

# ROADWAYS AND STORM DRAINS

## CLEARVIEW ESTATES SECTION 2 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

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1	TITLE SHEET
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3	MARYLAND ROUTE 108 FROM STA. 17+00 TO STA. 29+50
4	BROAD MEADOW LANE FROM STA. 0+00 TO STA. 13+50
5	BROAD MEADOW LANE FROM STA. 13+50 TO STA. 27+00
6	BROAD MEADOW LANE FROM STA. 27+00 TO STA. 29+47.48 AND MISTY RISE COURT
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15	STORM WATER MANAGEMENT DETAILS
16	STORM WATER MANAGEMENT DETAILS

### GENERAL NOTES

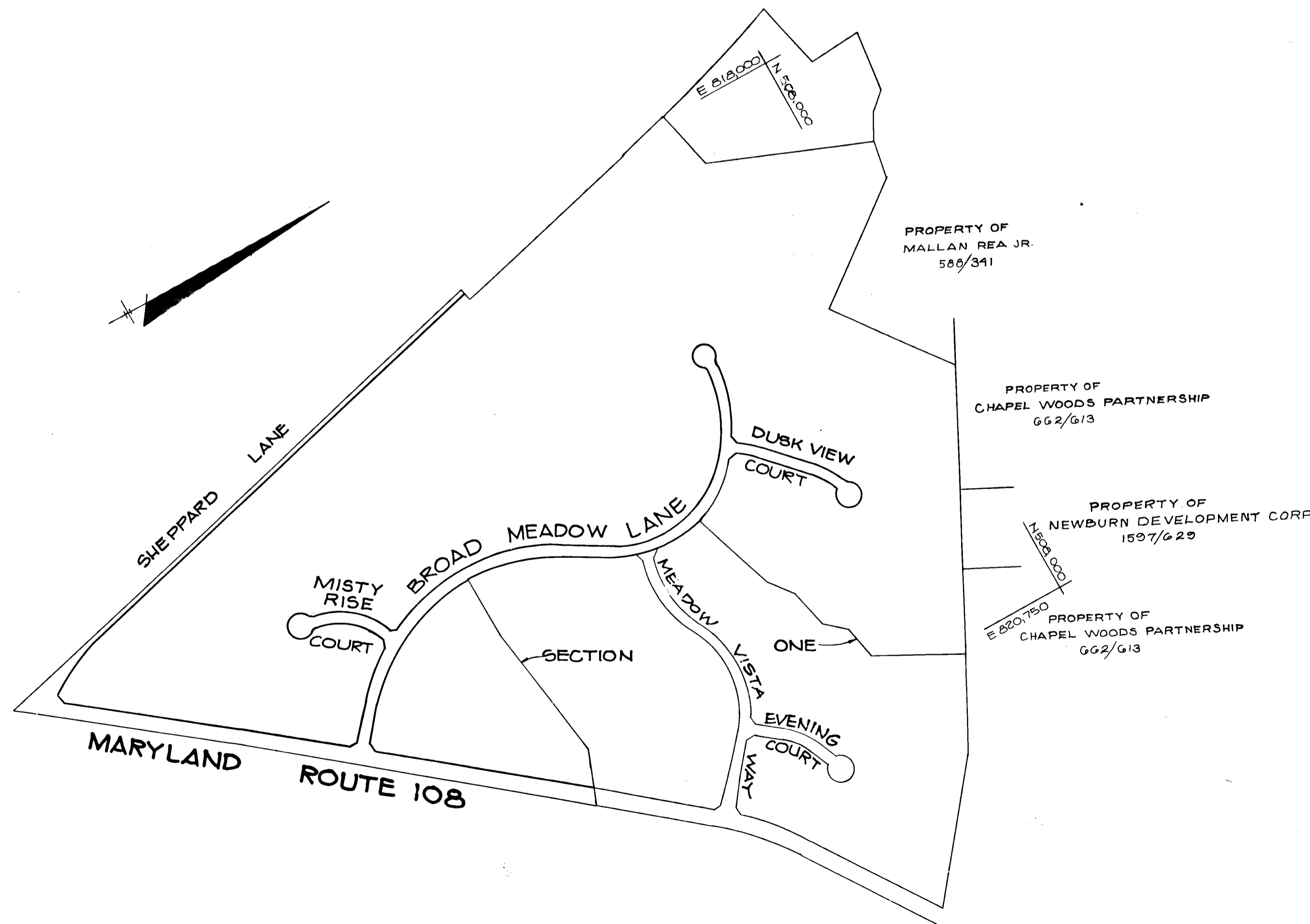
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1989 AMENDMENTS.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES 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	992-2366
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.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 1984 REVISED 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:
 

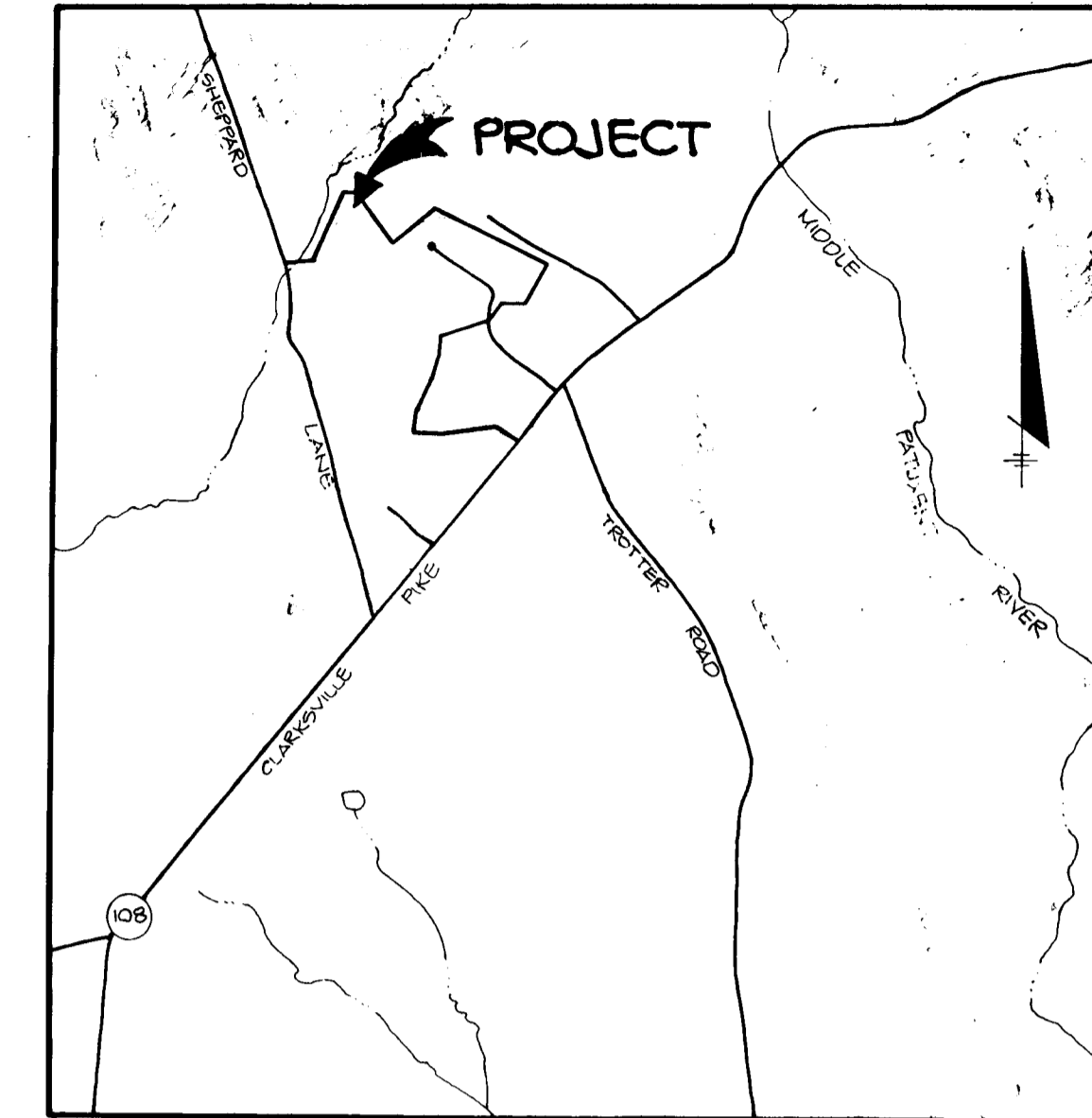
MD RTE 108	50 M.P.H.
ALL 60' RIGHT-OF-WAYS	40 M.P.H.
ALL 50' RIGHT-OF-WAYS	30 & 25 M.P.H.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS
- SUBJECT PROPERTY ZONED R PER 8-2-85 COMPREHENSIVE ZONING PLAN.
- TOPO TAKEN FROM FIELD RUN SURVEY DATED MARCH 1988 BY THE RIEMER GROUP INC.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- A WAIVER WAS REQUESTED TO WAIVE IMPROVEMENTS TO SHEPPARD LANE. THIS WAIVER HAS BEEN DENIED, DATED JUNE 7, 1989 AND REFERENCED AS WF-89-122.
- BOARD OF APPEALS CASE # 88-406 SPECIAL EXCEPTION FOR CONSTRUCTION OF 167 FOOT COMMUNICATIONS TOWER AND EQUIPMENT BUILDING WAS GRANTED SUBJECT TO INSTALLATION OF FLASHING LIGHT, PAINTING UPPER PLATFORM, REMOVAL WITHIN 90 DAYS OF OBSOLESCENCE AND MAINTENANCE IN ACCORDANCE WITH TESTIMONY.

LOT NO.	SIZE	COMMENT
28	24' CMP	
29	18' CMP	
37	24' CMP	
60 & 61	30' CMP	COMMON ACCESS DRIVEWAY

ALL DRIVEWAY CULVERTS TO BE INSTALLED AT PLOT PLAN STAGE. PROFILES FOR CULVERTS TO BE PROVIDED AT PLOT PLAN STAGE. TYPICAL PROFILE FOR CULVERTS IS SHOWN ON SHEET 15.



PLAN  
SCALE: 1" = 400'



VICINITY MAP  
SCALE: 1" = 2000'

### BENCHMARKS

BM #1 STATION #2738003 ELEV. 415.062  
N 507005.048 E 822147.730  
3/4" REINFORCED 0.5' BELOW SURFACE  
LOCATED ON THE NORTH EDGE OF  
ROUTE 108 APPROXIMATELY 0.4  
MILES SOUTH OF THE MIDDLE  
PATUXENT RIVER.

BM #2 STATION #2737001 ELEV. 448.408  
N 506189.520 E 820993.367  
CONCRETE MONUMENT, 0.75' BELOW  
SURFACE ON THE NORTH SIDE OF  
ROUTE 108 AT THE INTERSECTION  
OF TROTTER RD & ROUTE 108.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Thomas J. McLaughlin* 2/14/90  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Donald J. Spang* 2/22/90  
CHIEF, LAND DEVELOPMENT DIVISION  
*Frankville W. Wallace* 2/7/90  
CHIEF, BUREAU OF HIGHWAYS  
*William R. Day* 2-23-90  
CHIEF, BUREAU OF ENGINEERING

OWNER/DEVELOPER  
CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
c/o RANDALL CONSTRUCTION CO. INC.  
5501 TWIN KNOLLS ROAD SUITE 102  
COLUMBIA, MARYLAND 21045

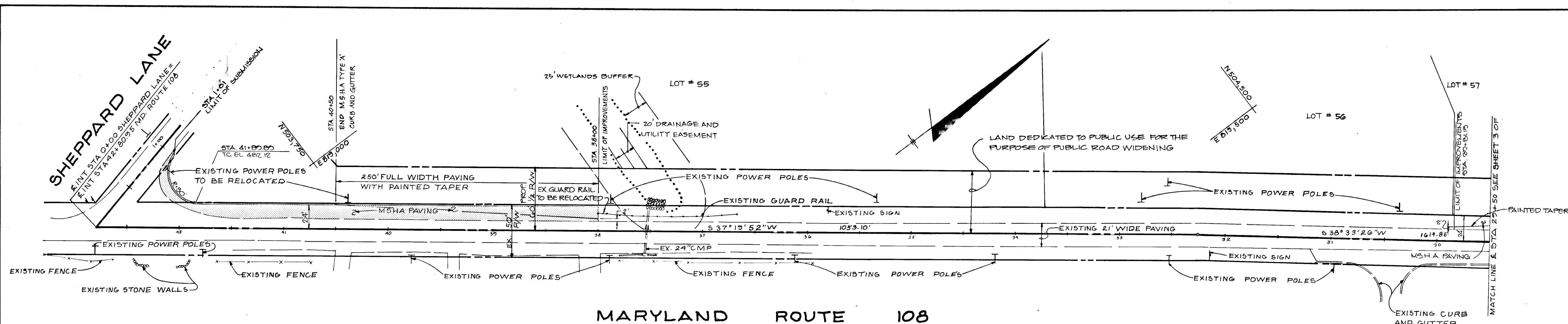
PROJECT: CLEARVIEW ESTATES  
SECTION 2

AREA: TAX MAP 28 & 35 ZONED R. PARCEL 35 & 40  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: TITLE SHEET

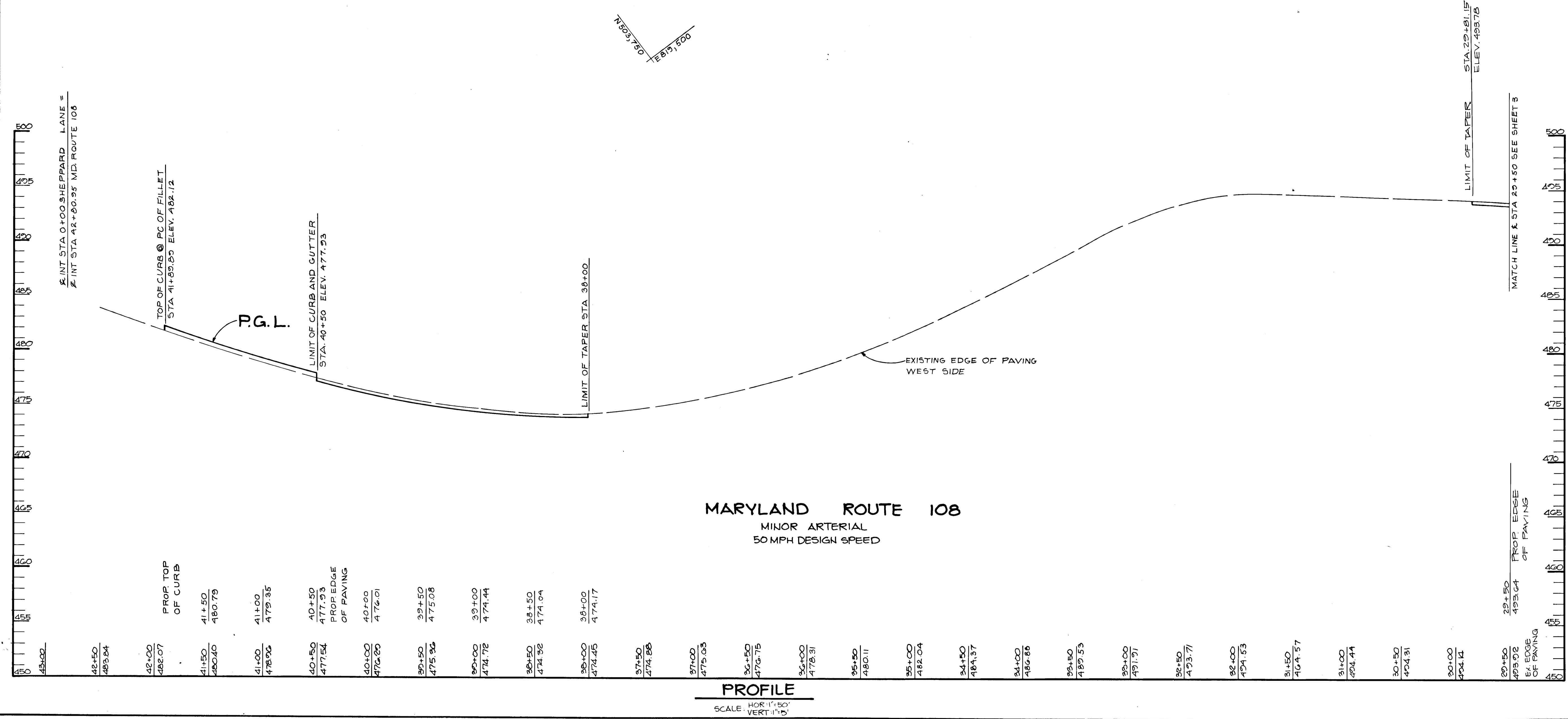
RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
3105 North Ridge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

DATE: 12-5-89  
DESIGNED BY: DAM  
DRAWN BY: BLS  
PROJECT NO: 42603  
DATE: DECEMBER 1989  
SCALE: AS SHOWN  
DRAWING NO. 1 OF 16



MARYLAND ROUTE 108

PLAN  
SCALE: 1" = 50'

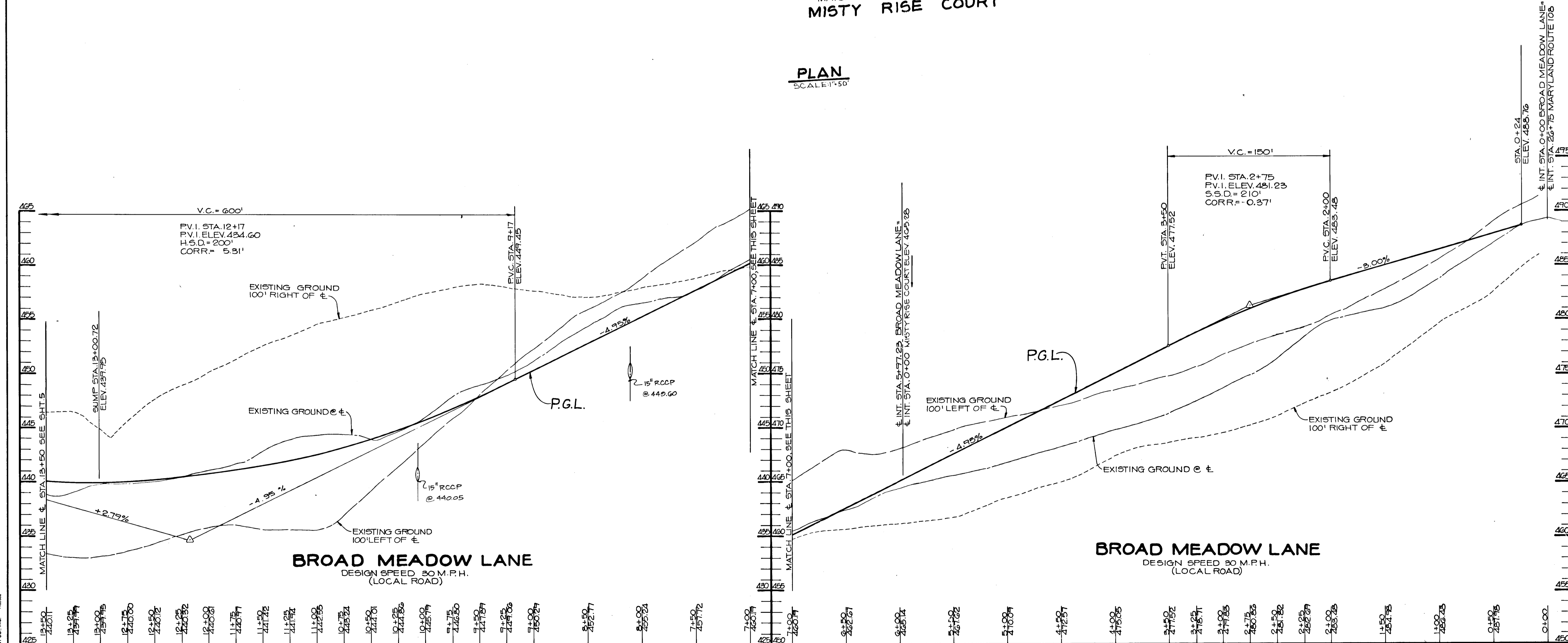
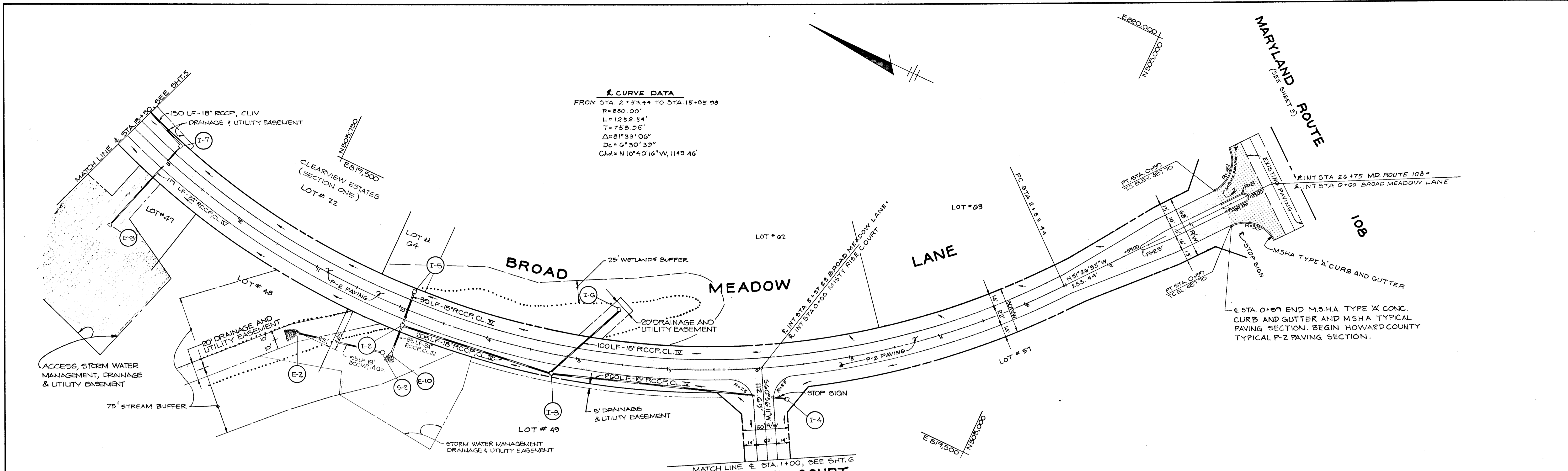


MARYLAND ROUTE 108  
MINOR ARTERIAL  
50 MPH DESIGN SPEED

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>Mark J. Taylor</i> 4/3/90 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>Ronald J. Mason</i> 2/22/90 CHIEF, LAND DEVELOPMENT DIVISION	
<i>Brannan W. Wetland</i> 2/7/90 CHIEF, BUREAU OF HIGHWAYS	
<i>William J. Ray</i> 2-23-90 CHIEF, BUREAU OF ENGINEERING	
DATE	NO. REVISION
OWNER / DEVELOPER CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP % RANDALL CONSTRUCTION CO. INC. 5501 TWIN KNOLLS ROAD SUITE 102 COLUMBIA, MARYLAND 21045	
PROJECT <b>CLEARVIEW ESTATES</b> SECTION 2	
AREA TAX MAP NO. 20485 ZONED R PARCEL 30*40 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE MARYLAND ROUTE 108 FROM STA. 29+50 TO STA. 43+00	
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 3105 North Ridge Road Ellicott City, Maryland 21043 301-461-2690 FAX: 301-750-3176	
DATE: 12-5-89	5-BG-95 P-28-75 WP-89-122
DESIGNED BY: DAM	DRAWN BY: EBJ
PROJECT NO: 49608	DATE: DECEMBER 1989
SCALE: AS SHOWN	DRAWING NO. 2 OF 16





APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*David J. Langley* 2/19/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul W. Ryan* 2/22/90  
 CHIEF, LAND DEVELOPMENT DIVISION

*Stanley W. Walsand* 2/7/90  
 CHIEF, BUREAU OF HIGHWAYS

*William E. Ray* 2-23-90  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

OWNER / DEVELOPER  
 CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
 % RANDALL CONSTRUCTION CO. INC.  
 5301 TWIN KNOLLS ROAD SUITE 102  
 COLUMBIA, MARYLAND 21045

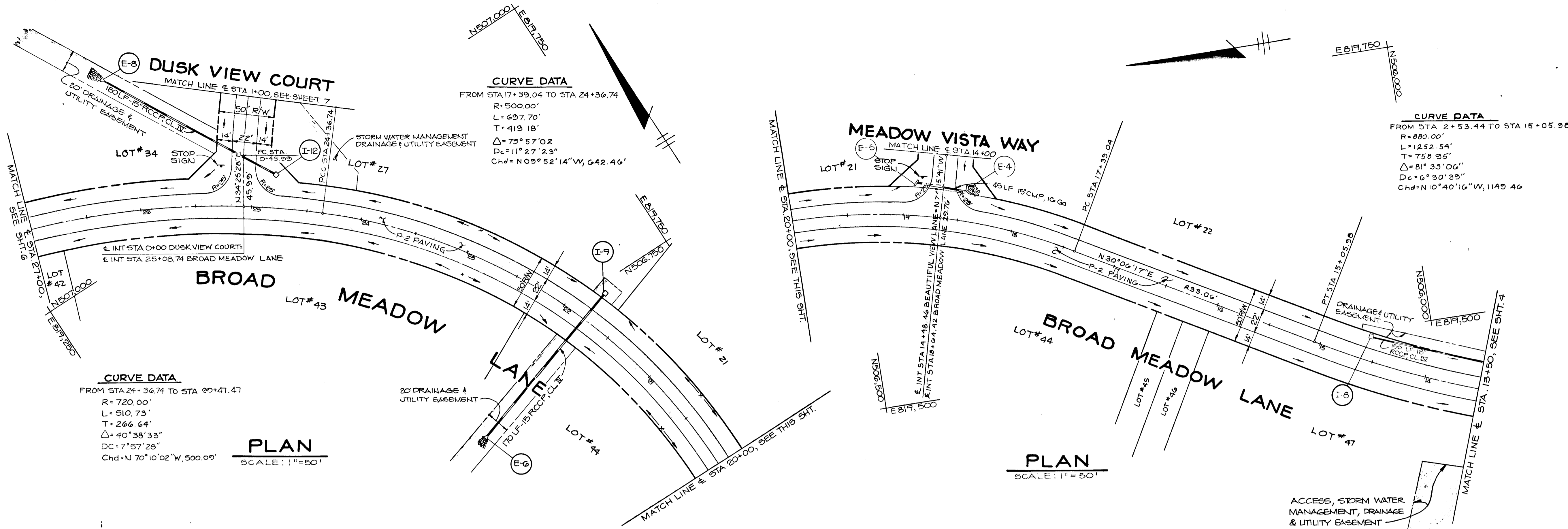
PROJECT: **CLEARVIEW ESTATES SECTION 2**

AREA TAX MAP NO. 29135 ZONED R PARCEL 39140  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **BROAD MEADOW LANE FROM STA. 0+00 TO STA. 13+50**

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 12-5-81  
 DESIGNED BY: D.A.M.  
 DRAWN BY: J.C.R.  
 PROJECT NO: 43603  
 DATE: DECEMBER 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 4 OF 10



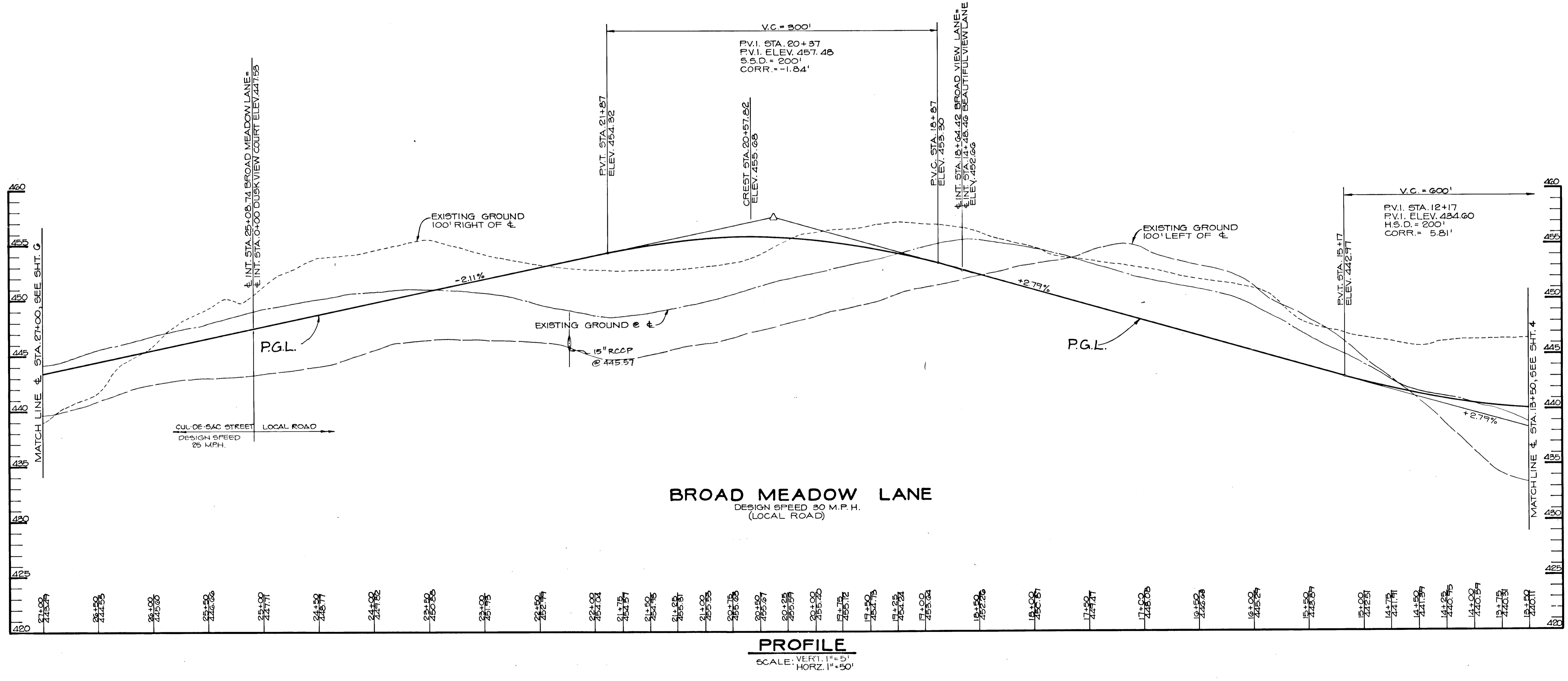
**CURVE DATA**  
 FROM STA 24+36.74 TO STA 20+47.47  
 R = 720.00'  
 L = 510.73'  
 T = 266.64'  
 Δ = 40°38'33"  
 DC = 7°57'28"  
 Chd = N 70°10'02" W, 500.00'

**PLAN**  
 SCALE: 1" = 50'

**CURVE DATA**  
 FROM STA 17+39.04 TO STA 24+36.74  
 R = 500.00'  
 L = 697.70'  
 T = 419.18'  
 Δ = 73°57'02"  
 DC = 11°27'23"  
 Chd = N 09°52'14" W, 642.46'

**CURVE DATA**  
 FROM STA 2+53.44 TO STA 15+05.96  
 R = 880.00'  
 L = 1252.54'  
 T = 750.95'  
 Δ = 81°35'06"  
 DC = 6°30'39"  
 Chd = N 10°40'16" W, 1149.46'

**PLAN**  
 SCALE: 1" = 50'



**PROFILE**  
 SCALE: VERT. 1" = 5'  
 HORZ. 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Richard S. Langley* 2/12/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Randall D. Jones* 2/22/90  
 CHIEF, LAND DEPARTMENT

*Lawrence W. Waldland* 2/7/90  
 CHIEF, BUREAU OF HIGHWAYS

*William E. Reddy* 2-22-90  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

OWNER/DEVELOPER  
 CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
 1/6 RANDALL CONSTRUCTION CO. INC.  
 5501 TWIN KNOLLS ROAD SUITE 102  
 COLUMBIA, MARYLAND 21045

PROJECT:  
**CLEARVIEW ESTATES**  
 SECTION 2

AREA TAX MAP NO. 28135 ZONED R PARCEL 39140  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

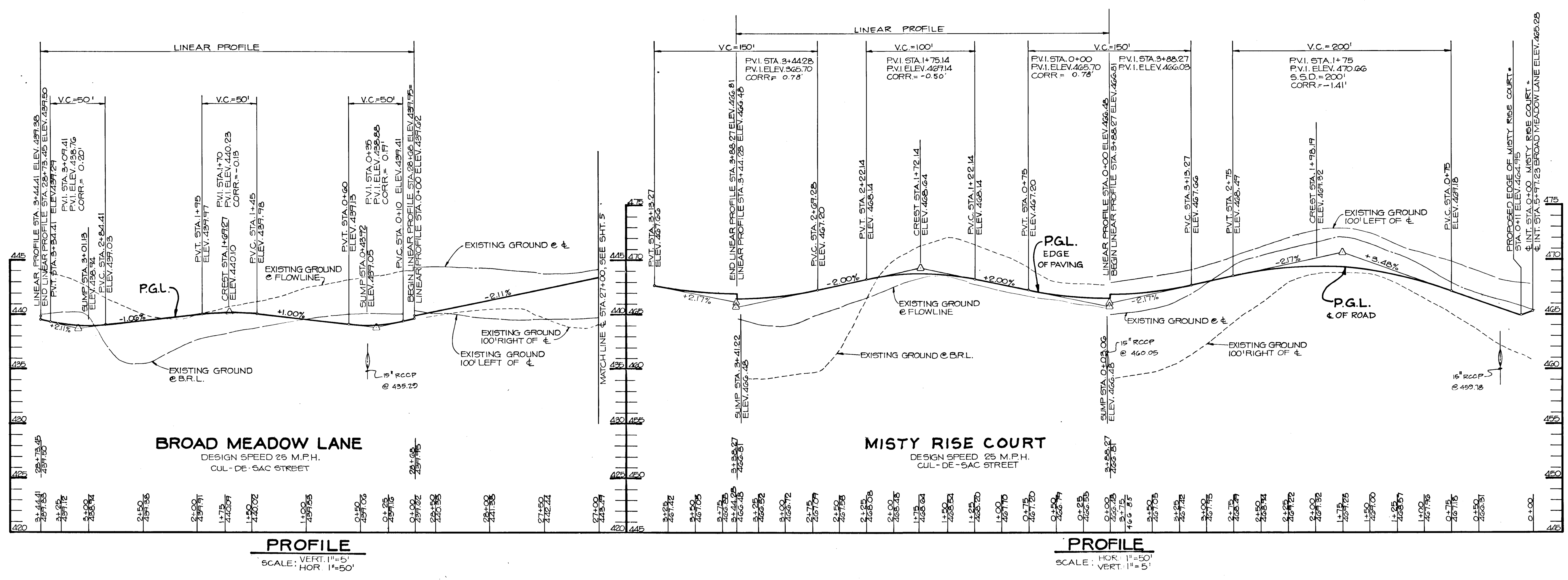
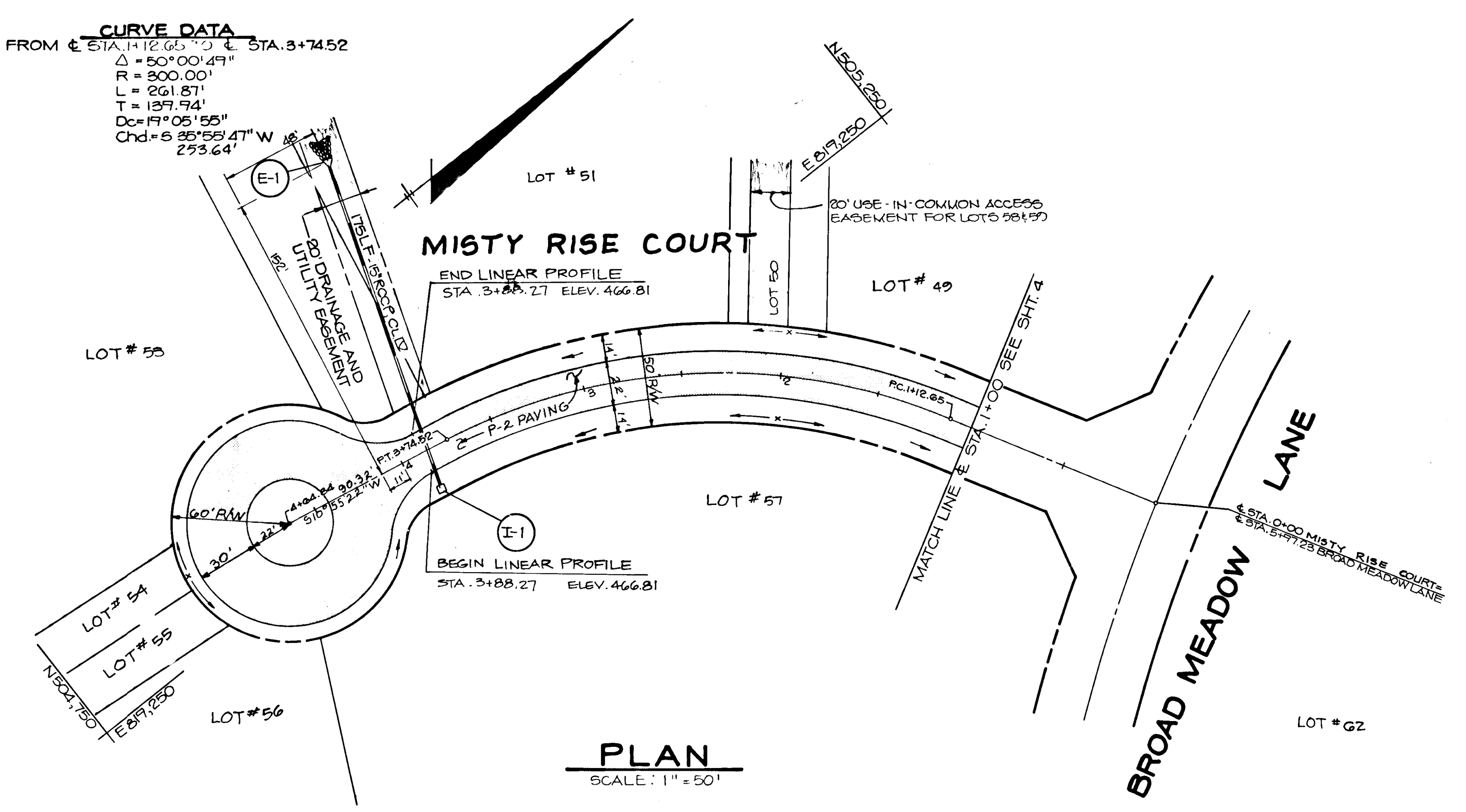
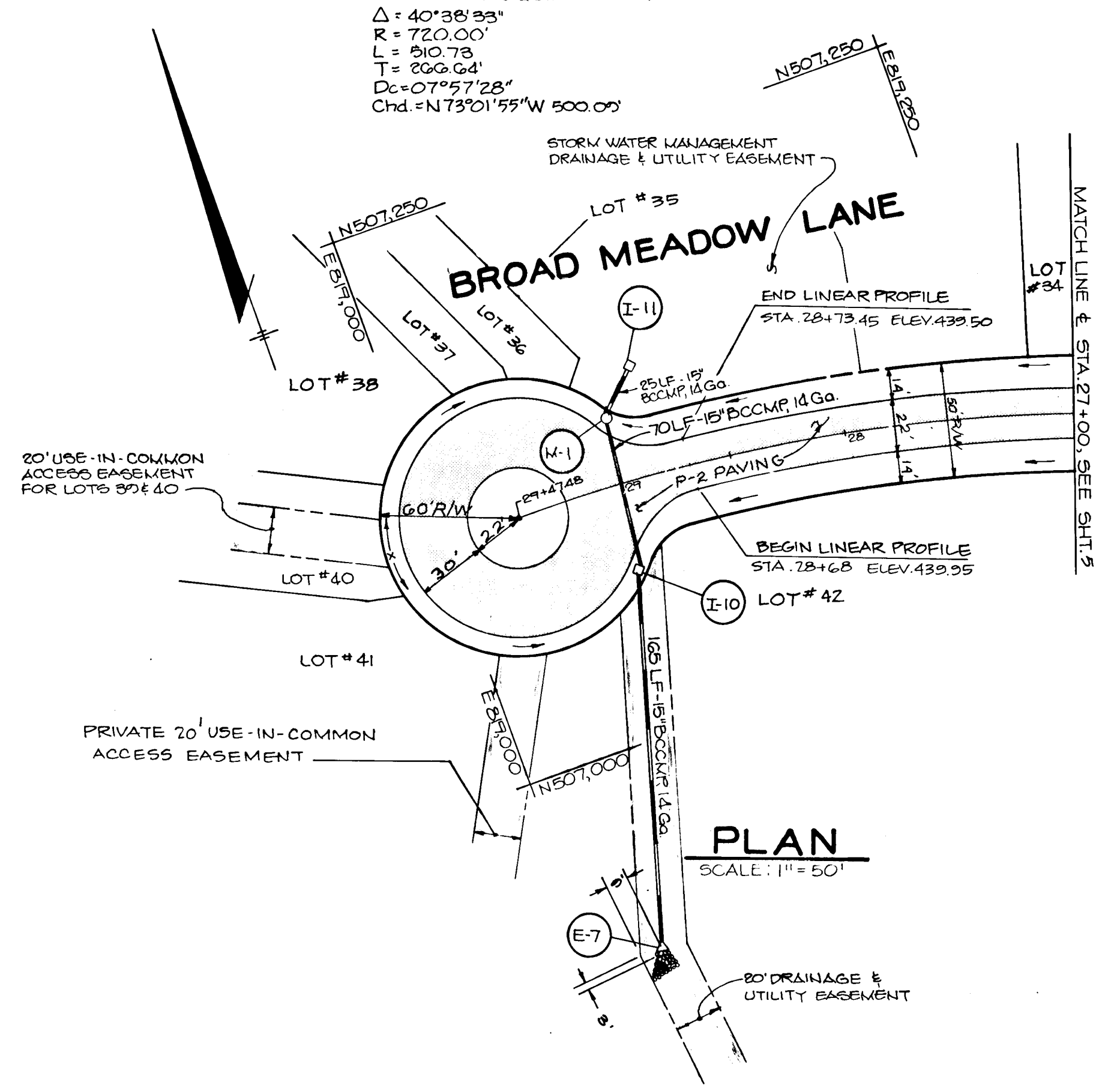
TITLE:  
**BROAD MEADOW LANE**  
 FROM STA. 13+50 TO STA. 27+00

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 1/6-87  
 S-86-85 P-88-75 WP-89-122  
 DESIGNED BY: D.A.M.  
 DRAWN BY: J.C.R.  
 PROJECT NO: 43603  
 DATE: DECEMBER 1989  
 SCALE: A6 SHOWN  
 DRAWING NO. 5 OF 16

**CURVE DATA**  
 FROM STA. 24+30.74 TO STA. 29+47.47  
 $\Delta = 40^{\circ}38'55''$   
 $R = 720.00'$   
 $L = 510.78'$   
 $T = 206.64'$   
 $D_c = 07^{\circ}57'28''$   
 $Chd. = N 73^{\circ}01'55'' W 500.00'$

**CURVE DATA**  
 FROM STA. 1+12.66 TO STA. 3+74.52  
 $\Delta = 50^{\circ}00'49''$   
 $R = 800.00'$   
 $L = 261.87'$   
 $T = 137.94'$   
 $D_c = 19^{\circ}05'55''$   
 $Chd. = S 25^{\circ}55'47'' W 273.64'$



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Paul S. Conley* 2/22/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Paul W. Sorenson* 2/22/90  
 CHIEF, LAND DEVELOPMENT DIVISION

*Francis W. Weiland* 2/7/90  
 CHIEF, BUREAU OF HIGHWAYS

*William B. Ray* 2-23-90  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

OWNER/DEVELOPER  
 CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
 % RANDALL CONSTRUCTION CO. INC.  
 5501 TWIN KNOLLS ROAD SUITE 102  
 COLUMBIA, MARYLAND 21045

PROJECT  
**CLEARVIEW ESTATES**  
 SECTION 2

AREA TAX MAP NO. 23135 ZONED R PARCEL 39140  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**BROAD MEADOW LANE FROM STA. 27+00 TO STA. 29+47.48 AND MISTY RISE COURT**

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 12-2-89

5-86-95 F.B.-75 WR-80-122

DESIGNED BY: D.A.M.

DRAWN BY: J.C.R.

PROJECT NO: 43603

DATE: DECEMBER 1989

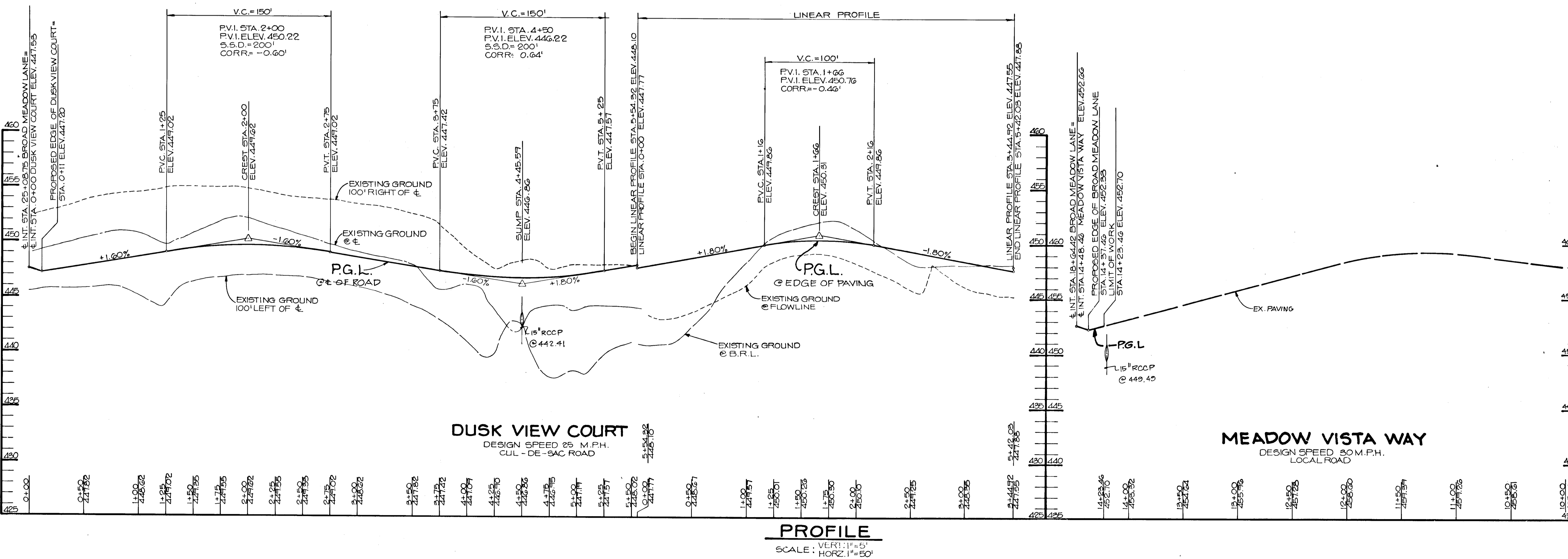
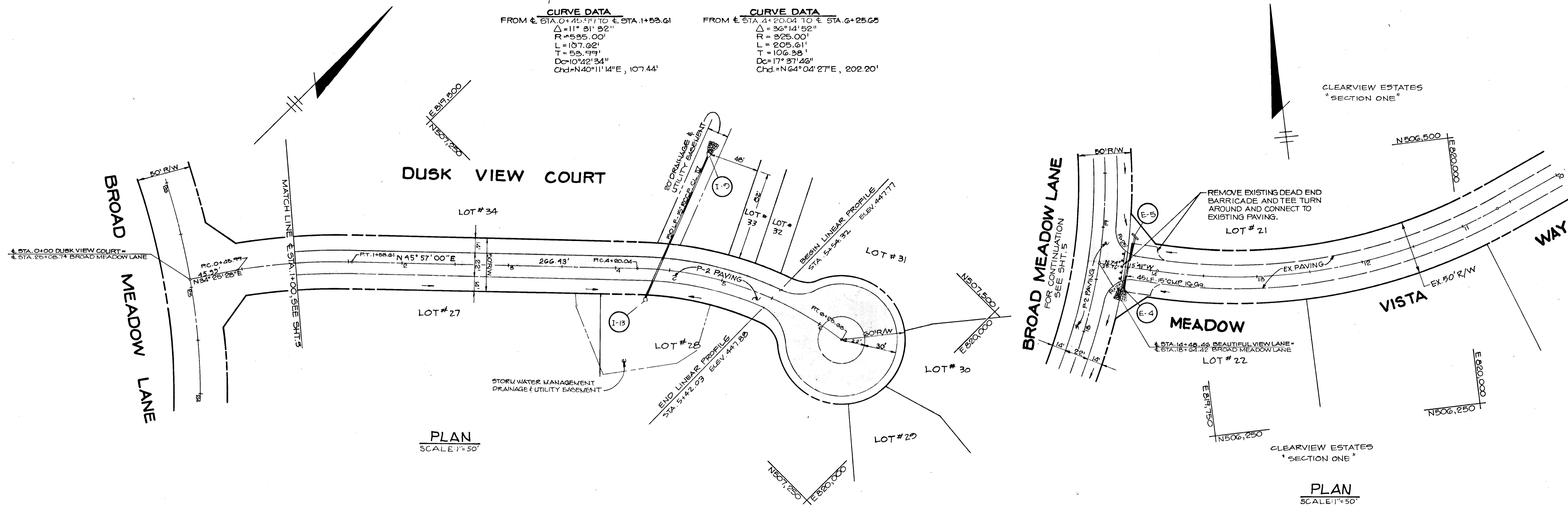
SCALE: AS SHOWN

DRAWING NO. 6 OF 16

ARTHUR E. MUEGGE #8701

**CURVE DATA**  
 FROM E. STA. 0+45.17 TO E. STA. 1+53.61  
 $\Delta = 11^{\circ} 31' 32''$   
 $R = 535.00'$   
 $L = 107.62'$   
 $T = 53.97'$   
 $Dc = 10^{\circ} 42' 34''$   
 $Cnd = N40^{\circ} 11' 14'' E, 107.44'$

**CURVE DATA**  
 FROM E. STA. 4+20.04 TO E. STA. 6+25.05  
 $\Delta = 36^{\circ} 14' 52''$   
 $R = 205.00'$   
 $L = 205.61'$   
 $T = 106.38'$   
 $Dc = 17^{\circ} 37' 46''$   
 $Cnd = N64^{\circ} 04' 27'' E, 202.20'$



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
*Howard County* 2/22/90  
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 CHIEF, LAND DEVELOPMENT DIVISION  
*Paul W. Wilson* 2/22/90  
 DATE

CHIEF, BUREAU OF HIGHWAYS  
*William W. Weiland* 2/7/90  
 DATE

CHIEF, BUREAU OF ENGINEERING  
*William W. Weiland* 2-23-90  
 DATE

DATE	NO.	REVISION

OWNER/DEVELOPER  
 CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
 1/3 RANDALL CONSTRUCTION CO. INC.  
 5501 TWIN KNOLLS ROAD SUITE 102  
 COLUMBIA, MARYLAND 21045

PROJECT  
**CLEARVIEW ESTATES**  
 SECTION 2

AREA TAX MAP NO. 29135 ZONED R PARCEL 39140  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**DUSK VIEW COURT AND MEADOW VISTA WAY**

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

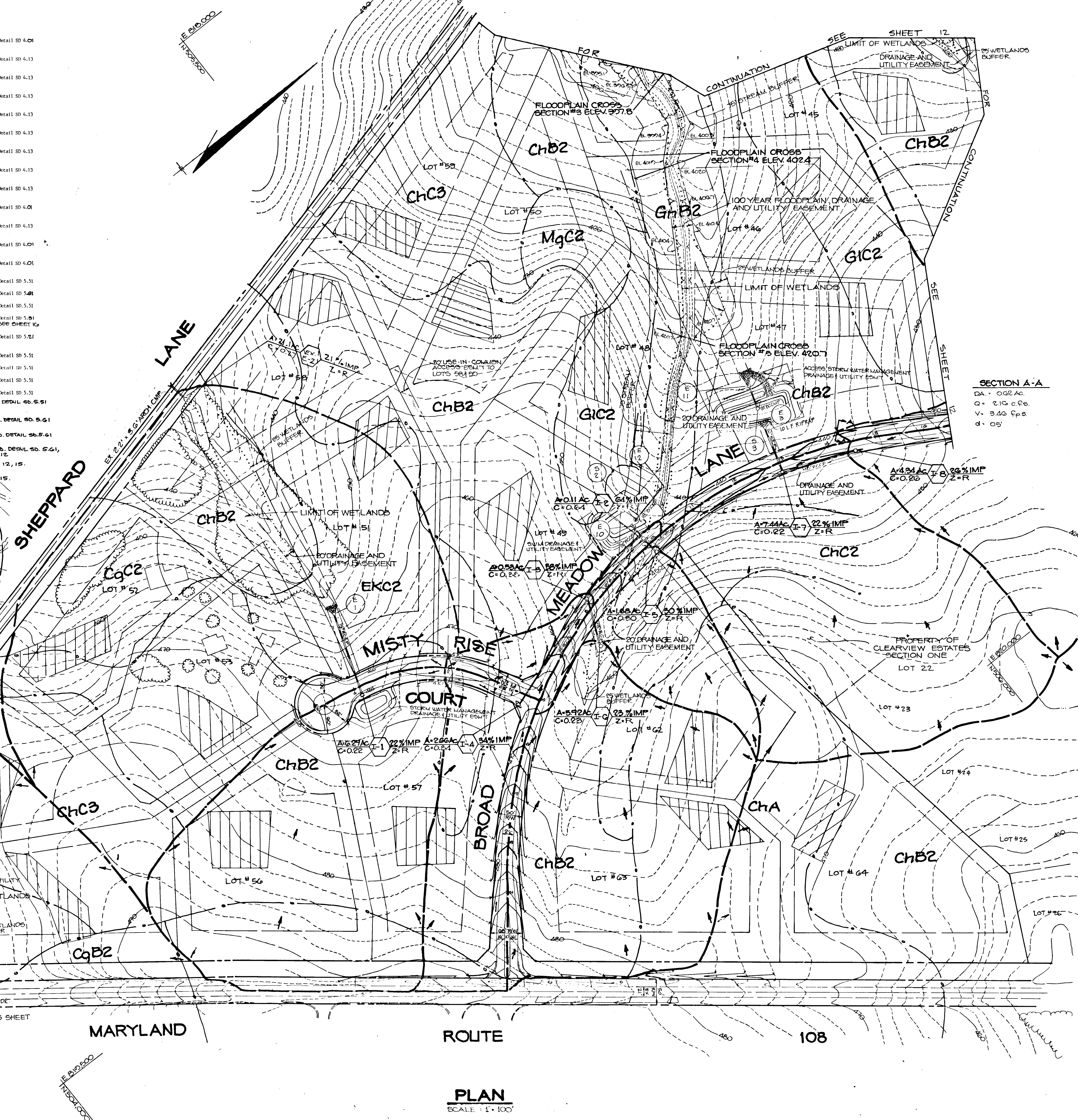
12-5-89  
 DATE

5-86-95 P-88-75 WP-89-122

DESIGNED BY: D.A.M.  
 DRAWN BY: J.C.R.  
 PROJECT NO: 43603  
 DATE: DECEMBER 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 7 OF 16

ARTHUR E. MUEGGE #101

No.	Type	Location	Top Elev.	Inv. In.	Inv. Out	Remarks
1-1	A-5 MODIFIED	21' LT. C/L STA. 3+88.27 Misty Rise Court	465.04	464.00	461.80	No. Co. Std. Detail SD 4.01 SHEET 1G
1-4	K' Inlet w/grate	25' LT. C/L STA. 0+35 Misty Rise Court	466.06	-	461.00	No. Co. Std. Detail SD 4.13
1-5	K' Inlet w/grate	21' LT. C/L STA. 8+25 Broad Meadow Lane	452.23	449.00 (M)	448.00	No. Co. Std. Detail SD 4.13
1-6	K' Inlet w/grate	21' LT. C/L STA. 0+05 Broad Meadow Lane	463.20	439.00 (S)	439.25 (SE)	No. Co. Std. Detail SD 4.13
1-7	K' Inlet w/grate	60' LT. C/L STA. 7+40 Broad Meadow Lane	455.25	-	451.50	No. Co. Std. Detail SD 4.13
1-8	K' Inlet w/grate	21' LT. C/L STA. 9+00 Broad Meadow Lane	444.25	-	441.00	No. Co. Std. Detail SD 4.13
1-9	K' Inlet w/grate	21' LT. C/L STA. 14+36 Broad Meadow Lane	439.74	-	436.00	No. Co. Std. Detail SD 4.13
1-10	K' Inlet w/grate	21' LT. C/L STA. 13+00 Broad Meadow Lane	438.18	434.60	434.10	No. Co. Std. Detail SD 4.13
1-11	K' Inlet w/grate	30' RT. C/L STA. 21+75 Broad Meadow Lane	449.55	-	446.00	No. Co. Std. Detail SD 4.13
1-11	A-5 MODIFIED	6' LT. LP STA. 3+01.13 Broad Meadow Lane	450.0	445.50	435.50	No. Co. Std. Detail SD 4.01 SHEET 1G
1-10	K' Inlet w/grate	6' LT. LP STA. 0+43.92 Broad Meadow Lane	438.94	435.00	436.80	No. Co. Std. Detail SD 4.13
1-12	A-5 MODIFIED	30' RT. C/L STA. 0+27 Dusk View Court	447.0	444.0	442.50	No. Co. Std. Detail SD 4.01 SHEET 1G
1-13	A-5 MODIFIED	30' RT. C/L STA. 4+30 Dusk View Court	440.0	441.2	440.50	No. Co. Std. Detail SD 4.01 SHEET 1G
E-1	15' RCP end section	See Plan, Sht. G	-	-	432.20	No. Co. Std. Detail SD 5.01
E-2	18' RCP end section	See Plan, Sht. G	-	-	433.70	No. Co. Std. Detail SD 5.01
E-3	24' RCP end section	See Plan, Sht. G	-	-	428.0	No. Co. Std. Detail SD 5.51
E-4	Type 'C' manhole	30' RT. C/L STA. 14+19 Beautiful View Lane	-	-	440.7	No. Co. Std. Detail SD 5.91 MODIFIED SEE SHEET 1G
E-4	Type 'E' manhole	20' LT. C/L STA. 14+23 Beautiful View Lane	-	-	440.25	No. Co. Std. Detail SD 5.51
E-6	15' RCP end section	140' LT. C/L STA. 21+75 BROAD MEADOW LANE	-	-	442.50	No. Co. Std. Detail SD 5.51
E-7	15' RCP end section	See Plan, Sht. G	-	-	438.00	No. Co. Std. Detail SD 5.51
E-8	15' RCP end section	150' LT. C/L STA. 0+75 DUSK VIEW COURT	-	-	441.60	No. Co. Std. Detail SD 5.51
E-9	15' RCP end section	See Plan, Sht. G	-	-	437.00	No. Co. Std. Detail SD 5.51
E-10	24' RCP end section	54' LT. C/L STA. 0+55 BROAD MEADOW LANE	-	-	438.00	No. Co. Std. Detail SD 5.51
E-11	24' RCP end section	100' LT. C/L STA. 13+02 BROAD MEADOW LANE	-	-	428.00	No. Co. Std. Detail SD 5.51
E-12	6" CMP end section	285' LT. C/L STA. 22+12 BROAD MEADOW LANE	-	-	437.20	No. Co. Std. Detail SD 5.51
E-13	6" CMP end section	193' LT. C/L STA. 22+02	-	-	440.20	No. Co. Std. Detail SD 5.51
E-14	6" CMP end section	55' LT. C/L STA. 2+58 24' RCP RISE W/T. RACK BROAD MEADOW LANE	440.00	437.00	435.50	SEE SHT. 12, 15.
E-15	OUTLET CONTROL STRUCTURE	121' LT. C/L STA. 13+85 28" RCP RISE W/T. RACK BROAD MEADOW LANE	431.70	427.00	427.00	SEE SHT. 15.



SOIL CLASSIFICATION

C5	Clayey silt loam
cg2	Chester gravelly silt loam, 3 to 8 percent slopes, moderately eroded.
cg2c	Chester gravelly silt loam, 8 to 15 percent slopes, moderately eroded.
ChA	Chester silt loam, 0 to 3 percent slopes.
ChB2	Chester silt loam, 3 to 8 percent slopes.
ChC2	Chester silt loam, 8 to 15 percent slopes, moderately eroded.
ChC3	Chester silt loam, 8 to 15 percent slopes, severely eroded.
ChD2	Chester silt loam, 15 to 25 percent slopes.
EKA	Elioak silt loam, 8 to 15 percent slopes, moderately eroded.
EkC2	Elioak silt loam, 8 to 15 percent slopes, moderately eroded.
GIB2	Glenelg loam, 8 to 15 percent slopes, moderately eroded.
GIC2	Glenelg loam, 8 to 15 percent slopes, moderately eroded.
GID2	Glenelg loam, 15 to 25 percent slopes, moderately eroded.
GnB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded.
MgC2	Manor gravelly loam, 8 to 15 percent slopes, moderately eroded.
MI2	Manor loam, 8 to 15 percent slopes, moderately eroded.
MI2D	Manor loam, 15 to 25 percent slopes, moderately eroded.
MI2E	Manor loam, 25 to 45 percent slopes.

NOTE: TAKEN FROM HO CO SOIL SURVEY MAPS 1B & 2B

SECTION A-A  
 DA = 0.02 AC  
 CA = 2.10 C.F.S.  
 V = 3.40 F.P.S.  
 d = 0.5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*James J. Lang* 1/15/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul D. Ryan* 2/22/90  
 CHIEF, LAND DEVELOPMENT DIVISION  
 DATE

*Granville W. McKeown* 2/7/90  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE

*Robert S. Ray* 2-23-90  
 CHIEF, BUREAU OF ENGINEERING  
 DATE

DATE NO REVISION

OWNER/DEVELOPER  
 CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
 C/O RANDALL CONSTRUCTION CO. INC.  
 5501 TWIN KNOLLS ROAD SUITE 102  
 COLUMBIA, MARYLAND 21045

PROJECT: **CLEARVIEW ESTATES**  
 SECTION 2  
 AREA TAX MAP NO. 5 27435 ZONED R. PARCELS 3744J  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE:  
**DRAINAGE AREA MAP**

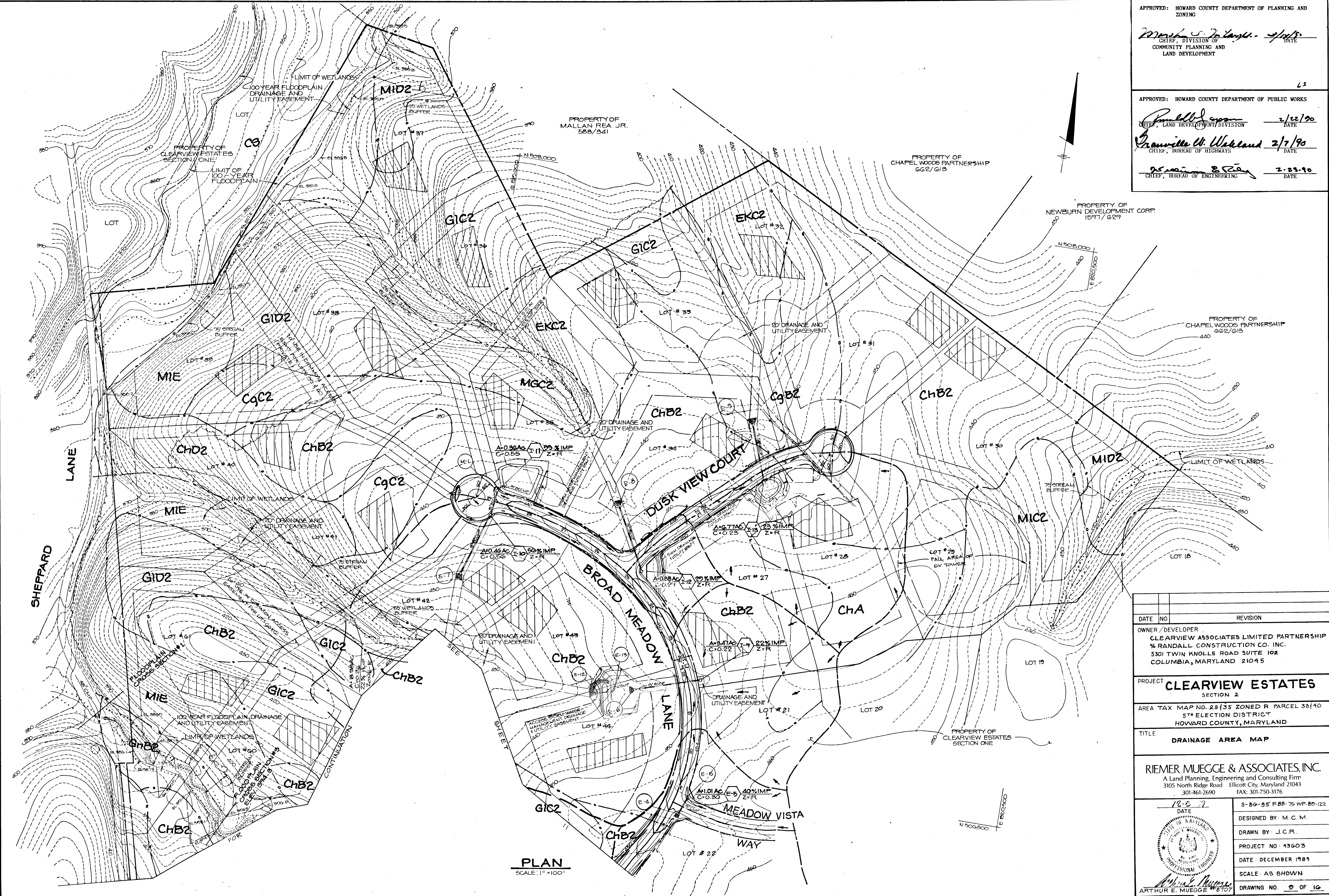
RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

12-5-89  
 DATE

DESIGNED BY: M.C.M.  
 DRAWN BY: J.C.R.  
 PROJECT NO: 43603  
 DATE: DECEMBER 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 8 OF 16

ARTHUR E. MUEGGE #6737





APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
*2/22/90* DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 CHIEF, LAND DEVELOPMENT DIVISION  
*2/22/90* DATE

*2/7/90* DATE  
 CHIEF, BUREAU OF HIGHWAYS

*2-23-90* DATE  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION
OWNER / DEVELOPER CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP % RANDALL CONSTRUCTION CO. INC. 5501 TWIN KNOLLS ROAD SUITE 102 COLUMBIA, MARYLAND 21045		
PROJECT <b>CLEARVIEW ESTATES</b> SECTION 2		
AREA TAX MAP NO. 28135 ZONED R PARCEL 39140 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE <b>DRAINAGE AREA MAP</b>		

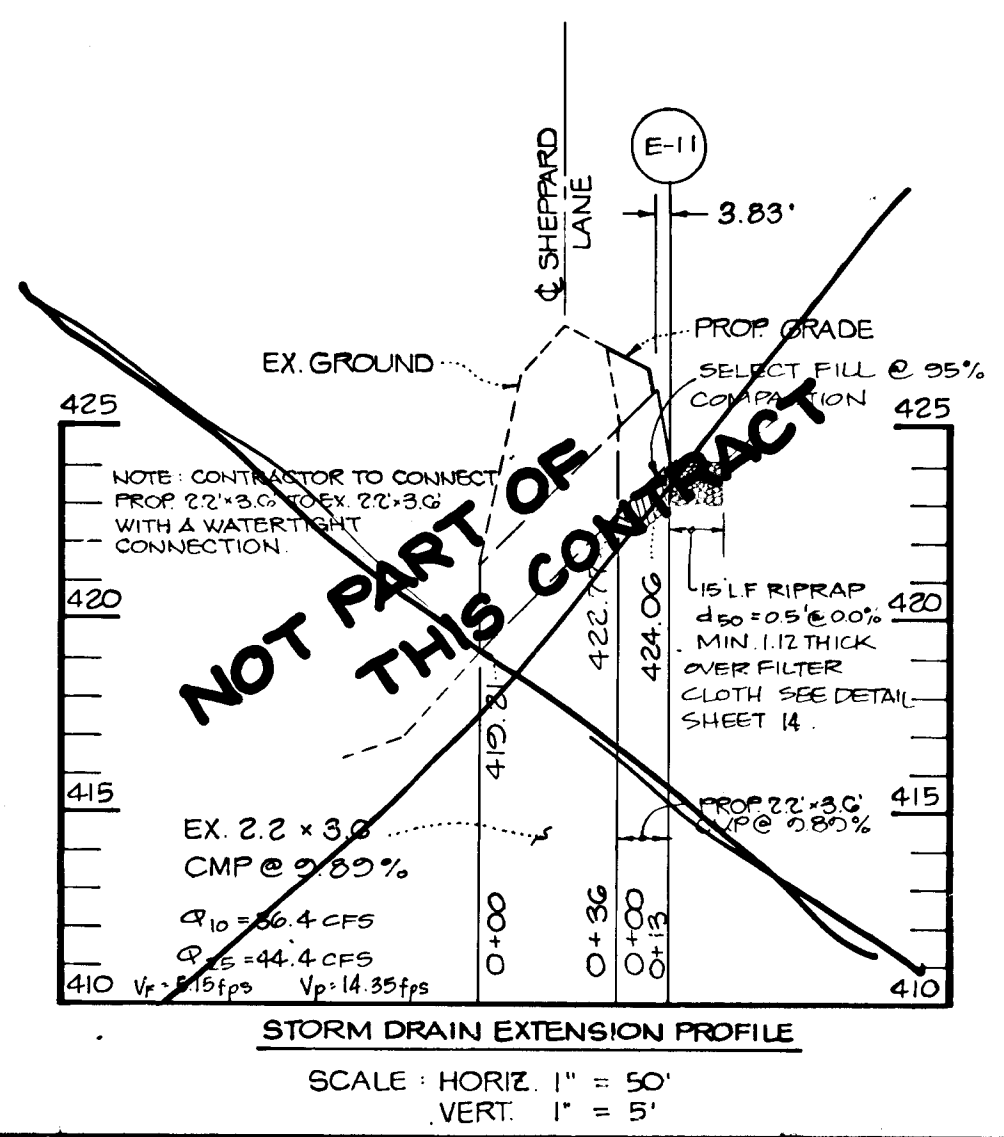
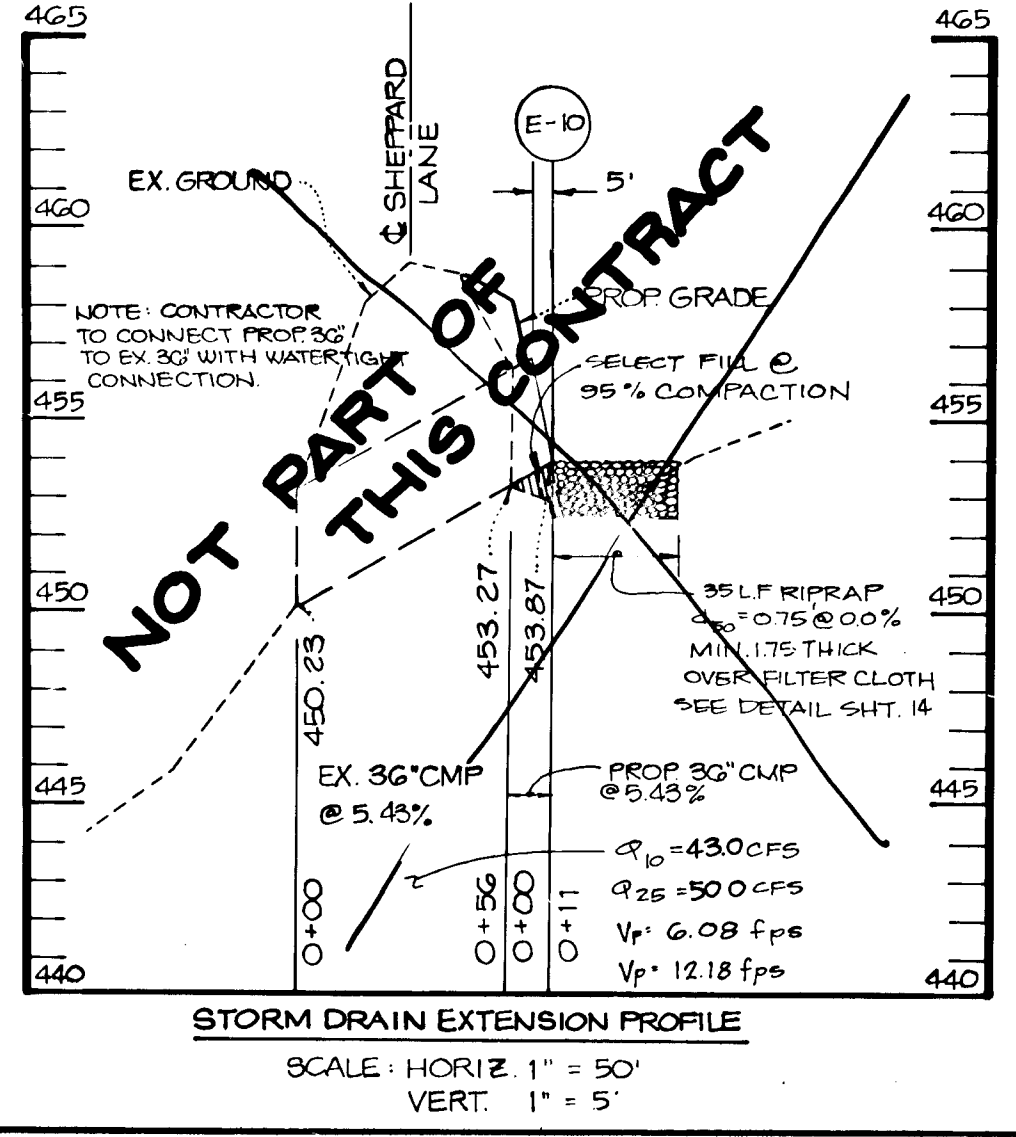
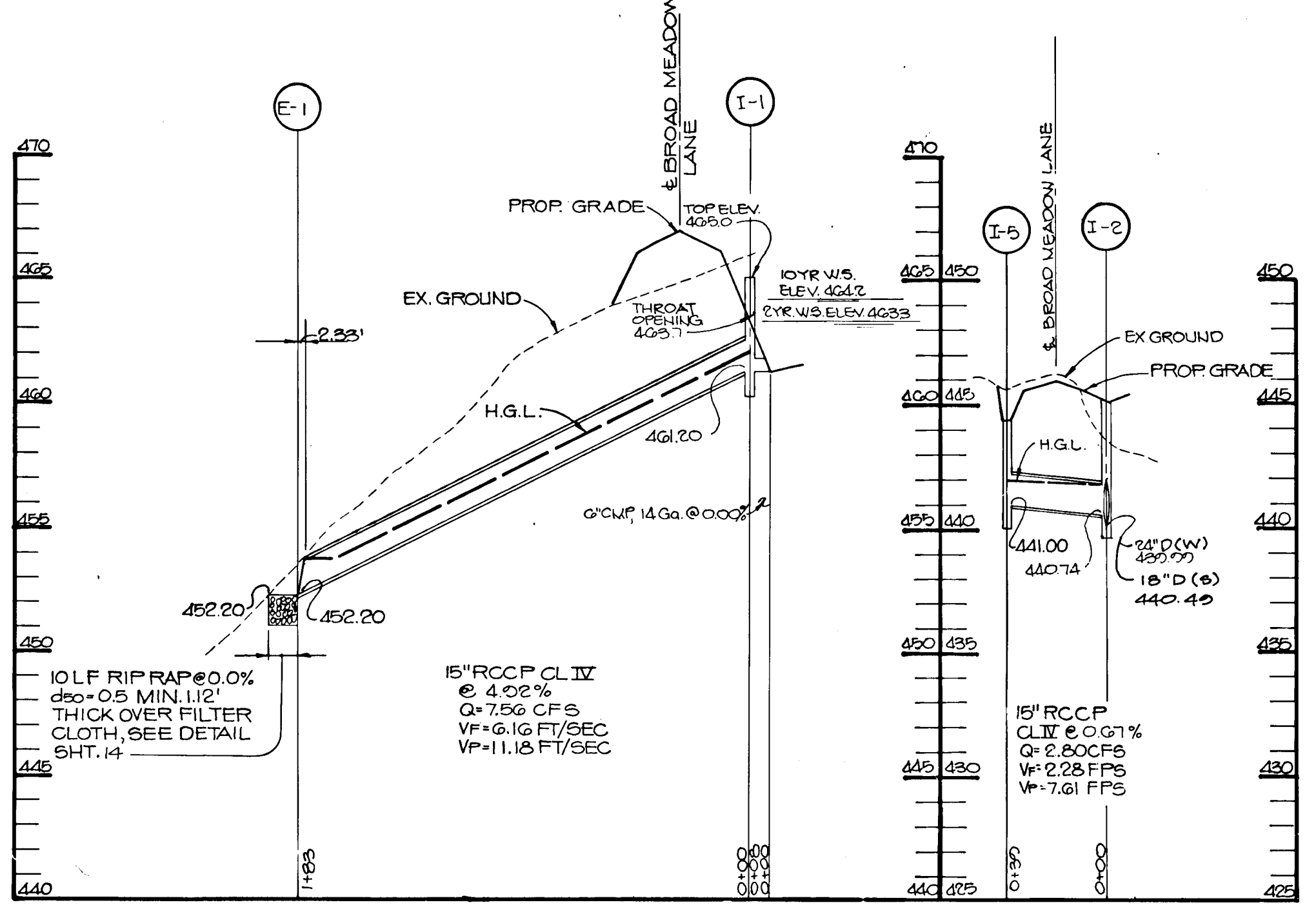
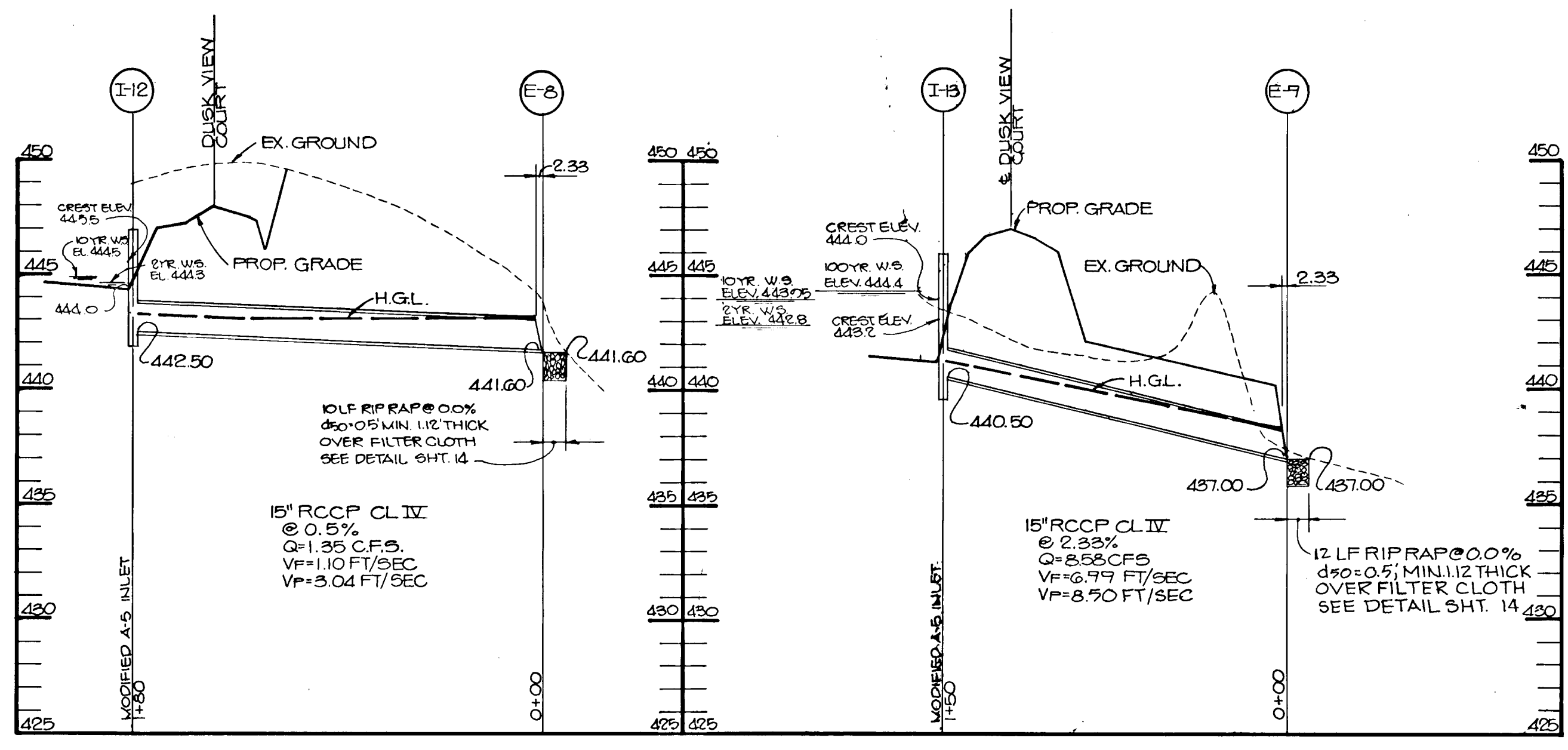
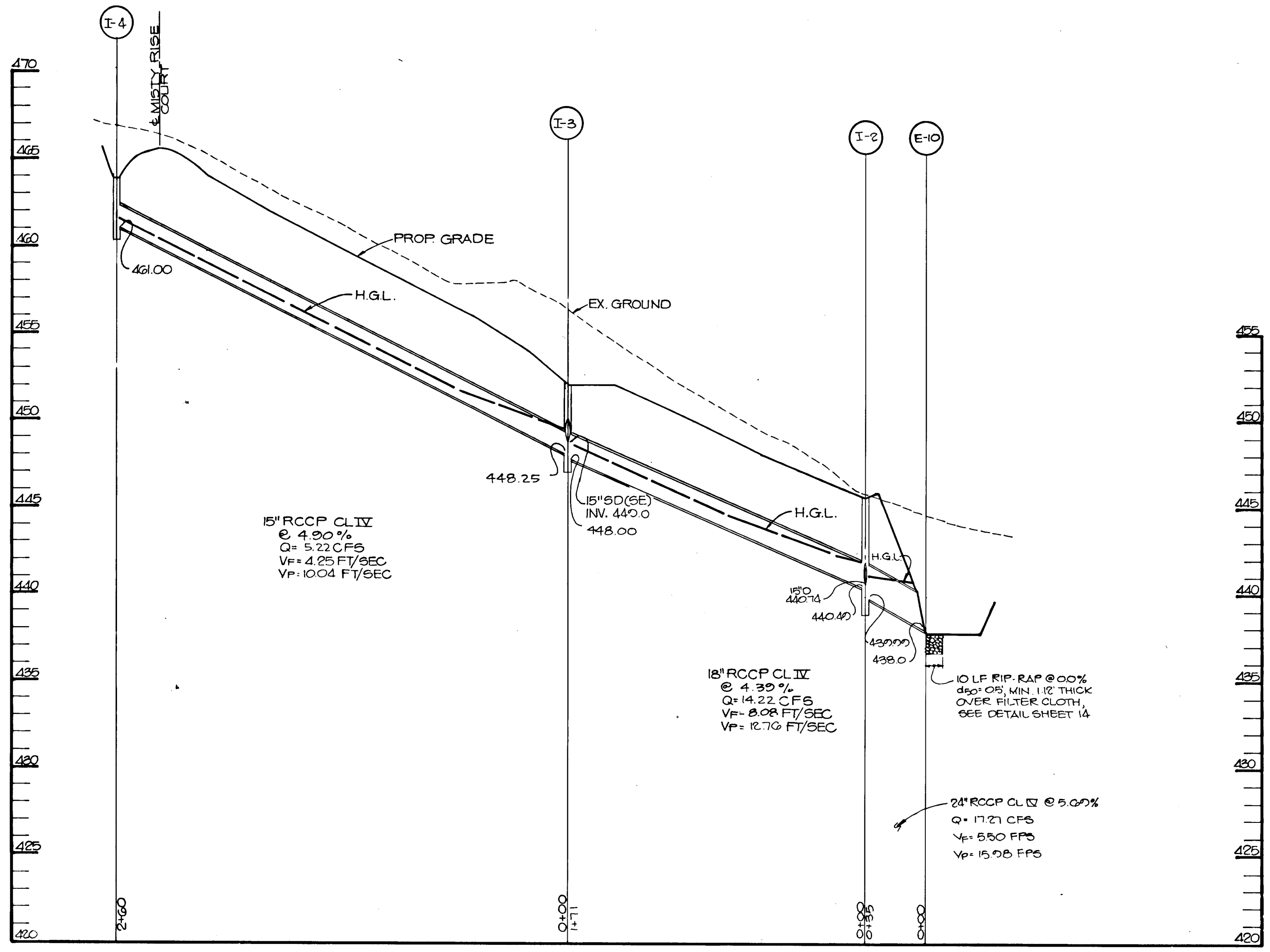
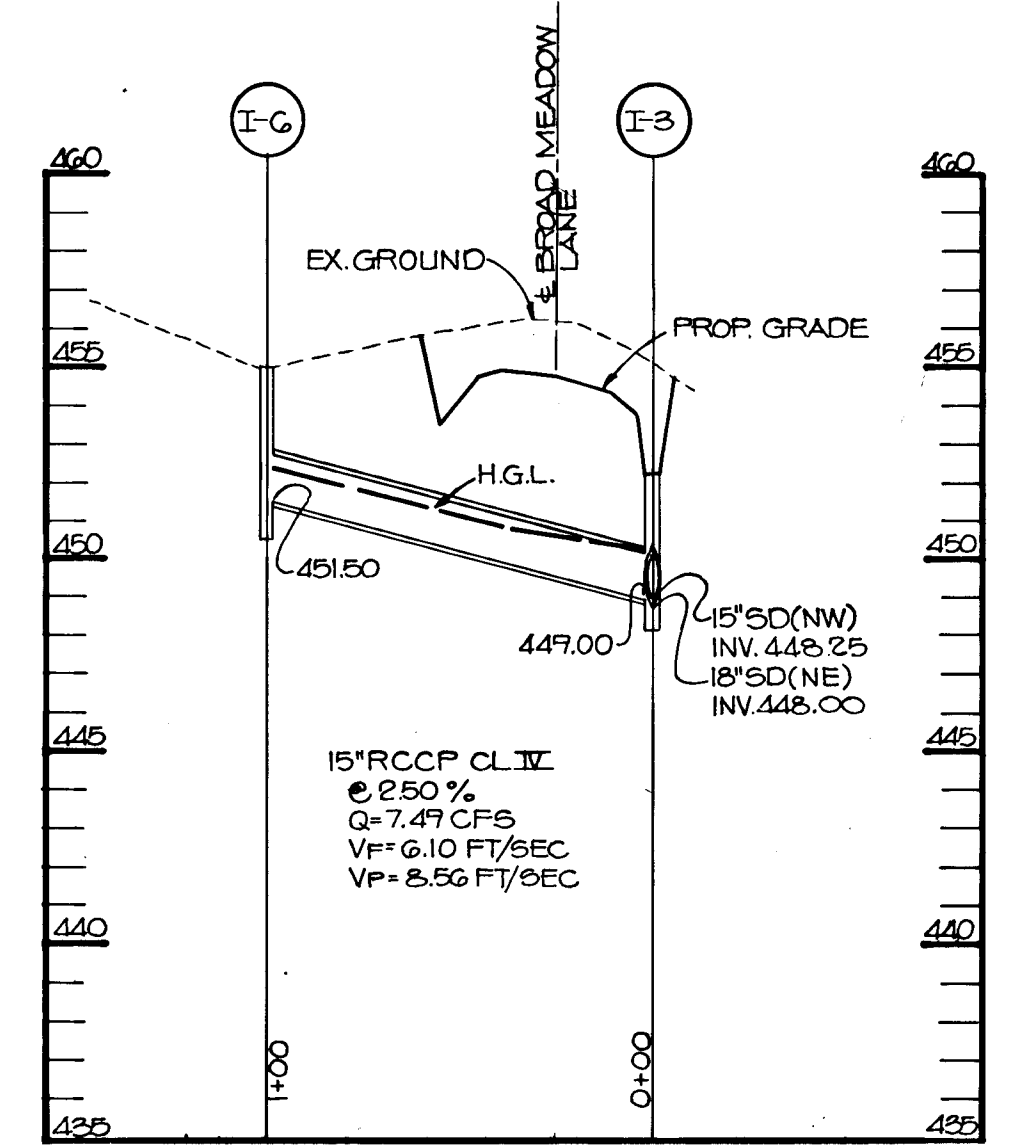
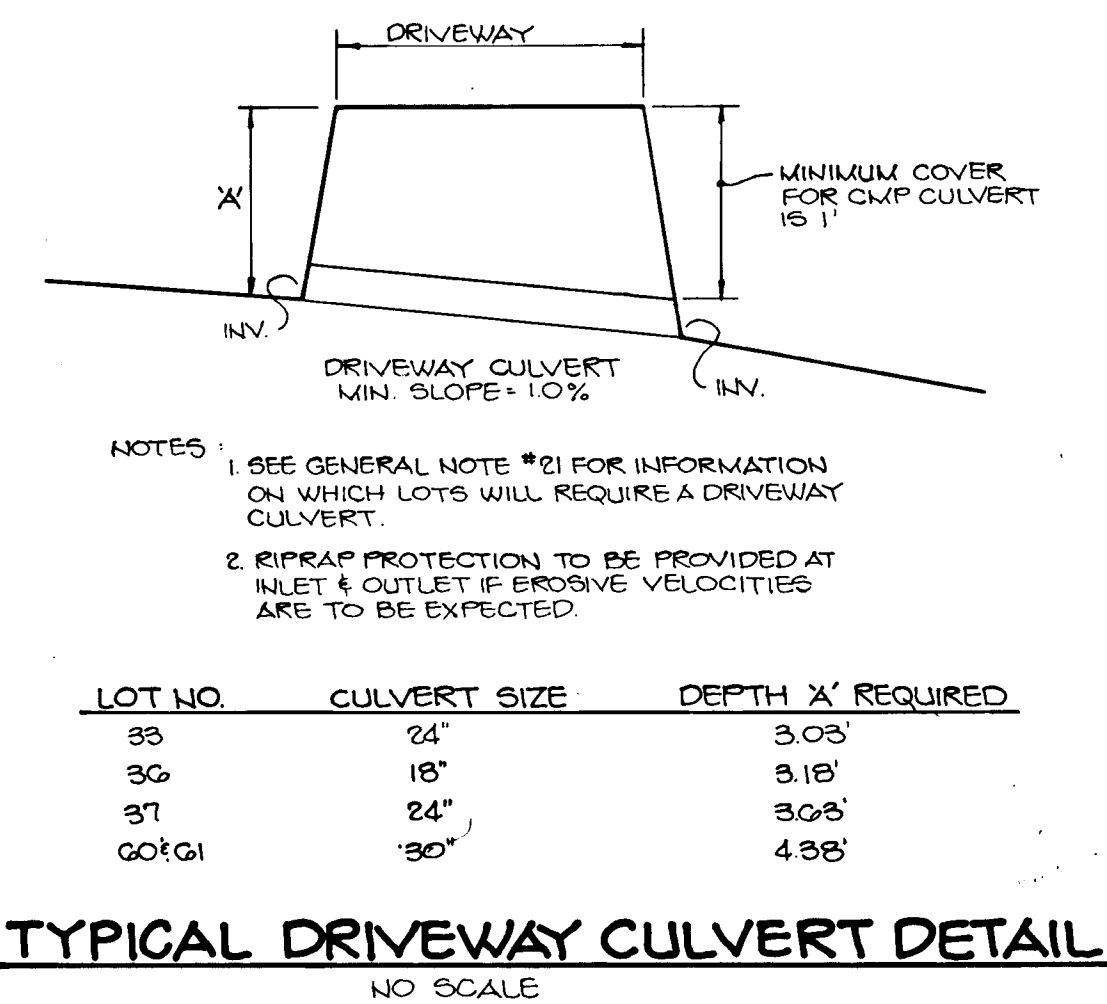
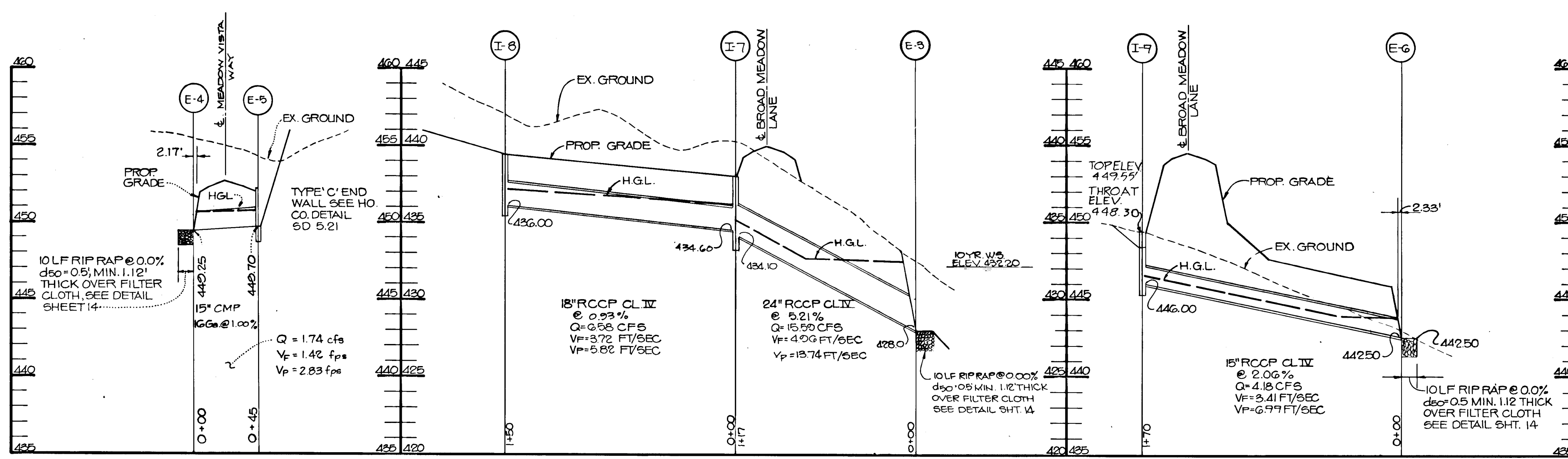
**RIEMER MUEGGE & ASSOCIATES, INC.**  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: *12-5-89*  
 S-89-95 P.88-75 WP.80-122  
 DESIGNED BY: M. C. M.  
 DRAWN BY: J. C. R.  
 PROJECT NO: 43603  
 DATE: DECEMBER 1989  
 SCALE: AS SHOWN  
 DRAWING NO. *9* OF *10*

ARTHUR E. MUEGGE #8707

PLAN  
 SCALE: 1"=100'

1363



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*David J. Taylor* 7/17/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul J. Brown* 2/22/90  
 CHIEF, LAND DEVELOPMENT DIVISION

*Franklin W. Walcott* 2/7/90  
 CHIEF, BUREAU OF HIGHWAYS

*William S. Kelly* 2-23-90  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

OWNER / DEVELOPER  
 CLEARVIEW ASSOCIATES, LIMIT PARTNERSHIP  
 76 RANDALL CONSTRUCTION CO. INC.  
 2501 TWIN KNOLLS ROAD SUITE 102  
 COLUMBIA, MARYLAND 21045

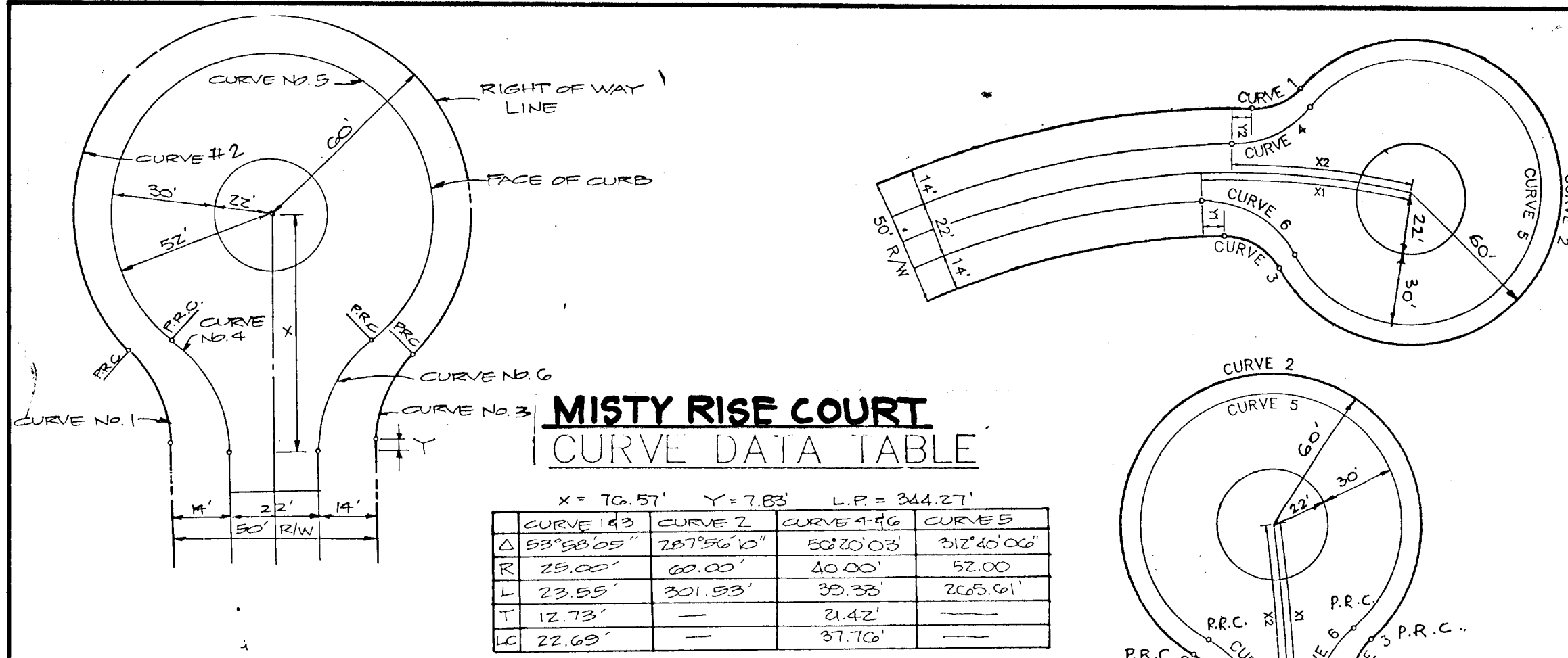
PROJECT  
**CLEARVIEW ESTATES**  
 SECTION 2  
 AREA TAX MAP NO. 29 & 35 ZONED R PARCEL 37 & 40  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**STORM DRAIN PROFILES**

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Elicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE 12-5-89  
 DESIGNED BY: M.C.M.  
 DRAWN BY: J.C.R.  
 PROJECT NO: 43603  
 DATE: DECEMBER 1989  
 SCALE: HORIZ. 1" = 50', VERT. 1" = 5'  
 DRAWING NO. 10 OF 10

1063

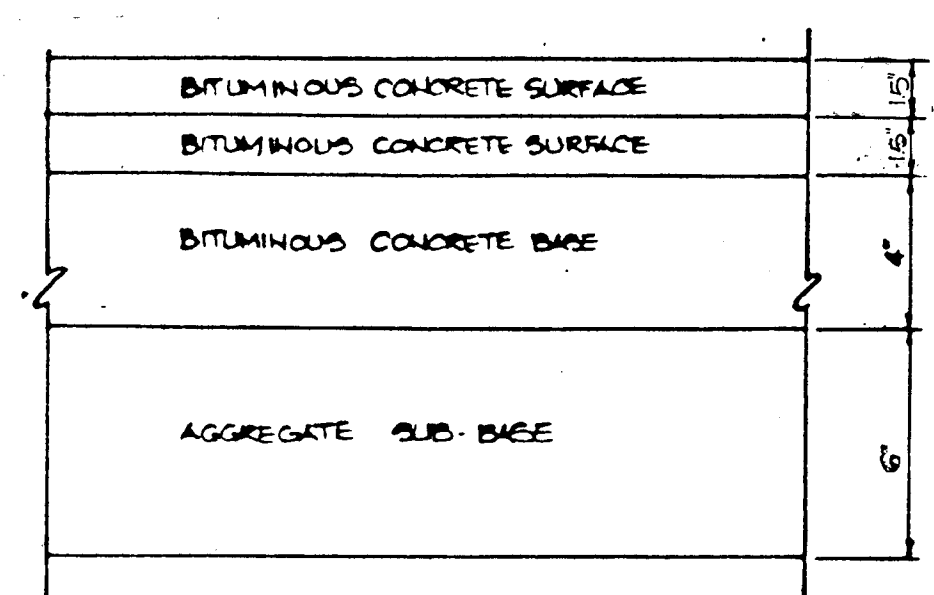


**MISTY RISE COURT  
CURVE DATA TABLE**

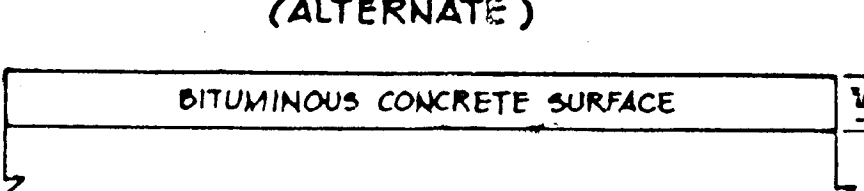
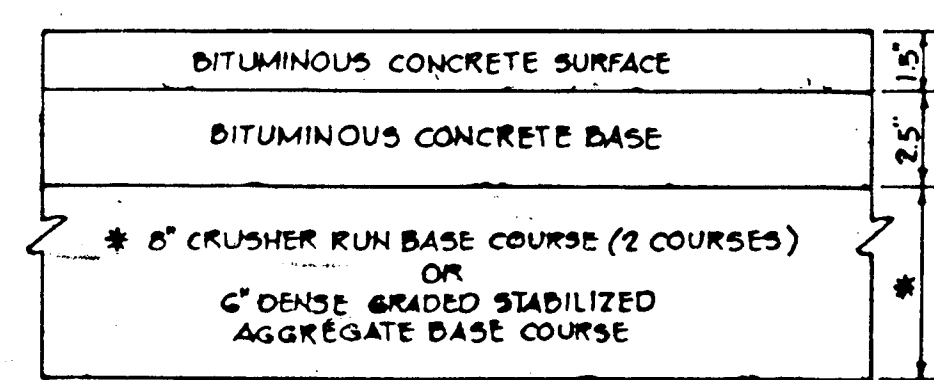
X=70.57' Y=7.85' LP=344.27'

CURVE NO.	START STA.	END STA.	LENGTH	WIDTH	THICKNESS
1	0+00	0+25	25.00'	10'	1.12'
2	0+25	0+50	25.00'	10'	1.12'
3	0+50	0+75	25.00'	10'	1.12'
4	0+75	1+00	25.00'	10'	1.12'
5	1+00	1+25	25.00'	10'	1.12'
6	1+25	1+50	25.00'	10'	1.12'

**MISTY RISE COURT  
CUL-DE-SAC DETAIL**  
NO SCALE



**M.S.H.A. PAVING SECTION**  
NO SCALE



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

**(6" PAVING, P-2)**  
NO SCALE

**DUSK VIEW COURT  
CURVE DATA TABLE**

X1=82.95' X2=71.00' Y1=8.16' Y2=7.71' LP=344.02'

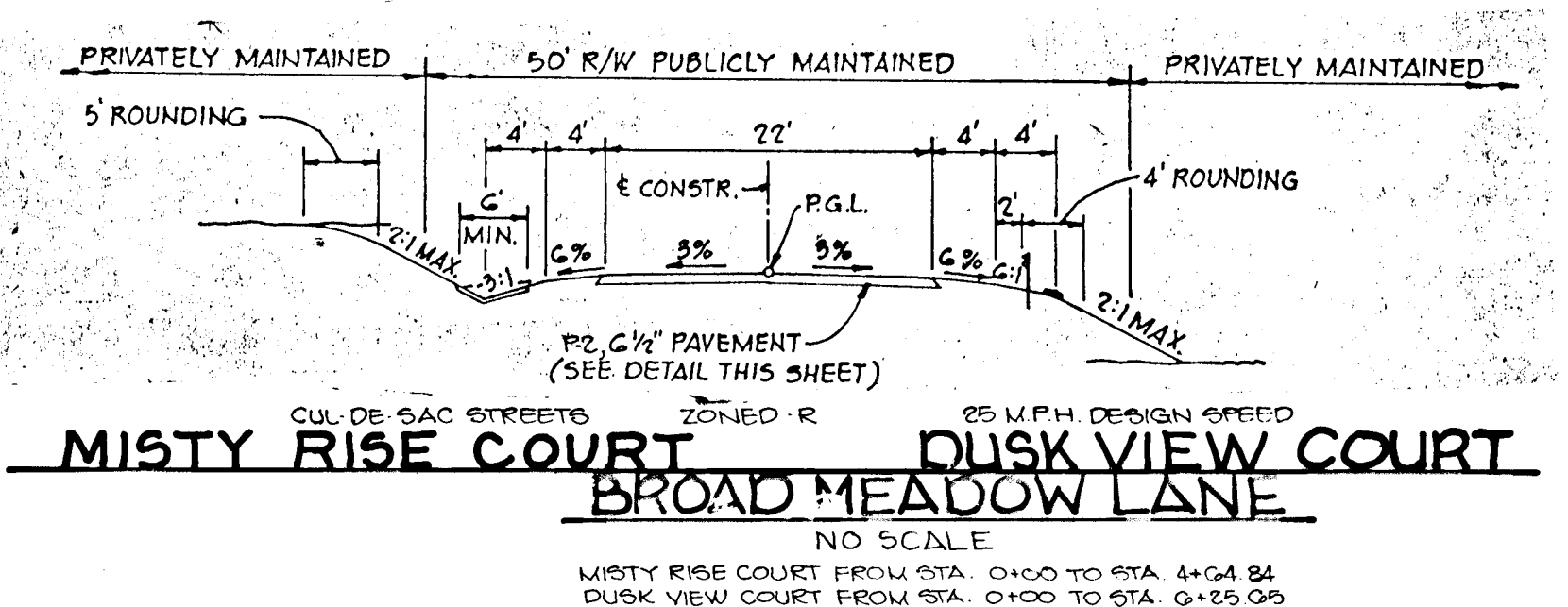
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2	0+25	0+50	25.00'	10'	1.12'
3	0+50	0+75	25.00'	10'	1.12'
4	0+75	1+00	25.00'	10'	1.12'
5	1+00	1+25	25.00'	10'	1.12'
6	1+25	1+50	25.00'	10'	1.12'

**BROAD MEADOW LANE  
CURVE DATA TABLE**

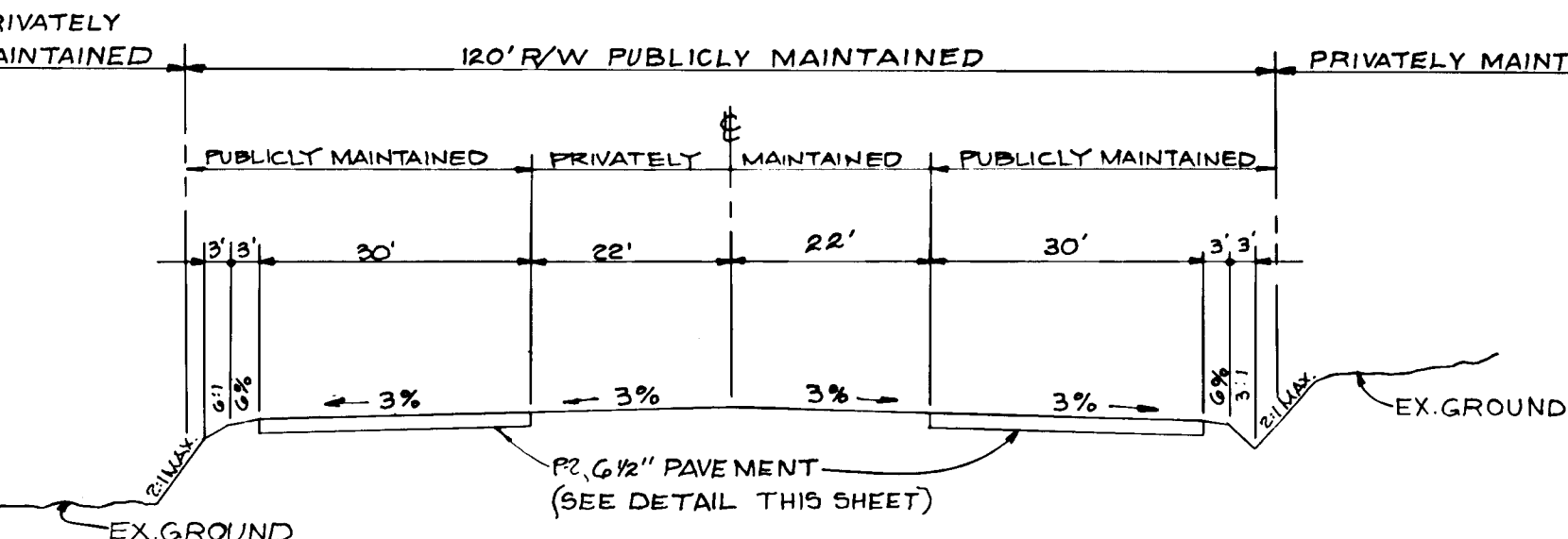
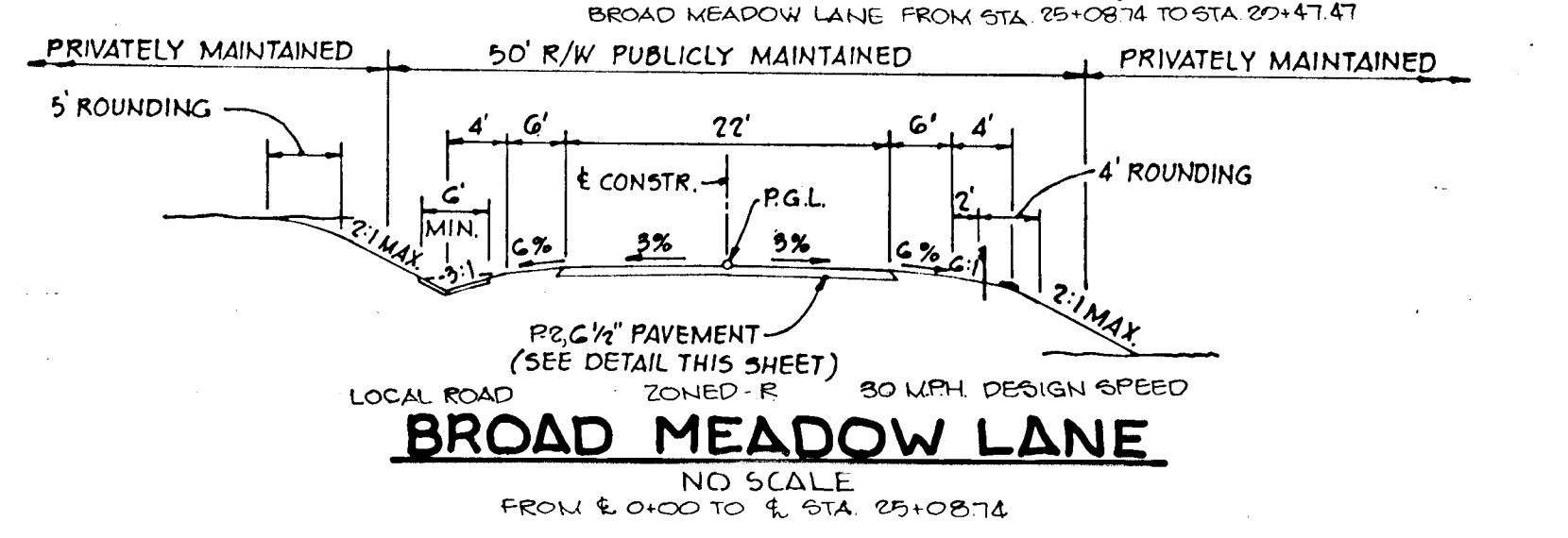
X1=74.34' X2=70.14' Y1=7.76' Y2=7.24' LP=344.41'

CURVE NO.	START STA.	END STA.	LENGTH	WIDTH	THICKNESS
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2	0+25	0+50	25.00'	10'	1.12'
3	0+50	0+75	25.00'	10'	1.12'
4	0+75	1+00	25.00'	10'	1.12'
5	1+00	1+25	25.00'	10'	1.12'
6	1+25	1+50	25.00'	10'	1.12'

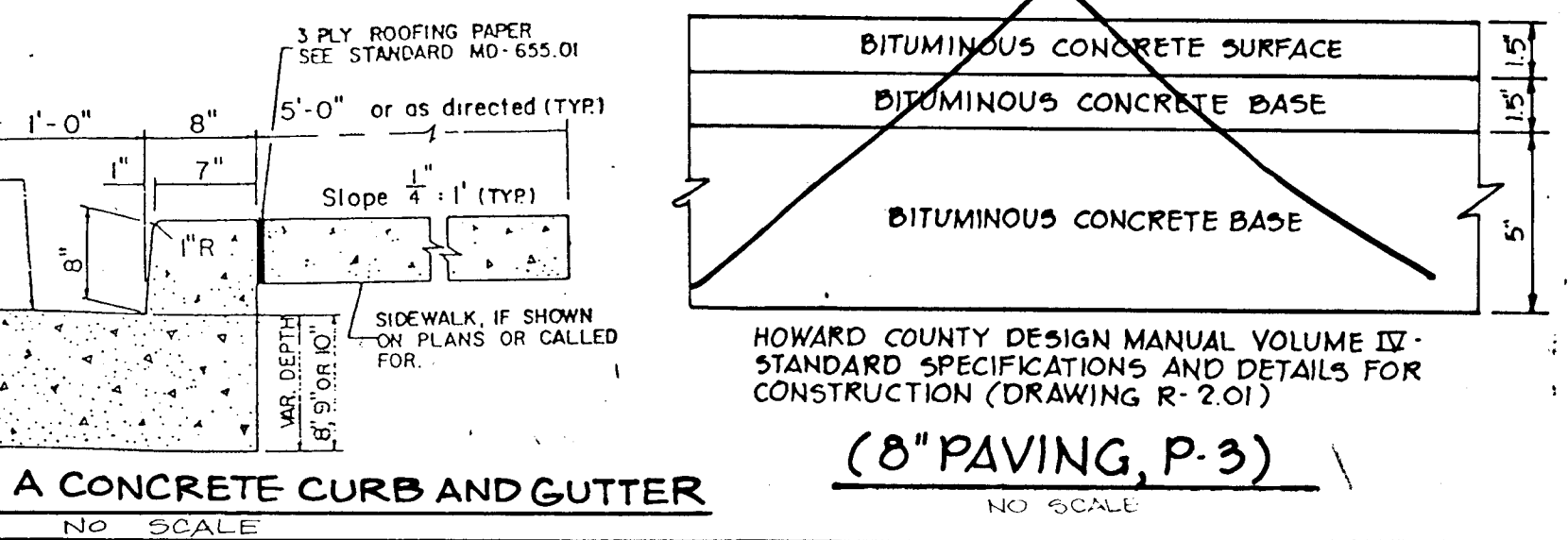
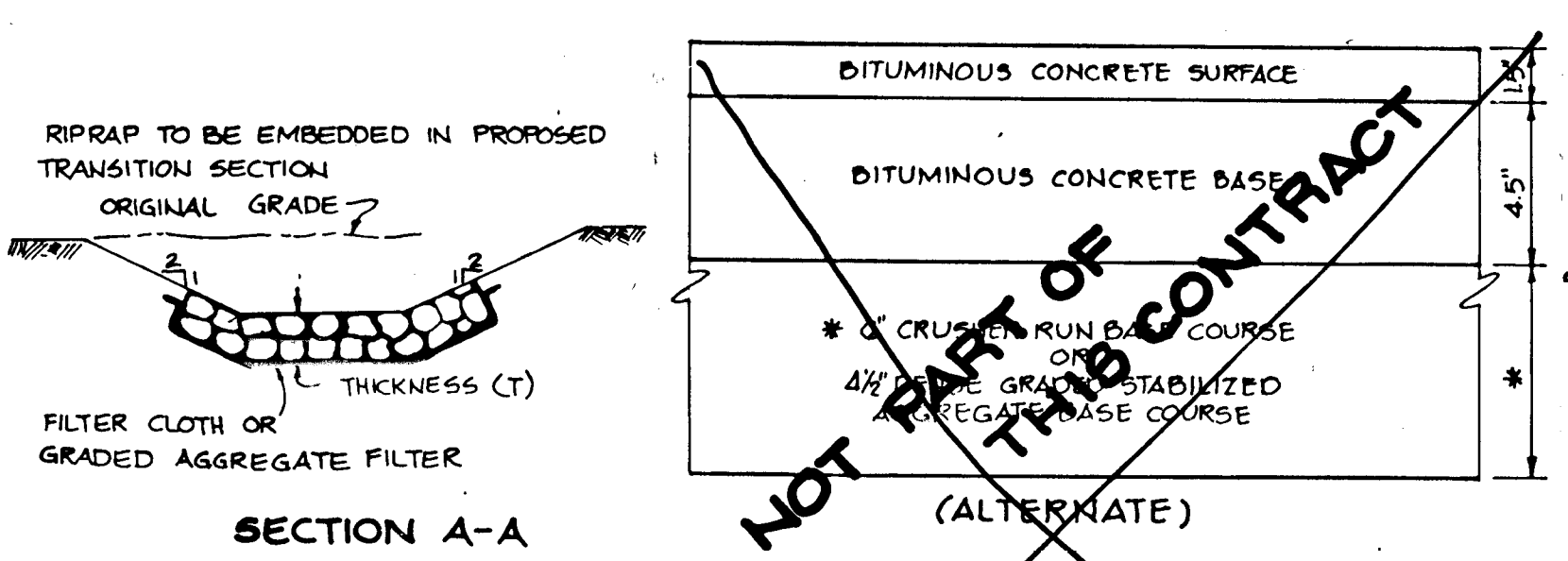
**BROAD MEADOW LANE  
DUSK VIEW COURT  
CUL-DE-SAC DETAIL**  
NO SCALE



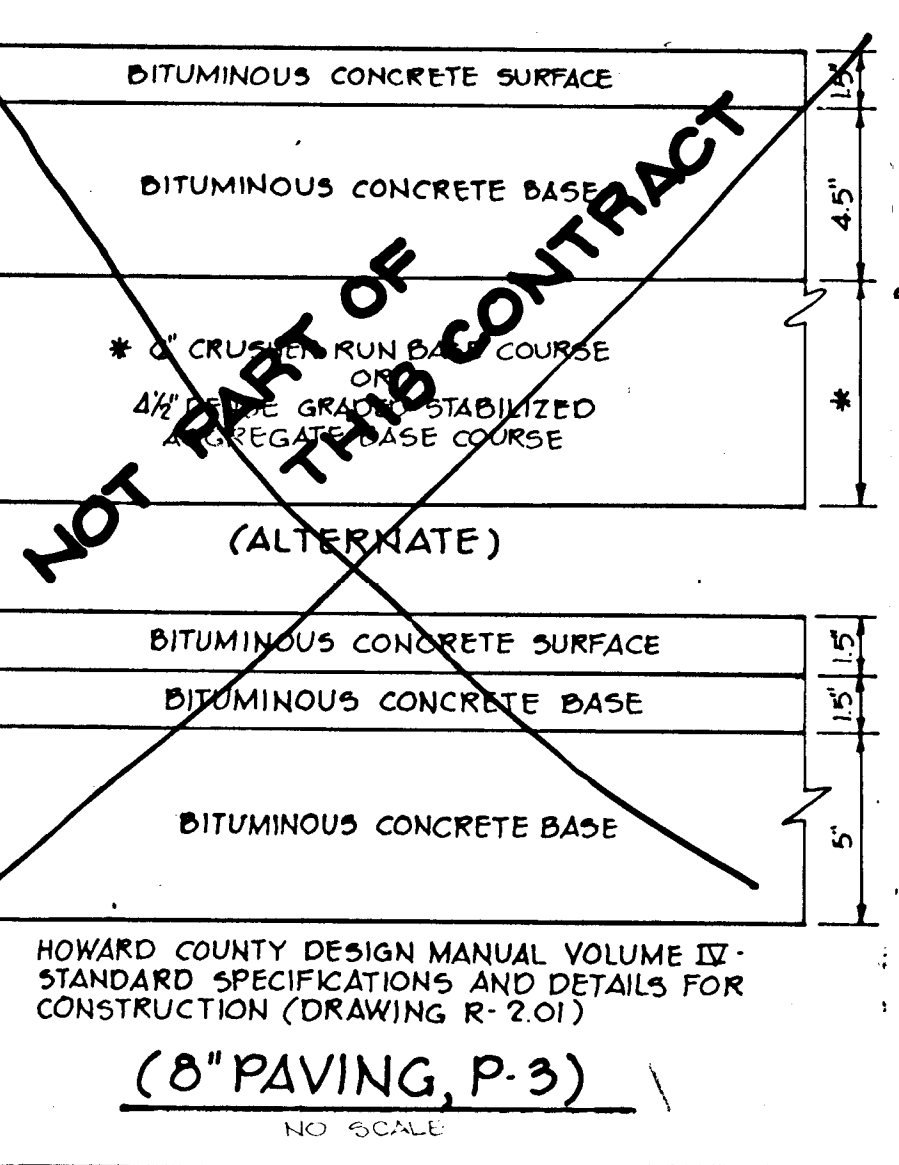
**MISTY RISE COURT  
BROAD MEADOW LANE  
DUSK VIEW COURT**  
NO SCALE



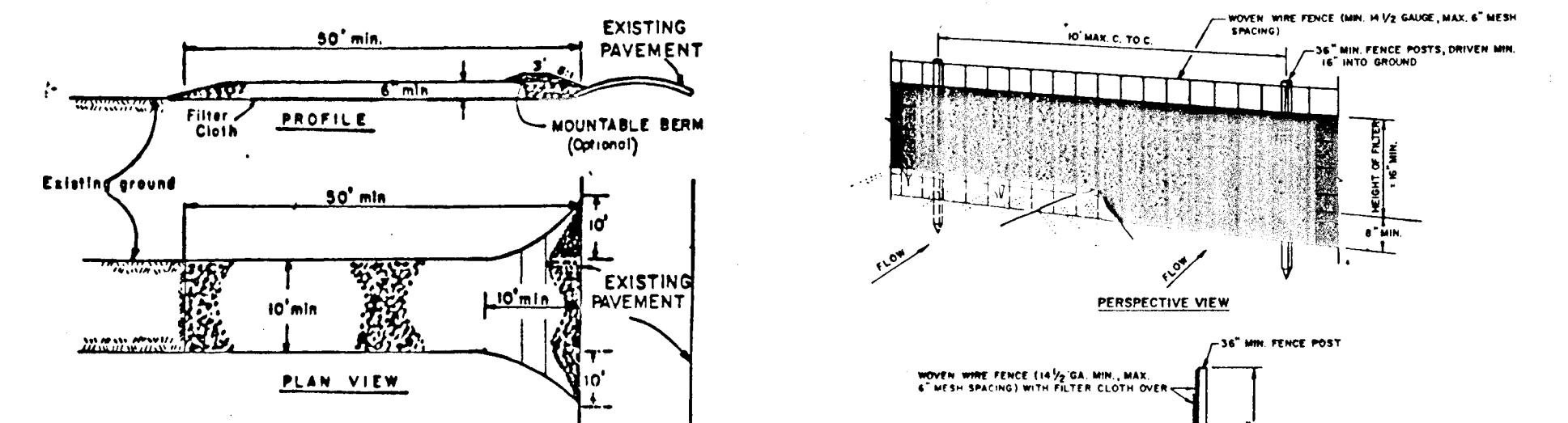
**TYPICAL CUL-DE-SAC SECTION**  
NO SCALE



**MSHA TYPE A CONCRETE CURB AND GUTTER**  
NO SCALE

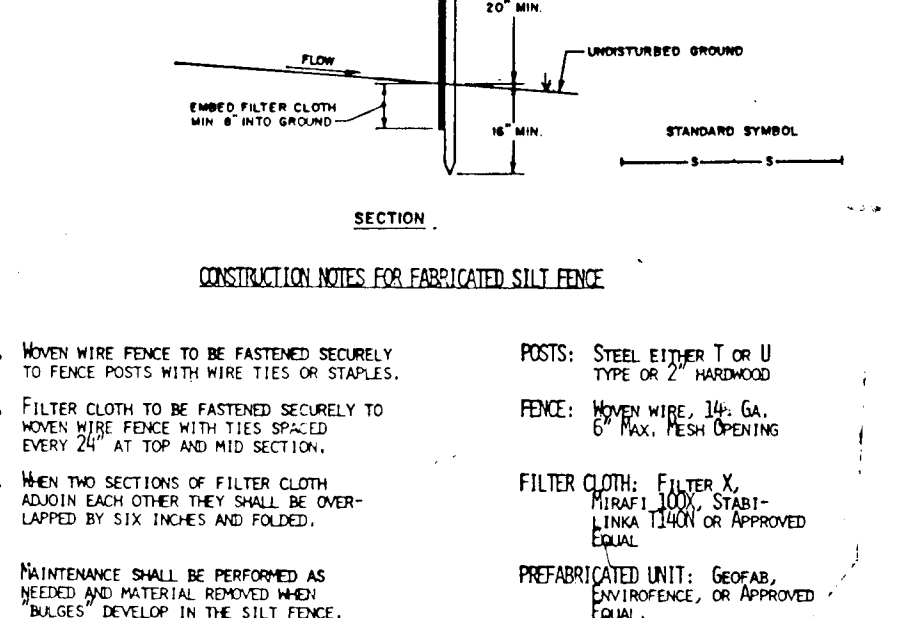


**(8" PAVING, P-3)**  
NO SCALE

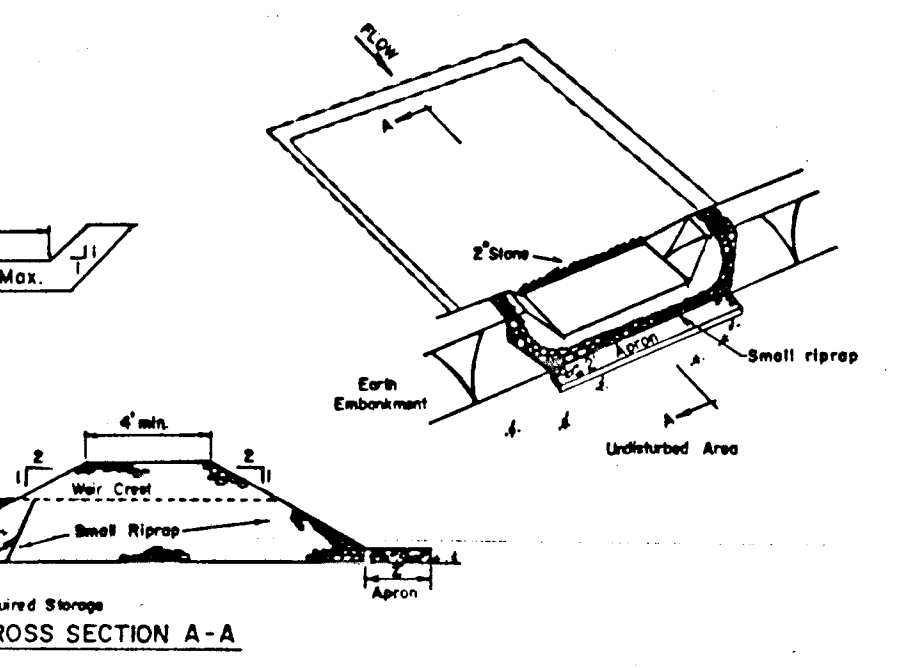


**STABILIZED CONSTRUCTION  
ENTRANCE**  
NO SCALE

- CONSTRUCTION SPECIFICATIONS**
- Stone size - Use 2" stone, or recycled or recycled concrete equivalent.
  - Length - As required, but not less than 30 feet (except on a single residential lot where a 30 foot minimum length would apply).
  - Thickness - Not less than 6 inches.
  - Width - Ten (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 mountable berm with 1:1 slopes will be permitted.
  - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleaning of any measures used to trap sediment. All sediment applied, dropped, or tracked onto public right-of-way must be removed immediately.
  - Washing - Washing shall be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
  - Periodic inspection and needed maintenance shall be provided after each rain.

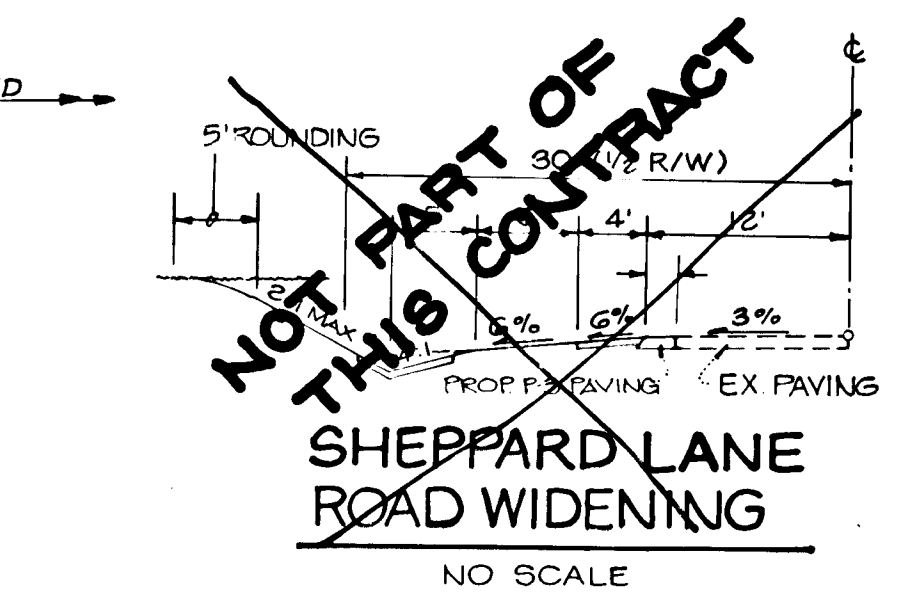


**SILT FENCE**  
NO SCALE

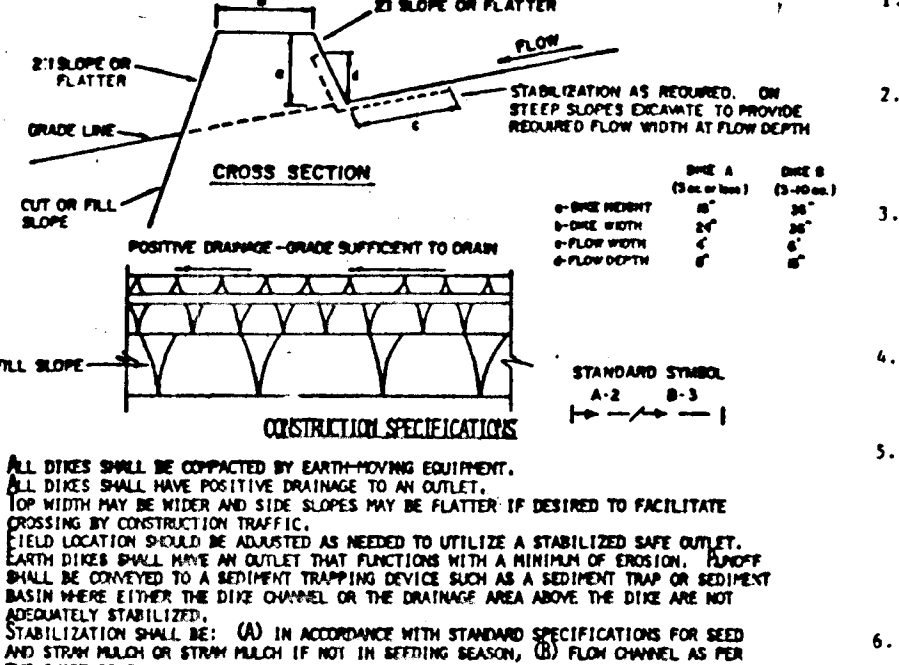


**STONE OUTLET SEDIMENT TRAP**  
NO SCALE

- CONSTRUCTION SPECIFICATIONS FOR ST-T**
- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
  - The fill material for the embankment shall be free of roots and other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
  - All cut and fill slopes shall be 2:1 or flatter.
  - The stone used in the outlet shall be small riprap 4"-8" along with a 1' thickness of 2" aggregate placed on the upgrade side on the small riprap on embedded filter cloth in the riprap.
  - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
  - The structure shall be inspected after each rain and repairs made as needed.
  - Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
  - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.



**SHEPPARD LANE  
ROAD WIDENING**  
NO SCALE



**EARTH DIKE**  
NO SCALE

- 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 (1992-2633).
  - 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 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: 149.03 acres; Area Disturbed: 19.28 acres; Area to be seeded or paved: 18.20 acres; Area to be vegetatively stabilized: 24.37 acres; Total Cut: 180.00 cu. yds.; Total Fill: 180.00 cu. yds.
  - Any sediment control practice which is disturbed by grading or 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.

BY THE DEVELOPER:  
"I 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."  
W. J. Mahan 12/5/89  
DEVELOPER DATE

BY THE ENGINEER:  
"I CERTIFY THAT 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."  
Arthur E. Muegge 12-5-89  
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
John P. Smith 12-11-89  
U.S. SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
Robert W. Zim 12/1/89  
APPROVED DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
Frank J. J. J. J. 12/1/89  
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Paul J. J. J. 2/22/90  
DATE

APPROVED: CHIEF, DIVISION OF COMMERCE, PLANNING AND LAND DEVELOPMENT  
Francis W. W. W. 2/7/90  
DATE

APPROVED: CHIEF, BUREAU OF HIGHWAYS  
Francis W. W. W. 2-27-90  
DATE

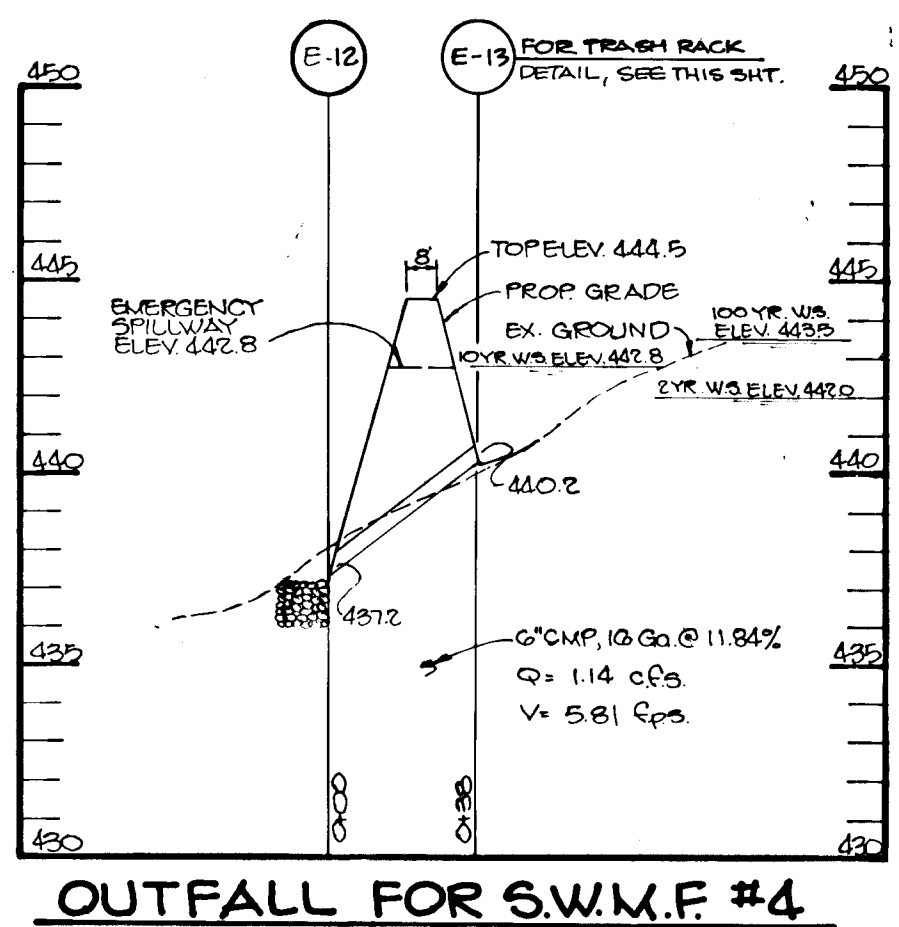
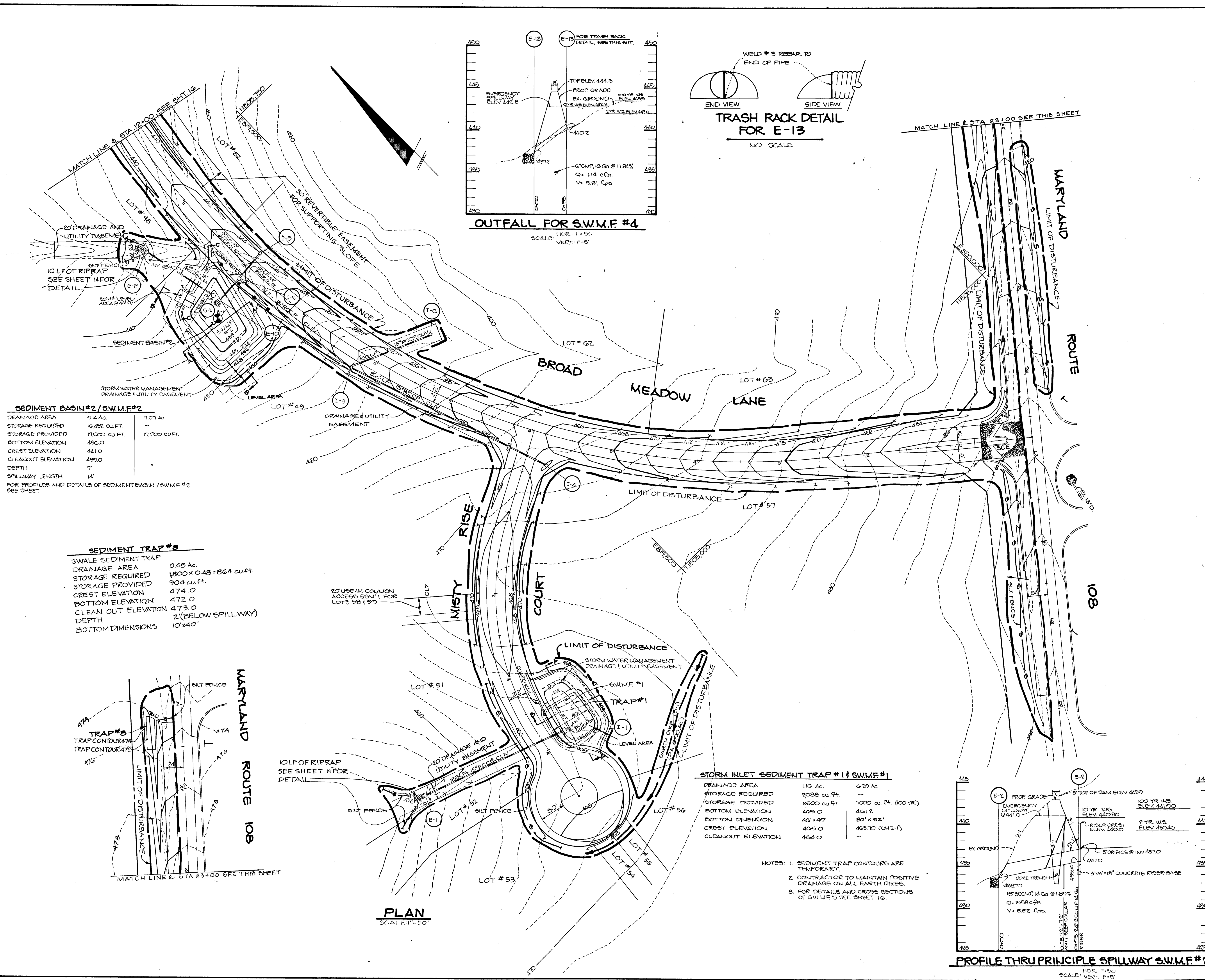
OWNER/DEVELOPER  
CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
% RANDALL CONSTRUCTION CO., INC.  
5501 TWIN KNOLLS ROAD SUITE 102  
COLUMBIA, MARYLAND 21045

PROJECT: **CLEARVIEW ESTATES**  
SECTION 2  
AREA TAX MAP NO. 23135 ZONED R PARCEL 3840  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

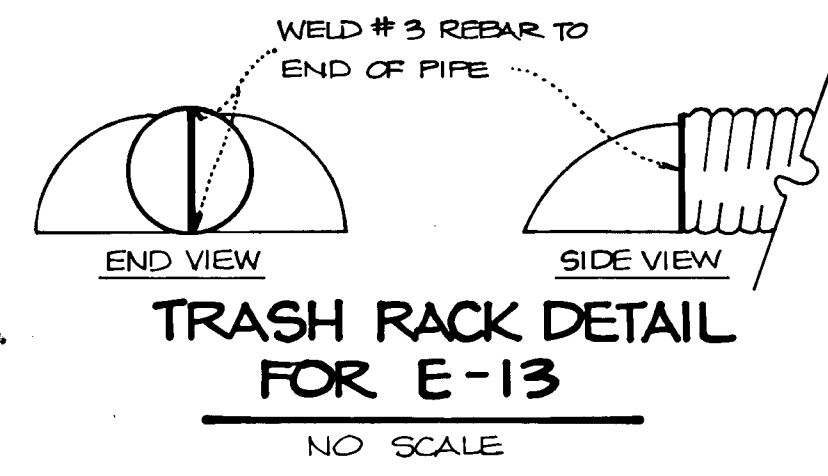
TITLE: **DETAIL SHEET**

RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
3105 North Pidge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

DATE: 12-5-89  
DESIGNED BY: D.A.M.  
DRAWN BY: E.B.J.  
PROJECT NO: 43G03  
DATE: DECEMBER 1989  
SCALE: AS SHOWN  
DRAWING NO. 11 OF 16



**OUTFALL FOR S.W.M.F. #4**  
SCALE: HOR. 1"=50' VERT. 1"=5'



**TRASH RACK DETAIL FOR E-13**  
NO SCALE

**SEDIMENT BASIN #2 / S.W.M.F. #2**

DRAINAGE AREA	0.14 AC.	11.07 AC.
STORAGE REQUIRED	10,492 CU. FT.	17,000 CU. FT.
STORAGE PROVIDED	17,000 CU. FT.	17,000 CU. FT.
BOTTOM ELEVATION	436.0	
CREST ELEVATION	441.0	
CLEANOUT ELEVATION	430.0	
DEPTH	7'	
SPILLWAY LENGTH	14'	

FOR PROFILES AND DETAILS OF SEDIMENT BASIN / S.W.M.F. #2 SEE SHEET

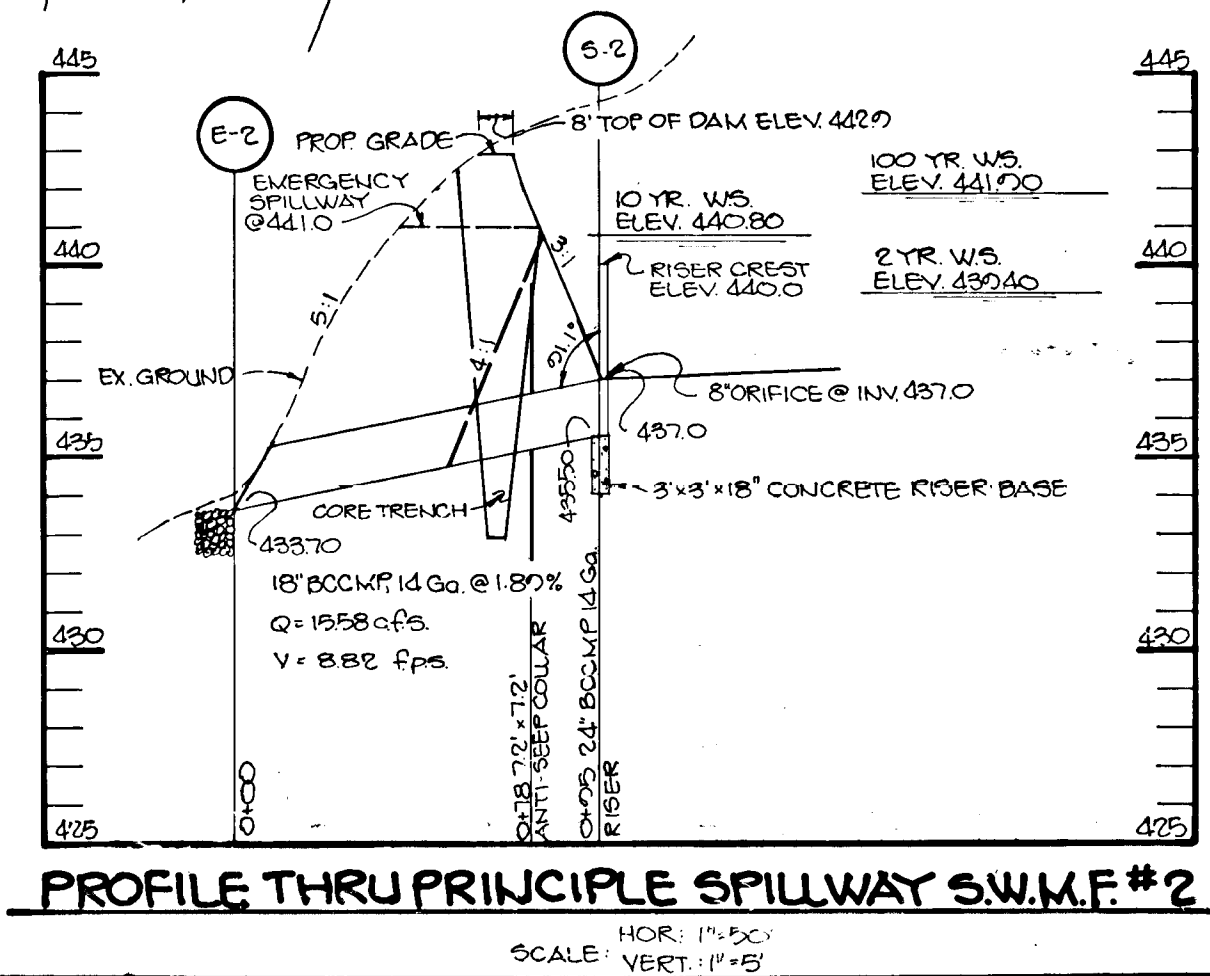
**SEDIMENT TRAP #3**

SWALE SEDIMENT TRAP	
DRAINAGE AREA	0.48 AC.
STORAGE REQUIRED	1,800 x 0.48 = 864 CU. FT.
STORAGE PROVIDED	904 CU. FT.
CREST ELEVATION	474.0
BOTTOM ELEVATION	472.0
CLEAN OUT ELEVATION	473.0 (BELOW SPILLWAY)
DEPTH	2'
BOTTOM DIMENSIONS	10' x 40'

**STORM INLET SEDIMENT TRAP #1 & S.W.M.F. #1**

DRAINAGE AREA	1.16 AC.	0.07 AC.
STORAGE REQUIRED	2088 CU. FT.	-
STORAGE PROVIDED	2500 CU. FT.	7000 CU. FT. (100 YR)
BOTTOM ELEVATION	405.0	401.2
BOTTOM DIMENSION	40' x 40'	20' x 20'
CREST ELEVATION	405.0	403.70 (ON 1-1)
CLEANOUT ELEVATION	404.0	-

- NOTES:
1. SEDIMENT TRAP CONTOURS ARE TEMPORARY.
  2. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE ON ALL EARTH DIKES.
  3. FOR DETAILS AND CROSS SECTIONS OF S.W.M.F.'S SEE SHEET 1G.



**PROFILE THRU PRINCIPLE SPILLWAY S.W.M.F. #2**  
SCALE: HOR. 1"=50' VERT. 1"=5'

BY THE DEVELOPER:

"I 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*Ruth S. Melan* 12/5/89  
DEVELOPER DATE

---

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

*John E. Savage* 12-5-89  
ENGINEER DATE

---

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

*John E. Savage* 12/11/89  
U.S. SOIL CONSERVATION SERVICE DATE

---

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

APPROVED *Robert W. Schum* 12/11/89  
HOWARD S.C.D. DATE

---

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Paul J. Conner* 12/11/89  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

---

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Paul J. Conner* 2/22/90  
CHIEF, LAND DEVELOPMENT DIVISION DATE

*Franklin W. Waldman* 2/7/90  
CHIEF, BUREAU OF HIGHWAYS DATE

*William B. Reid* 2-22-90  
CHIEF, BUREAU OF ENGINEERING DATE

---

DATE	NO.	REVISION

---

OWNER / DEVELOPER

CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
5 RANDALL CONSTRUCTION CO. INC.  
5501 TWIN KNOLLS ROAD SUITE 102  
COLUMBIA, MARYLAND 21045

---

PROJECT **CLEARVIEW ESTATES**  
SECTION 2

AREA TAX MAP NO 28135 ZONED R PARCEL 39140  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE **GRADING AND SEDIMENT CONTROL PLAN FOR MARYLAND ROUTE 108, BROAD MEADOW LANE AND MISTY RISE COURT**

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**RIEMER MUEGGE & ASSOCIATES, INC.**  
A Land Planning, Engineering and Consulting Firm  
3105 North Ridge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

---

DATE 12-5-89

DESIGNED BY: DAM, M.C.M.  
DRAWN BY: J.C.R.  
PROJECT NO: 47603  
DATE: DECEMBER 1989  
SCALE: AS SHOWN  
DRAWING NO. 12 OF 16

ARTHUR E. MUEGGE #6707

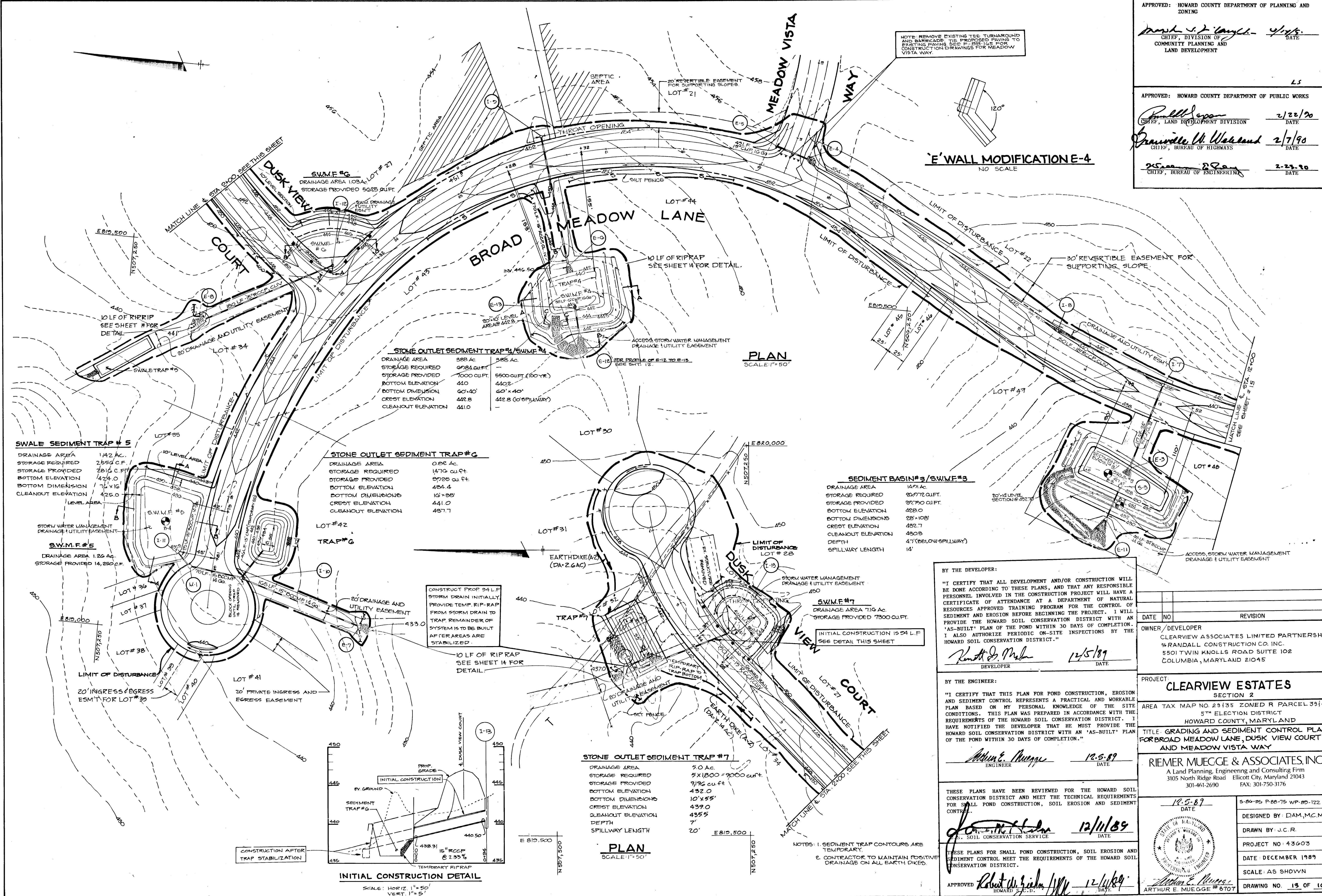
1253

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Mark J. Lancell* 4/1/89  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul H. Egan* 2/22/90  
 CHIEF, LAND DEVELOPMENT DIVISION

*Granville W. Weiland* 2/7/90  
 CHIEF, BUREAU OF HIGHWAYS

*Richard S. Egan* 2-23-90  
 CHIEF, BUREAU OF ENGINEERING



**STONE OUTLET SEDIMENT TRAP #4 / SW.M.F. #4**

DRAINAGE AREA	388 AC	388 AC
STORAGE REQUIRED	9784 CU.FT.	9900 CU.FT. (100 YR)
STORAGE PROVIDED	7000 CU.FT.	
BOTTOM ELEVATION	440	440.2
BOTTOM DIMENSIONS	60'x40'	60'x40'
CREST ELEVATION	442.8	442.8 (TOP PAVEMENT)
CLEANOUT ELEVATION	441.0	

**STONE OUTLET SEDIMENT TRAP #6**

DRAINAGE AREA	0.82 AC	
STORAGE REQUIRED	1476 CU.FT.	
STORAGE PROVIDED	5725 CU.FT.	
BOTTOM ELEVATION	434.4	
BOTTOM DIMENSIONS	10'x20'	
CREST ELEVATION	441.0	
CLEANOUT ELEVATION	437.7	

**SEDIMENT BASIN #3 / SW.M.F. #3**

DRAINAGE AREA	1471 AC	
STORAGE REQUIRED	92,972 CU.FT.	
STORAGE PROVIDED	97,790 CU.FT.	
BOTTOM ELEVATION	428.0	
BOTTOM DIMENSIONS	28'x108'	
CREST ELEVATION	432.7	
CLEANOUT ELEVATION	430.8	
DEPTH	4.7' (BELOW SPILLWAY)	
SPILLWAY LENGTH	14'	

**SWALE SEDIMENT TRAP #5**

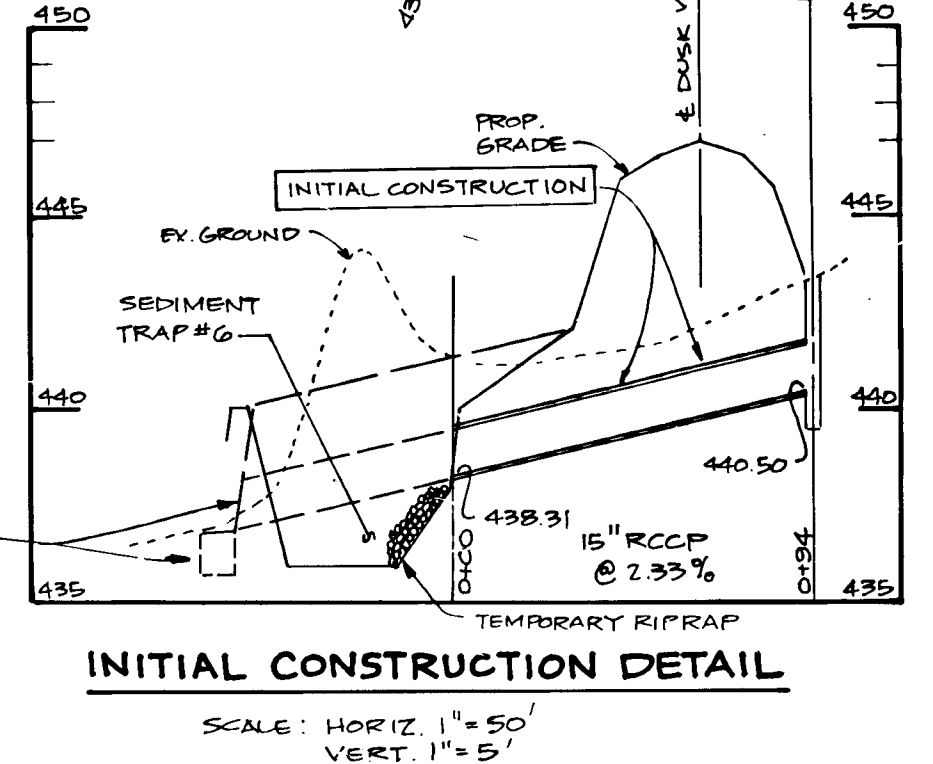
DRAINAGE AREA	142 AC	
STORAGE REQUIRED	2550 CU.FT.	
STORAGE PROVIDED	2816 CU.FT.	
BOTTOM ELEVATION	424.0	
BOTTOM DIMENSIONS	7'x16'	
CLEANOUT ELEVATION	425.0	

**SW.M.F. #5**

DRAINAGE AREA	1.26 AC	
STORAGE PROVIDED	14,250 CU.FT.	

**STONE OUTLET SEDIMENT TRAP #7**

DRAINAGE AREA	5.0 AC	
STORAGE REQUIRED	51,800 CU.FT.	
STORAGE PROVIDED	9,196 CU.FT.	
BOTTOM ELEVATION	432.0	
BOTTOM DIMENSIONS	10'x55'	
CREST ELEVATION	439.0	
CLEANOUT ELEVATION	435.5	
DEPTH	7'	
SPILLWAY LENGTH	20'	



BY THE DEVELOPER:  
 "I 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*Kenneth J. Mabe* 12/5/89  
 DEVELOPER

BY THE ENGINEER:  
 "I CERTIFY THAT 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."  
*Arthur E. Muegge* 12-5-89  
 ENGINEER

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
*Robert W. Ziehm* 12/11/89  
 HOWARD COUNTY ENGINEER

APPROVED: *Robert W. Ziehm* 12/11/89  
 HOWARD COUNTY ENGINEER

DATE	NO.	REVISION

OWNER / DEVELOPER  
 CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
 RANDALL CONSTRUCTION CO. INC.  
 5501 TWIN KNOLLS ROAD SUITE 102  
 COLUMBIA, MARYLAND 21045

PROJECT: **CLEARVIEW ESTATES SECTION 2**  
 AREA TAX MAP NO. 29135 ZONED R PARCEL 39140  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 TITLE: GRADING AND SEDIMENT CONTROL PLAN FOR BROAD MEADOW LANE, DUSK VIEW COURT AND MEADOW VISTA WAY

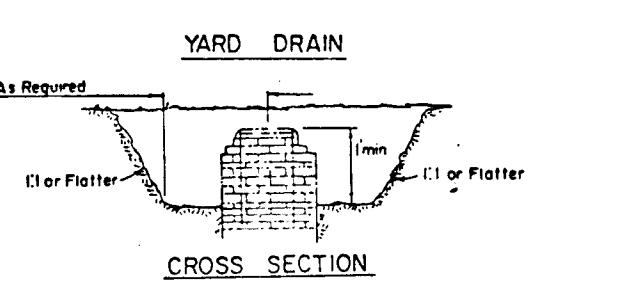
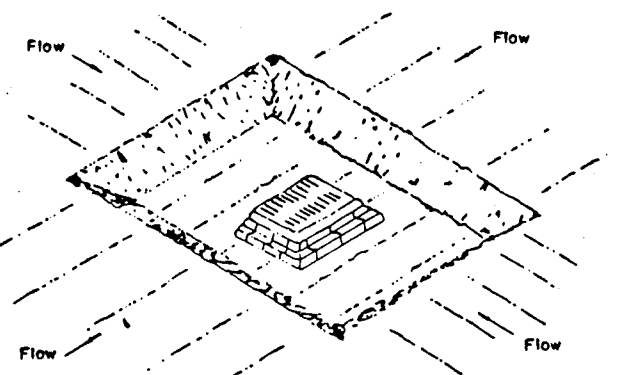
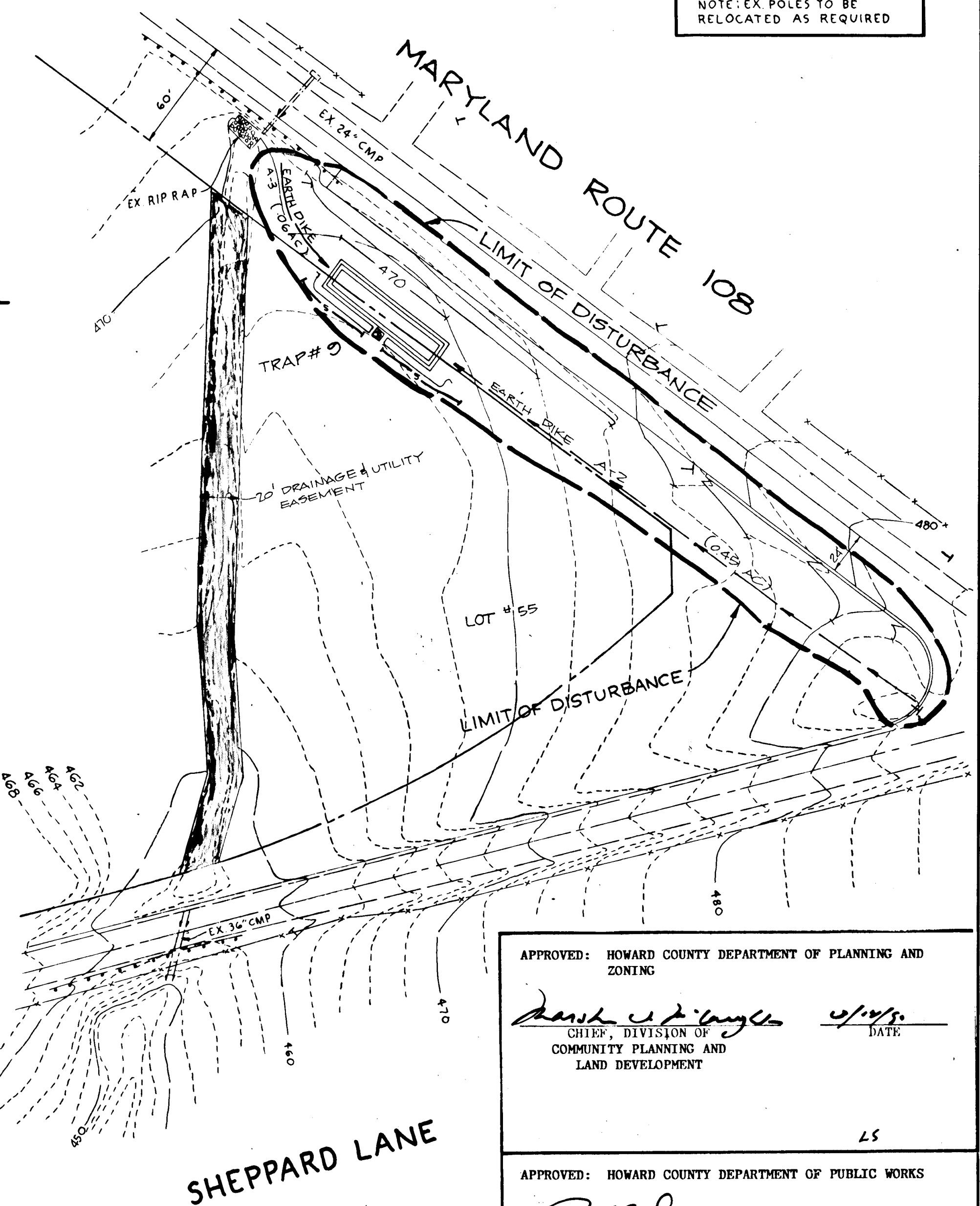
RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 12-5-89  
 5-86-95 P-88-75 WP-89-122  
 DESIGNED BY: DAM, M.C.M.  
 DRAWN BY: J.C.R.  
 PROJECT NO: 43603  
 DATE: DECEMBER 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 13 OF 16

NOTE: EX. POLES TO BE RELOCATED AS REQUIRED

**STONE OUTLET SEDIMENT TRAP #9**  
 DRAINAGE AREA : 0.68 AC  
 STORAGE REQ'D : 1,224 C.F.  
 STORAGE PROVIDED : 1,528 C.F. (# 4670)  
 CREST ELEV. : 468.0  
 CREST WIDTH : 5'  
 BOTTOM ELEV. : 465.0  
 BOTTOM DIM. : 12' x 64'  
 CLEANOUT ELEV. : 466.0  
 SLOPE : 1:1

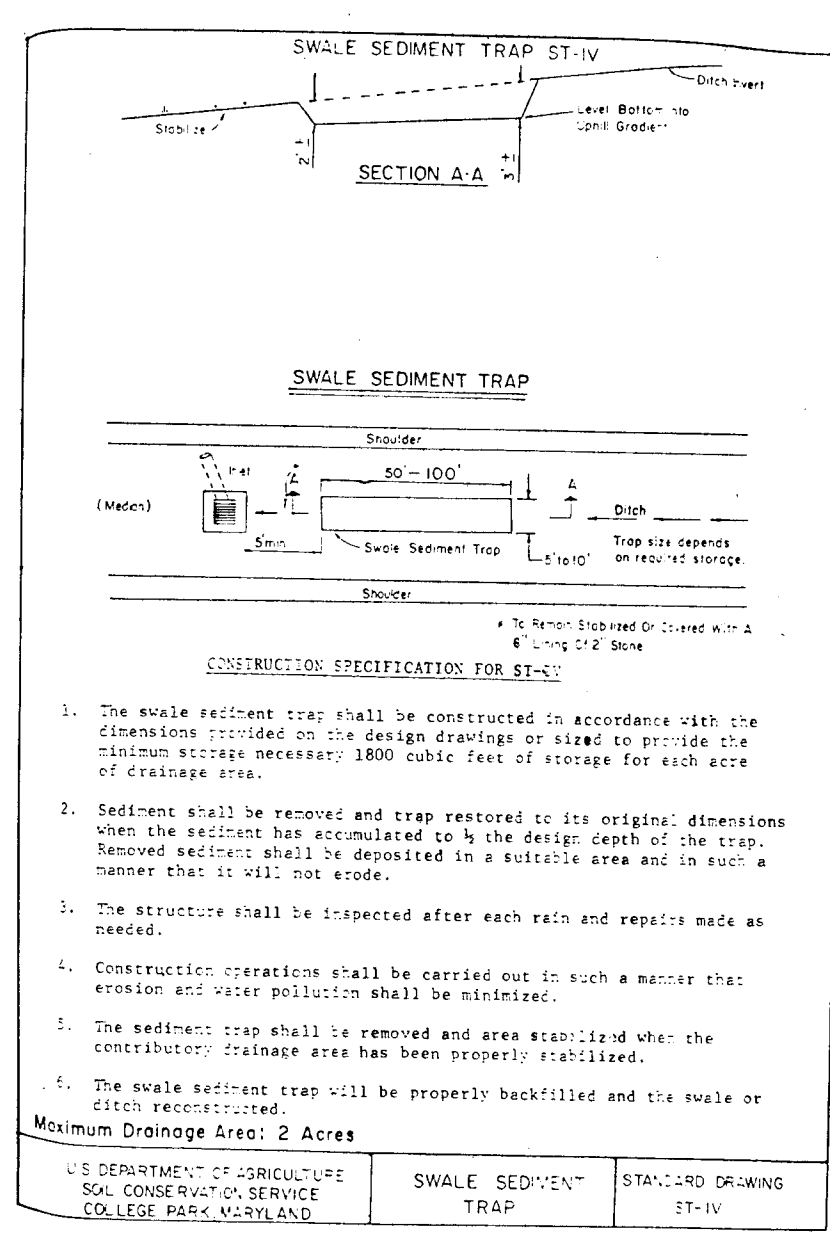
**PLAN**  
 SCALE: 1" = 50'



CONSTRUCTION SPECIFICATION FOR ST-111

- Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
- The sediment trap shall be removed and the area stabilized when the constructed drainage area has been properly stabilized.
- All cut slopes shall be 1:1 or flatter.

Maximum Drainage Area: 3 Acres  
**STORM INLET SEDIMENT TRAP**  
 NO SCALE



- The swale sediment trap shall be constructed in accordance with the dimensions indicated on this design drawing or sized to provide the minimum storage necessary 1800 cubic feet of storage for each acre of drainage area.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
- The sediment trap shall be removed and area stabilized when the contributory drainage area has been properly stabilized.
- The swale sediment trap will be properly backfilled and the swale or ditch reconstructed.
- Minimum Drainage Area: 2 Acres

**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT
- INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1/2 Day)
- INSTALL SILT FENCE, EARTH DIKE, AND ALL SEDIMENT TRAPS. (2 weeks)
- PERFORM ROAD WIDENING OF SHEPPARD LANE AND MARYLAND ROUTE 108.
- BEGIN ON SITE GRADING, CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE ON ALL EARTH DIKES.
- INSTALL STORM DRAINS, INCLUDING TEMPORARY PIPES TO SEDIMENT TRAPS AS NECESSARY. (2 weeks)
- FINISH ROUGH GRADING, BRINGING SITE TO SUBGRADE ELEVATION. STABILIZE ALL AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES.
- INSTALL CURB AND GUTTER AT THE INTERSECTION OF MARYLAND ROUTE 108 AND SHEPPARD LANE AND AT MARYLAND ROUTE 108 AND BROAD MEADOW LANE. (2 days)
- APPLY BASE COURSE TO ON-SITE ROADWAYS AND PERFORM PAVING. (2 weeks)
- UPON APPROVAL OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROLS EXCEPT THOSE NEEDED TO CONTROL EROSION DURING INSTALLATION OF THE STORM WATER MANAGEMENT FACILITIES.
- INSTALL STORMWATER MANAGEMENT FACILITIES INCLUDING OUTLET STRUCTURES. (2 weeks)
- STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (1 day)
- UPON PERMISSION OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SEDIMENT CONTROL INSPECTOR REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES, AND STABILIZE AREAS DISTURBED IN THEIR REMOVAL IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES.

**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, discing or other acceptable means before seeding, if not previously loosened.

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

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 00-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

**Seeding:** For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs./1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru 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 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. On slopes 8 feet or higher, use 348 gallons per acre (8 gal./1000 sq. ft.) for anchoring.

**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, 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 sq. ft.).

**Seeding:** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushels 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 (.07 lbs./1000 sq. ft.). For the period November 16 thru 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 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. On slopes, 8 ft. or higher, use 348 gal. per acre (8 gal./1000 sq. ft.) for anchoring.

**SEEDING NOTES**

BY THE DEVELOPER:  
*Keith D. Mah* 12/5/89  
 DEVELOPER DATE

BY THE ENGINEER:  
*Arthur E. Muegge* 12-5-89  
 ENGINEER DATE

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

*Robert W. Seidman* 12/11/89  
 U.S. SOIL CONSERVATION SERVICE DATE

APPROVED *Robert W. Seidman* 12/11/89  
 HOWARD S.O.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Mark J. Taylor* 12/5/89  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul J. Sorenson* 2/22/90  
 CHIEF, LAND DEVELOPMENT DIVISION DATE

*Bruce W. Holland* 7/7/90  
 CHIEF, BUREAU OF HIGHWAYS DATE

*William R. Ray* 2-23-90  
 CHIEF, BUREAU OF ENGINEERING DATE

DATE	NO	REVISION

OWNER/DEVELOPER  
 CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
 96 RANDALL CONSTRUCTION CO. INC.  
 8501 TWIN KNOLLS ROAD SUITE 102  
 COLUMBIA, MARYLAND 21045

PROJECT:  
**CLEARVIEW ESTATES**  
 SECTION 2

AREA TAX MAP NO. 29135 ZONED R PARCEL 99140  
 5<sup>TH</sup> ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE GRADING AND SEDIMENT CONTROL PLAN  
 FOR MD. ROUTE 108

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

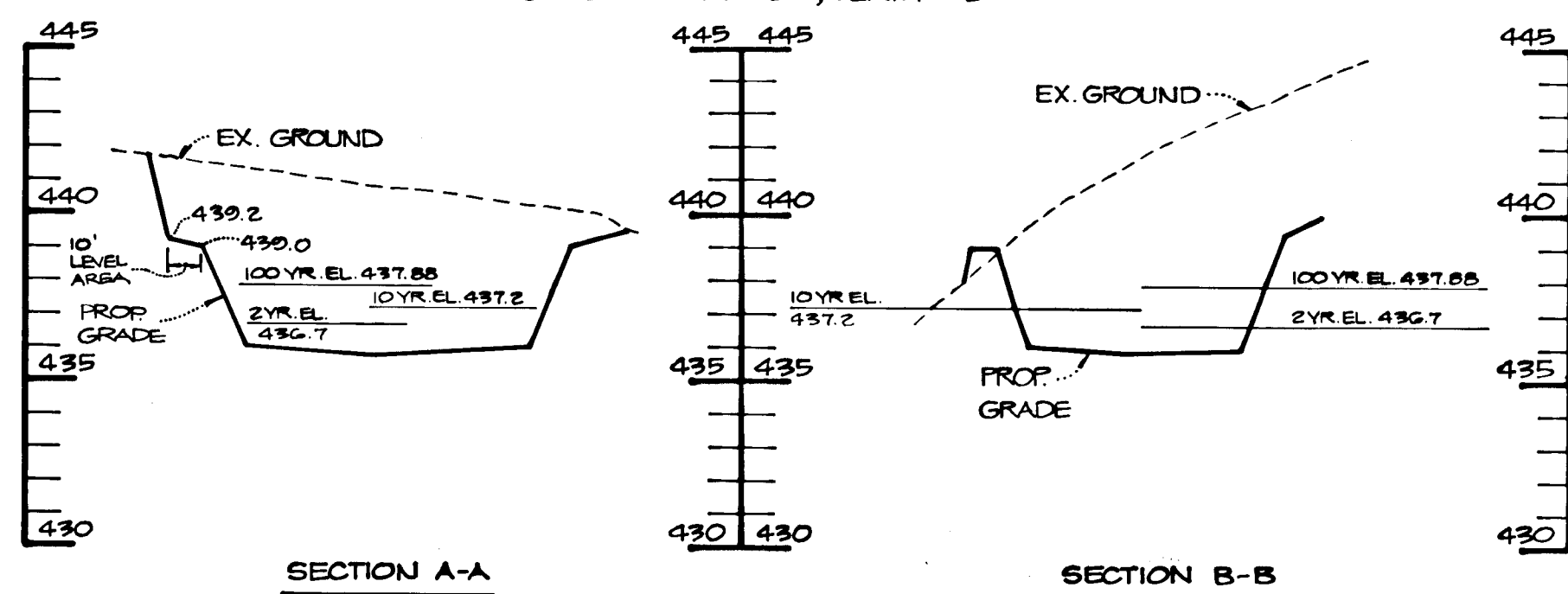
12-5-89  
 DATE

5-86-95 P-88-75 WP-82-122

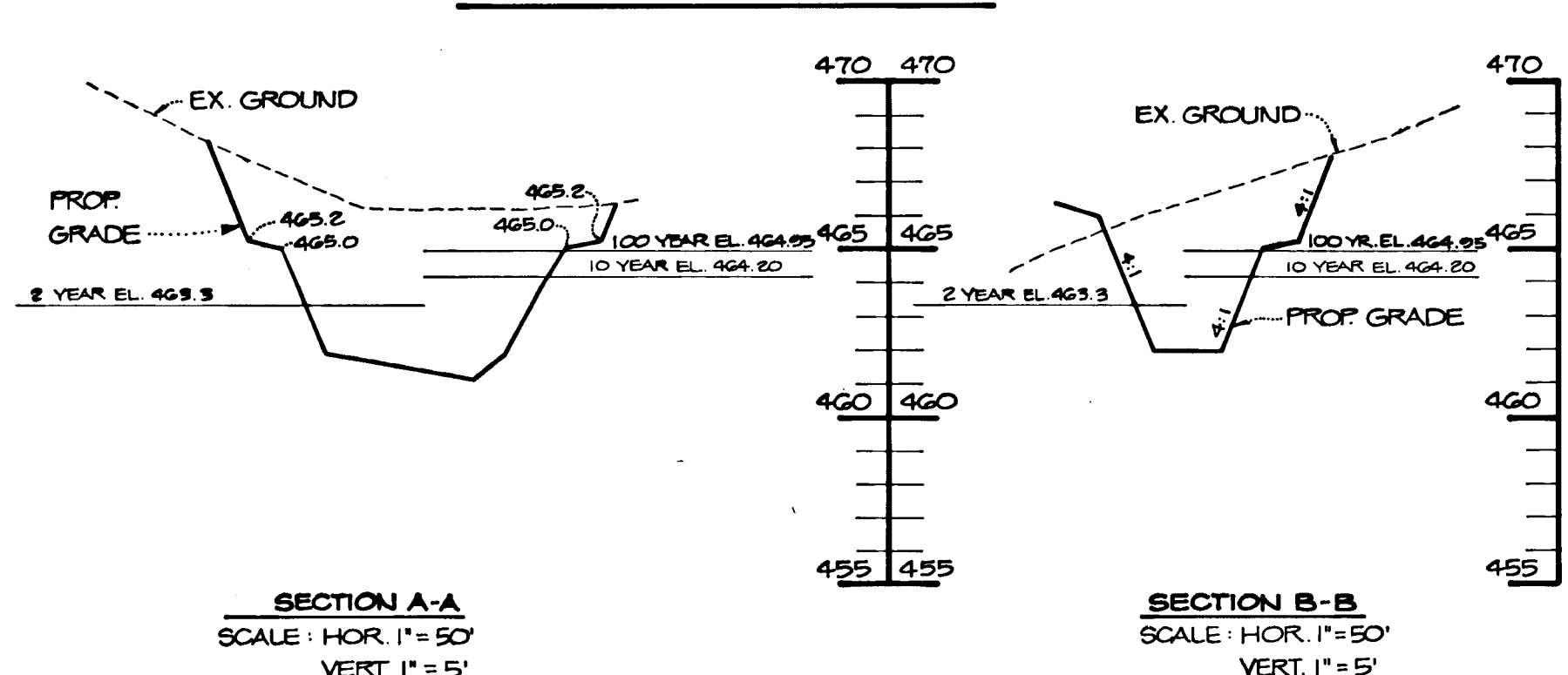
DESIGNED BY: J.L.B.  
 DRAWN BY: E.D.J.  
 PROJECT NO: 43603  
 DATE: DECEMBER 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 14 OF 16

**S.W.M. FACILITY No. 5 (MD-378 POND)**

SCALE: HOR. 1" = 50', VERT. 1" = 5'

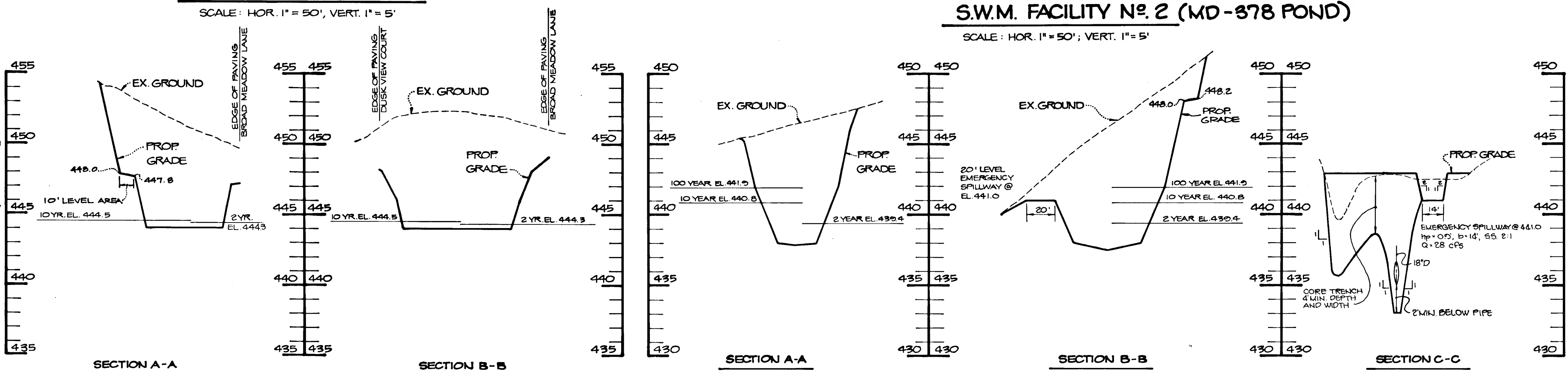


**S.W.M. FACILITY No. 1**



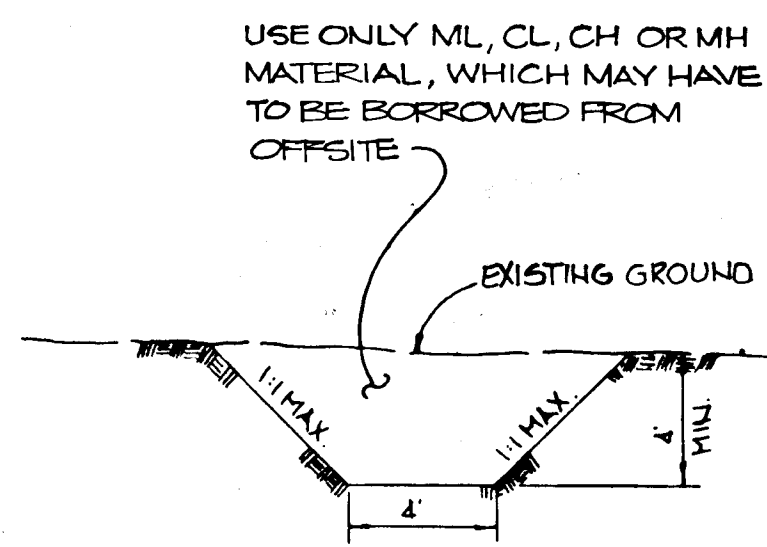
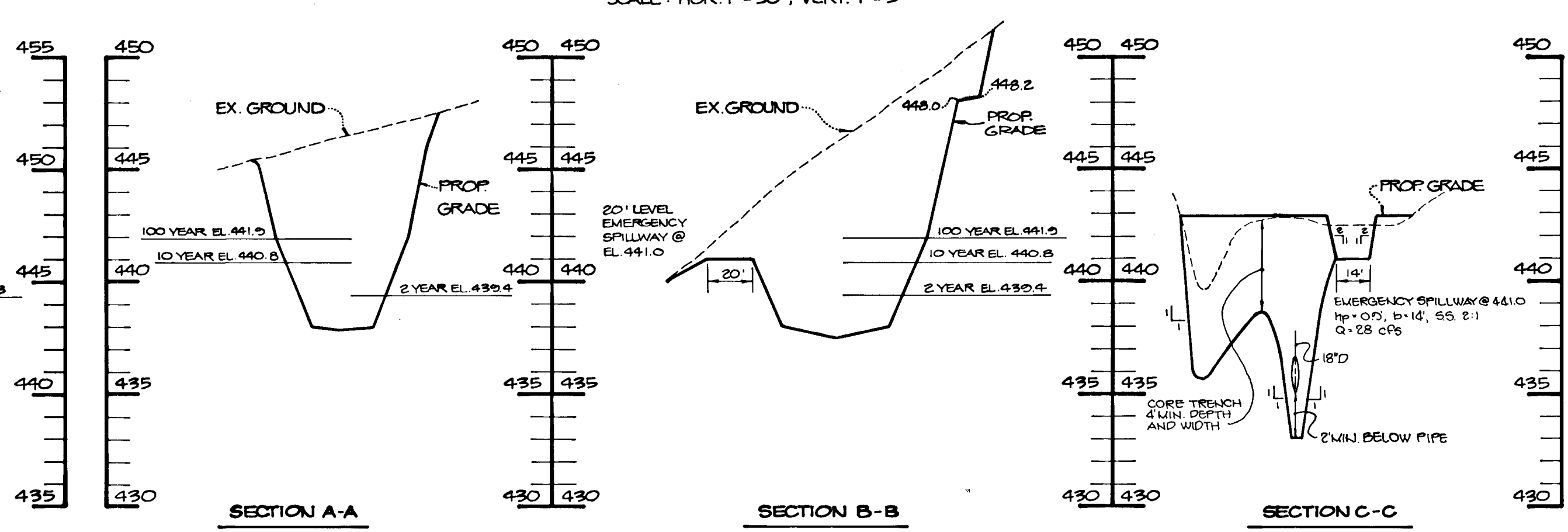
**S.W.M. FACILITY No. 6**

SCALE: HOR. 1" = 50', VERT. 1" = 5'



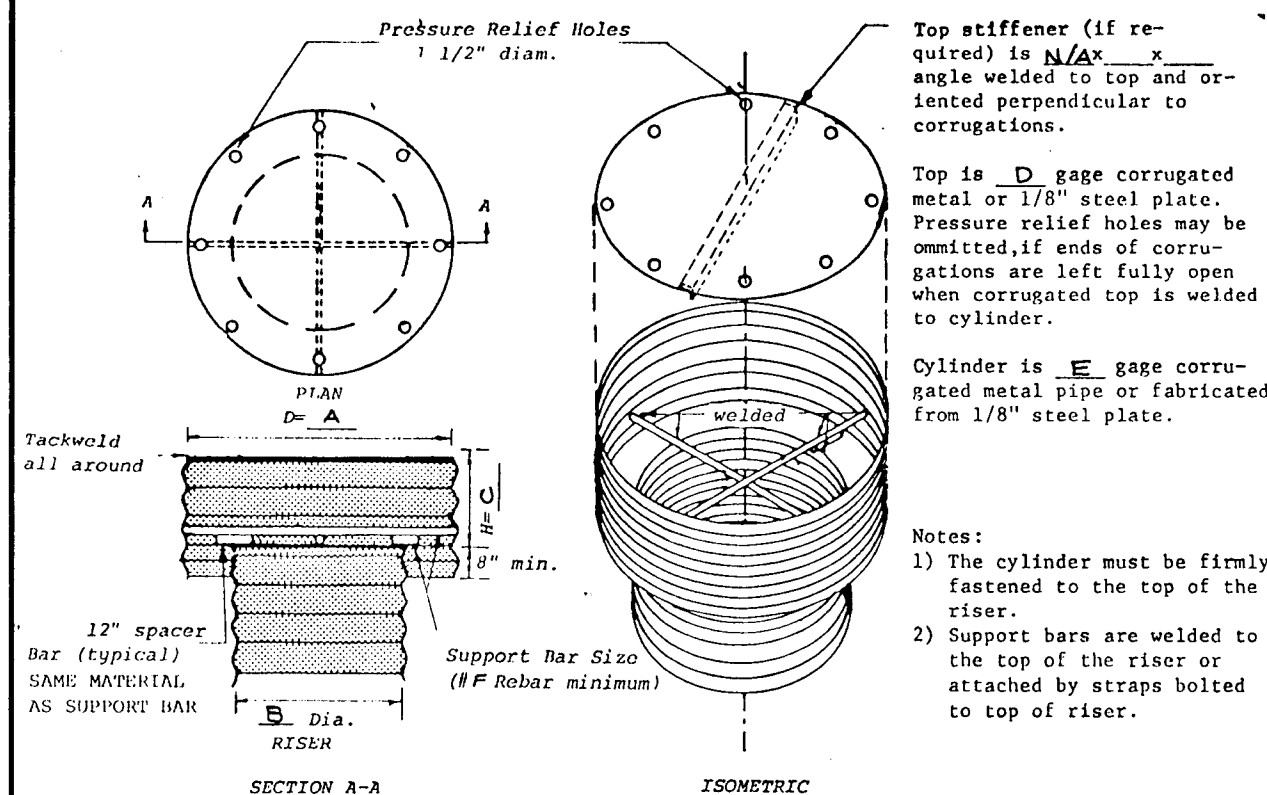
**S.W.M. FACILITY No. 2 (MD-378 POND)**

SCALE: HOR. 1" = 50', VERT. 1" = 5'



**CORE TRENCH TYP. SECTION**

NO SCALE



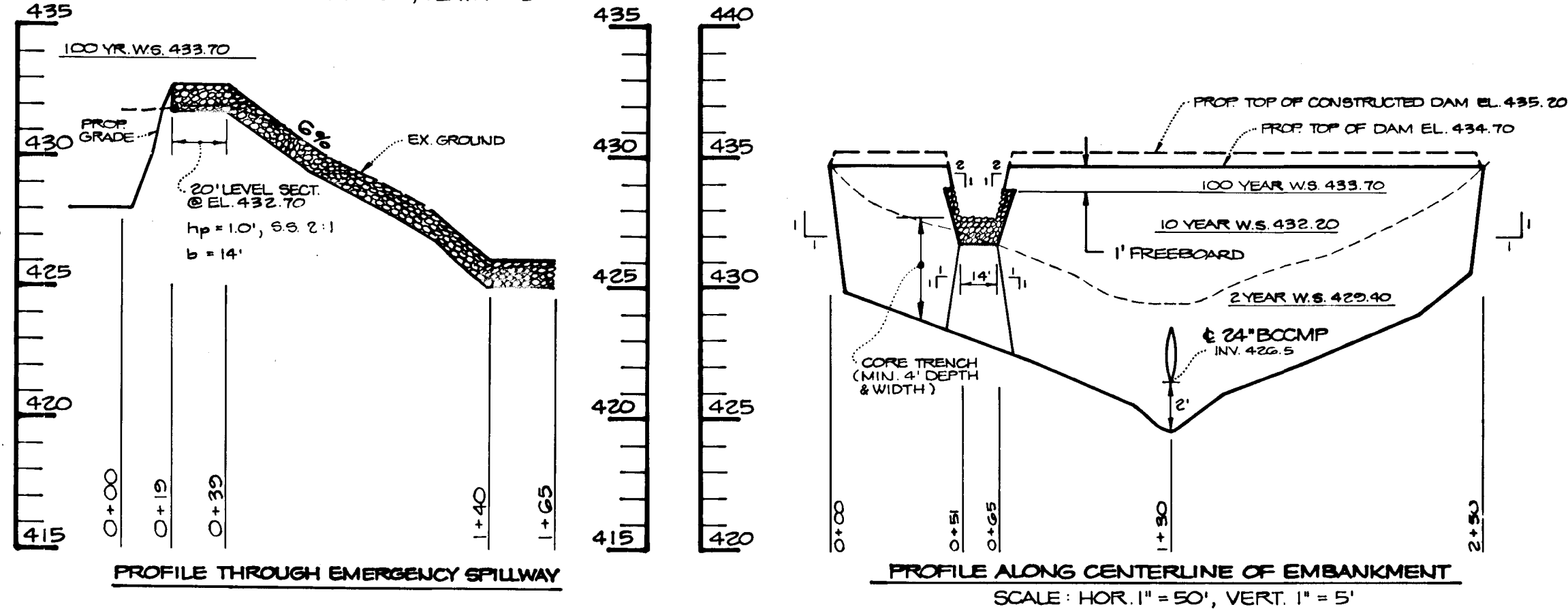
**CONCENTRIC TRASH RACK & ANTI-VORTEX DEVICE**

NO SCALE

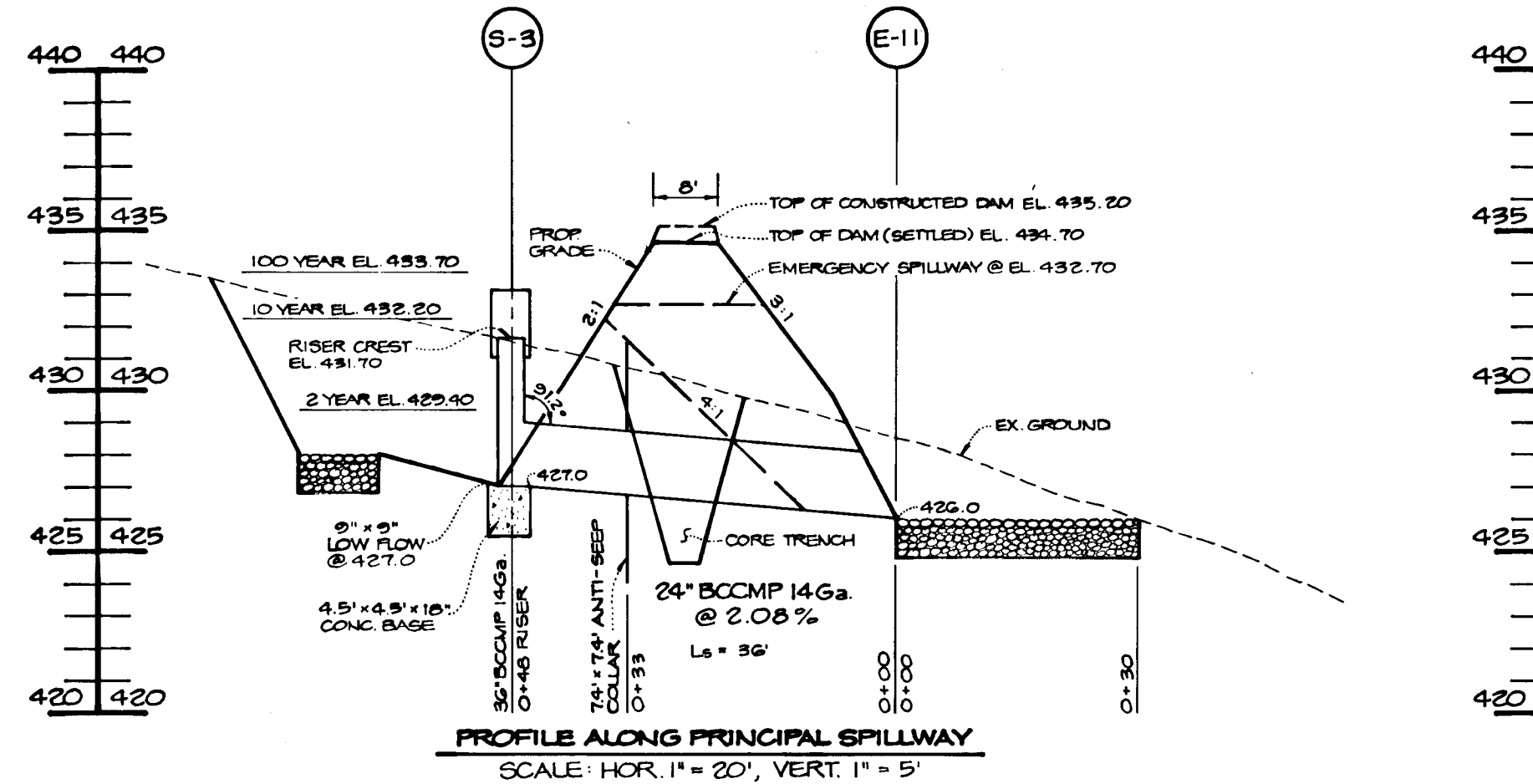
FACILITY	A	B	C	D	E	F
S.W.M.F. # 2	36	24	18	14	14	#6 REBAR
S.W.M.F. # 3	54	36	17	12	14	#8 REBAR

**S.W.M. FACILITY No. 3 (MD-378 POND)**

SCALE: HOR. 1" = 50', VERT. 1" = 5'

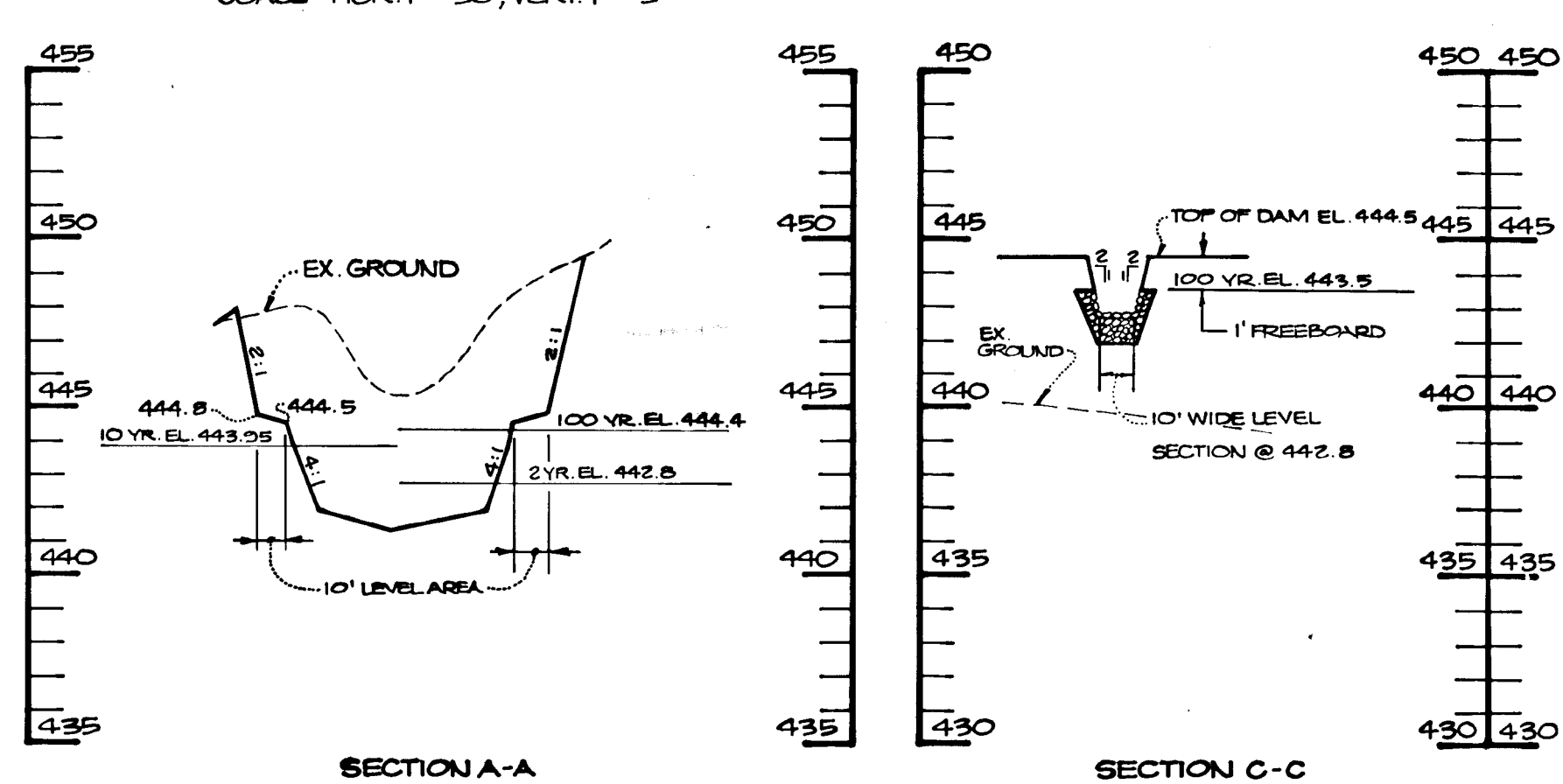


**S.W.M. FACILITY No. 3 (MD-378 POND)**



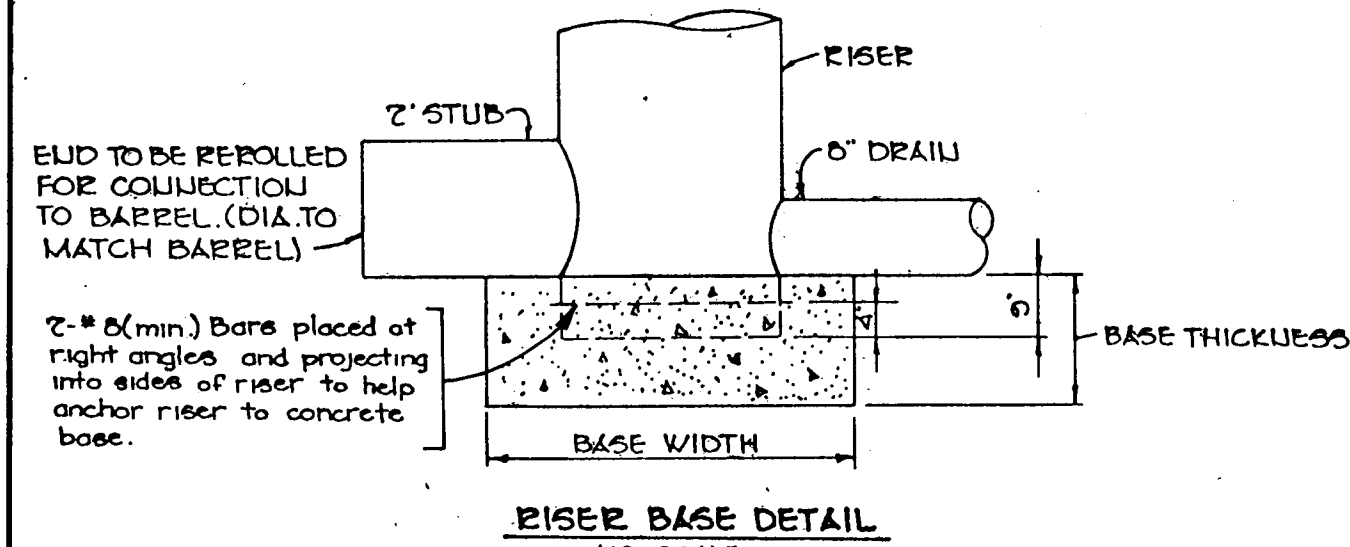
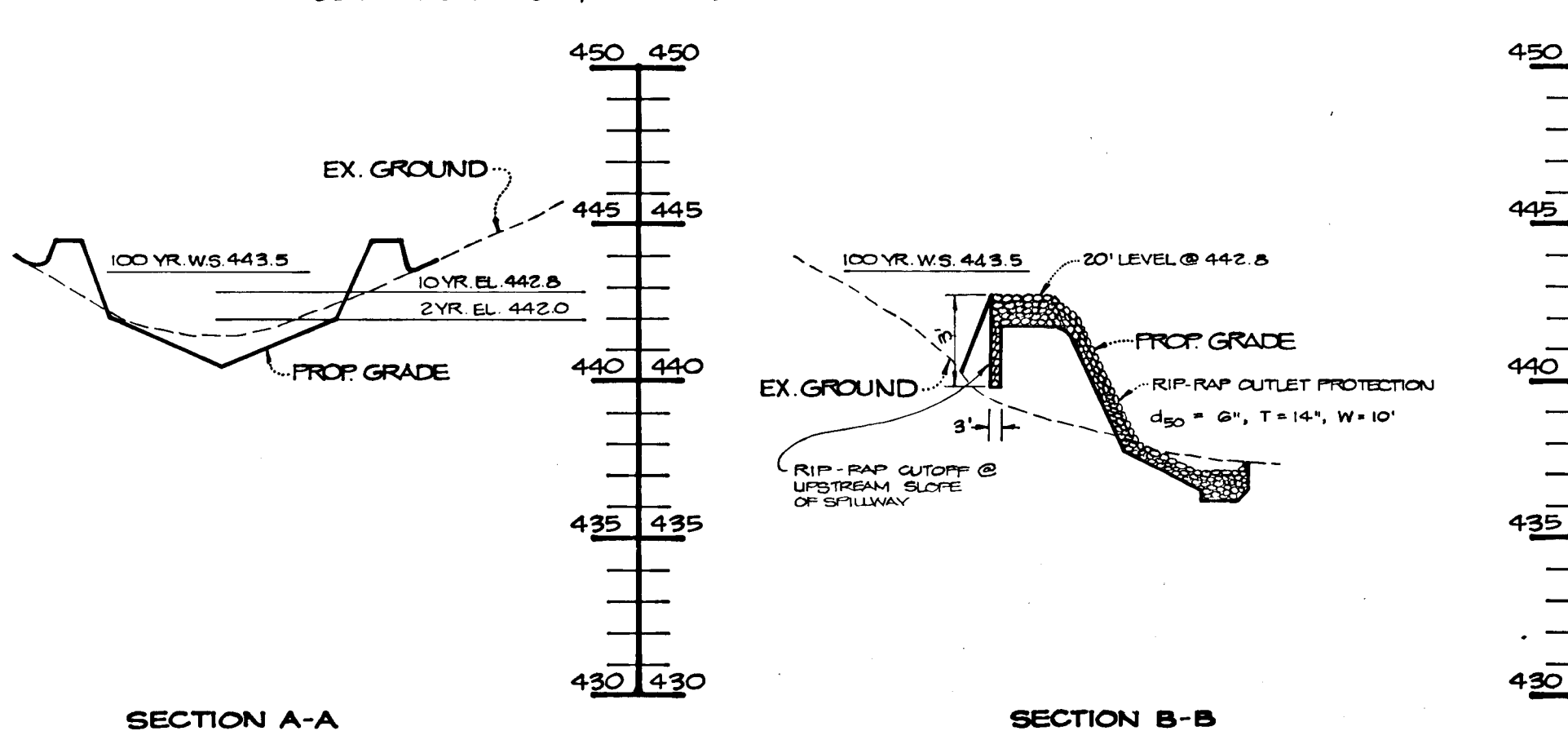
**S.W.M. FACILITY No. 7**

SCALE: HOR. 1" = 50', VERT. 1" = 5'



**S.W.M. FACILITY No. 4**

SCALE: HOR. 1" = 50', VERT. 1" = 5'

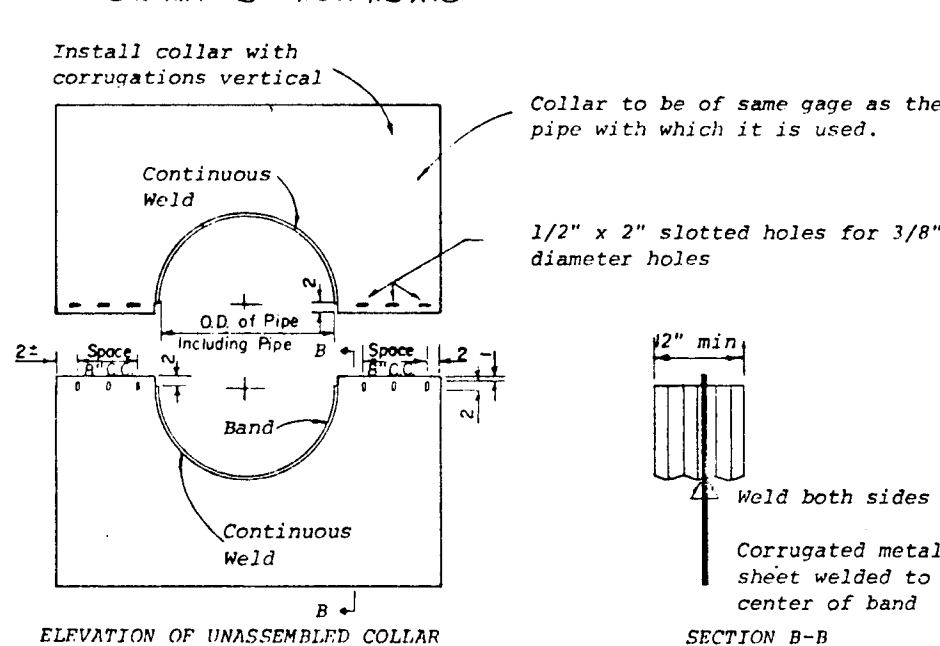


**RISER BASE DETAIL**

NO SCALE

NOTE: 1 The concrete base shall be poured in such a manner to insure that the concrete fills the bottom of the riser to the invert of the outlet pipe to prevent the riser from breaking away from the base.

NOTE: 2  
S.W.M.F. # 2 - 3' x 3' x 18"  
S.W.M.F. # 3 - 4.5' x 4.5' x 18"



NOTES FOR COLLARS:  
1. All materials to be in accordance with construction and construction material specifications.  
2. When specified on the plans, coating of collars shall be in accordance with construction and construction material specifications.  
3. Unassembled collars shall be marked by painting or tagging to identify matching pairs.  
4. The lap between the two half sections and between the pipe and connecting band shall be caulked with asphalt mastic at time of installation.  
5. Each collar shall be furnished with two 1/2" diameter rods with standard tank lugs for connecting collars to pipe.

**CORRUGATED METAL ANTI-SEEP COLLAR**

NO SCALE

NOTE:  
S.W.M.F. # 2 - 7.2 x 7.2  
S.W.M.F. # 3 - 7.4 x 7.4

BY THE DEVELOPER:

"I 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*Robert W. Johnson* 12/5/89  
DEVELOPER DATE

BY THE ENGINEER:

"I CERTIFY THAT 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."

*Arthur E. Muegge* 12-5-89  
ENGINEER DATE

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.

*James M. Helm* 12/11/89  
U.S. SOIL CONSERVATION SERVICE DATE

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

APPROVED *Robert W. Johnson* 12/11/89  
HOWARD S.O.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Francis J. Langley* 1/2/89  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Donald P. Ryan* 2/22/90  
CHIEF, LAND DEVELOPMENT DIVISION DATE  
*William W. Wehland* 2/7/90  
CHIEF, BUREAU OF HIGHWAYS DATE  
*Robert W. Johnson* 2-23-90  
CHIEF, BUREAU OF ENGINEERING DATE

DATE NO REVISION

OWNER / DEVELOPER  
CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
46 RANDALL CONSTRUCTION COMPANY, INC.  
5501 TWIN KNOLLS ROAD SUITE 102  
COLUMBIA, MARYLAND 21045

PROJECT **CLEARVIEW ESTATES**  
SECTION 2

AREA TAX MAP No's 29 & 35 ZONED R PARCELS 39 & 40  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE **STORM WATER MANAGEMENT**  
**DETAILS**

**RIEMER MUEGGE & ASSOCIATES, INC.**  
A Land Planning, Engineering and Consulting Firm  
3105 North Ridge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

12-5-89  
DATE

DESIGNED BY: C.J.R.  
DRAWN BY: S.R.H.  
PROJECT NO: 43603  
DATE: DECEMBER 1989  
SCALE: AS SHOWN  
DRAWING NO. 15 OF 16



*Arthur E. Muegge* ARTHUR E. MUEGGE #2707

MAYLAND BLUEPRINT CO. INC. 102029

1053

# STORM WATER MANAGEMENT SPECIFICATIONS

These specifications are appropriate to ponds within the scope of the Standard for practice 378.

## I. 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, fence, rubbish and other objectionable material unless otherwise designated on the 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 and reservoir as directed by the owner 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.

## II. EARTH FILL

### Material

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. 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 above the design elevation (including freeboard) as shown on the plans.

### Placement

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch 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.

### 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 by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

### Cutoff Trench

Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

## III. STRUCTURAL BACKFILL

Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four 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 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 a compacted fill of twenty-four inches or greater over the structure or pipe.

## IV. PIPE CONDUITS

All pipes shall be circular in cross section.

### A. Corrugated Metal Pipe

- Materials - (Steel Pipe)** - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of ASTM Specification No. 192 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 when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to the completely watertight. Dimple bands are not considered to be watertight.
- Bedding** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Laying pipe** - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the side.
- Backfilling shall conform to structural backfill as shown above.
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

### B. Reinforced Concrete Pipe

- Materials** - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is AWA Specification C-301.
- Bedding** - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3", or as shown on the drawings.
- Laying pipe** - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe shall be filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.
- Backfilling shall conform to structural backfill as shown above.
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

C. For pipes of other materials, specific specifications shall be shown on the drawings.

## V. CONCRETE

- Materials**
  - Cement** - Normal Portland cement shall conform to the latest ASTM Specification C-150.
  - Water** - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
  - Sand** - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.
  - Coarse Aggregate** - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.
  - Reinforcing Steel** - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

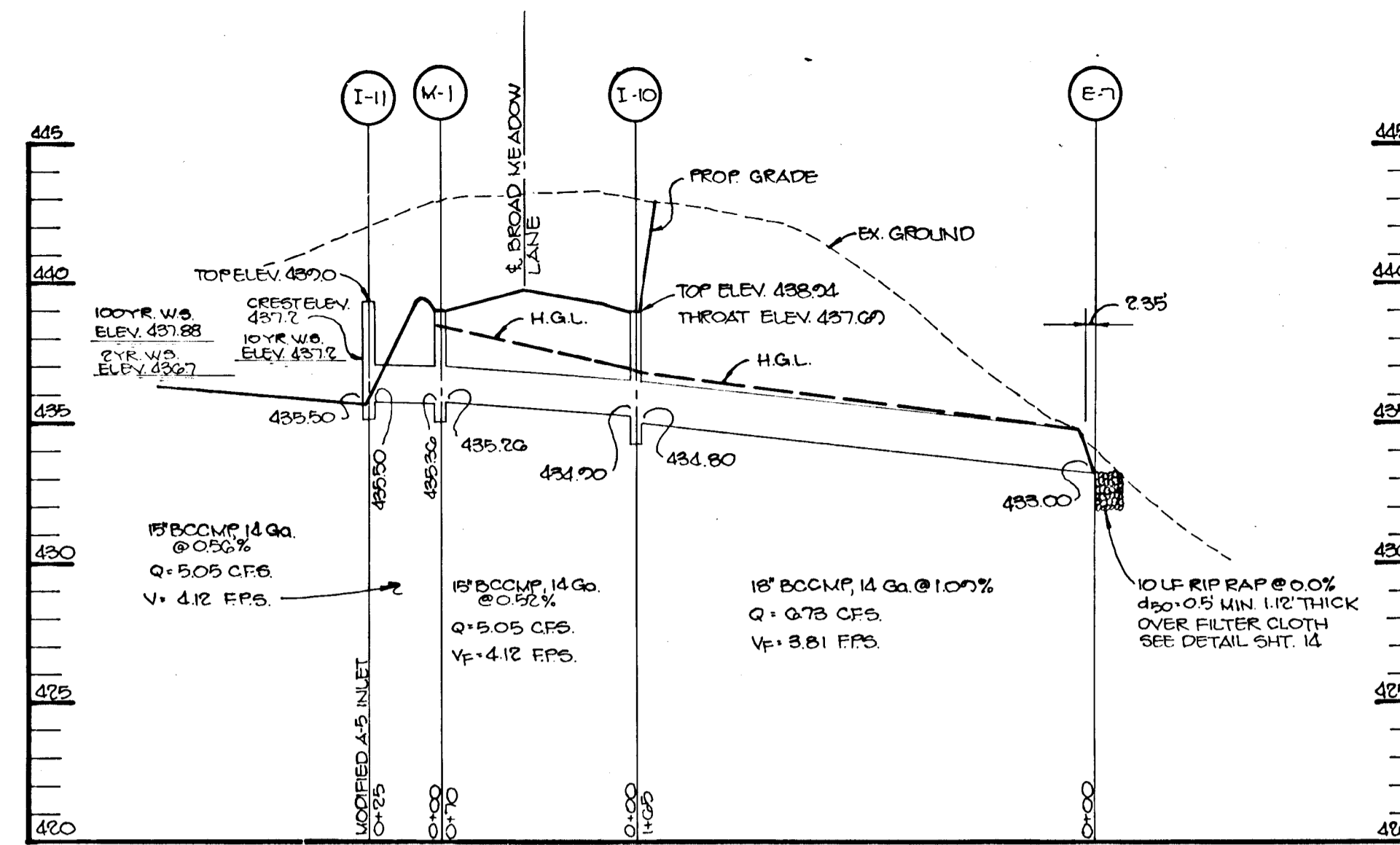
- Design Mix** - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-1/2 to 6 U.S. Gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-1/2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.
- Mixing** - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.
- Forms** - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete. The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed. Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.
- Reinforcing Steel** - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.
- Consolidating** - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by taping and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.
- Finishing** - Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be treated and completely filled with dry-matching mortar.
- Protection and Curing** - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compounds may also be used.
- Placing Temperature** - Concrete may not be placed at temperatures below 37° F with the temperature falling, or 36° with the temperature rising.

## VI. 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 by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

## VII. 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. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.



OUTFALL FOR S.W.F. #5

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

SOIL DESCRIPTION	DEPTH	BLOWS 6"	NO.	TYPE	REC.	REMARKS
BROWN SANDY SILT, TRACE OF GRAVEL, TOPSOIL	0-2.2	1	DS	0.7		WATER ENCOUNTERED AT 6.0'
LIGHT BROWN CLAY SILTY SAND, TRACE GRAVEL AND MICA	2-7.7	2	DS	1.6		
LIGHT BROWN SILTY SAND, TRACE GRAVEL	4-6.8	3	DS	1.0		
	6-9-11-12	4	DS	0.8		
	15					

BORING B-1

SOIL DESCRIPTION	DEPTH	BLOWS 6"	NO.	TYPE	REC.	REMARKS
LIGHT BROWN SANDY CLAY SILT, TRACE OF MICA	1-2.2	1	DS	1.2		NO TOPSOIL
BROWN MICACIOUS SILTY SAND	4-5.7	2	DS	1.5		WATER ENCOUNTERED AT 7.5'
	6-9-11	3	DS	1.0		
	14-17-21-23	4	DS	1.0		
	15					

BORING B-2

SOIL DESCRIPTION	DEPTH	BLOWS 6"	NO.	TYPE	REC.	REMARKS
BROWN SANDY CLAY SILT, TRACE OF GRAVEL	1-2.2	1	DS	0.9		NO TOPSOIL
MICACIOUS SILTY SAND	7-17-23	2	DS	1.3		WATER ENCOUNTERED AT 8.0'
	10-17-23	3	DS	1.0		
	15					

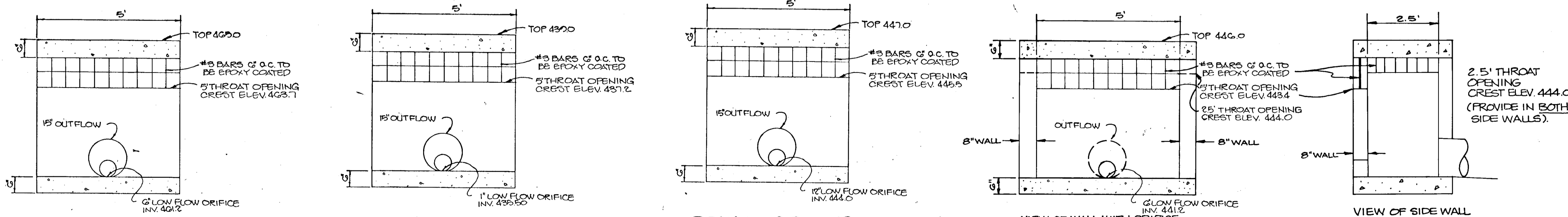
BORING B-3

SOIL DESCRIPTION	DEPTH	BLOWS 6"	NO.	TYPE	REC.	REMARKS
BROWN CLAY SANDY SILT, TRACE OF ROCK FRAGMENT	1-3-6	1	DS	0.9		NO TOPSOIL
BROWN MICACIOUS SILTY SAND	3-7.7	2	DS	1.5		NO WATER ENCOUNTERED
TAN SILTY SAND, TRACE OF ROCK FRAGMENT	10-30-16	3	DS	0.9		
	14-15-11-12	4	DS	0.1		
	15					

BORING B-4

## SOIL BORING PROFILES

NO SCALE



DETAIL OF I-1

DETAIL OF I-11

DETAIL OF I-12

DETAIL OF I-13

NO SCALE

BY THE DEVELOPER:

"I 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 ATTENDANT 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*Kenneth J. Mahan* 12/5/89  
DEVELOPER DATE

BY THE ENGINEER:

"I CERTIFY THAT 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."

*Arthur E. Muegge* 12-5-89  
ENGINEER DATE

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

*John M. Selman* 12/11/89  
U.S. SOIL CONSERVATION SERVICE DATE

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

APPROVED: *Robert J. Fisher* 12/11/89  
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*James L. V. Langley* 12/1/89  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Paul J. Gannon* 2/22/90  
CHIEF, LAND DEVELOPMENT DIVISION DATE

*Brian W. Wald* 2/7/90  
CHIEF, BUREAU OF HIGHWAYS DATE

*Richard B. Reid* 2-23-90  
CHIEF, BUREAU OF ENGINEERING DATE

DATE NO REVISION

OWNER/DEVELOPER  
CLEARVIEW ASSOCIATES LIMITED PARTNERSHIP  
96 RANDAL CONSTRUCTION COMPANY, INC.  
5501 TWIN KNOLLS ROAD SUITE 102  
COLUMBIA, MARYLAND 21045

PROJECT: CLEARVIEW ESTATES SECTION 2

AREA TAX MAP NO'S 22 & 25 ZONED R PARCELS 33 & 40  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: STORM WATER MANAGEMENT DETAILS

RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering, and Consulting Firm  
3105 North Ridge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

DATE: 12-5-89  
DESIGNED BY:  
DRAWN BY: S.R.H.  
PROJECT NO: 43603  
DATE: DECEMBER 1989  
SCALE: AS SHOWN  
DRAWING NO. 16 OF 16

