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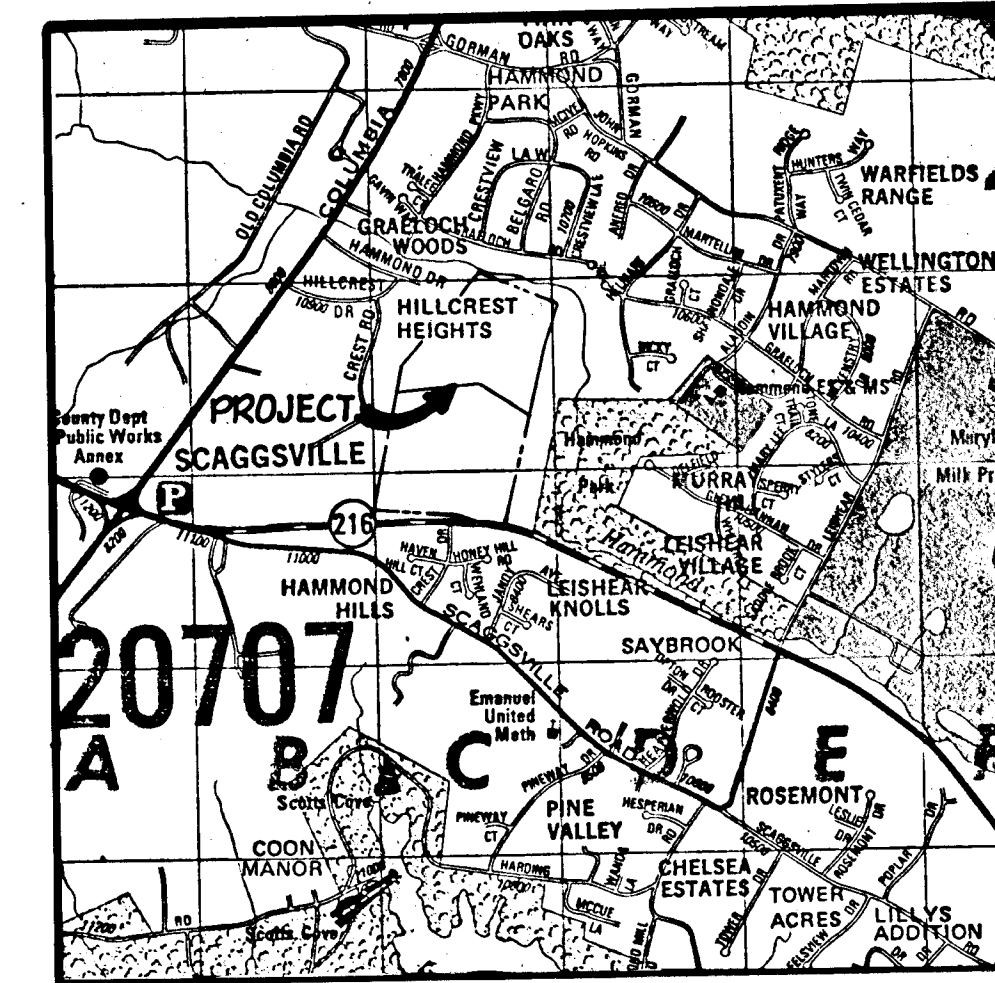
ROADWAYS, STORM DRAINS & STORM WATER MANAGEMENT

HAMMOND HILLS

SECTION 2, AREA 2

6TH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1"=2000'

DENSITY TABULATION

ITEM	SEC. 1	SEC. 2 AREA 1	SEC. 2 AREA 2	TOTAL
1. GROSS AREA	19.719 Ac.	51.704 Ac.	43.957 Ac.	115.380 Ac.
2. FLOODPLAIN & STEEP SLOPES	-0-	1.580 Ac.	6.229 Ac.	7.809 Ac.
3. NET AREA	19.719 Ac.	50.124 Ac.	37.728 Ac.	107.571 Ac.
4. NET MAX. LOTS PERMITTED	42	109	82	233
5. MAX. FLOODPLAIN LOTS PERMITTED	4	11	9	24
6. FLOODPLAIN ADJUSTMENT LOTS PROPOSED	-0-	3	9	12
7. TOTAL LOTS ALLOWED	42	112	91	245
8. TOTAL LOTS PROPOSED	28	59	97	184
9. DENSITY PER ACRE	1.42	1.17	2.57	1.71
10. OPEN SPACE REQUIRED	1.35 Ac.	5.16 Ac.	10.88 Ac.	17.39 Ac.
11. OPEN SPACE PROVIDED	2.59 Ac.	8.56 Ac.	6.37 Ac.	17.52 Ac.

BENCHMARKS

BM#1 ELEV. 284.51
NAIL IN BASE OF 10" DEAD TREE 30'± SOUTH OF CREST DRIVE

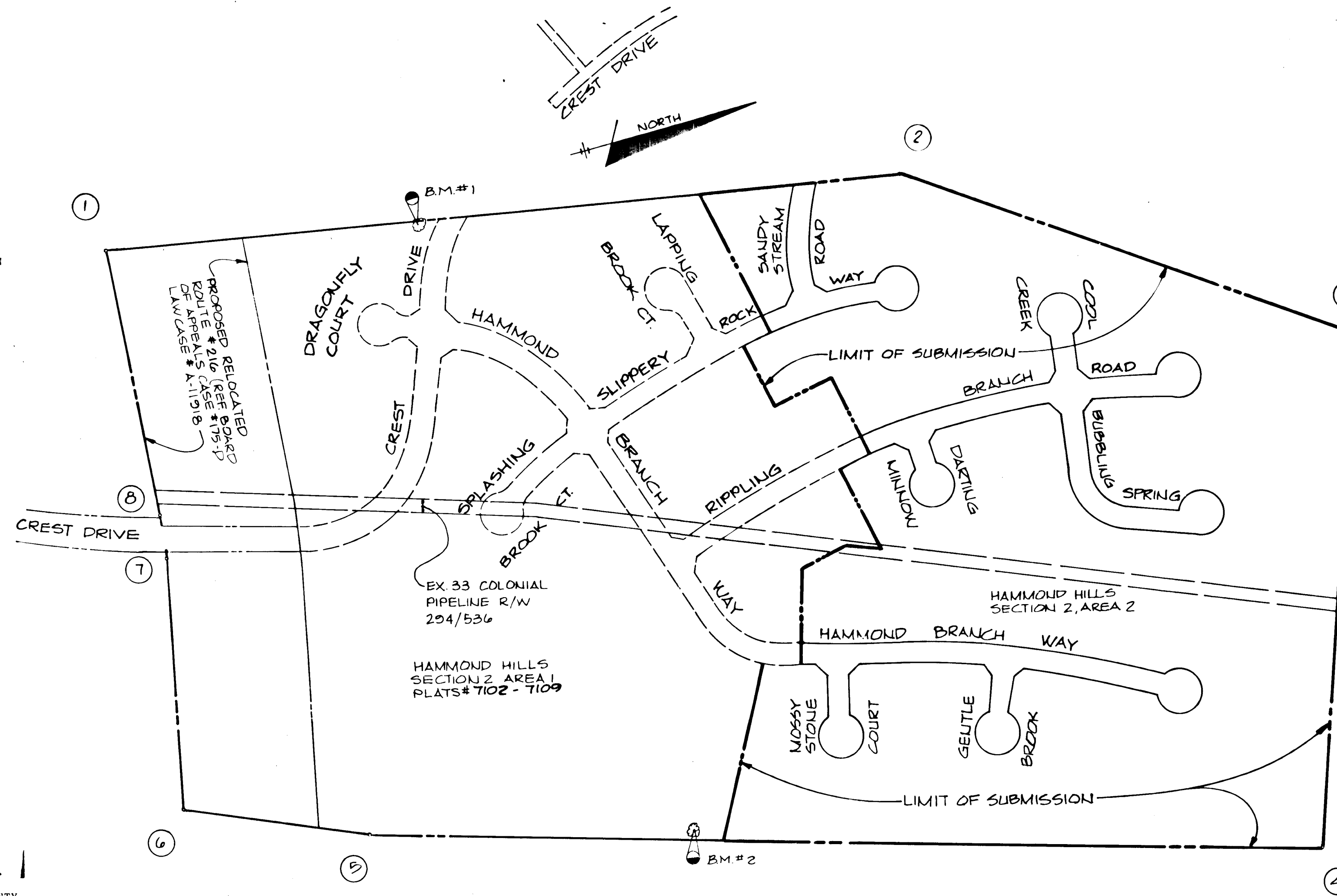
BM#2 ELEV. 374.37
NAIL IN BASE OF 16" PINE TREE 500'± SOUTHEAST OF HAMMOND BRANCH WAY

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.C., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:

MISS UTILITY	1-800-257-7777
BELL TELEPHONE SYSTEM	393-3649
LONG DISTANCE CABLE DIVISION	393-3553 or 3554
BALTIMORE GAS AND ELECTRIC COMPANY	539-8000, ext. 691
HOWARD COUNTY BUREAU OF UTILITIES	992-2166
HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK)	792-7272
COLONIAL PIPELINE	795-1390
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE 35.0° RADII UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.C., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION."
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:

ALL 60' RIGHT-OF-WAYS	35 M.P.H.
ALL 50' RIGHT-OF-WAYS	30 & 25 M.P.H.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND C.S. MEAN SEA LEVEL DATUM, 1929.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ϕ ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS
- SUBJECT PROPERTY ZONED R-20 PER R-2-85 COMPREHENSIVE ZONING PLAN.
- TOPO TAKEN FROM AERIAL TOPO BY FISHER, COLLINS AND CARTER, INC. DATED MARCH, 1985.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BACKFILLED WITHIN ϕ FINISHED GRADE.
- ALL STORM DRAIN PIPE REDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- SEE OFFICE OF PLANNING AND ZONING FILE Nos. S-04-02, S-86-54, P-86-13 & VP-86-74.
- * DENOTES 175-WATT "MODERN" MERCURY VAPOR LAMP POST TOP FIXTURE ON 14 FOOT GRAY FIBERGLASS POLE LOCATED 2 TO 10 FEET FROM BACK OF CURB.



PLAN
SCALE: 1"=200'

OPEN SPACE TABULATION

LOT SIZE	NO. OF LOTS	AREA OF LOTS IN ACRES	MANDATORY OPEN SPACE	REQUIRED OPEN SPACE SPACE IN ACRES	OPEN SPACE PROVIDED
20,000 ± LARGER	1	0.472	6%	.028	0.562 Ac.
16,000 ± - 19,999 ±	1	0.423	10%	.042	2.209 Ac.
16,000 ± - 17,999 ±	6	2.290	20%	.458	0.838 Ac.
14,000 ± - 15,999 ±	53	10.004	30%	5.401	2.764 Ac.
14,000 ± <	36	10.822	6000%/LOT	4.959	
TOTALS	97	52.011		10.888	6.369 Ac.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John M. ... 8-27-87
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. ... 9-24-87
CHIEF, BUREAU OF ENGINEERING

M. ... 8-20-87
CHIEF, LAND DEVELOPMENT DIVISIONS

James M. ... 8/27/87
CHIEF, BUREAU OF HIGHWAYS

OWNER/DEVELOPER
HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP
C/O BRITAN DEVELOPMENT GROUP SUITE 250
9030 RED BRANCH ROAD
COLUMBIA, MARYLAND 21045

PROJECT: **HAMMOND HILLS**
SECTION 2 AREA 2
LOTS 109 THRU 209

AREA TAX MAP NO. 41446 PARCEL NO. 2
6TH ELECTION DISTRICT F-87-14 S-84-02
HOWARD COUNTY, MARYLAND F-86-13 G-F-86-24

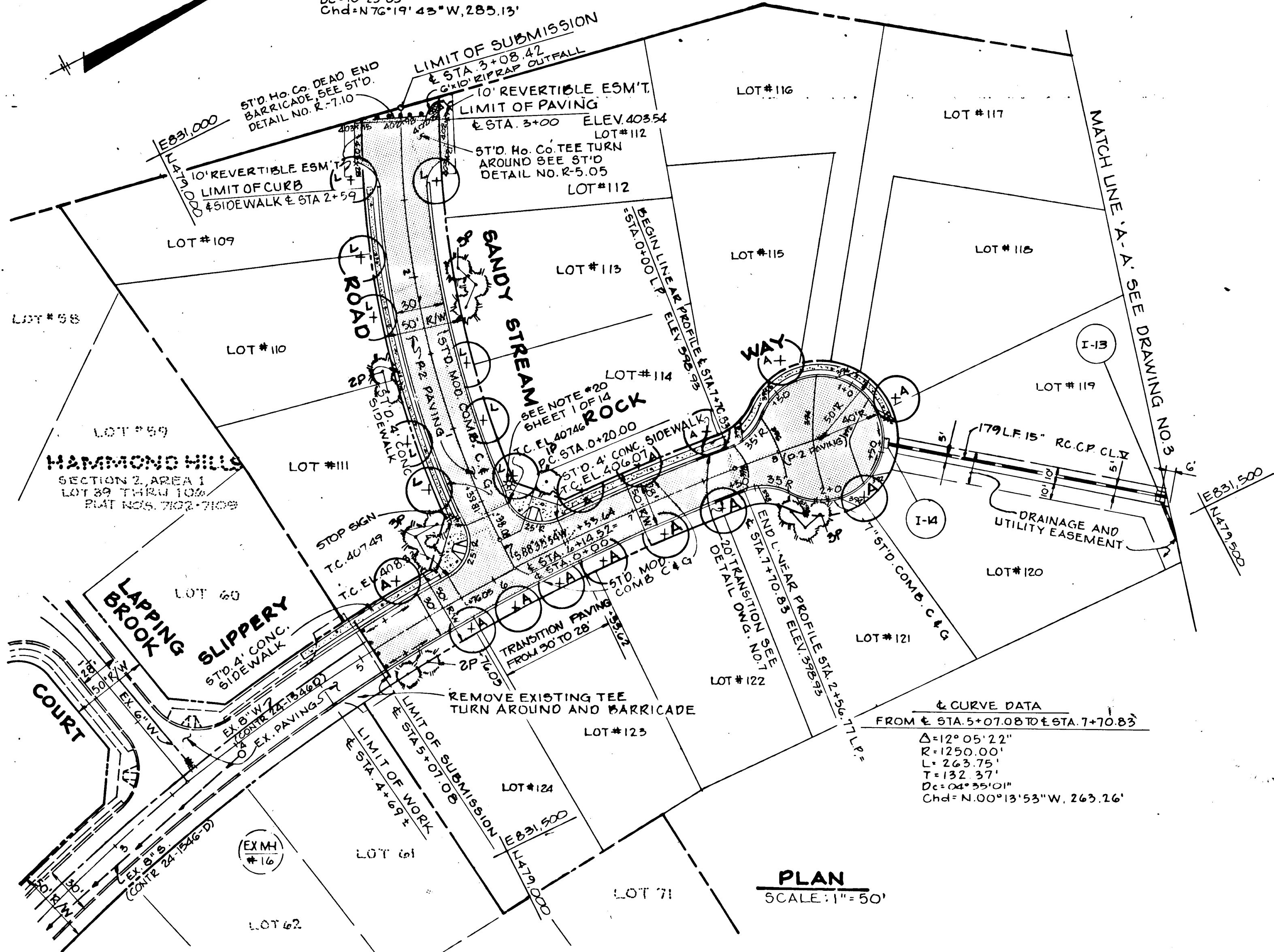
TITLE: **TITLE SHEET**

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3108 Heath Park Drive, Ellicott City, Maryland 21043 (301) 481-9880

8-18-87 DATE
REVISED 7-10-87
DESIGNED BY: L.J.D.
DRAWN BY: J.A.B.
PROJECT NO: 11708
DATE: AUGUST 12, 1987
SCALE: AS SHOWN
DRAWING NO. 1 OF 14

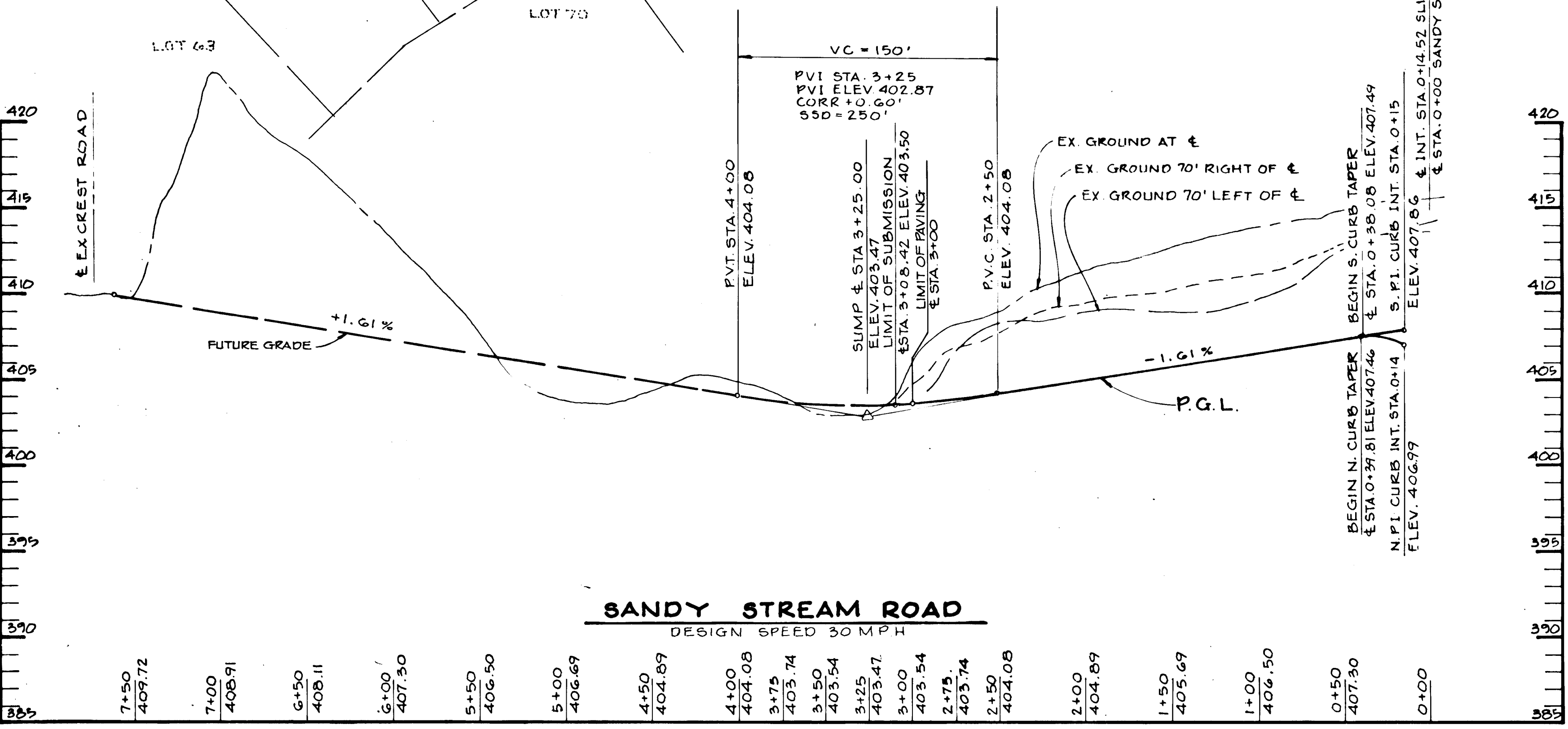
939

CURVE DATA
 FROM STA. 0+20.00 TO STA 3+08.42
 $\Delta = 30^{\circ}02'46''$
 $R = 550.00'$
 $L = 288.42'$
 $T = 147.61'$
 $D_c = 10^{\circ}25'03''$
 $Chd = N 76^{\circ}19'43'' W, 285.13'$

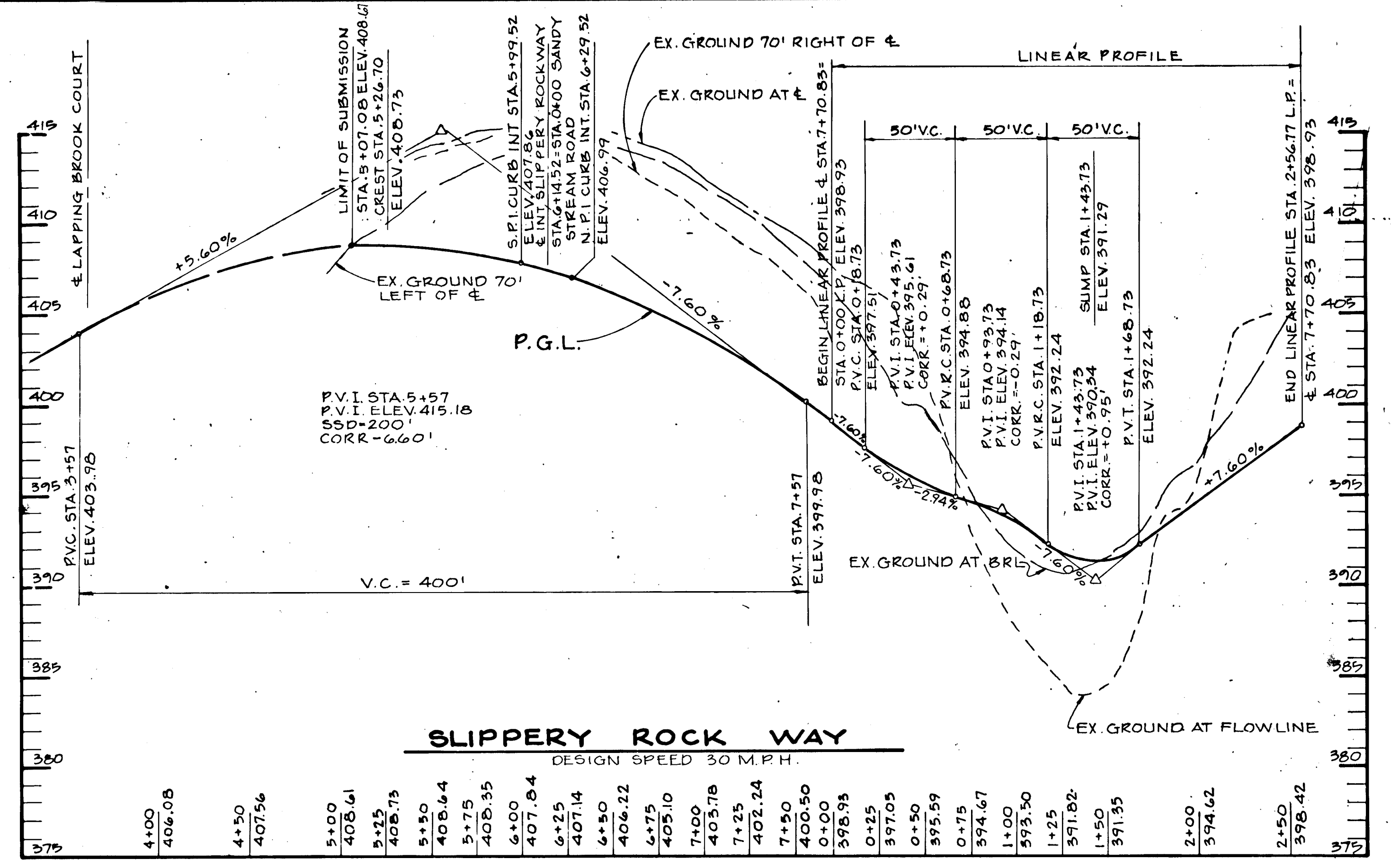


CURVE DATA
 FROM STA. 5+07.08 TO STA. 7+70.83
 $\Delta = 12^{\circ}05'22''$
 $R = 1250.00'$
 $L = 263.75'$
 $T = 132.37'$
 $D_c = 04^{\circ}55'01''$
 $Chd = N 00^{\circ}13'53'' W, 263.16'$

PLAN
 SCALE: 1" = 50'



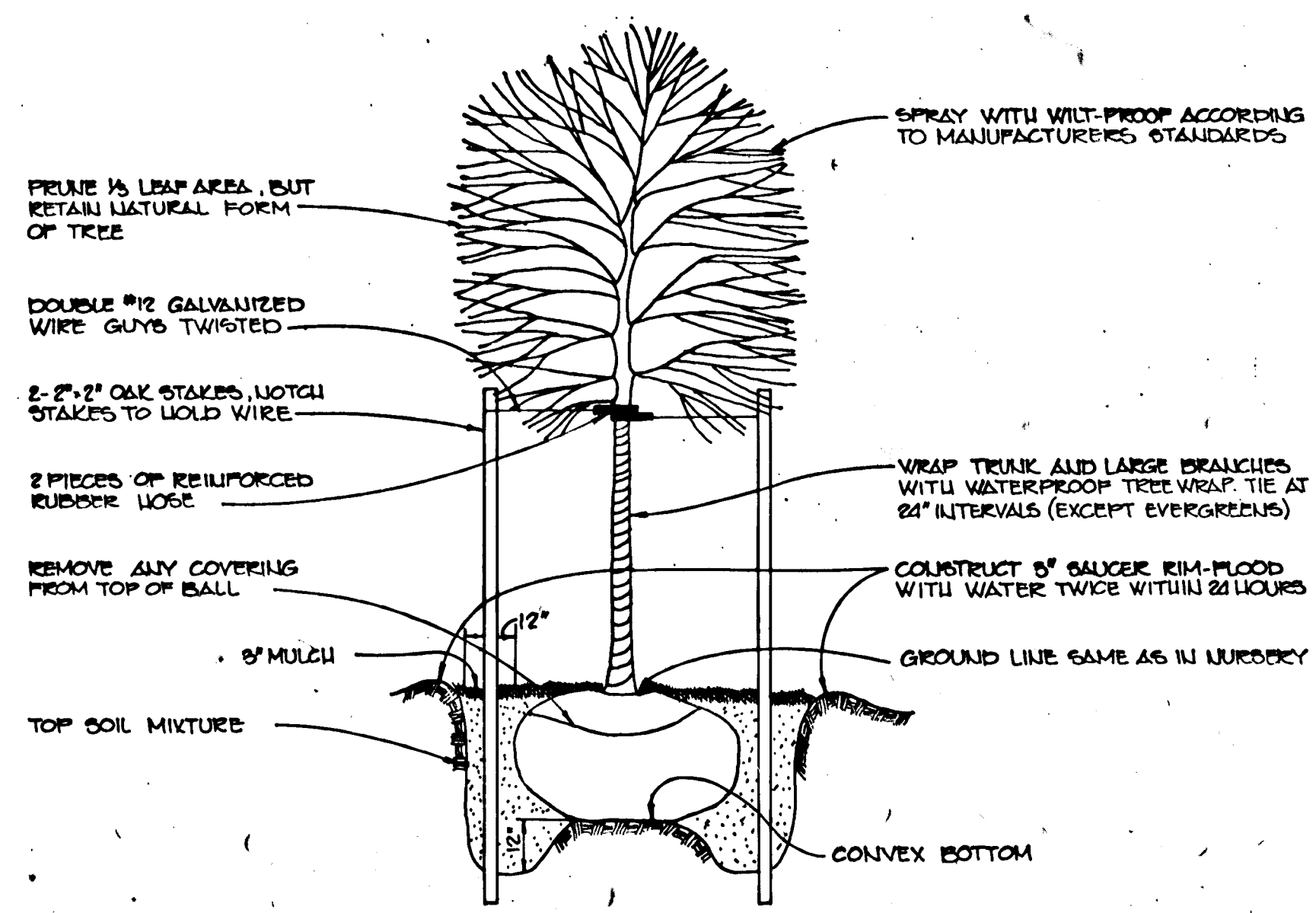
SANDY STREAM ROAD
 DESIGN SPEED 30 MPH
PROFILE
 SCALE: HOR: 1" = 50'
 VERT: 1" = 5'



SLIPPERY ROCK WAY
 DESIGN SPEED 30 MPH
PROFILE
 SCALE: HOR: 1" = 50'
 VERT: 1" = 5'

STREET TREE PLANTING LIST

Qty.	Symbol	Name	Size	Remarks
37	A	ACER RUBRUM Red Maple	2 1/2-3" Cal., 13-15' ht.	B&B, Full Head
17	F	FRAXINUS PENNSYLVANICA "Summit Ash"	2 1/2-3" Cal., 13-15' ht.	B&B, Full Head
20	L	LIQUIDAMBAR STYRACIFLUA Sweet Gum	2 1/2-3" Cal., 13-15' ht.	B&B, Full Head
33	Q	QUERCUS BORFALIS Northern Red Oak	2 1/2-3" Cal., 13-15' ht.	B&B, Full Head
25	T	TILIA CORDATA "Greenspire" Greenspire Linden	2 1/2-3" Cal., 13-15' ht.	B&B, Full Head
81	P	PINUS STROBUS Eastern White Pine	2 1/2-3" Cal., 6-8' ht.	B&B, Unsheared



STREET TREE PLANTING DETAIL
 NO SCALE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John M. ... 8-27-97
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William B. ... 8-24-97
 CHIEF, BUREAU OF ENGINEERING
 DATE

Michelle F. ... 8-24-97
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE

Danielle M. ... 8/25/97
 CHIEF, BUREAU OF HIGHWAYS
 DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
 HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP
 c/o BRITAM DEVELOPMENT GROUP SUITE 250
 3030 RED BRANCH ROAD
 COLUMBIA, MARYLAND 21045

PROJECT: **HAMMOND HILLS**
 SECTION 2 AREA 2
 LOTS 109 THRU 209

AREA TAX MAP NO 41446 PARCEL NO 2
 6TH ELECTION DISTRICT F-87-14 584-02 P.06-13
 HOWARD COUNTY, MARYLAND GP-86-24 P.57-28

TITLE: **PLAN AND PROFILE OF SLIPPERY ROCK WAY AND SANDY STREAM ROAD**

THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 3105 Heath Park Drive, Ellicott City, Maryland 21043 (301) 461-2890

8-18-97
 DATE

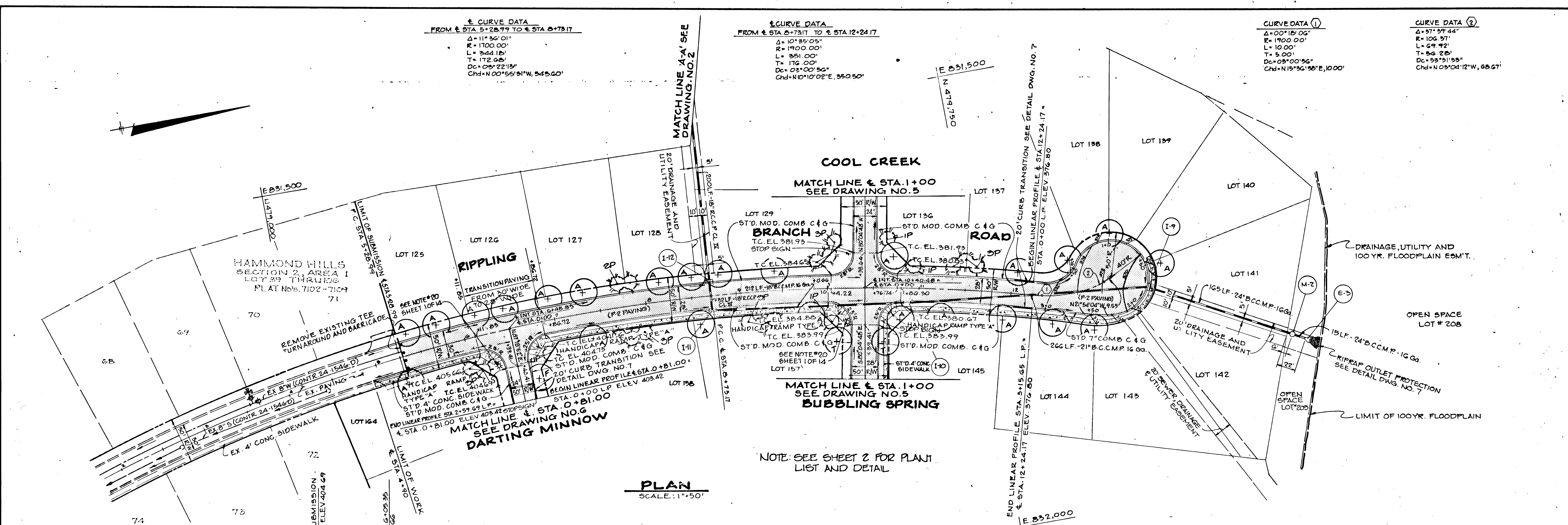
REVISED 7-10-87
 DESIGNED BY: L.J.D.
 DRAWN BY: J.A.B.
 PROJECT NO: 11708
 DATE: AUGUST 12, 1987
 SCALE: AS SHOWN
 DRAWING NO. 2 OF 14

CURVE DATA
 FROM STA. 5+28.99 TO STA. 6+73.17
 $\Delta = 11^{\circ}36'01''$
 $R = 1700.00'$
 $L = 344.15'$
 $T = 172.08'$
 $Dc = 0^{\circ}22'13''$
 $Chd = N 00^{\circ}55'31'' W, 345.60'$

CURVE DATA
 FROM STA. 6+73.17 TO STA. 12+24.17
 $\Delta = 10^{\circ}35'05''$
 $R = 1900.00'$
 $L = 351.00'$
 $T = 176.00'$
 $Dc = 0^{\circ}00'56''$
 $Chd = N 10^{\circ}10'02'' E, 350.50'$

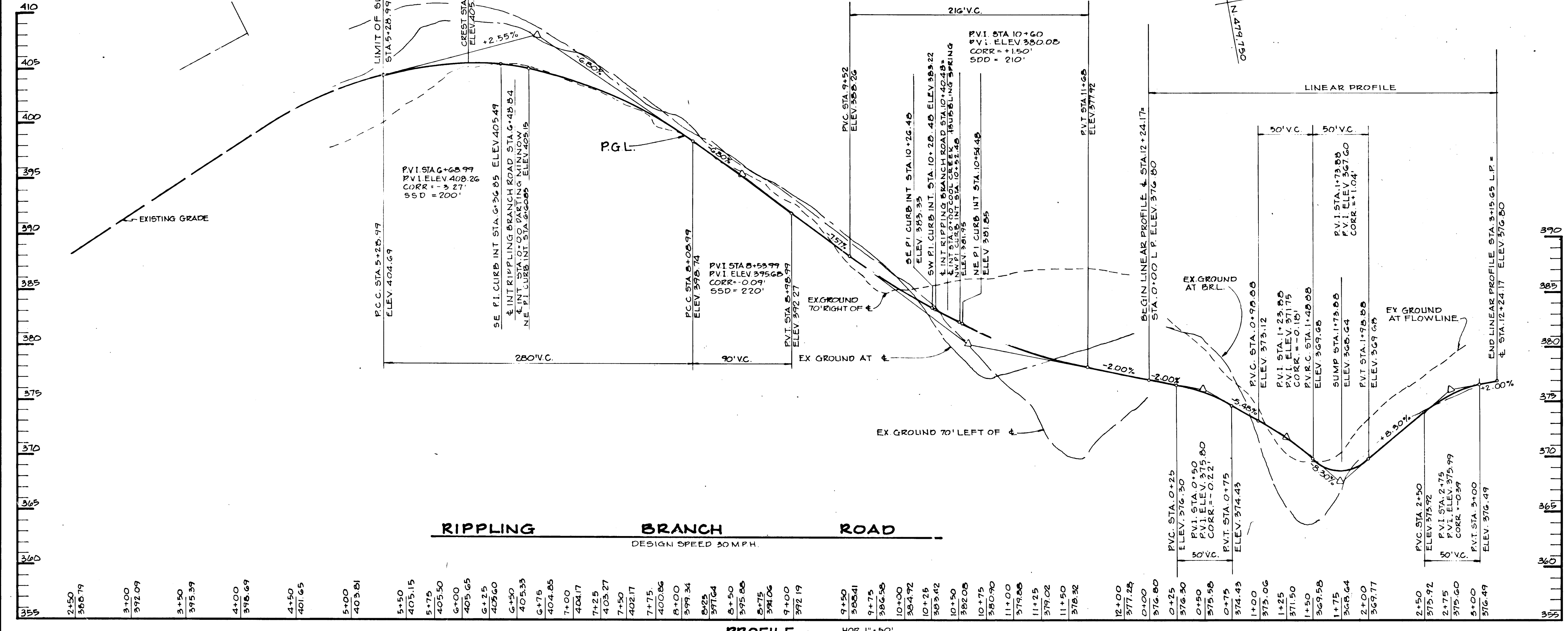
CURVE DATA (1)
 $\Delta = 00^{\circ}15'06''$
 $R = 1900.00'$
 $L = 10.00'$
 $T = 5.00'$
 $Dc = 0^{\circ}00'56''$
 $Chd = N 15^{\circ}36'56'' E, 10.00'$

CURVE DATA (2)
 $\Delta = 57^{\circ}57'44''$
 $R = 106.37'$
 $L = 67.92'$
 $T = 36.25'$
 $Dc = 53^{\circ}31'53''$
 $Chd = N 03^{\circ}04'12'' W, 65.67'$



PLAN
 SCALE: 1" = 50'

NOTE: SEE SHEET 2 FOR PLAN LIST AND DETAIL



APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John M. Mueggel 8-27-87
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William S. Kelly 8-24-87
 CHIEF, BUREAU OF ENGINEERING

William S. Kelly 8-29-87
 CHIEF, LAND DEVELOPMENT DIVISION

Bravell W. Weasand 8/25/87
 CHIEF, BUREAU OF HIGHWAYS

DATE	NO.	REVISION

OWNER/DEVELOPER
 HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP
 310 BRITAM DEVELOPMENT GROUP SUITE 200
 9030 RED BRANCH ROAD
 COLUMBIA, MARYLAND 21045

PROJECT: **HAMMOND HILLS**
 SECTION 2 AREA 2
 LOTS 109 THRU 209

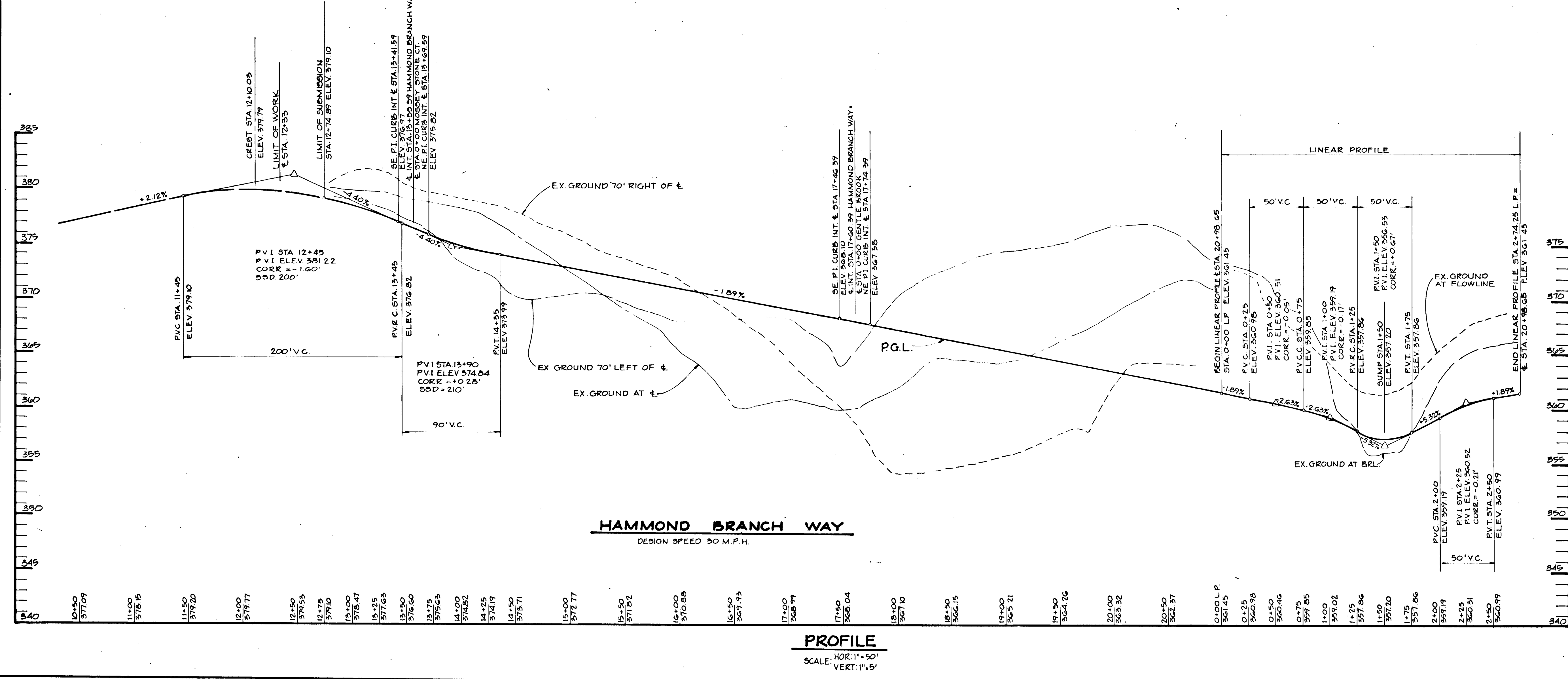
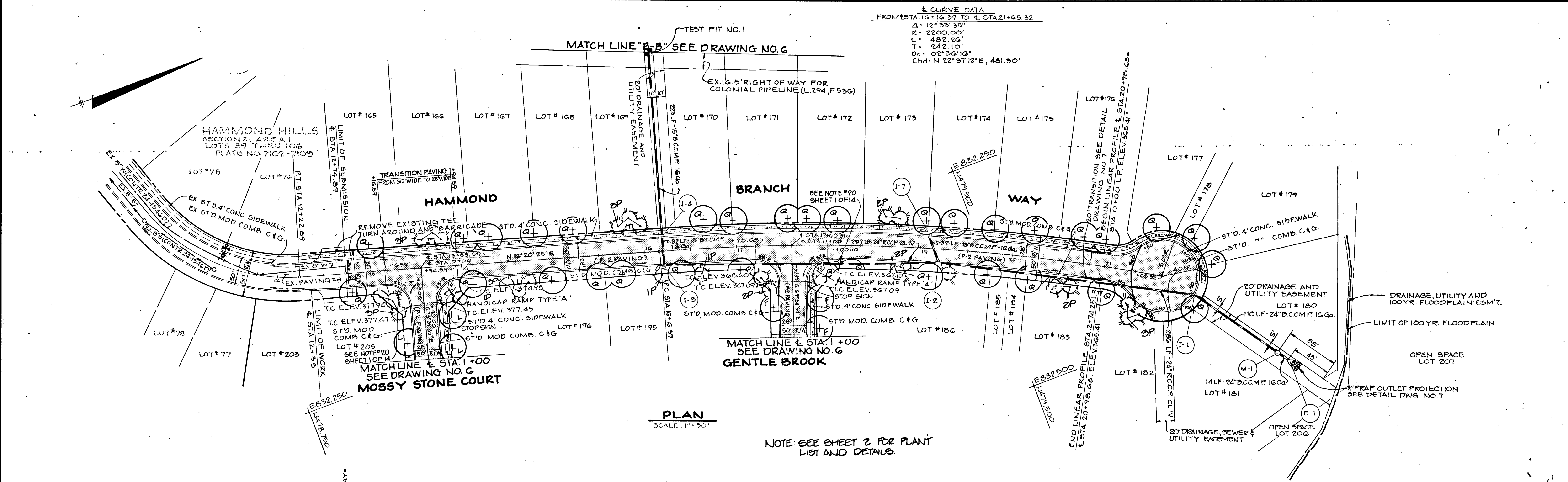
AREA TAX MAP NO. 41446 PARCEL NO. 2
 6TH ELECTION DISTRICT F-87-14 S-84-02
 HOWARD COUNTY, MARYLAND P-86-13 G-86-24

TITLE: **PLAN AND PROFILE OF RIPPILING BRANCH ROAD**

THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2690

8-18-87 DATE
 REVISION 7-10-87
 DESIGNED BY: L.J.D.
 DRAWN BY: J.A.B.
 PROJECT NO: 11708
 DATE: AUGUST 12, 1987
 SCALE: AS SHOWN
 DRAWING NO. 3 OF 14

CURVE DATA
 FROM STA 16+10.37 TO STA 21+65.32
 Δ = 12° 33' 35"
 R = 2200.00'
 L = 482.22'
 T = 242.10'
 D.C. = 02° 36' 16"
 Chd. N 22° 37' 12" E, 481.30'



APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John M. Mullan 8-27-87
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John D. Reilly 8-24-87
 CHIEF, BUREAU OF ENGINEERING DATE

William F. ... 8-29-87
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Francis W. ... 8/25/87
 CHIEF, BUREAU OF HIGHWAYS DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
 HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP
 C/O BRITAM DEVELOPMENT GROUP SUITE 250
 9030 RED BRANCH ROAD
 COLUMBIA, MARYLAND 21045

PROJECT: **HAMMOND HILLS**
 SECTION 2 AREA 2
 LOTS 109 THRU 209

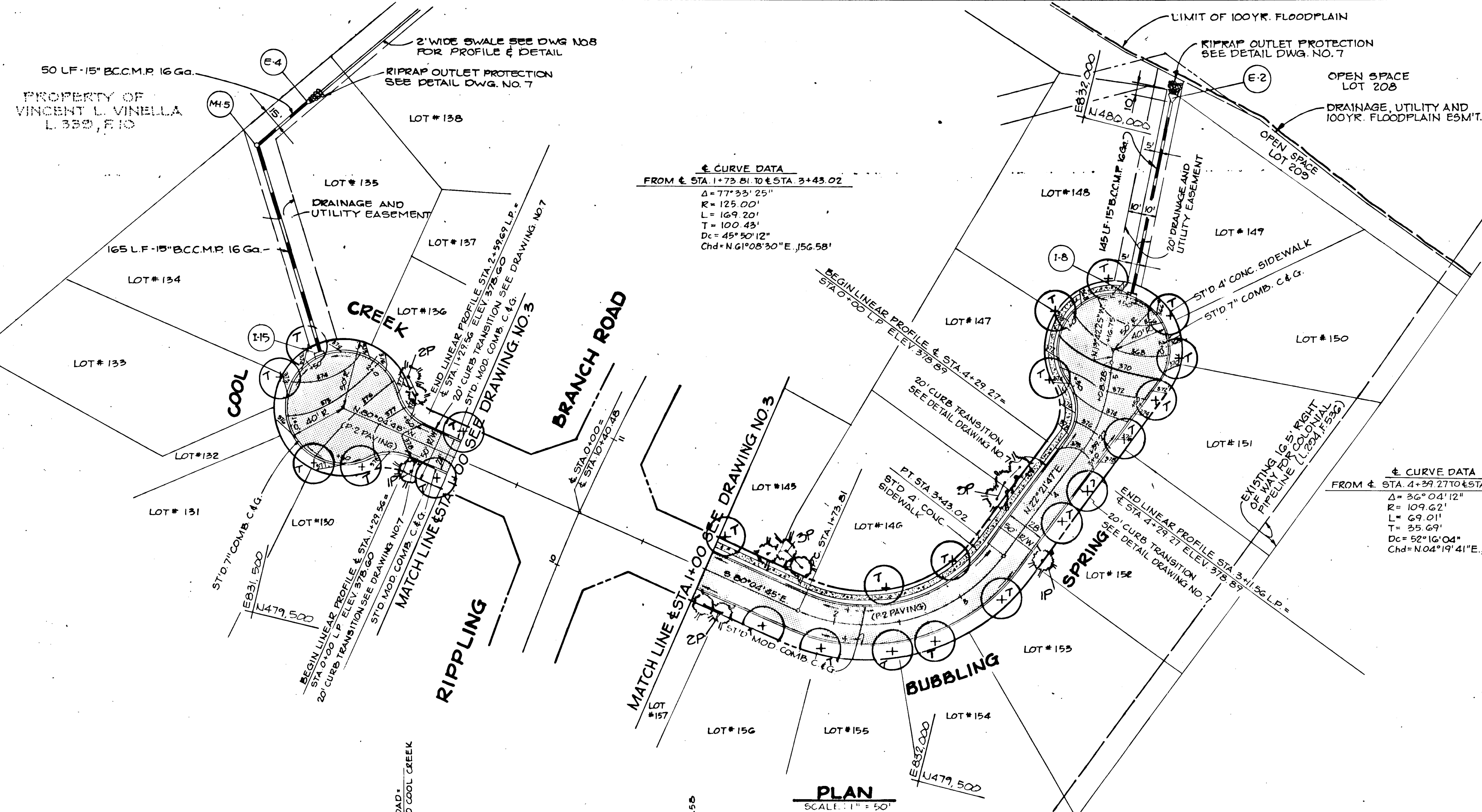
AREA TAX MAP UP 41446 PARCEL 11-2
 6TH ELECTION DISTRICT F-87-14 S-84-02
 HOWARD COUNTY, MARYLAND P86-13 P87-25 GP-86-24

TITLE: **PLAN AND PROFILE OF HAMMOND BRANCH WAY**

THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 481-2690

8-18-87 DATE
 REVISIONS: 7-10-87
 DESIGNED BY: L.J.D.
 DRAWN BY: J.A.B.
 PROJECT NO: 11708
 DATE: AUGUST 12, 1987
 SCALE: AS SHOWN
 DRAWING NO. 4 OF 14

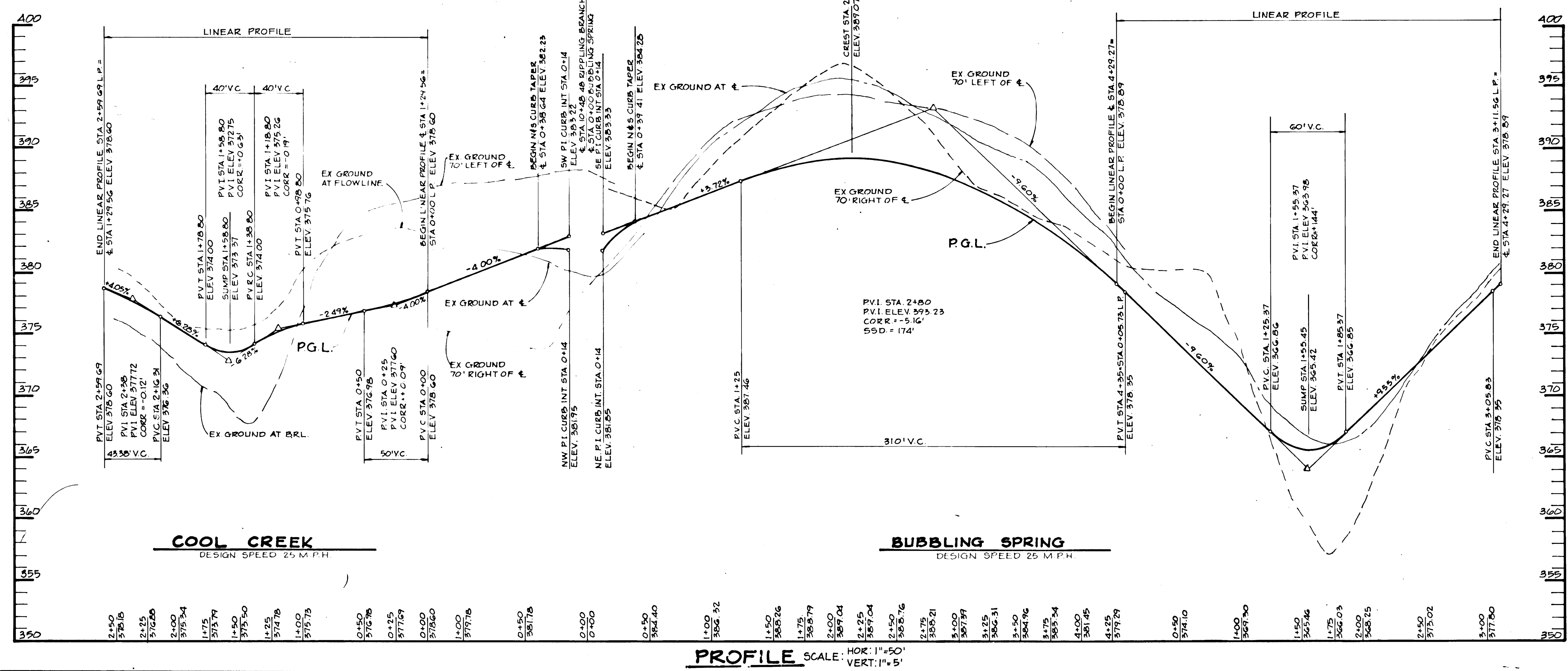
939



CURVE DATA
 FROM STA 1+73.81 TO STA 3+43.02
 $\Delta = 77^{\circ}35'25''$
 $R = 125.00'$
 $L = 169.20'$
 $T = 100.45'$
 $D_c = 45^{\circ}50'12''$
 $Chd = N61^{\circ}08'30''E, 156.58'$

CURVE DATA
 FROM STA 4+39.27 TO STA 5+08.28
 $\Delta = 36^{\circ}04'12''$
 $R = 109.62'$
 $L = 69.01'$
 $T = 35.67'$
 $D_c = 52^{\circ}15'04''$
 $Chd = N04^{\circ}19'41''E, 67.88'$

PLAN
 SCALE: 1" = 50'



COOL CREEK
 DESIGN SPEED 25 M.P.H.

BUBBLING SPRING
 DESIGN SPEED 25 M.P.H.

PROFILE SCALE: HOR: 1" = 50'
 VERT: 1" = 5'

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John W. Muegge 8-27-87
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James W. Wene 8-24-87
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: *Arthur E. Muegge* 8-24-87
 CHIEF, LAND DEVELOPMENT DESIGN DATE

APPROVED: *James W. Wene* 8/25/87
 CHIEF, BUREAU OF ENGINEERING DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
 HAMMOND HILLS ASSOCIATES LIMITED
 PARTNERSHIP
 C/O BRITAM DEVELOPMENT GROUP SUITE 250
 9030 RED BRANCH ROAD
 COLUMBIA, MARYLAND 21045

PROJECT: **HAMMOND HILLS**
 SECTION 2 AREA 2
 LOTS 109 THRU 209

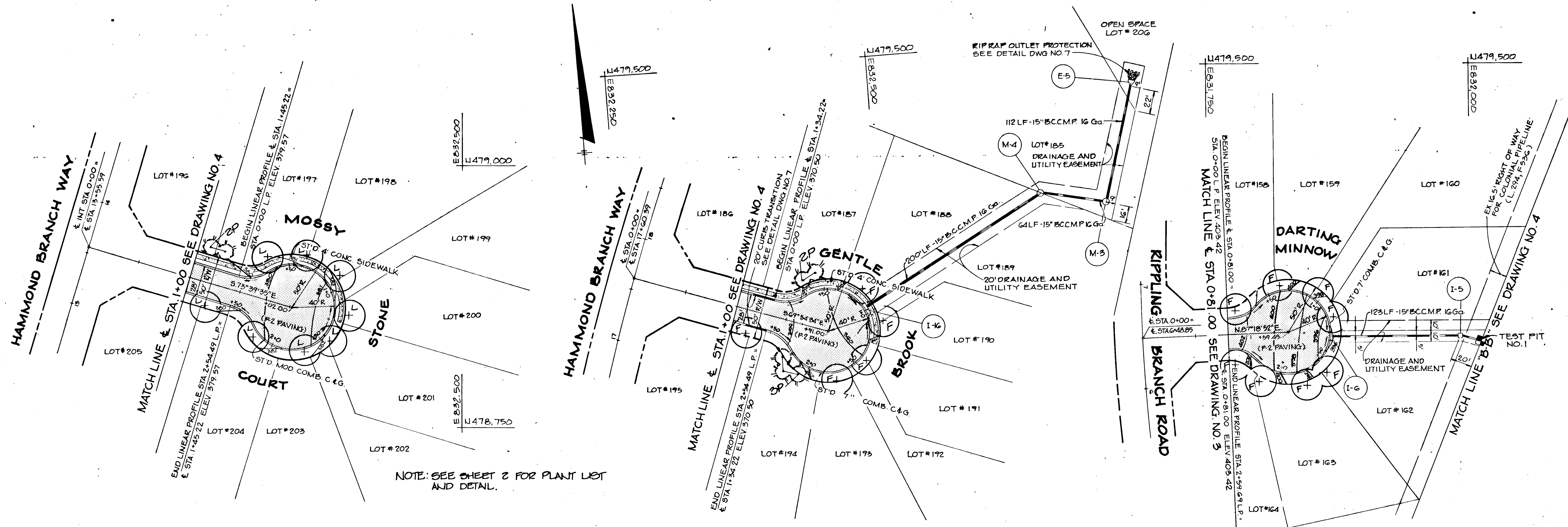
AREA TAX MAP NO. 41246 PARCEL NO. 2
 GM ELECTION DISTRICT F-87-14 S-84-02
 HOWARD COUNTY, MARYLAND P-86-13 GP-86-24 P-86-28

TITLE: **PLAN AND PROFILE OF COOL CREEK AND BUBBLING SPRING**

THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2660

8-18-87 DATE
 REVISED 7-10-87
 DESIGNED BY: L.J.D.
 DRAWN BY: J.A.B.
 PROJECT NO: 11708
 DATE AUGUST 12, 1986
 SCALE: AS SHOWN
 DRAWING NO. 5 OF 14

939

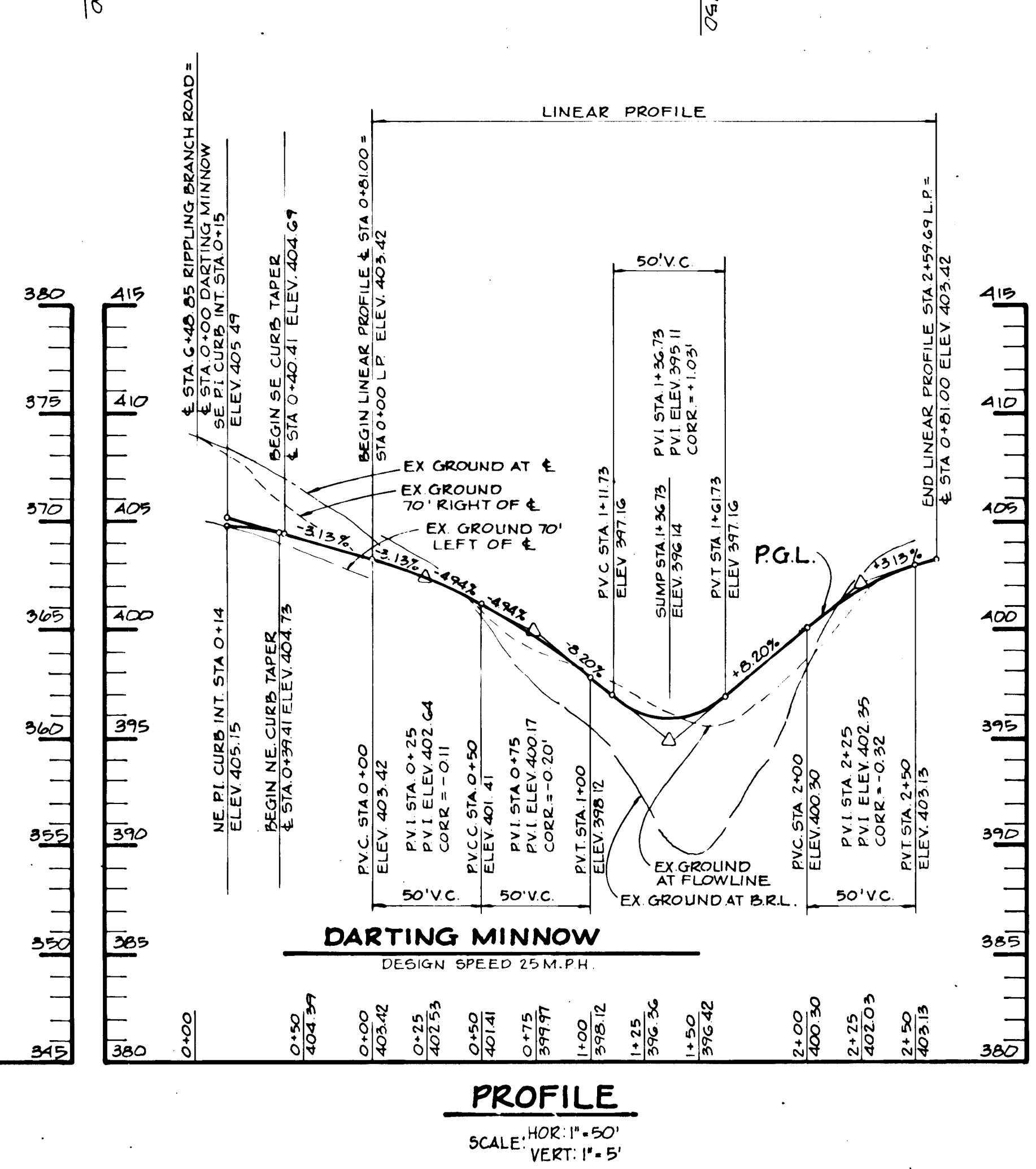
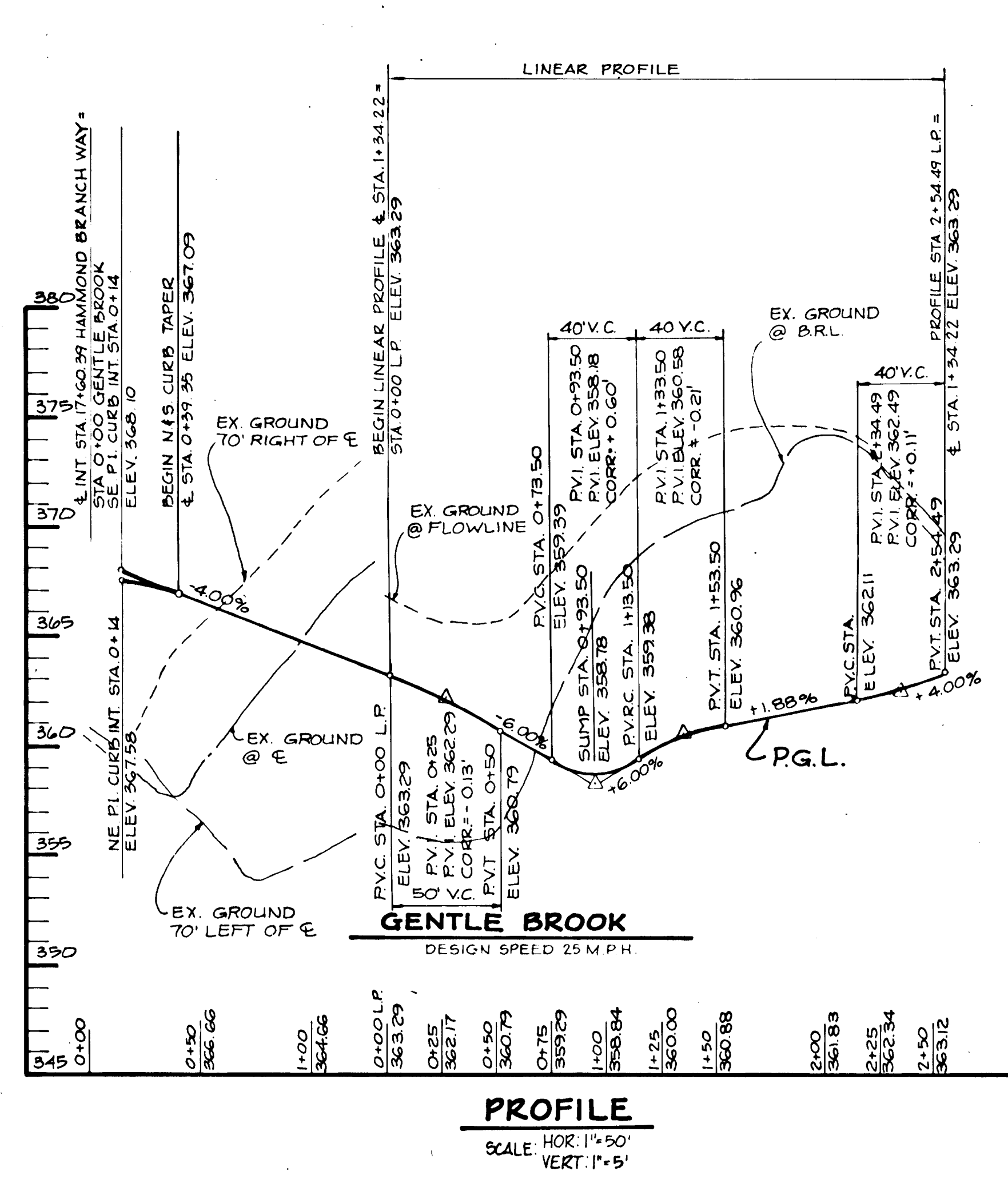
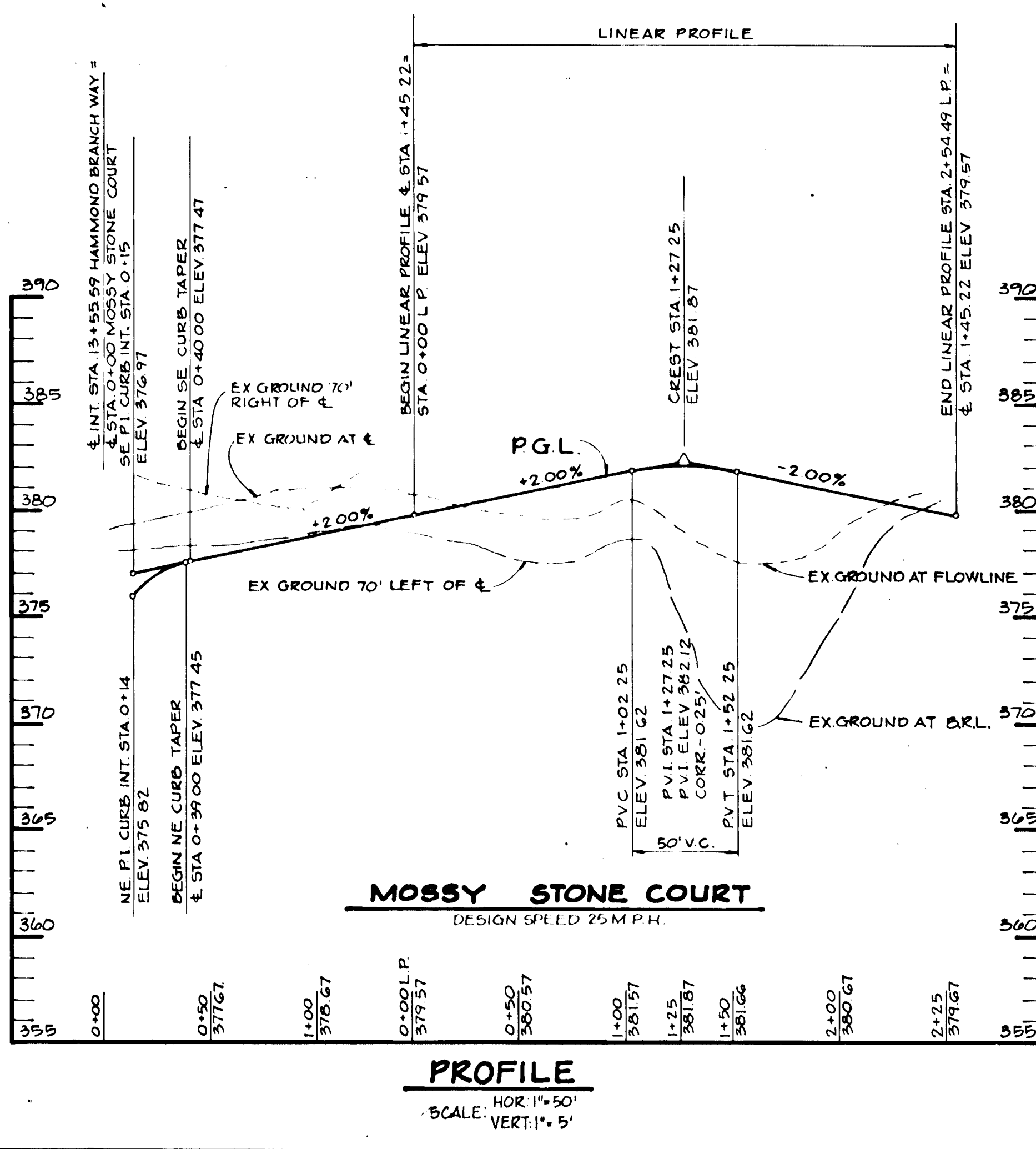


PLAN
SCALE: 1"=50'

PLAN
SCALE: 1"=50'

PLAN
SCALE: 1"=50'

NOTE: SEE SHEET 2 FOR PLANT LOT AND DETAIL.



APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John M. Mueggli 8-27-87
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. Mueggli 8-29-87
CHIEF, BUREAU OF ENGINEERING DATE

William H. Mueggli 8-29-87
CHIEF, LAND DEVELOPMENT DESIGN DATE

William H. Mueggli 8-29-87
CHIEF, BUREAU OF HIGHWAYS DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP
C/O BRITAM DEVELOPMENT GROUP SUITE 250
7030 RED BRANCH ROAD
COLUMBIA, MARYLAND 21045

PROJECT **HAMMOND HILLS**
SECTION 2 AREA 2
LOTS 109 THRU 209

AREA TAX MAP NO. 41146 PARCEL 19 2
G.M. ELECTION DISTRICT F-8714 5-84-02 P-86-15
HOWARD COUNTY, MARYLAND GP-86-24 P-87-26

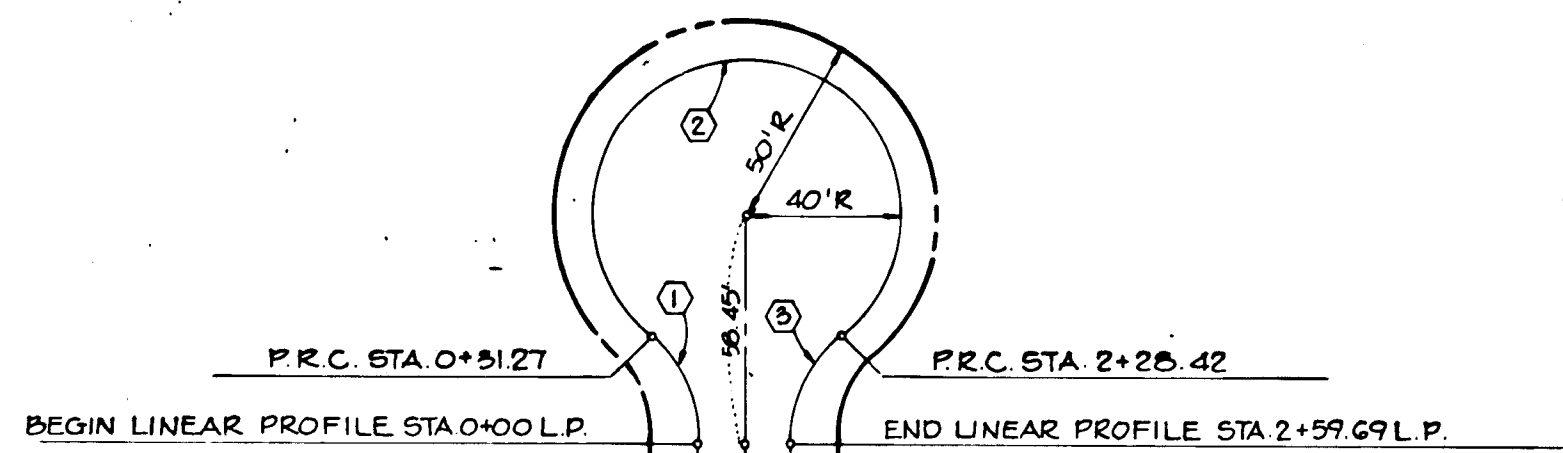
TITLE: **PLAN & PROFILE OF MOSSY STONE CT., GENTLE BROOK AND DARTING MINNOW**

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Heath Park Drive, Ellicott City, Maryland 21043 (301) 461-2690

8-18-87 DATE
REVISED 7-10-87
DESIGNED BY: L.J.D.
DRAWN BY: J.A.B.
PROJECT NO: 11708
DATE: AUGUST 12, 1987
SCALE: AS SHOWN
DRAWING NO. 6 OF 14

Arthur E. Mueggli 8/17/87
ARTHUR E. MUEGGELI 8/17/87

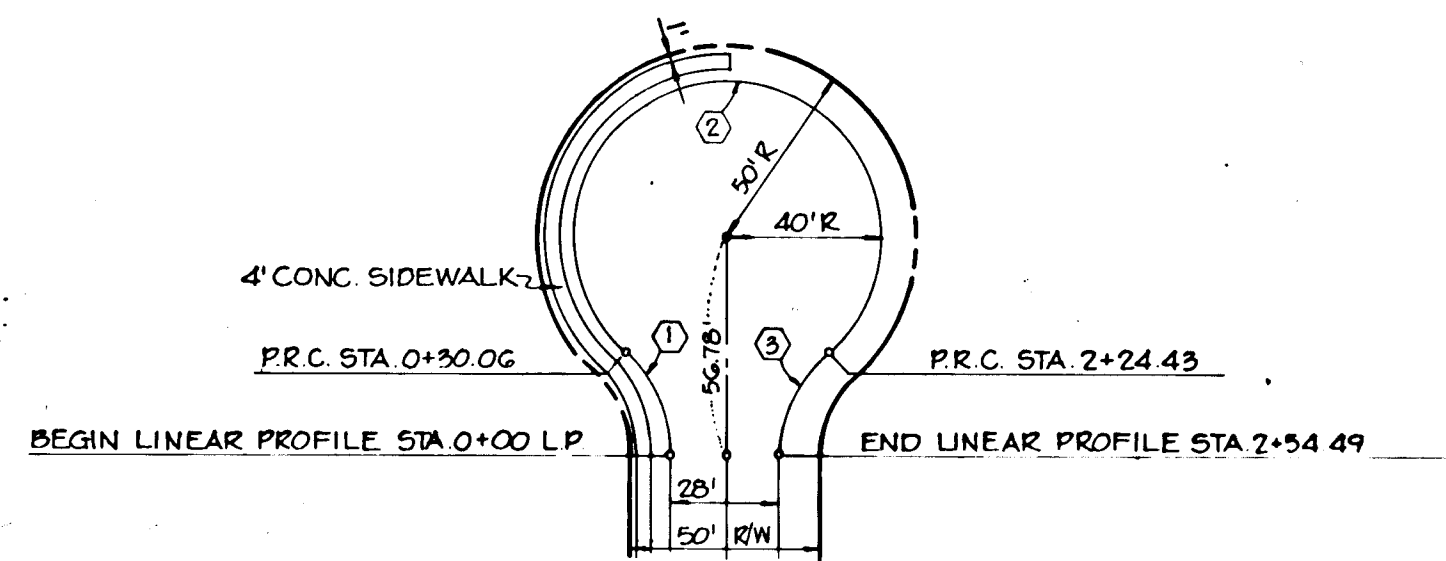
939



CURVE DATA					L.C.B.	
NO.	Δ	RAD	ARC	TAN	CHD	L.C.B.
1	51°11'43"	35.00'	31.27'	16.77'	30.24'	N 74°19'20" E, N 61°43'00" E
2	25°23'26"	40.00'	19.15'	—	5.13'	S 09°55'12" W, S 02°41'08" E
3	51°11'43"	35.00'	31.27'	16.77'	30.24'	N 54°28'56" W, N 67°05'17" W

CUL-DE-SAC DETAIL FOR COOL CREEK AND DARTING MINNOW

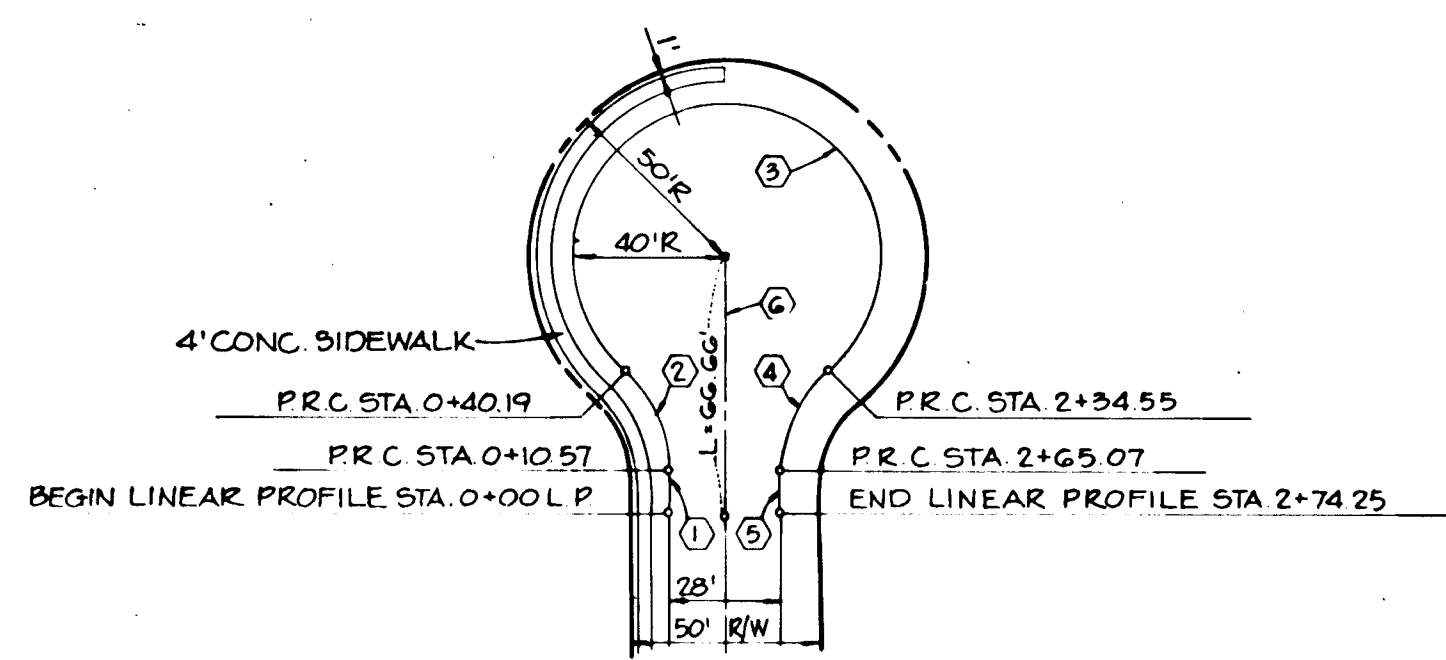
NO SCALE



CURVE DATA					L.C.B.	
NO.	Δ	RAD	ARC	TAN	CHD	L.C.B.
1	49°12'23"	35.00'	30.06'	16.03'	29.14'	N 81°44'13" E, N 69°29'14" E
2	27°24'45"	40.00'	19.37'	—	5.27'	N 16°20'25" E, S 20°05'26" W
3	49°12'23"	35.00'	30.06'	16.03'	29.14'	N 49°09'25" W, N 45°18'22" W

CUL-DE-SAC DETAIL FOR MOSSY STONE COURT & GENTLE BROOK

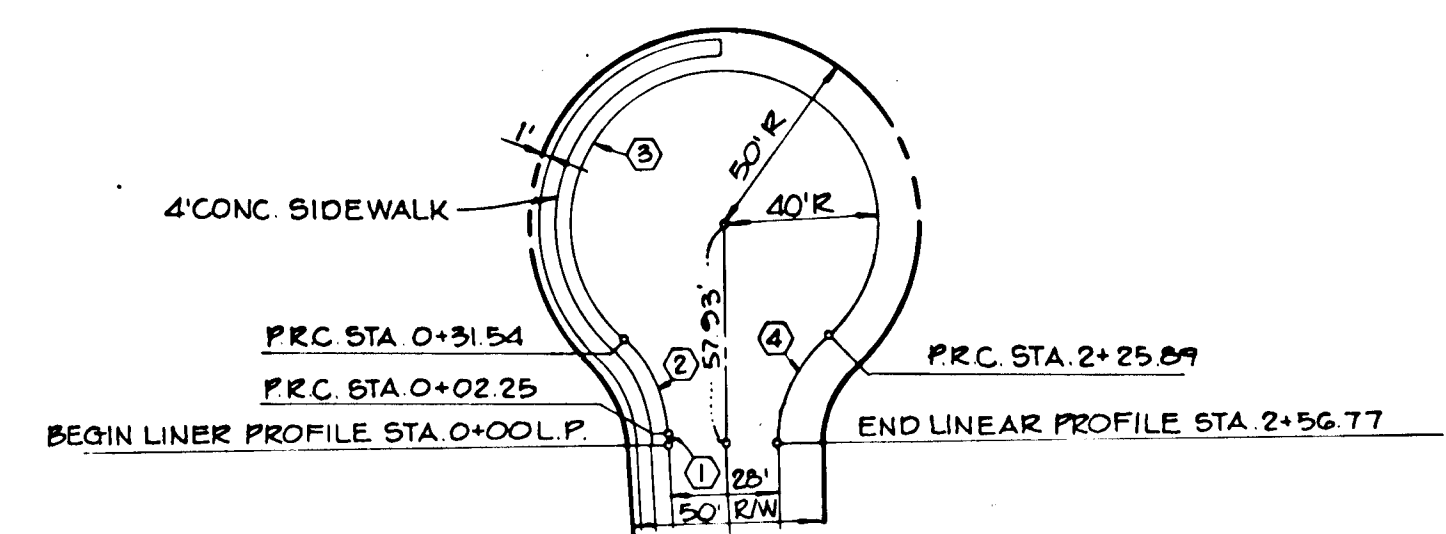
NO SCALE



CURVE DATA					L.C.B.	
NO.	Δ	RAD	ARC	TAN	CHD	L.C.B.
1	00°16'25"	224.00'	10.57'	5.29'	10.57'	N 29°02'13" E
2	48°28'46"	35.00'	29.62'	15.76'	28.74'	N 04°56'02" E
3	27°24'17"	40.00'	19.36'	—	5.27'	S 60°06'12" E
4	49°57'31"	35.00'	30.52'	16.31'	29.56'	S 54°07'11" W
5	00°14'26"	2186.00'	9.18'	4.59'	9.18'	S 29°01'13" W
6	01°44'10"	2200.00'	66.66'	33.33'	66.66'	N 29°46'05" E

CUL-DE-SAC DETAIL FOR HAMMOND BRANCH WAY

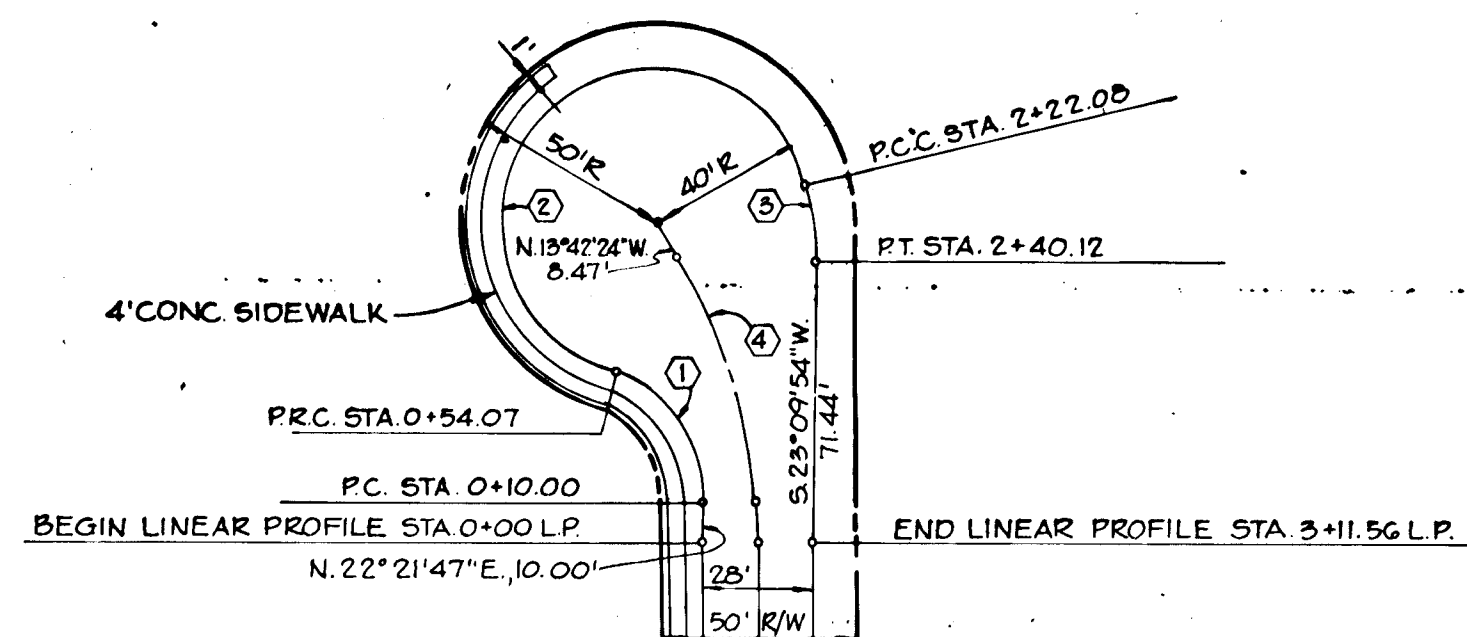
NO SCALE



CURVE DATA					L.C.B.	
NO.	Δ	RAD	ARC	TAN	CHD	L.C.B.
1	00°06'08"	1264.00'	2.25'	1.13'	2.25'	N 05°51'53" E
2	47°56'32"	35.00'	29.29'	15.56'	28.44'	N 18°03'21" W
3	27°23'16"	40.00'	19.35'	—	5.28'	S 82°49'59" E
4	50°32'51"	35.00'	30.88'	16.53'	29.89'	S 31°05'14" W

CUL-DE-SAC DETAIL FOR SLIPPERY ROCK WAY

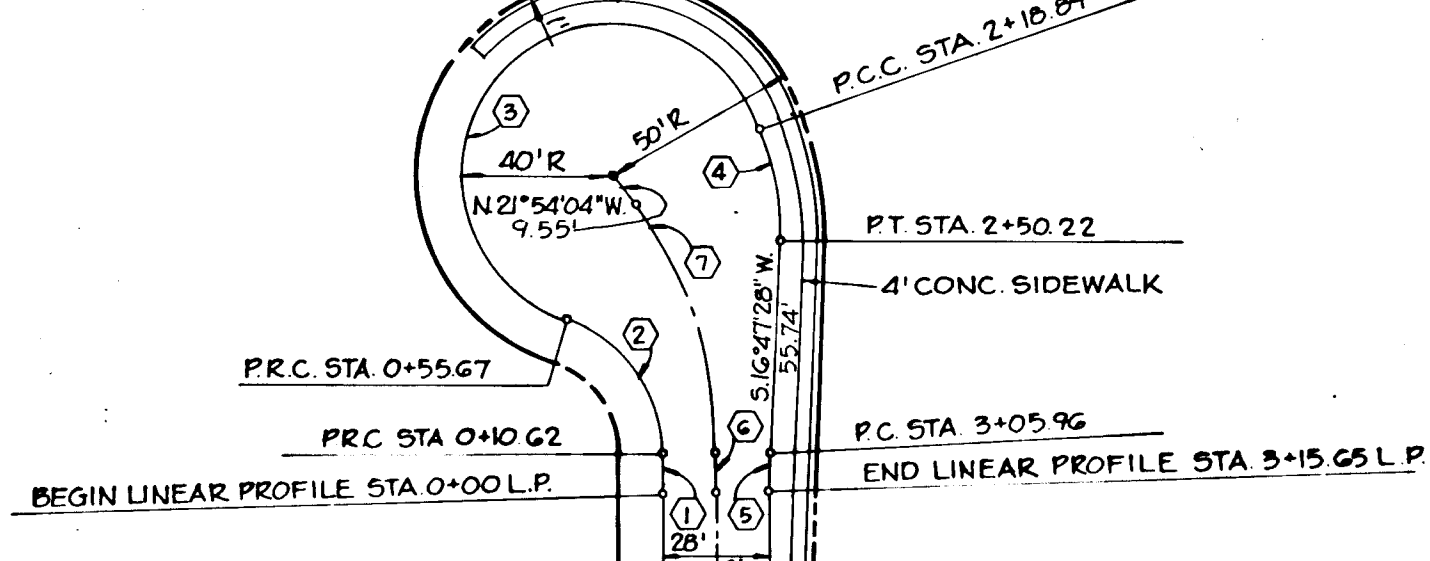
NO SCALE



CURVE DATA					L.C.B.	
NO.	Δ	RAD	ARC	TAN	CHD	L.C.B.
1	72°08'33"	35.00'	44.07'	25.50'	41.22'	N 13°42'29" W
2	27°39'27"	40.00'	16.80'	—	6.905'	N 70°32'58" E
3	11°29'06"	90.00'	18.04'	9.05'	18.01'	S 16°37'14" W
4	36°04'12"	109.62'	69.01'	35.69'	67.88'	N 04°19'41" E

CUL-DE-SAC DETAIL FOR BUBBLING SPRING

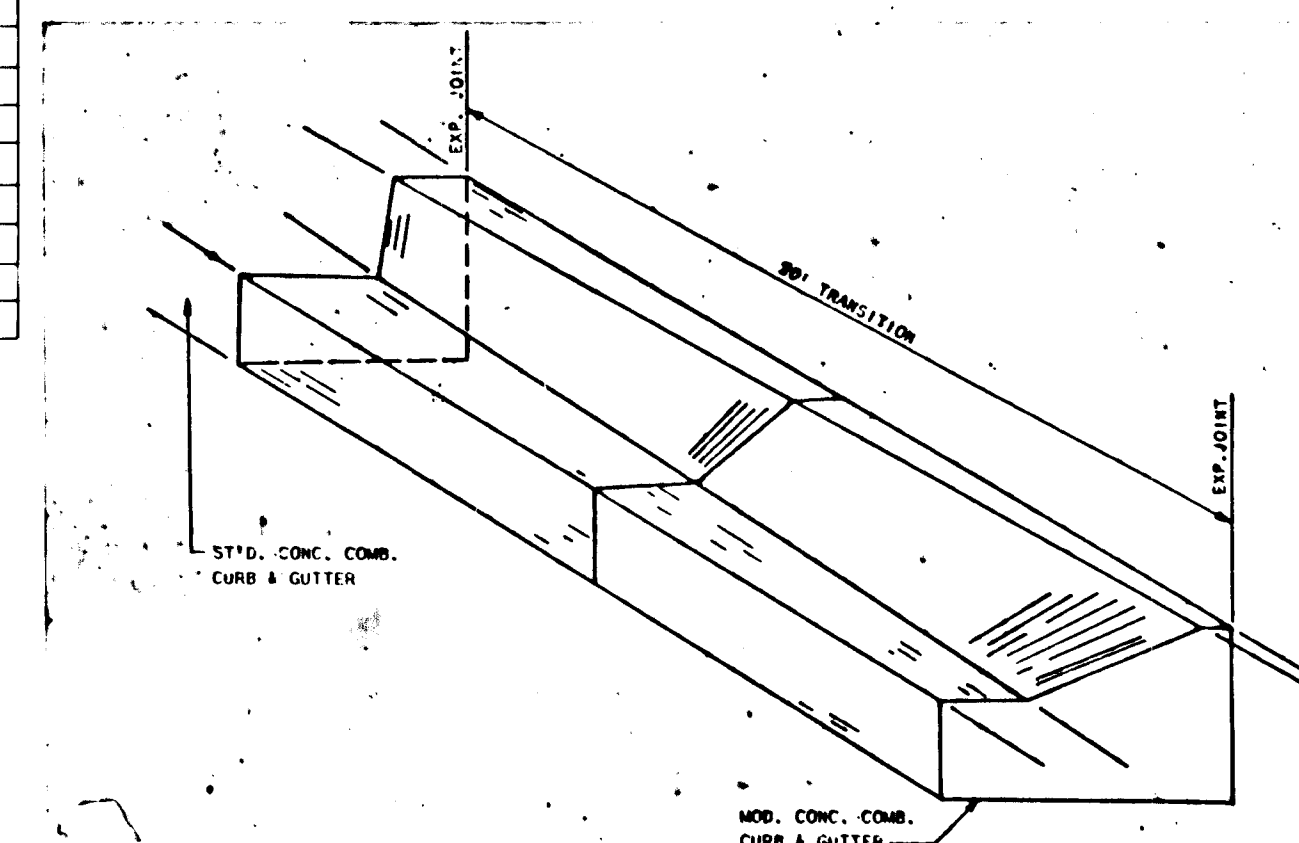
NO SCALE



CURVE DATA					L.C.B.	
NO.	Δ	RAD	ARC	TAN	CHD	L.C.B.
1	00°19'14"	114.00'	10.62'	5.31'	10.62'	N 15°37'07" E
2	73°45'21"	35.00'	45.06'	26.26'	42.01'	N 21°06'02" W
3	23°47'33"	40.00'	16.22'	—	7.135'	N 58°55'04" E
4	19°56'50"	90.00'	31.33'	15.82'	31.18'	S 05°47'15" W
5	00°17'40"	1866.00'	9.69'	4.84'	9.69'	S 15°35'41" W
6	00°18'06"	1900.00'	10.00'	5.00'	10.00'	N 15°30'38" E
7	37°39'44"	106.37'	69.92'	36.28'	68.67'	N 03°04'12" W

CUL-DE-SAC DETAIL FOR RIPPLING BRANCH ROAD

NO SCALE



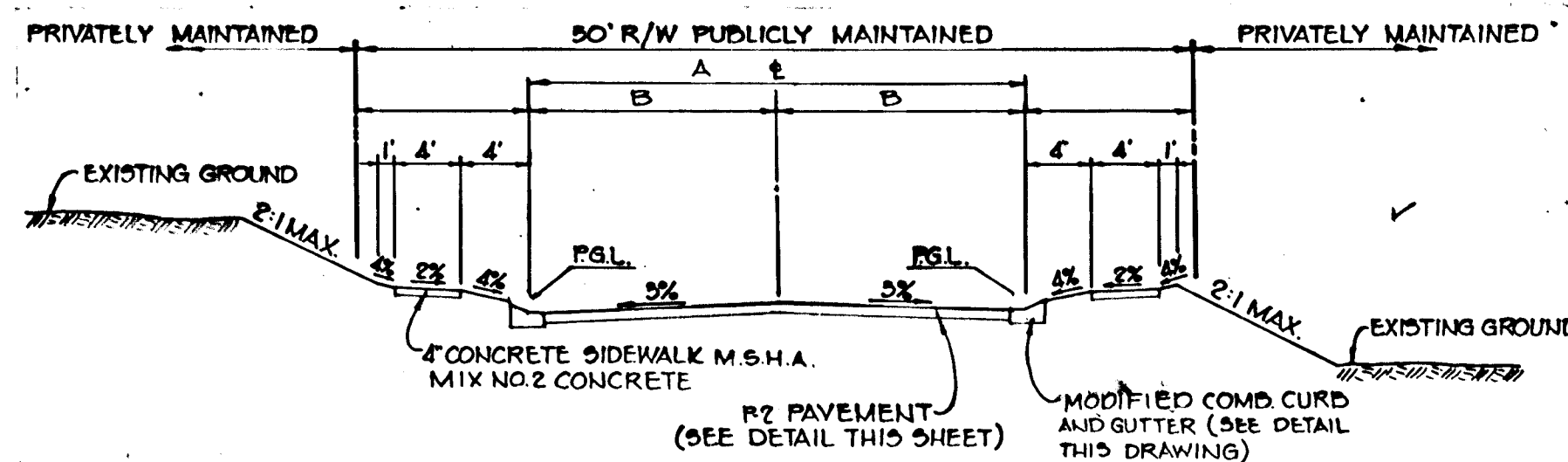
STRUCTURE	MEDIUM STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	0.5'	16'	18'	0.75'
E-2	0.7'	10'	11.25'	1.05'
E-3	0.4'	12'	14'	0.60'
E-4	0.4'	10'	11.25'	0.60'
E-5	0.5'	10'	11.25'	0.45'

RIPRAP OUTLET PROTECTION

NO SCALE

CURB TRANSITION DETAIL

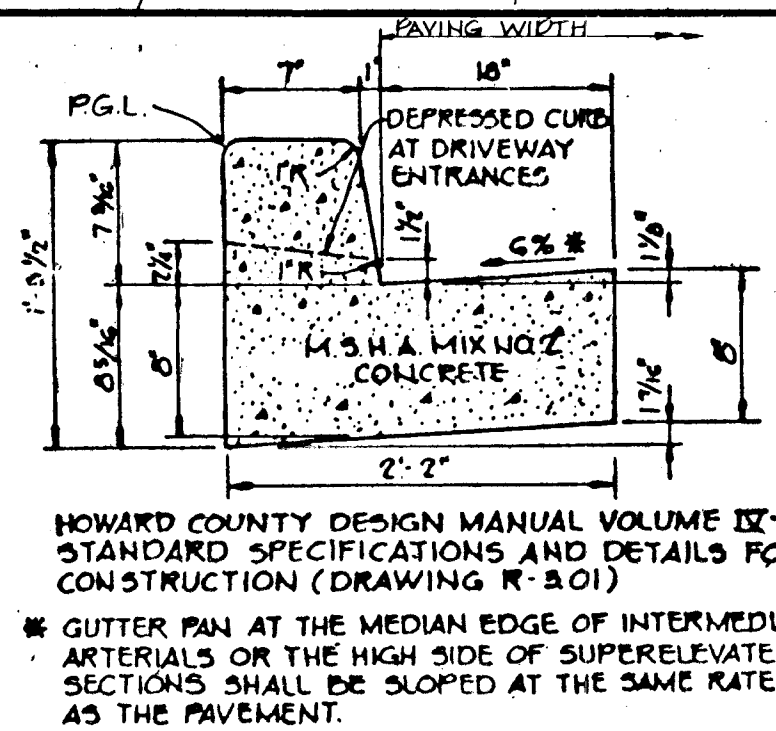
NO SCALE



ROAD NAME	STA TO STA	A	B	DESIGN SPEED	CLASSIFICATION
SLIPPERY ROCK WAY	5+07.08 - 5+76.05	30'	15'	30 M.P.H.	LOCAL
	5+76.05 - 6+53.64	TRANSITION	—	—	—
	6+53.64 - 7+70.83	28'	14'	25 M.P.H.	CUL-DE-SAC
SANDY SPRING ROAD	0+00 - 3+00	30'	15'	30 M.P.H.	LOCAL
RIPPLING BRANCH ROAD	5+28.99 - 6+11.85	30'	15'	30 M.P.H.	LOCAL
	6+11.85 - 6+26.72	TRANSITION	—	—	—
	6+26.72 - 12+24.17	28'	14'	25 M.P.H.	CUL-DE-SAC
HAMMOND BRANCH WAY	12+74.89 - 13+16.59	30'	15'	30 M.P.H.	LOCAL
	13+16.59 - 13+94.59	TRANSITION	—	—	—
	13+94.59 - 20+98.66	28'	14'	25 M.P.H.	CUL-DE-SAC
COOL CREEK	0+00 - 1+29.56	24'	12'	25 M.P.H.	CUL-DE-SAC
BUBBLING SPRING	0+00 - 4+29.27	28'	14'	25 M.P.H.	CUL-DE-SAC
MOSSY STONE COURT	0+00 - 1+45.22	28'	14'	25 M.P.H.	CUL-DE-SAC
GENTLE BROOK	0+00 - 1+34.22	28'	14'	25 M.P.H.	CUL-DE-SAC
DARTING MINNOW	0+00 - 0+81.00	24'	12'	25 M.P.H.	CUL-DE-SAC

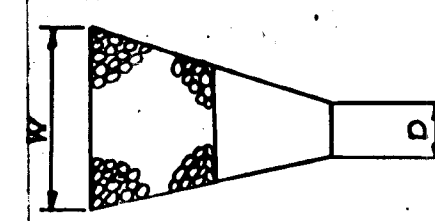
TYPICAL SECTION THRU 50' R/W

NO SCALE

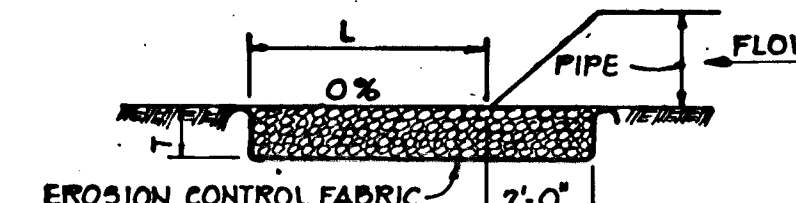


STANDARD 7" COMBINATION CURB AND GUTTER

NO SCALE



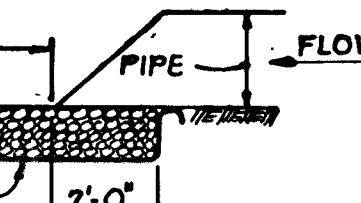
PLAN



SECTION

MODIFIED COMBINATION CURB AND GUTTER

NO SCALE

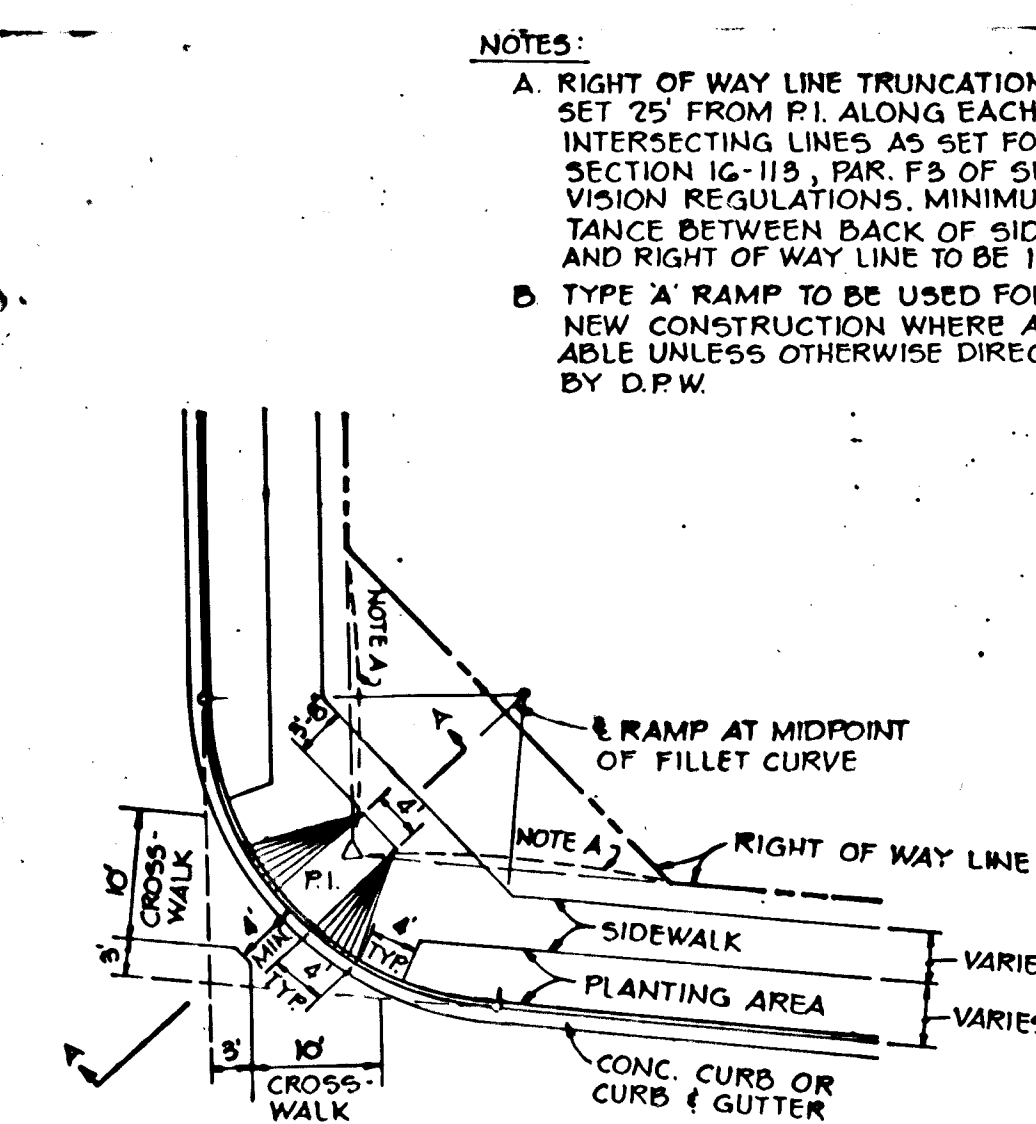


SECTION

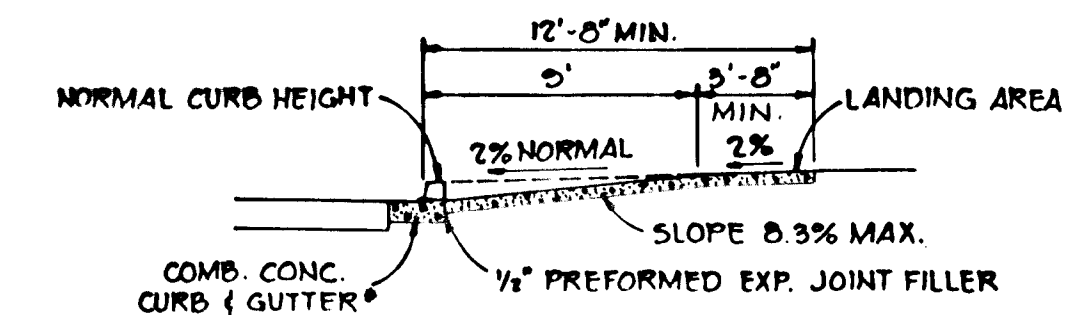
STRUCTURE	MEDIUM STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	0.5'	16'	18'	0.75'
E-2	0.7'	10'	11.25'	1.05'
E-3	0.4'	12'	14'	0.60'
E-4	0.4'	10'	11.25'	0.60'
E-5	0.5'	10'	11.25'	0.45'

RIPRAP OUTLET PROTECTION

NO SCALE



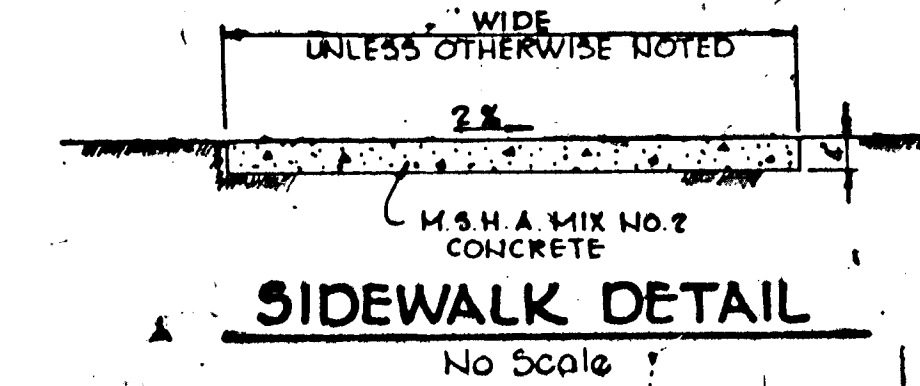
PLAN



SECTION 'A-A'

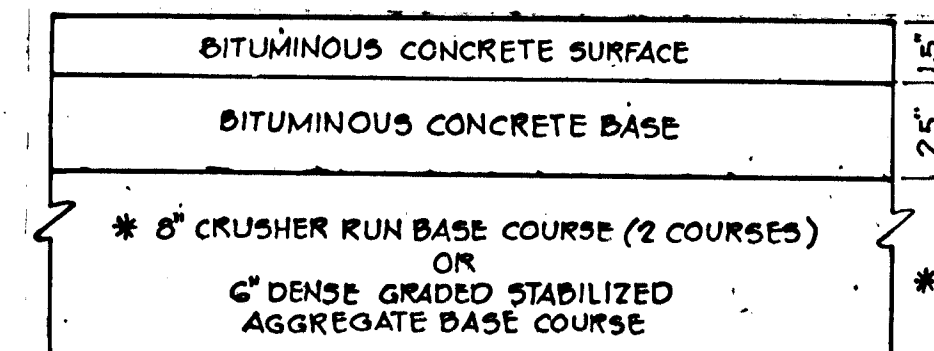
TYPICAL HANDICAP RAMP

NO SCALE

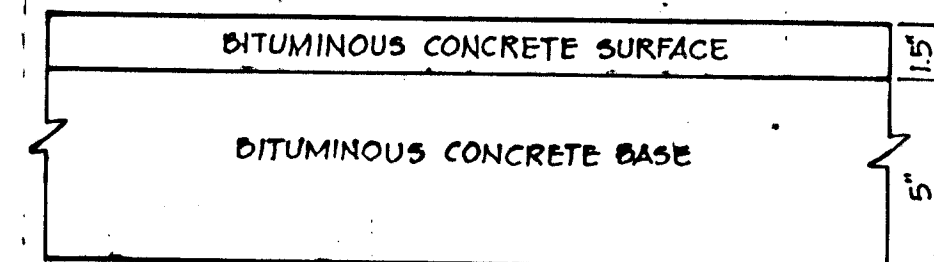


SIDEWALK DETAIL

NO SCALE

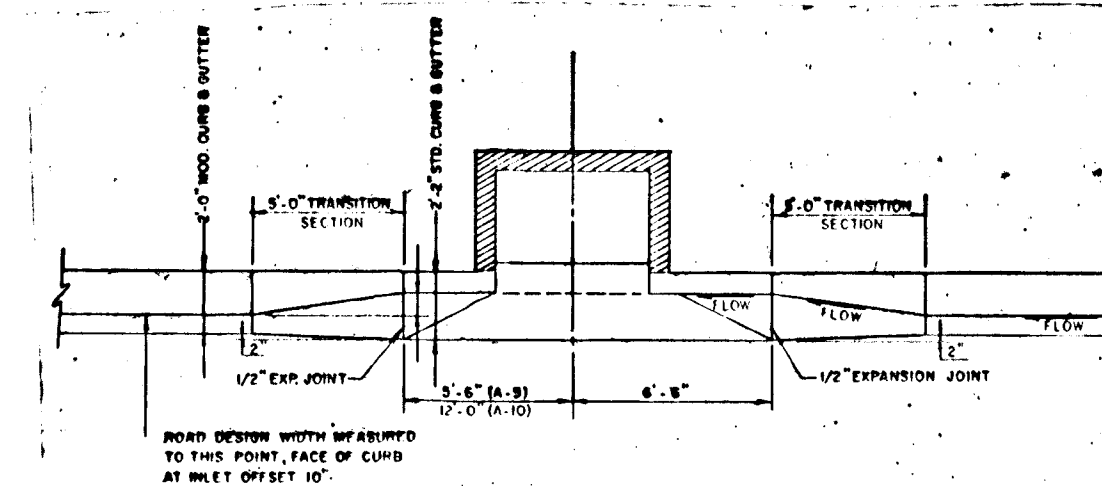


(ALTERNATE)



HOWARD COUNTY DESIGN MANUAL VOLUME III - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

(6\"/>



CURB TRANSITION @ INLETS

NO SCALE

NOTES:

- A. RIGHT OF WAY LINE TRUNCATION TO BE SET 25' FROM P.I. ALONG EACH OF THE INTERSECTING LINES AS SET FORTH IN SECTION IG-118, PAR. F3 OF SUBDIVISION REGULATIONS. MINIMUM DISTANCE BETWEEN BACK OF SIDEWALK AND RIGHT OF WAY LINE TO BE 1 FOOT.
- B. TYPE 'A' RAMP TO BE USED FOR ALL NEW CONSTRUCTION WHERE APPLICABLE UNLESS OTHERWISE DIRECTED BY D.P.W.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

John M. Muschman 8-27-87
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

W. Lee D. Kelly 8-24-87
CHIEF, BUREAU OF ENGINEERING
W. Lee D. Kelly 8-24-87
CHIEF, LAND DEVELOPMENT DIVISION
James W. Wilcox 8/25/87
CHIEF, BUREAU OF HIGHWAYS

DATE NO REVISION

OWNER/DEVELOPER
HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP
SUITE 210
9030 REDBRANCH ROAD
COLUMBIA, MARYLAND 21045

PROJECT: HAMMOND HILLS SECTION 2, AREA 2 LOTS 109 THRU 209

AREA TAX MAPS 41446 PARCEL NO 2
GTH ELECTION DISTRICT S-84-02
HOWARD COUNTY, MARYLAND P-86-13 & F-87-14

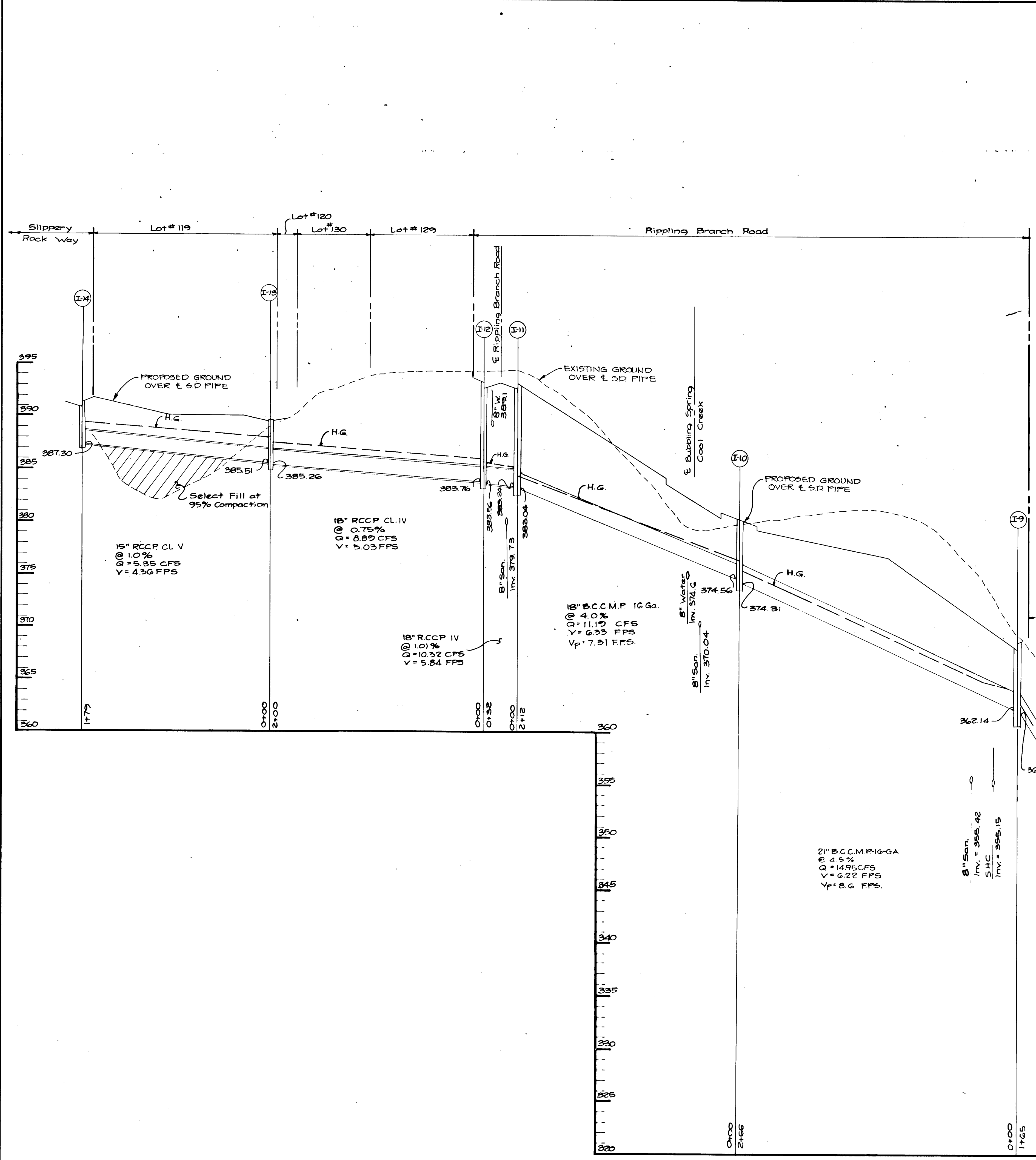
TITLE: DETAILS

THE RIEMER GROUP, INC.

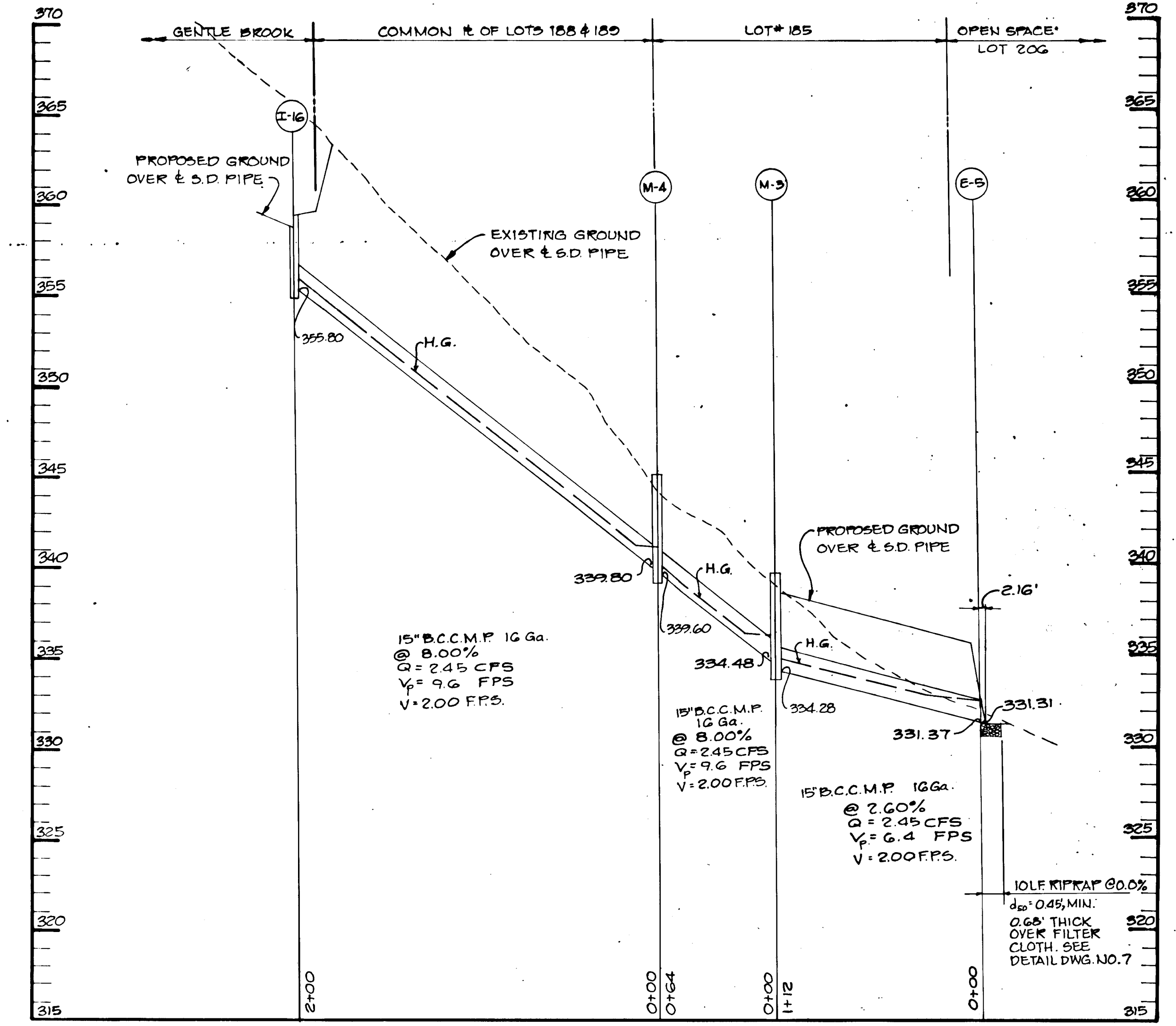
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2600

DATE 8-18-87 REVISED 7-10-87

DESIGNED BY: L.J.D.
DRAWN BY: J.C.R.
PROJECT NO: 11705
DATE: AUGUST 12, 1987
SCALE: AS SHOWN
DRAWING NO. 7 OF 14



PROFILE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



PROFILE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John M. ... 8-22-87
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
... 8-24-87
 CHIEF, BUREAU OF ENGINEERING

CHIEF, LAND DEVELOPMENT DIVISION
... 8/22/87
 CHIEF, BUREAU OF HIGHWAYS

DATE	NO.	REVISION

OWNER/DEVELOPER
 Hammond Hills Associated Limited Partnership
 % Britam Development Group Suite 250
 9030 Red Branch Road
 Columbia, Maryland 21045

PROJECT: **HAMMOND HILLS**
 Section 2 Area 2
 Lots 109 to 209

AREA Tax Map No. 41 & 46 Parcel No. 2
 6th Election District F-87-14 584-02 P86-13
 Howard County, Maryland GP-26-24 P87-28

TITLE:
STORM DRAIN PROFILES

THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 3108 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2800

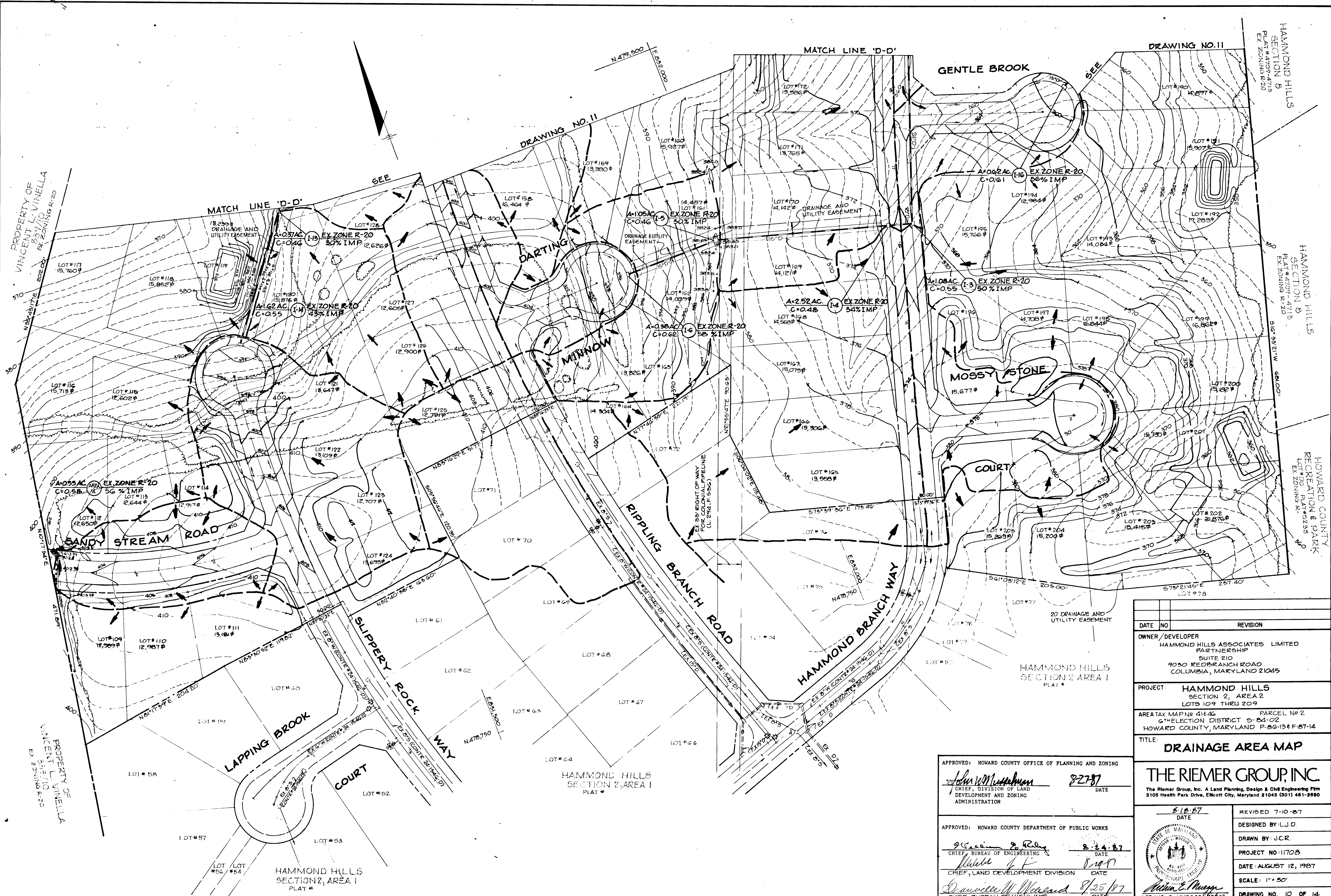
8-18-87
 DATE

REVISED 7-10-87
 DESIGNED BY: L.J.D.
 DRAWN BY: D.V.P.
 PROJECT NO: 11708
 DATE: AUGUST 12, 1987
 SCALE: As Shown
 DRAWING NO. 9 OF 14

ARTHUR E. MUEGGE #4707

939

939



DATE	NO.	REVISION

OWNER/DEVELOPER
 HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP
 SUITE 210
 9050 REDBRANCH ROAD
 COLUMBIA, MARYLAND 21045

PROJECT: HAMMOND HILLS
 SECTION 2, AREA 2
 LOTS 109 THRU 209

AREA TAX MAP No 41246 PARCEL No 2
 GthELECTION DISTRICT 5-84-02
 HOWARD COUNTY, MARYLAND P-86-13# F-87-14

TITLE:
DRAINAGE AREA MAP

THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 3108 Heath Park Drive, Ellicott City, Maryland 21043 (301) 481-2880

DATE: 8-18-87
 REVISION: 7-10-87

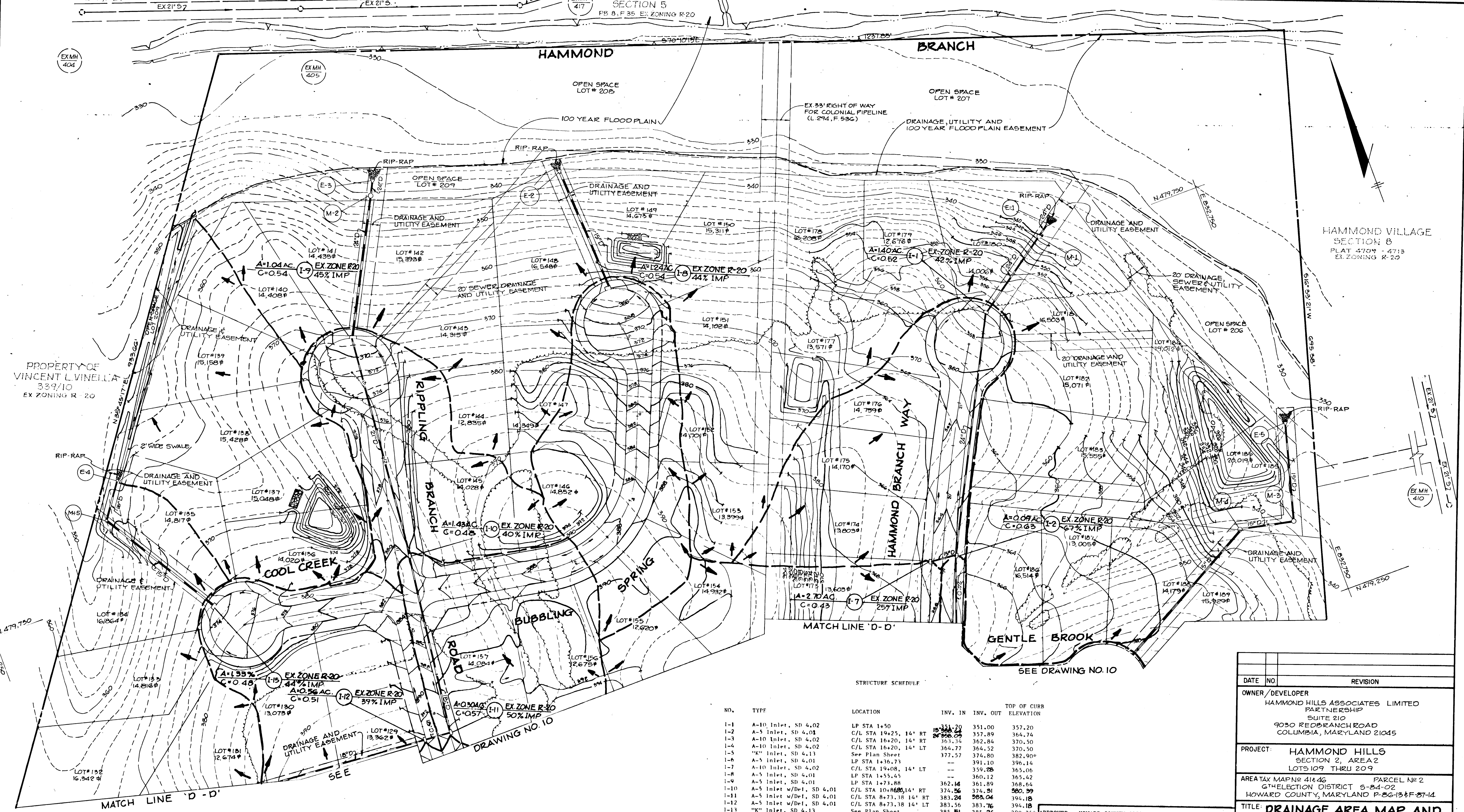
DESIGNED BY: L.J.D.
 DRAWN BY: J.C.R.
 PROJECT NO: 11705
 DATE: AUGUST 12, 1987
 SCALE: 1" = 50'
 DRAWING NO. 10 OF 14

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John W. Muehman 8-27-87
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William E. Muegge 8-24-87
 CHIEF, BUREAU OF ENGINEERING
Arthur E. Muegge 8-25-87
 CHIEF, LAND DEVELOPMENT DIVISION
William E. Muegge 8-25-87
 CHIEF, BUREAU OF HIGHWAYS



PROPERTY OF
VINCENT L VINELLA
339/10
EX ZONING R-20



STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP OF CURB ELEVATION
1-1	A-10 Inlet, SD 4.02	LP STA 1+50	331.20	351.00	357.20
1-2	A-5 Inlet, SD 4.01	C/L STA 19+25, 14' RT	328.04	357.89	364.74
1-3	A-10 Inlet, SD 4.02	C/L STA 16+20, 14' RT	363.34	362.84	370.50
1-4	A-10 Inlet, SD 4.02	C/L STA 16+20, 14' LT	364.77	364.52	370.50
1-5	A-5 Inlet, SD 4.13	See Plan Sheet	377.57	374.80	382.90*
1-6	A-5 Inlet, SD 4.01	LP STA 1+36.73	---	391.10	396.14
1-7	A-10 Inlet, SD 4.02	C/L STA 19+08, 14' LT	---	360.12	365.06
1-8	A-5 Inlet, SD 4.01	LP STA 1+55.45	---	368.84	373.37
1-9	A-5 Inlet, SD 4.01	LP STA 1+73.88	362.14	361.89	368.64
1-10	A-5 Inlet w/Del, SD 4.01	C/L STA 10+60, 14' RT	374.56	374.91	380.39
1-11	A-5 Inlet w/Del, SD 4.01	C/L STA 8+73.38 14' RT	383.24	383.24	390.04
1-12	A-5 Inlet w/Del, SD 4.01	C/L STA 8+73.38 14' LT	383.56	383.76	394.18
1-13	A-5 Inlet, SD 4.13	See Plan Sheet	385.51	385.26	390.75*
1-14	A-5 Inlet, SD 4.01	LP STA 1+43.73	---	387.50	391.29
1-15	A-5 Inlet, SD 4.01	LP STA 0+99.50	---	355.80	358.78
E-1	Metal End Sect., SD 5.61	See Plan Sheet	335.43	335.61	---
E-2	Metal End Sect., SD 5.61	See Plan Sheet	336.35	336.00	---
E-3	Metal End Sect., SD 5.61	See Plan Sheet	336.02	336.00	---
E-4	Metal End Sect., SD 5.61	See Plan Sheet	264.72	264.70	---
E-5	Metal End Sect., SD 5.61	See Plan Sheet	331.37	331.31	---
MH-1	Shallow Brick Manhole G5.05	See Plan Sheet	337.03	355.50	341.81*
MH-2	Shallow Brick Manhole G5.05	See Plan Sheet	336.30	336.10	341.00*
MH-3	Shallow Brick Manhole G5.05	See Plan Sheet	334.48	334.28	339.50*
MH-4	Shallow Brick Manhole G5.05	See Plan Sheet	339.80	339.60	345.00*
MH-5	Shallow Brick Manhole G5.05	See Plan Sheet	355.50	335.30	358.80

*Denotes Elevation at top of frame.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John W. Muegge 8-27-87
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John W. Muegge 8-24-87
CHIEF, BUREAU OF ENGINEERING

Wanda H. Papp
CHIEF, LAND DEVELOPMENT DIVISION DATE
Francis W. Williams
CHIEF, BUREAU OF HIGHWAYS DATE

DATE	NO.	REVISION
OWNER / DEVELOPER HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP SUITE 210 9030 REDBRANCH ROAD COLUMBIA, MARYLAND 21045		
PROJECT: HAMMOND HILLS SECTION 2, AREA 2 LOTS 109 THRU 209		
AREATA MAP# 214-46 PARCEL # 2 G/SECTION DISTRICT S-84-02 HOWARD COUNTY, MARYLAND P-86-13-F-87-14		
TITLE: DRAINAGE AREA MAP AND STRUCTURE SCHEDULE		
THE RIEMER GROUP, INC. The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm 3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 481-2880		
DATE	8-18-87	REVISED 7-10-87
DATE	8-24-87	DESIGNED BY: L.J.D.
DATE	8-24-87	DRAWN BY: J.C.R.
DATE	8-24-87	PROJECT NO: 11703
DATE	8-24-87	DATE: AUGUST 12, 1987
DATE	8-24-87	SCALE: 1" = 50'
DATE	8-24-87	DRAWING NO. 11 OF 14

SEDIMENT TRAP NO. 6

- 1) STONE OUTLET TRAP
- 2) D.A. = 30 AC
- 3) STORAGE REQUIRED = 1800 cu. ft. = 3.0 * 600 cu. ft.
- 4) STORAGE PROVIDED = 5,500 cu. ft.
- 5) CREST ELEV. = 351.0
- 6) BOTTOM ELEV. = 345.0
- 7) BOTTOM SIZE = 21' x 45'
- 8) CLEANOUT ELEV. = 350.0
- 9) DEPTH = 6' (BELOW SPILLWAY)
- 10) SPILLWAY LENGTH = 23.0'

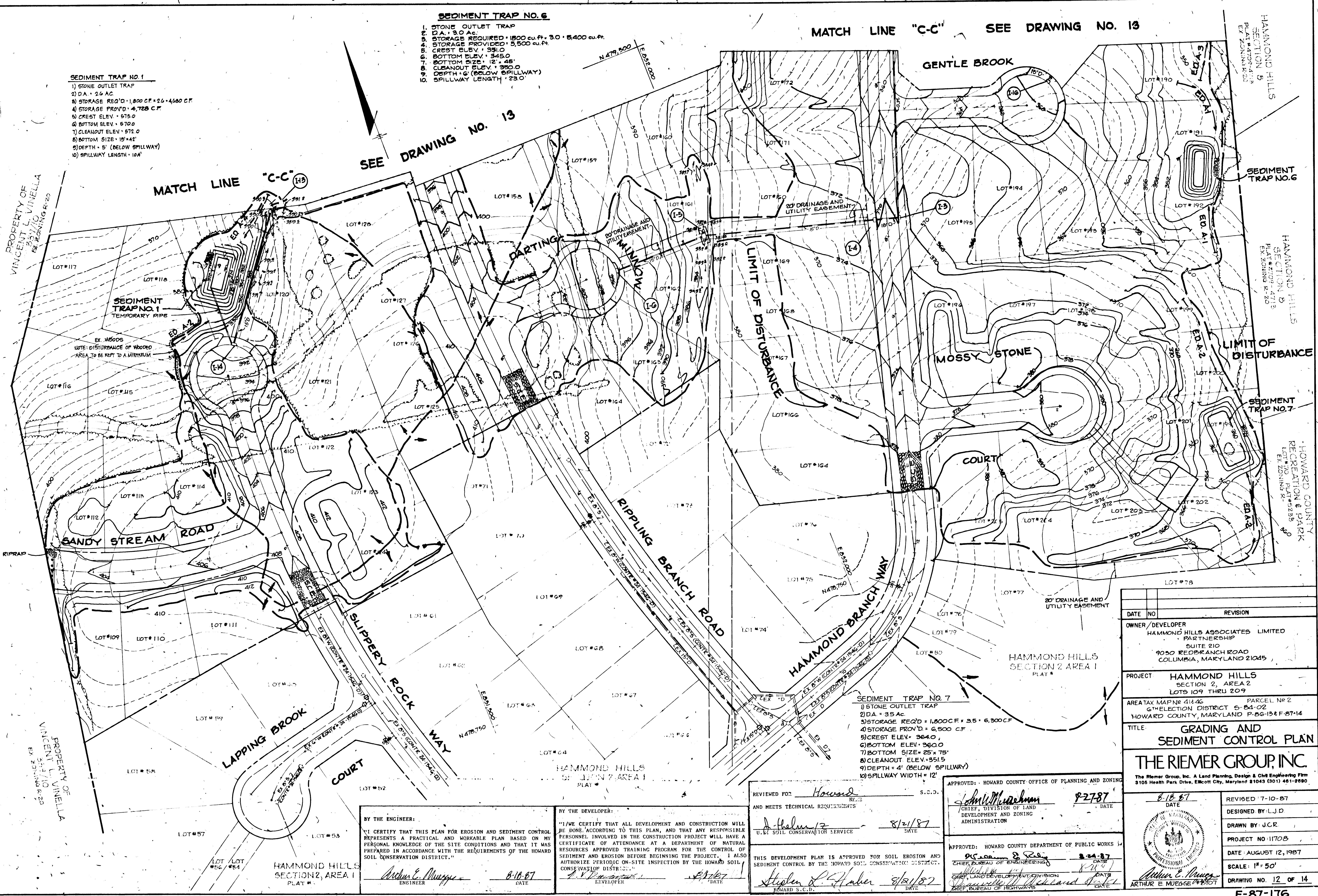
MATCH LINE "C-C" SEE DRAWING NO. 13

SEDIMENT TRAP NO. 1

- 1) STONE OUTLET TRAP
- 2) D.A. = 26 AC
- 3) STORAGE REQ'D = 1,800 C.F. = 26 * 4680 C.F.
- 4) STORAGE PROVIDED = 4,725 C.F.
- 5) CREST ELEV. = 575.0
- 6) BOTTOM ELEV. = 570.0
- 7) CLEANOUT ELEV. = 572.0
- 8) BOTTOM SIZE = 19' x 42'
- 9) DEPTH = 5' (BELOW SPILLWAY)
- 10) SPILLWAY LENGTH = 104'

SEE DRAWING NO. 13

PROPERTY OF VINCENT L. VINELLA
EX. ZONING R-20



- SEDIMENT TRAP NO. 7**
- 1) STONE OUTLET TRAP
 - 2) D.A. = 35 AC
 - 3) STORAGE REQ'D = 1,800 C.F. = 35 * 600 C.F.
 - 4) STORAGE PROVIDED = 6,500 C.F.
 - 5) CREST ELEV. = 364.0
 - 6) BOTTOM ELEV. = 360.0
 - 7) BOTTOM SIZE = 25' x 75'
 - 8) CLEANOUT ELEV. = 351.5
 - 9) DEPTH = 4' (BELOW SPILLWAY)
 - 10) SPILLWAY WIDTH = 12'

DATE	NO.	REVISION
OWNER / DEVELOPER HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP SUITE 210 9050 REDBRANCH ROAD COLUMBIA, MARYLAND 21045		
PROJECT HAMMOND HILLS SECTION 2, AREA 2 LOTS 109 THRU 209		
AREATAX MAP NO. 418-46		PARCEL NO. 2
G ¹ ELECTION DISTRICT 5-84-02		HOWARD COUNTY, MARYLAND P-86-13 & F-87-14
TITLE GRADING AND SEDIMENT CONTROL PLAN		
THE RIEMER GROUP, INC.		
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm 3106 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2880		

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

Arthur E. Muegge
ENGINEER
8-18-87
DATE

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF 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.

Stephen P. Haber
DEVELOPER
8/21/87
DATE

REVIEWED FOR: *Howard* S.C.D.
AND MEETS TECHNICAL REQUIREMENTS

A. Helmer
U.S. SOIL CONSERVATION SERVICE
8/21/87
DATE

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

Stephen P. Haber
HOWARD S.C.D.
8/21/87
DATE

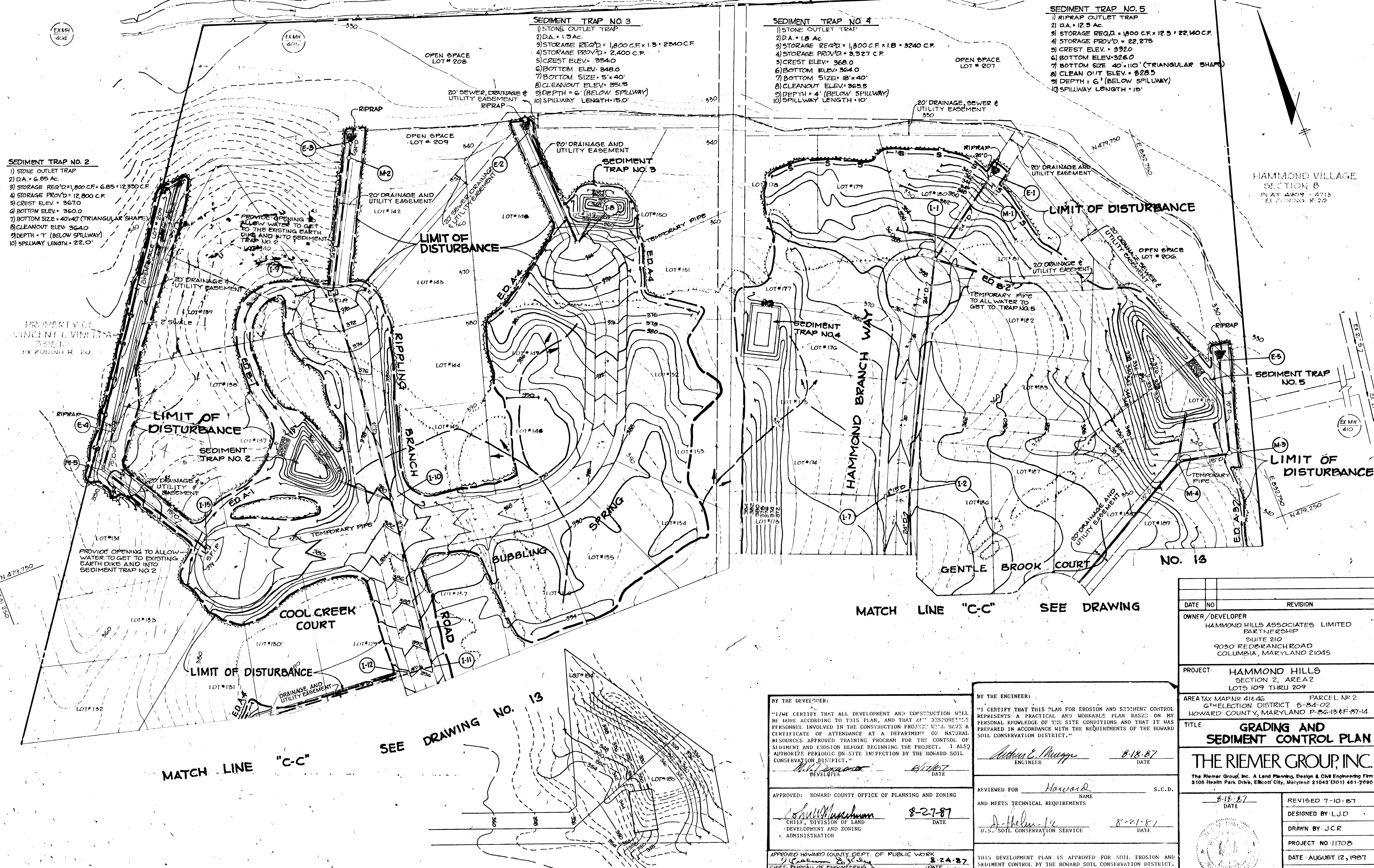
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

John W. Muegge
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
8-27-87
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John W. Muegge
CHIEF, LAND DEVELOPMENT DIVISION
8-24-87
DATE

DATE 8-18-87	REVISED 7-10-87
DESIGNED BY L.J.D.	DRAWN BY J.C.R.
PROJECT NO. 11708	DATE AUGUST 12, 1987
SCALE 1" = 50'	DRAWING NO. 12 OF 14



SEDIMENT TRAP NO. 2
 1) STONE OUTLET TRAP
 2) D.A. = 6.85 AC.
 3) STORAGE REQ'D = 1,800 C.F. x 6.85 = 12,330 C.F.
 4) STORAGE PROV'D = 12,800 C.F.
 5) CREST ELEV. = 367.0
 6) BOTTOM ELEV. = 360.0
 7) BOTTOM SIZE = 40"x40" (TRIANGULAR SHAPE)
 8) CLEANOUT ELEV. = 364.0
 9) DEPTH = 7' (BELOW SPILLWAY)
 10) SPILLWAY LENGTH = 22.0'

SEDIMENT TRAP NO. 3
 1) STONE OUTLET TRAP
 2) D.A. = 1.3 AC.
 3) STORAGE REQ'D = 1,800 C.F. x 1.3 = 2,340 C.F.
 4) STORAGE PROV'D = 2,400 C.F.
 5) CREST ELEV. = 354.0
 6) BOTTOM ELEV. = 348.0
 7) BOTTOM SIZE = 5'x40"
 8) CLEANOUT ELEV. = 351.5
 9) DEPTH = 6' (BELOW SPILLWAY)
 10) SPILLWAY LENGTH = 15.0'

SEDIMENT TRAP NO. 4
 1) STONE OUTLET TRAP
 2) D.A. = 1.8 AC.
 3) STORAGE REQ'D = 1,800 C.F. x 1.8 = 3,240 C.F.
 4) STORAGE PROV'D = 3,327 C.F.
 5) CREST ELEV. = 368.0
 6) BOTTOM ELEV. = 364.0
 7) BOTTOM SIZE = 18'x40"
 8) CLEANOUT ELEV. = 365.5
 9) DEPTH = 4' (BELOW SPILLWAY)
 10) SPILLWAY LENGTH = 10'

SEDIMENT TRAP NO. 5
 1) RIPRAP OUTLET TRAP
 2) D.A. = 12.5 AC.
 3) STORAGE REQ'D = 1,800 C.F. x 12.5 = 22,500 C.F.
 4) STORAGE PROV'D = 22,275
 5) CREST ELEV. = 332.0
 6) BOTTOM ELEV. = 326.0
 7) BOTTOM SIZE 40"x10" (TRIANGULAR SHAPE)
 8) CLEAN OUT ELEV. = 328.5
 9) DEPTH = 6' (BELOW SPILLWAY)
 10) SPILLWAY LENGTH = 15'

PROPOSED GRADING FOR LOTS 184 & 185
 SCALE: 1" = 50'

DATE	NO.	REVISION
OWNER / DEVELOPER HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP SUITE 210 9030 REDBRANCH ROAD COLUMBIA, MARYLAND 21045		
PROJECT: HAMMOND HILLS SECTION 2, AREA 2 LOTS 109 THRU 209		
AREATAX MAP NO 41646 PARCEL NO 2 GTHELECTION DISTRICT 5-84-02 HOWARD COUNTY, MARYLAND P-26-13-F-87-14		
TITLE: GRADING AND SEDIMENT CONTROL PLAN		
THE RIEMER GROUP, INC. The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm 3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-7690		
8-18-87		REVISION 7-10-87
		DESIGNED BY: L.J.D.
		DRAWN BY: J.C.R.
		PROJECT NO: 11708
		DATE: AUGUST 12, 1987
		SCALE: 1" = 50'
		DRAWING NO. 13 OF 14

BY THE DEVELOPER:
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ALL PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SLIDEMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
 [Signature] DEVELOPER 8/17/87 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 [Signature] 8-27-87 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED HOWARD COUNTY DEPT. OF PUBLIC WORKS
 [Signature] 8-24-87 DATE
 CHIEF, BUREAU OF ENGINEERING

CHIEF, LAND DEVELOPMENT DIVISION
 [Signature] 8/27/87 DATE
 CHIEF, BUREAU OF HIGHWAYS

BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
 [Signature] ENGINEER 8-18-87 DATE

REVIEWED FOR: [Signature] NAME S.C.D.
 AND MEETS TECHNICAL REQUIREMENTS
 [Signature] U.S. SOIL CONSERVATION SERVICE 8-21-87 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 8/21/87 DATE
 HOWARD S.C.D.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas 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, disking or other acceptable means before seeding.

Soil Amendments: Apply 0-20-20 fertilizer at the rate of 600 lbs. per acre. ...

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 40 lbs. per acre (1 1/2/1000 sq.ft.) of a mixture of certified 'Merion' Kentucky bluegrass; common Kentucky bluegrass @ 40 lbs. per acre (1 1/2/1000 sq.ft.); and Red Fescue, Pennington or Janzestown @ 20 lbs. per acre (0.5/1/1000 sq.ft.) for the period May 1 thru July 31, seed with 40-40-20 mix as specified above and 2 lbs. per acre (0.05 lbs./1000 sq.ft.) of weeping lovegrass. ...

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) 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 sq.ft.) of emulsified asphalt on flat areas. ...

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

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, disking or other acceptable means before seeding.

Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.) where soil is highly acidic, apply dolomitic limestone at the rate of 1 ton per acre.

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 140 lbs. per acre of annual rye (3.2 lbs./1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.7 lbs./1000 sq.ft.). ...

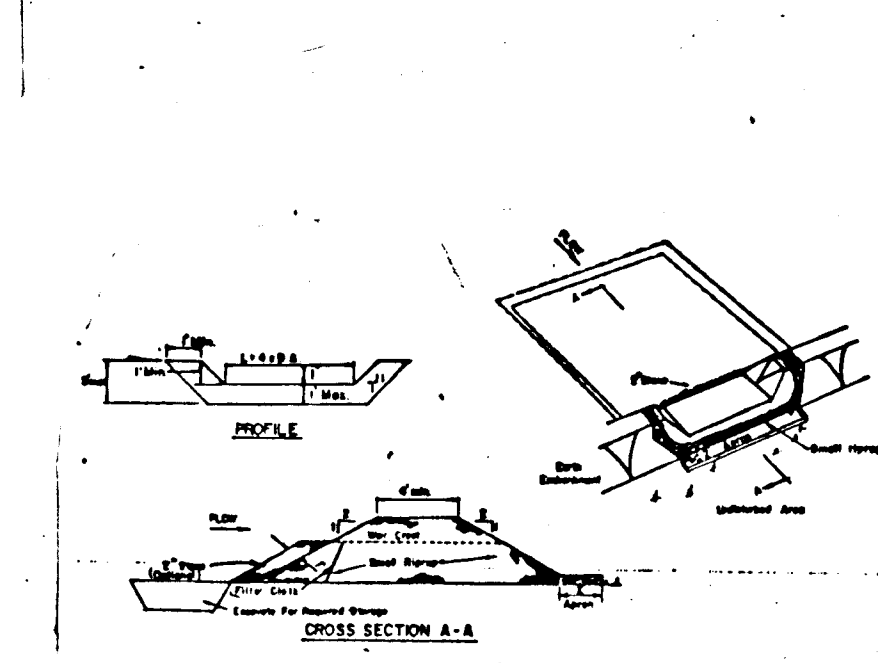
Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal./1000 sq.ft.) of emulsified asphalt on flat areas. ...

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

SEDIMENT CONTROL NOTES

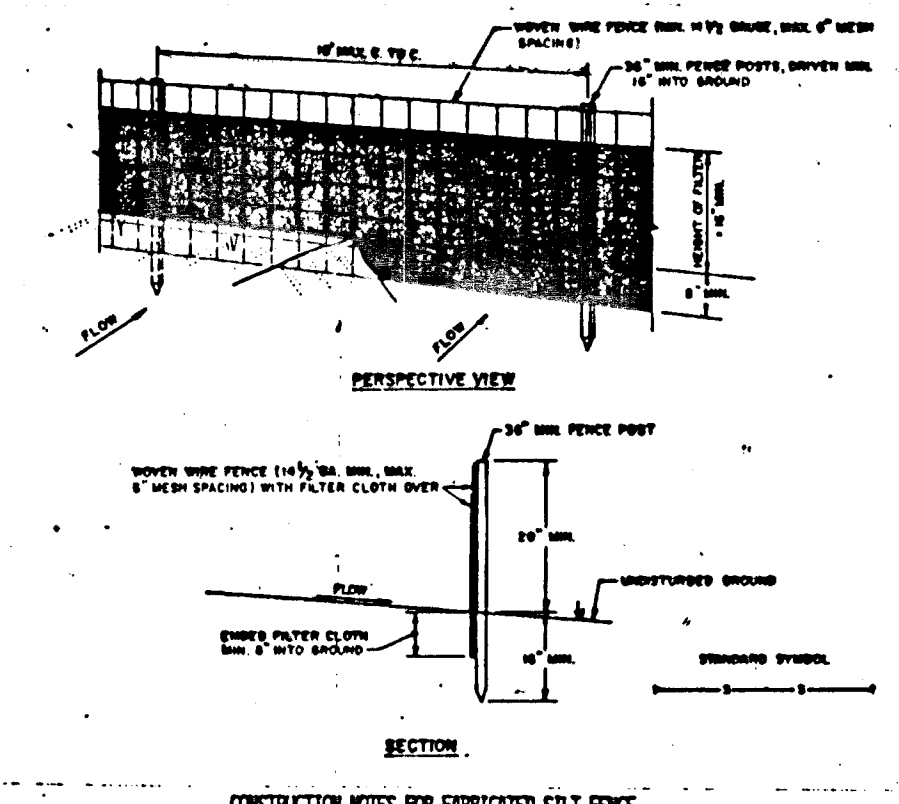
- A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (992-2437)
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or redistribution, 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 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 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) and (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done where recommended seeding rates 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	44.4 acres
Area Disturbed	19.4 acres
Area to be roofed or paved	5.5 acres
Area to be vegetatively stabilized	24.5 acres
Total Cut	49,750 cu. yds.
Total Fill	49,750 cu. yds.
- 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 DPM sediment control inspector.
- Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.
- Sediment will be removed from traps when its depth reaches the clean out elevation shown on the plans.



- CONSTRUCTION SPECIFICATIONS FOR STONE TRAP**
- All dikes shall be constructed by earth-moving equipment. All dikes shall have positive drainage to an outlet. Top width may be wider and side slopes may be flatter if desired to facilitate work by construction traffic.
 - Field location should be adjusted as needed to utilize a stabilized safe outlet. Safety dikes shall have an outlet that functions with a minimum of erosion. Dumps shall be converted 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 constructively stabilized.
 - Stabilization shall be in accordance with STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH ON STRAW MULCH IF NOT IN SEEDING SEASON. (3) FLOW CHANNEL AS PER THE SWART METHOD.
- FLOW CHANNEL STABILIZATION**
- | TYPE OF TREATMENT | CHESTER CRITERIA | NOTE | STANDARD SYMBOL |
|-------------------|------------------|----------------------------------|-----------------------------------|
| 1 | 5-3-0E | SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3.1-5-0E | SEED AND STRAW MULCH | SEED USING JUTE OR SOY BEAN STRAW |
| 3 | 5.1-8-0E | SEED WITH JUTE OR SOY BEAN STRAW | LINED RIP-RAP 4-8" |
| 4 | 8.1-20E | Lined Rip-Rap 4-8" | ENGINEERING DESIGN |
- 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.
 - RIP-RAP to be 2 1/2 inches or a layer at least 6 inches in thickness and pressed into the soil.
 - APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
 - PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

STONE OUTLET SEDIMENT TRAP
NO SCALE



- CONSTRUCTION NOTES FOR RIPRAP OUTLET SEDIMENT TRAP**
- MOVIE WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
 - FILTER CLOTH TO BE FASTENED SECURELY TO MOVIE WIRE FENCE WITH 2" WIRE SPACERS EVERY 24" AT TOP AND MID SECTION.
 - NO MORE THAN ONE SECTION OF FILTER CLOTH ALLOW EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND PALLED.
 - INTERFERENCE SHALL BE PREVENTED AS NECESSARY AND PATRIAL REPAIRS MADE "VALLEY" STAPLES IN THE SILT FENCE.
- POSTS:** STEEL LETTER T OR U TYPE OF 2" HARDWOOD
- FENCE:** MOVIE WIRE, 1/8" GA. GAL. KEN. COILING
- FILTER CLOTH:** FILTER CLOTH, 1/2" MESH, 2' x 4' SPACER WIRE MESH
- PREPARATED UNIT:** GEOTEX, GEOWEB, OR APPROVED EQUAL

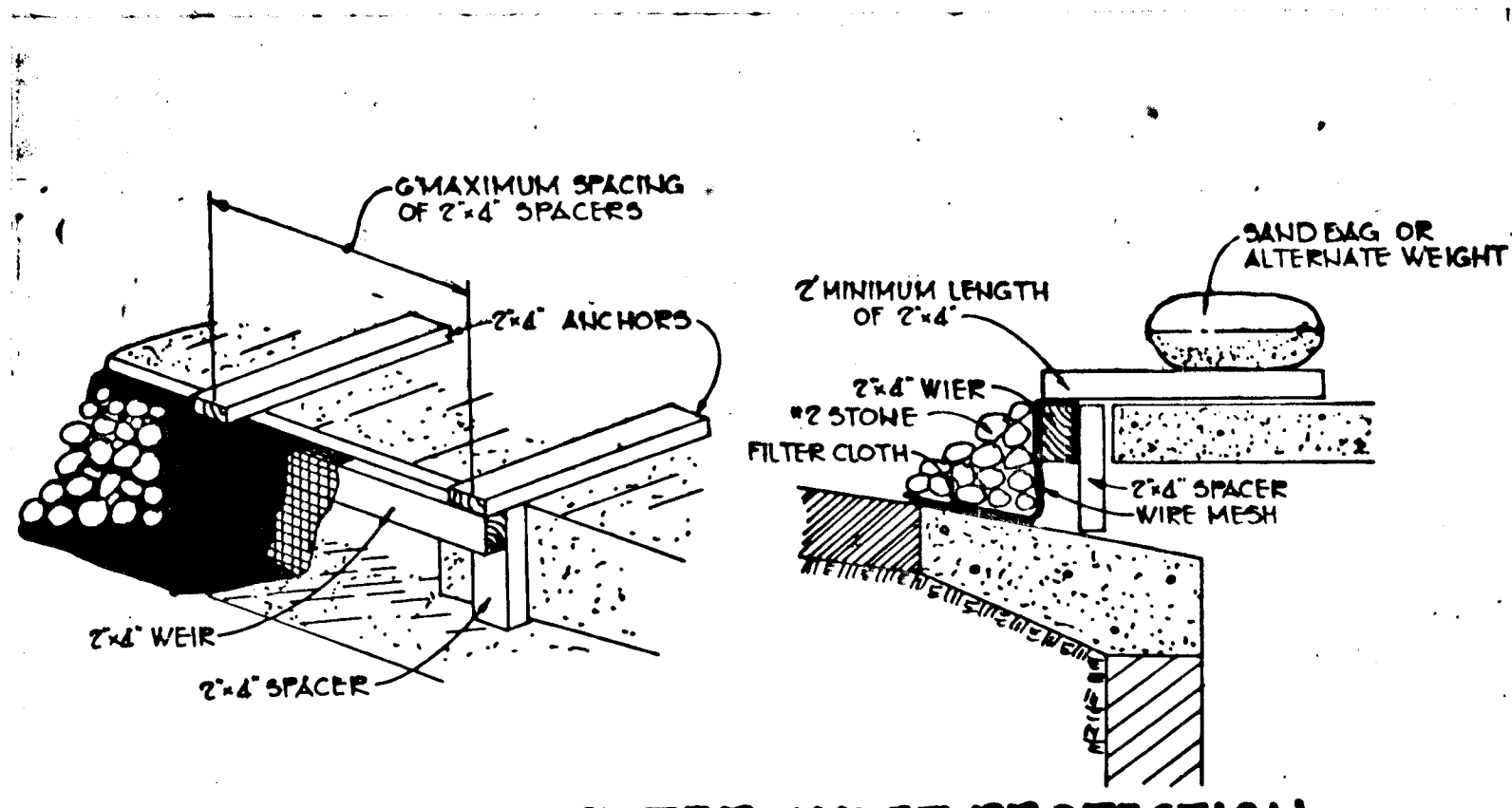
SILT FENCE
NO SCALE

Construction Specifications

- Materials**
 - Wooden frame is to be constructed of 2" x 4" construction grade lumber.
 - Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with wet feet fully supported against.
 - Filter cloth must be of a type approved for this purpose resistant to sunlight with a pore size, 40-60, to allow sufficient passage of water and removal of sediment.
 - Stone is to be 2" in size and clean, since fines would clog the cloth.
- Procedure**
 - A weals, ditchline or yard inlet protection.**
 - Excavate completely around inlet to a depth of 18" below notch elevation.
 - Drive 2 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2 x 4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
 - Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
 - Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
 - Backfill around inlet in compacted 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
 - If the inlet is not in a low point, construct a connected earth dike in the ditchline below it. The top of this dike to be at least 6" higher than the top of frame (weir).
 - This structure must be inspected frequently and the filter fabric replaced when clogged.**
- Curb Inlet Protection.**
 - Attach a continuous piece of wire mesh (30" min. width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
 - Place a piece of approved filter cloth (40-60 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
 - Securely nail the 2" x 4" weir to 8" long vertical spacers to be located between the weir and inlet face (max. 6' apart).
 - Place the assembly against the inlet throat and wall (minimum 2' length of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by manholes or alternate weight.
 - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
 - Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.



EARTH DIKE
NO SCALE

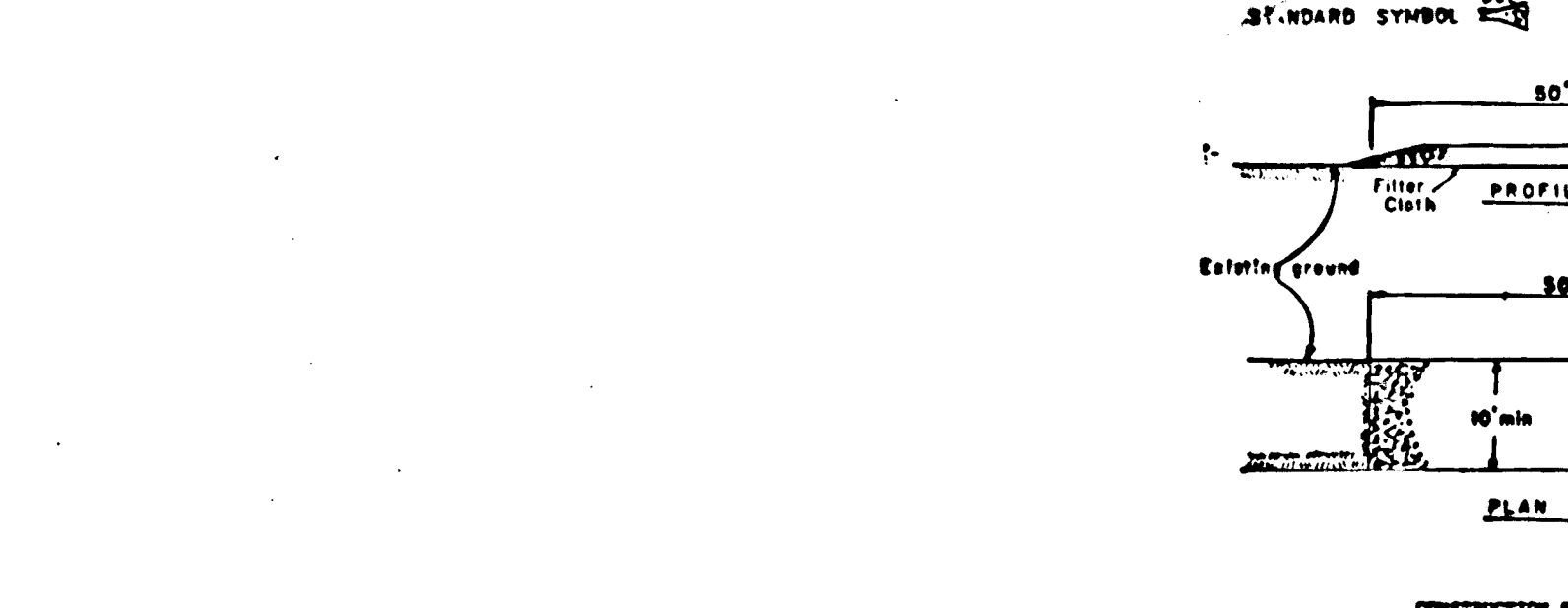


STONE FILTER INLET PROTECTION
NO SCALE

STANDARD SYMBOL

- Obtain a Grading Permit.
- Install stabilized construction entrances's, earth dikes, silt fence and sediment traps 1, 2, 3, 4, 5, 6 & 7, if not existing. If existing all sediment control structures shall be reviewed and brought back to original design specifications if necessary. (4 days)
- Clear and grub areas within limits of disturbance. (5 days)
- Grade site. (10 days)
- Install utilities and stabilize disturbed areas as per temporary seeding notes. (10 weeks)
- The outlets for inlets 1-14, 1-10, 1-8, 1-1 and M-4 shall be blocked and temporary pipes be installed to drain water to its respective traps. (2 days)
- Install stone filter inlet protection at inlets 1-9 and 1-15. (1 day)
- Stabilize all disturbed areas outside of road right of way as per temporary seeding notes. (3 days)
- Install curb and gutter and pave all streets. (20 days)
- Stabilize any disturbed areas as per permanent seeding notes and after obtaining permission from the Howard County Sediment Control Inspector remove temporary pipes and sediment traps by:
 - Pump any standing water onto a stabilized outfall.
 - Remove sediment and place on a site with approved sediment control.
 - Remove traps and stabilize in accordance with permanent seeding notes.
 - Remove remaining sediment control measures and stabilize any areas disturbed by their removal in accordance with permanent seeding notes.

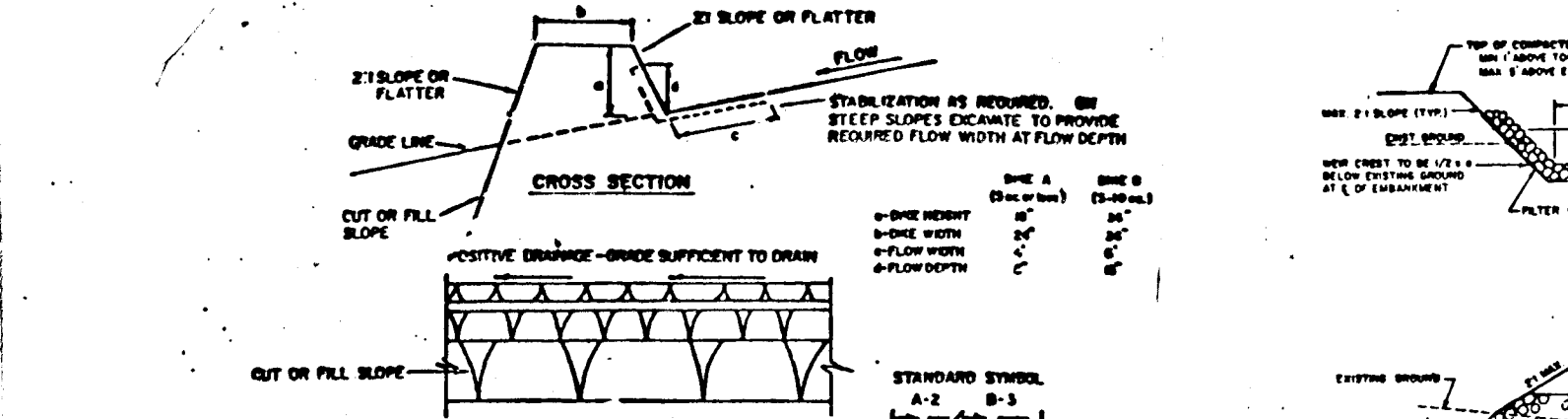
SEQUENCE OF CONSTRUCTION



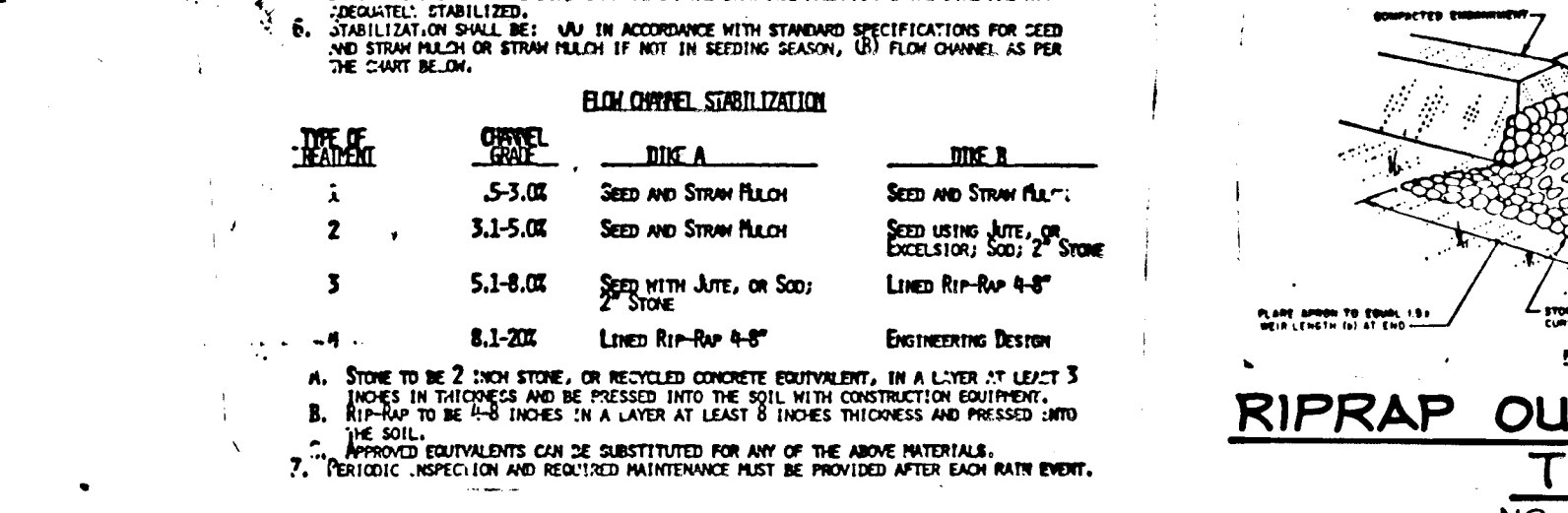
STABILIZED CONSTRUCTION ENTRANCE
NO SCALE

CONSTRUCTION SPECIFICATIONS

- Stone Size - 2" stone, or recycled or crushed concrete equivalent. Length - As required, but not less than 50 feet on a single residence lot where a 30' min. length would apply.
- Thickness - Not less than six (6) inches.
- Width - 10' foot minimum, but not less than the full width at points where ingress or egress occurs.
- Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
- Surface Water - All surface water flowing or diverted toward construction entrance shall be piped across the entrance. If piping is impractical, a manhole with 1/2 slope will be provided.
- Interlocks - 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 cleanup of any measures used on trap sediment. All sediment applied, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- Warning - Whistle shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
- Periodic inspection and needed maintenance must be provided after each rain event.



RIPRAP OUTLET SEDIMENT TRAP
NO SCALE

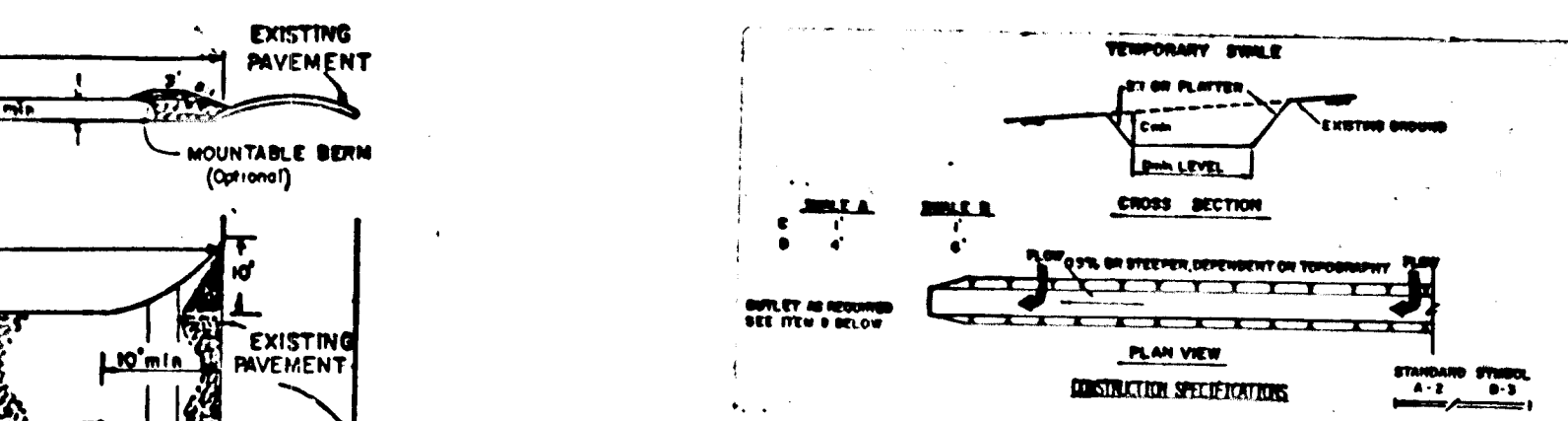


EARTH DIKE
NO SCALE

SEQUENCE OF CONSTRUCTION

- Obtain a Grading Permit.
- Install stabilized construction entrances's, earth dikes, silt fence and sediment traps 1, 2, 3, 4, 5, 6 & 7, if not existing. If existing all sediment control structures shall be reviewed and brought back to original design specifications if necessary. (4 days)
- Clear and grub areas within limits of disturbance. (5 days)
- Grade site. (10 days)
- Install utilities and stabilize disturbed areas as per temporary seeding notes. (10 weeks)
- The outlets for inlets 1-14, 1-10, 1-8, 1-1 and M-4 shall be blocked and temporary pipes be installed to drain water to its respective traps. (2 days)
- Install stone filter inlet protection at inlets 1-9 and 1-15. (1 day)
- Stabilize all disturbed areas outside of road right of way as per temporary seeding notes. (3 days)
- Install curb and gutter and pave all streets. (20 days)
- Stabilize any disturbed areas as per permanent seeding notes and after obtaining permission from the Howard County Sediment Control Inspector remove temporary pipes and sediment traps by:
 - Pump any standing water onto a stabilized outfall.
 - Remove sediment and place on a site with approved sediment control.
 - Remove traps and stabilize in accordance with permanent seeding notes.
 - Remove remaining sediment control measures and stabilize any areas disturbed by their removal in accordance with permanent seeding notes.

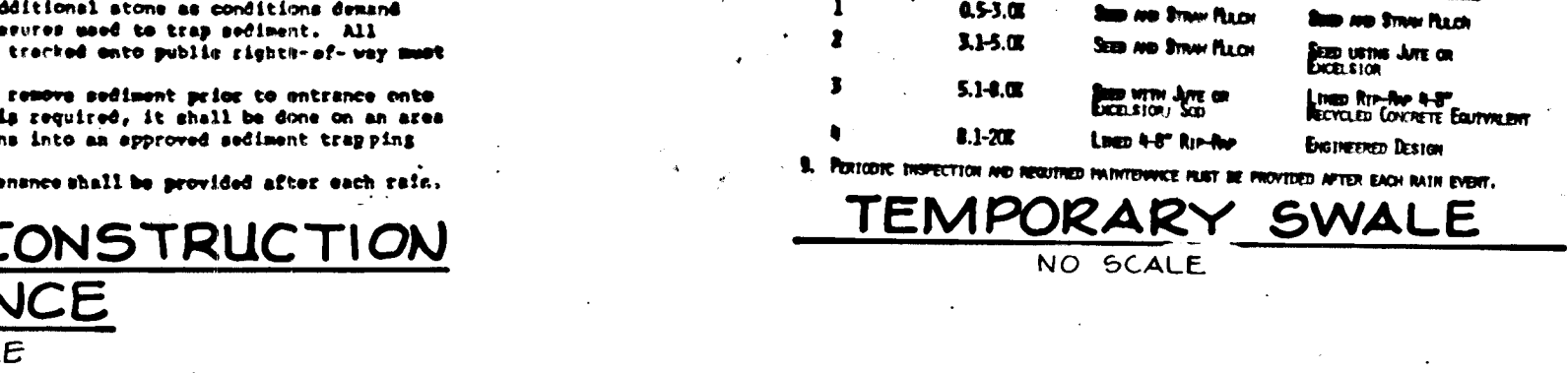
TEMPORARY SWALE
NO SCALE



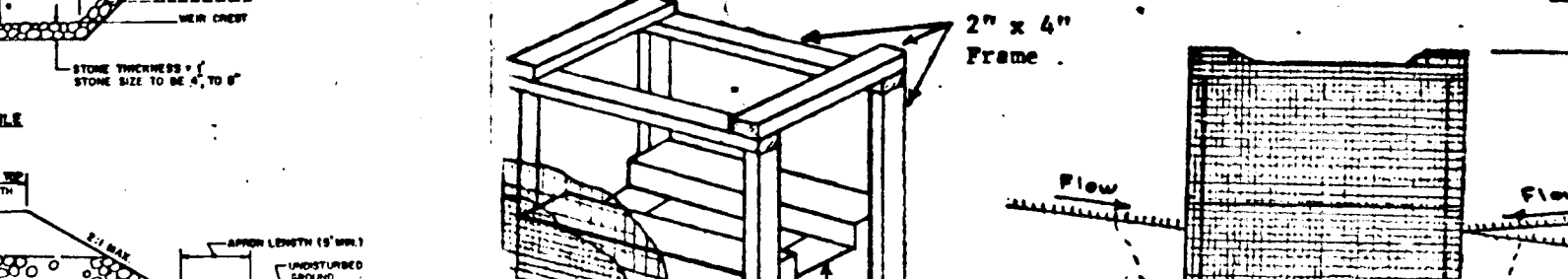
TEMPORARY SWALE
NO SCALE

- All temporary swales shall have unobstructed positive drainage to an outlet.
- Swales shall be constructed on a prepared area and shall be covered to a minimum 18" depth with stabilized earth or other approved material.
- Swales shall be constructed with a minimum 1/2 slope to an outlet.
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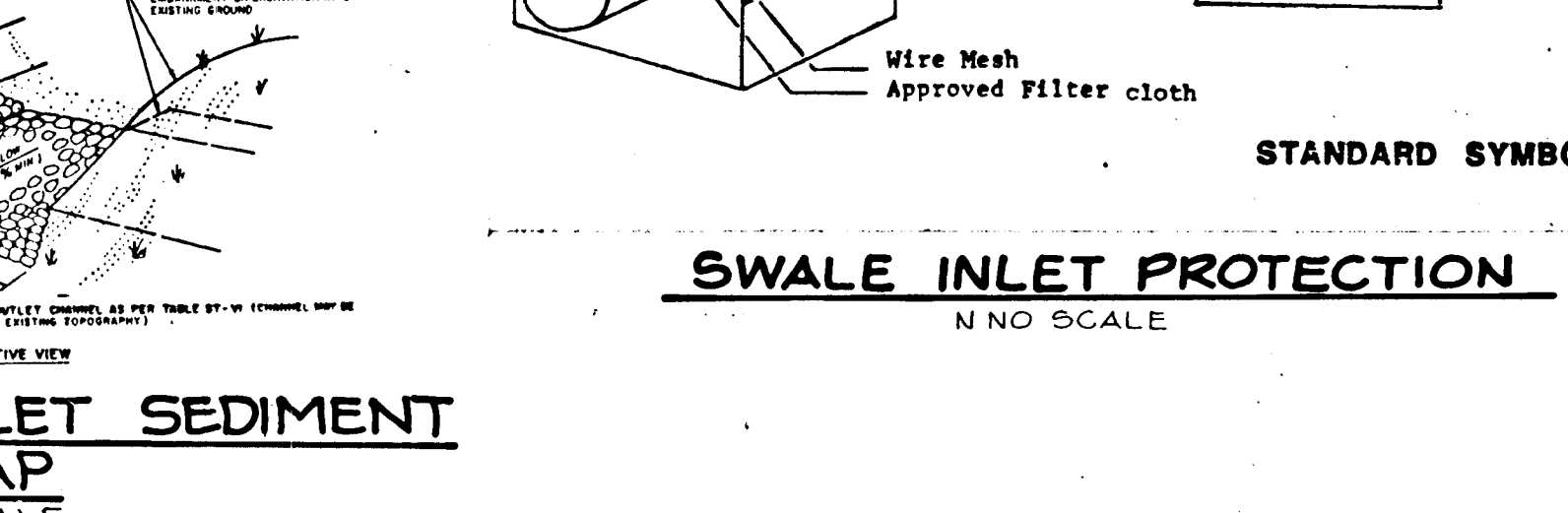
SWALE INLET PROTECTION
NO SCALE



SWALE INLET PROTECTION
NO SCALE



RIPRAP OUTLET SEDIMENT TRAP
NO SCALE



EARTH DIKE
NO SCALE

BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF 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."

William E. Mueggler 8-17-87
ENGINEER DATE

BY THE ENGINEER:

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

William E. Mueggler 8-18-87
ENGINEER DATE

REVIEWED FOR Howard S.C.D. NAME
AND MEETS TECHNICAL REQUIREMENTS

William E. Mueggler 8-21-87
U.S. SOIL CONSERVATION SERVICE DATE

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

Stephen L. Guler 8/21/87
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

John M. Mueggler 8-27-87
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

William E. Mueggler 8/27/87
CHIEF, LAND DEVELOPMENT DIVISION DATE
William E. Mueggler 8/27/87
CHIEF, BUREAU OF HIGHWAYS DATE
William E. Mueggler 8-24-87
CHIEF, BUREAU OF ENGINEERING DATE

DATE NO REVISION

OWNER/DEVELOPER
HAMMOND HILLS ASSOCIATES LIMITED PARTNERSHIP
SUITE 210
9050 REDBRANCH ROAD
COLUMBIA, MARYLAND 21045

PROJECT: HAMMOND HILLS
SECTION 2, AREA 2
LOTS 109 THRU 209

AREA TAX MAPS: 41&46 PARCEL NO 2
G COLLECTION DISTRICT 5-84-02
HOWARD COUNTY, MARYLAND P-3613&F-57-14

TITLE: SEDIMENT CONTROL DETAILS

THE RIEMER GROUP, INC.

The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Heath Park Drive, Ellicott City, Maryland 21043 (301) 461-2880

8-18-87 DATE
DESIGNED BY: L.J.D.
DRAWN BY: J.C.R.
PROJECT NO: 11702
DATE: AUGUST 12, 1987
SCALE: NO SCALE
DRAWING NO. 14 OF 14

8-18-87 DATE
DESIGNED BY: L.J.D.
DRAWN BY: J.C.R.
PROJECT NO: 11702
DATE: AUGUST 12, 1987
SCALE: NO SCALE
DRAWING NO. 14 OF 14

F-87-176