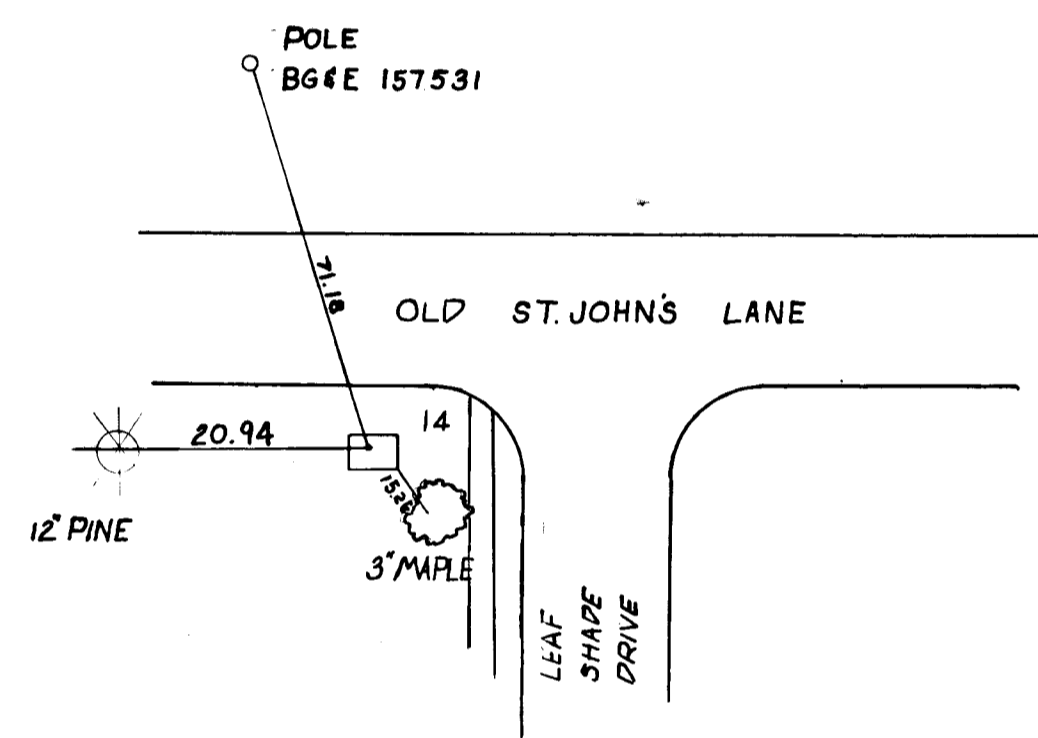
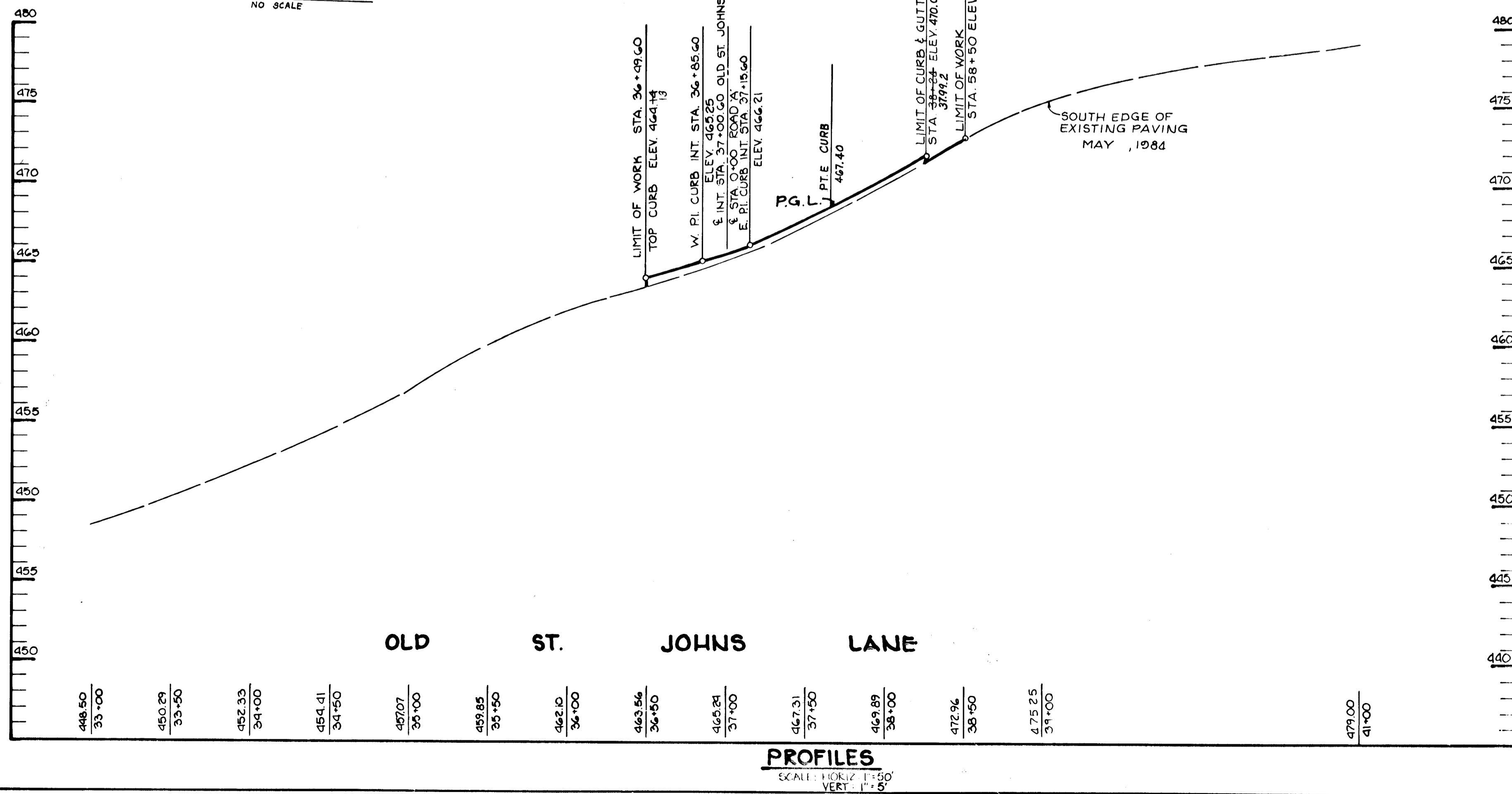


PLAN
SCALE 1"=50'



MONUMENT #14
NO SCALE

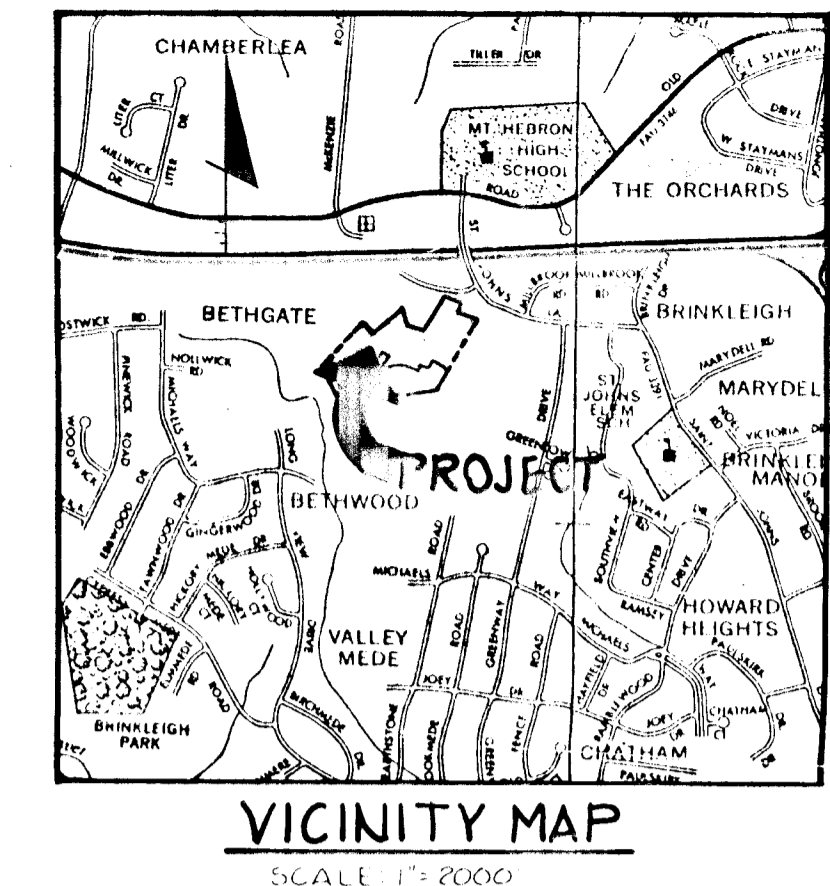


PROFILES
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

- 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' RADIUS 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 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' RIGHT-OF-WAYS	30 M.P.H.
-----------------------	-----------
 - 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-SA PER 10-03-77 COMPREHENSIVE ZONING PLAN.
 - TOPO TAKEN FROM FIELD RUN SURVEY DATED MAY, 1984.
 - 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.
 - HOWARD COUNTY BENCHMARK NO'S 3441002 AND 3441004 USED FOR HORIZONTAL AND VERTICAL CONTROL.

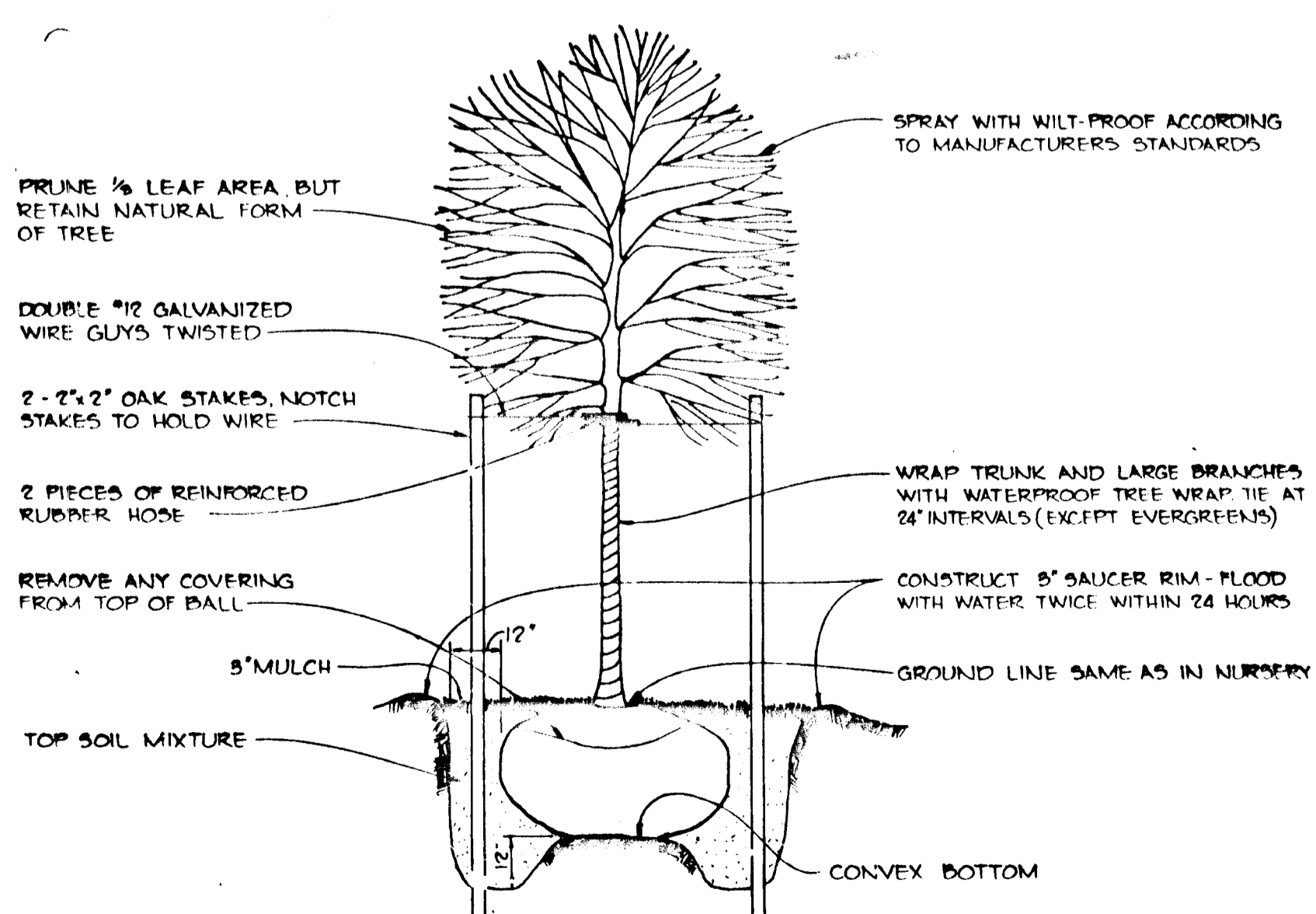


VICINITY MAP
SCALE 1"=2000'

PLANT LIST

SYM	QUAN.	NAME	SIZE	REMARKS
PS	13	PINUS STROBUS -Eastern White Pine	6'-8' Ht. 2 1/2" Cal.	B & B Full Head Unsheared
QR	21	QUERCUS BOREALIS -Northern Red Oak	13'-15' Ht. 2 1/2"-3" Cal.	B & B Full Head

NOTE:
All Trees of 2 1/2" or better caliper within 30' of public road frontage are to be preserved; these existing trees are preserved as substitute for new street trees.



TREE PLANTING DETAIL
NO SCALE

SHEET INDEX	
NO	TITLE
1	PLAN & PROFILE OF OLD ST JOHN'S LANE
2	PLAN & PROFILES OF LEAF SHADE DR & LEAF SHADE CT.
3	PLAN & PROFILE OF GREENBOWER WAY AND STORM DRAIN PROFILES
4	DETAILS
5	DRAINAGE AREA MAP
6	GRADING AND SEDIMENT CONTROL
7	STORM WATER MANAGEMENT NOTES AND DETAILS

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Louis F. Dunn 8-16-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William B. Riden 8-17-84
CHIEF, BUREAU OF ENGINEERING

DATE	NO	REVISION

OWNER: CELESTINUS A. GREEN ET AL
2762 ST. JOHNS LANE
ELlicOTT CITY, MARYLAND 21043

DEVELOPER: OXFORD LAND DEVELOPMENT CORPORATION
1133 GREENWOOD ROAD
PIKESVILLE, MARYLAND 21208

PROJECT: ST. JOHN'S GREEN LOTS 1 THRU 20

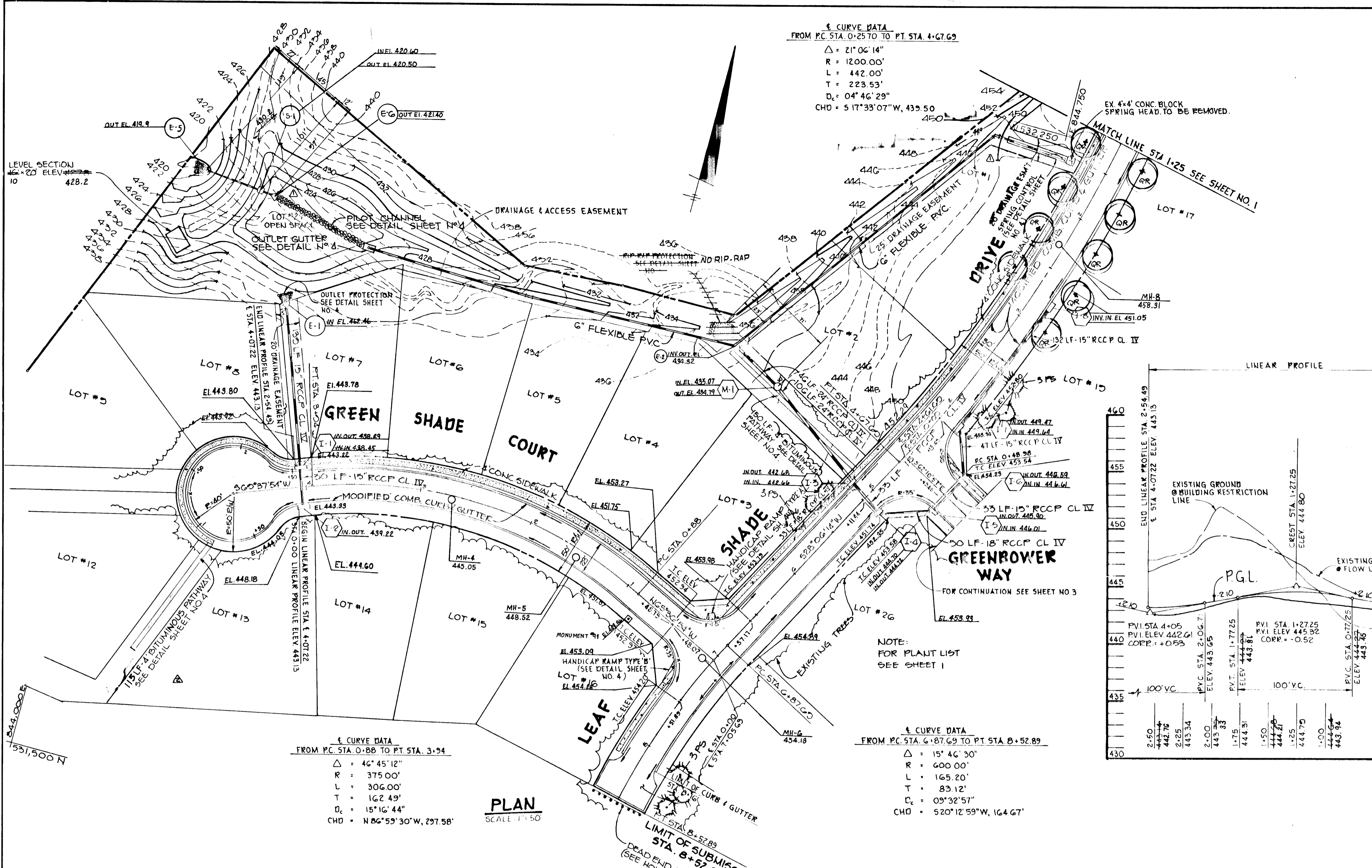
AREA: TAX MAP #17 PARCEL G-5
2nd ELECTION DISTRICT
HOWARD COUNTY MARYLAND
ZONED R-20

TITLE: PLAN AND PROFILE OF OLD ST. JOHN'S LANE

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
8659 Baltimore National Pike, Ellicott City, Maryland, 21043 801-461-2600

8-7-84
DATE

DESIGNED BY L.J.D.
DRAWN BY DAM
PROJECT NO 006500
DATE 6-13-84
SCALE AS SHOWN
DRAWING NO 1 OF 7



Δ = 21°06'14"
 R = 1200.00'
 L = 442.00'
 T = 223.53'
 D_s = 04°46'29"
 CHD = 517'33"07"W, 439.50

Δ = 46°45'12"
 R = 375.00'
 L = 306.00'
 T = 162.49'
 D_s = 15°16'44"
 CHD = N 86°59'30"W, 297.58'

Δ = 15°46'30"
 R = 600.00'
 L = 165.20'
 T = 83.12'
 P_s = 03°32'57"
 CHD = 520°12'59"W, 164.67'

BY THE DEVELOPER:
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 [Signature] 6-13-84
 DEVELOPER DATE

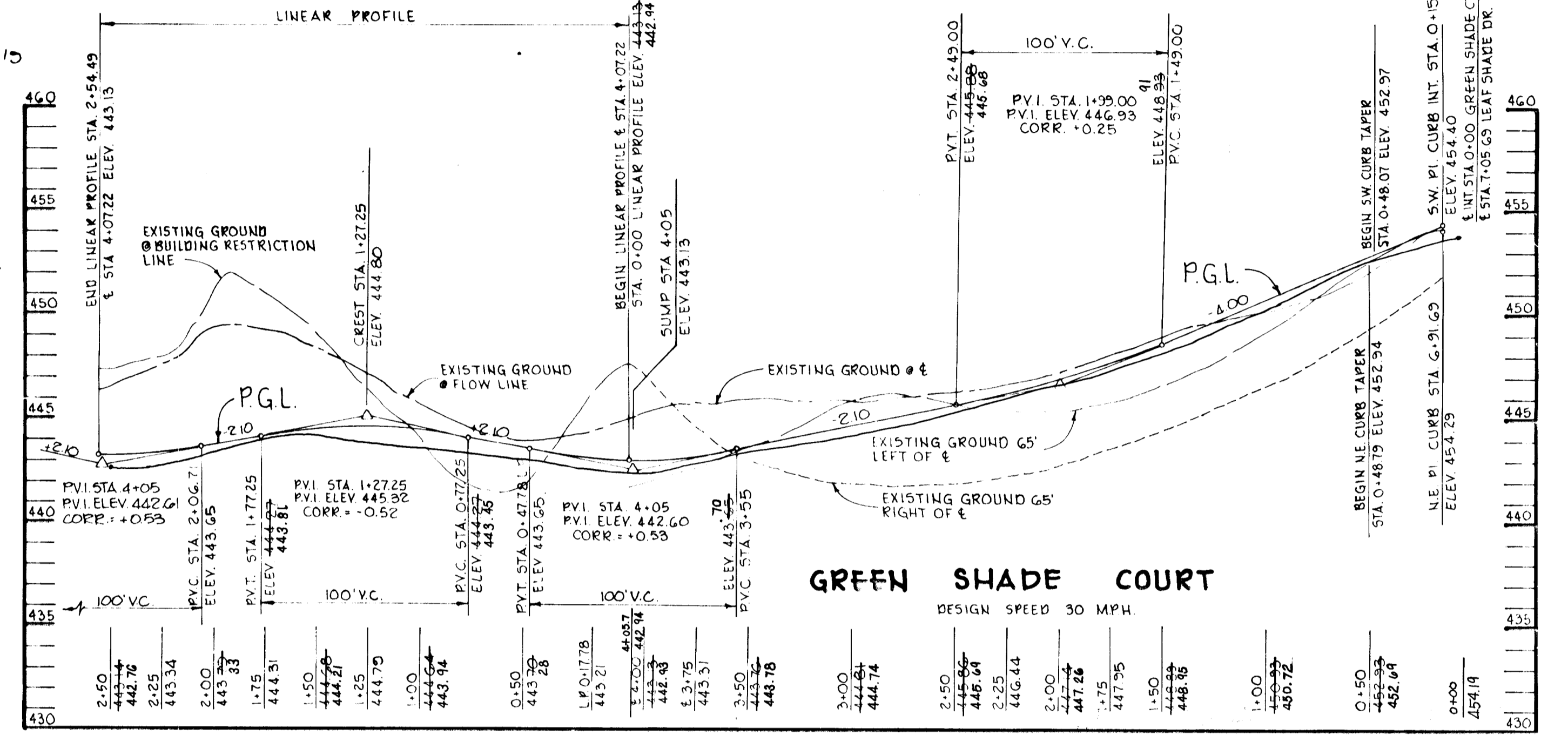
BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 [Signature] 8-7-84
 ENGINEER DATE

APPROVED HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 [Signature] 8-16-84
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

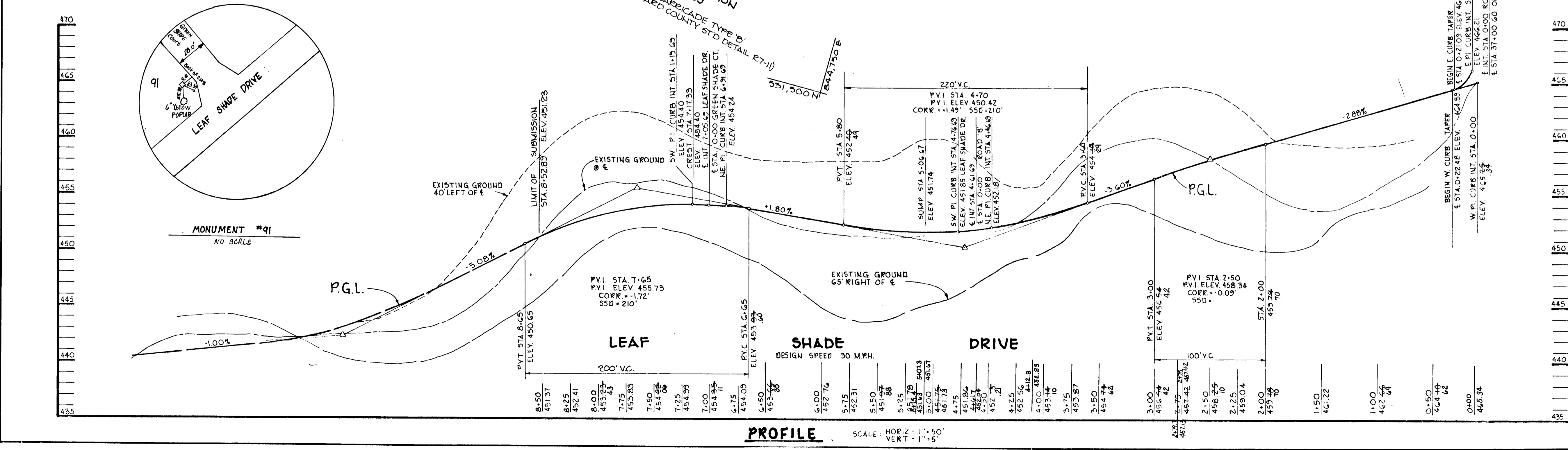
APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 9-17-84
 CHIEF, BUREAU OF ENGINEERING DATE

THESE PLANS HAVE BEEN REVIEWED BY THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 [Signature] 8-16-84
 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.
 [Signature] 8-16-84
 APPROVED HOWARD S.C.D. DATE



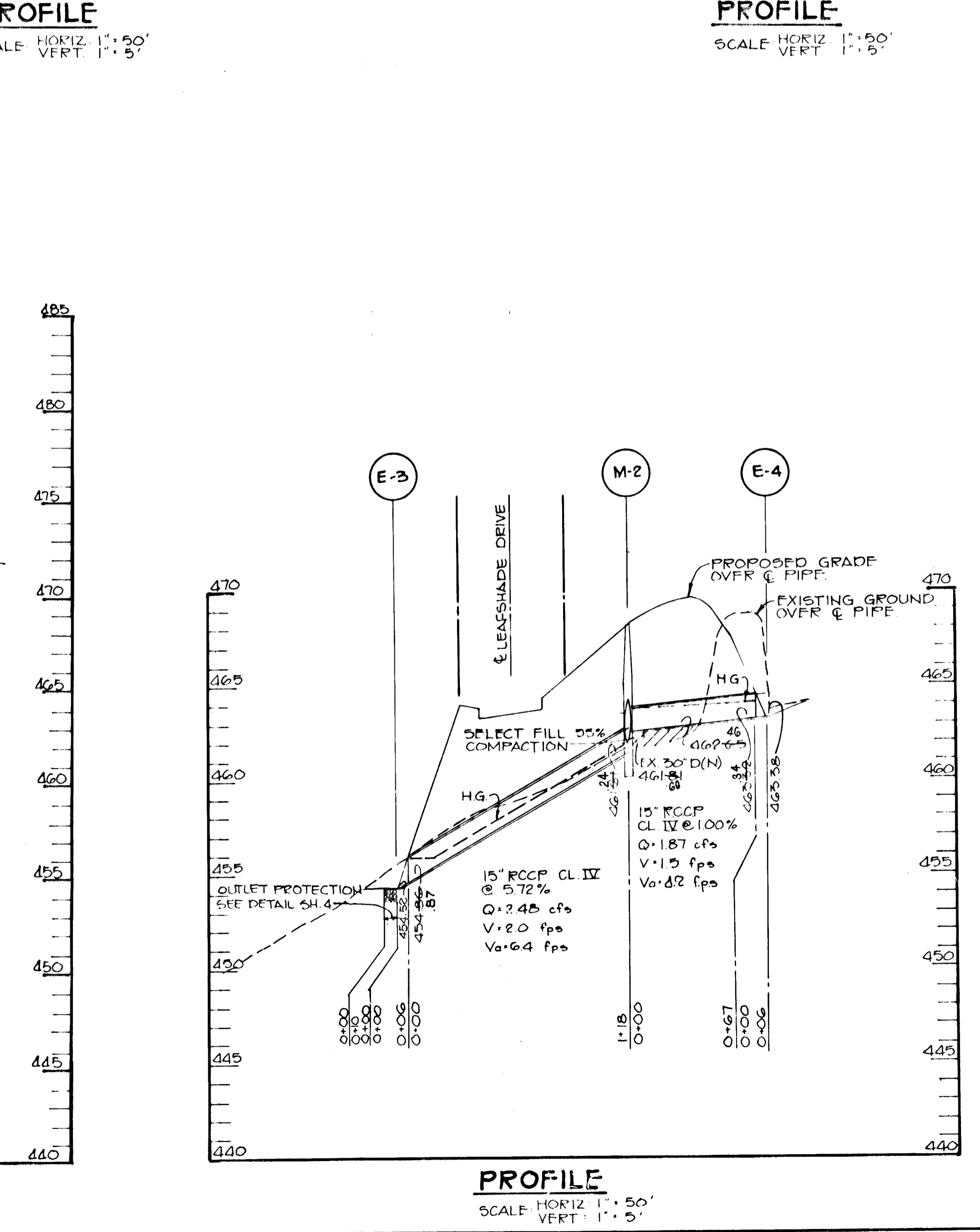
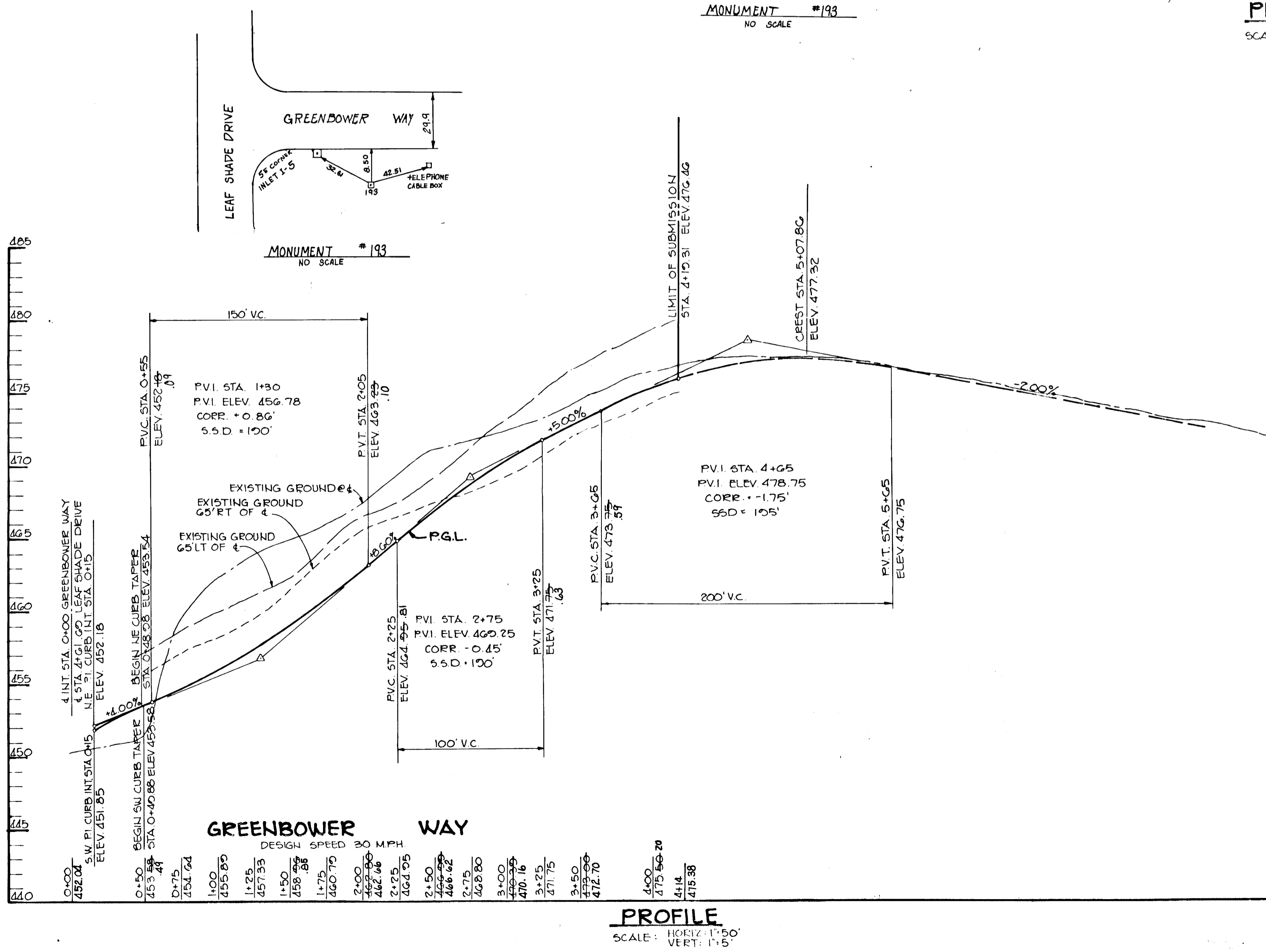
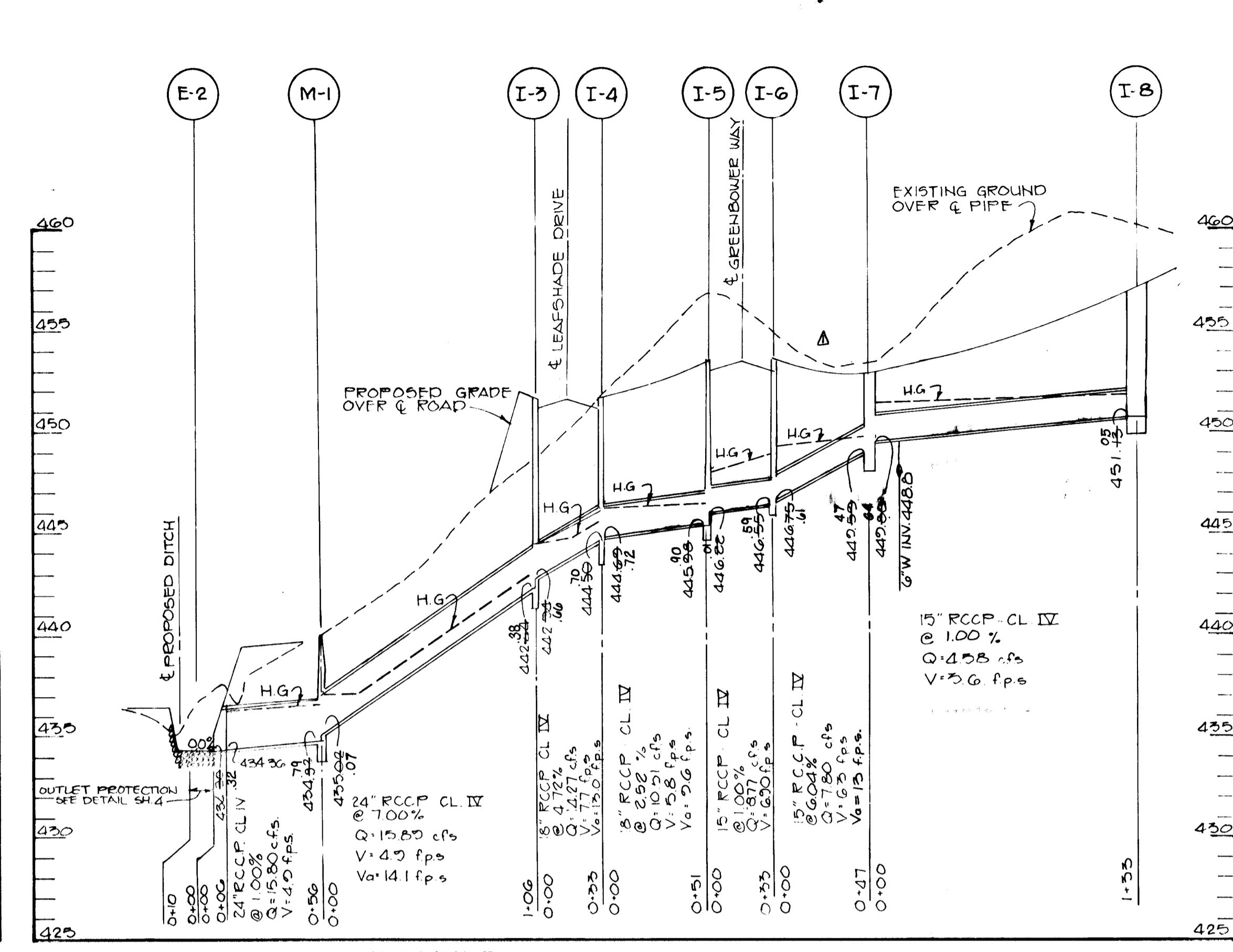
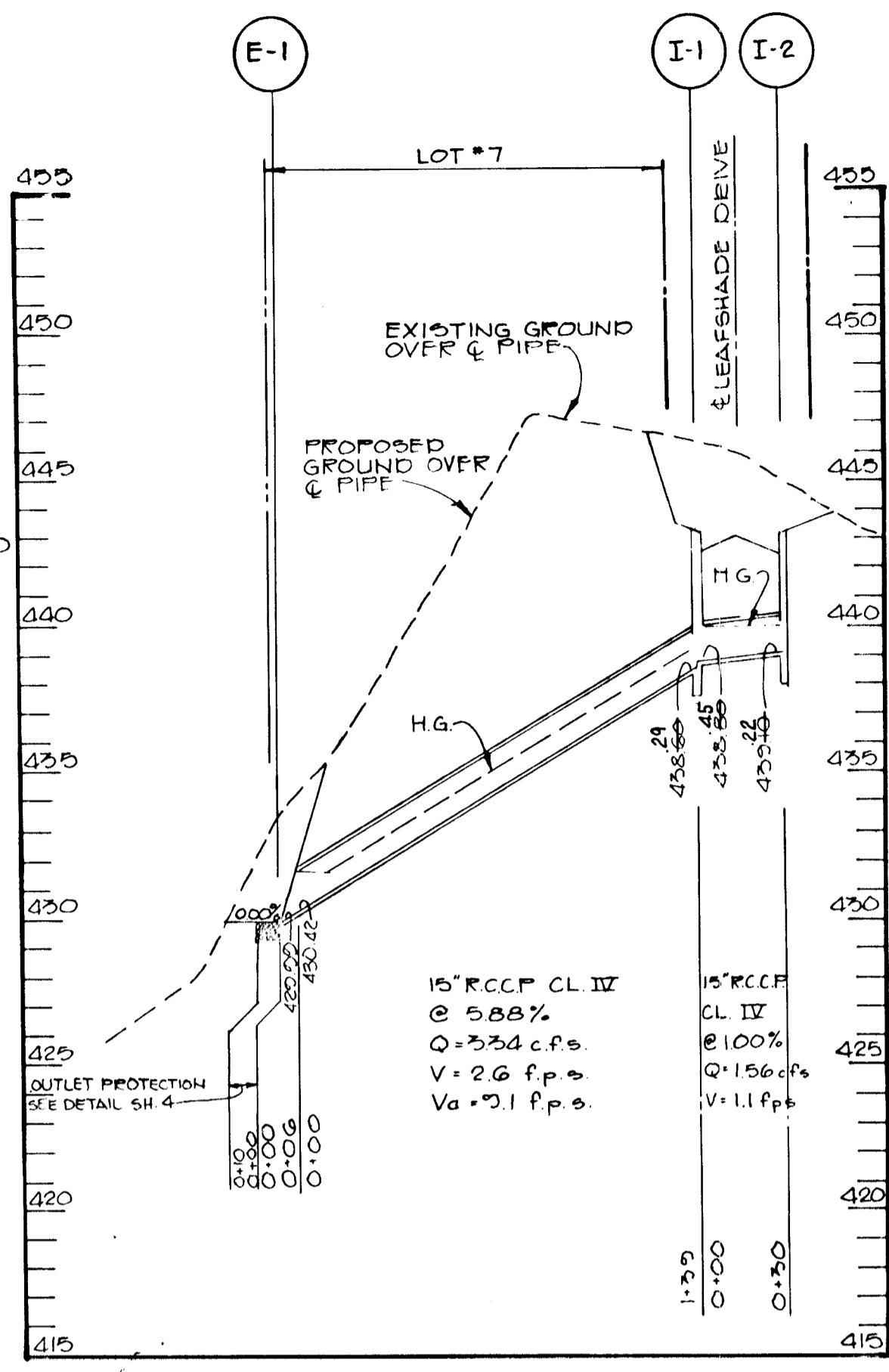
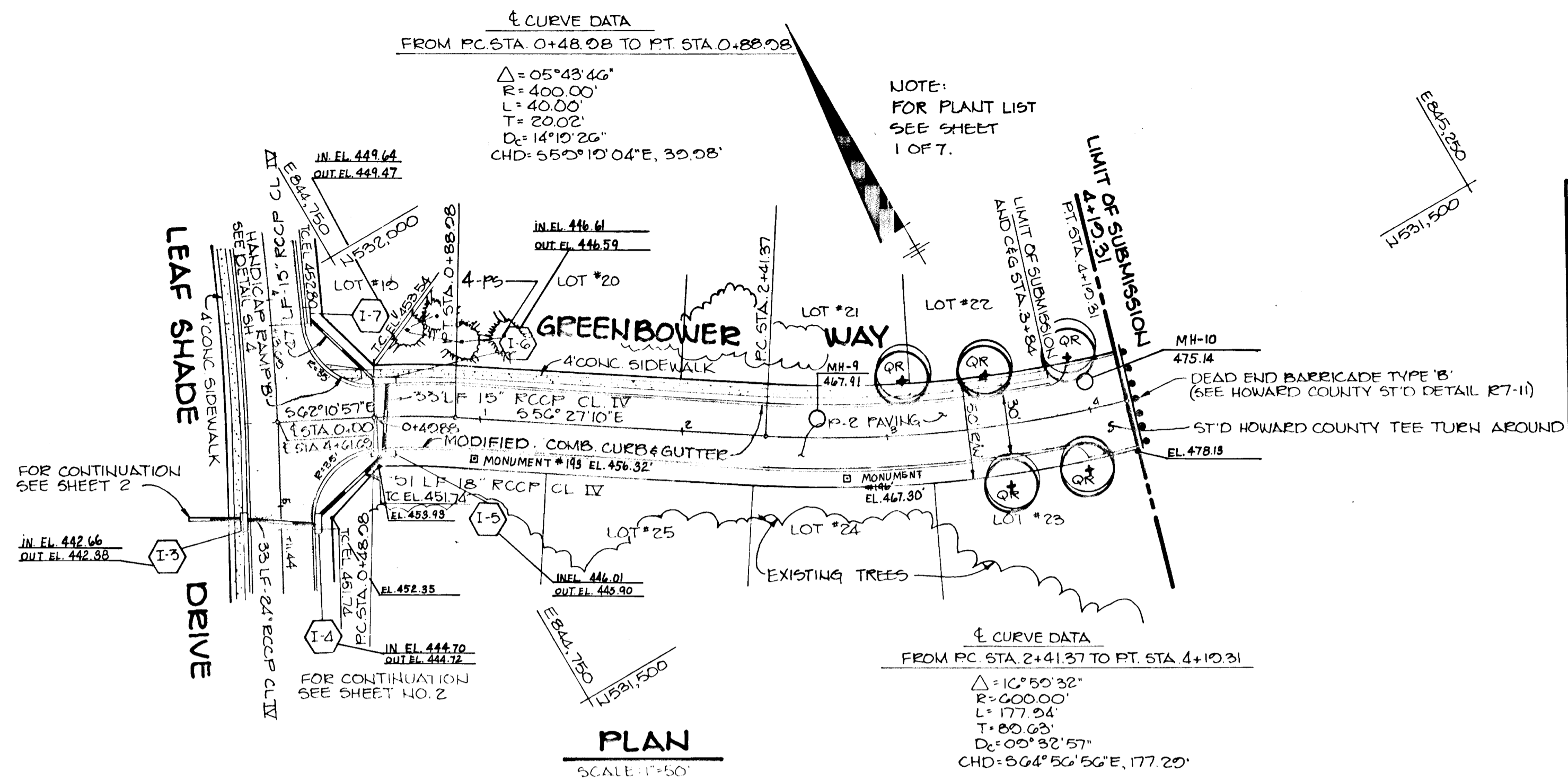
PROFILE
 SCALE: HORIZ. - 1"=50'
 VERT. - 1"=5'



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

DATE	8-22-84	REVISION	REDUCED LENGTH OF MACADAM PATHWAY BETWEEN LOTS 12 & 13 FROM 195 LF TO 115 LF
DATE	10-17-84	REVISION	EXTENSION OF UNDERDRAIN FOR SPRING CONTROL
OWNER	CELESTINUS A GREEN ET AL 2762 ST. JOHNS LANE ELLICOTT CITY, MARYLAND 21043		
DEVELOPER	OXFORD LAND DEVELOPMENT CORPORATION 1133 GREENWOOD ROAD PIKESVILLE, MARYLAND 21208		
PROJECT	ST. JOHNS GREEN LOTS 1 THRU 23		
AREA	TAX MAP #17	PAPCEL G-5	
	2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND ZONED E-20		
TITLE	PLAN AND PROFILE OF LEAF SHADE COURT AND LEAF SHADE DRIVE		
THE RIEMER GROUP, INC. The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm 8659 Baltimore National Pike, Ellicott City, Maryland 21043 410-461-2000			
DATE	8-7-84	DESIGNED BY	L.J.D.
		DRAWN BY	DAM
		PROJECT NO	006500
		DATE	6-13-84
		SCALE	AS SHOWN
		DRAWING NO	2 OF 7





APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 DATE: 8-16-84
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DATE: 8-17-84
 CHIEF, BUREAU OF ENGINEERING

4-8-85 CHANGE PROFILE FROM I-4 TO I-8
 REVISION

OWNER: CELESTINUS A. GREEN ET AL.
 2762 ST. JOHNS LANE
 ELLICOTT CITY, MARYLAND 21043

DEVELOPER: OXFORD LAND DEVELOPMENT CORPORATION
 1133 GREENWOOD ROAD
 PIKESVILLE, MARYLAND 21208

PROJECT: ST. JOHNS GREEN
 LOTS 1 THRU 20

AREA TAX MAP: 1177 PARCEL 60
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 ZONED R-20

TITLE: PLAN AND PROFILE OF
 GREENBOWER WAY AND STORM DRAINS

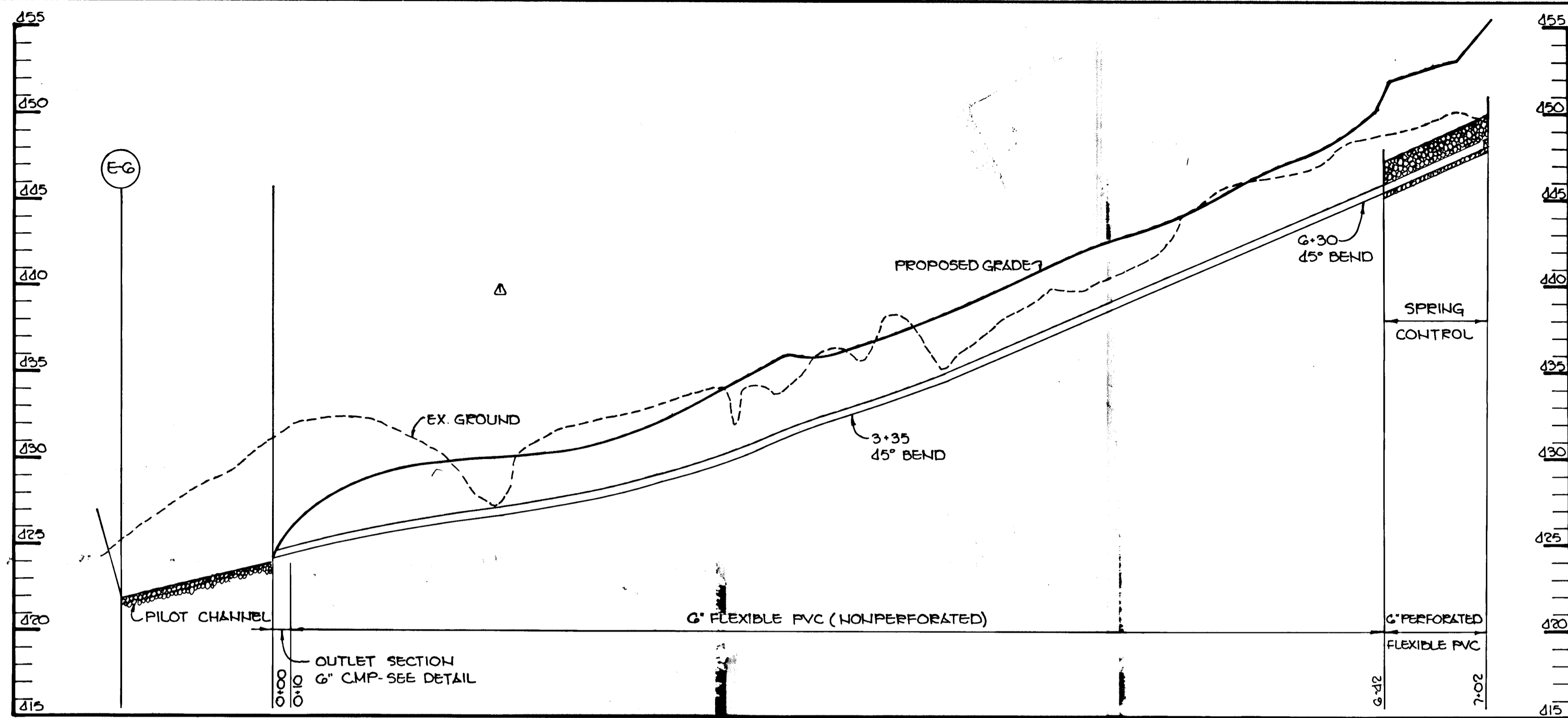
THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 8659 Baltimore National Pike, Ellicott City, Maryland 21043 410-461-2600

DATE: 8-7-84

DESIGNED BY: L.J.D.
 DRAWN BY: J.C.J.
 PROJECT NO: 006500
 DATE: 6-15-84
 SCALE: AS SHOWN
 DRAWING NO: 3 OF 7

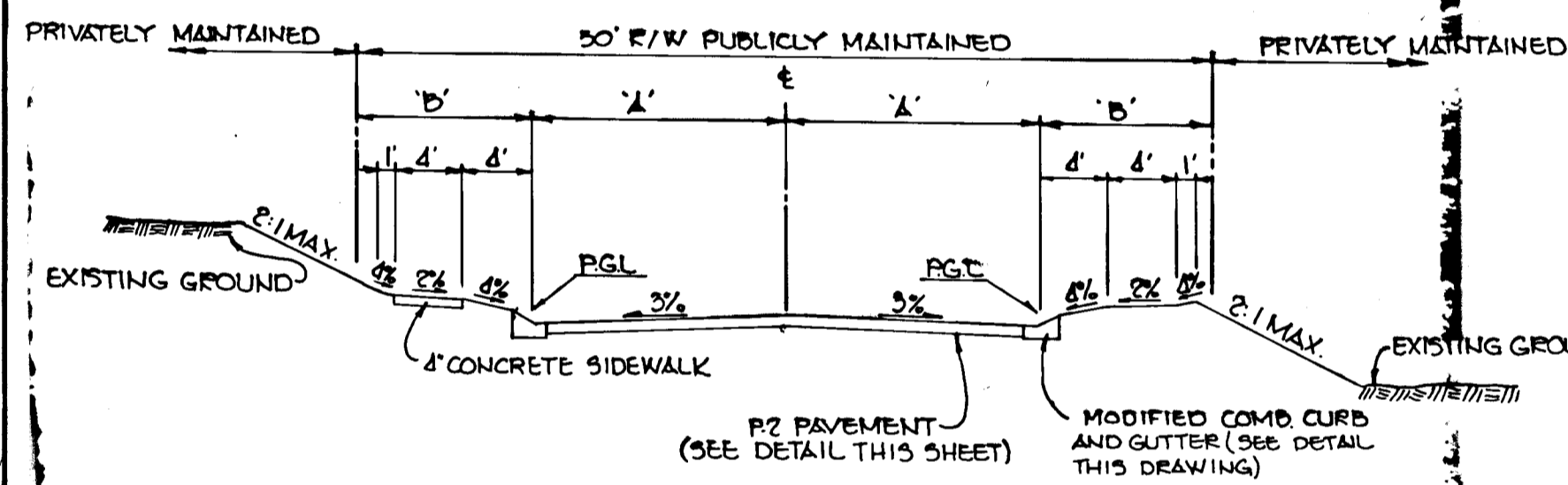
1087

3-18-88 F-84-206



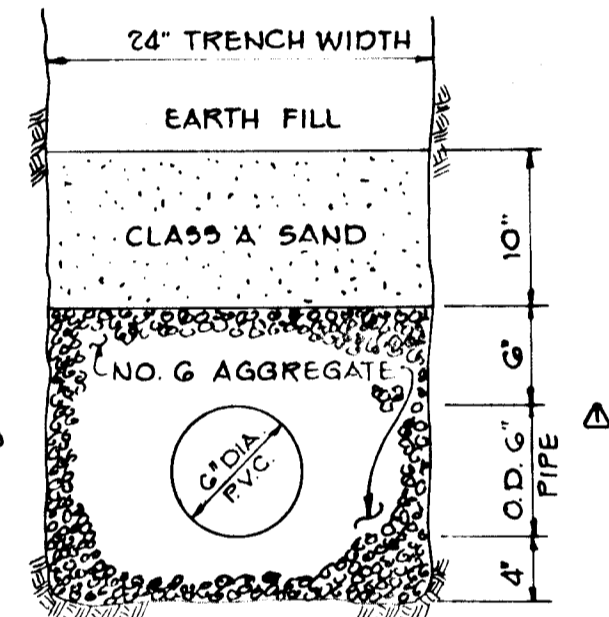
PROFILE FOR 6" P.V.C FOR SPRING CONTROL

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

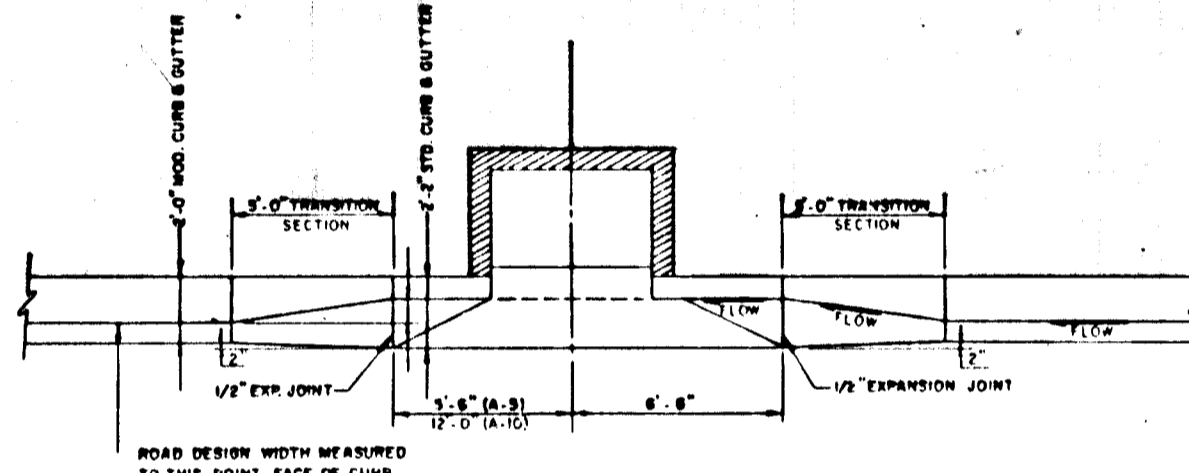


TYPICAL PAVING SECTION - 50' R/W
NO SCALE

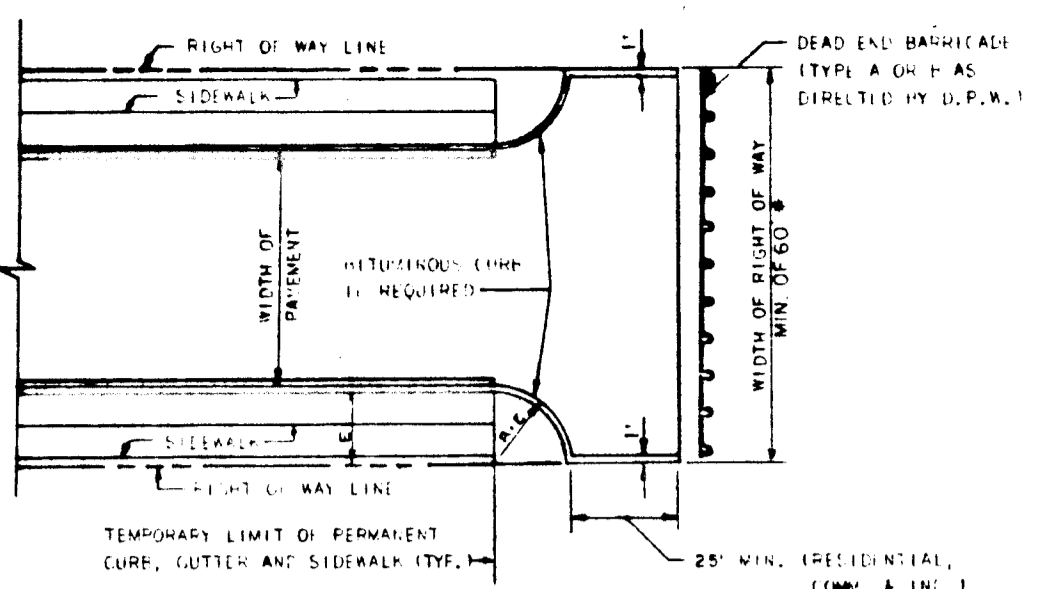
ROAD	A	B
LEAFSHADE DRIVE	15	10
GREENBOWER WAY	15	10
LEAFSHADE COURT	14	11



SPRING CONTROL DETAIL
NO SCALE

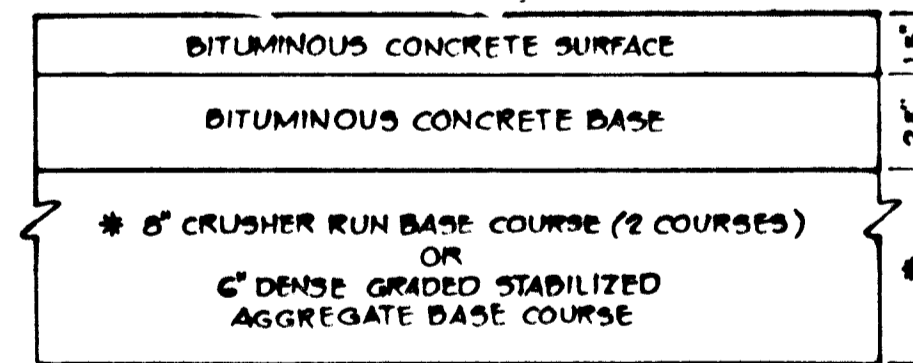


TRANSITION CURB SECTION
NO SCALE

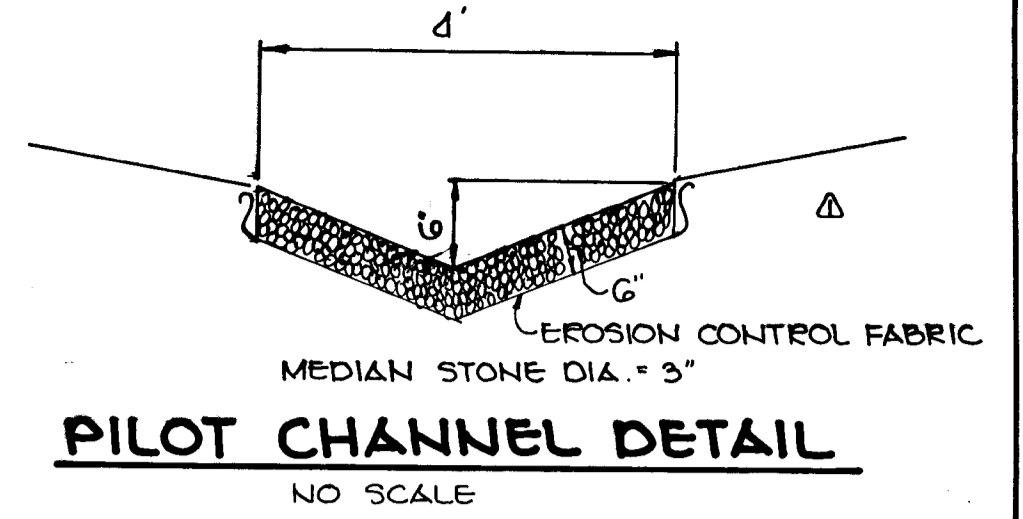


CUL-DE-SAC DETAIL
NO SCALE

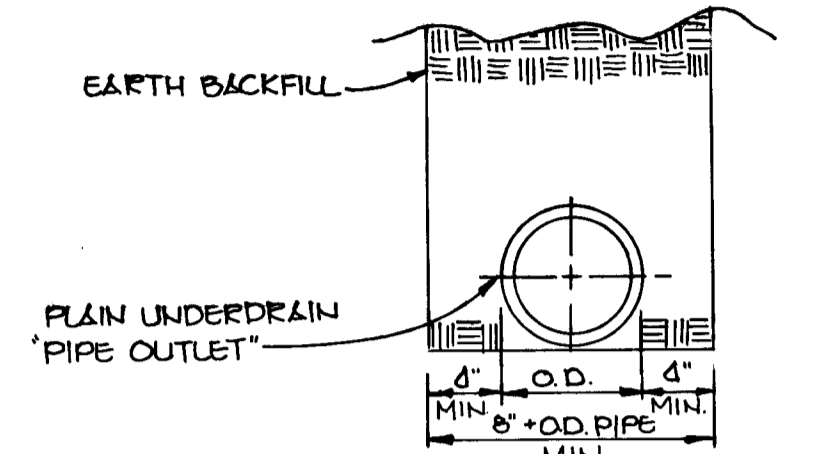
FLOW LINE CURVE DATA				
CURVE	RADIUS	LENGTH	Δ	TAN.
①	35.00	30.00'	40°12'24"	16.03
②	40.00	104.37'	278°24'47"	—
③	35.00	30.00'	40°12'24"	16.03



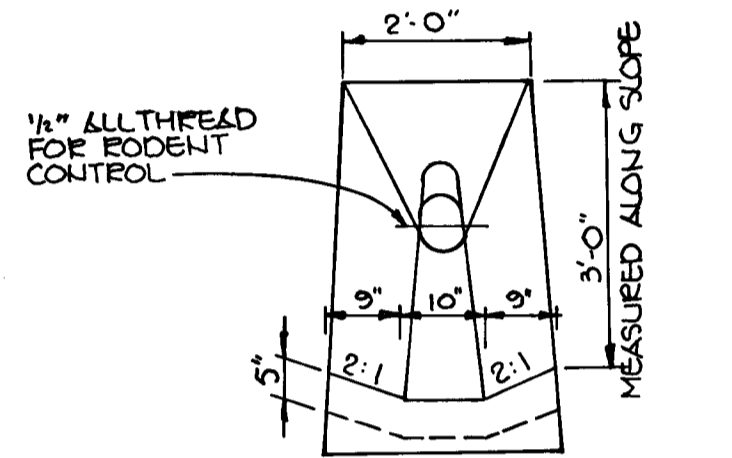
(6\"/>



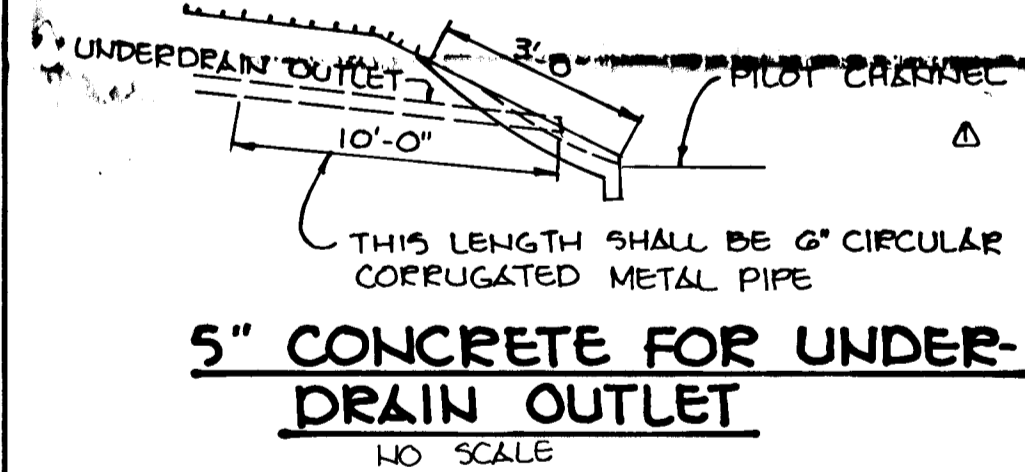
PILOT CHANNEL DETAIL
NO SCALE



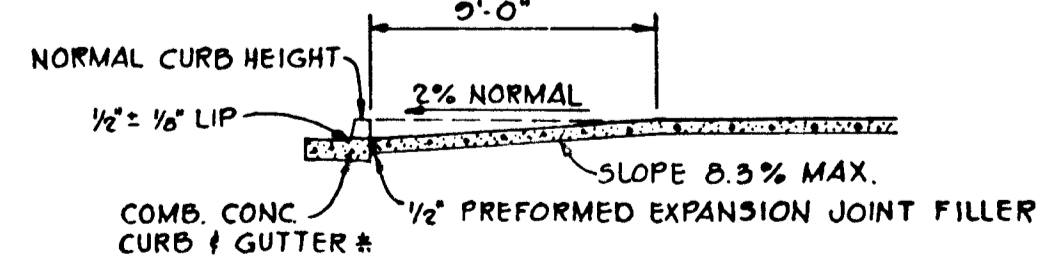
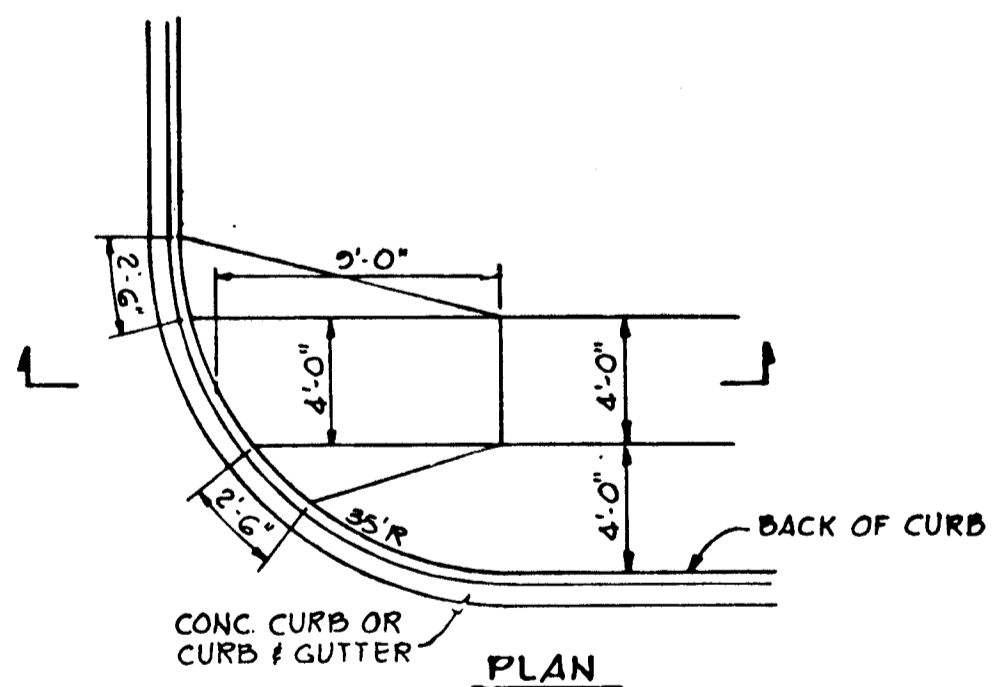
OUTLET DITCH SECTION
NO SCALE



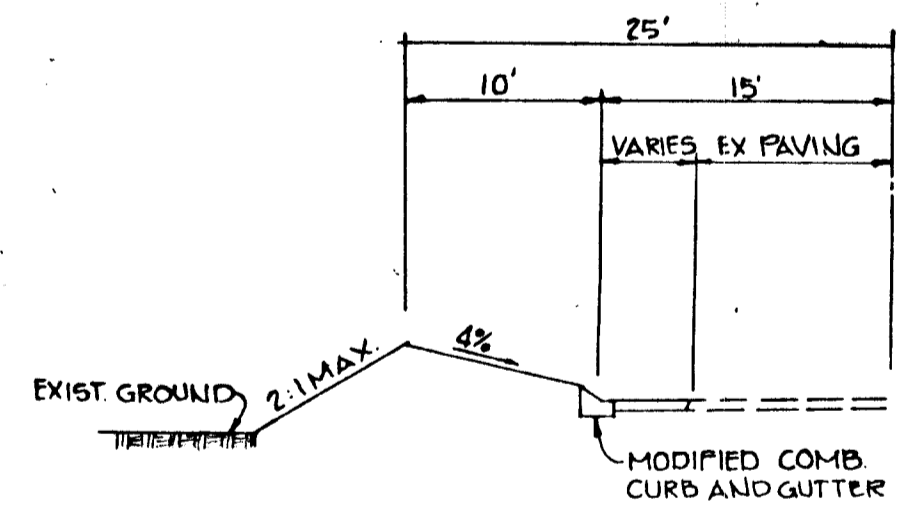
ELEVATION-UNDERDRAIN OUTLET
NO SCALE



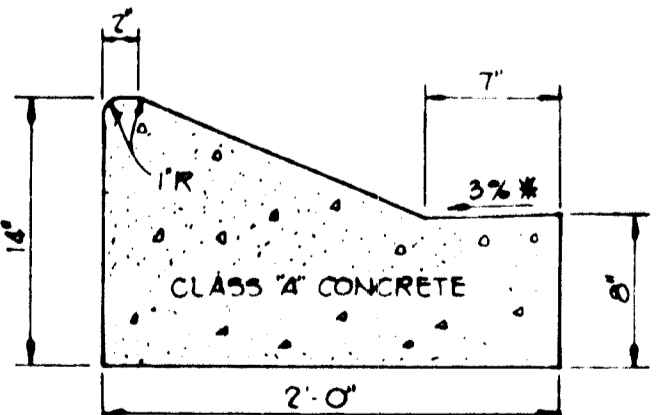
5\"/>



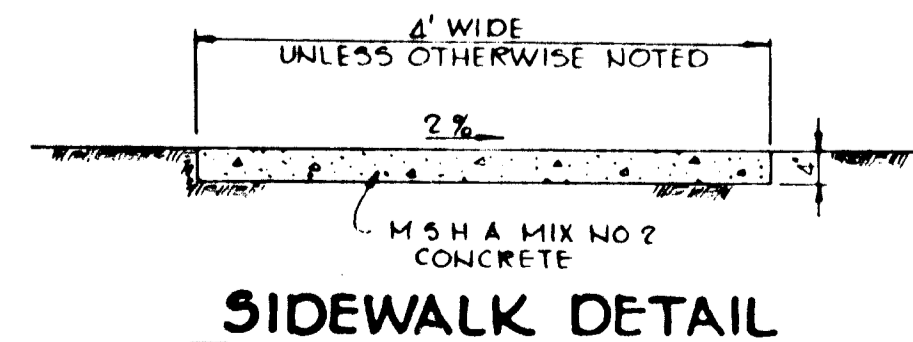
SIDEWALK RAMP TYPE 'B'
(FOR INTERSECTION WITH ONE SIDEWALK)
NO SCALE



OLD ST. JOHNS LANE ROAD WIDENING
NO SCALE



MODIFIED COMBINATION CURB AND GUTTER
NO SCALE



SIDEWALK DETAIL
NO SCALE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Louis F. Dune 8-16-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William B. Ryan 8-17-84
CHIEF, BUREAU OF ENGINEERING

10-15-84 EXTENSION OF UNDERDRAIN FOR SPRING CONTROL.
DATE NO REVISION

OWNER: CELESTINUS A. GREEN ET AL.
2762 ST. JOHNS LANE
ELLCOTT CITY, MARYLAND 21043

DEVEL: OXFORD LAND DEVELOPMENT CORPORATION
1133 GREENWOOD ROAD
PIKEVILLE, MARYLAND 21208

PROJECT: **ST. JOHNS GREEN LOTS 1 THRU 20**

AREA: TAX MAP #17 PARCEL G-5
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
ZONED R-20

TITLE: **DETAILS**

THE RIEMER GROUP, INC.

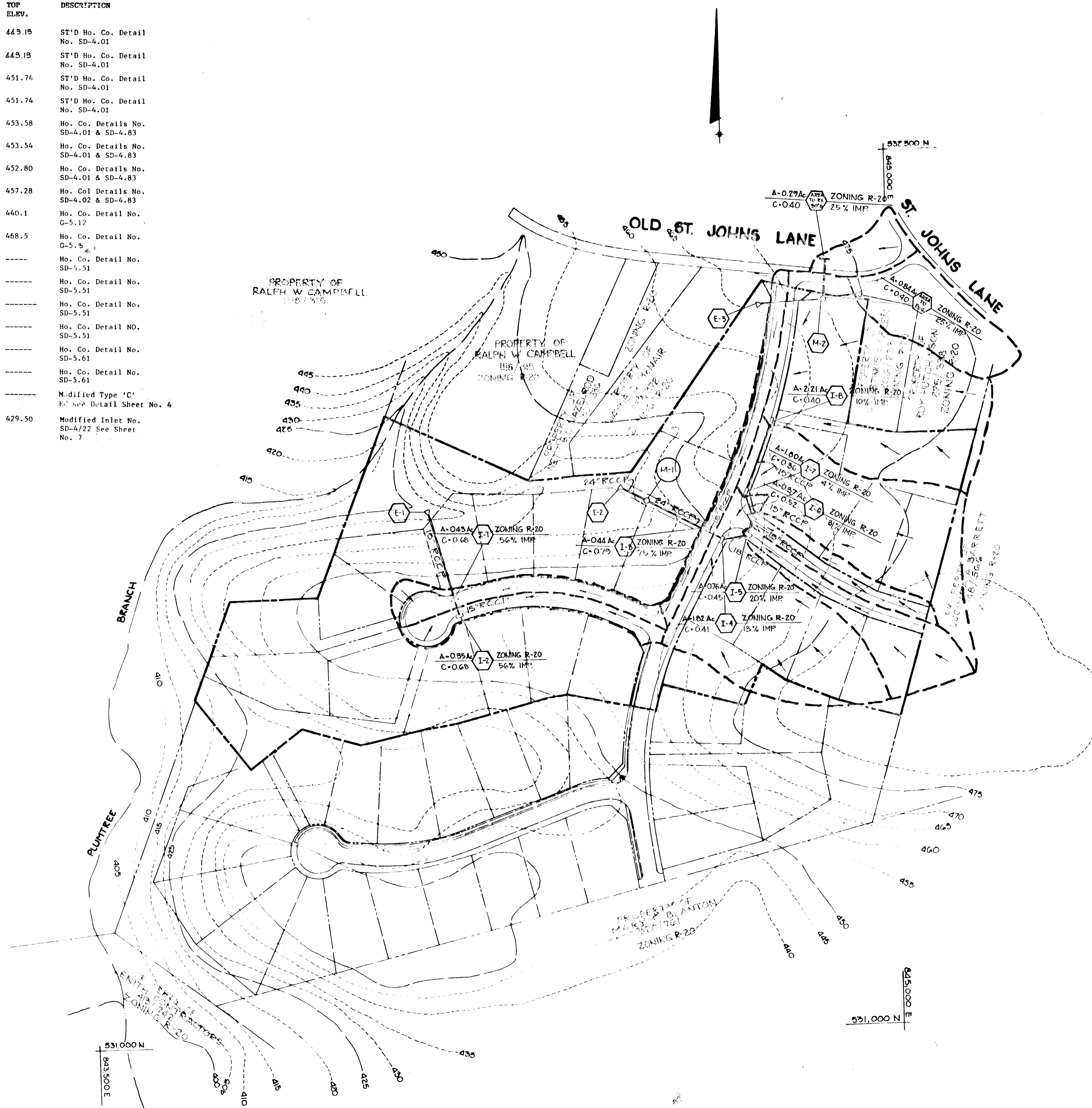
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
8659 Baltimore National Pike, Ellicott City, Maryland, 21043 301-461-2690

8-7-84
DESIGNED BY L.J.D.
DRAWN BY DAM
PROJECT NO 006500
DATE 6-13-84
SCALE AS SHOWN
DRAWING NO 4 OF 7

F-84-206 OCTOBER 17, 1984

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN'	INV. OUT	TOP ELEV.	DESCRIPTION
I-1	A-5	STA. 4+05 15' RT.	438.60	438.80	443.15	ST'D Ho. Co. Detail No. SD-4.01
I-2	A-5	STA. 4+05 15' LT.	-----	439.10	443.15	ST'D Ho. Co. Detail No. SD-4.01
I-3	A-5	STA. 5+06.67 16' RT.	442.94	442.44	451.74	ST'D Ho. Co. Detail No. SD-4.01
I-4	A-5	STA. 5+13.94 16' LT.	444.69	444.49	451.74	ST'D Ho. Co. Detail No. SD-4.01
I-5	A-5 w/defl.	STA. 0+52.38 16' RT.	446.63	446.38	453.58	Ho. Co. Details No. SD-4.01 & SD-4.83
I-6	A-5 w/defl.	STA. 0+51.48 16' LT.	447.16	446.96	453.54	Ho. Co. Details No. SD-4.01 & SD-4.83
I-7	A-5 w/defl.	STA. 4+11.19 16' LT.	447.83	447.63	452.80	Ho. Co. Details No. SD-4.01 & SD-4.83
I-8	A-10 w/defl.	STA. 2+79 16' LT.	-----	452.25	457.28	Ho. Co. Details No. SD-4.02 & SD-4.83
M-1	ST'D 4'-0" Dia Manhole	See Plan	435.02	434.82	440.1	Ho. Co. Detail No. G-5.12
M-2	ST'D 5'-0" Dia. Manhole	See Plan	461.81(N) 462.65(E)	461.61	468.5	Ho. Co. Detail No. G-5.9
E-1	15" Conc. End Section	See Plan	-----	429.99	-----	Ho. Co. Detail No. SD-5.51
E-2	24" Conc. End Section	See Plan	-----	434.30	-----	Ho. Co. Detail No. SD-5.51
E-3	15" Conc. End Section	See Plan	-----	454.52	-----	Ho. Co. Detail No. SD-5.51
E-4	15" Conc. End Section	See Plan	463.38	-----	-----	Ho. Co. Detail No. SD-5.51
E-5	36" Metal End Section	See Plan	-----	419.8	-----	Ho. Co. Detail No. SD-5.61
E-6	15" Metal End Section	See Plan	422.00	-----	-----	Ho. Co. Detail No. SD-5.61
MW-1	Conc. Endwall	See Plan	-----	447.5	-----	Modified Type 'C' E-1 see Detail Sheet No. 4
S-1	Inlet	See Plan	421.50	421.00	429.50	Modified Inlet No. SD-4.22 See Sheet No. 7



APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

ACTING *Louis F. Dwyer* 8-16-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William E. Kelly 8-17-84
CHIEF, BUREAU OF ENGINEERING DATE

DATE	NO.	REVISION

OWNER: CELESTINUS A. GREEN, ET AL
2742 ST. JOHNS LANE
ELICOTT CITY, MARYLAND 21045

DEVELOPER: OXFORD LAND DEVELOPMENT CORPORATION
1133 WOODBURN ROAD
PIKESVILLE, MARYLAND 21088

PROJECT: ST. JOHNS GREEN
LOTS 1 THRU 20

PARCEL: 1A) MAP NO 17 PARCEL 6B
2ND ELECTION DISTRICT
HOWARD COUNTY MARYLAND

TITLE: DRAINAGE AREA MAP

THE RIEMER GROUP, INC.
A Land Planning, Design & Civil Engineering Firm
8659 Redwood National Pike, Ellicott City, Maryland 21041 (410) 461-2001

8784
DATE

DESIGNED BY: L.J.D.
DRAWN BY: JMG
PROJECT NO: 006-500
DATE: 6-15-84
SCALE: 1"=100'
DRAWING NO: 5 OF 7

William E. Kelly
PROFESSIONAL ENGINEER

SEDIMENT CONTROL CONSTRUCTION NOTES

- GENERAL NOTES**
- 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 (922-2457).
 - All sediment control structures will be installed in accordance with "The Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas" as prepared by the U.S. Department of Agriculture Soil Conservation Service.
 - Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.
 - All disturbed areas are to be dressed and stabilized according to the temporary or permanent seeding schedules as soon as proper weather conditions exist for the establishment of a permanent vegetative cover.
 - Sediment will be removed from traps when the depth reaches the clean out elevation shown on the plans.
 - Fertilizer and lime rates may be changed through authorization by the Howard Soil Conservation District if soil tests determine a reduction in the specified rates is justified.
 - 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.
 - References called for on the sediment control construction plan and details are made to "The Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas".
 - Sediment control will be installed before clearing and grubbing remainder of site.
 - No storm drains shall be installed under this contract.

TEMPORARY SEEDING

Area to be seeded shall be recently loosened. If the ground is packed, crusted or hard, the top layer of soil shall be loosened by discing, raking or other acceptable means.

- Apply 10-20-10 fertilizer (or equivalent) at the rate of 600 lbs. per acre or 15 lbs. per 1000 square feet.
- Where soil is known to be highly acid, apply dolomitic limestone at the rate of 1 ton per acre.
- Work both into soil and seed with cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry will include seed and fertilizer) at the rate of 40 lbs. per acre of Italian or perennial ryegrass.
- Mulch with unweathered small grain straw at the rate of 1 1/2 to 2 tons, per acre and anchor with a cutback asphalt or emulsified asphalt at the rate of 5 gal. per 1000 square feet.

PERMANENT SEEDING

Final stabilization will take place as soon as possible as weather conditions permit, as follows:

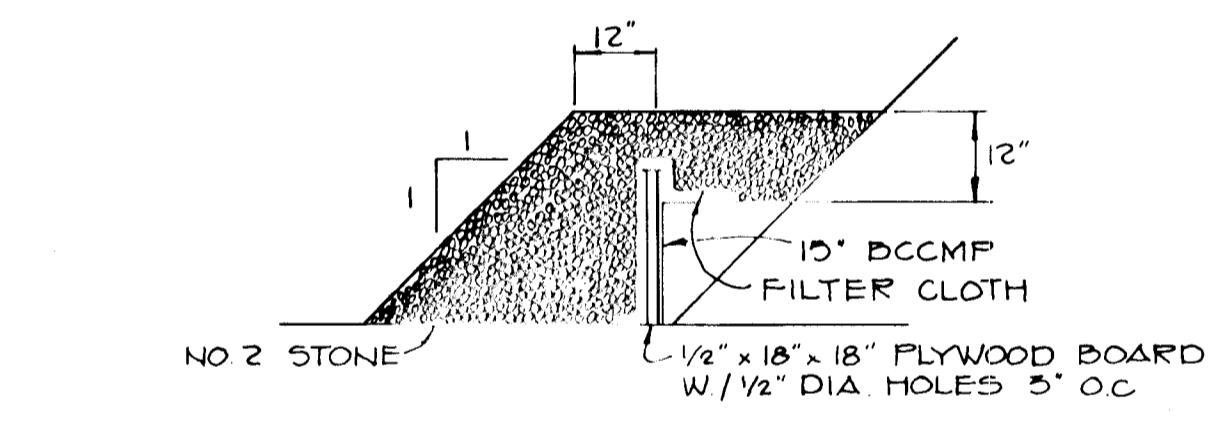
- Apply dolomitic limestone at the rate of 2 tons per acre (one ton per acre if application of ton per acre was made for temporary seeding.)
- Apply 0-20-20 fertilizer at the rate of 600 lbs. per acre harrow or disc lime and 0-20-20 fertilizer into the soil to a minimum depth of 3" lawns or high maintenance areas will be dragged and leveled with a York rake. At the time of seeding apply 400 pounds of 30-0-0 ureaform fertilizer and 500 lbs. of 10-20-20 or equivalent fertilizer per acre.
- Seed with a mixture of certified "Merion" Kentucky bluegrass - 40 lbs. per acre; common Kentucky bluegrass @ 40 lbs. per acre; Red Fescue, Pennlawn or Jamestown @ 20 lbs. per acre.
- Mulch with unweathered small grain straw at the rate of 1 1/2 to 2 tons per acre and anchor with a cutback asphalt or emulsified asphalt at the rate of 5 gallons per 1000 square feet.
- Seed all slopes with a mixture of certified Kentucky 31 tall fescue @ 50 lbs. per acre and inoculated Korean Lepepedeza @ 15 lbs. per acre.
- Sodded swales shall be Kentucky 31 tall fescue.

SEQUENCE OF CONSTRUCTION

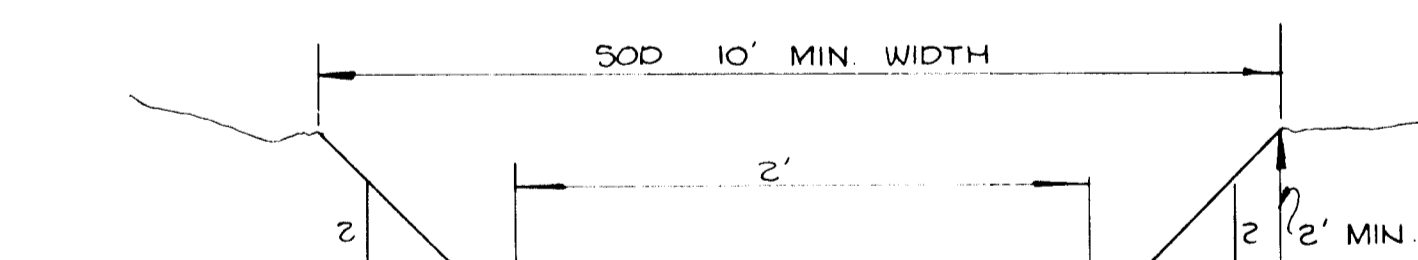
- OBTAIN A GRADING PERMIT
- NOTIFY THE HOWARD COUNTY SEDIMENT CONTROL DIVISION 24 HRS. PRIOR TO ANY CONSTRUCTION 992-2437
- INSTALL STABILIZED CONSTRUCTION ENTRANCE
- CLEAR FOR INSTALLATION OF SEDIMENT CONTROLS ONLY
- CONSTRUCT SWM/SEDIMENT BASIN BLOCK LOW FLOW ORIFICE AND STABILIZE IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES
- INSTALL REMAINING SEDIMENT CONTROLS AND CONSTRUCT GRASSED WATERWAY STABILIZE GRASSED WATERWAY IMMEDIATELY WITH SOD
- COMPLETE ALL OTHER CONSTRUCTION
- STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES
- UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASIN TO STORM WATER MANAGEMENT AND REMOVE REMAINING SEDIMENT CONTROLS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:
 - PUMP ANY STANDING WATER THRU SPILLWAY
 - CLEAN OUT SEDIMENT AND RESTORE BASIN TO PLAN DIMENSIONS
 - SPREAD REMOVED SEDIMENT IN AN AREA PROTECTED BY SEDIMENT CONTROLS OR IMMEDIATELY STABILIZE IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES
 - REMOVE LOW FLOW ORIFICE BLOCKING
 - REMOVE ALL REMAINING SEDIMENT CONTROLS
 - STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES
- IF WORK HAS COMMENCED ON DEVELOPMENT OF THE SITE THEN CONTROLS ARE TO REMAIN IN PLACE AND RESPONSIBILITY FOR CONVERSION OF THE BASIN AND THE MAINTENANCE AND REMOVAL OF CONTROLS SHALL BECOME THE DEVELOPERS

SITE ANALYSIS

TOTAL AREA DISTURBED	2.8 AC.
TOTAL AREA TO BE PAVED	1.4 AC.
TOTAL AREA TO BE REVEGETATED	1.4 AC.
TOTAL AREA OF SITE	15.2 AC.



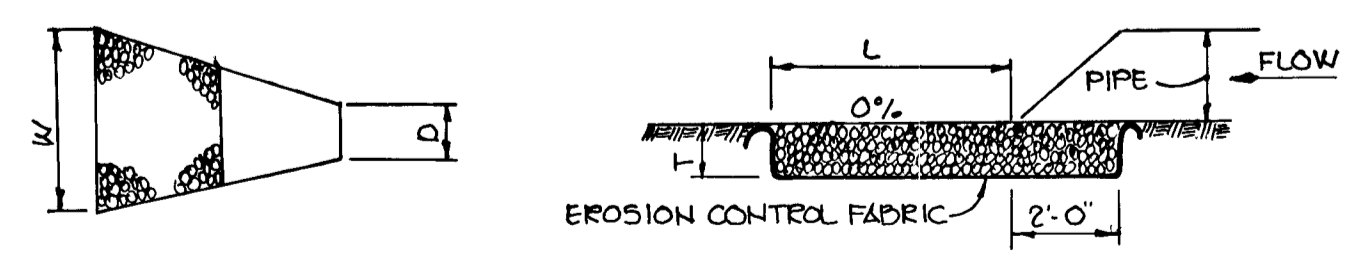
LOW FLOW ORIFICE BLOCKING DETAIL
NO SCALE



MAX DESIGN VEL (POINT A) = 4.5 FPS @ Q = 8.3 CFS 5% RETARDANCE - D
MAX DEPTH OF FLOW (POINT B) = 1.7 FT @ Q = 42.3 CFS 5% 2% RETARDANCE - C

GRASSED WATERWAY

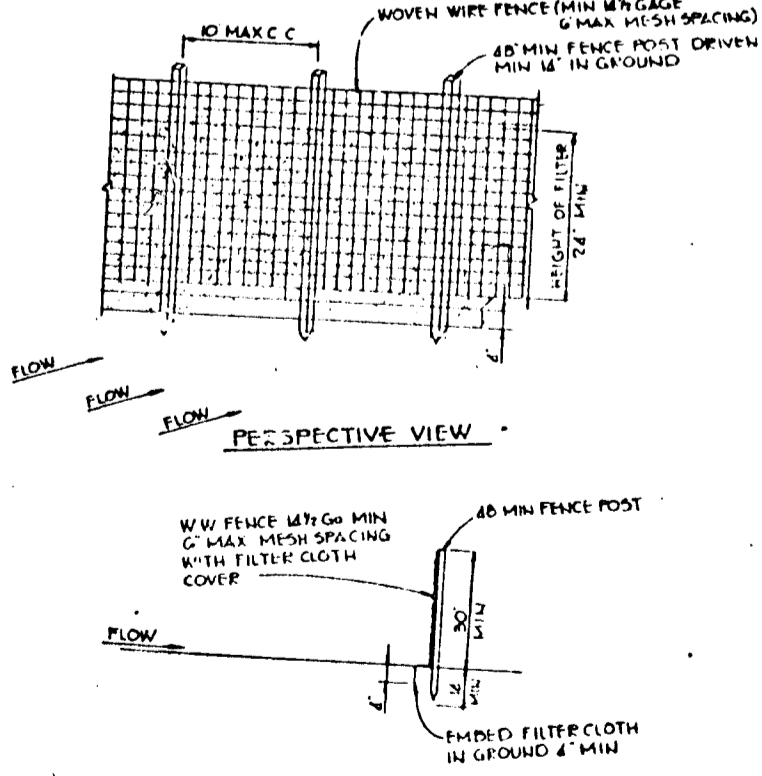
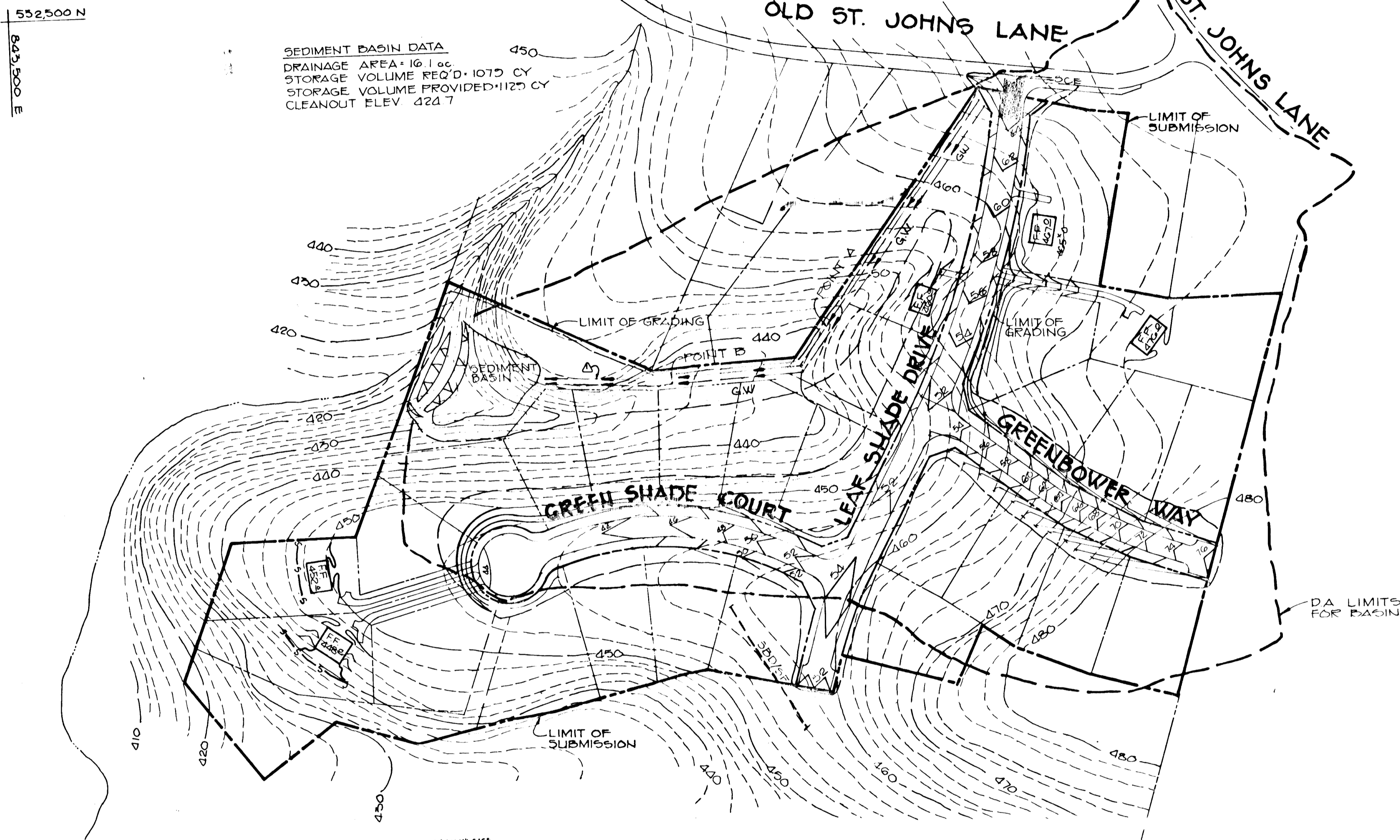
NO SCALE
STANDARD SYMBOL = GW



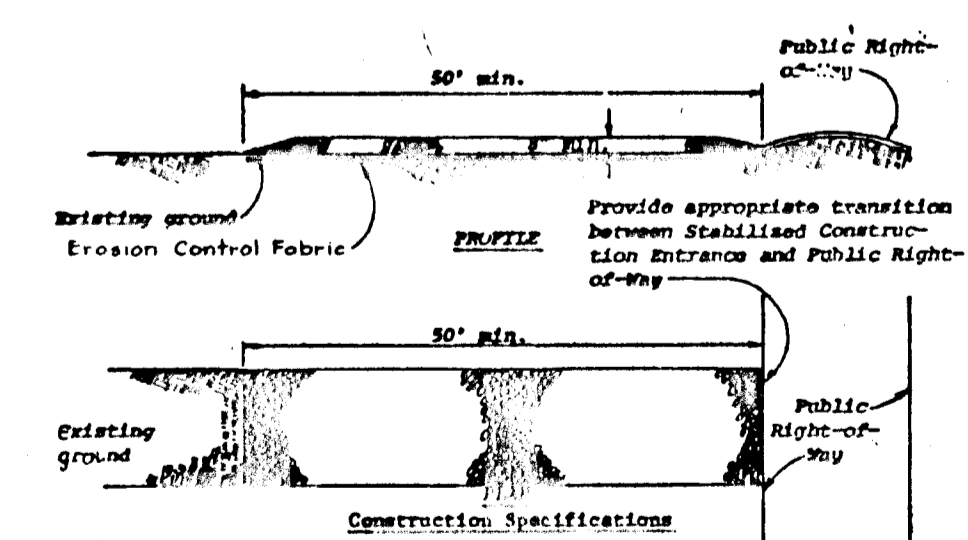
STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	0.20'	10'	20'	0.75'
E-2	0.40'	10'	20'	0.75'
E-3	0.20'	10'	20'	0.75'

OUTLET PROTECTION DETAIL
NO SCALE

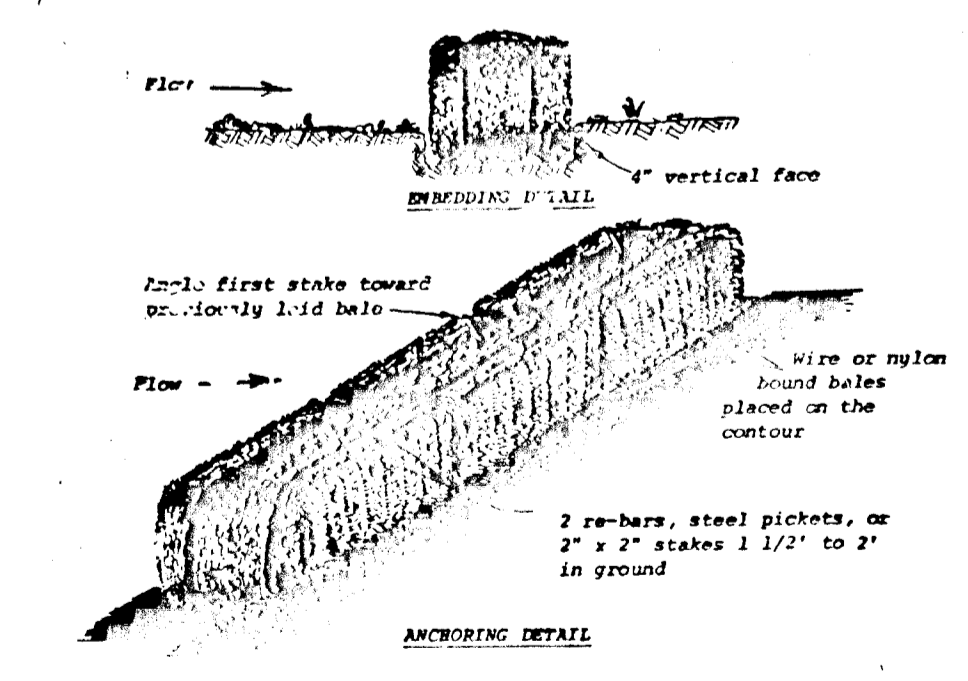
SEDIMENT BASIN DATA
DRAINAGE AREA = 16.1 ac
STORAGE VOLUME REQ'D = 1075 CY
STORAGE VOLUME PROVIDED = 1125 CY
CLEANOUT ELEV = 424.7



SILT FENCE DETAIL
NO SCALE



STABILIZED CONSTRUCTION ENTRANCE DETAIL
NO SCALE



STRAWBALE DIKE
NO SCALE

BY THE DEVELOPER:
"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."
Barnard H. Hobb
DEVELOPER
6-13-84
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. Muegg
ENGINEER
8-7-84
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.
James M. Schlar
U.S. SOIL CONSERVATION SERVICE
8-16-84
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Robert W. Zehner
HOWARD COUNTY OFFICE OF PLANNING AND ZONING
8-16-84
DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Louie F. Diner
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
8-16-84
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William B. Peden
CHIEF, BUREAU OF ENGINEERING
8-17-84
DATE

10-17-84	EXTENSION OF UNDERDEKIN FOR SPRING CONTROL
DATE	NO. REVISION
OWNER:	CELESTINUS A. GREEN ET AL 2762 ST. JOHNS LANE ELLCOTT CITY, MARYLAND 21045
DEVELOPER:	OXFORD LAND DEVELOPMENT CORPORATION 1123 GREENWOOD ROAD PIKEVILLE, MARYLAND 21208

PROJECT:
ST. JOHNS GREEN
LOTS 1 THRU 29
AREA: TAX MAP #17 PARCEL G8
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
ZONED R-20

TITLE:
GRADING & SEDIMENT CONTROL PLAN

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
8659 Baltimore National Pike, Ellicott City, Maryland, 21043 410-463-2600
87-84
DATE
DESIGNED BY: J.K.B.
DRAWN BY: J.C.J.
PROJECT NO: 006500
DATE: 6-15-84
SCALE: 1" = 100'
DRAWING NO: 0 OF 7



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, over-size 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.

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.

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 Specifications M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

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

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

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 3/8" diameter 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 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.

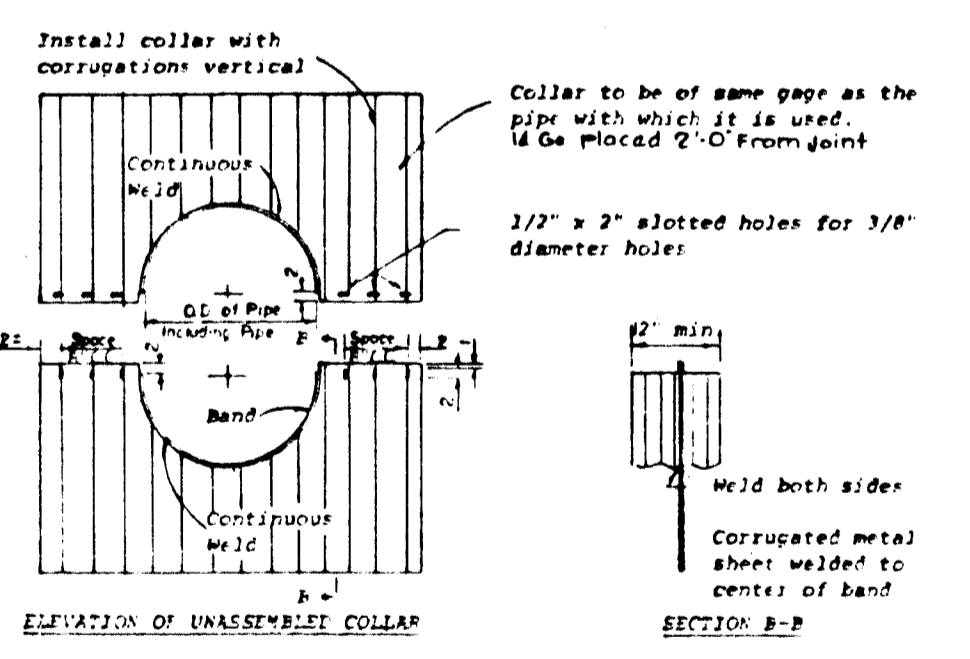
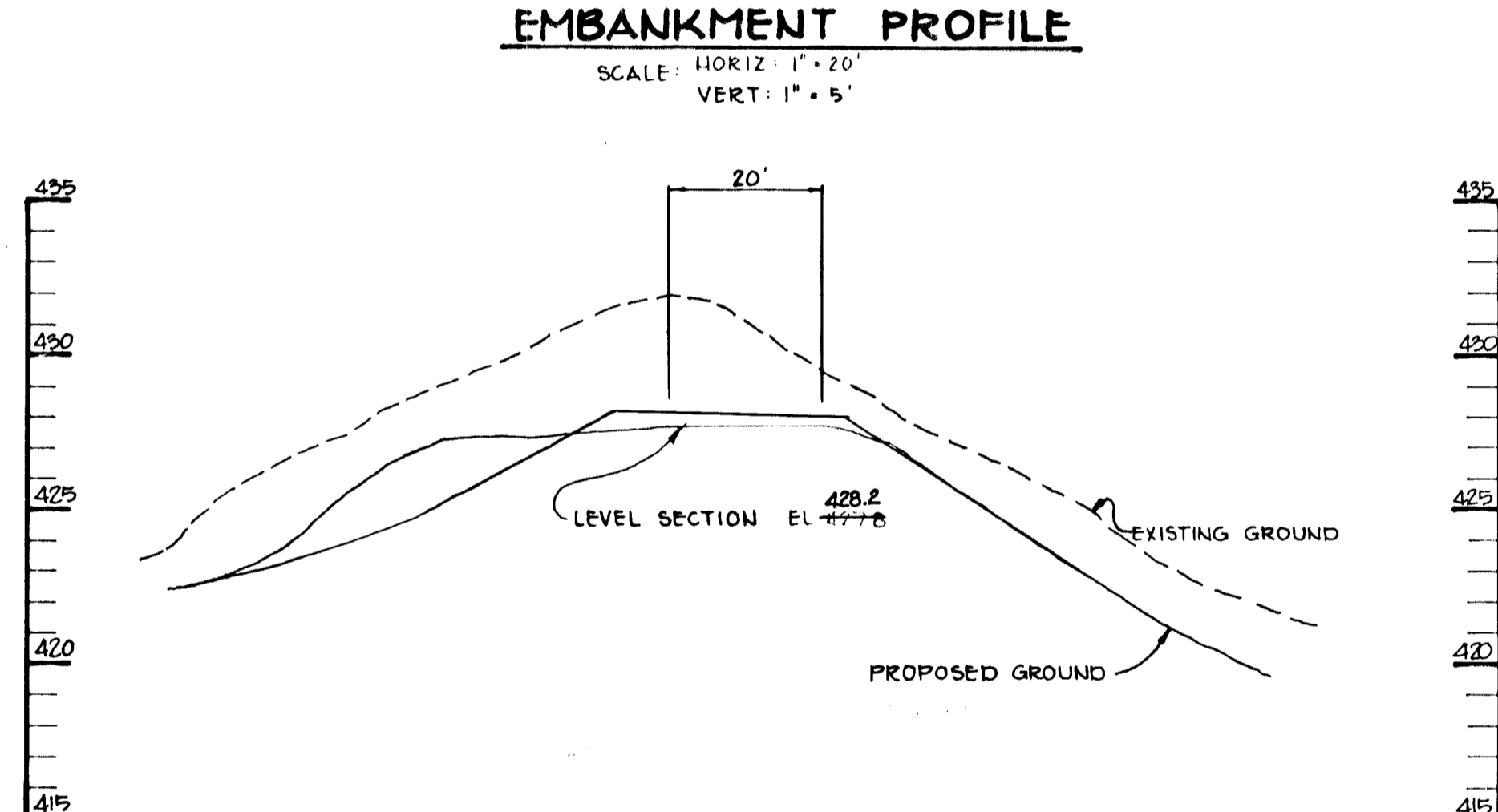
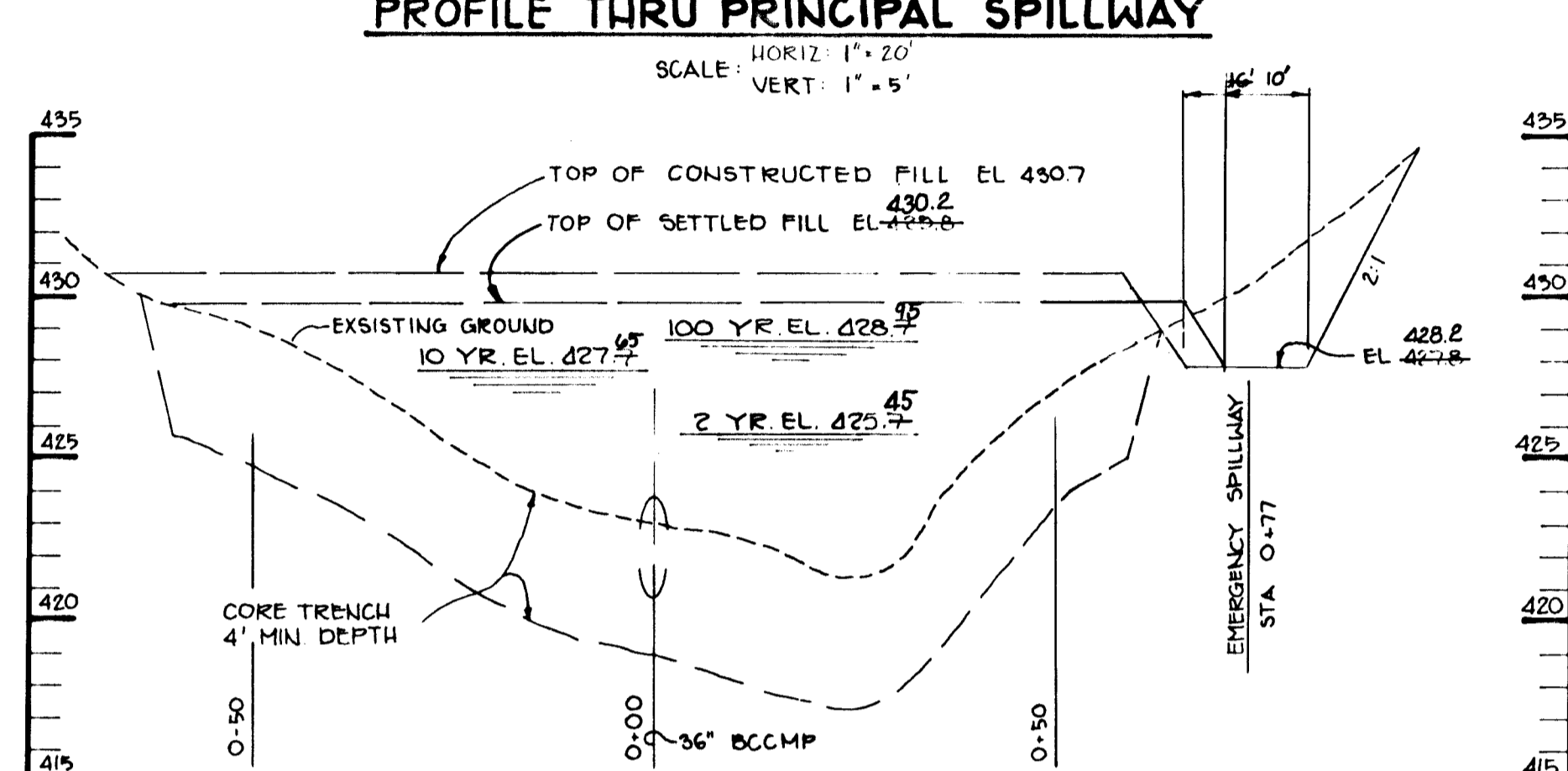
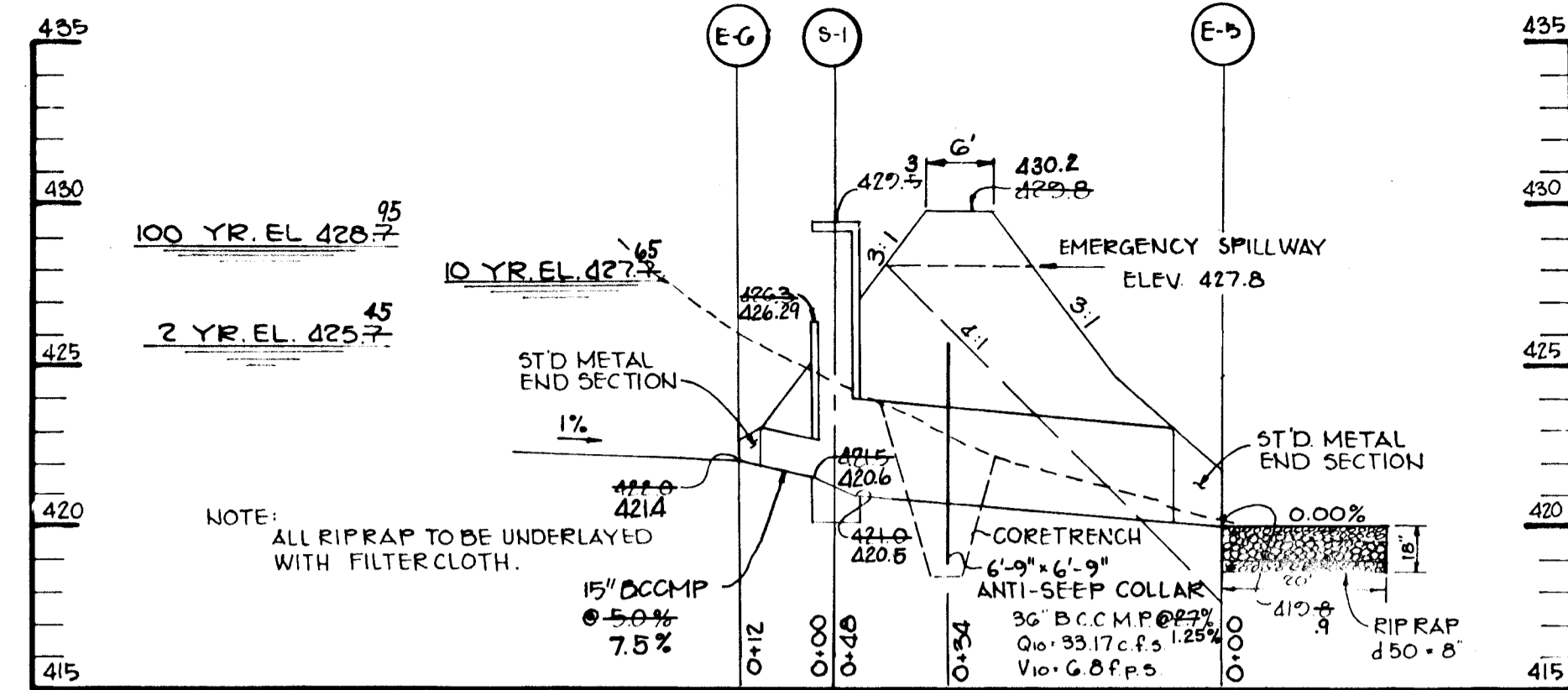
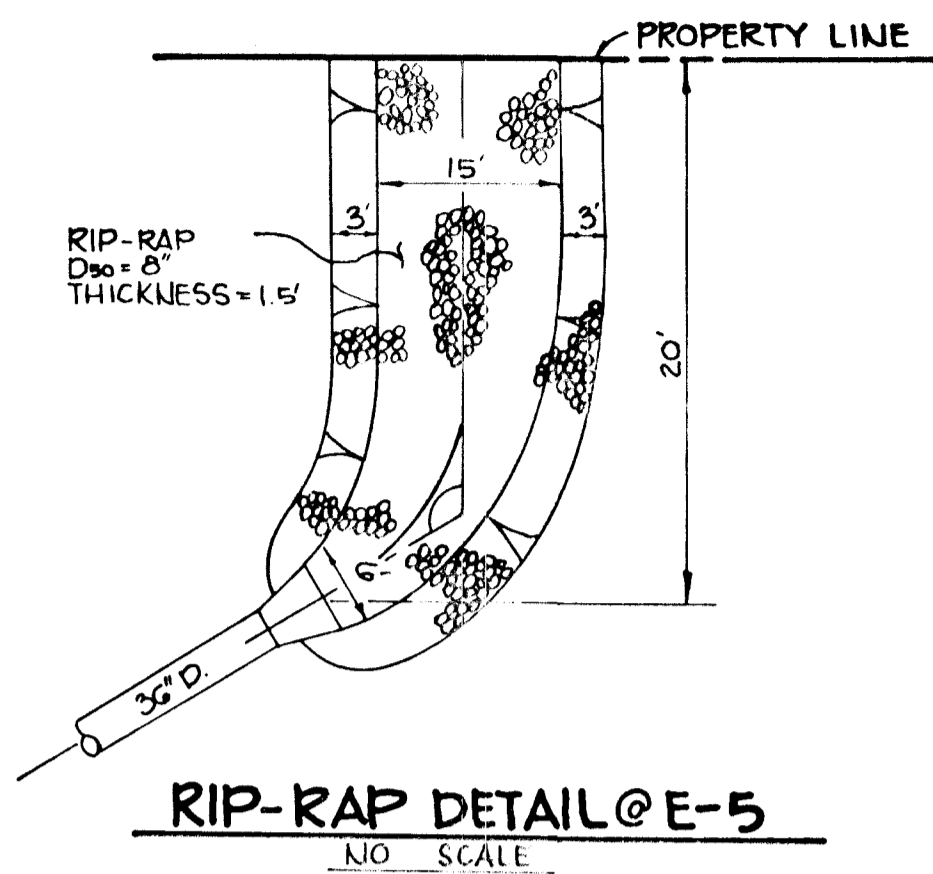
7. Finishing - Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled 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.

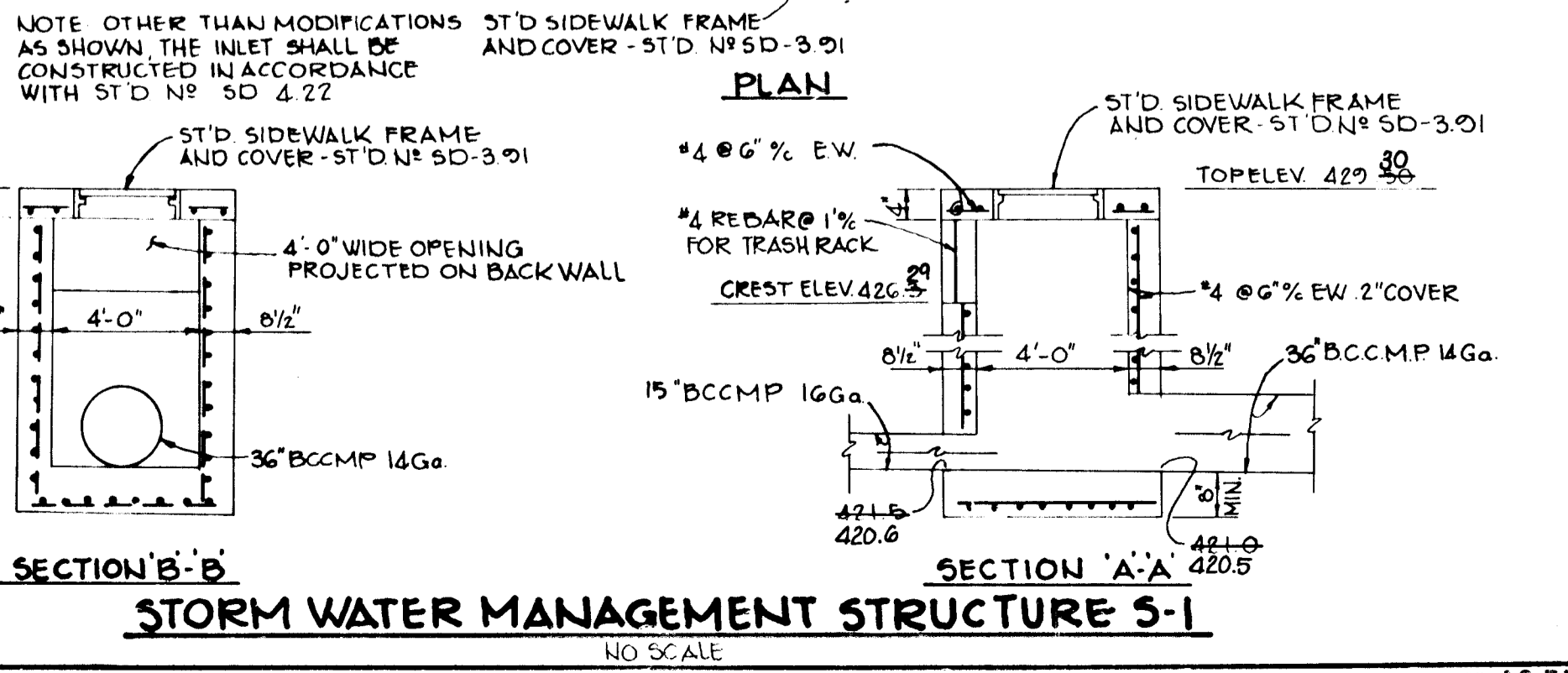
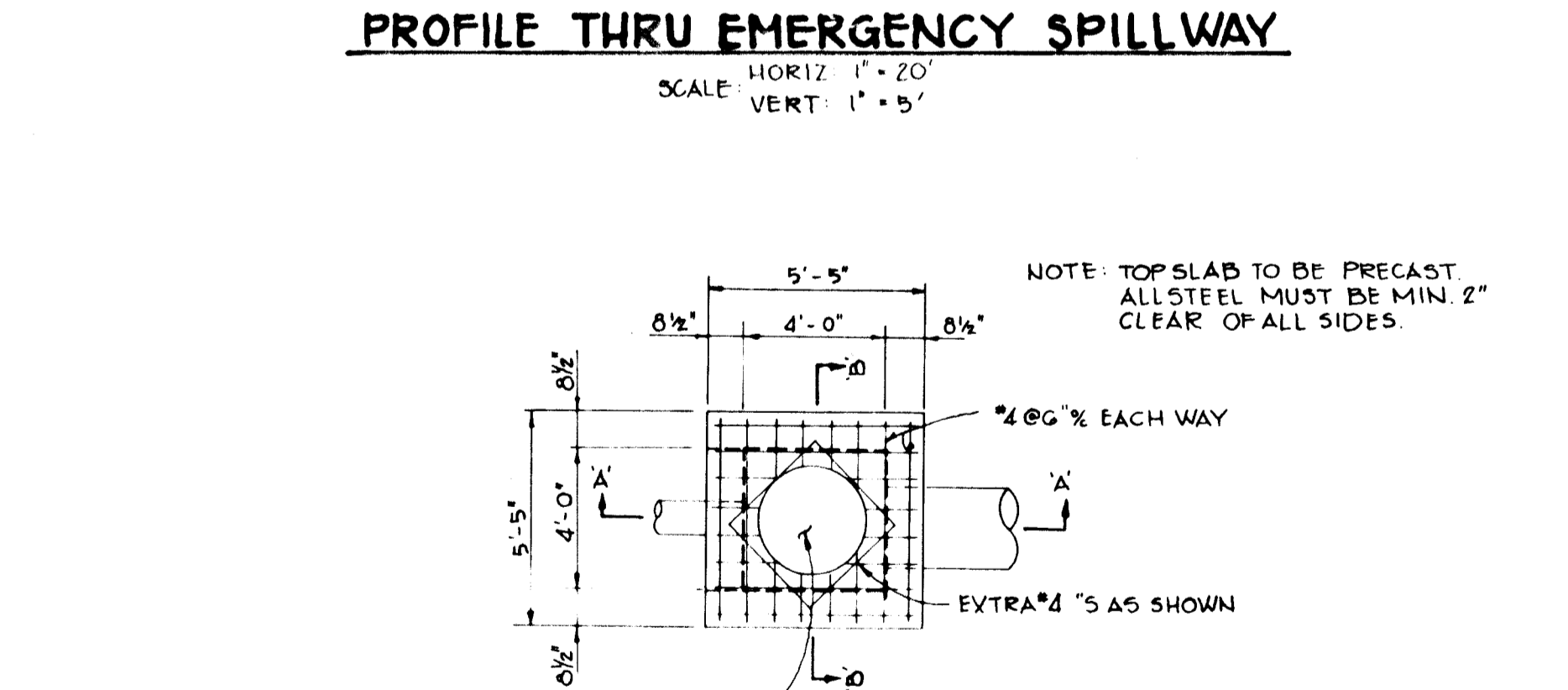
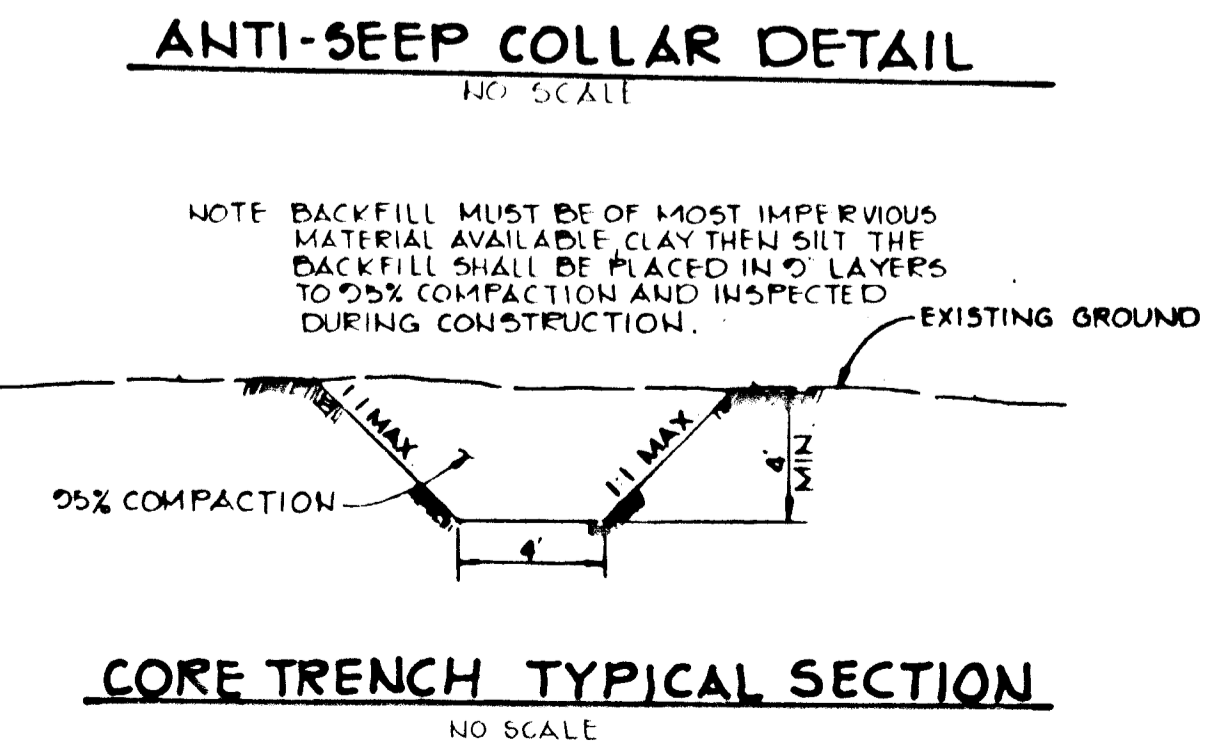
9. Placing Temperature - Concrete may not be placed at temperatures below 32° F with the temperature falling, or 34° with the temperature rising.

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, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications shown on or accompanying the drawings.



- 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\"/>



APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Louis F. Dineen 8-16-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
S. P. Raley 8-17-84
CHIEF, BUREAU OF ENGINEERING

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.
6-13-84

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.
8-7-84

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.
8-16-84
U.S. SOIL CONSERVATION SERVICE
APPROVED: Robert J. Zehner 8-16-84
HOWARD S.C.D. DATE

DATE	NO.	REVISION

OWNER: CELESTINIUS A. GREEN
2702 ST. JOHNS LANE
ELLICOTT CITY, MARYLAND 21043

DEVELOPER: OXFORD LAND DEVELOPMENT CORPORATION
1135 GREENWOOD ROAD
PIKESVILLE, MARYLAND 21208

PROJECT: ST. JOHNS GREEN
LOTS 1 THRU 23

AREA: TAX MAP #17 PARCEL G8
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
ZONED R-20

TITLE: STORM WATER MANAGEMENT NOTES AND DETAILS

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
8659 Baltimore National Pike, Ellicott City, Maryland, 21043 301-461-2690

8-7-84 DATE

DESIGNED BY: J.K.B.
DRAWN BY: J.M.G.
PROJECT NO: OOG900
DATE: 8-13-84
SCALE: AS SHOWN
DRAWING NO: 7 OF 7

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, over-size 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 tread 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. 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 Specifications M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

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

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

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.

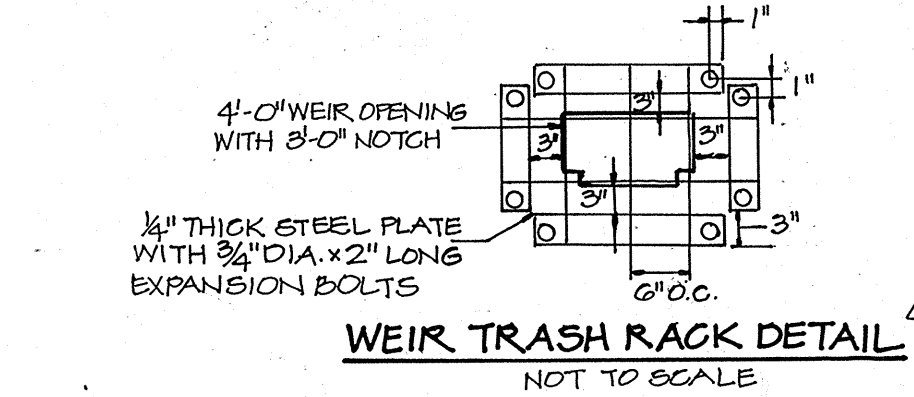
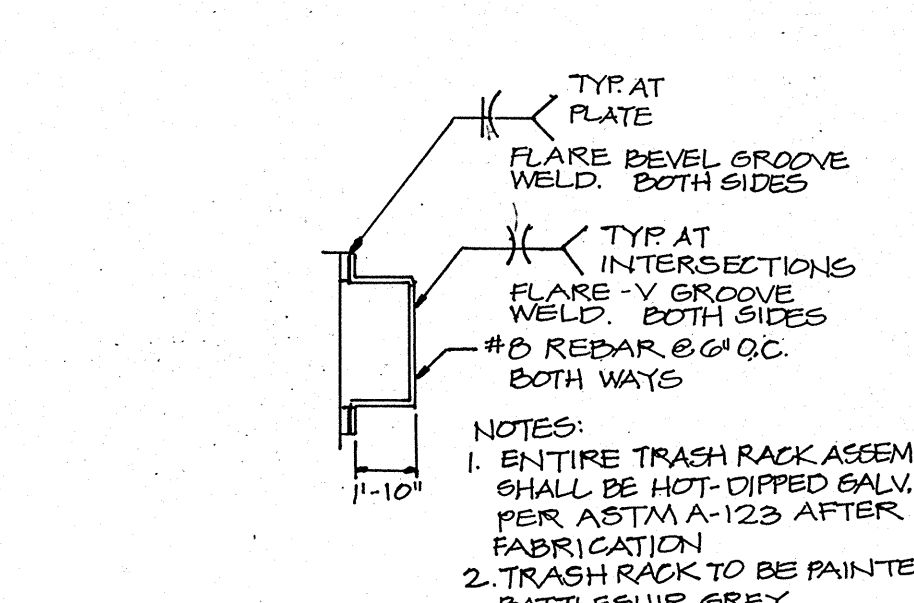
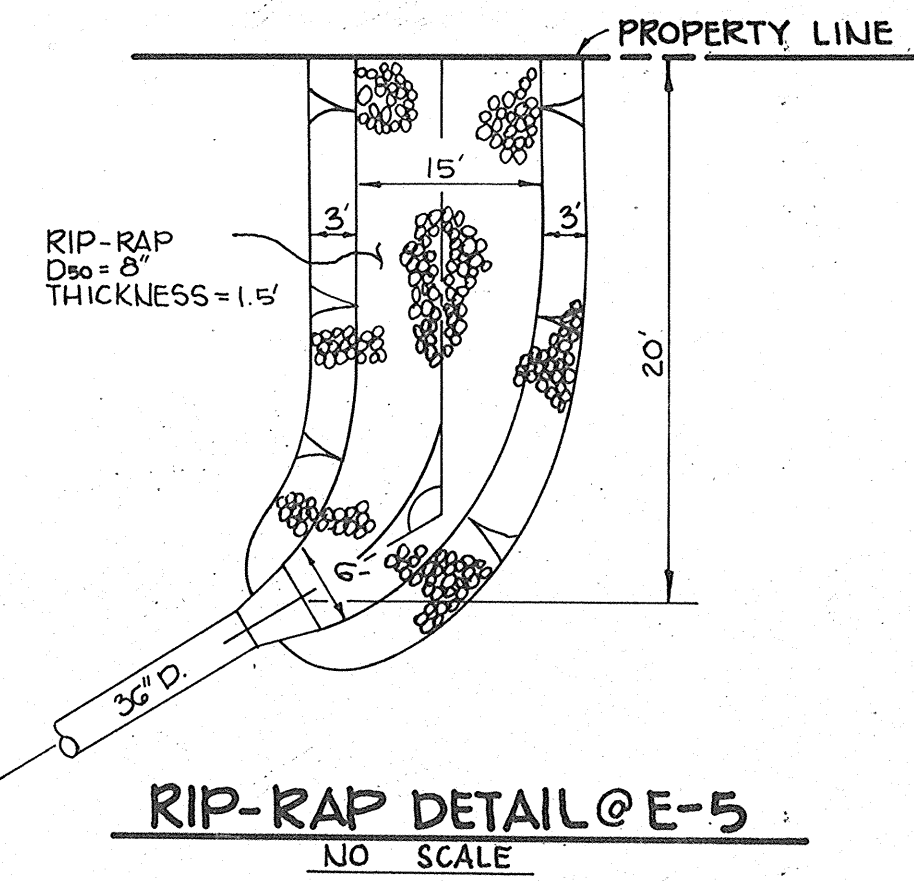
d. Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.

e. Reinforcing Steel - The reinforcing steel shall be 2-formed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

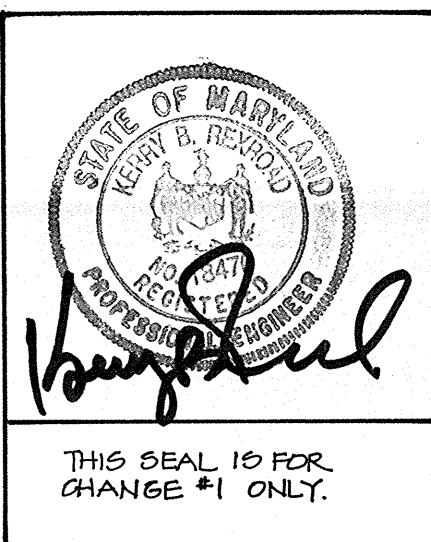
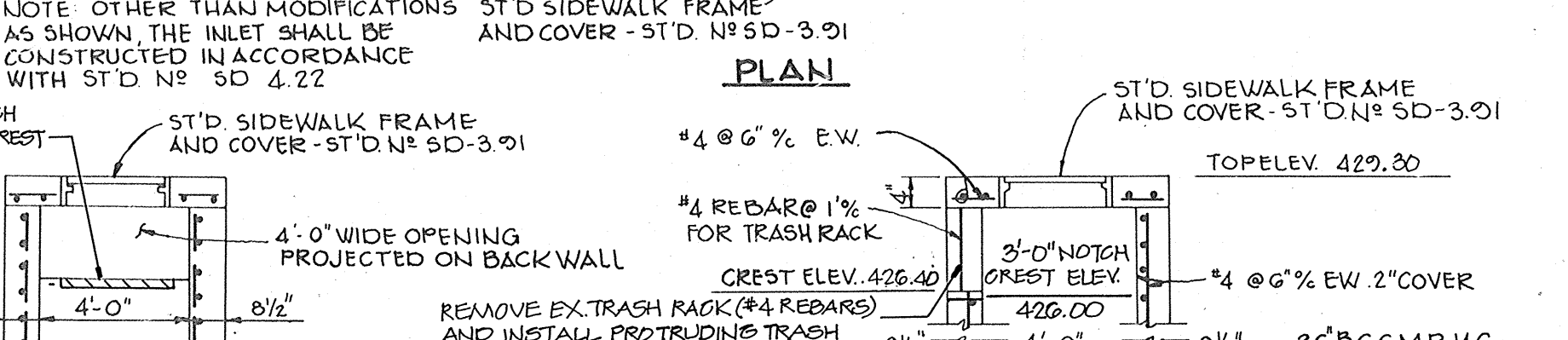
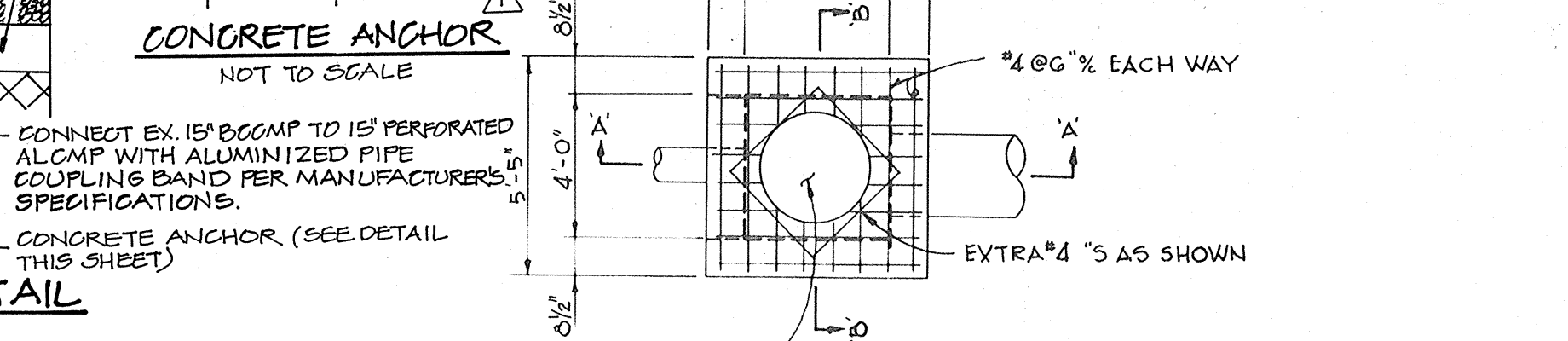
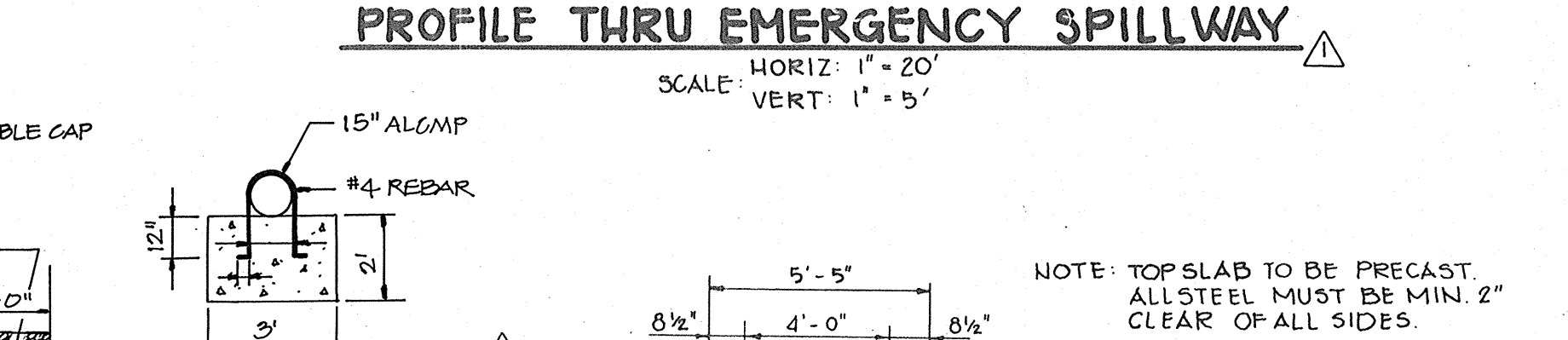
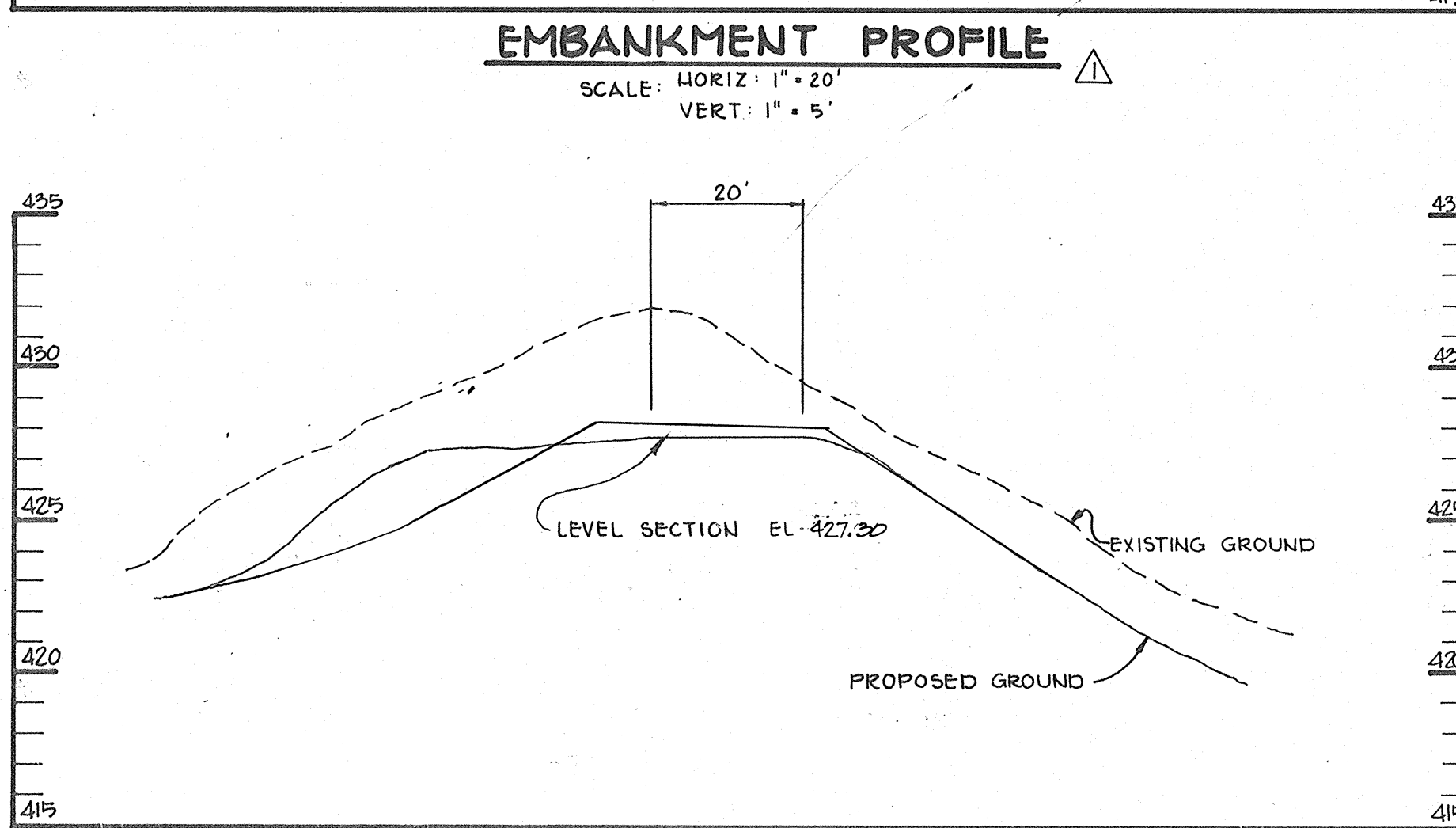
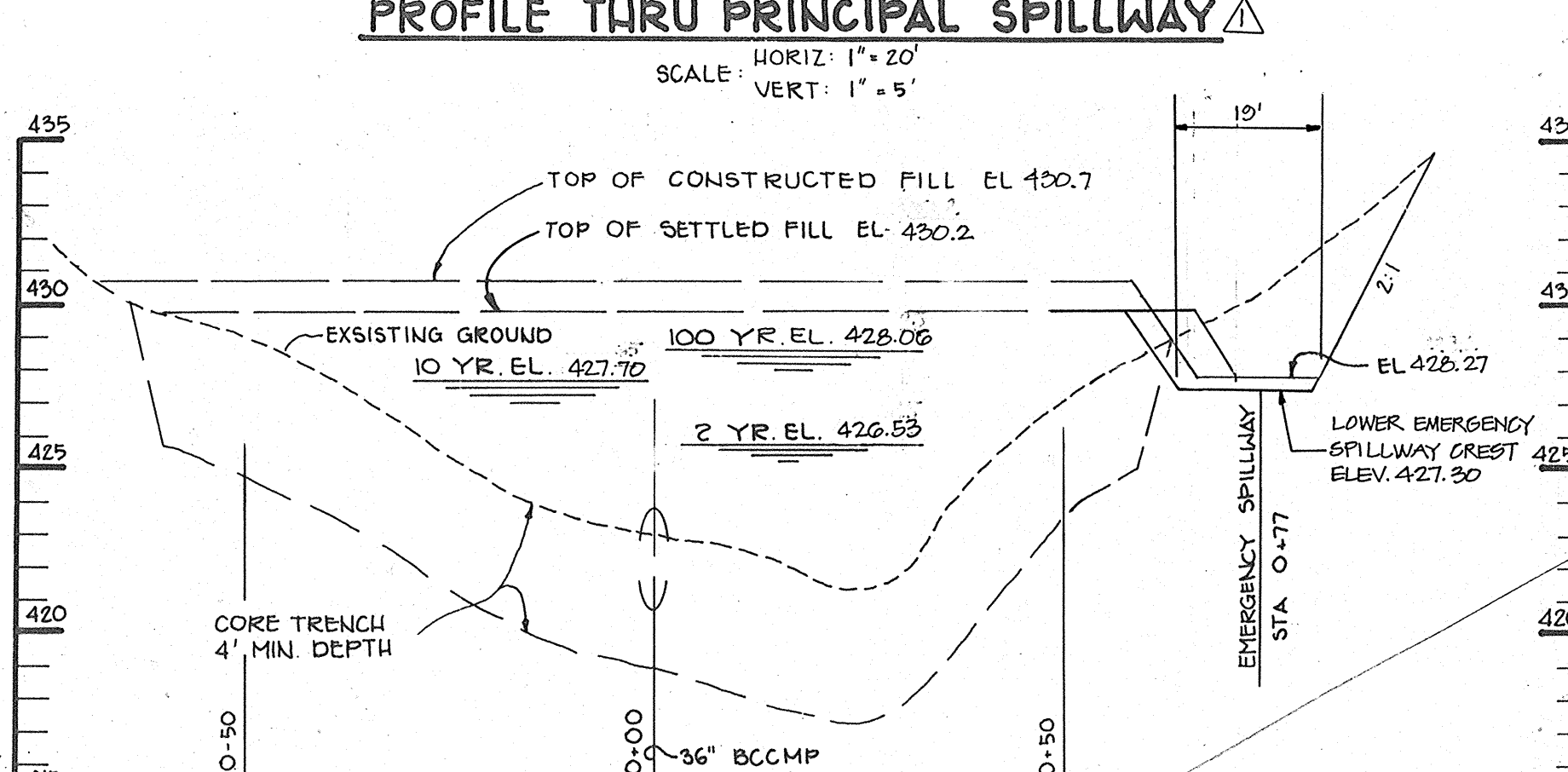
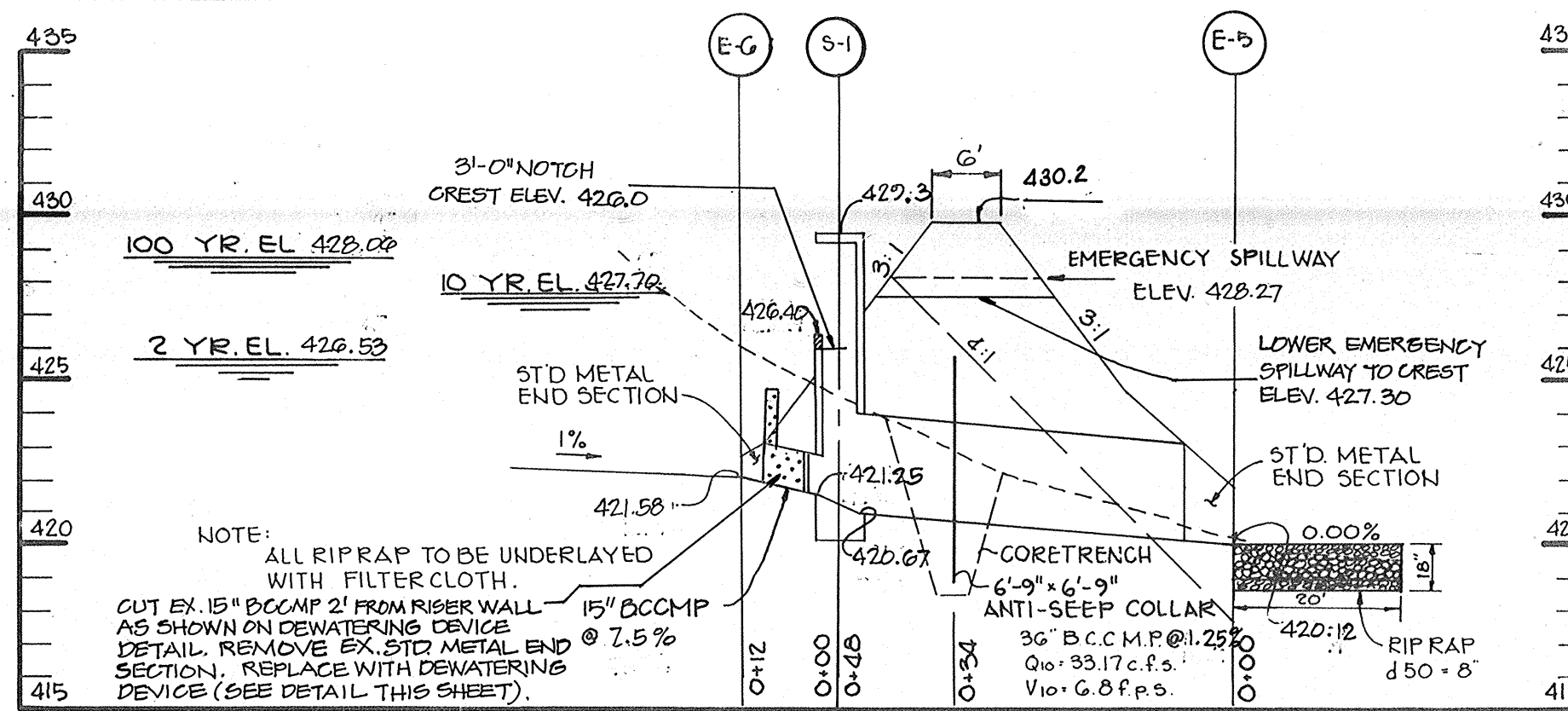
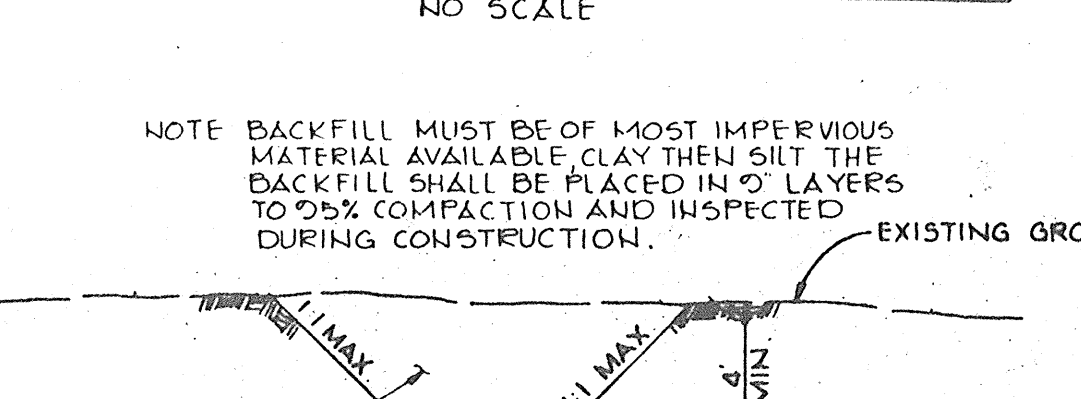
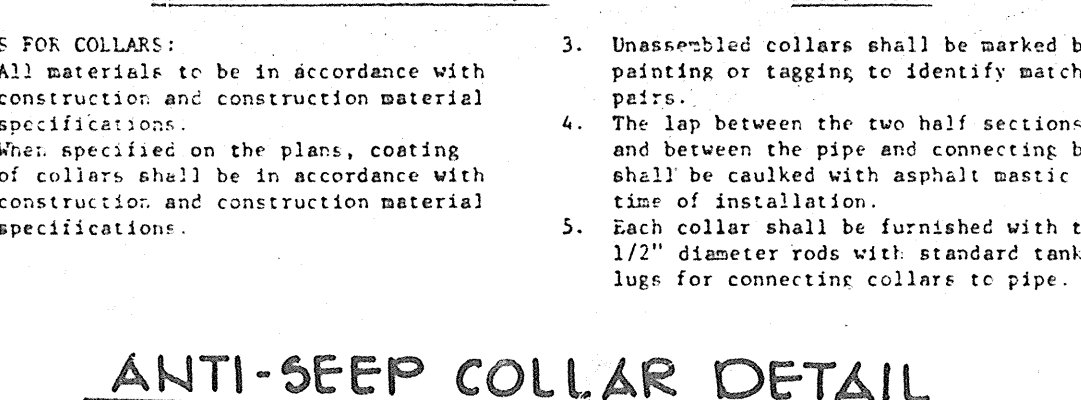
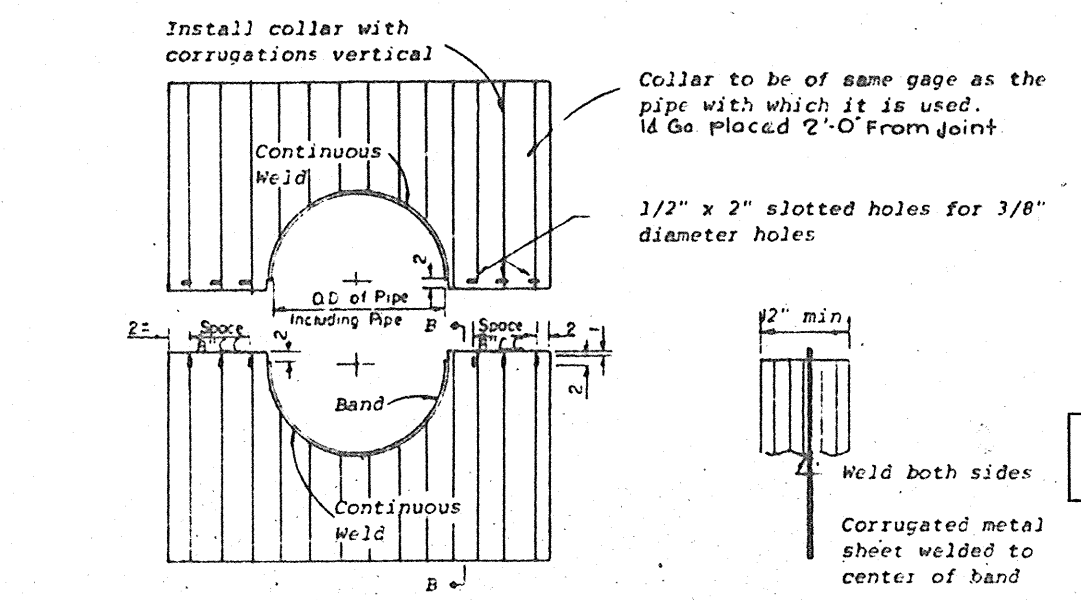
2. Design Mix - The concrete shall be mixed in the following proportions. The water-cement ratio shall be 5-1/2 to 6 U. S. gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-1/2. The combination of aggregates may be adjusted to produce a plastic 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 produce 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 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 slightly 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.



ANTI-SEEP COLLAR DETAIL. A cross-section diagram showing an anti-seep collar detail. It features a 1/2-inch diameter pipe with a collar that has a 1/2-inch by 2-inch slotted hole for a 3/8-inch diameter hole. The collar is to be of the same gage as the pipe with which it is used. The diagram is labeled 'ANTI-SEEP COLLAR DETAIL' and 'NO SCALE'.



APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

ACTING CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
Louis F. Dunn 8-16-84

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING
W. S. C. D. 8-17-84

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.
6-13-84

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.
8-7-84

ENGINEER: Arthur E. Muzg

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
8-16-84

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
8-16-84

11-23-04 UPDATED INVERTS AND ELEVATIONS PER FIELD SURVEY IN OCT. 2003. ADDED NOTCH IN WEIR AND MODIFIED TRASH RACK AND EMERGENCY SPILLWAY. REPEATED EXISTING 15" PERFORATED PIPE WITH DEWATERING DEVICE.

OWNER: CELESTINUS A. GREEN, 2702 ST. JOHNS LAKE, ELLICOTT CITY, MARYLAND 21043

DEVELOPER: OXFORD LAND DEVELOPMENT CORPORATION, 1135 GREENWOOD ROAD, PIKESVILLE, MARYLAND 21208

PROJECT: ST. JOHNS GREEN, LOTS 1 THRU 20

AREA: TAX MAP #17, PARCEL G8, 2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND, ZONED R-20

TITLE: STORM WATER MANAGEMENT NOTES AND DETAILS

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
8659 Baltimore National Pike, Ellicott City, Maryland, 21041 301-461-2690

8-7-84 DATE

DESIGNED BY: J.K.B.
DRAWN BY: J.M.G.
PROJECT NO: 006500
DATE: 6-13-84
SCALE: AS SHOWN

DRAWING NO. 7 OF 7

NO WOODY VEGETATION ZONE (TO BE MAINTAINED BY REGULAR COUNTY MAINTENANCE)

FILL REQUIRED ON SLOPE OF EMBANKMENT TO MAINTAIN 3:1 SIDE SLOPES.

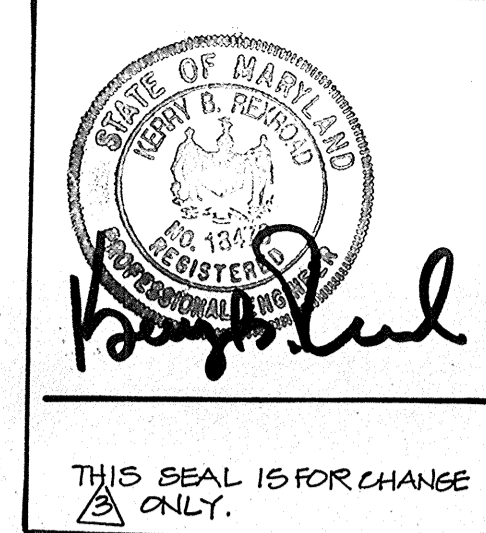
PLANTING SCHEDULE

SYMBOL	QUANTITY	NAME	SIZE	COMMENTS
	8	PINUS STROBUS (EASTERN WHITE PINE)	6'-8" HT.	FULL TO GROUND
	6	QUERCUS RUBRUM (NORTHERN RED OAK)	2.5'-3" CAL.	FULL CROWN

CURVE DATA

FROM P.C. STA. 0+25.70 TO P.T. STA. 4+67.69

$\Delta = 21^\circ 06' 14"$
 $R = 1200.00'$
 $L = 442.00'$
 $T = 223.53'$
 $D_c = 04^\circ 46' 29"$
 $CHD = 5' 11" 33' 07" W, 433.50$



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."

CELESTINUS A. GREEN ET AL.
 DEVELOPER 6-13-84 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

APPROVED: *John F. Dunn* 8-16-84
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: *William J. Ryan* 9-17-84
 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.

APPROVED: *James M. Helm* 8-16-84
 U.S. SOIL CONSERVATION SERVICE DATE

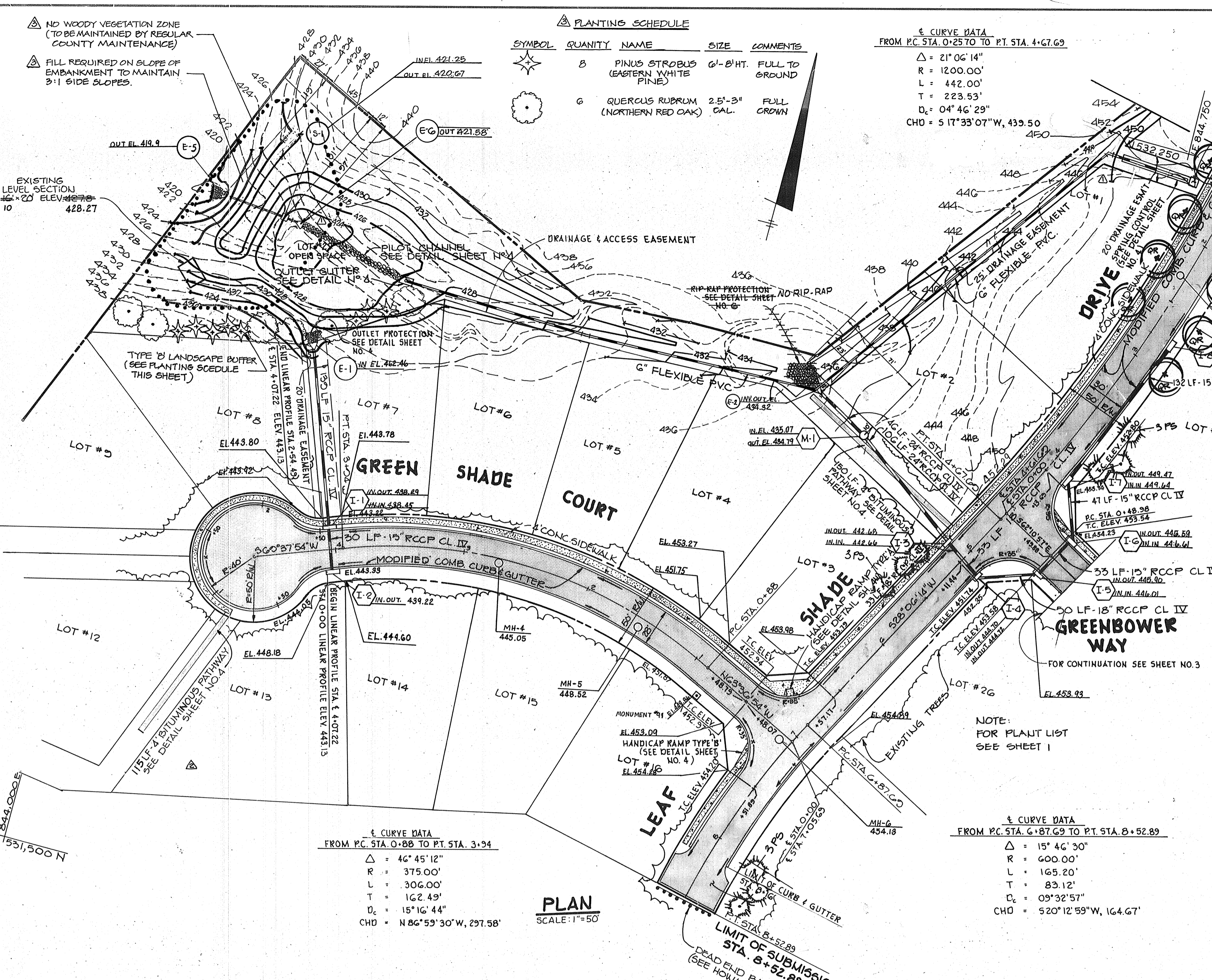
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *Robert W. Ziehm* 8-16-84
 HOWARD S.C.D. 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. MUEGG
 ENGINEER 8-7-84 DATE



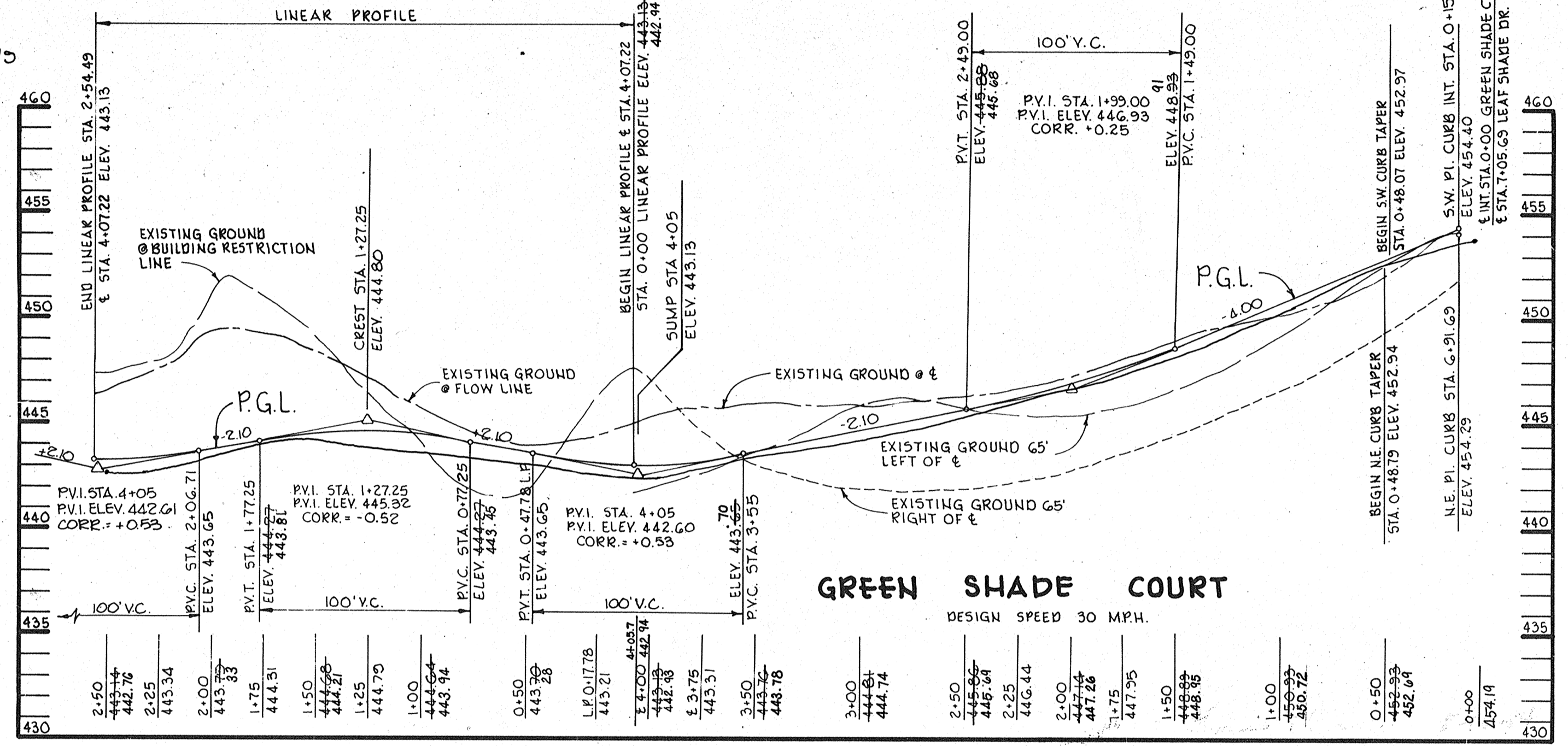
CURVE DATA
 FROM P.C. STA. 0+88 TO P.T. STA. 3+34

$\Delta = 46^\circ 45' 12"$
 $R = 375.00'$
 $L = 306.00'$
 $T = 162.49'$
 $D_c = 15^\circ 16' 44"$
 $CHD = N 86^\circ 59' 30" W, 297.58'$

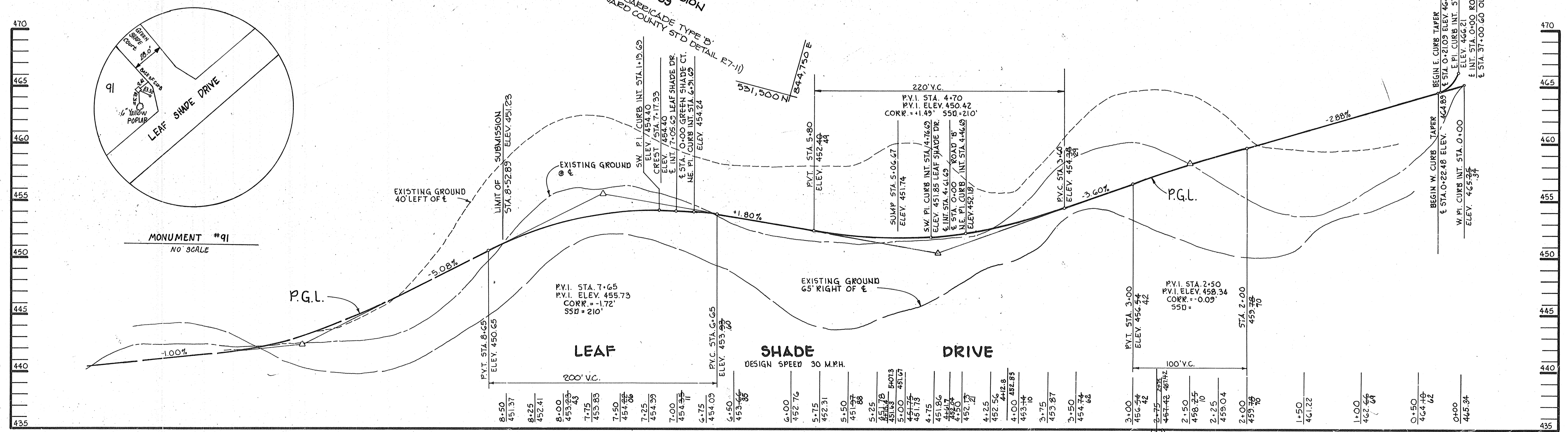
CURVE DATA
 FROM P.C. STA. 6+87.69 TO P.T. STA. 8+52.89

$\Delta = 15^\circ 46' 30"$
 $R = 600.00'$
 $L = 165.20'$
 $T = 83.12'$
 $D_c = 03^\circ 32' 57"$
 $CHD = S 20^\circ 12' 59" W, 164.67'$

PLAN
 SCALE: 1"=50'



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



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

11-23-04	UPDATED CONTOURS AND INVERTS PER FIELD SURVEY IN OCT. 2003 AND ADDED NO WOODY VEGETATION ZONE AND TYPE 'B' LANDSCAPE BUFFER.
0-22-84	REDUCED LENGTH OF MACADAM PATHWAY BETWEEN LOTS 12 & 13 FROM 115' TO 112'.
10-17-84	EXTENSION OF UNDERDRAIN FOR SPRING CONTROL.

OWNER: CELESTINUS A. GREEN ET AL.
 2762 ST. JOHNS LANE
 ELLICOTT CITY, MARYLAND 21043

DEVELOPER: OXFORD LAND DEVELOPMENT CORPORATION
 1133 GREENWOOD ROAD
 PIKESVILLE, MARYLAND 21208

PROJECT: ST. JOHNS GREEN
 LOTS 1 THRU 23

AREA TAX MAP #17 PARCEL G6
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 ZONED R-20

TITLE: PLAN AND PROFILE OF
 LEAF SHADE COURT AND LEAF SHADE DRIVE

THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 8659 Baltimore National Pike, Ellicott City, Maryland, 21043 301 461-2690

8-7-84 DATE

DESIGNED BY: L.J.D.

DRAWN BY: DAM

PROJECT NO: 006500

DATE: 6-13-84

SCALE: AS SHOWN

DRAWING NO: 2 OF 7