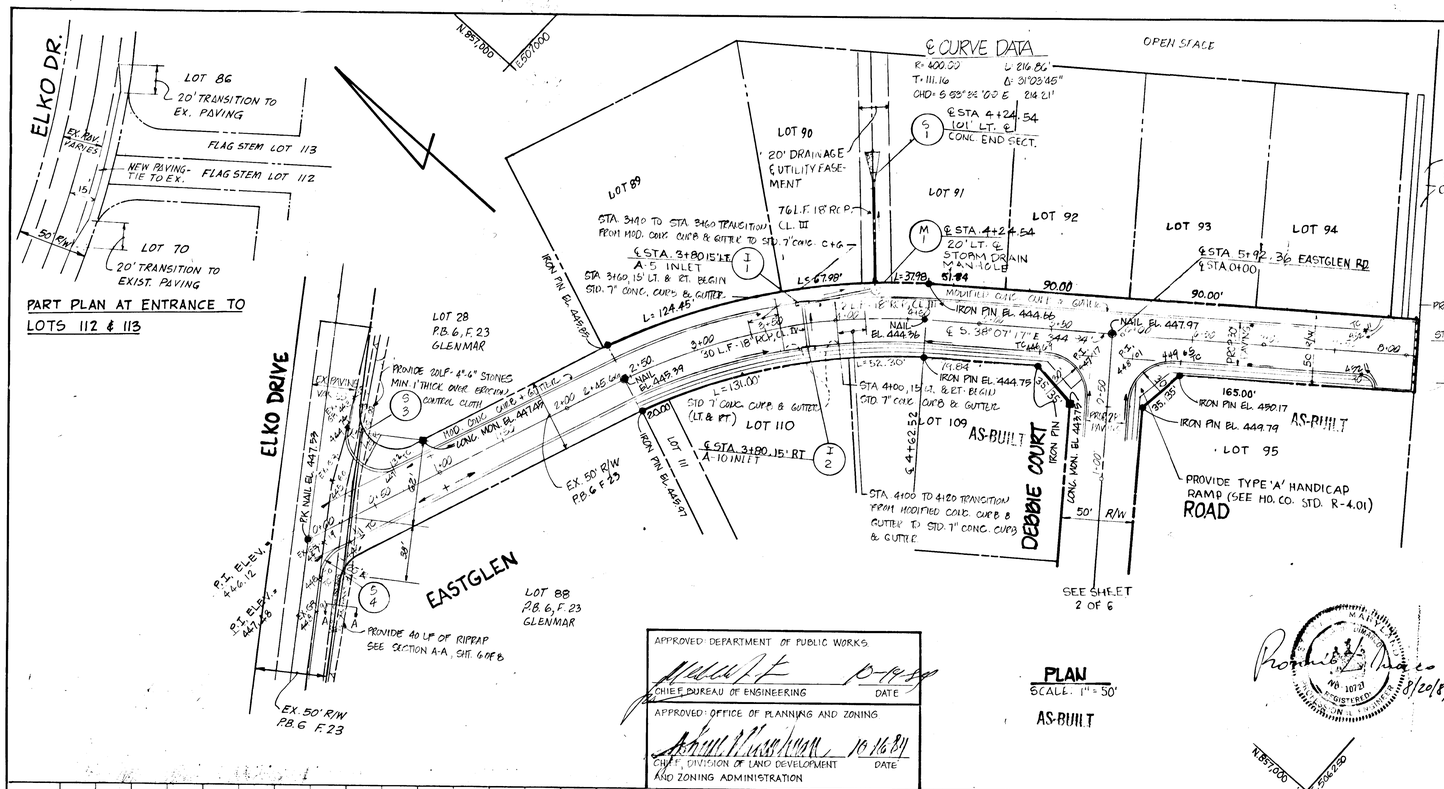
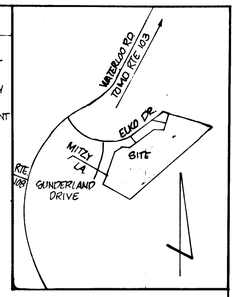


INDEX OF SHEETS

DWG. NO.	TITLE
1 OF 8	ROAD CONSTRUCTION PLAN - EASTGLEN ROAD
2 OF 8	ROAD CONSTRUCTION PLAN - MITZY LANE.
3 OF 8	DRAINAGE AREA MAP AND SEDIMENT CONTROL PLAN.
4 OF 8	S.W.M. PLAN
5 OF 8	S.W.M. DETAILS
6 OF 8	STORM DRAIN & PROFILES & MISC. DETAILS
7 OF 8	STREET TREES & HOUSE LOCATION PLAN
8 OF 8	S.W.M. POND CONSTRUCTION SPECS.



VICINITY MAP

SCALE: 1" = 1200'

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	559-0100
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 30.0' 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 1971 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' R/W : 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-20 PER 10-03-77 COMPREHENSIVE ZONING PLAN.
16. TOPO TAKEN FROM FIELD RUN SURVEY DATED JANUARY, 1984 BY BOENDER ASSOC. 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.

OWNER
MARY SMITH
5741 MINERAL AVE
BALTO, MD 21227

DEVELOPER
GLENMAR JOINT VENTURE
C/O WILLIAM R. HOPKINS
3138 ROGERS AVE
ELLICOTT CITY, MD 21043

TITLE: ROAD CONSTRUCTION PLAN - EASTGLEN ROAD STA. 5+00 TO STA. 8+07.36			
PROJECT: GLENMAR - SECTION 2			
LOCATION: 1ST ELECTION DISTRICT TAX MAP: 31 HOWARD COUNTY, MARYLAND			
DATE: MAY, 1984	DESIGN BY: JJB / WMN	DRAWN BY: DMP / DVP	CHECKED BY:
SCALE: AS SHOWN	JOB NO.: 81154	DRAWING NO.: 1 OF 8	

boender associates — engineers surveyors planners
3565 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD 21043
BALTIMORE 301 465 7777 • SALISBURY 301 749 1286

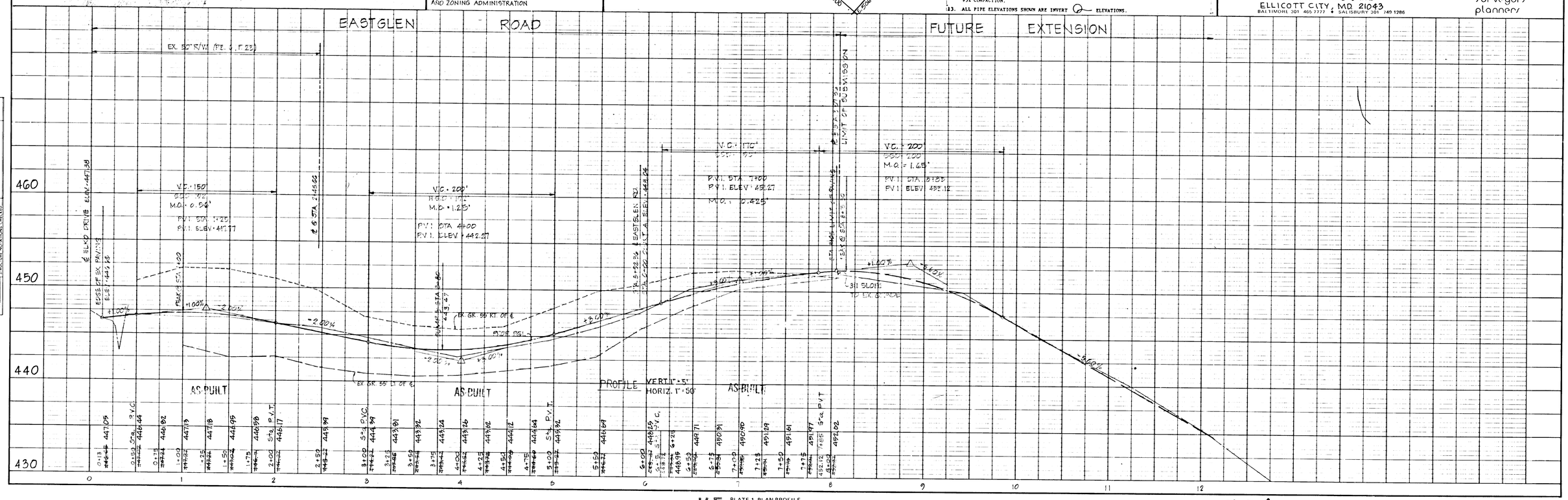
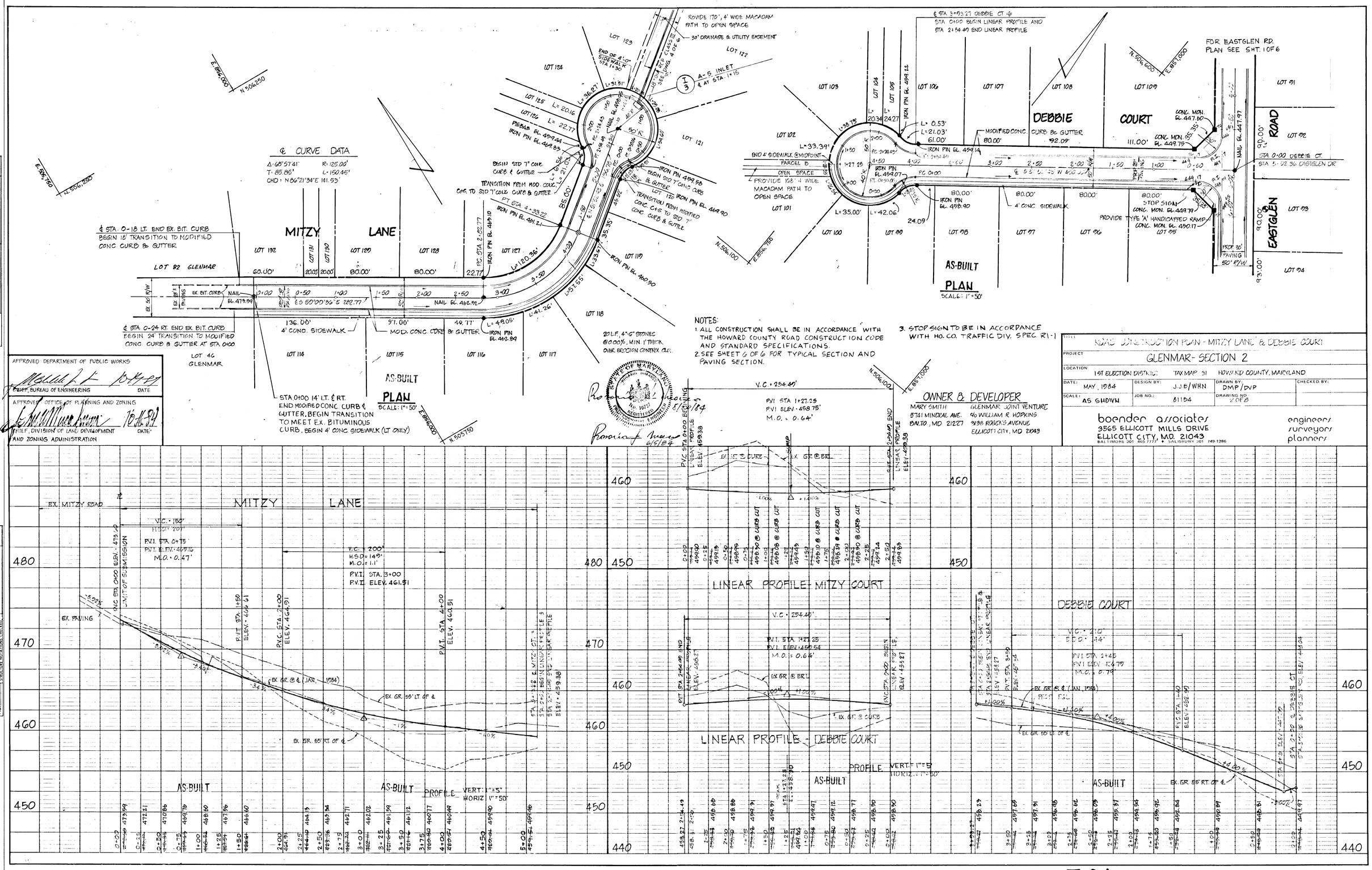


PLATE 1, PLAN-PROFILE
KEUFFEL & ESSER CO.
48 7024 MADE IN U.S.A.

F-84-200 AS-BUILT

168



NOTES:
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.
2. SEE SHEET 6 OF 6 FOR TYPICAL SECTION AND PAVING SECTION.
3. STOP SIGN TO BE IN ACCORDANCE WITH HO. CO. TRAFFIC DIV. SPEC. R1-1

APPROVED DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 10-17-84

APPROVED OFFICE OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-16-84

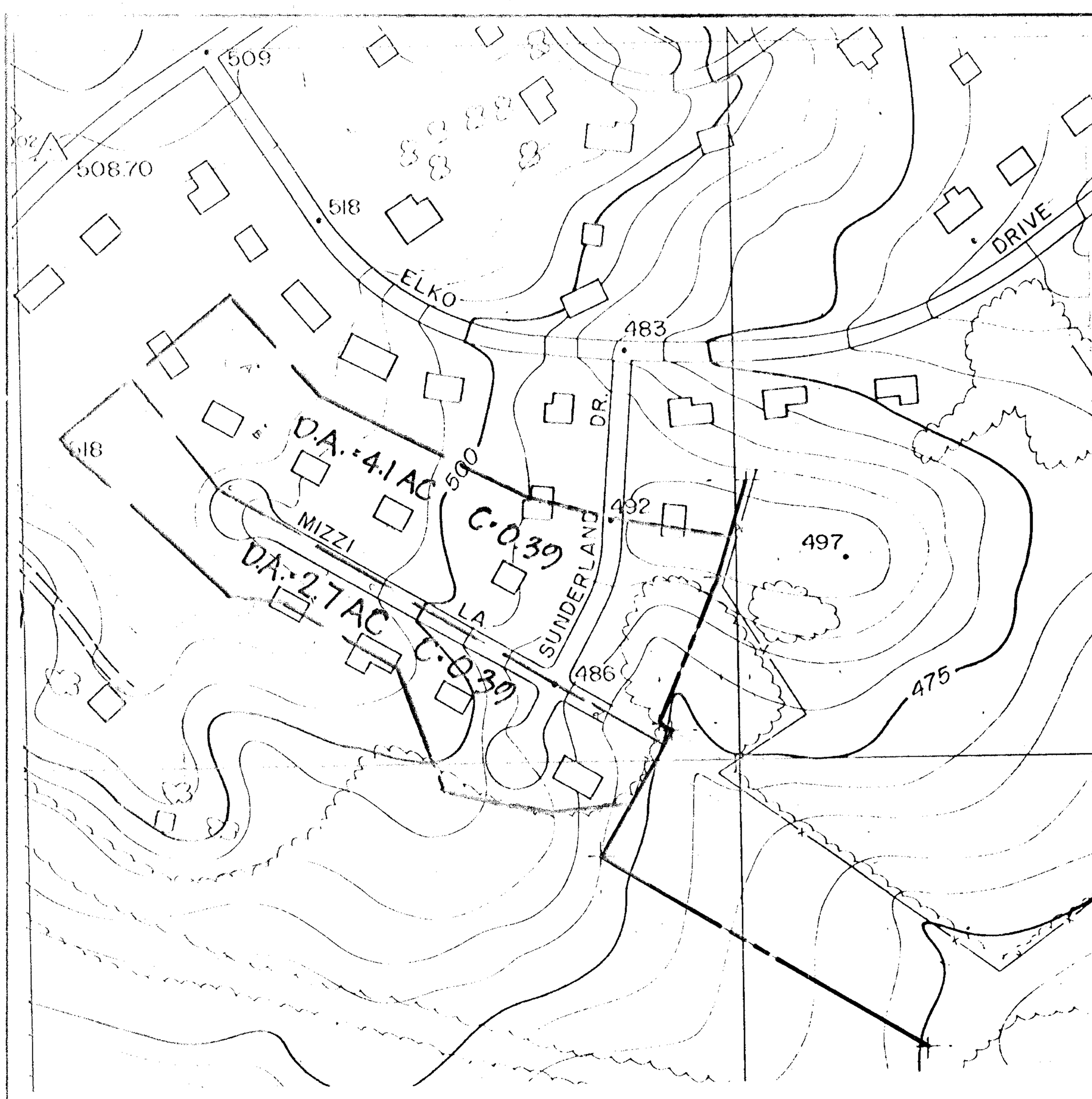
TITLE	ROAD CONSTRUCTION PLAN - MITZY LANE & DEBBIE COURT
PROJECT	GLENMAR - SECTION 2
LOCATION	1ST ELECTION DISTRICT TAX MAP 31 HOWARD COUNTY, MARYLAND
DATE: MAY, 1984	DESIGN BY: J.J.B/WHN DRAWN BY: DMP/DVP CHECKED BY:
SCALE: AS SHOWN	JOB NO.: 81154 DRAWING NO. 2 OF 8

boender associates
3565 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD. 21043
BALTIMORE 301 465 7777 • SALISBURY 301 749 1286
engineers surveyors planners

168

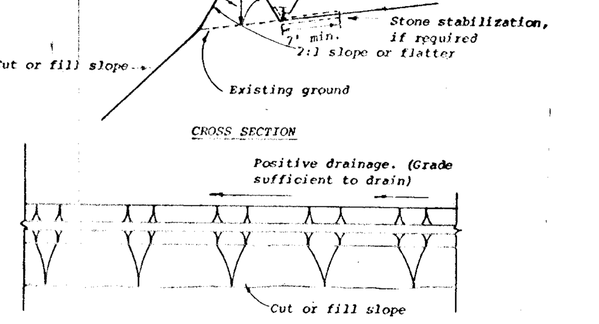
K+E PLATE 1, PLAN PROFILE KEUFFEL & ESSER CO. 48 7024 MADE IN U.S.A.

F-84-200 AS-BUILT



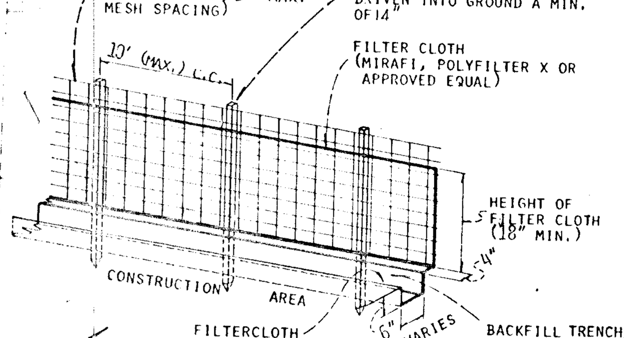
OFFSITE DRAINAGE AREA MAP

SCALE : 1" = 200'



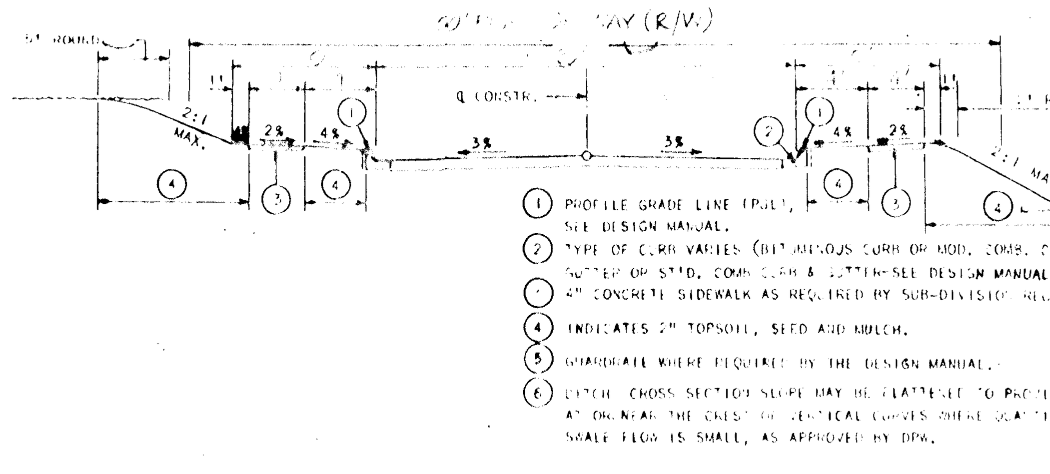
DIVERSION DIKE-DD

NOT TO SCALE

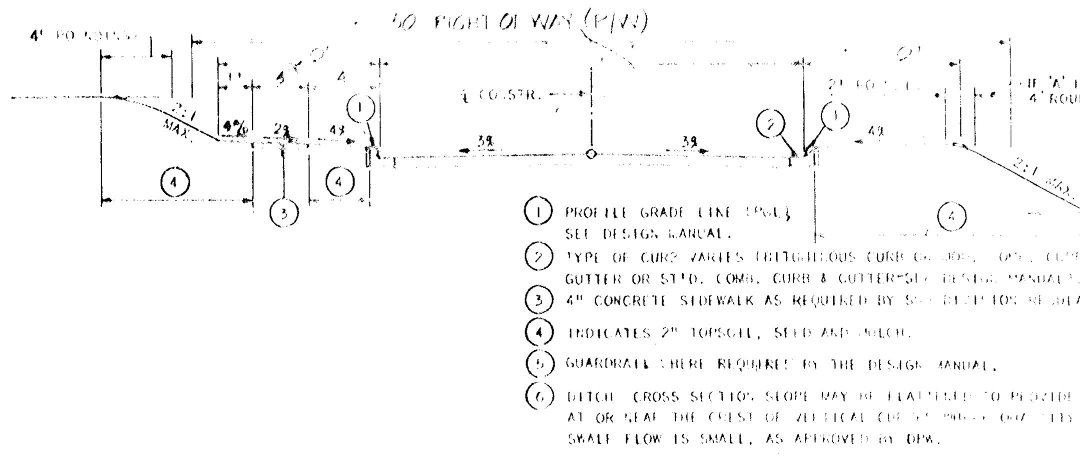


SILT FENCE - S.F.

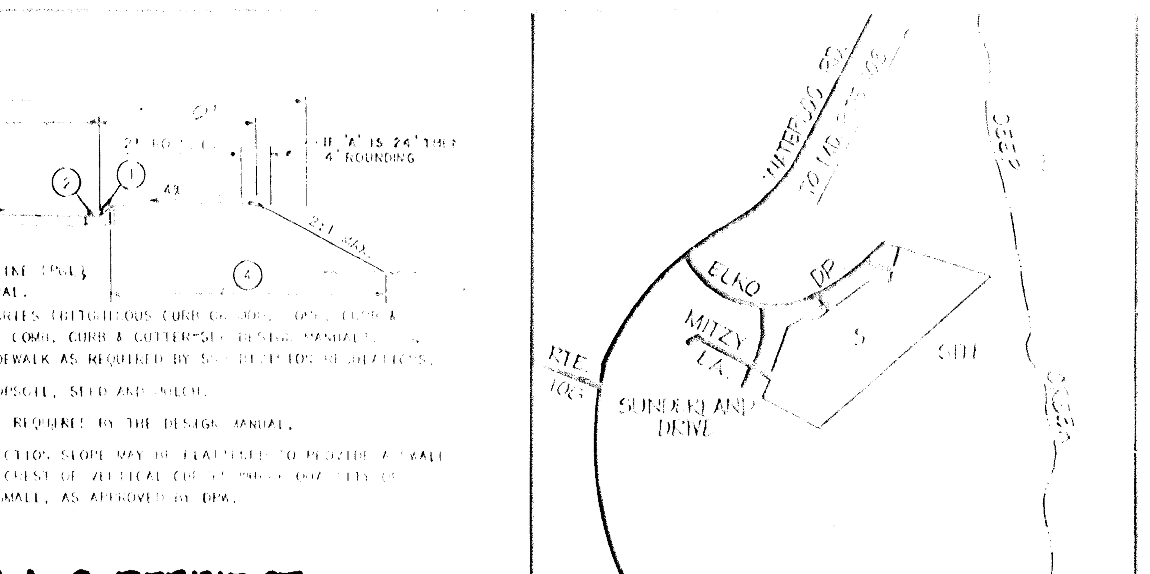
NOT TO SCALE



TYPICAL SECTION-EASTGLEN RD.

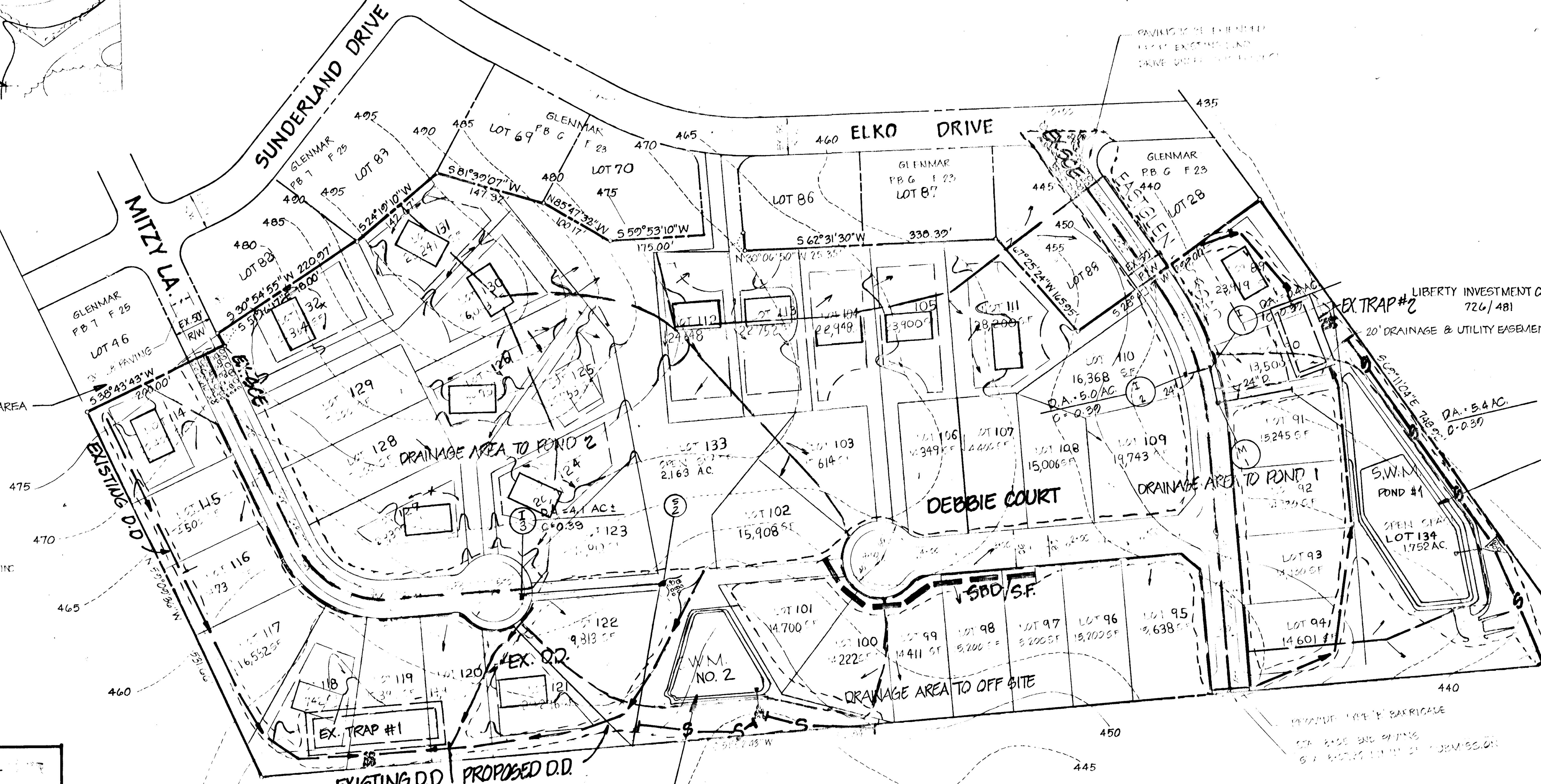


TYPICAL SECTION- MITZY LA. & DEBBIE CT.



VICINITY MAP

SCALE: 1" = 1200'



SEE 200' SCALE MAP AT TOP OF SHEET FOR OFFSITE DRAINAGE AREA

STORM WATER MANAGEMENT POND NO. 1
DRAINAGE AREA TO POND: 8.4AC.
FOR DETAILS SEE LARGER SCALE DWG. 4 OF 8

STORM WATER MANAGEMENT POND NO. 2
DRAINAGE AREA TO POND:
ONSITE: 8.1 AC.
OFFSITE: 6.0 AC
TOTAL TO POND: 14.0 AC.
FOR POND PLAN, SEE SHT. 4 OF 8

LIBERTY INVESTMENT CO., INC.
726/481

GENERAL NOTES

1. TAX MAP: 31 ; PARCEL: 165
2. PROPERTY DEED REFERENCE:
3. EX. ZONING: R-20
4. PUBLIC WATER AND PUBLIC SEWERAGE TO BE UTILIZED.
5. MIDDLEGLEN ROAD, MITZY LANE AND EASTGLEN ROAD ARE EXISTING PUBLIC ROADS.
6. TOTAL AREA OF SITE:
   TOTAL NO. OF LOTS: 44
   TOTAL AREA OF R/W DEDICATION:
   TOTAL AREA OF OPEN SPACE:
7. TOPO SHOWN HEREON IS BASED ON HOWARD COUNTY 1" = 200' AERIAL TOPO MAPS.
8. BOUNDARY SHOWN HEREON IS BASED ON
9. ALL LOTS LESS THAN 20,000 SQ. FT. WILL BE COVERED BY SEDIMENT CONTROL PLAN DURING S.D.P. SUBMITTAL
10. ALL LOTS OVER 20,000 SQ. FT. WILL HAVE SEDIMENT CONTROL MEASURES SHOWN ON GRADING STUDIES.
11. SEDIMENT CONTROL FOR GLENMAR WILL BE IN ACCORDANCE WITH THIS PLAN AS APPROVED FOR GRADING AND CLEARING PERMIT.
12. ALL STORM DRAIN INLETS ARE TO BE BLOCKED DURING CONSTRUCTION UNTIL ALL DISTURBED AREAS ARE STABILIZED WITH PERMANENT STABILIZATION.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-16-84

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF ENGINEERING — DATE 10-14-84

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

Robert W. Zichu — 10-10-84
HOWARD SOIL CONSERVATION DISTRICT — DATE

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 COUNTY 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 THIRTY DAYS OF COMPLETION

9/25/84
SIGNATURE OF ENGINEER — DATE

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

10-11-84
U.S. SOIL CONSERVATION SERVICE — DATE

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 THIRTY DAYS OF COMPLETION.

William R. Hopkins — 9/11/84
SIGNATURE OF DEVELOPER — DATE

CONSTRUCTION SEQUENCE

1. OBTAIN GRADING PERMIT
2. NOTIFY THE BUREAU OF LICENSE, INSPECTIONS & PERMITS @ 992-2436 AND INSPECTION SURVEY DIVISION @ 792-7272, 24 HRS. PRIOR TO BEGINNING WORK
3. INSTALL TEMP. SEDIMENT CONTROL MEASURES. UTILIZE EX. TRAPS AND EX. D.D. AND S.B.D. RELOCATE DD AS SHOWN — 3 DAYS
4. INSTALL DRAINS. APPLY TEMP. STABILIZATION MEASURES — 2 MONTHS.
5. ROUGH GRADE. CONSTRUCT S.W.M. PONDS. APPLY PERMANENT STABILIZATION TO PONDS. — 3 WEEKS
6. STABILIZE ROADS WITH BASE COURSE. APPLY TEMP. STABILIZATION MEASURES — 1 WEEK
7. PAVE ROADS. — 2 WEEKS
8. FINE GRADE. APPLY PERMANENT STABILIZATION. — 1 WEEK
9. LEAVE IN TRAPS FOR HOUSE CONSTRUCTION UNDER SDP
10. FLUSH INLETS.
11. REMOVE S.F. BELOW PONDS AND S.B.D ALONG 'DEBBIE COURT' WITH APPROVAL OF HO. CO. BUREAU OF LICENSE, INSPECTIONS + PERMITS

NOTE: ALL EXISTING SEDIMENT CONTROL DEVICES MUST BE REPAIRED, AND FUNCTIONAL AS PER DPW SEDIMENT CONTROL INSPECTOR'S INITIAL INSPECTION PRIOR TO ANY GRADING.

DENOTES LIMITS OF AREA DISTURBED : - - - -

NOTE: FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
1). 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; 2). 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

SEDIMENT CONTROL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS." PREPARED BY THE U.S.D.A. SOIL CONSERVATION SERVICE.
2. APPLY FOR GRADING PERMIT.
3. NOTIFY THE BUREAU OF LICENSE INSPECTIONS AND PERMITS 24 HRS. PRIOR TO GRADING OPERATIONS.
4. CONSTRUCTION SHALL ADHERE TO THE CONSTRUCTION SEQUENCE.
5. CUT AND FILL SLOPES SHALL BE 3:1 MAXIMUM.
6. ELEVATIONS MARKED THUS(X) SHALL BE FINISHED GRADE.
7. ANY EXCESS MATERIAL SHALL BE STOCKPILED IN A CLEARED LOCATION ON SITE WHICH IS PROTECTED BY SEDIMENT CONTROL STRUCTURE(S). MAXIMUM FILL SLOPE SHALL BE 3:1. STOCKPILED MATERIAL SHALL BE STABILIZED ACCORDING TO SEEDING SPECIFICATIONS BELOW.
8. SEDIMENT CONTROL STRUCTURES SHALL BE REMOVED ONLY WITH PERMISSION OF THE BUREAU OF LICENSE, INSPECTIONS AND PERMITS.
9. STABILIZATION MEASURES

TEMPORARY STABILIZATION:
APPLY: 2000 LBS./AC. OR 46 LBS. OF PULVERIZED DOLOMIC LIMESTONE. 500 LBS./AC OR 11.5 LBS./1000 SQ. FT. OF 10-10-10 FERTILIZER. PLANT WITH RYEGRASS AT 40 LBS./AC. MULCH ALL DISTURBED AREAS IMMEDIATELY AFTER GRADING.

PERMANENT STABILIZATION:
APPLY: 2000 LBS./AC. OF PULVERIZED DOLOMIC LIMESTONE. 500 LBS./AC. OF 10-10-10 FERTILIZER.
SEED: 85 LBS./AC. OF KENTUCKY 31 TALL FESCUE. 40 LBS./AC. OF KENTUCKY BLUE GRASS. 25 LBS./AC. OF ANNUAL RYEGRASS.
NOTE: SEEDING MAY BE DONE BETWEEN MARCH 1 - MAY 1, OR AUG. 1 - OCT. 1 ONLY. MULCH ALL DISTURBED AREAS IMMEDIATELY AFTER GRADING.
MULCH: 2 TONS/AC. OF UNWEATHERED WHEATSTRAW. TIE MULCH DOWN WITH 480 GAL./AC. OF LIQUID ASPHALT.

EX. SEDIMENT CONTROL STRUCTURES TO BE UTILIZED AS SHOWN ON SEDIMENT CONTROL PLAN FOR CLEARING AND GRUBBING. (GP-57791)

OWNER

DEVELOPER

GLENMAR JOINT VENTURE
ELLICOTT CITY, MARYLAND 21043

6/6/84
9/25/87

TITLE: DRAINAGE AREA MAP AND SEDIMENT CONTROL PLAN

PROJECT: GLENMAR - SECTION 2

LOCATION: 1ST ELECTION DISTRICT TAX MAP: 31 HOWARD COUNTY, MARYLAND

DATE	SCALE				SHEET	JOB NO.
JAN., 1984	1" = 100'				3 OF 8	8154

boender associates — engineers, surveyors, planners
3525 COURTHOUSE SQUARE - SUITE A

184-200

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

CHIEF, DIV. OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-16-84

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROAD. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF ENGINEERING — DATE 10-11-84

NOTE: POND CLASSIFICATION - CLASS A
NO BUILDINGS IMMEDIATELY DOWNSTREAM
OF PONDS. OUTFALLS DRAIN TO OFFSITE EX. STREAMS

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 THIRTY DAYS OF COMPLETION.

SIGNATURE OF DEVELOPER — DATE 9/21/84

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 COUNTY 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 THIRTY DAYS OF COMPLETION

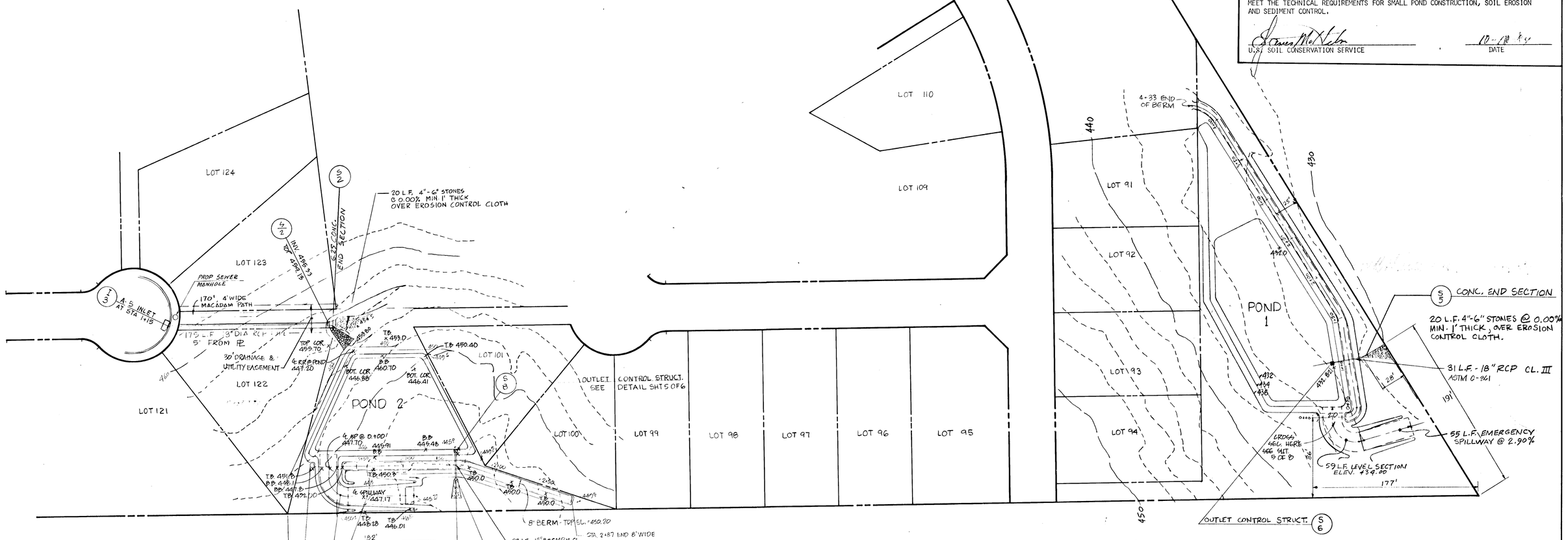
SIGNATURE OF ENGINEER — DATE 9/21/84

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/10/84

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 10-12-84



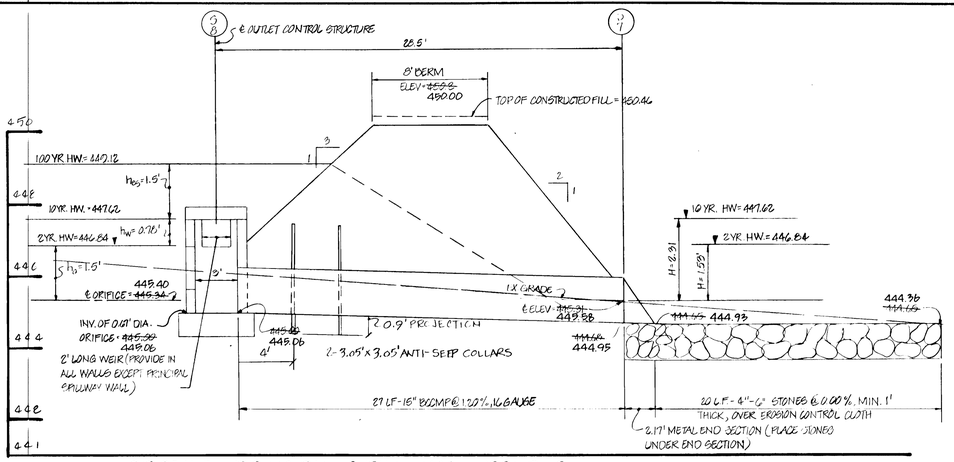
NOTE: FOR DRAINAGE & UTILITY EASEMENTS SEE RECORD PLAT

6/6/84

AS-BUILT

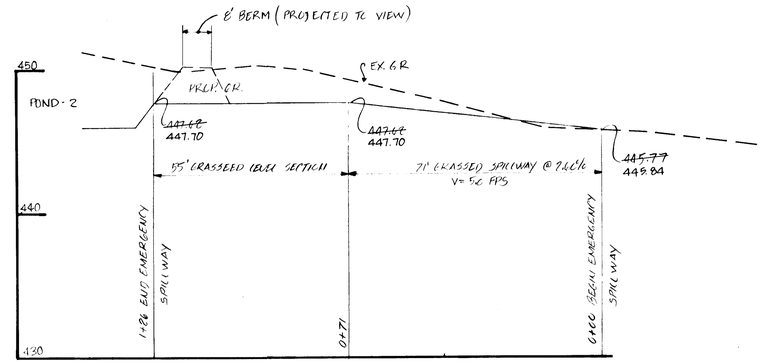
TITLE: S.W.M. PLAN PONDS 1 AND 2						
PROJECT: GLENMAR - SECTION 2						
LOCATION: 1ST ELECTION DISTRICT TAX MAP 31 HOWARD COUNTY, MD						
DATE: MAY 1984	SCALE: AS SHOWN	DESIGN BY: RDM	DRAWN BY: D.V.P.	CHECKED BY: R.D.M.	DRAWING NO.: 4 OF 6	JOB NO.: 81154

boender associates
3565 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MARYLAND 21043
301-465-7777
engineers surveyors planners



PROFILE: PRINCIPAL SPILLWAY - POND 2

SCALE HORIZ. 1" = 5'
VERT. 1" = 2'



PROFILE : EMERGENCY SPILLWAY - POND 2

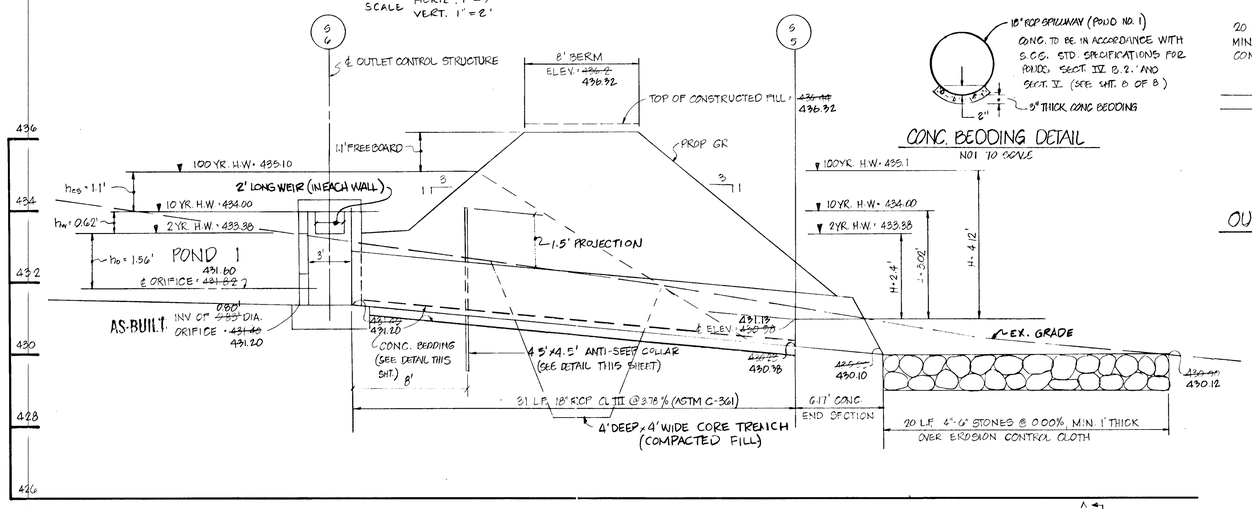
SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

PROFILE: TOP OF BERM - POND 2

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

PROFILE : EMERGENCY SPILLWAY - POND 1

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

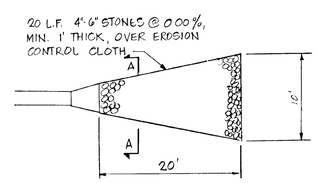


PROFILE : PRINCIPAL SPILLWAY - POND 1

SCALE: HORZ 1" = 5
VERT 1" = 2'

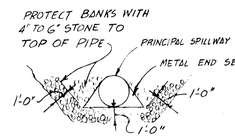
CONC. BEDDING DETAIL

NOT TO SCALE



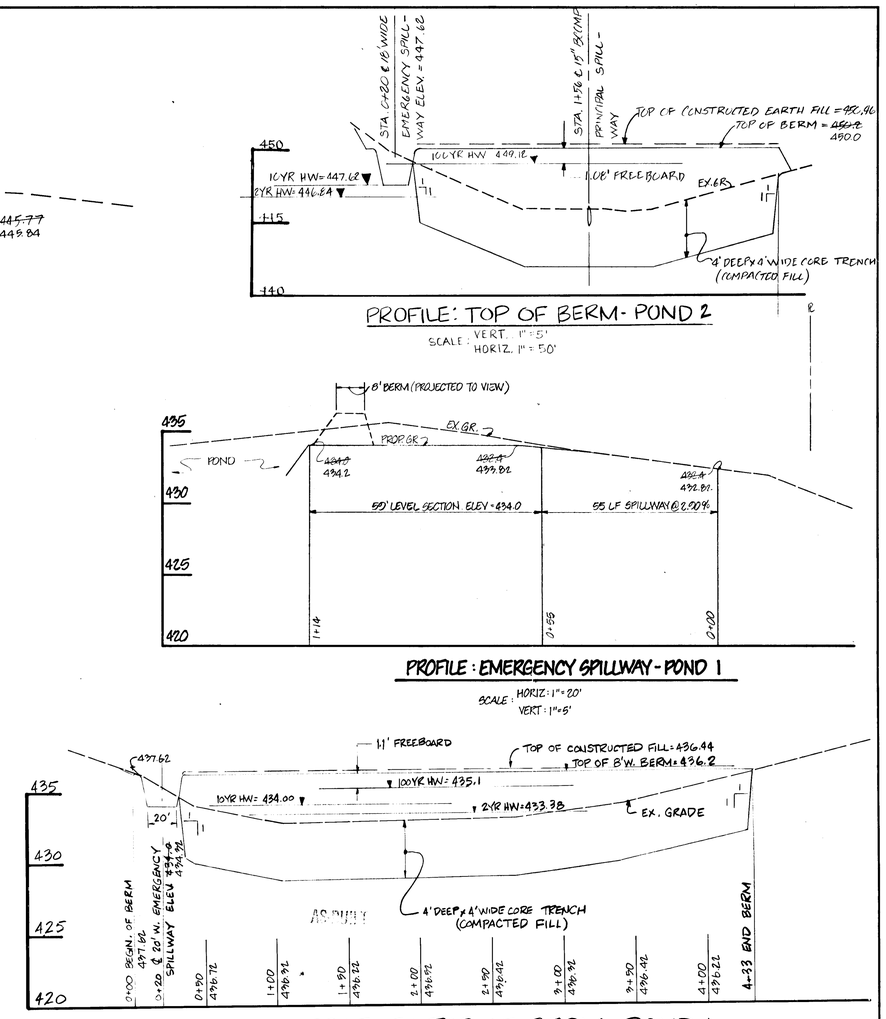
OUTLET PROTECTION @ S-5 & S-7

NOT TO SCALE



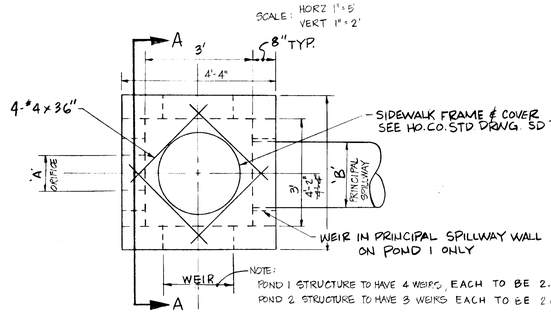
SECTION A-A @ PRINC. SPILLWAY

(N.T.S.)



PROFILE: TOP OF BERM - POND 1

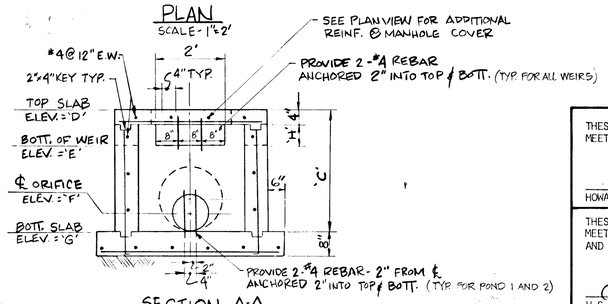
SCALE: HORIZ. - 1" = 50'
VERT. - 1" = 5'



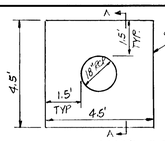
NOTE:
POND 1 STRUCTURE TO HAVE 4 WEIRS, EACH TO BE 2.0' LONG
POND 2 STRUCTURE TO HAVE 3 WEIRS EACH TO BE 2.0' LONG

PLAN

SCALE - 1" = 2'



SECTION A-A



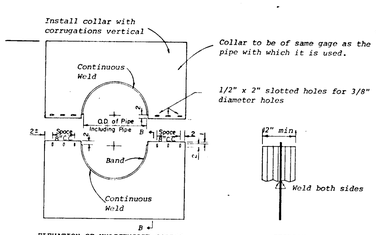
ANTI-SEEP COLLAR DETAIL

NOT TO SCALE

DIMENSION	A	B	C	D	E	F	G	H
POND 1	0.80' ~~4.33' DIA~~	18" R.C.P.	2.95'	~~447.70~~ ~~434.33~~	~~447.70~~ ~~433.38~~	431.80 ~~431.82~~	431.30' ~~431.49~~	0.69' ~~0.62'~~
POND 2	0.67' DIA	15" BCCMP	2.95'	~~447.70~~ ~~447.95~~	~~446.83~~ ~~446.08~~	445.40 ~~445.94~~	445.06 ~~445.66~~	0.67' ~~0.70'~~

OUTLET CONTROL STRUCTS. S-6 & S-8

AS-BUILT



ELEVATION OF UNASSEMBLED COLLAR

SECTION B-B

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.

POND 2

ANTI-SEEP COLLAR DETAIL

NOT TO SCALE

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 THIRTY DAYS OF COMPLETION.

William R. Hopkins — 9/21/88
SIGNATURE OF DEVELOPER — DATE

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 COUNTY 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 THIRTY DAYS OF COMPLETION

Rosario T. Marano — 9/21/88
SIGNATURE OF ENGINEER — DATE

OWNER
MARY SMITH
5741 MINERAL AVE.
BALTO., MD. 21227

DEVELOPER
GLENMAR JOINT VENTURE
c/o WILLIAM R. HOPKINS
3138 ROGERS AVE.
ELLICOTT CITY, MD. 21043

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-16-84

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF ENGINEERING — DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

U.S. SOIL CONSERVATION SERVICE — DATE 10-11-84

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

SOIL CONSERVATION DISTRICT — DATE 10-11-84

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10-10-84

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 10-11-84

Rosario T. Marano

TITLE	S.W.M. DETAILS					
PROJECT	GLENMAR-SECTION 2					
LOCATION	1 ST. ELECTION DISTRICT TAX MAP: 31 HOWARD COUNTY, MARYLAND					
DATE APRIL 1983	SCALE AS SHOWN	DESIGN BY J.J.B.	DRAWN BY DMP/DVP	CHECKED BY RDM	DRAWING NO. 5 OF 8	JOB NO. 81154

boender associates
engineers surveyors planners
8565 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MARYLAND 21043
301-465-7777

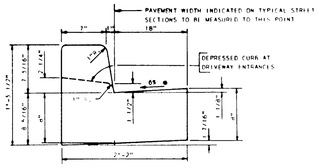
AS BUILT

SEDIMENT CONTROL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS." PREPARED BY THE U.S.D.A. SOIL CONSERVATION SERVICE.
2. APPLY FOR GRADING PERMIT.
3. NOTIFY THE BUREAU OF LICENSE INSPECTIONS AND PERMITS 24 HRS. PRIOR TO GRADING OPERATIONS.
4. CONSTRUCTION SHALL ADHERE TO THE CONSTRUCTION SEQUENCE.
5. CUT AND FILL SLOPES SHALL BE 3:1 MAXIMUM.
6. ELEVATIONS MARKED THUS(X) SHALL BE FINISHED GRADE.
7. ANY EXCESS MATERIAL SHALL BE STOCKPILED IN A CLEARED LOCATION ON SITE WHICH IS PROTECTED BY SEDIMENT CONTROL STRUCTURE(S). MAXIMUM FILL SLOPE SHALL BE 3:1. STOCKPILED MATERIAL SHALL BE STABILIZED ACCORDING TO SEEDING SPECIFICATIONS BELOW.
8. SEDIMENT CONTROL STRUCTURES SHALL BE REMOVED ONLY WITH PERMISSION OF THE BUREAU OF LICENSE, INSPECTIONS AND PERMITS.
9. STABILIZATION MEASURES

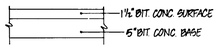
TEMPORARY STABILIZATION:
APPLY: 2000 LBS./AC. OR 46 LBS. OF PULVERIZED DOLOMIC LIMESTONE. 500 LBS./AC OR 11.5 LBS./1000 SQ. FT. OF 10-10-10 FERTILIZER. PLANT WITH RYEGRASS AT 40 LBS./AC. MULCH ALL DISTURBED AREAS IMMEDIATELY AFTER GRADING.

PERMANENT STABILIZATION:
APPLY: 2000 LBS./AC. OF PULVERIZED DOLOMIC LIMESTONE.
500 LBS./AC. OF 10-10-10 FERTILIZER.
SEED: 85 LBS./AC. OF KENTUCKY 31 TALL FESCUE.
40 LBS./AC. OF KENTUCKY BLUE GRASS.
25 LBS./AC. OF ANNUAL RYEGRASS.
NOTE: SEEDING MAY BE DONE BETWEEN MARCH 1 - MAY 1, OR AUG. 1 - OCT. 1 ONLY. MULCH ALL DISTURBED AREAS IMMEDIATELY AFTER GRADING.
MULCH: 2 TONS/AC. OF UNWEATHERED WHEATSTRAW. TIE MULCH DOWN WITH 480 GAL./AC. OF LIQUID ASPHALT.



STD. 7" COMB. CURB & GUTTER

SEE HOWARD CO. DETAIL R-3.01
NOT TO SCALE



TYPICAL PAVING SECTION - P-2

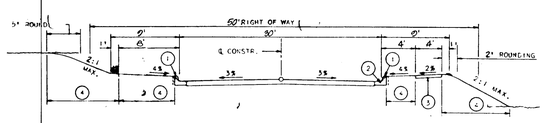
SEE HOWARD CO. DETAIL R-2.01

SITE ANALYSIS

AREA OF SITE:
AREA PAVED:
AREA REVEGETATED:
AREA DISTURBED:
AREA UNDISTURBED:

STRUCTURE SCHEDULE

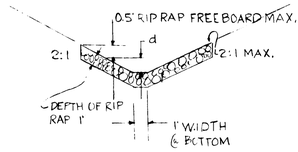
NO	TYPE	INV. IN	INV. OUT	TOP EL.	REMARKS
S-1	CONC. END SECTION CIRCULAR CONC. PIPE	~~432.71~~ ~~432.67~~	435.67	~~437.81~~ ~~437.42~~	HO. CO. ST'D SD-5.51 (18")
S-2	CONC. END SECTION CIRCULAR CONC. PIPE	450.70	450.70	452.95	HO. CO. ST'D SD-5.51 (24")
S-3	CONC. END SECTION CIRCULAR CONC. PIPE	~~441.78~~ ~~441.53~~	441.70	~~443.82~~ ~~443.37~~	HO. CO. ST'D SD-5.51 (30")
S-4	CONC. END SECTION CIRCULAR CONC. PIPE	~~442.87~~ ~~442.62~~	~~442.87~~ ~~442.60~~	~~445.77~~ ~~445.41~~	HO. CO ST'D SD-5.51 (30")
I-1	A-5 INLET, SUMP	~~435.47~~ ~~435.44~~	~~435.31~~ ~~435.14~~	~~443.46~~ ~~443.45~~	HO. CO. STD. DRWG. SD.-4.01
I-2	A-10 INLET, SUMP	~~439.31~~ ~~438.80~~	~~439.31~~ ~~438.80~~	~~441.91~~ ~~441.62~~	HO. CO. STD. DRW. SD.-4.02
I-3	A-5 INLET, SUMP	~~455.09~~ ~~454.76~~	454.00	~~455.91~~ ~~454.44~~	HO. CO. STD. DRWG. SD.-4.01
I-4	A-10 INLET, SUMP	455.10	455.10	459.91	HO. CO. STD. DRWG. SD.-4.02
M-1	STORM DRAIN MANHOLE	~~437.23~~ ~~437.31~~	~~437.14~~ ~~437.06~~	~~443.60~~ ~~441.20~~	HO. CO. STD. DRWG.
M-2	STORM DRAIN MANHOLE	453.64	451.84	460.23	HO. CO. STD. DRWG.
S-5	CONC. END SECTION	430.23	430.00	431.73	HO. CO. STD. DRWG. SD 5.51
S-6	OUTLET CONTROL STRUCT.	~~441.49~~ ~~441.49~~	~~441.49~~ ~~441.49~~	~~444.41~~ ~~444.17~~	SEE SHEET 5 OF 6
S-7	METAL END SECTION	445.13	445.10	446.38	HO. CO. STD. DRWG. S.D.-5.61 (15")
S-8	OUTLET CONTROL STRUCT.	445.46	445.46	447.58	SEE SHEET 5 OF 6



1. PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
2. STANDARD COMB. CURB AND GUTTER - SEE DESIGN MANUAL.
3. 4" CONCRETE SIDEWALK AS REQUIRED BY SUB-DIVISION REGULATIONS.
4. INDICATES 2" TOPSOIL, SEED AND MULCH.

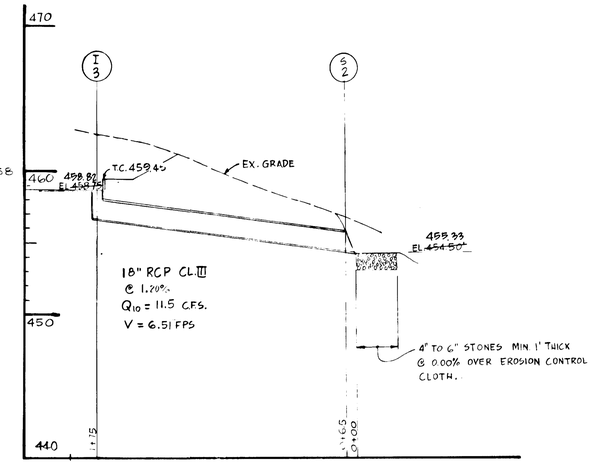
TYPICAL SECTION - EASTGLEN ROAD

LOCAL ROAD - ZONED: R-20 - DESIGN SPEED: 30 M.P.H.
SEE HOWARD CO. DETAIL R-1.02
NOT TO SCALE



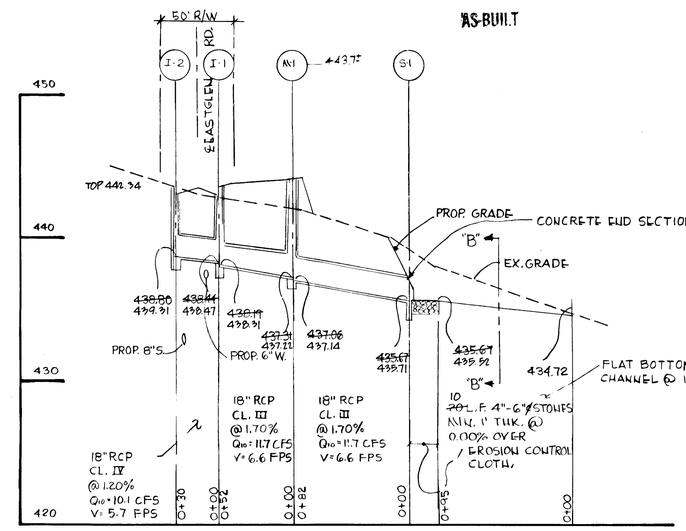
d: 1.0'
A: 3.0 SQ. FT.
WP: 5.47'
r: .548'
$r^{2/3}$: .668
V: 9.8 FPS
Q: 29.4 CFS
SLO: .0875 $S^{1/2}$: 0.2958
n: .030'

SECT. A-A CHANNEL ABOVE S-4
SCALE HORIZ. 1" = 5'
VERT. 1" = 5'



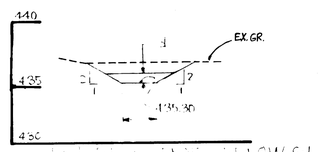
PROFILE SCALES: HORIZ. 1" = 50
VERT 1" = 5'

AS-BUILT



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

AS-BUILT

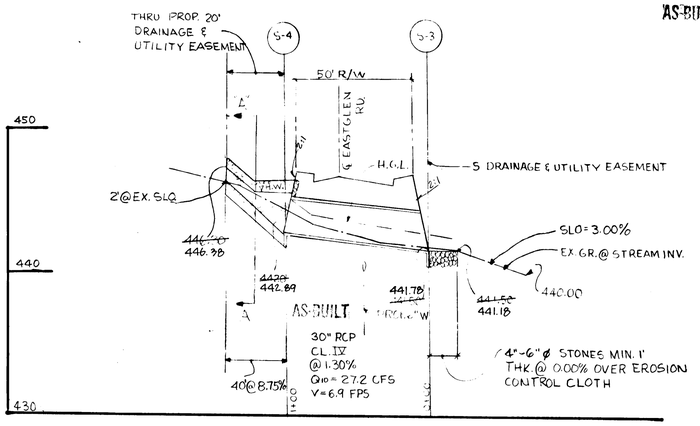


SECT. B-B CHANNEL BELOW S-4
SCALE HORIZ. 1" = 5'
VERT. 1" = 5'

d:
A:
WP:
r:
$r^{2/3}$:
V:
Q:
SLO:
n:

TYPICAL SECTION - MITZY LA. & DEBBIE CT.

CUL-DE-SAC - ZONED: R-20 - DESIGN SPEED: 25 MPH.
SEE HOWARD CO. DETAIL R-1.01
NOT TO SCALE



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

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

10-16-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

10-18-84
CHIEF, BUREAU OF ENGINEERING — DATE

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

10-11-84
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.

10-10-84
HOWARD SOIL CONSERVATION DISTRICT — DATE

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 THIRTY DAYS OF COMPLETION.

William R. Hopkins — 9/11/84
SIGNATURE OF DEVELOPER — DATE

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 COUNTY 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 THIRTY DAYS OF COMPLETION.

9/11/84
SIGNATURE OF ENGINEER — DATE

OWNER
MARY SMITH
5741 MINERAL AVENUE
BALTIMORE, MARYLAND 21227

DEVELOPER
GLENMAR JOINT VENTURE
% WILLIAM R. HOPKINS
3138 ROGERS AVE.
ELLICOTT CITY, MARYLAND
21043

9/11/84
AS-BUILT

TITLE: STORM DRAIN PROFILES AND STORM DRAIN, ROAD & SEDIMENT CONTROL DETAILS

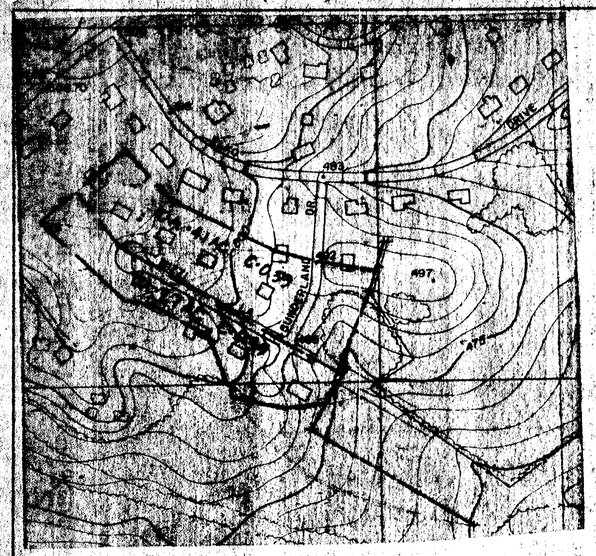
PROJECT: GLENMAR-SECTION 2

LOCATION: 1ST ELECTION DISTRICT — TAX MAP: 31 — HOWARD COUNTY, MARYLAND

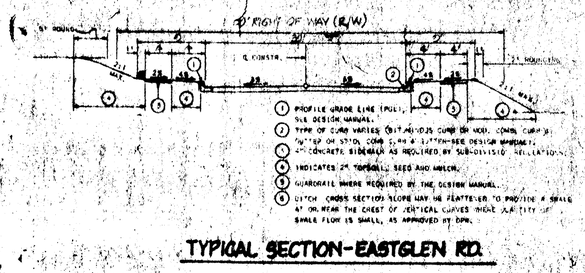
DATE	SCALE	DESIGN BY	DRAWN BY	CHECKED BY	DRAWING NO.	JOB NO.
APRIL, 1984	AS NOTED	JJB	DMP/DVP	RDM	6 OF 8	81154

boender associates
3655 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MARYLAND 21043
301-465-7777
engineers surveyors planners

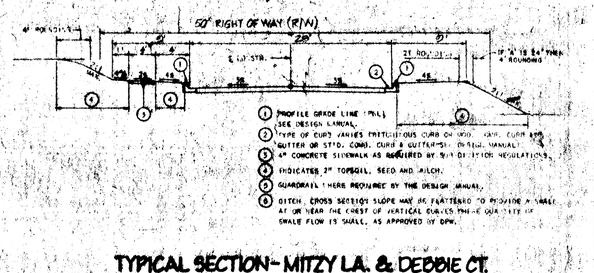
168



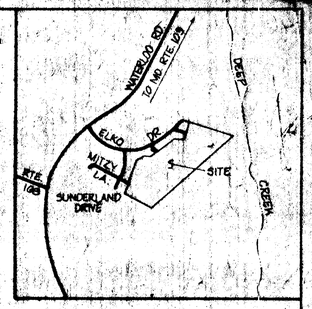
OFFSITE DRAINAGE AREA MAP
SCALE: 1" = 200'



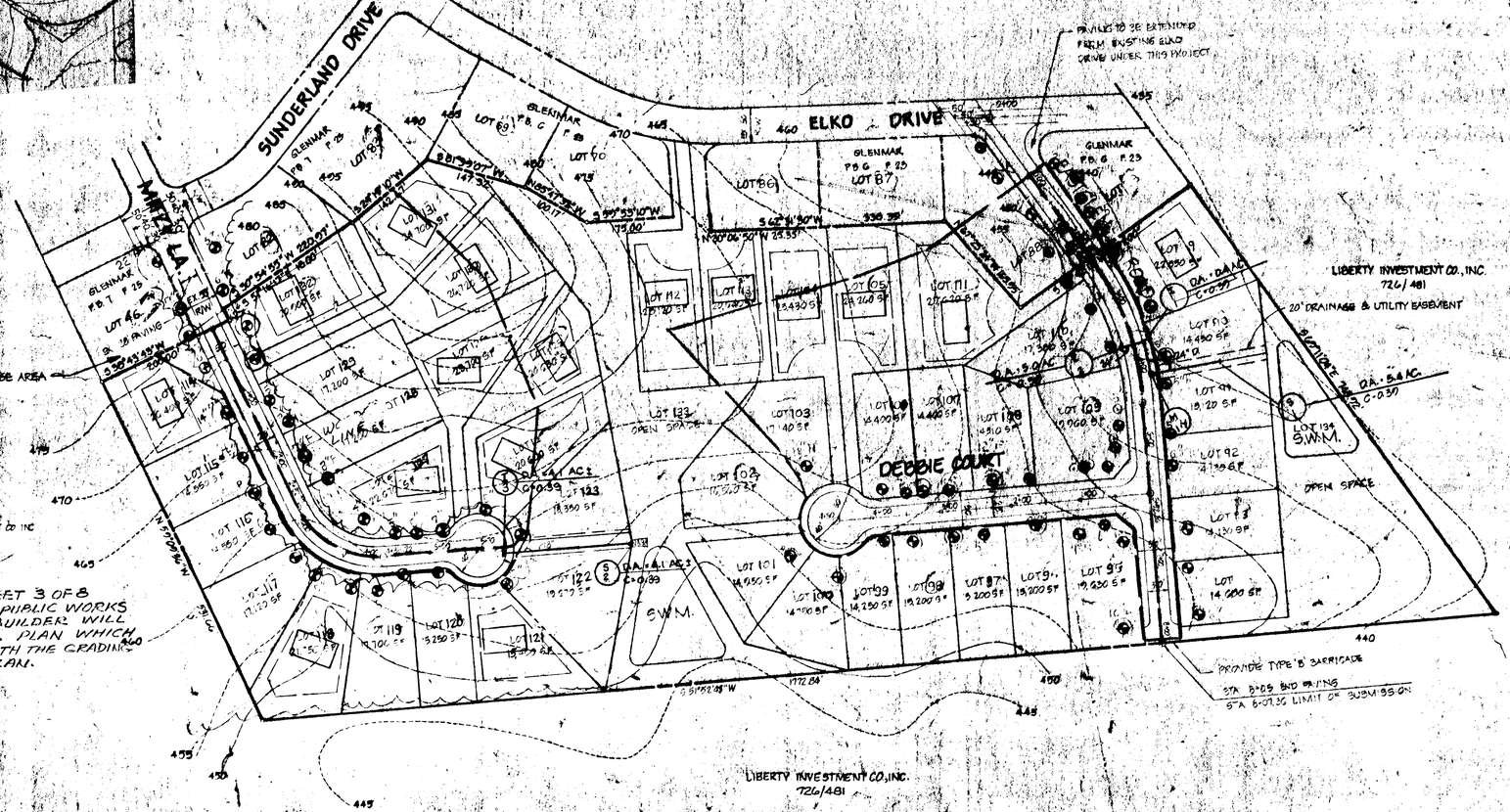
TYPICAL SECTION-EASTGLEN RD.



TYPICAL SECTION- MITZY LA. & DEBBIE CT.



VICINITY MAP
SCALE: 1" = 1200'



NOTE: THE GRADING ON SHEET 3 OF 8 IS NOT COVERED IN PUBLIC WORKS AGREEMENT. THE BUILDER WILL SUBMIT A GRADING PLAN WHICH WILL CONFORM WITH THE GRADING SHOWN ON THIS PLAN.

: INDICATES APPROX. LOCATION OF EXISTING TREES

: INDICATES PROPOSED HOUSE LOCATION ON LOTS OVER 20,000 SQUARE FEET

GENERAL NOTES

1. TAX MAP: 31 ; PARCEL: 185
2. PROPERTY DEED REFERENCE: 2416/472
3. EX. ZONING: R-20
4. PUBLIC WATER AND PUBLIC SEWERAGE TO BE UTILIZED.
5. MIDDLEGLEN ROAD, MITZY LANE AND EASTGLEN ROAD ARE EXISTING PUBLIC ROADS.
6. TOTAL AREA OF SITE: 24.947 AC.
7. TOTAL NO. OF LOTS: 44
   TOTAL AREA OF R/W DEDICATION: 1.55 AC.
   TOTAL AREA OF OPEN SPACE: 4.0 AC.±
7. TOPO SHOWN HEREON IS BASED ON HOWARD COUNTY 1" = 200' AERIAL TOPO MAPS.
8. BOUNDARY SHOWN HEREON IS BASED ON DESD. PLOTTING AND PLATS FOR EXISTING GLENMAR DEVELOPMENT.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIV. OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-16-84

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

U.S. SOIL CONSERVATION SERVICE — DATE 10-11-84

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

SOIL CONSERVATION DISTRICT — DATE 10-10-84

OWNER

MARY SMITH
5741 MINERAL AVENUE
BALTIMORE, MARYLAND 21227

DEVELOPER

GLENMAR JOINT VENTURE
% WILLIAM P. HOPKINS
25 WOODS AVE
ELLICOTT CITY, MARYLAND 21043

AS-BUILT

STATE OF MARYLAND — MARIO DIMARCO — No. 10123 — REGISTERED PROFESSIONAL ENGINEER — 6/6/84

TITLE	STREET TREES & HOUSE LOCATION
PROJECT	GLENMAR - SECTION 2
LOCATION	1ST ELECTION DISTRICT TAX MAP: 31 HOWARD COUNTY, MARYLAND

DATE	SCALE	DESIGN BY	DRAWN BY	CHECKED BY	DRAWING NO.	JOB NO.
JAN., 1984	1" = 100'	J.B.	D.M.P.	J.B.	7 OF 8	81154

boender associates
9525 COURTHOUSE SQUARE - SUITE A
ELLICOTT CITY, MARYLAND 21043
301-465-1777
engineers surveyors planners

168

F-84-200

SOIL CONSERVATION SERVICE
MARYLAND
CONSTRUCTION SPECIFICATIONS
FOR
PONDS

I. 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.

II. EARTH FILL

Material

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.

Placement

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.

Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

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.

III. STRUCTURAL BACKFILL

Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall 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.

IV. PIPE CONDUITS

A. Corrugated Metal Pipe

1. Materials - (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.

   Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands. Coupling bands, anti-seep collars, end sections, etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.

   Helically corrugated pipe in addition to the requirements above shall have either continuously welded seams or have lock seams which are caulked, during fabrication, with a neoprene bead.

2. 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. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight.

3. 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.

4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

5. Backfilling shall conform to structural backfill as shown above.

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

B. Reinforced Concrete Pipe

1. Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. Approved equivalents are AWWA Specification C-300, 301, and 302.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its diameter with a minimum thickness of 3", or as shown on the drawings.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.

4. Backfilling shall conform to structural backfill as shown above.

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

V. CONCRETE

1. Materials

   a. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.

   b. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.

   c. 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.

   d. Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.

   e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

2. Design Mix - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-1/2 to 6 U. S. gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-1/2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.

3. Mixing - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.

4. Forms - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary jarring, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and construction 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.

5. Reinforcing Steel - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.

6. 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.

7. 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.

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

9. Placing Temperature - Concrete may not be placed at temperatures below 37° F with the temperature falling, or 34° with the temperature rising.

VI. 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.

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APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

CHIEF, DIV. OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 10-16-84

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF ENGINEERING — DATE 10-9-84

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 THIRTY DAYS OF COMPLETION.

SIGNATURE OF DEVELOPER — DATE 9/11/84

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 COUNTY 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 THIRTY DAYS OF COMPLETION

SIGNATURE OF ENGINEER — DATE 9/11/84

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10-10-84

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 10-11-84

OWNER & DEVELOPER

MARY SMITH
5714 MINERAL AVE.
BALTO., MD. 21227

GLENMAR JOINT VENTURE
c/o WILLIAM R. HOPKINS
3150 ROGERS AVE.
ELLICOTT CITY, MD. 21043

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER No. 10176 — 9/10/84

TITLE	S.W.M. POND CONSTRUCTION SPECS.
PROJECT	GLENMAR - SECTION TWO
LOCATION	1ST ELECTION DISTRICT TAX MAP: 31 HOWARD COUNTY, MARYLAND

DATE	SCALE	DESIGN BY	DRAWN BY	CHECKED BY	DRAWING NO.	JOB NO.
SEPT., 1984	AS SHOWN		DMP		6 OF 6	81156

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3565 - A COURT SQUARE
ELLICOTT CITY, MARYLAND 21043
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planners

AS-BUILT