

NOTE:
RELOCATE BGL E POLES
(100112, 104170, 104161, 104168
104171) TO 1 FOOT SOUTH OF
PROPOSED SIDEWALK.

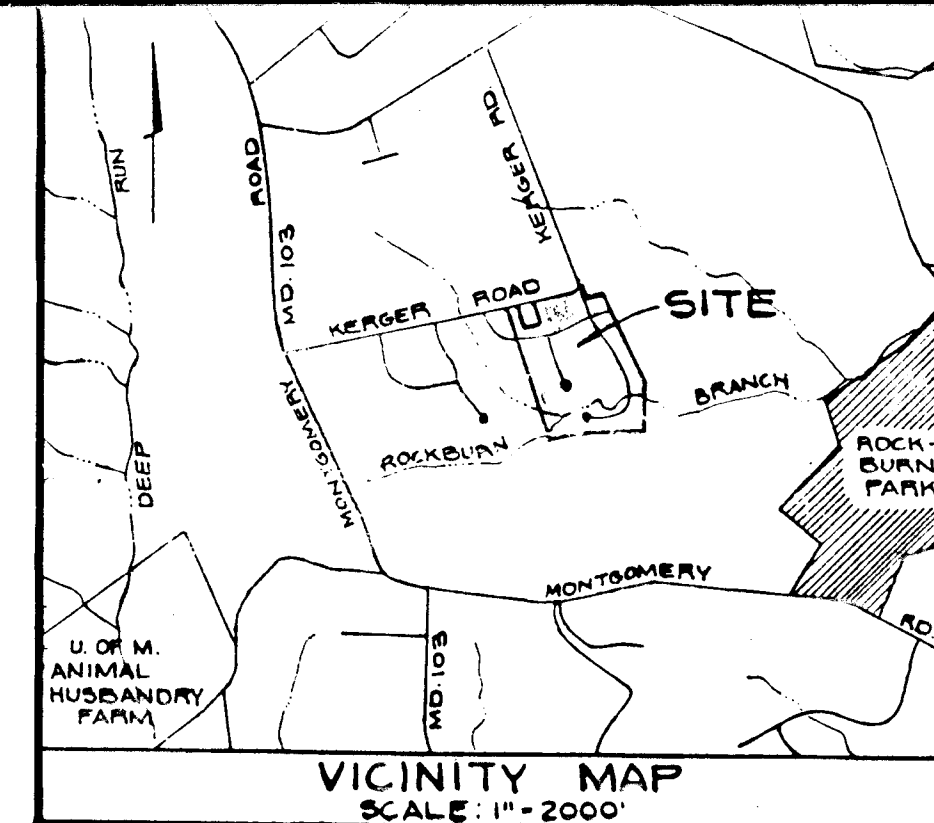
CONCRETE CURB & GUTTER
TRANSITION (HO CO STD DETAIL
R-302) BEGIN AT STA 7+00
& CONTINUE TO LIMIT OF
SUBMISSION.

LEGEND
EXIST PAVING TO BE
BUILT PER HO CO D'TALS
PROP PAVING TO BE
BUILT PER HO CO D'TALS

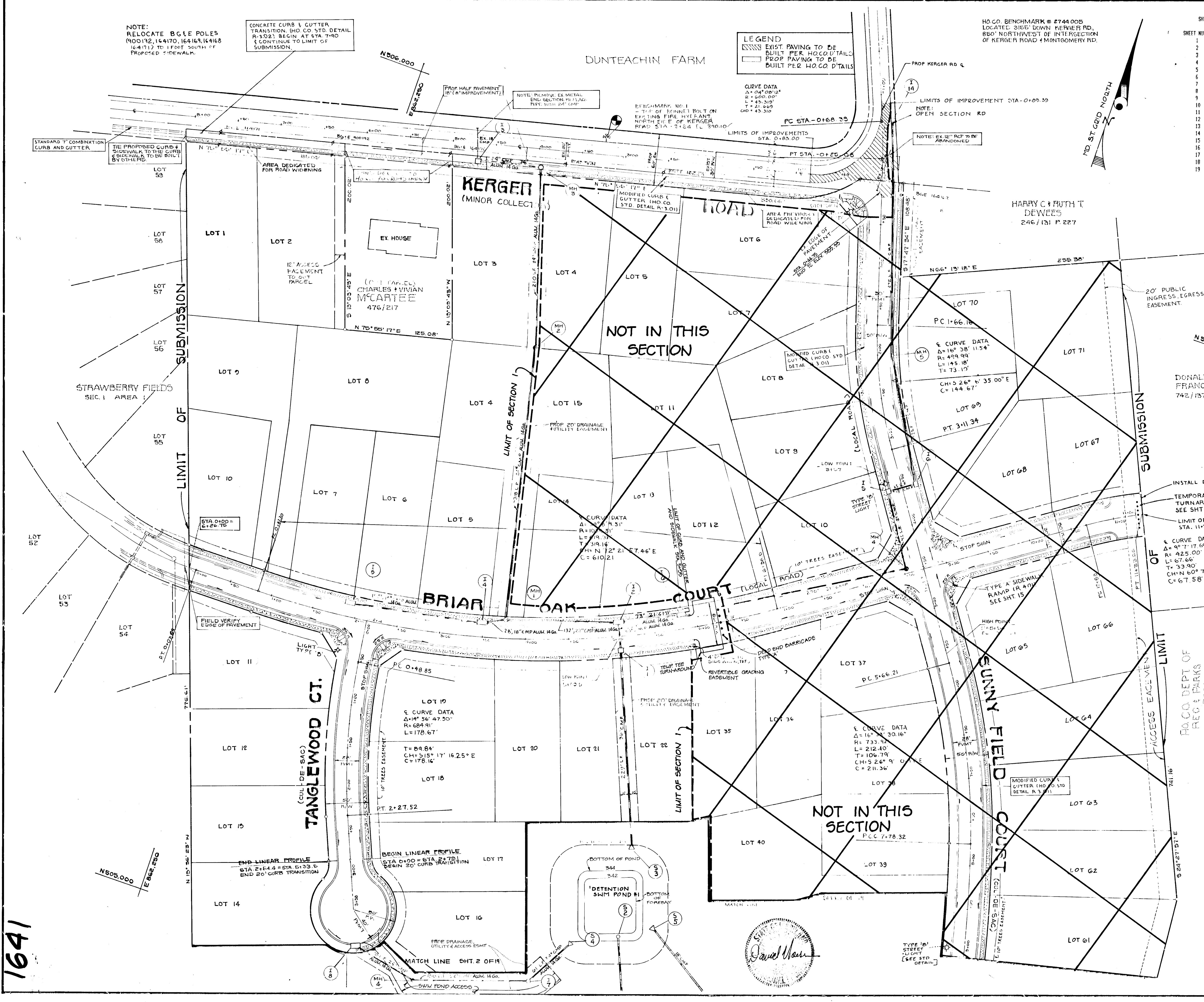
HO CO. BENCHMARK # 2744 005
LOCATED 315' DOWN KERGER RD,
850' NORTHWEST OF INTERSECTION
OF KERGER ROAD & MONTGOMERY RD.

SHEET INDEX

SHEET NUMBER	DESCRIPTION
1	Road Plan Views
2	Road Plan Views
3	Road Profiles
4	Road Profiles
5	Kerger Rd. Improvements
6	Drainage Area Map
7	Drainage Area Map
8	Grading & Sediment Control
9	Grading & Sediment Control
10	Storm Drain Profiles
11	Storm Drain Profiles
12	Culvert Detail Sheet
13	SM Pond Design
14	Pond Detail Sheet
15	Street Tree Design
16	Street Tree Design
17	Soils Map
18	Sediment Control Details
19	Paving Detail Sheet



- GENERAL NOTES
1. ALL CURB STORM DRAINS TO BE ALUMINIZED 14 GA. AS PER COUNTY REQUIREMENTS.
 2. ALL WORK SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR ROAD CONSTRUCTION, 1985 AMENDMENTS.
 3. APPROXIMATE LOCATION OF EXISTING SEWERS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION TO PROTECT UTILITIES, AND MAINTAIN UNINTERRUPTED SERVICE.
 4. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AS DIRECTED BY THE ENGINEER A MINIMUM OF TWO WEEKS PRIOR TO CONSTRUCTION.
 5. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST THREE DAYS IN ADVANCE OF STARTING WORK SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION TO PROTECT UTILITIES, AND MAINTAIN UNINTERRUPTED SERVICE.
 - LONG DISTANCE CABLE DIVISION 393-3649
 - BALTIMORE GAS AND ELECTRIC 539-8000
 - HOWARD COUNTY BUR. OF UTILITIES 315-4000
 - HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION 702-7272
 6. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
 7. ALL STREET CURB RETURNS SHALL HAVE A 20' RADIUS UNLESS OTHERWISE STATED.
 8. STORM DRAIN TRENCHES WITHIN ROAD R-O-W SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
 9. INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1988 EDITION.
 10. 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.
 11. DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:
 - ALL CUL-DE-SACS DESIGNED FOR 30 MPH
 - ALL LOCAL ROADS DESIGNED FOR 30 MPH
 12. ALL ELEVATIONS SHOWN HEREIN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929, AND HO CO. BENCH MARK.
 13. ALL FILL AREAS UNDER ROADS AND STRUCTURES ARE TO BE COMPACTED 95% OF MAXIMUM OBTAINABLE DENSITY DETERMINED BY MARSHALL PROCTOR.
 14. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
 15. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM WITH PLAN DIMENSIONS.
 16. SUBJECT PROPERTY IS ZONED R-20 PER THE 8-2-85 COMPREHENSIVE ZONING PLAN. SUBJECT TO 89-06, P. 89-22, WP 89-184, WAIVER TO 16.113.1.10, 12/8/89, PERMISSION TO EXCEED MAXIMUM LOT COV. OF 35% PER 91-153, WAIVER TO 16.121.4.4, 5/16/91, EXTENSION TO SUBMISSION REQUIREMENT.



APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Charles M. Ferguson for *6/1/92* DATE
CHIEF, LAND DEVELOPMENT DIVISION

John M. Ferguson *5/23/92* DATE
CHIEF, BUREAU OF HIGHWAYS (Admin)

John M. Ferguson *6-2-92* DATE
CHIEF, BUREAU OF ENGINEERING MK.

APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Anna J. Klemm *6/1/92* DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

AMERICAN ENGINEERING, INC.
671 A MAIN STREET LAUREL, MARYLAND 20707
301-953-1221 301-880-3039

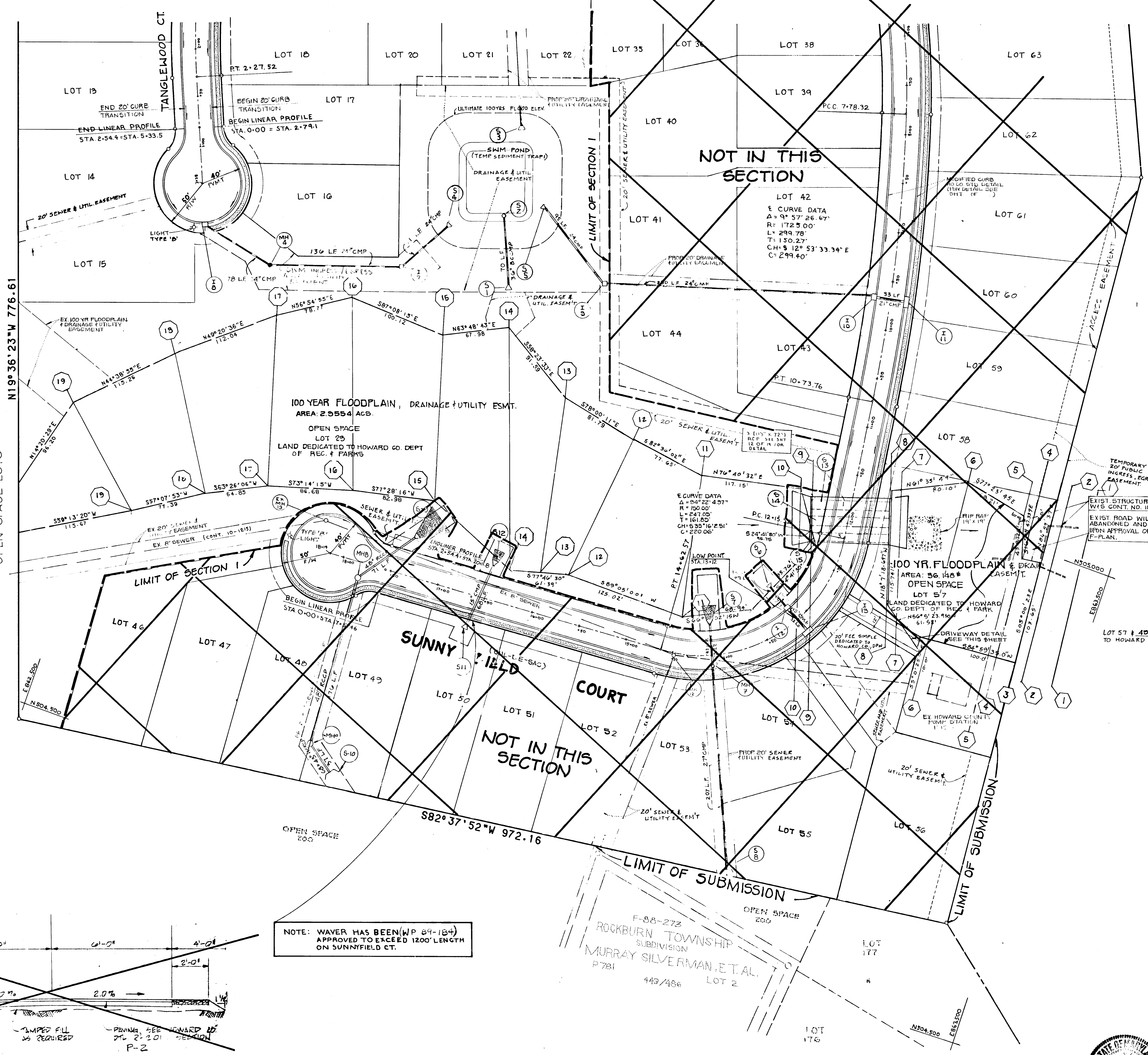
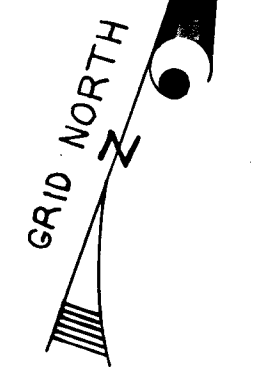
OWNER/	PROJECT NAME
Charles & Vivian McCartee 5365 Kerger Road Ellicott City, Md. 21043	SUNNY FIELD ESTATES Section I Lots 1-25
Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	T.M.#31 P.57,58,518,757 1 Elect. Dist. Ho.Co., MD

DEVELOPER	TITLE ROAD CONSTRUCTION DRAWING
KOREN DEVELOPMENT COMPANY, INC. 8808 Cordle Park Drive, Columbia, MD 21045 301-740-1010	Final Plan WP-89-184 S-89-06, P-89-52, P-89-232 DATE 4-14-89 PROJECT #S88101

DES. DW DRR. RT CHK. RA/DW SCALE 1"=50' DRAWING 1 OF 19

1641

F-92-232



100 YEAR FLOOD PLAIN STUDY

CROSS SECTION NUMBER	ELEVATION (FEET)
1.000	333.54
2.000	334.41
3.000	334.22
4.000	334.72
5.000	334.87
6.000	335.18
7.000	334.99
8.000	334.80
9.000	335.30
10.000	337.19
11.000	339.95
12.000	341.30
13.000	342.61
14.000	343.96
15.000	344.27
16.000	345.65
17.000	346.86
18.000	348.28
19.000	348.80

*CROSS SECTIONS WERE TAKEN AT APPROXIMATELY 100 FOOT INTERVALS. SEVERAL SECTIONS TAKEN WERE FOUND TO BE REDUNDANT AND ARE NOT REPORTED

P88-80
STRAWBERRY FIELDS
SEC. I PARCEL 223

OPEN SPACE LOTS
N19°36'23"W 776.61

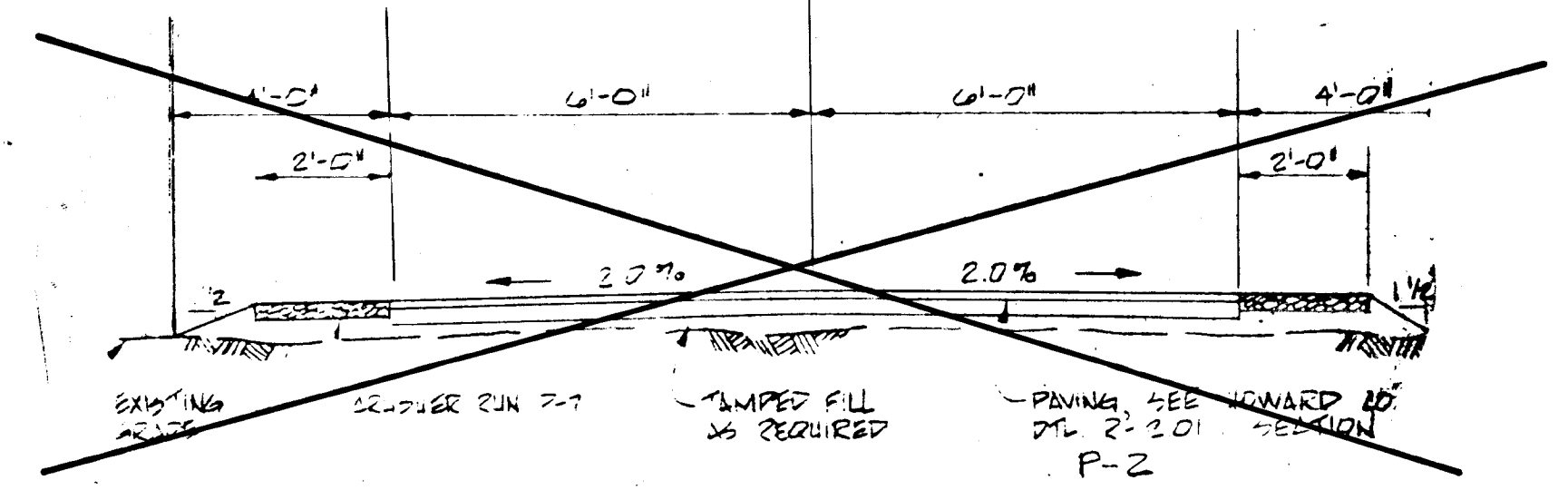
100 YEAR FLOODPLAIN, DRAINAGE & UTILITY ESMT.
AREA 2.8554 ACB.
OPEN SPACE
LOT 29
LAND DEDICATED TO HOWARD CO. DEPT
OF REC. & PARKS

100 YR. FLOODPLAIN & DRAINAGE
AREA 56.145#
OPEN SPACE
LOT 57
LAND DEDICATED TO HOWARD
CO. DEPT. OF REC. & PARKS

LOT 57 & 48 ARE OPEN SPACE LOTS DEDICATED
TO HOWARD CO. DEPT. OF RECREATION & PARKS.

CAROL F. DOYLE
221/86
HQ CO. DEPT. OF
REC. & PARKS
P221

NOTE: WAIVER HAS BEEN (WP 89-184)
APPROVED TO EXCEED 1200' LENGTH
ON SUNNYFIELD CT.



APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chad Cameron 6/1/92
CHIEF, LAND DEVELOPMENT DIVISION
Alan M. Ferguson 5/23/92
CHIEF, BUREAU OF HIGHWAYS (Acting)
William E. Ryan 6-2-92
CHIEF, BUREAU OF ENGINEERING MK.

APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Aminal Hornath 6/10/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT-DAT

AMERICAN ENGINEERING, INC.
671A MAIN STREET LAUREL, MARYLAND 20707
301-953-1221 301-880-3039

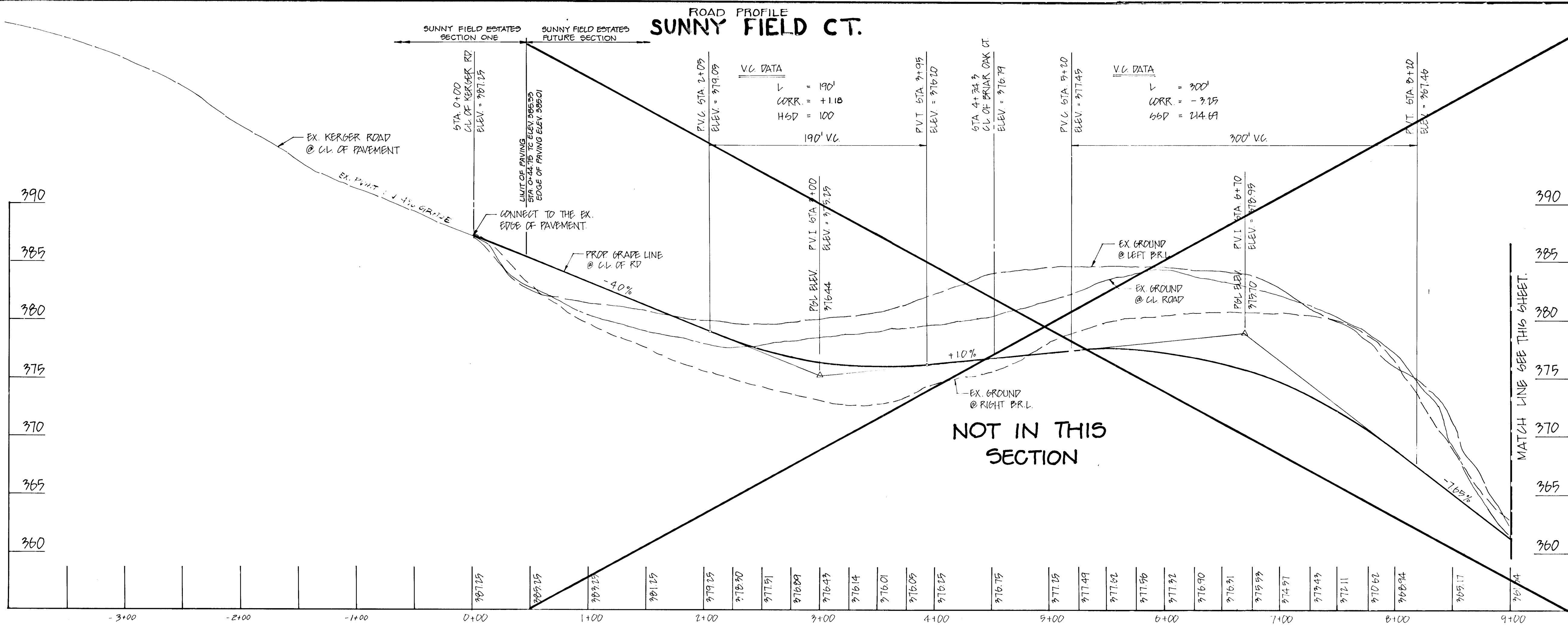
OWNER
Charles & Vivian McCartee
5365 Kerger Road
Ellicott City, Md. 21043
Mark & Laura Clay
5341 Kerger Road
Ellicott City, Md. 21043

PROJECT NAME
SUNNY FIELD ESTATES
Section I
Lots 1-29
T.M.#31 P.57,58,518,757
1 Elect. Dist. Ho.Co.,MD

DEVELOPER
LANDCON, INC. %
KORFN
DEVELOPMENT COMPANY, INC.
8828 Carlin Park Drive, Columbia, MD 21045
301-740-1010

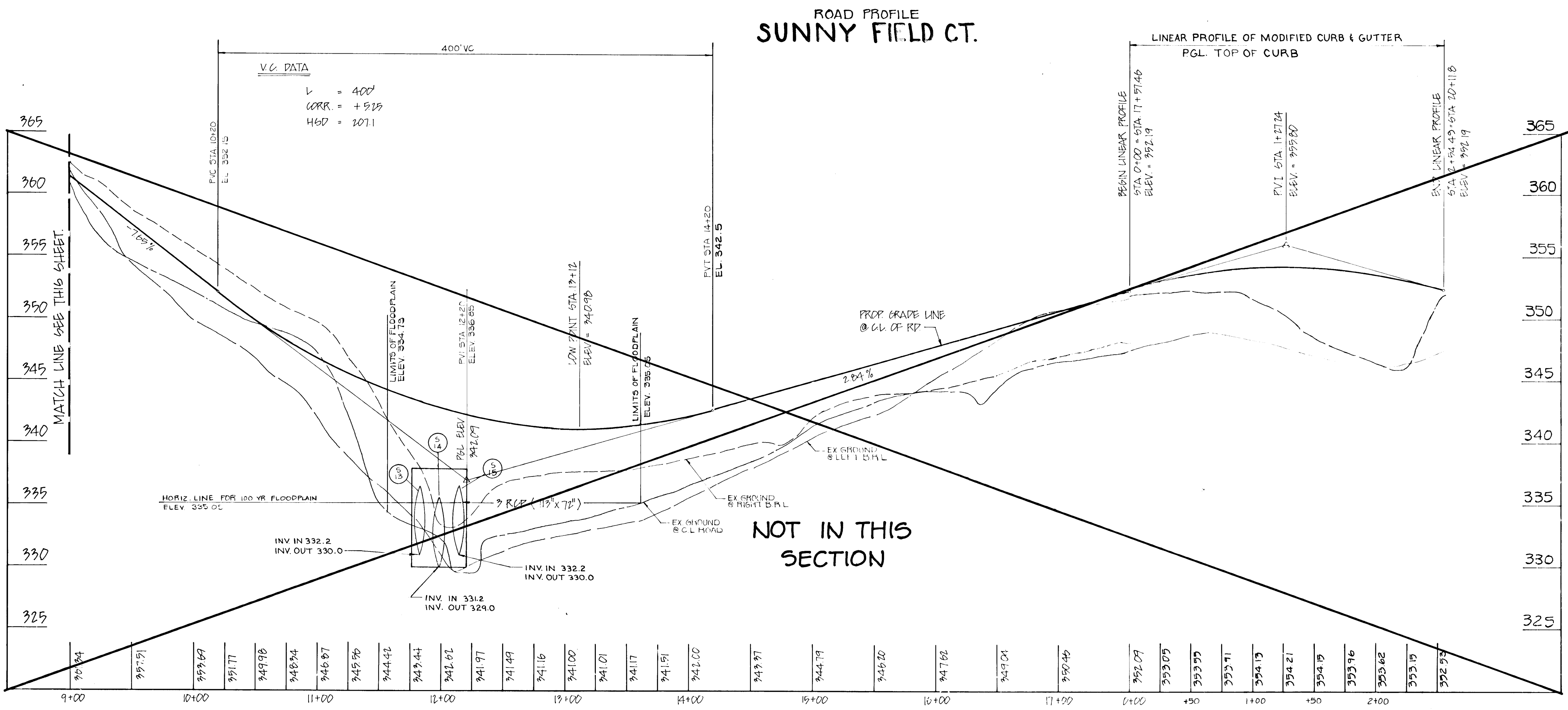
TITLE
ROAD CONSTRUCTION
DRAWING
Final Plan
WP-89-184 5-89-06, P-89-52, F-89-232
DATE 4-14-89 PROJECT P888101
SCALE 1"=50' DRAWING 2 OF 19





NOTES:
 - DESIGN SPEED = 30 MPH
 - PROPOSED RD GRADE REFLECT THE RD &

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



APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Allen Dammann for 4/16/92
 CHIEF, PLANNING DEPARTMENT DIVISION

APPROVED : *Alan M. Ferguson* 5/18/92
 CHIEF, BUREAU OF HIGHWAYS (AECOM) DATE

William B. Riley 6-2-92
 CHIEF, BUREAU OF ENGINEERING M.K. DATE

APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Anna J. Hilsenrath 6/18/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT-DATE

AMERICAN ENGINEERING, INC.
 671A MAIN STREET LAUREL, MARYLAND 20707
 301-953-1221 301-880-3039

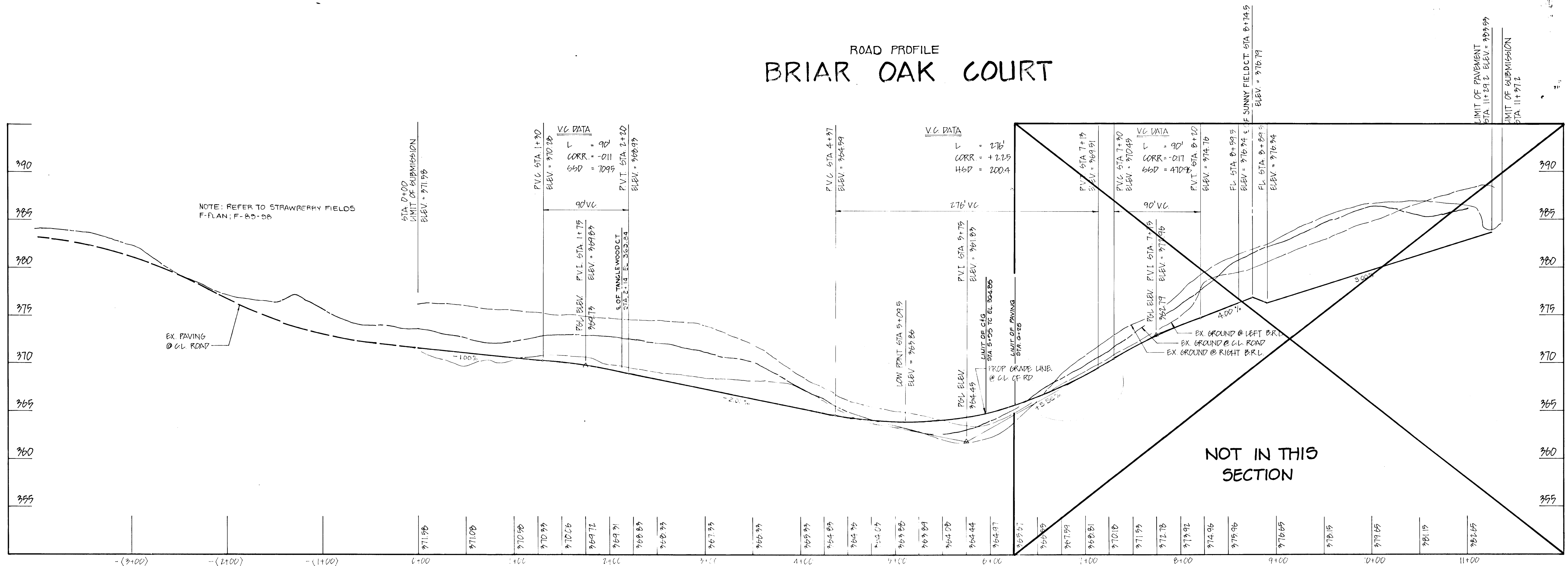
OWNER/ Charles & Vivian McCartee 5365 Kerger Road Bellicott City, Md. 21043	PROJECT NAME SUNNY FIELD ESTATES Section I Lots 1-23
Mark & Laura Clay 5341 Kerger Road Bellicott City, Md. 21043	T.M.#31 P. 57, 58, 518, 757 1 Elect. Dist. Ho. Co., MD

PREPARED BY KOPEN DEVELOPMENT COMPANY, INC. 8508 Centre Park Drive Columbia, MD 21045 301-740-1010	TITLE ROAD PROFILE Final Plan WP-89-184, S-89-06, P-89-52, P-89-232 DATE 4-14-89 PROJECT PS88101
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DES. DW	DRW. BY	CHK. DW/RA	SCALE AS SHOWN	DRAWING 3 OF 19
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1641

ROAD PROFILE BRIAR OAK COURT

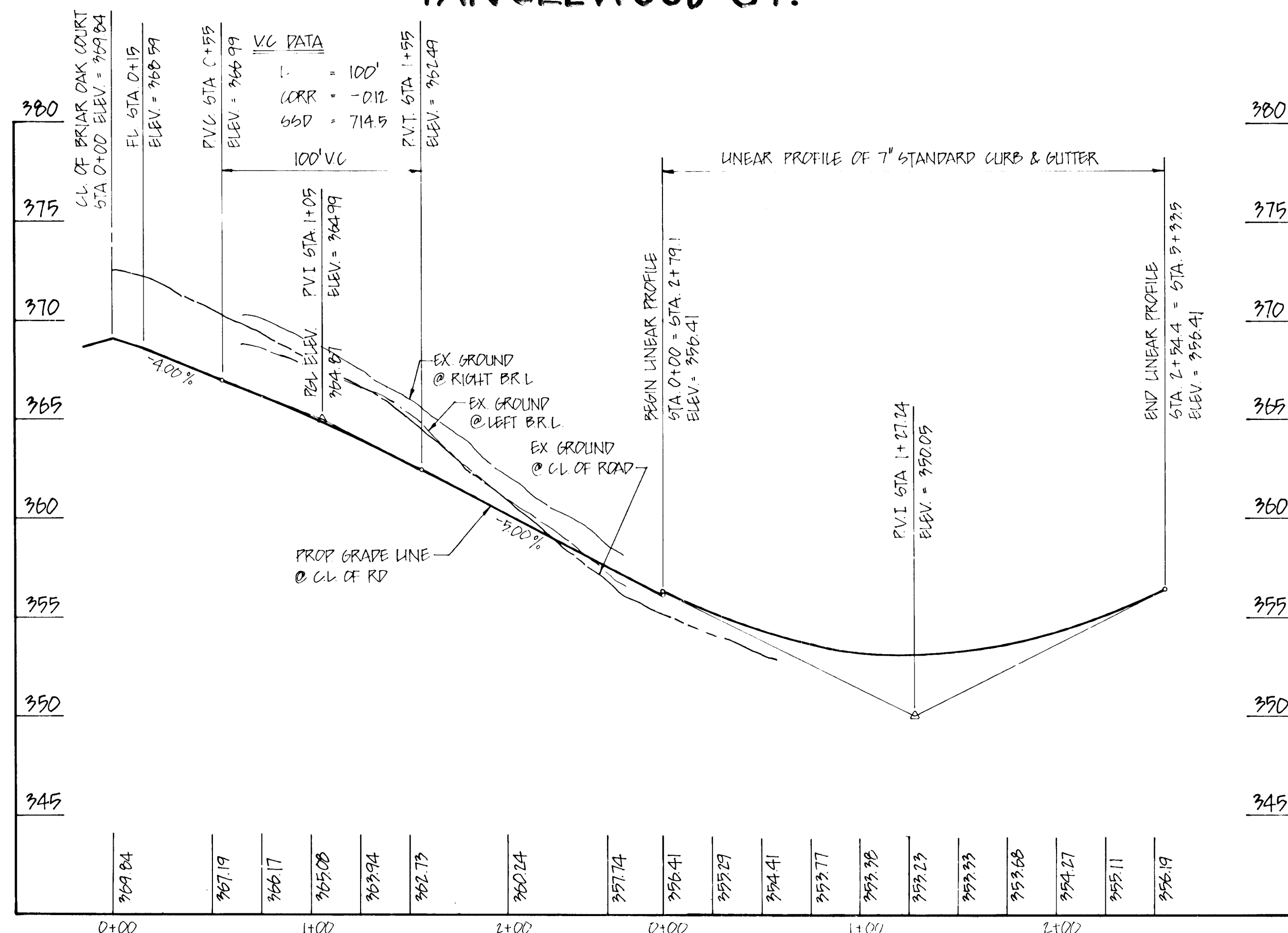
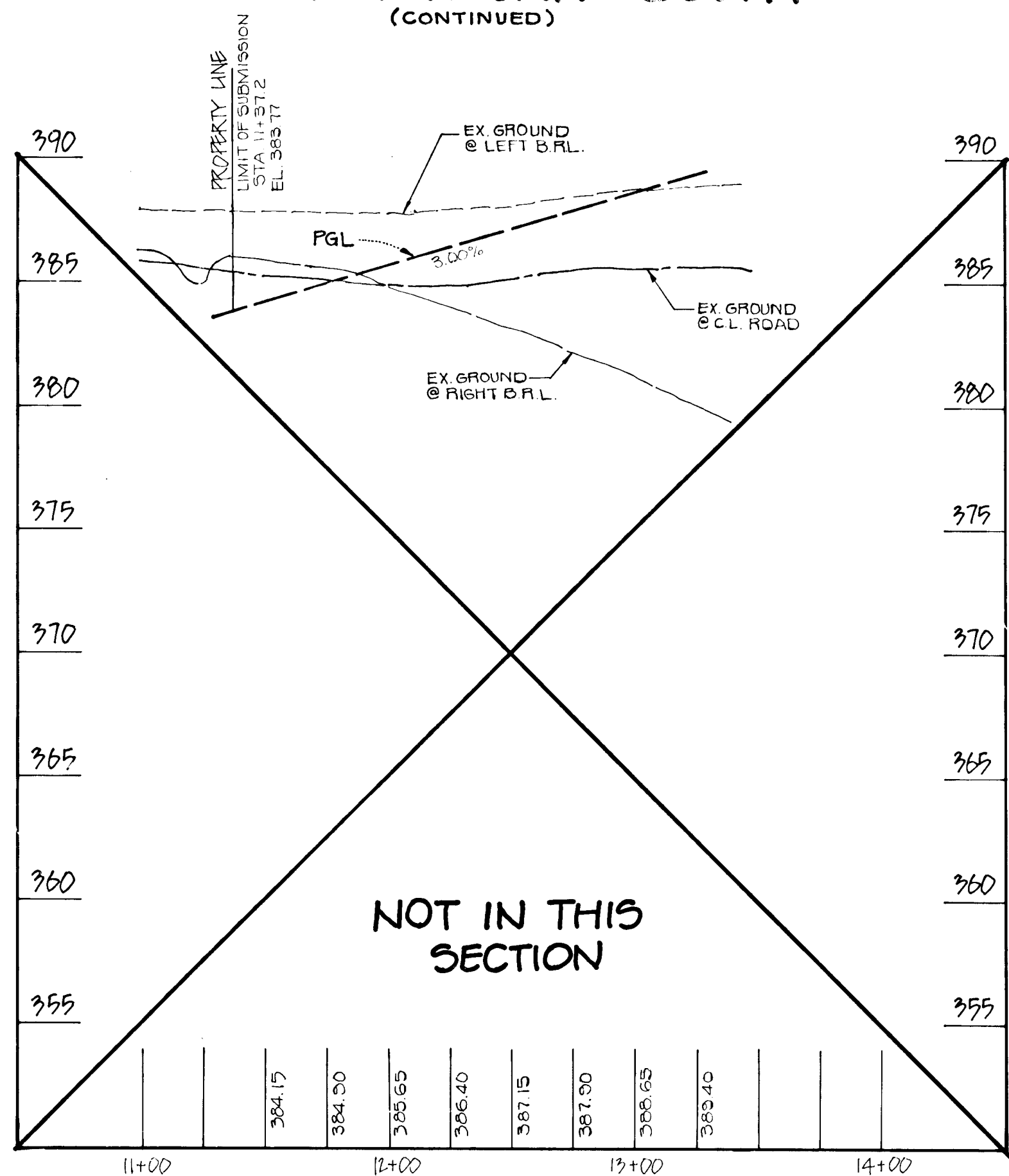


ROAD PROFILE
BRIAR OAK COURT
(CONTINUED)

ROAD PROFILE
TANGLEWOOD CT.

NOTES:
- DESIGN SPEED = 30 MPH
- PROPOSED RD GRADE REFLECT THE RD. ♪.

SCALE
1" = 5' VERT.
1" = 80' HORIZ.



APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Charles M. DeWitt 6/1/92
 CHIEF, DEPARTMENT DIVISION
Alan M. Tompkins 5/23/92
 CHIEF, BUREAU OF HIGHWAYS (Acting)
Joseph J. Reese 6/2/92
 CHIEF, BUREAU OF ENGINEERING (M.K.)

APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Emma J. Helms 6/18/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT-DATE

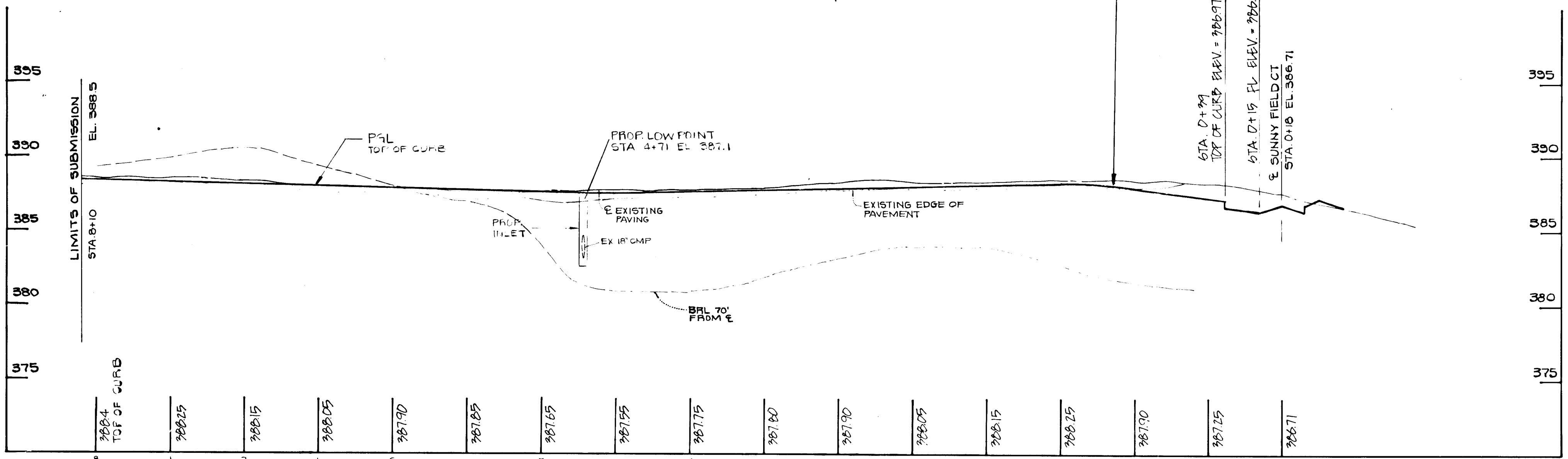
AMERICAN ENGINEERING, INC.
 671A MAIN STREET LAUREL, MARYLAND 20707
 301-953-1221 301-880-3039

OWNER:
 Charles & Vivian McCartee
 5365 Kerger Road
 Ellicott City, Md. 21043
 Mark & Laura Clay
 5341 Kerger Road
 Ellicott City, Md. 21043

PROJECT NAME
 SUNNY FIELD ESTATES
 Section I
 Lots 1-25
 T.M.#31 P.57,58,518,757
 1 Elect. Dist. Ho.Co.,MD

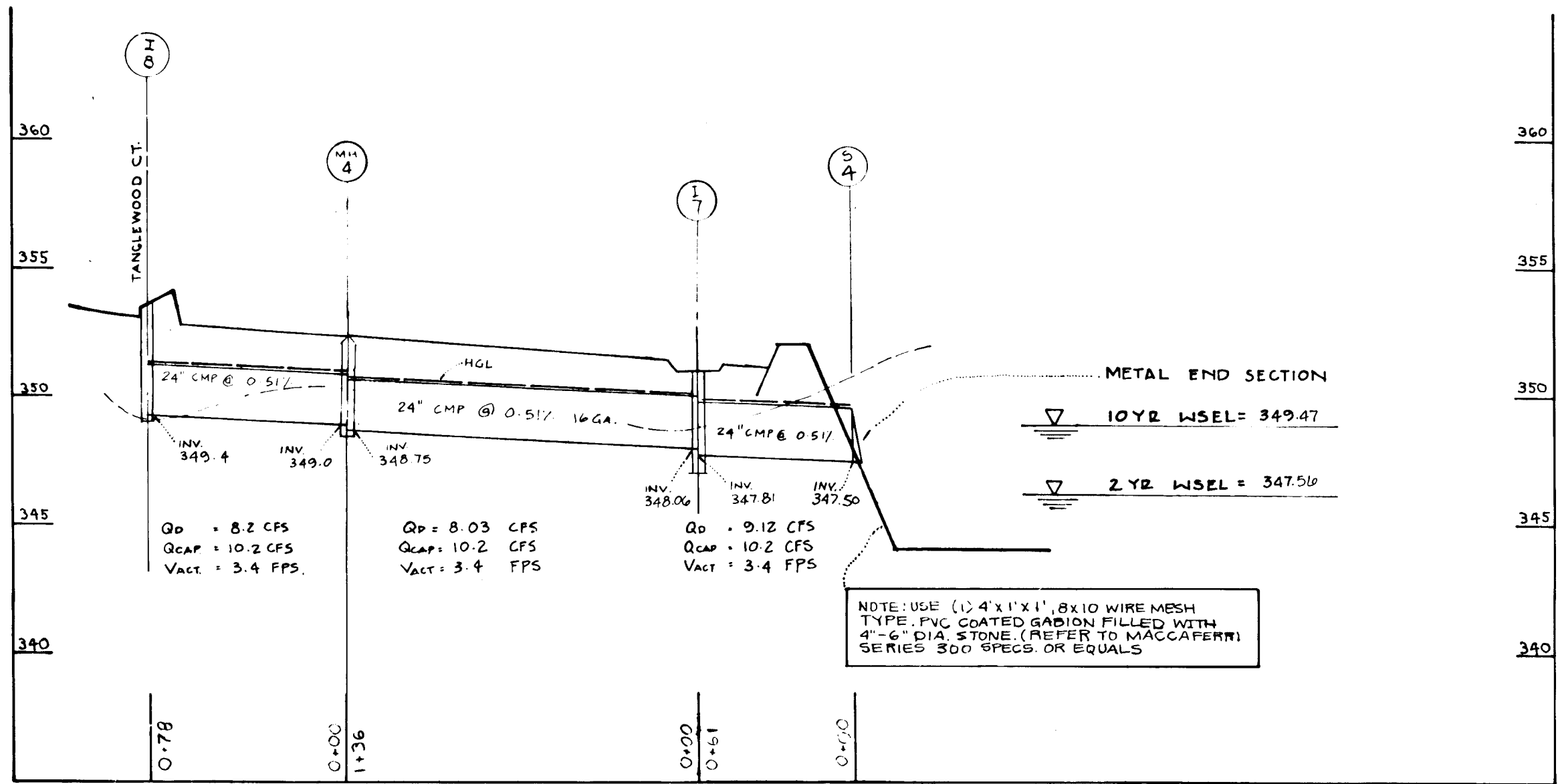
DEVELOPER LANDCON, INC. c/o KOPFN DEVELOPMENT COMPANY, INC. <small>8530 Green Park Drive, Chevy Chase, MD 20815 301-762-7010</small>	TITLE ROAD PROFILE Final Plan WP-89-184 S-89-06, P-89-52, F-89-232
	DATE 4-14-89 PROJECT PS88101
DES. DW DRW. RT CHK RA/DW	SCALE AS SHOWN DRAWING 4 OF 19

NOTE: P&L ALONG TOP OF PROPOSED CURB. IMPROVEMENT TO KERGER ROAD TIE TO SUNNYFIELD COURT AT STATION 0+41. KERGER ROAD IMPROVEMENTS FROM STATION 0+10 TO 1+23 TO BE DONE AT 12.5% SLOPE.



**PROFILE
KERGER ROAD**

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



**STORMDRAIN
PROFILE**

SCALE
VERT. 1" = 5'
HORZ. 1" = 10'

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Howard D. ... 6/1/92
 CHIEF, LAND DEVELOPMENT DIVISION DATE
Oliver M. ... 5/23/92
 CHIEF, BUREAU OF HIGHWAYS (A-1111) DATE
James D. ... 6-2-92
 CHIEF, BUREAU OF ENGINEERING M.K. DATE

APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Annunzio ... 6/10/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

AMERICAN ENGINEERING, INC.
 671A MAIN STREET LAUREL, MARYLAND 20707
 301-953-1221 301-880-3039

OWNER/ Charles & Vivian McCartee 5365 Kerger Road Ellicott City, Md. 21043 Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	PROJECT NAME SUNNY FIELD ESTATES Section I Lots 1-25 T.M.#31 P. 57, 58, 518, 757 1 Elect. Dist. Ho. Co., MD
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DEVELOPER LANDCON, INC. % KOREN DEVELOPMENT COMPANY, INC. 8808 Centre Park Drive Columbia, MD 21045 201-740-1010	TITLE Final Plan WP-89-184 S-89-06, P-89-52, P-89-232 DATE 4-14-89 PROJECT PS88101
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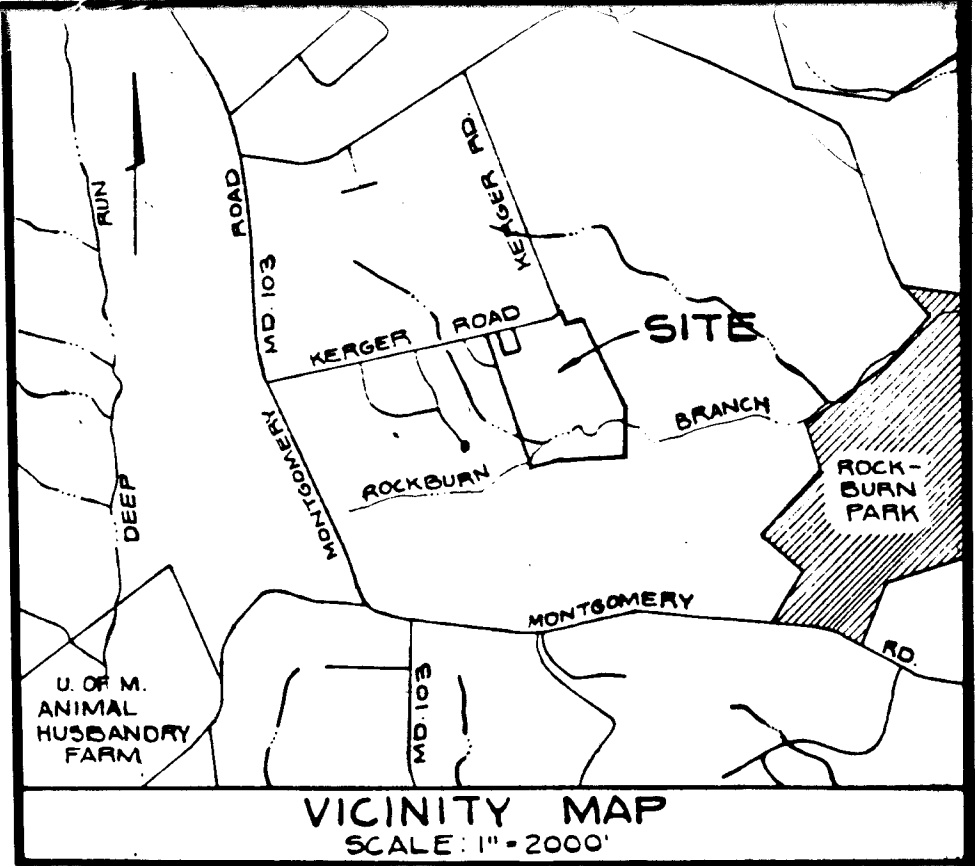
DES. DW	DRW. RT	CHK. RA/DW	SCALE AS SHOWN	DRAWING 5 OF 10
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DUNTEACHIN FARM
SEC. 1 P. 90-98

REFER TO COMPUTATIONS
SHT. 26 FOR OFF-SITE
DRAINAGE.

REFER TO COMPUTATIONS
SHT. 26 FOR OFF-SITE
DRAINAGE.



APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John D. ... 4/18/92
 CHIEF, LAND DEVELOPMENT DIVISION
Alan M. Ferguson 5/23/92
 CHIEF, BUREAU OF HIGHWAYS (A.C.H.S.)
William S. ... 6-2-92
 CHIEF, BUREAU OF ENGINEERING M.K.

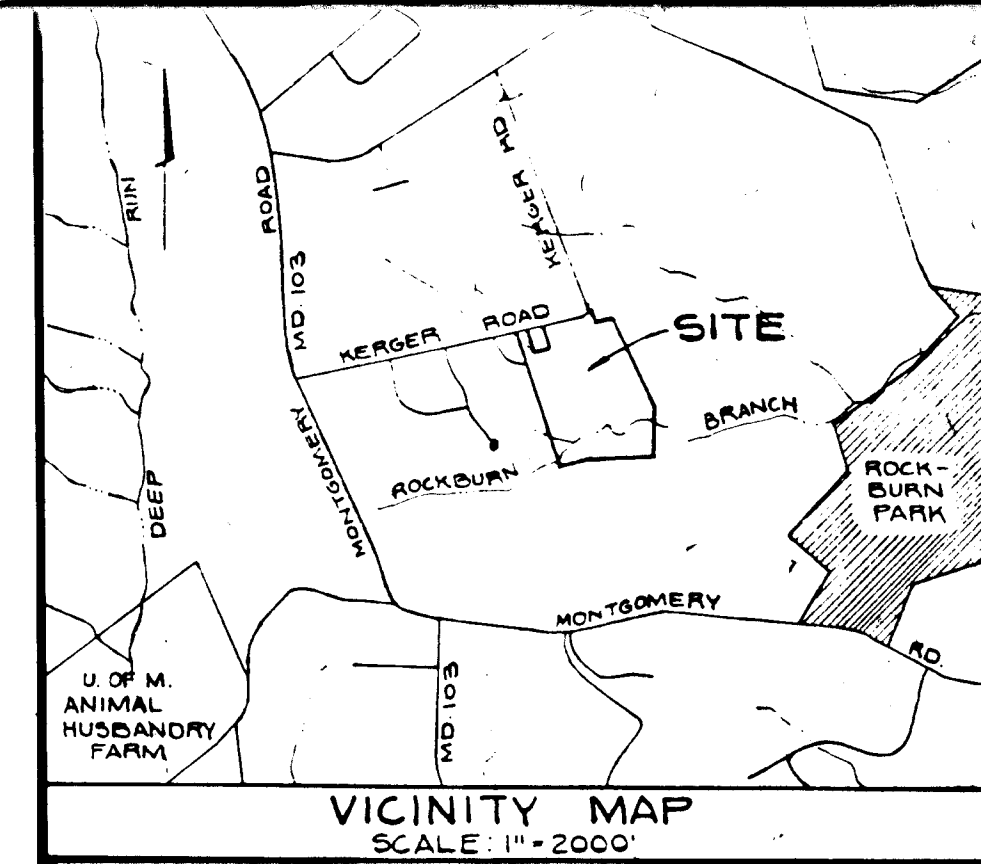
APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Emma Hilmar 4/18/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

AMERICAN ENGINEERING, INC.
 671A MAIN STREET LAUREL, MARYLAND 20707
 301-953-1221 301-880-3039

OWNER Charles & Vivian McCartee 5365 Kerger Road Ellicott City, Md. 21043	PROJECT NAME SUNNY FIELD ESTATES Section I Lots 1-25
Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	T.M. #22 P. 57, 58, 518, 757 1 Elect. Dist. Ho. Ge., MD

DEVELOPER LANDCON INC. 90% KOREN DEVELOPMENT COMPANY, INC. 8806 Centre Park Drive Columbia MD 21045 301-740-1010	TITLE DRAINAGE AREA Final Plan WP-89-184 S-89-06, P-89-52, F-89-232 DATE 4-14-89 PROJECT PS88101
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DBS. DW DRW. P. CHK. RA/DW SCALE 1"=50' DRAWING 6 OF 19



P 89-20
STRAWBERRY FIELDS
SEC. 1 PARCEL 223

STUDY POINT "A"

CAROL F. DOYLE
22/86
HO. CO. DEPT. OF
REC. & PARKS
1984



APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>John P. ...</i> CHIEF, BUREAU OF PLANNING AND ZONING	6/1/92 DATE
<i>Alan M. Ferguson</i> CHIEF, BUREAU OF HIGHWAYS	5/23/92 DATE
<i>John ...</i> CHIEF, BUREAU OF ENGINEERING	6-2-92 DATE

APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING	
<i>Anna J. Holcomb</i> CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	6/18/92 DATE

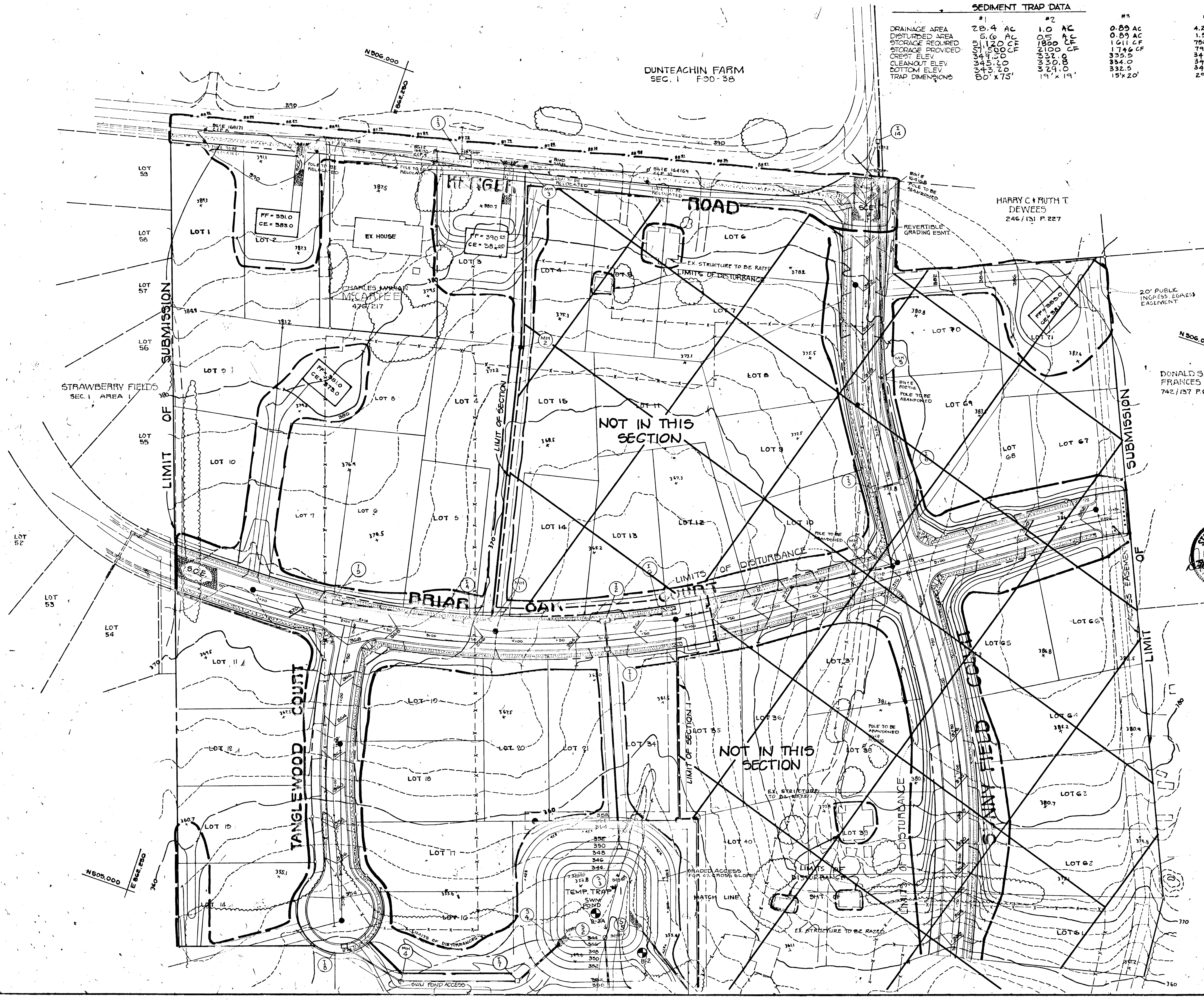
AMERICAN ENGINEERING, INC.
671A MAIN STREET LAUREL, MARYLAND 20707
301-953-1221 301-880-3039

OWNER/	PROJECT NAME
Charles & Vivian McCarty 5365 Kerger Road Ellicott City, Md. 21043	SUNNY FIELD ESTATES Section 1 Lots 1-25
Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	T.M. #31 P. 57, 58, 518, 757 1 Elect. Dist. Ho. Co., MD

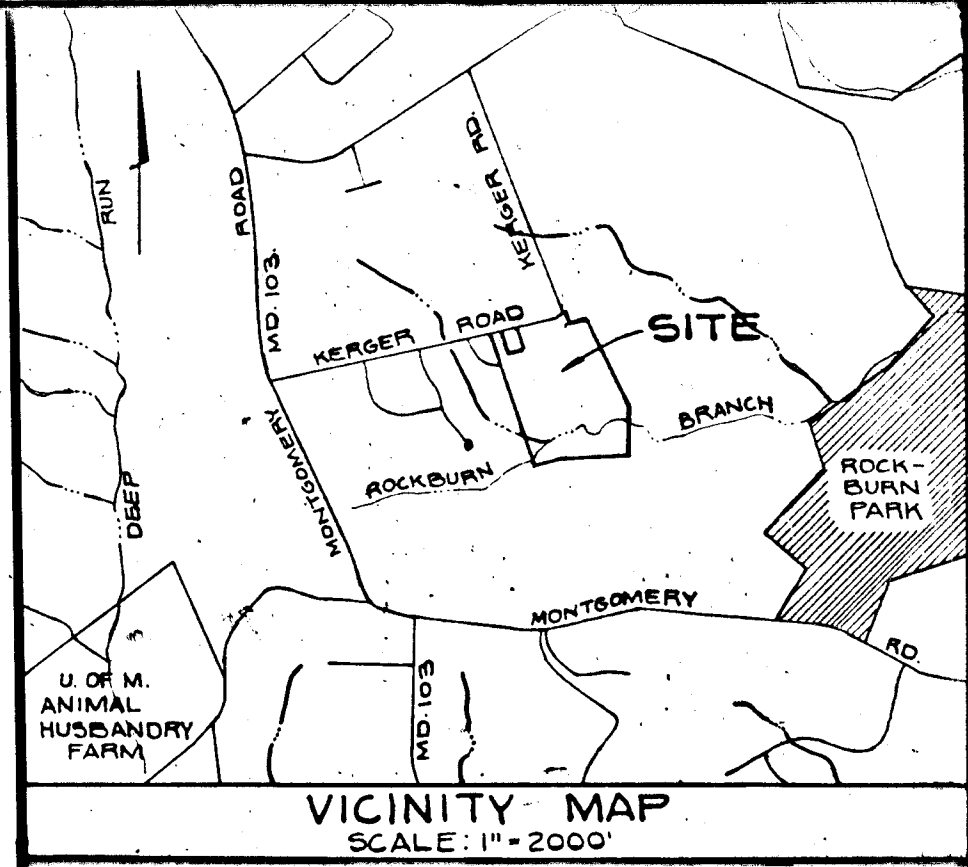
DEVELOPER	TITLE
LANDCON, INC. c/o KOREN DEVELOPMENT COMPANY, INC. 8808 Centre Post Drive, Calverton, MD 21045 301-240-1000	DRAINAGE AREA MAP Final Plan WP-89-184, S-89-06, P-89-52, F-89-232
DATE 4-14-89 PROJECT PS88101	

DEB. DV DRW. RT CHK. RA. LW SCALE 1"=50' DRAWING 7 OF 19

1641



SEDIMENT TRAP DATA			
#	#1	#2	#3
DRAINAGE AREA	28.4 AC	1.0 AC	0.89 AC
DISTURBED AREA	5.6 AC	0.5 AC	0.89 AC
STORAGE REQUIRED	51,120 CF	1800 CF	1746 CF
STORAGE PROVIDED	51,500 CF	2210 CF	3355 CF
CREST ELEV.	344.50	336.0	334.0
CLEANOUT ELEV.	343.20	335.0	334.0
BOTTOM ELEV.	343.20	329.0	332.5
TRAP DIMENSIONS	80' x 75'	19' x 19'	15' x 20'



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 of Engineer: *David M. [unclear]*
 Print name below signature: *DAVID WOSNICK*

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 of Developer: *Steven Koren*
 Print name below signature: *STEVEN KOREN*
 LANDCON, INC.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion, and sediment control.
 Signature: *Joseph M. [unclear]* 4/24/92
 Title: *Soil Conservation Service*
 Signature: *Ronald Zilman* 4/24/92
 Title: *Howard Soil Conservation District*

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Land Development Division: *Alan M. [unclear]* 6/1/92
 Chief, Bureau of Highways: *Alan M. [unclear]* 5/25/92
 Chief, Bureau of Engineering: *William [unclear]* 6-2-92

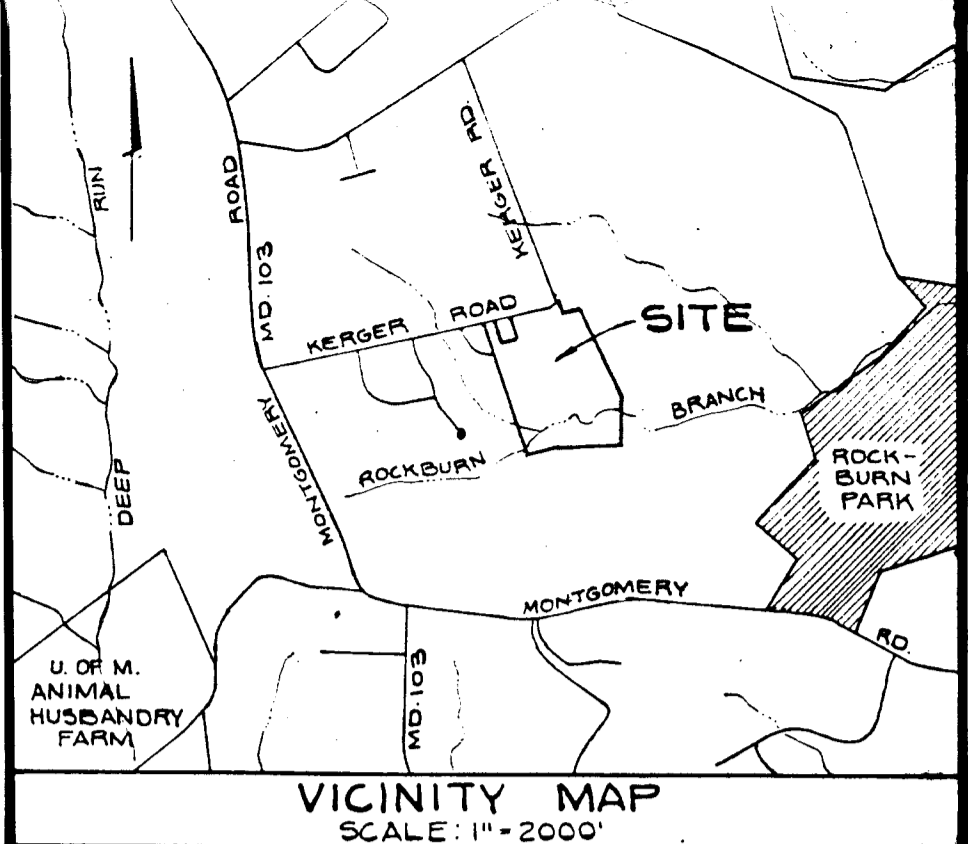
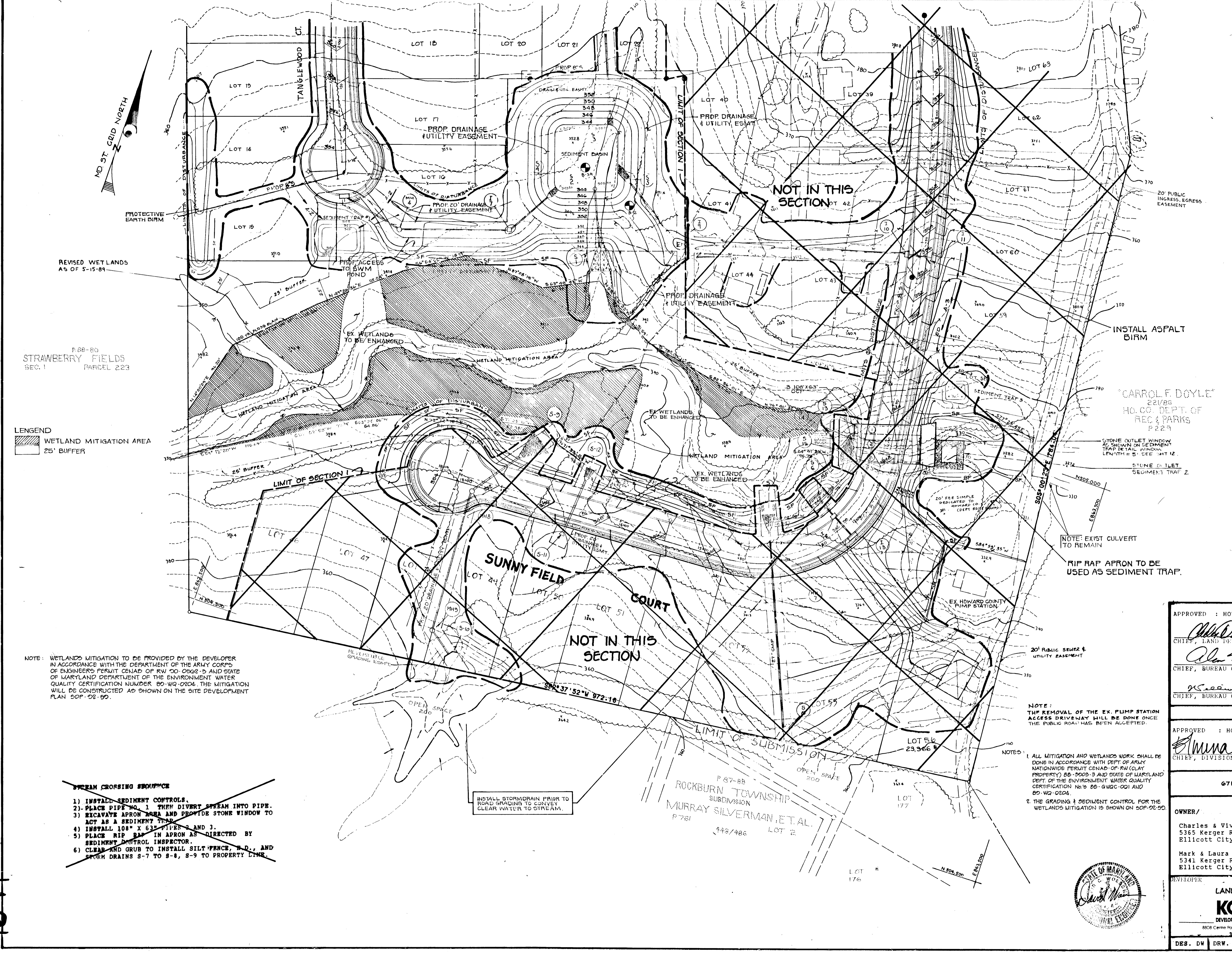
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Chief, Division of Community Planning and Land Development: *Anna J. [unclear]* 6/18/92

AMERICAN ENGINEERING, INC.
 671A MAIN STREET LAUREL, MARYLAND 20707
 301-953-1221 301-880-3039

OWNER/DEVELOPER	PROJECT NAME
Charles & Vivian McCartee 5365 Kerger Road Ellicott City, Md. 21043	SUNNY FIELD ESTATES Section I Lots 1-25
Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	T.M. #31 P. 57, 58, 518; 757 1 Elect. Dist. Ho. Co., MD

DEVELOPER	TITLE
LANDCON, INC. % KOREN DEVELOPMENT COMPANY, INC. 8808 Centre Park Lane, Coakley MD 21045 301-740-1010	GRADING & SEDIMENT CONTROL Final Plan WP-89-184 S-89-06, P-89-52, F-89-232
DATE	PROJECT
4-14-89	PS88101

DES. DW DRW. RT CHK. RA/DW SCALE 1"=50' DRAWING 8 OF 19



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."
David M. [Signature] 4/19/92
 Signature of Engineer Date
 Print name below signature
 DAVID WOODRIDGE

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."
Steven K. [Signature] 4/19/92
 Signature of Developer Date
 Print name below signature
 STEVEN KOREN
 LANDCON, INC.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for pond construction, soil erosion and sediment control.
[Signature] 4/24/92
 U.S. Soil Conservation Service Date
 These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Robert J. [Signature] 4/24/92
 Howard Soil Conservation District Date

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 4/19/92
 CHIEF, LAND DEVELOPMENT DIVISION DATE
[Signature] 5/25/92
 CHIEF, BUREAU OF HIGHWAYS (Action) DATE
[Signature] 6-2-92
 CHIEF, BUREAU OF ENGINEERING M.K. DATE

APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
[Signature] 6/10/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

AMERICAN ENGINEERING, INC.
 671A MAIN STREET LAUREL, MARYLAND 20707
 301-953-1221 301-880-3039

OWNER/ Charles & Vivian McCartee 5365 Kerger Road Ellicott City, Md. 21043 Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	PROJECT NAME SUNNY FIELD ESTATES Section I Lots 1-25 T.M.#31 P.57,58,518,757 1 Elect. Dist. Ho.Co.,MD
--	--

DEVELOPER LANDCON, INC. % KOREN DEVELOPMENT COMPANY, INC. 8808 Central Express Drive, Columbia, MD 21045 301.740.1010	TITLE GRADING & SEDIMENT CONTROL Final Plan WP-89-184 S-89-06, P-89-52, P-89-232 DATE 4-14-89 PROJECT PS88101
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DES. DW DRW. RT CHK. RA/DW SCALE 1"=50' DRAWING 9 OF 19

F-89-83
STRAWBERRY FIELDS
SEC. 1 PARCEL 223

LEGEND
 WETLAND MITIGATION AREA
 25' BUFFER

NOTE: WETLANDS MITIGATION TO BE PROVIDED BY THE DEVELOPER IN ACCORDANCE WITH THE DEPARTMENT OF THE ARMY CORPS OF ENGINEERS PERMIT GENAD-OP-RW-00-0262-29 AND STATE OF MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER QUALITY CERTIFICATION NUMBER 80-WQ-0204. THE MITIGATION WILL BE CONSTRUCTED AS SHOWN ON THE SITE DEVELOPMENT PLAN S-DP-02-50.

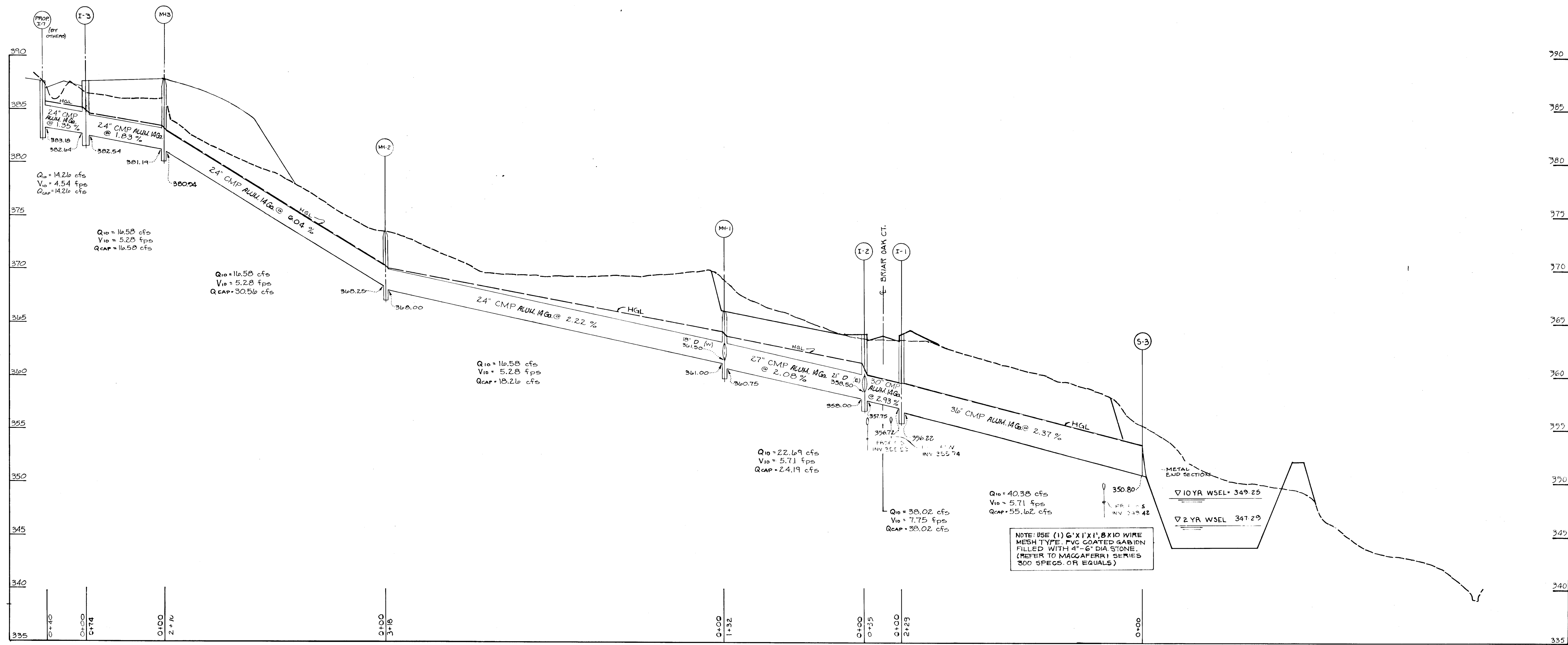
- STREAM CROSSING STRUCTURE
- 1) INSTALL SEDIMENT CONTROLS.
 - 2) PLACE PIPE NO. 1 THEN DIVERT STREAM INTO PIPE.
 - 3) EXCAVATE APRON AREA AND PROVIDE STONE WINDOW TO ACT AS A SEDIMENT TRAP.
 - 4) INSTALL 108" X 63" PIPES 2 AND 3.
 - 5) PLACE RIP RAP IN APRON AS DIRECTED BY SEDIMENT CONTROL INSPECTOR.
 - 6) CLEAN AND GRUB TO INSTALL SILT FENCE, S.D., AND STORM DRAINS S-7 TO S-8, S-9 TO PROPERTY LINE.

INSTALL STORMDRAIN PRIOR TO ROAD GRADING TO CONVEY CLEAR WATER TO STREAM.

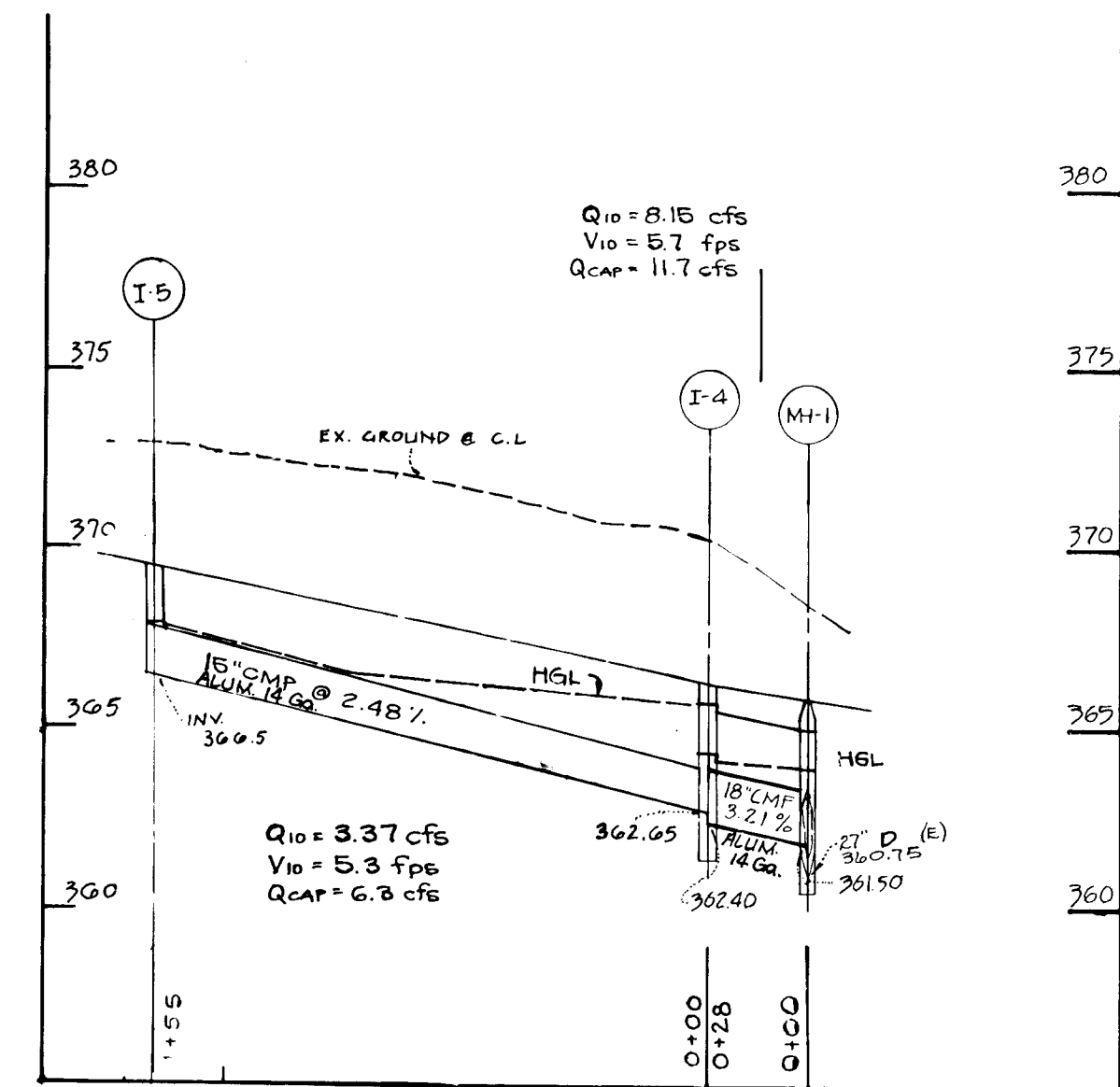
NOTE: THE REMOVAL OF THE EX. PUMP STATION ACCESS DRIVEWAY WILL BE DONE ONCE THE PUBLIC ROAD HAS BEEN ACCEPTED.

NOTES:
 1. ALL MITIGATION AND WETLANDS WORK SHALL BE DONE IN ACCORDANCE WITH DEPT. OF ARMY NATIONWIDE PERMIT GENAD-OP-RW (CLAY PROPERTY) 80-9003-3 AND STATE OF MARYLAND DEPT. OF THE ENVIRONMENT WATER QUALITY CERTIFICATION NO. 80-WQ-0204-01 AND 80-WQ-0204.
 2. THE GRADING & SEDIMENT CONTROL FOR THE WETLANDS MITIGATION IS SHOWN ON S-DP-02-50.

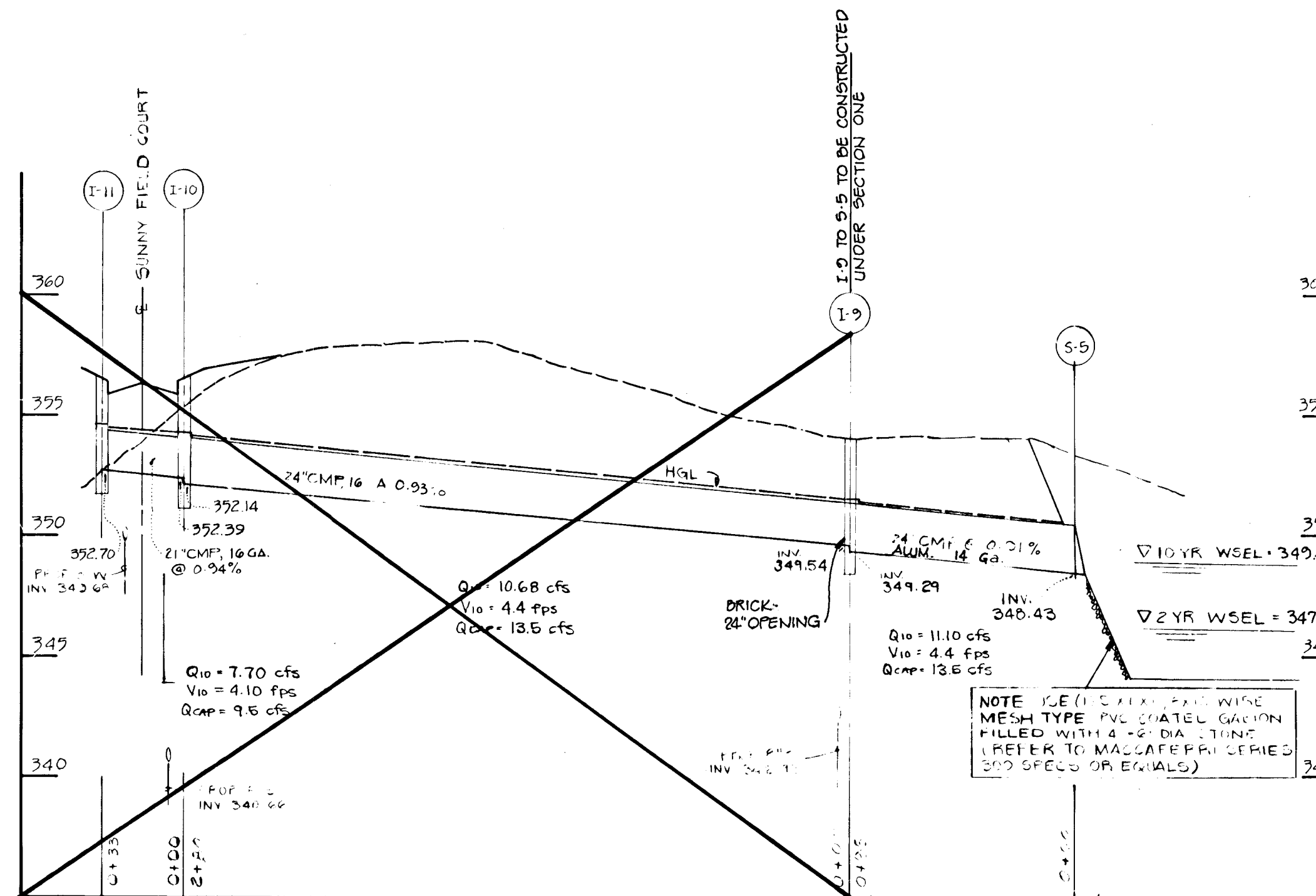




STORMDRAIN PROFILE
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



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



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

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
David M. Tengan 6/1/89
CHIEF, LAND DEVELOPMENT DIVISION DATE
John M. Tengan 5/23/92
CHIEF, BUREAU OF HIGHWAYS (ACTING) DATE
Richard S. Reilly 6-2-92
CHIEF, BUREAU OF ENGINEERING M.K. DATE

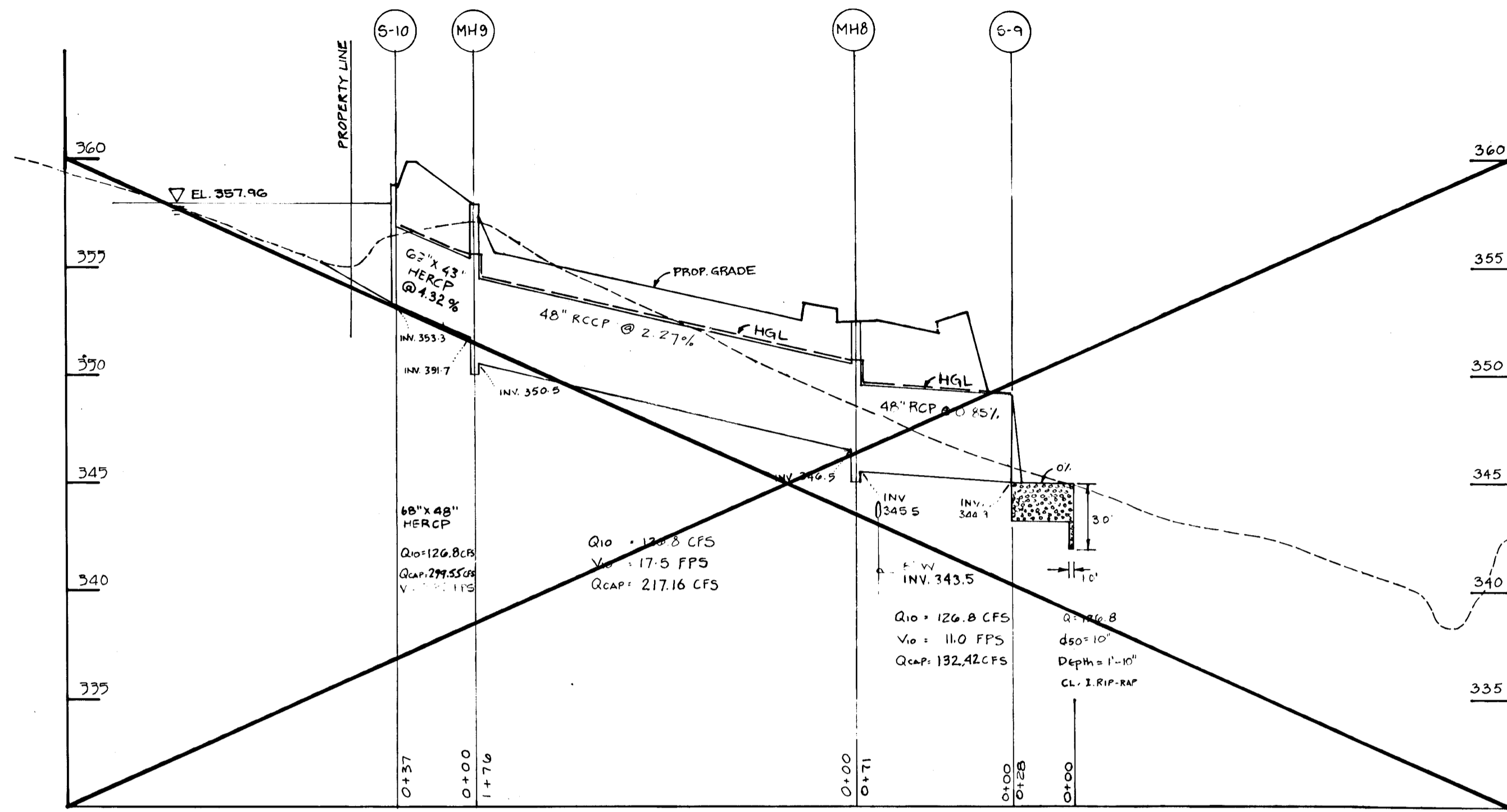
APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Amirul H. Islam 6/18/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

AMERICAN ENGINEERING, INC.
6714 MAIN STREET LAUREL, MARYLAND 20707
301-953-1221 301-880-3039

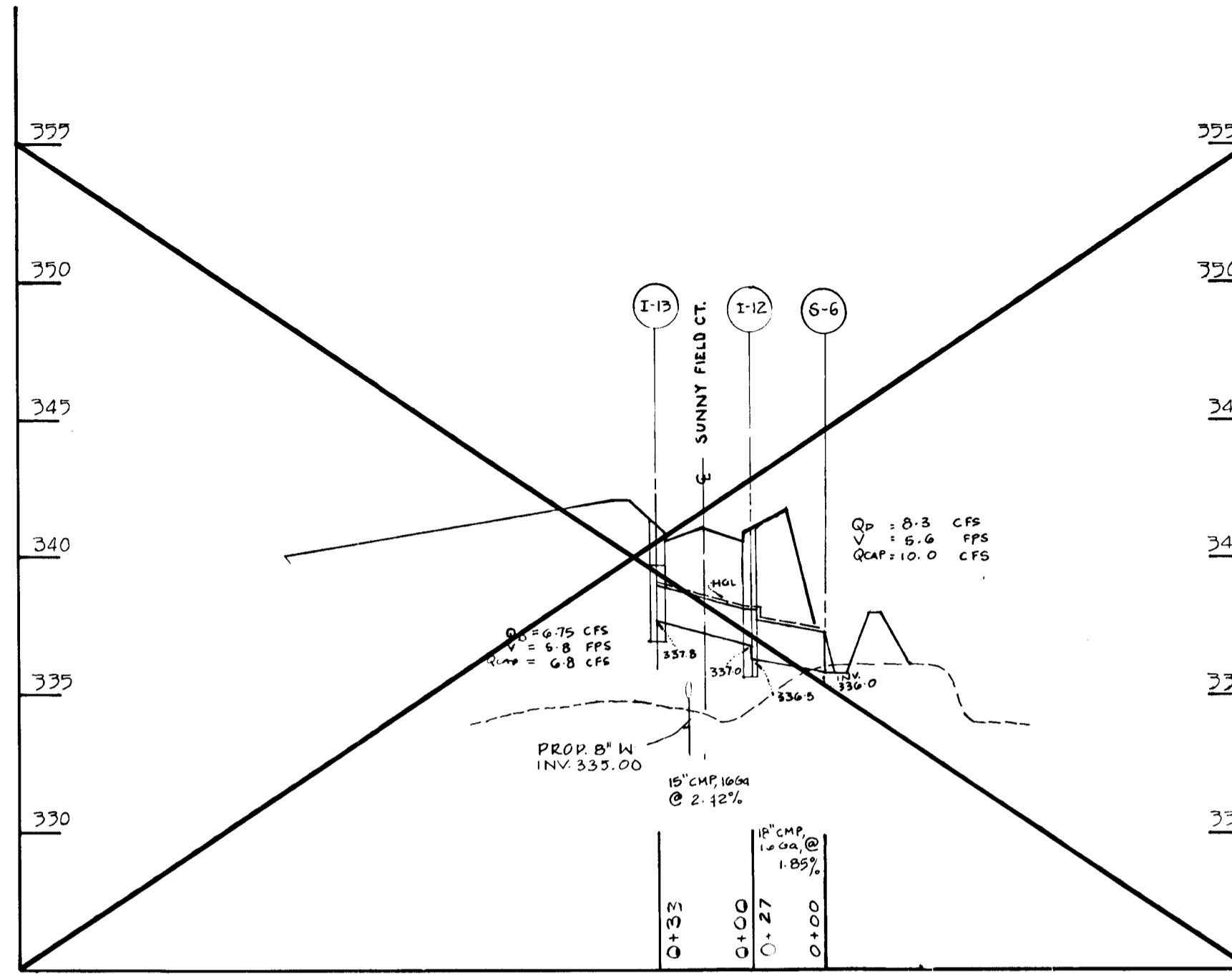
OWNER/DEVELOPER	PROJECT NAME
Charles & Vivian McCartee 5365 Kerger Road Ellicott City, Md. 21043	SUNNY FIELD ESTATES Section I Lots 1-25
Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	T.M.#31 P.57,58,518,757 1 Elect. Dist. Ho.Co., MD

DEVELOPER	TITLE
LANDCON, INC. % KOREN DEVELOPMENT COMPANY, INC. 8808 Cedar Hills Lane, Columbia, MD 21045 301-740-1010	STORM DRAIN PROFILE Final Plan WP-89-104, S-89-06, P-89-52, F-89-232
DATE 4-14-89 PROJECT PS88101	

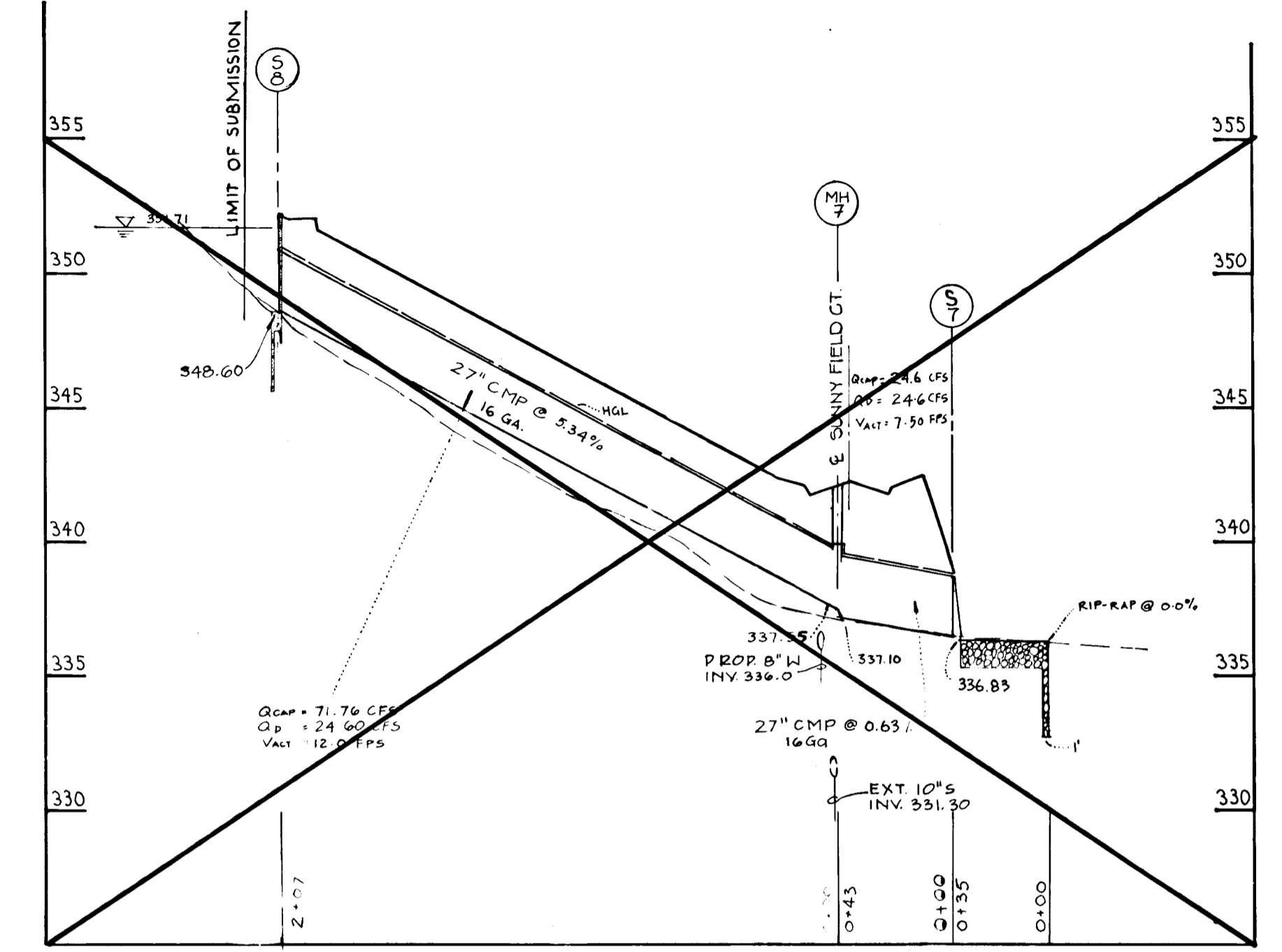
DES. DW	DRW. RT	CHK. KA/DW	SCALE: AS SHOWN	DRAWING 10 OF 19
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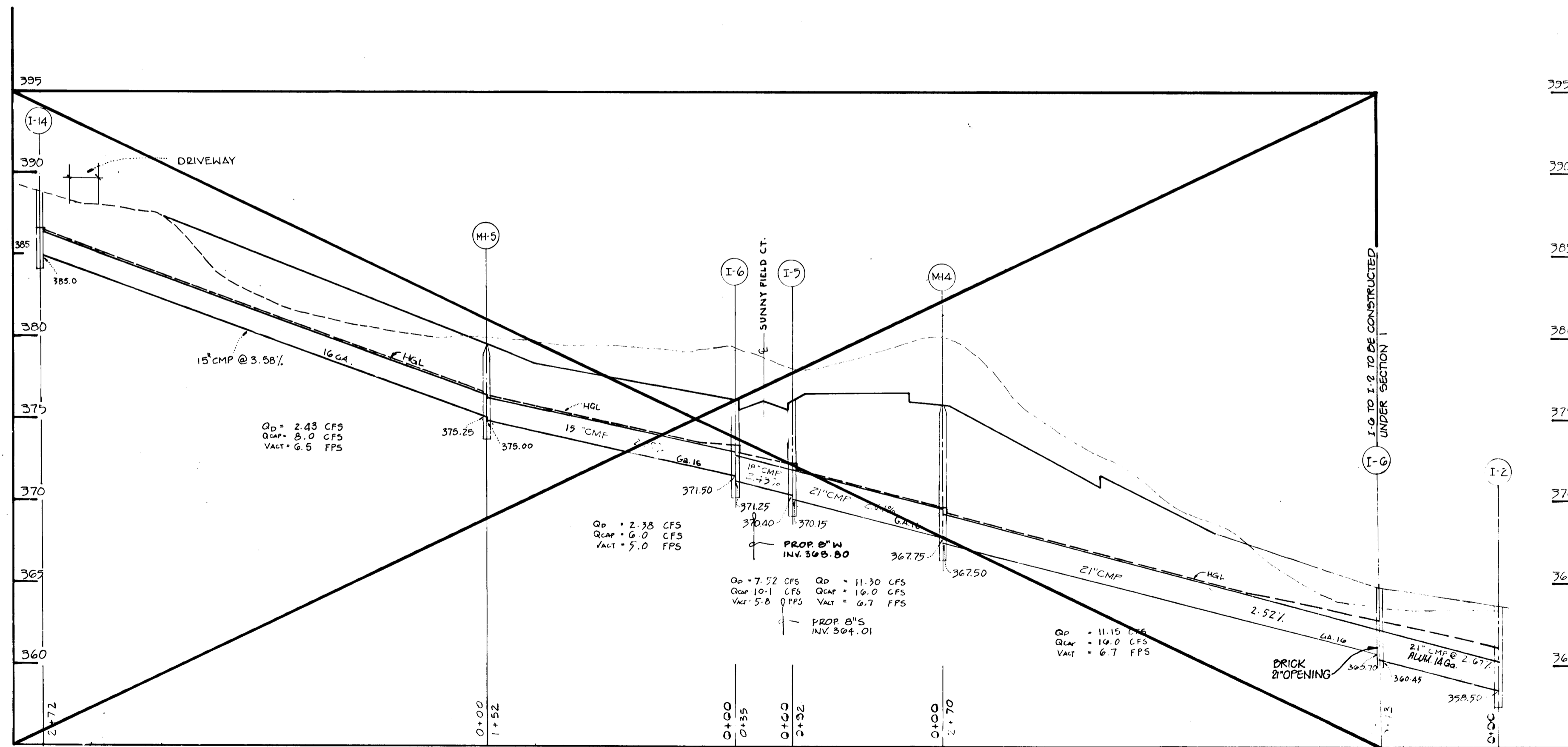
STORMDRAIN PROFILE
SCALE: 1" = 50' HORZ.
1" = 5' VERT.



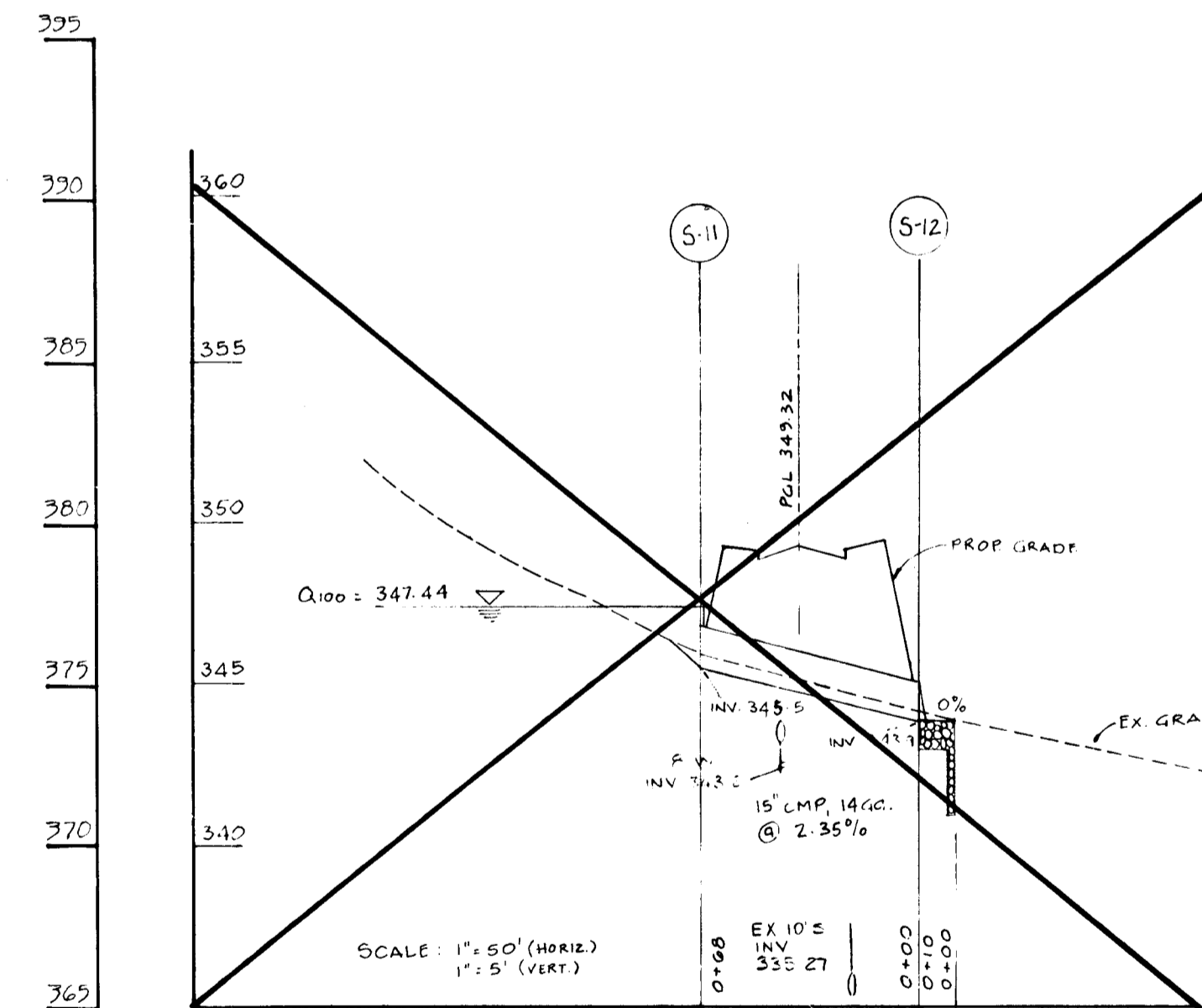
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1" = 5' VERT.



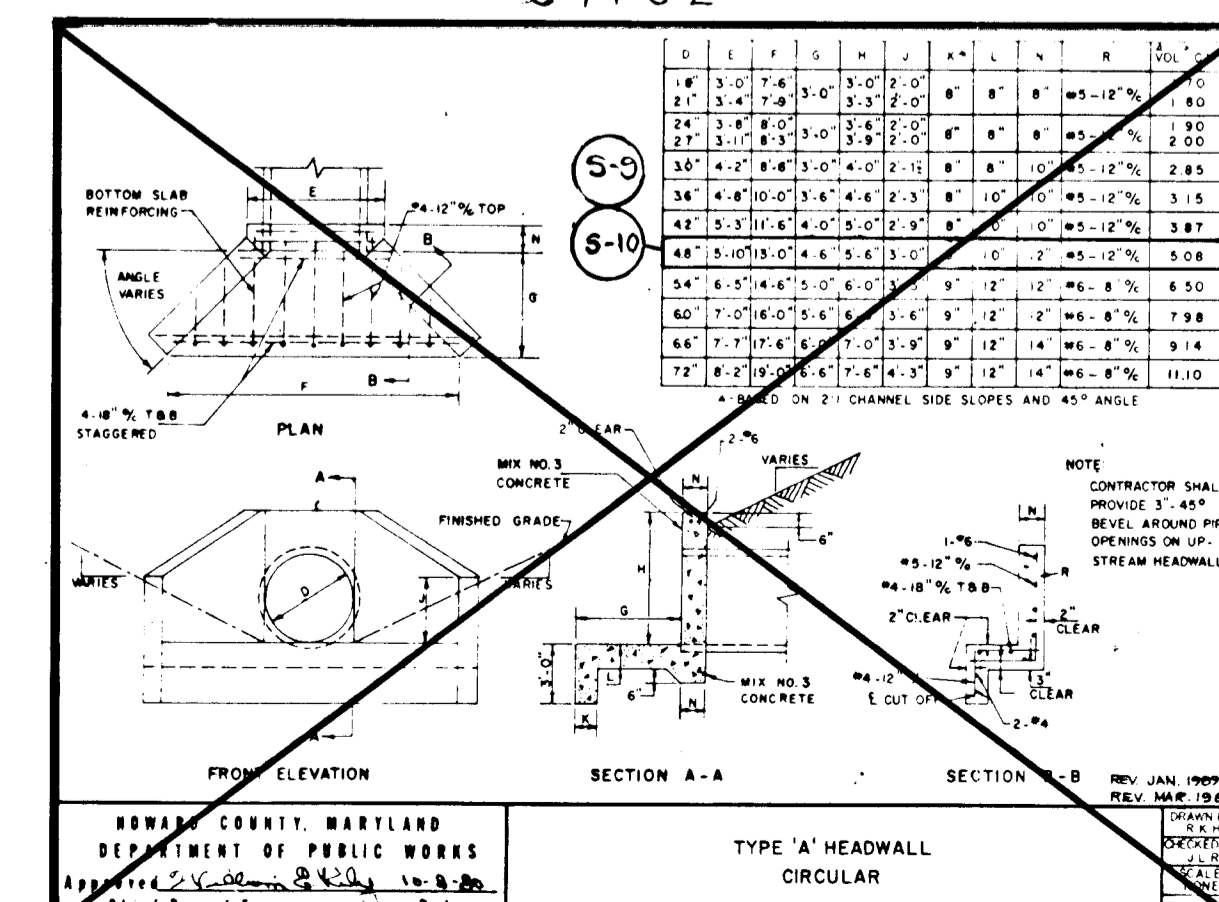
STORMDRAIN PROFILE
SCALE: 1" = 50' HORZ.
1" = 5' VERT.



STORMDRAIN PROFILE
SCALE: 1" = 50' HORZ.
1" = 5' VERT.



STORMDRAIN PROFILE
SCALE: 1" = 50' HORZ.
1" = 5' VERT.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Land Development Division
 David M. Pangram
 Chief, Bureau of Highway (Active)
 DATE: 5/23/92

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Chief, Division of Community Planning and Land Development
 Anna J. Holmash
 DATE: 6/2/92

AMERICAN ENGINEERING, INC.
 671 A MAIN STREET LAUREL, MARYLAND 20707
 301-953-1221 301-880-3039

OWNER/
 Charles & Vivian McCartee
 5365 Kerger Road
 Ellicott City, Md. 21043

PROJECT NAME
 SUNNY FIELD ESTATES
 Section I
 Lots 1-25

Mark & Laura Clay
 5341 Kerger Road
 Ellicott City, Md. 21043

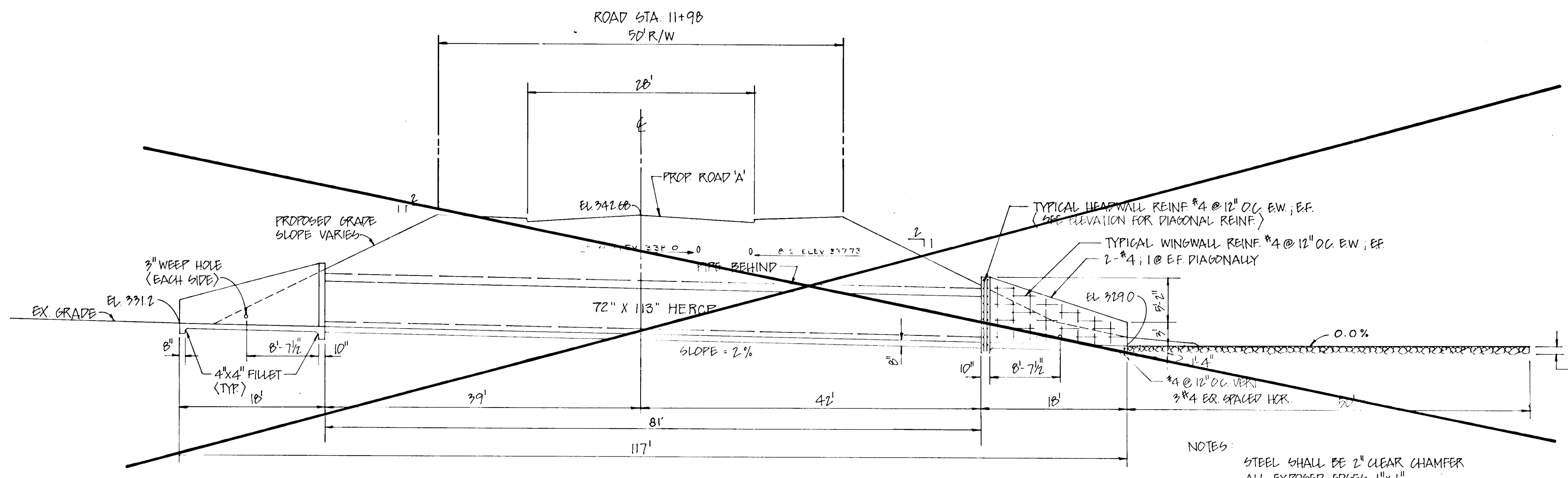
T.M.#31 P. 57, 58, 518, 757
 1 Elect. Dist. Ho.Co., MD

DEVELOPER
KOREN
 DEVELOPMENT COMPANY, INC.
 8508 Centre Ave. Suite 2045
 Columbia MD 21045
 301-740-1010

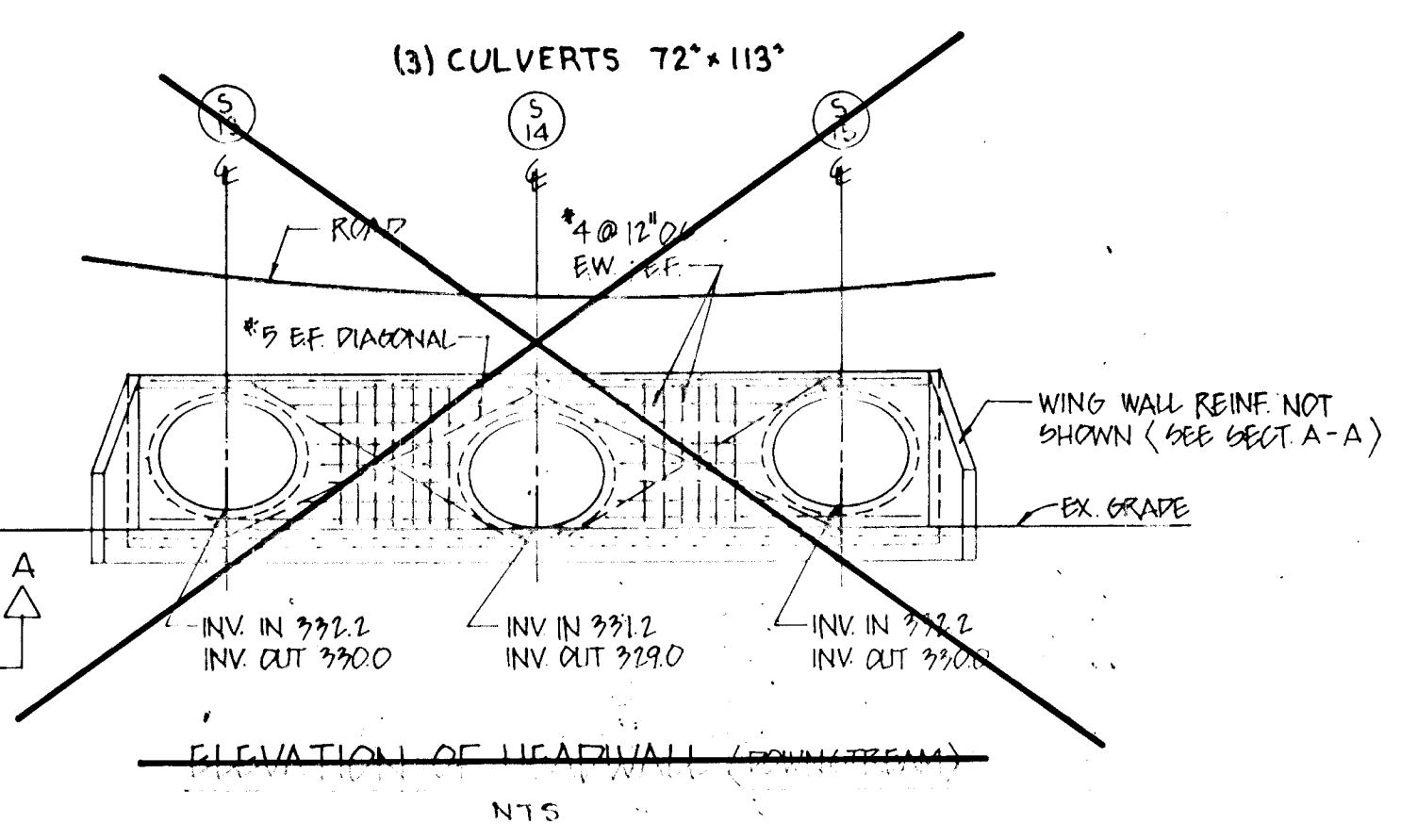
TITLE STORM DRAIN PROFILE
 Final Plan
 S-89-06, P-89-52, F-89-232
 WP-89-184

DATE 4-14-89 PROJECT PS88101
 SCALE 1" = 50' HORZ.
 1" = 5' VERT. DRAWING 11 OF 19

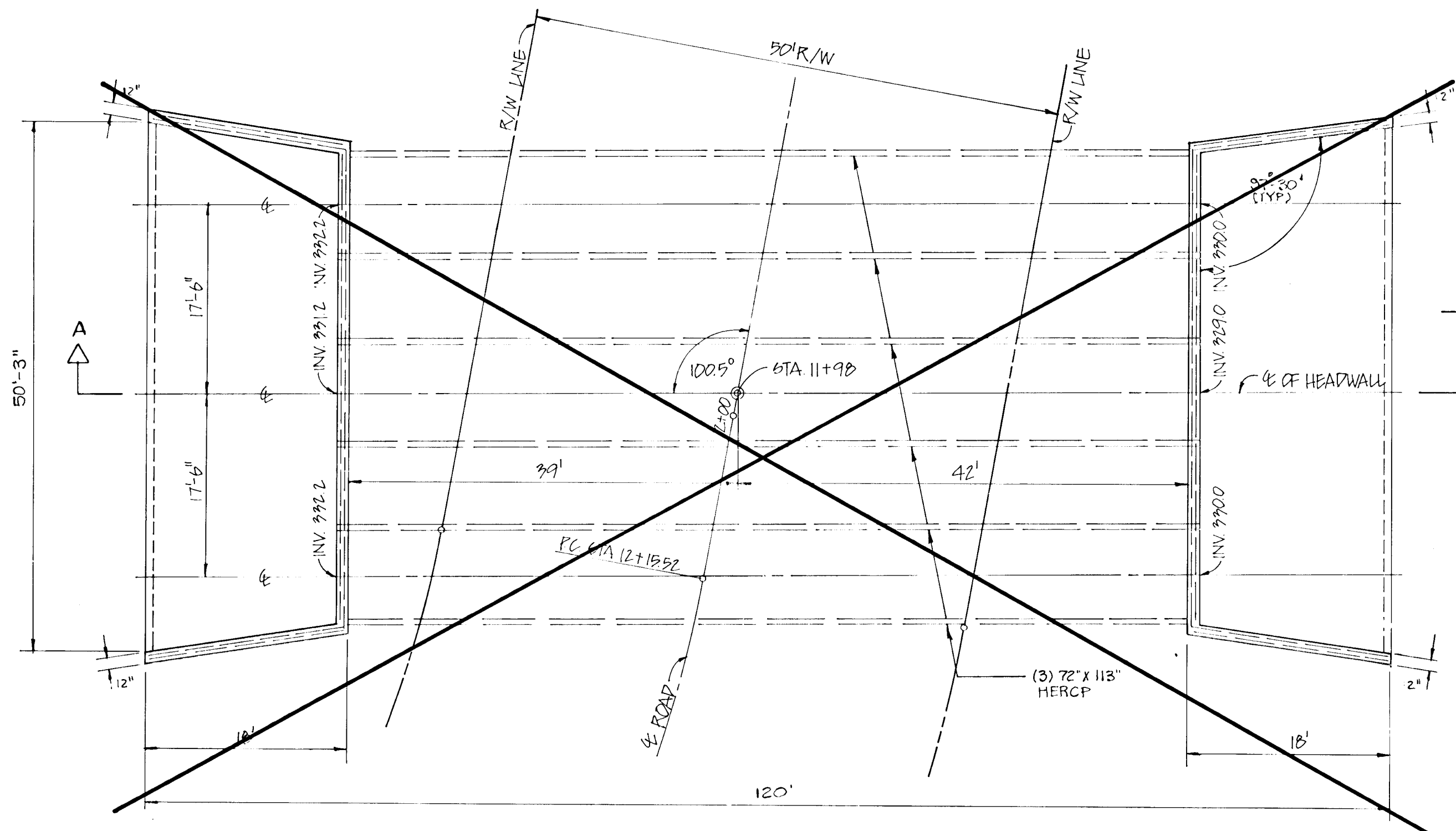
1641



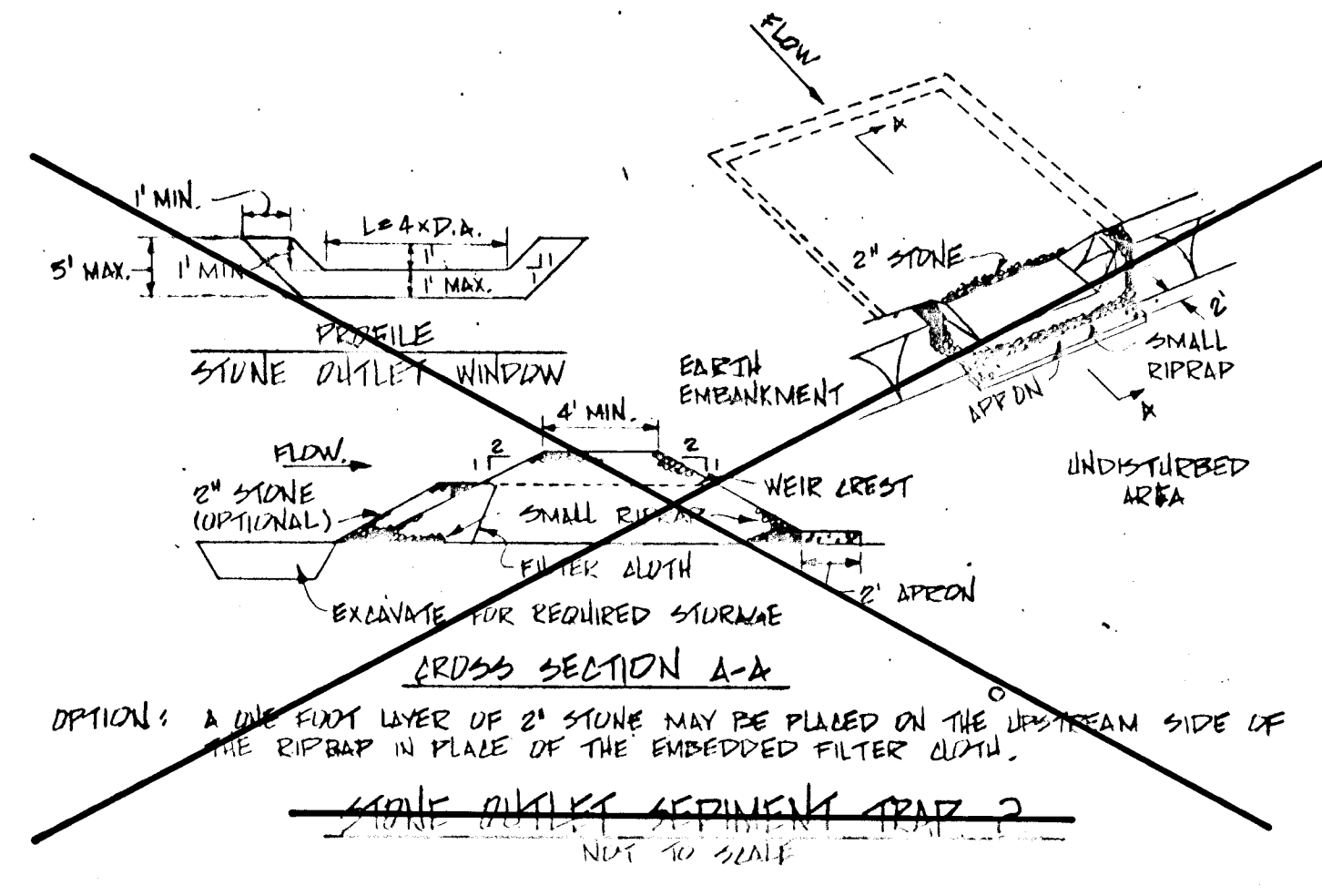
SECTION A-A
SCALE: 1" = 10'



ELEVATION OF HEADWALL (DOWNSTREAM)
N.T.S.



PLAN VIEW OF HEADWALL
SCALE: 1" = 10'



CROSS SECTION A-A
SCALE: NOT TO SCALE

- CONSTRUCTION SPECIFICATIONS FOR S1-2**
- AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STUMPED OF ALL WEEDS AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
 - THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROCKS AND OTHER HARDY MATERIAL AS WELL AS OVER-SIZED STONES, ROCKS, CALICHE MATERIAL OR OTHER OBSTACULAR MATERIAL. THE EMBANKMENT SHALL BE UNDISTURBED BY TRAFFIC WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
 - ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
 - THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4" - 8" ALONG WITH A 1" THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER WITH IN THE RIPRAP.
 - SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP.
 - THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
 - CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
 - THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINABLE AREA HAS BEEN PROPERLY STABILIZED.

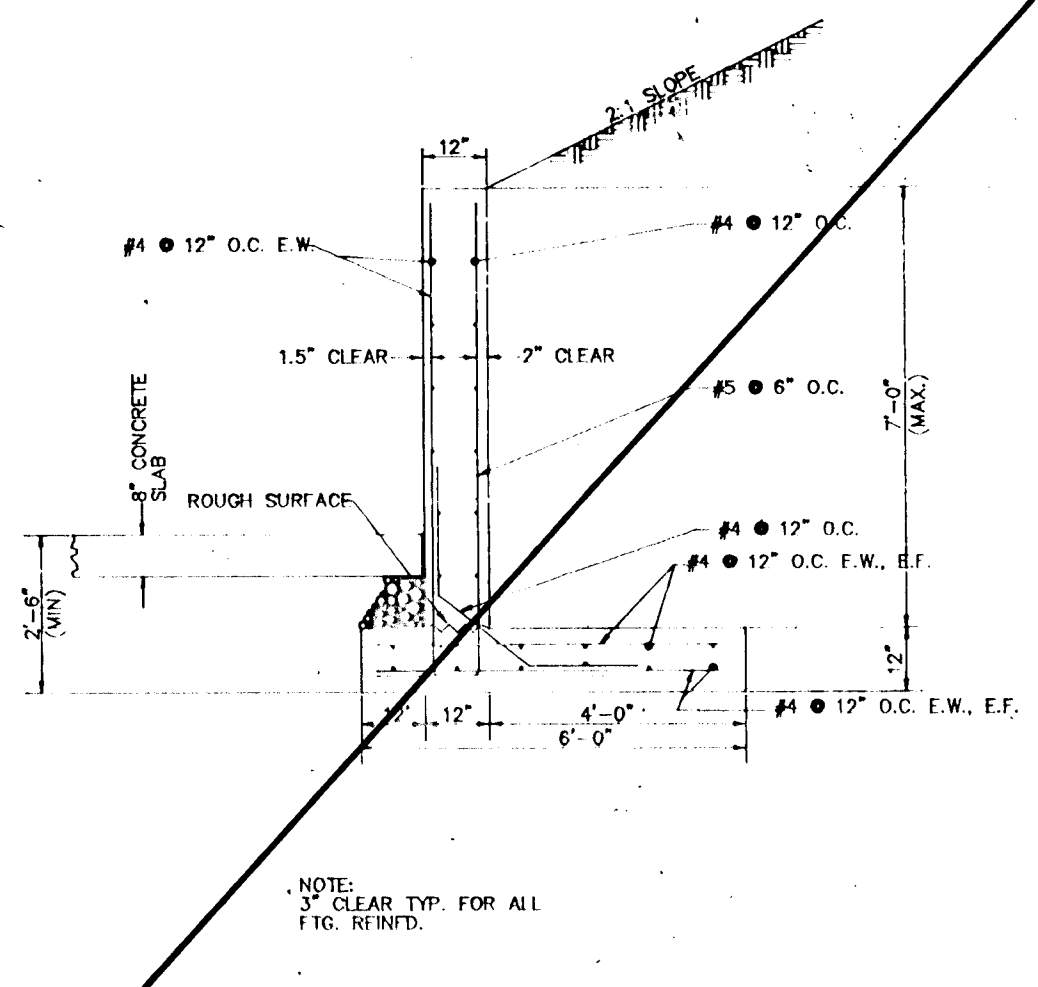


ITEM	TYPE	LOCATION	INT. IN	INT. OUT	TOP	DETAIL
1-1	A-5	BRIAR OAK CT. STA.	354.72	354.22	363.73	SD 4.01
1-2	A-10	BRIAR OAK CT. STA.	358.50	357.75	363.73	SD 4.02
1-3	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
1-4	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-5	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
1-6	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
1-7	YARD	SEE SHT. 1 OF 19	348.06	347.81	347.50	SD 4.14
1-8	A-10	SEE SHT. 1 OF 19	N/A	349.40	353.20	SD 4.02
1-9	YARD	SEE SHT. 2 OF 19	349.54	349.29	351.50	SD 4.14
1-10	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-11	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-12	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-13	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-14	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-15	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-16	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-17	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-18	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-19	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-20	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-21	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-22	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-23	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-24	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-25	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-26	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-27	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-28	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-29	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
1-30	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02

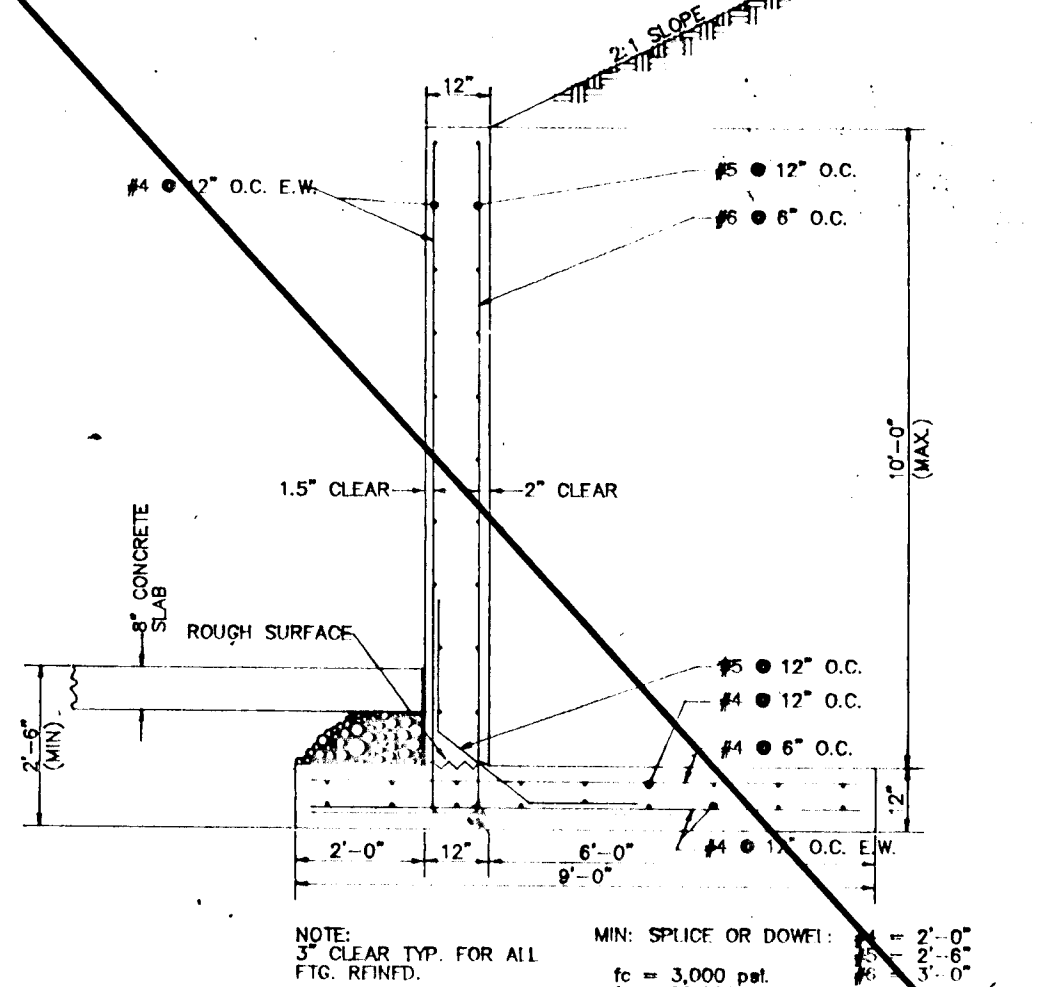
ITEM	TYPE	LOCATION	INT. IN	INT. OUT	TOP	DETAIL
2-1	A-5	BRIAR OAK CT. STA.	354.72	354.22	363.73	SD 4.01
2-2	A-10	BRIAR OAK CT. STA.	358.50	357.75	363.73	SD 4.02
2-3	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-4	A-10	BRIAR OAK CT. STA.	362.05	362.40	364.20	SD 4.02
2-5	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-6	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-7	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-8	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-9	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-10	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-11	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-12	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-13	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-14	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-15	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-16	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-17	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-18	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-19	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-20	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-21	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-22	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-23	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-24	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-25	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-26	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-27	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-28	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-29	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01
2-30	A-5	KERGER ROAD STA.	362.64	362.54	367.50	SD 4.01

SECTION 3
CORNER REINFO.
NOT TO SCALE

SECTION 4
REINFO. AROUND OPENING
NOT TO SCALE



SECTION 2
WALL SECTION (7'-0" & BELOW)
NOT TO SCALE



SECTION 1
WALL SECTION (10'-0" MAX.)
NOT TO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. Pangborn 6/18/92
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE

John M. Pangborn 5/23/92
 CHIEF, BUREAU OF HIGHWAYS
 DATE

John M. Pangborn 6-2-92
 CHIEF, BUREAU OF ENGINEERING
 DATE

APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Anna M. Helms 6/18/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 DATE

AMERICAN ENGINEERING, INC.
 6714 MAIN STREET LAUREL, MARYLAND 20707
 301-953-1221 301-880-3039

OWNER/
 Charles & Vivian McCarter
 5365 Kerger Road
 Ellicott City, Md. 21043

PROJECT NAME
 SUNNY FIELD ESTATES
 Section I
 Lots 1-23

Mark & Laura Clay
 5341 Kerger Road
 Ellicott City, Md. 21043

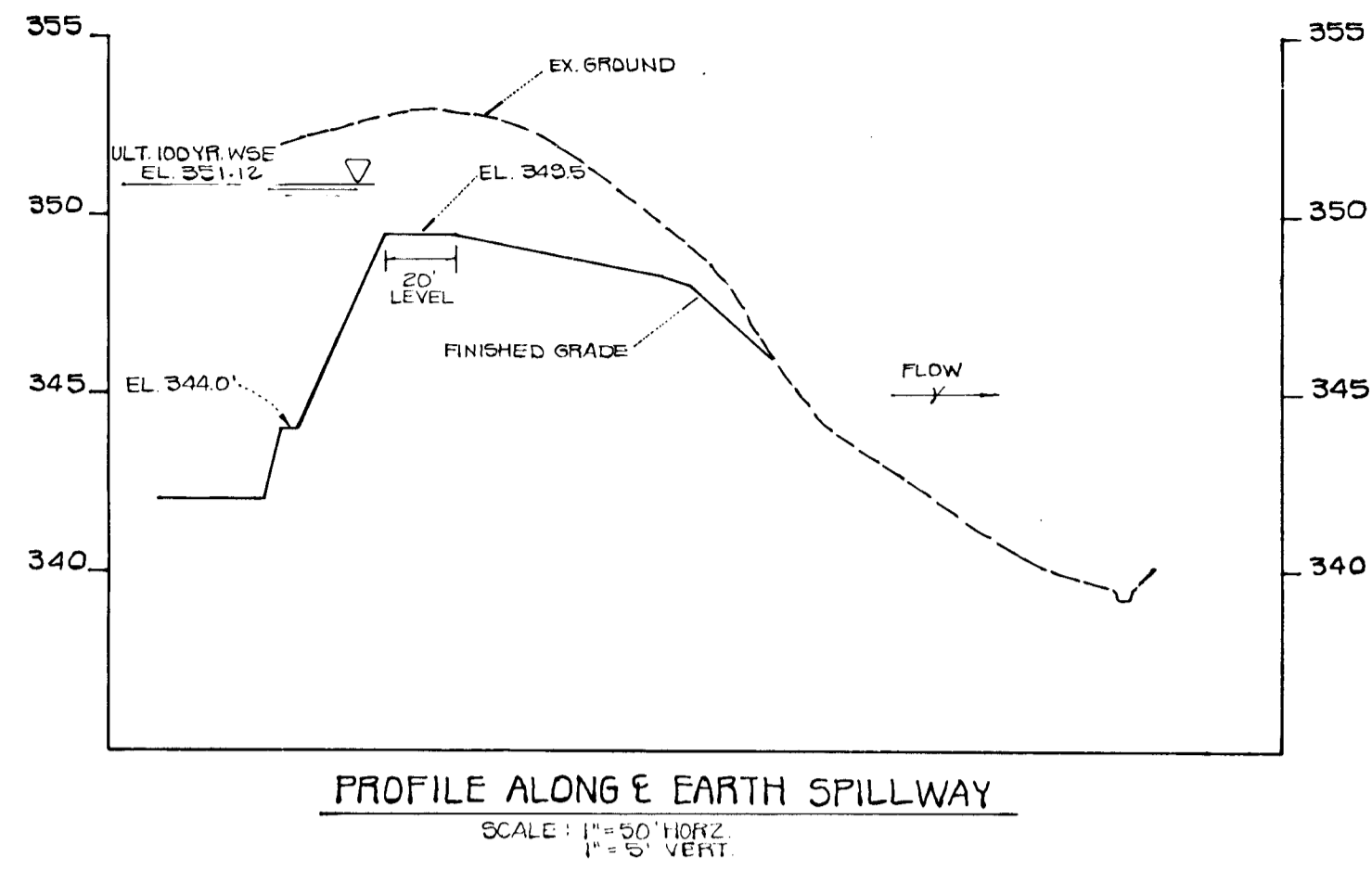
T.M.#31 P.57,58,518,757
 1 Elect. Dist. Ho.Co., MD

DEVELOPER
KOREN
 DEVELOPMENT COMPANY INC.
 8808 Centre Park Drive Columbia MD 21045
 301-740-1010

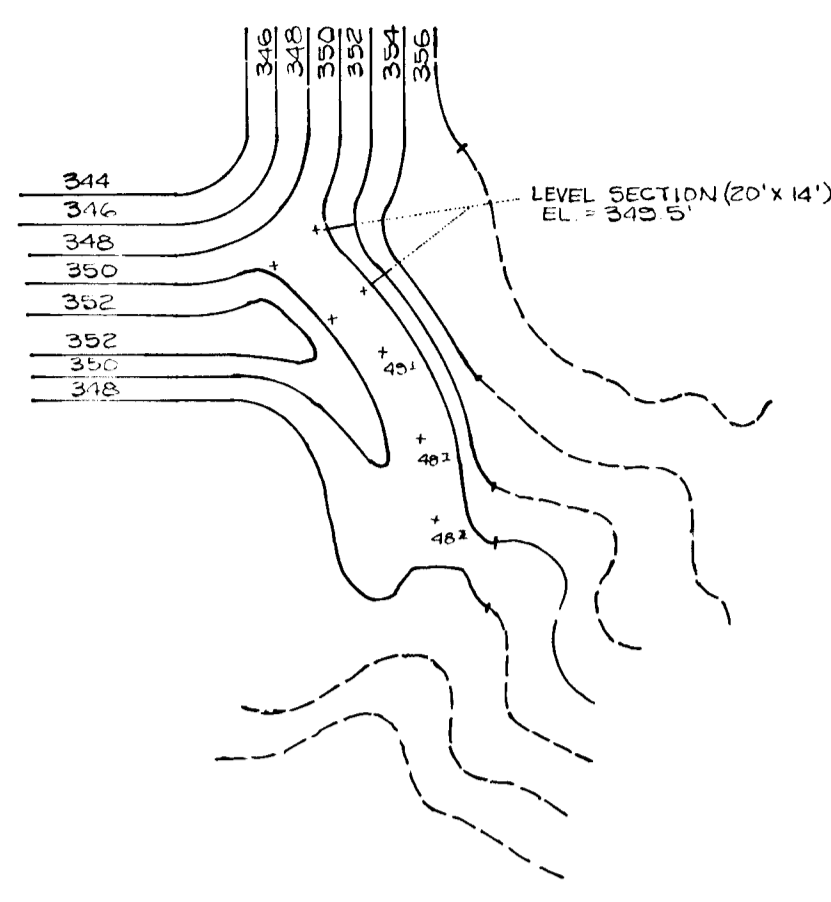
TITLE
 CULVERT DETAIL
 SHEET
 Final Plan
 WP-89-184 S-89-06, P-89-52, F-89-232

DATE 4-14-89 PROJECT PS88101

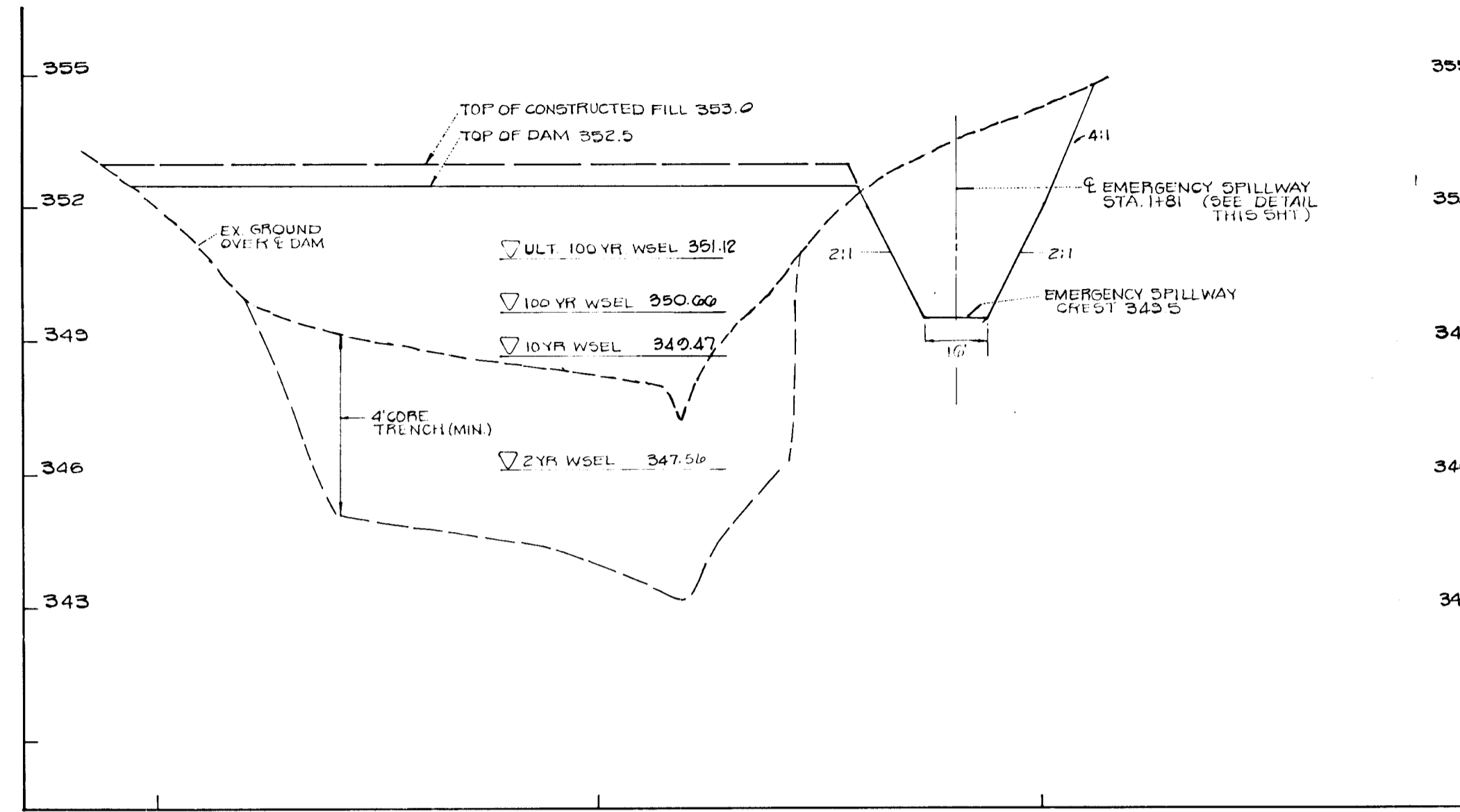
DES. DW DRW. RT CHN. RA/DW SCALE AS SHOWN DRAWING 12 OF 19



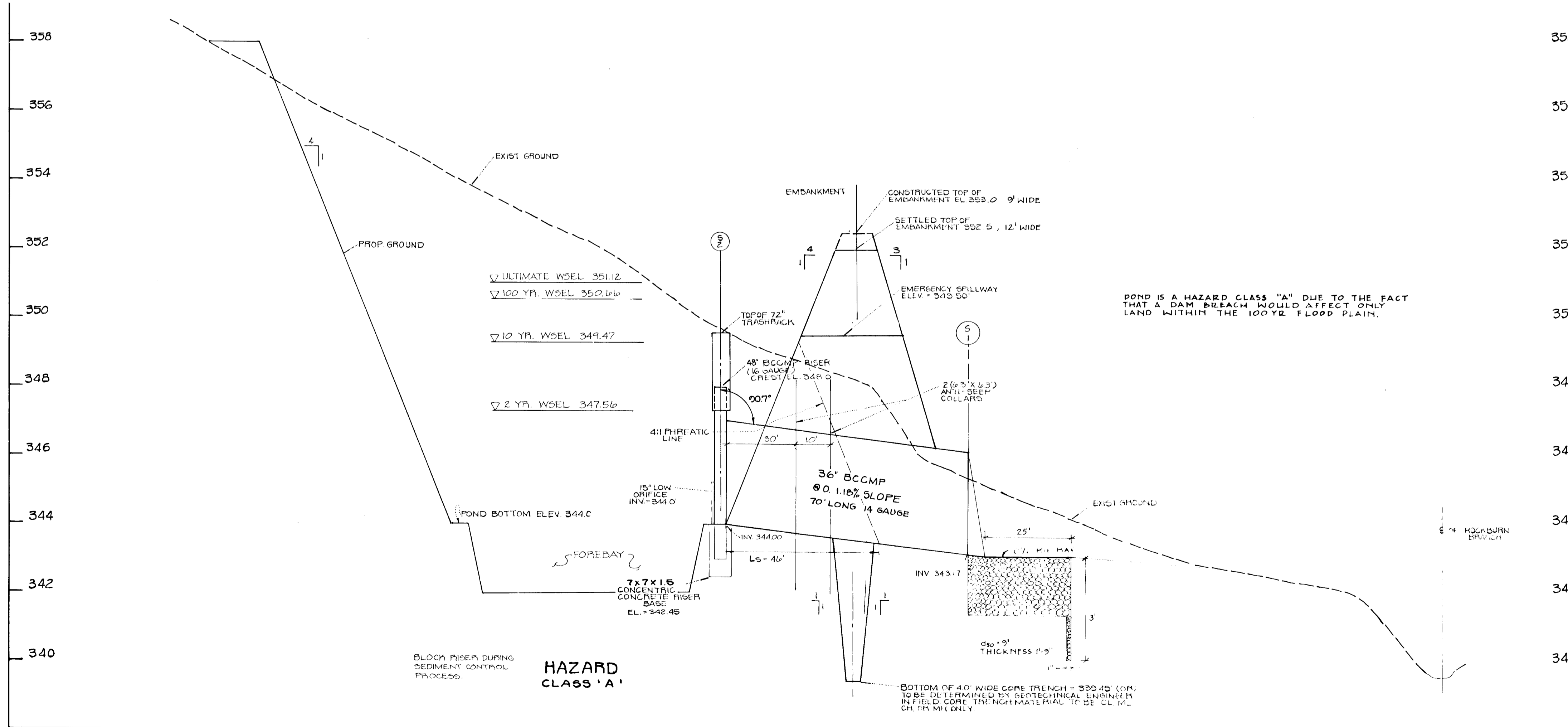
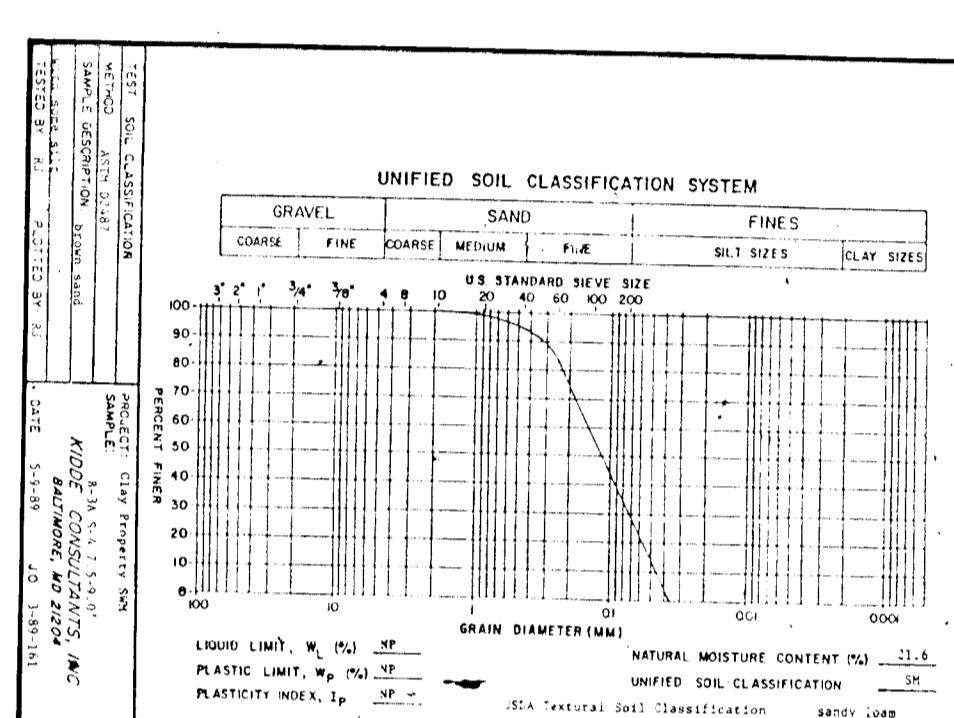
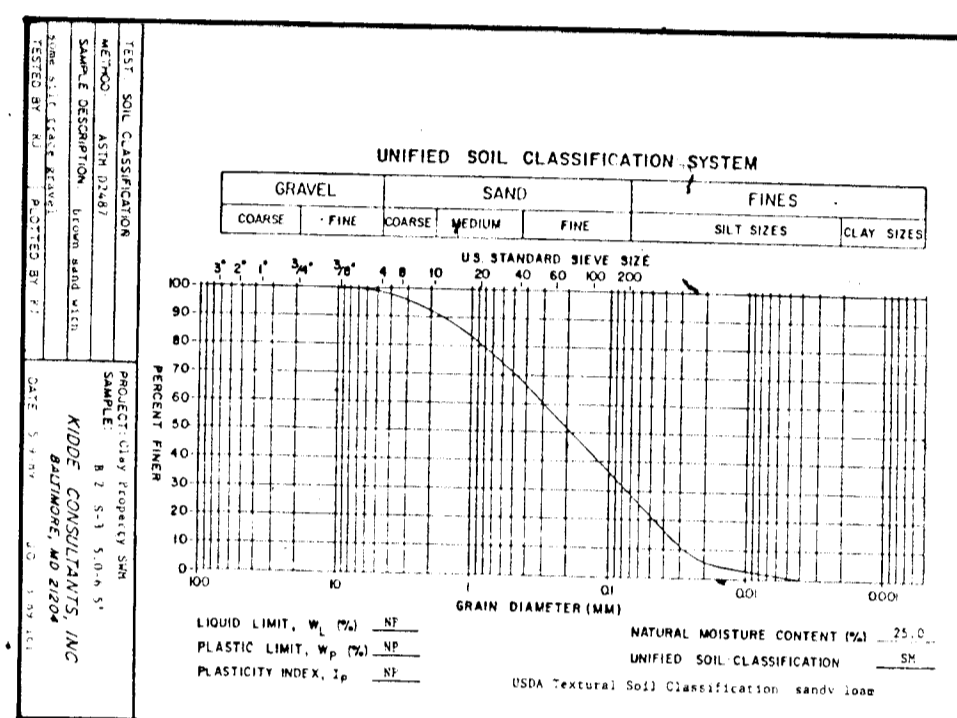
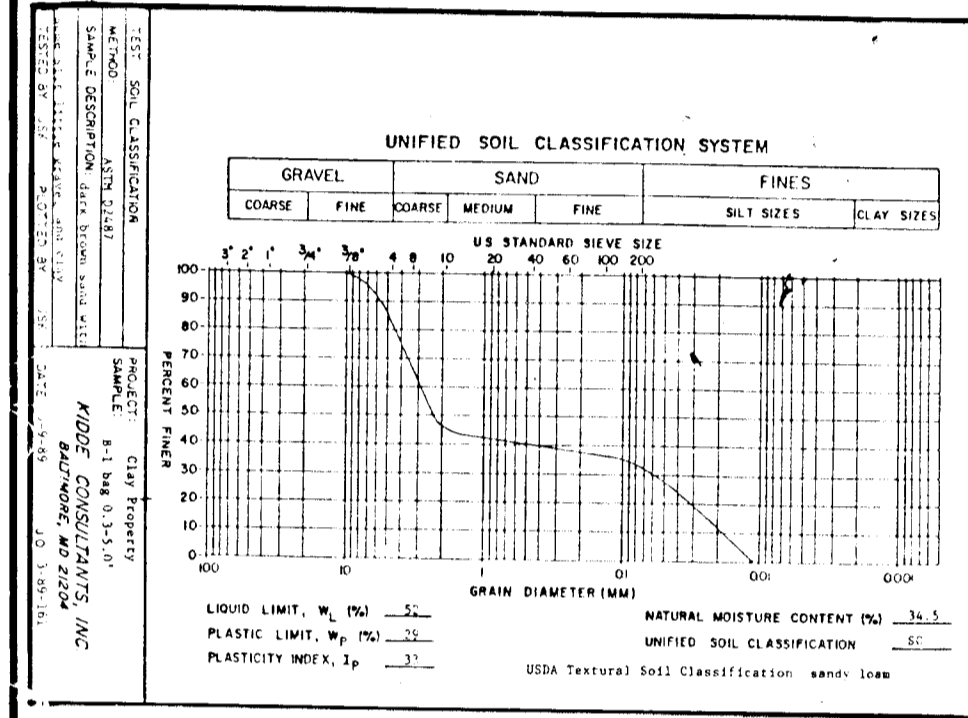
PROFILE ALONG E EARTH SPILLWAY
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



PLAN OF EARTH SPILLWAY
SCALE 1" = 50'



STORMWATER MANAGEMENT POND @ E DAM
SCALE: 1" = 3' HORIZ.
1" = 30' VERT.



S.W.M. POND - PROFILE THROUGH PRINCIPLE SPILLWAY
SCALE: VERT. 1" = 2'
HORZ. 1" = 20'

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."

David W. Work
Signature of Engineer
Print name below signature
DAVID WORK

9/14/92
Date

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."

Steve Koren
Signature of Developer
Print name below signature
STEVEN KOREN
LANDCON, INC.

11/7/92
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.

John M. Hite
Signature of Howard Soil Conservation Service
JOHN M. HITE
Howard Soil Conservation Service

4/24/92
Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Robert W. Zielhuis
Signature of Howard Soil Conservation District
ROBERT W. ZIELUHS
Howard Soil Conservation District

4/24/92
Date

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Bob Dammann</i> CHIEF, LAND DEVELOPMENT DIVISION	6/1/92 DATE
<i>Alan M. Tangeman</i> CHIEF, BUREAU OF HIGHWAYS (ACTING)	5/23/92 DATE
<i>William S. Ziem</i> CHIEF, BUREAU OF ENGINEERING (A.K.)	6-2-92 DATE

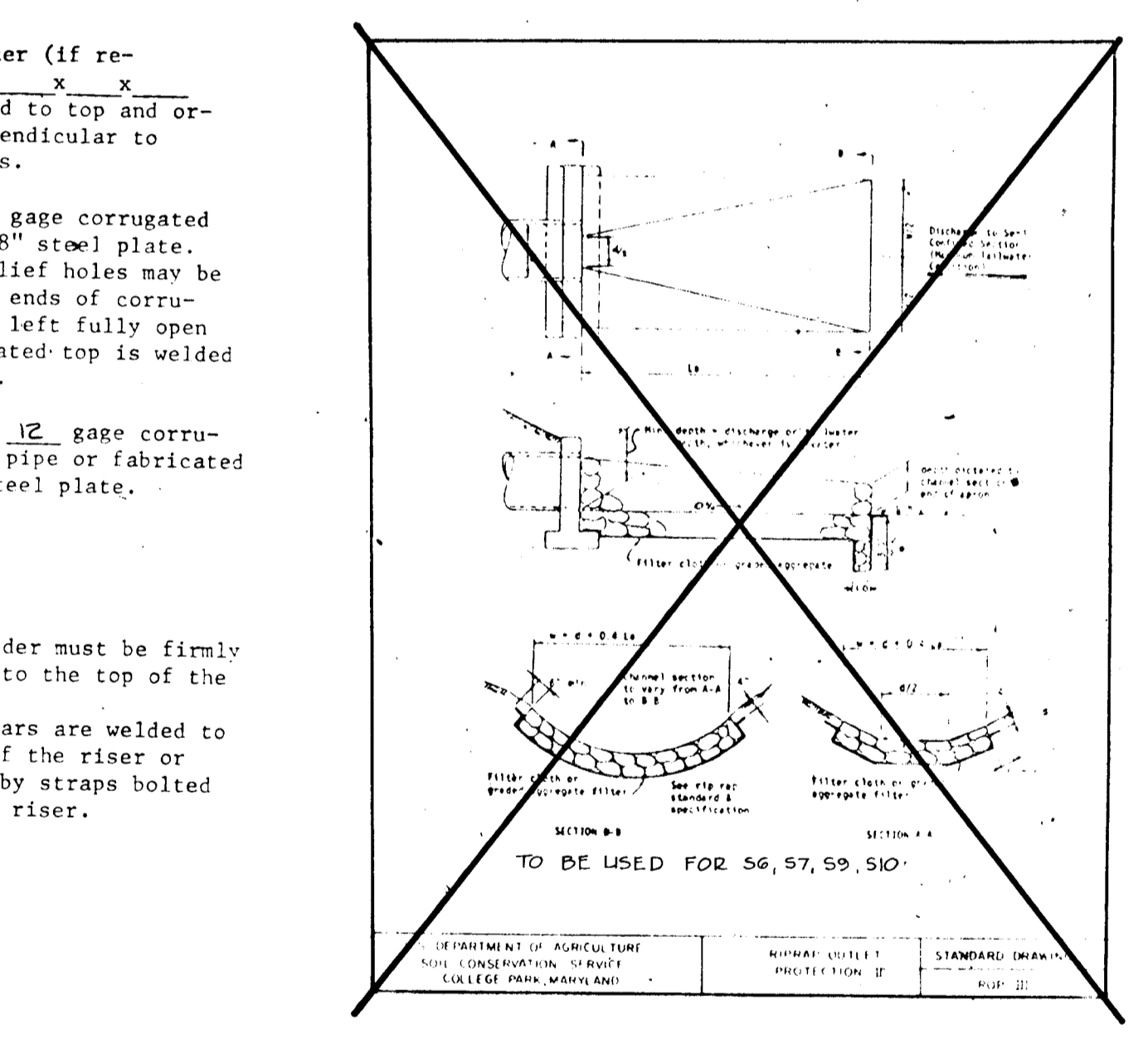
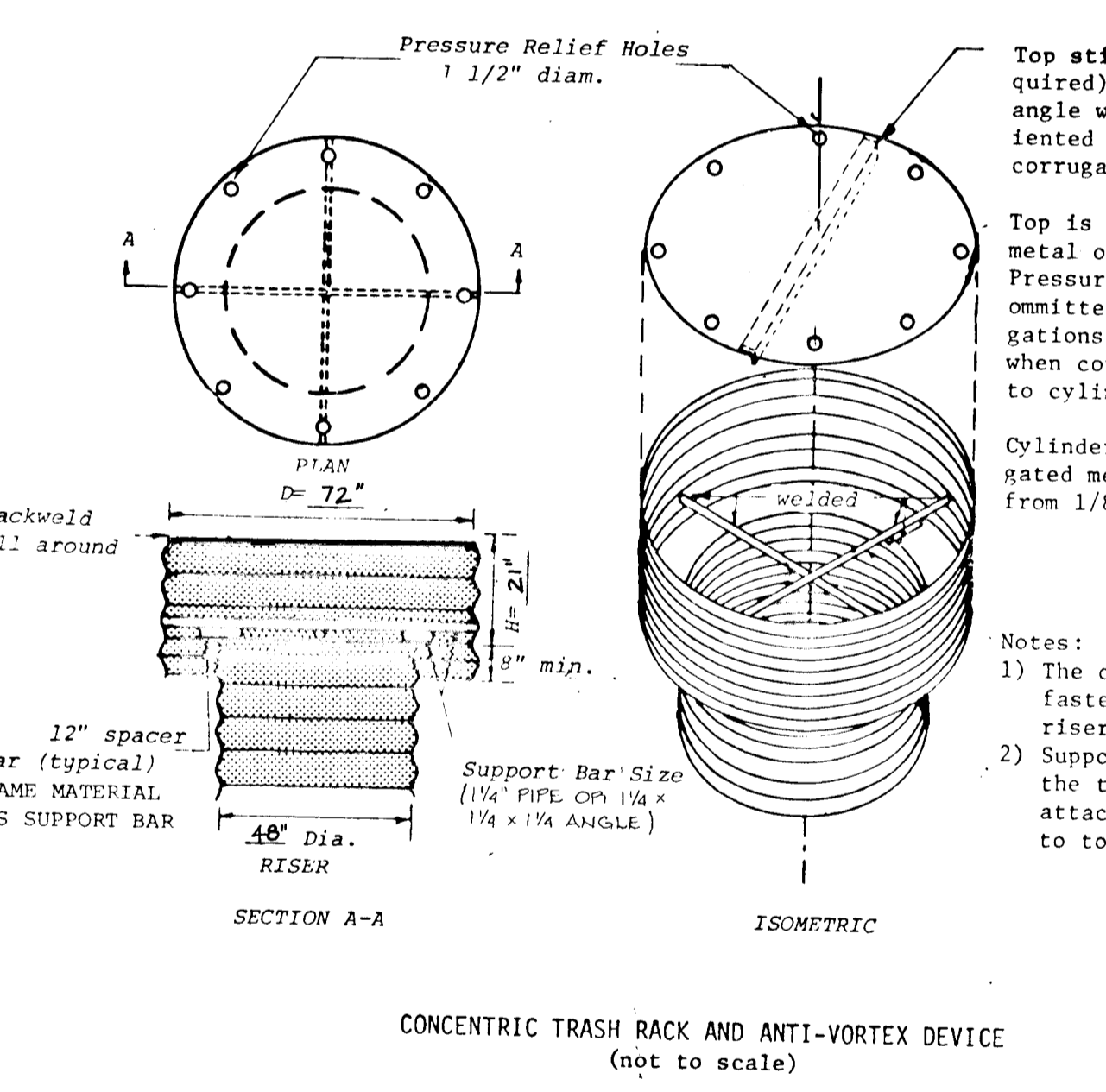
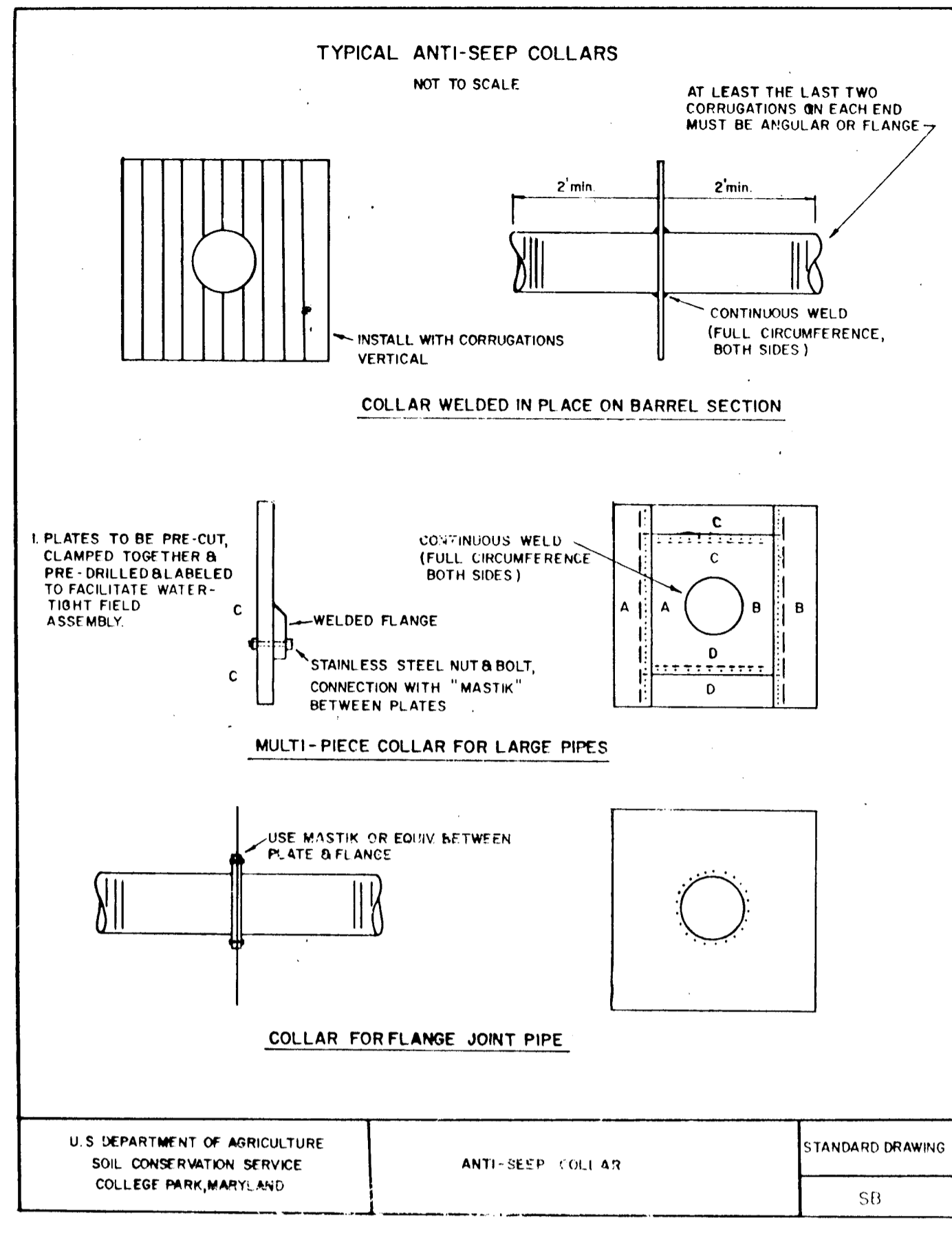
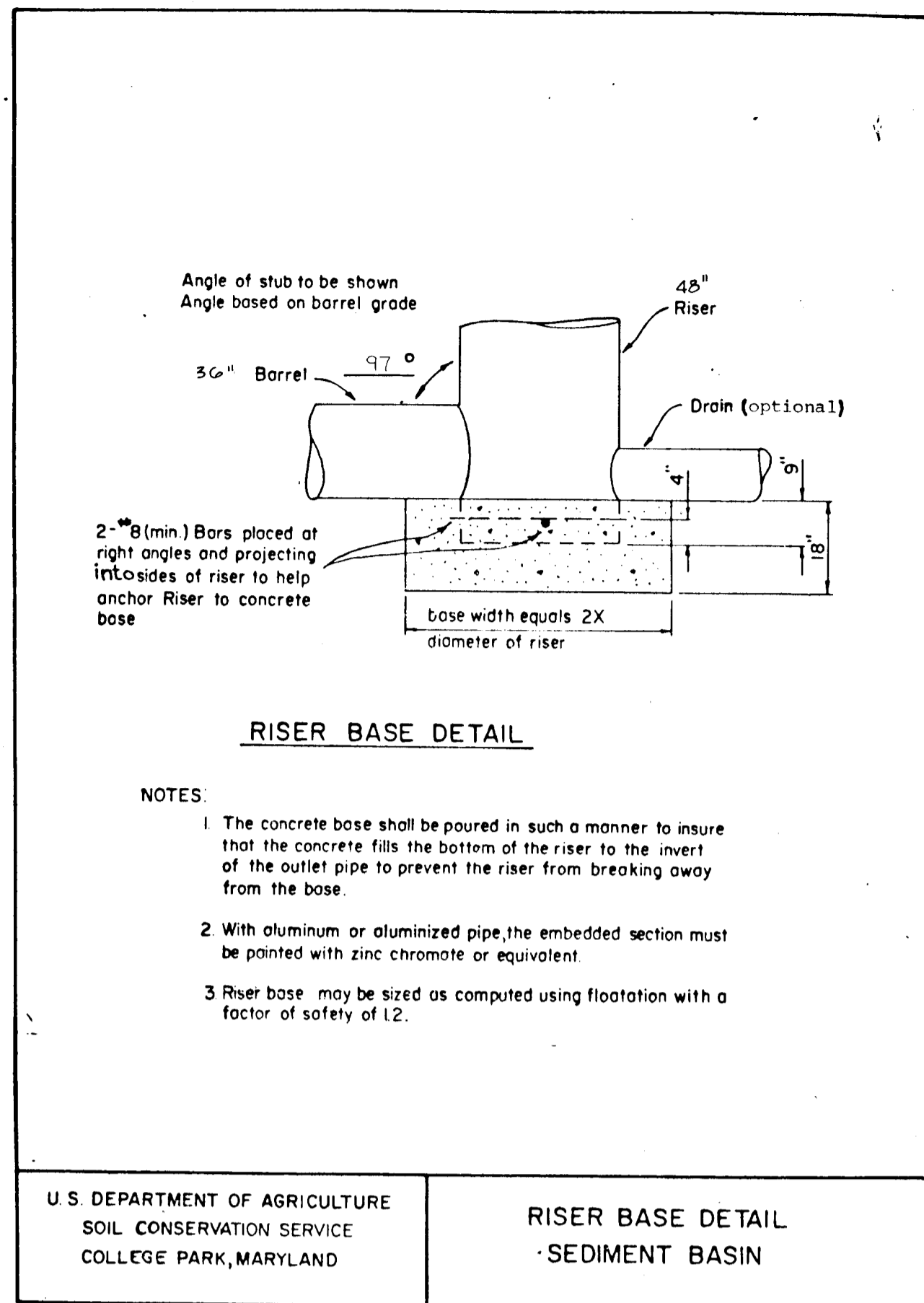
APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING	
<i>Thomas Hilmarth</i> CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	6/18/92 DATE

AMERICAN ENGINEERING, INC.
671A MAIN STREET LAUREL, MARYLAND 20707
301-953-1221 301-880-3039

OWNER/	PROJECT NAME
Charles & Vivian McCartee 5365 Kerger Road Ellicott City, Md. 21043	SUNNY FIELD ESTATE Section I Lots 1-25
Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	T.M.#31 P.57,58,518,757 1 Elect. Dist. Ho.Co., MD

DESIGNED BY	LANDCON, INC. %	TITLE	
DRAWN BY	KOREN	Final Plan	
CHECKED BY	DEVELOPMENT COMPANY, INC.	WP-89-184, S-89-06, P-89-52, F-89-232	
DATE	4-14-89	PROJECT	PS88101
SCALE	AS SHOWN	DRAWING	13 OF 19





RECORD OF BOIL EXPLORATION

Project Name: Clay Property SWM
Location: Route 103 and Kerger Road

Date Started: 5-3-89
Date Completed: 5-3-89

ELEV.	SOIL DESCRIPTION	BINA DEPTH	DEPTH SCALE	BATTLE NO. REC.		BOTTLE & SAMPLING NOTES
				CON.	BOTTLE#	
0.0	SURFACE			1	3-3-5	11" topsoil
4.0	Brown damp medium stiff clayey silt with some fine to medium gravel			1	4-6-4	bag sample from 4.0 to 10.0'
5	Brown damp medium dense micaceous silty sand and weathered rock			3	4-7-8	groundwater encountered at 12.5'
10.0	Brown to brown and tan medium stiff to stiff micaceous silt with some sand and weathered rock			4	3-9-10	groundwater level at completion at 9.3'
15.0				1	2-4-6	caved at 14.2'
16.5				1	9-8-7	
20	bottom of test hole at 16.5'					

BOREHOLE METHOD

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bluminous coated and shall conform to the requirements of ASTM Specification A136 Type A with ultraviolet coupling bands. Low bituminous coating (dipped or ultraviolet coating) shall be replaced with cold applied bituminous coating compound.

2. Connections - All connections with pipe must be completely watertight. The steel pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands on flange shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Single bands are not considered to be watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed in accordance with the appropriate specification or as shown on the accompanying drawings.

4. Laying pipe - The pipe shall be placed with inside circumferential face pointing down and with the longitudinal top at the side.

5. Backfilling shall conform to structural backfill as shown above.

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

RECORD OF BOIL EXPLORATION

Project Name: Clay Property SWM
Location: Route 103 and Kerger Road

Date Started: 5-3-89
Date Completed: 5-3-89

ELEV.	SOIL DESCRIPTION	BINA DEPTH	DEPTH SCALE	BATTLE NO. REC.		BOTTLE & SAMPLING NOTES
				CON.	BOTTLE#	
0.0	SURFACE					1.0' topsoil
5.0	Brown damp very dense silty sand and rock fragments, trace clay			3	4-8-11	bag sample from 1.0 to 4.5' and 5.0 to 15.0'
10.0	Brown to brown and gray dry to moist medium dense to dense micaceous silt with some sand, weathered rock & rock fragments. Brown moist dense micaceous silty sand with trace rock fragments			4	8-12-18	hard augering from 0.0 to 4.5'
15.0				5	9-12-20	boring offset 5.0' towards Kerger Road
15.9				1	40 51 4"	groundwater encountered at 8.0'
20	bottom of test hole at 15.9'					groundwater level at completion at 12.5'
25						cave + 13.0'
30						refusal at 15.9'

BOREHOLE METHOD

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bluminous coated and shall conform to the requirements of ASTM Specification A136 Type A with ultraviolet coupling bands. Low bituminous coating (dipped or ultraviolet coating) shall be replaced with cold applied bituminous coating compound.

2. Connections - All connections with pipe must be completely watertight. The steel pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands on flange shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Single bands are not considered to be watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed in accordance with the appropriate specification or as shown on the accompanying drawings.

4. Laying pipe - The pipe shall be placed with inside circumferential face pointing down and with the longitudinal top at the side.

5. Backfilling shall conform to structural backfill as shown above.

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

REINFORCED CONCRETE PIPE

1. Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-391. An approved equivalent to ASTM Specification C-391.

2. Bedding - All reinforced concrete pipe conduits shall be laid in concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3" or as shown on the drawings.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all space under the pipe is filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.

4. Backfilling shall conform to structural backfill as shown above.

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

6. For pipes of other materials, specific specifications shall be shown on the drawings.

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 free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.

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

e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-63.

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 90 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 both meters 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 water-charging operations. Excessive mixing requiring the addition of water to prevent 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 watertight and constructed so that they can be removed without hammering or prying against the concrete.

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

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

7. 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.

8. Consolidation - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by rodding and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

9. 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 treated and completely filled with grout.

10. 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.

VI. STABILIZATION

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

VII. EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

RECORD OF BOIL EXPLORATION

Project Name: Clay Property SWM
Location: Route 103 and Kerger Road

Date Started: 5-3-89
Date Completed: 5-3-89

ELEV.	SOIL DESCRIPTION	BINA DEPTH	DEPTH SCALE	BATTLE NO. REC.		BOTTLE & SAMPLING NOTES
				CON.	BOTTLE#	
0.0	SURFACE					1.0' topsoil
5.0	Brown damp very dense silty sand and rock fragments, trace clay			3	4-8-11	bag sample from 1.0 to 4.5' and 5.0 to 15.0'
10.0	Brown to brown and gray dry to moist medium dense to dense micaceous silt with some sand, weathered rock & rock fragments. Brown moist dense micaceous silty sand with trace rock fragments			4	8-12-18	hard augering from 0.0 to 4.5'
15.0				5	9-12-20	boring offset 5.0' towards Kerger Road
15.9				1	40 51 4"	groundwater encountered at 8.0'
20	bottom of test hole at 15.9'					groundwater level at completion at 12.5'
25						cave + 13.0'
30						refusal at 15.9'

BOREHOLE METHOD

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bluminous coated and shall conform to the requirements of ASTM Specification A136 Type A with ultraviolet coupling bands. Low bituminous coating (dipped or ultraviolet coating) shall be replaced with cold applied bituminous coating compound.

2. Connections - All connections with pipe must be completely watertight. The steel pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands on flange shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Single bands are not considered to be watertight.

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5. Backfilling shall conform to structural backfill as shown above.

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, GRAND DIVISION

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

AMERICAN ENGINEERING, INC.
6714 MAIN STREET LAUREL, MARYLAND 20707
301-953-1221 301-880-3039

OWNER:
Charles & Vivian McCartee
5365 Kerger Road
Ellicott City, Md. 21043

PROJECT NAME:
SUNNY FIELD ESTATES
Section I
Lots 1-25

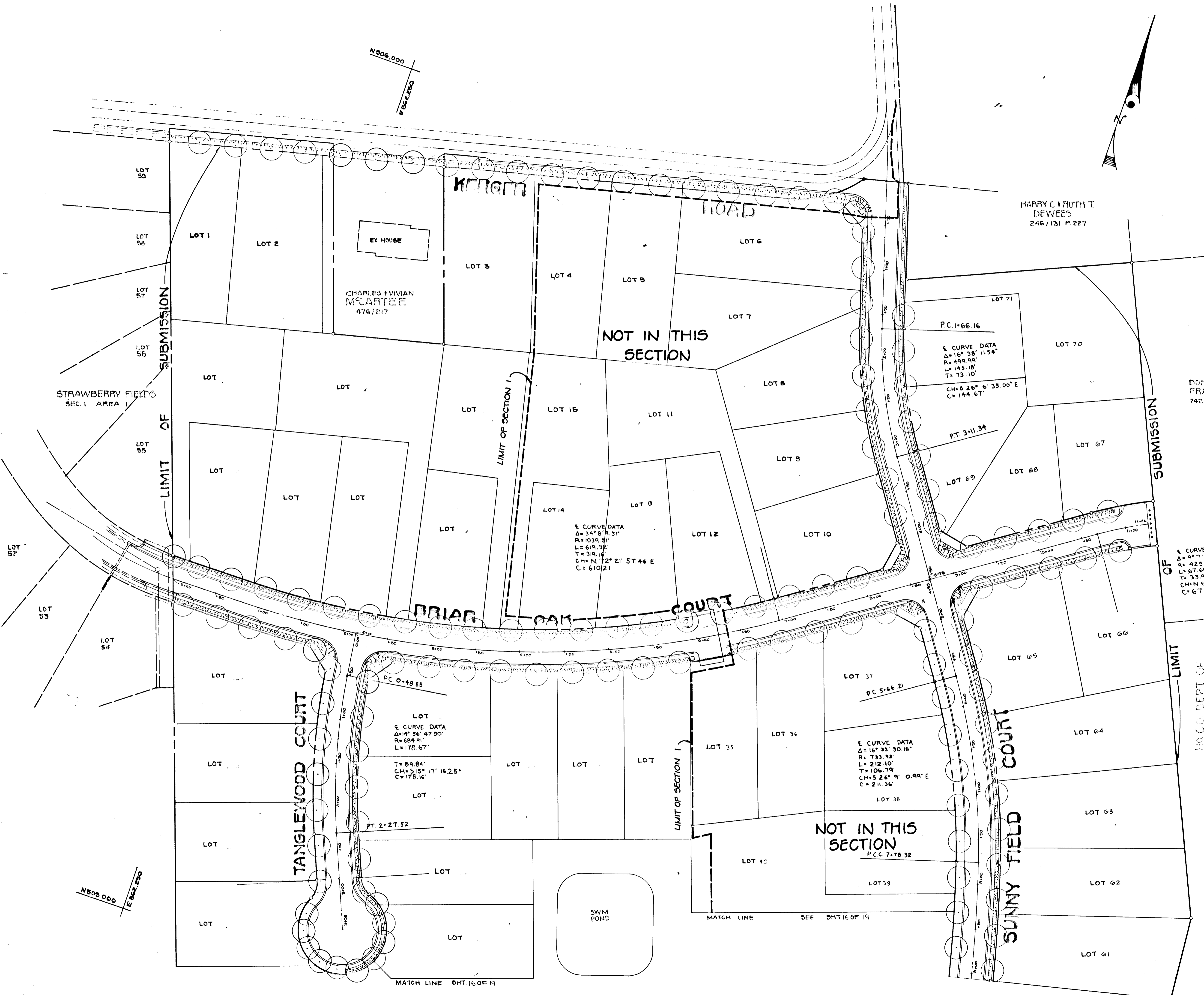
DEVELOPER:
LANDCON, INC. %
KOREN DEVELOPMENT COMPANY, INC.
8908 Center Park Drive, COAR 140 2045
301-740-1010

TITLE:
Final Plan
WP-89-184 S-89-06, P-89-52, F-89-232

DATE:
4-14-89 PROJECT PS88101

DES. DW. DRW. RT. CHK. RA/DW. SCALE 1"=50' DRAWING 14 OF 19

F-92-232



NOTE: TREES CANNOT BE PLANTED WITHIN 4' OF EDGE OF THE SIDEWALK. SEE TYPICAL STREET TREE PLANTING DETAIL - SHEET 10.



APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Donald M. Ferguson 6/1/92
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Alan M. Ferguson 5/23/92
 CHIEF, BUREAU OF HIGHWAYS (Active) DATE

John J. Riley 6-2-92
 CHIEF, BUREAU OF ENGINEERING M.K. DATE

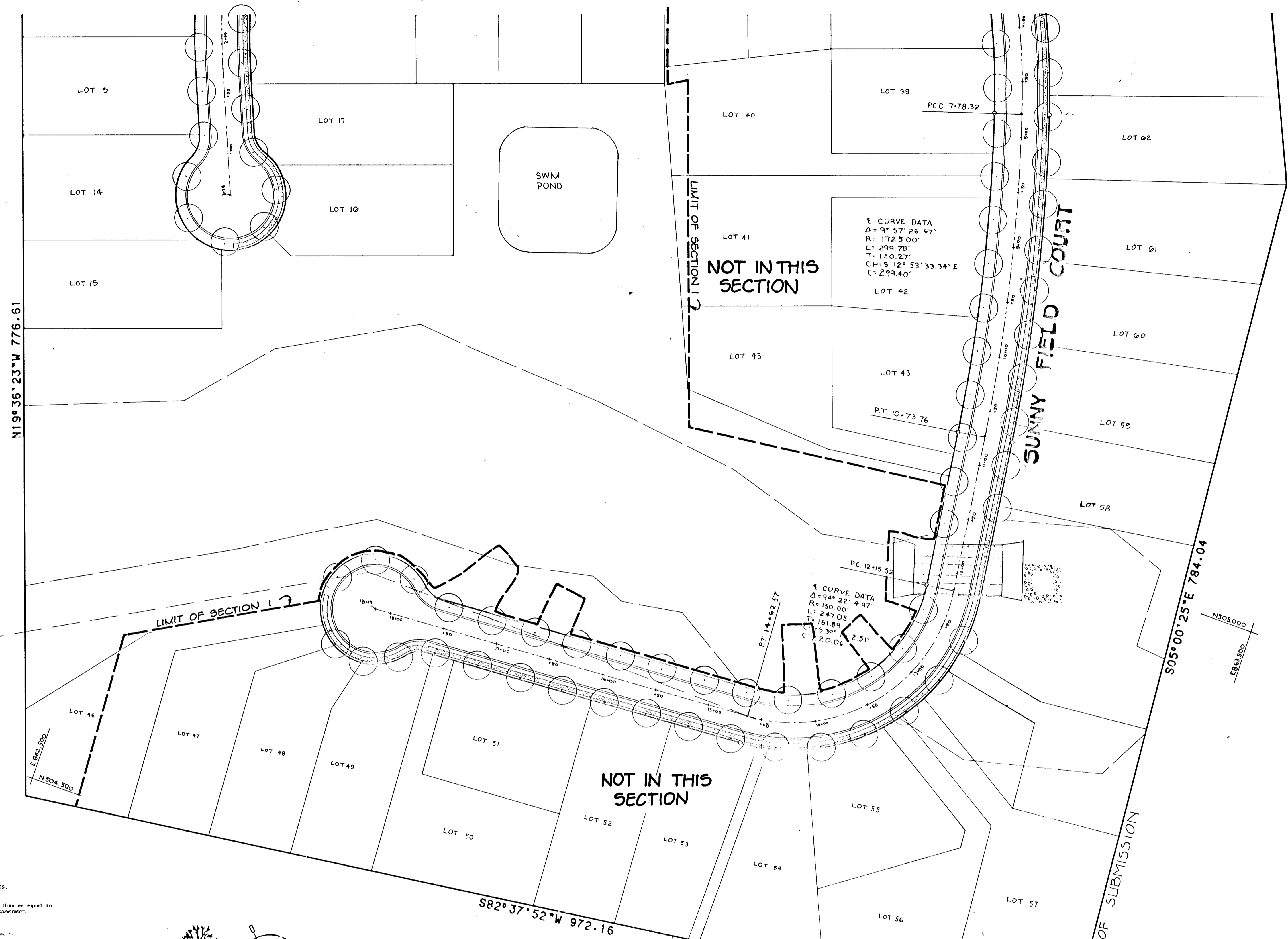
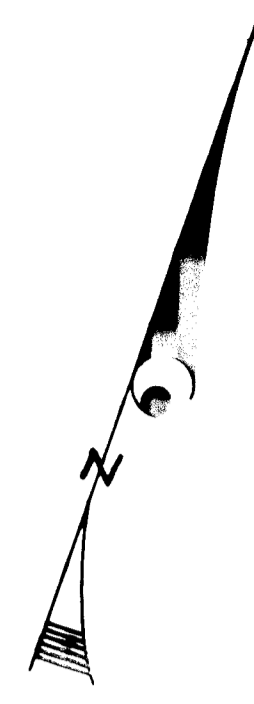
APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Thomas J. Homan 6/18/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

AMERICAN ENGINEERING, INC.
 671A MAIN STREET LAUREL, MARYLAND 20707
 301-953-1221 301-880-3039

OWNER/ Charles & Vivian McCartee 5365 Kerger Road Ellicott City, Md. 21043	PROJECT NAME SUNNY FIELD ESTATES Section 1 Lots 1-28
Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	T.M.#31 P.57,58,518,757 1 Elect. Dist. Ho.Co., MD

DEVELOPER KORFN DEVELOPMENT COMPANY, INC. 8808 Centre Park Drive Columbia, MD 21045 301-740-1010	TITLE STREET TREE Final Plan WP-89-184, S-89-06, P-89-52, F-89-232
DATE 4-14-89 PROJECT P888101	

DFB. DW DW. RT CHK RA/DW SCALE 1"=50' DRAWING 13 OF 15



P88-80
STRAWBERRY FIELDS
SEG. 1 PARCEL 223

N19°36'23"W 776.61

NOT IN THIS SECTION

1 CURVE DATA
Δ: 94° 57' 26.67"
R: 172.5 00'
L: 299.78'
T: 150.27'
CH: S 12° 53' 33.34" E
C: 299.40'

1 CURVE DATA
Δ: 94° 22' 4.97"
R: 150.00'
L: 247.05'
T: 161.89'
CH: S 39° 15' 25.1" E
C: 20.06'

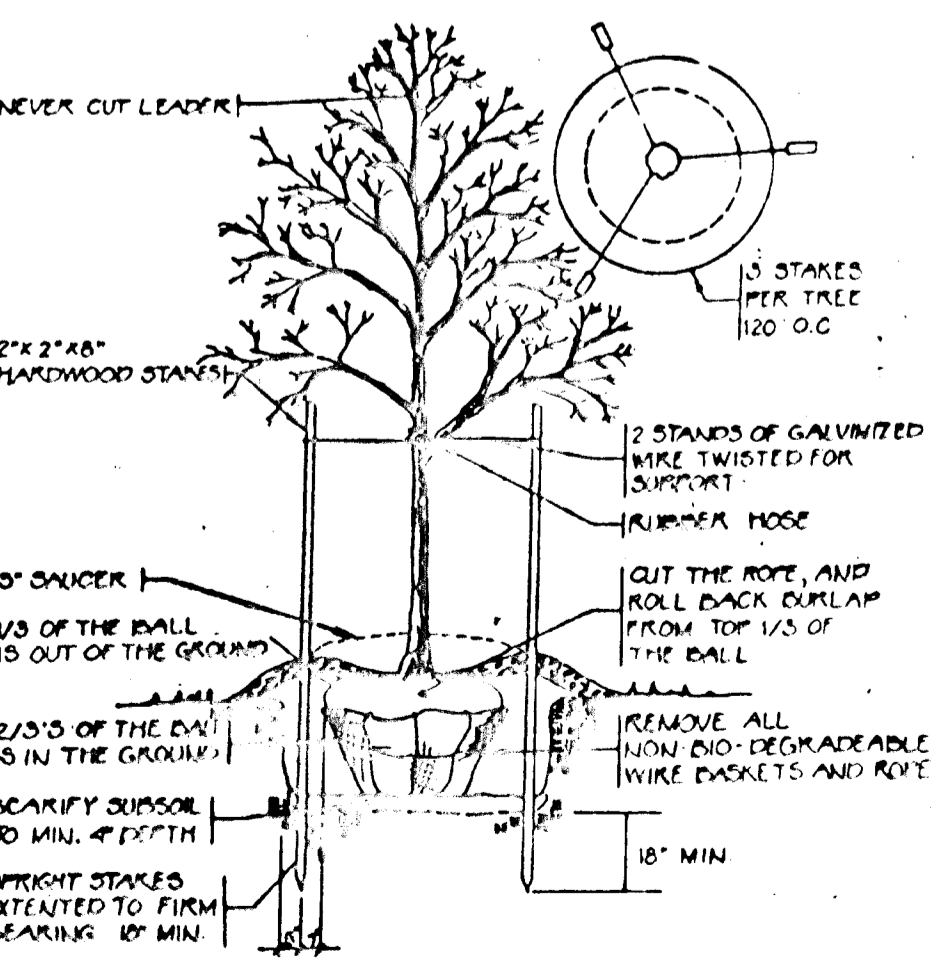
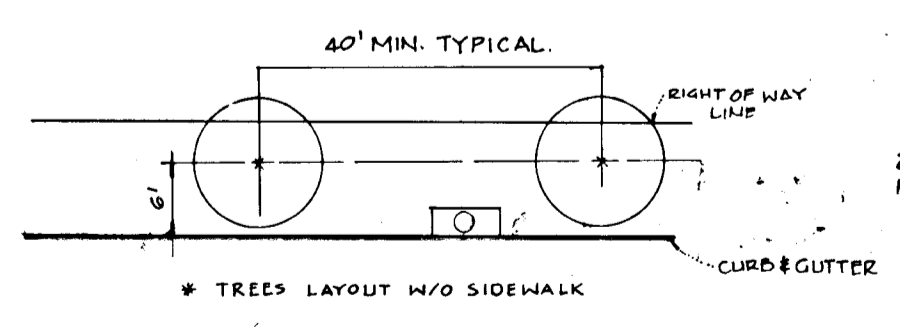
CARROL F. DOYLE
221/82
HO. CO. DEPT. OF
REC. & PARKS
P. 229

NOTE: TREES CANNOT BE PLANTED WITHIN 4' OF EDGE OF THE SIDEWALK. SEE TYPICAL STREET TREE PLANTING DETAIL THIS SHEET.

1100.02.04 SELECTION, LOCATION AND REPLACEMENT OF STREET TREES.

LOCATION:
A. When the distance between the curb and sidewalk is less than or equal to 8 feet, trees shall be planted in the middle of the 100' easement.

B. Trees shall be planted 8 feet behind the curb when there are no sidewalks.



PLANT LIST

SYMBOL	QUANTITY	NAME	REMARKS
○	74	SUGAR MAPLE	2 1/2 Min Cal 8 1/2" Full Head

LENGTH OF EXISTING KERGER RD ± 40 = 655' ± 40 = 16.37
LENGTH OF PROPOSED ROADS:
TANGLEWOOD COURT 406' ± 20 = 20.30
BRIAR OAK COURT 605' ± 20 = 24.75
SUNNYFIELD COURT 44' ± 20 = 2.20
TOTAL REQUIRED 73.62
TOTAL PROVIDED 74.0

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Carroll F. Doyle 6/1/92
CHIEF, LAND DEVELOPMENT DIVISION
Alan M. Tangeman 5/23/92
CHIEF, BUREAU OF HIGHWAYS (Acting)
William E. Reed 6-2-92
CHIEF, BUREAU OF ENGINEERING M.K.

APPROVED : HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Elmina J. Holmuth 6/18/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

AMERICAN ENGINEERING, INC.
671A MAIN STREET LAUREL, MARYLAND 20707
301-953-1221 301-880-3039

OWNER/ : Charles & Vivian McCarree
5365 Kerger Road
Ellicott City, Md. 21043
Mark & Laura Clay
5341 Kerger Road
Ellicott City, Md. 21043
PROJECT NAME : SUNNY FIELD ESTATES
Section 1
Lots 1-25
T.M. #31 P. 57, 58, 518, 757
1 Elect. Dist. Ho. Co., MD

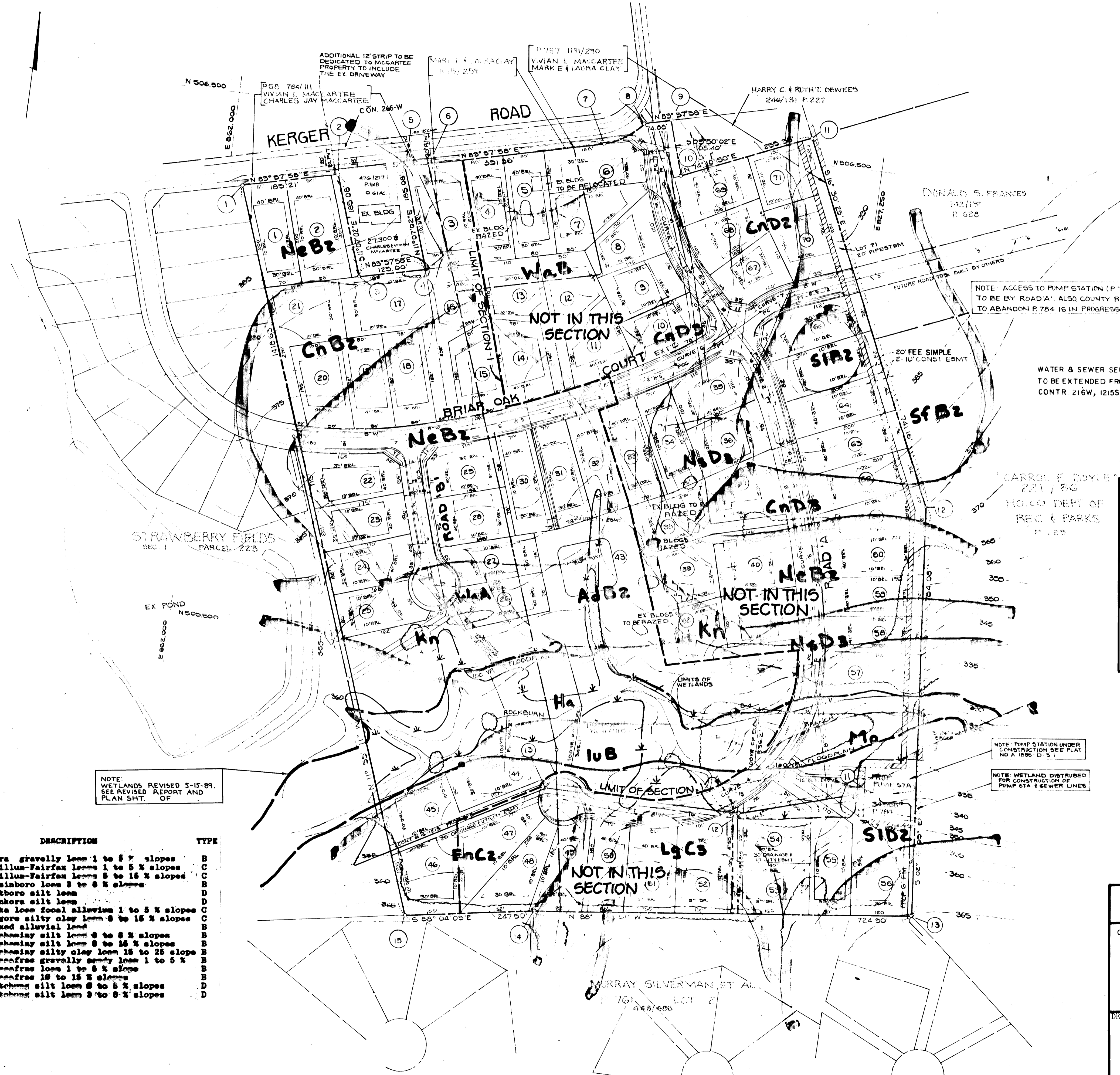
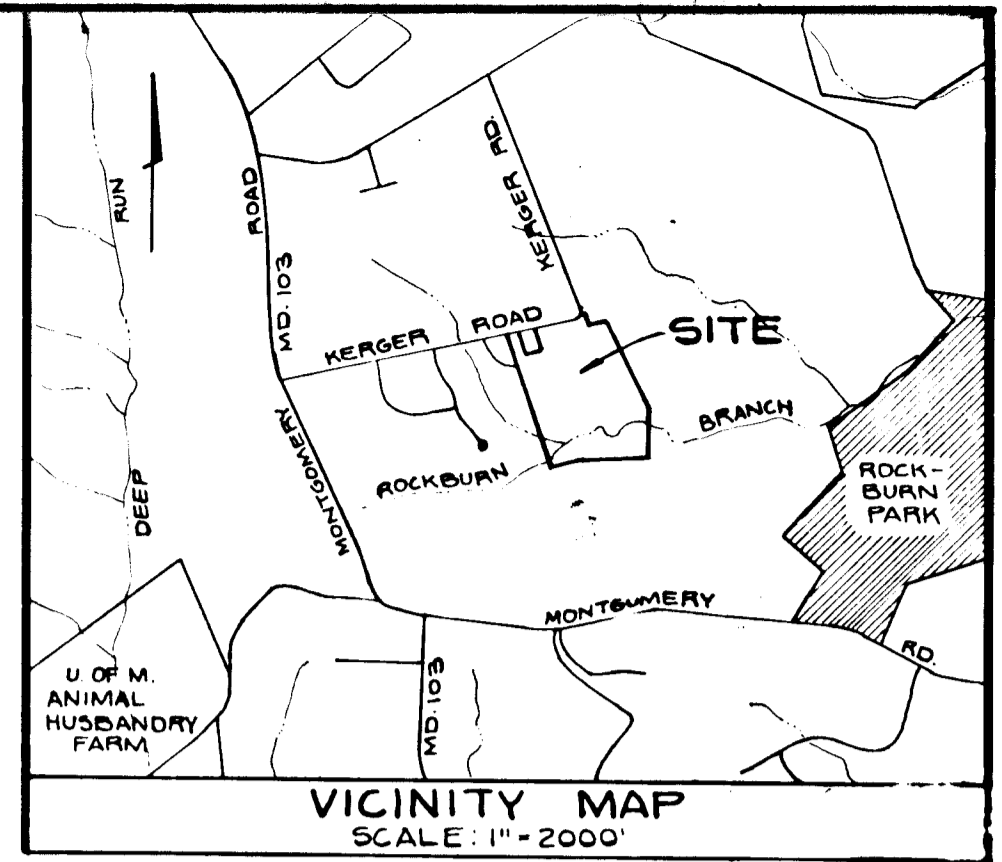
LANDCON, INC. %
KORIN
DEVELOPMENT COMPANY, INC.
8808 Centre Park Drive Columbia MD 21045
301-740-1100
DATE 4-14-89 PROJECT P888101
SCALE 1"=50' DRAWING 16 OF 19



1641

TYPICAL STREET TREE PLANTING

TREE PLANTING DETAIL
NO SCALE



NOTE: ACCESS TO PUMP STATION (P 784) TO BE BY ROAD A. ALSO COUNTY RESOLUTION TO ABANDON P 784 IS IN PROGRESS.

WATER & SEWER SERVICE TO BE EXTENDED FROM CONTR 216W, 12155

THE WETLAND (STREAM) BUFFER INDICATED ON THIS PLAN (APP) DOES NOT AFFECT THE INITIAL CONSTRUCTION OF A RESIDENTIAL UNIT ON ANY LOT. IT DOES PROHIBIT SUBSEQUENT CLEARING, GRADING OR CONSTRUCTION IN THE BUFFER AREA. MAINTENANCE OF RESIDENCES, LANDSCAPING & UTILITIES IS PERMITTED.

WETLANDS INDICATED ON THIS PLAN ARE APPROXIMATE. FINAL WETLAND DELINEATIONS ARE SHOWN ON SHEET 819 OF 19.

NOTE: WETLANDS REVISED 5-15-89. SEE REVISED REPORT AND PLAN SHEET OF

NOTE: PUMP STATION UNDER CONSTRUCTION SEE PLAN NO A 1895 13 5 1

NOTE: WETLAND DISTURBED FOR CONSTRUCTION OF PUMP STA & SEWER LINES

SYMBOL	DESCRIPTION	TYPE
ADz2	Aura gravelly loam 1 to 5 % slopes	B
CnDz	Chillum-Fairfax loams 1 to 5 % slopes	C
EnCz	Elanboro loam 3 to 6 % slopes	B
Ha	Hatboro silt loam	D
Kn	Kinkora silt loam	D
LuB	Luka loam focal alluvium 1 to 5 % slopes	C
LgCs	Ligore silty clay loam 8 to 15 % slopes	C
Mo	Mixed alluvial loam	B
NeBz	Neckamy silt loam 6 to 8 % slopes	B
NeDz	Neckamy silt loam 8 to 15 % slopes	B
NeDz	Neckamy silty clay loam 18 to 25 slope	B
SIBz	Sassafras gravelly sandy loam 1 to 5 %	B
SIBz	Sassafras loam 1 to 5 % slopes	B
SIBz	Sassafras 18 to 15 % slopes	B
WaB	Watchung silt loam 8 to 8 % slopes	D
WaB	Watchung silt loam 3 to 8 % slopes	D

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Howard 6/10/92
 CHIEF, LAND DEVELOPMENT DIVISION M.K. DATE

John M. Pennington 6/9/92
 CHIEF, BUREAU OF HIGHWAYS DATE

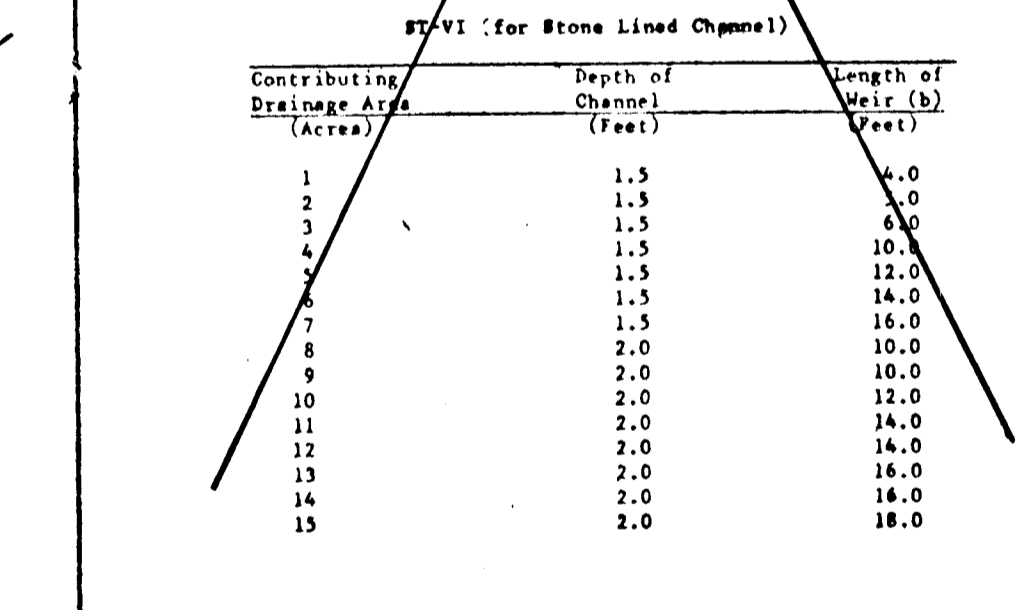
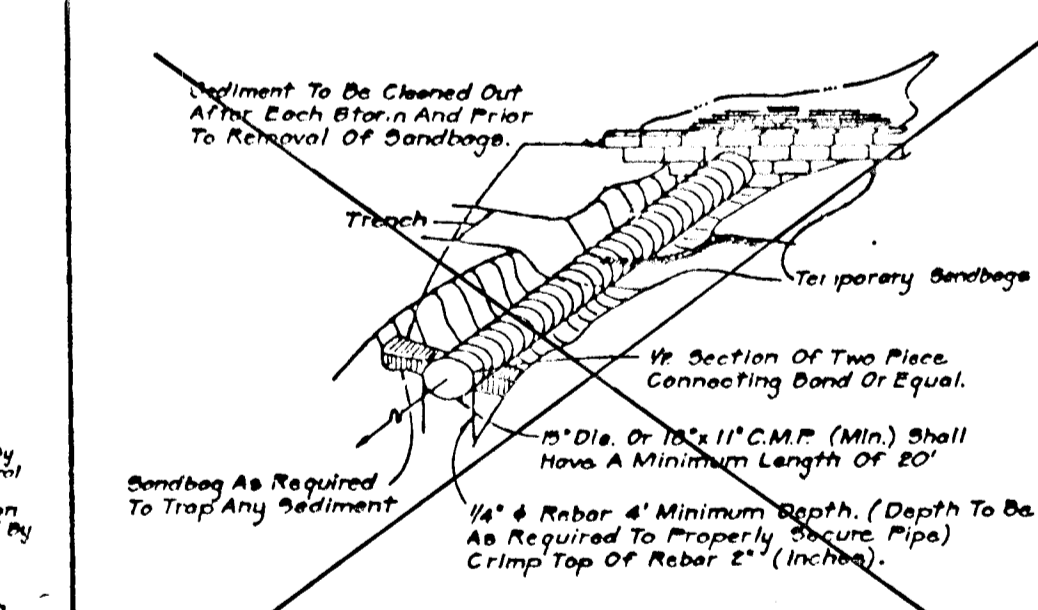
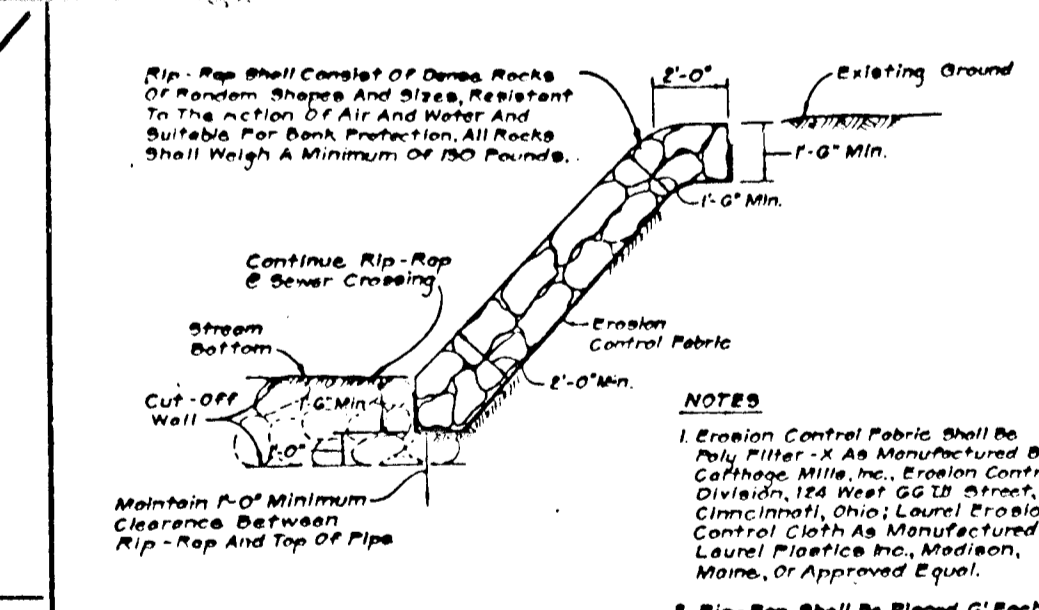
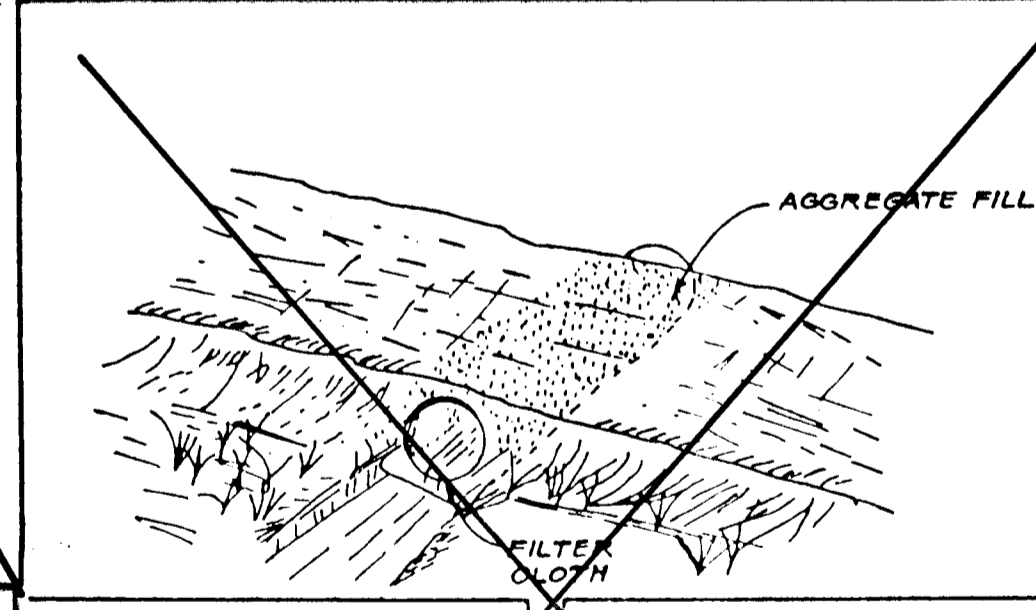
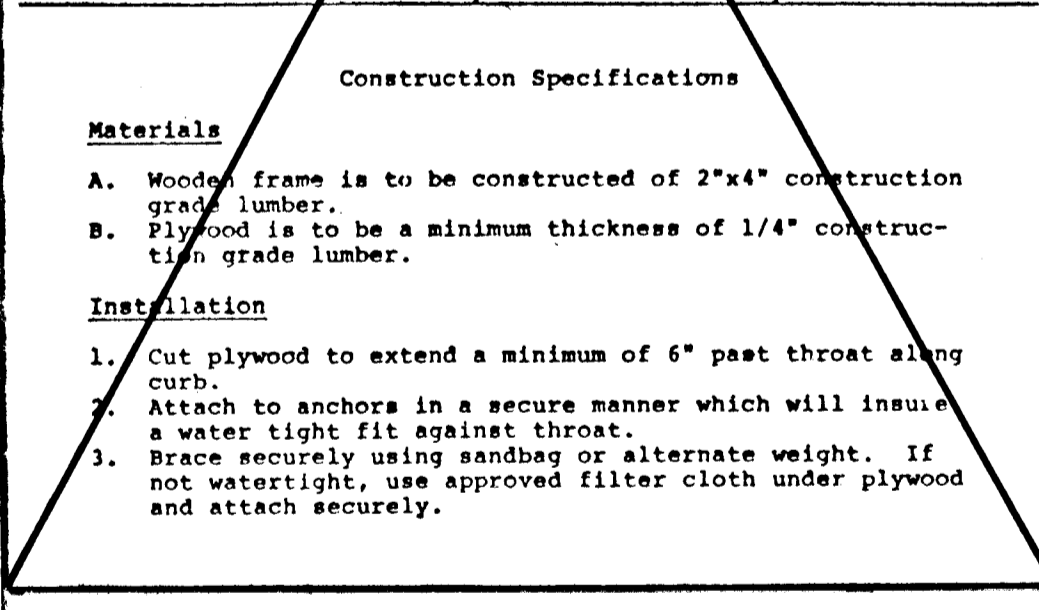
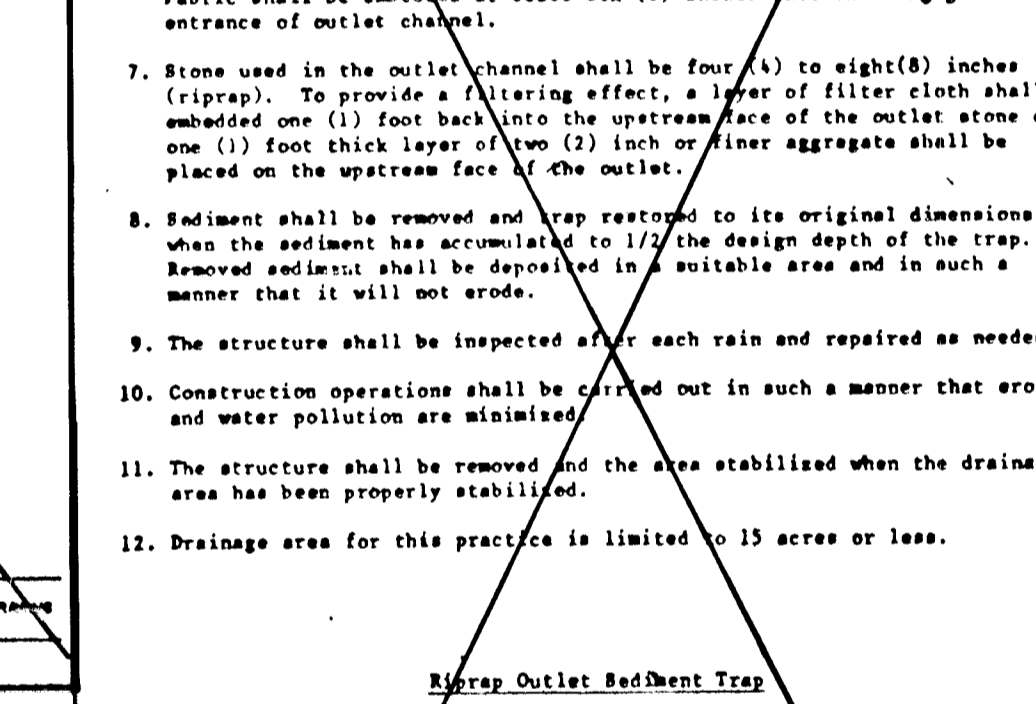
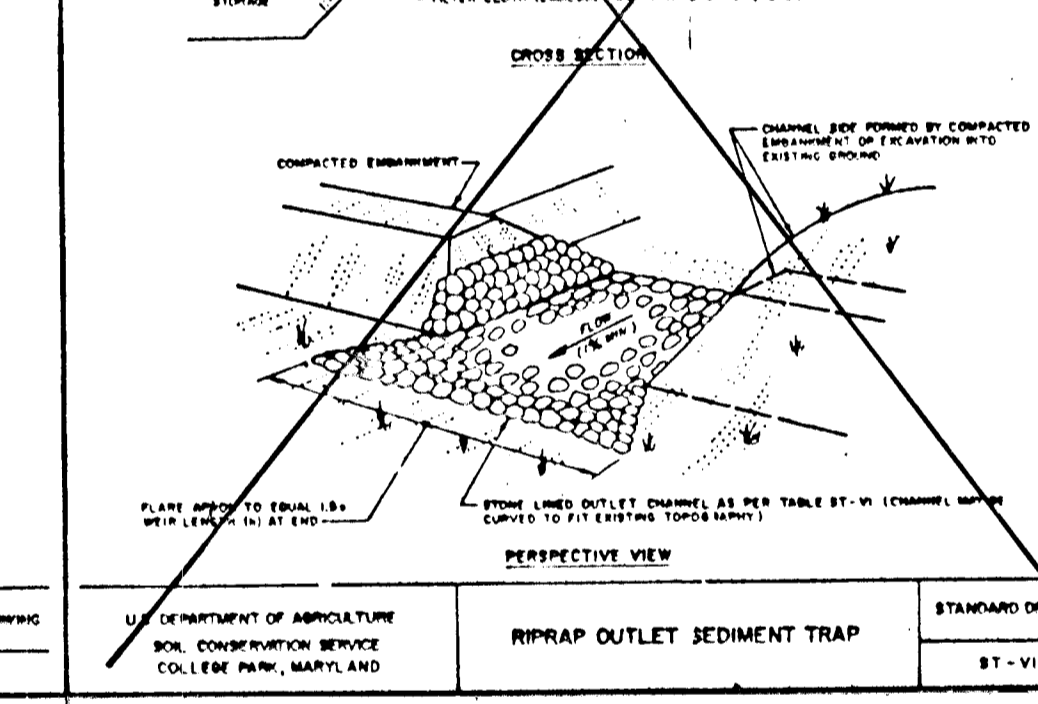
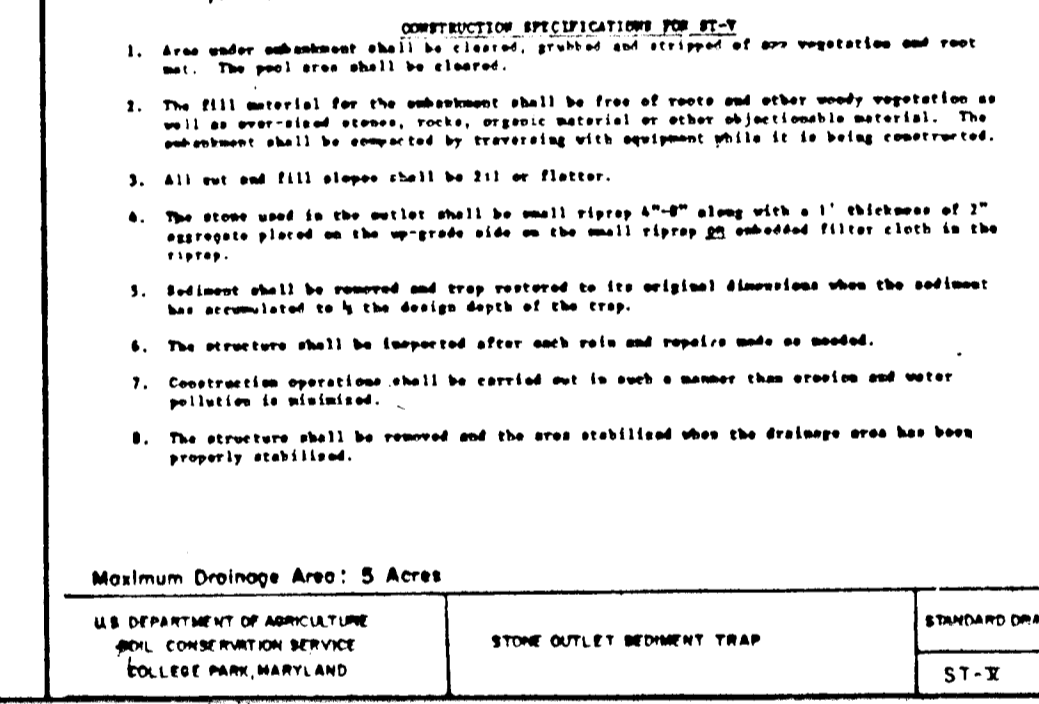
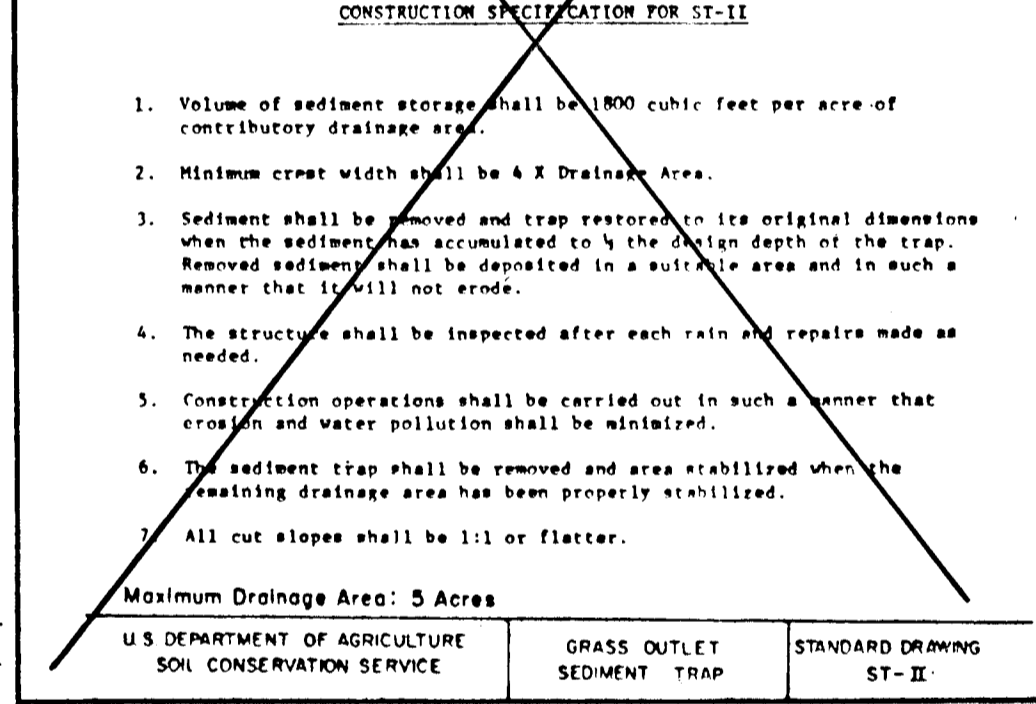
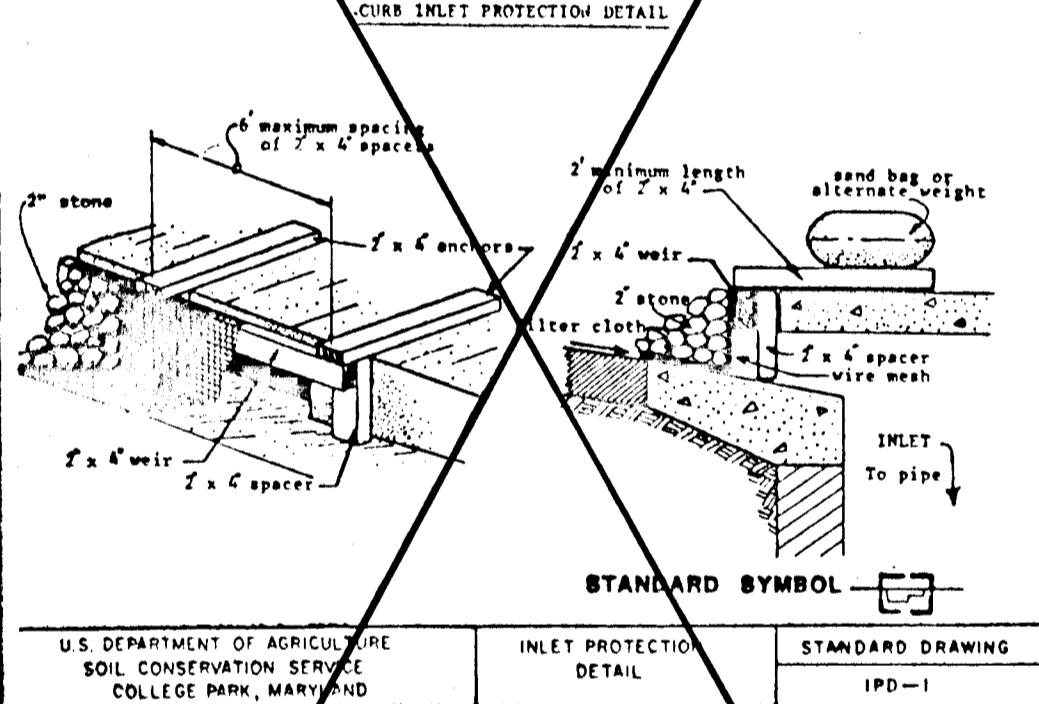
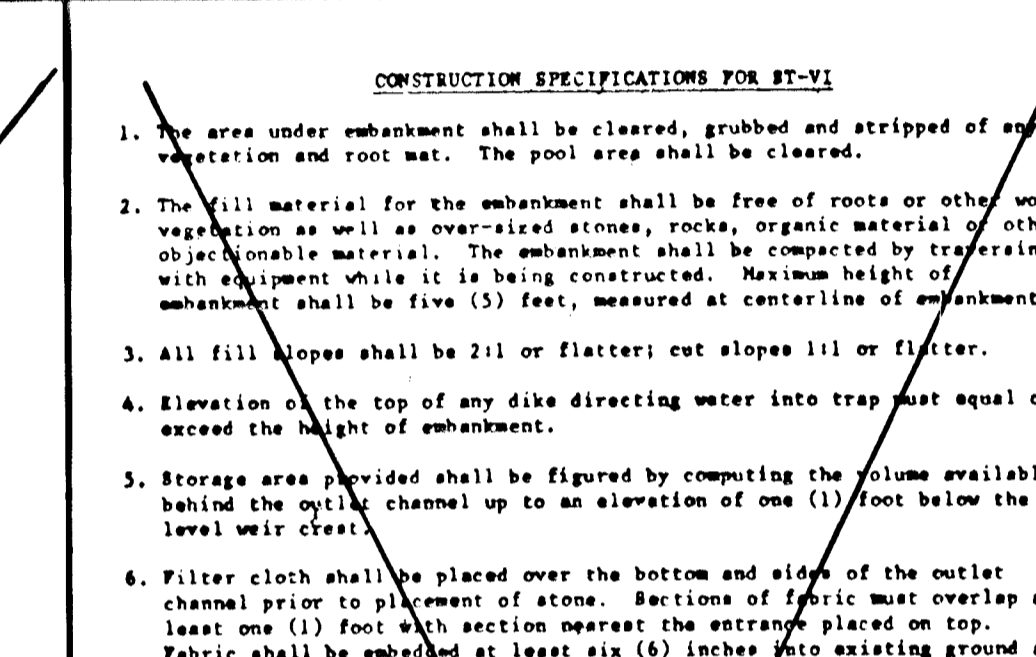
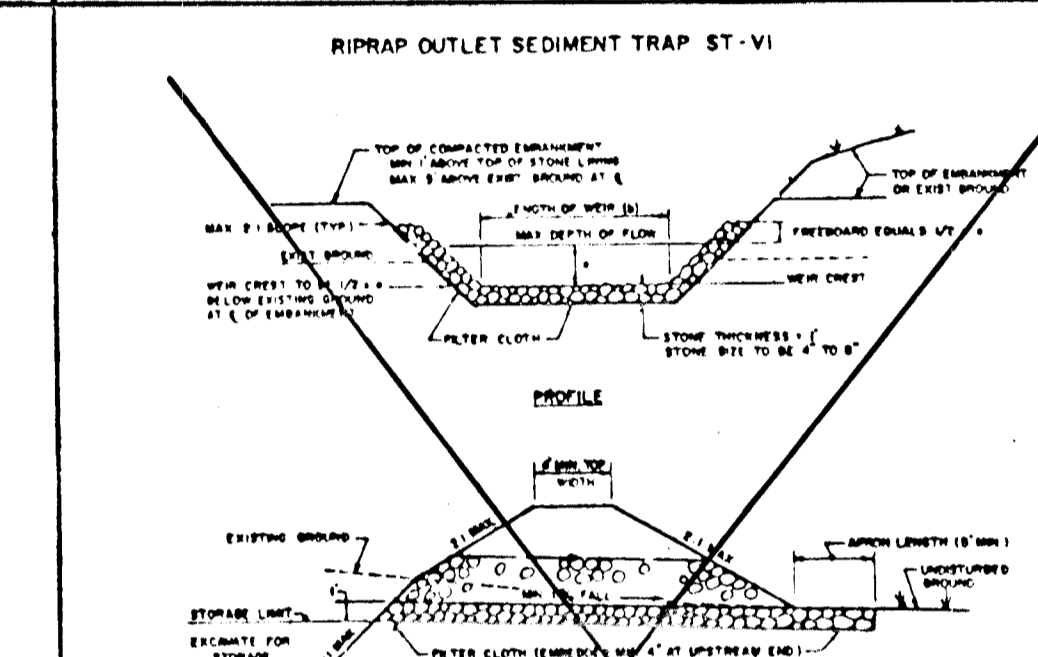
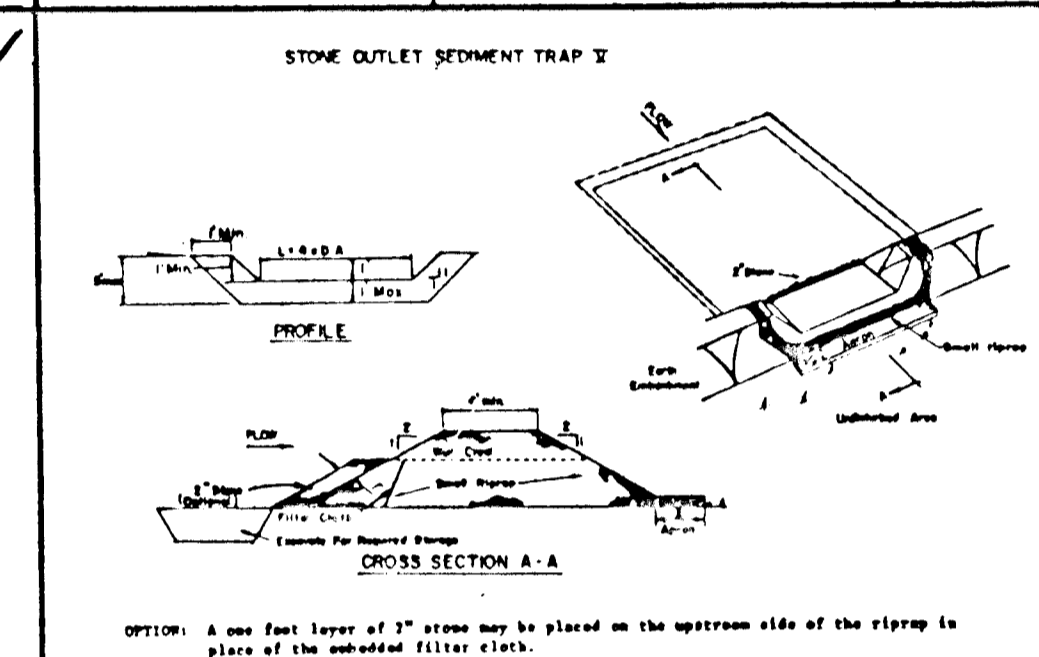
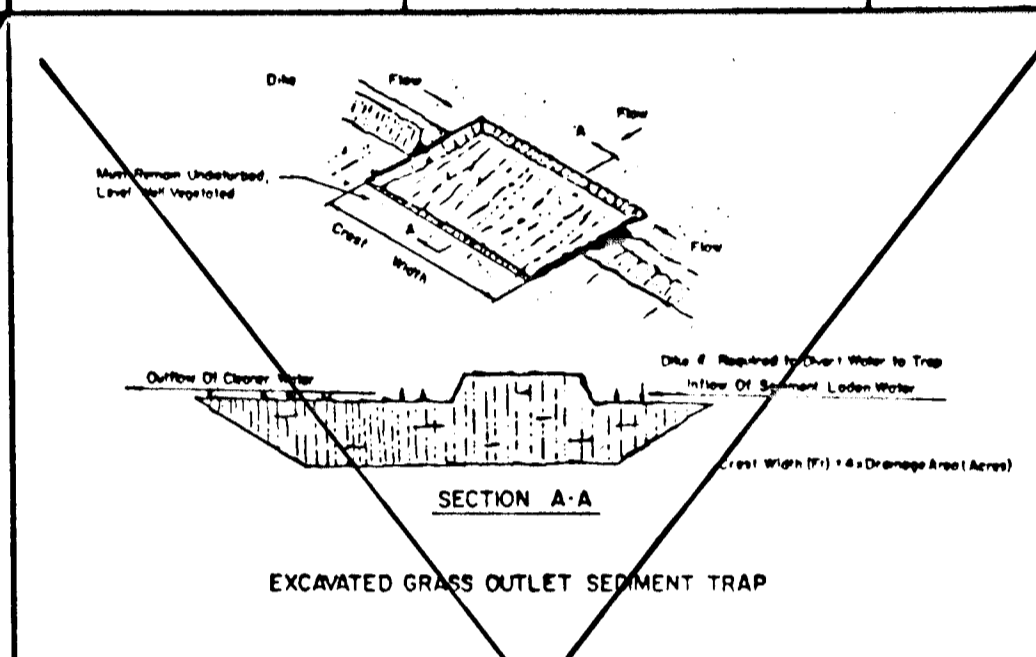
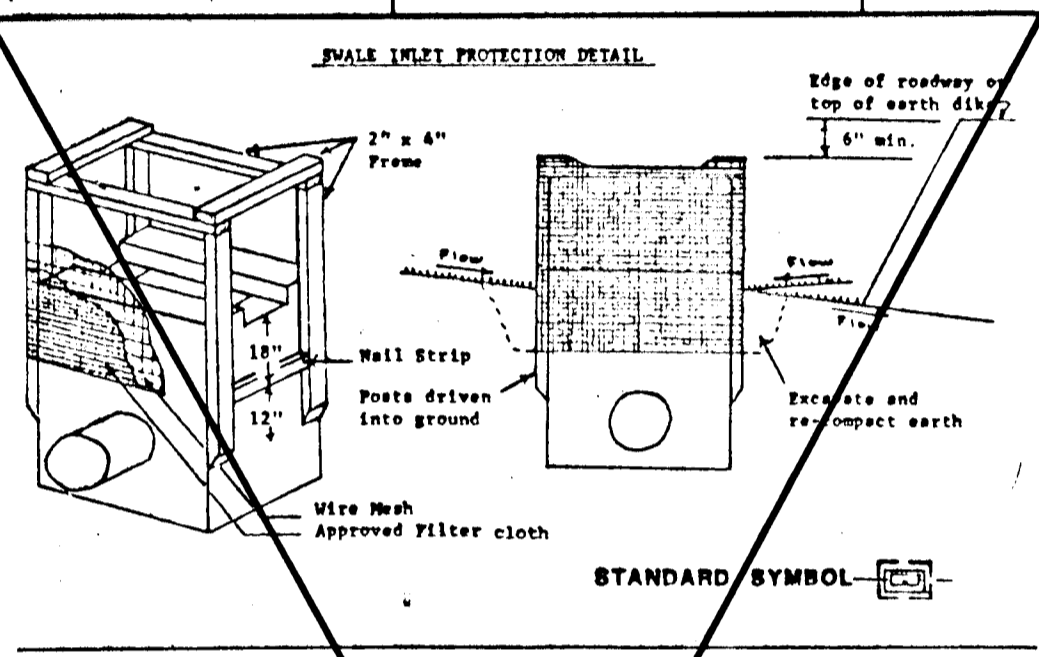
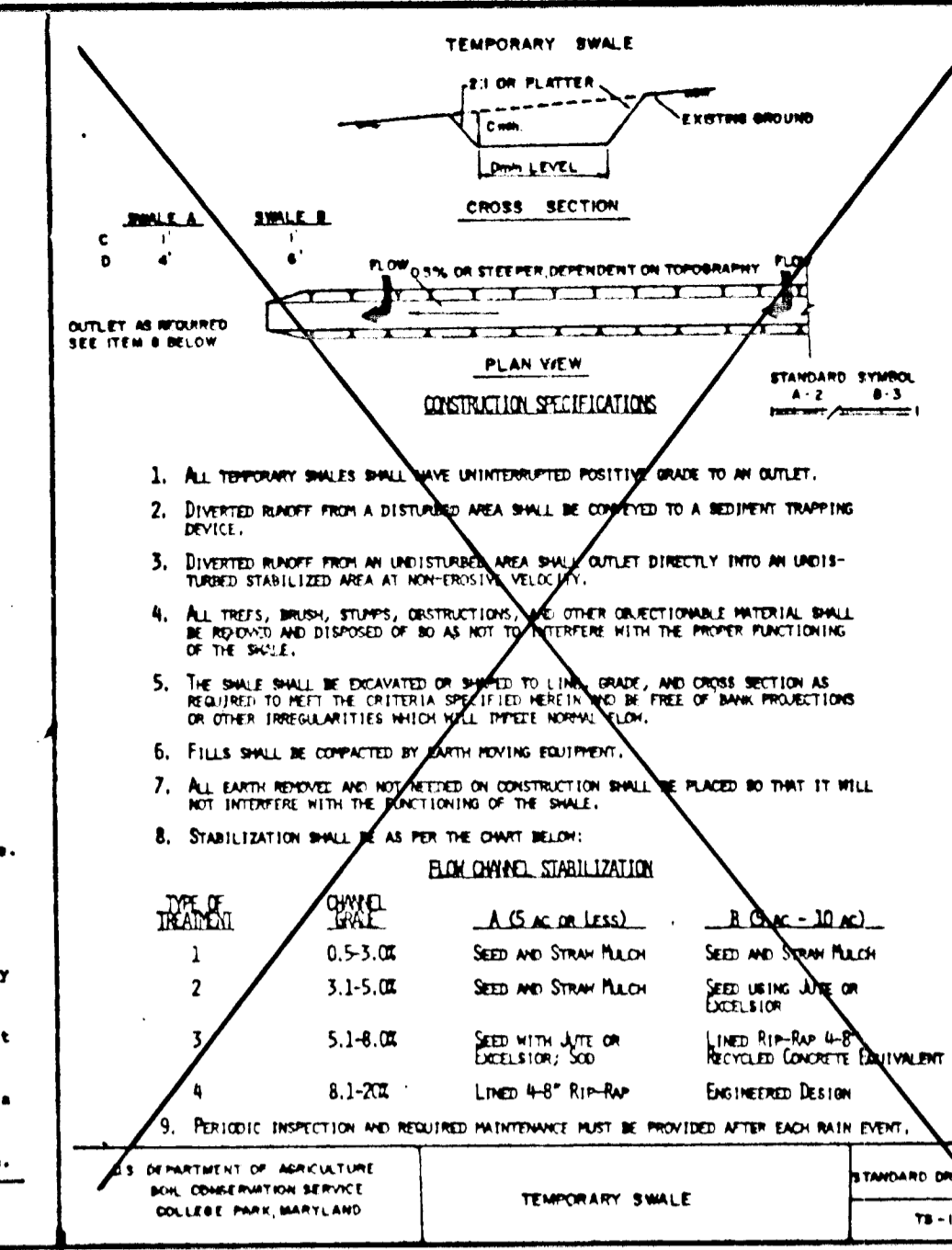
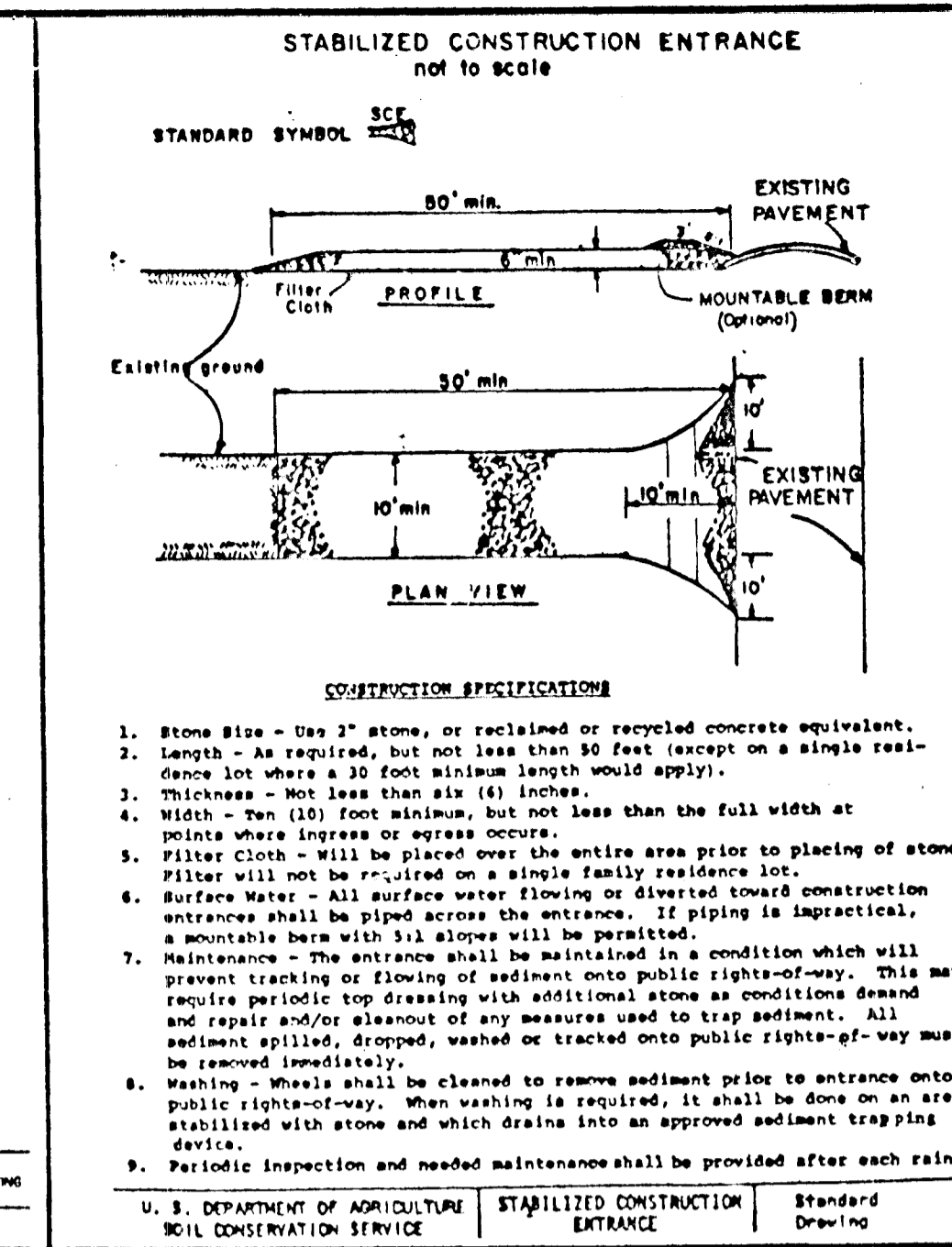
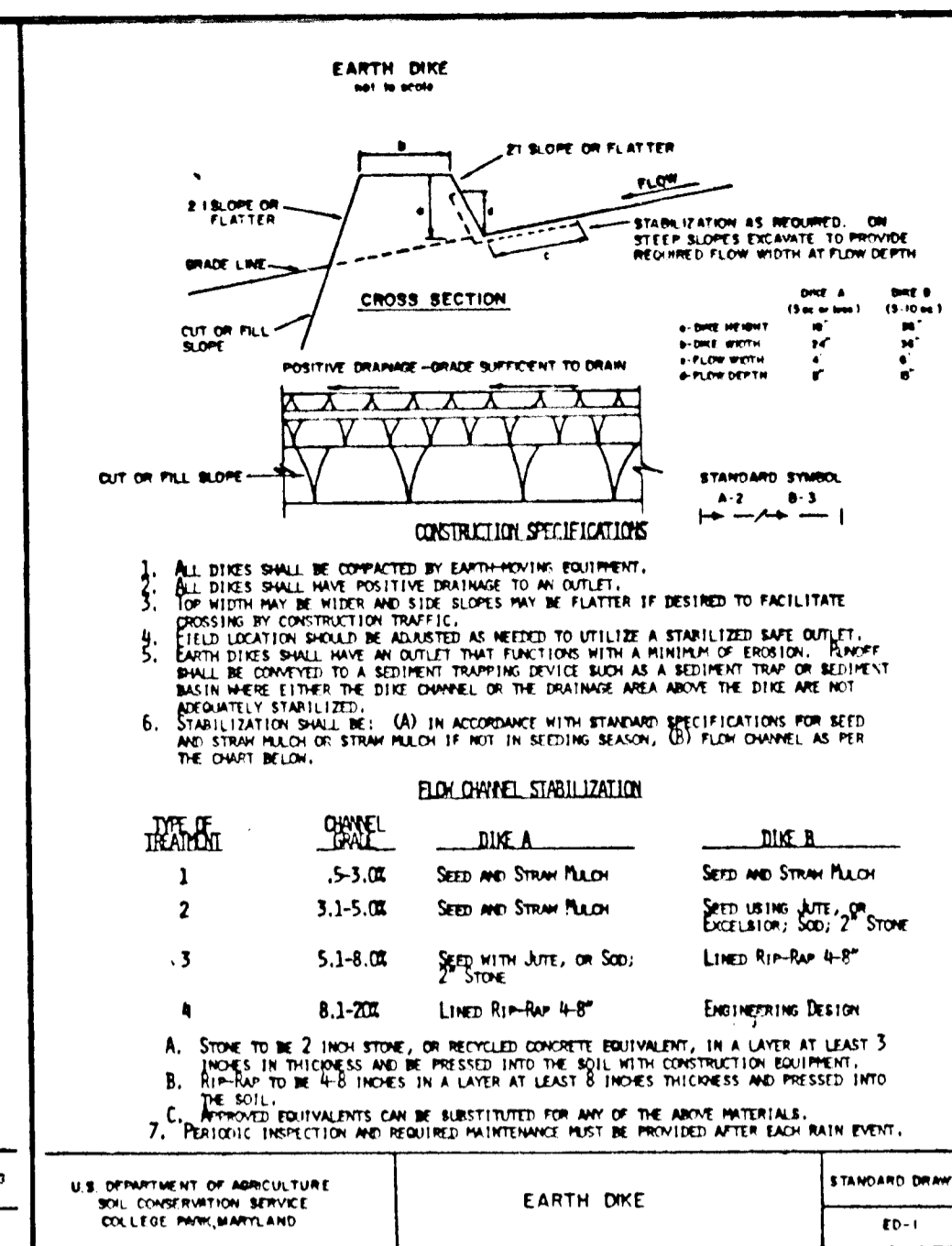
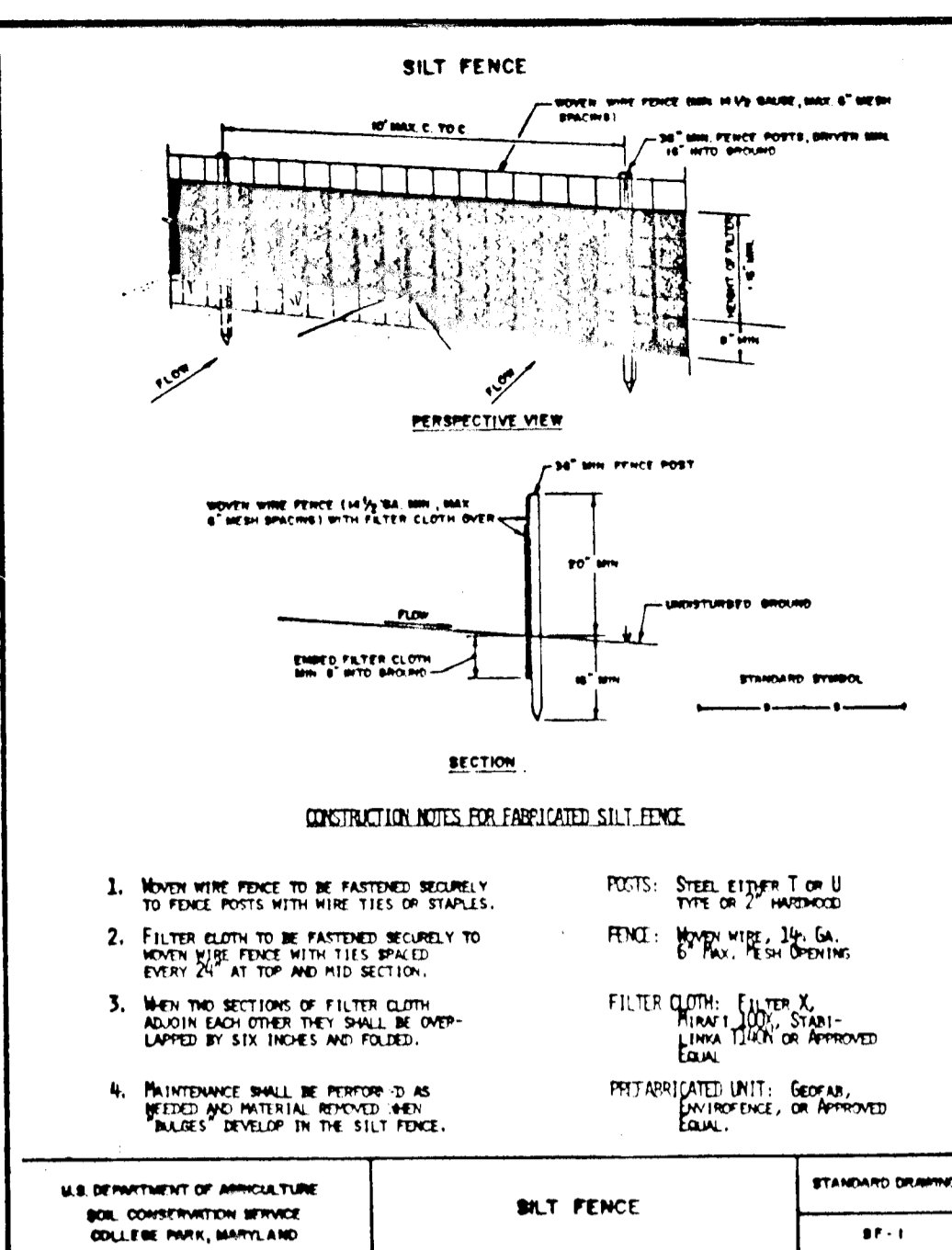
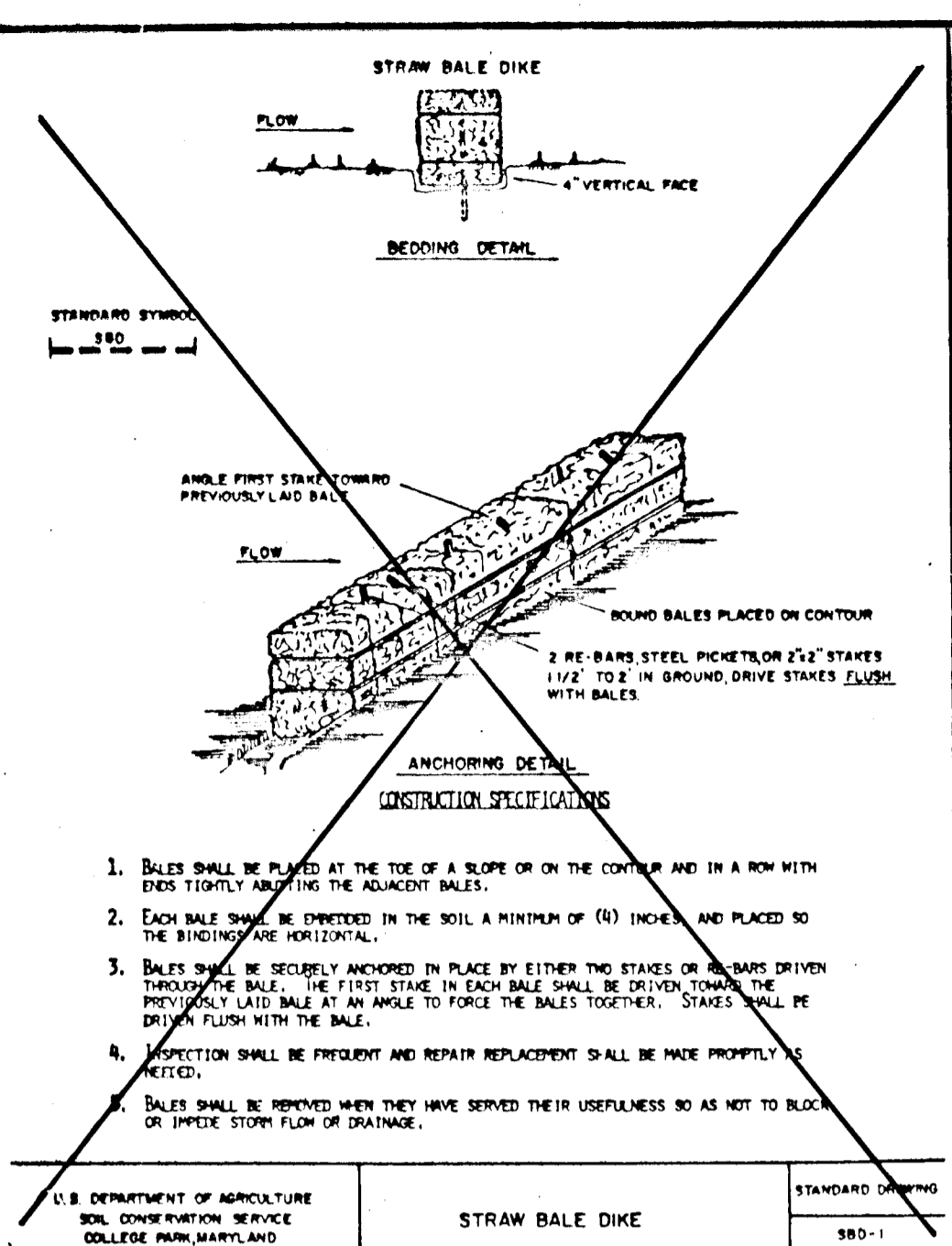
Robert 6/10/92
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Anna J. Holman 6/18/92
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

LEGEND
 HYDRIC SOILS [Symbol]
 WETLANDS [Symbol]



AMERICAN ENGINEERING, INC. 671A MAIN STREET LAUREL, MARYLAND 20707 301-953-1221 301-880-3039	
OWNER:	PROJECT NAME
Charles & Vivian McCarter 5365 Kerger Road Ellicott City, Md. 21043	SUNNY FIELD ESTATES Section I Lots 1 - 25
Mark & Laura Clay 5341 Kerger Road Ellicott City, Md. 21043	LOCATION
	TM # 31 Par. 57,518,757&58 1 Elect. Dist. H.Co. MD.
DEVELOPER	TITLE
LANDCON, INC. % KOREN DEVELOPMENT COMPANY, INC. 8808 Centre Road, Suite 100, Ellicott City, MD 21045 301-740-1012	SOILS MAP FINAL PLAN S-89-06 P. 63-52 F. DATE 12-20-88 PROJECT PS8801
DES. RAB	DRW. RT
CHK AA/DW	SCALE 1" = 40'
DRAWING 17 OF 19	



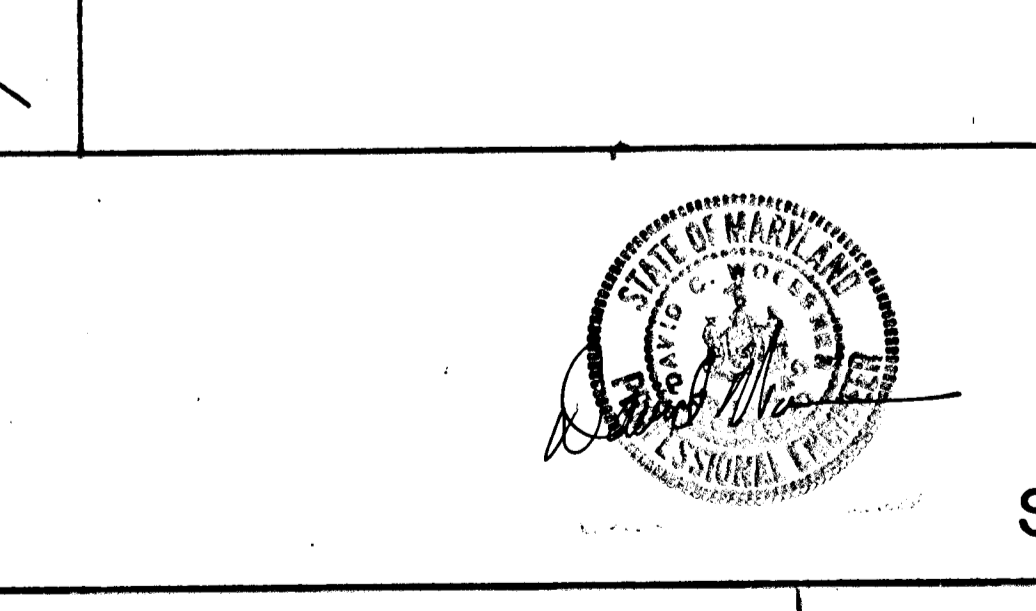
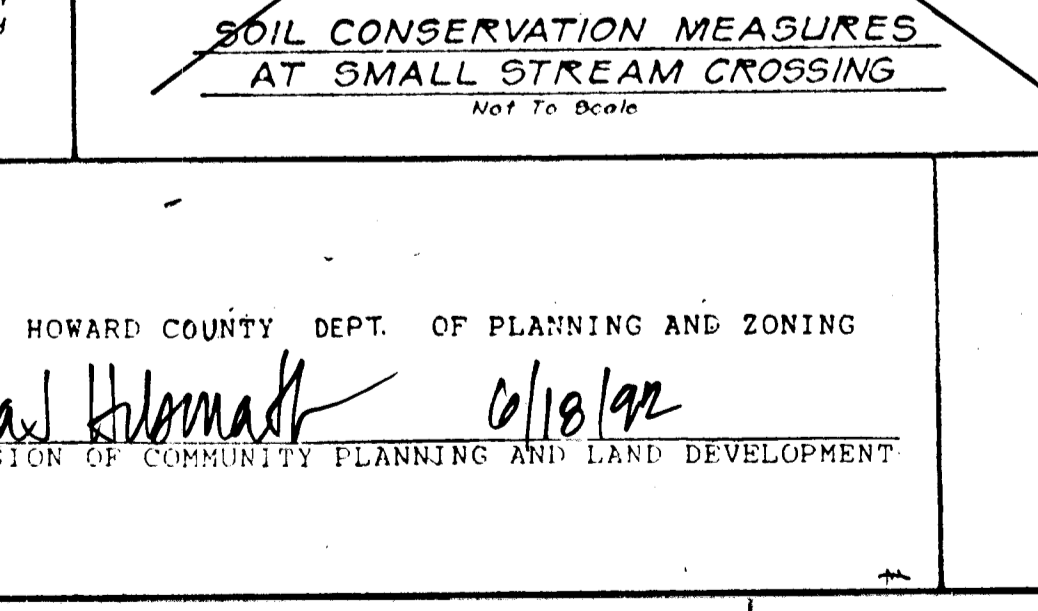
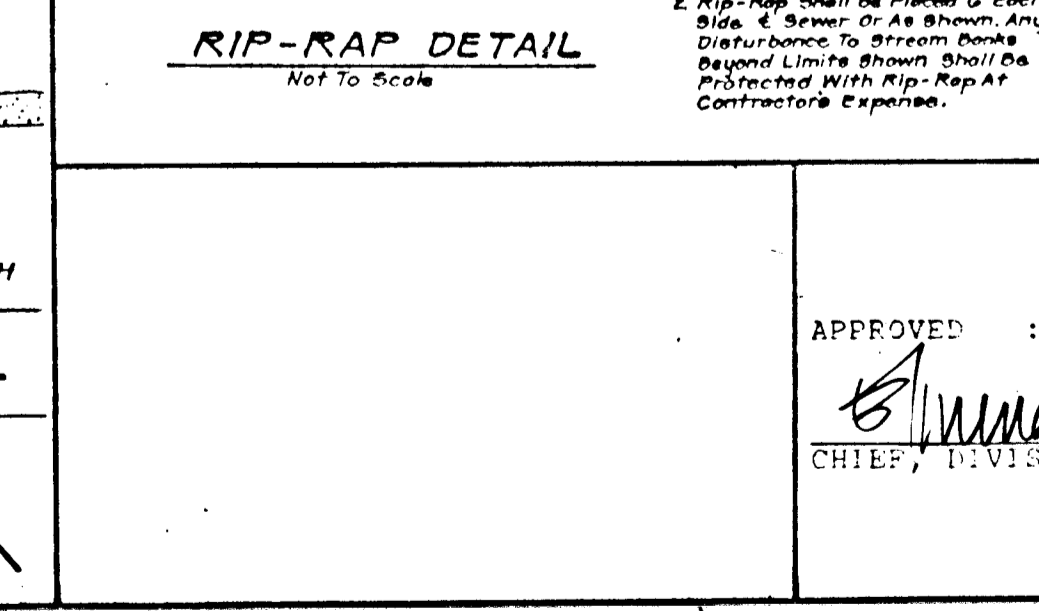
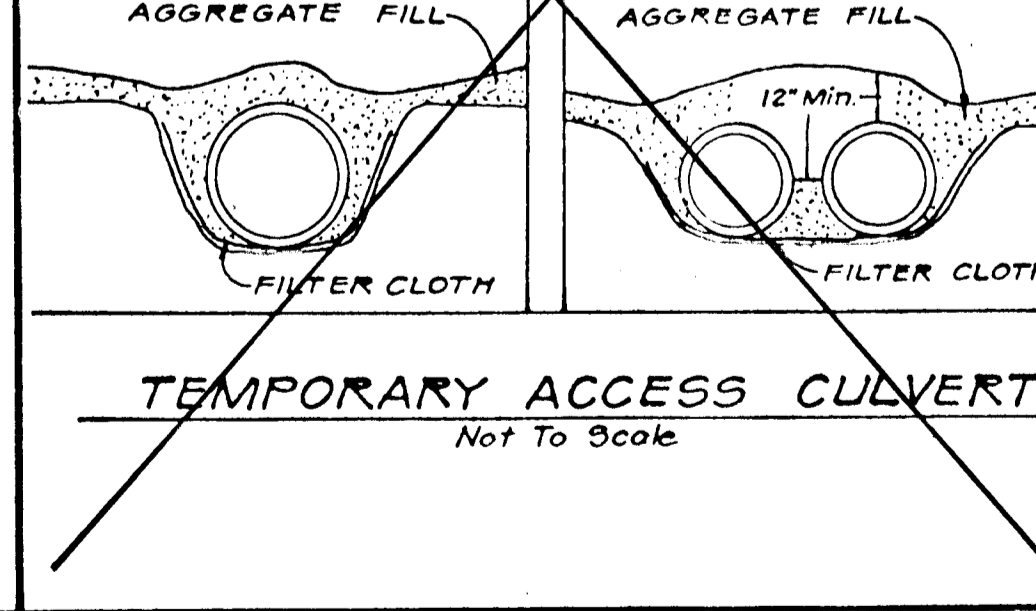
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Robert W. Zielhuis 4/24/92
SIGNATURE DATE

U.S. SOIL CONSERVATION SERVICE

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

Janet H. Nelson 4/29/92
APPROVED HOWARD S.C.D. DATE



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John J. ... 5/23/92
CHIEF, LAND DEVELOPMENT DIVISION DATE

John M. ... 6-2-92
CHIEF, BUREAU OF HIGHWAYS DATE

John ... 6-2-92
CHIEF, BUREAU OF ENGINEERING DATE

DEVELOPER'S CERTIFICATION

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance as 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."

Signature: *Steven Koren* Date: *4/18/92*
Name: STEVEN KOREN Title: _____ Phone No. 410-740-1000
Firm: LANDCON, INC. Complete Address: 8800 CENTRE PARK DR., COLUMBIA, MD 21045

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."

Signature: *David ...* Date: *4/18/92*
Registered Professional Engineer # _____

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Thomas ... 6/18/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

AMERICAN ENGINEERING INC.
671 A MAIN STREET LAUREL, MARYLAND 20707
301-953-1221 301-880-3039

FINAL PLAN SUNNYFIELD ESTATES SECTION I
TAX MAP 31 P. 57, 58, 518, 757 FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND 21043

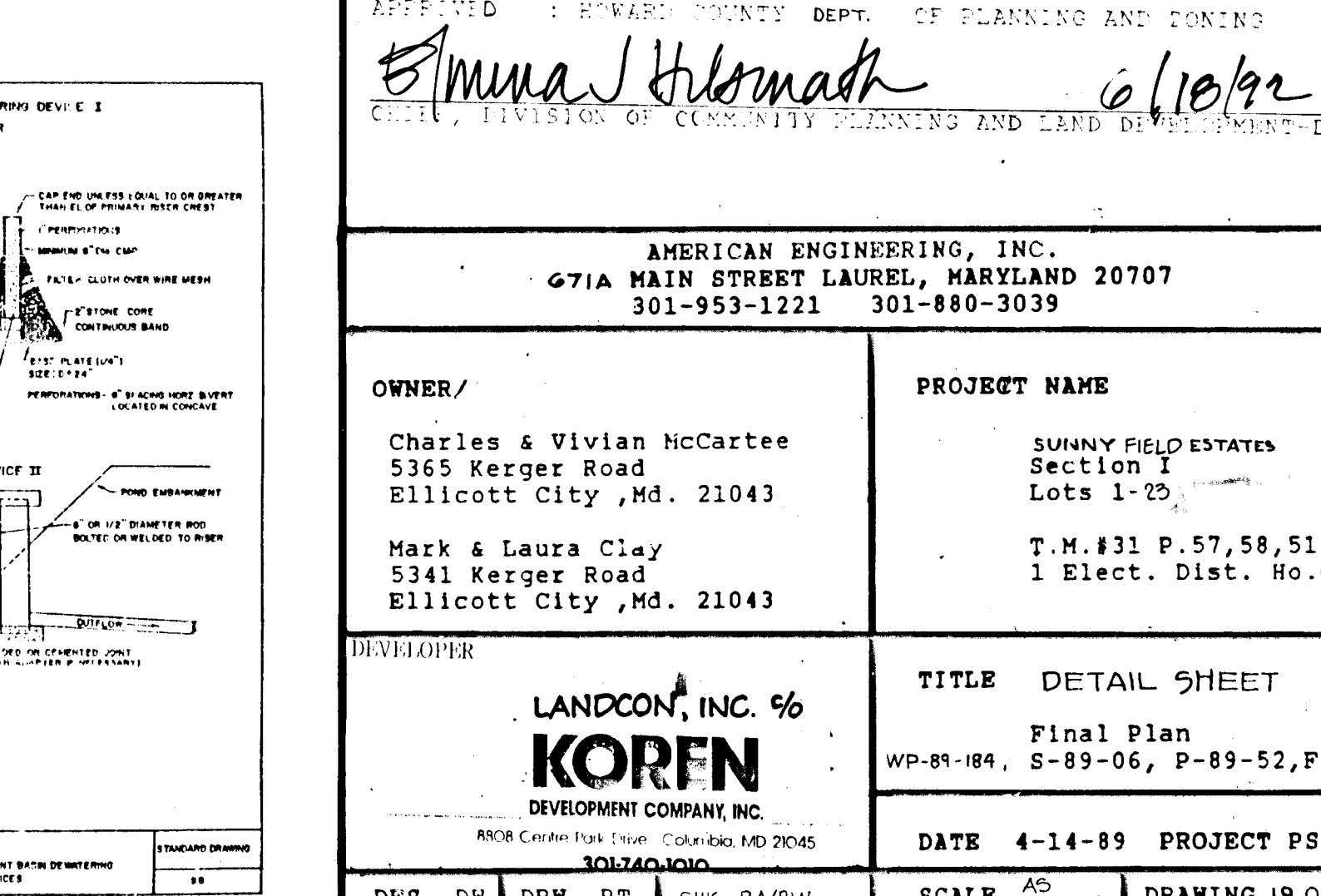
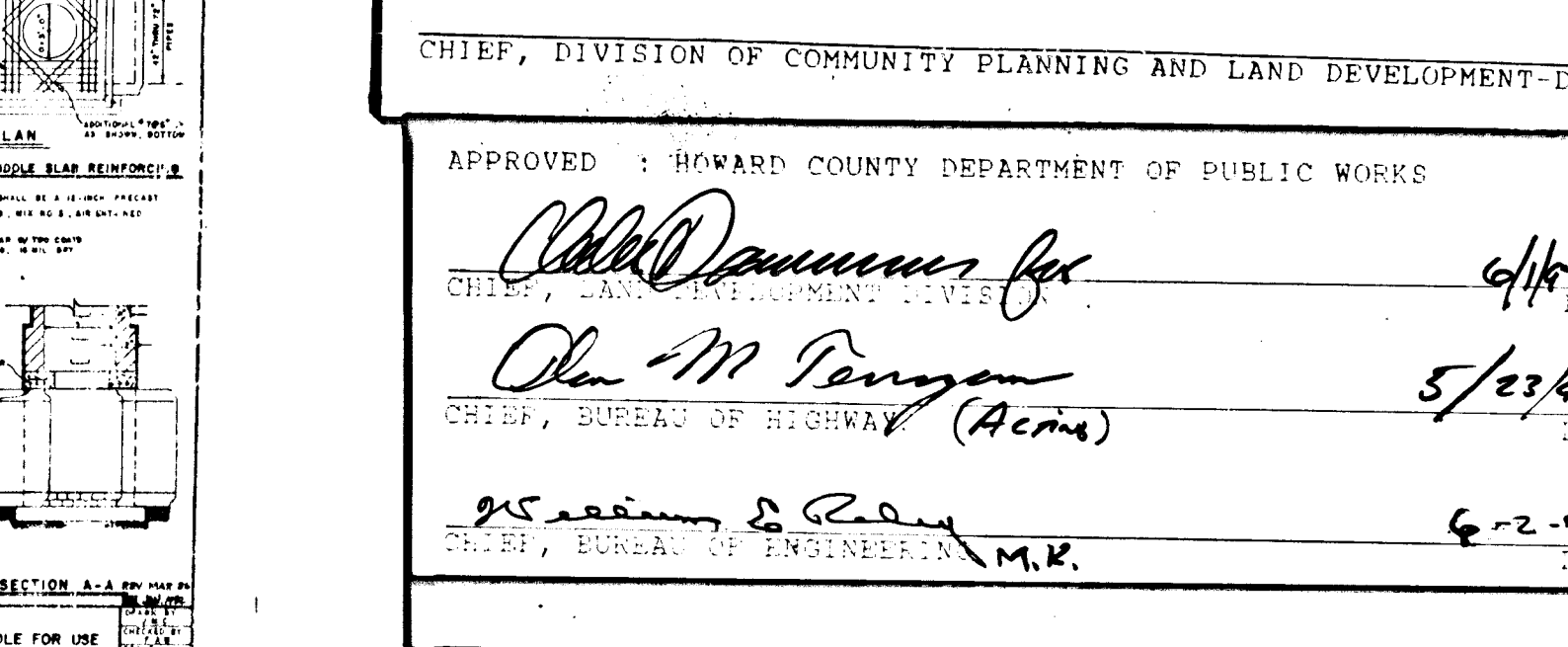
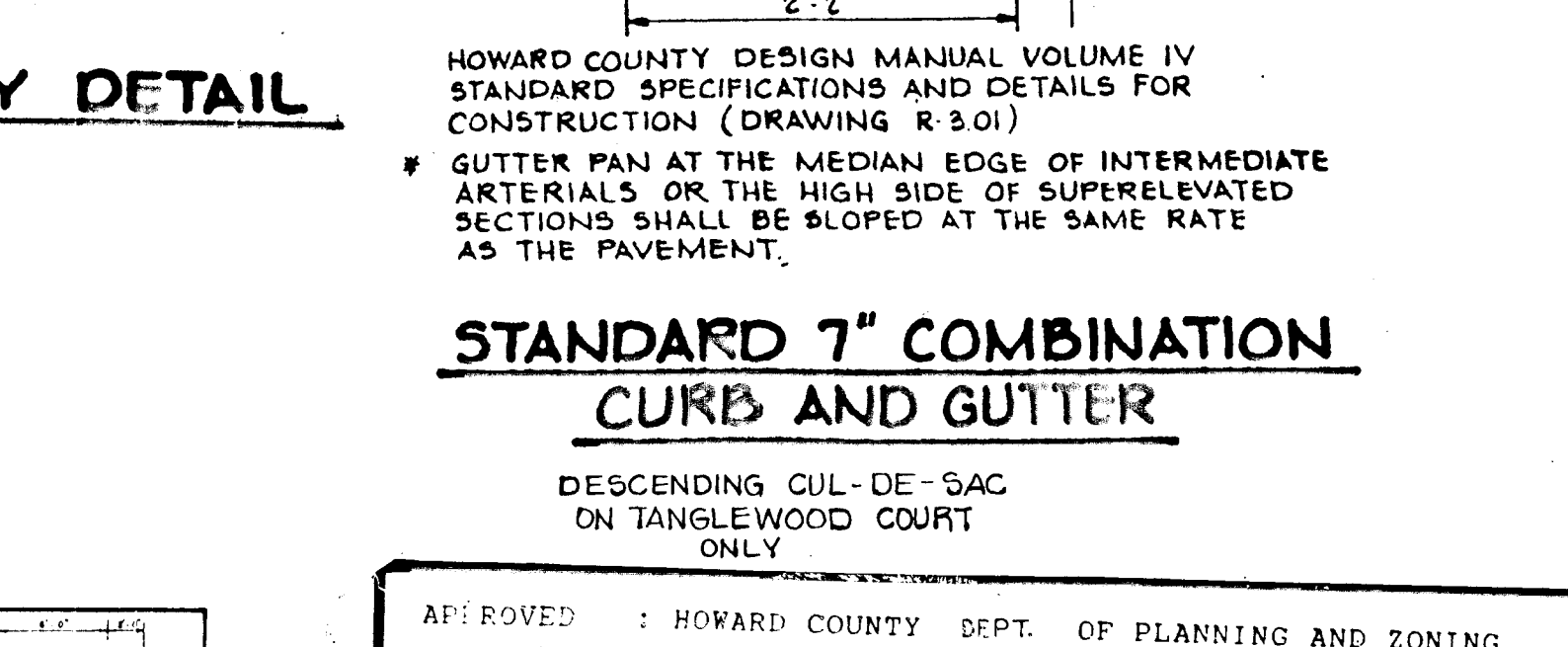
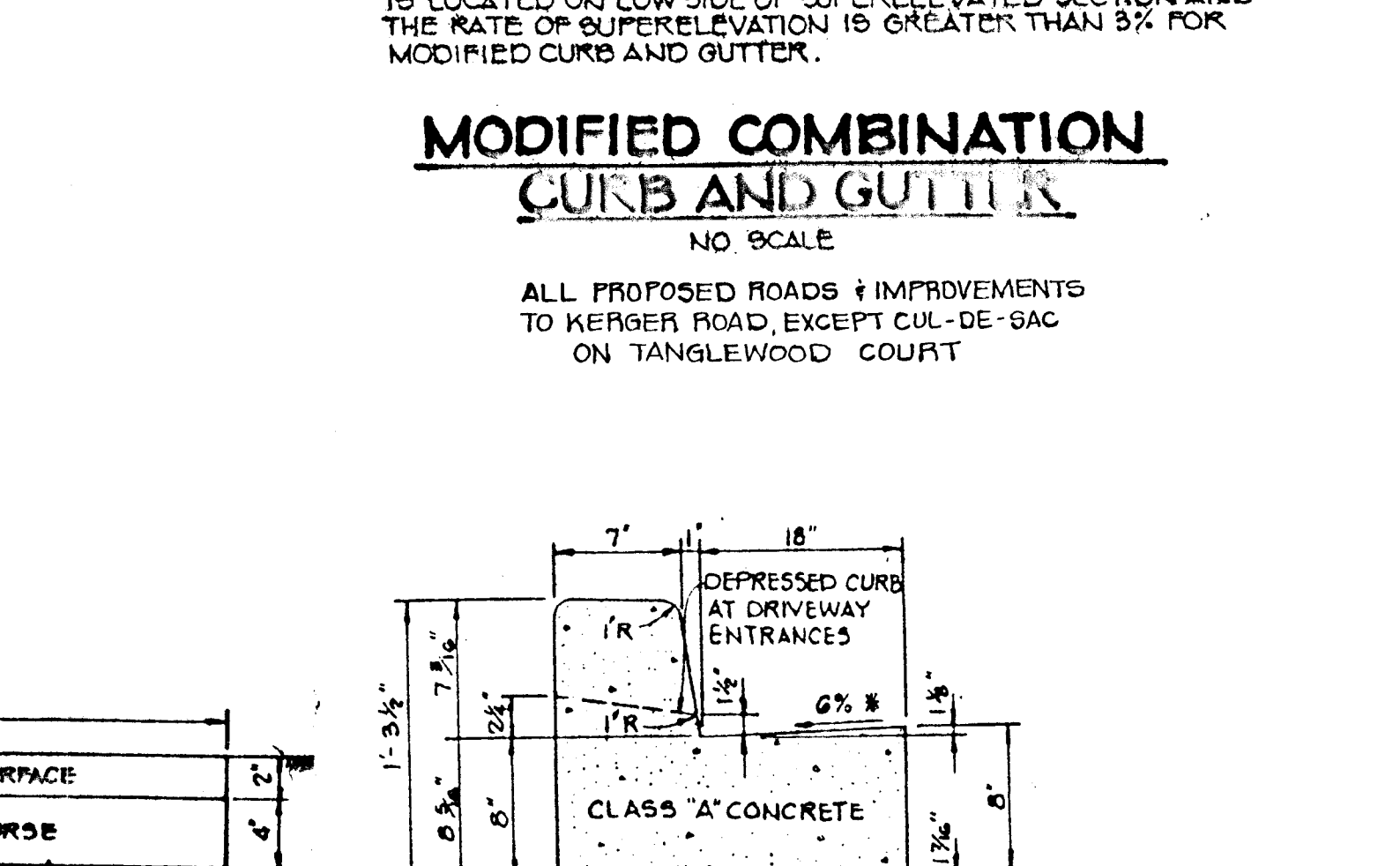
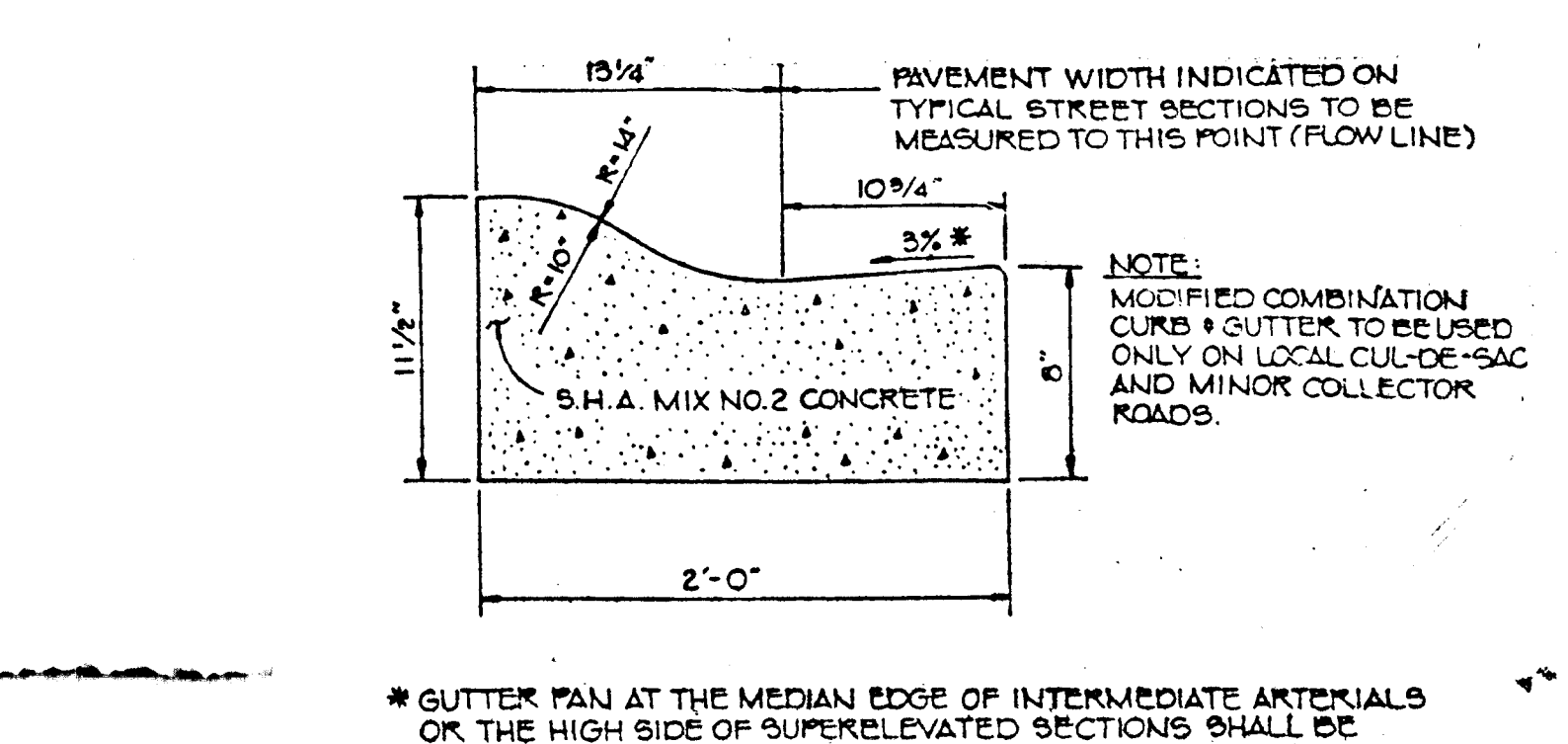
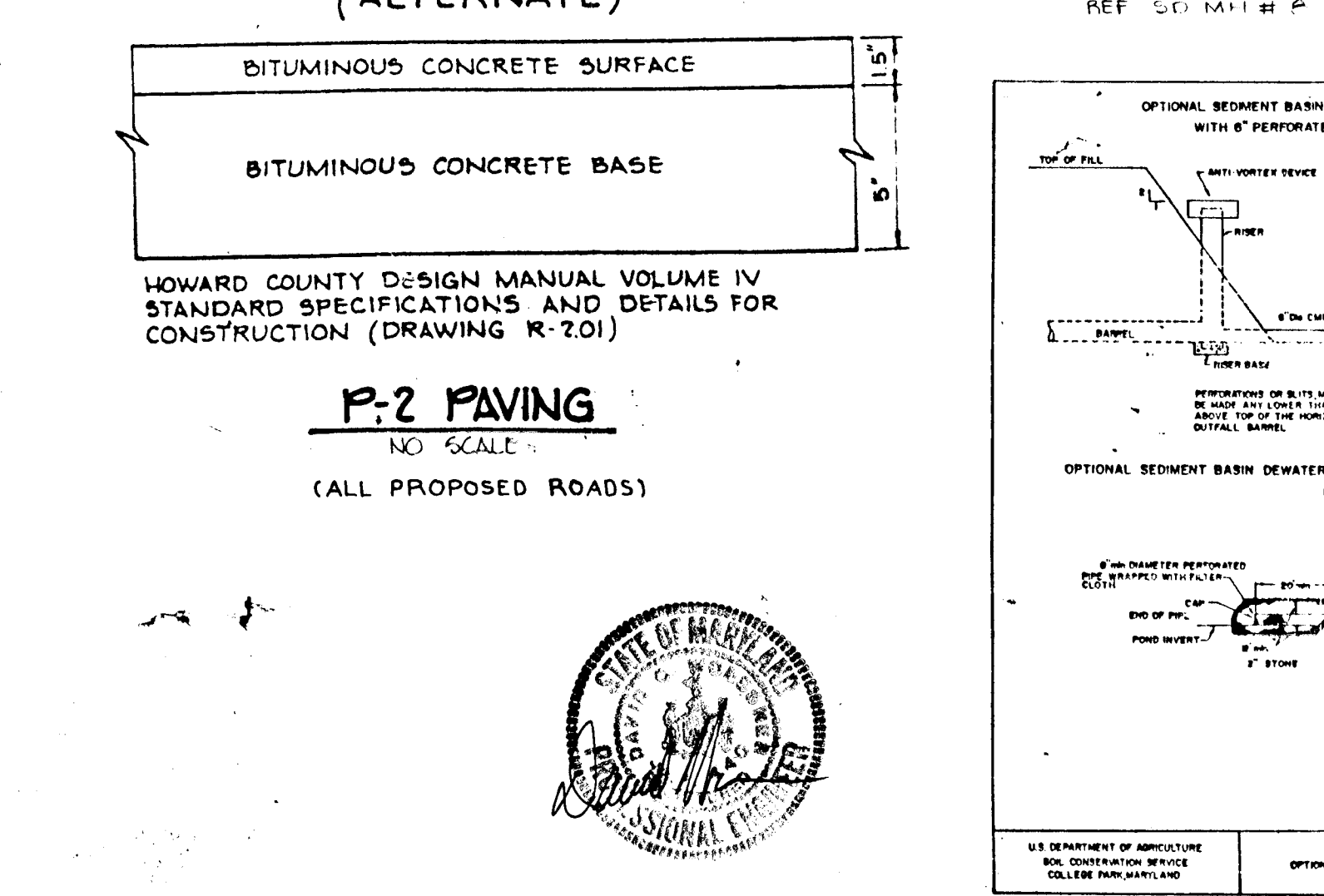
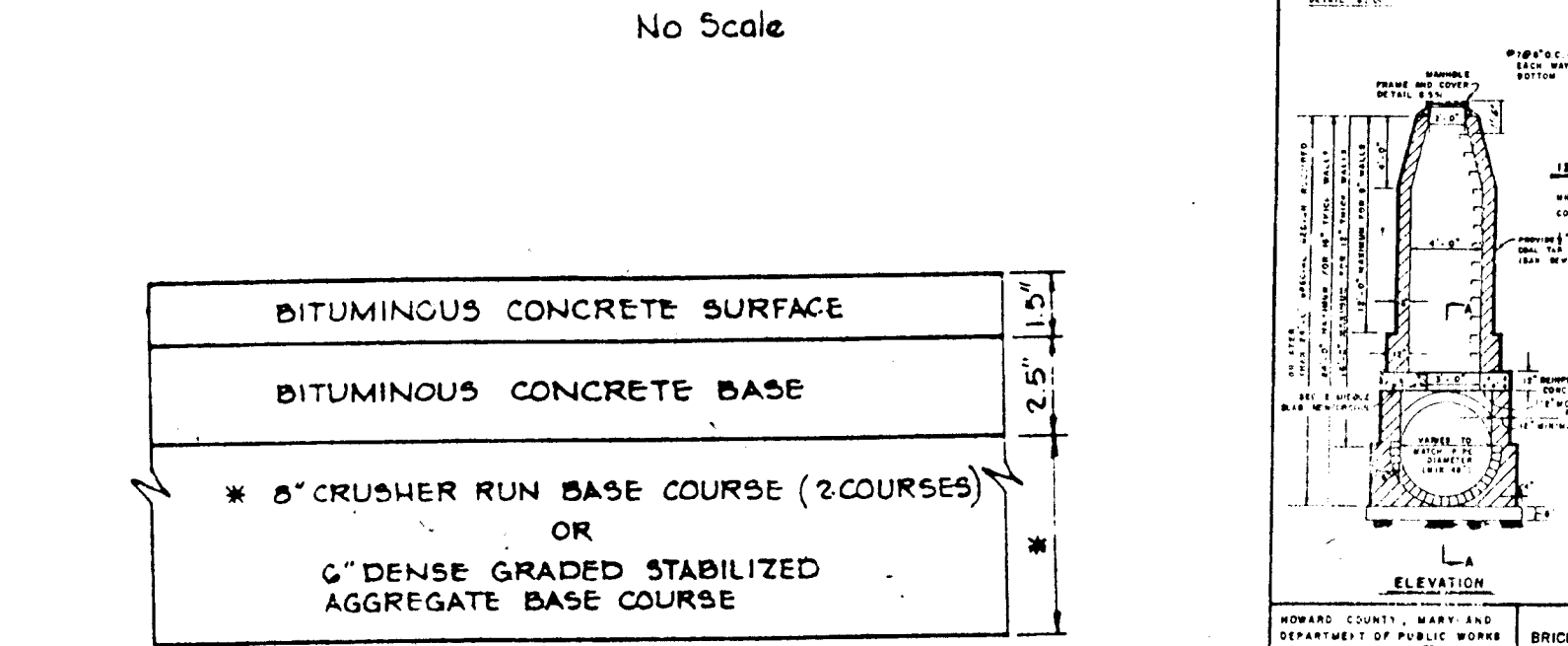
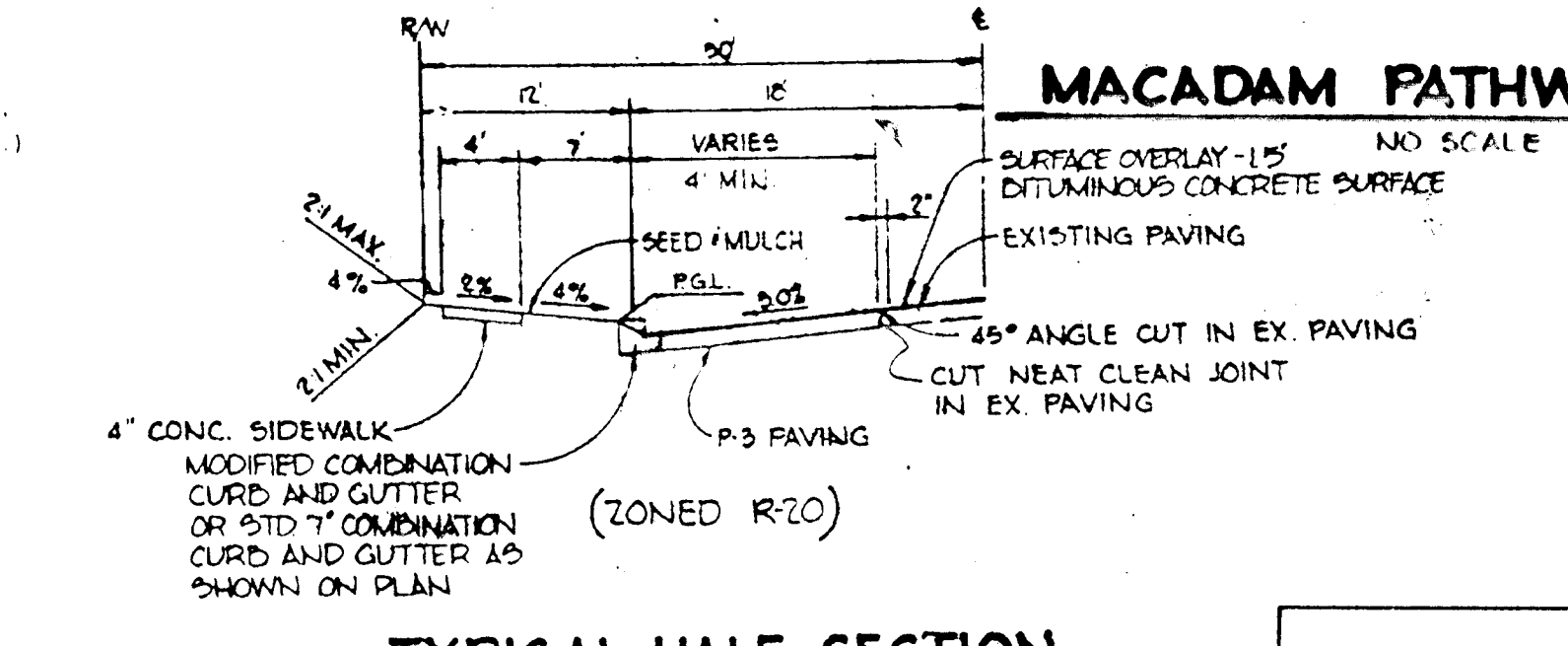
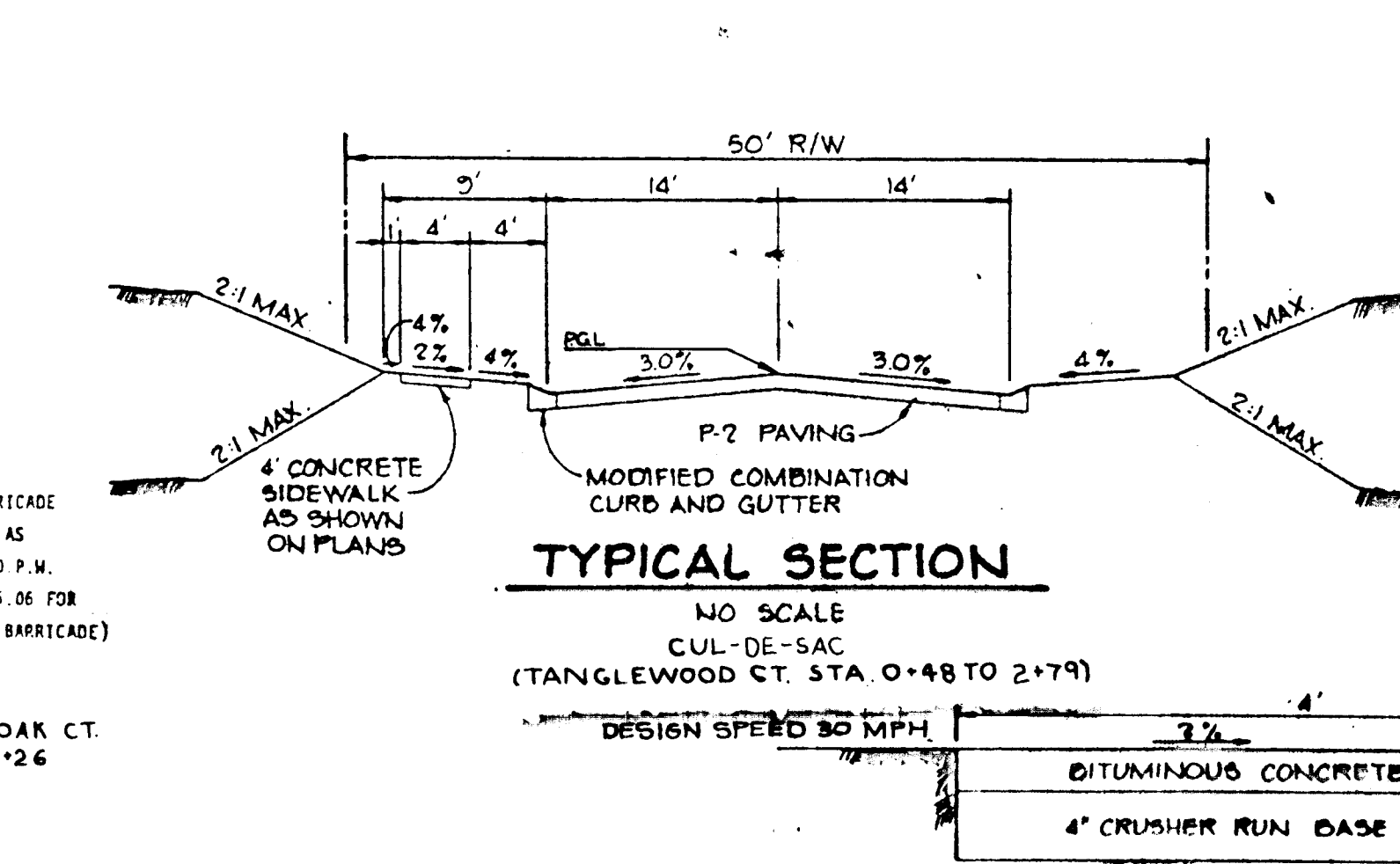
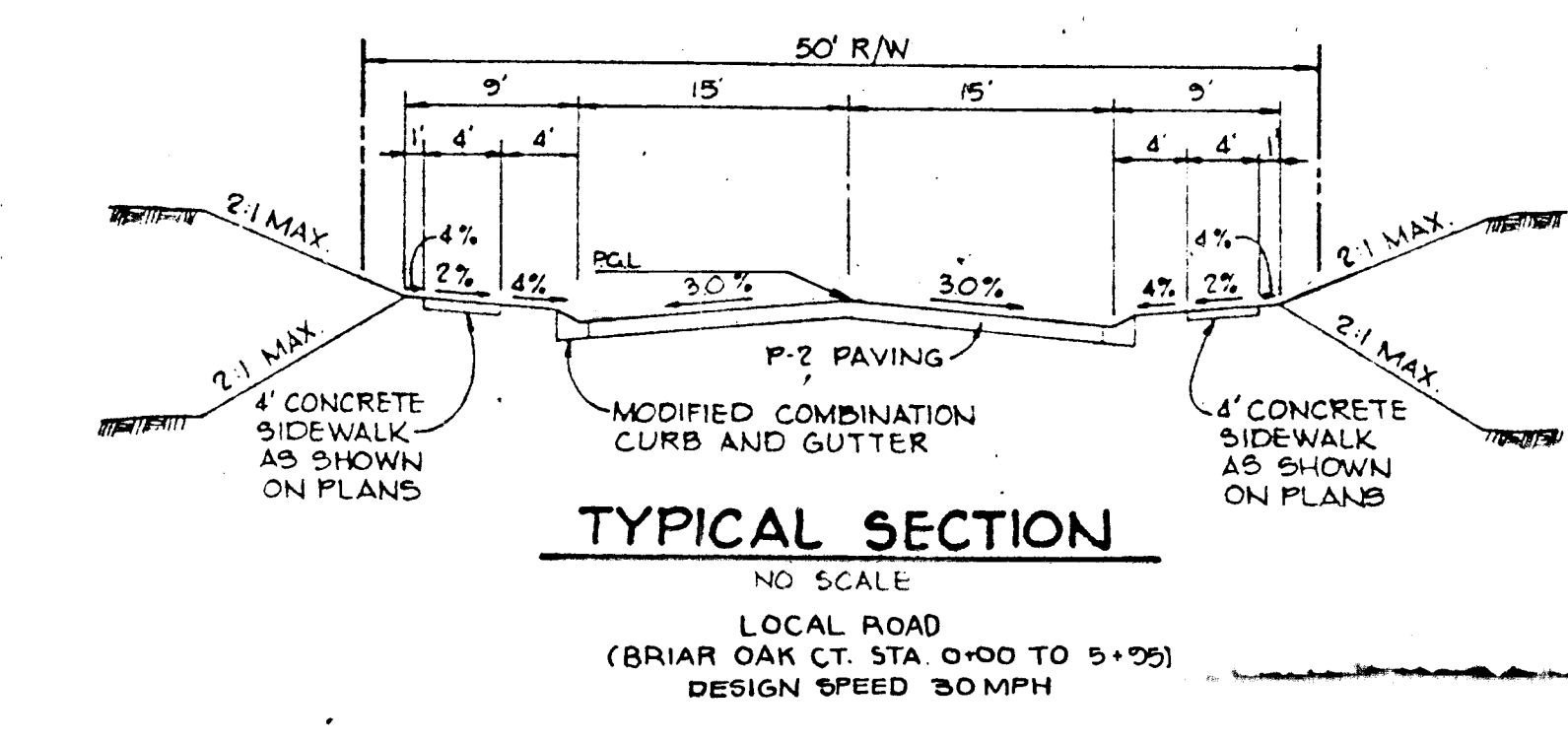
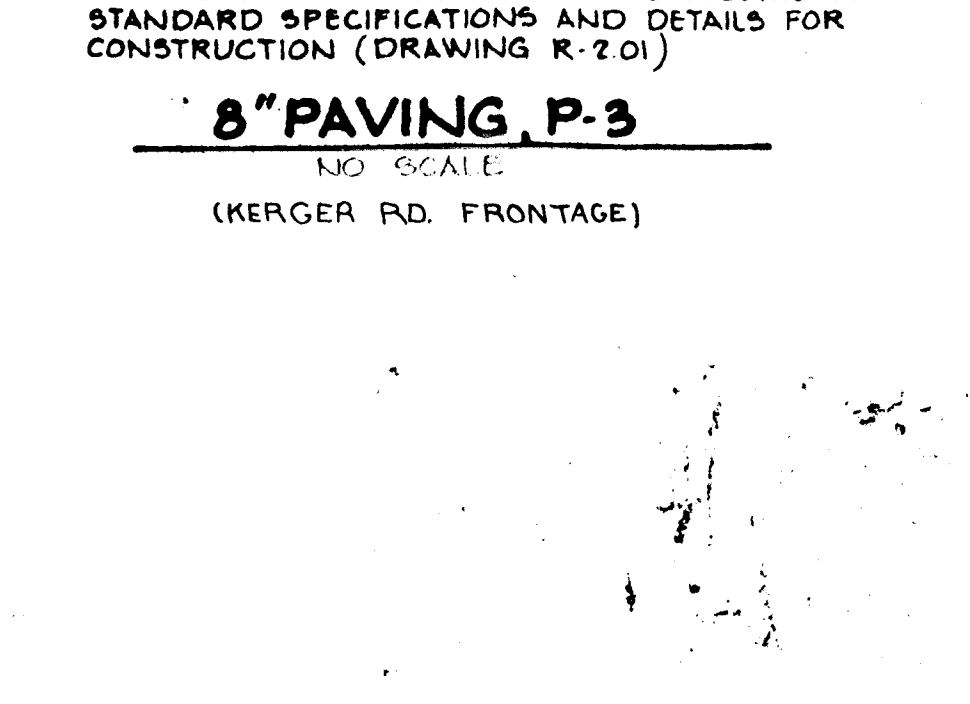
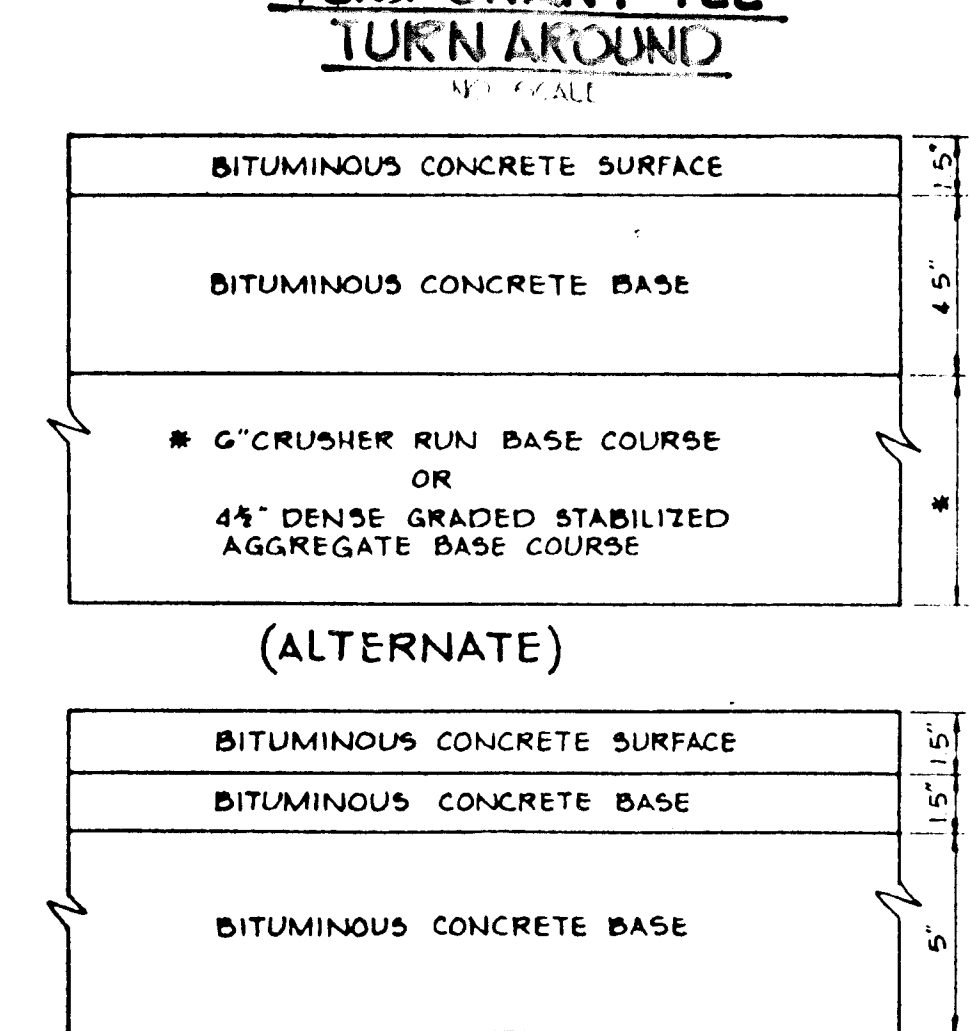
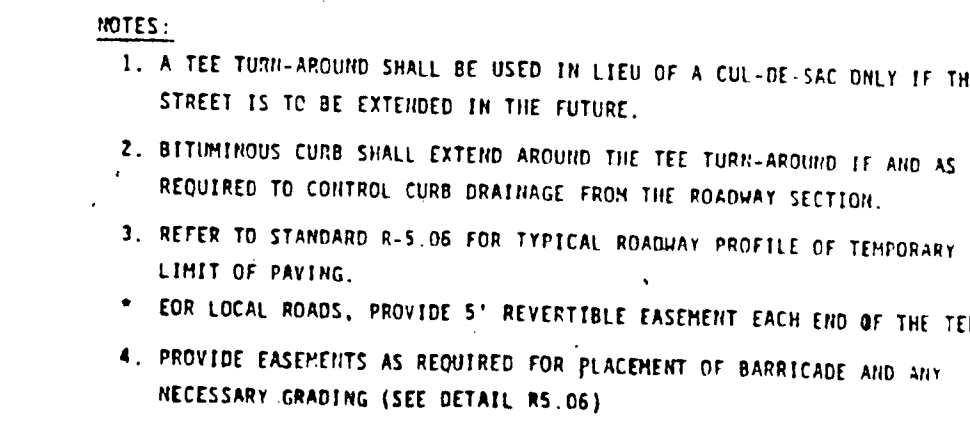
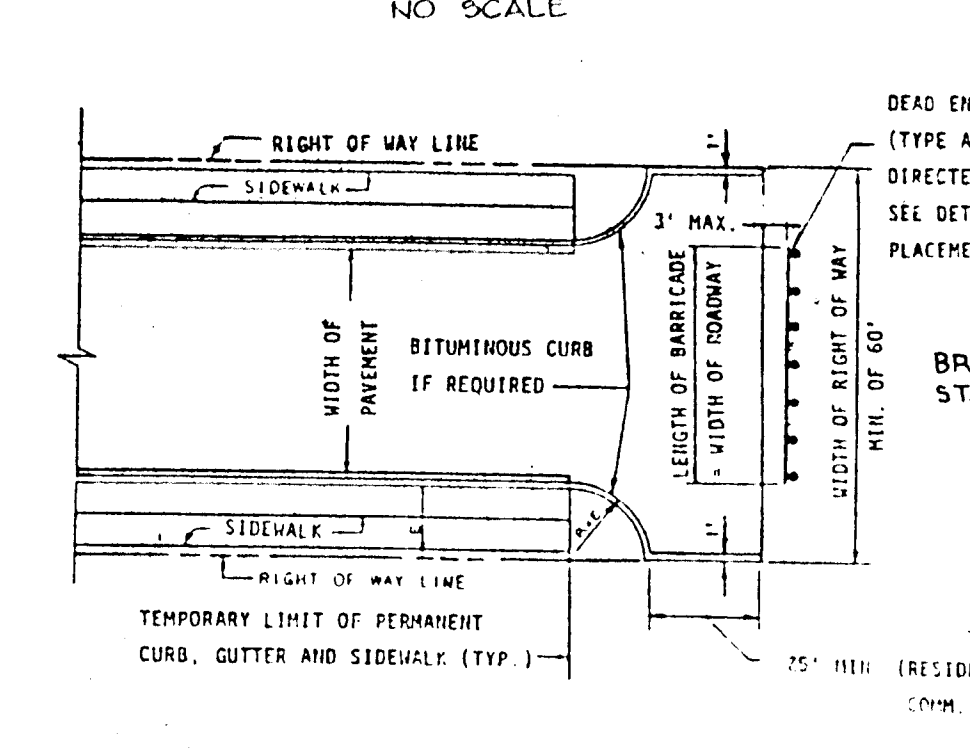
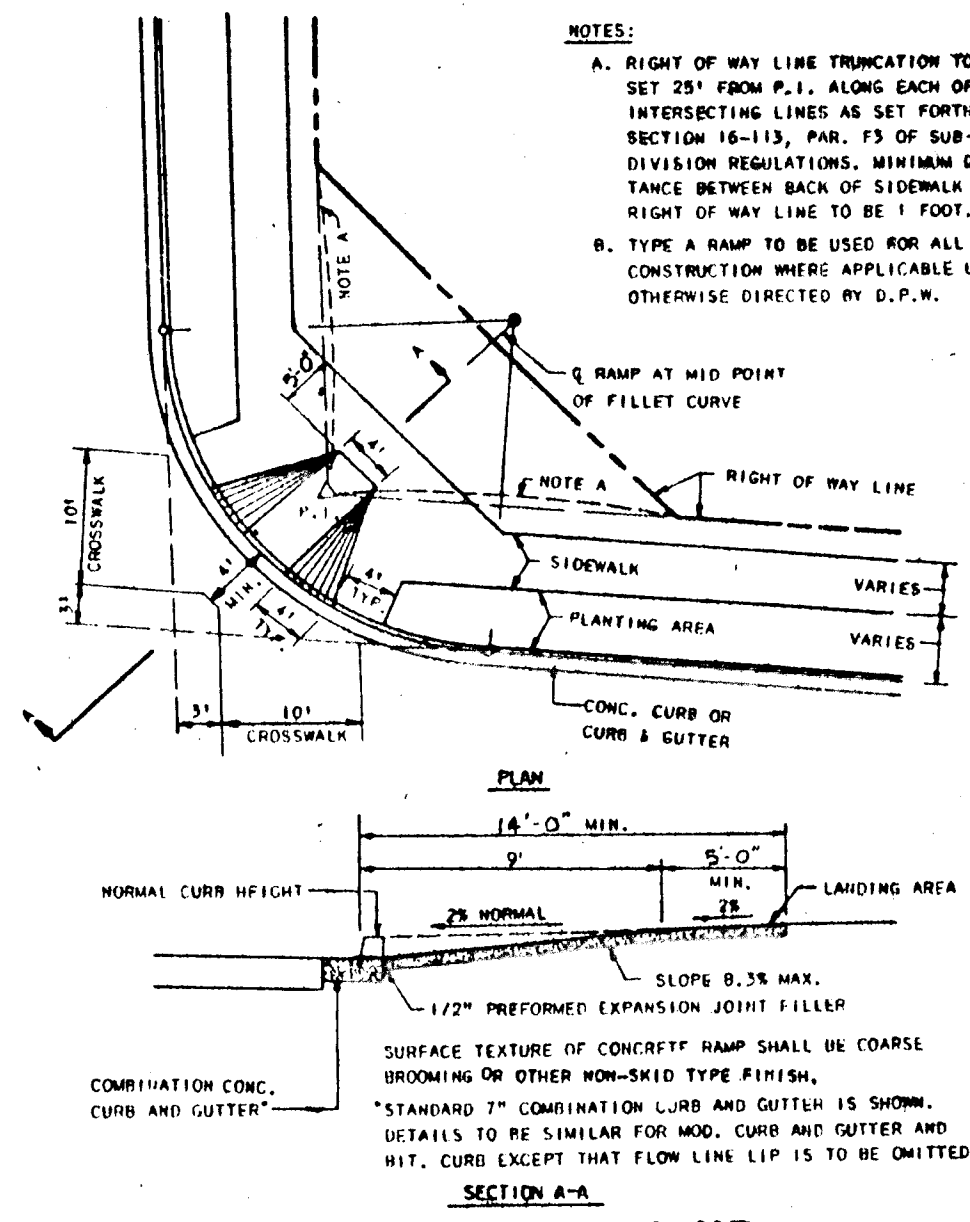
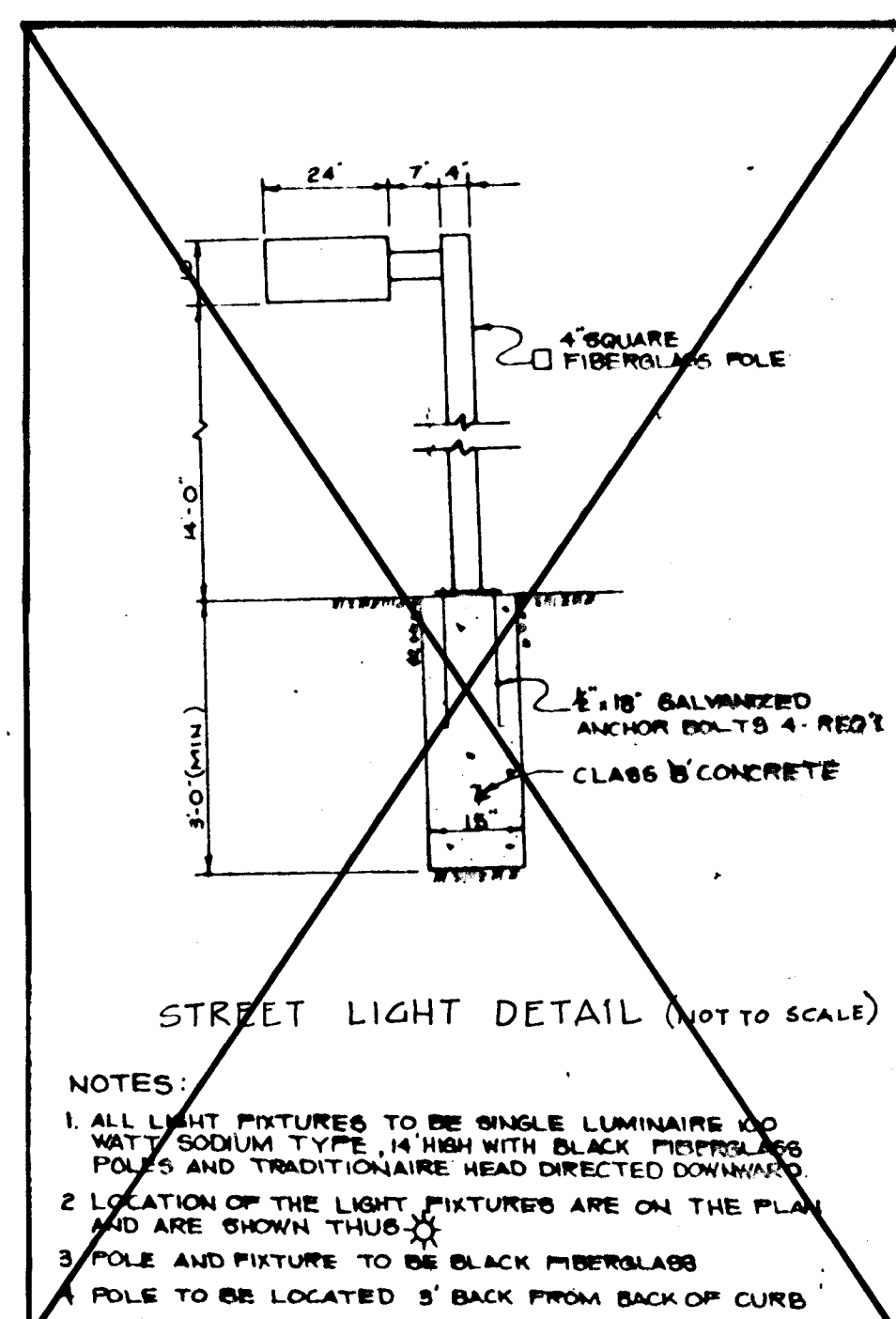
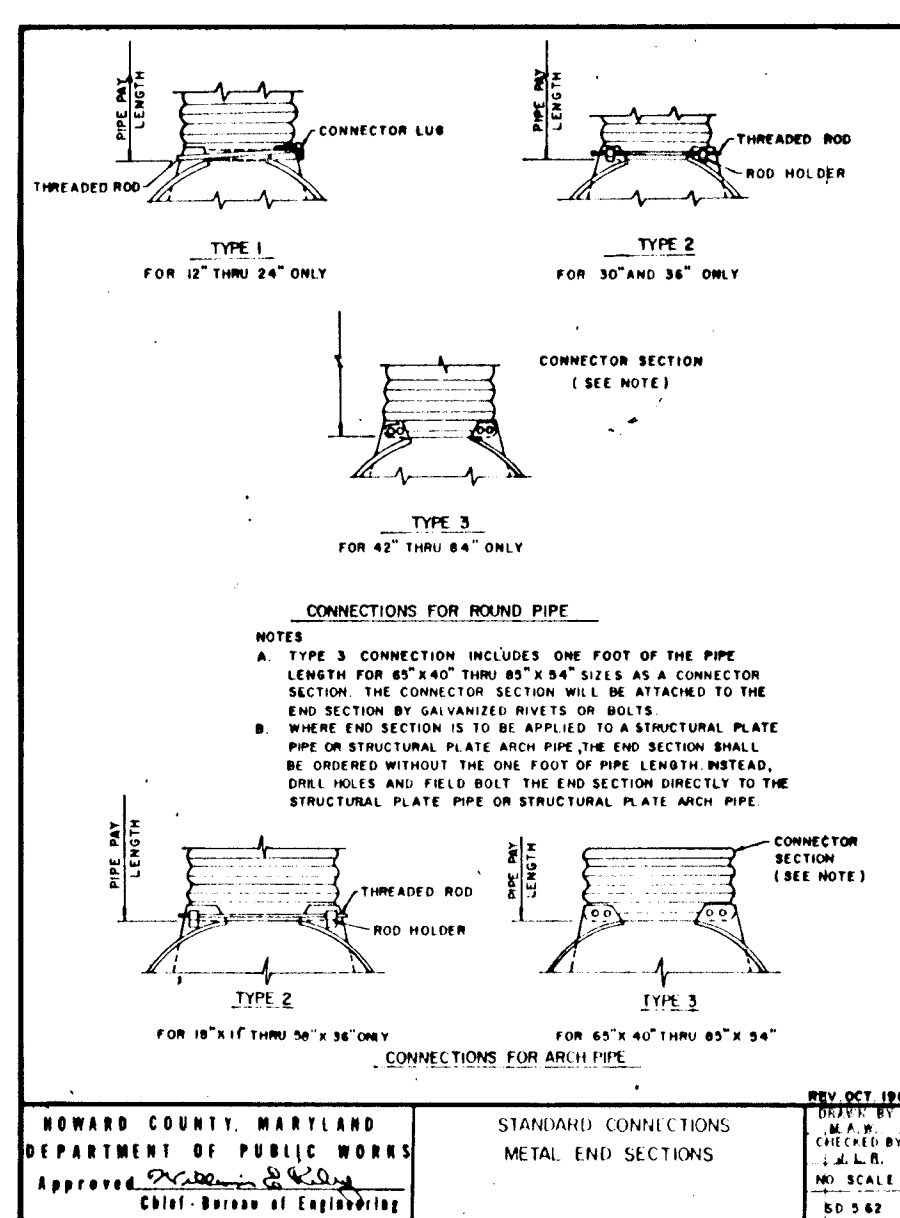
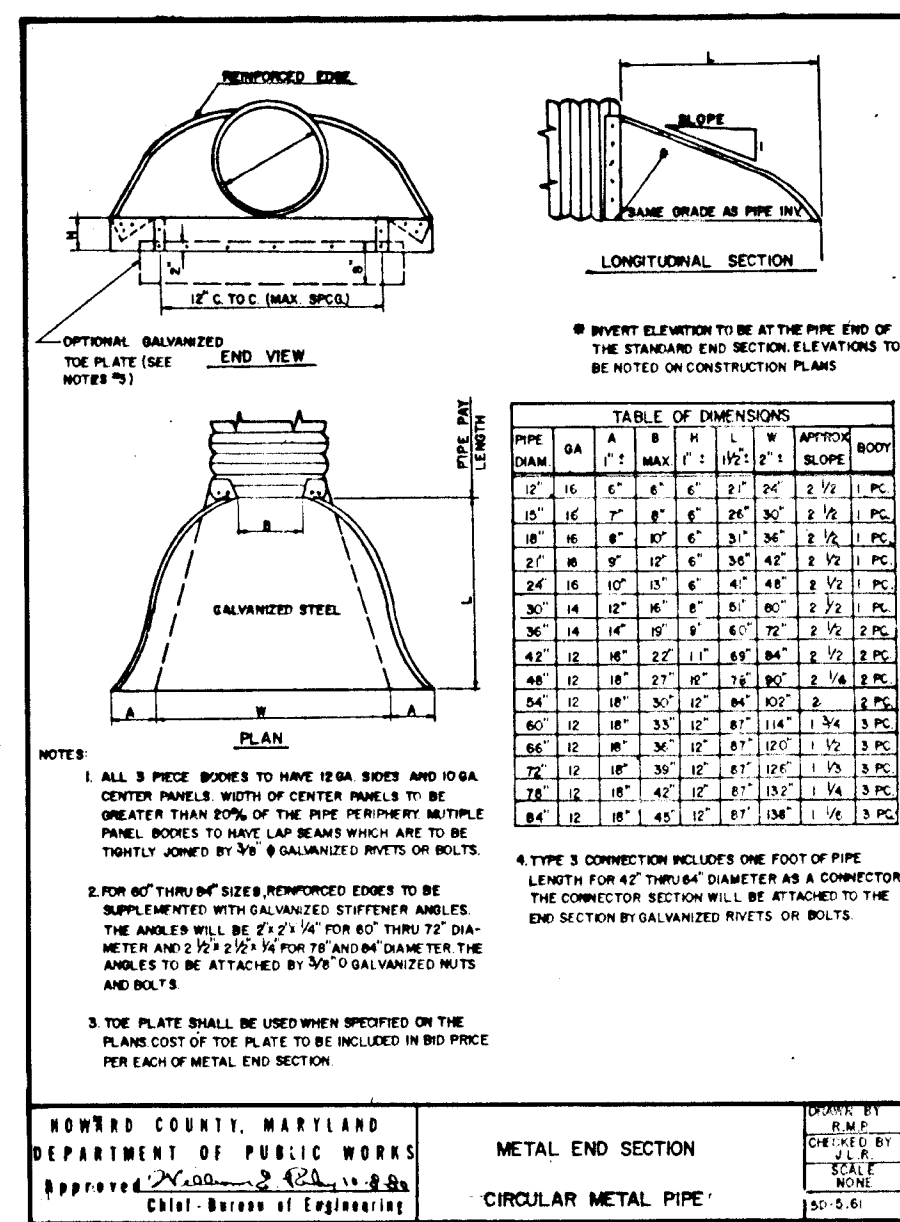
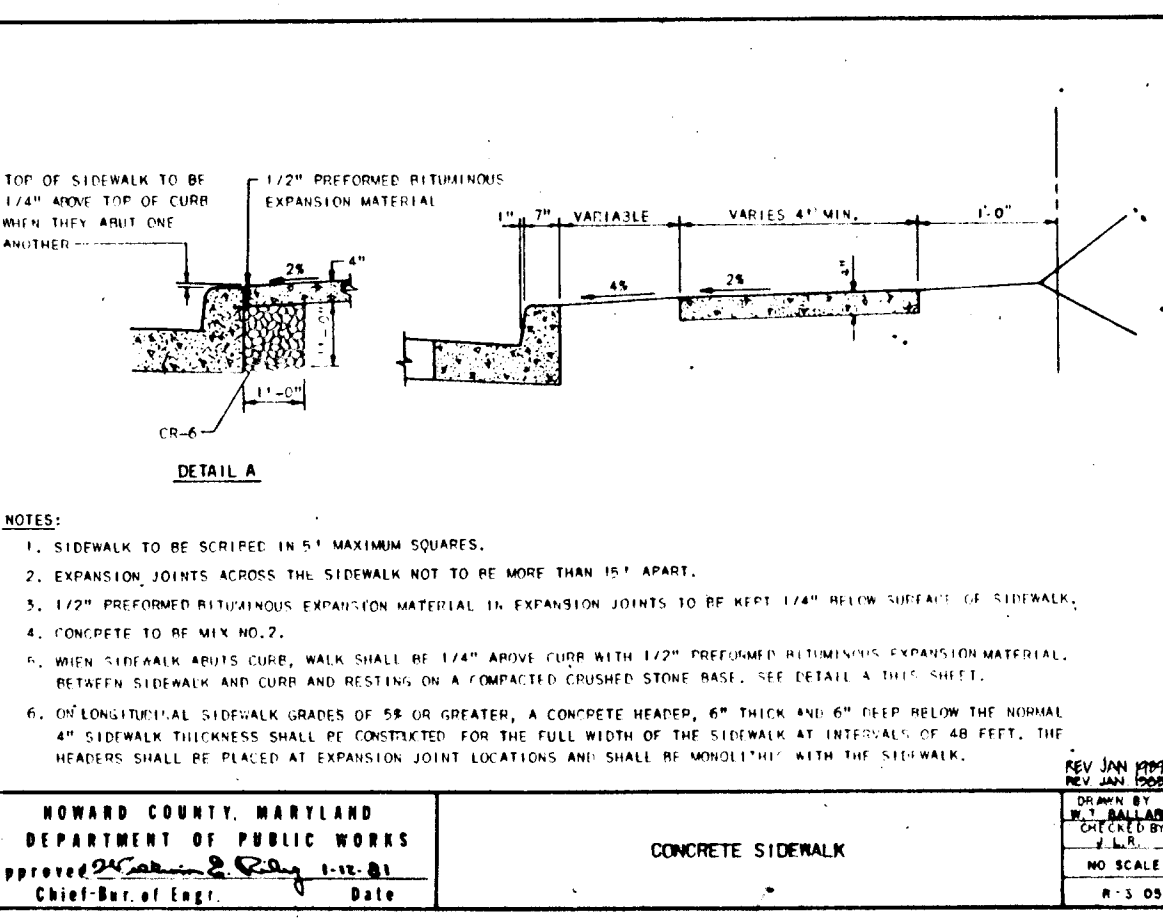
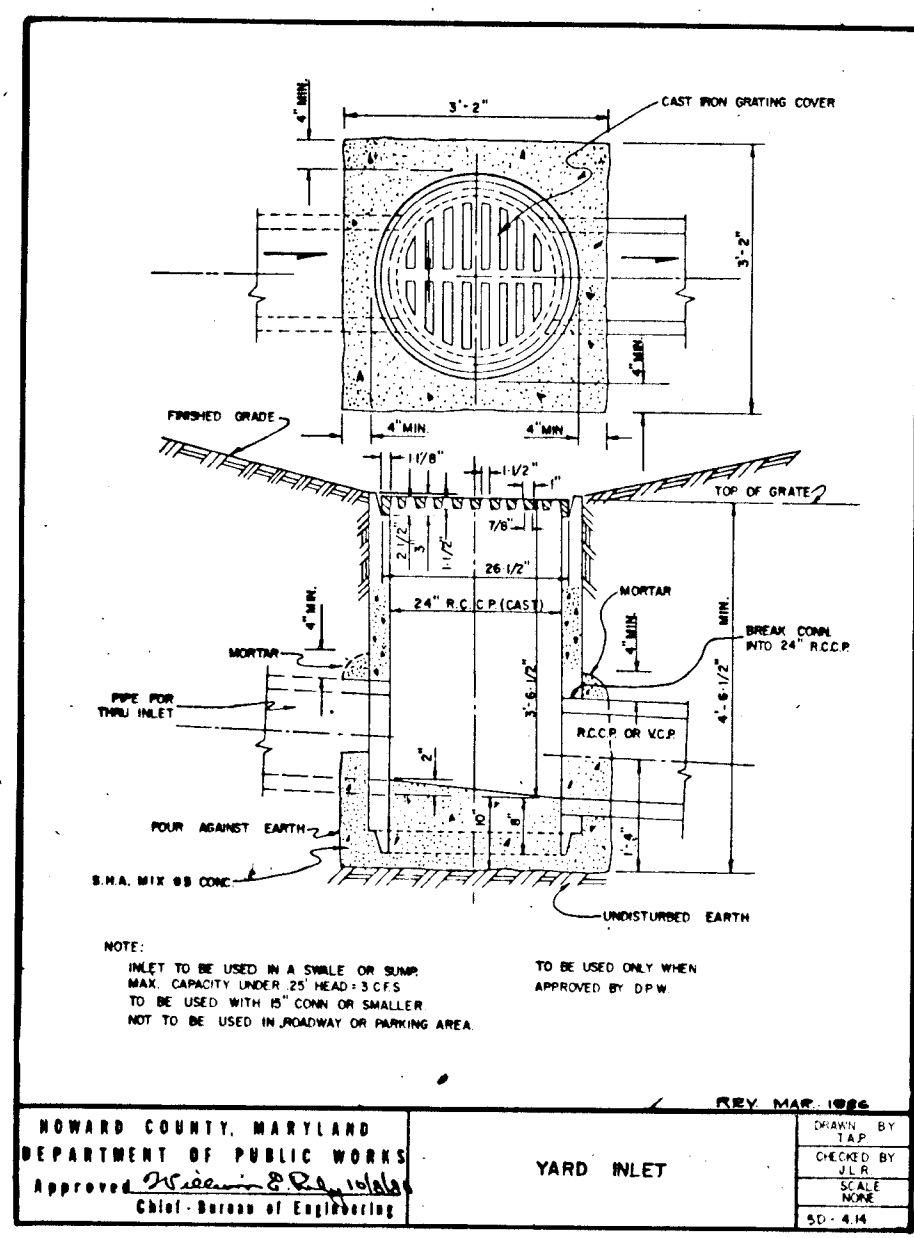
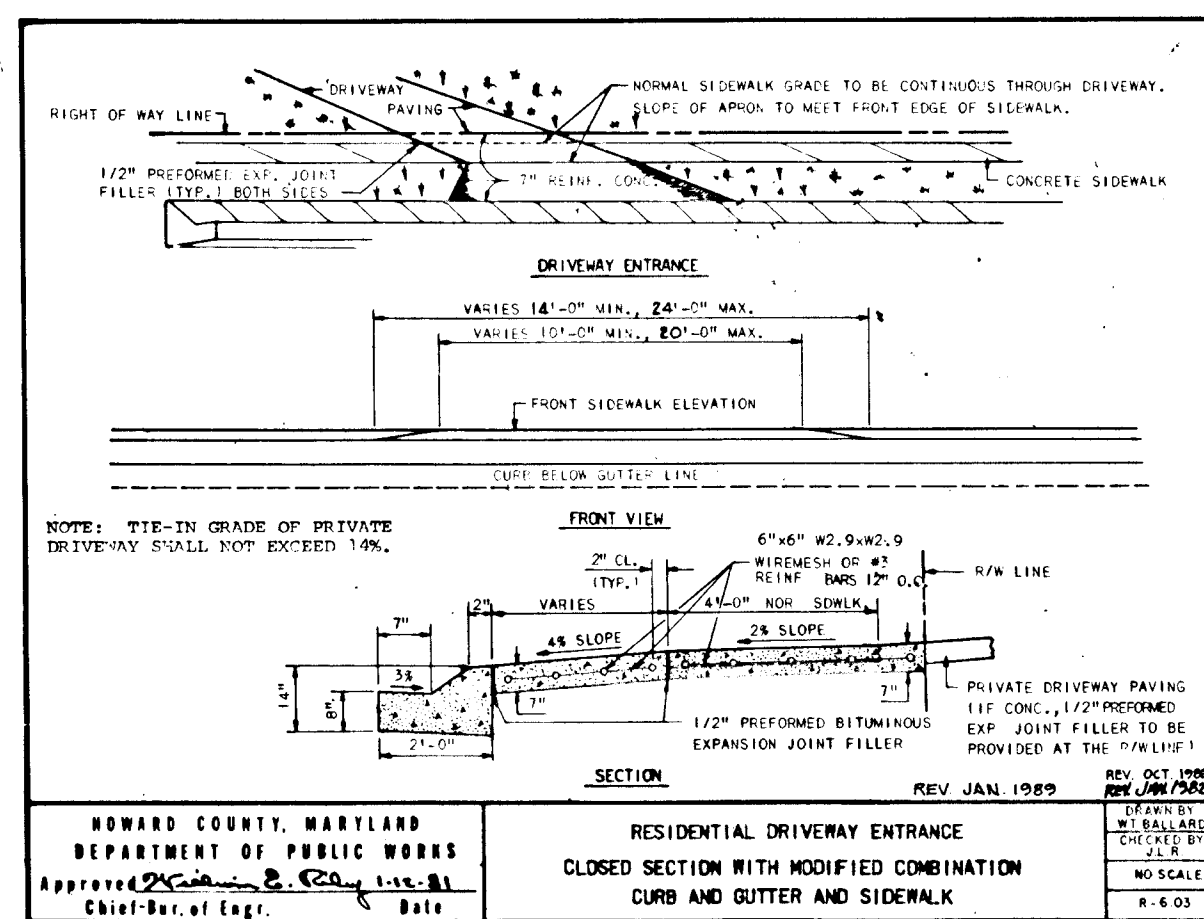
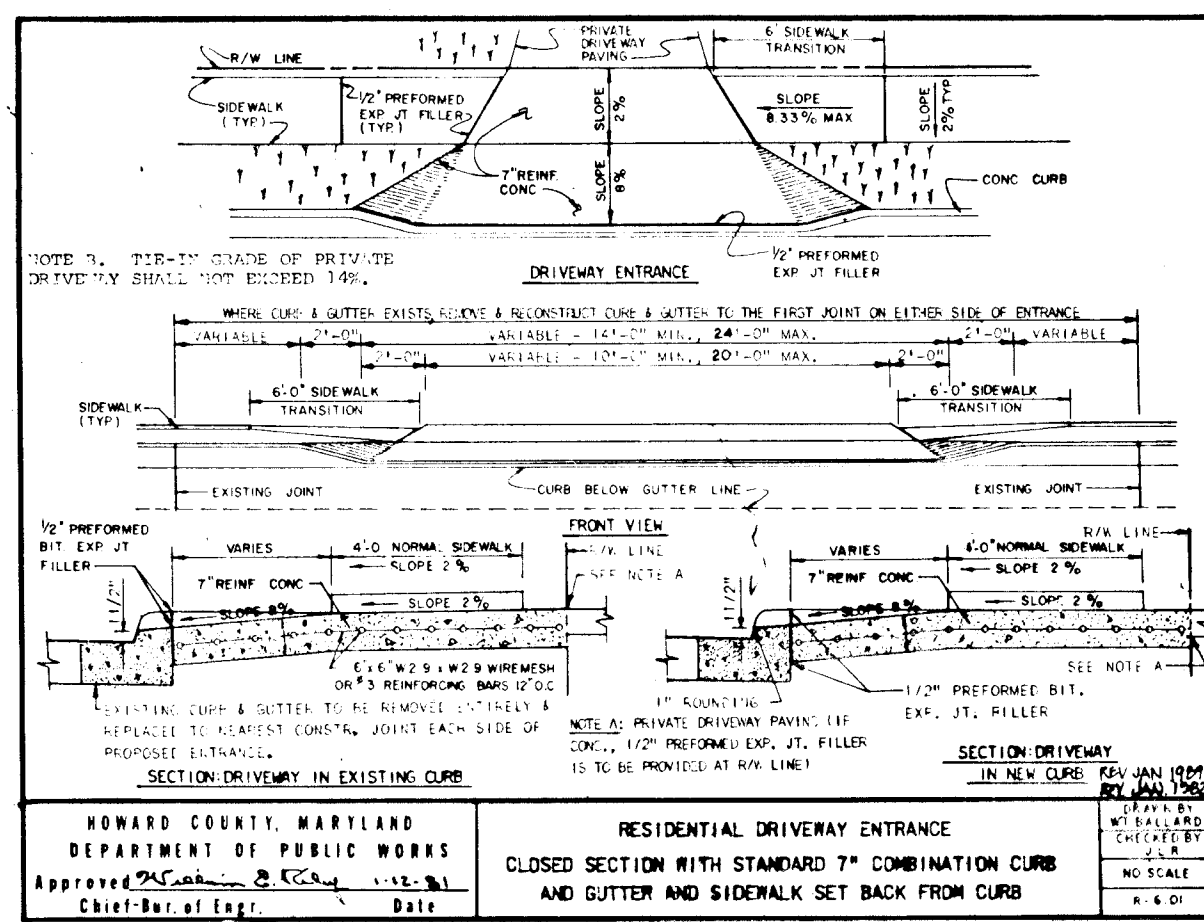
NOTE: FOR SEQUENCE OF CONSTRUCTIONS, SEE SHEET 14 OF 19

SEDIMENT CONTROL SHEET

Drawing	DATE	REVISIONS	SHEET	DATE	JOB NUMBER
Check RA/DW			18 OF 19		
Design					
Check					

SCALE AS SHOWN

F-92-232



APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT-DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT-DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT-DATE

AMERICAN ENGINEERING, INC.
671A MAIN STREET LAUREL, MARYLAND 20707
301-953-1221 301-880-3039

OWNER/
Charles & Vivian McCartee
5365 Kerger Road
Ellicott City, Md. 21043

PROJECT NAME
SUNNY FIELD ESTATES
Section 1
Lots 1-20

DEVELOPER
LANDCON, INC. %
KORFN
DEVELOPMENT COMPANY, INC.
8508 Columbia Pike Suite 200 Columbia, MD 21045
301-740-1010

TITLE
DETAIL SHEET
Final Plan
WP-89-184, S-89-06, P-89-52, P-89-232

DATE
4-14-89 PROJECT PS88101

D&S. DW. DRW. RT. CHK. RA/OW SCALE AS SHOWN DRAWING 19 OF 19

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