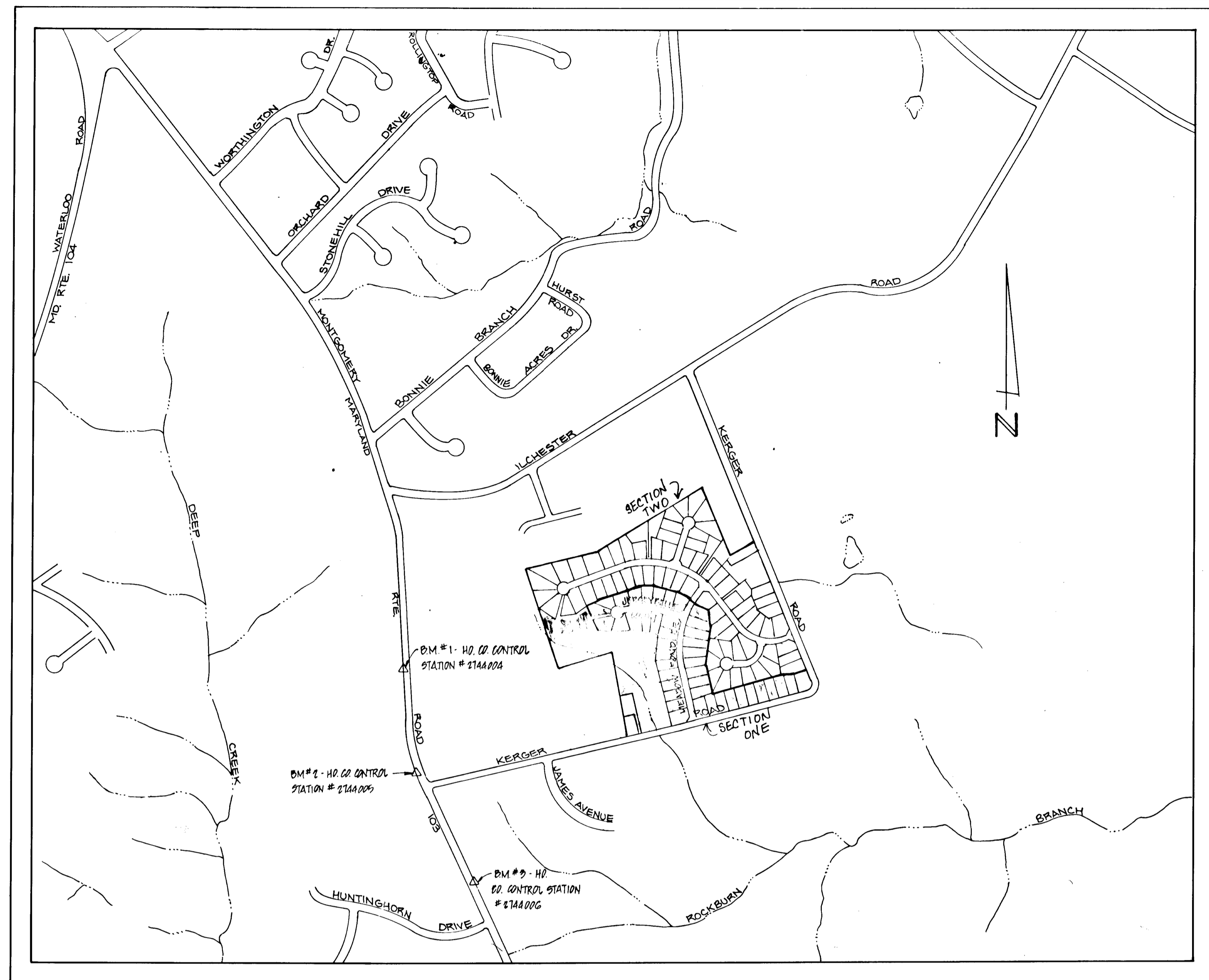
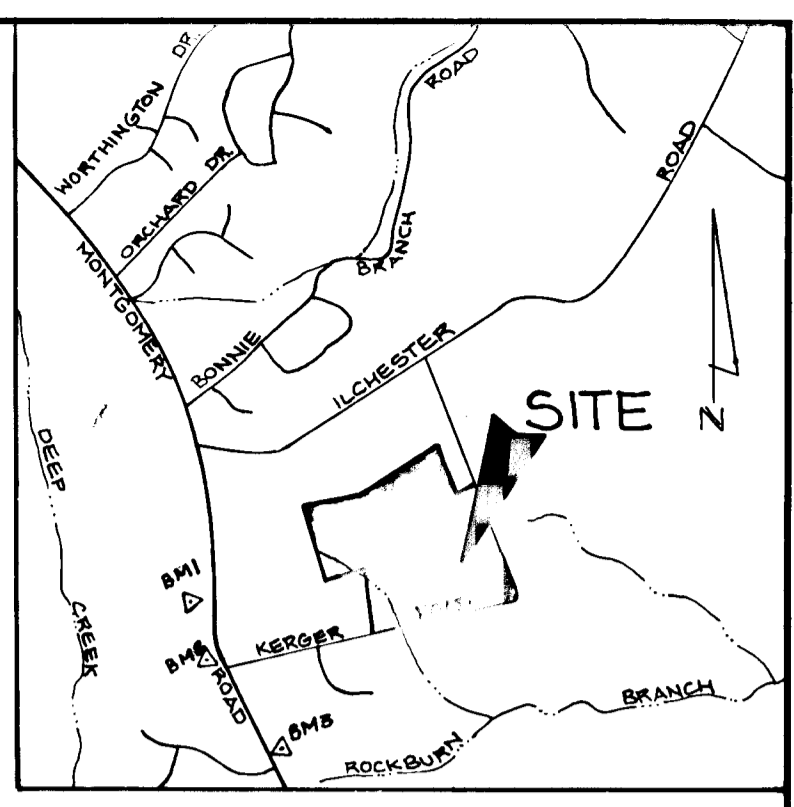


INDEX OF SHEETS	
SHEET NO.	TITLE
1	TITLE SHEET
2	PLAN AND PROFILE - KERGER ROAD - STA. 11+94.50 TO 22+00.00
3	PLAN AND PROFILE - KERGER ROAD - STA. 22+00.00 TO 28+83.38
4	PLAN AND PROFILE - MEADOW POND DRIVE - STA. 0+00 TO 9+87.03
5	PLAN AND PROFILE - JERSEYBELLE COURT - STA. 0+00 TO 5+47.10
6	ROAD CONSTRUCTION DETAILS
7	STORM DRAIN PROFILES
8	STORM DRAIN PROFILES
9	ON-SITE DRAINAGE AREA AND GRADING PLAN
10	ON-SITE DRAINAGE AREA AND GRADING PLAN
11	STORMWATER MANAGEMENT AND SEDIMENT CONTROL DETAILS
12	STORMWATER MANAGEMENT NOTES AND SEDIMENT CONTROL DETAILS



BENCHMARK

BM#1 HOWARD COUNTY CONTROL STATION 2744004 ELEV. 419.917, 1/4" REBAR 0.8' BELOW SURFACE 7'± W. OF ROUTE 103 ± 1400'± S. OF INT. WITH ILCHESTER ROAD.
 BM#2 HOWARD COUNTY CONTROL STATION 2744005 ELEV. 419.625, 1/4" REBAR 0.6' BELOW SURFACE 10'± W. EDGE OF ROUTE 103 ± 80'± N. OF E. OF KERGER ROAD.
 BM#3 HOWARD COUNTY CONTROL STATION 2744006 ELEV. 419.537, CONC. MON. 0.4' BELOW SURFACE 8'± E. OF ROUTE 103 ± 700'± S. OF KERGER ROAD 18.9' OFF E. ROUTE 103.



GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS, AND DETAILS FOR CONSTRUCTION.
2. ALL UTILITY COMPANIES MUST BE NOTIFIED 24 HOURS IN ADVANCE OF ANY CONSTRUCTION.
3. STORM DRAINAGE TRENCHES WITHIN ROAD RIGHT-OF-WAYS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY CODE.
4. ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
5. CONTRACTOR TO NOTIFY THE HOWARD COUNTY INSPECTION AND SURVEY DIVISION AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. TELEPHONE 792-7272
6. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE.
7. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 1984 EDITION.
8. STREET TREES TO BE PROVIDED AS REQUIRED BY SECTION 16.151 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
9. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.
 - STATE HIGHWAY ADMINISTRATION: 531-5533
 - BALTIMORE GAS & ELECTRIC COMPANY: UNDERGROUND
 - ELECTRIC DISTRIBUTION CUSTOMER SERVICE: 685-0123
 - ENGINEERING DAMAGE CONTROL: 234-5611
 - "MISS UTILITY" 1-559-0100
 - CHESAPEAKE & POTOMAC (C&P) TELEPHONE CO.: 725-9976
 - AMERICAN TELEPHONE & TELEGRAPH, CABLE LOCATION DIVISION: 393-3633
 - COLONIAL PIPELINE COMPANY: 795-1390
 - BUREAU OF UTILITIES, HOWARD COUNTY, 992-2366

DUNTEACHIN FARM

ROAD CONSTRUCTION DRAWINGS

1ST ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SECTION ONE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AS A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION 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.

J. Johnson 4/19/90

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION 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.

Robert W. [Signature] 4/19/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[Signature] 7/2/90
 CHIEF, LAND DEVELOPMENT DIVISION

[Signature] 7/23/90
 CHIEF, BUREAU OF HIGHWAY

[Signature] 8/1/90
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

[Signature] 8/1/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

LANDSCAPE SCHEDULE					
SYMBOL	QUANTITY	BIOLOGICAL NAME	COMMON NAME	SIZE	REMARKS
	119	ACER RUBRUM	AUTUMN FLAME	2" CAL.	BALLED AND BURLAPPED

1584

REVISIONS			
DESIGNED	DATE	BY	DESCRIPTION
MES	8/1/90	SRS	ADD 1/4" BIT OVERLAY TO KERGER RD.
DRAWN	8/1/90		
CHECKED	8/1/90		
APPROVED	8/1/90		

Dewberry & Davis
 ARCHITECTS - ENGINEERS - PLANNERS - SURVEYORS
 200 Harry S. Truman Parkway, Annapolis, Maryland 21401
 8411 Arlington Boulevard, Fairfax, Virginia 22030

OWNER & DEVELOPER

McDONOUGH SCHOOL
 c/o JAMES DAWSON
 P.O. BOX 380
 OWINGS MILLS, MARYLAND 21117

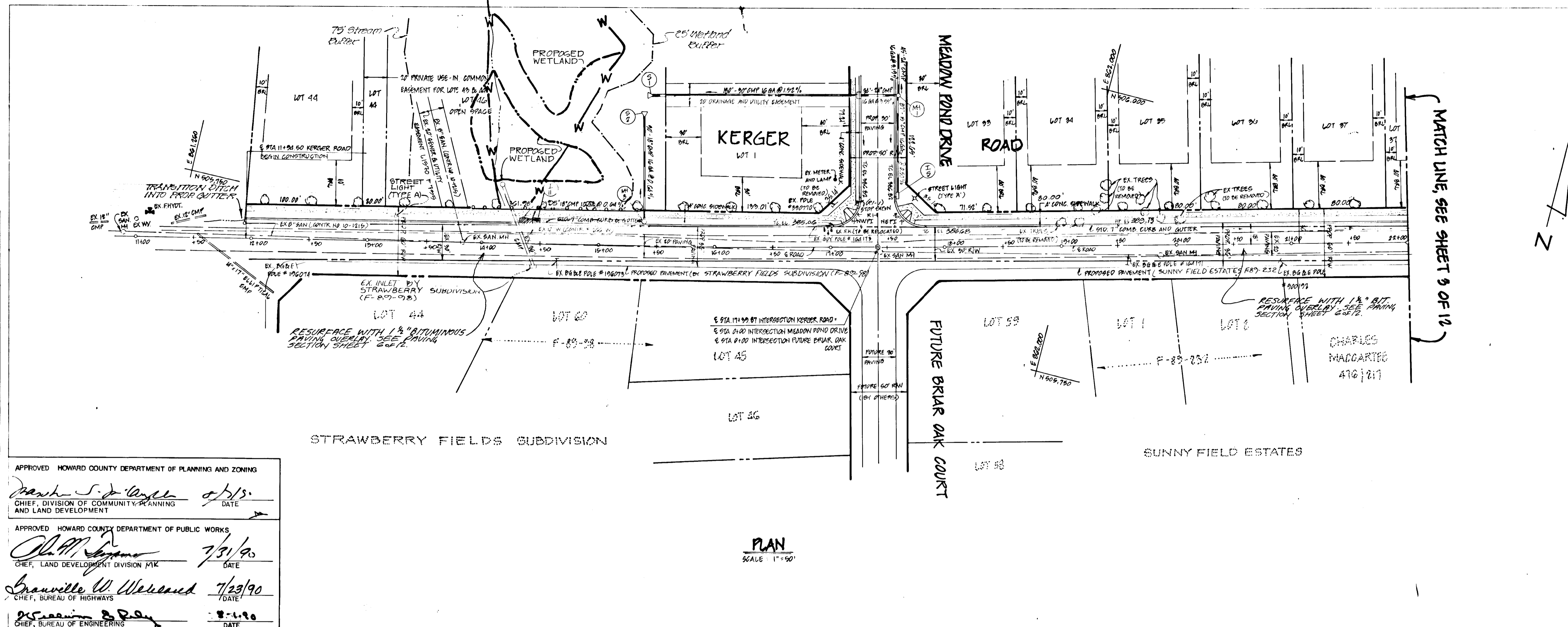
[Signature] 4/20/90

TITLE SHEET

DUNTEACHIN FARM SECTION ONE
 TAX MAP 31 BLOCK 21 PARCEL 222 LOTS 1-46
 1ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 AUGUST, 1989

LIGHTING LEGEND

TYPE "A" - 150 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE MOUNTED ON 25 FEET HIGH GALVANIZED STEEL POLE.
 TYPE "B" - 150 WATT HIGH PRESSURE SODIUM VAPOR POST TOP MOUNTED ON 14 FOOT HIGH FIBERGLASS POLE.



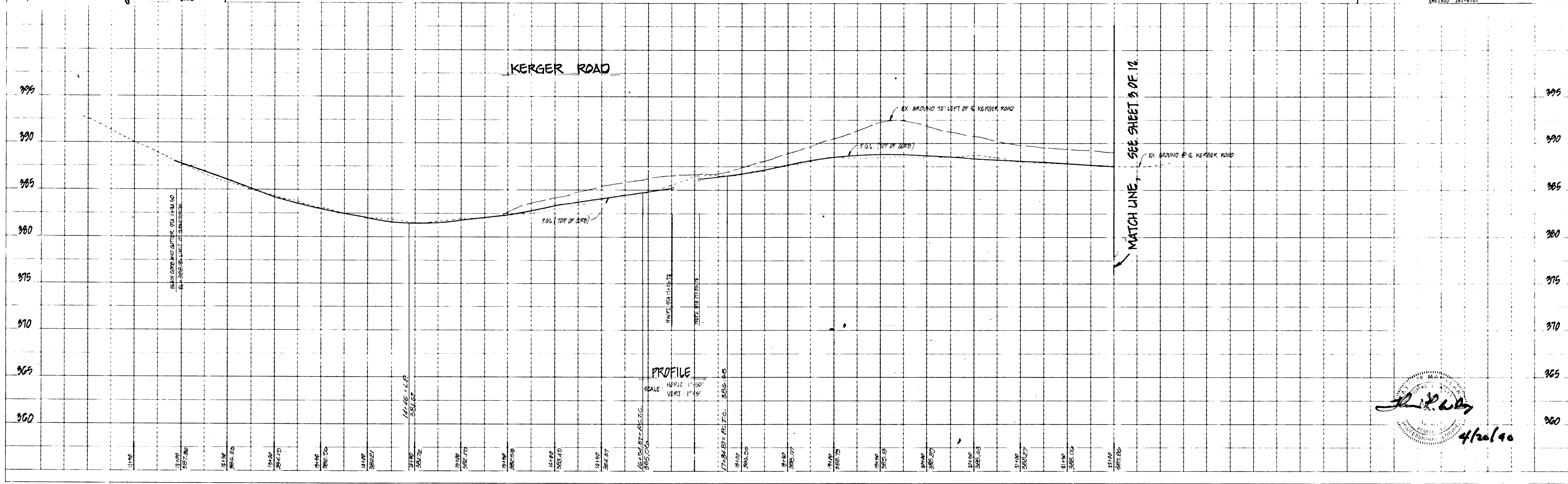
DATE	BY	REVISION
8-31-92	MRS	REVISED TOP OF CURB ELEV.

PLAN AND PROFILE
 KERGER ROAD
 STA. 11+94.50 TO STA. 22+00.00

DUNTEACHIN FARM SECTION ONE
 TAX MAP 31 BLOCK 21 PARCEL 222
 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 PREVIOUS SUBMITTALS: S-88-113, P-89-43
 OWNER / DEVELOPER
 McDONOUGH SCHOOL
 c/o JAMES DAWSON
 P.O. BOX 380
 OWINGS MILLS, MARYLAND 21117
 SCALE: AS SHOWN DATE: AUGUST, 1989 SHEET 2 OF 12
 DESIGNER: HYW DRAWN BY: DP CTR. BY: KJ/TW
DEWBERRY & DAVIS
 ARCHITECTS-ENGINEERS-PLANNERS-SURVEYORS
 200 MARKET ST. - BROAD MARKET
 ANNAPOLIS, MARYLAND 21401
 (301) 841-8811
 (NETFD) 261-8707

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Mark S. ... 8/31/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. ... 7/31/90
 CHIEF, LAND DEVELOPMENT DIVISION
Granville W. ... 7/23/90
 CHIEF, BUREAU OF HIGHWAYS
William B. ... 8-1-90
 CHIEF, BUREAU OF ENGINEERING

PLAN
 SCALE 1"=50'



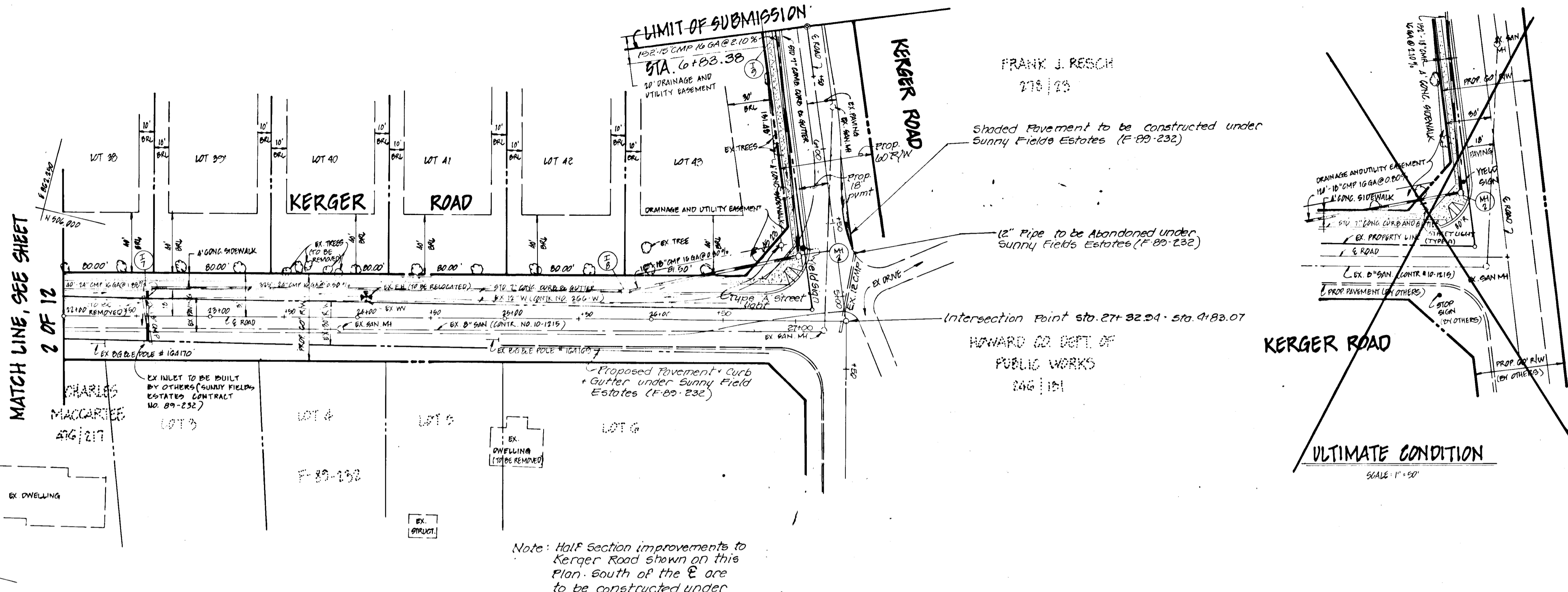
PROFILE
 SCALE HORIZ 1"=50'
 VERT 1"=5'

Handwritten signature and date
 4/20/90

1584

LIGHTING LEGEND

TYPE "A" - 150 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE MOUNTED ON 25 FEET HIGH GALVANIZED STEEL POLE.
 TYPE "B" - 150 WATT HIGH PRESSURE SODIUM VAPOR POST TOP MOUNTED ON 14 FOOT HIGH FIBERGLASS POLE.



PLAN
SCALE: 1" = 50'

Note: Half Section improvements to Kerger Road shown on this Plan, south of the E line to be constructed under Sunny Fields Estates (F-89-232)

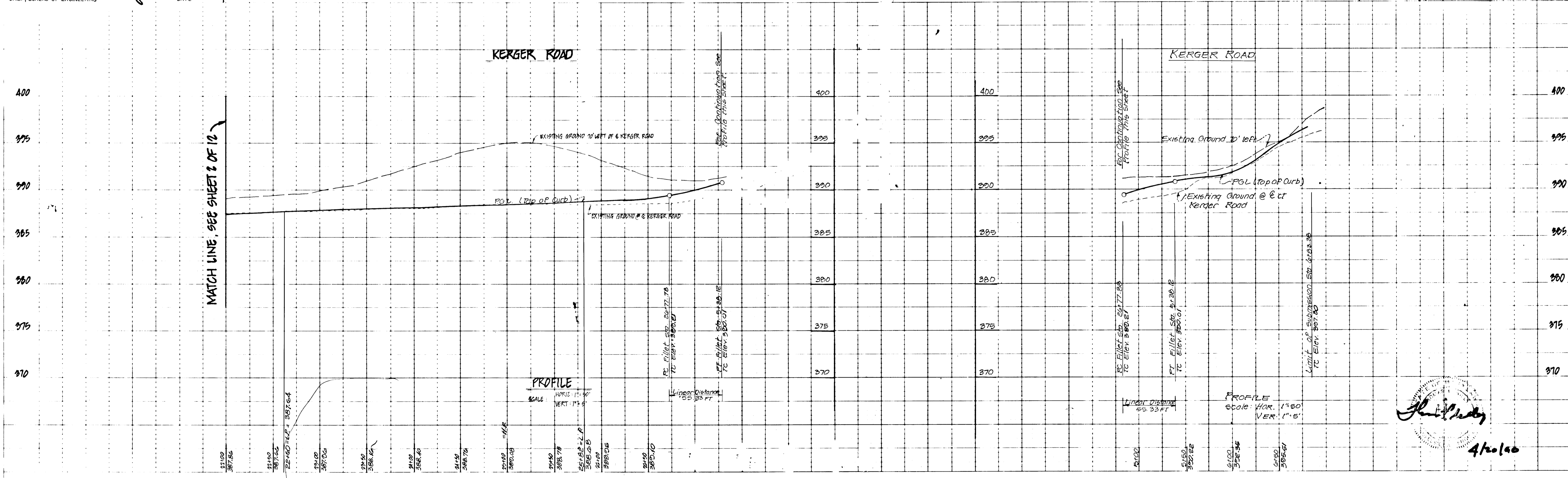
APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 4/3/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 7/31/90
 CHIEF, AND DEVELOPMENT DIVISION MK
 [Signature] 7/23/90
 CHIEF, BUREAU OF HIGHWAYS
 [Signature] 8-1-90
 CHIEF, BUREAU OF ENGINEERING

DATE	BY	REVISION
8-31-92	MRS	REVISE TOP OF CURB ELEV.

PLAN AND PROFILE
KERGER ROAD
STA. 22+00.00 TO STA. 28+83.38
DUNTEACHIN FARM SECTION ONE
 TAX MAP 31, BLOCK 21, PARCEL 222 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 PREVIOUS SUBMITTALS S-88-115, P-89-43
 OWNER / DEVELOPER
 MCDONOUGH SCHOOL
 610 JAMES DAWSON
 P.O. BOX 380
 OWINGS MILLS, MARYLAND 21117

SCALE AS SHOWN DATE AUGUST 1990 SHEET 3 OF 13
 DESIGNED BY MS DRAWN BY DP CHECKED BY KG/TW

DEWBERRY & DAVIS
 ARCHITECTS-ENGINEERS-PLANNERS-SURVEYORS
 200 BARRY S. TITMAN PARKWAY
 ANNAPOLIS, MARYLAND 21401
 (301) 841-6811
 (FEDEX) 361-8707



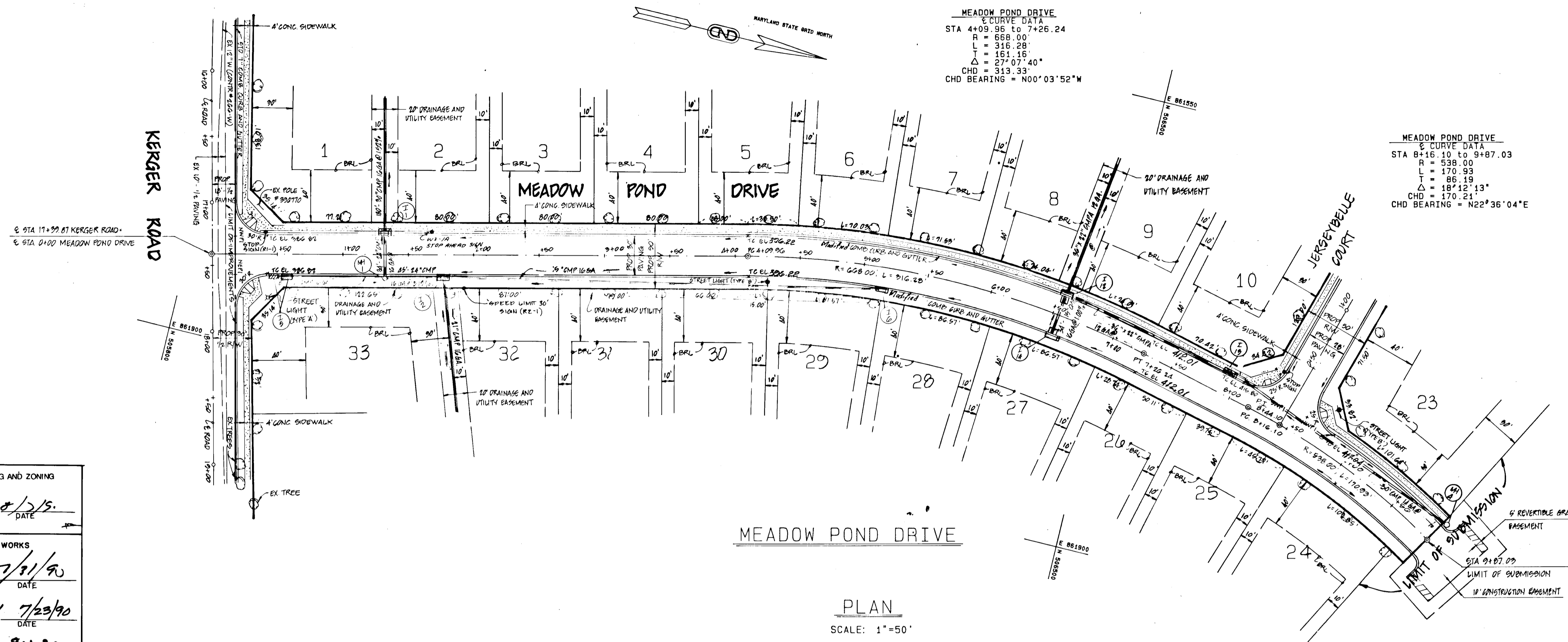
PROFILE
SCALE: HOR. 1" = 50' VERT. 1" = 5''

[Signature]
 4/20/90

1584

LIGHTING LEGEND

TYPE "A" - 150 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE MOUNTED ON 20 FEET HIGH GALVANIZED STEEL POLE.
 TYPE "B" - 150 WATT HIGH PRESSURE SODIUM VAPOR POST TOP MOUNTED ON 14 FOOT HIGH FIBERGLASS POLE.



PLAN
 SCALE: 1"=50'

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 8/12/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 7/31/90
 CHIEF, AND DEVELOPMENT DIVISION MK

[Signature] 7/23/90
 CHIEF, BUREAU OF HIGHWAYS

[Signature] 8-1-90
 CHIEF, BUREAU OF ENGINEERING

DATE	BY	REVISION
8-31-92	MRS	CHANGE STANDARD CURB GUTTER TO MODIFIED CURB - GUTTER

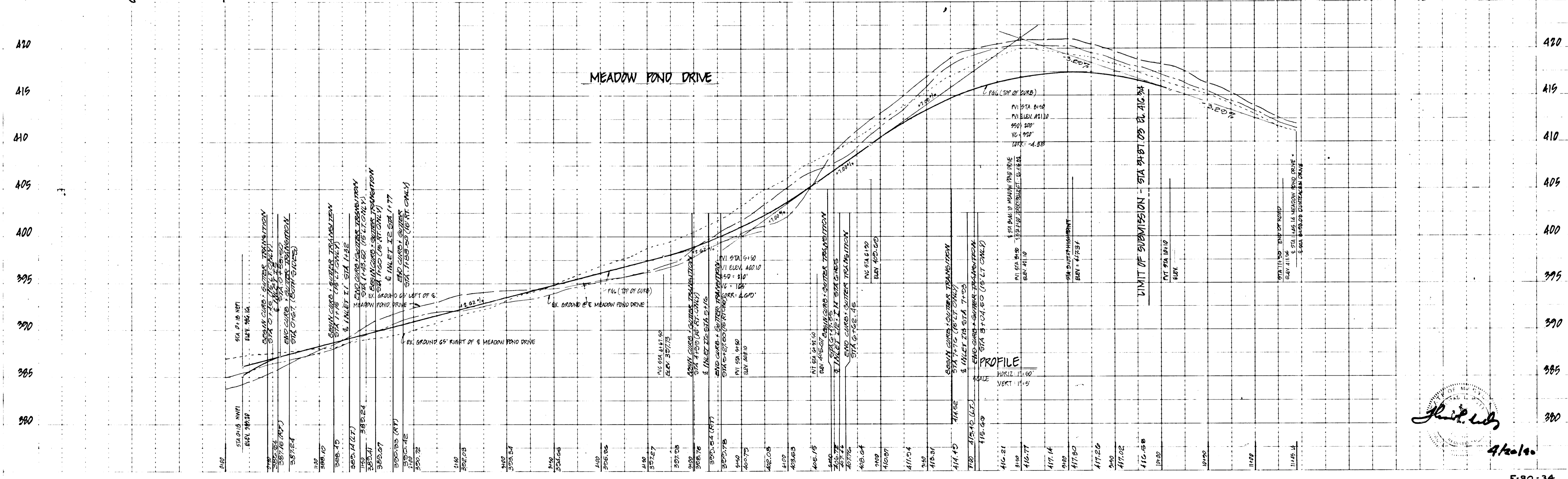
PLAN AND PROFILE
MEADOW POND DRIVE
STA. 0+00 TO STA. 9+87.03

DUNTEACHIN FARM SECTION ONE
 TAX MAP 31 BLOCK 21 PARCEL 222
 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 PREVIOUS SUBMITTALS: S-88-113, P-88-43

OWNER / DEVELOPER
 MCDONOUGH SCHOOL
 P.O. BOX 380
 OWINGS MILLS, MARYLAND 21117

SCALE AS SHOWN DATE AUGUST, 1990 SHEET 4 OF 12
 DESIGNED BY PP DRAWN BY DP CHECKED BY R6/TW

DEWBERRY & DAVIS
 ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
 200 BARRY S. TRIMAN PARKWAY
 ANNAPOLIS, MARYLAND 21401
 (301) 844-6811
 (FAX) 261-8707



[Signature]
 8/20/90

1584

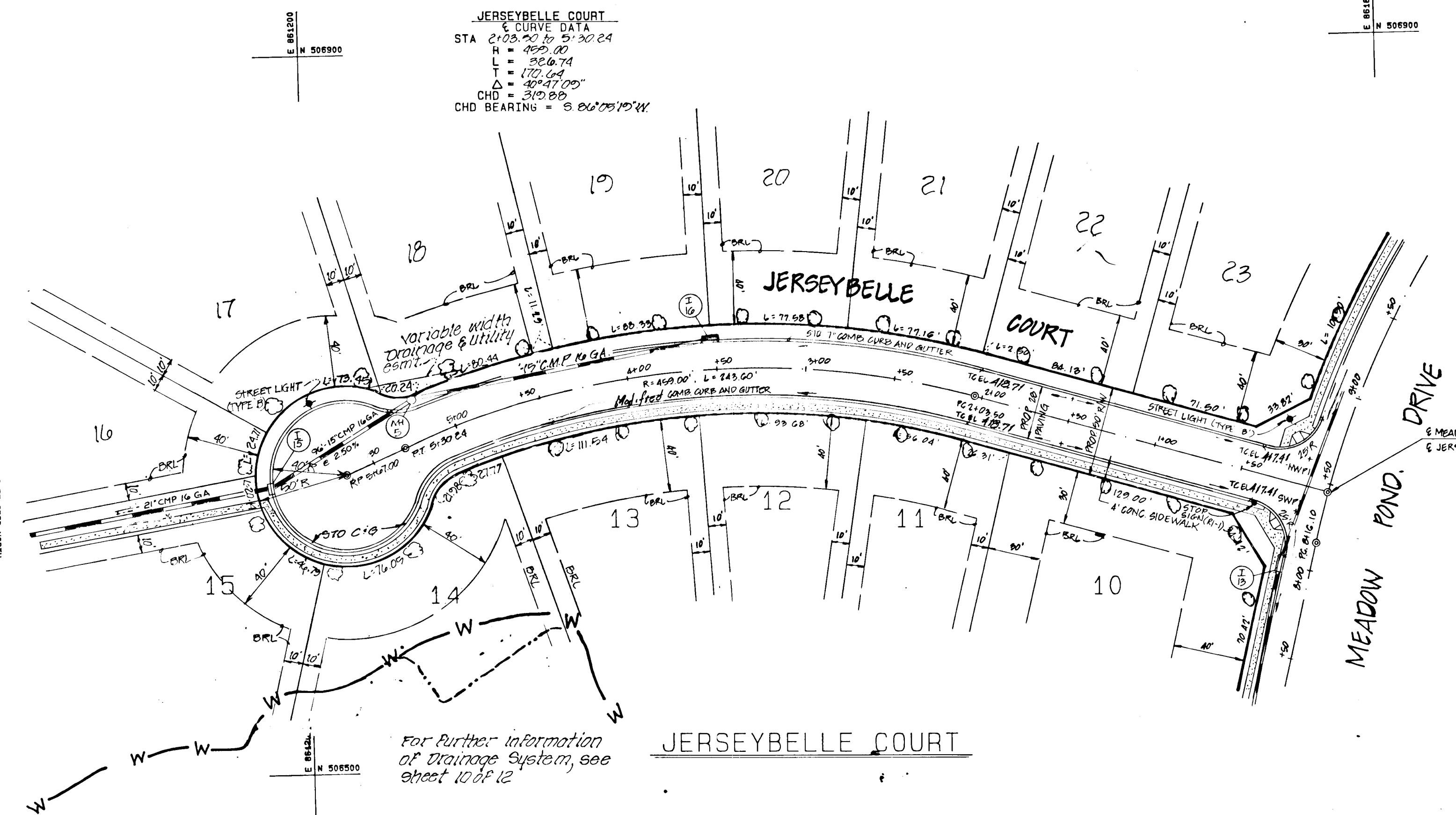
PLAN

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Joseph A. Kelly 2/12/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chas. M. Johnson 7/13/90
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE

Franklin W. Weissand 7/23/90
 CHIEF, BUREAU OF HIGHWAYS
 DATE

Gregory R. Roney 8-1-90
 CHIEF, BUREAU OF ENGINEERING
 DATE



PLAN
 SCALE: 1" = 50'

LIGHTING LEGEND
 Type "A" - 100 Watt High Pressure Sodium Vapor Luminaire mounted on 25' Foot High Galvanized Steel Pole.
 Type "B" - 100 Watt High Pressure Sodium Vapor Post top mounted on 14' Foot High Fiberglass Pole.

DATE	BY	REVISION
8-31-90	ERB	CHANGE STANDARD CURB & GUTTER TO MODIFIED CURB & GUTTER

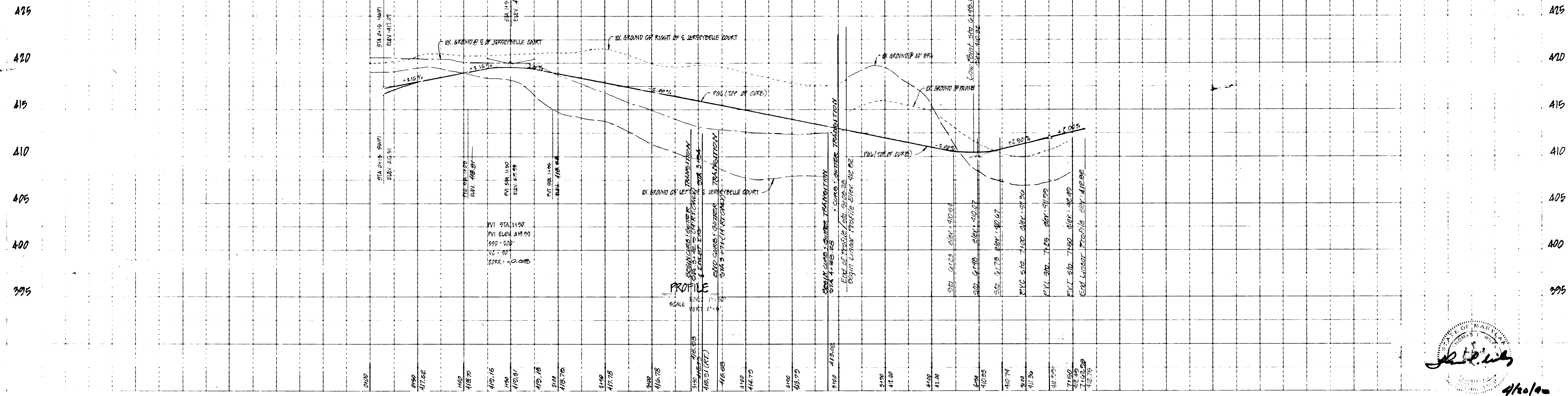
PLAN AND PROFILE
JERSEYBELLE COURT
STA. 0+00 TO STA. 5+47.10

DUNTEACHIN FARM SECTION ONE
 TAX MAP 31 BLOCK 21 PARCEL 222
 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 PREVIOUS SUBMITTALS S-88-113, P-89-43
 OWNER / DEVELOPER
 McDONOUGH SCHOOL
 c/o JAMES DAWSON
 P.O. BOX 300
 OWINGS MILLS, MARYLAND 21117

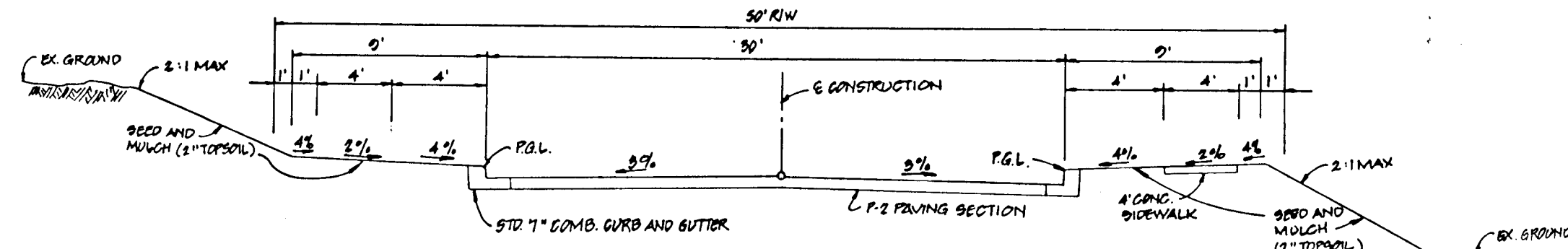
SCALE AS SHOWN DATE AUGUST, 1989 SHEET 5 OF 12
 DESIGNED BY DP DRAWN BY DP CHECKED BY KCT/TW

DEWBERRY & DAVIS
 ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
 200 HARRY S. TRIMAN PARKWAY
 ANNAPOLIS, MARYLAND 21401
 (301) 841-8811
 (METRO) 261-8707

PROFILE



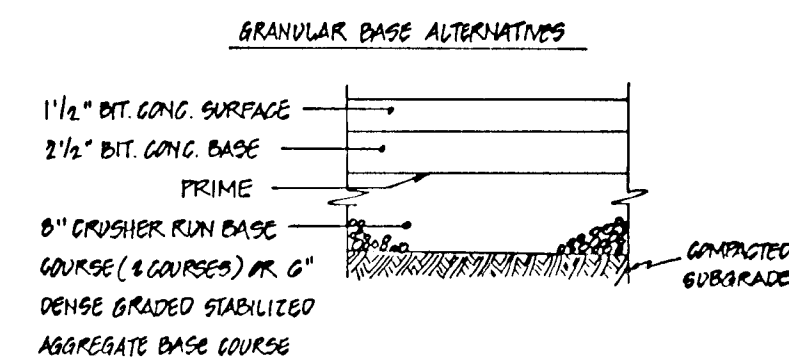
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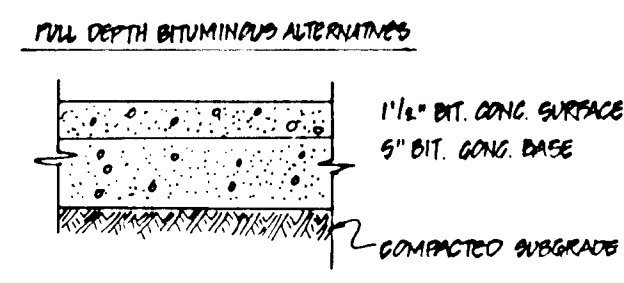
TYPICAL SECTION - LOCAL STREET
MEADOW POND DRIVE - STA. 0+00 TO STA. 9+81.03

NOT TO SCALE
EX. ZONING: R-20 DESIGN SPEED: 30 M.P.H.
36" PAVING

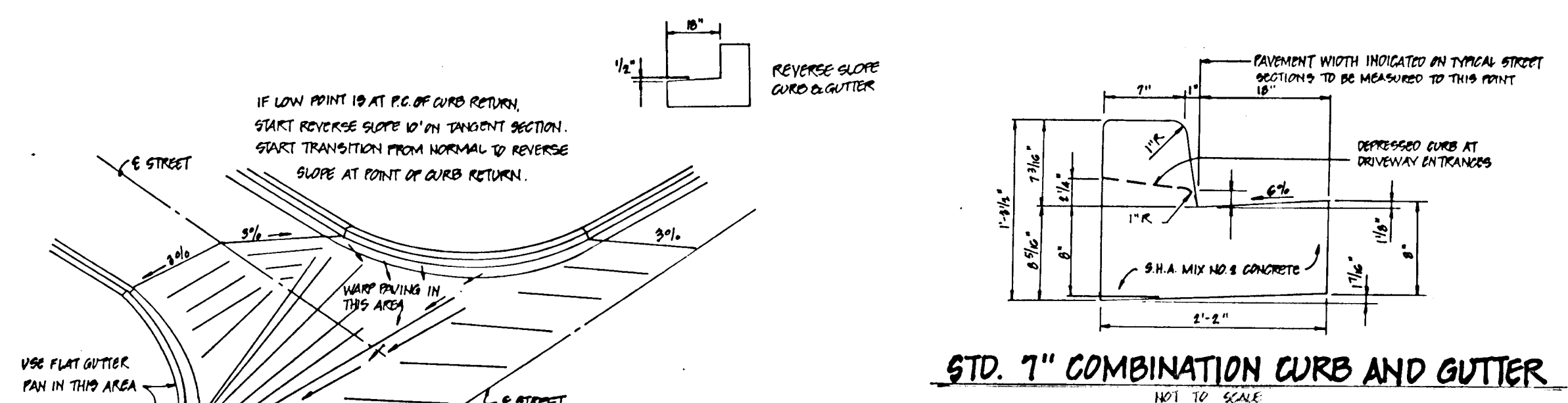
* NOTE: SIDEWALK TO BE PROVIDED AS REQUIRED BY SUPERVISION REGULATIONS.



P-2 PAVING SECTION
NOT TO SCALE

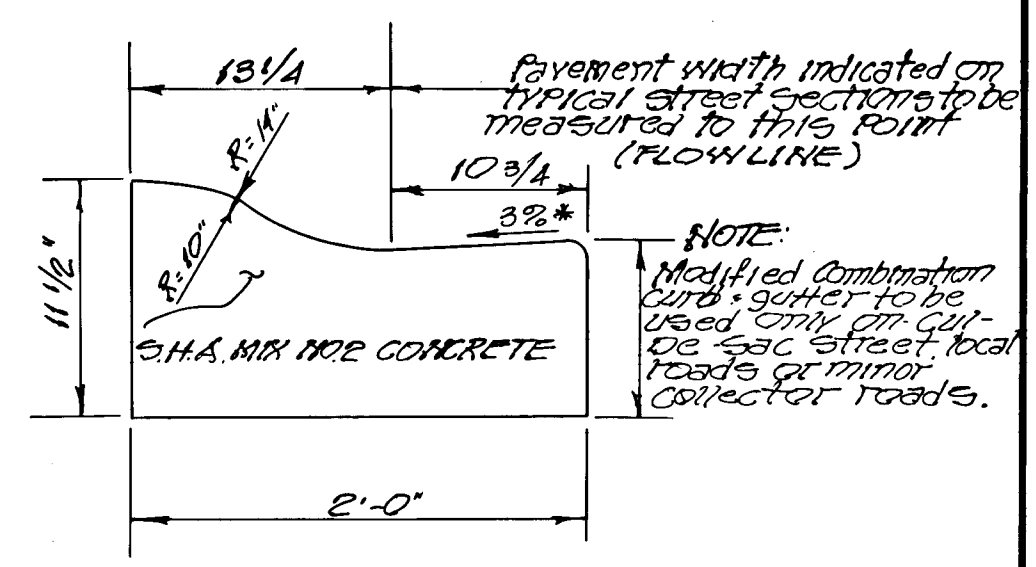


P-3 PAVING SECTION
NOT TO SCALE



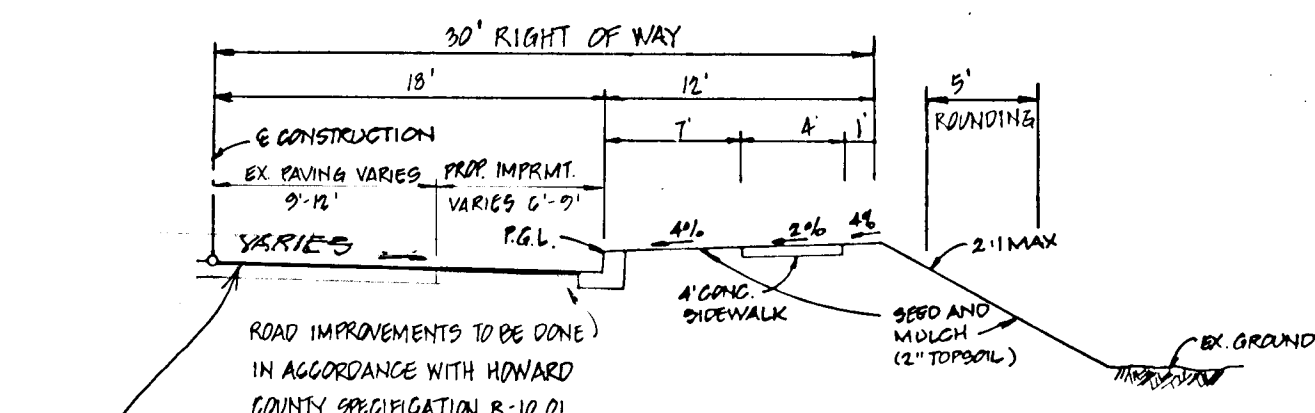
TYPICAL INTERSECTION GRADING DETAIL
NOT TO SCALE

STD. 7" COMBINATION CURB AND GUTTER
NOT TO SCALE



MODIFIED COMBINATION CURB & GUTTER

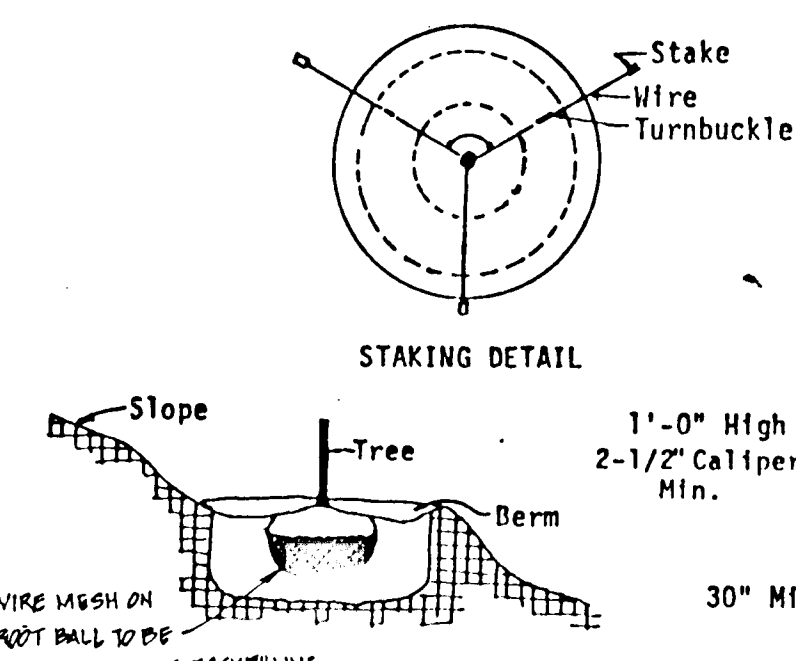
Gutter ran at the median edge of intermediate arterials or the high side super-elevated sections shall be sloped at the same rate and in the same direction as the pavement. If a pavement cross slope when curb is located on the low side of super-elevated section and the rate of super-elevation is greater than 3% for modified curb and gutter.



TYPICAL SECTION - MINOR COLLECTOR
KERGER ROAD - STA. 11+94.50 TO STA. 18+89.98

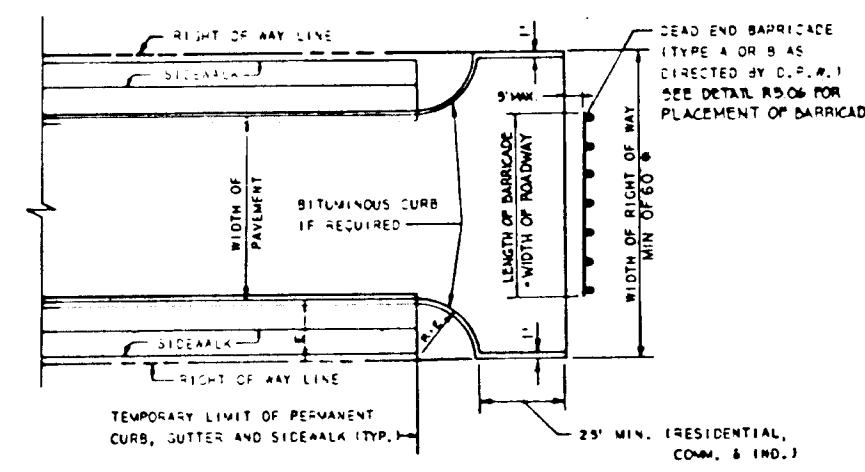
NOT TO SCALE
EX. ZONING: R-20 DESIGN SPEED: 30 M.P.H.
36" PAVING

* NOTE: SIDEWALK TO BE PROVIDED AS REQUIRED BY SUPERVISION REGULATIONS.



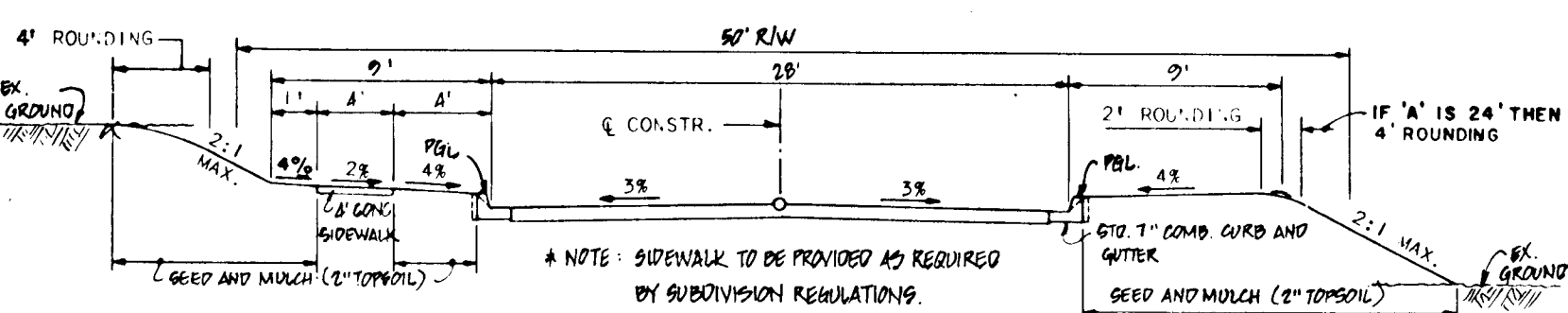
TREE PLANTING DETAIL
NOT TO SCALE

Note: Remove Burlap from Top 1/3 of Ball



TEMPORARY TEE TURN-AROUND
NOT TO SCALE

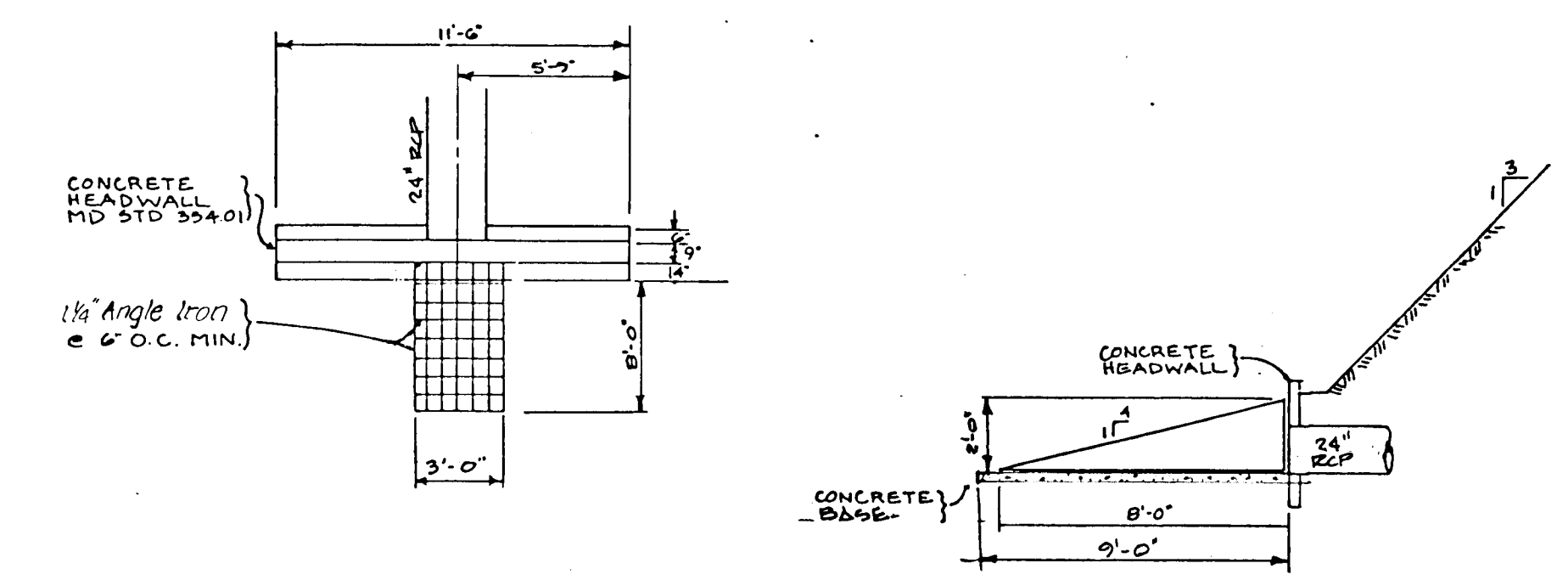
- NOTES:
- A TEE TURN-AROUND SHALL BE USED IN LIEU OF A CUL-DE-SAC ONLY IF THE STREET IS TO BE EXTENDED IN THE FUTURE.
 - RETAINMENT CURB SHALL EXTEND AROUND THE TEE TURN-AROUND IF AND AS REQUIRED TO CONTROL CURB DRAINAGE FROM THE ROADWAY SECTION.
 - REFER TO STANDARD 8-3 FOR TYPICAL ROADWAY PROFILE OF TEMPORARY LIMIT OF PAVING.
 - FOR LOCAL ROADS, PROVIDE REVERSIBLE EASEMENT EACH END OF THE TEE.
 - PROVIDE EASEMENTS AS REQUIRED FOR PLACEMENT OF BARRICADE AND ANY NECESSARY GRADING (SEE DETAIL 85-06)



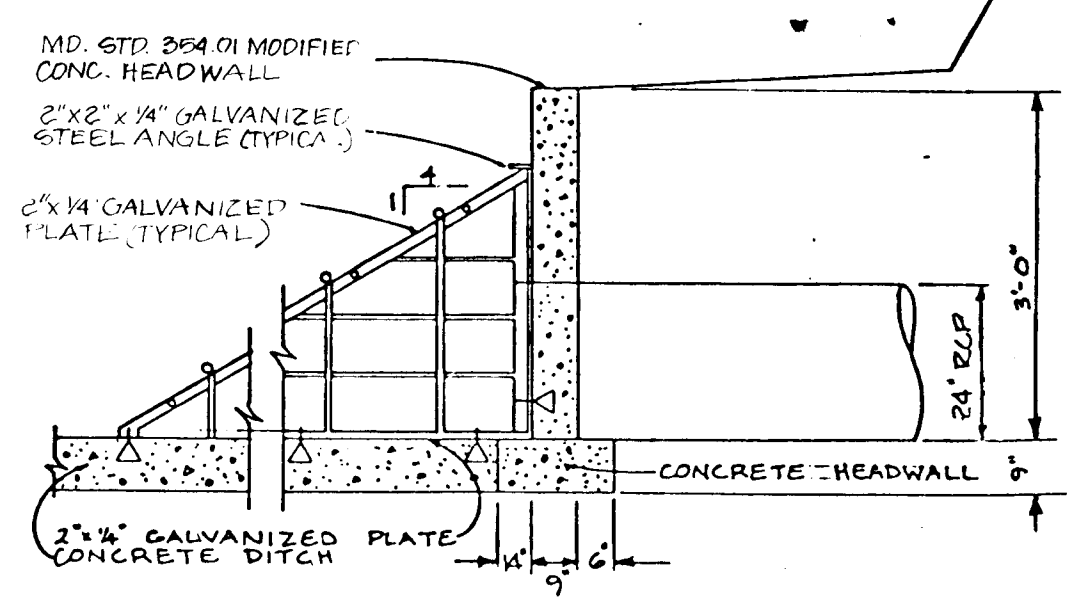
TYPICAL SECTION - CUL DE SAC
JERSEYBELLE COURT - STA. 0+00 TO STA. 5+47.10

NOT TO SCALE
EX. ZONING: R-20 DESIGN SPEED: 30 M.P.H.
36" PAVING

* NOTE: SIDEWALK TO BE PROVIDED AS REQUIRED BY SUPERVISION REGULATIONS.

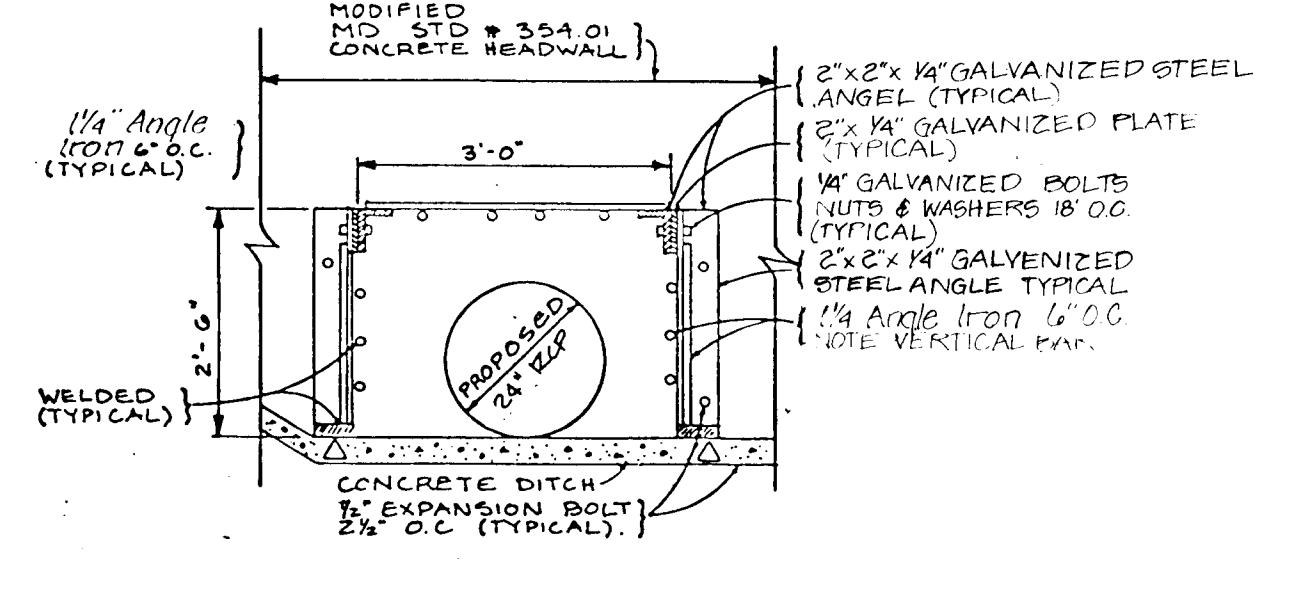


GALVANIZED REMOVABLE TRASH RACK
NOT TO SCALE



- NOTES:
- THE TRASH RACK SHALL BE MADE IN THREE PIECES. TWO SIDES AND THE TOP SHALL BE BOLTED TOGETHER AND THEN HOT DIPPED GALVANIZED.
 - THE TRASH RACK SHALL BE PLACED AGAINST THE CONCRETE HEADWALL AND CHANNEL BOTTOM AND BOLTED SECURELY IN PLACE USING 1/2" EXPANSION BOLTS.
 - THE #6 REBAR SHALL BE WELDED TO THE STEEL PLATES AND ANGLES USING FLORE BEVEL WELDS.
 - THE STEEL PLATES AND ANGLES TO BE WELDED TOGETHER SHALL USE 1/4" FILLET OR 1/4" BUTT WELDS WHERE NECESSARY.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 7/1/90
 [Signature] 7/23/90
 [Signature] 8-1-90
 APPROVED HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 [Signature] 8/2/90



DESIGNED		DATE		BY		DESCRIPTION	
KMC/HG	8/10	1-23-91	SRS	ADD 1 1/2" PAVING ON KERGER RD.			
DMP	8/10	8-21-92	ERO	ADD MODIFIED CURB & GUTTER DETAIL			
JHE	8/10						
TLW	8/10						

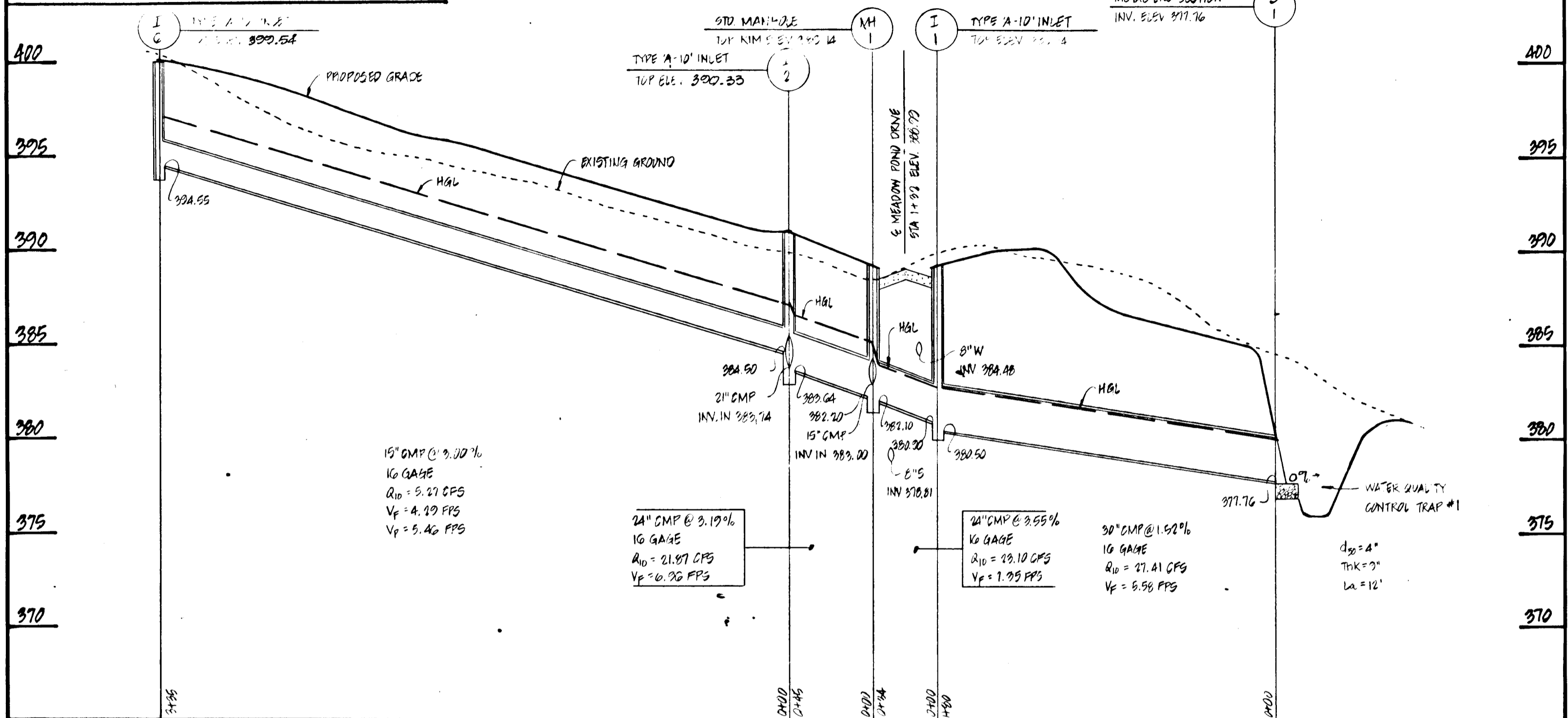
Dewberry & Davis
 ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
 200 Harry S. Truman Parkway, Annapolis, Maryland 21401
 8411 Arlington Boulevard, Fairfax, Virginia 22030

OWNER & DEVELOPER
 McDONOUGH SCHOOL
 c/o JAMES DAWSON
 P.O. BOX 380
 OWINGS MILLS, MARYLAND 21117

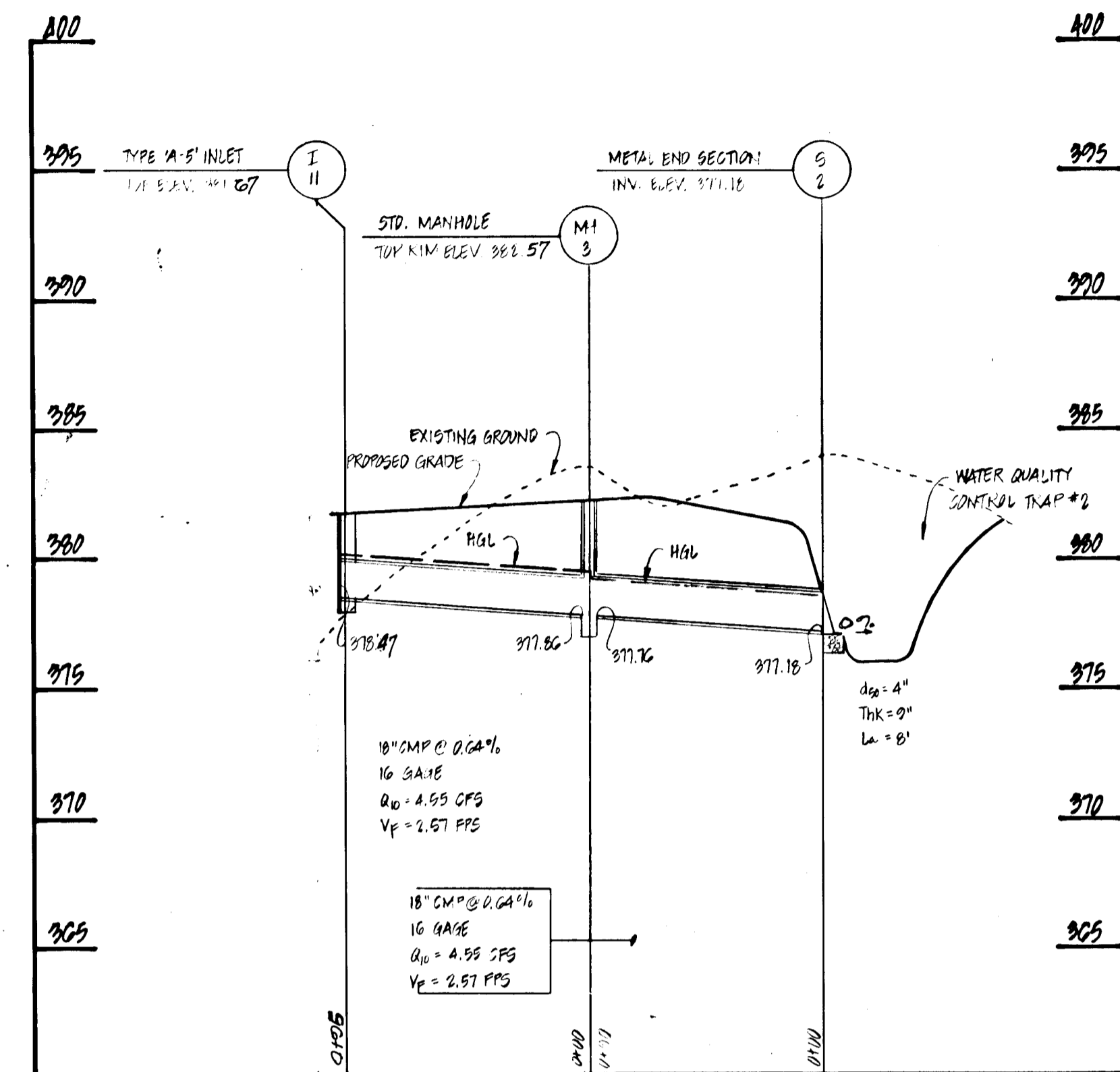
ROAD CONSTRUCTION & STORMWATER MANAGEMENT DETAILS
DUNTEACHIN FARM SECTION ONE
 TAX MAP 31 BLOCK 21 PARCEL 222 LOTS 1-46
 1ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 AUGUST, 1989

1584

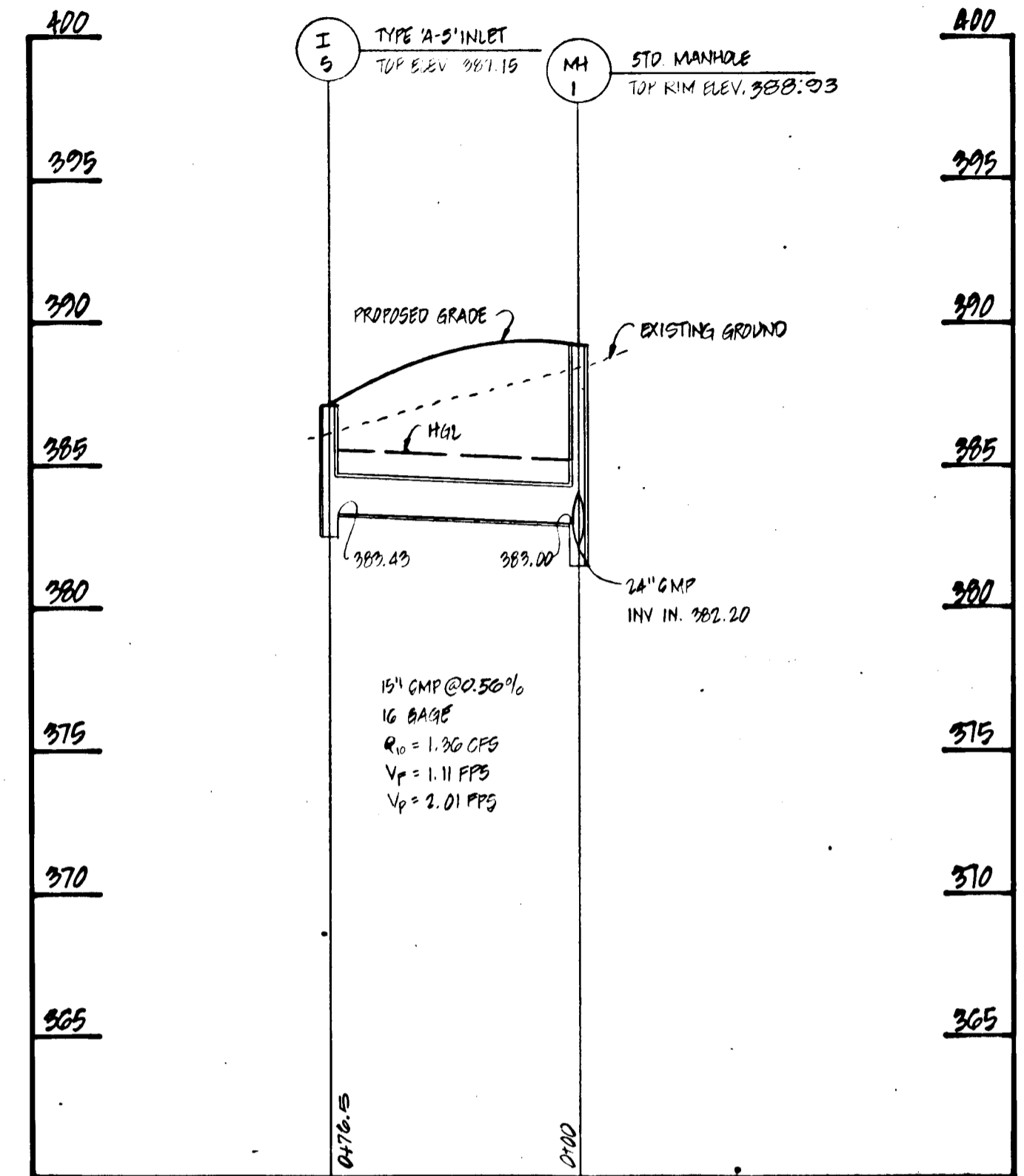
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DATE: 7/31/90
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DATE: 8/2/90



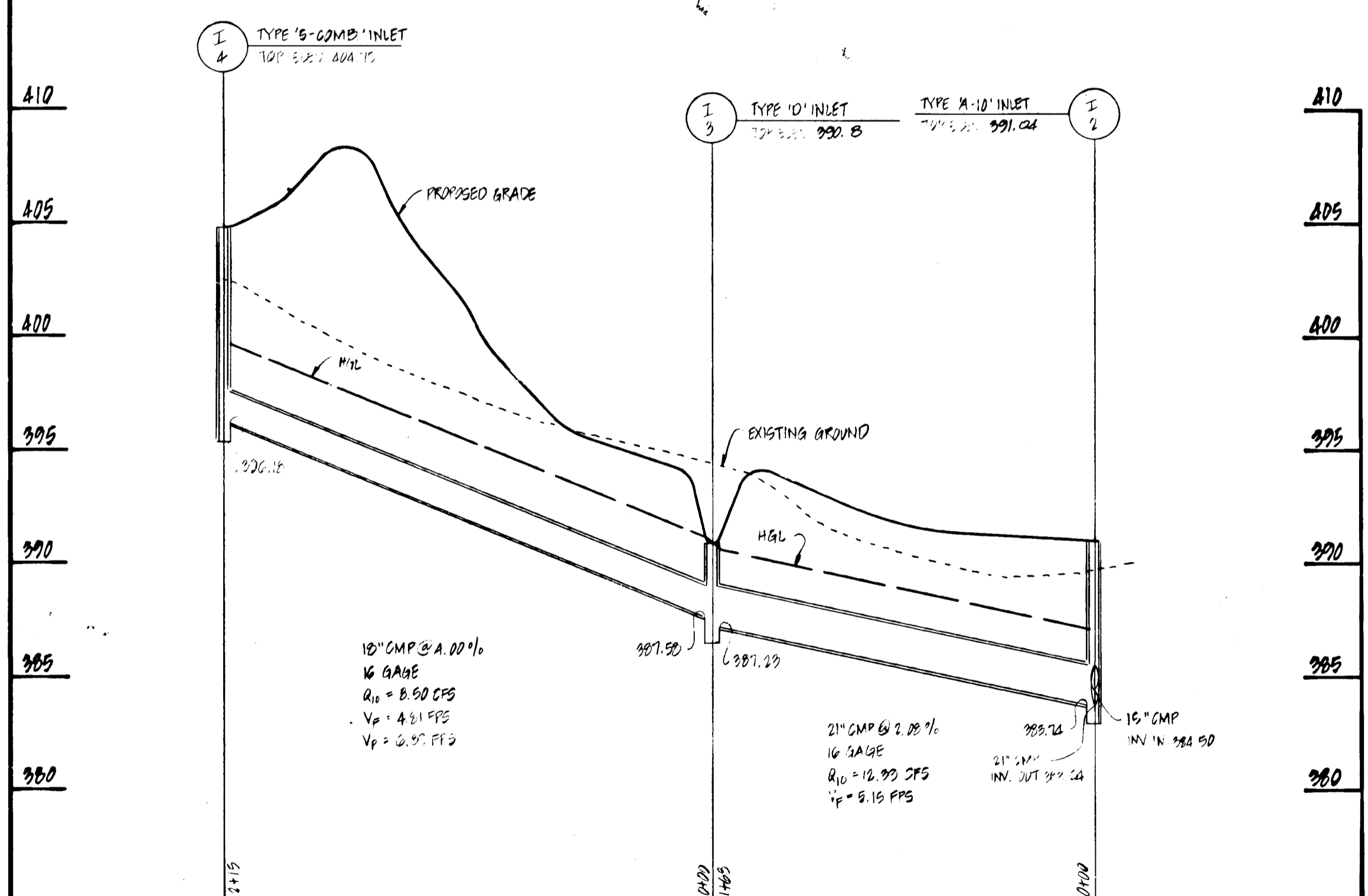
PROFILE - MEADOW POND DRIVE
 SCALE: HORIZ. - T=80'
 VERT. - T=5'



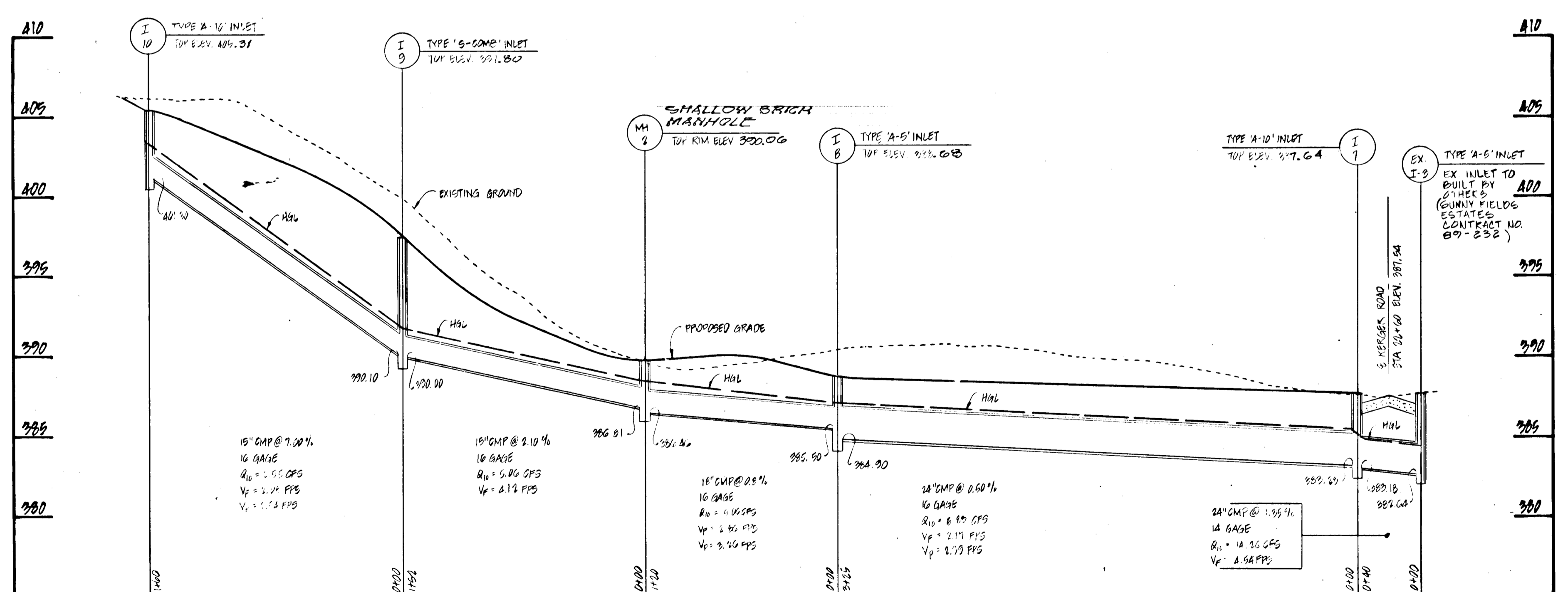
PROFILE - KERGER ROAD
 SCALE: HORIZ. - T=80'
 VERT. - T=5'



PROFILE - MEADOW POND DRIVE
 SCALE: HORIZ. - T=80'
 VERT. - T=5'



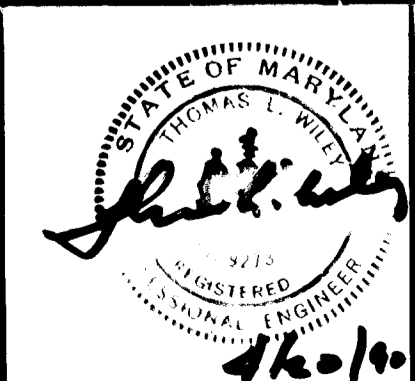
PROFILE
 SCALE: HORIZ. - T=80'
 VERT. - T=5'



PROFILE - KERGER ROAD
 SCALE: HORIZ. - T=80'
 VERT. - T=5'

DESIGNED		DATE		BY		DESCRIPTION	
KMC/HSP	8/10/90	8-31-90	MRS	REVISED TOP ELEV. ON MH, I.E., +IG, INLET			
DM P	8/10/90			ON KERGER RD TO REFLECT TOP OF CURB ELEV. REVISION.			
JHE	8/10/90						
TLW	8/10/90						

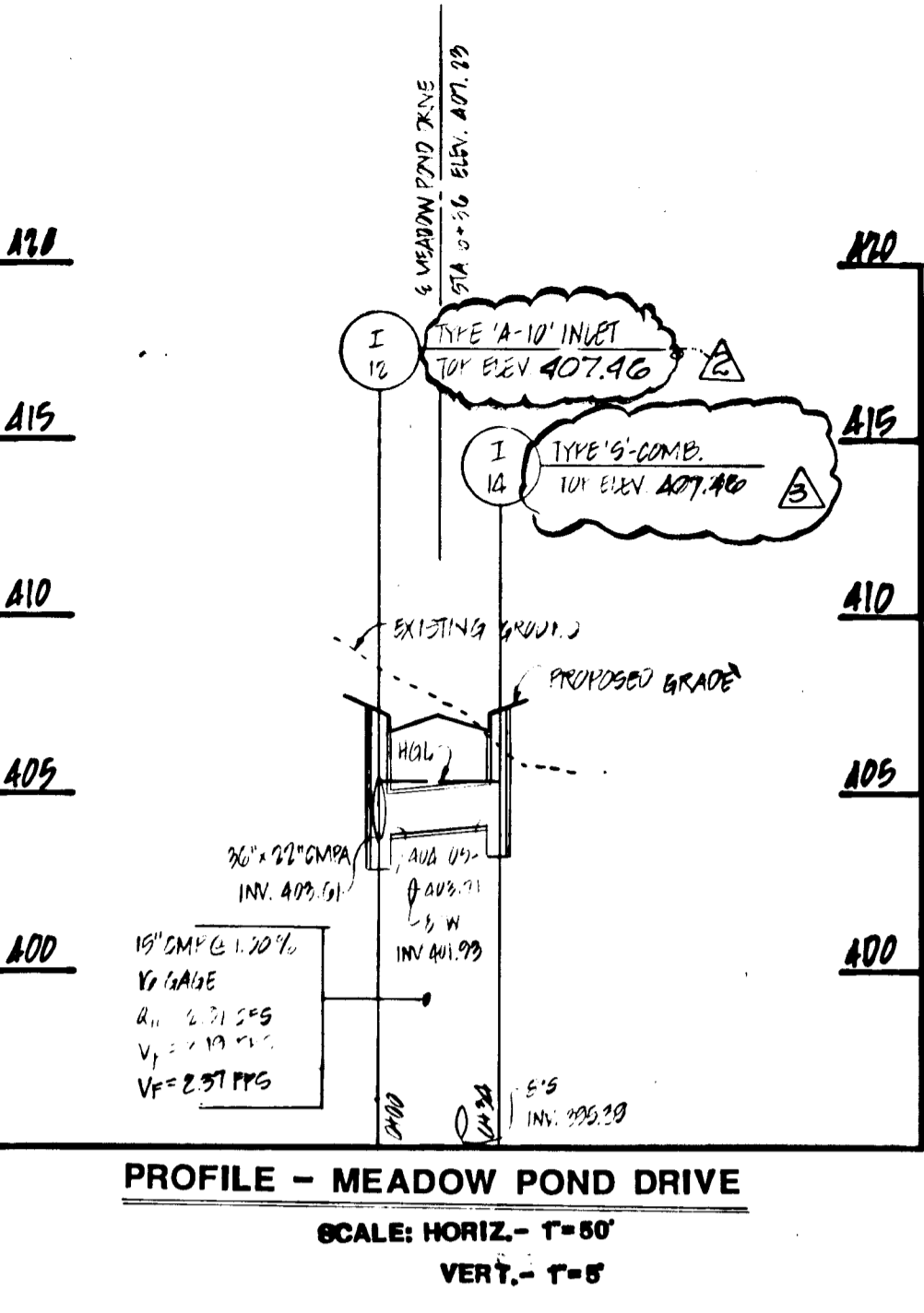
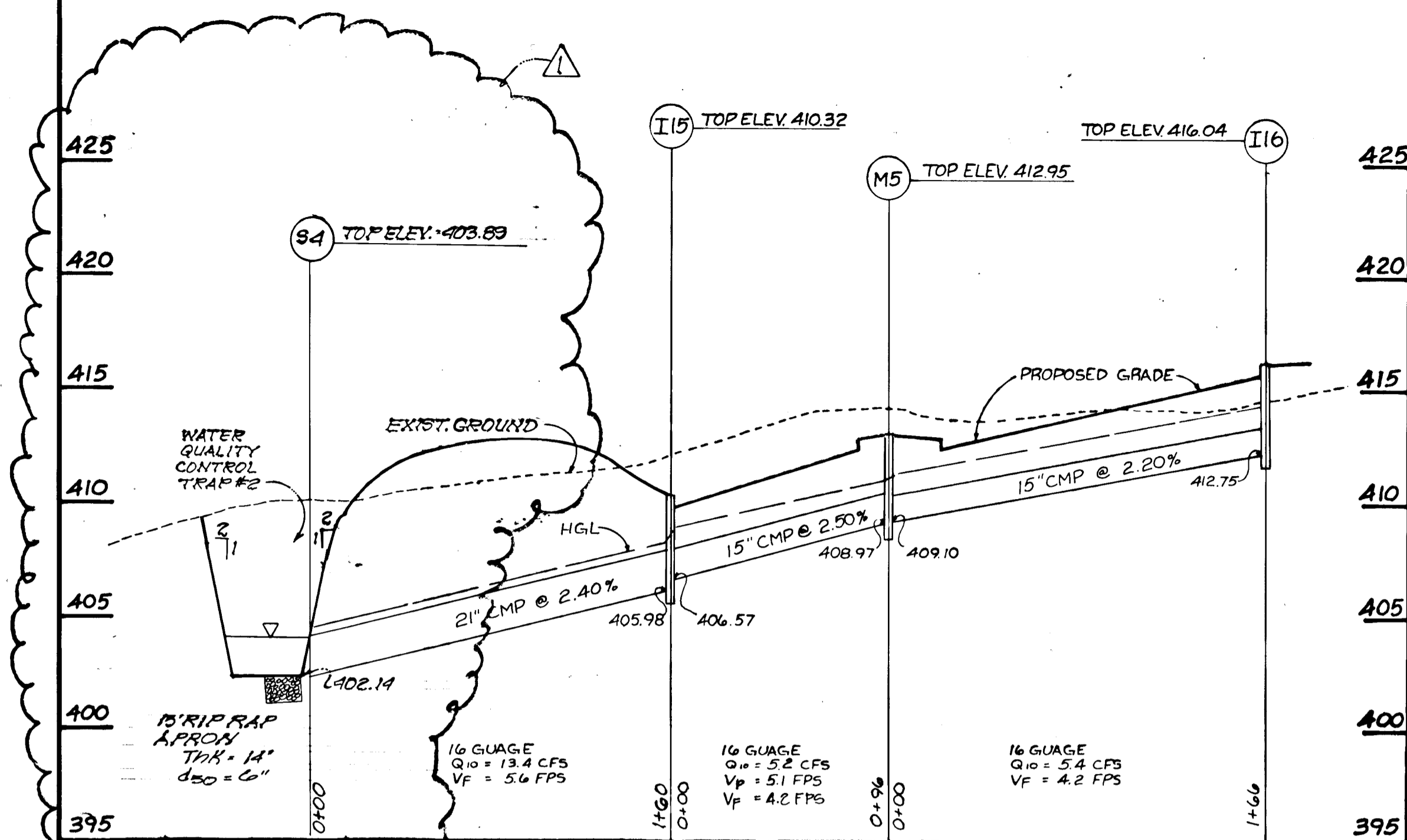
Dewberry & Davis
 ARCHITECTS-ENGINEERS-PLANNERS-SURVEYORS
 200 Harry S. Truman Parkway, Annapolis, Maryland 21401
 8411 Arlington Boulevard, Fairfax, Virginia 22030



OWNER & DEVELOPER
 McDONOUGH SCHOOL
 c/o JAMES DAWSON
 P.O. BOX 380
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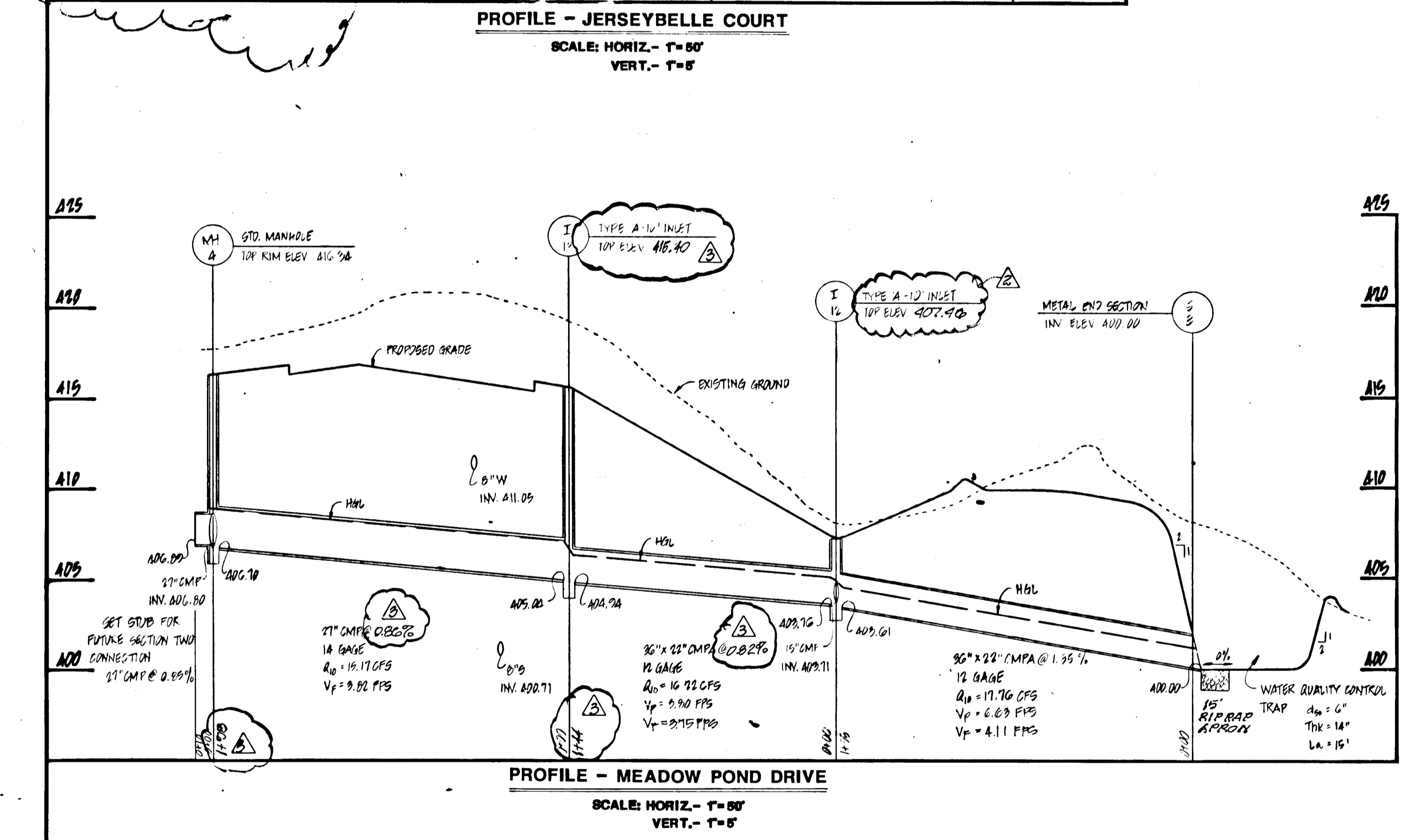
STORM DRAIN PROFILES
DUNTEACHIN FARM SECTION ONE
 TAX MAP 31 BLOCK 21 PARCEL 222 LOTS 1-46
 1ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 AUGUST, 1989

1584



SOIL LEGEND

SOIL TYPE	SYMBOL	CLASS
AURA GRAVELLY LOAM	Agr2	B
AURA GRAVELLY LOAM	Agr3	B
BELEVILLE SILT LOAM	Be2	B
BELEVILLE SILT LOAM	Be3	B
CHILLUM-FAIRFAX LOAMS	Ch2	B
CHILLUM-FAIRFAX LOAMS	Ch3	B
FALLSINGTON LOAM	Fa	B
HAYBORE SILT LOAM	Hs	B
LEONARDTOWN SILT LOAM	Le	B
LEONARDTOWN SILT LOAM	Le2	B
LEONARDTOWN SILT LOAM	Le3	B
MEADOWS SILT LOAM	Me	B
MEADOWS SILT LOAM	Me2	B
MEADOWS SILT LOAM	Me3	B
MEADOWS SILT LOAM	Me4	B
MEADOWS SILT LOAM	Me5	B
MEADOWS SILT LOAM	Me6	B
MEADOWS SILT LOAM	Me7	B
MEADOWS SILT LOAM	Me8	B
MEADOWS SILT LOAM	Me9	B
MEADOWS SILT LOAM	Me10	B
MEADOWS SILT LOAM	Me11	B
MEADOWS SILT LOAM	Me12	B
MEADOWS SILT LOAM	Me13	B
MEADOWS SILT LOAM	Me14	B
MEADOWS SILT LOAM	Me15	B
MEADOWS SILT LOAM	Me16	B
MEADOWS SILT LOAM	Me17	B
MEADOWS SILT LOAM	Me18	B
MEADOWS SILT LOAM	Me19	B
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MEADOWS SILT LOAM	Me95	B
MEADOWS SILT LOAM	Me96	B
MEADOWS SILT LOAM	Me97	B
MEADOWS SILT LOAM	Me98	B
MEADOWS SILT LOAM	Me99	B
MEADOWS SILT LOAM	Me100	B



STRUCTURE SCHEDULE

STRUCTURE NO.	TYPE	TOP ELEV.	INT. DIA.	INT. CWT	RENTERS	LOCATION
I-1	A-10	389.14	389.50	389.50	SD-4.02	MEADOW POND DRIVE STA. 1+32.15'L
I-2	A-10	384.50	384.50	384.50	SD-4.02	MEADOW POND DRIVE STA. 1+77.15'L
I-3	TYPE D-TARD TRAP	390.80	387.58	387.23	SD-4.14	SEE PLAN FOR LOCATION
I-4	S-CORB.	404.75	386.18	384.32	SD-4.32	BONEY CROFT STA. 5+08.5.10'L
I-5	A-5	383.43	383.43	383.43	SD-4.01	MEADOW POND DRIVE STA. 0+45.15'L
I-6	A-10	381.15	381.15	381.15	SD-4.02	MEADOW POND DRIVE STA. 0+45.15'L
I-7	A-10	380.64	380.64	380.64	SD-4.02	MEADOW POND DRIVE STA. 0+45.15'L
I-8	A-5	387.64	387.64	387.64	SD-4.02	MEADOW POND DRIVE STA. 22+50.18'L
I-9	S-CORB.	387.64	385.50	384.50	SD-4.01	KRIGER ROAD STA. 25+82.18'L
I-10	A-10	387.64	387.64	387.64	SD-4.02	KRIGER ROAD STA. 25+82.18'L
I-11	A-5	387.64	387.64	387.64	SD-4.02	KRIGER ROAD STA. 25+82.18'L
I-12	S-CORB.	403.71	403.71	403.71	SD-4.02	MEADOW POND DRIVE STA. 6+55.15'L
I-13	A-10	416.40	416.40	416.40	SD-4.02	MEADOW POND DRIVE STA. 7+75.15'L
I-14	S-CORB.	410.40	404.05	404.05	SD-4.32	MEADOW POND DRIVE STA. 6+55.15'L
I-15	S-CORB.	410.32	405.71	405.71	SD-4.32	CENTER OF PIPE SYSTEM
I-16	A-10	416.04	416.04	416.04	SD-4.02	JERSEYBELLE CROFT STA. 3+54.14'L
RR-1	STD. MANHOLE	382.20	382.20	382.20	G-5.11	MEADOW POND DRIVE STA. 1+32.15'L
RR-2	STD. MANHOLE	386.81	386.81	386.81	G-5.11	SEE PLAN FOR LOCATION
RR-3	STD. MANHOLE	377.86	377.86	377.86	G-5.11	KRIGER ROAD STA. 15+28.20'L
RR-4	STD. MANHOLE	416.40	416.40	416.40	G-5.11	SEE PLAN FOR LOCATION
RR-5	STD. MANHOLE	412.95	409.10	408.97	G-5.11	JERSEYBELLE CROFT STA. 5+18.20'L
RR-6	STD. MANHOLE	410.00	402.55	402.18	G-5.11	SEE PLAN FOR LOCATION
S-1	METAL END SECTION	380.26	377.76	377.76	SD-5.61	LOT 1 & LOT 2
S-2	METAL END SECTION	378.88	377.18	377.18	SD-5.61	LOT 1 & LOT 2
S-3	METAL END SECTION	401.83	400.80	400.80	SD-5.61	SEE PLAN FOR LOCATION
S-4	METAL END SECTION	403.89	402.14	402.14	SD-5.61	SEE PLAN FOR LOCATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John M. Jones 7/15/90
CHIEF, LAND DEVELOPMENT DIVISION

Travis W. Welland 7/23/90
CHIEF, BUREAU OF HIGHWAY

William A. Ray 8-1-90
CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Mark S. Lantz 8/15/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

REVISIONS

DATE	BY	DESCRIPTION
5-91	ERB	Revised forebay and profile at Jerseybelle Court
5-91	ERB	Revised top of elev. @ I-12
8-31-92	ERB	Revised structure specifications, pipe materials, and modified curb & gutter

Dewberry & Davis
ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
200 Harry S. Truman Parkway, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030



OWNER & DEVELOPER

McDONOUGH SCHOOL
c/o JAMES DAWSON
P.O. BOX 380
OWINGS MILLS, MARYLAND 21117

STORM DRAIN PROFILES
DUNTEACHIN FARM SECTION ONE
TAX MAP 31 BLOCK 21 PARCEL 222 LOTS 1-46
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
AUGUST, 1989

1584

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 DATE: 8/2/99
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DATE: 7/16/99
 CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF ENGINEERING
 DATE: 8-1-99
 CHIEF, BUREAU OF ENGINEERING

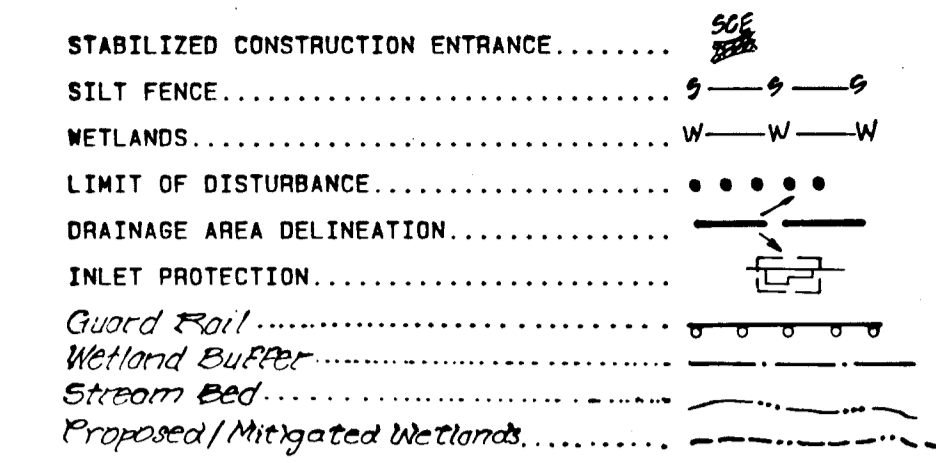
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL.

THESE PLANS FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

STREAM & WETLAND BUFFER BEARINGS

Line No	Bearing	Distance	LINE NO	BEARING	DISTANCE
1	S 35 48' 55" E	50.84	24 A	N 74' 15' 12" E	50.05
2	S 17 33' 08" E	61.51	24 B	N 80' 27' 19" E	19.33
3	S 24 36' 10" E	79.50	24 C	N 76' 41' 08" E	71.04
4	S 07 16' 58" N	60.00	24 D	N 85' 40' 55" E	72.00
5	S 13 37' 02" E	6.82	24 E	N 09' 04' 38" W	62.14
6	S 36 23' 43" E	79.31	24 F	N 14' 57' 17" E	89.40
7	S 40 32' 08" E	7.97	24 G	N 04' 57' 17" E	74.78
8	S 13 37' 02" E	16.00	24 H	N 84' 24' 59" W	79.01
9	S 02 18' 02" N	7.28			
10	S 33 06' 27" W	23.35			
11	S 19 00' 21" W	20.88			
12	S 08 34' 13" W	30.46			
13	S 58 37' 42" E	15.56			
14	S 40 32' 08" E	15.00			
15	S 52 55' 04" E	14.21			
16	S 33 16' 56" E	14.87			
17	S 17 50' 18" W	11.04			
18	S 20 48' 13" W	10.36			
19	S 77 05' 07" W	183.18			
20	N 12 54' 53" W	44.00			
21	N 05 57' 23" W	24.19			
22	N 23 33' 08" W	53.76			
23	N 06 10' 57" W	76.77			
24	N 31 48' 31" W	9.26			
25	N 42 13' 08" W	103.92			
26	N 47 34' 11" W	25.88			
27	N 34 18' 48" W	46.58			
28	N 39 18' 07" W	43.76			
29	N 50 50' 14" W	14.72			
30					

LEGEND



DESIGN DATA TRAP #1

1. DRAINAGE AREA TO TRAP: 2.75 AC±
2. TYPE OF TRAP: PIPE OUTLET SEDIMENT TRAP
3. VOLUME REQUIRED: 191 CY
4. VOLUME PROVIDED: 191 CY
5. TRAP SIZE (BOTTOM DIMENSION): 15' x 15'
6. TRAP DEPTH: 5.0'
7. BOTTOM ELEVATION: 92.00
8. RISER DIAMETER: 18"
9. BARREL DIAMETER: 18"
10. CLEANOUT ELEVATION: 99.90
11. SIDE SLOPES: 2:1

DESIGN DATA TRAP #2

1. DRAINAGE AREA TO TRAP: 3.70 AC±
2. TYPE OF TRAP: PIPE OUTLET SEDIMENT TRAP
3. VOLUME REQUIRED: 248 CY
4. VOLUME PROVIDED: 279 CY
5. TRAP SIZE (BOTTOM DIMENSION): 17' x 30'
6. TRAP DEPTH: 1.0'
7. BOTTOM ELEVATION: 92.00
8. RISER DIAMETER: 24"
9. BARREL DIAMETER: 18"
10. CLEANOUT ELEVATION: 92.00
11. SIDE SLOPES: 2:1

DESIGN DATA TRAP #3

1. DRAINAGE AREA TO TRAP: 2.79 AC±
2. TYPE OF TRAP: PIPE OUTLET SEDIMENT TRAP
3. VOLUME REQUIRED: 187 CY
4. VOLUME PROVIDED: 188 CY
5. TRAP SIZE (BOTTOM DIMENSION): 10' x 30'
6. TRAP DEPTH: 1.0'
7. BOTTOM ELEVATION: 92.00
8. CREST ELEVATION: 99.90
9. CLEANOUT ELEVATION: 92.00
10. OUTLET WIDTH: 15.0'
11. SIDE SLOPES: 2:1

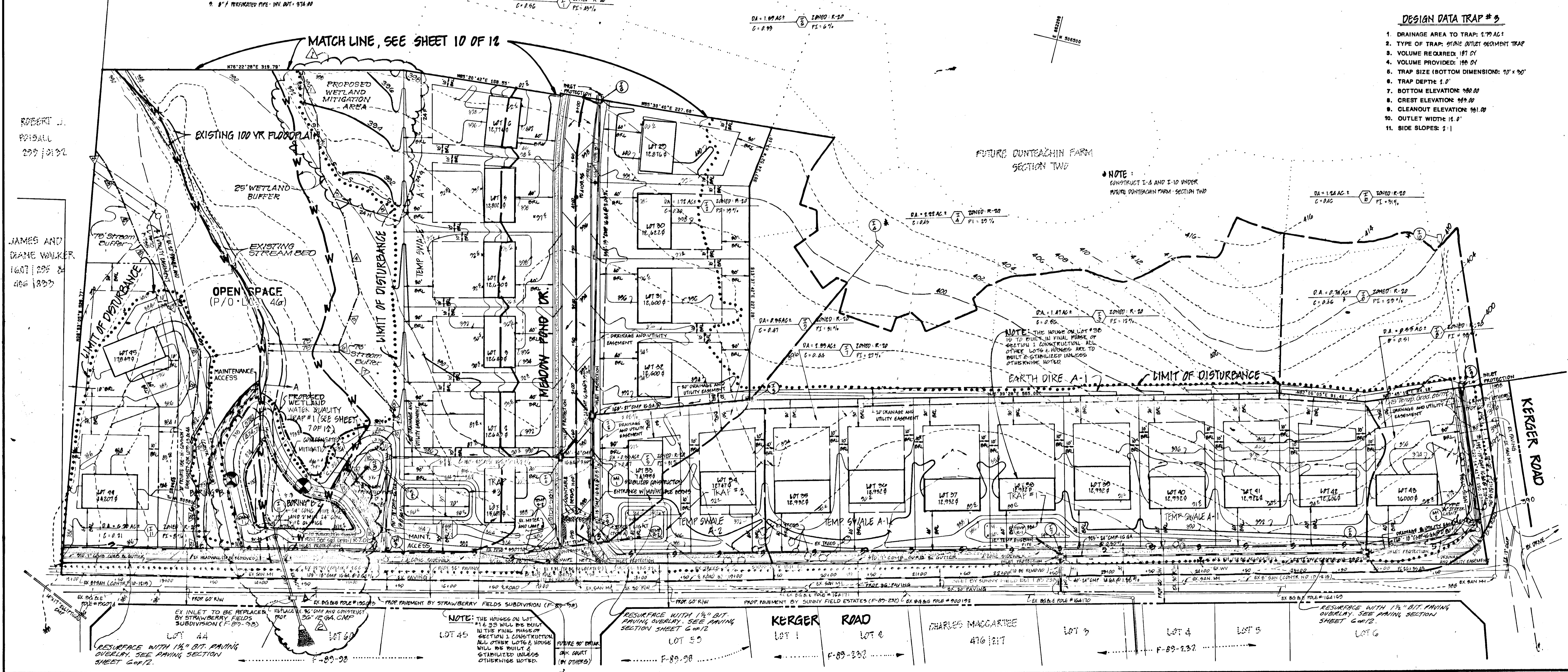
I, **John L. Willey**, certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of attendance as a department of natural resources approved training program for the control of sediment and erosion 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.

DATE: 4/19/99

THOMAS L. WILEY, PROFESSIONAL ENGINEER

WATER QUALITY CONTROL TRAP #1

1. DRAINAGE AREA TO TRAP: 1.84 AC±
2. TYPE OF TRAP: BENTONITE DEVICE II
3. VOLUME REQUIRED: 99 CY
4. VOLUME PROVIDED: 99 CY
5. TRAP SIZE: SEE GRADING PLAN
6. TRAP DEPTH: 1.5'
7. BOTTOM ELEV: 92.00
8. 6" PERFORATED PIPE - INV. IN: 92.00
9. 8" PERFORATED PIPE - INV. OUT: 92.00



DESIGNED	DATE	BY	DESCRIPTION
KMC	8-99		
DMP	1-23-91	JRS	ADD 1 1/4" BIT OVERLAY TO KERGER RD.
JBE	5-91	ERB	REVISE GRADING SOUTHWEST SIDE OF LOT 12, DETERMINE SLOPE
TLW	2-10-98	ERB	REMOVE SMALL POND NOTES FROM 500
	10-28-98	ERB	CHANGE PERFORATED PIPE TO 8" DIA. 125A
	1-5-99	DBT	ADDED WETLAND BUFFER LINE

Dewberry & Davis
 ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS
 200 Harry S. Truman Parkway, Annapolis, Maryland 21401
 8411 Arlington Boulevard, Fairfax, Virginia 22030

DATE: 4/20/99

OWNER & DEVELOPER
 McDONOUGH SCHOOL
 c/o JAMES DAWSON
 P.O. BOX 380
 OWINGS MILLS, MARYLAND 21117

ON-SITE DRAINAGE AREA AND GRADING PLAN
DUNTEACHIN FARM SECTION ONE
 TAX MAP 31 BLOCK 21 PARCEL 222 LOTS 1-46
 1ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 AUGUST, 1989

SCALE: 1"=50'
 PREVIOUS SUBMITTALS: S-88-113, P-89-43
 FILE NO. 17-20-24
 SHEET 9 OF 12
 F-90-34

1584

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

DATE: 8/19/90

CHIEF, LAND DEVELOPMENT DIVISION

DATE: 7/31/90

CHIEF, BUREAU OF HIGHWAY

DATE: 7/29/90

CHIEF, BUREAU OF ENGINEERING

DATE: 8-1-90

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.

J. Helm, Jr. 8/14/90

SOIL CONSERVATION SERVICE

DATE

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

Robert J. Poissal 8/14/90

HOWARD SOIL CONSERVATION DISTRICT

DATE

STREAM & WETLAND BUFFER BEARINGS

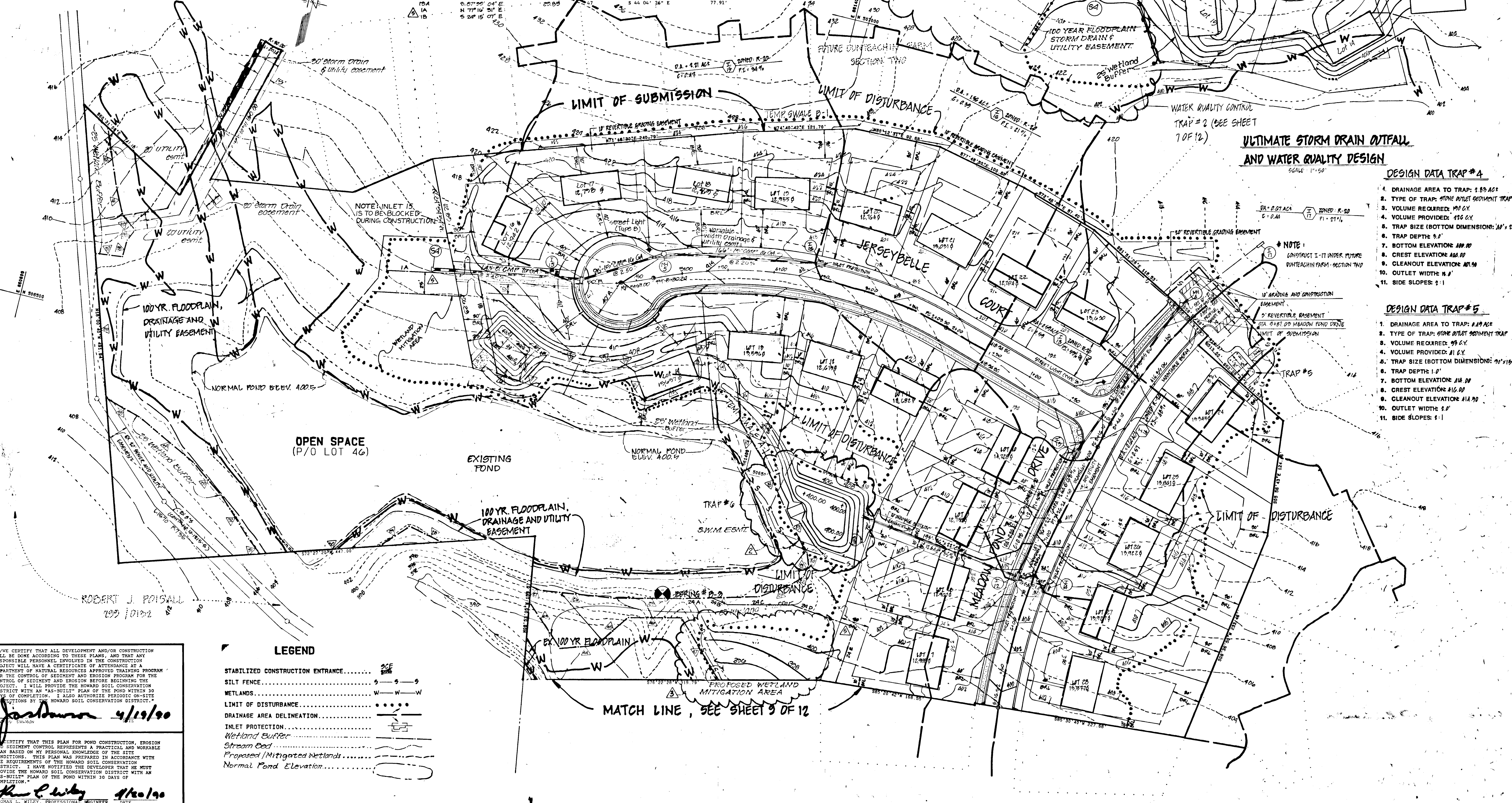
Line No.	Bearing	Distance	Line No.	Bearing	Distance
6	S 84.43° 16' E	31.09'	29	S 41.52° 49' W	39.91'
7	N 30.59° 23' E	38.14'	30	S 72.27° 20' W	127.02'
8	S 86.27° 40' E	40.48'	31	N 50.34° 43' W	20.55'
9	N 67.02° 36' E	26.20'	32	N 45.40° 56' W	53.66'
10	S 79.29° 11' E	22.20'	33	N 53.25° 40' W	44.41'
11	S 69.50° 28' E	21.00'	34	N 63.37° 26' W	75.60'
12	N 52° 00' 28' W	28.00'	35	N 74.38° 28' W	41.58'
13	S 79.31° 20' E	21.20'	36	N 18.00° 40' W	156.45'
14	N 46.40° 34' E	10.78'	37	N 83.21° 03' E	29.64'
15	S 17.14° 39' E	51.75'	38	N 00.02° 21' E	18.54'
16	S 44.48° 03' E	48.16'	39	N 25.32° 02' E	14.03'
17	S 38.36° 13' E	53.00'	40	N 53.68° 02' W	74.30'
18	S 37.50° 44' E	55.86'	41	N 26.59° 40' W	29.59'
19	S 22.06° 03' E	13.37'	42	N 71.14° 57' W	43.92'
20	S 32.06° 13' E	13.37'	43	N 67.39° 48' E	58.80'
21	S 09.22° 39' W	13.54'	44	N 72.04° 12' E	38.37'
22	S 40.51° 15' W	13.57'	45	N 35.09° 55' E	43.92'
23	S 56.33° 51' W	39.39'	46	N 76.09° 31' E	56.83'
24	S 07.55° 04' E	20.09'	47	S 44.04° 24' E	77.91'
25	N 77° 16' 01' E	...			
26	S 28° 45' 03' E	...			

WATER QUALITY CONTROL TRAP #2

1. DRAINAGE AREA TO TRAP: 2.99 AC±
2. TYPE OF TRAP: STONE OUTLET SEDIMENT TRAP
3. VOLUME REQUIRED: 111 CY
4. VOLUME PROVIDED: 58.0 CY
5. TRAP SIZE (BOTTOM DIMENSION): 20' X 18'
6. TRAP DEPTH: 1.75'
7. BOTTOM ELEVATION: 402.14
8. CREST ELEVATION: 403.89
9. CLEANOUT ELEVATION: 402.75
10. OUTLET WIDTH: 9.0'
11. SIDE SLOPES: 1:1

DESIGN DATA TRAP #6

1. DRAINAGE AREA TO TRAP: 2.48 AC±
2. TYPE OF TRAP: STONE OUTLET SEDIMENT TRAP AND WATER QUALITY CONTROL TRAP
3. VOLUME REQUIRED FOR SEDIMENT CONTROL: 158.0 CY
4. VOLUME REQUIRED FOR WATER QUALITY CONTROL: 107.0 CY
5. VOLUME PROVIDED: 184.2 CY
6. TRAP SIZE (BOTTOM DIMENSION): 75' X 40'
7. TRAP DEPTH: 1.0'
8. BOTTOM ELEVATION: 400.00
9. CREST ELEVATION: 409.00
10. CLEANOUT ELEVATION: 401.00
11. OUTLET WIDTH: 10.0'
12. SIDE SLOPES: 1:1



ULTIMATE STORM DRAIN OUTFALL AND WATER QUALITY DESIGN
SCALE: 1"=50'

DESIGN DATA TRAP #4

1. DRAINAGE AREA TO TRAP: 1.89 AC±
2. TYPE OF TRAP: STONE OUTLET SEDIMENT TRAP
3. VOLUME REQUIRED: 190.0 CY
4. VOLUME PROVIDED: 426.0 CY
5. TRAP SIZE (BOTTOM DIMENSION): 30' X 25'
6. TRAP DEPTH: 3.0'
7. BOTTOM ELEVATION: 409.00
8. CREST ELEVATION: 404.00
9. CLEANOUT ELEVATION: 401.00
10. OUTLET WIDTH: 8.0'
11. SIDE SLOPES: 1:1

DESIGN DATA TRAP #5

1. DRAINAGE AREA TO TRAP: 4.19 AC±
2. TYPE OF TRAP: STONE OUTLET SEDIMENT TRAP
3. VOLUME REQUIRED: 99.0 CY
4. VOLUME PROVIDED: 41.0 CY
5. TRAP SIZE (BOTTOM DIMENSION): 9' X 15'
6. TRAP DEPTH: 1.0'
7. BOTTOM ELEVATION: 418.00
8. CREST ELEVATION: 416.00
9. CLEANOUT ELEVATION: 414.00
10. OUTLET WIDTH: 8.0'
11. SIDE SLOPES: 1:1

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 PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION PROGRAM FOR 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 J. Poissal 4/19/90

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.

Robert J. Poissal 4/19/90

LEGEND

STABILIZED CONSTRUCTION ENTRANCE

SILT FENCE

WETLANDS

LIMIT OF DISTURBANCE

DRAINAGE AREA DELINEATION

INLET PROTECTION

Wetland Buffer

Stream Bed

Proposed/Mitigated Wetlands

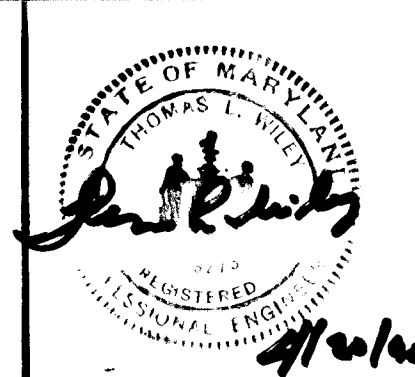
Normal Pond Elevation

REVISIONS

DESIGNED	DATE	BY	DESCRIPTION
KMG	8/19		
DRAWN	8/19	OMF	
CHECKED	8/19	JHE	
APPROVED	8/19	TLW	
	5-21	ERB	Revised water quality control trap at outfall #4
	5-21	ERB	Revised configuration of water quality basin at outfall #4
	5-21	ERB	Grading of southeast side of pond to accommodate mitigation area
	5-10-90	CRB	Remove Small Pond Notes from 5.00 Box
	1-5-94	DBT	ADDED WETLAND BUFFER LINE

Dewberry & Davis
ARCHITECTS • ENGINEERS • PLANNERS • SURVEYORS

200 Harry S. Truman Parkway, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030



OWNER & DEVELOPER

McDONOUGH SCHOOL
c/o JAMES DAWSON
P.O. BOX 380
OWINGS MILLS, MARYLAND 21117

ON-SITE DRAINAGE AREA AND GRADING PLAN

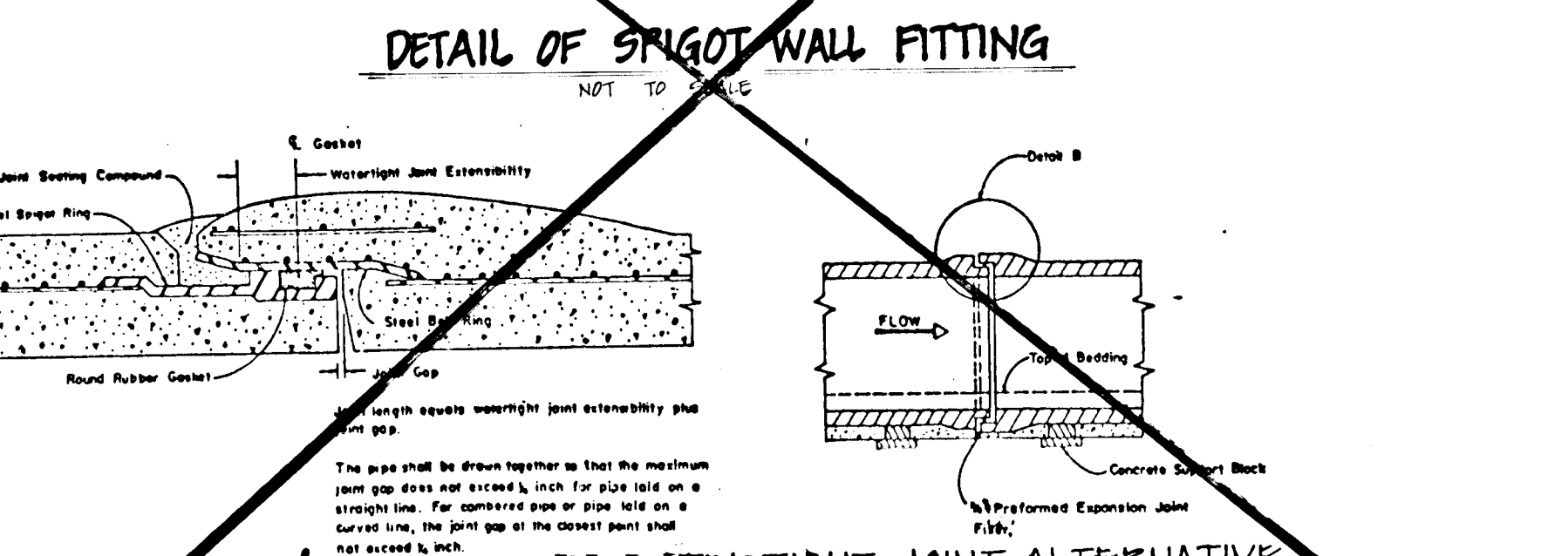
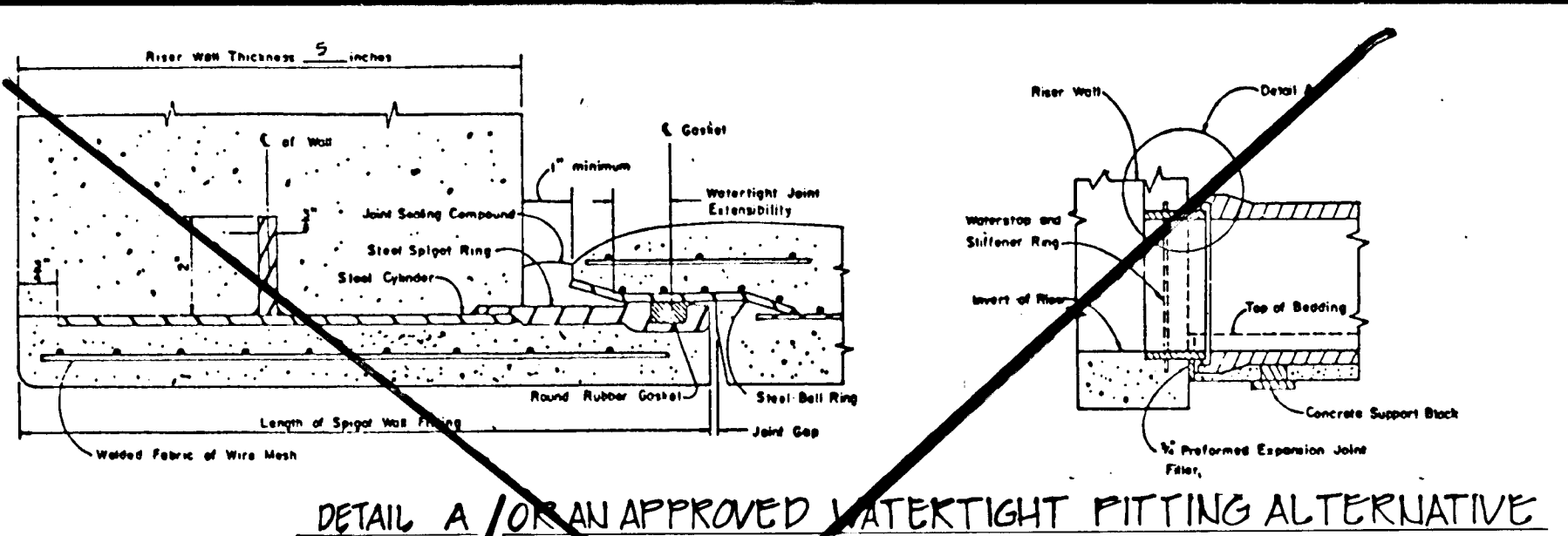
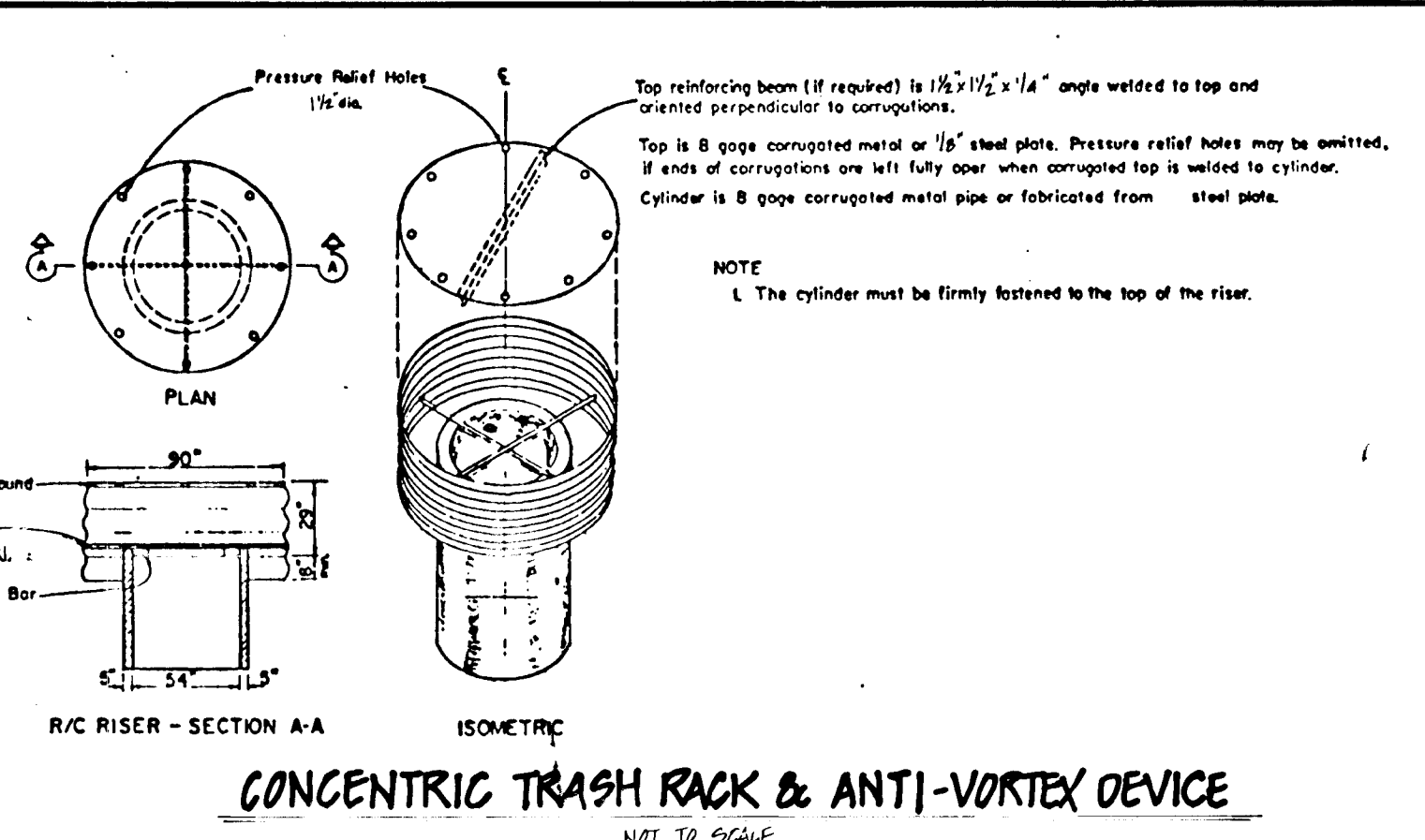
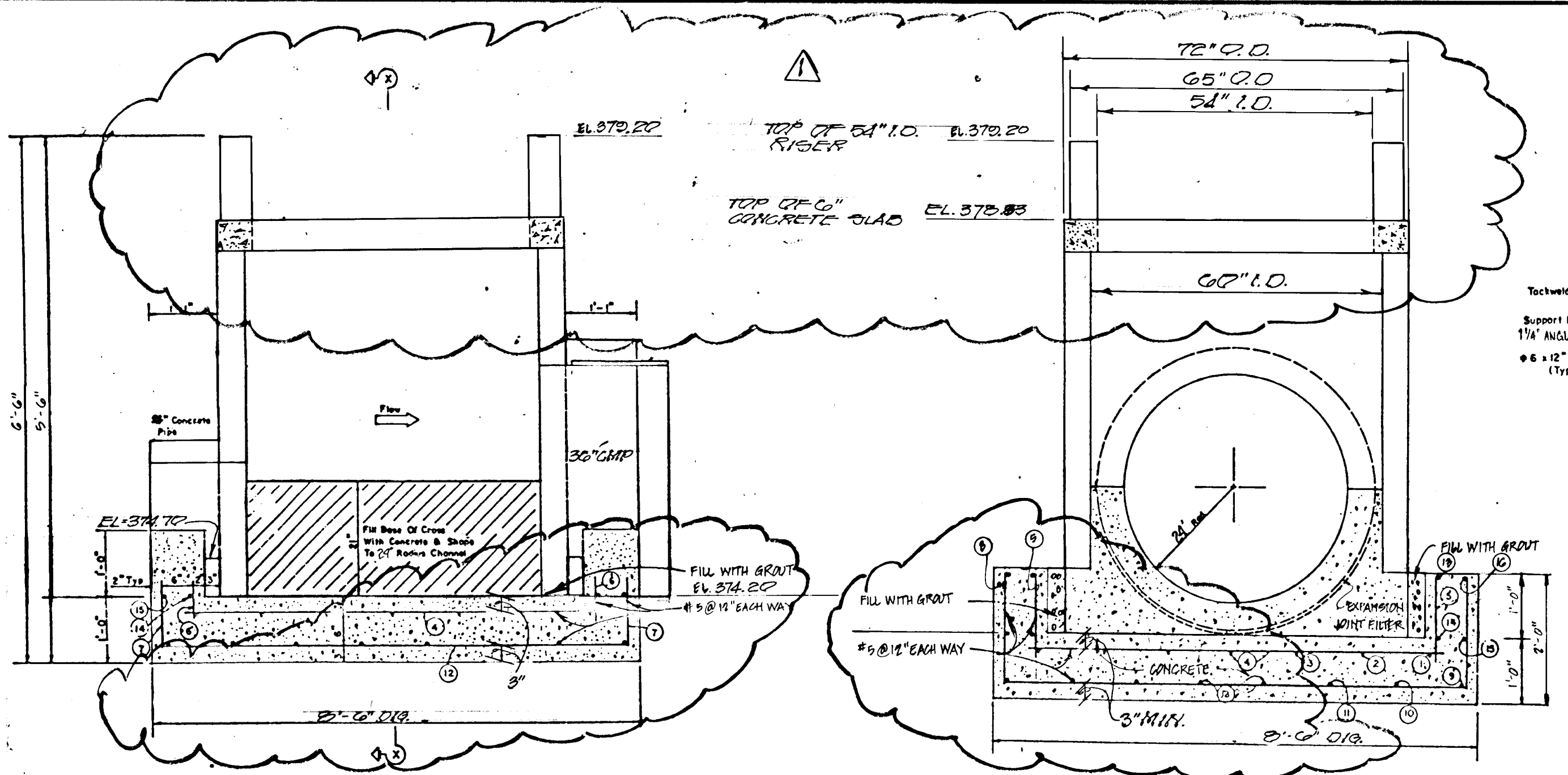
DUNTEACHIN FARM SECTION ONE

TAX MAP 31 BLOCK 21 PARCEL 222 LOTS 1-46
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
AUGUST, 1989

SCALE: 1"=25'

PREVIOUS SUBMITTALS S-88-113-P-89-43 FILE NO. 88-20-04 SHEET 12 OF 16

1584



SECTION THRU RISER
NOT TO SCALE

SECTION X-X THRU RISER
NOT TO SCALE

CONCENTRIC TRASH RACK & ANTI-VORTEX DEVICE
NOT TO SCALE

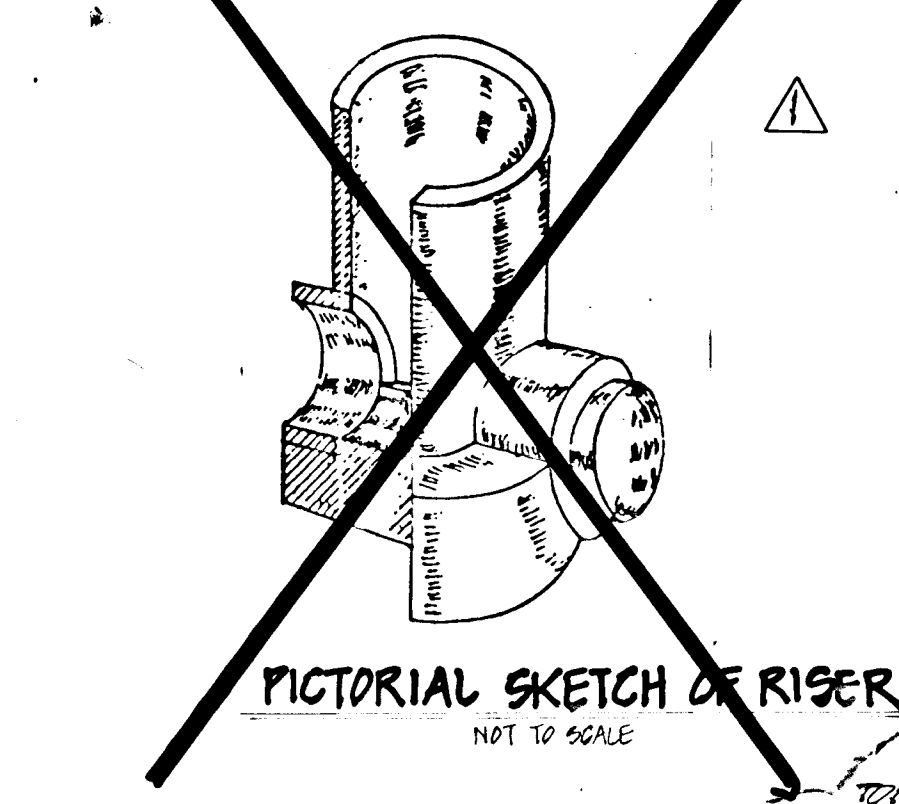
DETAIL A / OR AN APPROVED WATER TIGHT FITTING ALTERNATIVE
NOT TO SCALE

DETAIL B / OR AN APPROVED WATER TIGHT JOINT ALTERNATIVE
NOT TO SCALE

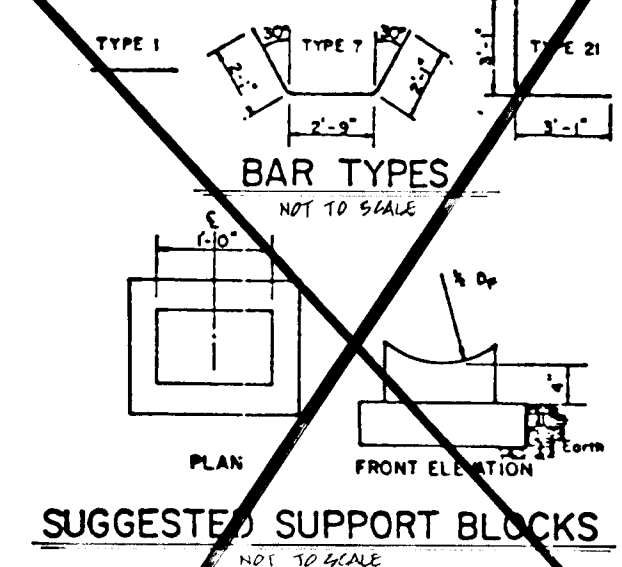
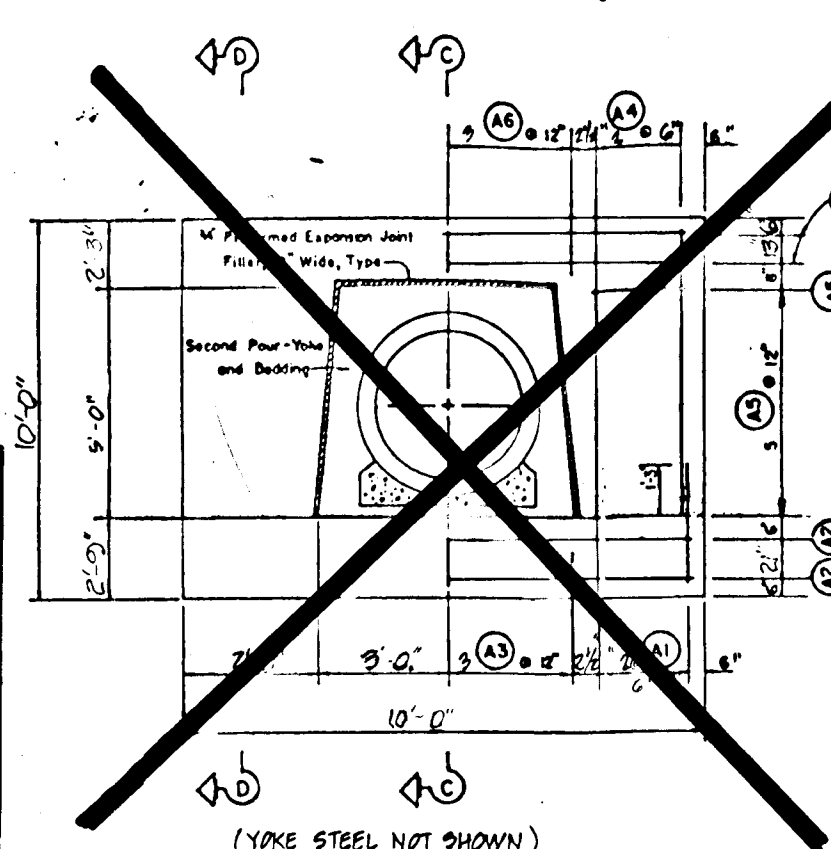
MARK	QUANTITY	LENGTH	TOTAL LENGTH	TYPE	TOTAL BAR LENGTH	WEIGHT
1	2	8'-0"	16'-0"	51R		
2	4	4'-6"	18'-0"	51R		
3	4	9'-6"	36'-0"	51R		
4	2	9'-6"	18'-0"	51R		
5	10	11'-0"	110'-0"	51R		
6	6	2'-8"	16'-0"	51R		
7	8	1'-6"	12'-0"	51R		
8	12	1'-6"	18'-0"	51R	249'-0"	5995 LBS.
9	4	1'-6"	6'-0"	51R		
10	4	9'-0"	36'-0"	51R		
11	4	9'-0"	36'-0"	51R		
12	4	7'-0"	28'-0"	51R		
13	4	9'-0"	36'-0"	51R		
14	4	9'-0"	36'-0"	51R		
15	4	9'-0"	36'-0"	51R		
16	4	9'-0"	36'-0"	51R		
17	4	9'-0"	36'-0"	51R		
18	4	9'-0"	36'-0"	51R		
19	4	9'-0"	36'-0"	51R		
20	4	9'-0"	36'-0"	51R		

Internal Load	External Load
Minimum 3.0	Minimum 3.0
Maximum 3.0	Maximum 3.0
Head of Water	Load to produce 0.001 inch crack and foot long
Load to produce 0.001 inch crack and foot long	Load to produce 0.001 inch crack and foot long
1.000	1.000
1.000	1.000

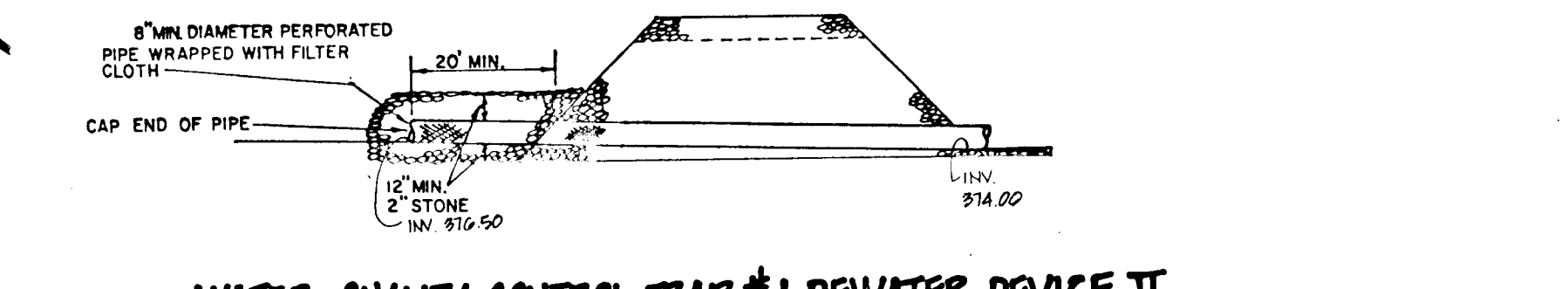
ALL BARS TO BE SIDE 3 REINFORCED BARS SIZE 3 BARS - 3/8" DIA. 1.000 LBS/FT.
NOTE: QUANTITIES SHOWN ABOVE ARE ONLY APPROXIMATE.



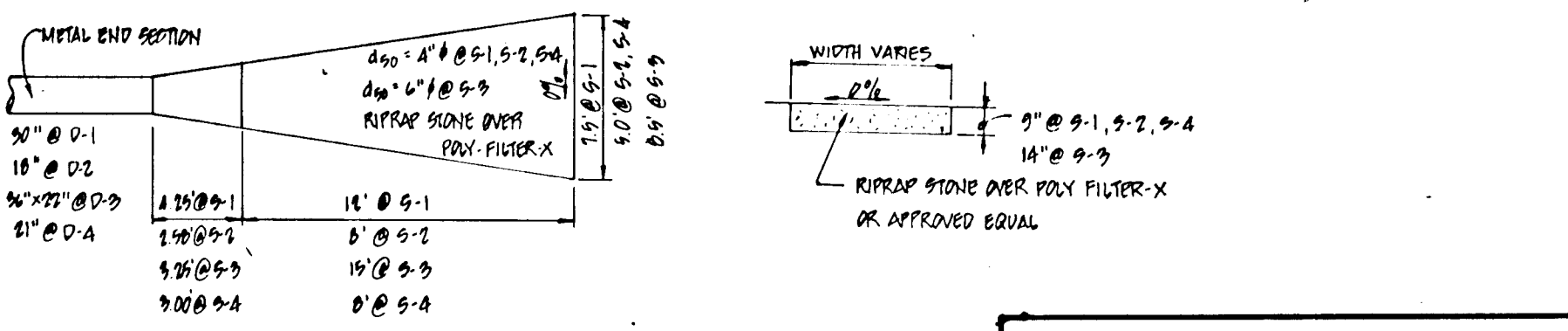
PICTORIAL SKETCH OF RISER
NOT TO SCALE



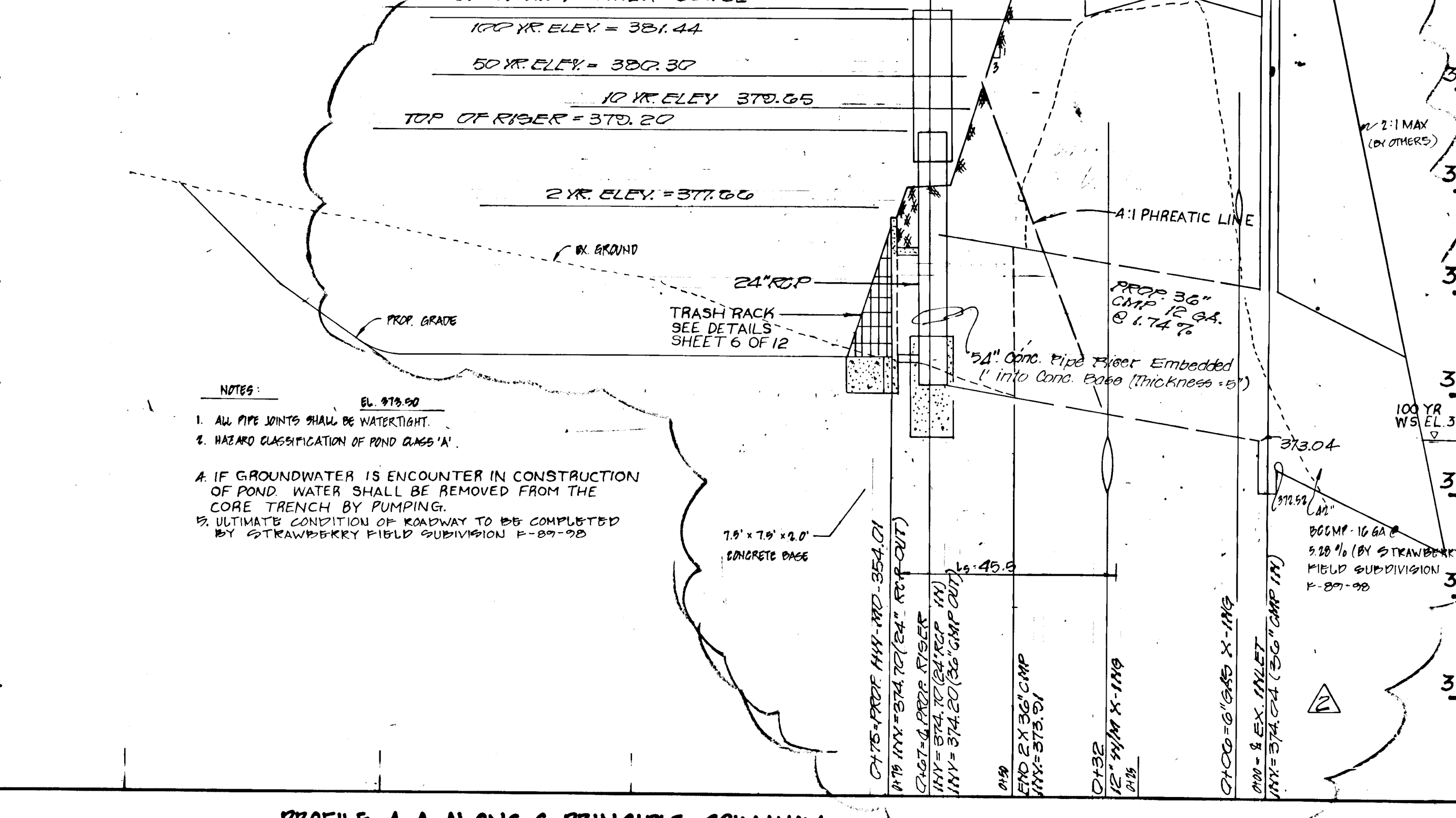
SUGGESTED SUPPORT BLOCKS
NOT TO SCALE



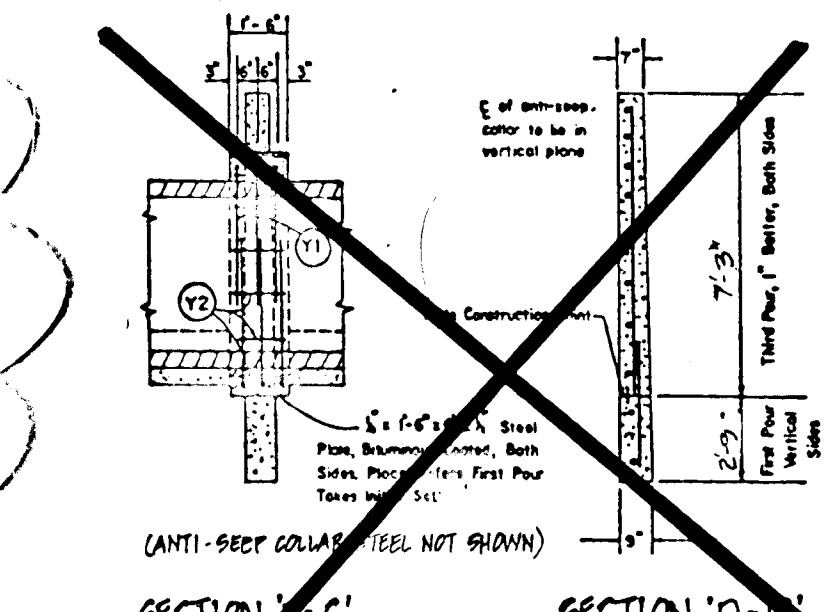
WATER QUALITY CONTROL TRAP #1 DEWATER DEVICE II
NOT TO SCALE



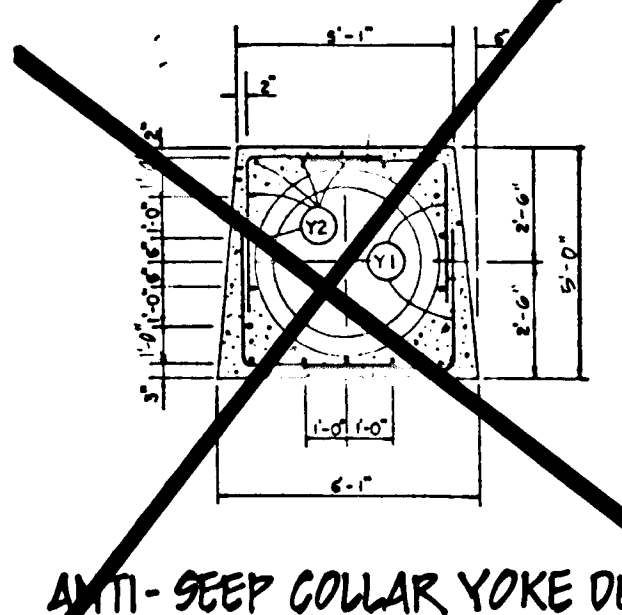
RIPRAP CHANNEL DETAIL
NOT TO SCALE



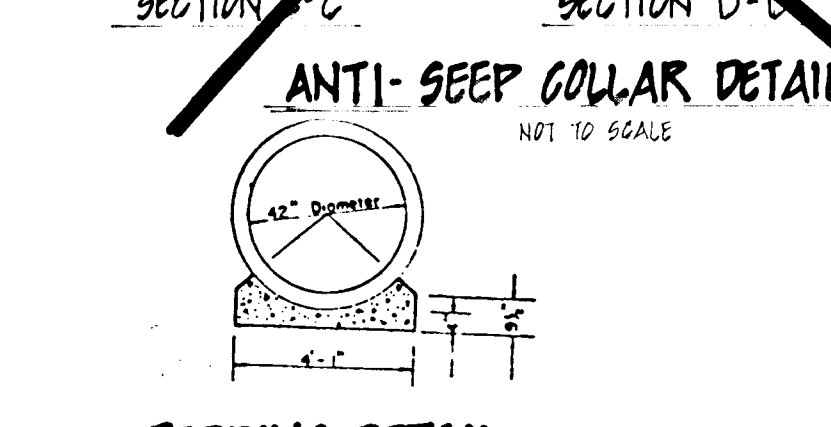
PROFILE A-A ALONG & PRINCIPLE SPILLWAY
SCALE: HORIZ: 1" = 20' VERT: 1" = 2'



ANTI-SEEP COLLAR DETAIL
NOT TO SCALE



ANTI-SEEP COLLAR YOKE DETAIL
NOT TO SCALE



BEDDING DETAIL
NOT TO SCALE

MARK	SIZE	PER COLLAR	LENGTH	TYPE	TOTAL QUANTITY	TOTAL LENGTH
A1	4	4	1'-0"	1	4	4'-0"
A2	4	4	7'-0"	1	4	28'-0"
A3	4	4	1'-0"	7	28	28'-0"
A4	4	4	1'-0"	1	4	4'-0"
A5	4	4	1'-0"	1	4	4'-0"
A6	4	4	1'-0"	1	4	4'-0"
A7	4	4	1'-0"	1	4	4'-0"
A8	4	4	1'-0"	1	4	4'-0"
A9	4	4	1'-0"	1	4	4'-0"
A10	4	4	1'-0"	1	4	4'-0"
A11	4	4	1'-0"	1	4	4'-0"
A12	4	4	1'-0"	1	4	4'-0"
A13	4	4	1'-0"	1	4	4'-0"
A14	4	4	1'-0"	1	4	4'-0"
A15	4	4	1'-0"	1	4	4'-0"
A16	4	4	1'-0"	1	4	4'-0"
A17	4	4	1'-0"	1	4	4'-0"
A18	4	4	1'-0"	1	4	4'-0"
A19	4	4	1'-0"	1	4	4'-0"
A20	4	4	1'-0"	1	4	4'-0"

* NOTE: QUANTITIES SHOWN ABOVE ARE ONLY APPROXIMATE.

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.
J. Halpern 5/14/90
SOIL CONSERVATION SERVICE

These plans for erosion control meet the requirements of the Howard Soil Conservation District.
Robert Zahn 5/14/90
HOWARD SOIL CONSERVATION DISTRICT

I certify that all development and/or construction will be done according to these plans, and that any responsible personnel employed 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 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.
Jordanum 4/19/90

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.
Thomas L. Wiley 4/14/90
THOMAS L. WILEY, PROFESSIONAL ENGINEER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Land Development 3/3/90
Grawville W. Hinesand 1/23/90
Chief, Bureau of Highway 2-1-90
Approved: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Chief, Division of Community Planning and Land Development 4/1/90

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Chief, Bureau of Highway 2-1-90
Approved: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Chief, Division of Community Planning and Land Development 4/1/90

DESIGNED	DATE	BY	DESCRIPTION
KG/HS	8/89		
DATE	8/10/92	ERS	REVISE RISER STRUCTURE DETAILS
DATE	10/28/92	ERS	CHANGE 30" RIP BARREL TO 36" CMP BARREL
CHECKED	JHE	8/92	
DATE	8/92		
APPROVED	TW	8/92	
DATE	8/92		

DATE	BY	DESCRIPTION
8-10-92	ERS	REVISE RISER STRUCTURE DETAILS
10-28-92	ERS	CHANGE 30" RIP BARREL TO 36" CMP BARREL

Dewberry & Davis
ARCHITECTS - ENGINEERS - PLANNERS - SURVEYORS
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8411 Arlington Boulevard, Fairfax, Virginia 22030

OWNER & DEVELOPER
McDONOUGH SCHOOL
c/o JAMES DAWSON
P.O. BOX 380
OWINGS MILLS, MARYLAND 21117

STORMWATER MANAGEMENT AND SEDIMENT CONTROL DETAILS
DUNTEACHIN FARM SECTION ONE
TAX MAP 31 BLOCK 21 PARCEL 222 LOTS 1-46
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
AUGUST 1989

DESIGNED: KG/HS 8/89

DATE: 8/10/92 BY: ERS DESCRIPTION: REVISE RISER STRUCTURE DETAILS

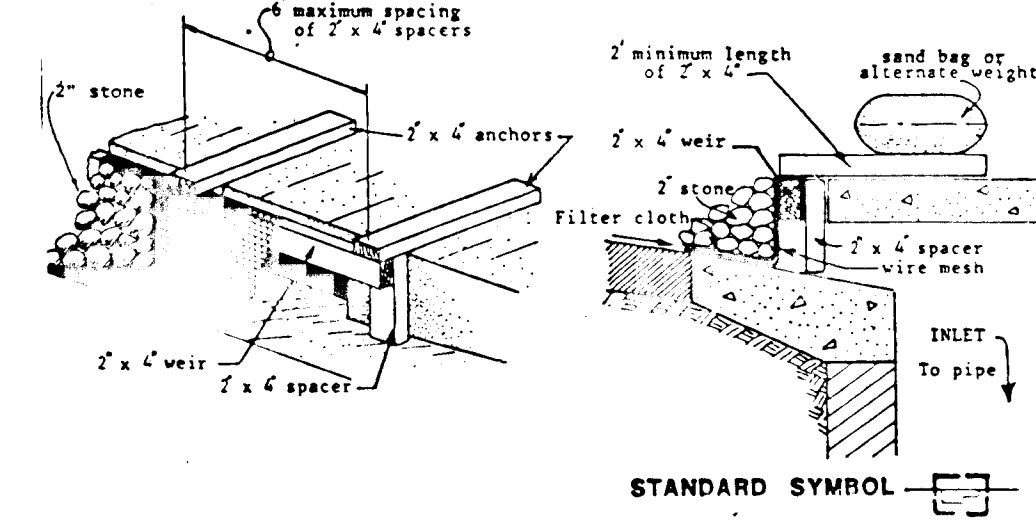
ARCHITECTS - ENGINEERS - PLANNERS - SURVEYORS
200 Harry S. Truman Parkway, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030

PROFESSIONAL ENGINEER
THOMAS L. WILEY
STATE OF MARYLAND
NO. 14637
EXPIRES 12/31/99

OWNER & DEVELOPER
McDONOUGH SCHOOL
c/o JAMES DAWSON
P.O. BOX 380
OWINGS MILLS, MARYLAND 21117

STORMWATER MANAGEMENT AND SEDIMENT CONTROL DETAILS
DUNTEACHIN FARM SECTION ONE
TAX MAP 31 BLOCK 21 PARCEL 222 LOTS 1-46
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
AUGUST 1989
SCALE: AS SHOWN PREVIOUS SUBMITTALS: 88B-113, P-89-43 FILE NO. P-90-21 SHEET 11 OF 11 F-90-34

1584



CURB INLET PROTECTION
NOT TO SCALE

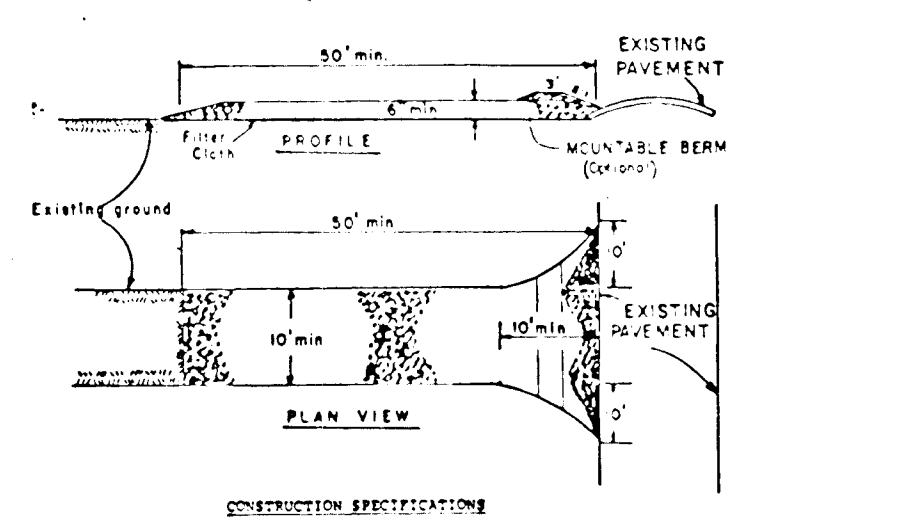
Construction Specifications

- 1. Attach a continuous piece of wire mesh (30" min. width by throat length plus 4") to the 2" x 2" wire (measuring throat length plus 4") 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 2" wire.
- 3. Securely nail the 2" x 2" wire to 1/2" long vertical stakes to be located between the curb and inlet face (max. 6" apart).
- 4. Place the assembly against the inlet throat and nail (minimum 2" length of 2" x 4" to the top of the curb at spacer locations). These 2" x 4" anchors should extend across the inlet top and be held in place by handspikes or aggregate 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 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. Assume that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

Construction Specifications for ST-W

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

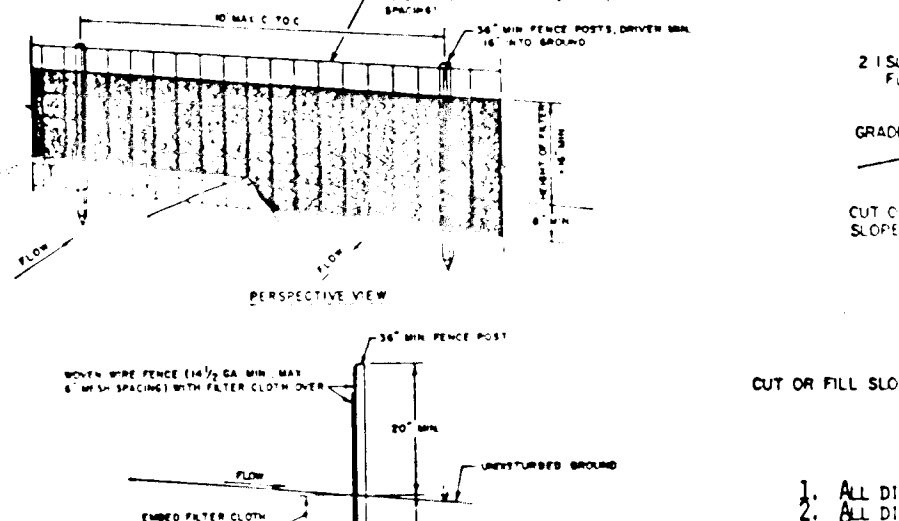
STONE OUTLET SEDIMENT TRAP
NOT TO SCALE



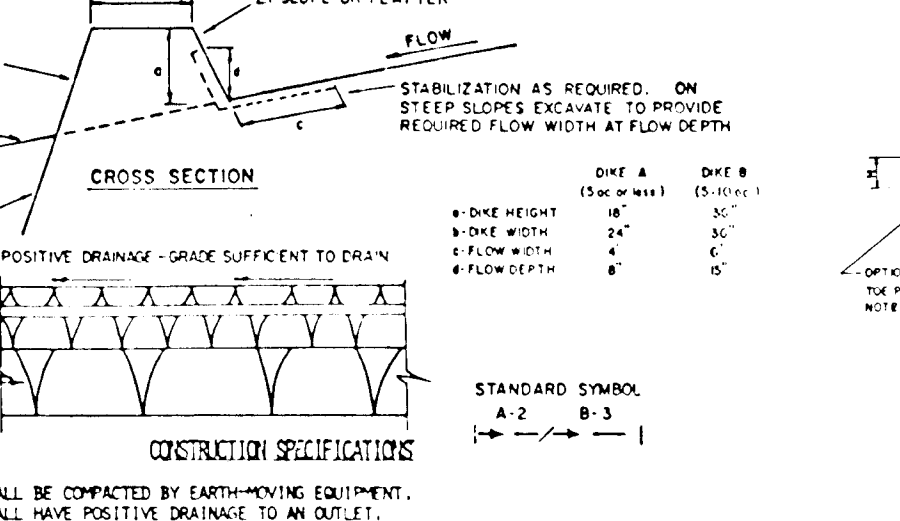
STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



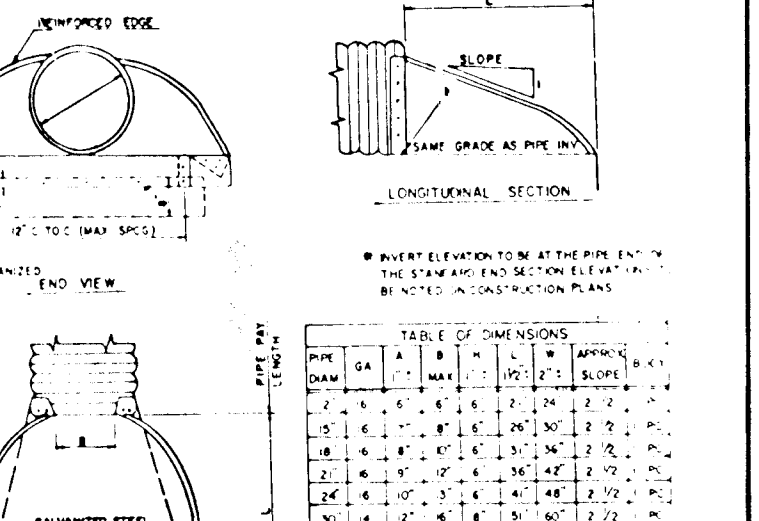
SILT FENCE
NOT TO SCALE



CHANNEL STABILIZATION
NOT TO SCALE



METAL END SECTION
NOT TO SCALE



EARTH DIKE
NOT TO SCALE

ENGINEER'S CERTIFICATE

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

Thomas L. Willy
THOMAS L. WILLY, MD REG. NO. 8773
DATE: 4/20/90

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Robert W. Zielman
DATE: 4/19/90

CONSTRUCTION SEQUENCE

- 1. OBTAIN GRADING PERMIT.
- 2. INSTALL AND STABILIZE CONSTRUCTION ENTRANCE.
- 3. REPLACE EXISTING 18" CMP WITH 24" CMP AT APPROXIMATELY KERGER ROAD STA. 22+00. CONSTRUCT INLET 1-7 TO 1-9 (BY OTHER) AND STORM DRAIN SYSTEMS 1-11 TO 5-2 AND 1-3 TO 5-1. INSTALL INLET PROTECTIONS.
- 4. INSTALL EARTH DICES, SILT FENCES, TEMPORARY SLOES, STONE OUTLET, SEDIMENT TRAPS 4-3, 4-5 & 1 WITH TEMPORARY SEEDING.
- 5. CONSTRUCT STORMWATER MANAGEMENT BASIN WITH RELEASE STRUCTURE AND STABILIZED WITH PERMANENT SEEDING.
- 6. REPLACE EXISTING 36" CMP WITH 42" RCP AT KERGER ROAD AND CONNECT TO THE RELEASE RISER STRUCTURE.
- 7. CLEAR, CURB AND ROUGH GRADE SITE. CONSTRUCT STORM DRAIN SYSTEM WITH INLET PROTECTION.
- 8. GRADE ROADS TO SUGRADE. CONSTRUCT CURB AND GUTTER, WATER, SEWER AND BASE PAVE ROADS. WIDEN AND IMPROVE EXISTING ROADS.
- 9. CONTRACTOR SHALL PLACE SILT FENCE ALONG EXISTING KERGER ROAD DOWNGRADE OF ANY DISTURBED AREAS.
- 10. DURING CONSTRUCTION, SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT TRAPS WHEN THE CLEANEST ELEVATIONS ARE REACHED. DURING CONSTRUCTION AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON.
- 11. CONSTRUCT HOUSES ON ALL LOT EXCEPT LOTS 1, 15 AND 32. FINE GRADE AND APPROPRIATE AREAS.
- 12. CLEAN BASE COURSE. APPLY TACK COAT TO BASE COURSE AND LAY SURFACE COURSE. STABILIZE ALL SHOULDERS USING PERMANENT SEEDING.
- 13. CONVERT TRAP #6 INTO PERMANENT WATER QUALITY CONTROL TRAP. GRADE FOREBAY #1. #2 TO REQUIRED STRONG ACCORDING TO PLAN.
- 14. REMOVE ALL SEDIMENT TRAPS, EARTH DICES AND TEMPORARY SLOES ONCE DISTURBED AREAS HAVE BEEN STABILIZED.
- 15. PLACE SILT FENCE AROUND LOTS 1, 15 AND 32. CONSTRUCT HOUSES, FIRE GRADE LOTS.
- 16. REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES.
- 17. ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRABBED AND STABILIZED WITH PERMANENT SEEDING MIXTURE.
- 18. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, SLOES, DITCH PERIMETER SLOES AND ALL SLOES GREATER THAN 3:1; B) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
- 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN COMPLIANCE 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, DICES, PERIMETER SLOES AND ALL SLOES GREATER THAN 3:1; B) 14 DAYS FOR 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) AND (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 PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 7. SITE ANALYSIS:
 - TOTAL AREA OF SITE: 64.71 ACRES
 - AREA DISTURBED: 17.21 ACRES
 - AREA TO BE ROOFED OR PAVED: 17.21 ACRES
 - AREA TO BE VEGETATIVELY STABILIZED: 24.71 ACRES
 - TOTAL CUT: 24.71 CU. YDS.
 - TOTAL FILL: 24.71 CU. YDS.
- 8. OFFSITE WASTE/BORROW AREA LOCATION
- 9. SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

Soil Boring Log - (B-1, B-2, B-3)

Boring	Depth	Soil Description	Notes
B-1	0-10"	topsoil	
	10-15"	hard silty fine sand to stiff fine sand with some gravel encountered at 4.0'	
	15-20"	medium green moist brown stiff to stiff fine sandy silt with rock fragments	
B-2	0-10"	topsoil	
	10-15"	hard silty fine sand to stiff fine sand with some gravel encountered at 4.0'	
	15-20"	medium green moist brown stiff to stiff fine sandy silt with rock fragments	
B-3	0-10"	topsoil	
	10-15"	hard silty fine sand to stiff fine sand with some gravel encountered at 4.0'	
	15-20"	medium green moist brown stiff to stiff fine sandy silt with rock fragments	

Soil Boring Log - (B-1, B-2, B-3)

Boring	Depth	Soil Description	Notes
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	10-15"	hard silty fine sand to stiff fine sand with some gravel encountered at 4.0'	
	15-20"	medium green moist brown stiff to stiff fine sandy silt with rock fragments	

Soil Boring Log - (B-1, B-2, B-3)

Boring	Depth	Soil Description	Notes
B-1	0-10"	topsoil	
	10-15"	hard silty fine sand to stiff fine sand with some gravel encountered at 4.0'	
	15-20"	medium green moist brown stiff to stiff fine sandy silt with rock fragments	
B-2	0-10"	topsoil	
	10-15"	hard silty fine sand to stiff fine sand with some gravel encountered at 4.0'	
	15-20"	medium green moist brown stiff to stiff fine sandy silt with rock fragments	
B-3	0-10"	topsoil	
	10-15"	hard silty fine sand to stiff fine sand with some gravel encountered at 4.0'	
	15-20"	medium green moist brown stiff to stiff fine sandy silt with rock fragments	

REVISIONS

DESIGN ID	DET.	DATE	BY	DESCRIPTION
DHAWN	M.E.S.	8-89		
CHICKED	J.H.E.	8-89		
APPROVED	T.L.W.	8-89		

Dewberry & Davis
ARCHITECTS - ENGINEERS - PLANNERS - SURVEYORS
200 Harry S. Truman Parkway, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030

OWNER / DEVELOPER
McDONOUGH SCHOOL
c/o JAMES DAWSON
P.O. BOX 380
OWINGS MILLS, MARYLAND 21117

STORMWATER MANAGEMENT NOTES AND SEDIMENT CONTROL DETAILS
DUNTEACHIN FARM SECTION ONE
TAX MAP 31 BLOCK 21 PARCEL 222 LOTS 1-46
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
AUGUST, 1989

SCALE: AS SHOWN

PREVIOUS SUBMITTALS	DATE	NO.
S-88-113, P-89-43	8-89	1
P-90-24	8-89	2