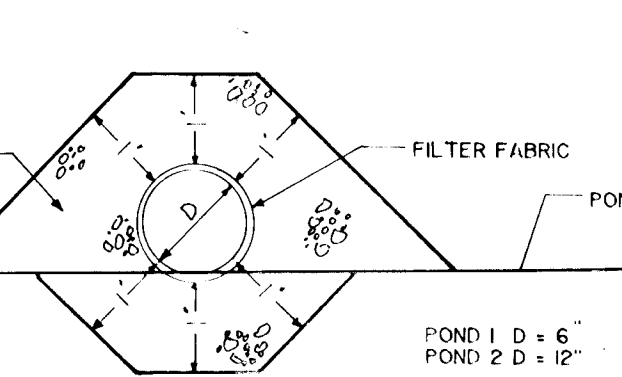
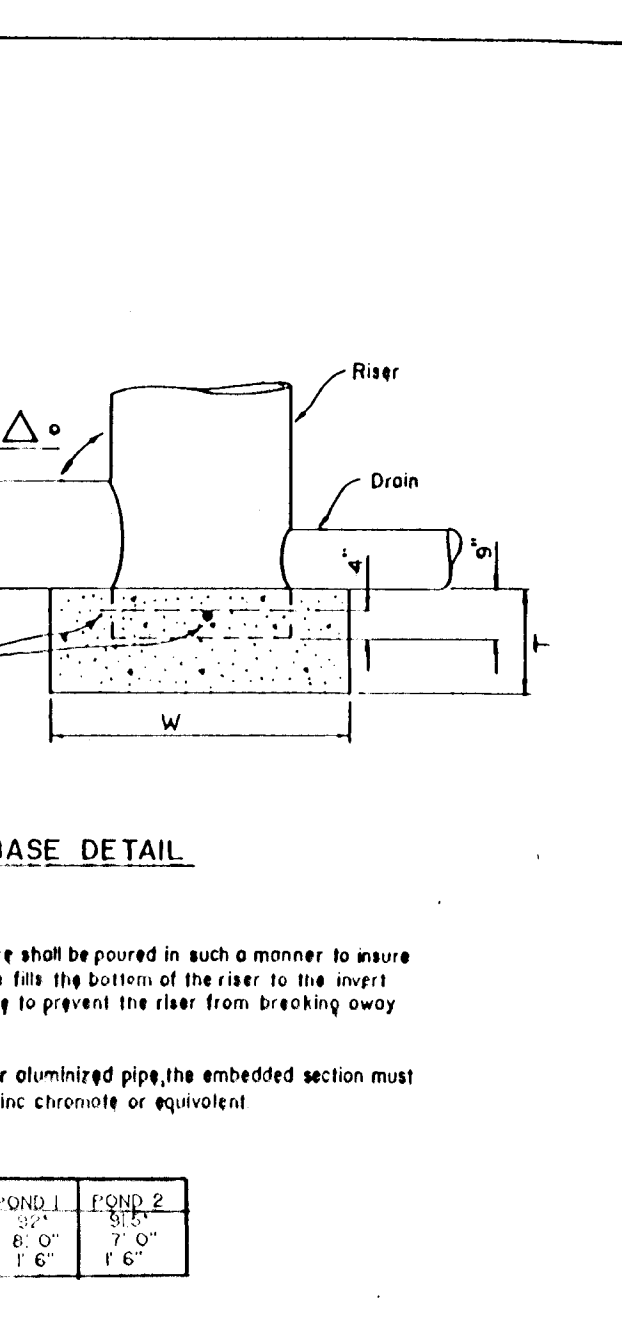
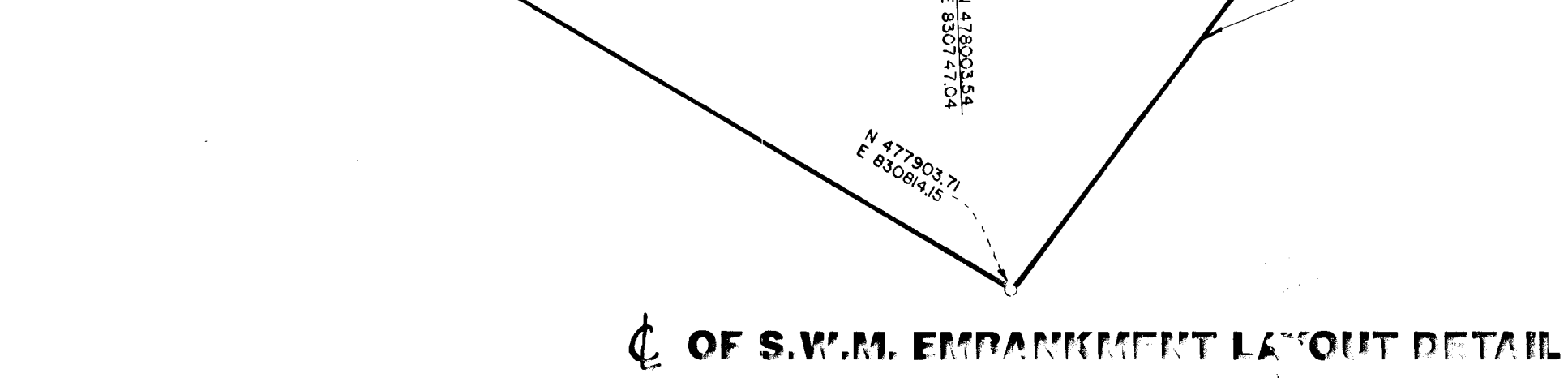
Where specified, MIRAFI 1405 or equivalent shall be used.

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



OWNER: VINCENT L. VINELLI, 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, MOCHIL & ASSOC., INC., 3300 North Ridge Road #235, Ellicott City, Maryland 21043, (301)461-0078, ATTN: Mr. Robert Mochil, P.E.

OF S.W.M. EMBANKMENT LAYOUT DETAIL (POND # 1)



DETAIL - TRASH RACK
 POND # 1 NOT TO SCALE

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

10-4-90
 DATE

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

10/5/90
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

7/11/91
 DATE

APPROVED: DEPARTMENT OF HIGHWAYS

7-19-91
 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

7/2/91
 DATE

ENGINEER'S CERTIFICATE
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7/2/91
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7/2/90
 DATE

1628

PROJECT: 89004.03
 DATE: JUNE 91
 INSTRUCTION: SEE PLAN
 VDC: CAJ
 SCALE: 1" = 50'
 DRAWN: DMH

7/11/91
 DATE

ADD CONSTRUCTION DETAILS NOTES TO PAGE 1041 IT
 REVISED PER COMMENTS FROM DPZ DATED 8/19/90
 FIRST SUBMISSION TO HOWARD COUNTY DPZ
 REVISIONS

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

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

STATE OF MARYLAND
 DEPARTMENT OF NATURAL RESOURCES
 SOIL CONSERVATION DISTRICT

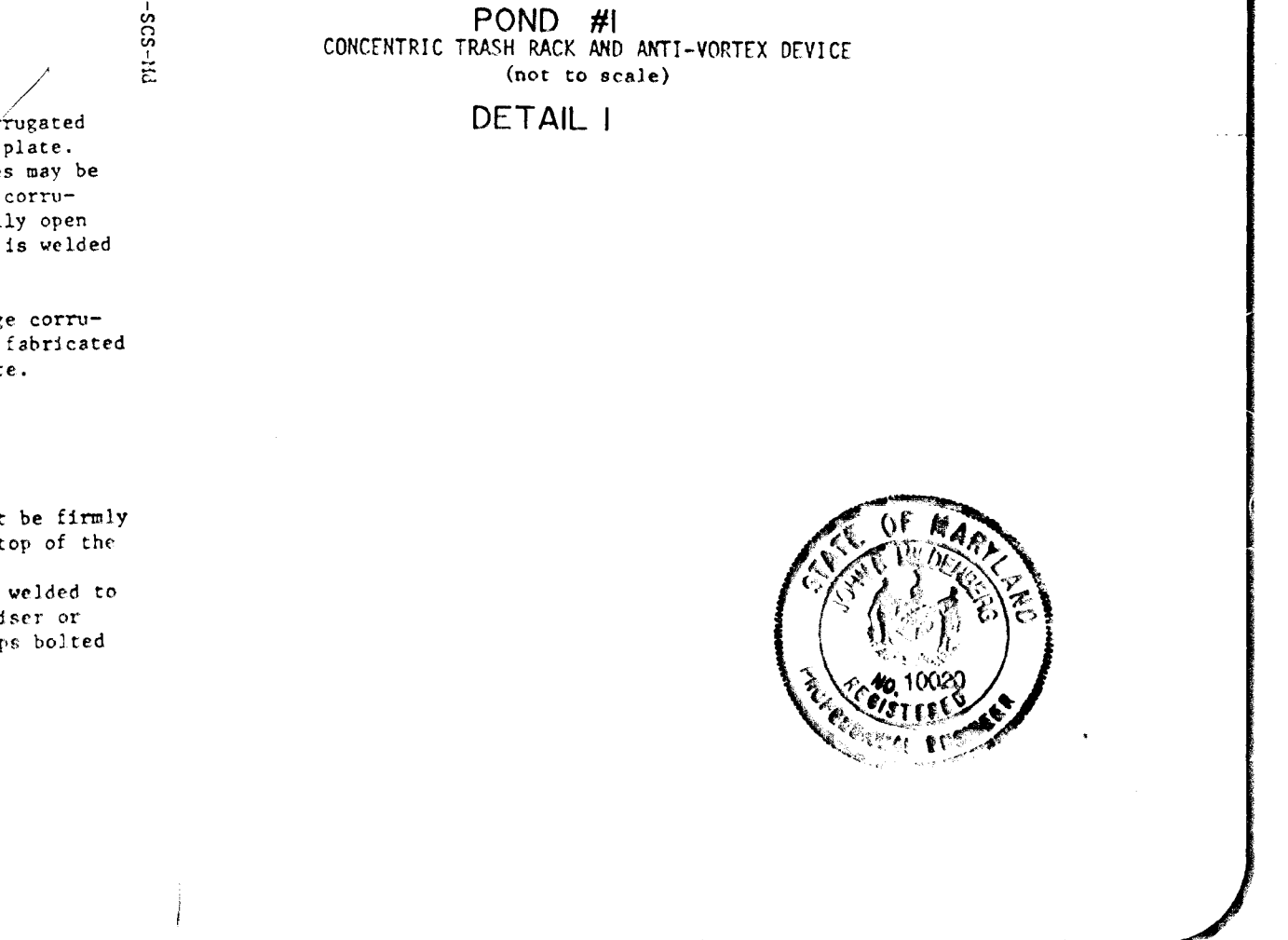
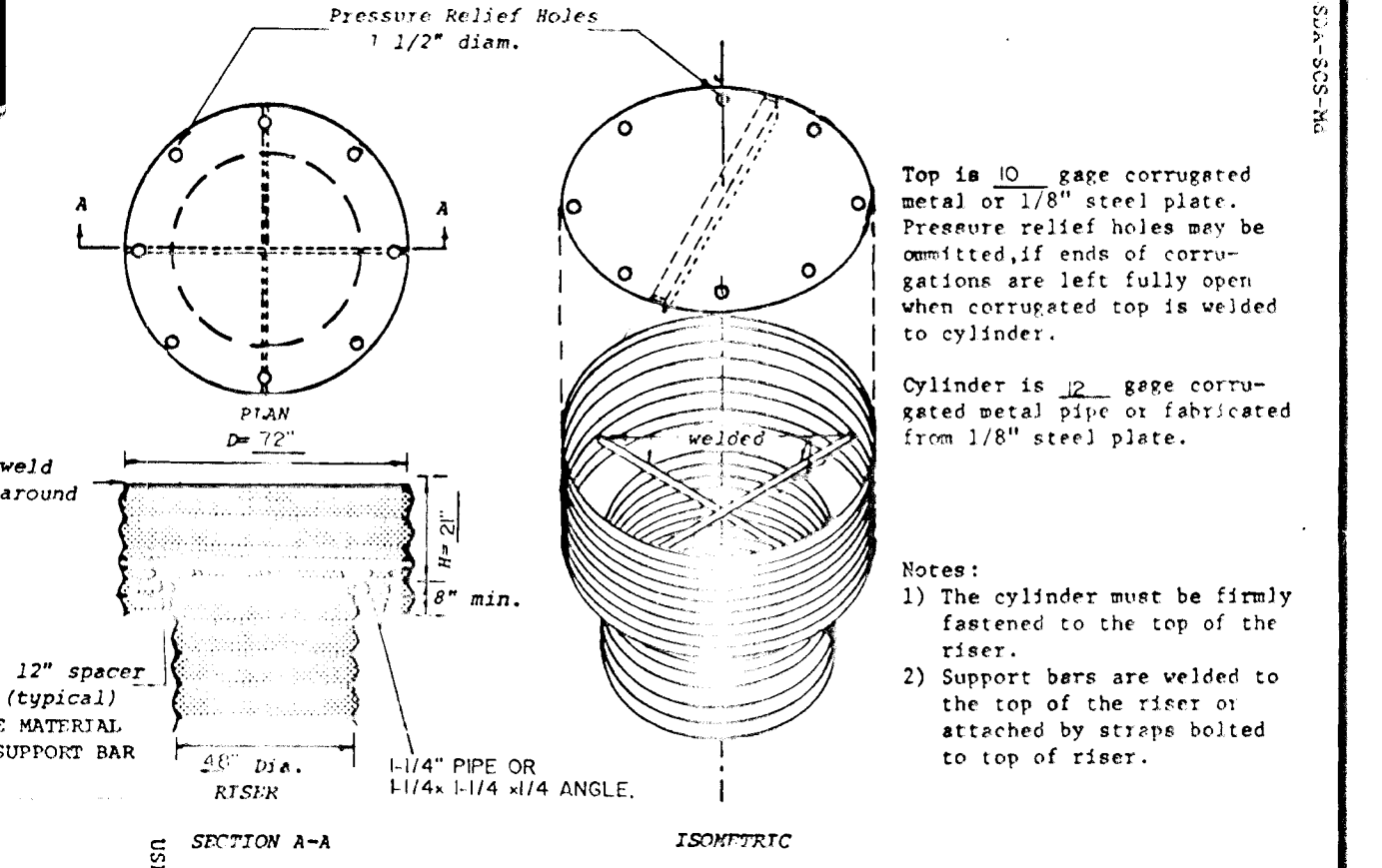
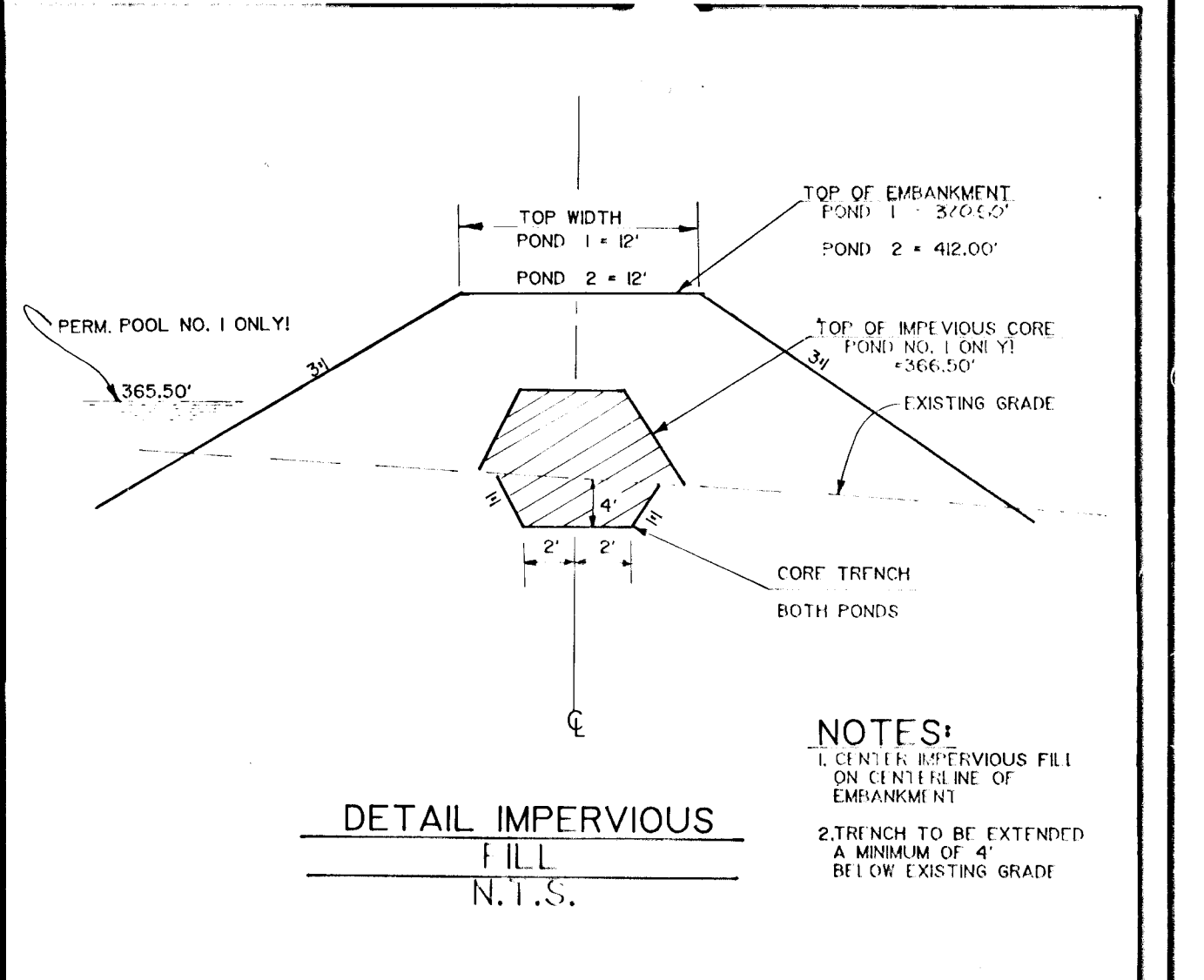
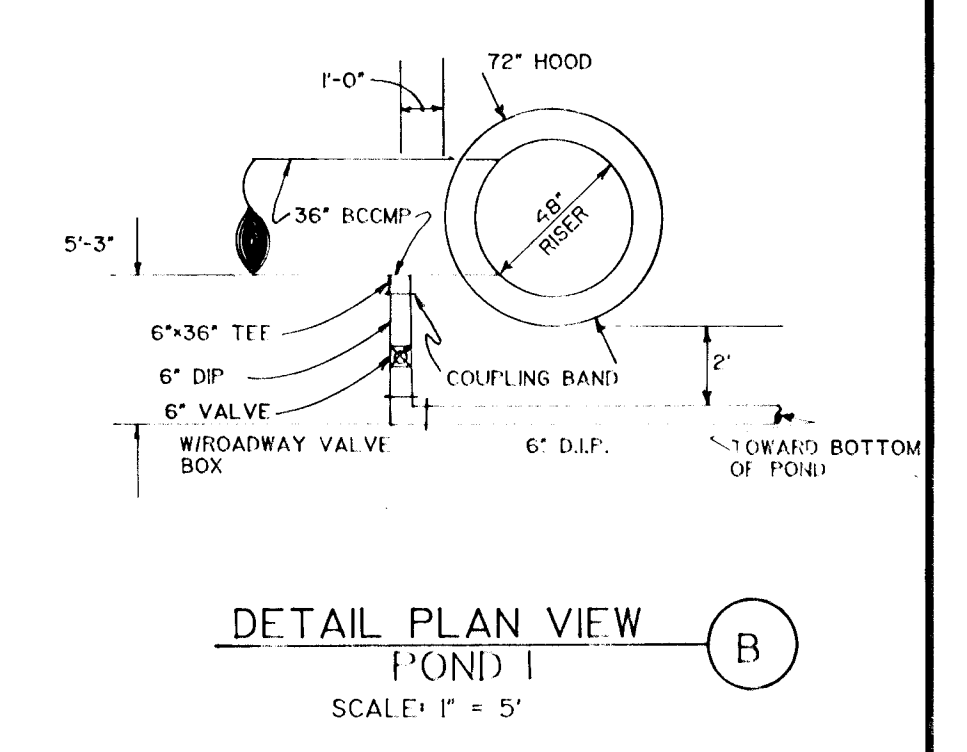
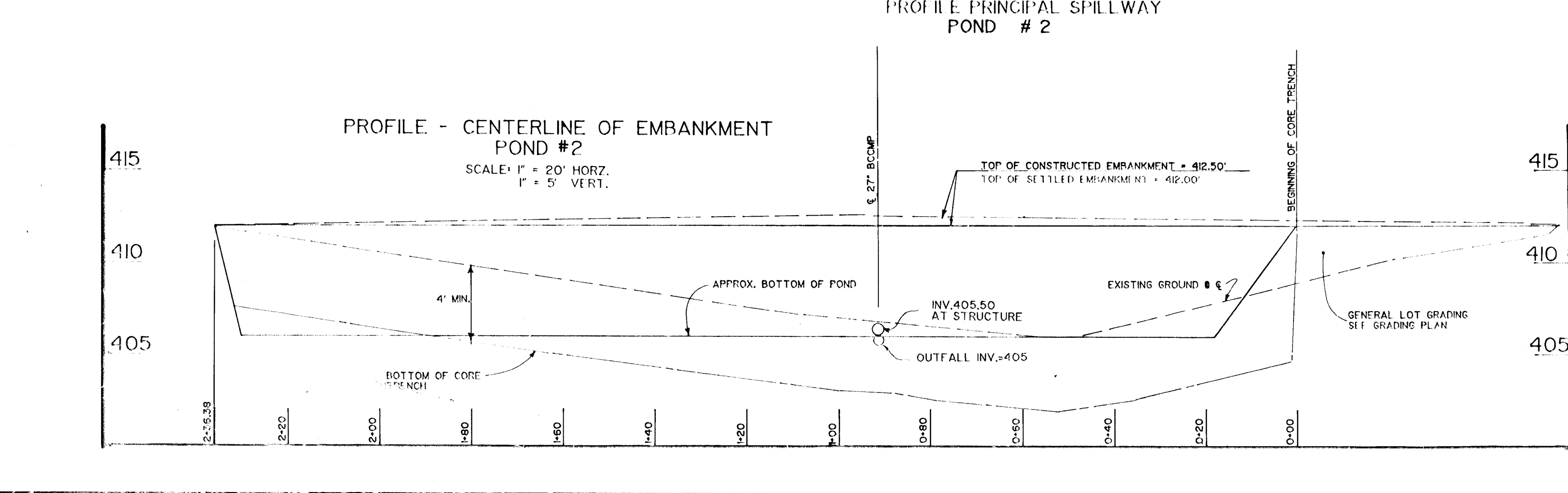
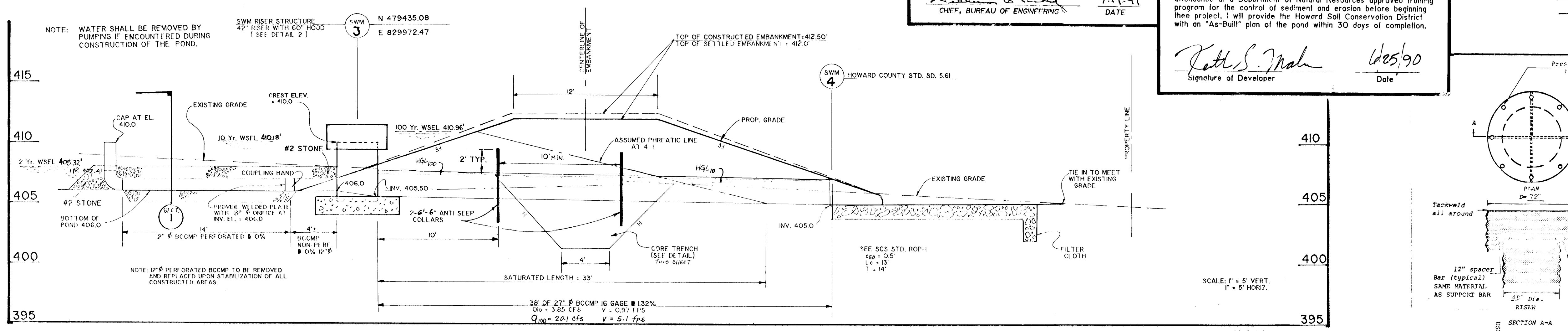
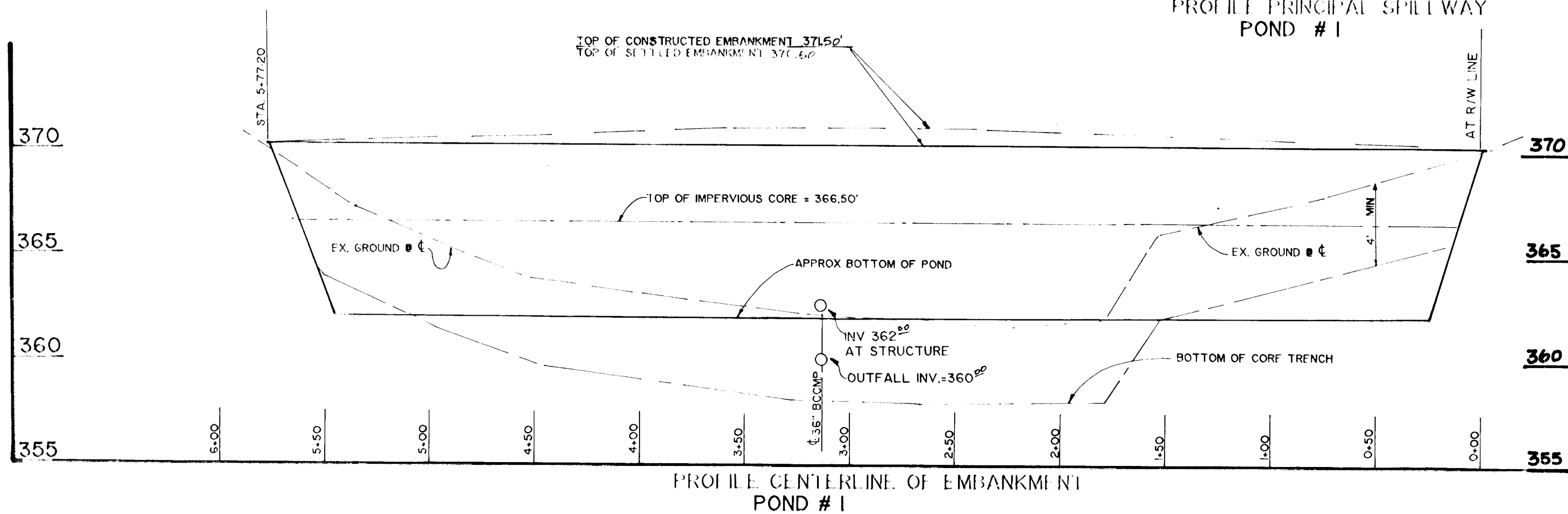
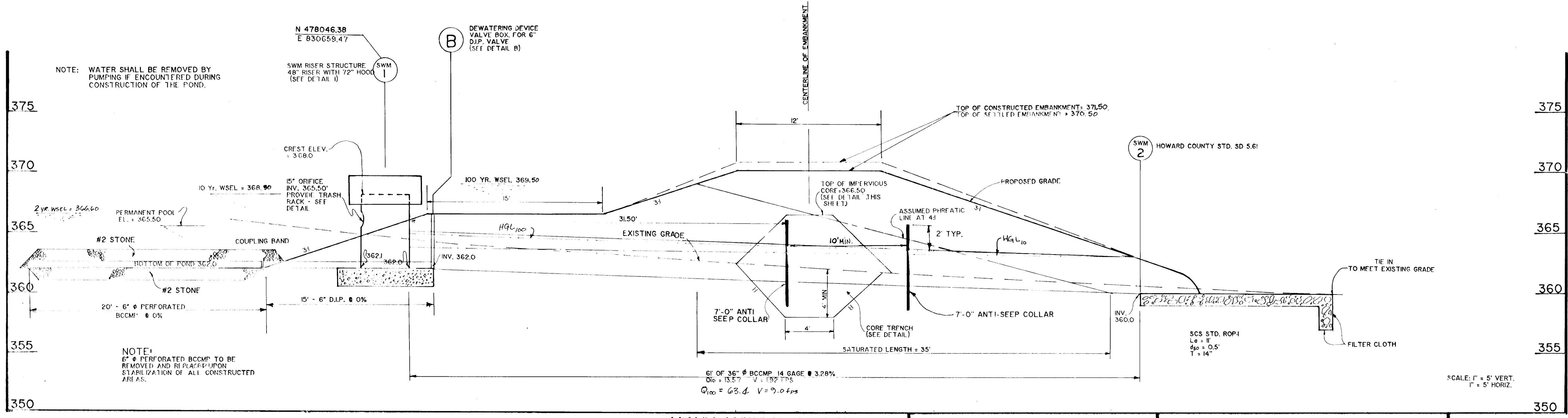
16 of 17
 990201

Project: 89004.03
 Date: JUNE 90
 Engineer: CAM
 Scale: 1" = 50'

ADD CONSTRUCTION DETAIL NOTES TO PAGE 14 OF IT
 REVISED PER COMMENTS FROM DEP DATED 8/15/90
 DATE: 9/23/90
 REVISIONS:

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

DEMBERG, SOUL & ASSOCIATES, INC.
 ENGINEERS, ARCHITECTS, PLANNERS
 3300 National Pike, Suite 203, Ellicott City, Maryland 21030
 (301) 951-0076 FAX: (301) 521-3768



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

James M. Adams 05/10/90
 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. Zick 05/10/90
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John M. Morgan 7/16/91
 CHIEF, LAND DEVELOPMENT DIVISION DATE

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

John S. Mah 6/25/90
 Signature of Developer DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

James R. Wright 7/10/91
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

ENGINEER'S CERTIFICATE

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John M. Morgan 7/16/91
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John S. Mah 6/25/90
 DATE



1628