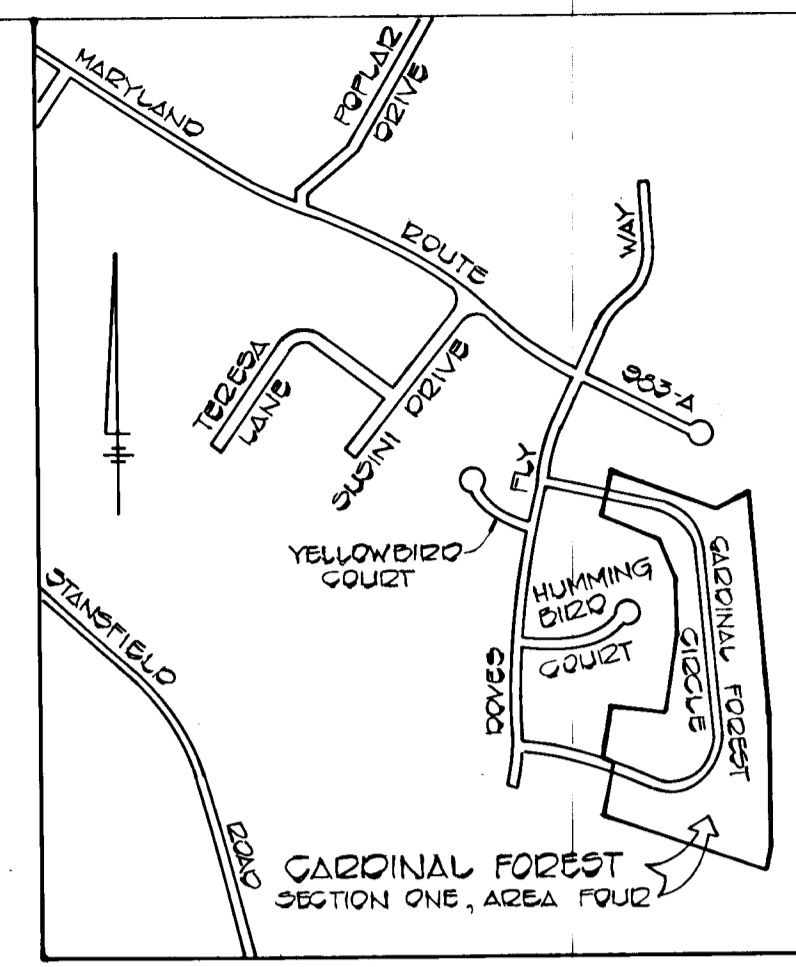
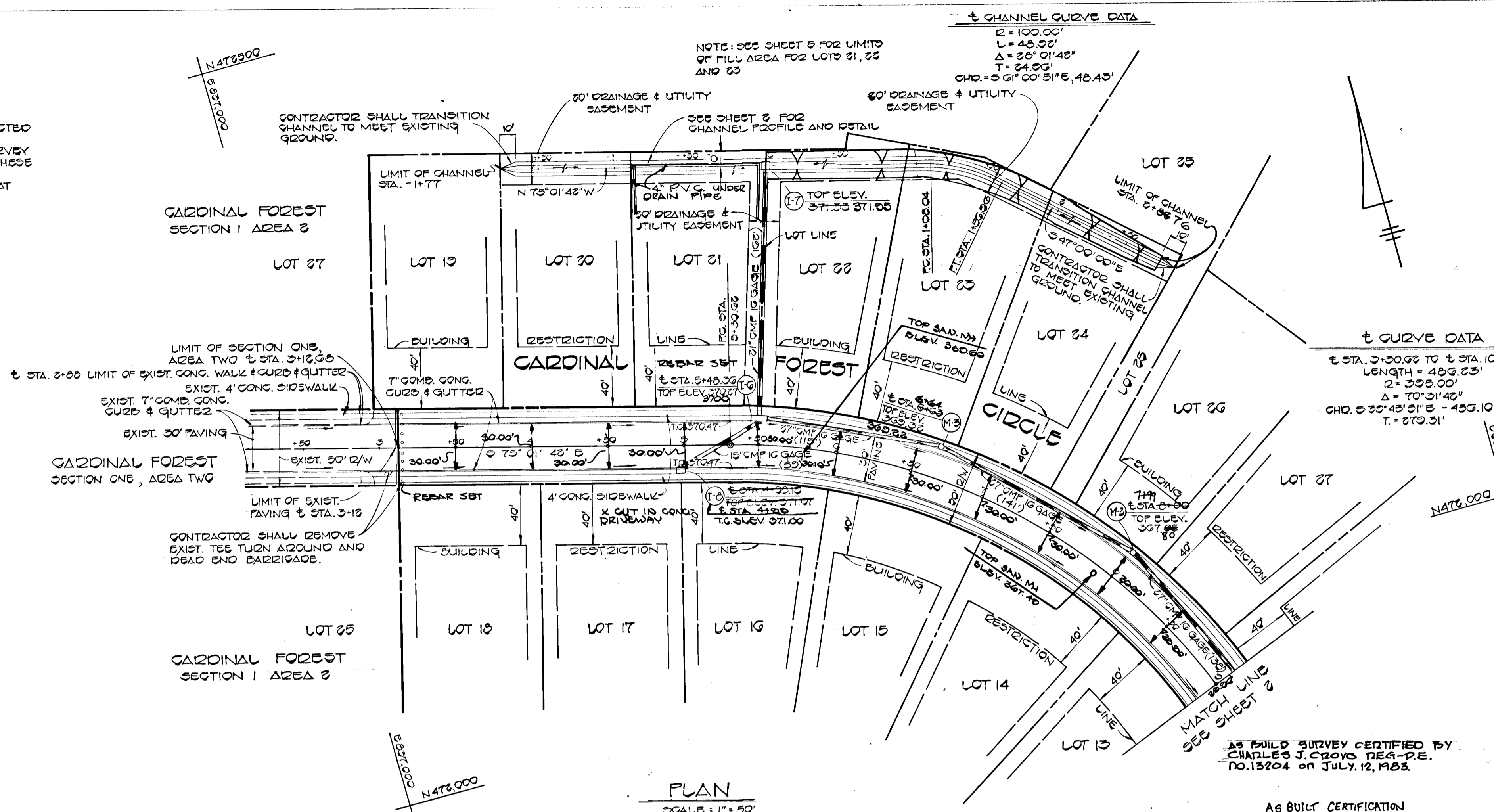


GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
2. ALL UTILITY COMPANIES MUST BE NOTIFIED 24 HRS IN ADVANCE OF ANY CONSTRUCTION.
3. ALL STORM DRAINAGE TRENCHES WITH ROAD RIGHTS-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODES.
4. ANY DAMAGE TO PUBLIC RIGHTS-OF-WAY 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: 702-7272.
6. STORM WATER MANAGEMENT FOR THIS DEVELOPMENT WILL BE PROVIDED AT CARDINAL FOREST SECTION ONE AREA THREE. (F 63-100)

BENCH MARK

D.M. No 4 ELEV. 300.71
RAIL ROAD SPIKE IN 12" TRESS, 100'± RIGHT OF
C. STA. 3+50 = CARDINAL FOREST CIRCLE.



CARDINAL FOREST SECTION I, AREA 4
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

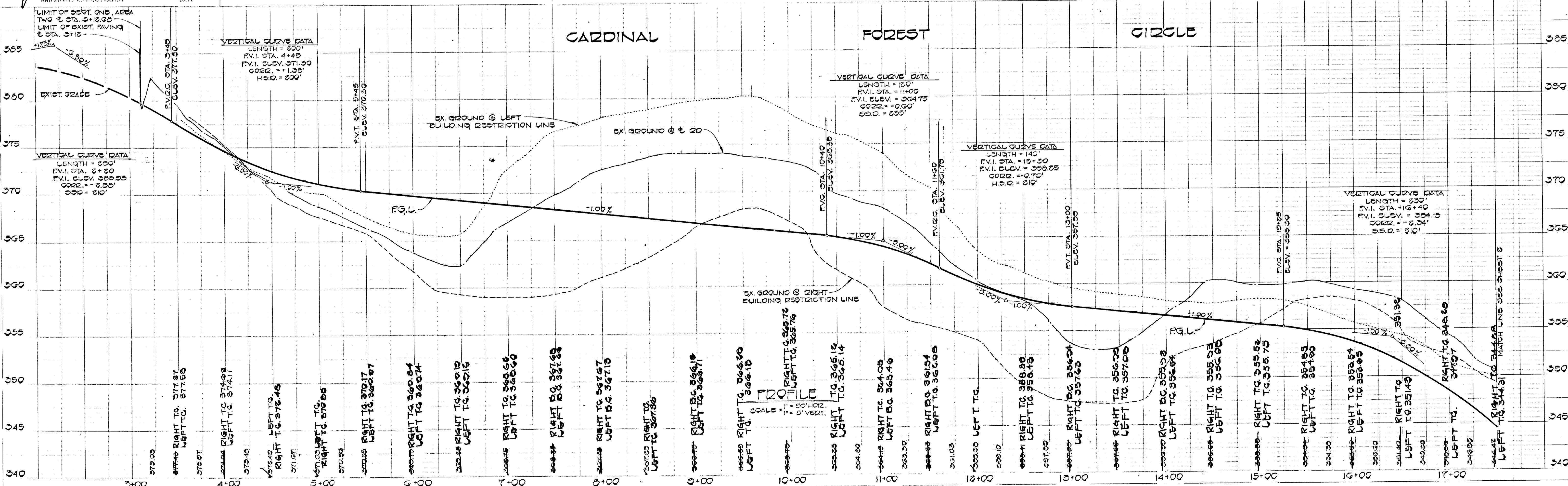
CARDINAL FOREST CIRCLE PLAN & PROFILE

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

SCALE AS SHOWN DATE 6/30/83 DWG. NO. 1 OF 5
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

AS BUILT CERTIFICATION
CHARLES J. CROVO SR. DATE 7/12/83



PROFILE: 1. REVIEWED, 2. CHECKED, 3. APPROVED, 4. DESIGNED, 5. DRAWN, 6. IN CHARGE, 7. DATE, 8. SCALE, 9. SHEET NO., 10. TOTAL SHEETS, 11. PROJECT NO., 12. PROJECT NAME, 13. PROJECT LOCATION, 14. PROJECT DESCRIPTION, 15. PROJECT STATUS, 16. PROJECT PHASE, 17. PROJECT START DATE, 18. PROJECT END DATE, 19. PROJECT BUDGET, 20. PROJECT COST, 21. PROJECT REVENUE, 22. PROJECT PROFIT, 23. PROJECT RISK, 24. PROJECT COMPLEXITY, 25. PROJECT URGENCY, 26. PROJECT PRIORITY, 27. PROJECT IMPORTANCE, 28. PROJECT IMPACT, 29. PROJECT LEGACY, 30. PROJECT FUTURE.

APPROVED: DEPARTMENT OF PUBLIC WORKS
W. ... 9-1-83

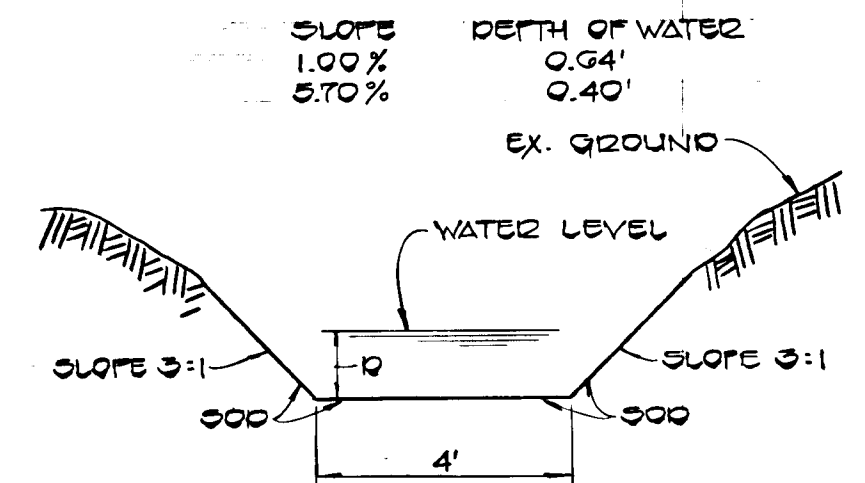
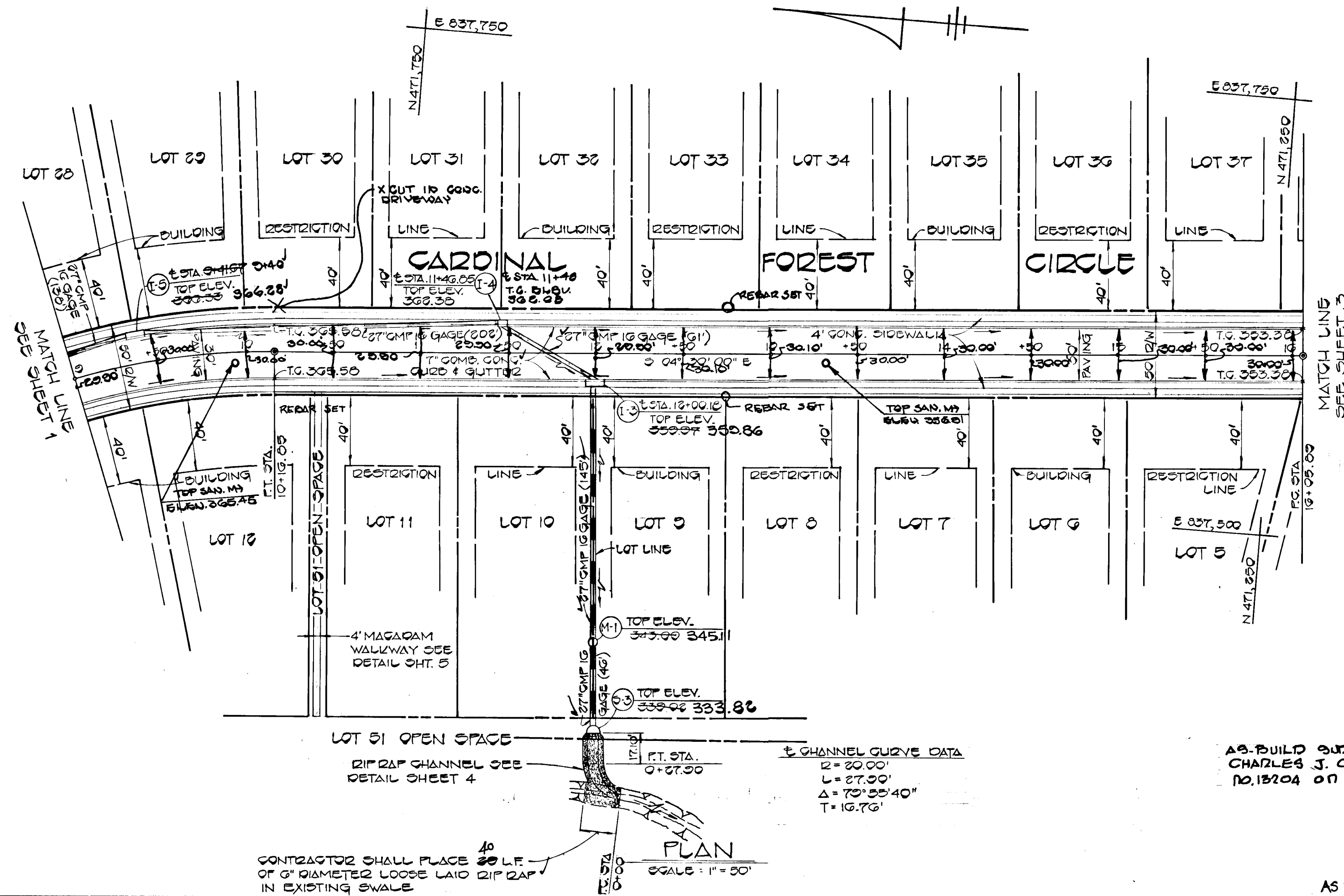
APPROVED: OFFICE OF PLANNING AND ZONING
J. ... 8-31-83

AND ZONING ADMINISTRATION DATE

#128

3/30/88

F 04-06

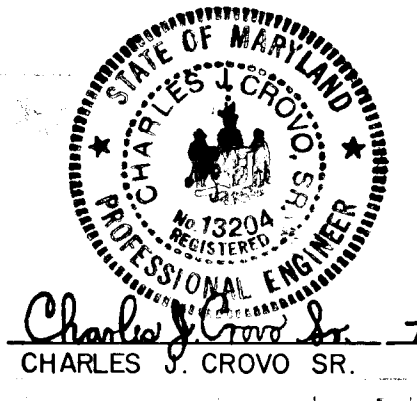


CHANNEL DETAIL ALONG REAR OF LOTS 28-34
NO SCALE

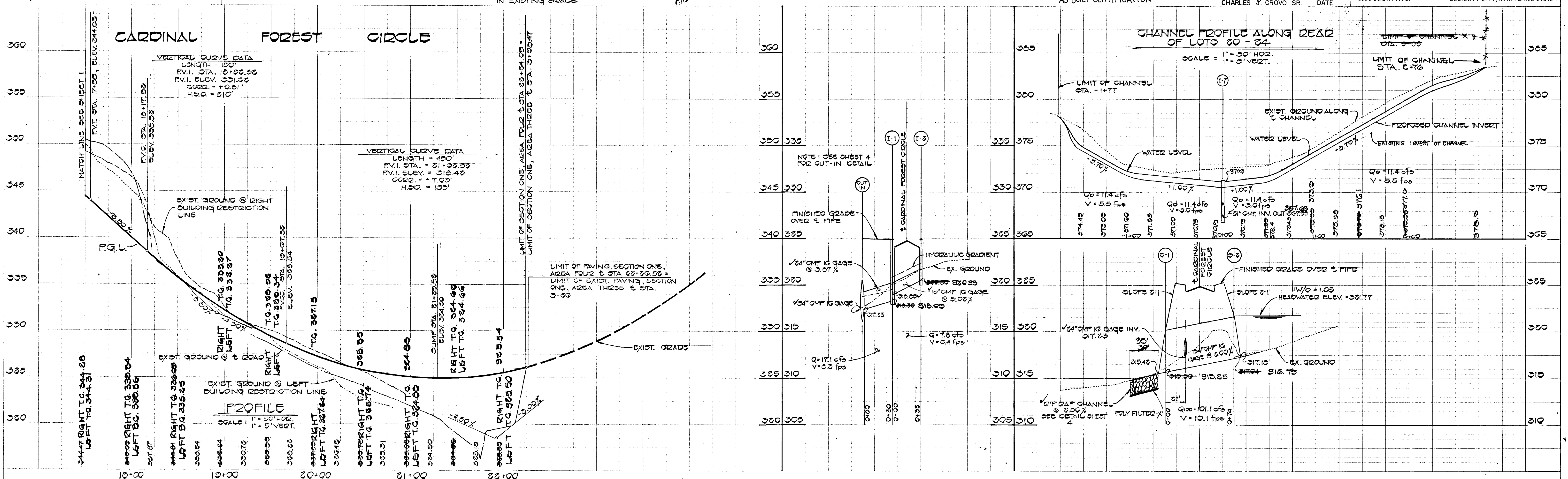
APPROVED
DEPARTMENT OF PUBLIC WORKS
APPROVED
OFFICE OF PLANNING AND ZONING

Arce & Ray 9-1-83
John M. ... 8-31-83

AS-BUILT CERTIFICATION
BY CHARLES J. CROVO, SR., P.E. - P.E.
NO. 18204 ON JULY 12, 1983.



CARDINAL FOREST SECTION 1, AREA 4 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
CARDINAL FOREST CIRCLE PLAN & PROFILE STORM DRAIN PROFILES		
OWNER AND DEVELOPER FOXLEIGH JOINT VENTURE 2205 FOXLEY ROAD TIMONIUM, MARYLAND 21093		
SCALE AS SHOWN	DATE 6/30/83	DWG. NO. 2 OF 5
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		

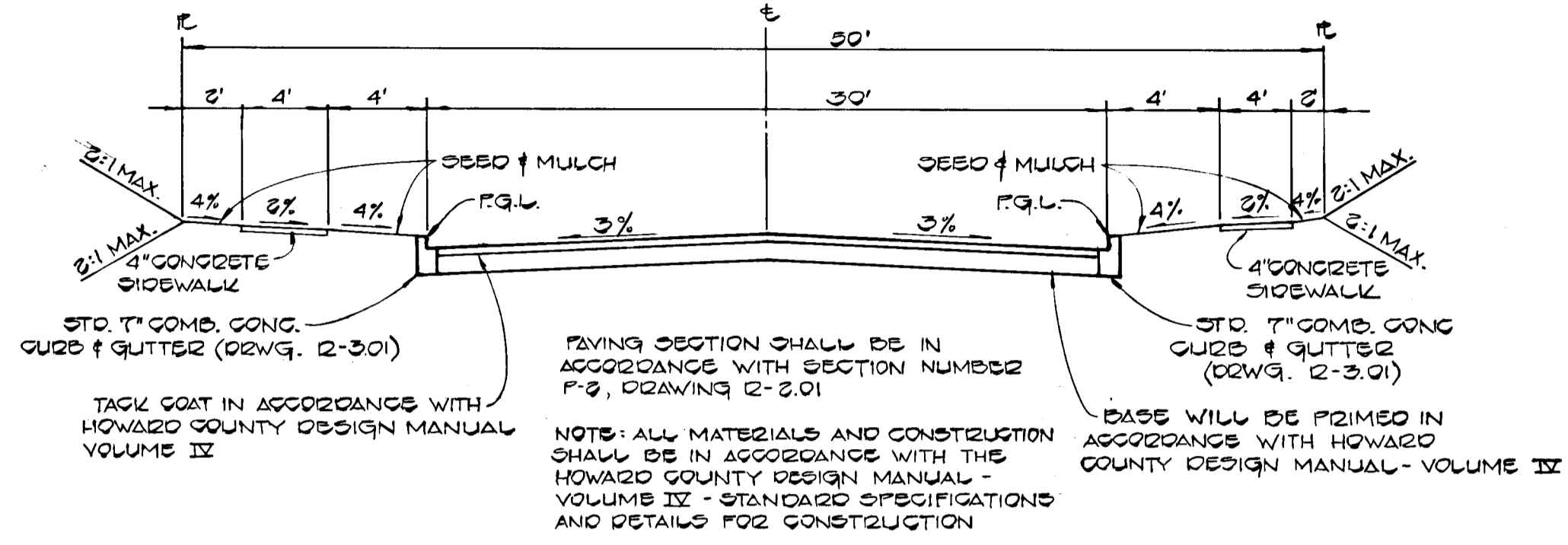


9/30/83

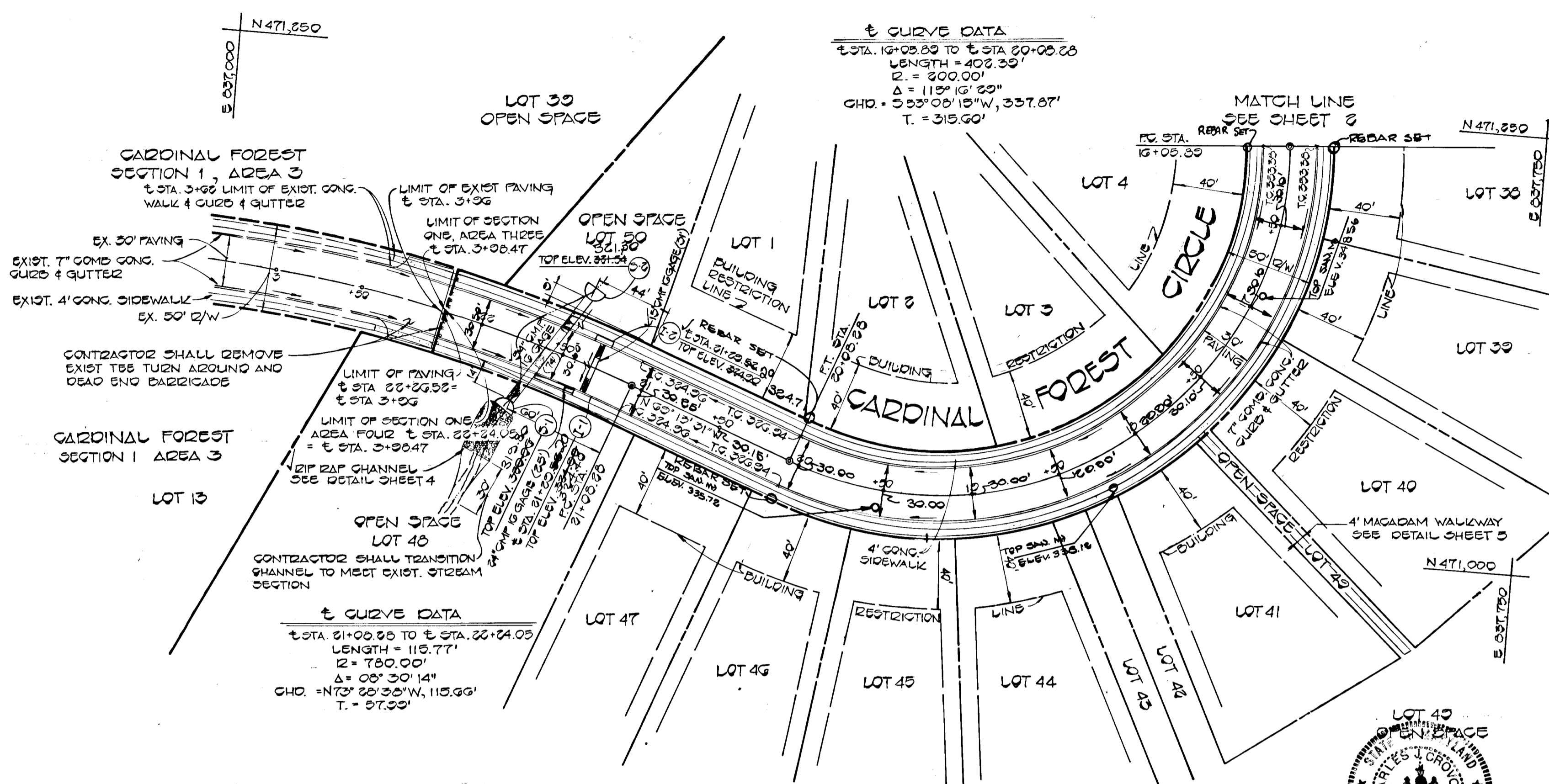
F 84-08

CARDINAL FOREST CIRCLE
 ± STA. 3+12 TO ± STA. 22+22.22

TYPE OF TRAFFICWAY - LOCAL RESIDENTIAL DESIGN SPEED - 30 M.P.H. ZONE - 12-20



TYPICAL ROAD SECTION
 NO SCALE



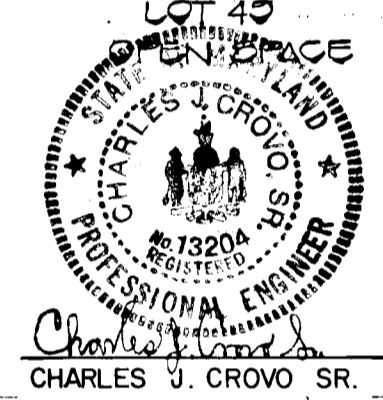
± CURVE DATA
 ± STA. 16+05.23 TO ± STA. 20+05.23
 LENGTH = 400.00'
 R = 200.00'
 Δ = 115° 15' 20"
 CHD. = 53° 00' 15" W, 337.87'
 T = 319.90'

± CURVE DATA
 ± STA. 21+00.00 TO ± STA. 22+24.00
 LENGTH = 119.77'
 R = 750.00'
 Δ = 09° 50' 14"
 CHD. = N 70° 30' 14" W, 113.95'
 T = 57.22'

AS-BUILD SURVEY CERTIFIED BY CHARLES J. CROVO, SR.
 REG.-P.E. NO. 15204 ON JULY 12, 1983.

PLAN
 SCALE = 1" = 50'

AS-BUILT CERTIFICATION



CARDINAL FOREST SECTION 1, AREA 4
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

CARDINAL FOREST CIRCLE PLAN

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

SCALE AS SHOWN	DATE 6/30/83	DWG. NO. 3 OF 5
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

DATE: _____
 BY: _____
 CHECKED: _____
 NO. _____

DATE: _____
 BY: _____
 CHECKED: _____
 NO. _____

APPROVED DEPARTMENT OF PUBLIC WORKS
 [Signature] 9-1-83
 CHIEF, BUREAU OF ENGINEERING

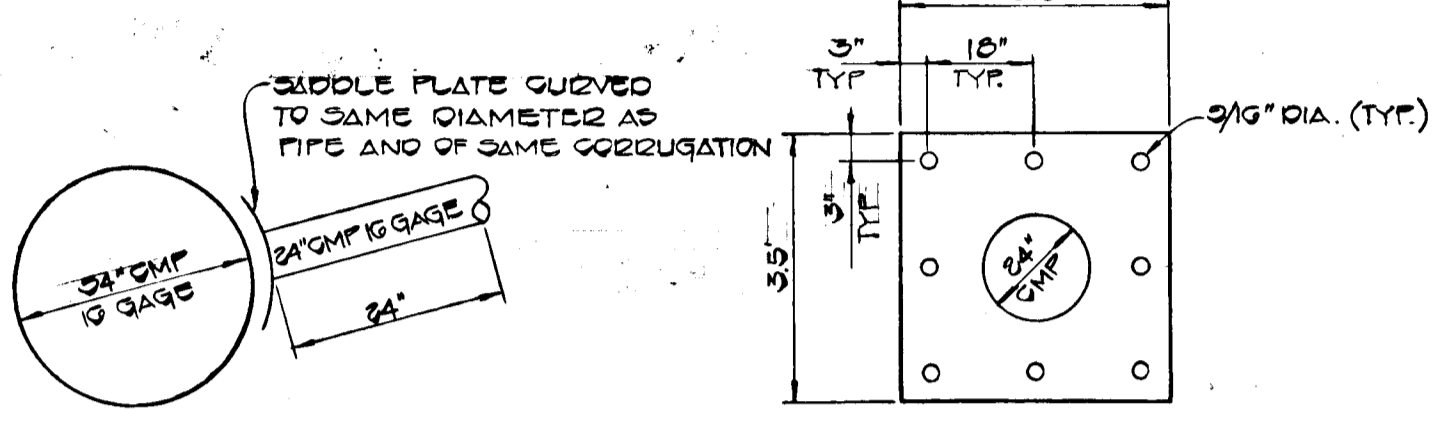
APPROVED OFFICE OF PLANNING AND ZONING
 [Signature] 8-31-83
 AND ZONING ADMINISTRATION

#728

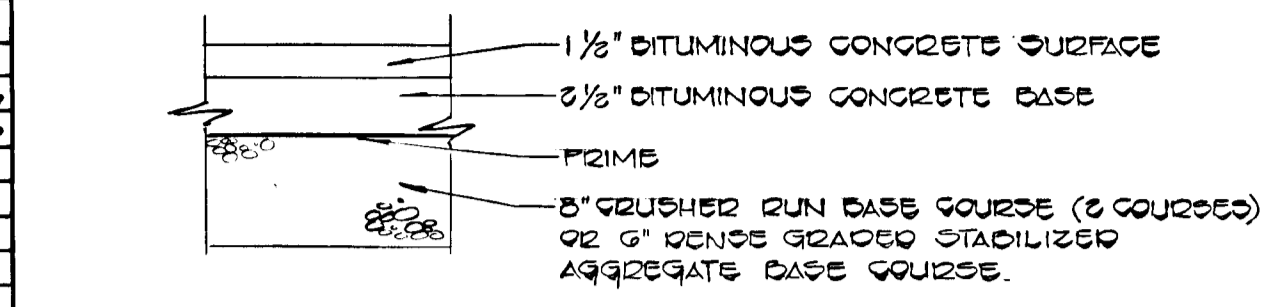
3/30/88

STRUCTURE SCHEDULE									
No.	TYPE	INV. IN	INV. OUT	TOP ELEV.	REMARKS	INV. IN	INV. OUT	TOP ELEV.	
I-1	A-10	310.00	318.00	324.00	02W.G. 50 4.02	311.19	318.00	324.46	
I-2	A-10	322.50	329.50	334.00	02W.G. 50 4.02	323.55	329.50	334.71	
I-3	A-10 WITH DEFLECTORS	322.50	329.50	334.00	02W.G. 50 4.02 & 50 4.63	323.74	329.50	334.94	
I-4	A-5 WITH DEFLECTORS	322.50	329.50	334.00	02W.G. 50 4.01 & 50 4.63	325.15	329.50	334.94	
I-5	A-10	322.50	329.50	334.00	02W.G. 50 4.02	323.13	329.50	334.88	
I-6	A-10	322.50	329.50	334.00	02W.G. 50 4.02	324.21	329.50	334.01	
I-7	"D"	322.50	329.50	334.00	02W.G. 50 4.11	327.62	329.50	334.00	
I-8	A-5 WITH DEFLECTORS	322.50	329.50	334.00	02W.G. 50 4.01 & 50 4.63	327.62	329.50	334.00	
M-1	SHALLOW MANHOLE	335.00	335.00	341.00	02W.G. 50 0.00	338.10	335.00	341.11	
M-2	STANDARD MANHOLE	337.00	337.00	343.00	02W.G. 50 0.01	341.01	337.00	343.00	
M-3	STANDARD MANHOLE	337.00	337.00	343.00	02W.G. 50 0.01	342.11	337.00	343.00	
S-1	METAL END SECTION	317.04	317.04	321.04	02W.G. 50 5.61	316.25	317.04	321.04	
S-2	METAL END SECTION	317.04	317.04	321.04	02W.G. 50 5.61	316.25	317.04	321.04	
S-3	METAL END SECTION	317.04	317.04	321.04	02W.G. 50 5.61	316.25	317.04	321.04	

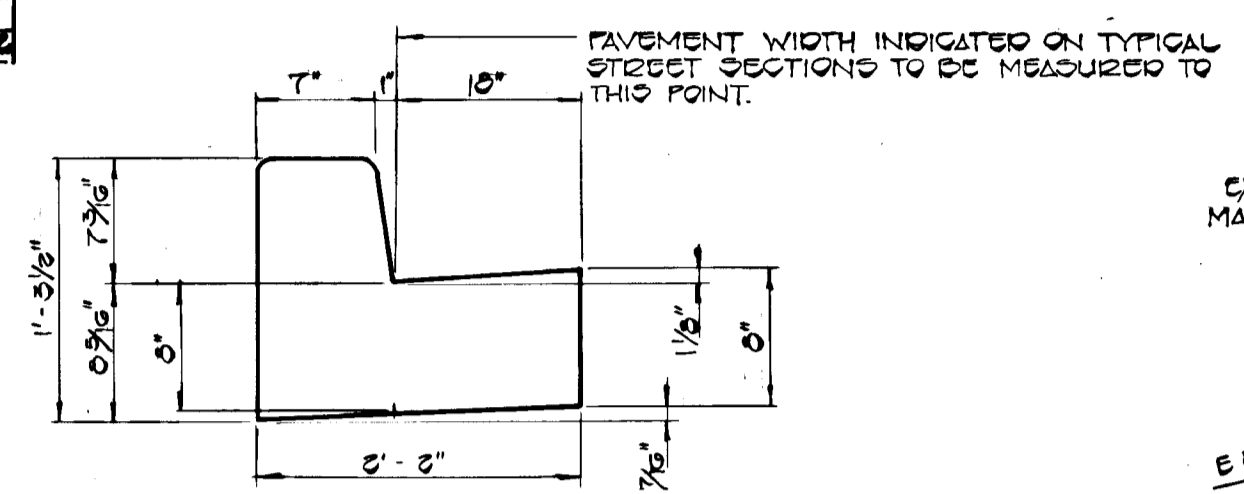
* OPENINGS TO BE ON ALL 4 SIDES



CUT IN DETAIL
NO SCALE



PAVING SECTION P-2
NO SCALE



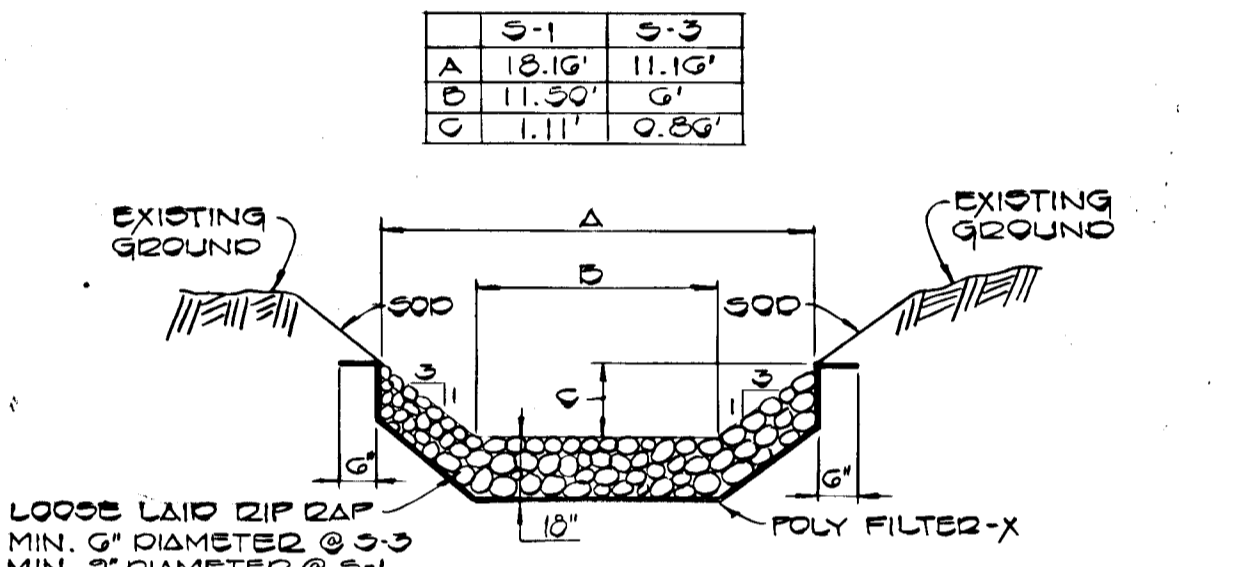
STAND. 7\"/>

**RIP RAP CHANNEL
DESIGN DATA @ S-1**

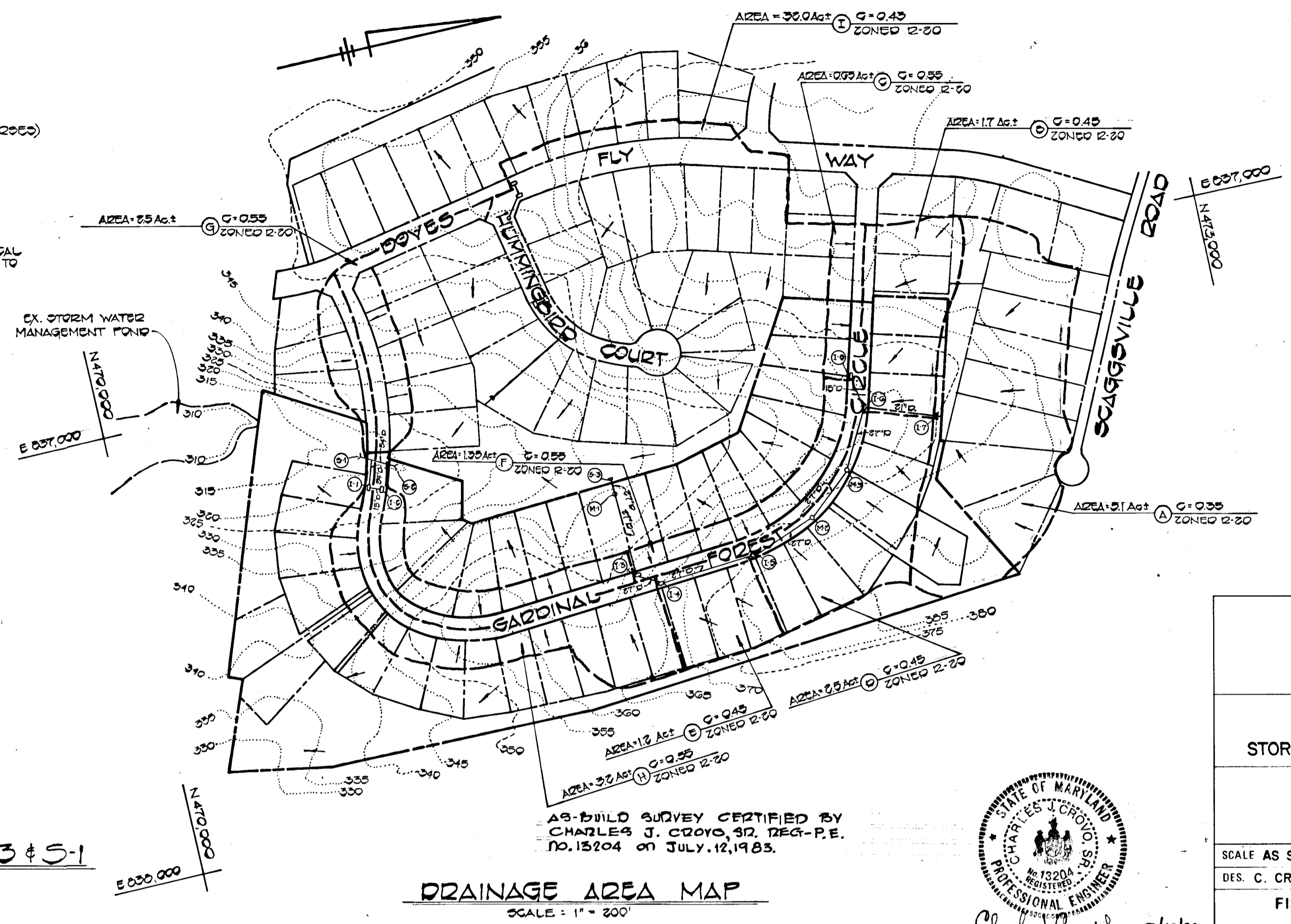
A = 19.45' S = 0.50%
 P = 10.02' S/2 = 0.1525
 R = 0.0000 n = 0.035
 S/2 = 0.2544
 V = 1.405 x 0.9244 x 0.1531 = 0.31 fps
 Q = A x V = 19.45 x 0.31 = 6.03 cfs

**RIP RAP CHANNEL
DESIGN DATA @ S-3**

A = 7.30' S = 1.50%
 P = 11.44' S/2 = 0.1225
 R = 0.0431 n = 0.035
 S/2 = 0.7425
 V = 1.405 x 0.7425 x 0.1225 = 3.00 fps
 Q = A x V = 7.30 x 3.00 = 21.9 cfs



RIP RAP CHANNEL DETAIL @ S-3 & S-1
NO SCALE



DRAINAGE AREA MAP
SCALE: 1" = 200'

APPROVED
DEPARTMENT OF PUBLIC WORKS

William E. Kelly 2-1-83
DATE

APPROVED
OFFICE OF PLANNING AND ZONING

John M. Quinn 8-31-83
DATE

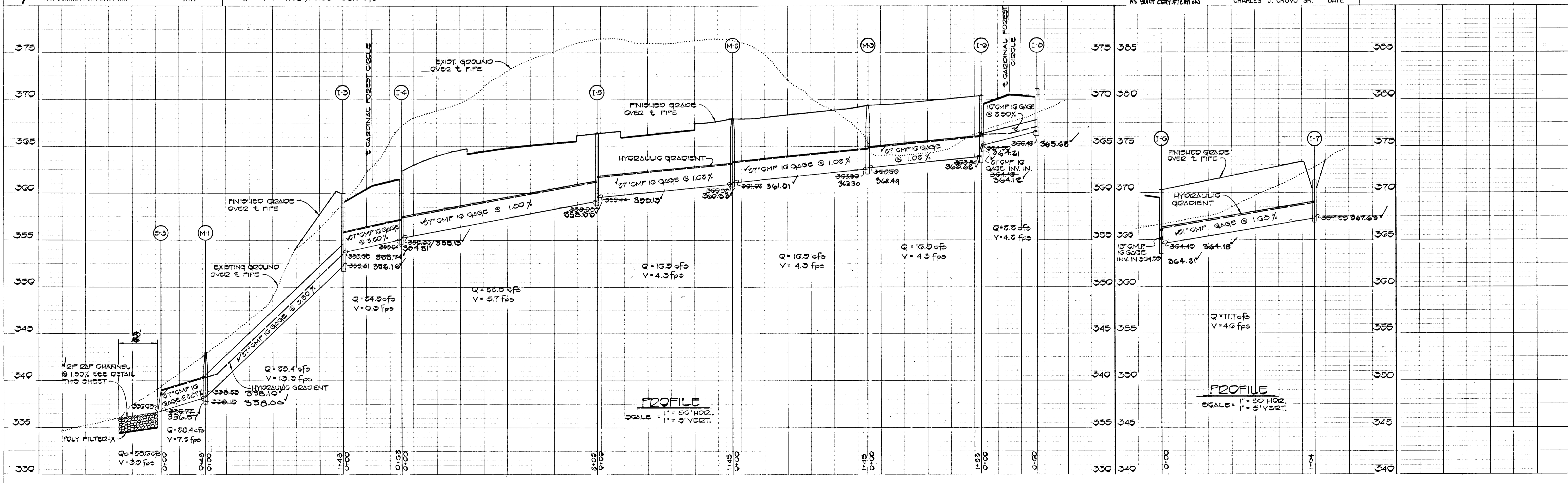
**CARDINAL FOREST
SECTION I, AREA 4**
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

**DRAINAGE AREA MAP
STORM DRAIN PROFILES AND DETAILS**

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

SCALE AS SHOWN DATE 6/30/83 DWG. NO. 4 OF 5
 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



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

#728

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.

Chad J. ... 7-6-83
 SIGNATURE OF ENGINEER 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 Mikolajski 7-6-83
 SIGNATURE OF DEVELOPER DATE

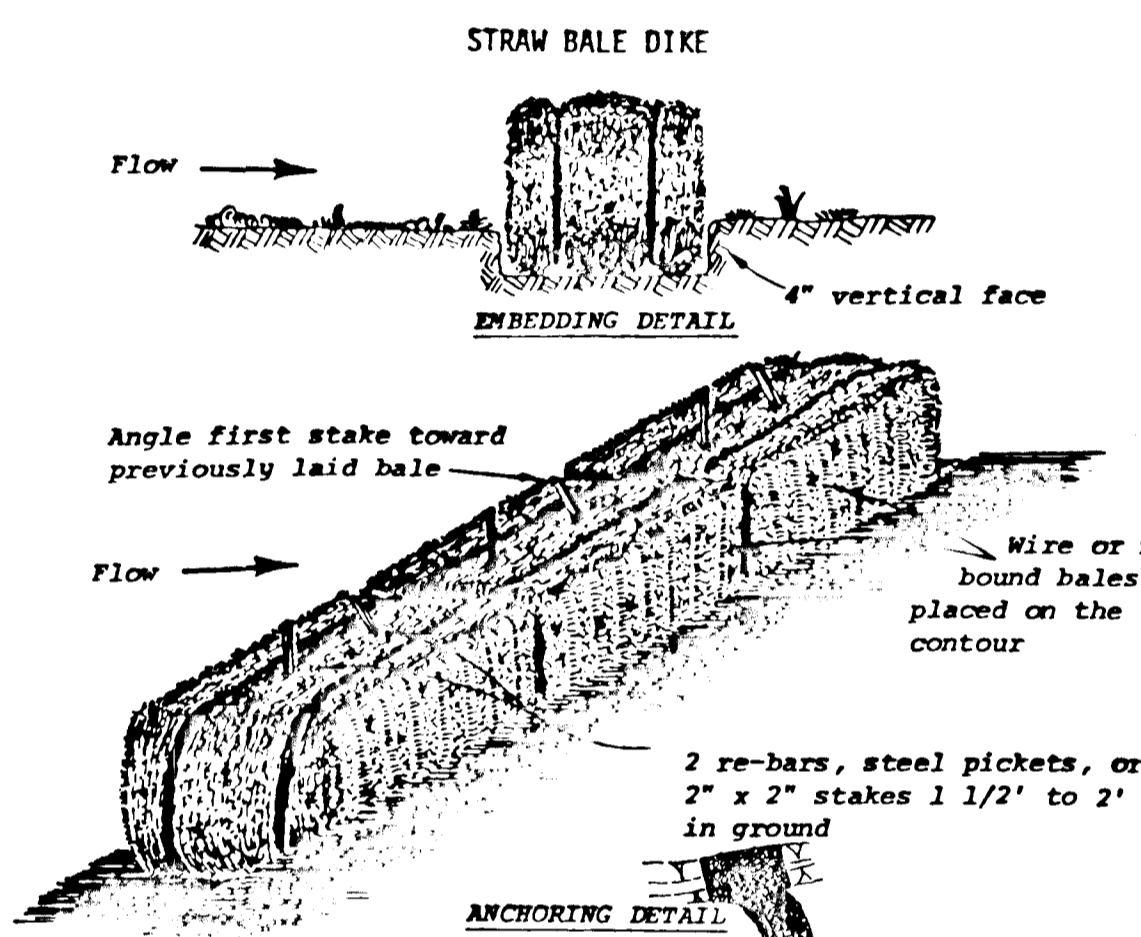
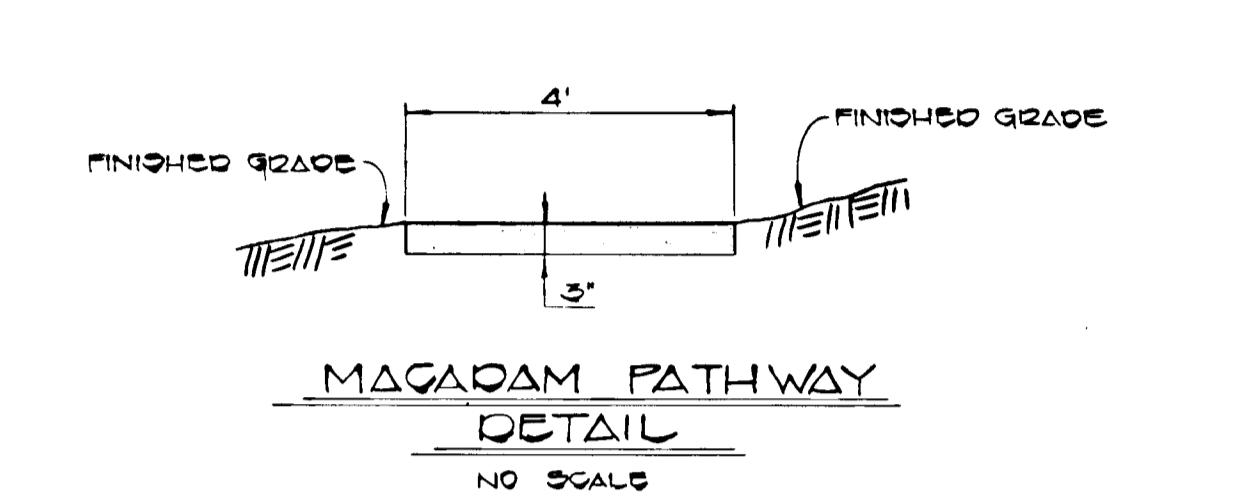
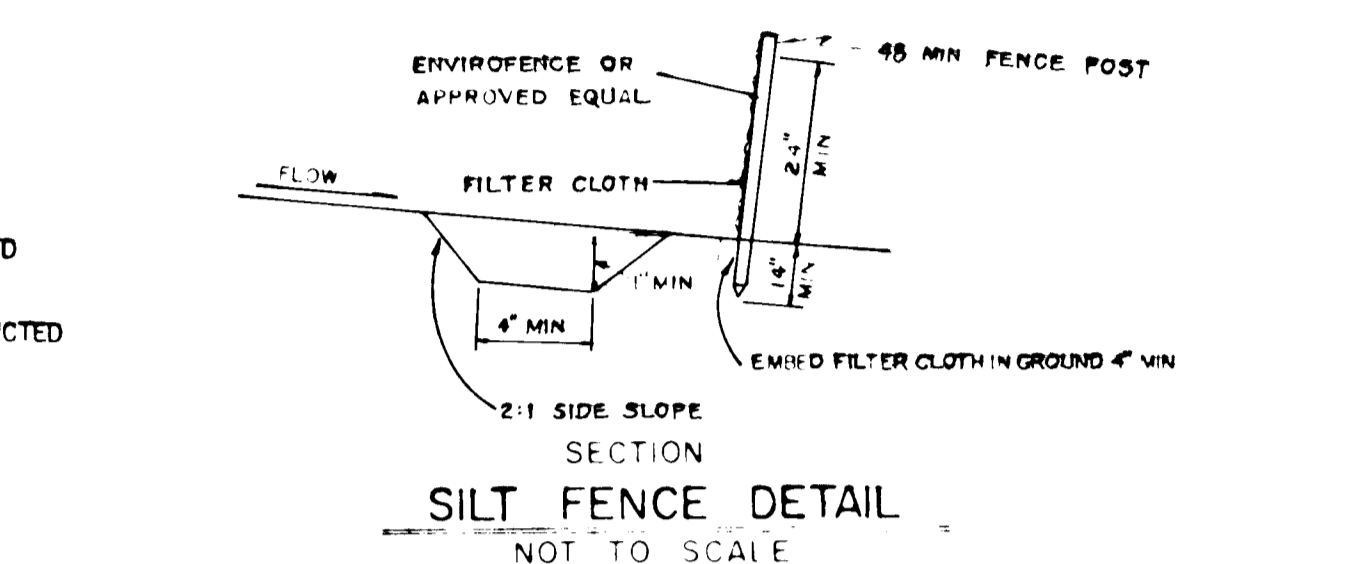
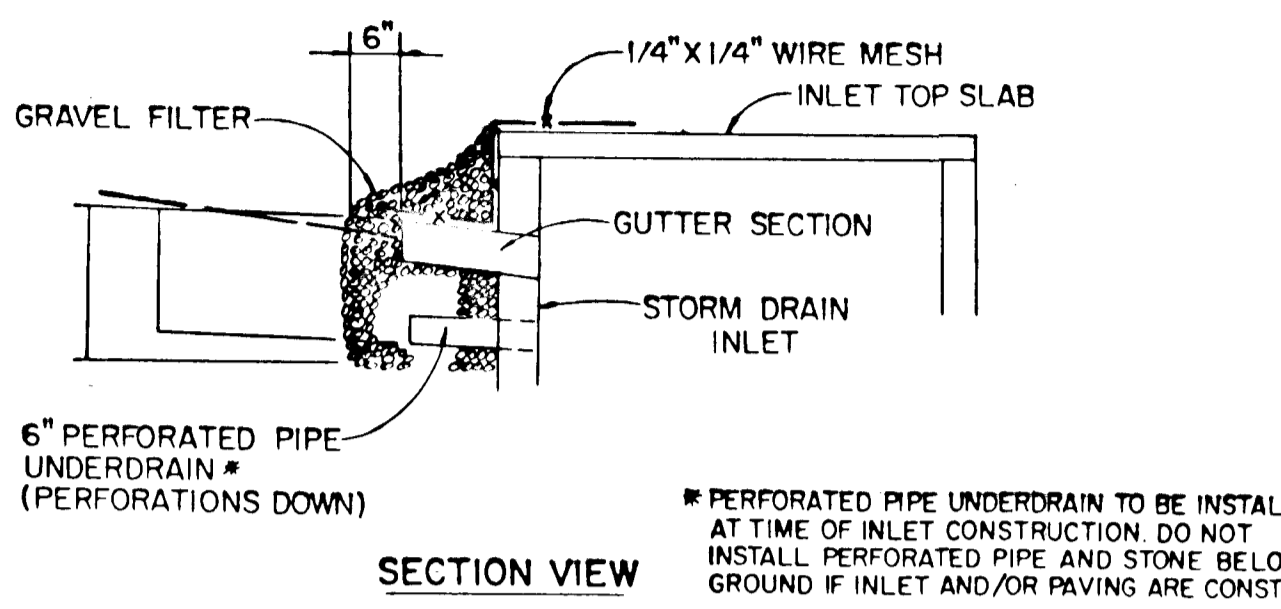
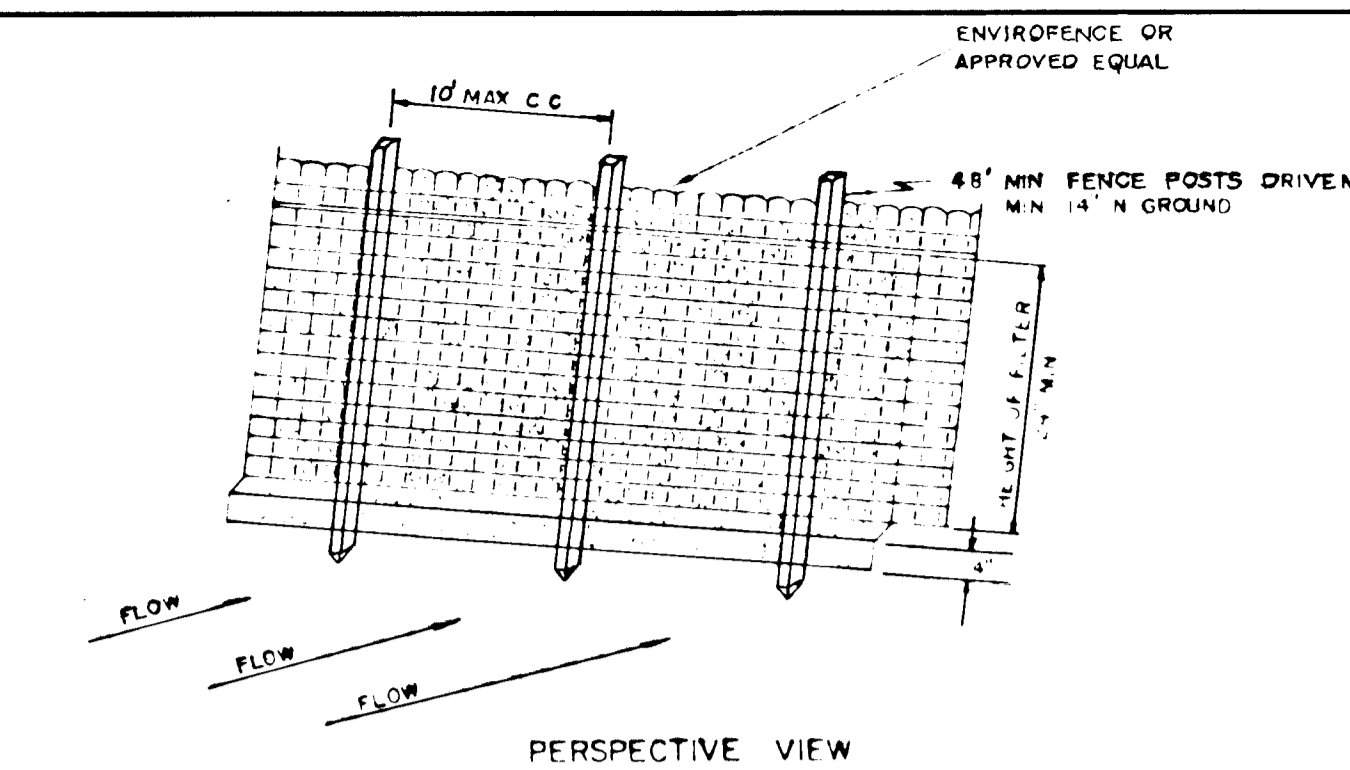
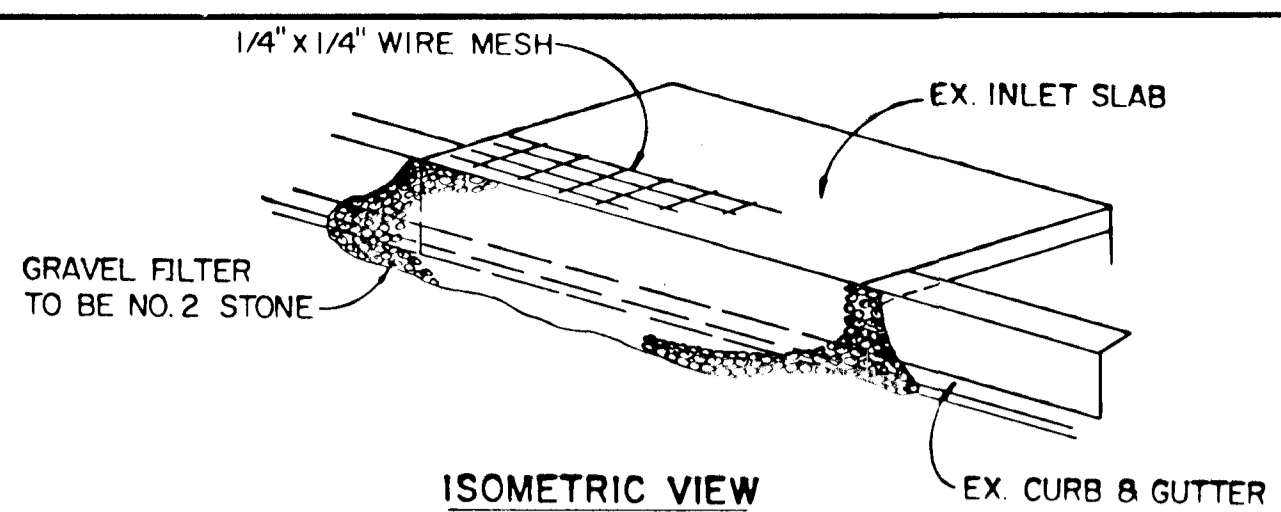
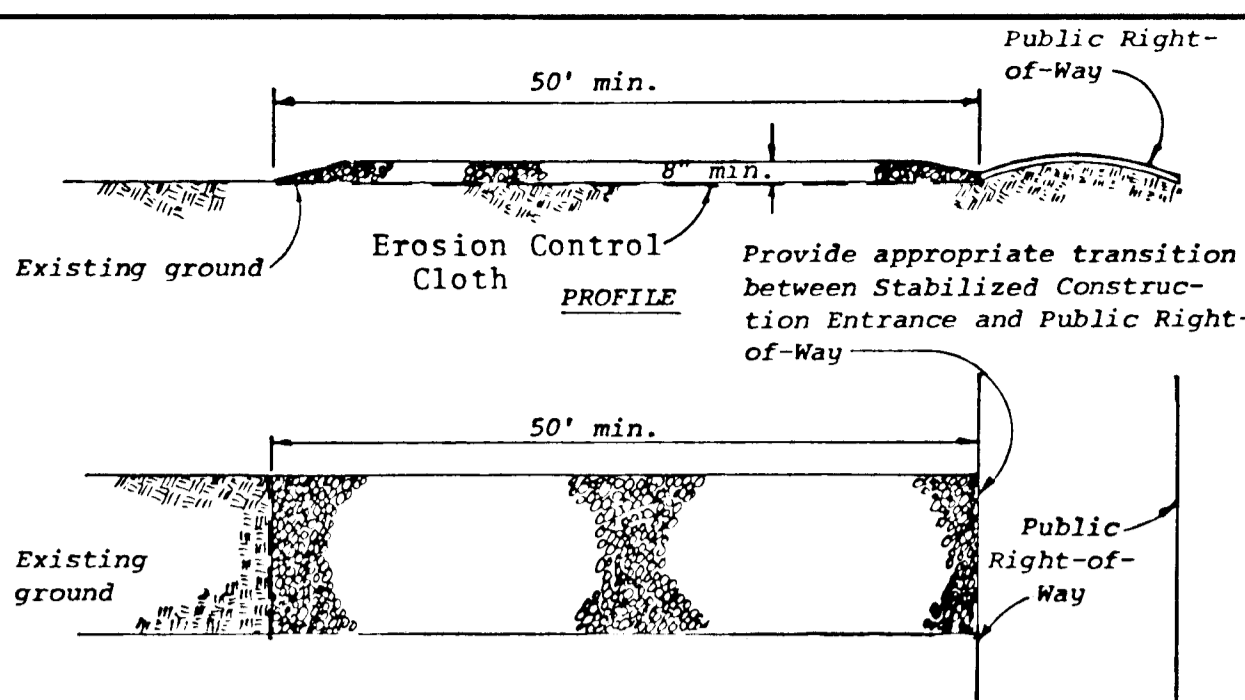
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
James M. Helms 8-3-83
 DISTRICT SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Dan J. ... 8-3-83
 DISTRICT SOIL CONSERVATION SERVICE DATE

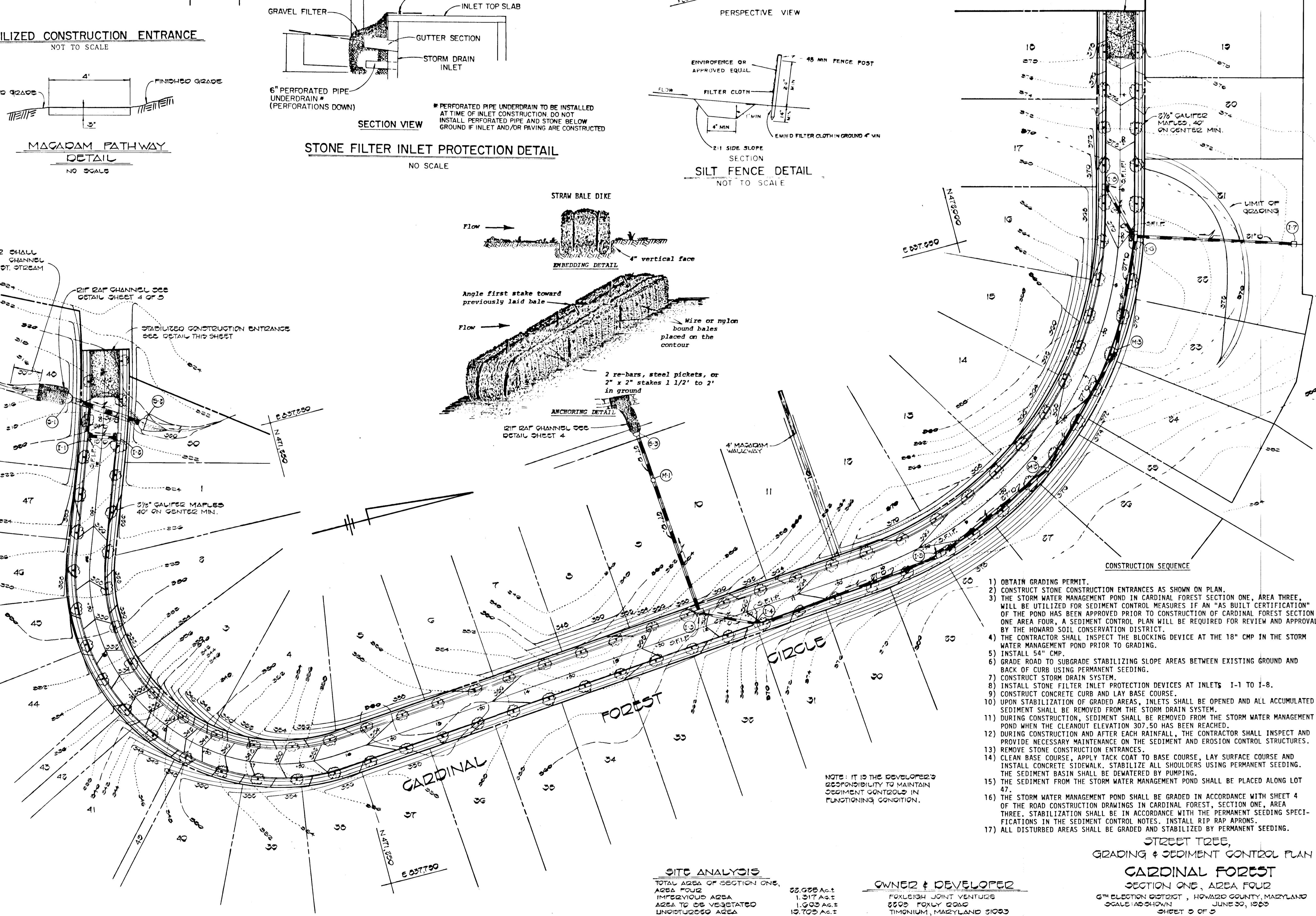
APPROVED: DEPARTMENT OF PUBLIC WORKS.

William ... 9-1-83
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: OFFICE OF PLANNING AND ZONING
William ... 8-31-83
 CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE



- SEDIMENT CONTROL NOTES**
- Specifications for the Sediment Control Details shown hereon are 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 seeded 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% South Dakota Blue Grass and 20% Penn Lawn Creeping Fescue.
 - The seeded area shall then be raked with a York Rake (a minimum of 2 passes) covered and compacted with Cultipacker or other approved method.
 - Mulching
 - Seeded 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.



- OBTAIN GRADING PERMIT.
- CONSTRUCT STONE CONSTRUCTION ENTRANCES AS SHOWN ON PLAN.
- THE STORM WATER 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 54" CMP.
- GRADE ROAD TO SUBGRADE STABILIZING SLOPE AREAS BETWEEN EXISTING GROUND AND BACK OF CURB USING PERMANENT SEEDING.
- CONSTRUCT STORM DRAIN SYSTEM.
- INSTALL STONE FILTER INLET PROTECTION DEVICES AT INLETS 1-1 TO 1-8.
- 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 ENTRANCES.
- 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 DEMATERED BY PUMPING.
- THE SEDIMENT FROM THE STORM WATER MANAGEMENT POND SHALL BE PLACED ALONG LOT 47.
- 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.

#128
 FISHER, COLLINS AND CARTER, INC.
 CONSULTING ENGINEERS AND LAND SURVEYORS
 8500 COURT AVENUE
 BELGOTT CITY, MARYLAND 21043

SITE ANALYSIS

TOTAL AREA OF SECTION ONE, AREA FOUR	22,000 Ac.±
IMPERVIOUS AREA	1,317 Ac.±
AREA TO BE VEGETATED	1,005 Ac.±
UNOCCUPIED AREA	19,700 Ac.±

OWNER & DEVELOPER
 FOXLEIGH JOINT VENTURE
 2205 FOXLY ROAD
 TIMonium, MARYLAND 21083

STREET TREES,
 GRADING & SEDIMENT CONTROL PLAN
CARDINAL FOREST
 SECTION ONE, AREA FOUR
 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 JUNE 30, 1983
 SHEET 5 OF 5

7/30/88