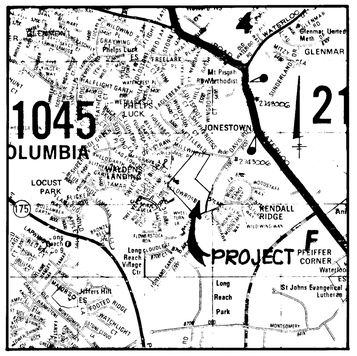
SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN & PROFILES OF HAYSHED LANE AND OPEN MEADOW WAY.
3	PLAN & PROFILE OF OPEN MEADOW WAY.
4	PLAN & PROFILES OF MEADOWSWEET CT, GOLDENSTRAW LA. & ROCKCRESS CT
5.	PLAN & PROFILE OF DAVIS RD AND STORM DRAIN PROFILES.
6	STORM DRAIN PROFILES AND ROAD DETAILS
7	DRAINAGE AREA MAP
8	GRADING AND SEDIMENT CONTROL PLAN
9	GRADING & SEDIMENT CONTROL PLAN AND SEDIMENT CONTROL DETAILS
10	STORM WATER MANAGEMENT DETAILS AND NOTES.

ROADWAY, STORM DRAINS & STORM WATER MANAGEMENT

LONG MEADOW

6 TH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE 1" = 2000'

GENERAL NOTES

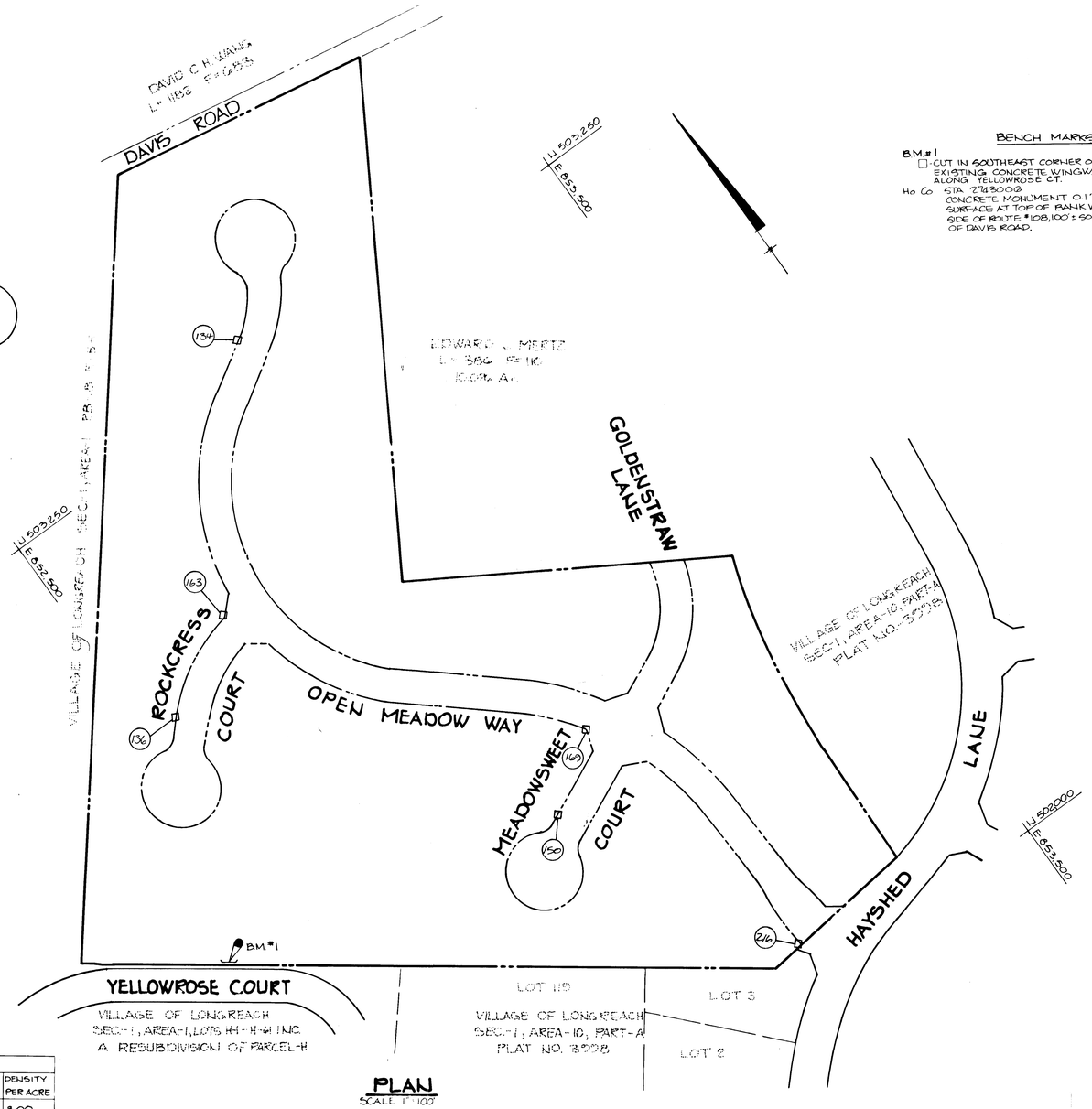
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV, i.e., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
2. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN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

5. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
6. ALL STREET CURB RETURNS SHALL HAVE 35.0' RADII UNLESS OTHERWISE NOTED.
7. 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.
8. INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1978 EDITION.
9. 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.
10. DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:

ALL 50' RIGHT-OF-WAYS 25 (30 M.P.H.

11. ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
12. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION.
13. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
14. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
15. SUBJECT PROPERTY ZONED R-12 PER 8-2-85 COMPREHESIVE ZONING PLAN.
16. TOPO TAKEN FROM FIELD RUN SURVEY DATED SEPTEMBER, 1985 BY THE RIEMER GROUP, INC.
17. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
18. ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME I OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
19. SEE OFFICE OF PLANNING AND ZONING FILE NO'S S 86-37 & P 86-40
20. THE EXISTING DRIVEWAY WILL BE ABANDONED WHEN OTHER PUBLIC ACCESS BECOMES AVAILIBLE.



PLAN
SCALE 1" = 100'

BENCH MARKS

BM #1 ELEV. 411.04
☐-CUT IN SOUTHEAST CORNER OF EXISTING CONCRETE WINGWALL ALONG YELLOWROSE CT.

Ho Co STA 278+00G ELEV 515.054
CONCRETE MONUMENT 0.1' BELOW SURFACE AT TOP OF BANK WEST SIDE OF ROUTE #108, 100'± SOUTH OF DAVIS ROAD.

HORIZATAL & VERTICAL CONTROLS USED IN AS-BUILT SURVEY

LOT SIZE IN SQ. FT.	NO OF LOTS	AREA IN ACRES	OS REQUIRED	AREA OF OS REQUIRED IN ACRES	AREA OF OS PROVIDED IN ACRES
12,000 OR GREATER	17	5.67±	8%	0.45±	2.26±
10,800 - 11,999	3	0.78±	10%	0.08±	0.43±
9600 - 10,799	18	4.16±	20%	0.83±	0.03±
8400 - 9599	23	4.71±	30%	1.41±	0.06±
TOTALS	61			2.77±	2.78±

DENSITY TABULATION							
GROSS AREA	FLOODPLAIN STEEP SLOPES	NET AREA	NO. OF DWELLING UNITS ALLOWED	FLOODPLAIN LOT ADJUSTMENT	TOTAL NO. OF DU PROPOSED	TOTAL NO. OF DU ALLOWED	DENSITY PER ACRE
21.96ac±	1.67Ac±	20.29Ac±	61	0	61	0	3.00

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 9-9-86

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 9/11/86

DATE	NO	REVISION

OWNER:
GEORGE C. DEERING
ROBERT M. HAWKIN
ROBERT R. PRELLER
5838 STILLMEADOW LANE
COLUMBIA, MARYLAND

DEVELOPER:
LONG MEADOW VENTURERS
ONE KNOLL NORTH DRIVE
SUITE 502
COLUMBIA, MARYLAND

PROJECT: **LONG MEADOW**
SECTION ONE
LOTS 1 THRU 65

AREA TAX MAP NO. 36 PARCEL NO. 263
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **TITLE SHEET**

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

9-4-86
DATE

ARTHUR E. MUEGGE #8707

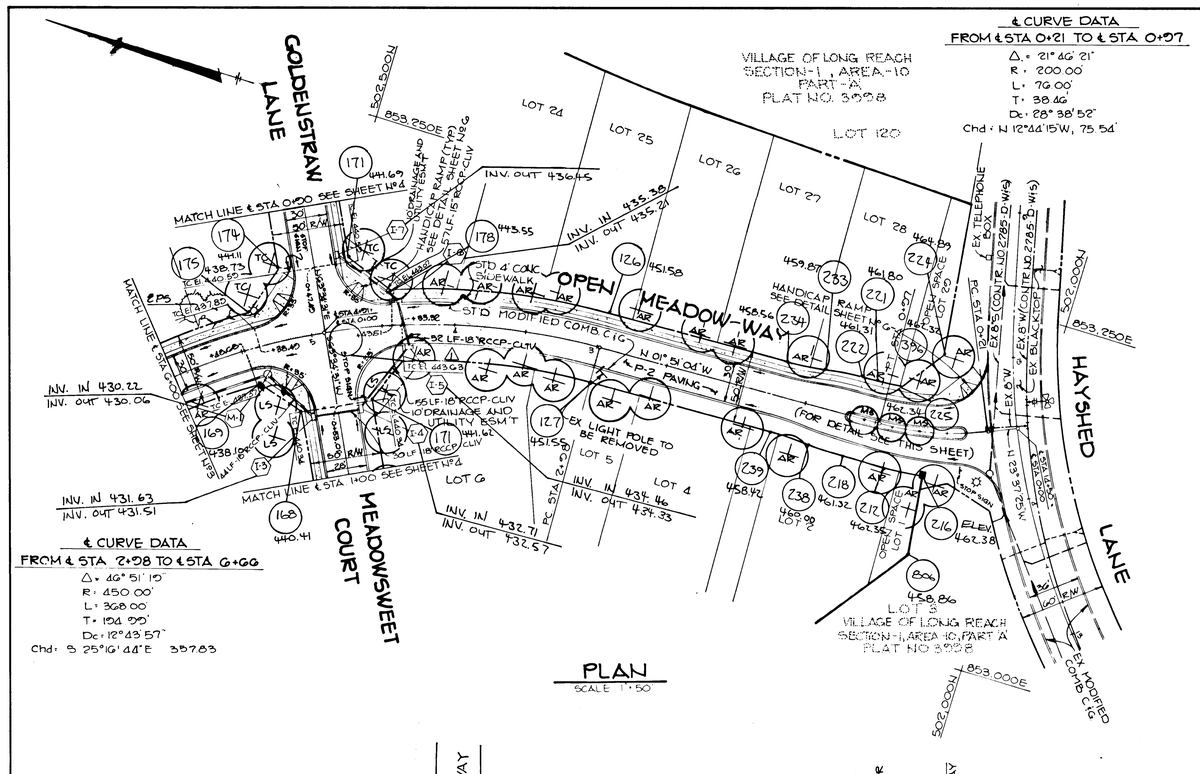
DESIGNED BY: D.A.M.
DRAWN BY: F.D.M.
PROJECT NO: 23000
DATE: JULY 31, 1986
SCALE: AS SHOWN
DRAWING NO. 1 OF 10

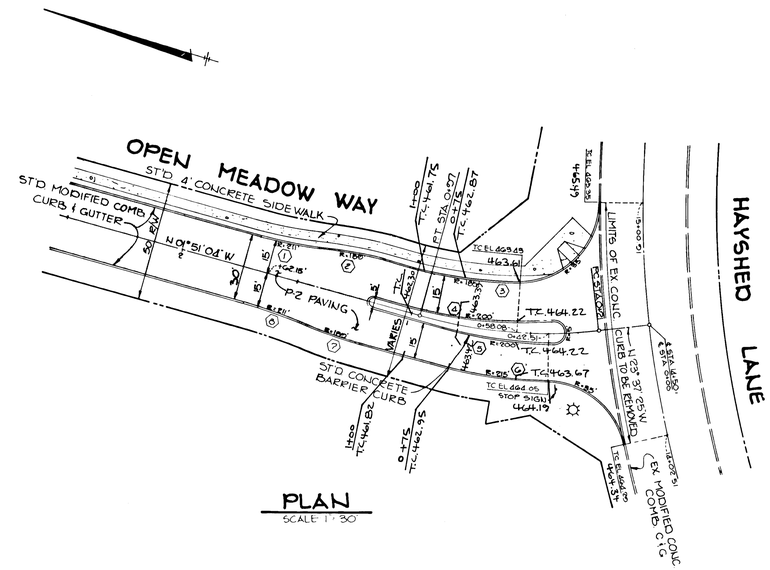
AS-BUILT DEC. 16, 1991

F-86-203

12 3 4

MARYLAND BLUEPRINT CO. INC. HA. 2-8-91





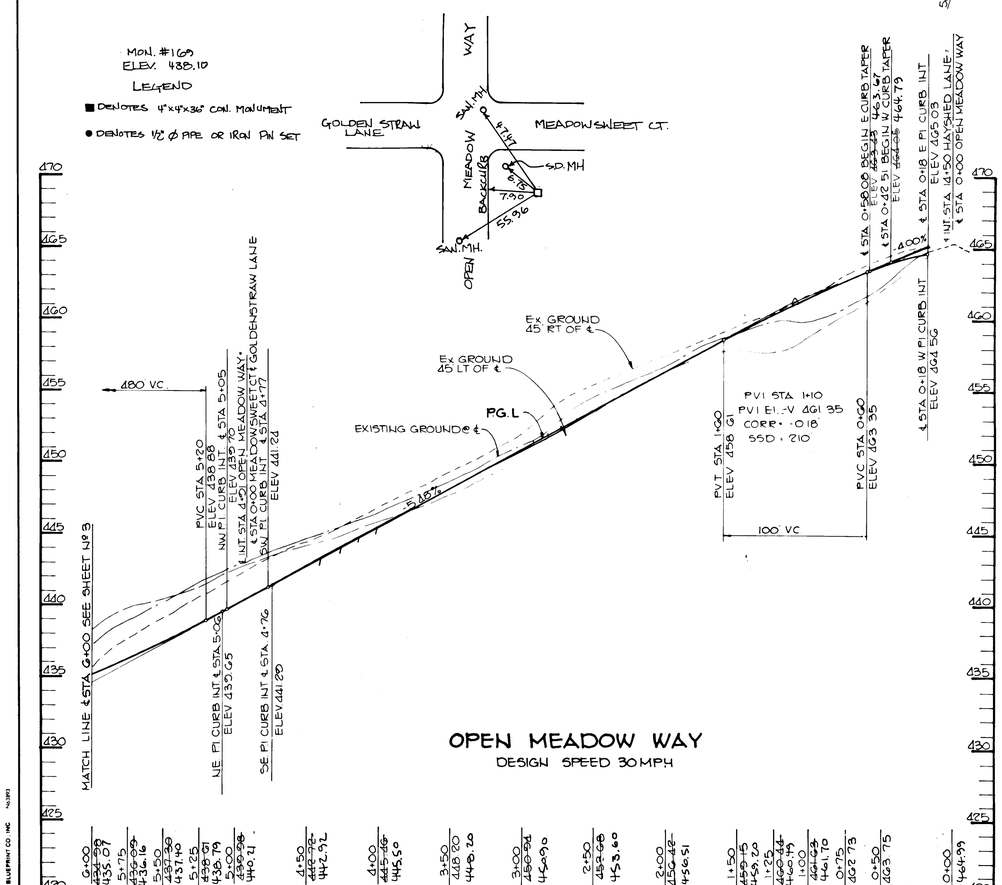
CURVE DATA						
NO.	Δ	RAD.	LEN.	TAN.	CHD.	L.C.B.
1	06°24'33"	211.00'	23.60'	11.81'	23.59'	N05°03'21"W
2	06°24'33"	189.00'	21.14'	10.58'	21.13'	N05°03'21"W
3	13°39'21"	185.00'	44.09'	22.15'	43.99'	N08°40'45"W
4	18°28'38"	200.00'	64.50'	32.53'	64.22'	S11°05'23"E
5	13°43'28"	200.00'	47.91'	24.07'	47.79'	S08°42'45"E
6	13°13'47"	215.00'	49.64'	24.93'	49.53'	S08°27'58"E
7	06°24'33"	189.00'	21.14'	10.58'	21.13'	S01°21'13"W
8	06°24'33"	211.00'	23.60'	11.81'	23.59'	S01°21'12"W

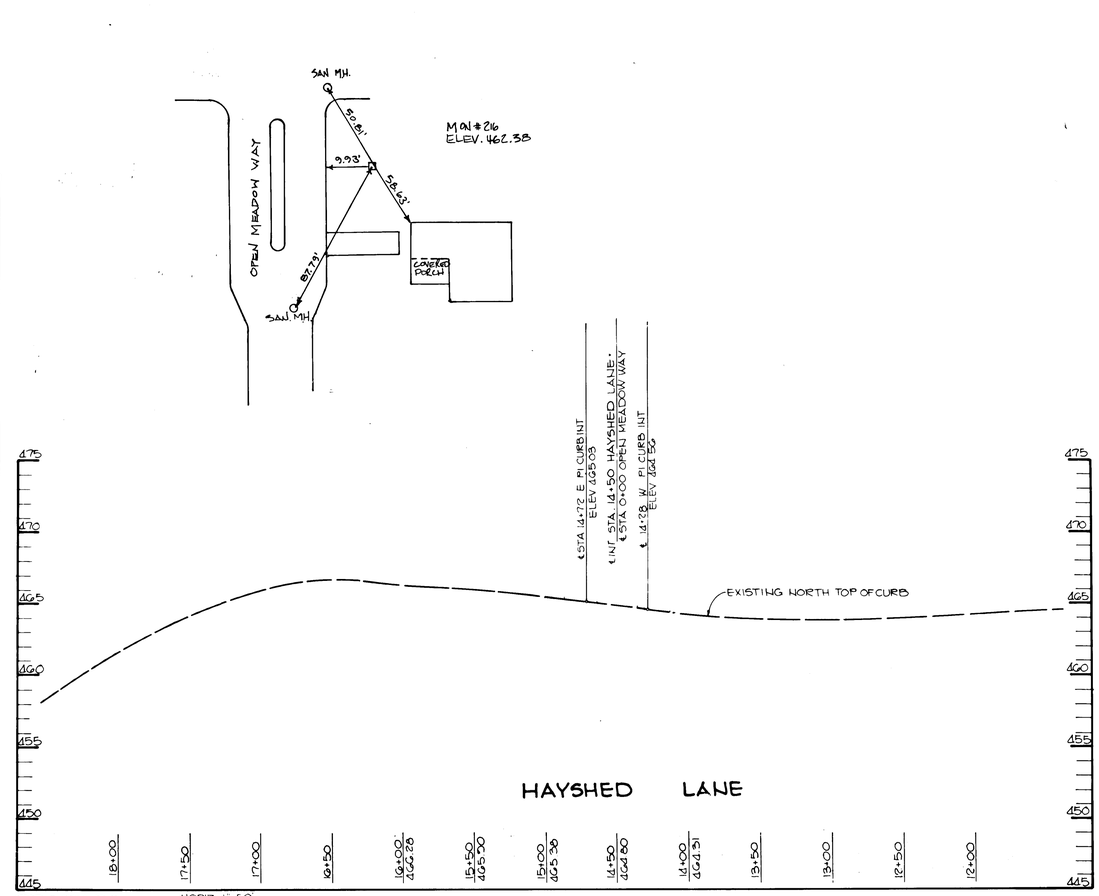
MON. #169
ELEV. 438.10

LEGEND

■ DENOTES 4"x4"x36" CONC. MONUMENT

● DENOTES 1/2" Ø PIPE OR IRON PIN SET





APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 9-9-86

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 9.11.86

DATE	NO	REVISION
10-29-86	1	REVISED PIPE SIZE BETWEEN I-5 & I-6

OWNER
GEORGE C. DEERING
ROBERT H. HAWKIN
ROBERT R. PRELLER
5838 STILLMEADOW LANE
COLUMBIA, MARYLAND

DEVEL.
LONG MEADOW VENTURERS
ONE KNOLL NORTH DRIVE
SUITE 502
COLUMBIA MARYLAND

PROJECT: LONG MEADOW
SECTION ONE
LOTS 1 THRU 6

AREA: TAX MAP No 36 — PARCEL No 263
ELECTION DISTRICT 6
HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE OF OPEN MEADOW WAY AND HAYSHED LANE

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

9-9-86
DATE

ARTHUR E. MUEGGE #0707

DESIGNED BY	D.A.M.
DRAWN BY	D.A.M.
PROJECT NO	23000
DATE	JULY 31, 1986
SCALE	AS SHOWN
DRAWING NO.	2 OF 10

AS-BUILT DEC. 16, 1991

F-86-203

12236

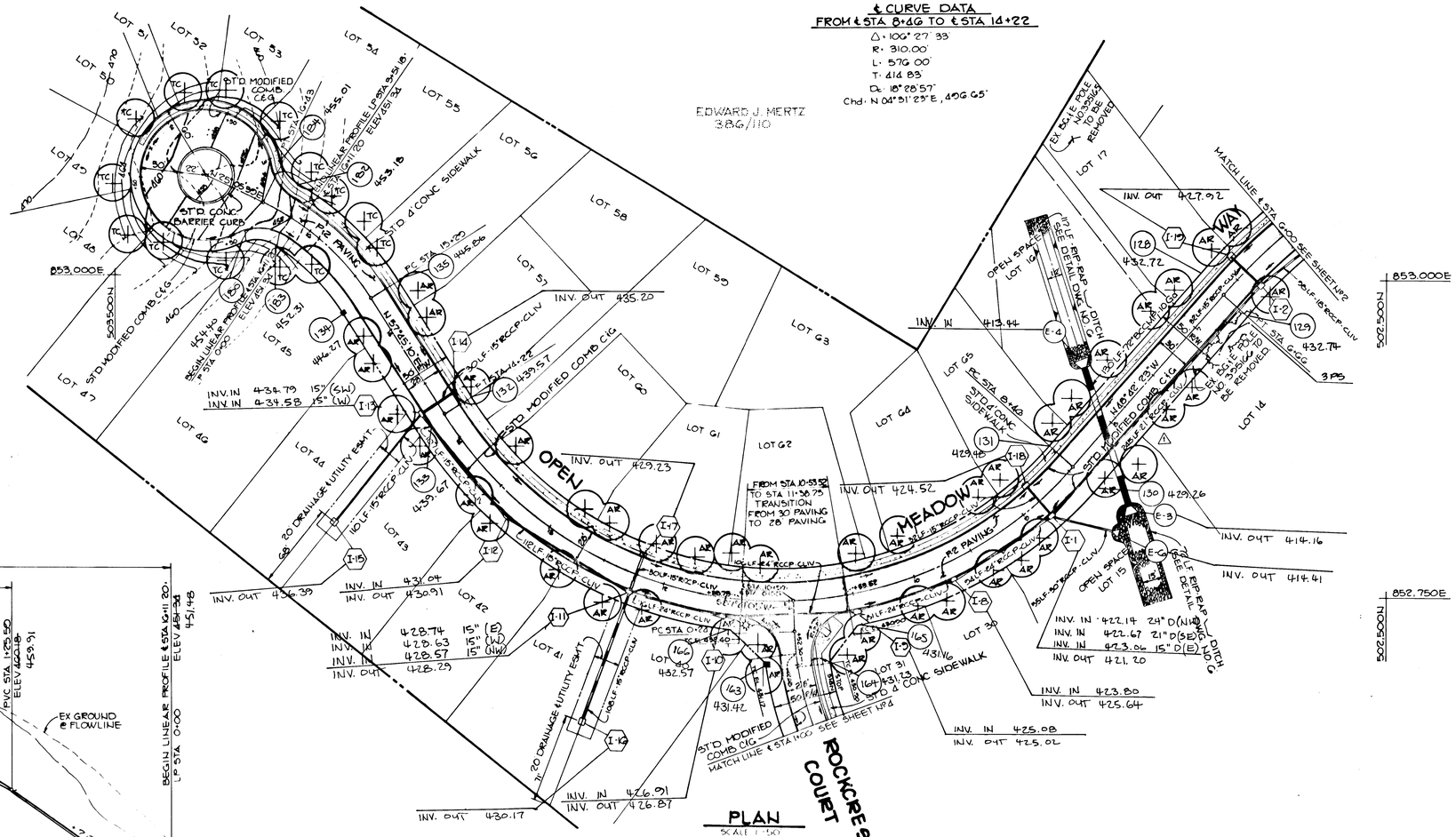
MARYLAND BLUEPRINT CO. INC. 742-3910

℄ CURVE DATA
FROM ℄ STA 15+29 TO ℄ STA 16+43

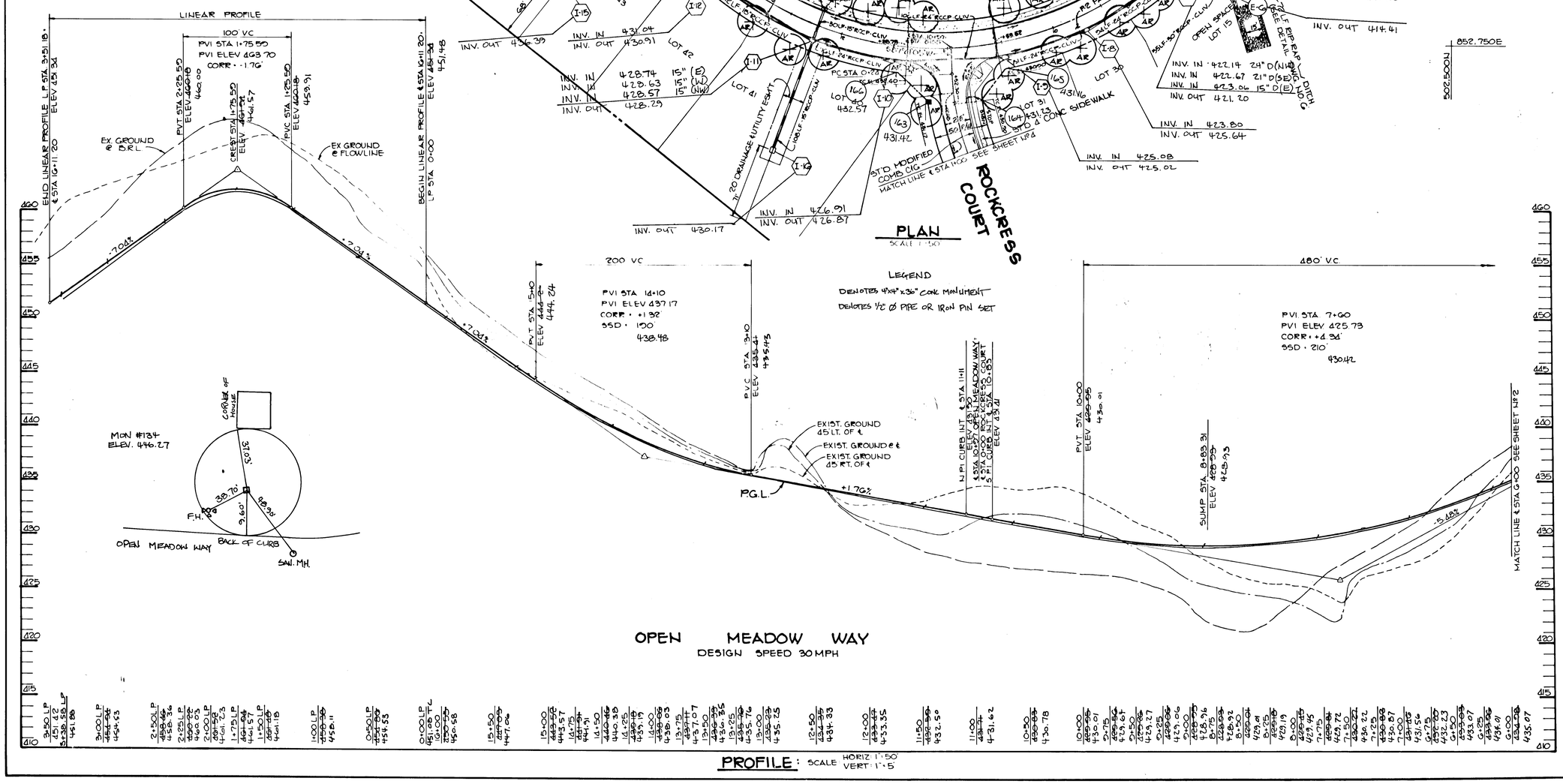
Δ: 32° 30' 31"
R: 200.00'
L: 114.00'
T: 58.60'
D: 28° 38' 52"
Chd: N 41° 25' 26" E 112.46'

℄ CURVE DATA
FROM ℄ STA 8+46 TO ℄ STA 14+22

Δ: 100° 27' 33"
R: 310.00'
L: 576.00'
T: 414.83'
D: 18° 28' 57"
Chd: N 04° 31' 23" E, 456.65'



PLAN
SCALE 1" = 50'



OPEN MEADOW WAY
DESIGN SPEED 30 MPH

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

LEGEND
DENOTES 4"x4"x36" CONC MONUMENT
DENOTES 1/2" Ø PIPE OR IRON PIN SET

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 9-9-86

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 9-11-86

DATE	NO.	REVISION
10-29-86	1	REVISED PIPE SIZE BETWEEN I-1 & I-2

OWNER
GEORGE C. DEERING
ROBERT M. HANKIN
ROBERT R. PRELLER
5898 STILL MEADOW WAY
COLUMBIA, MARYLAND

DEVL:
LONG MEADOW VENTURERS
ONE KNOLL NORTH DRIVE
SUITE 502
COLUMBIA, MARYLAND

PROJECT: LONG MEADOW
SECTION ONE
LOTS 1 THRU 65

AREA: TAX MAP No 36 PARCEL No 263
ELECTION DISTRICT 6
HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE OF OPEN MEADOW 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) 461-2690

9-9-86
DATE

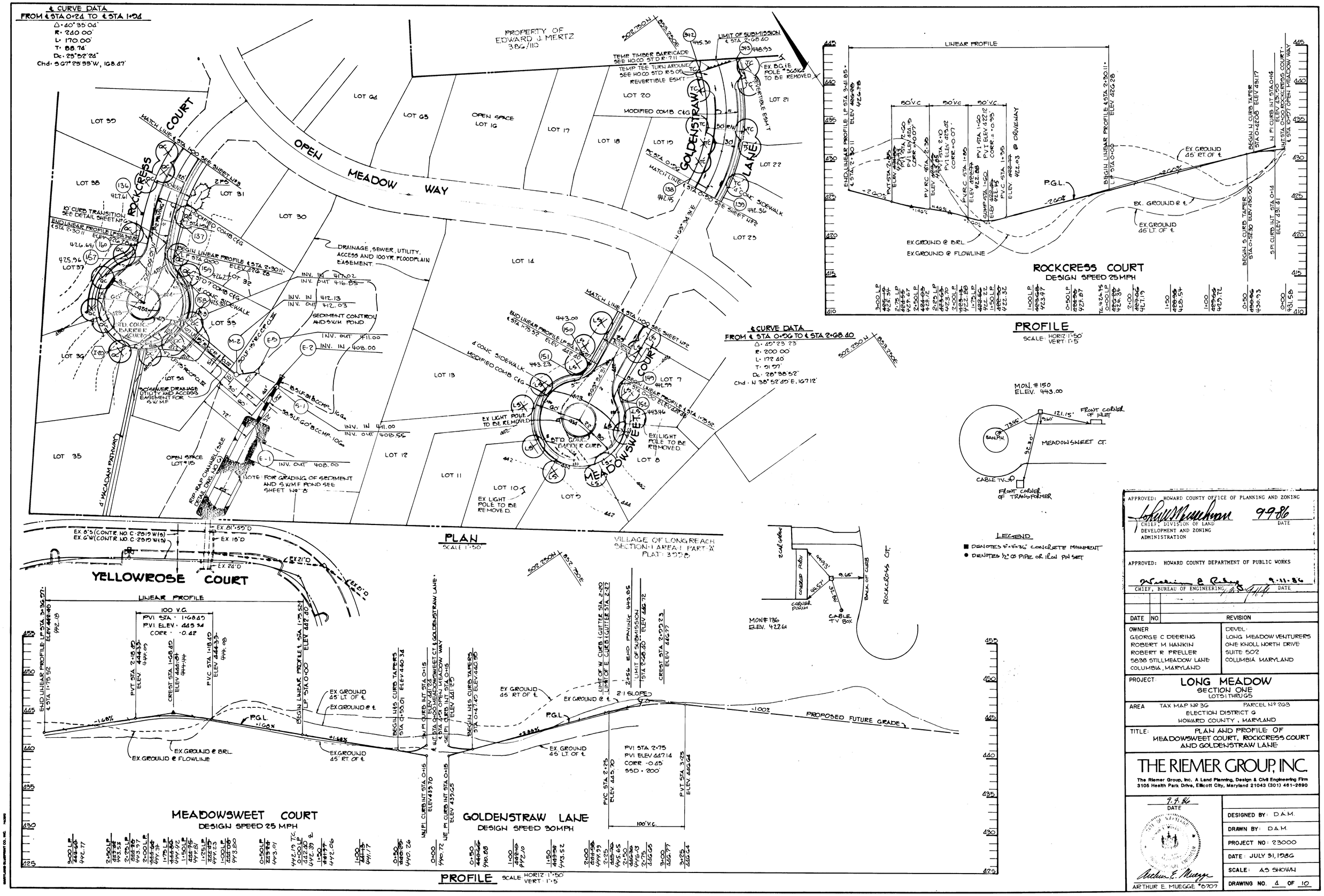
ARTHUR E. MUEGGE #8707

DESIGNED BY:	D.A.M.
DRAWN BY:	D.A.M.
PROJECT NO:	23000"
DATE:	JULY 31, 1986
SCALE:	AS SHOWN
DRAWING NO.	9 OF 10

AS-BUILT DEC. 16, 1991

F-86-203

12840



APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 9-9-86

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 9-11-86

DATE	NO.	REVISION

OWNER
GEORGE C DEERING
ROBERT M HANKIN
ROBERT R PRELLER
5838 STILLMEADOW LANE
COLUMBIA, MARYLAND

DEVEL:
LONG MEADOW VENTURERS
ONE KNOLL NORTH DRIVE
SUITE 502
COLUMBIA MARYLAND

PROJECT: LONG MEADOW
SECTION ONE
LOTS 1 THRU 65

AREA: TAX MAP No 36 PARCEL No 263
ELECTION DISTRICT 6
HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE OF MEADOWSWEET COURT, ROCKCRESS COURT AND GOLDENSTRAW LANE

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

9-4-86
DATE

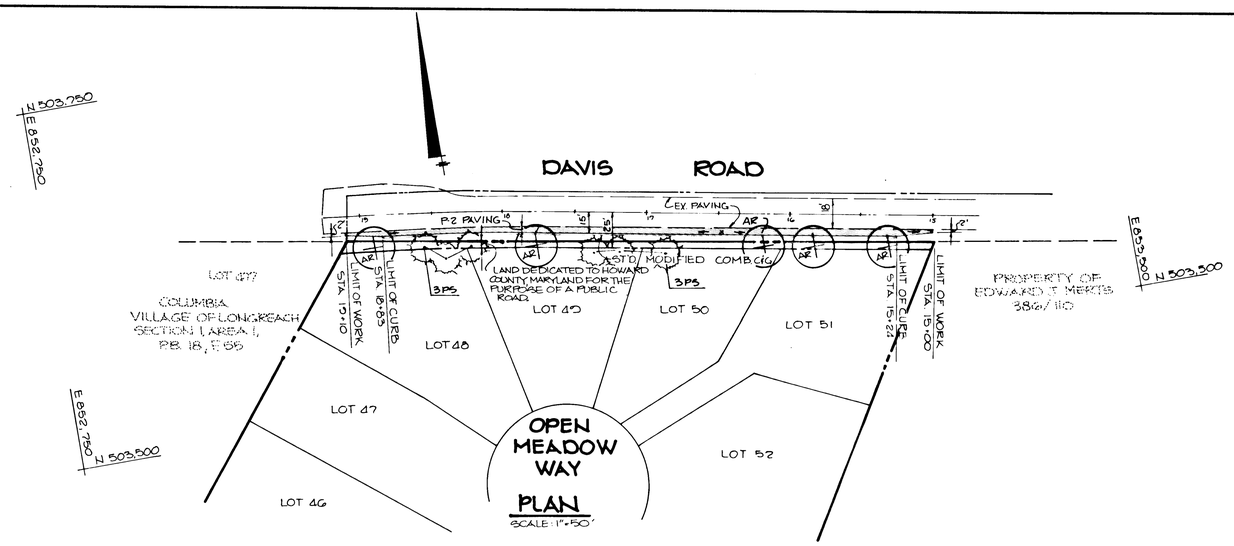
ARTHUR E. MUEGGE #8707

DESIGNED BY: D.A.M.
DRAWN BY: D.A.M.
PROJECT NO: 23000
DATE: JULY 31, 1986
SCALE: AS SHOWN
DRAWING NO. 4 OF 10

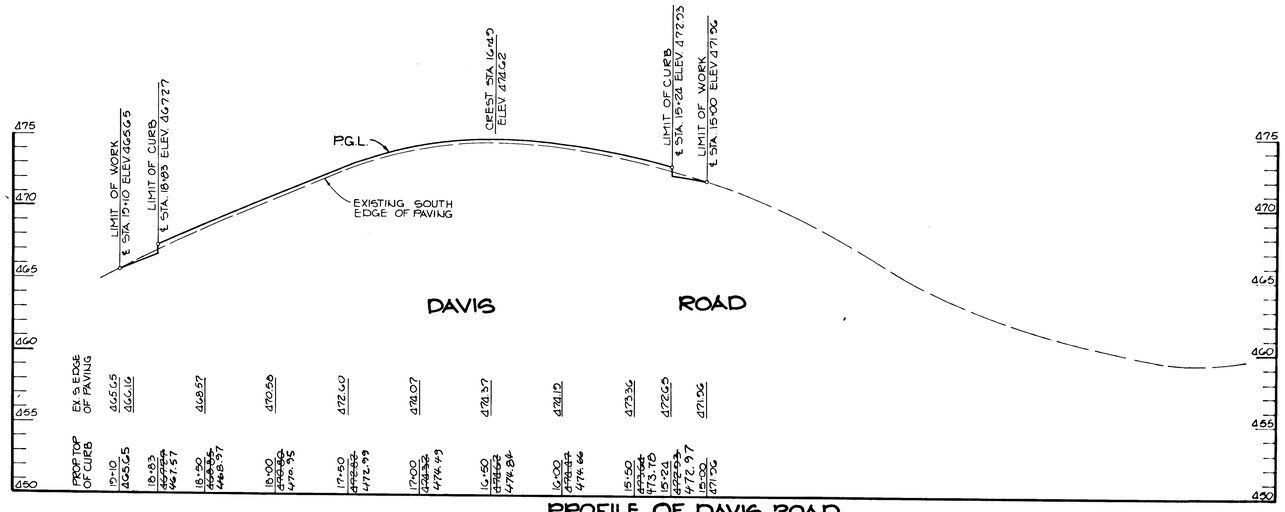
AS-BUILT DEC. 16, 1991

F-86-203

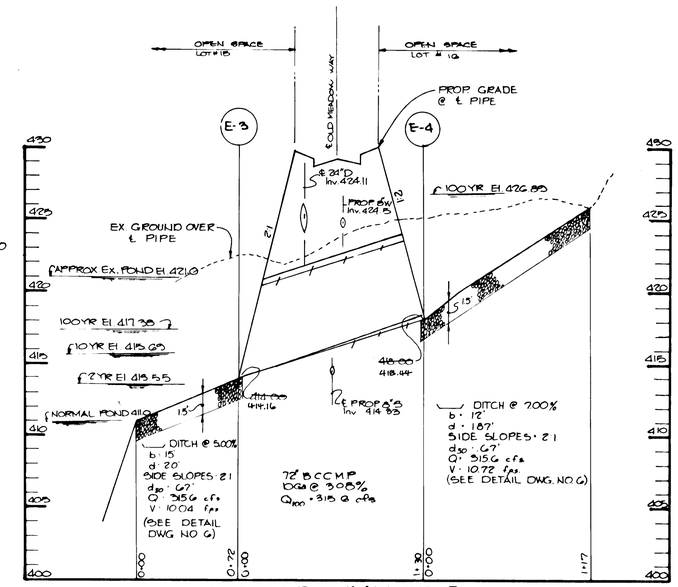
1236



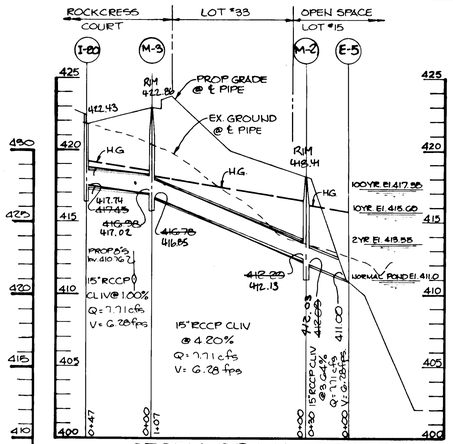
PLAN
SCALE: 1"=50'



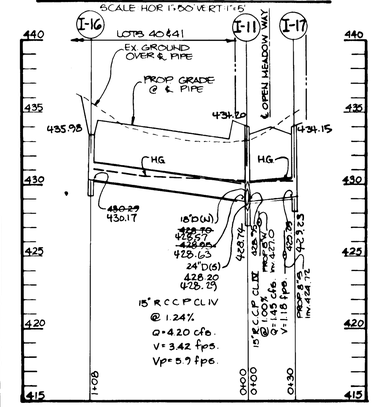
PROFILE OF DAVIS ROAD



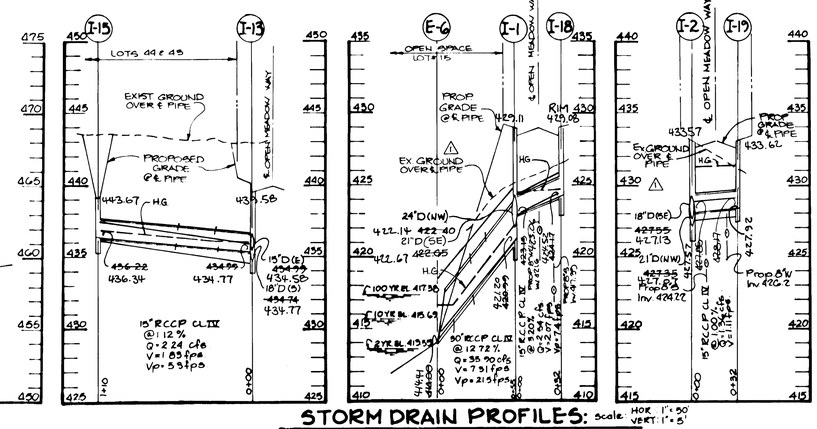
STORM DRAIN PROFILE
HOR. 1"=50'
SCALE VERT. 1"=5'



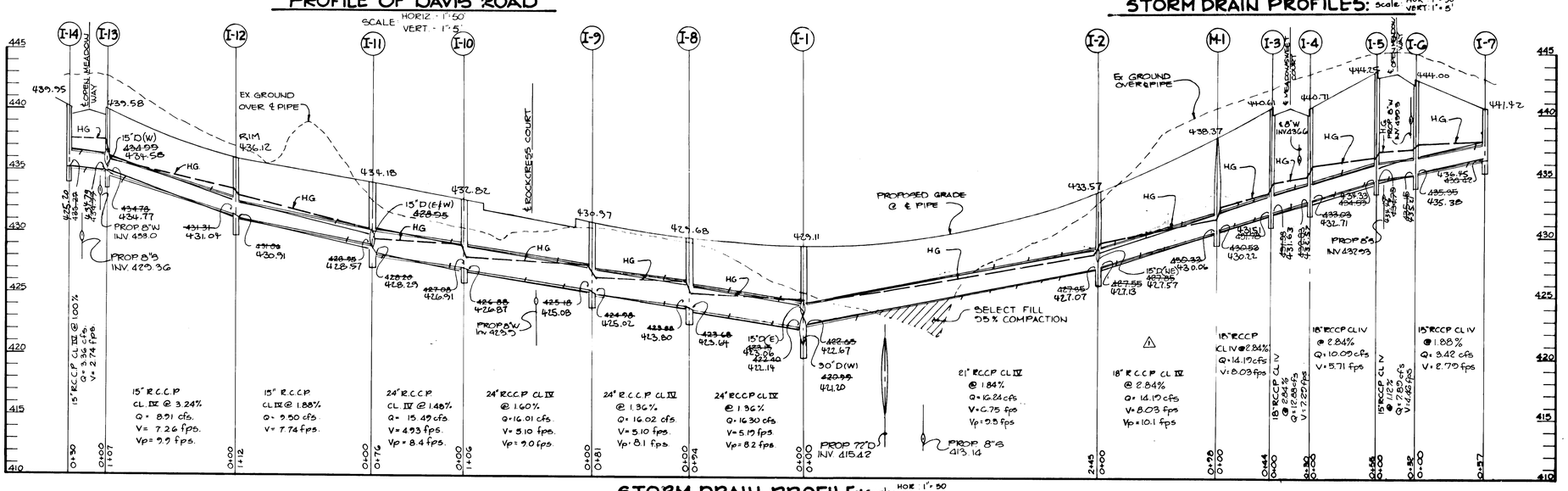
STORM DRAIN PROFILE



STORM DRAIN PROFILE:
Scale: HOR. 1"=50' VERT. 1"=5'



STORM DRAIN PROFILES: Scale: HOR. 1"=50' VERT. 1"=5'



STORM DRAIN PROFILE: Scale: HOR. 1"=50' VERT. 1"=5'

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 9-9-86

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 9-11-86

DATE	NO.	REVISION
10-29-86	1	REVISED PROFILES FROM I-1 TO I-7 AND FROM E-6 TO I-18 AND FROM I-2 TO I-19

OWNER	DEVELOPER
GEORGE C. DEERING ROBERT M. HANKIN ROBERT R. PRELLER 5838 STILLMEADOW LANE COLUMBIA, MARYLAND	LONG MEADOW VENTURERS ONE KNOLL NORTH DRIVE SUITE 502 COLUMBIA, MARYLAND

PROJECT: **LONG MEADOW**
SECTION ONE
LOTS 1 THRU 65

AREA: TAX MAP NO. 36 — PARCEL No. 203
ELECTION DISTRICT 6
HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE OF DAVIS ROAD AND STORM DRAINAGE 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) 461-2880

9-4-86
DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — No. 8107 — REGISTERED PROFESSIONAL ENGINEER

Arthur E. Muegge
ARTHUR E. MUEGGE #8107

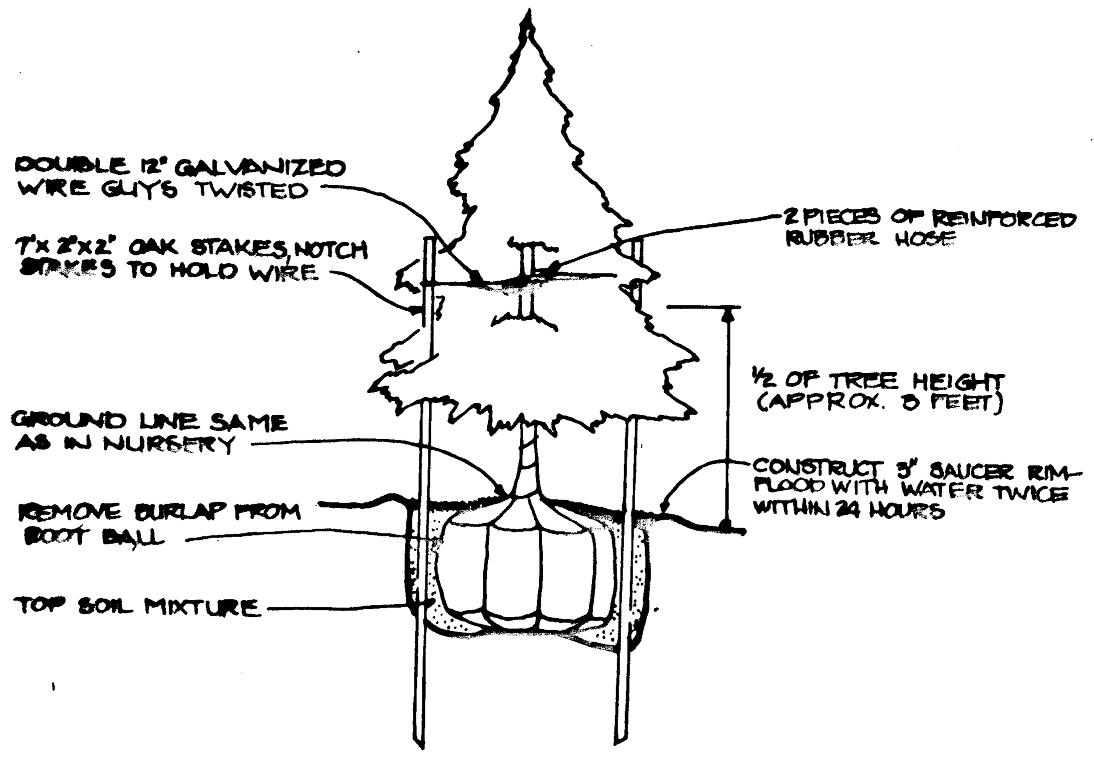
DESIGNED BY:	D.A.M.
DRAWN BY:	K.J.B.
PROJECT NO:	25000
DATE	JULY 31, 1986
SCALE:	AS SHOWN
DRAWING NO.	5 OF 10

AS-BUILT DEC. 16, 1991

F-86-203

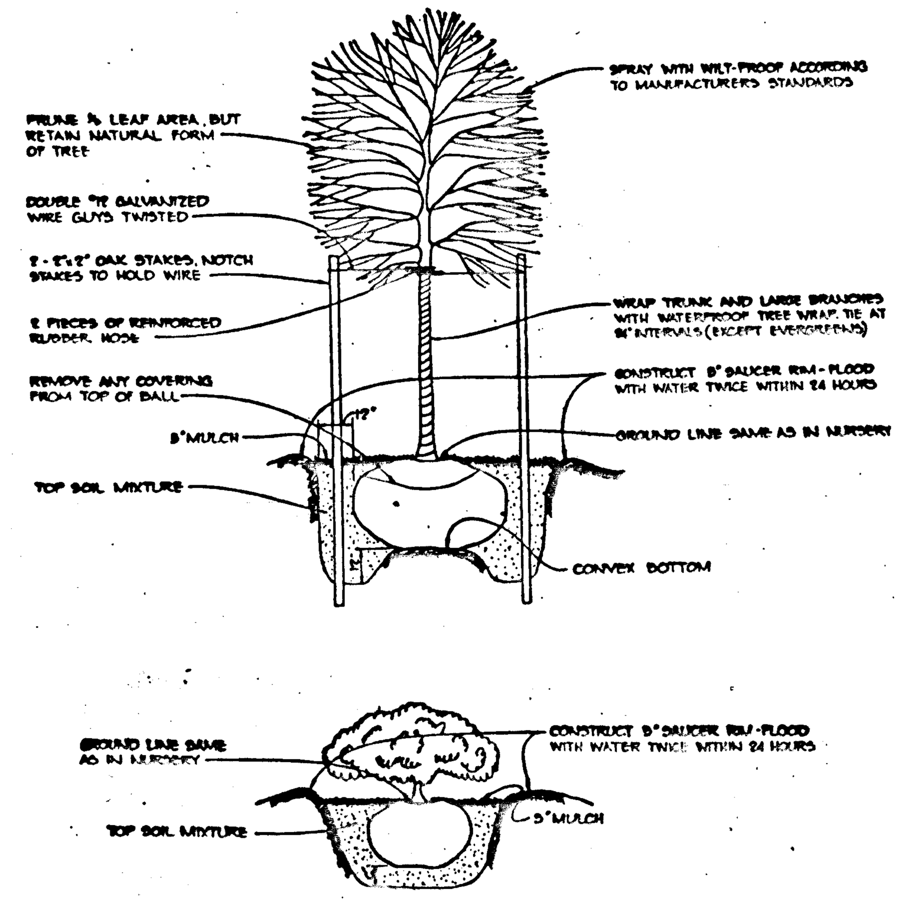
1236

MARYLAND BLUEPRINT CO., INC. 14-2093



EVERGREEN PLANTING DETAIL

NO SCALE



PLANTING DETAILS

NO SCALE

PLANT LIST

SHADE TREES

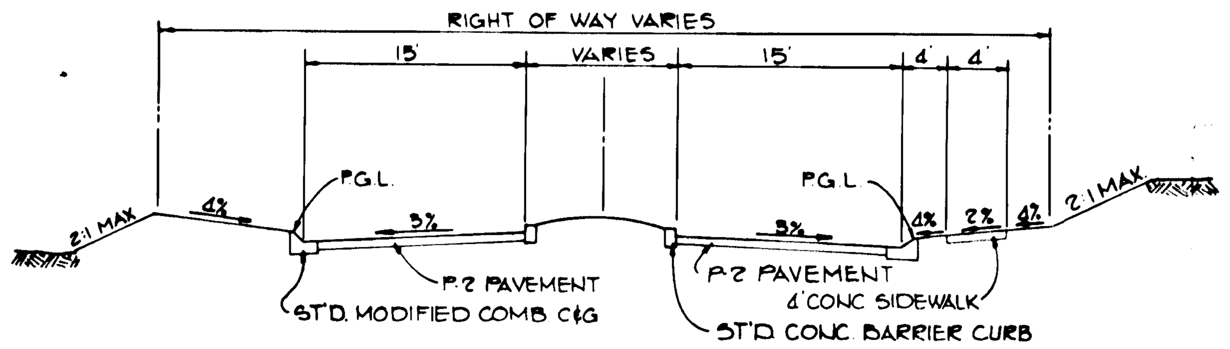
QTY.	ABR.	NAME	SIZE	REMARKS
73	Ar	ACER RUBRUM Red Maple	2½ - 3"Cal., 13 - 15'Ht.	Full head, B & B
18	Ls	LIQUIDAMBAR STYRACIFLUA Sweet Gum	2½ - 3"Cal., 12 - 14'Ht.	Full head, B & B
15	Qc	QUERCUS COCCINEA Scarlet Oak	2½ - 3"Cal., 12 - 14'Ht.	Full head, B & B
28	Tc	TILIA CORDATA "GREENSPIRE" Greenspire Linden	2½ - 3"Cal., 12 - 14'Ht.	Full head, B & B

EVERGREENS

QTY.	ABR.	NAME	SIZE	REMARKS
13	Ps	PINUS STROBUS Eastern White Pine	8 - 10'Ht.	Full branching, B & B

FLOWERING TREES

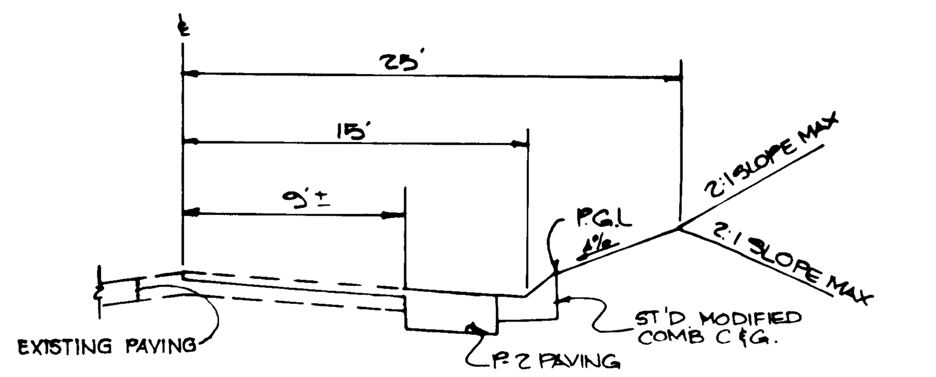
QTY.	ABR.	NAME	SIZE	REMARKS
3	Ms	MALUS SNOWCLOUD Snowcloud Crabapple	2 - 2½"Cal., 8-9'Ht.	Full head, B & B



OPEN MEADOW WAY FROM ℄ STA 0+58.08 TO ℄ STA 1+62.15
DESIGN SPEED - 30 MPH

TYPICAL DIVIDED ROADWAY SECTION

NO SCALE

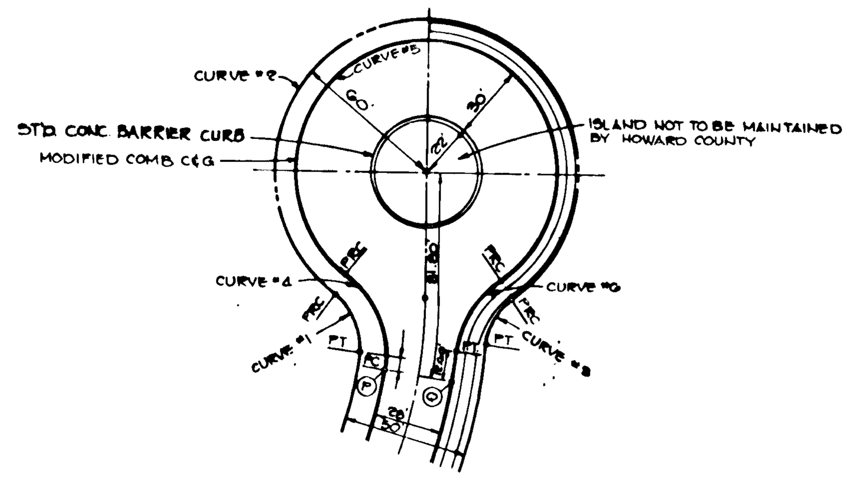


NOTE: SEE HOWARD COUNTY STANDARD DETAILS R-1.02 AND R-10.01 FOR ADDITIONAL NOTES AND DIMENSIONS

DAVIS ROAD ℄ STA. 15+24 TO ℄ STA 18+83
DESIGN SPEED 30 MPH

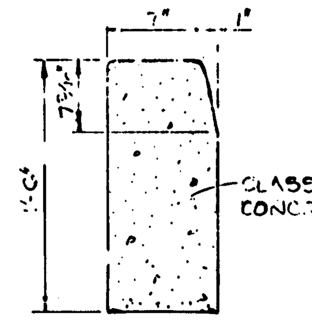
DAVIS ROAD WIDENING DETAIL

NO SCALE



CURVE DATA OPEN MEADOW WAY						
CURVE NO	1	2	3	4	5	6
Δ	60°00'00"	287°32'07"	50°00'52"	61°44'10"	287°32'35"	49°17'35"
R	25.00'	60.00'	25.00'	40.00'	52.00'	40.00'
L	26.15	301.23	21.80'	43.10'	261.07'	34.41'
T	14.42'	-	11.70'	23.91'	-	16.55'
LC	24.98'	-	21.20'	41.05'	-	33.56'
LP = 351.18						

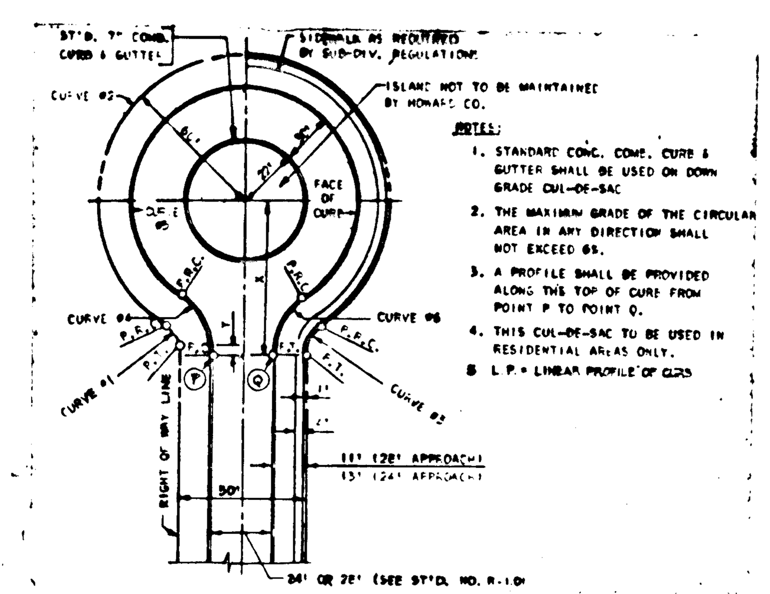
OPEN MEADOW WAY



HOWARD COUNTY ST'D R-3.03

STANDARD BARRIER CURB

No Scale



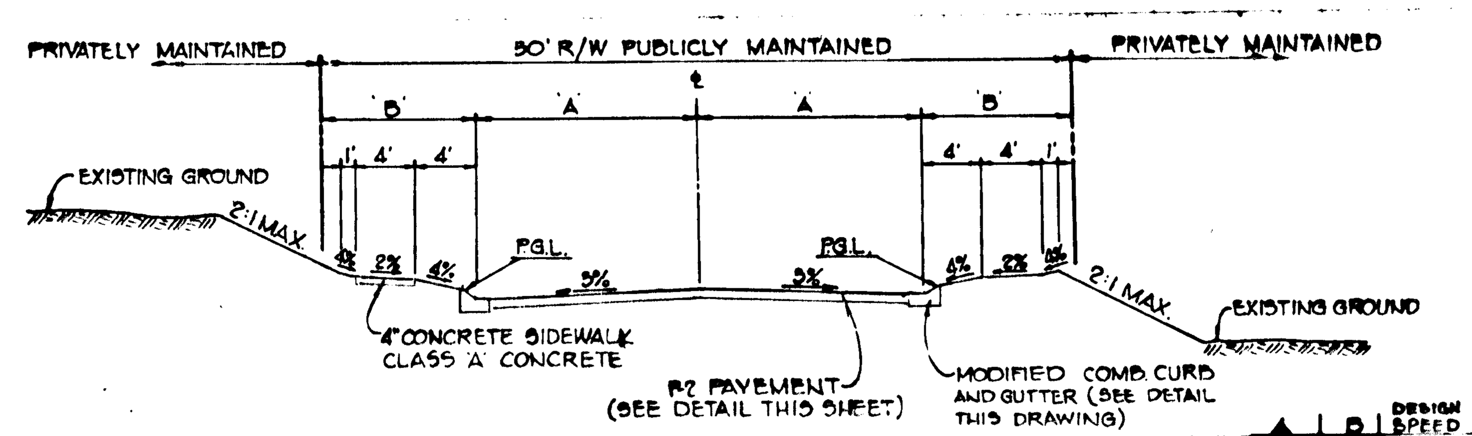
CURVE DATA MEADOWSWEET COURT				
CURVE NO	1&3	2	4&6	5
Δ	65°58'05"	287°56'10"	54°05'51"	288°07'08"
R	25.00	60.00	40.00	52.00
L	28.55	301.55'	37.74'	261.40
T	12.75	-	20.41	-
LC	27.03	-	36.36	-
X = 74.48 Y = 5.75 LP = 556.57				

CURVE DATA ROCKCRESS COURT				
CURVE NO	1&3	2	4&6	5
Δ	53°58'05"	287°56'10"	55°24'37"	251°05'55"
R	25.00	60.00	40.00	52.00
L	23.55	301.53	38.66	264.25
T	12.73	-	21.08	-
LC	22.63	-	37.30	-
X = 75.55 Y = 7.16 LP 341.65				

MEADOWSWEET COURT
ROCKCRESS COURT

CUL-DE-SAC DETAILS

NO SCALE

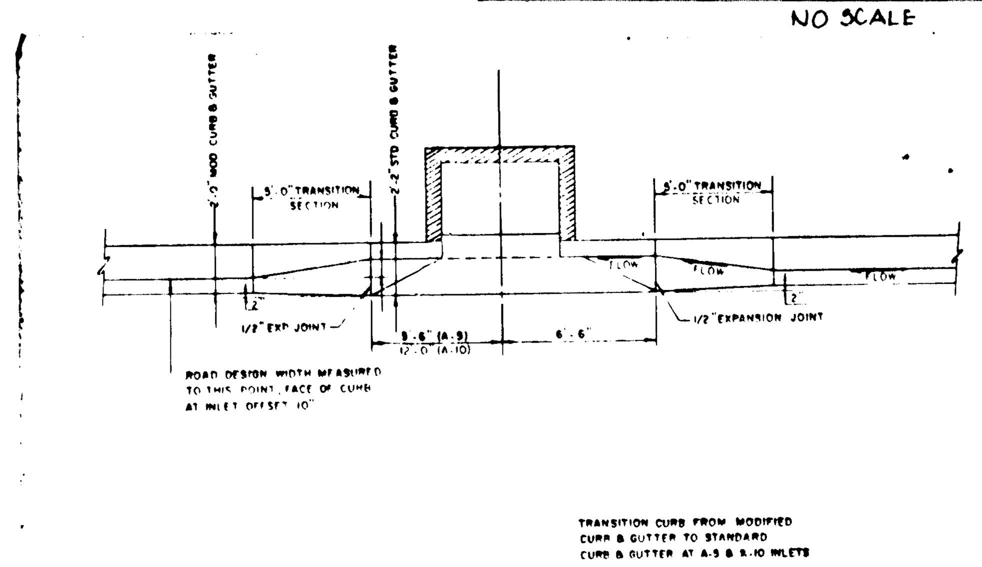


		A	B	DESIGN SPEED
OPEN MEADOW WAY FROM ℄ STA 0+00 TO ℄ STA 10+55.52	OPEN MEADOW WAY	15'	10'	30
MEADOWSWEET COURT FROM ℄ STA 0+51.76 TO ℄ STA 1+75.52	MEADOWSWEET COURT	14'	11'	25
ROCKCRESS COURT FROM ℄ STA 0+51.10 TO ℄ STA 2+30.11	ROCKCRESS COURT	14'	11'	25
GOLDENSTRAW LANE FROM ℄ STA 0+46.50 TO ℄ STA 2+20	GOLDENSTRAW LANE	15'	10'	30
OPEN MEADOW WAY FROM ℄ STA. 11+38.73 TO ℄ STA. 16+11.20	OPEN MEADOW WAY	14'	11	30

ZONED : R-12

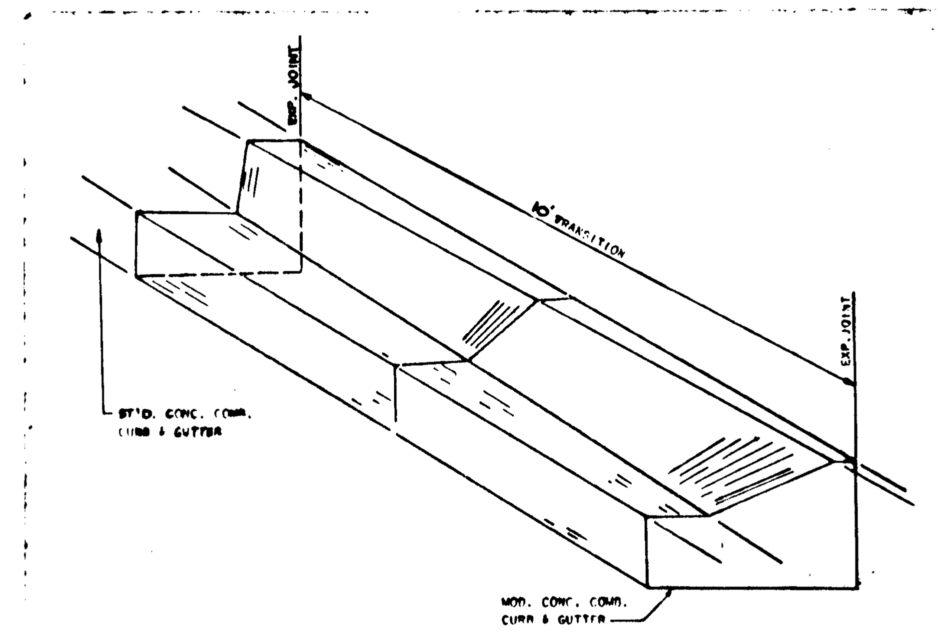
TYPICAL SECTION FOR 50' R/W

NO SCALE



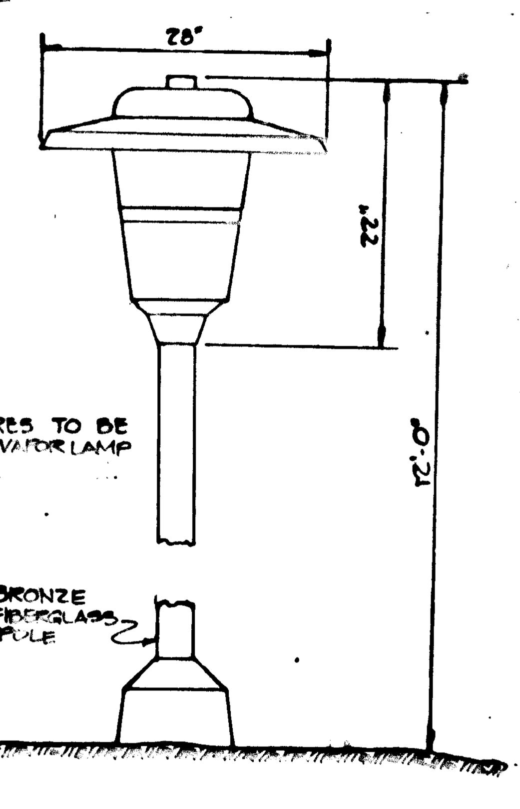
CONCRETE CURB AND GUTTER TRANSITION

NO SCALE



TRANSITION CURB SECTION AT 'A' TYPE INLETS

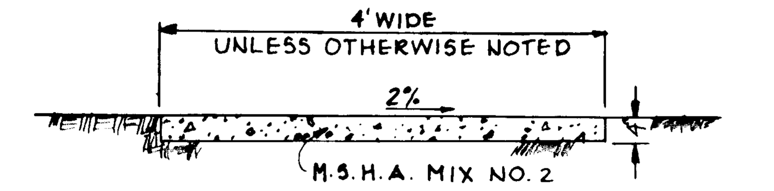
NO SCALE



NOTE:
ALL STREET LIGHT FIXTURES TO BE 175 WATT "MODERN" MERCURY VAPOR LAMP POST TOP FIXURE.

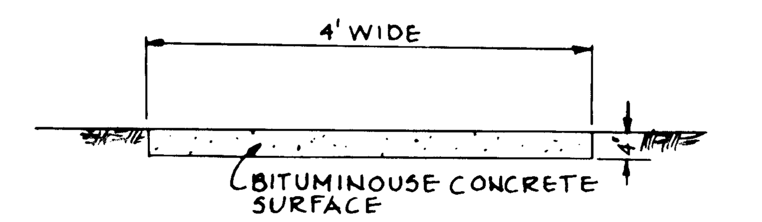
☼ - DETAIL - LIGHTING FIXTURE

No Scale



SIDEWALK DETAIL

NO SCALE



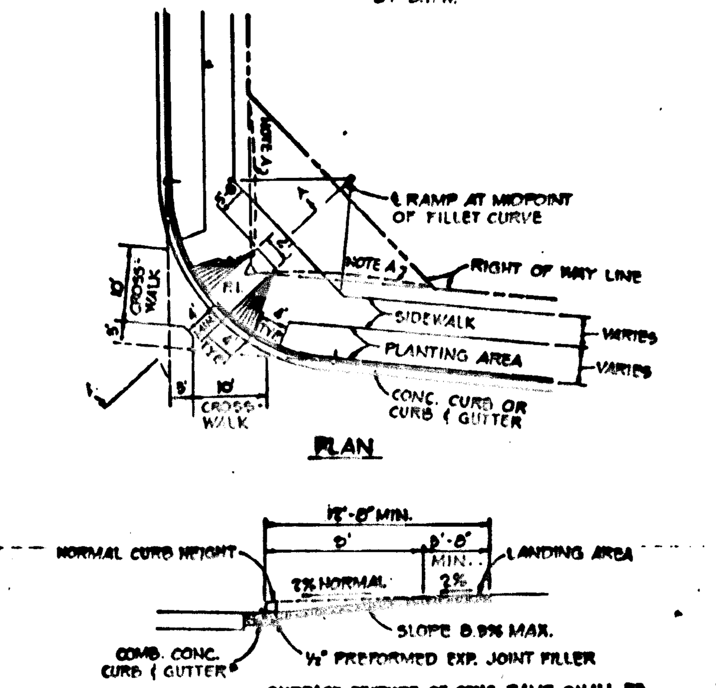
MACADAM PATHWAY DETAIL

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 16-118, PAR. F.6 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.



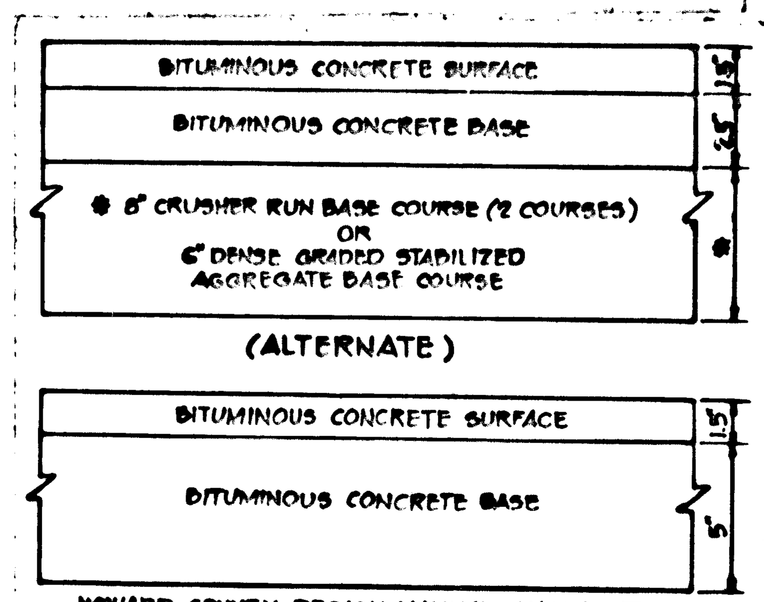
SURFACE TEXTURE OF CONC. RAMP SHALL BE COARSE BROOMING OR OTHER NON-SKID TYPE FINISH.

* STANDARD 7" COMBINATION CURB AND GUTTER IS SHOWN. DETAILS TO BE SIMILAR FOR MOD. CURB AND GUTTER AND BIT. CURB EXCEPT THAT FLOW LINE LIP IS TO BE OMITTED.

SECTION 'A'-'A'

TYPICAL HANDICAP RAMP

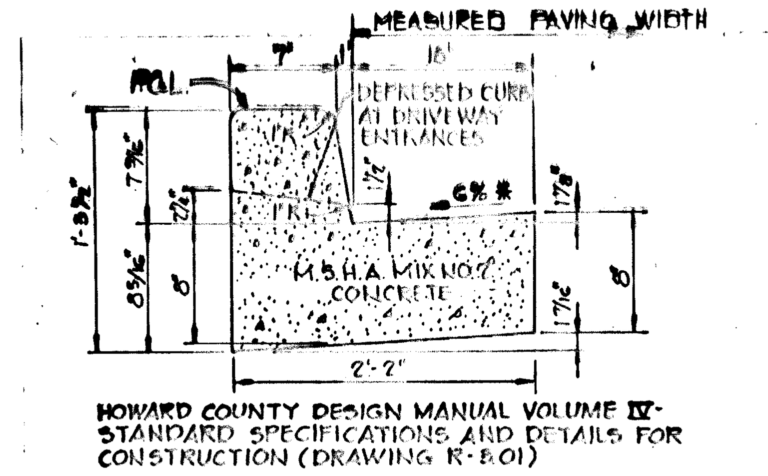
NO SCALE



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

6½" PAVING, P-2

NO SCALE

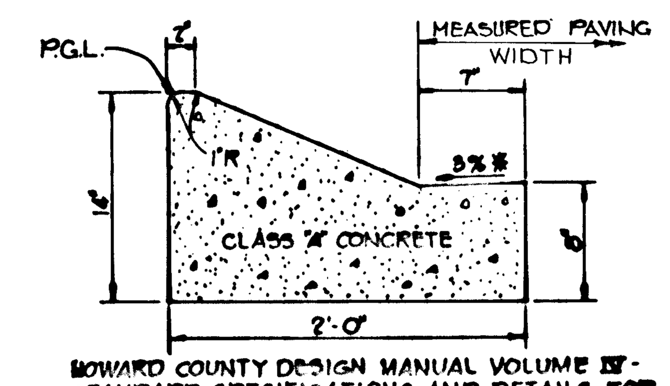


HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-8.01)

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

STANDARD 7" COMBINATION CURB AND GUTTER

No Scale



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-8.01)

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ATERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

MODIFIED COMBINATION CURB AND GUTTER

No Scale

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

[signature] 9-9-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 9-11-86
CHIEF, BUREAU OF ENGINEERING — DATE

DATE	NO.	REVISION

OWNER:	DEVEL:
GEORGE C. DEERING ROBERT M. HANKIN ROBERT R. PRELLER 5838 STILL MEADOW LANE COLUMBIA, MARYLAND	LONG MEADOWS VENTURERS ONE KNOLL NORTH DRIVE SUITE 502 COLUMBIA, MARYLAND 21045

PROJECT: LONG MEADOW
SECTION ONE
LOTS 1 THRU 65

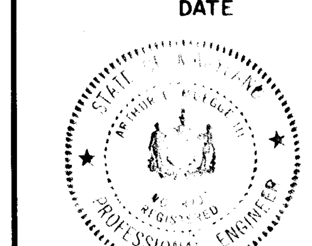
AREA: TAX MAP Nº 36 PARCEL Nº 263
ELECTION DISTRICT 6
HOWARD COUNTY, MARYLAND

TITLE: DETAIL SHEET

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

9-4-86
DATE



ARTHUR E. MUEGGE # 8707

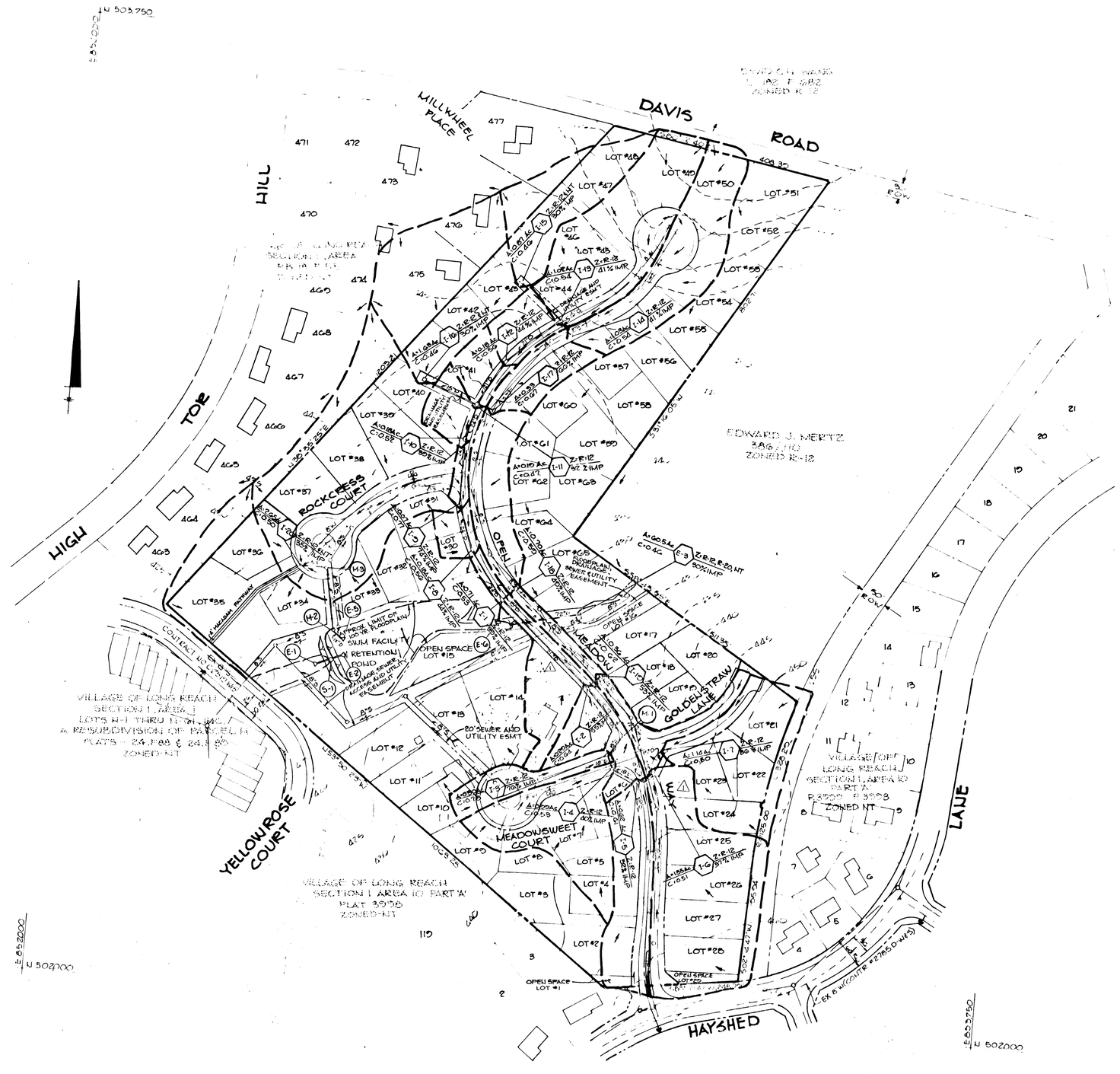
(5-86-37)
DESIGNED BY: D.A.M.
DRAWN BY: K.J.B.
PROJECT NO: 23000
DATE: JULY 31, 1986
SCALE: AS SHOWN
DRAWING NO. 6 OF 10

AS BUILT DEC. 16, 1991

F-86-203

12,36

MARYLAND BLUEPRINT CO. INC. N63893



STRUCTURE SCHEDULE

No.	Type	Location	Inv. In	Inv. Out	Top Curb Elev.	Remarks
I-1	A-5	15' Lt. Centerline Sta. 8+83.31	24"D(NW) 422.~~49~~ 21"D(SE) ~~422.65~~ 15"D(E) 423.~~45~~	~~420.00~~ 420.20	~~428.43~~ 425.11	Ho. Co. Std. SD-4.01
I-2	A-5 w/ Def.	15' Lt. Centerline Sta. 6+40	15"D(NE) ~~427.85~~ 427.65 18"D(SE) ~~427.85~~ 427.65	~~427.95~~ 427.07	~~433.30~~ 433.57	Ho. Co. Std. SD-4.01 and SD-4.83
I-3	A-5	14' Rt. Centerline Sta. 0+58.51	~~431.08~~ 431.63	~~431.78~~ 431.51	~~440.43~~ 440.6	Ho. Co. Std. SD-4.01
I-4	A-5 w/ Def.	14' Lt. Centerline Sta. 0+58.51	~~433.08~~ 432.71	~~432.83~~ 432.57	~~440.43~~ 440.71	Ho. Co. Std. SD-4.01 and SD-4.83
I-5	A-5 w/ Def.	15' Lt. Centerline Sta. 4+27.82	~~434.25~~ 434.46	~~434.59~~ 434.33	~~443.93~~ 444.25	Ho. Co. Std. SD-4.01 and SD-4.83
I-6	A-10 w/ Def.	15' Rt. Centerline Sta. 4+31.51	~~435.35~~ 435.38	~~435.15~~ 435.21	~~443.73~~ 440.00	Ho. Co. Std. SD-4.02 and SD-4.83
I-7	A-5 w/ Def.	15' Rt. Centerline Sta. 0+52.99	---	~~436.42~~ 436.95	~~440.34~~ 441.42	Ho. Co. Std. SD-4.01 and SD-4.83
I-8	A-5	15' Lt. Centerline Sta. 9+72	~~423.88~~ 423.80	~~423.68~~ 423.64	~~429.52~~ 429.68	Ho. Co. Std. SD-4.01
I-9	A-5	15' Lt. Centerline Sta. 10+48.02	~~425.18~~ 425.08	~~424.98~~ 426.02	~~430.87~~ 430.97	Ho. Co. Std. SD-4.01
I-10	A-5	14' Lt. Centerline Sta. 11+50	~~427.08~~ 426.91	~~426.88~~ 426.87	~~432.50~~ 432.82	Ho. Co. Std. SD-4.01
I-11	A-5	14' Lt. Centerline Sta. 12+23	15"(E) 428.~~05~~79 15"(W) 428.~~05~~63 15"(NW) 428.~~05~~57	~~428.30~~ 428.25	~~433.80~~ 434.18	Ho. Co. Std. SD-4.01
I-12	A-5	14' Lt. Centerline Sta. 13+31	~~431.31~~ 431.07	~~431.06~~ 430.97	~~435.86~~ 436.12	Ho. Co. Std. SD-4.01
I-13	A-5 w/ Def.	14' Lt. Centerline Sta. 14+32	~~434.70~~ 434.52 15"(SE) 15"(W) ~~434.90~~ 434.52	~~434.77~~ 434.77	~~439.58~~ 439.58	Ho. Co. Std. SD-4.01 and SD-4.83
I-14	A-5 w/ Def.	14' Rt. Centerline Sta. 14+32		~~435.20~~ 436.20	~~439.52~~ 439.95	Ho. Co. Std. SD-4.01 and SD-4.83
I-15	'K' Inlet	See Plan	---	436.~~22~~34	443.~~48~~49	Ho. Co. Std. SD-4.13
I-16	'K' Inlet	See Plan	---	430.~~29~~17	435.~~09~~98	Ho. Co. Std. SD-4.13
I-17	A-5 w/ Def.	14' Rt. Centerline Sta. 12+23	---	429.~~25~~ 429.23	~~433.80~~ 434.15	Ho. Co. Std. SD-4.01 and SD-4.83
I-18	A-5	15' Rt. Centerline Sta. 8+83.31	---	~~424.17~~ 424.52	~~428.03~~ 429.00	Ho. Co. Std. SD-4.01
I-19	A-5 w/ Def.	15' Rt. Centerline Sta. 6+40	---	~~428.17~~ 427.92	~~433.39~~ 433.62	Ho. Co. Std. SD-4.01 and SD-4.83
I-20	A-10	Sta. 1+60 LP	---	417.~~45~~70	422.~~45~~43	Ho. Co. Std. SD-4.02
M-2	Std. 4'-0" Dia. Manhole	See Plan	Std. 4'-0" Dia. Manhole	412.~~09~~ .03	418.~~24~~ .41	Ho. Co. Std. G-5.11
M-1	Std. 4'-0" Dia. Manhole	20' Lt. Centerline Sta. 5+39	~~420.69~~ .22	~~420.98~~ .06	438.~~24~~ .57	Ho. Co. Std. G-5.11
M-3	Std. 4'-0" Dia. Manhole	See Plan	~~416.98~~ 417.62	~~416.78~~ 416.85	422.~~44~~ 422.86	Ho. Co. Std. G-5.11
E-1	60" Metal End Section	See Plan	---	408.~~00~~ .12	---	Ho. Co. Std. SD-5.61
E-2	24" Metal End Section	See Plan	~~408.00~~ 410.06	---	---	Ho. Co. Std. SD-5.61
E-3	72" Metal End Section	60' Lt. Centerline Sta. 8+42	---	~~414.00~~ 414.16	---	Ho. Co. Std. SD-5.61
E-4	72" Metal End Section	51' Rt. Centerline sta. 7+79	~~418.00~~ 418.44	---	---	Ho. Co. Std. SD-5.61
E-5	15" Concrete End Section	See Plan	---	411.00	---	Ho. Co. Std. SD-5.51
E-6	30" Concrete End Section	62' Lt. Centerline sta. 8+59	---	414.~~00~~41	---	Ho. Co. Std. SD-5.51
S-1	Special Structure	See Plan	411.~~0~~ .66	408.55 .68	---	See Sheet 6 of 10

* Top of rim or grate elevation

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

John W. Murphy — 9-9-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

9-11-86
CHIEF, BUREAU OF ENGINEERING — DATE

DATE	NO	REVISION
10-27-86	1	REVISED INVERTS IN & OUT ON STRUCTURES I-1, I-2, I-3, I-4, I-5, I-6 AND MH-1. REVISED PIPE SIZES.

OWNER	DEVEL:
GEORGE C. DEERING ROBERT M. HANKIN ROBERT R. PRELLER 5838 STILLMEADOW LANE COLUMBIA, MARYLAND	LONG MEADOW VENTURES ONE KNOLL NORTH DRIVE SUITE 502 COLUMBIA, MARYLAND

PROJECT **LONG MEADOW**
SECTION ONE
LOTS 1 THRU 65

AREA — TAX MAP NO. 36 — PARCEL NO. 800
ELECTION DISTRICT 6
HOWARD COUNTY, MARYLAND

TITLE **DRAINAGE AREA MAP**
(S-86-37)

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

9-9-86
DATE

ARTHUR E. MUNZ

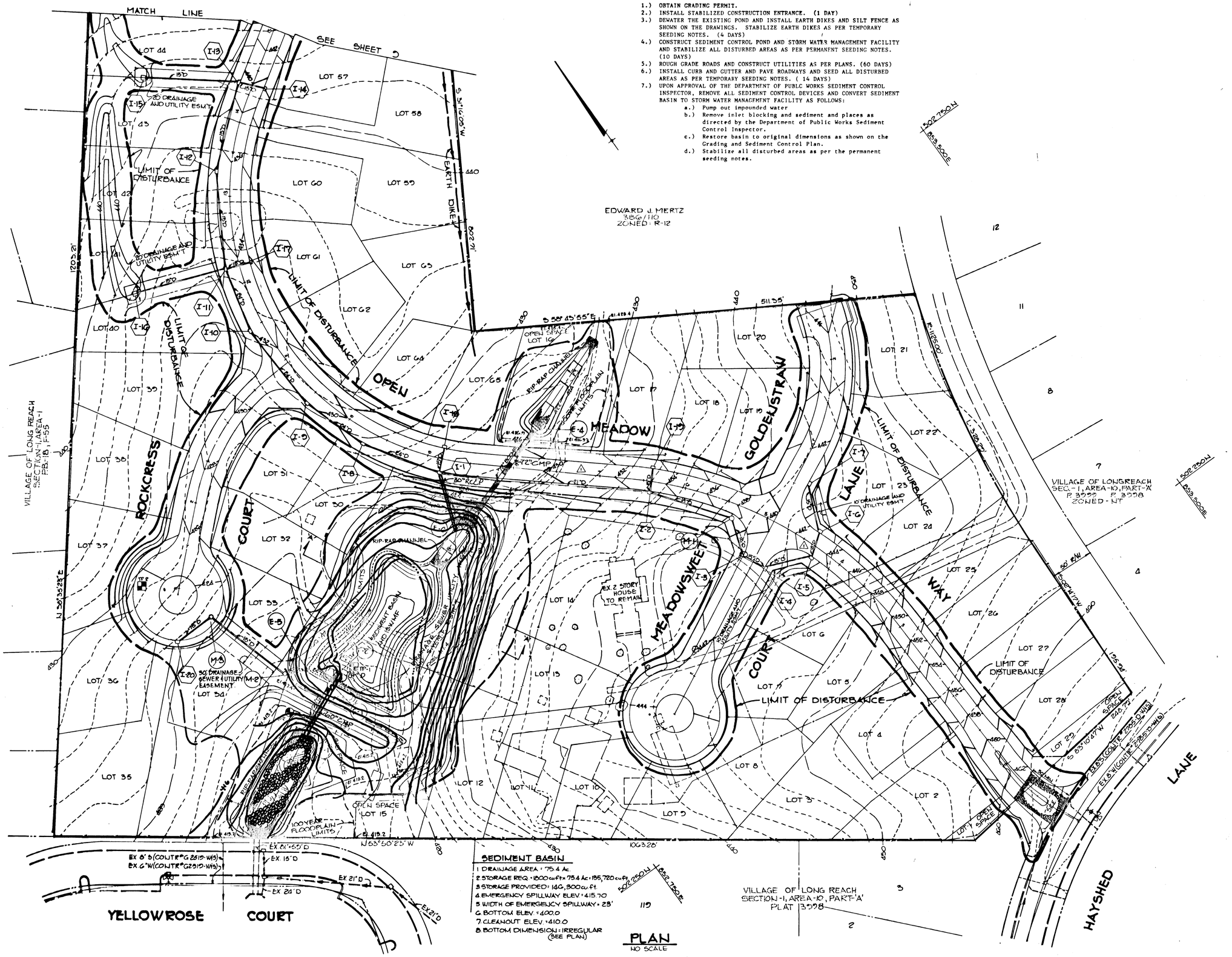
DESIGNED BY	L.J.D.
DRAWN BY	DAM
PROJECT NO.	2300
DATE	JULY 31, 1986
SCALE	1" = 100'
DRAWING NO.	7 OF 10

AS BUILT DEC. 16, 1991

F-86-203

SEQUENCE OF CONSTRUCTION

1.) OBTAIN GRADING PERMIT.
2.) INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1 DAY)
3.) DEWATER THE EXISTING POND AND INSTALL EARTH DIKES AND SILT FENCE AS SHOWN ON THE DRAWINGS. STABILIZE EARTH DIKES AS PER TEMPORARY SEEDING NOTES. (4 DAYS)
4.) CONSTRUCT SEDIMENT CONTROL POND AND STORM WATER MANAGEMENT FACILITY AND STABILIZE ALL DISTURBED AREAS AS PER PERMANENT SEEDING NOTES. (10 DAYS)
5.) ROUGH GRADE ROADS AND CONSTRUCT UTILITIES AS PER PLANS. (60 DAYS)
6.) INSTALL CURB AND GUTTER AND PAVE ROADWAYS AND SEED ALL DISTURBED AREAS AS PER TEMPORARY SEEDING NOTES. (14 DAYS)
7.) UPON APPROVAL OF THE DEPARTMENT OF PUBLC WORKS SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND CONVERT SEDIMENT BASIN TO STORM WATER MANAGEMENT FACILITY AS FOLLOWS:
   a.) Pump out impounded water
   b.) Remove inlet blocking and sediment and places as directed by the Department of Public Works Sediment Control Inspector.
   c.) Restore basin to original dimensions as shown on the Grading and Sediment Control Plan.
   d.) Stabilize all disturbed areas as per the permanent seeding notes.



SEDIMENT BASIN

1. DRAINAGE AREA = 75.4 Ac
2. STORAGE REQ. = 1800 cu ft × 75.4 Ac = 135,720 cu ft
3. STORAGE PROVIDED: 140,300 cu ft
4. EMERGENCY SPILLWAY ELEV = 415.70
5. WIDTH OF EMERGENCY SPILLWAY = 28'
6. BOTTOM ELEV = 400.0
7. CLEANOUT ELEV = 410.0
8. BOTTOM DIMENSION = IRREGULAR (SEE PLAN)

PLAN
NO SCALE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 9-9-86

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 9-11-86

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."

DEVELOPER EARL ARMIGER — DATE 9-4-86

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."

ENGINEER ARTHUR E. MUEGGE — DATE 9-4-86

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.

U.S. SOIL CONSERVATION SERVICE — DATE 9-9-86

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

APPROVED HOWARD S.C.D. — DATE 9/9/86

DATE	NO	REVISION
5-1-87	2	REVISED GRADING WEST SIDE OF S.W.M. FACILITY
10-27-86	1	REVISED PIPE SIZES BETWEEN I-1 TO I-2 AND FROM I-5 TO I-6

OWNER/DEVELOPER
GEORGE C. DEERING
ROBERT M. HAWKIN
ROBERT R. PRELLER
5838 STILLMEADOW LANE
COLUMBIA, MARYLAND

DEVEL:
LONG MEADOW VENTURERS
ONE KNOLL NORTH DRIVE
SUITE 502
COLUMBIA, MARYLAND

PROJECT: **LONG MEADOW**
SECTION ONE
LOTS 1 THRU 65

AREA TAX MAP NO. 36 — PARCEL NO. 263
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **GRADING AND SEDIMENT CONTROL PLAN**

THE RIEMER GROUP, INC.

The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
8105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2690

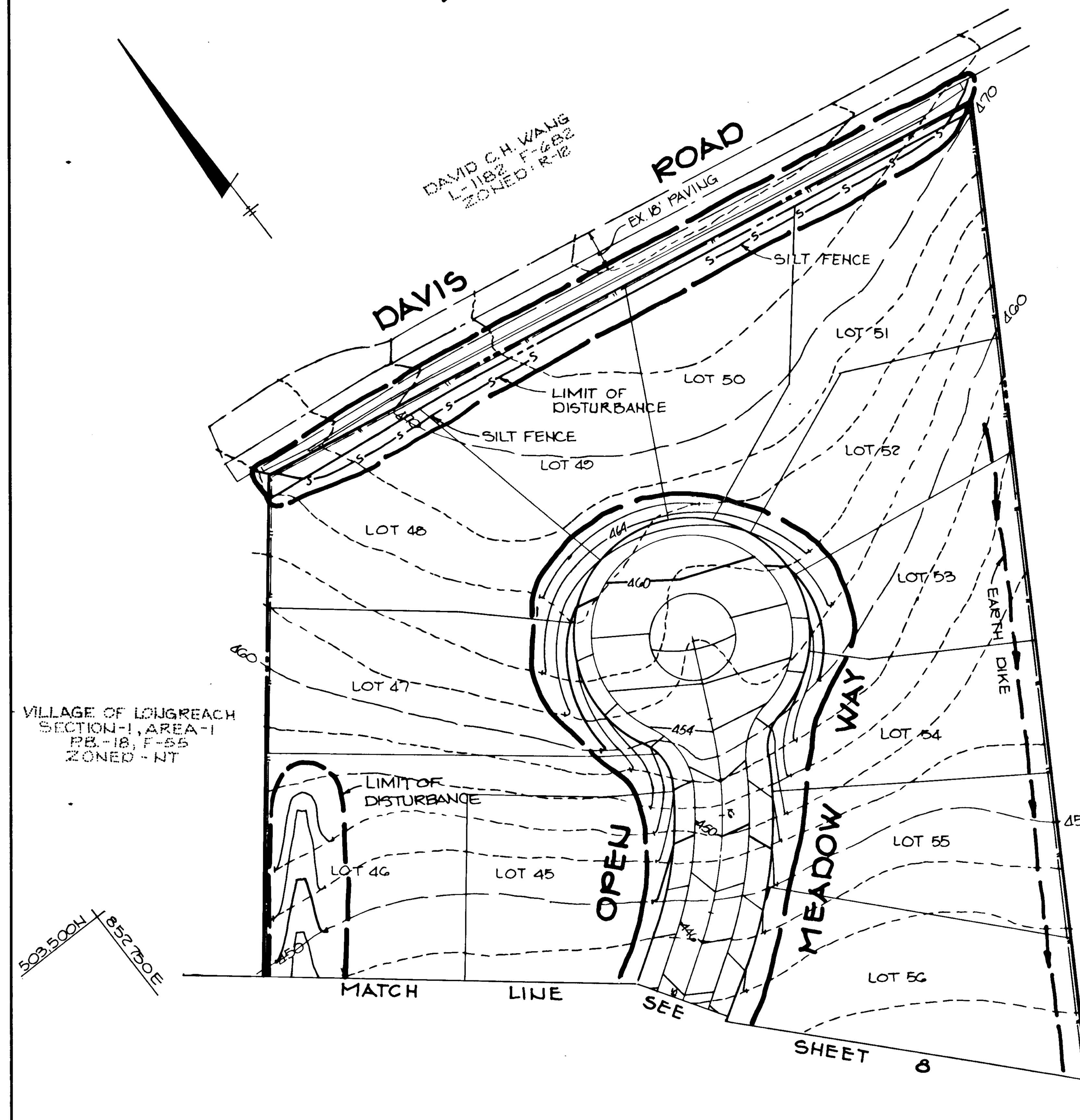
9-4-86
DATE

ARTHUR E. MUEGGE #8707

DESIGNED BY: D.A.M.	
DRAWN BY: F.D.M.	
PROJECT NO: 85000	
DATE: JULY 31, 1986	
SCALE: 1"=50'	
DRAWING NO. 8 OF 10	

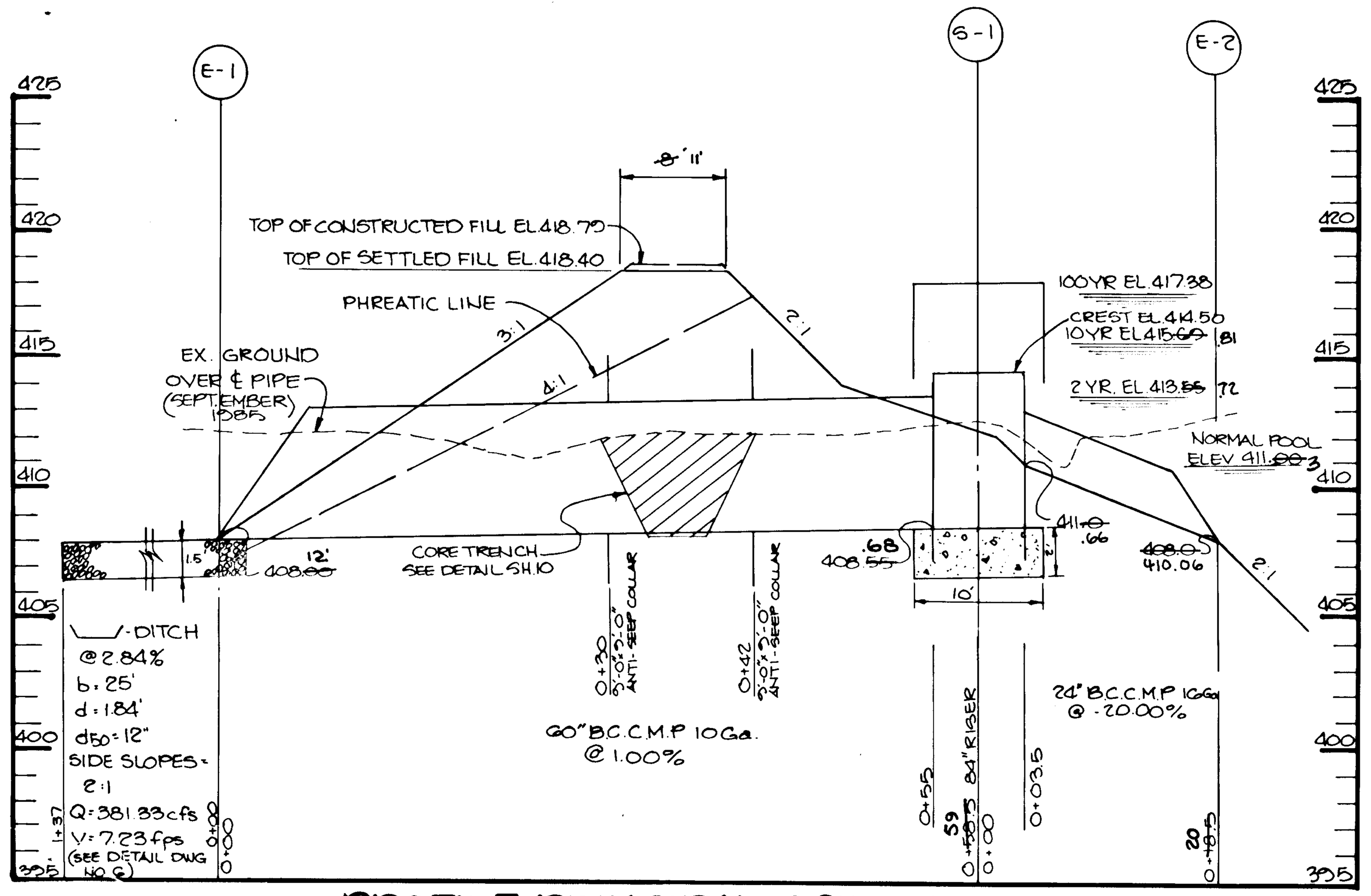
AS-BUILT DEC. 16, 1991

F-86-203



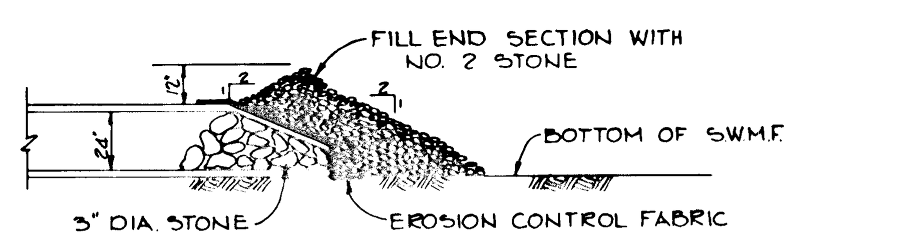
PLAN

SCALE: 1"=50'



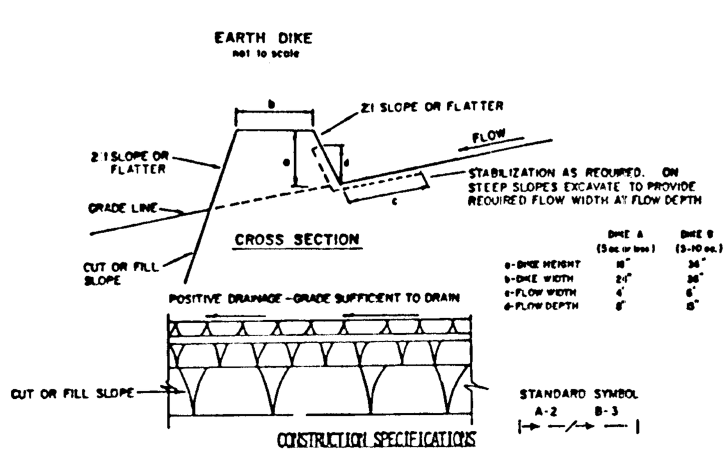
PROFILE PRINCIPAL SPILLWAY

SCALE: HOR: 1"=10' VERT: 1"=5'



END SECTION BLOCKING DETAIL E-2

NO SCALE



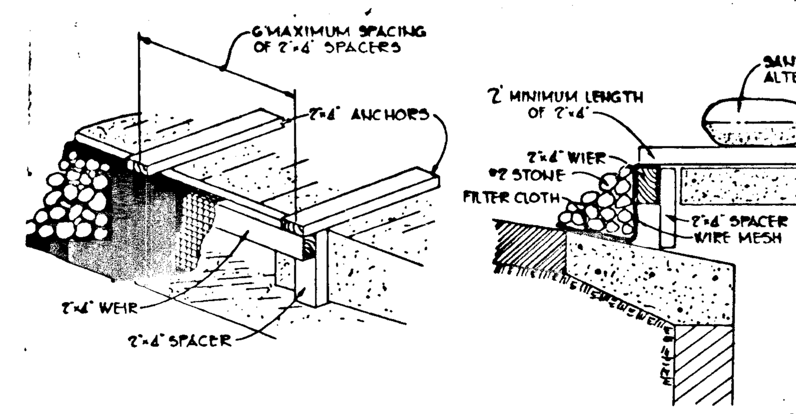
CONSTRUCTION SPECIFICATIONS

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

FLOW CHANNEL STABILIZATION

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

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



STONE FILTER INLET PROTECTION

NO SCALE

STANDARD SYMBOL — SFIP

Construction Specifications
FOR STONE FILTER INLET PROTECTION

I. Materials

A. Wooden frame is to be constructed of 2" x 4" construction grade lumber.

B. Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.

C. Filter cloth must be of a type approved for this purpose; resistant to sunlight with sieve size, EOS, 40-85, to allow sufficient passage of water and removal of sediment.

4. Stone is to be 2" in size and clean, since fines would clog the cloth.

II. Procedure

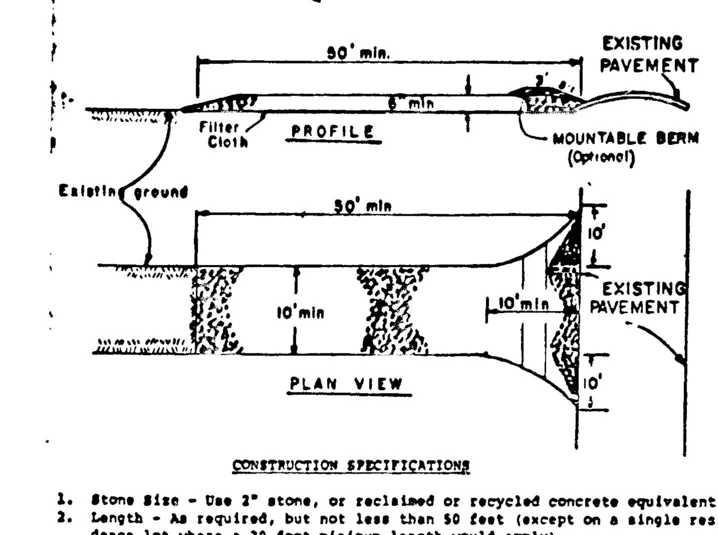
A. A swale, ditchline or yard inlet protection.

1. Excavate completely around inlet to a depth of 18" below notch elevation.
2. 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.
3. Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
4. 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.
5. Backfill around inlet in compacted 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
6. If the inlet is not in a low point, construct a compacted earth dike in the ditchline below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
7. This structure must be inspected frequently and the filter fabric replaced when clogged.

B. Curb Inlet Protection.

1. 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.
2. Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
3. Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths 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 sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. 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.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

STANDARD SYMBOL SCE



CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE

NO SCALE

SEDIMENT CONTROL NOTES

1. A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (992-2437)
2. All vegetative and structural practices are to be installed 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.
3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. 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.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. 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.
7. Site Analysis:

Total Area of Site	21.96± acres
Area Disturbed	8.07± acres
Area to be roofed or paved	2.29± acres
Area to be vegetatively stabilized	5.78± acres
Total Cut	5877±Cu. yds.
total Fill	8848±Cu. yds.

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of distrubance.
9. Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
10. Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.
11. Sediment will be removed from traps when its depth reaches the clean out elevation shown on the plans.

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.

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 Agust 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 (.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 1½ 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.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

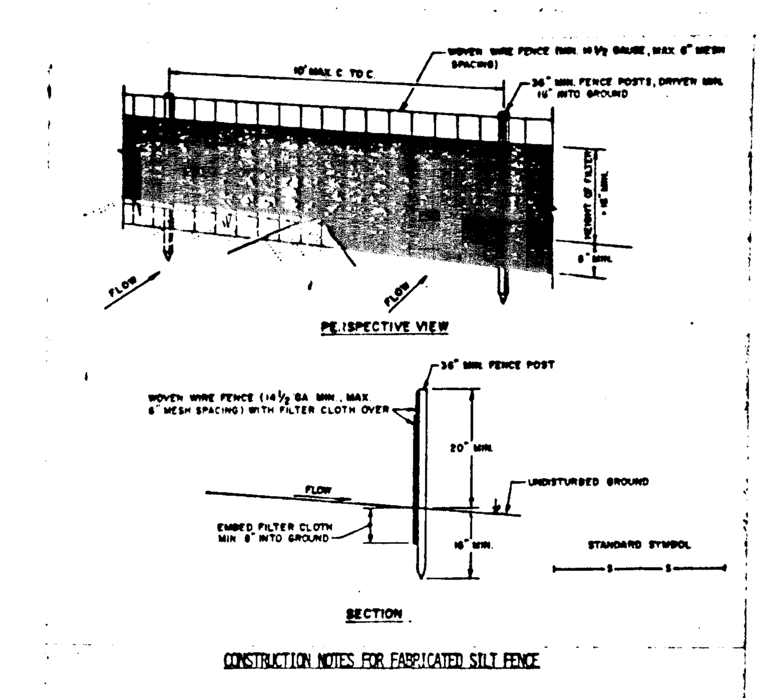
Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

Soil Amendments: Apply 0-20-20 fertilizer at the rate of 600 lbs. per acre. Harrow or disc lime and 0-20-20 fertilizer into the soil to a minimum depth of 3". Lawns or high maintenance areas will be dragged and leveled with a York rake. At the time of seeding, apply 400 lbs. of 30-0-0 ureaform fertilizer and 500 lbs. of 10-20-20 or equivalent fertilizer per acre.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 40 lbs. per acre (1 lb/1000 sq.ft.) of a mixture of certified 'Merion' Kentucky bluegrass; common Ketucky bluegrass @ 40 lbs. per acre (1 lb./1000 sq.ft.) and Red Fescue, Pennlawn or Jamestown @ 20 lbs. per acre (0.5 lb./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. 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 40-40-20 mix specified above and mulch with 2 tons/acre well-anchored straw.

Mulching: Apply 1½ 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.



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

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

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
FENCE: WOVEN WIRE, 14½ GA. 6" MAX. MESH OPENING
FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

SILT FENCE

NO SCALE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

[signature] 9-9-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 9-11-86
CHIEF, BUREAU OF ENGINEERING — DATE

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."

[signature] PTR. 9-4-86
DEVELOPER — DATE
EARL ARMIGER

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."

[signature] 9.4.86
ENGINEER — DATE
ARTHUR E. MUEGGE

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

[signature]
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 [signature] 9-9-86
HOWARD S.C.D. — DATE

DATE	NO.	REVISION

OWNER
GEORGE C DEERING
ROBERT M HANKIN
ROBERT R PRELLER
5838 STILLMEADOW LANE
COLUMBIA, MARYLAND

DEVEL:
LONG MEADOW VENTURERS
ONE KNOLL NORTH DRIVE
SUITE 502
COLUMBIA, MARYLAND

PROJECT: LONG MEADOW
SECTION ONE
LOTS 1 THRU 65

AREA: TAX MAP Nº 36 — PARCEL 263
ELECTION DISTRICT 6
HOWARD COUNTY, MARYLAND

TITLE: GRADING & SEDIMENT CONTROL PLAN AND SEDIMENT CONTROL DETAILS & NOTES.

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

9.4.86
DATE

ARTHUR E. MUEGGE #8707

DESIGNED BY: D.A.M.
DRAWN BY: D.A.M.
PROJECT NO: 23000
DATE JULY 31, 1986
SCALE: AS SHOWN
DRAWING NO. 9 OF 10

AS-BUILT DEC. 16, 1991

F-86-203

1234

MARYLAND BLUEPRINT CO. INC. N63893

POND CONSTRUCTION SPECIFICATIONS

SITE PREPARATION

Areas under the borrow areas, embankment, and structural works shall be cleared, grubbed and the topsoil stripped to remove all trees, vegetation, roots or other objectionable material. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, 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 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.

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 anticipatd 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.

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 governed by the equipment used for excavation, 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.

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 the contractor drive equipment 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.

CORRUGATED METAL PIPE

Material:

(Steel Pipe)-This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Connections:

All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands shall be used at all joints. Antiseep collars shall be connected to the pipe in such a manner as to be completely 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.

CONCRETE

Material:

1. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.
2. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
3. 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.
4. Course 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 (1-½) inches.
5. Renforcing Steel - The reinforcing steel shall be 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 ration shall be 5-½ to 6 U.S. gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-½. 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 material, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the additions of water to perserve 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 with stand 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 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 suplemented by spading 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 reamed and completely filled with dry-patching mortar.

Protection and Curing:

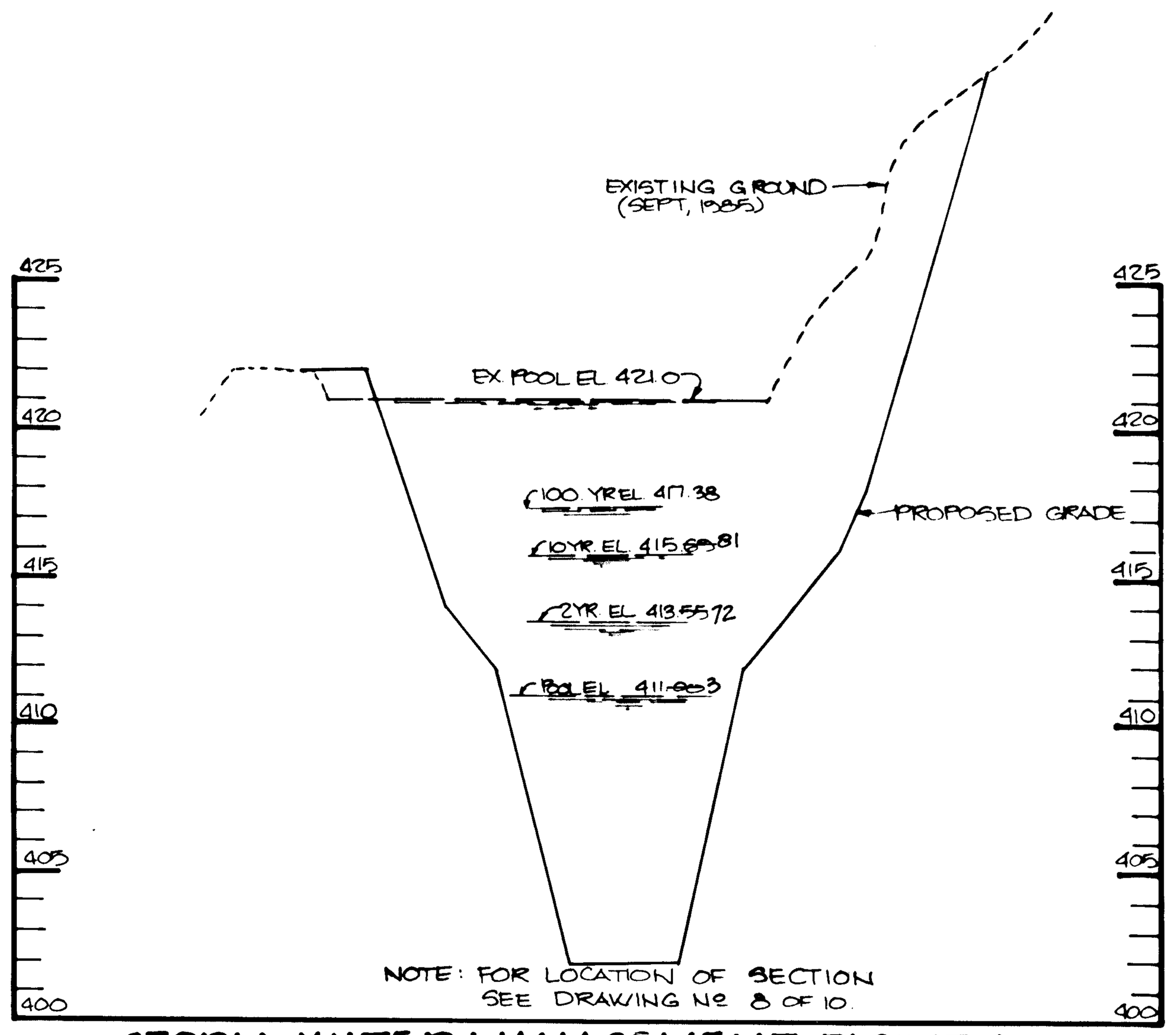
Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compounds may also by used.

Placing Temperature:

Concrete may not be placed at temperatures below 37° F with the temperature falling or 34° with the temperature rising.

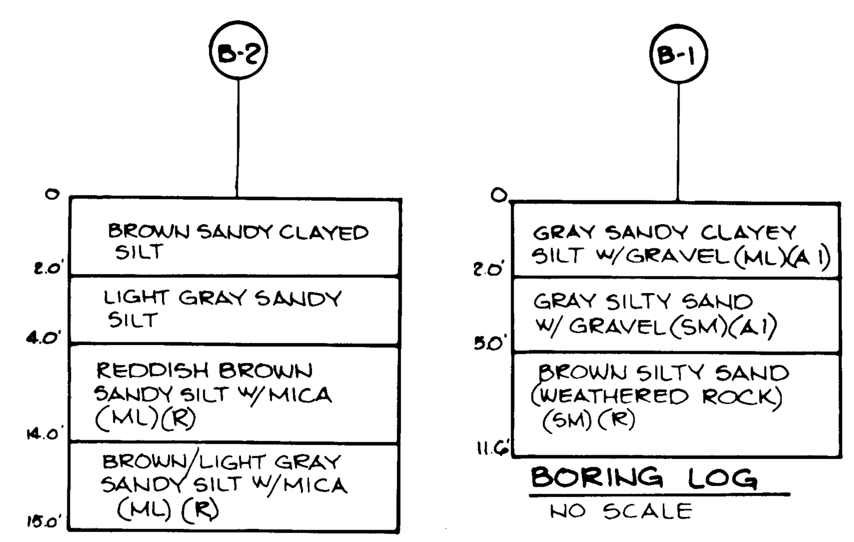
STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications shown on or accompanying the drawings.



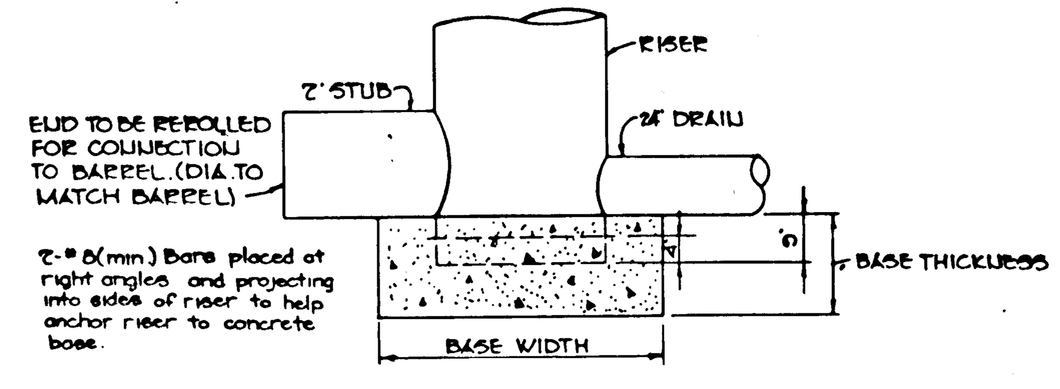
STORM WATER MANAGEMENT FACILITY SECTION 'A-A'

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



BORING LOGS

NO SCALE

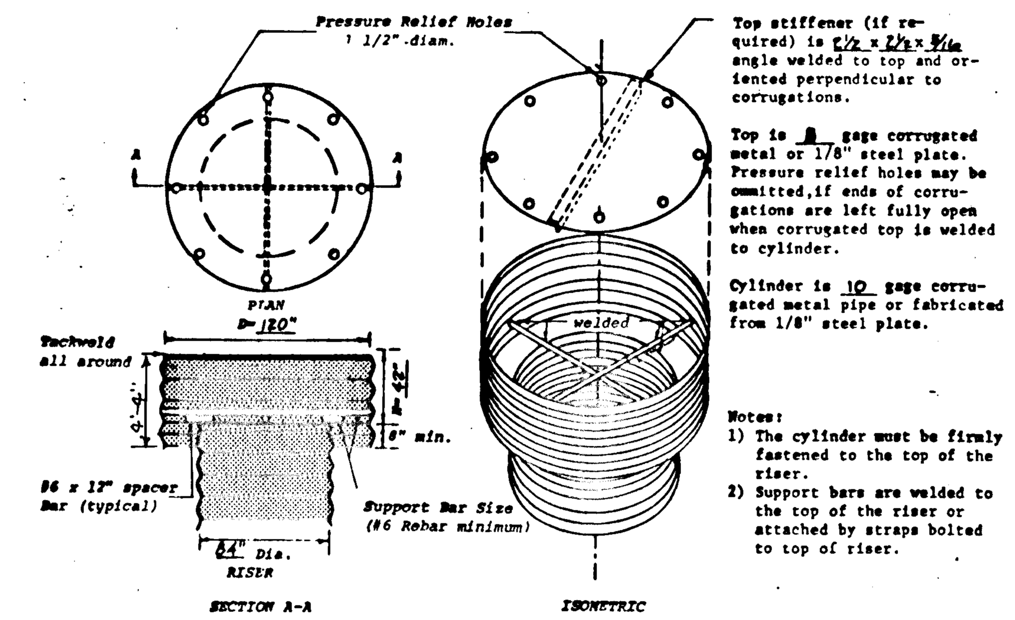


RISER BASE DETAIL

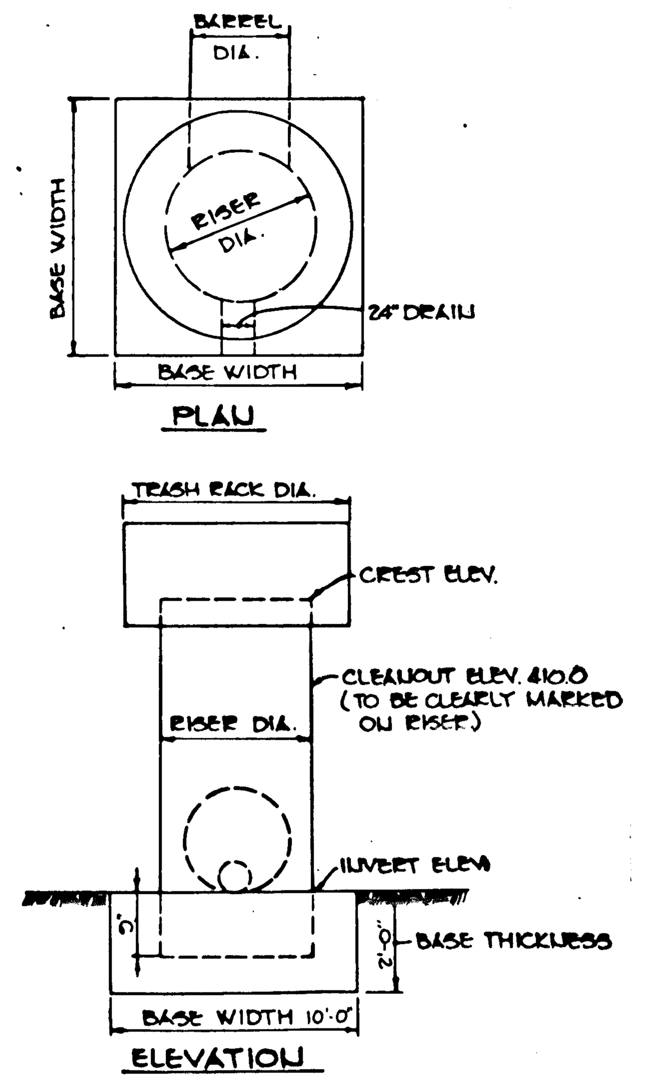
NO SCALE

NOTE:

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.

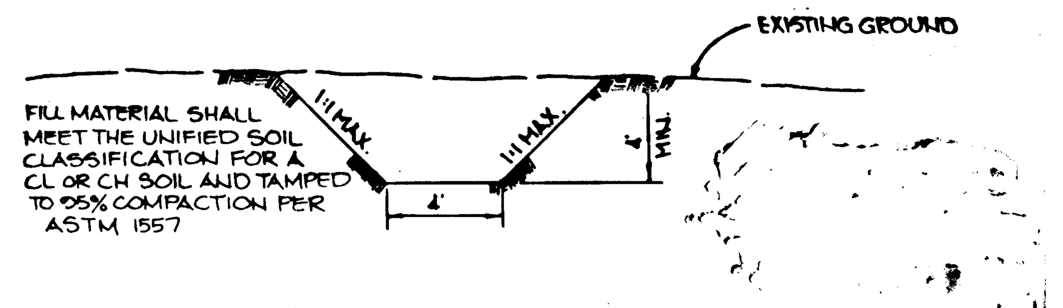


CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE (not to scale)



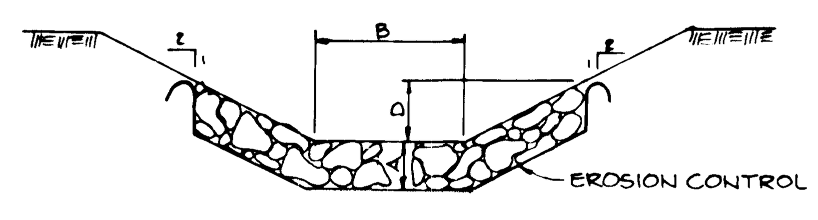
RISER DETAIL FOR SEDIMENT BASIN

NO SCALE



CORE TRENCH TYP. SECTION

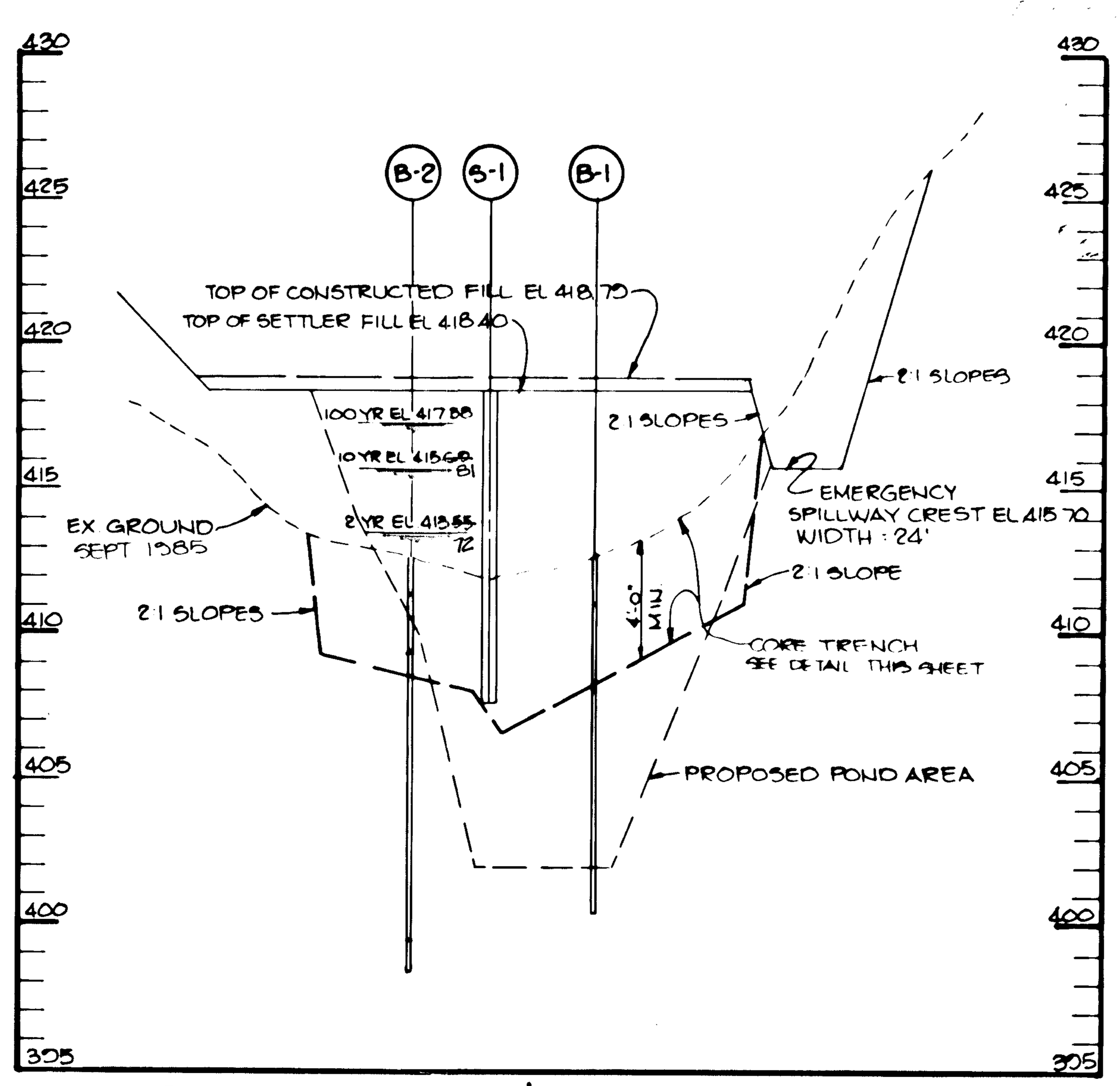
NO SCALE



STRUCTURE	A	B	D	MEDIUM STONE DIA
E-1	1'-6"	25'	1.87'	12"
E-3	1'-6"	15'	2.00'	8"
E-4	1'-6"	12'	1.84'	8"

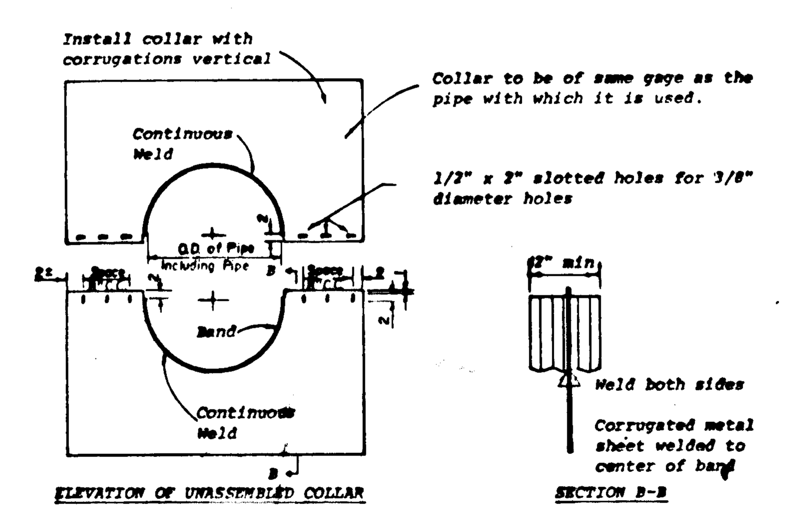
TYPICAL RIPRAP TRAPEZOIDAL CHANNEL

NO SCALE



PROFILE ALONG ℄ DAM FOR SWMF

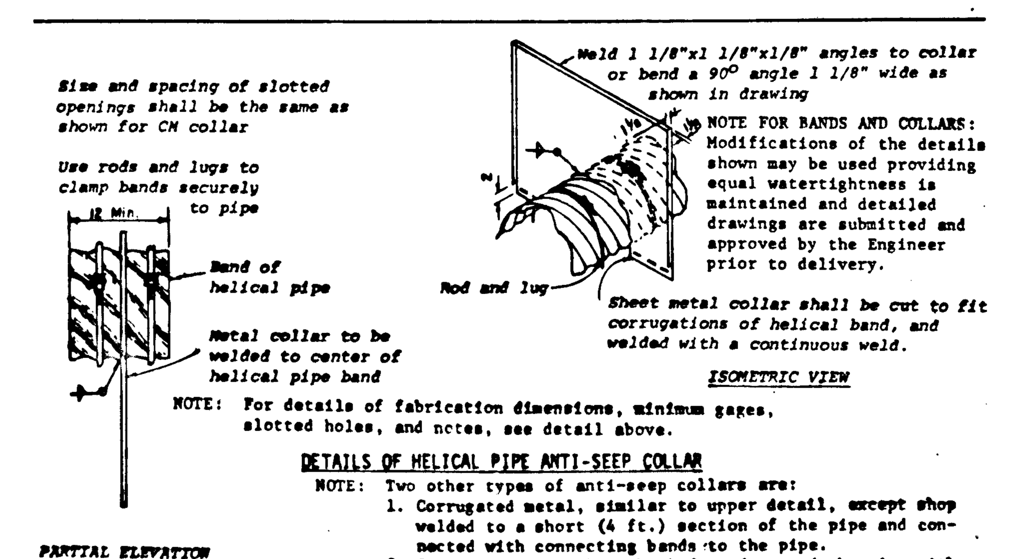
SCALE HOR 1"=50' VERT 1"=5'



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.

DETAILS OF CORRUGATED METAL ANTI-SEEP COLLAR



NOTE FOR BANDS AND COLLARS: Modifications of the details shown may be used providing equal watertightness is maintained and detailed drawings are submitted and approved by the Engineer prior to delivery.

Ref: Engr. Field Manual

NOTE: For details of fabrication dimensions, minimum gages, slotted holes, and notes, see detail above.

DETAILS OF HELICAL PIPE ANTI-SEEP COLLAR

NOTE: Two other types of anti-seep collars are:
1. Corrugated metal, similar to upper detail, except shop welded to a short (4 ft.) section of the pipe and connected with connecting bands to the pipe.
2. Concrete, six inches thick formed around the pipe with #3 rebar spaced 15" horizontally and vertically.

ANTI-SEEP COLLAR

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 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."

Earl Armiger PTR. — 9-4-86
DEVELOPER — DATE
EARL ARMIGER

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 — 9.4.86
ENGINEER — DATE
ARTHUR E. MUEGGE

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

[signature] — 9-9-86
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. Ziehm — 9-9-86
HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

[signature] — 9-9-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] — 9-11-86
CHIEF, BUREAU OF ENGINEERING — DATE

DATE	NO.	REVISION

OWNER / DEVELOPER	DEVELOPER
GEORGE C. DEERING ROBERT M. HANKIN ROBERT R. PRELLER 5838 STILL MEADOW LANE COLUMBIA, MARYLAND	LONG MEADOW VENTURERS ONE KNOLL NORTH DRIVE SUITE 502 COLUMBIA, MARYLAND

PROJECT: **LONG MEADOW**
SECTION ONE
LOTS 1 THRU 65

AREA TAX MAP NO. 36 — PARCEL NO. 263
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: STORM WATER MANAGEMENT DETAILS AND NOTES

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

9.4.86
DATE

Arthur E. Muegge
ARTHUR E. MUEGGE #8707

DESIGNED BY:	L.J.D.
DRAWN BY:	DAM
PROJECT NO:	23000
DATE:	JULY 31, 1986
SCALE:	AS SHOWN
DRAWING NO.	10 OF 10

AS-BUILT DEC. 16, 1991

F-86-203

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