

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

Charles J. Crovo, Sr. 2/23/84
CHARLES J. CROVO SR. DATE

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

John Mikolasko 2/23/84
JOHN MIKOLASKO DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

M.H. Kelly 5-29-84
DATE

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

Robert Zeman 5-29-84
HOWARD COUNTY SOIL CONSERVATION DISTRICT DATE

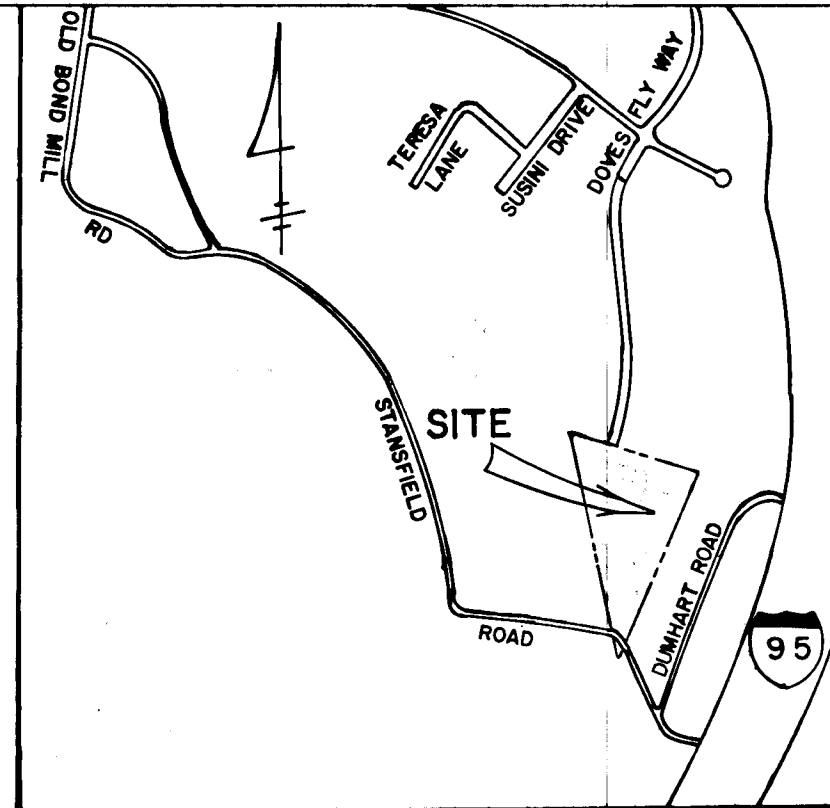
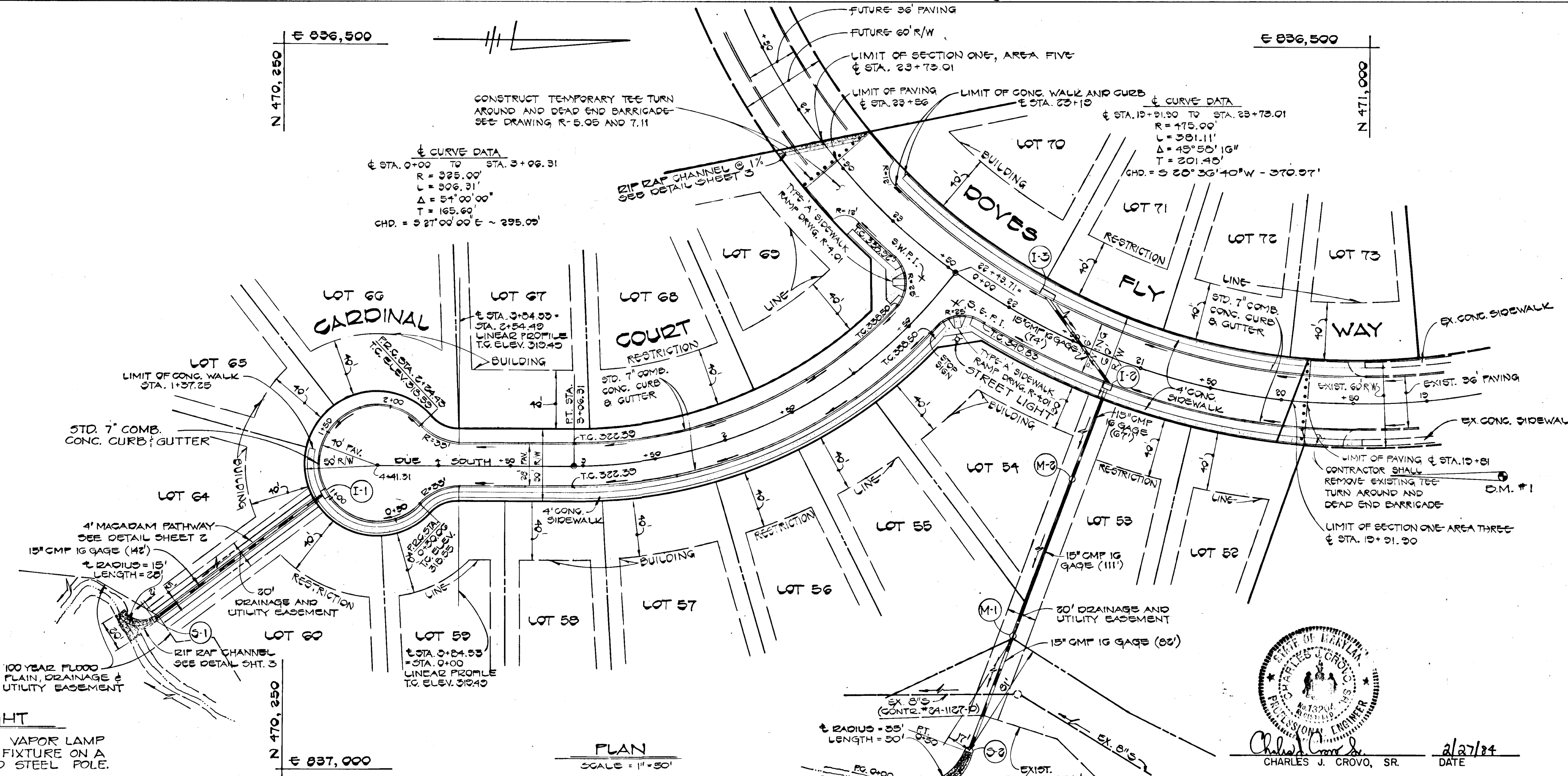
GENERAL NOTES

- 1) ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- 2) ALL UTILITY COMPANIES MUST BE NOTIFIED 24 HRS. IN ADVANCE OF ANY CONSTRUCTION.
- 3) STORM DRAINAGE TRENCHES WITHIN ROAD RIGHTS-OF-WAYS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
- 4) ANY DAMAGE TO PUBLIC RIGHTS-OF-WAYS OR PAVING WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- 5) CONTRACTOR TO NOTIFY THE HOWARD COUNTY INSPECTION AND SURVEY DIVISION AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS - TELEPHONE 792-7272.
- 6) STORM WATER MANAGEMENT FOR THIS DEVELOPMENT HAS BEEN PROVIDED FOR AT CARDINAL FOREST SECTION I AREA 3 (F 83-108)

APPROVED DEPARTMENT OF PUBLIC WORKS
R. Reed 6-4-84
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED OFFICE OF PLANNING AND ZONING

Lucas F. Jones 6-1-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE



VICINITY MAP SCALE = 1" = 1200'

BENCH MARKS
BM #1 ELEV. 340.61
EAST END OF 15' T.C.S. 50' LEFT OF STA. 10+25.2 DOVES FLY WAY
BM #2 ELEV. 316.72
IRON PIPE FOUND 245' NORTH EAST OF EXIST. SANITARY MANHOLE #2 (SEE SHT. 3)

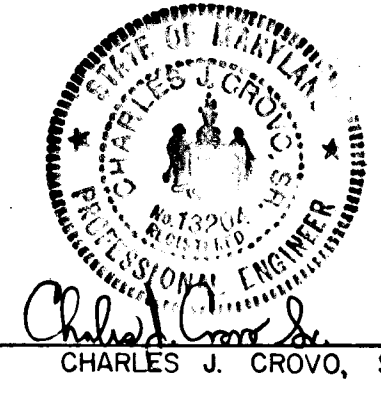
CARDINAL FOREST SECTION I, AREA 5 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DOVES FLY WAY PLAN AND PROFILE
CARDINAL COURT PLAN

OWNER AND DEVELOPER
FOXLEIGH JOINT VENTURE
2205 FOXLY ROAD
TIMONIUM, MARYLAND 21093

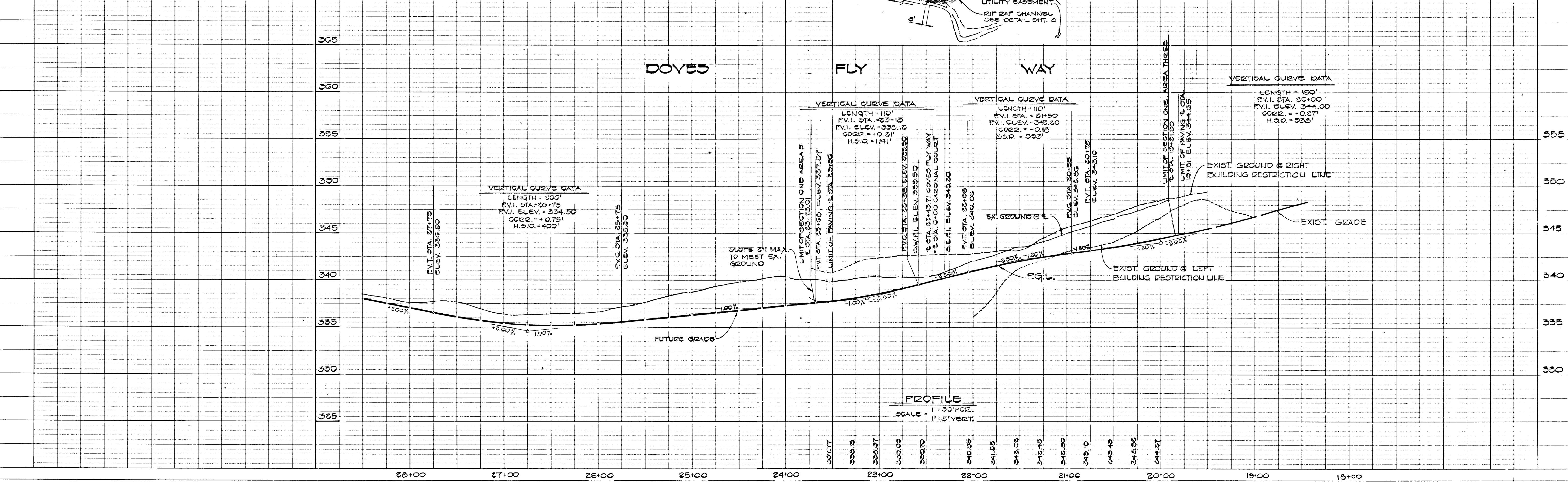
SCALE AS SHOWN DATE 2/24/84 DWG. NO. 1 OF 4
DES. C. CROVO DRN. A. BOGDAN CHK. R. B. CARTER

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELICOTT CITY, MARYLAND 21043



Charles J. Crovo, Sr. 2/27/84
CHARLES J. CROVO, SR. DATE

STREET LIGHT
250 WATT MERCURY VAPOR LAMP
PENDANT MOUNTED FIXTURE ON A
25 FOOT GALVANIZED STEEL POLE.



PLAN SURVEYED BY DATE PLOTTED BY DATE GRADES CHECKED BY DATE STRUCTURE NOTATIONS CHKD BY DATE

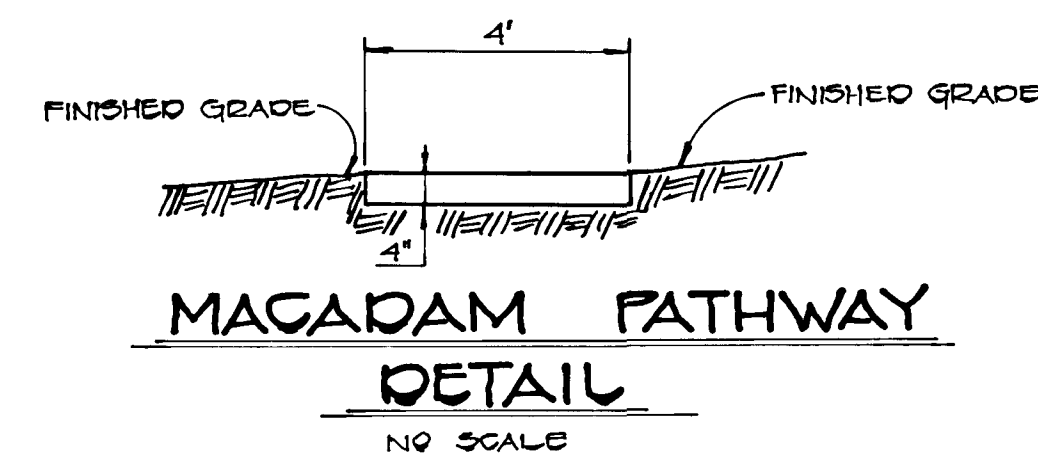
PROFILE SURVEYED BY DATE PLOTTED BY DATE GRADES CHECKED BY DATE STRUCTURE NOTATIONS CHKD BY DATE

CARDINAL COURT

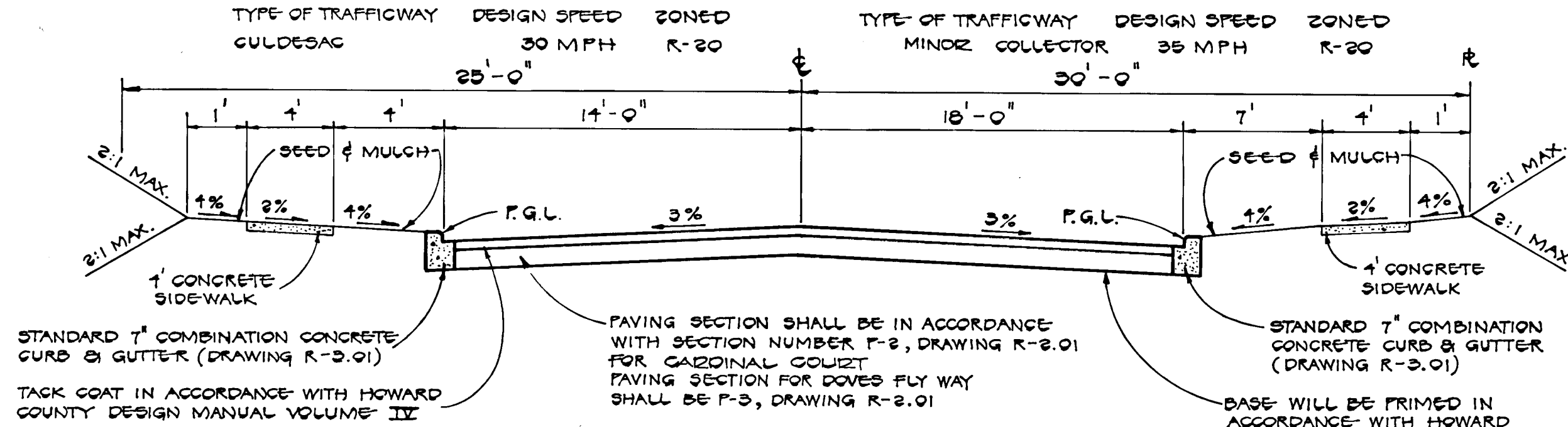
± STA. 0+00 TO ± STA. 3+84.83

DOVES FLY WAY

± STA. 13+01 TO ± STA. 23+56



MAGADAM PATHWAY DETAIL
NO SCALE



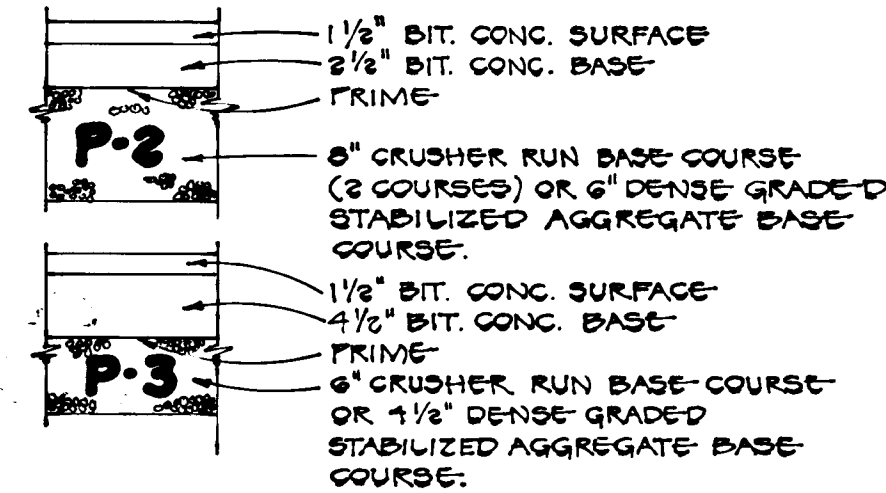
STANDARD 7" COMBINATION CONCRETE CURB & GUTTER (DRAWING R-3.01)
TACK COAT IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME III

PAVING SECTION SHALL BE IN ACCORDANCE WITH SECTION NUMBER P-2, DRAWING R-2.01 FOR CARDINAL COURT
PAVING SECTION FOR DOVES FLY WAY SHALL BE P-3, DRAWING R-2.01

STANDARD 7" COMBINATION CONCRETE CURB & GUTTER (DRAWING R-3.01)
BASE WILL BE PRIMED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL - VOLUME III

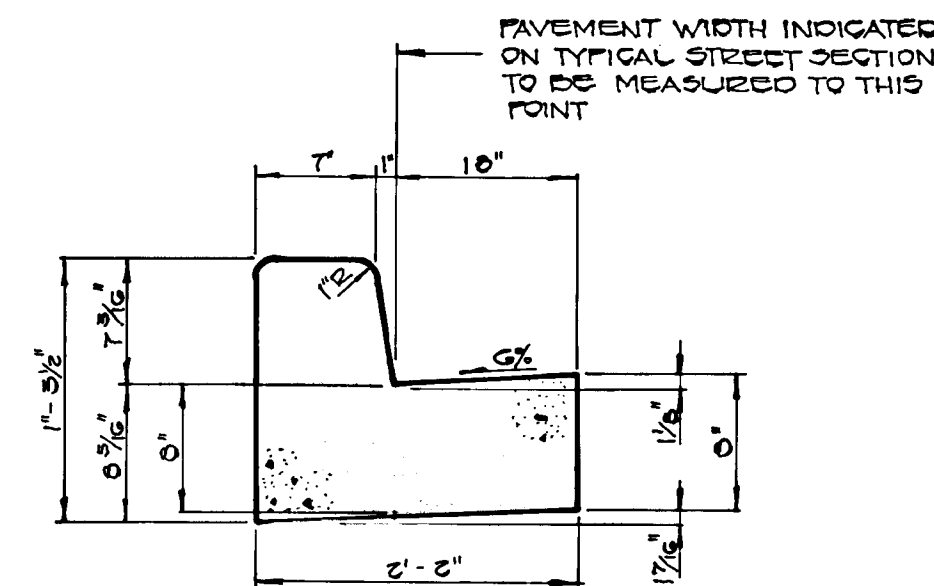
TYPICAL ROADWAY - HALF SECTION

NO SCALE



PAVING SECTION P-2 & P-3

NO SCALE

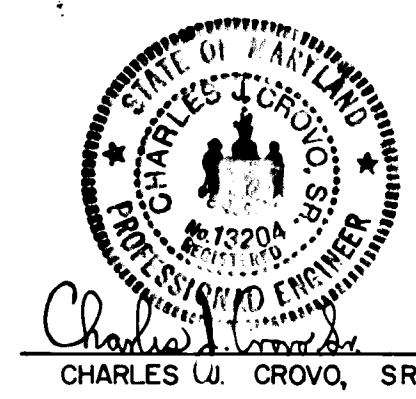


STANDARD 7" COMB. CONC. CURB & GUTTER

NO SCALE

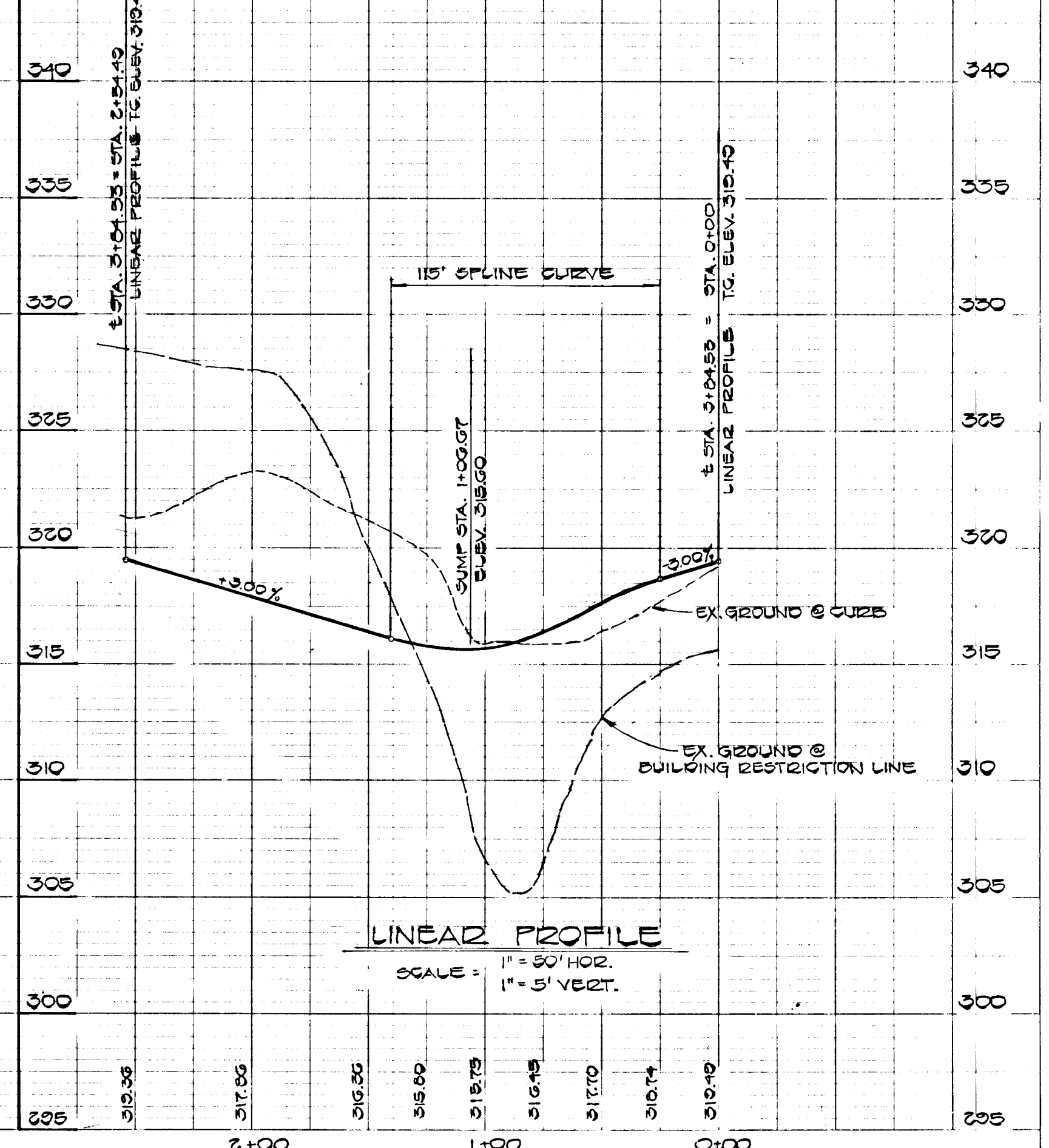
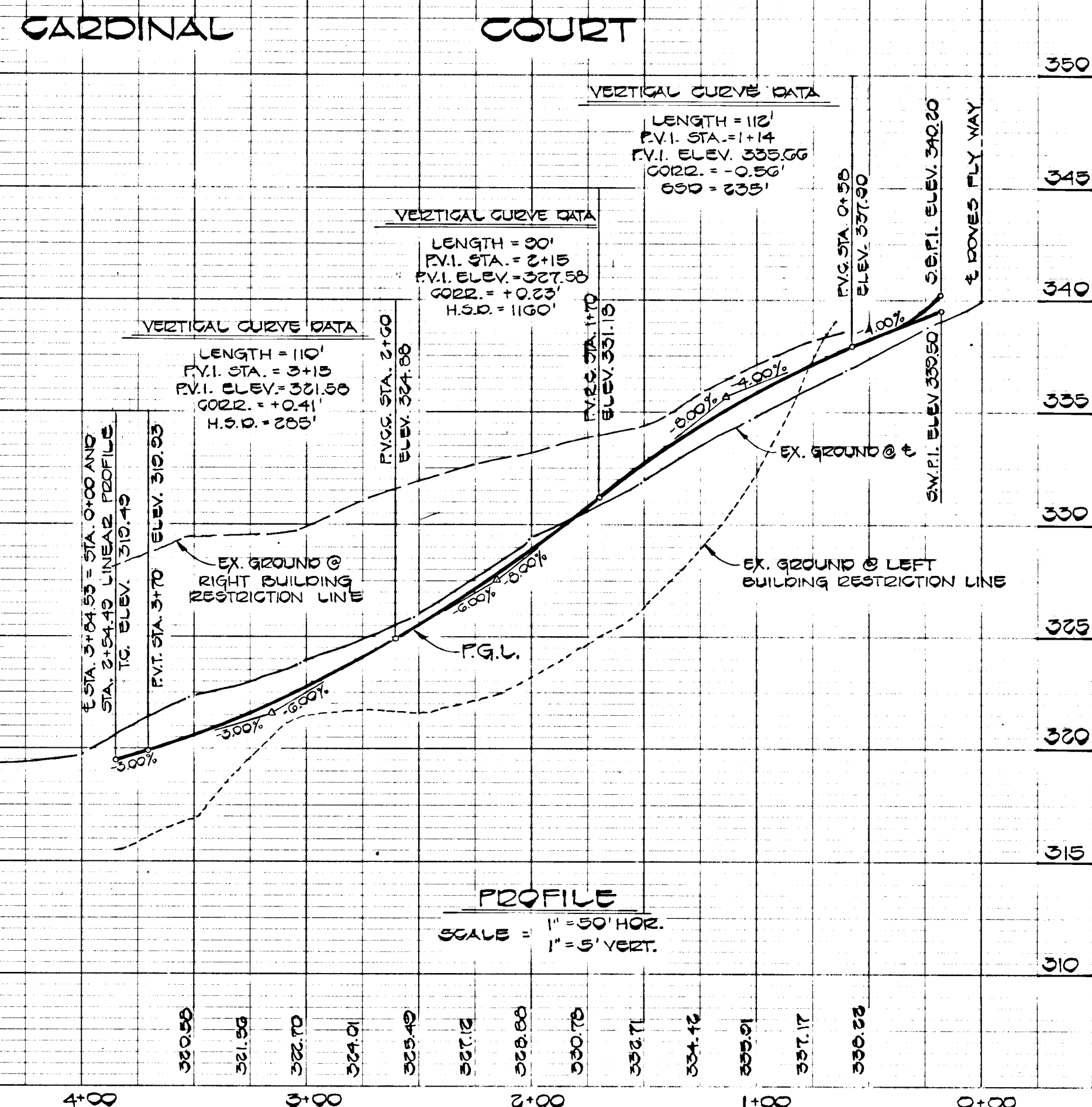
APPROVED
DEPARTMENT OF PUBLIC WORKS
Charles U. Crovo 6-1-84
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED
OFFICE OF PLANNING AND ZONING
Louis F. Jones 6-1-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE



Charles U. Crovo 2/27/84
CHARLES U. CROVO, SR. DATE

CARDINAL FOREST SECTION 1, AREA 5 6 TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TYPICAL ROAD SECTIONS & DETAILS	CARDINAL COURT PROFILE	
OWNER AND DEVELOPER FOXLEIGH JOINT VENTURE 2205 FOXLY ROAD TIMONIUM, MARYLAND 21093		
SCALE AS SHOWN	DATE 2/24/84	DWG NO 2 OF 4
DES. C. CROVO	DRN. A. BOGDAN	CHK. R. B. CARTER
FISHER, COLLINS AND CARTER, INC. CIVIL ENGINEERS AND LAND SURVEYORS 8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043		



STRUCTURE		SCHEDULE				
NO.	TYPE	INV. IN.	INV. OUT.	STATION	TOP ELEV.	REMARKS
I-1	A-5		337.50	1+03.97	315.00	DRWG 3D 4.01
I-2	A-5	336.00	335.64	21+10.12	345.50	DRWG 3D 4.01
I-3	A-10 WITH DEFUSSTONES		337.35	21+70.33	341.43	DRWG 3D 4.02 AND 3D 4.03
M-1	STANDARD MANHOLE	310.10	309.76		315.75	DRWG 9.5.01
M-2	STANDARD MANHOLE	333.07	332.74		333.00	DRWG 9.5.01
S-1	STD. METAL END SECTION		307.00		309.15	DRWG 3D 3.61
S-2	STD. METAL END SECTION		307.00		308.91	DRWG 3D 3.61

RIP RAP CHANNEL DESIGN DATA @ DOVES FLY WAY

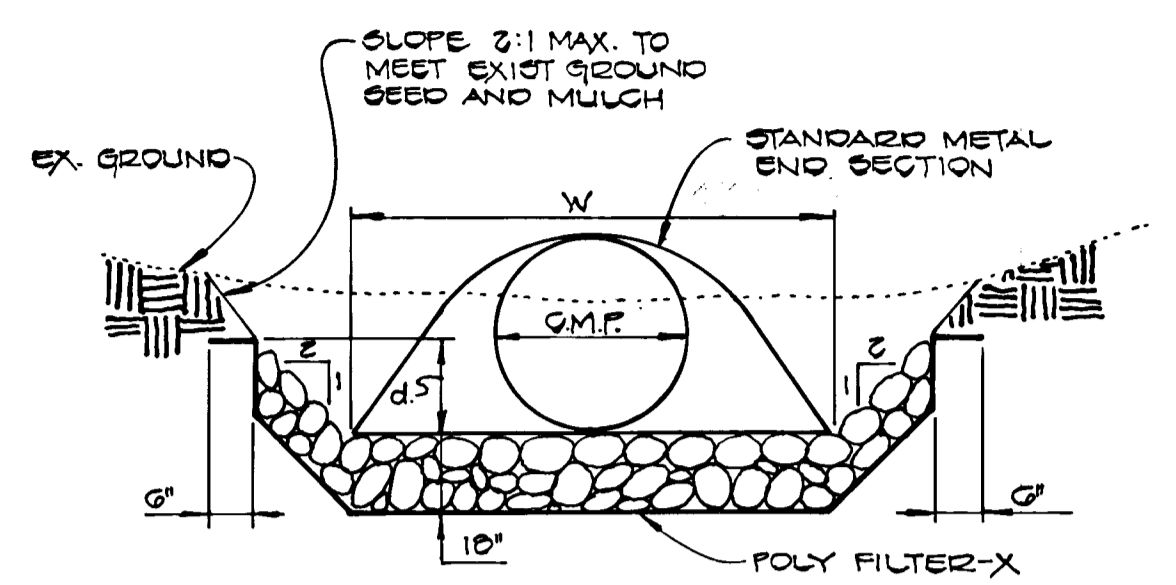
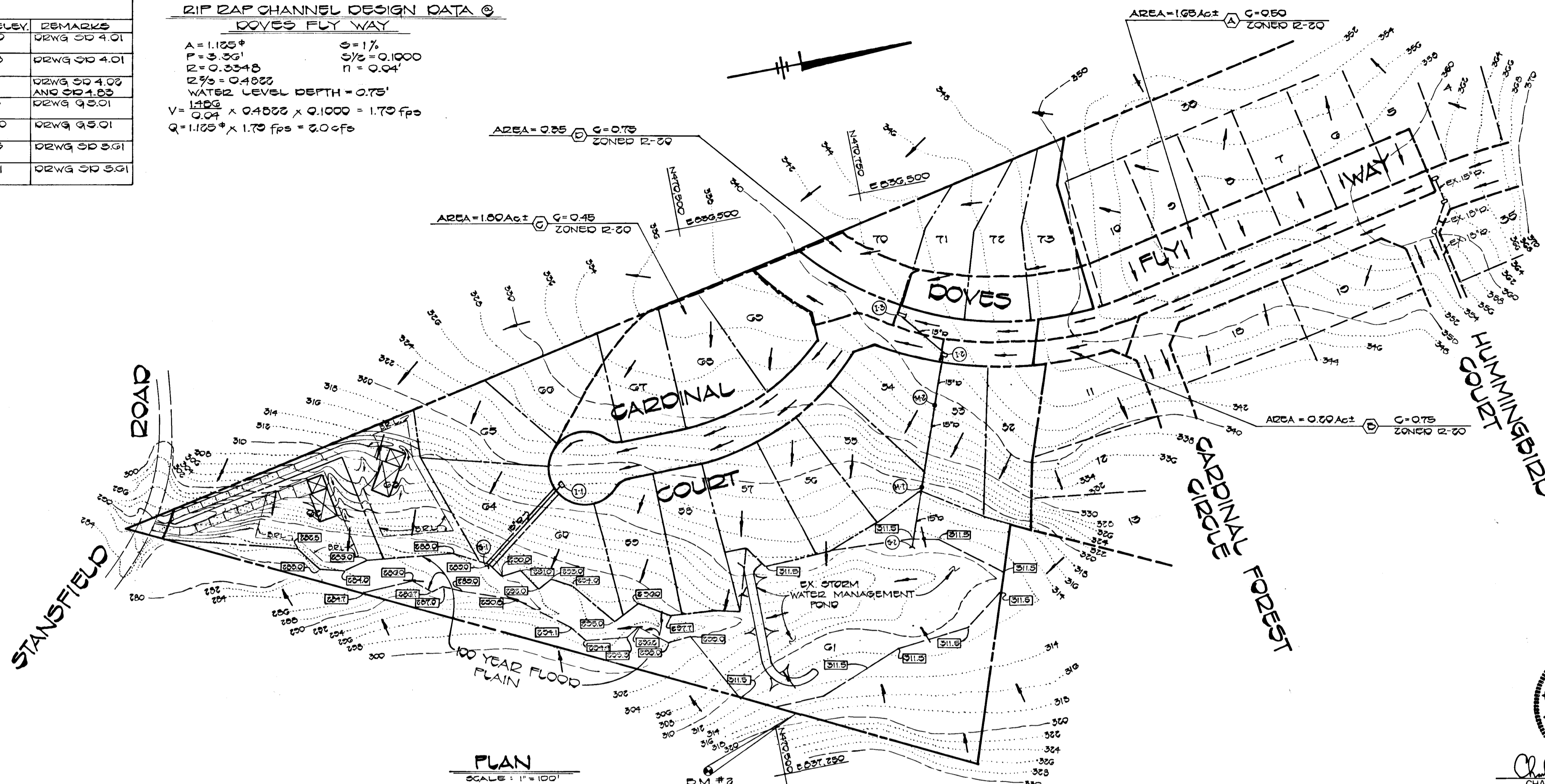
$A = 1.125^2$
 $F = 3.301$
 $R = 0.3348$
 $R^2 = 0.1121$
 $W = 4'$
 $V = 1.125 \times 0.4833 \times 0.1000 = 1.79$ fps
 $Q = 1.125^2 \times 1.79$ cfs = 2.0 cfs

RIP RAP CHANNEL DESIGN DATA @ S-1

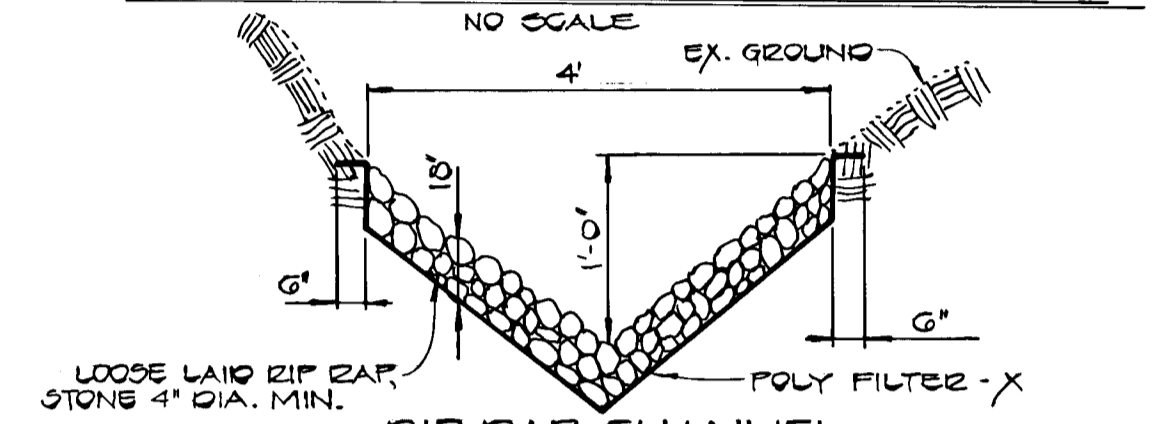
$A = 1.64^2$
 $F = 3.561$
 $R = 0.2050$
 $R^2 = 0.4201$
 $W = 4'$
 $V = 1.64 \times 0.4431 \times 0.1071 = 3.05$ fps
 $Q = 1.64^2 \times 3.05$ fps = 5.05 cfs
 MIN. STONE SIZE 4" DIAMETER

RIP RAP CHANNEL DESIGN DATA @ S-2

$A = 1.64^2$
 $F = 3.561$
 $R = 0.2050$
 $R^2 = 0.4201$
 $W = 4'$
 $V = 1.64 \times 0.4431 \times 0.1071 = 3.0$ fps
 $Q = 1.64^2 \times 3.0$ fps = 5.0 cfs
 MIN. STONE SIZE 4" DIAMETER



RIP RAP CHANNEL DETAIL



RIP RAP CHANNEL DETAIL AT DOVES FLY WAY

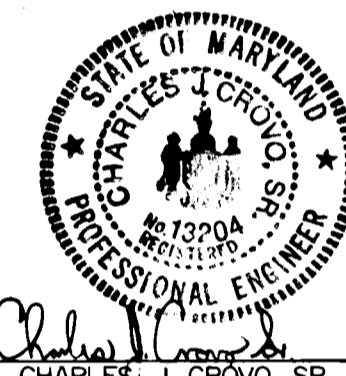
CARDINAL FOREST
 SECTION 1, AREA 5
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DRAINAGE AREA MAP
STORM DRAIN PROFILES & DETAILS

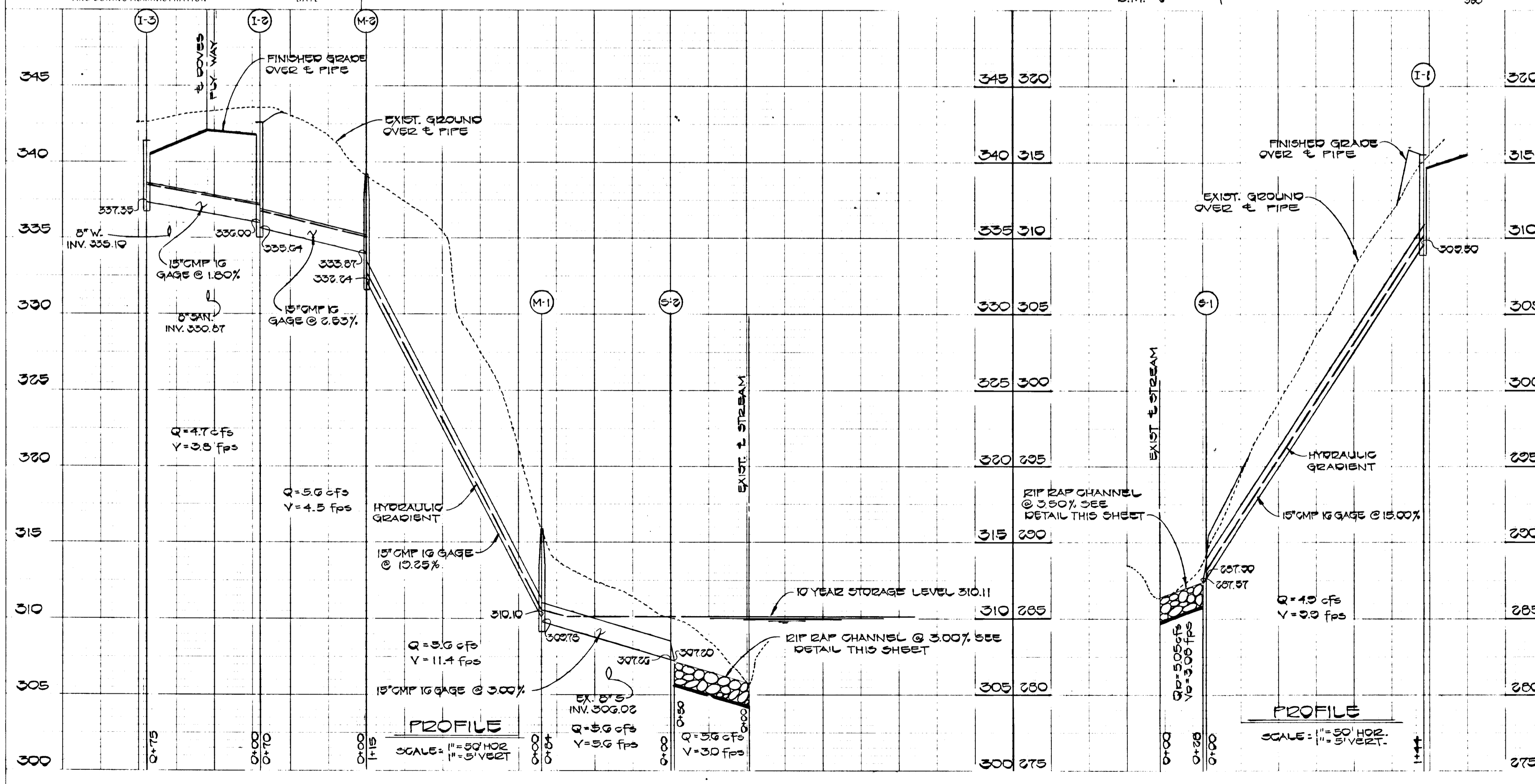
OWNER AND DEVELOPER
 FOXLEIGH JOINT VENTURE
 2205 FOXLY ROAD
 TIMONIUM, MARYLAND 21093

SCALE AS SHOWN	DATE 2/24/84	DWG. NO. 3 OF 4
DES. C. CROVO	DRN. A. BOGDAN	CHK. R. B. CARTER

FISHER, COLLINS AND CARTER, INC.
 CIVIL ENGINEERS AND LAND SURVEYORS
 8388 COURT AVE.
 ELLICOTT CITY, MARYLAND 21043

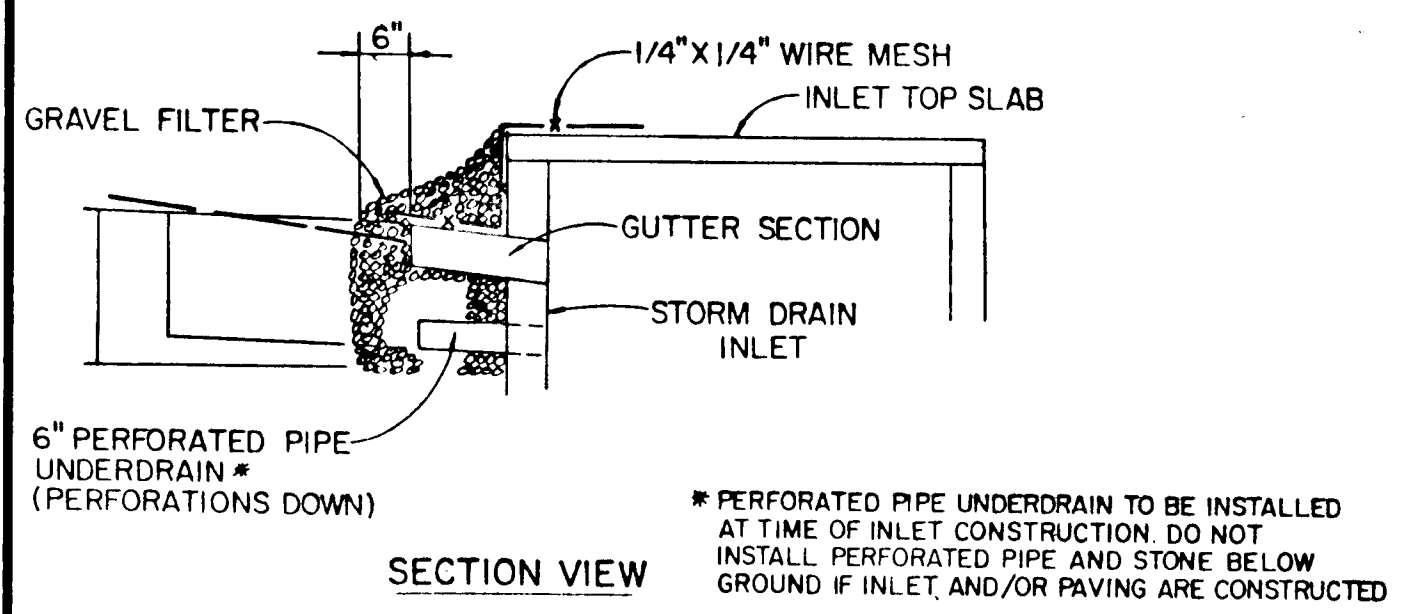
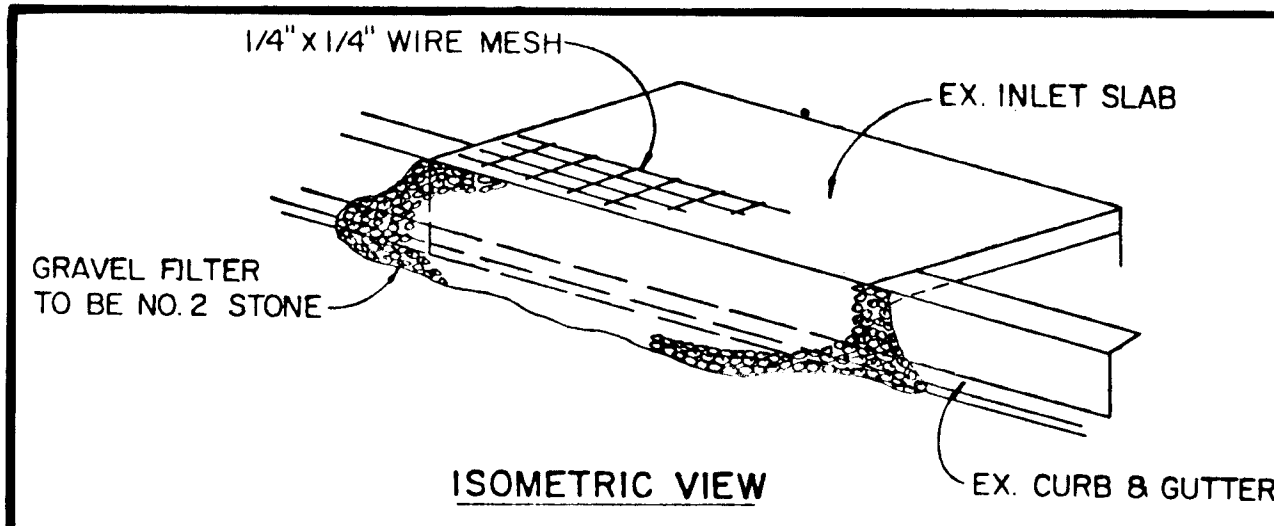


APPROVED DEPARTMENT OF PUBLIC WORKS
William E. Reid 6-4-84
 APPROVED OFFICE OF PLANNING AND ZONING
Louis F. Dineen 6-1-84

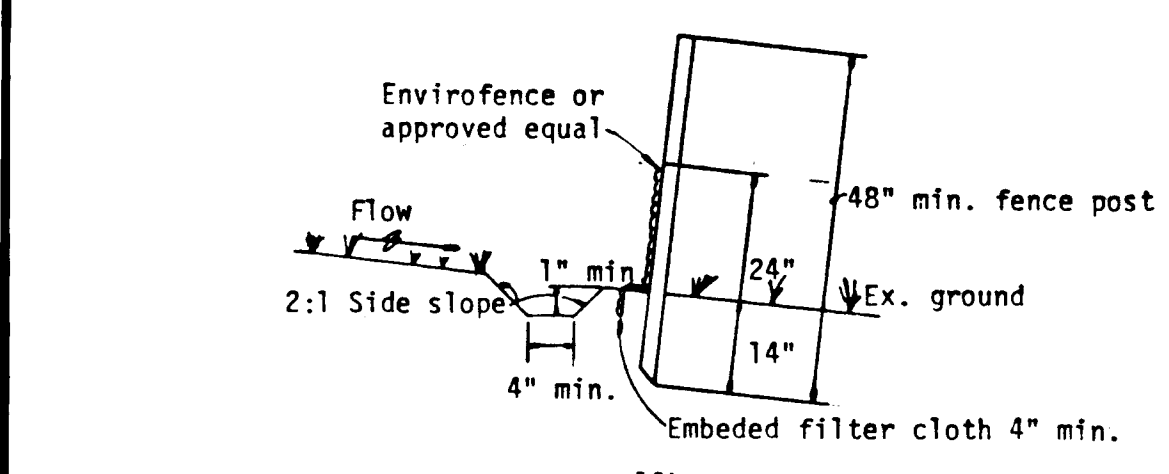


PROFILE

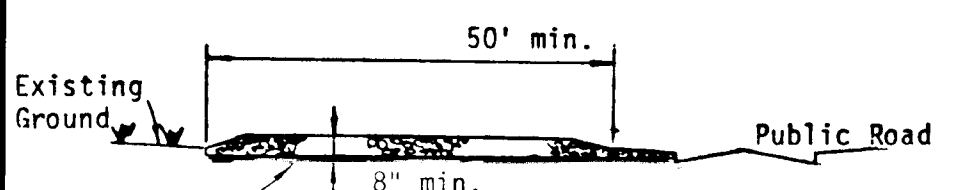
SCALE: 1" = 20' HORIZ. 1" = 5' VERT.



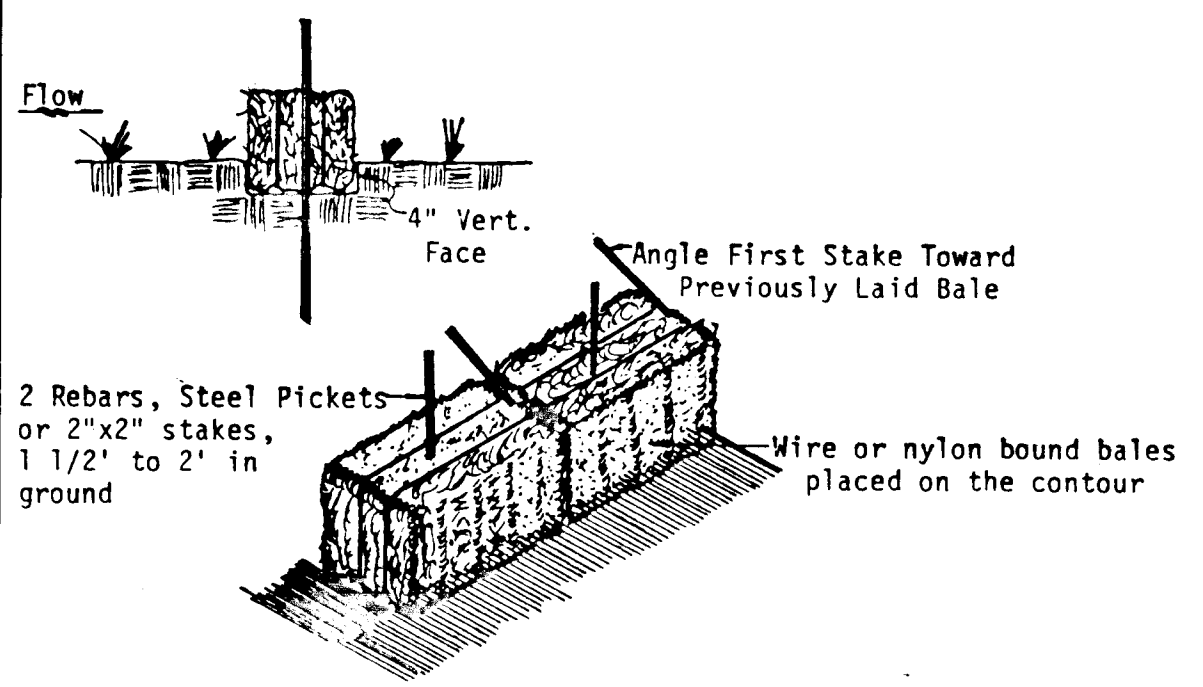
STONE FILTER INLET PROTECTION DETAIL
NO SCALE



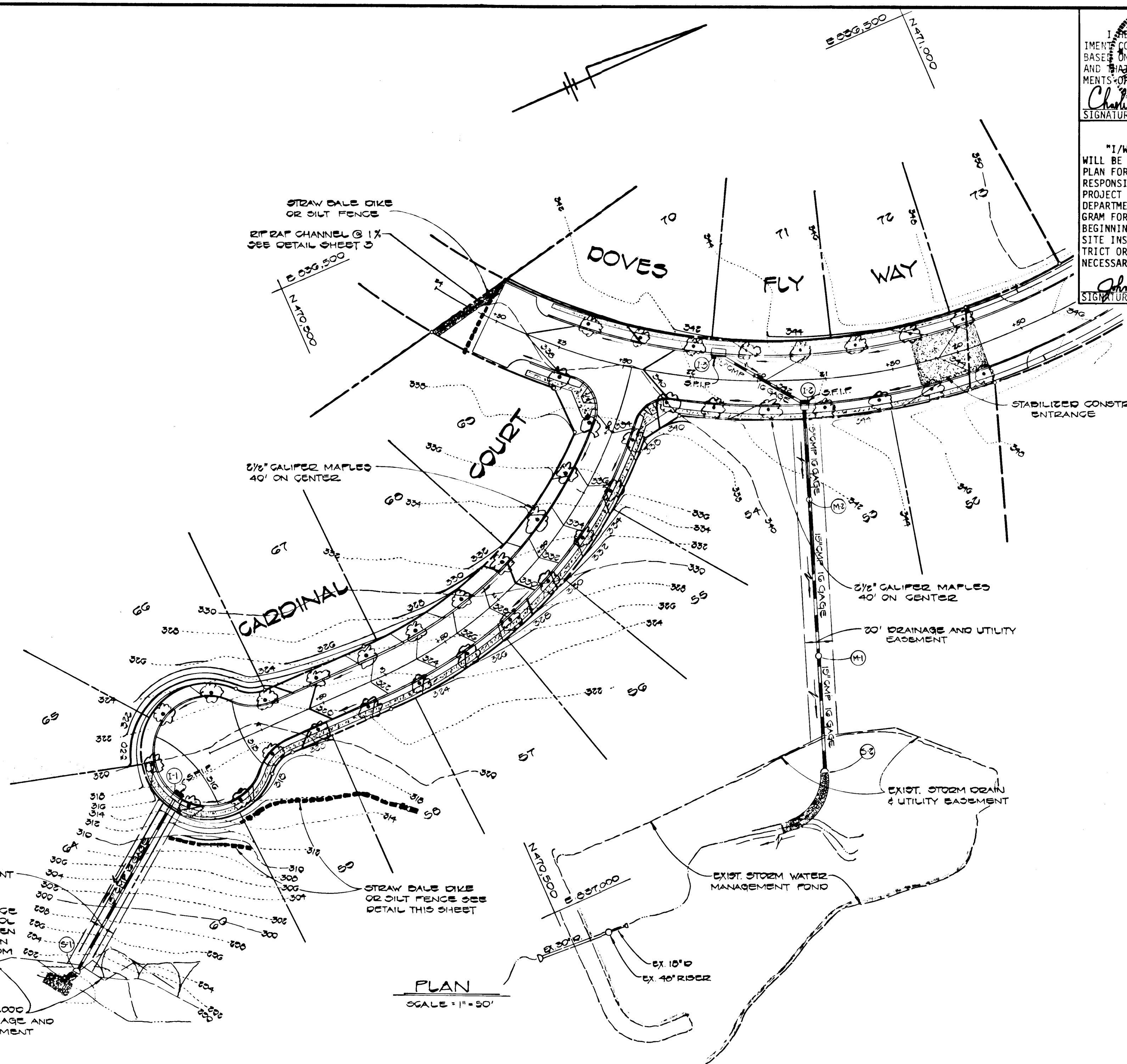
SILT FENCE DETAIL
NOT TO SCALE



STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



STRAW BALE DIKE
NOT TO SCALE



PLAN
SCALE = 1" = 50'

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
John Mihalacko
SIGNATURE OF ENGINEER
5/14/84
DATE

DEVELOPER'S CERTIFICATE
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."
John Mihalacko
SIGNATURE OF DEVELOPER
5/14/84
DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
M. H. Sills
5-29-84
U.S. SOIL CONSERVATION SERVICE
DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Robert W. Sisk
5-29-84
DISTRICT
HOWARD SOIL CONSERVATION DISTRICT
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS.
W. J. ...
6-4-84
CHIEF, BUREAU OF ENGINEERING
DATE

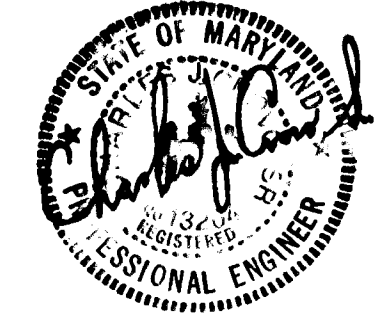
APPROVED: OFFICE OF PLANNING AND ZONING
Louis F. ...
6-1-84
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
DATE

- SEDIMENT CONTROL NOTES**
- SPECIFICATIONS FOR THE SEDIMENT CONTROL DETAILS INCLUDED IN THE U.S.D.A. SOIL CONSERVATION SERVICE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS."
 - THE DEVELOPER SHALL NOTIFY THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS AT LEAST 24 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION SHOWN HEREON (992-2433).
 - SEDIMENT CONTROL STRUCTURES TO BE CONSTRUCTED PRIOR TO ANY ON-SITE GRADING OR DISTURBANCE TO ANY EXISTING SURFACE MATERIAL, AND ARE TO BE STABILIZED AS SOON AS CONSTRUCTED.
 - ALL SEDIMENT CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS (992-2433).
 - ALL GRADED AREAS NOT TO BE SODDED SHALL BE STABILIZED BY SEEDING AND MULCHING IN ACCORDANCE WITH THE FOLLOWING:
 - SITE PREPARATION
 - HARROW OR DISC IN AREAS PROPOSED TO BE SEED THE FOLLOWING MATERIALS
 - PULVERIZED LIMESTONE AT 2 TONS/ACRE.
 - COMMERCIAL FERTILIZER 10-10-10 AT 3/4 TONS/ACRE.
 - SUPER PHOSPHATE AT 600 LBS./ACRE.
 - SEEDING
 - SOW THE FOLLOWING SEED MIXTURE AT THE RATE OF 200 LBS./ACRE WITH A MECHANICAL SPREADER.
 - TEMPORARY: ITALIAN OR PERENNIAL RYE GRASS.
 - PERMANENT: 40% MARION BLUE GRASS, 40% DAKOTA BLUE GRASS AND 20% PENN LAWN CREEPING FESCUE.
 - THE SEEDING AREA SHALL THEN BE RAKED WITH A YORK RATE (A MINIMUM OF 2 PASSES) COVERED AND COMPACTED WITH CULTIPACKER OR OTHER APPROVED METHOD.
 - MULCHING
 - SEEDING AREAS SHALL BE UNIFORMLY MULCHED IMMEDIATELY AFTER SEEDING WITH UNWEATHERED SMALL GRAIN STRAW AT THE RATE OF 1 1/2-2 TONS/ACRE.
 - TIE MULCH DOWN WITH LIQUID ASPHALT AT 0.1 GAL./S.Y. OR EMULSIFIED ASPHALT AT 0.04 GAL./S.Y. OR MULCH NETTING.
 - A GRADING PLAN MUST BE DEVELOPED BY THE BUILDER AND APPROVED BEFORE BEGINNING CONSTRUCTION OF DWELLINGS.

- CONSTRUCTION SEQUENCE**
- OBTAIN GRADING PERMIT.
 - CONSTRUCT STONE CONSTRUCTION ENTRANCE AS SHOWN ON PLAN.
 - THE STORM MANAGEMENT POND IN CARDINAL FOREST SECTION ONE, AREA THREE, WILL BE UTILIZED FOR SEDIMENT CONTROL MEASURES. IF AN "AS BUILT CERTIFICATION" OF THE POND HAS BEEN APPROVED PRIOR TO CONSTRUCTION OF CARDINAL FOREST SECTION ONE, AREA FOUR, A SEDIMENT CONTROL PLAN WILL BE REQUIRED FOR REVIEW AND APPROVAL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 - THE CONTRACTOR SHALL INSPECT THE BLOCKING DEVICE AT THE 18" CMP IN THE STORM WATER MANAGEMENT POND PRIOR TO GRADING.
 - INSTALL STRAW BALE DIKES OR SILT FENCE DOWNGRADE OF ANY DISTURBED AREAS AT THE END OF EACH WORKING DAY.
 - GRADE ROAD TO SUBGRADE STABILIZING SLOPE AREAS BETWEEN EXISTING GROUND AND BACK OF CURB USING PERMANENT SEEDING.
 - CONSTRUCT STORM DRAIN SYSTEM.
 - DURING THE CONSTRUCTION OF THE STORM DRAIN SYSTEM FROM I-1 TO S-1 THE CONTRACTOR SHALL PLACE STRAW BALE DIKES OR SILT FENCE DOWNGRADE OF ANY DISTURBED AREAS AT THE END OF EACH WORKING DAY.
 - INSTALL STONE FILTER INLET PROTECTION DEVICES AT INLETS I-1, I-2 AND I-3.
 - CONSTRUCT CONCRETE CURB AND LAY BASE COURSE.
 - UPON STABILIZATION OF GRADED AREAS, INLETS SHALL BE OPENED AND ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE STORM DRAIN SYSTEM.
 - DURING CONSTRUCTION, SEDIMENT SHALL BE REMOVED FROM THE STORM WATER MANAGEMENT POND WHEN THE CLEANOUT ELEVATION 307.50 HAS BEEN REACHED.
 - DURING CONSTRUCTION AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL STRUCTURES.
 - REMOVE STONE CONSTRUCTION ENTRANCE.
 - CLEAN BASE COURSE, APPLY TACK COAT TO BASE COURSE, LAY SURFACE COURSE AND INSTALL CONCRETE SIDEWALK. STABILIZE ALL SHOULDERS USING PERMANENT SEEDING. THE SEDIMENT BASIN SHALL BE DEWATERED BY PUMPING.
 - THE SEDIMENT FROM THE STORM WATER MANAGEMENT POND SHALL BE PLACED ALONG LOT 52.
 - THE STORM WATER MANAGEMENT POND SHALL BE GRADED IN ACCORDANCE WITH SHEET 4 OF THE ROAD CONSTRUCTION DRAWINGS IN CARDINAL FOREST, SECTION ONE, AREA THREE. STABILIZATION SHALL BE IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS IN THE SEDIMENT CONTROL NOTES. INSTALL RIP RAP APRONS.
 - ALL DISTURBED AREAS SHALL BE GRADED AND STABILIZED BY PERMANENT SEEDING.
- * THE SEDIMENT FROM THE STORM WATER MANAGEMENT POND THAT IS PLACED ALONG LOT 52 SHALL BE STABILIZED IMMEDIATELY WITH PERMANENT SEEDING.

728
FISHER, COLLINS AND CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
8388 COURT AVENUE
ELLCOTT CITY, MARYLAND 21043

SITE ANALYSIS
TOTAL AREA OF SECTION ONE, AREA FIVE
IMPERVIOUS AREA 11.7107 AC.±
AREA TO BE VEGETATED 0.7005 AC.±
UNDISTURBED AREA 0.7613 AC.±
10.1930 AC.±



OWNER AND DEVELOPER
LAKEVIEW JOINT VENTURE
2205 FOXLY ROAD
TIMONIUM, MARYLAND 21083

STREET TREE, GRADING, SEDIMENT CONTROL PLAN, AND DETAILS
CARDINAL FOREST
SECTION ONE AREA FIVE
6TH ELECTION DISTRICT HOWARD COUNTY, MD.
SCALE AS SHOWN FEBRUARY 24, 1984
SHEET 4 OF 4