

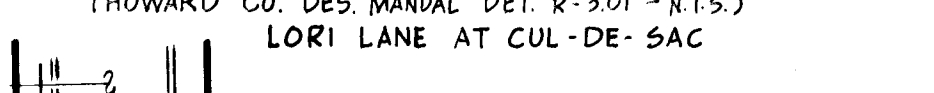
GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. 1, 1-4, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST ALL EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MISS UTILITY 559-0100
 - BELL TELEPHONE SYSTEM 393-3449
 - LONG DISTANCE CABLE DIVISION 393-3553 or 3554
 - BALTIMORE GAS AND ELECTRIC COMPANY 539-8000, ext. 691
 - HOWARD COUNTY BUREAU OF UTILITIES 592-2356
 - HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO OCCURRENCE-NOTE OF WORK) 792-7372
- ALL STREETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURBS RETURNS SHALL HAVE 10.0' RADIUS UNLESS OTHERWISE NOTED.
- STORM DRAIN TYPES WITHIN ROAD RIGHT-OF-WAY SHALL BE RECYCLED AND COMPLETED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1971 EDITION.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:
 - ALL 50' R/W : 30 MPH
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- SUBJECT PROPERTY ZONED R-12 PER 10-03-77 COMPREHENSIVE ZONING PLAN.
- TOPO TAKEN FROM FIELD SURVEY DATED 11-1-82 BY ENGINEER ASSOC. INC.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 1" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'B' AS SHOWN IN FIG. 11.4, VOLUME I OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- EXISTING 18" GAL. SUGAR MALE STORM MAIN IN PLAN.

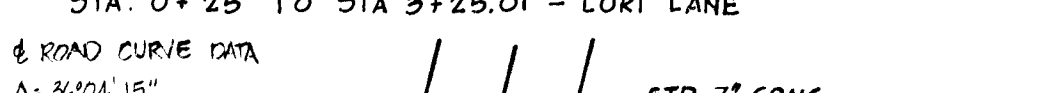
BENCH MARK

ELEV. 187.65
ROADSIDE
POMNETT BOLT ON FIRE
HYDRANT ON SOUTH SIDE
OF KYLE LEAF CT, WEST
OF DUCKETTS LANE

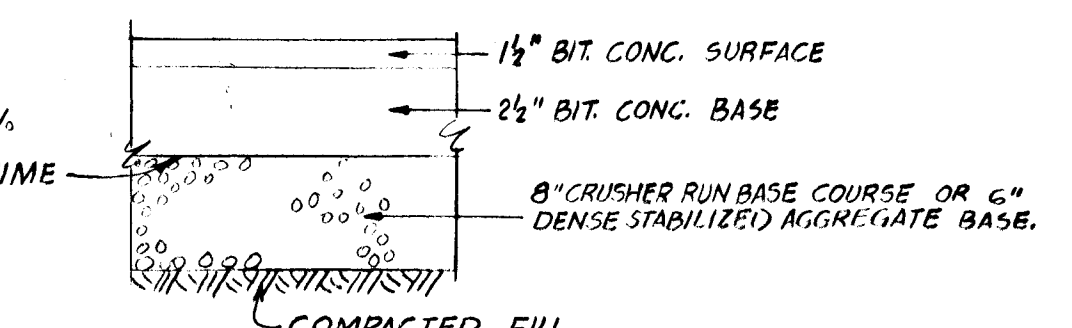
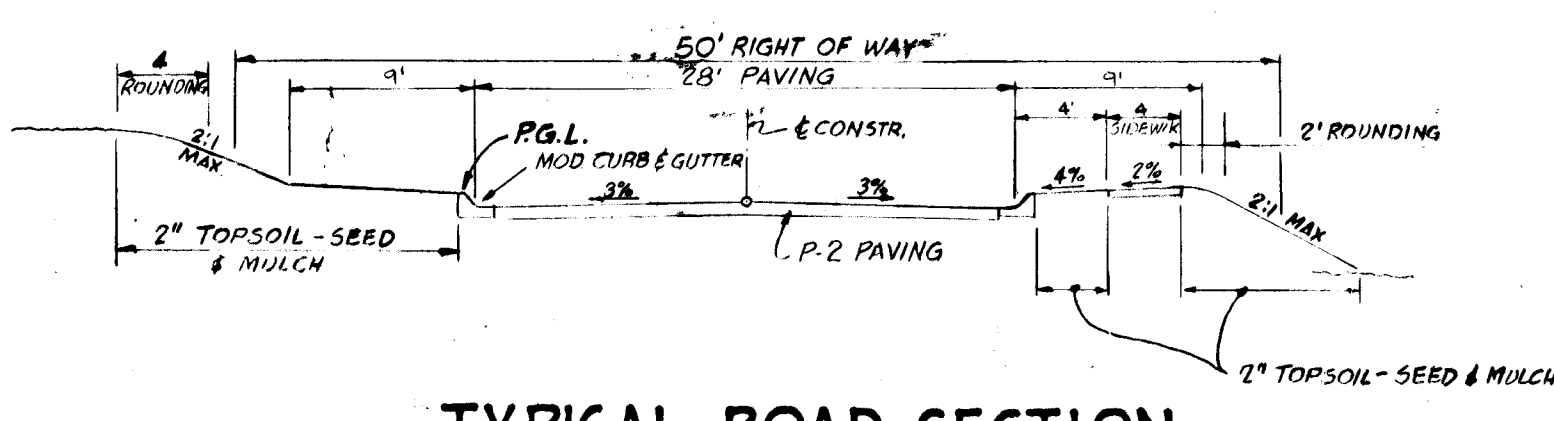
STD. 7" CONC. CURB & GUTTER
(HOWARD CO. DES. MANUAL DET. R-3.01 - N.T.S.)
LORI LANE AT CUL-DE-SAC



MOD. COMBINATION CURB & GUTTER
(HOWARD CO. DES. MANUAL DET. R-3.01 - N.T.S.)
STA. 0+25 TO STA. 3+25.01 - LORI LANE

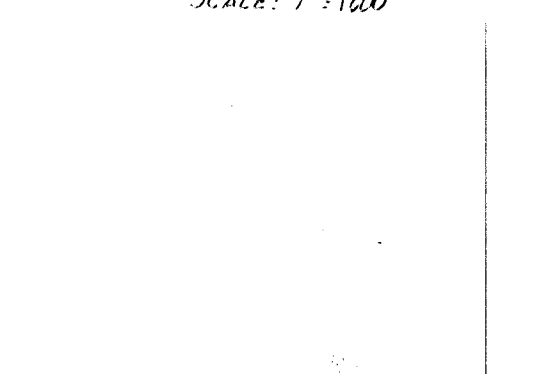


TYPICAL ROAD SECTION
(HOWARD CO. DES. MANUAL DET. R-1.01)
LORI LANE: STA. 0+50 TO STA. 3+25.01 - N.T.S.
DESIGN SPEED: 30 MPH.
NT-SINGLE FAMILY AREA ; R-12 ZONING ; CUL-DE-SAC.



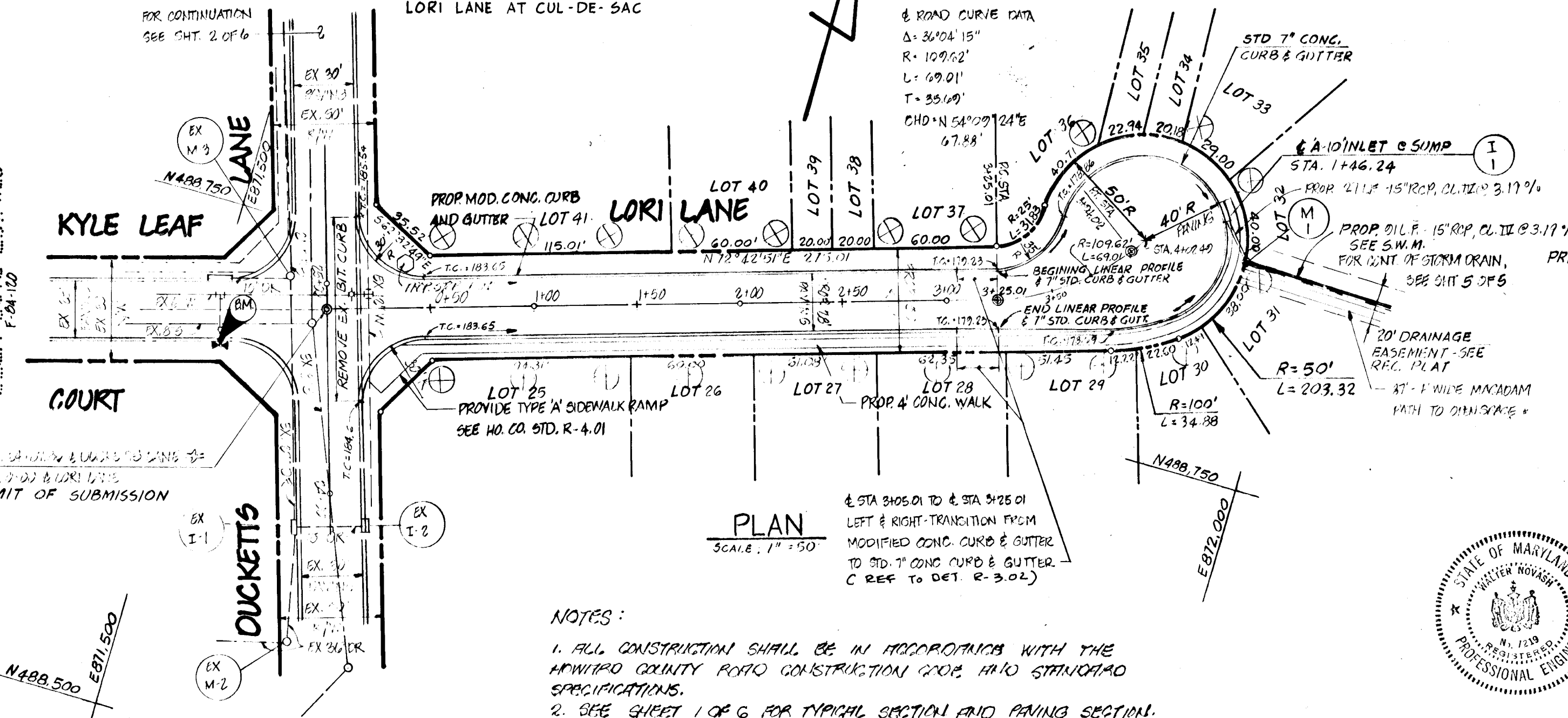
P-2 PAVING SECTION
(HOWARD CO. DES. MANUAL DET. R-2.01 - N.T.S.)

VICINITY MAP
SCALE: 1" = 1200'



OWNER DEVELOPER

DUCKETTS LANE ASSOC. INC.
PO BOX 89
COLUMBIA, MD. 21045
TEL. 192-2100



PLAN
SCALE: 1" = 50'

NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION 2008 H&O STANDARD SPECIFICATIONS.
- SEE SHEET 1 OF 6 FOR TYPICAL SECTION AND PAVING SECTION.
- STIP SHALL BE IN ACCORDANCE WITH HO. CO. TRAFFIC DIVISION SPEC. R1-1.



Walter Ann 12-30-85

INDEX OF SHEETS

DRWG. NO.	TITLE
1 OF 6	ROAD CONSTRUCTION PLAN - LORI LANE
2 OF 6	ROAD CONSTRUCTION PLAN - DUCKETTS LANE
3 OF 6	SEDMENT CONTROL GRADING & D.A. MAP
4 OF 6	STORM WATER MANAGEMENT PROFILES
5 OF 6	SEDMENT CONTROL DETAILS R-1000
6 OF 6	STORM WATER MANAGEMENT PLAN

ROAD CONSTRUCTION PLAN - LORI LA. - GLEN COVE SECTION 2

PROJECT: 197 ELECTION DISTRICT TAX MAP 37 PARCEL 448 HOWARD COUNTY, MD.

DATE: NOVEMBER, 1974 DESIGN BY: RDM DRAWN BY: RDM CHECKED BY: RDM

SCALE: AS SHOWN JOB NO. 8270 DRAWING NO. 1 OF 6

boender associates
3565 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD. 21043
BALTIMORE 301-465-1117 • SALISBURY 301-749-1266

engineers
surveyors
planners

DATE: _____ BY: _____

PLAN SHEET: _____

NOTE BOOK: _____

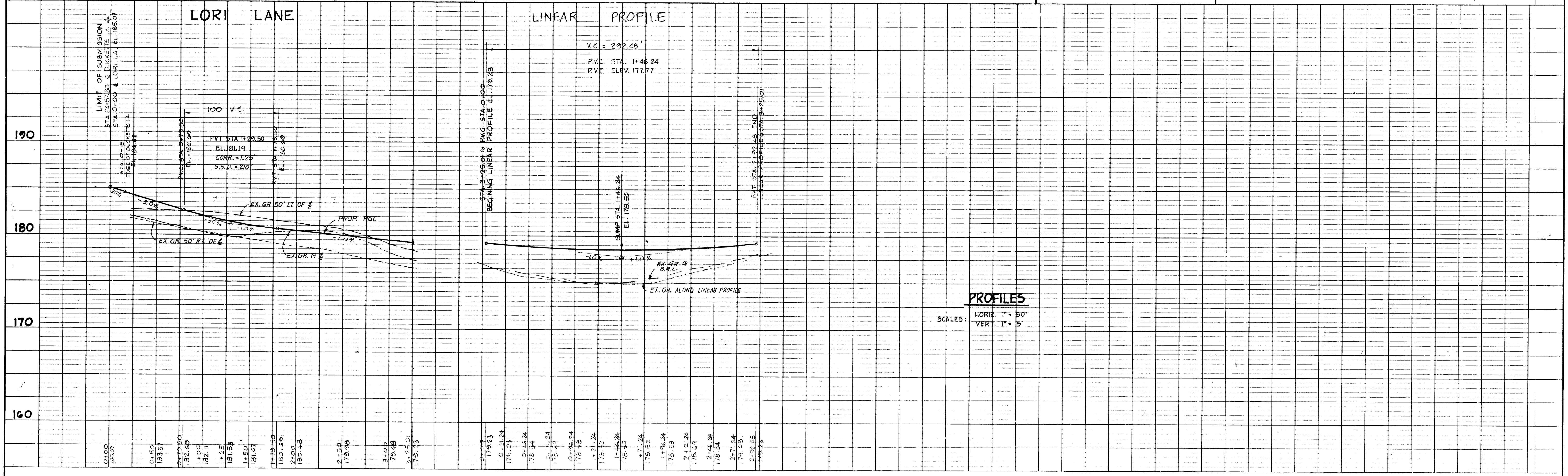
NO. 25

DATE: _____ BY: _____

PROFILE SHEET: _____

NOTE BOOK: _____

NO. 26

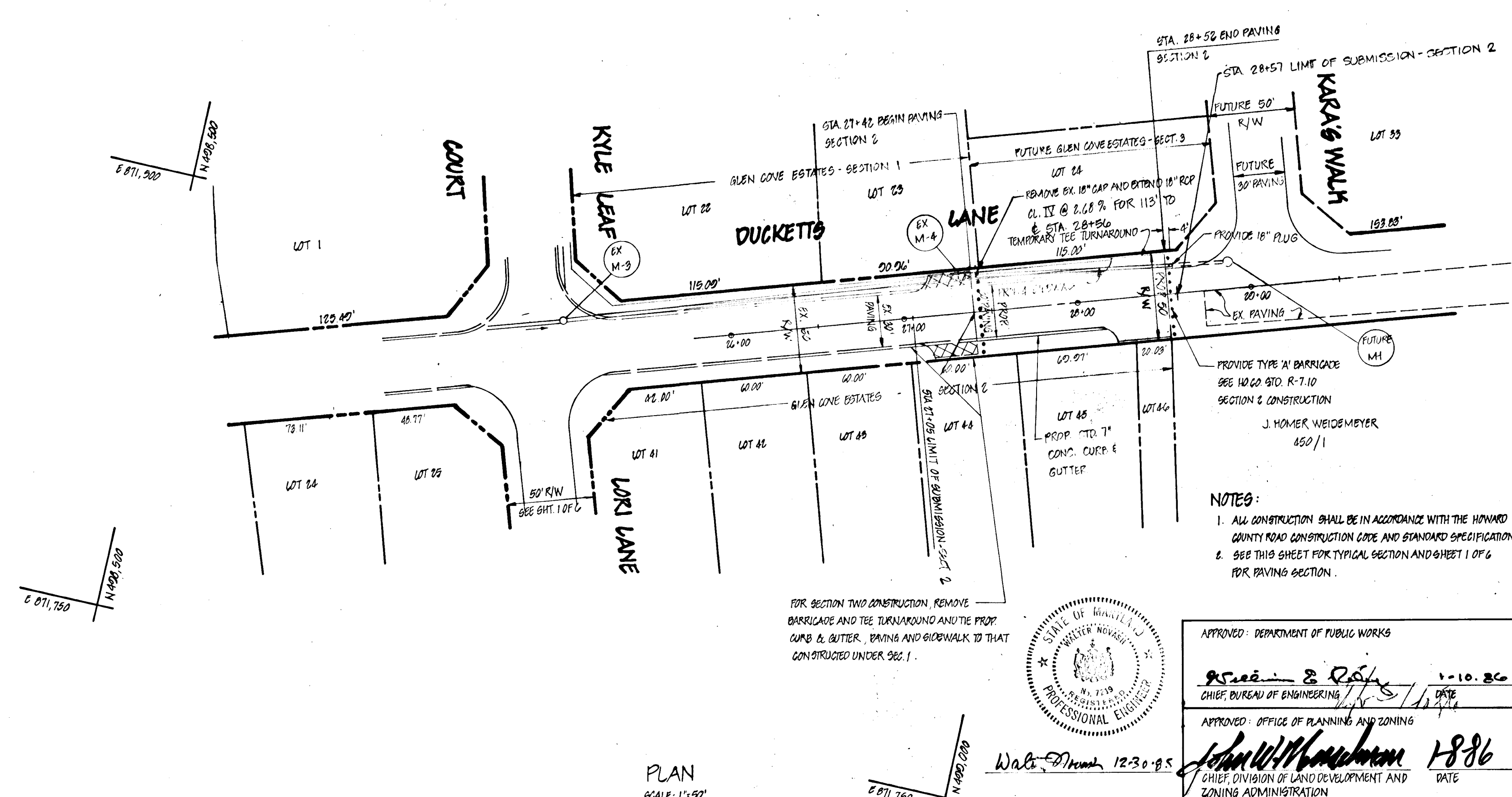


PROFILES

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

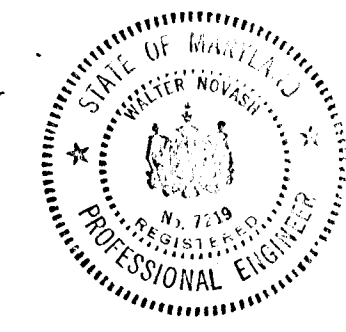
PLAN
 SURVEYED BY: _____ DATE: _____
 CHECKED BY: _____
 NOTE BOOK NO. _____
 R. OF WAY CHECKED BY: _____

PROFILE
 SURVEYED BY: _____ DATE: _____
 CHECKED BY: _____
 NOTE BOOK NO. _____
 STRUCTURE INDICATORS CHECKED BY: _____



- NOTES:
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS
 2. SEE THIS SHEET FOR TYPICAL SECTION AND SHEET 1 OF 6 FOR PAVING SECTION.

OWNER/DEVELOPER
 DUCKETT LANE ASSOCIATES
 40 WAYNE NEWSOME
 P.O. BOX 99
 COLUMBIA, MARYLAND 21045

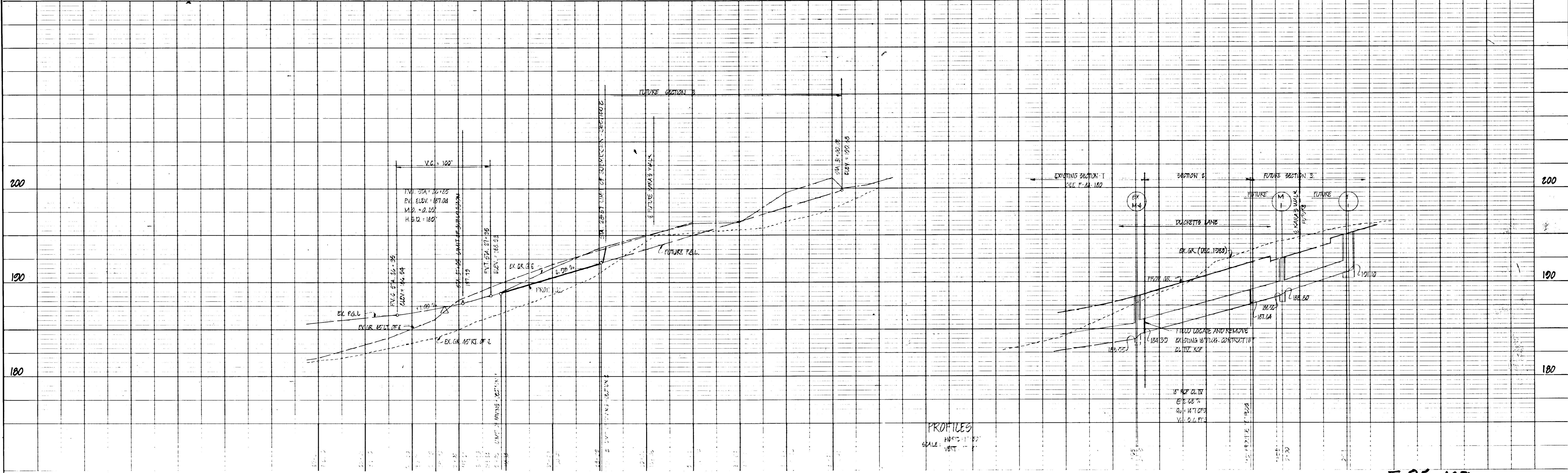


APPROVED - DEPARTMENT OF PUBLIC WORKS
 [Signature] 1-10-86
 CHIEF BUREAU OF ENGINEERING
 DATE 1/10/86

APPROVED - OFFICE OF PLANNING AND ZONING
 [Signature] 1-10-86
 CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
 DATE 1/10/86

ROAD CONSTRUCTION PLAN			
GLEN COVE ESTATES - SECTION 2			
PROJECT	1ST ELECTION DISTRICT TAX MAP: 37 HOWARD COUNTY, MARYLAND		
DATE:	AUGUST, 1985	DESIGN BY:	J.J.B.
SCALE:	AS SHOWN	JOB NO.:	88270
		DRAWN BY:	OMP
		CHECKED BY:	R.D.M.
		DRAWING NO.:	2 OF 6
boender associates		engineers surveyors planners	
3545 BALGOTT MILLS DRIVE BUMMOT CITY, MARYLAND 21048 BALTIMORE 301-465-7777			

PLAN
 SCALE: 1"=50'



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. (992-2437)
- 2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 3) Following are initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- 4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 6) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- 7) Site Analysis:
 Total Area of Site 6.9 Acres:
 Area Disturbed 1.8 Acres:
 Area to be roofed or paved 0.4 Acres:
 Area to be vegetatively stabilized 1.6 Acres:
 Total Cut 3000 Cu. yds.
 Total Fill 2200 Cu. yds.
 Offsite waste/borrow area location 11/4
- 8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

PERMANENT SEEDING NOTES

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

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

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

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square ft) and 600 lbs per acre 10-10-10 fertilizer (16 lbs/1000 sq ft) before seeding. Narrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Narrow or disc into upper three inches of soil.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.5 lbs/1000 sq ft) of seeding fertilizer. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring; Option (2) Use mulch; Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

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

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.

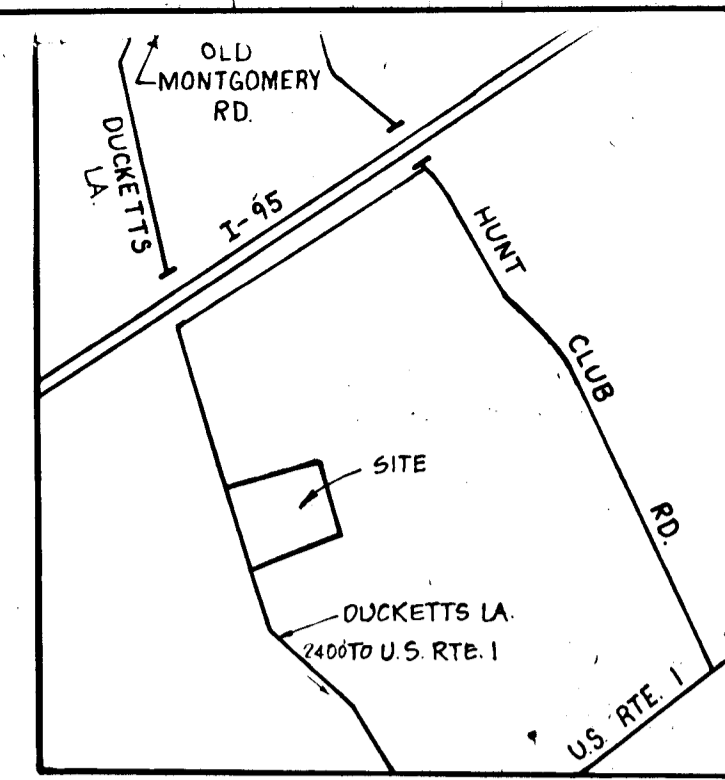
Seeding Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft)

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 25 bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of seeding fertilizer (0.7 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

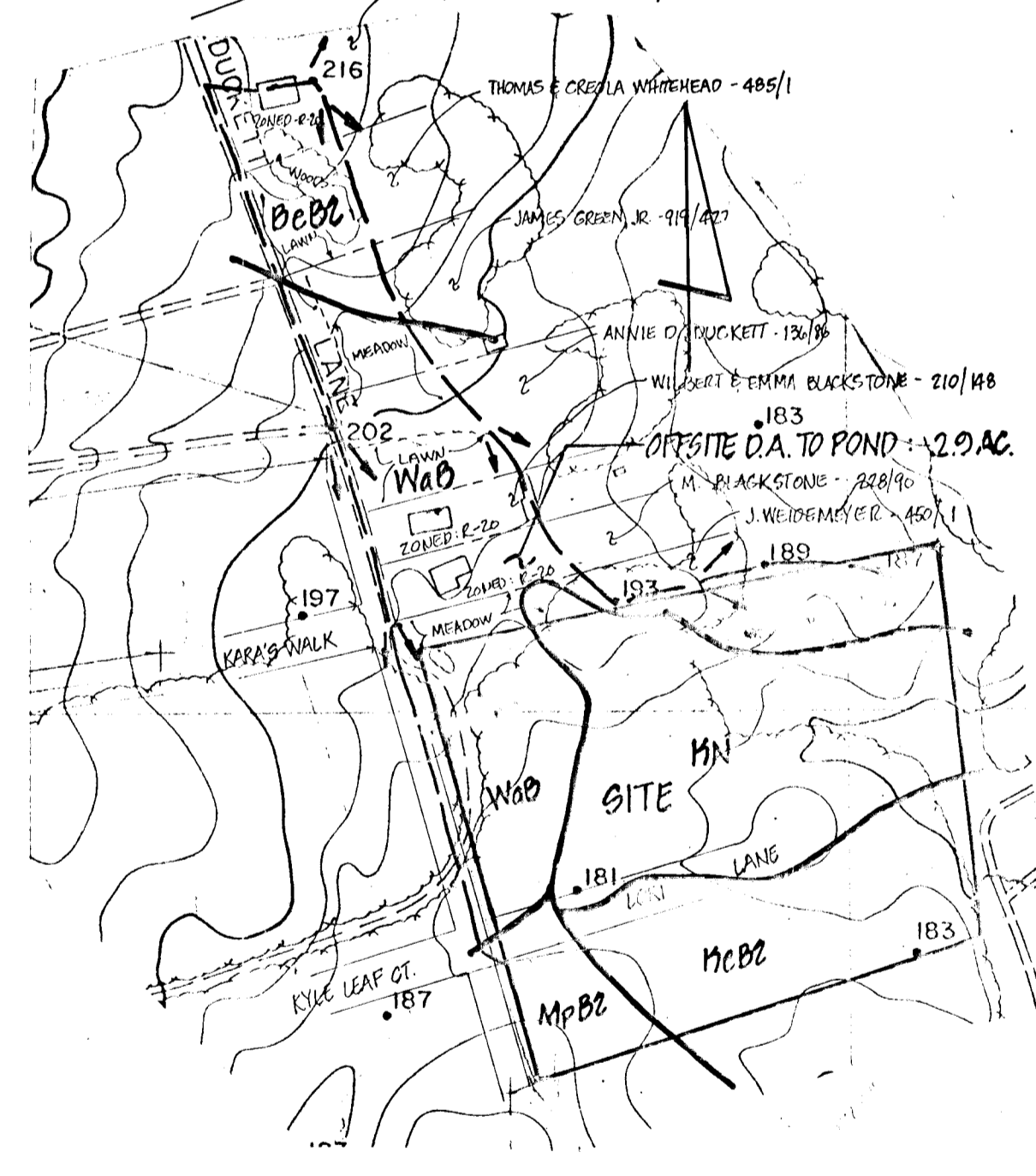
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



VICINITY MAP
SCALE: 1"=1200'

GENERAL NOTES

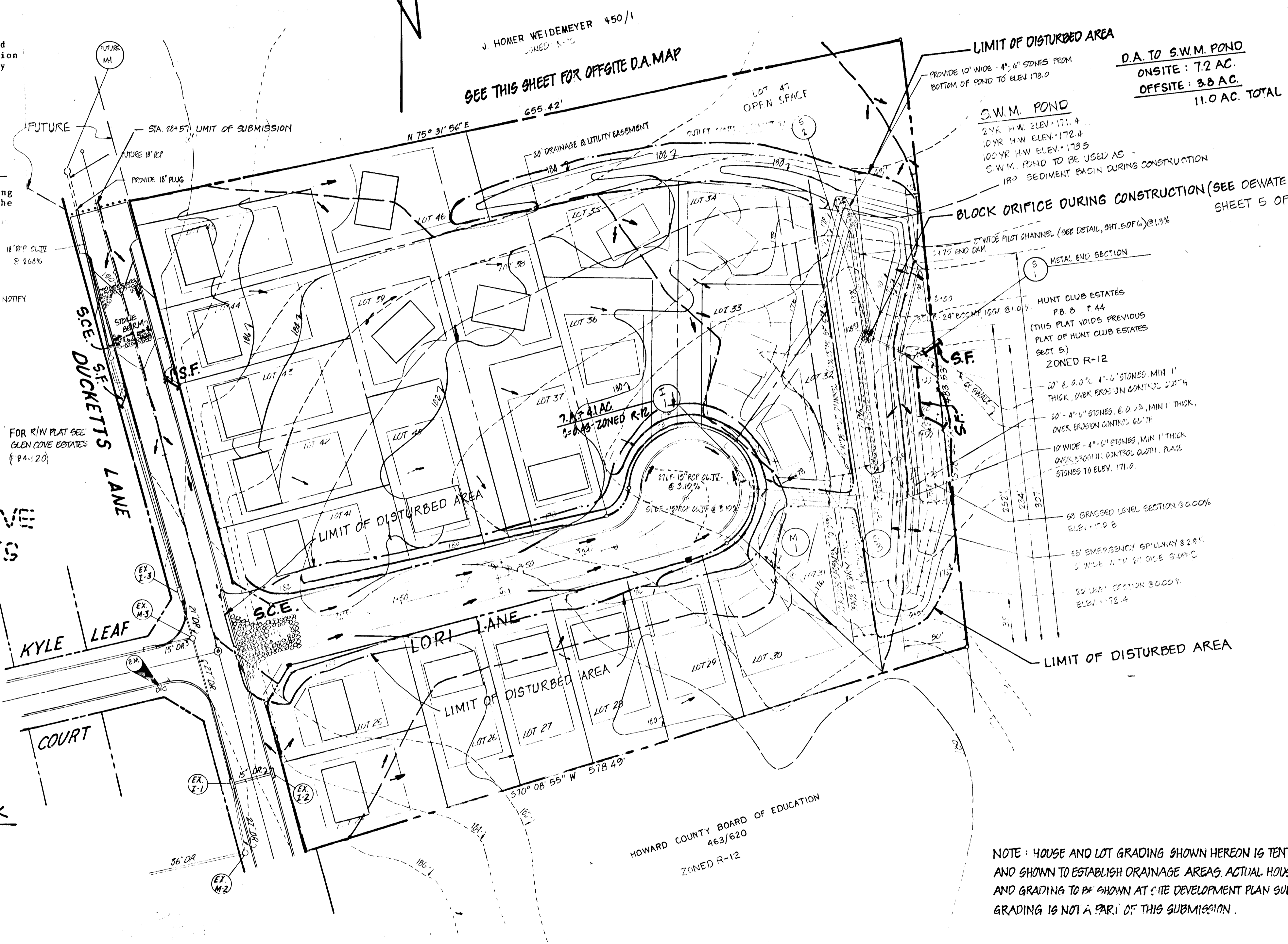
1. TAX MAP: 37 PARCEL 448
2. PROPERTY DEED REFERENCE: 100/100
3. PUBLIC WATER AND PUBLIC SEWER TO BE UTILIZED
4. EXISTING ZONING: R-12
5. DUCKETTS LANE IS AN EXISTING PUBLIC ROAD.
6. TOTAL AREA OF SITE: 7.2 AC.±
 TOTAL NUMBER OF LOTS: 23
 TOTAL AREA OF LOTS: 5 AC.±
 TOTAL AREA OF R/W DEDICATION: 0.8 AC.±
 TOTAL AREA OPEN SPACE: 1.4 AC.±
7. TOPO SHOWN HEREON IS BASED ON M.D. 1985 SURVEY.
8. BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN SURVEY.
9. ALL PROPOSED STREETS TO HAVE BITUMINOUS CURB EXCEPT CUL-DE-SAC WHICH SHALL HAVE 7" CONC. CURB & GUTTER
10. ALL REAR BLDG RESTRICTION LINES ARE 30' AND ALL SIDE BLDG RESTRICTION LINES ARE 7.5'
11. SEDIMENT CONTROL MEASURES WILL BE INCLUDED ON FINAL PLANS.
12. SKETCH PLAN S.B.S.02
 ROAD & CURBLINE STREETS - 220/225



SOILS MAP & OFFSITE DRAINAGE AREA MAP
SCALE: 1"=1200'

OWNER & DEVELOPER

1711 DUCKETTS LANE, SUITE 100
 FREDERICK, MD 21704
 COLUMBIA, MD 21046



CONSTRUCTION SEQUENCE

1. OBTAIN GRADING PERMIT.
2. NOTIFY THE HOWARD COUNTY BUREAU OF LICENSES, INSPECTIONS AND PERMITS AND THE CONSTRUCTION INSPECTION/SURVEYS DIVISION @ 702-7812 AT LEAST 24 HOURS PRIOR TO BEGINNING GRADING OPERATIONS. NOTIFY MISS UTILITY @ 552-0100.
3. INSTALL TEMPORARY SEDIMENT CONTROL MEASURES (SEE AND SF) - 1 DAY
4. CONSTRUCT SWM POND, BLOCK DRIFICE AND USE AS SEDIMENT BASIN DURING CONSTRUCTION. - 9 DAYS
5. ROUGH GRADE, STABILIZE WITH TEMPORARY STABILIZATION MEASURES. - 2 DAYS
6. INSTALL UTILITIES, STABILIZE ROAD WITH GRADE COURSE. - 9 DAYS
7. PAVE ROAD. - 1 DAY
8. FINE GRADE, APPLY PERMANENT STABILIZATION MEASURES. - 2 DAYS
9. WITH PERMISSION OF SEDIMENT INSPECTOR, CONVERT SEDIMENT BASIN BACK TO SWM POND BY: - 2 DAYS
 1. CLEAN STORM DRAINAGE SYSTEMS
 2. PUMP STANDING WATER ONTO A STABILIZED OUTFALL
 3. REMOVE SEDIMENT AND DEPOSIT ON A SITE WITH AN APPROVED SEDIMENT CONTROL PLAN
 4. SHAPE POND TO DESIGN GRADES
10. REMOVE TEMPORARY SEDIMENT CONTROL MEASURES WITH APPROVAL OF HOWARD COUNTY BUREAU OF LICENSES, INSPECTIONS AND PERMITS

GLEN COVE ESTATES
(F-84-180)

NOTE:
 ENTIRE DUCKETTS LA. R/W INCLUDED IN R/W PLOT FILED WITH GLEN COVE ESTATES.

BENCH MARK

ELEV. 187.65
 BONNETT COT ON FIRE HYDRANT ON SOUTH SIDE OF KYLE LEAF CT, WEST OF DUCKETTS LANE.

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

Robert W. Zichner 1-8-86
 HOWARD SOIL CONSERVATION DISTRICT 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.

Jane M. Hahn 1-7-86
 U.S. CONSERVATION SERVICE DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
William E. Ryan
 CHIEF, BUREAU OF ENGINEERING

APPROVED: OFFICE OF PLANNING AND ZONING
John W. Mueschman 1-8-86
 PLANNING AND ZONING ADMINISTRATION DATE

CERTIFICATION BY THE DEVELOPER
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN THIRTY DAYS OF COMPLETION.

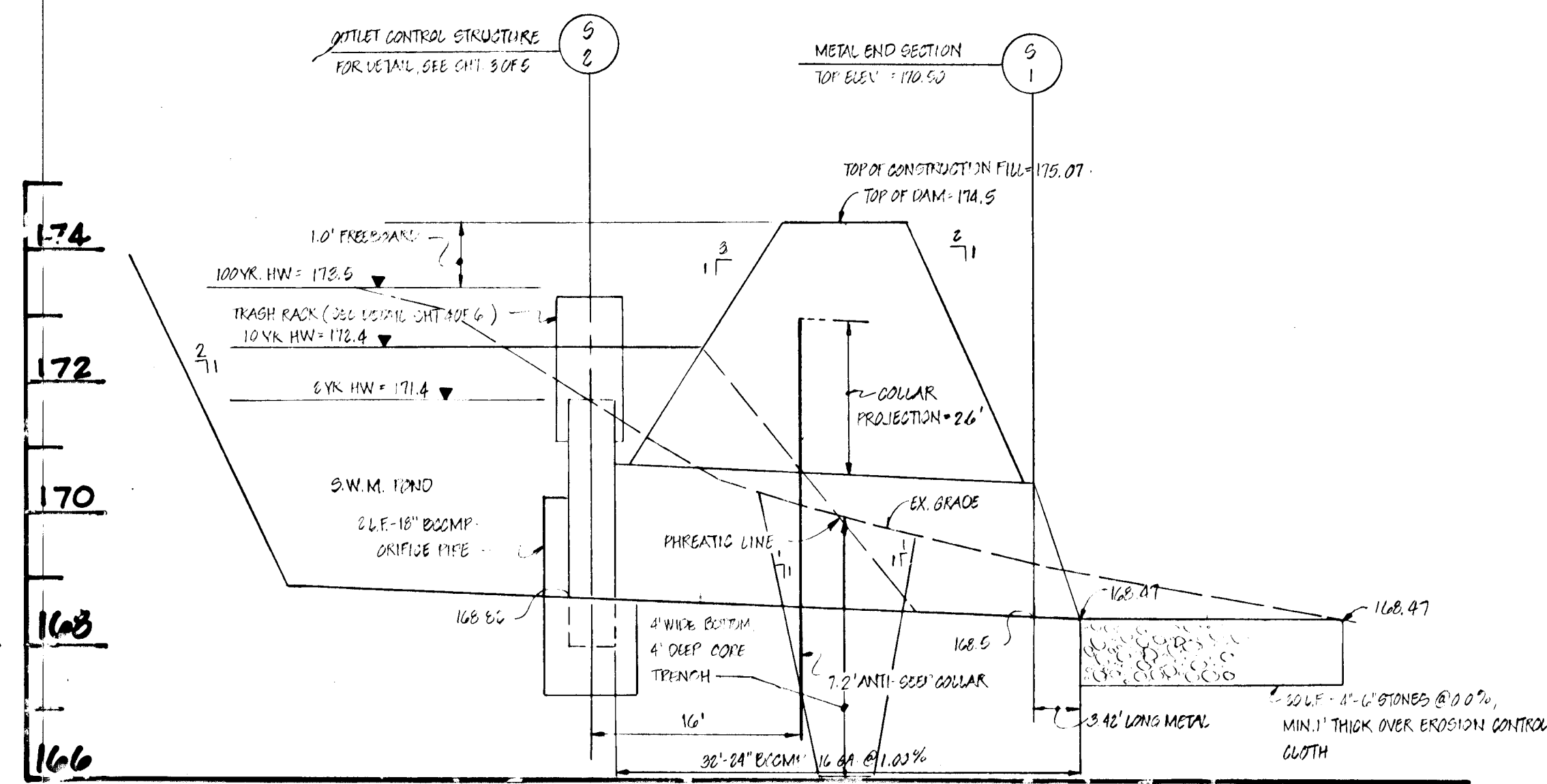
Walter M. Mum...
 SIGNATURE OF DEVELOPER DATE 12-30-85

CERTIFICATION BY THE ENGINEER
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD 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.

Walter M. Mum...
 SIGNATURE OF ENGINEER DATE 12-30-85

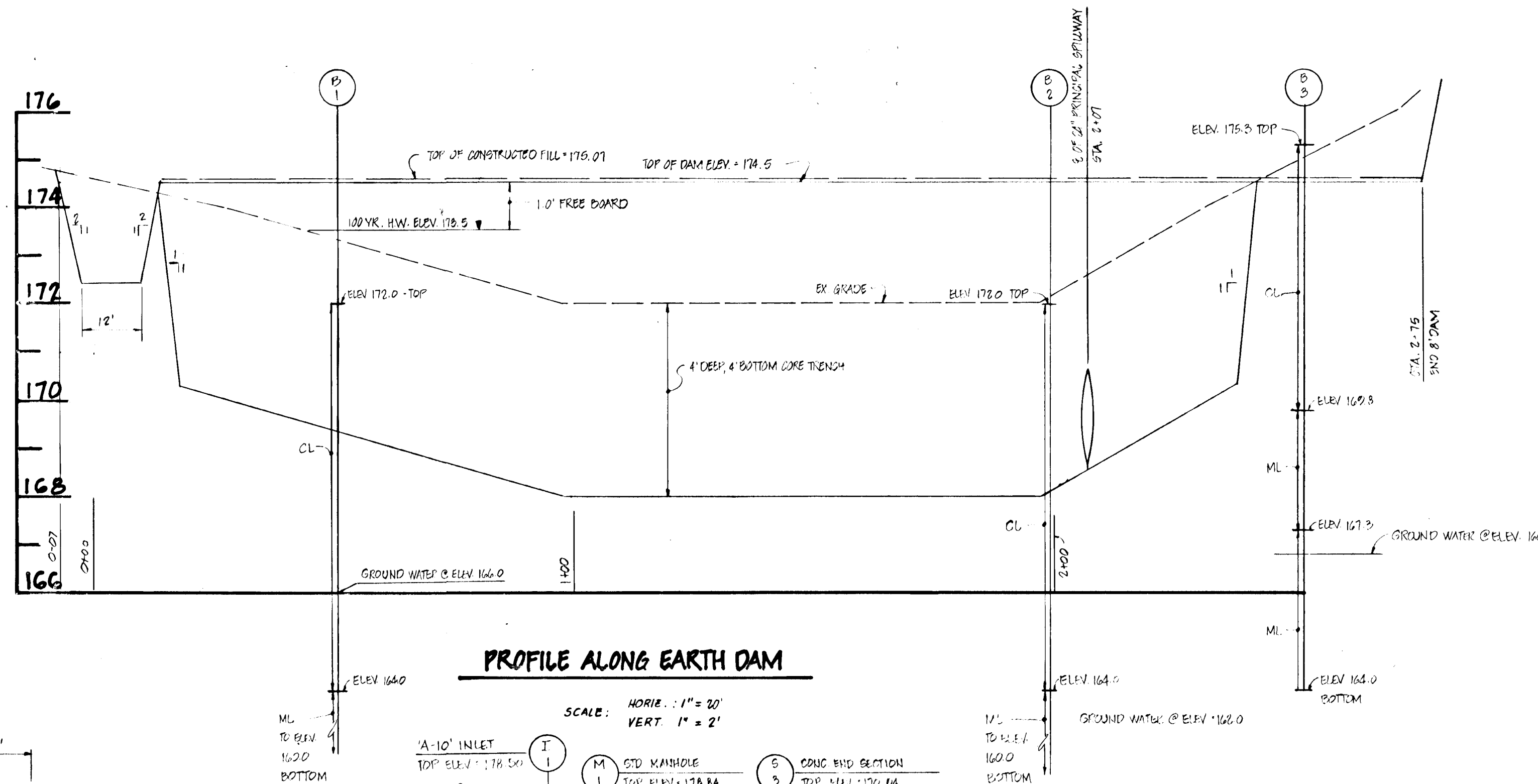


PROJECT						
SEDIMENT CONTROL & GRADING PLAN & D.A. MAP						
LOCATION						
ELECTION DISTRICT TAX MAP 37 PARCEL 448 HOWARD COUNTY, MD.						
DATE	SCALE	DESIGN BY	DRAWN BY	CHECKED BY	ISSUING NO.	JOB NO.
AUGUST, 1985	1"=50'	J.A.B.	DRR	448	0 OF 0	87070
boender associates				engineers surveyors planners		
8562 ELLIOTT MILLS DRIVE 11800 WYCHVIEW, MARYLAND 21043 301.465.2222						



PROFILE ALONG PRINCIPAL SPILLWAY

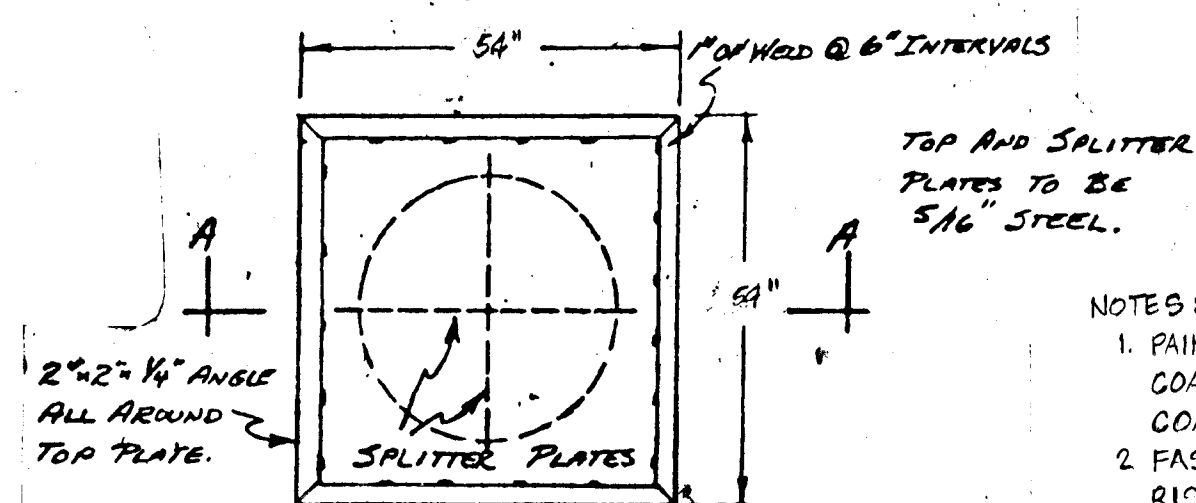
SCALE: HORIZ. 1" = 10'
VERT. 1" = 2'



PROFILE ALONG EARTH DAM

SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'

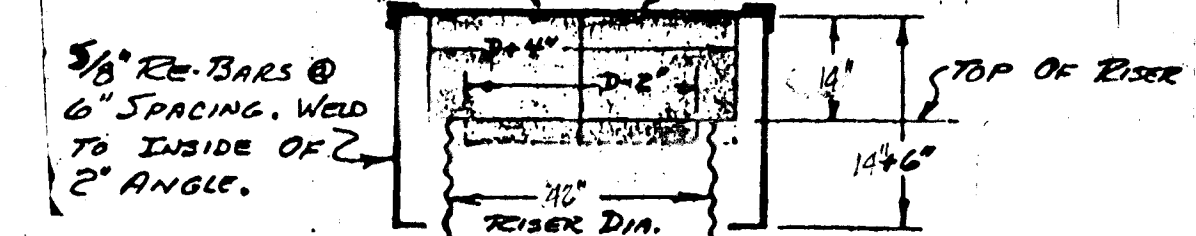
FABRICATION DETAILS FOR TRASH GUARD-ANTI VORTEX ASSEMBLY FOR ALL RISERS



PLAN VIEW OF TRASH GUARD-ANTI VORTEX DEVICE

N.T.S.

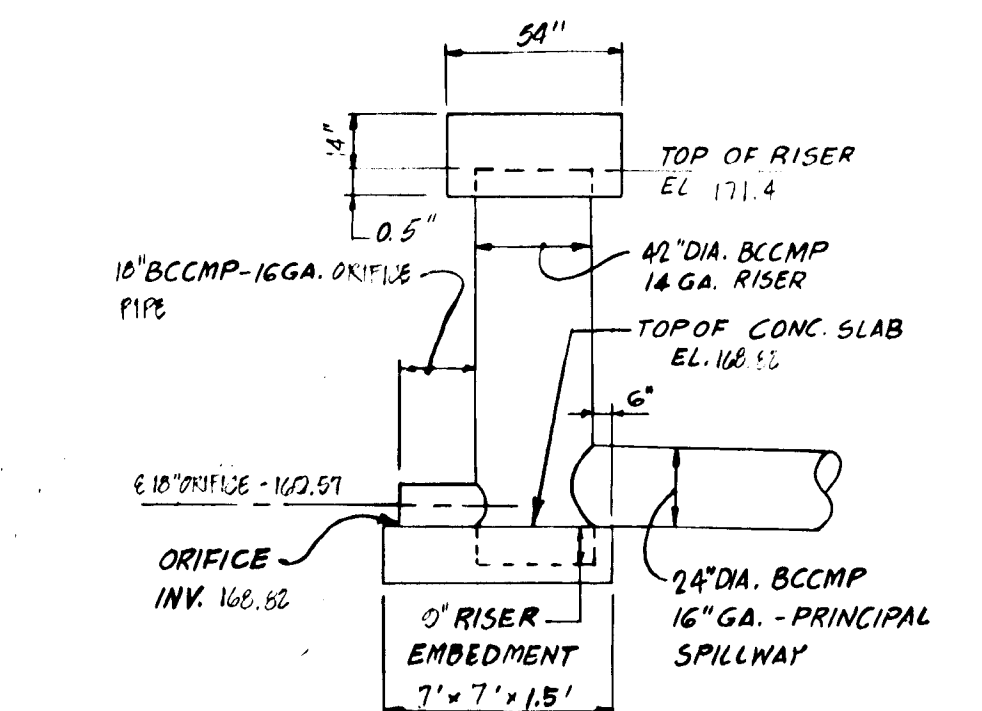
- NOTES:
1. PAINT ASSEMBLY USING 2 COATS RED LEAD AND 2 COATS ALUMINUM.
 2. FASTEN ASSEMBLY TO RISER USING ANGLES BOLTED TO SPLITTER PLATES AND VERTICAL RISER PIPE.
 3. SET TOP OF ASSEMBLY LEVEL WHEN INSTALLING ON RISER.



SECTION AA

N.T.S.

STRUCTURE SCHEDULE					
NO	TYPE	INV IN	INV OUT	TOP EL	REMARKS
I-1	A-10 INLET	-	174.00	178.00	HD CO STD 80-4.02
M-1	MANHOLE	172.34	172.00	178.84	HD CO STD 80-5.08
6-1	24" METAL END	168.87	168.87	170.41	HD CO STD 80-8.61
6-2	OUTLET STRUCT	168.82	168.82	-	SEE DETAIL THIS SHEET
6-3	15" CONC END	170.19	170.00	171.25	10 CO STD 80-9.58

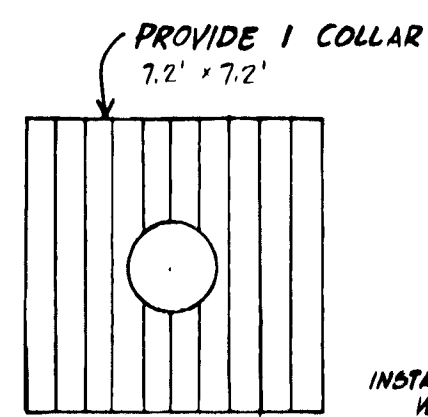


OUTLET CONTR. STRUCT. S-2 - ELEVATION

N.T.S.

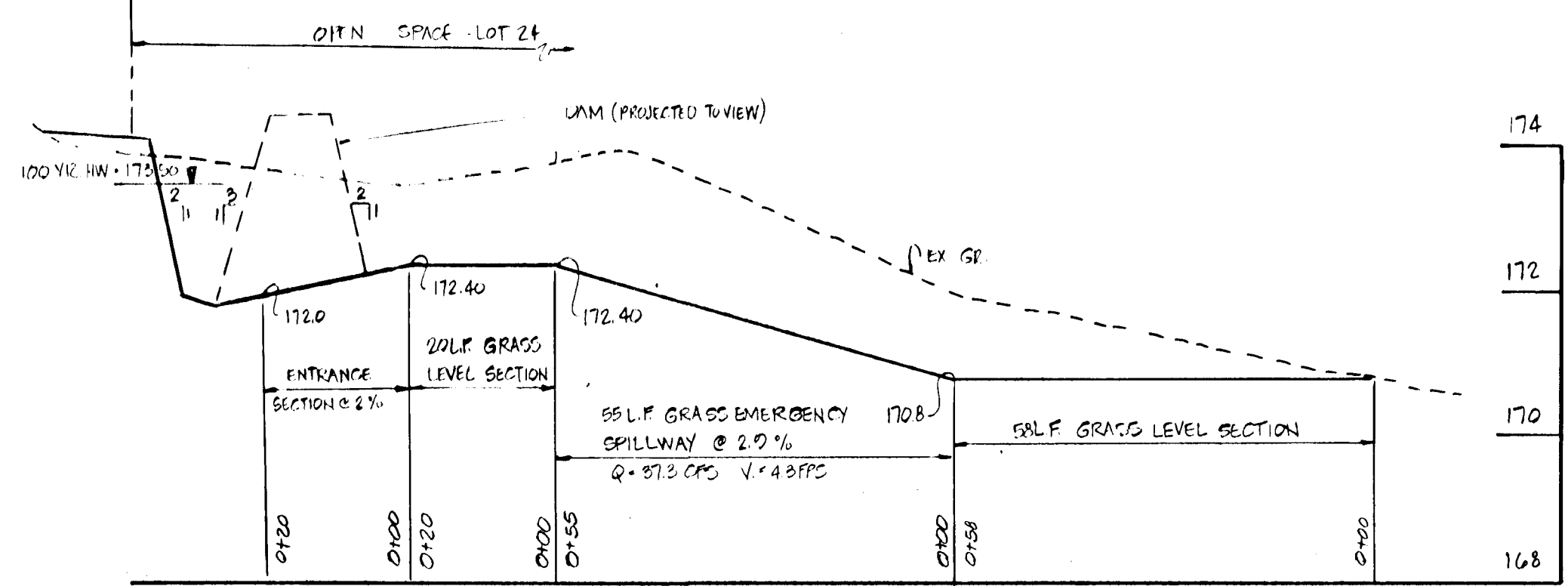
OUTLET CONTR. STRUCT. S-2 - PLAN

N.T.S.



ANTI-SEEP COLLAR

N.T.S.

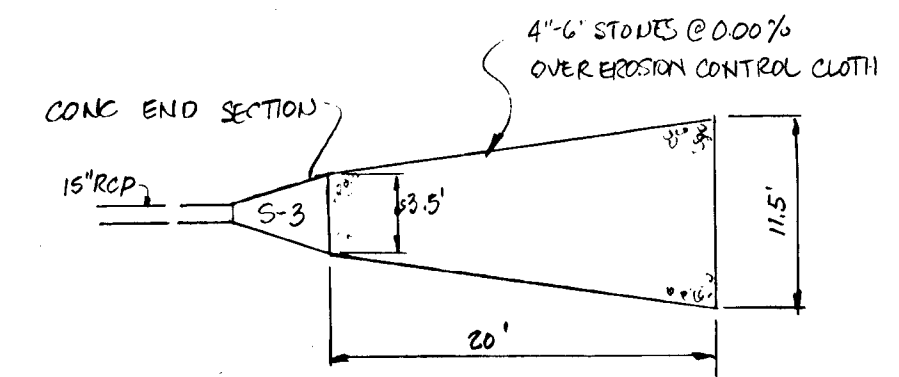


PROFILE: EMERGENCY SPILLWAY

SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'

SECTION THRU EMERGENCY SPILLWAY

N.T.S.



RIP RAP OUTLET PROTECTION

NOT TO SCALE

- Q₁₀₀ = 37.0 CFS
- Q₅₀ = 39.0 CFS (PG. 18.17 SEC. 2.1)
- V = 4.3 FPS
- S = 2.00%
- BOTTOM W. = 12'

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.

APPROVED: *[Signature]* 1-7-86
U.S. SOIL CONSERVATION SERVICE DATE

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

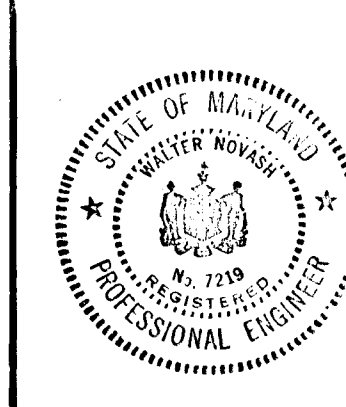
APPROVED: *[Signature]* 1-9-86
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 1-10-86
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: OFFICE OF PLANNING AND ZONING
[Signature] 1-8-86
PLANNING DIV. OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

CERTIFICATION BY THE DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

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



TITLE: PROFILES		boender associates inc. consulting engineers land surveyors land planners
PROJECT: GLEN COVE SECTION 2		
LOCATION: FIRST	ELECTION DISTRICT: TAX MAP 37 - HOWARD CO., MD.	COURTHOUSE SQUARE 3565 ELLICOTT MILLS DRIVE ELLICOTT CITY, MD. 21043 1301 465-7177
SCALE: AS SHOWN	DESIGNED BY: RDM	
FIELD BOOK: 20	DRAWN BY: RDM	
PAGE NO: 62	CHECKED BY: MAR, EB	
JOB NO: 8270	DATE: 12-30-85	
DRAWING NO: 6-214		

OWNER & DEVELOPER

DUCKETTS LANE ASSOC., INC
P.O. BOX 39
COLUMBIA, MD 21045
TEL. 792-2100

MARYLAND SOIL CONSERVATION SERVICE - CONSTRUCTION SPECIFICATIONS FOR SWM PONDS

I. SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, stumps and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, 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 and within the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil shall 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 areas or areas. It shall be free of roots, stumps, wood, rubbish, concrete, 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 sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

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

Cutoff Trench

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

III. STRUCTURAL BACKFILL

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

IV. PIPE CONDUITS

All pipes shall be circular in cross section.

A. Corrugated Metal Pipe

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.

Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings are commercially available: Nexon, Plast-Cote, Blac-Klad, and Both-Co-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

Materials - (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-791 with watertight coupling bands or flanges.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-194 or M-211 with watertight coupling bands or flanges. 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.

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 or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to the completely watertight. Dimple bands are not considered to be watertight.

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. An approved equivalent is AWA Specification C-301.

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 outside 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.

C. For pipes of other materials, specific specifications shall be 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. 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 material, 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 pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed.

Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.

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 supplemented 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 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.

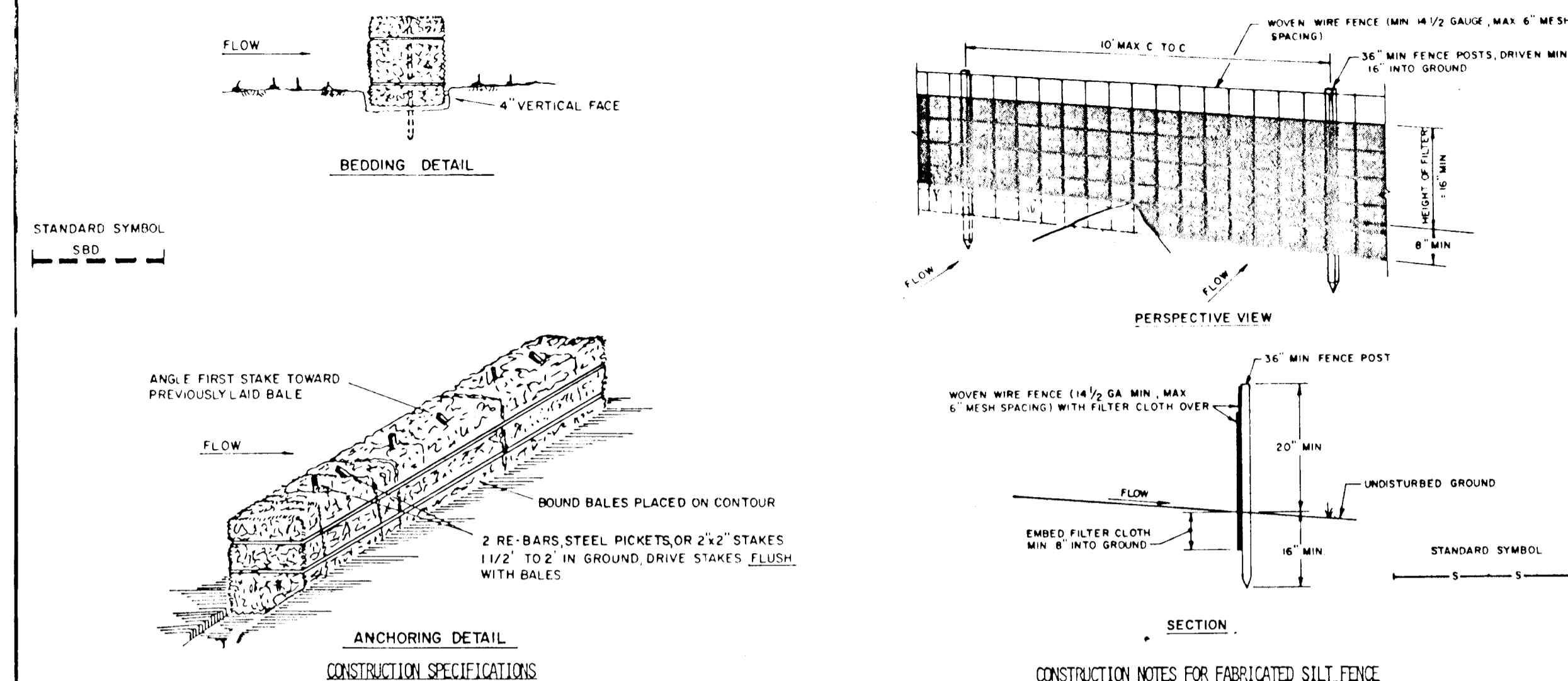
8. Protection and Curing - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary 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

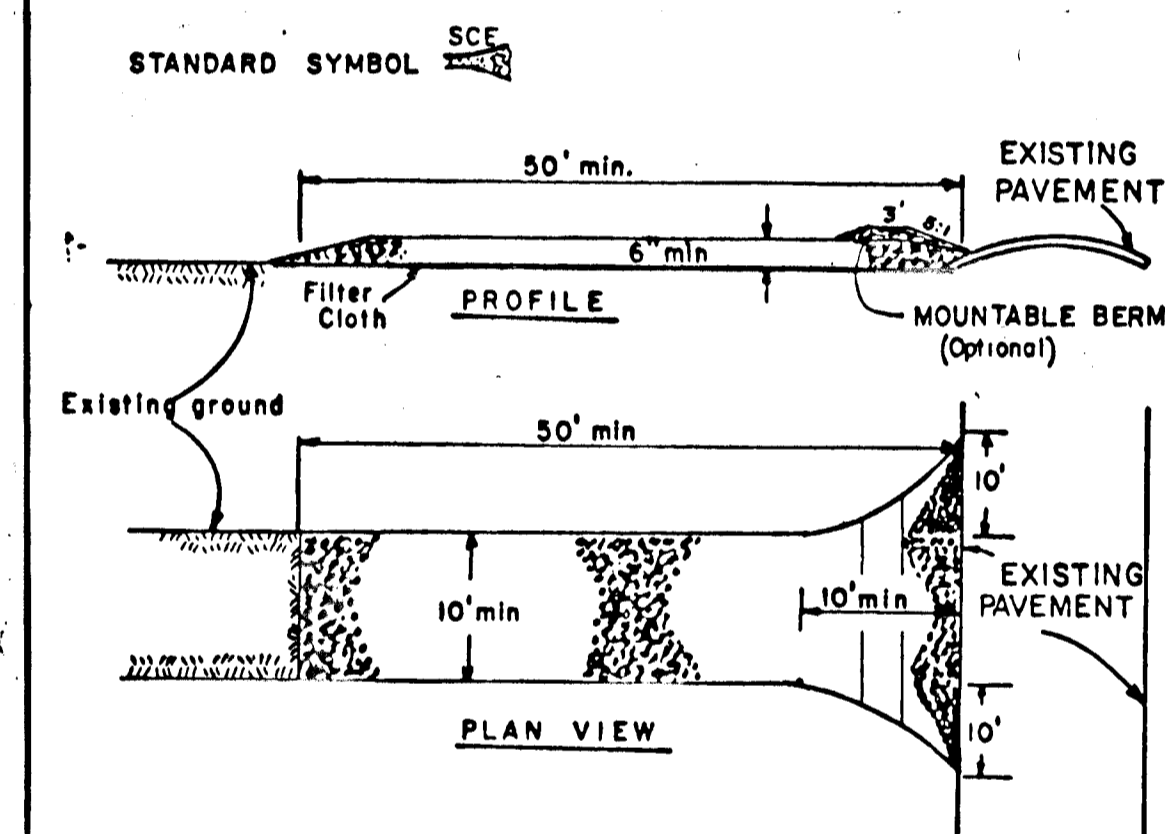
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment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

STD SEDIMENT CONTROL DETAILS - FROM S.C.S.

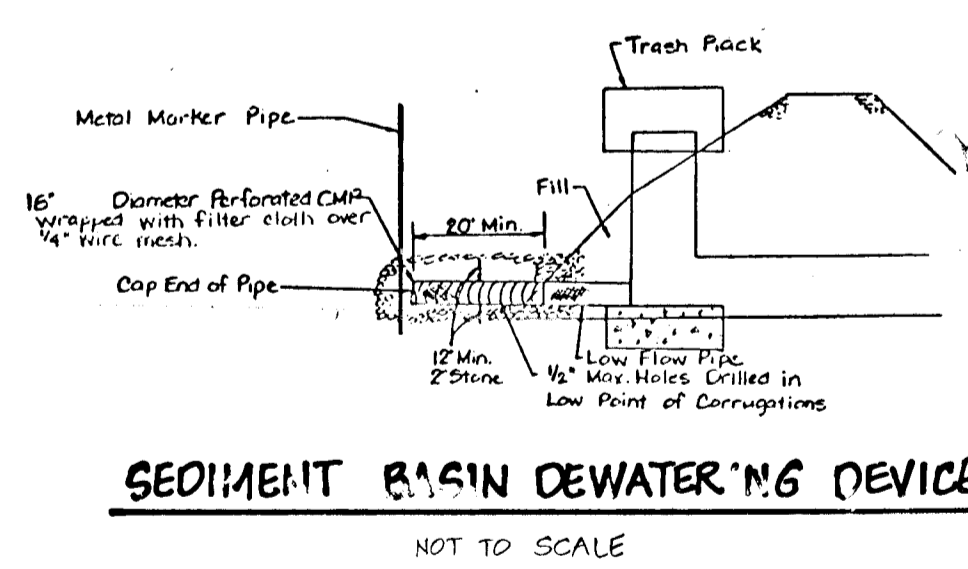
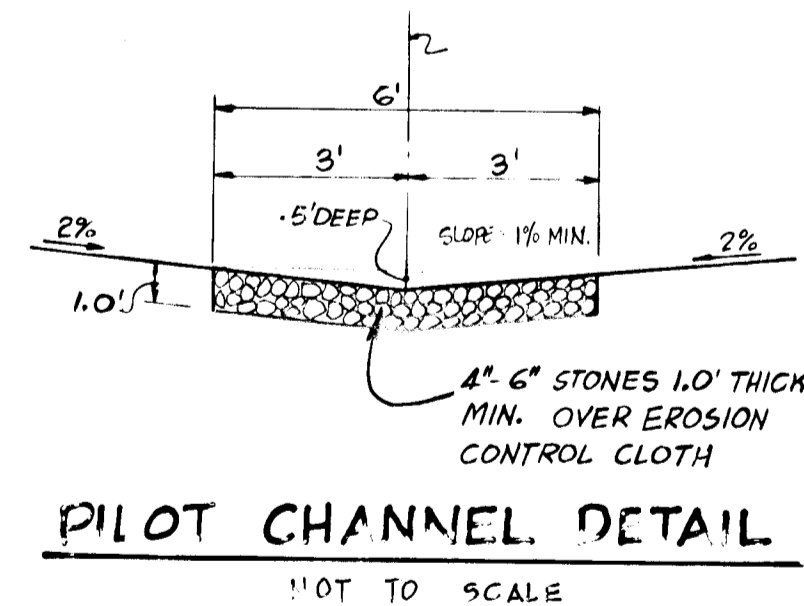


- BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
- INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.

STRAW BALE DIKE



STABILIZED CONSTRUCTION ENTRANCE



SEDIMENT BASIN DEWATERING DEVICE
NOT TO SCALE

OWNER & DEVELOPER

DUCKETTS LANE ASSOC., INC.
P.O. BOX 39
COLUMBIA, MD. 21045

TITLE	SEDIMENT CONTROL DETAILS & SPECS		
PROJECT	GLEN COVE - SECTION 2		
LOCATION	TAY MAP 37 - HOWARD CO., MD.		
SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
AS SHOWN	RDM	RDM	RDM
FIELD BOOK:	PAGE NO.:	JOB NO.:	DRAWING NO.:
		827D	3 OF 4

boender associates inc.
consulting engineers
land surveyors
land planners
COURTHOUSE SQUARE
3565 ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD. 21043
(301) 465-7777

CERTIFICATION BY THE DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN THIRTY DAYS OF COMPLETION.
Signature: [Signature] DATE: 8/9/85

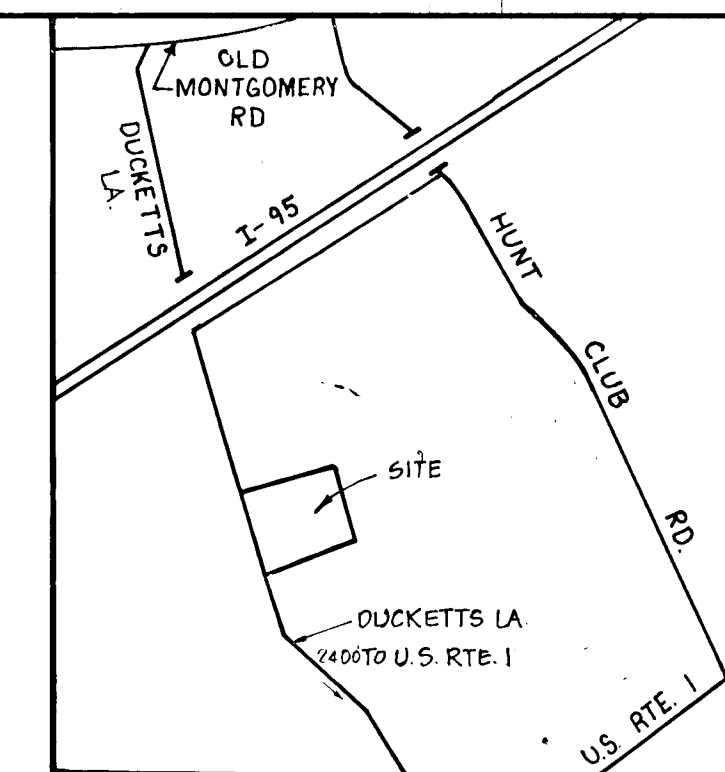
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Signature: [Signature] DATE: 12-30-85



APPROVED: DEPARTMENT OF PUBLIC WORKS
Signature: [Signature] DATE: 1-10-86
CHIEF, BUREAU OF ENGINEERING
APPROVED: OFFICE OF PLANNING AND ZONING
Signature: [Signature] DATE: 1-8-86
CHIEF, DIV. OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Signature: [Signature] DATE: 1-7-86
U.S. SOIL CONSERVATION SERVICE
Signature: [Signature] DATE: 1-8-86
DISTRICT

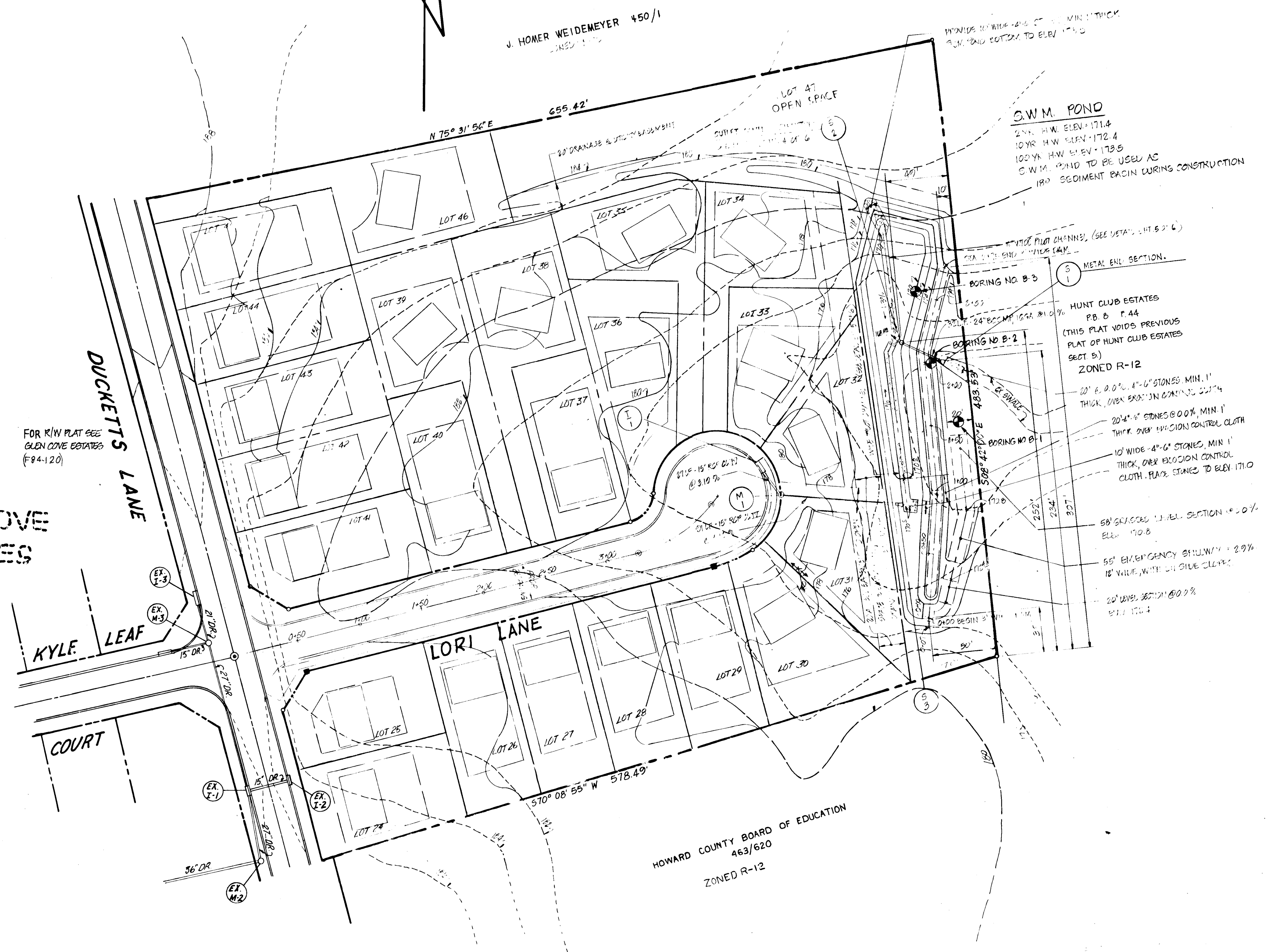
#1633



VICINITY MAP
SCALE: 1"=1200'

GENERAL NOTES

- TAX MAP: 37 PARCEL 448
- PROPERTY DEED REFERENCE: 100/60
- PUBLIC WATER AND PUBLIC SEWER TO BE UTILIZED
- EXISTING ZONING: R-12
- DUCKETTS LANE IS AN EXISTING PUBLIC ROAD.
- TOTAL AREA OF SITE: 6.9 AC.±
TOTAL NUMBER OF LOTS: 23
TOTAL AREA OF LOTS: 5 AC.±
TOTAL AREA OF R/W DEDICATION: 0.8 AC.±
TOTAL AREA OPEN SPACE: 1.4 AC.
- TOPO SHOWN HEREON IS BASED ON M. 5437.2
- BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN SURVEY.
- ALL PROPOSED STREETS TO HAVE BITUMINOUS CURB EXCEPT CUL-DE-SAC WHICH SHALL HAVE 7" CONC. CURB & GUTTER
- ALL REAR BLDG RESTRICTION LINES ARE 30' AND ALL SIDE BLDG RESTRICTION LINES ARE 7.5'
- SEDIMENT CONTROL MEASURES WILL BE INCLUDED ON FINAL PLANS.
- SKETCH PLAN C 85-02



GLEN COVE ESTATES
(F-84-180)

FOR R/W PLAT SEE
GLEN COVE ESTATES
(F-84-120)

NOTE:
ENTIRE DUCKETTS LA R/W INCLUDED IN
R/W PLAT FILED WITH GLEN COVE ESTATES.

NOTE: HOUSE AND LOT GRADING SHOWN HEREON IS
TENTATIVE AND SHOWN TO ESTABLISH DRAINAGE AREAS
ACTUAL HOUSE SITES AND GRADING TO BE SHOWN AT SITE
DEVELOPMENT PLAN SUBMISSION. GRADING IS NOT A PART OF
THIS SUBMISSION.

APPROVED: DEPARTMENT OF PUBLIC WORKS
William E. Cole
CHIEF, BUREAU OF ENGINEERING
DATE: 1-7-86

APPROVED: OFFICE OF PLANNING AND ZONING
John W. Wulchman
CHIEF, DIV. OF LAND DEVELOPMENT
AND ZONING ADMINISTRATION
DATE: 1-8-86

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

James M. Nicks
U.S. SOIL CONSERVATION SERVICE
DATE: 1-7-86

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

Robert W. Ziehm
HOWARD SOIL CONSERVATION DISTRICT
DATE: 1-8-86

DEVELOPERS CERTIFICATE

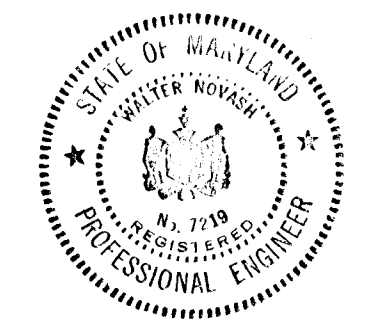
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Robert W. Ziehm
SIGNATURE OF DEVELOPER
DATE: 1/9/86

ENGINEERS CERTIFICATE

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Walter R. Mann
SIGNATURE OF ENGINEER
DATE: 12-30-85



OWNER DEVELOPER

William E. Cole
100 BOX 370
COLUMBIA MD 21046

TITLE		S.W.M. CONSTRUCTION PLAN	
PROJECT		GLEN COVE SECTION 2	
LOCATION		1ST ELECTION DISTRICT TAX MAP 37 PARCEL 448 HOWARD COUNTY, MD.	
DATE	SCALE	DESIGN BY	DRAWN BY
	1"=50'	J.A.B.	D.R.R.
		CHECKED BY	DRAWING NO.
		4.40	OF 2 82070
boender associates		engineers surveyors planners	
301 E. GAITHER RD. ELLICOTT CITY, MARYLAND 21043 301-465-7777			