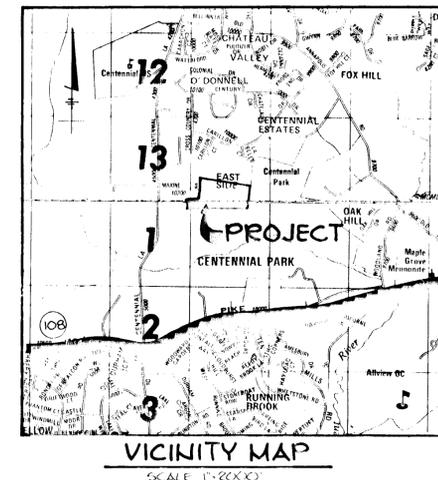


SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE MAXINE STREET
3	PLAN AND PROFILE LAKESIDE COURT
4	STORM DRAIN PROFILES AND DETAILS
5	DRAINAGE AREA MAP
6	GRADING AND SEDIMENT CONTROL PLAN
7	SEDIMENT CONTROL AND SWM F NOTES, DETAILS AND PROFILES

ROADWAY, STORM DRAINS & STORM WATER MANAGEMENT

CENTENNIAL LAKE

2 ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

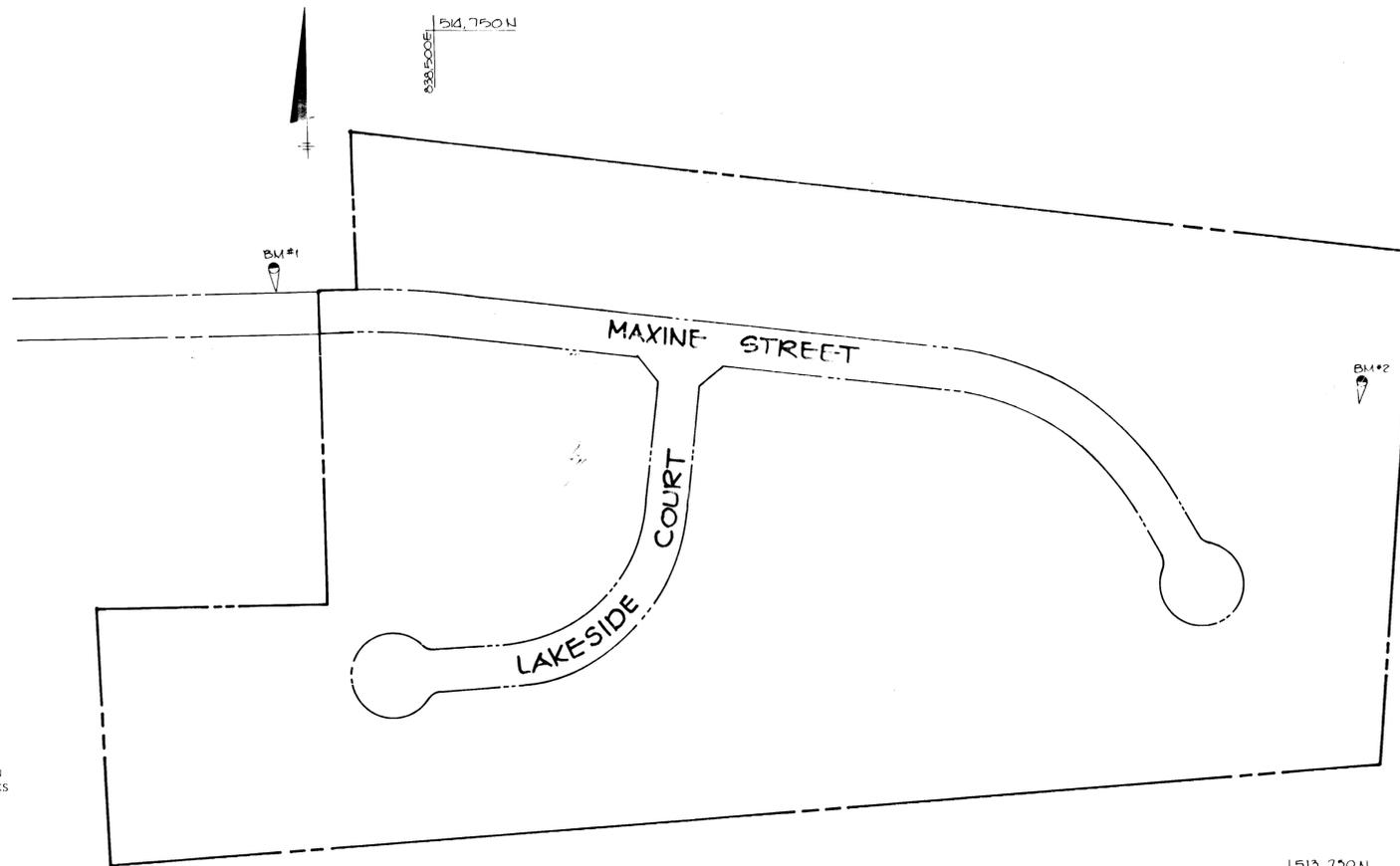


GENERAL NOTES

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

MISS UTILITY	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
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE 35.0' RADII UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1978 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' RIGHT-OF-WAYS	20 M.P.H.
-----------------------	-----------
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND C.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-20 PER 8-2-85 COMPREHENSIVE ZONING PLAN.
- TOPO TAKEN FROM FIELD RUN SURVEY DATED OCTOBER, 1985 BY THE RIEMER GROUP, INC.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- 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.
- SEE OFFICE OF PLANNING AND ZONING FILE NOS 5-86-04 AND P-86-21
- ☆ DENOTES STREET LIGHTING.
- TOTAL AREA OF ROAD RIGHT-OF-WAY 2.206 AC
- OPEN SPACE LOT NUMBERS 44, 46 AND 47 ARE TO BE DEEDED OVER TO PARKS AND RECREATION WHEN PLATS ARE RECORDED.



BM#1 ELEV 444.45
CAP NUT OF FIRE HYDRANT
LOCATED 27' LT. OF STA.
7+80 IN MAXINE STREET
BM#2 ELEV 386.06
RR SPIKE IN BASE OF 60'
POPLAR 17' RT. OF STA 1+42
BETWEEN PLOTT & PT 205 A.

PLAN
SCALE 1"=100'

OPEN SPACE TABULATION

LOT SIZE	NO. OF LOTS	AREA OF LOTS IN ACRES	MANDATORY OPEN SPACE PROVISIONS	AREA OF OPEN SPACE IN ACRES
20,000 or larger	7	3.37	6%	0.20
18,000 - 19,999	6	2.59	10%	0.26
16,000 - 17,999	7	2.72	20%	0.54
14,000 - 15,999	23	7.77	30%	2.33
TOTALS	43	16.45		3.33

DENSITY TABULATION

O.S. REQUIRED	O.S. PROVIDED	GROSS AREA	FLOODPLAIN STEEP SLOPES	NET AREA	NO. OF DWELLING UNITS ALLOWED	FLOODPLAIN LOT ADJUSTMENT	TOTAL NO. OF D.U. ALLOWED	TOTAL NO. OF D.U. PROPOSED	DENSITY PER ACRE
3.33 Ac.	4.25 Ac.	23.00	0	23.00	43	0	0	43	1.87

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John M. Muehman 3-6-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Arthur E. Muehman 3-7-86
CHIEF, BUREAU OF ENGINEERING

DATE NO REVISION

OWNER/DEVELOPER
J J M INC
5570 STERRETT PLACE
COLUMBIA, MARYLAND
21043

PROJECT
CENTENNIAL LAKE
LOTS 1 THROUGH 47

AREA TAX MAP 30 PARCEL B
2 ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE SHEET

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2600

2-21-86
DATE
DESIGNED BY: LJD
DRAWN BY: DAM
PROJECT NO: 21500
DATE JAN 7, 1986
SCALE: AS SHOWN
DRAWING NO. 1 OF 7

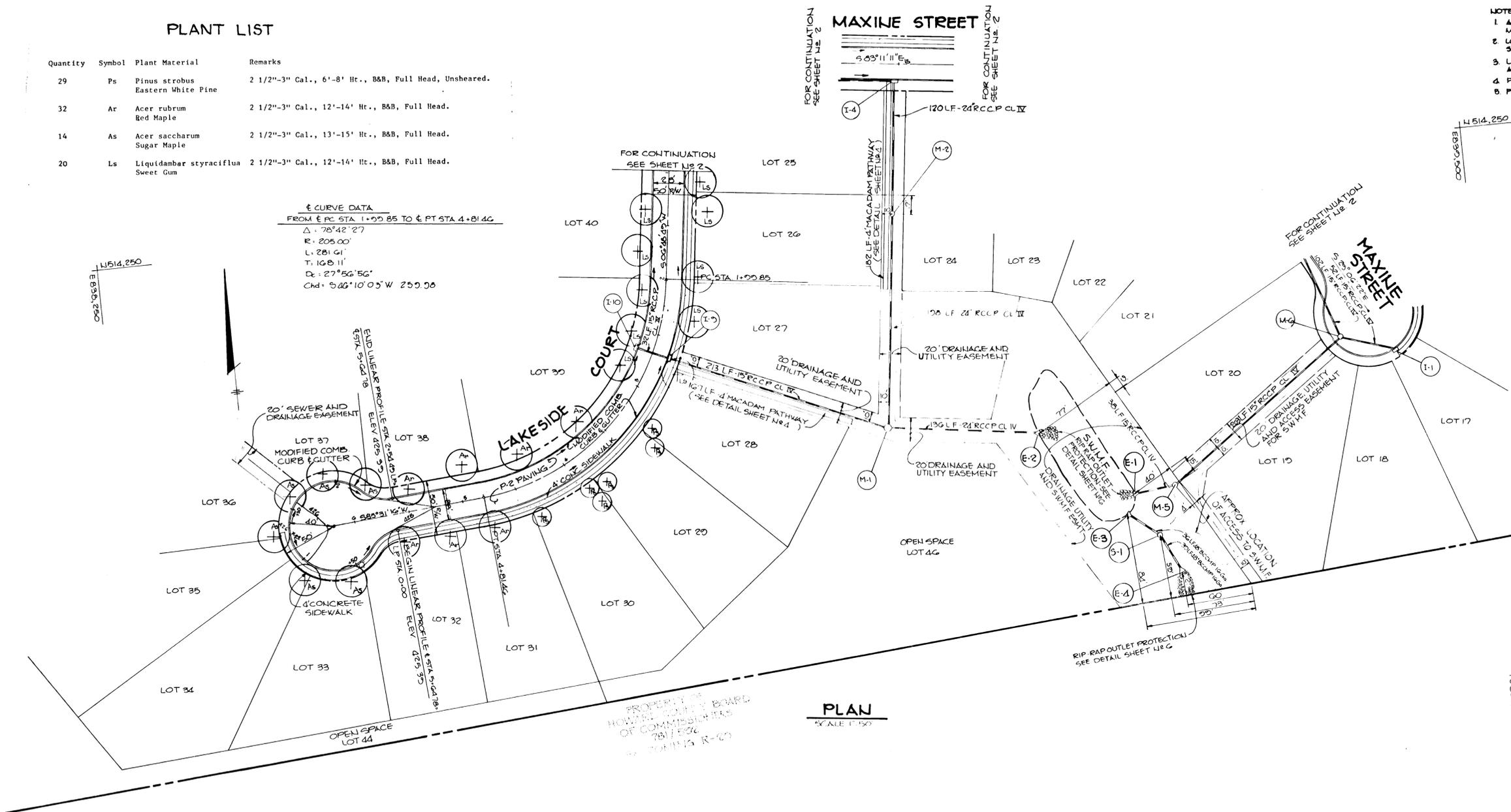
#1196

PLANT LIST

Quantity	Symbol	Plant Material	Remarks
29	Ps	Pinus strobus Eastern White Pine	2 1/2"-3" Cal., 6'-8' Ht., B&B, Full Head, Unsheared.
32	Ar	Acer rubrum Red Maple	2 1/2"-3" Cal., 12'-14' Ht., B&B, Full Head.
14	As	Acer saccharum Sugar Maple	2 1/2"-3" Cal., 13'-15' Ht., B&B, Full Head.
20	Ls	Liquidambar styraciflua Sweet Gum	2 1/2"-3" Cal., 12'-14' Ht., B&B, Full Head.

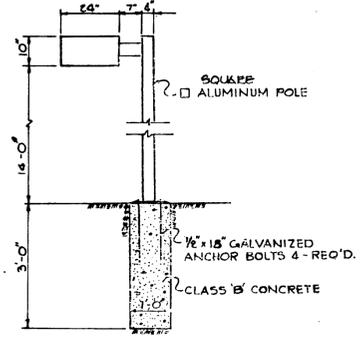
± CURVE DATA
 FROM ± PC STA 1+00.85 TO ± PT STA 4+81.46
 Δ: 78°42'27"
 R: 205.00'
 L: 281.61'
 T: 168.11'
 D: 27°56'56"
 Chd: 506'10"05" W 250.00

U514,250
E898,200

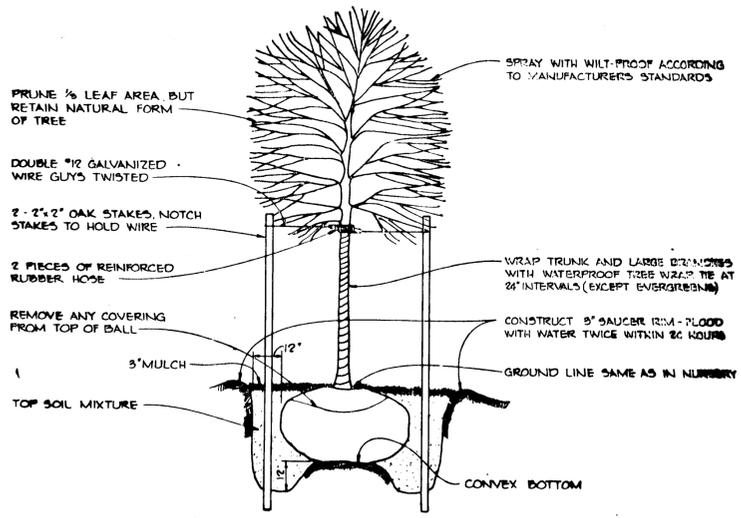


PLAN
SCALE 1"50

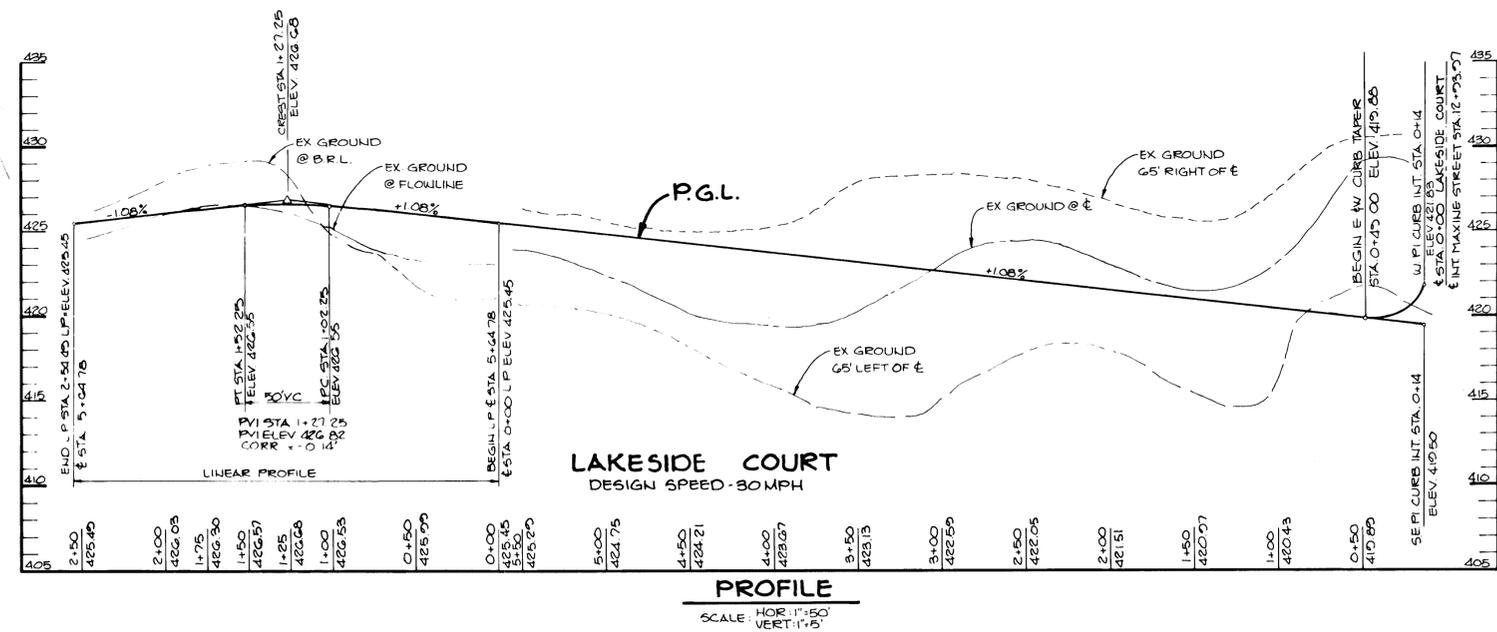
- NOTES:**
- ALL LIGHT FIXTURES TO BE SINGLE LUMINAIRE 250 WATT MERCURY TYPE 18" HIGH WITH METAL POLES AND DIRECTED DOWNWARD.
 - LOCATIONS OF LIGHT FIXTURES ARE ON THE PLAN AND ARE SHOWN THUS: [Symbol]
 - LIGHTS TO BE MODULE II TYPE AS MANUFACTURED BY MOLDCAST OR APPROVED EQUAL.
 - POLE AND FIXTURE TO HAVE BRONZE POLYESTER ENAMEL FINISH.
 - POLE TO BE LOCATED 3' BACK FROM BACK OF CURB.



STREET LIGHT DETAIL
No Scale



PLANTING DETAIL
NO SCALE



LAKESIDE COURT
DESIGN SPEED - 30 MPH

PROFILE
SCALE: HOR: 1"50 VERT: 1"5

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 [Signature] 3-10-86
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 3-7-86
 CHIEF, BUREAU OF ENGINEERING

DATE NO REVISION
 OWNER / DEVELOPER
 J.J.M. INC.
 5570 STERRETT PLACE
 COLUMBIA, MARYLAND
 21044

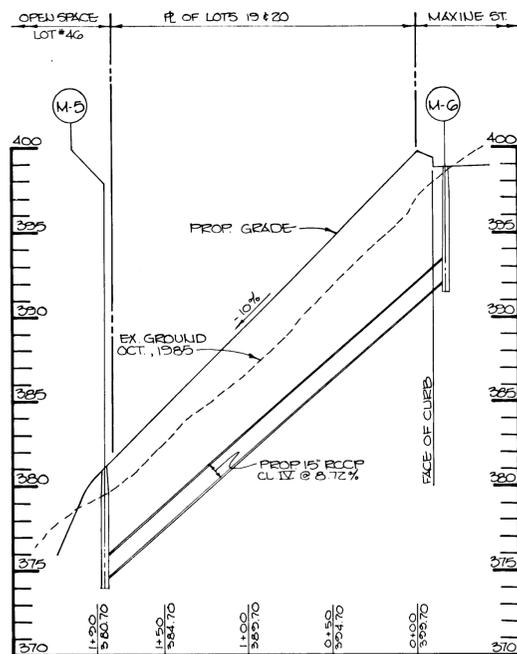
PROJECT
CENTENNIAL LAKE
 LOTS 1 THROUGH 47
 AREA TAX MAP 30 PARCEL 8
 2nd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE
PLAN AND PROFILE OF LAKESIDE COURT

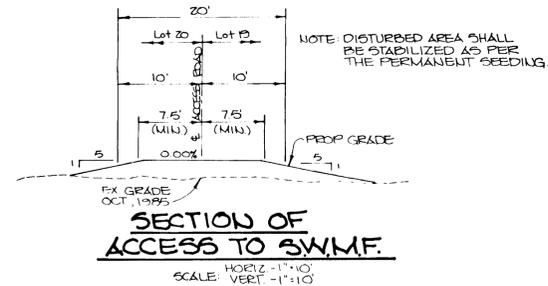
THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2890

DATE 2-21-86
 DESIGNED BY: L.J.D.
 DRAWN BY: DAKI
 PROJECT NO: 21500
 DATE: JAN. 7, 1986
 SCALE: AS SHOWN
 DRAWING NO. 3 OF 7

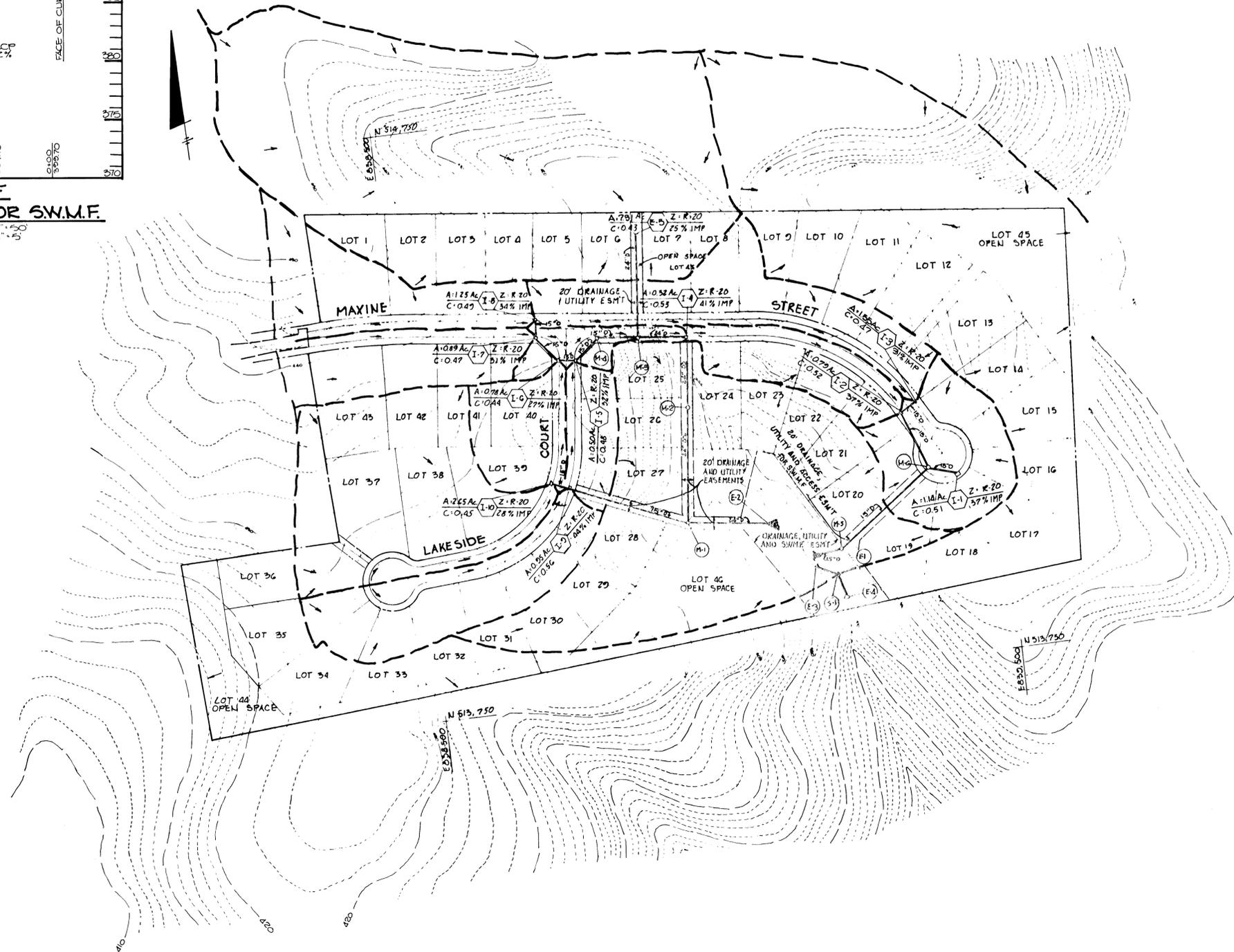




PROFILE OF ACCESS ROAD FOR S.W.M.F.
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



SECTION OF ACCESS TO S.W.M.F.
SCALE: HORIZ. 1"=10'
VERT. 1"=10'



STRUCTURAL SCHEDULE						
No.	Type	Location	inv/in	inv/out	top curb elev.	Remarks
I-1	A-5	STA. 1+27.25 L.P.	---	399.0	397.99	Ho. Co. Std. SD-4.01
I-9	A-10	14' RT. CL STA. 19+24.91	---	397.00	402.90	Ho. Co. Std. SD-4.02
I-2	A-5 w/def.	14' LT. CL STA. 19+24.91	397.40	397.20	402.90	Ho. Co. Std. SD-4.01 & SD-4.83
I-4	A-5 w/def.	14' RT. CL STA. 14+99.68	400.64	400.15	408.81	Ho. Co. Std. SD-4.01 & SD-4.83
I-5	A-5	14' LT. CL STA. 0+54.50	414.84	414.64	419.94	Ho. Co. Std. SD-4.01
I-6	A-5	14' RT. CL STA. 0+54.50	415.59	415.39	419.94	Ho. Co. Std. SD-4.01
I-7	A-5 w/def.	14' RT. CL STA. 12+39.47	419.08	418.88	425.46	Ho. Co. Std. SD-4.01 & SD-4.83
I-8	A-5 w/def.	14' LT. CL STA. 12+39.47	---	419.40	425.46	Ho. Co. Std. SD-4.01 & SD-4.83
I-9	A-5	14' LT. CL STA. 2+67.87	417.25	416.24	422.24	Ho. Co. Std. SD-4.01
I-10	A-10	14' RT. CL STA. 2+67.87	---	417.70	422.24	Ho. Co. Std. SD-4.02
M-1	Std. Manhole	See Plan	24"(N)383.31	19"(W)384.53	390.00*	Ho. Co. Std. G-5.11
M-2	Std. Manhole	See Plan	391.51	391.31	397.60*	Ho. Co. Std. G-5.11
M-3	Std. Manhole	10' RT. CL STA. 14+16.39	24"(N)406.74	19"(W)407.54	412.40*	Ho. Co. Std. G-5.11
M-4	Std. Manhole	10' RT. CL STA. 13+45	411.30	411.10	416.80*	Ho. Co. Std. G-5.11
M-5	Std. Manhole	See Plan	374.51	374.31	380.0*	Ho. Co. Std. G-5.11
E-1	15" Conc. End Section	See Plan	---	373.0	---	Ho. Co. Std. SD-5.51
E-2	24" Conc. End Section	See Plan	---	373.0	---	Ho. Co. Std. SD-5.51
E-5	24" CONC. END SECTION	See Plan	408.50	---	---	Ho. Co. Std. SD-5.51
E-3	48" Metal End Section	See Plan	373.0	---	---	Ho. Co. Std. SD-5.61
E-4	48" Metal End Section	See Plan	---	369.0	---	Ho. Co. Std. SD-5.61
S-1	Control Structure	See Plan	372.0	371.5	380.00	See Detail Sheet No. 7
M-G	Std. Manhole	GRT L.P. STA. 1+84.02	15"(N)392.28	15"(E)392.48	390.75*	Ho. Co. Std. G-5.11

* Top of Rim Elevation

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
[Signature] 3-6-86
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 3-7-86
DATE

DATE NO. REVISION

OWNER DEVELOPER
J.J.M. INC.
5570 STERRETT PLACE
COLUMBIA, MARYLAND
21043

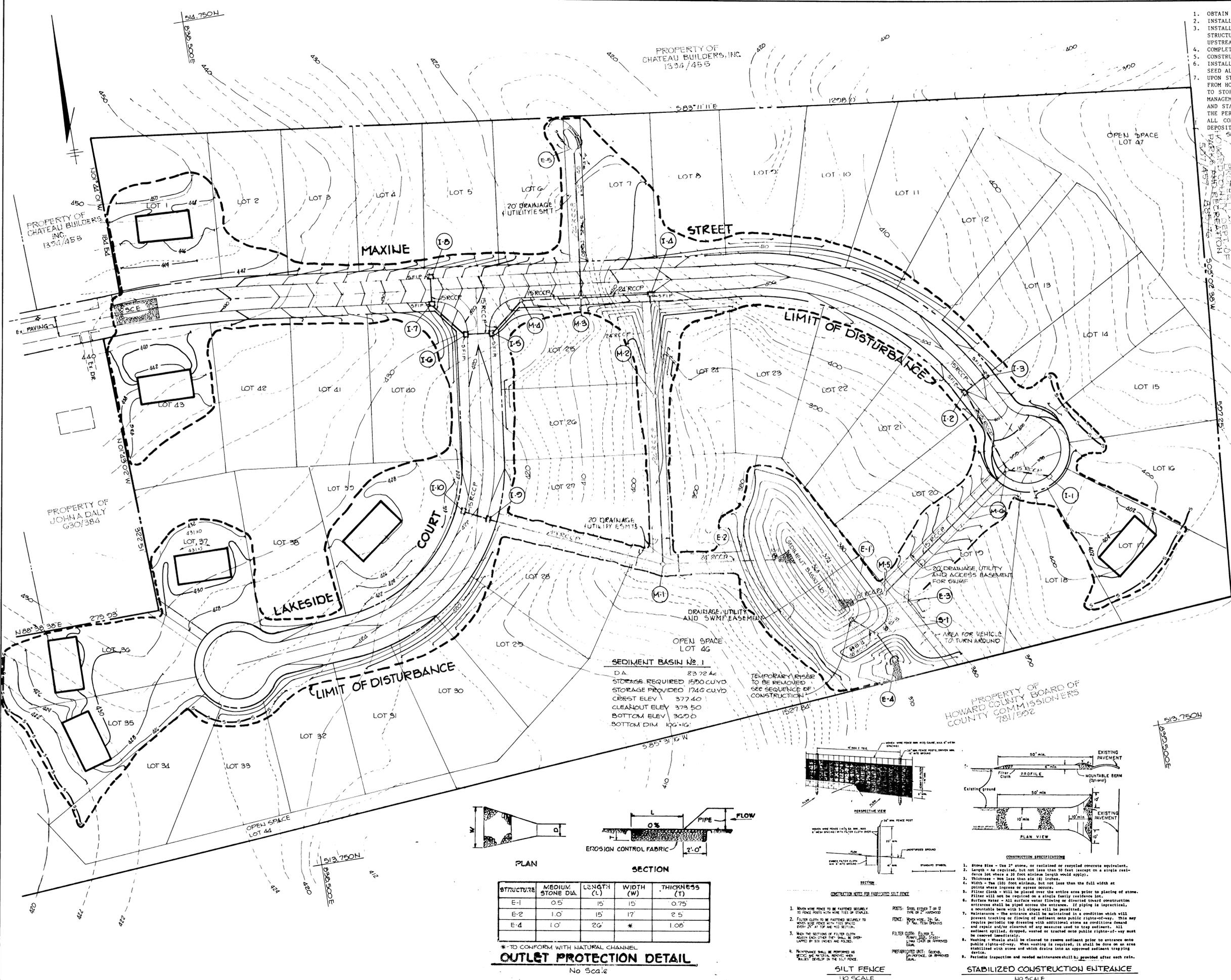
PROJECT
CENTENNIAL LAKE
LOTS 1 THROUGH 47
AREA TAX MAP 50 PARCEL 0
2 ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DRAINAGE AREA MAP

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Heath Park Drive, Elkoff City, Maryland 21043 (301) 461-2690

2-21-86
DATE
DESIGNED BY L.J.D.
DRAWN BY F.D.M.
PROJECT NO 021500
DATE JULY 7, 1986
SCALE 1"=100'
DRAWING NO 5 OF 7





- SEQUENCE OF CONSTRUCTION**
- OBTAIN GRADING PERMIT.
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE.
 - INSTALL SILT FENCES AND CONSTRUCT SEDIMENT BASIN AND CONTROL STRUCTURE, LEAVING OUT WEIR WALL AND TEMPORARY RISER PIPE; STABILIZE UPSTREAM AND DOWNSTREAM SLOPES AS PER PERMANENT SEEDING NOTES.
 - COMPLETE ROUGH GRADING.
 - CONSTRUCT STORM DRAINS AND INSTALL STONE FILTER INLET PROTECTION.
 - INSTALL THE REMAINING UTILITIES AND COMPLETE ROAD CONSTRUCTION AND SEED ALL SLOPES AS PER TEMPORARY SEEDING NOTES.
 - UPON STABILIZATION OF ALL DISTURBED AREAS AND OBTAINING PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL DIVISION, CONVERT SEDIMENT BASIN TO STORM WATER MANAGEMENT FACILITY IN ACCORDANCE WITH STORM WATER MANAGEMENT CONVERSION NOTES. REMOVE ALL REMAINING SEDIMENT CONTROLS AND STABILIZE AREAS DISTURBED IN THEIR REMOVAL IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. PRIOR TO CONVERSION OF SEDIMENT BASIN, ALL CONTRIBUTING STORM DRAINS SHALL BE FLUSHED OF ANY SEDIMENT DEPOSITS. FOR STORM WATER MANAGEMENT BASIN CONVERSION NOTES SEE SHEET 7 OF 7.
- * FILL MATERIAL FOR SEDIMENT BASIN CORE TRENCH SHALL MEET THE UNIFIED SOIL CLASSIFICATION FOR A CL OR CH SOIL (MAY NOT BE AVAILABLE ON SITE)

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."

John Mikolasko 2-21-86
DEVELOPER DATE
JOHN MIKOLASKO

BY THE ENGINEER:

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

Arthur E. Muegge 2-21-86
ENGINEER DATE
ARTHUR E. MUEGGE

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

John M. Holts 3-4-86
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.

Robert S. Gahan 3/5/86
APPROVED DATE
HOWARD COUNTY

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

William M. ... 3-6-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

... 3-7-86
CHIEF, BUREAU OF ENGINEERING DATE

DATE	NO	REVISION

OWNER/DEVELOPER
J.J.M. INC.
5570 STERRETT PLACE
COLUMBIA, MARYLAND
21044

PROJECT:
CENTENNIAL LAKE
LOTS 1 THRU 47

AREA TAX MAP 30 PARCEL B
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
GRADING AND
SEDIMENT CONTROL PLAN

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Heath Park Drive, Ellicott City, Maryland 21043 (301) 481-2890

DATE: 2-21-86

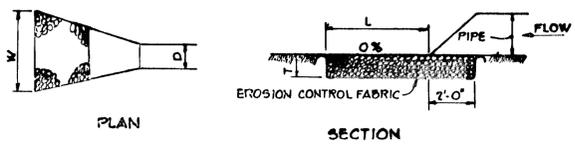
DESIGNED BY: LJD
DRAWN BY: OAM
PROJECT NO: 21500
DATE: JAN. 7, 1986
SCALE: 1"=50'
DRAWING NO. 6 OF 7

Arthur E. Muegge 2/21/86
ARTHUR E. MUEGGE #8707

SEDIMENT BASIN No. 1

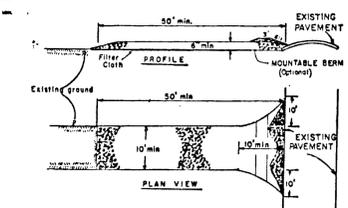
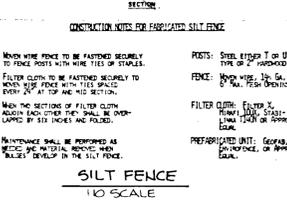
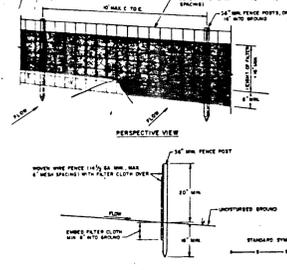
D.A. 23.72 Ac
STORAGE REQUIRED 1500 CU YD
STORAGE PROVIDED 1740 CU YD
CREST ELEV 377.40
CLEANOUT ELEV 373.50
BOTTOM ELEV 369.00
BOTTOM DIM 106'x16'

TEMPORARY RISER TO BE REMOVED SEE SEQUENCE OF CONSTRUCTION



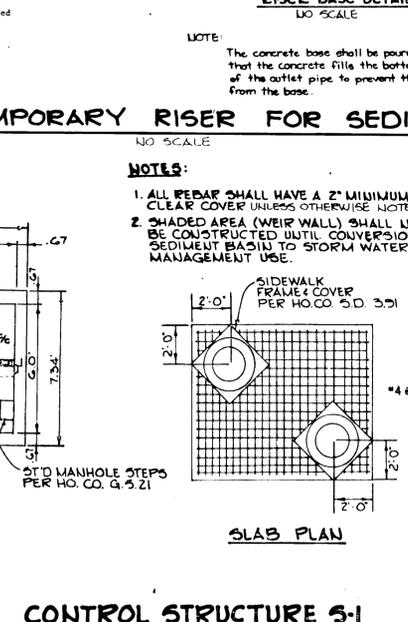
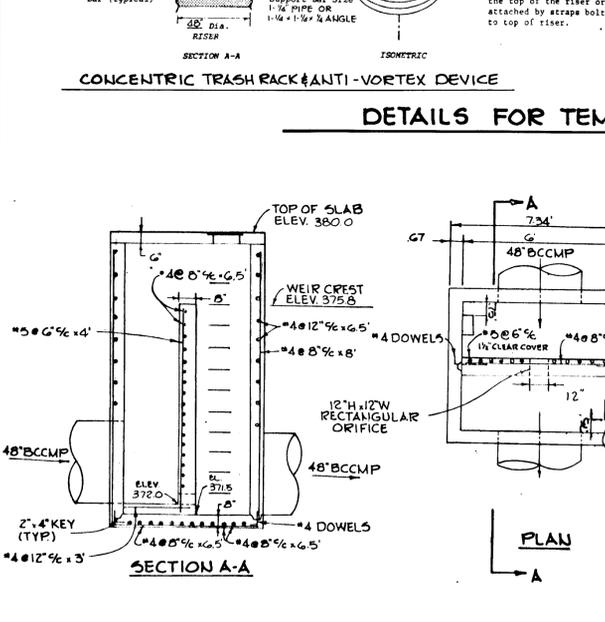
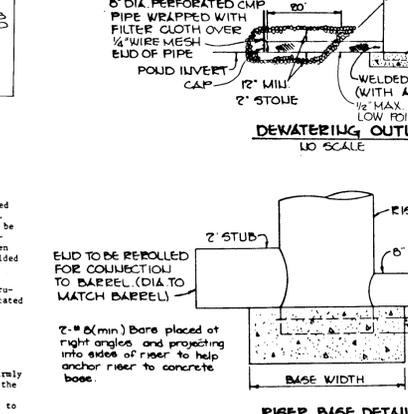
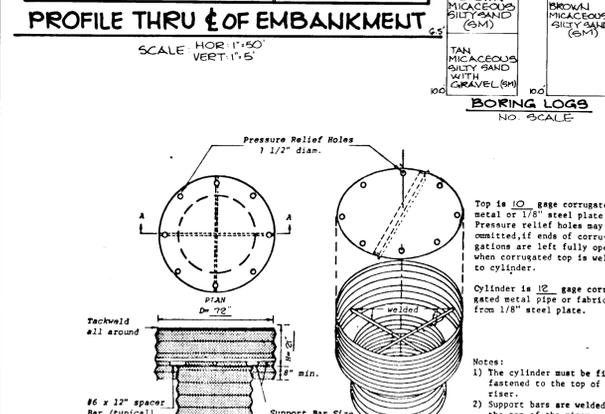
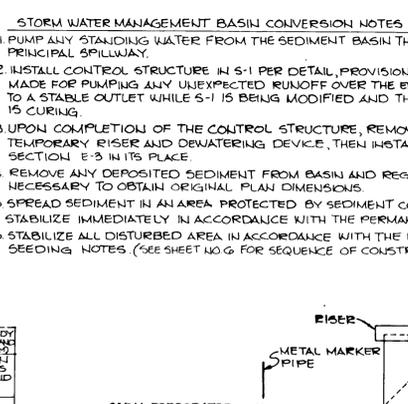
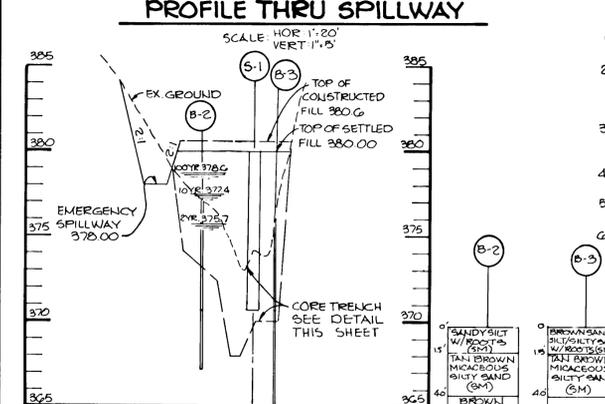
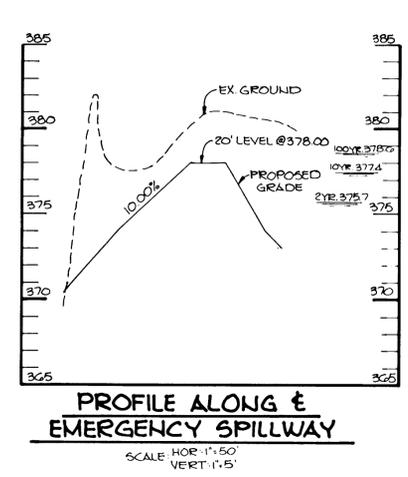
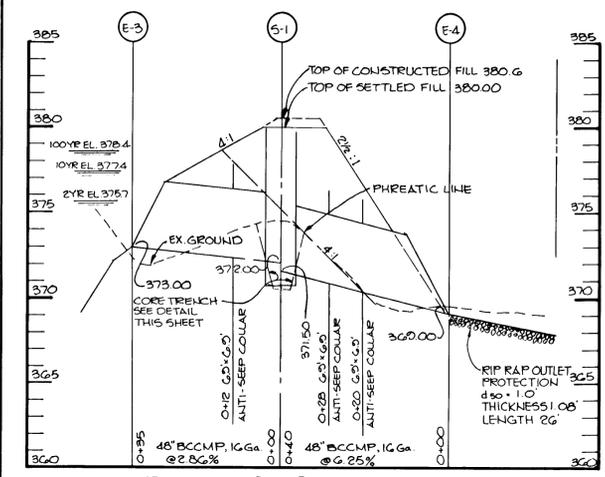
STRUCTURE	MEDIUM STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	0.5	15	15	0.75
E-2	1.0	15	17	2.5
E-4	1.0	26	*	1.08

* TO CONFORM WITH NATURAL CHANNEL
OUTLET PROTECTION DETAIL
NO SCALE



STABILIZED CONSTRUCTION ENTRANCE
NO SCALE

1176



Construction Specifications

I. Materials

- Wooden frame to be constructed of 2" x 4" construction grade lumber.
- Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.
- Filter cloth must be of a type approved for this purpose resistant to sunlight with sieve size, 60S, 40-85, to allow sufficient passage of water and removal of sediment.
- Stone to be 2" in size and clean, since fines would clog the cloth.

II. Procedure

- A weals, ditchline or yard inlet protection.
 - Excavate completely around inlet to a depth of 18" below notch elevation.
 - Drive 2 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2 x 4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
 - Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
 - Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, the fastened down.
 - Backfill around inlet in compacted 6" layers until lower of earth is even with notch elevation on ends and top elevation on sides.
 - If the inlet is not in a low point, construct a compacted earth dike in the ditchline below it. The top of this dike to be at least 6" higher than the top of frame (weir).
 - This structure must be inspected frequently and the filter fabric replaced when clogged.

STORM WATER MANAGEMENT BASIN CONVERSION NOTES

- PUMP ANY STANDING WATER FROM THE SEDIMENT BASIN THRU THE PRINCIPAL SPILLWAY.
- INSTALL CONTROL STRUCTURE IN S-1 PER DETAIL, PROVISION SHALL BE MADE FOR PUMPING ANY UNEXPECTED RUNOFF OVER THE EMBANKMENT TO A STABLE OUTLET WHILE S-1 IS BEING MODIFIED AND THE CONCRETE IS CURING.
- UPON COMPLETION OF THE CONTROL STRUCTURE, REMOVE THE TEMPORARY RISER AND DEWATERING DEVICE, THEN INSTALL END SECTION, E-2 IN ITS PLACE.
- REMOVE ANY DEPOSITED SEDIMENT FROM BASIN AND REGRADE AS NECESSARY TO OBTAIN ORIGINAL PLAN DIMENSIONS.
- SPREAD SEDIMENT IN AN AREA PROTECTED BY SEDIMENT CONTROLS OR STABILIZE IMMEDIATELY IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES.
- STABILIZE ALL DISTURBED AREA IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES (SEE SHEET NO. 6 FOR SEQUENCE OF CONSTRUCTION).

SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (192-243).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or re disturbance, 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) 15 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) and (Sec. 54), temporary seedings (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.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	23.0 acres
Area Disturbed	2.0 acres
Area to be roofed or paved	1.5 acres
Area to be vegetatively stabilized	2.2 acres
Total Cut	14,724 Cu. yds.
Total Fill	10,782 Cu. yds.

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: Apply 0-20-20 fertilizer at the rate of 400 lbs. per acre (100 lbs. per 1000 sq. ft.) and 0-10-10 fertilizer into the soil to a minimum depth of 3". Lawns or high maintenance areas will be dragged and leveled with a York rake. At the time of seeding, apply 400 lbs. of 30-0-0 urea-form fertilizer and 500 lbs. of 10-20-20 or equivalent fertilizer per acre.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 40 lbs. per acre (10 lbs./1000 sq. ft.) of a mixture of certified 'Merion' Kentucky Bluegrass; common Kentucky bluegrass @ 40 lbs. per acre (10 lbs./1000 sq. ft.) and Red Fescue, Pennann or Janzestown @ 20 lbs. per acre (5 lbs./1000 sq. ft.) for the period May 1 thru July 31, seed with 40-40-20 mix as specified above and 2 lbs. per acre (0.05 lbs./1000 sq. ft.) of seeding lowgrass. During the period of October 16 thru February 28, protect site by: (Option 1) 2 tons per acre of well-anchored straw mulch and seed as soon as possible in the spring. (Option 2) Use sod. (Option 3) Seed with 40-40-20 mix specified above and mulch with 2 tons/acre well-anchored straw.

Mulching: Apply 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

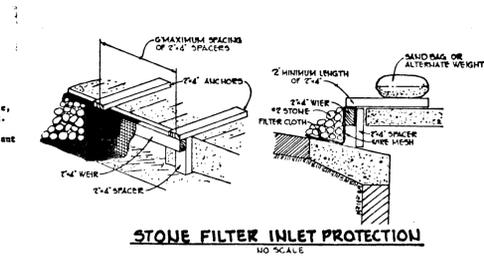
Apply to graded or cleared areas likely to be re disturbed where a short-term vegetative cover is needed.

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.) where soil is highly acidic, apply dolomitic limestone at the rate of 1 ton per acre.

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 140 lbs. per acre of annual ryegrass (3.2 lbs./1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of seeding lowgrass (0.7 lb./1000 sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

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



Curb Inlet Protection.

- Attach a continuous piece of wire mesh (30" min. width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
- Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
- Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6" apart).
- Place the assembly against the inlet throat and nail (minimum 2" length of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
- The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
- 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 in such a manner as to prevent water from entering the inlet under or around the filter cloth.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

CONCRETE

Material: The concrete shall be mixed in the following proportions, measured by weight: 1 part cement, 2 parts sand, 3 parts aggregate and 1 part water. The concrete shall be placed in a continuous manner and shall be finished to a true surface. The concrete shall be cured with a curing compound or by spraying with water. The concrete shall be protected from frost during the curing period.

Forming: The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, pumping, and vibration without deflection from the prescribed line. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

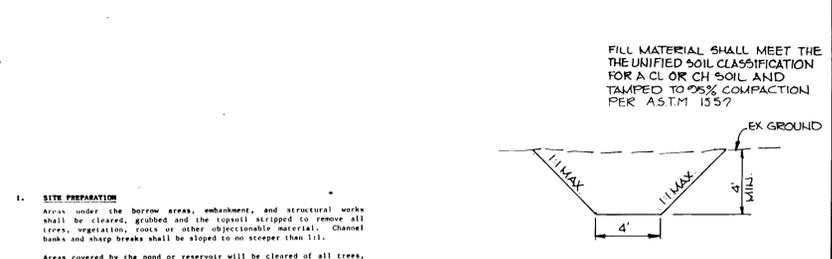
Finishing: Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces remaining exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of form. All voids shall be framed and completely filled with dry-patching mortar.

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

Placement Temperature: Concrete may not be placed at temperatures below 32° F with the temperature falling or 34° with the temperature rising.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly convex condition. The surface of the embankment, spillway, 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.



SITE PREPARATION

Area 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.

Area covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, cobble and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface.

EARTH FILL

Material: The fill material shall be taken from approved designated borrow areas. The fill material 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 per compaction shall be achieved by a minimum of four (4) passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall be compacted to the required degree of compaction as obtained with the equipment used.

Cutoff Trench: Where specified, a cutoff trench shall be excavated along or parallel to the crestline of the embankment as shown on the plans. The bottom width of the trench shall be as specified on the plans. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1:1 on 3:1 filter. The backfill material for the cutoff trench shall be the most impervious material available and shall be placed in layers of 6 inches to assure maximum density and minimum permeability.

STRUCTURAL BACKFILL: Backfill material shall be of the type and quality conforming to that specified for the structure. The backfill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other compacting equipment. The material shall be placed in layers under and adjacent to the pipe. At no time during the backfilling operation shall drive 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 concrete fill of twenty-four inches or greater over the structure or pipe.

CONCRETE METAL PIPE

Material: (Steel Pipe) This pipe and its appurtenances shall be galvanized and fully fabricated coated and shall conform to the requirements of ASTM Specification A-130 Type A with water tight coupling bands. Any hazardous coating damaged shall be replaced with cold applied bituminous coating compound.

Connections: All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded and shown on the pipe sheet or as noted on the connecting bands shall be used at all joints. Antiseep collars shall be connected to the pipe in such a manner as to be completely watertight.

Bedding: The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

CONCRETE

Material: The concrete shall be mixed in the following proportions, measured by weight: 1 part cement, 2 parts sand, 3 parts aggregate and 1 part water. The concrete shall be placed in a continuous manner and shall be finished to a true surface. The concrete shall be cured with a curing compound or by spraying with water. The concrete shall be protected from frost during the curing period.

Forming: The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, pumping, and vibration without deflection from the prescribed line. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

Finishing: Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces remaining exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of form. All voids shall be framed and completely filled with dry-patching mortar.

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

Placement Temperature: Concrete may not be placed at temperatures below 32° F with the temperature falling or 34° with the temperature rising.

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."

John Mikolasko 2-21-86
DEVELOPER DATE

BY THE ENGINEER:

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

Arthur E. Muegge 2-21-86
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.

Lois M. Helm 3/4/86
U.S. SOIL CONSERVATION SERVICE DATE

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT.

Approved: Robert W. Zehn 3/5/86
HOWARD S.C.D. DATE

Approved: Howard County Office of Planning and Zoning
Chief, Division of Land Development and Zoning Administration 3-6-86
DATE

Approved: Howard County Department of Public Works
Chief, Bureau of Engineering 3-7-86
DATE

DATE	NO	REVISION
OWNER/DEVELOPER		
JJM INC. 5570 STERRETT PLACE COLUMBIA, MARYLAND 21044		
PROJECT		
CENTENNIAL LAKE LOTS THROUGH 47		
AREA TAX MAP 30		PARCEL B
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE		
SEDIMENT CONTROL AND S.W.M.F. NOTES, DETAILS AND PROFILES		
THE RIEMER GROUP, INC.		
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm 3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2800		
DATE		
2-11-86		
DESIGNED BY: LJO		
DRAWN BY: DAM		
PROJECT NO: 21500		
DATE: JAN 7, 1986		
SCALE: AS SHOWN		
DRAWING NO: 7 OF 7		