

STONE OUTLET SEDIMENT TRAP	# 3	# 4	# 5	# 6
DRAINAGE AREA				
EXISTING	0.10 AC	0.14 AC	0.05 AC	0.04 AC
PROPOSED	0.20 AC	0.34 AC	0.10 AC	0.13 AC
VOLUME				
REQUIRED	(0.10) x 13.40' = 1.34 CY	(0.14) x 22.70' = 3.18 CY	(0.05) x 12.70' = 0.64 CY	(0.04) x 8.710' = 0.35 CY
PROVIDED	15.7 CY	25.18 CY	19.70 CY	11.85 CY
BOTTOM DIMENSIONS	10' x 10'	14' x 14'	10' x 10'	8' x 8'
BOTTOM ELEVATIONS	402.0	404.0	502.00	502.00
CREST ELEVATIONS	405.0	407.0	505.00	505.00
CLEANOUT ELEVATIONS	402.0	405.0	503.00	503.00
OUTLET LENGTH	(2' x 4' = 8.0) USE 3'	(3' x 4' = 12.0) USE 3'	(3' x 4' = 12.0) USE 3'	(3' x 4' = 12.0) USE 3'
SIDE SLOPES	2:1	2:1	2:1	2:1
TOP OF EMBANKMENT	406.50	408.50	506.50	506.50
DEPTH	2.0'	2.0'	2.0'	2.0'

SHANBERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITES 106 & 107
 ELLICOTT CITY, MD 21043
 (410) 461-7063

ROAD AS-BUILT
 DATE: 7/10/88
 BY: SCOTT SHANBERGER, PRESIDENT
 PROFESSIONAL LAND SURVEYOR #10843



HORIZONTAL & VERTICAL CONTROL:

- 1) HOWARD COUNTY Δ POINT # 3737001, CONC. MON., ELEV: 634.523'
 N 544,034.478 E 821468.361
- 2) HOWARD COUNTY Δ POINT # 3637001, CONC. MON. ELEV: 612.479
 N 541868.316 E 821311.065

NOTE: PLACE DIRT ON UP HILL SIDE OF TRENCH.

VICINITY MAP
 SCALE: 1" = 2000'

STONE OUTLET SEDIMENT TRAP #1

DRAINAGE AREA	
EXISTING	= 0.46 AC ±
PROPOSED	= 0.82 AC ±
VOLUME	
REQUIRED (0.82 x 67) =	54.94 CY
PROVIDED	= 57.77 CY
BOTTOM DIMENSIONS	= 16' x 16'
BOTTOM ELEVATION	= 455.00
CREST ELEVATION	= 458.00
CLEANOUT ELEVATION	= 455.00
OUTLET LENGTH = (0.82 x 4 = 3.28')	USE 3'
SIDE SLOPES	= 2:1
TOP OF EMBANKMENT ELEVATION =	460.50
d =	3.0'

STONE OUTLET SEDIMENT TRAP #2

DRAINAGE AREAS	
EXISTING	= 1.05 AC ±
PROPOSED	= 3.16 AC ±
VOLUME	
REQUIRED (3.16 x 67) =	211.72 CY
PROVIDED	= 212.00 CY
BOTTOM DIMENSIONS	= 66' x 20'
BOTTOM ELEVATION	= 450.00
CREST ELEVATION	= 463.00
CLEANOUT ELEVATION	= 462.50
OUTLET LENGTH = (3.16 x 4 = 12.64')	USE 13.0'
SIDE SLOPES	= 2:1
TOP OF EMBANKMENT ELEVATION =	464.50
d =	3.0'

LEGEND

- EXISTING CONTOURS 170
- PROPOSED CONTOURS 170
- EXISTING DRAINAGE AREA
- PROPOSED DRAINAGE AREA
- INLET PROTECTION
- DIKE
- SILT FENCE
- LIMIT OF DISTURBANCE
- MOUNTABLE BERM
- DIVERSION SWALE

OWNER / DEVELOPER

SPRING HILL ASSOCIATES
 RUTH H. WESTON
 1427 MID RITE SQ
 SYKESVILLE, MD 21784
 (301) 442-2703

KOREN DEVELOPMENT CORP., INC.
 8800 CENTRE PARK DRIVE
 COLUMBIA, MD 21043
 (301) 740-1010

SEDIMENT CONTROL DRAINAGE AREA MAP
 SCALE: 1" = 200'

DEVELOPER'S CERTIFICATION

I 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 THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Scott Sloman 10/26/88

ENGINEER'S CERTIFICATE

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

James A. Madley 11/14/88

TITLE: GRADING & SEDIMENT CONTROL PLAN
PROJECT: SECTION 2, AREA 2
MEADOWOOD

O.P. & Z. FILE NOS.: 10-20-84-04-00-0-07-15 P.00-20
 TAX MAP: 20, BLOCK: 7, PARCEL: 150 150
 ELECTION DISTRICT: HOWARD COUNTY, MD.

DES. BY: R.L.K. DRAWN BY: C.A.D. CHKD. BY: T.H.M. DATE: 02/10/88

CIVIL ENGINEERS & SITE PLANNERS SURVEYORS
DST & A Inc.
 11 WARREN ROAD
 BALTIMORE, MD. 21208
 (301) 484-4100
 SCALE: 1" = 50' SHEET 1 OF 3

APPROVED: OFFICE OF PLANNING AND ZONING.
 Frank S. D'Amico 7/27/84
 Chief, Division of Community Planning and Land Development

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 John W. Johnson 7/24/84
 SIGNATURE DATE
 U.S. SOIL CONSERVATION SERVICE

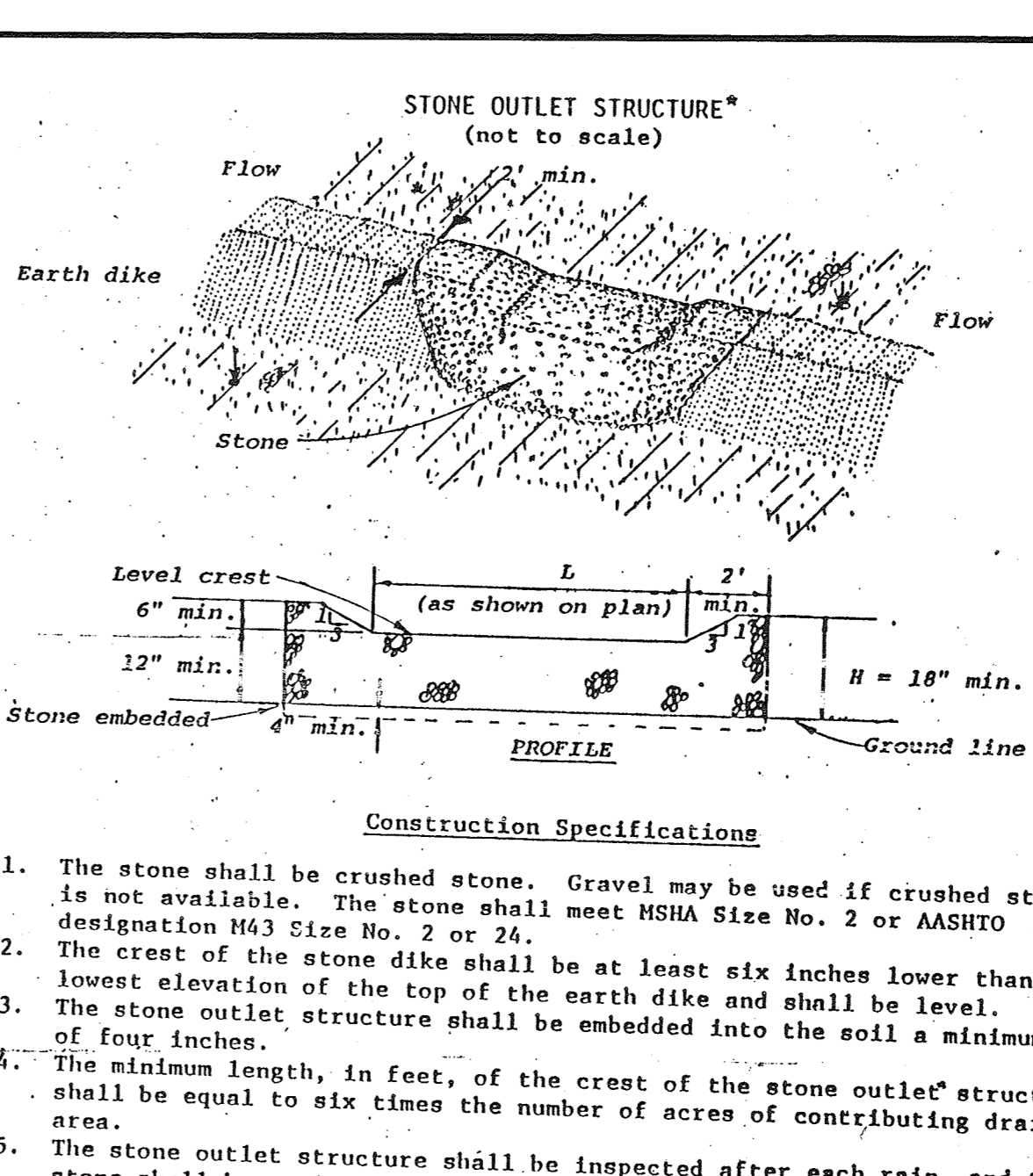
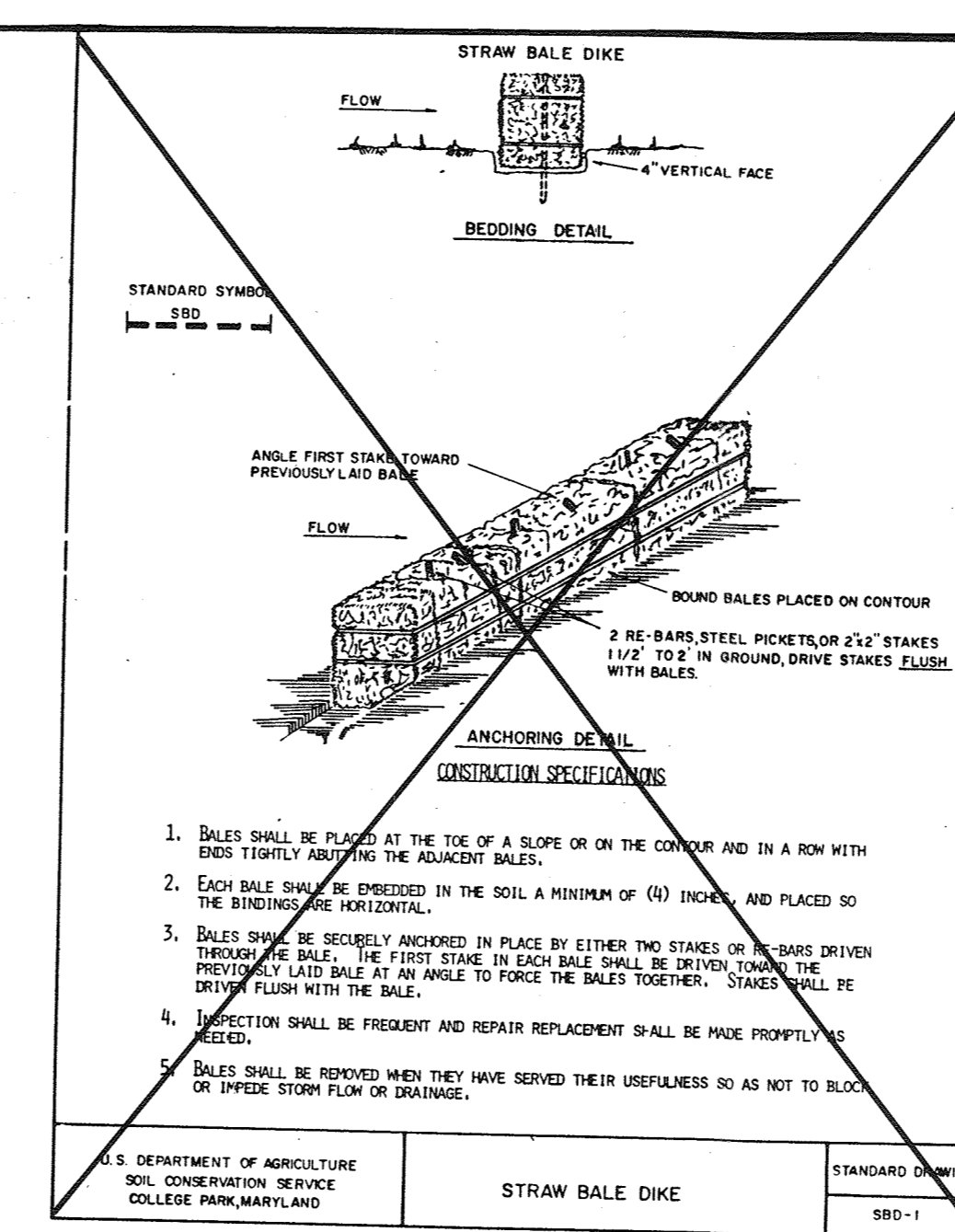
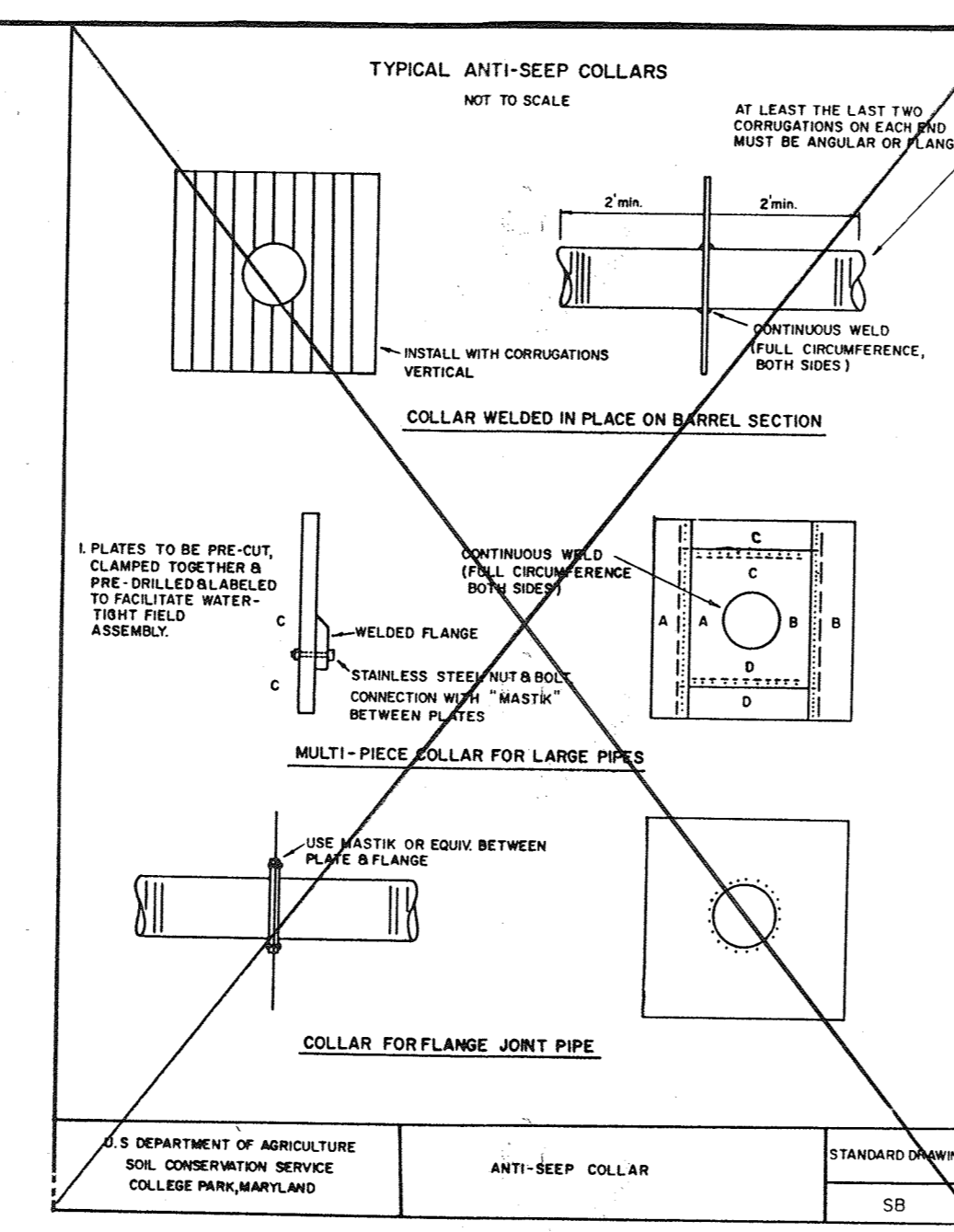
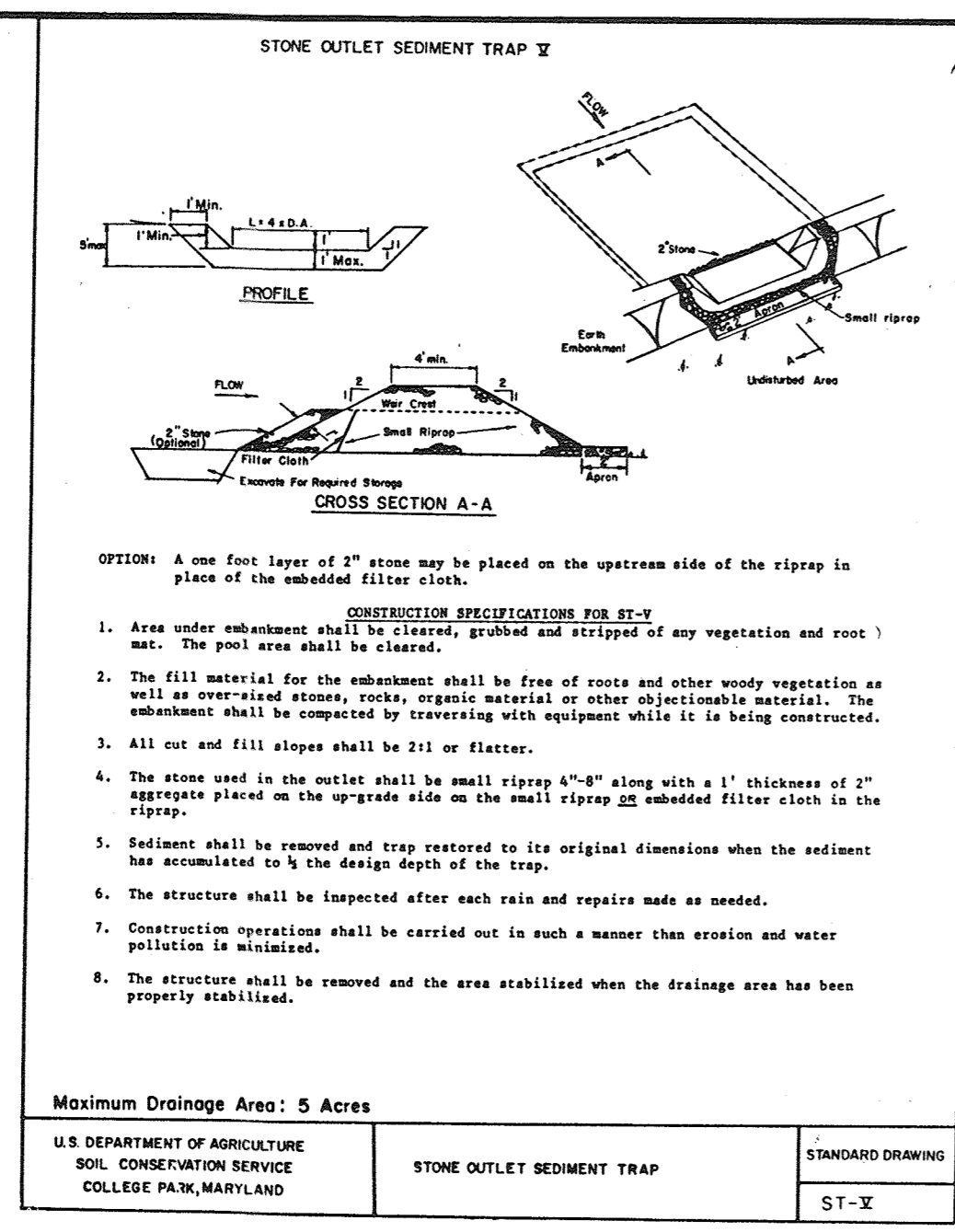
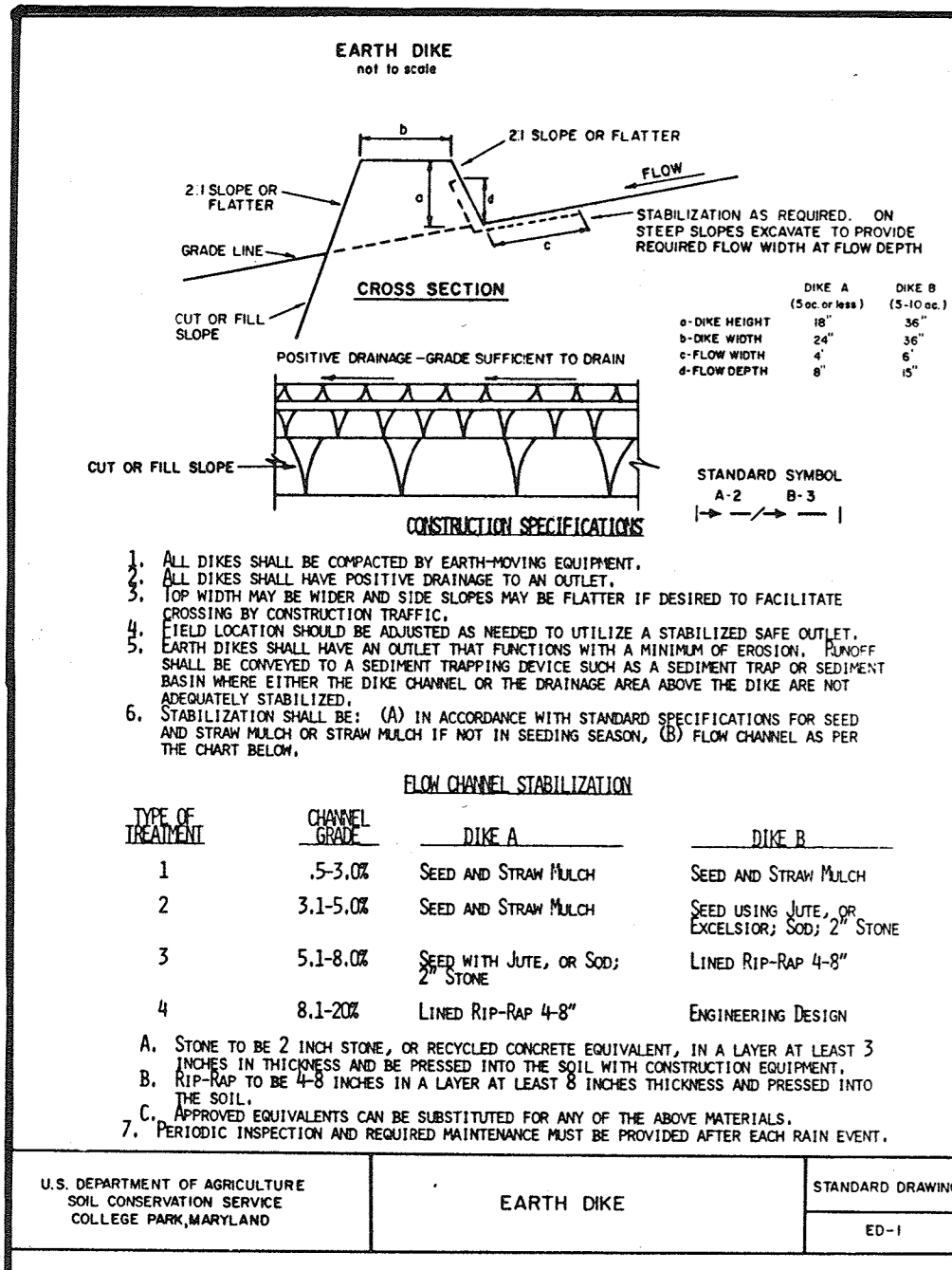
This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

APPROVED:
 Stephen L. Archer 7/24/87
 Howard S.C.D. DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Gregory E. R... 7/15/87
 DATE
 Dr. W. W. Nebeaux 6/23/89
 CHIEF BUREAU OF HIGHWAYS
 DATE
 DATE
 CHIEF, LAND DEVELOPMENT DIV. DATE

1318

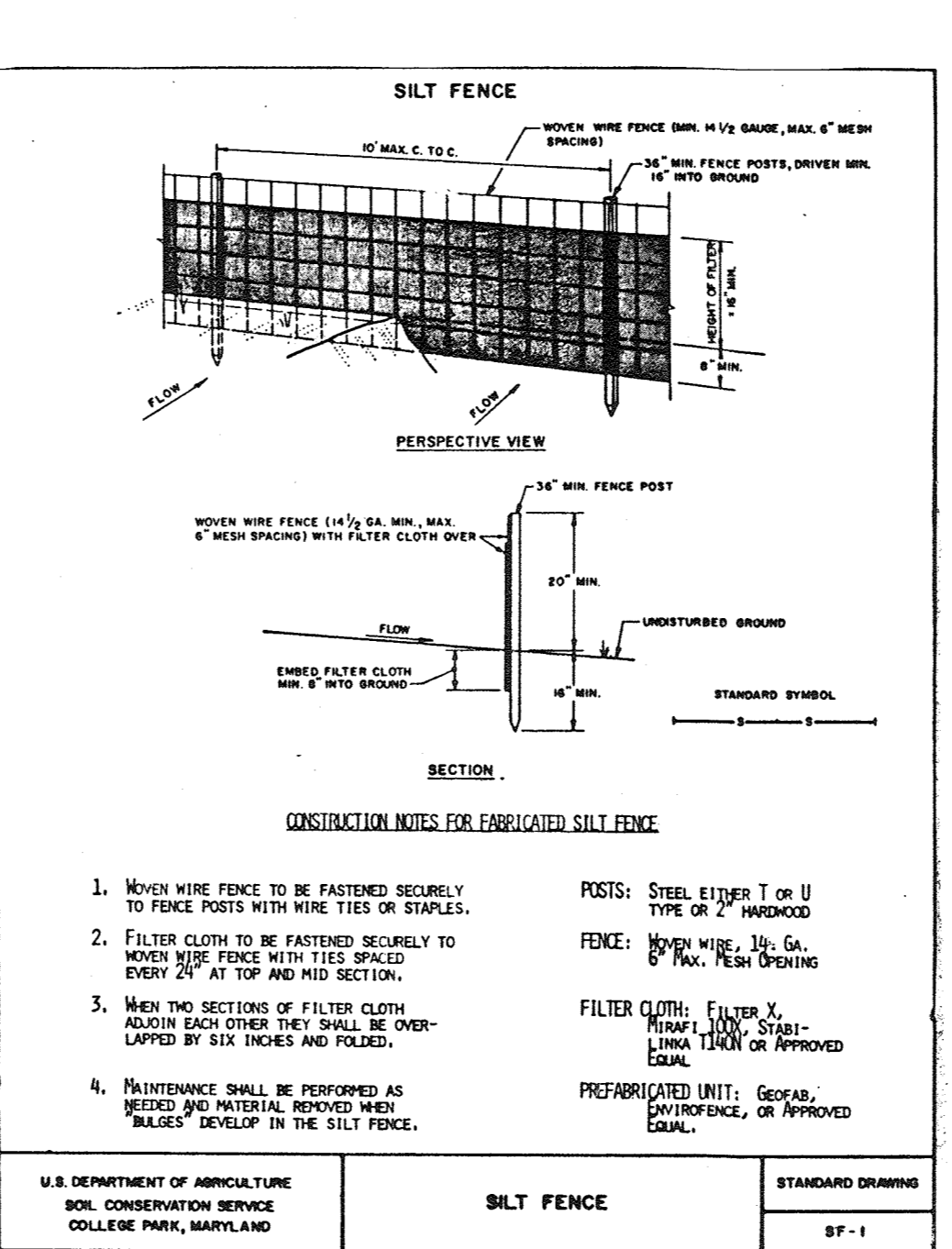
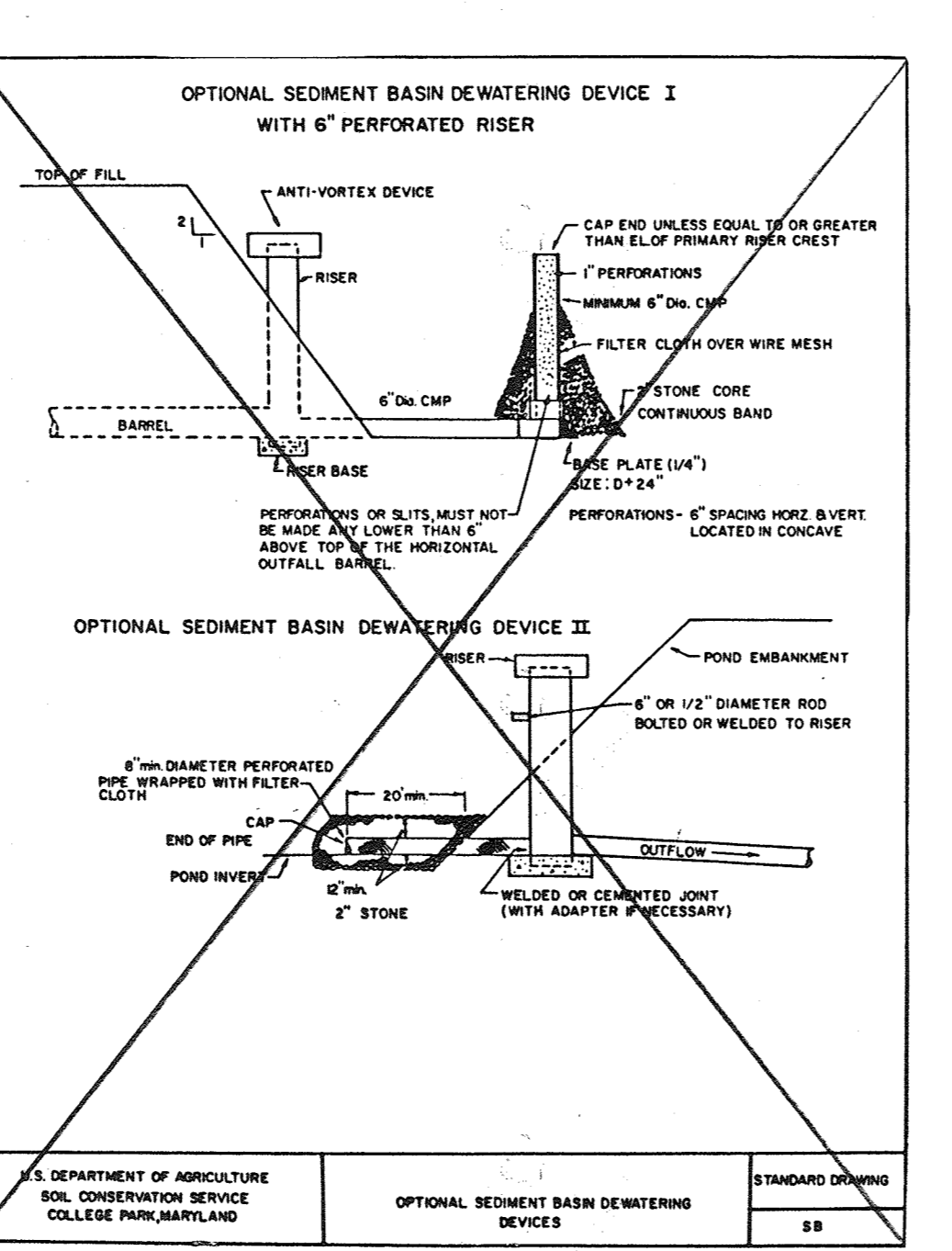
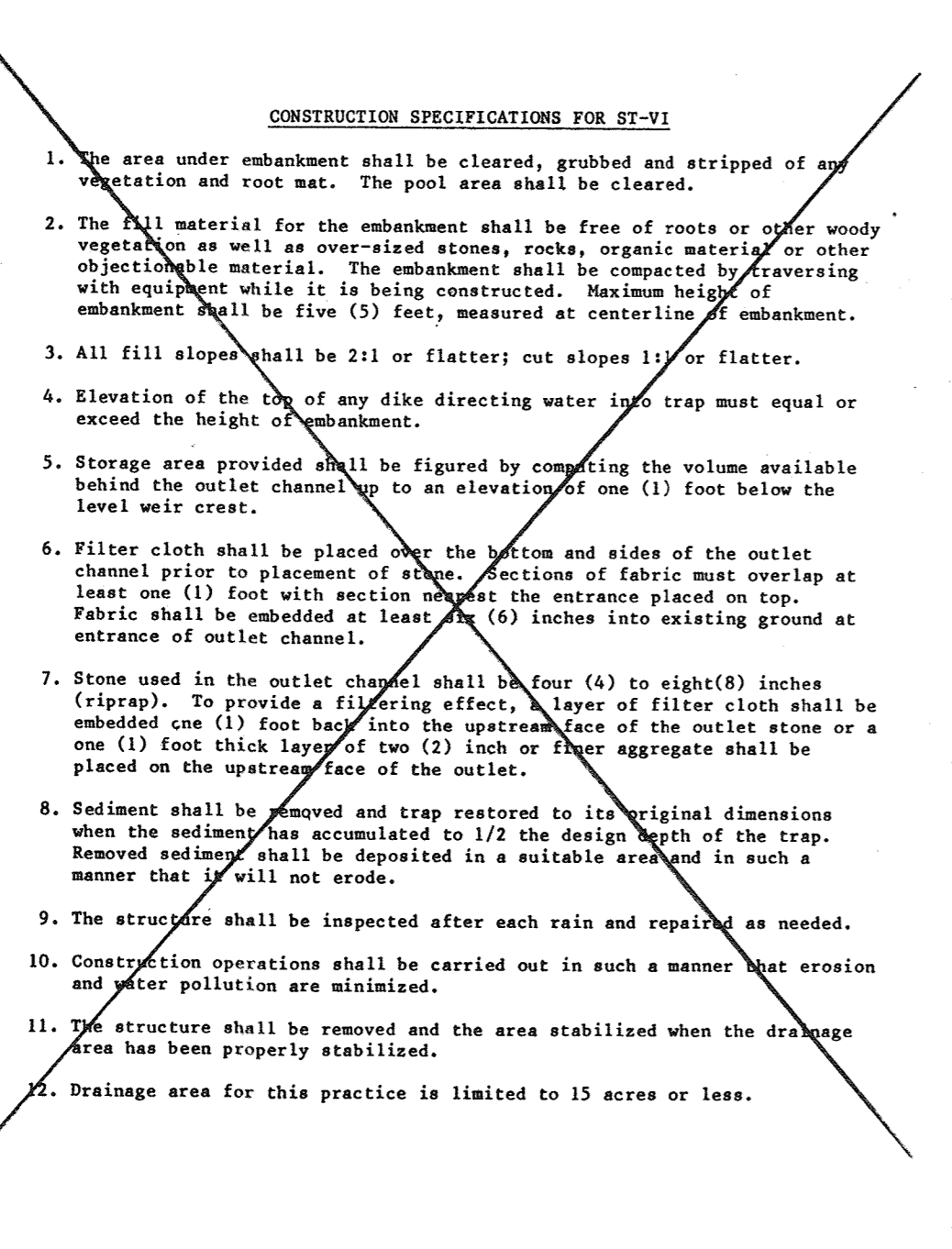
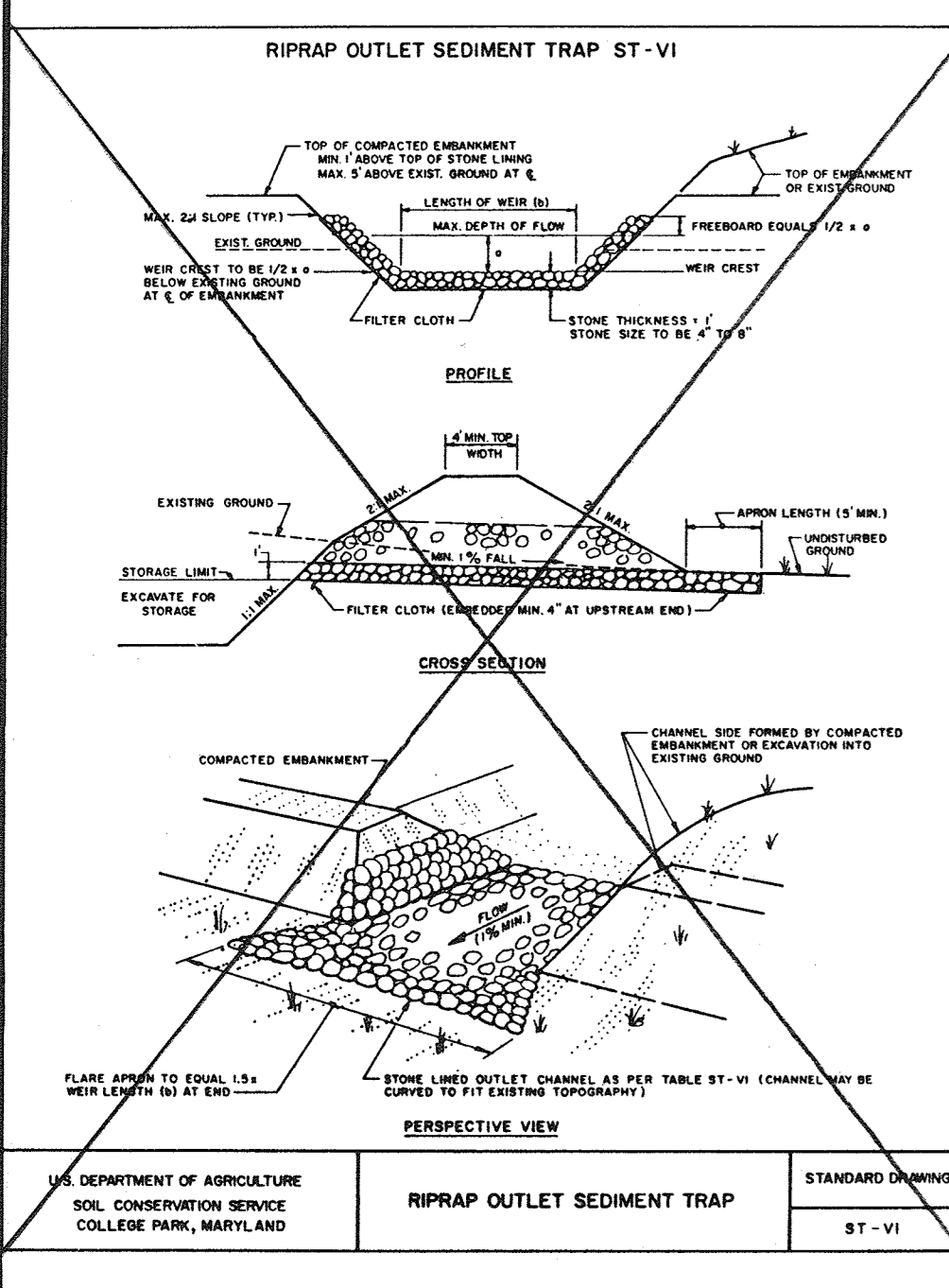


SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
- All vegetative and structural practices are to be installed according to the provisions of this Plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures; b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51), sod (Sec. 52), temporary seedings (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seedings dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	59.15	Acres
Area Disturbed	4.60	Acres
Area to be roofed or paved	1.12	Acres
Area to be vegetatively stabilized	5.41	Acres
Total C.T.	50.72	Cu. Yds.
Total Fill	26.25	Cu. Yds.

 Offsite waste/borrow location:
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.



PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by hand digging or other acceptable means before seeding; if not possible, use 1/2 inch of soil test recommendations, use one of the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil at time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil.
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the periods March 1 through April 30, and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs per acre (1.4 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 through February 28, protect site by: option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the Spring, option (2) use sod, option (3) seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

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

TEMPORARY SEEDING NOTES

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

Seedbed Preparation: Loosen upper three inches of soil by hand digging or other acceptable means before seeding; if not possible, use 1/2 inch of soil test recommendations. Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2 1/2 bushels per acre of annual ryegrass (12 lbs/1000 sq. ft.). For the period May 1 through August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the Spring, or use sod.

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

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

APPROVED: OFFICE OF PLANNING AND ZONING.

Mark J. Cagle 7/27/89
 Chief, Division of Community Planning and Land Development

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS
James H. Hahn 7/24/89
 SIGNATURE DATE

U.S. SOIL CONSERVATION SERVICE

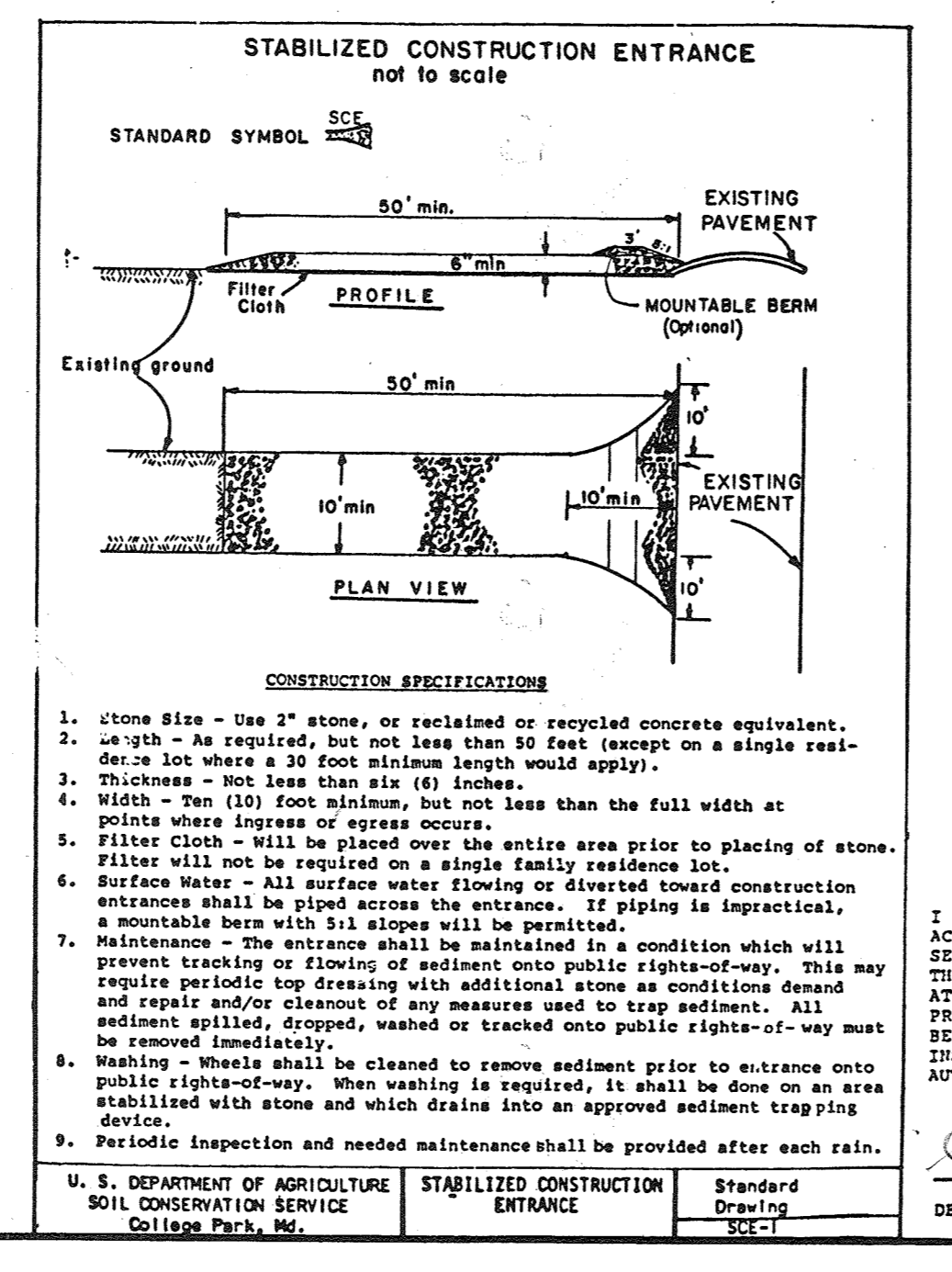
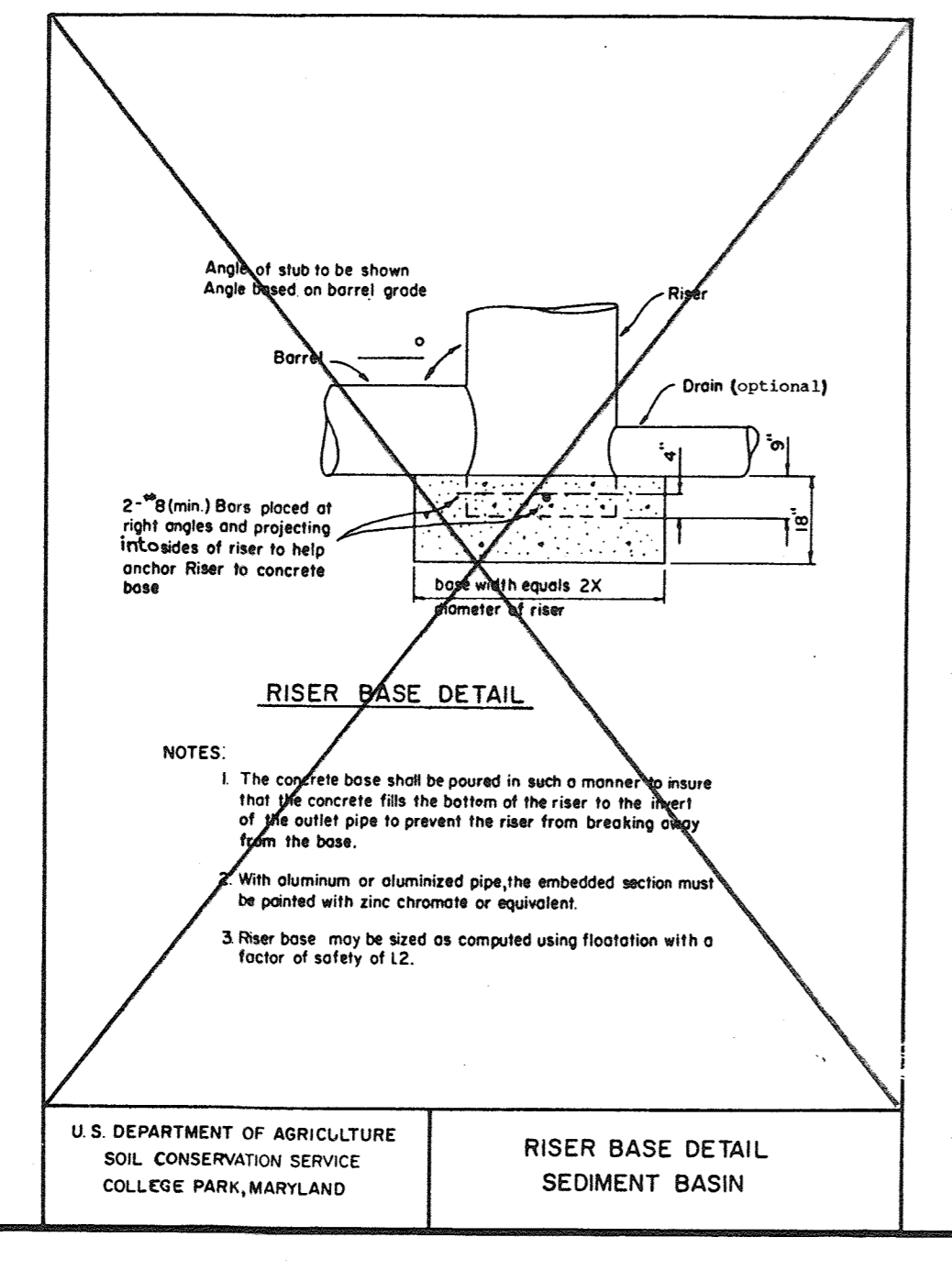
This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

APPROVED:
Stephen L. Hahn 7/24/89
 Howard S.C.D. DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James W. Wickland 6/23/89
 CHIEF BUREAU OF HIGHWAYS DATE

Paul J. Hahn 6/16/89
 CHIEF, LAND DEVELOPMENT DIV. DATE



SEQUENCE OF OPERATIONS

- Obtain a grading permit.
- Notify the Howard County Department of Licenses and Permits Inspector 48 hours prior to beginning any work.
- Clear and grub for the following measures only:
 - Install stone construction entrance.
 - Install stone outlet traps.
 - Install earth dikes and silt fences.
- Clear and grub as necessary for the installation of 48", 54" & 42" RCCP pipes.
- Install 48" 54" and 42" RCCP pipes.
 - Provide min. 3' cover over pipes.
- Clear and grub site.
- Begin grading for site. Bring roads to subgrade.
- Install all other storm drains and inlets. Provide inlet protection.
- Begin curb construction around cul-de-sacs/block curb openings.
- Place stone base on road areas.
- After receiving permission from the sediment control inspector; clean out traps and place to proper grade; remove all remaining sediment control devices and stabilize those areas.

DEVELOPER'S CERTIFICATION

I 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 THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

John S. Hahn 10/26/88
 DEVELOPER DATE

ENGINEER'S CERTIFICATE

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

John A. Hahn 11/14/88
 ENGINEER DATE

OWNER / DEVELOPER

SPRING HILL ASSOCIATES
 RUTH H. WEST
 1427 MD. RT 32
 GYKESVILLE, MD 21784
 (301) 492-2783

KOREN DEVELOPMENT CORP., INC.
 8000 CENTRE PARK DRIVE
 SUITE 207
 COLUMBIA, MD 21023
 (301) 742-1010

TITLE: DETAILS

PROJECT: SECTION 2, AREA 2 MEADOWOOD

O.P.&Z. FILE NOS. VP-24-30-21-4-93-28-5-21-5-28-28

TAX MAP: 10, BLOCK: 7, PARCEL: P10 139

2ND ELECTION DISTRICT: HOWARD COUNTY, MD.

DES. BY: RLR DRAWN BY: MF CHK. BY: THM DATE: OCT 1988

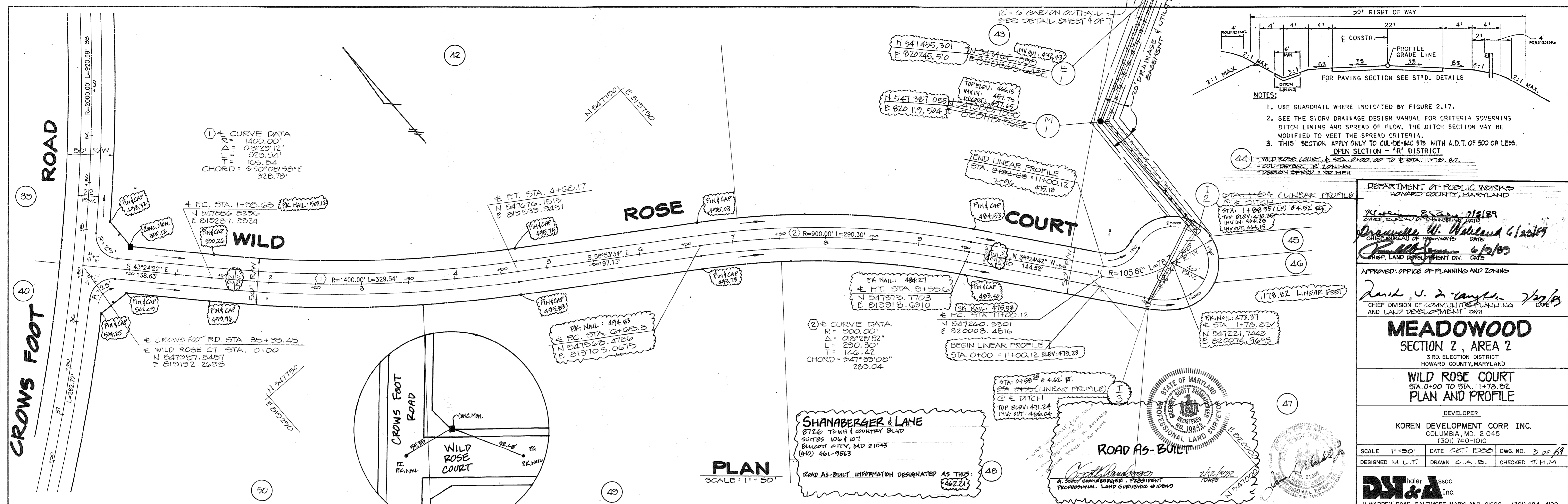
11 WARREN ROAD
 BALTIMORE, MD 21208
 (301) 484-4100

SCALE: 1/4" = 1'-0"

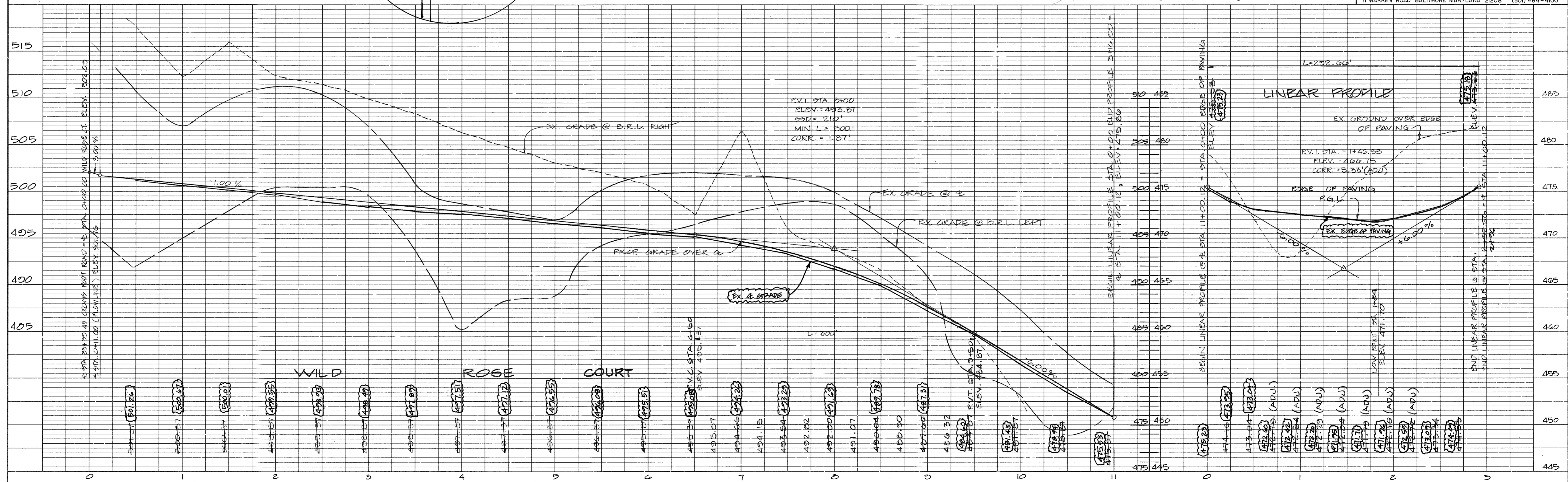
SHEET 2 OF 8

F0980

DATE: _____ BY: _____
 PLAN
 SURVEYED: _____
 NOTE BOOK: _____
 GRADES CHECKED: _____
 ADJUSTMENT CHECKED: _____
 RT OF WAY CHECKED: _____
 No. _____

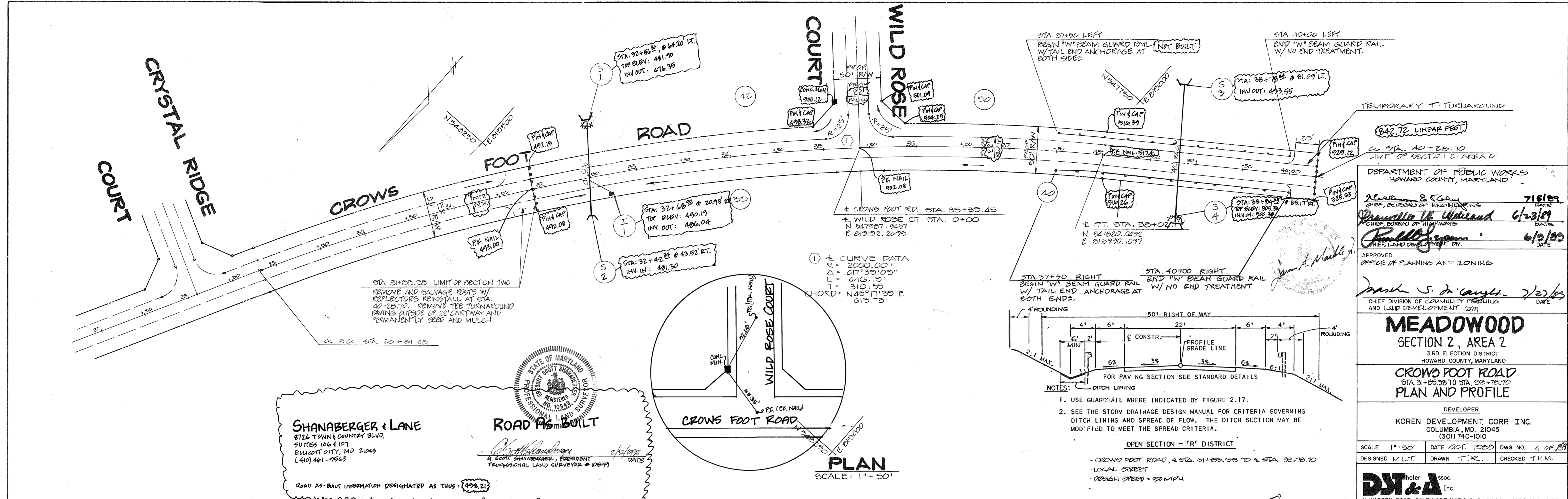


DATE: _____ BY: _____
 PROFILE
 SURVEYED: _____
 NOTE BOOK: _____
 GRADES CHECKED: _____
 B.M. & NOTES: _____
 STRUCTURE INDICATORS CHECKED: _____
 No. _____



PLAN	DATE
NO. 1	
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
NO. 8	
NO. 9	
NO. 10	

PROFILE	DATE
NO. 1	
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
NO. 8	
NO. 9	
NO. 10	



SHANABERGER & LANE
 8126 TOWN & COUNTRY BLVD.
 SUITES 106 & 107
 SUICOTT CITY, MD 21043
 (410) 461-7563

ROAD AS-BUILT INFORMATION DESIGNATED AS THIS: 1498.21

STATE OF MARYLAND
 PROFESSIONAL LAND SURVEYOR
 REG. NO. 10343
 DATE: 2/23/99

TEMPORARY T-TURNAROUND
 842' LINEAR FEET
 CL STA. 40+28.70
 LIMIT OF SECTION 2 AREA 2

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James D. Madala
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 6/23/99

James S. D'Amico
 CHIEF, LAND DEVELOPMENT DIV.
 DATE: 6/23/99

APPROVED
 OFFICE OF PLANNING AND ZONING

CHIEF DIVISION OF COMMUNITY PLANNING
 AND LAND DEVELOPMENT

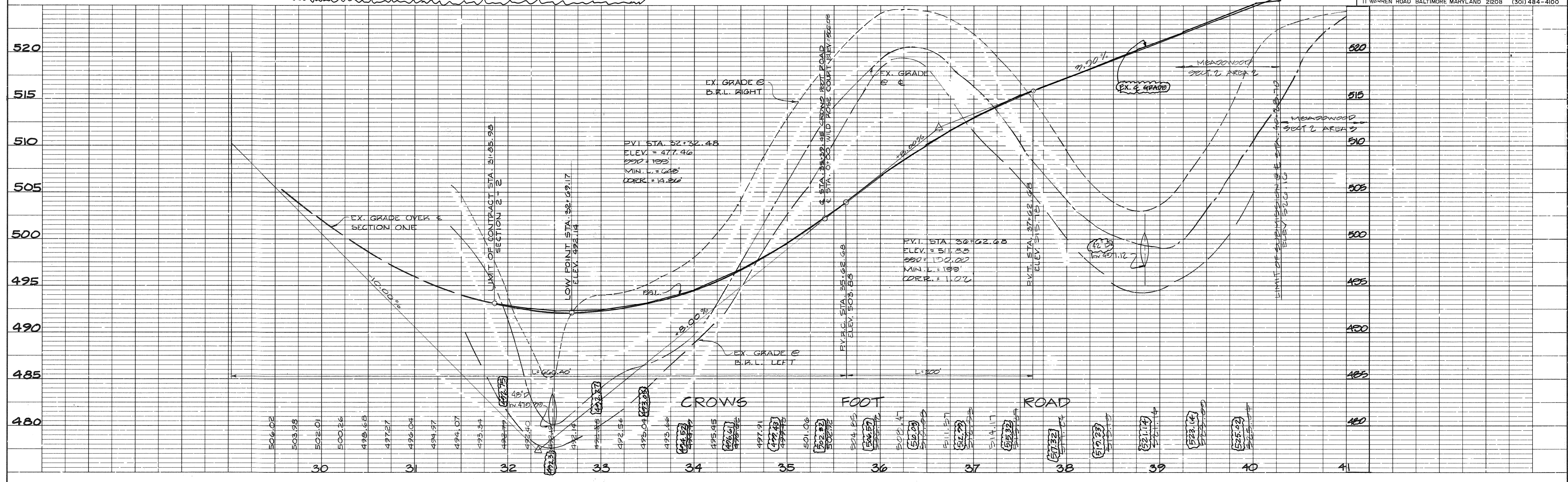
MEADOWOOD
 SECTION 2, AREA 2
 3RD. ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

CROWS FOOT ROAD
 STA. 31+85.38 TO STA. 38+75.10
 PLAN AND PROFILE

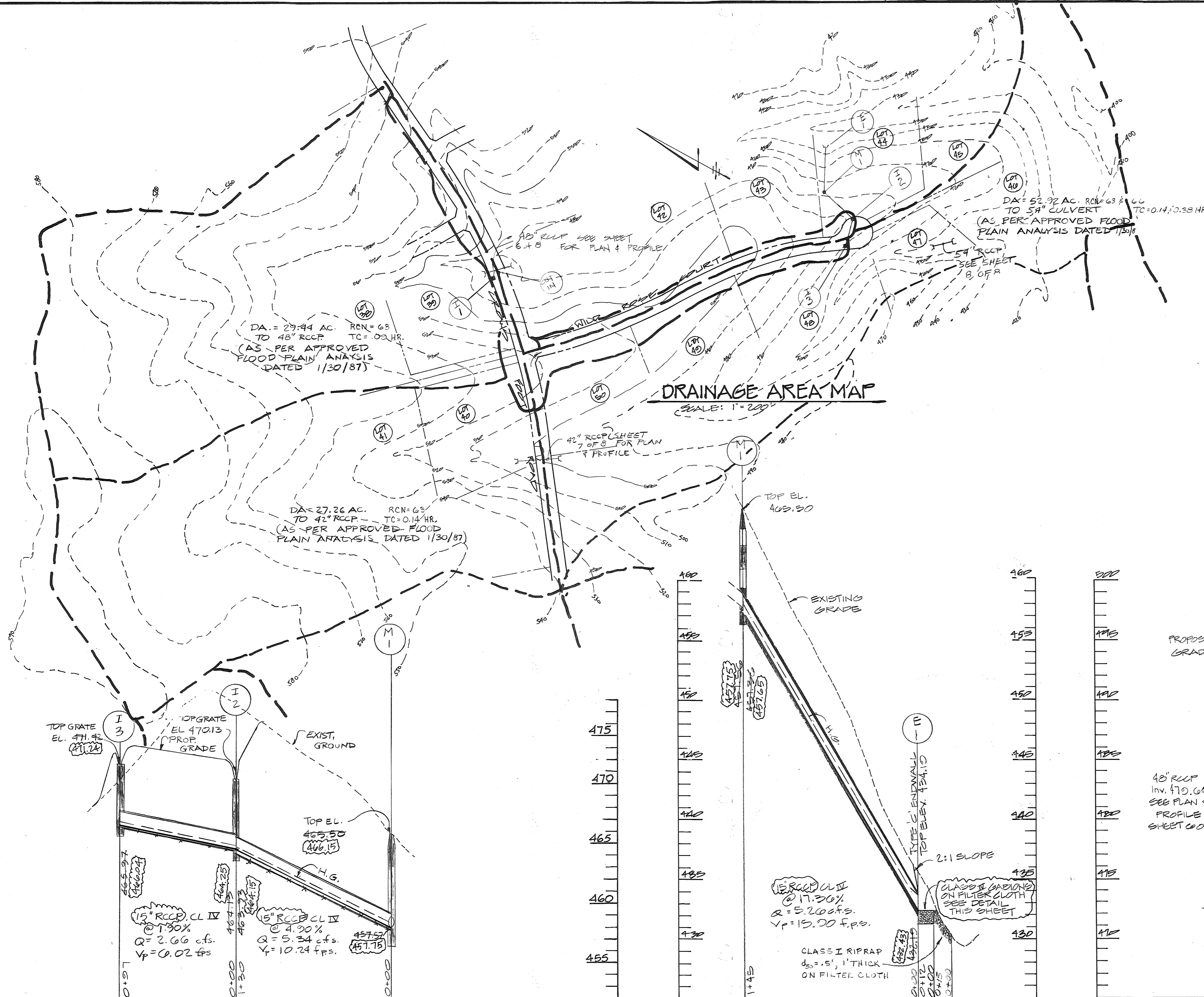
DEVELOPER
 KOREN DEVELOPMENT, CORP. INC.
 COLUMBIA, MD. 21045
 (301) 740-1010

SCALE: 1" = 50' DATE: OCT. 1990 DWG. NO. 4 OF 29
 DESIGNED: M.L.T. DRAWN: T.R. CHECKED: T.H.M.

D&A Inc.
 11 WARREN ROAD BALTIMORE MARYLAND 21208 (301) 484-4100



1318



STRUCTURE SCHEDULE					
No.	TYPE	INV. IN	INV. OUT	TOP EL.	REMARKS
I-1	SINGLE 'S'		400.32	411.12	
I-3	DOUBLE 'S'		400.32	411.42	
I-2	DOUBLE 'S'	404.12	400.32	410.12	
M-1	50' TRENCH	457.00	457.00	457.00	
S-1	TYPE 'A'	432.14	432.14	434.14	
S-2	TYPE 'A'	401.00	401.00	406.00 *	
S-4	TYPE 'A'	470.10	470.10	481.10	
S-4	TYPE 'A'	500.24	500.24	504.74 * (505.38)	
S-3	TYPE 'A'	403.20	403.20	407.03 *	
S-5	TYPE 'A'	434.20	434.20	439.00 *	
S-6	TYPE 'A'	432.20	432.20	437.00 *	

PIPE SIZE FOR DRIVEWAY CULVERTS					
LOT#	C'	I'	A (A)	Q (CFS)	PIPE SIZE
30+41	0.20	5.40	0.22	0.52	12" BCLMP
30	0.33	5.43	0.50	1.04	12" BCLMP
40	0.31	5.40	0.23	0.30	12" BCLMP
42	0.25	5.50	0.77	1.48	12" BCLMP
43	0.24	5.50	1.13	2.11	12" BCLMP
44	0.20	5.40	2.35	3.81	15" BCLMP
45+40	0.21	5.40	2.20	3.83	15" BCLMP
47	0.21	5.40	2.24	3.75	15" BCLMP
48	0.20	5.40	2.13	3.34	15" BCLMP
49	0.20	5.30	1.50	2.40	12" BCLMP
50	0.20	5.30	0.94	1.44	12" BCLMP

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

Marsha V. ... 7/2/89
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Lawrence W. Wickens 6/23/89
CHIEF, BUREAU OF HIGHWAYS

... 7/5/89
CHIEF, BUREAU OF ENGINEERING

... 6/9/89
CHIEF, LAND DEVELOPMENT DIV.

* TOP ELEVATION OF GROUND AT HEADWALL

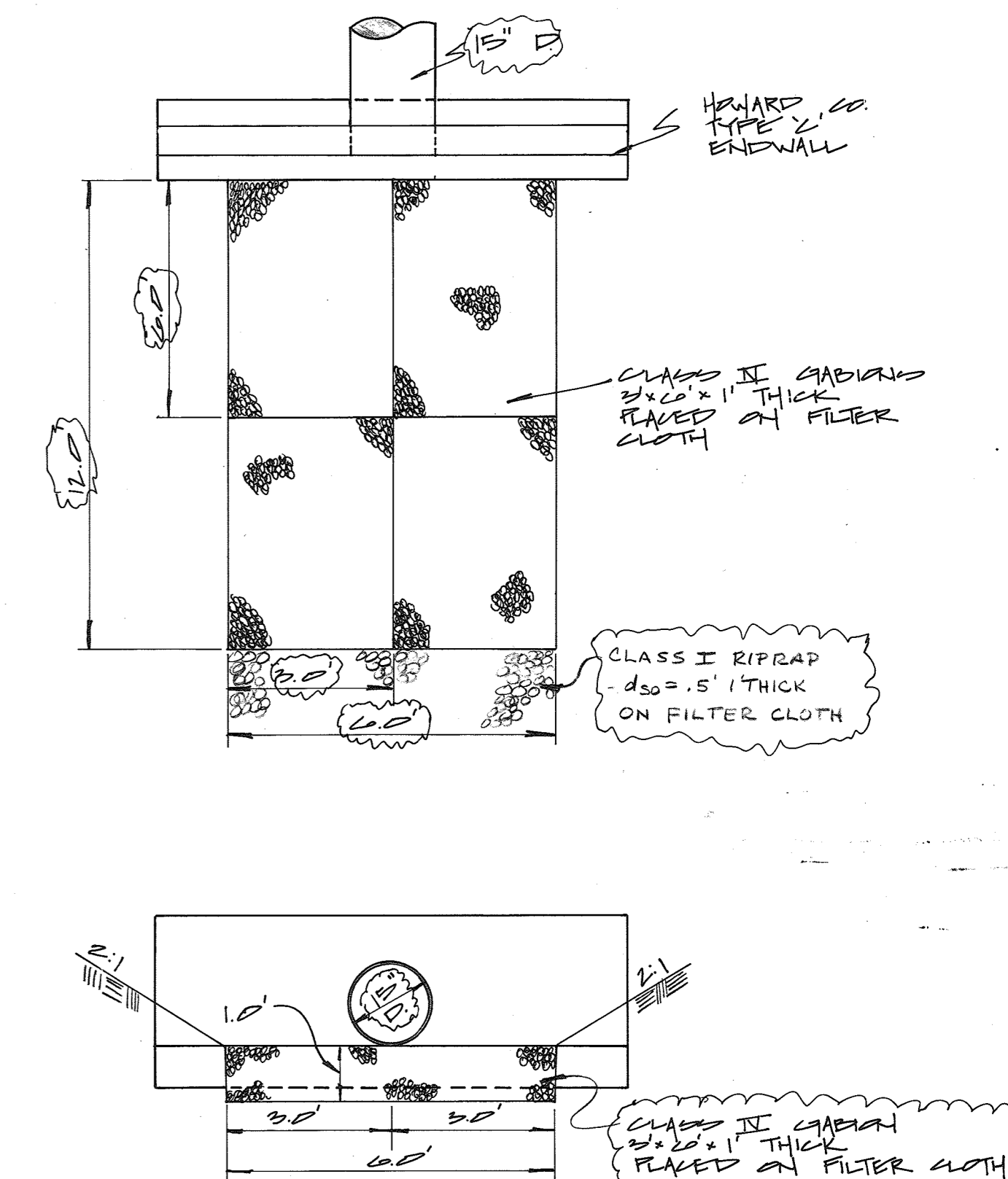
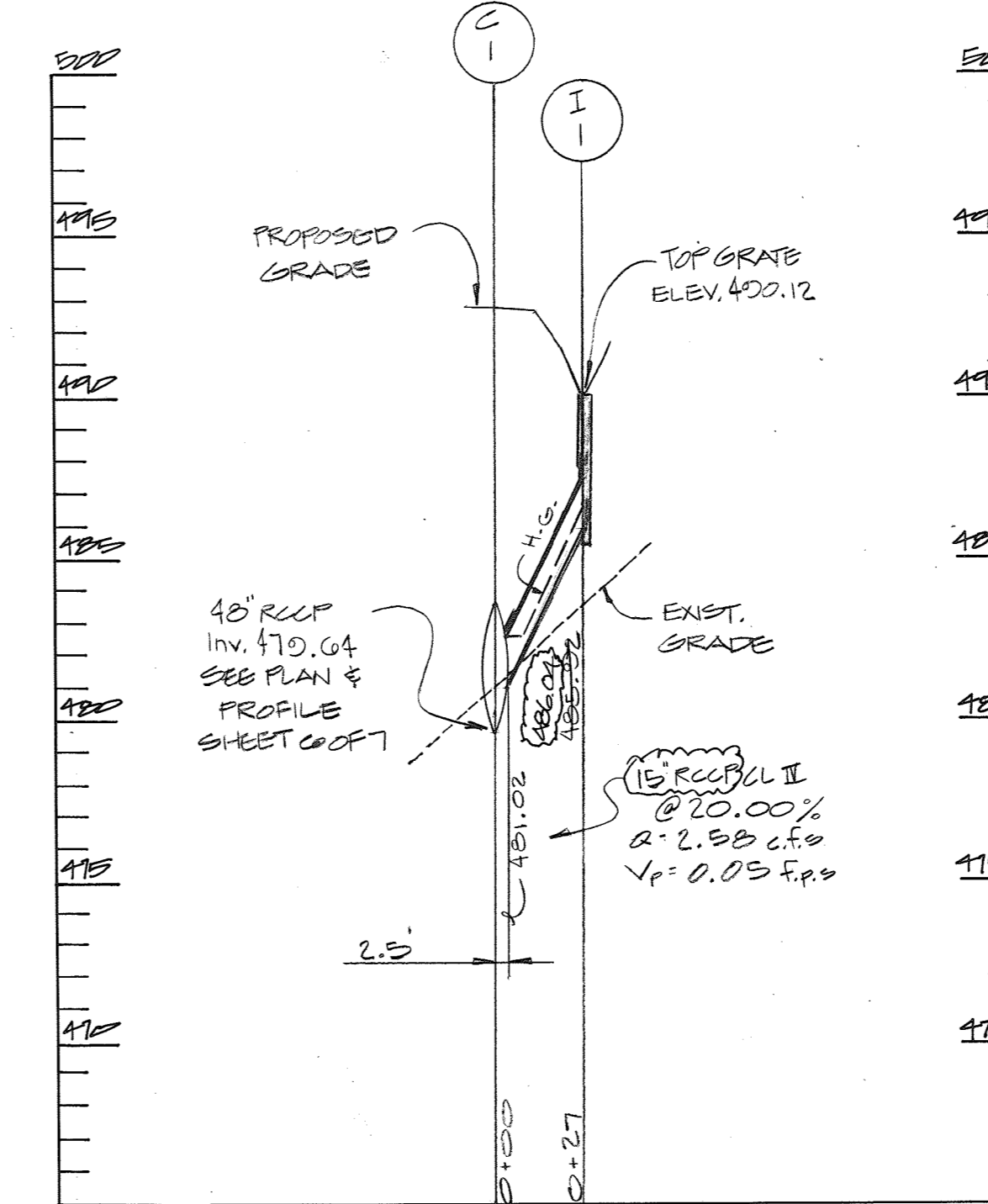
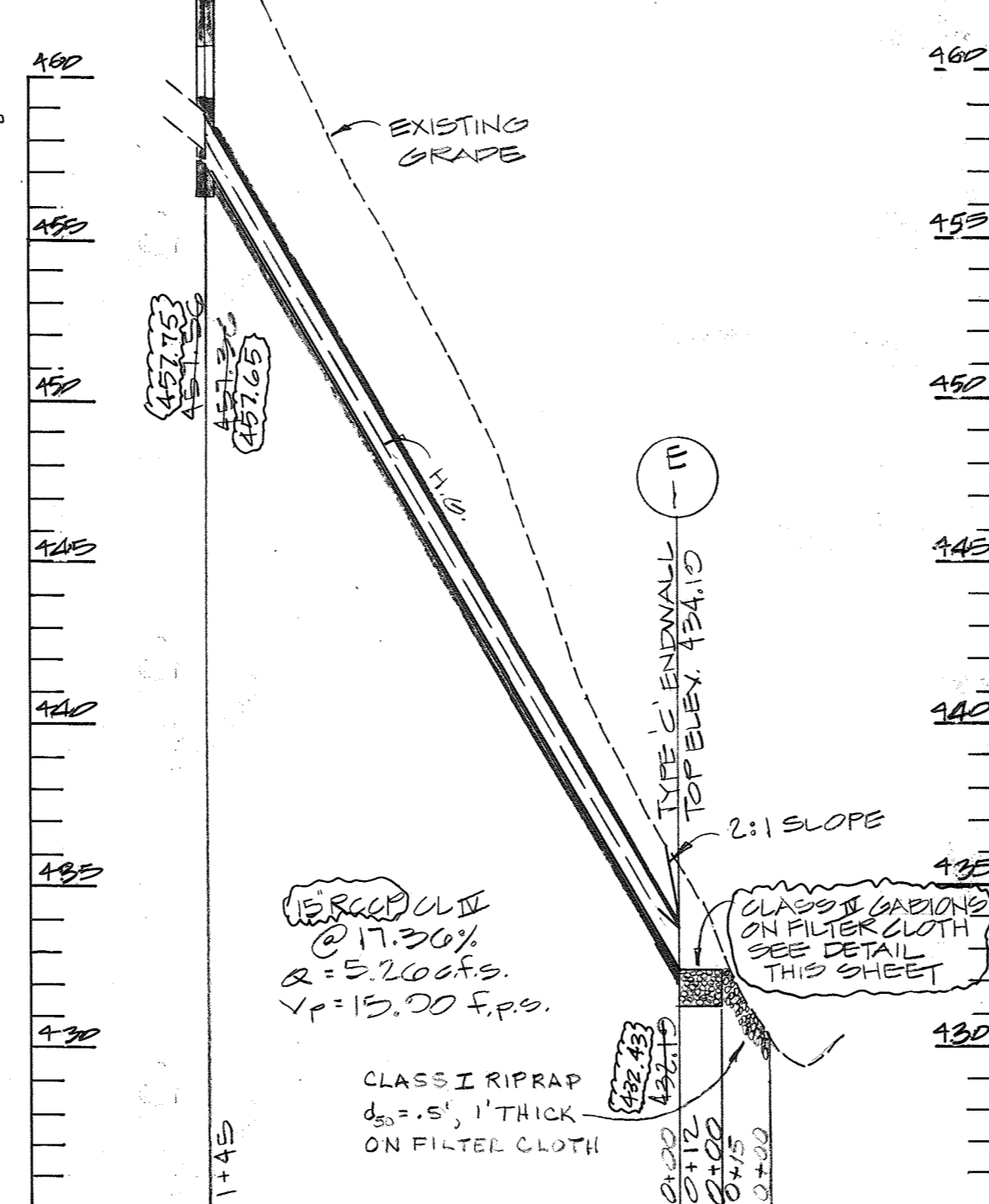
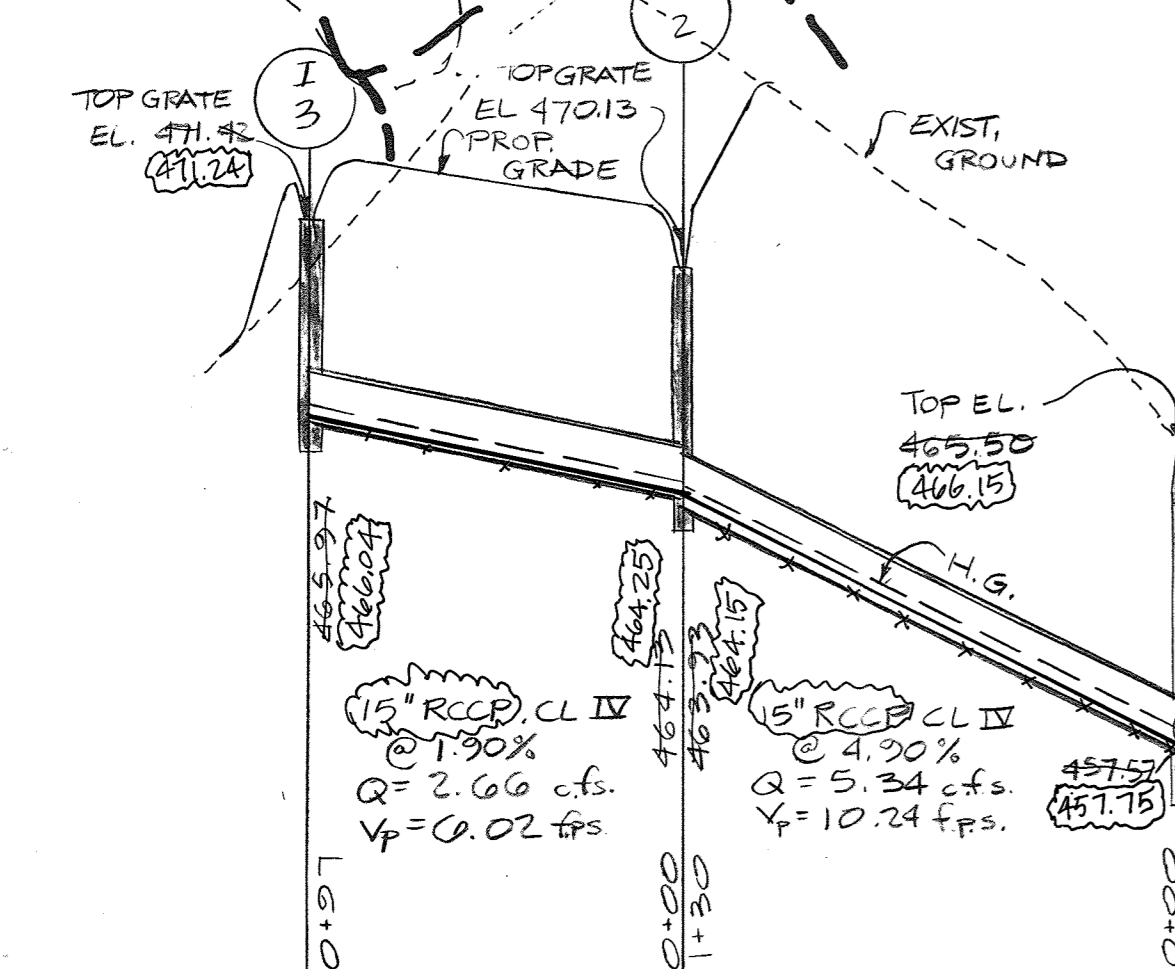
475
470
465
460
455

475
470
465
460
455

460
455
450
445
440
435
430

460
455
450
445
440
435
430

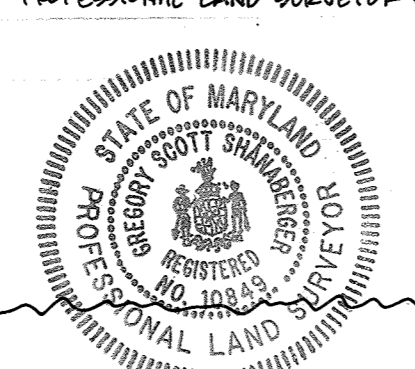
460
455
450
445
440
435
430



SHANABERGER & LANE ROAD AS-BUILT
8726 TOWN & COUNTRY BLVD.
SUITE 106 #107
ELLSWORTH CITY, MD 21043
(410) 461-9563

Scott Shanabarger 2/10/1997
SCOTT SHANABARGER, PRESIDENT
PROFESSIONAL LAND SURVEYOR #10047

ROAD AS-BUILT INFORMATION DESIGNATED AS THUS: (1708.21)



DATE	DESCRIPTION REVISIONS	BY

OWNER / DEVELOPER:

SPRING HILL ASSOCIATES
KATH H. WESTON
1417 MD RT. 21
STREESVILLE, MD 21784
(301) 442-1700

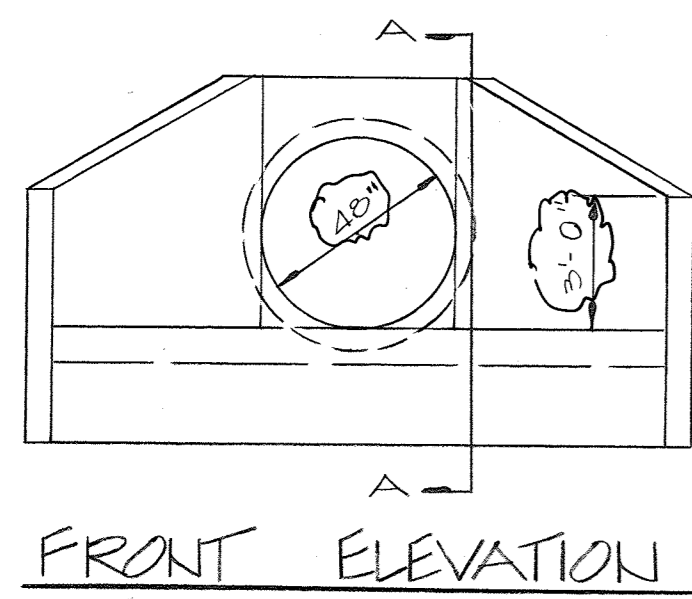
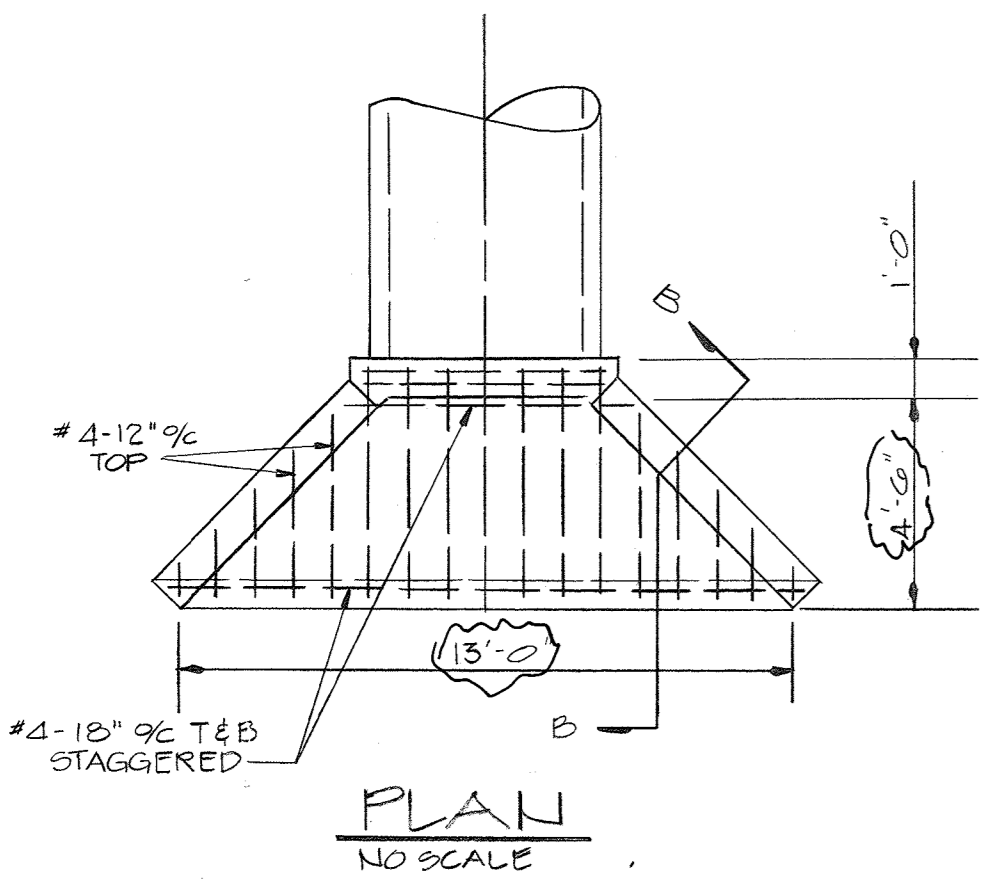
KOREN DEVELOPMENT CORP., INC.
8800 CENTRE PARK DRIVE
SUITE 207
COLUMBIA, MD 21043
(301) 740-1010

DST&A Inc.
11 WARREN ROAD
BALTIMORE, MD. 21
(301) 484-4100
SCALE: 1" = 50' SHEET 5 OF 89

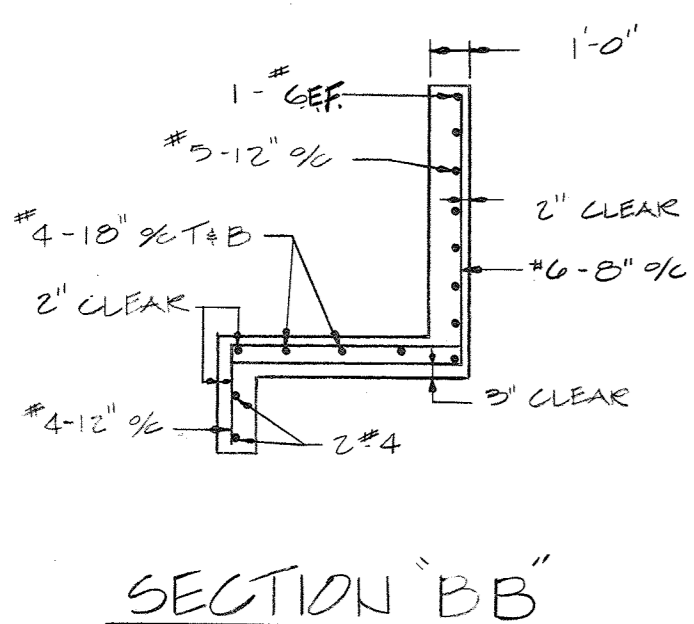
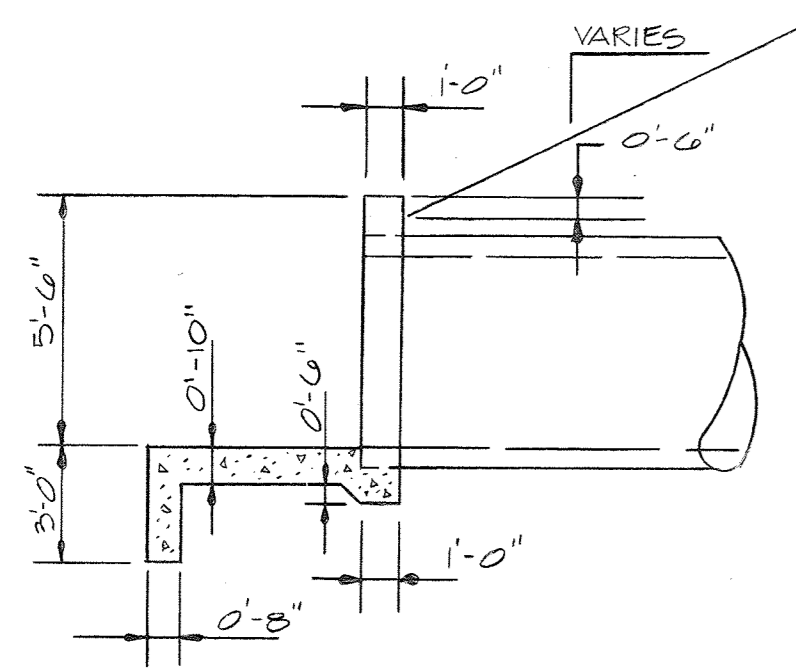
TITLE: DRAINAGE AREA MAP & PROFILE
PROJECT: SECT 27, AREA 2 MEADOWOOD
O.P. & Z. FILE NOS. 17-24-50-11-0-0-00-0-01-15 P. 80-70
TAX MAP: 10, BLOCK: 7, PARCEL: 170 159
ELECTION DISTRICT: HOWARD COUNTY, MD.

DES. BY: M.L.T. DRAWN BY: L.L.I. CHKD. BY: T.H.M. DATE: 02/18/1989

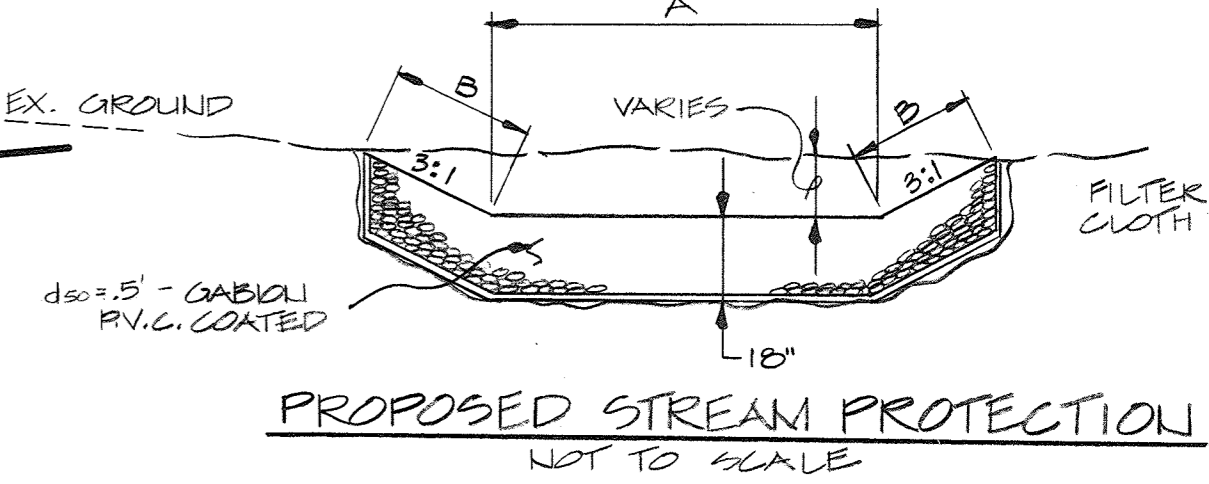
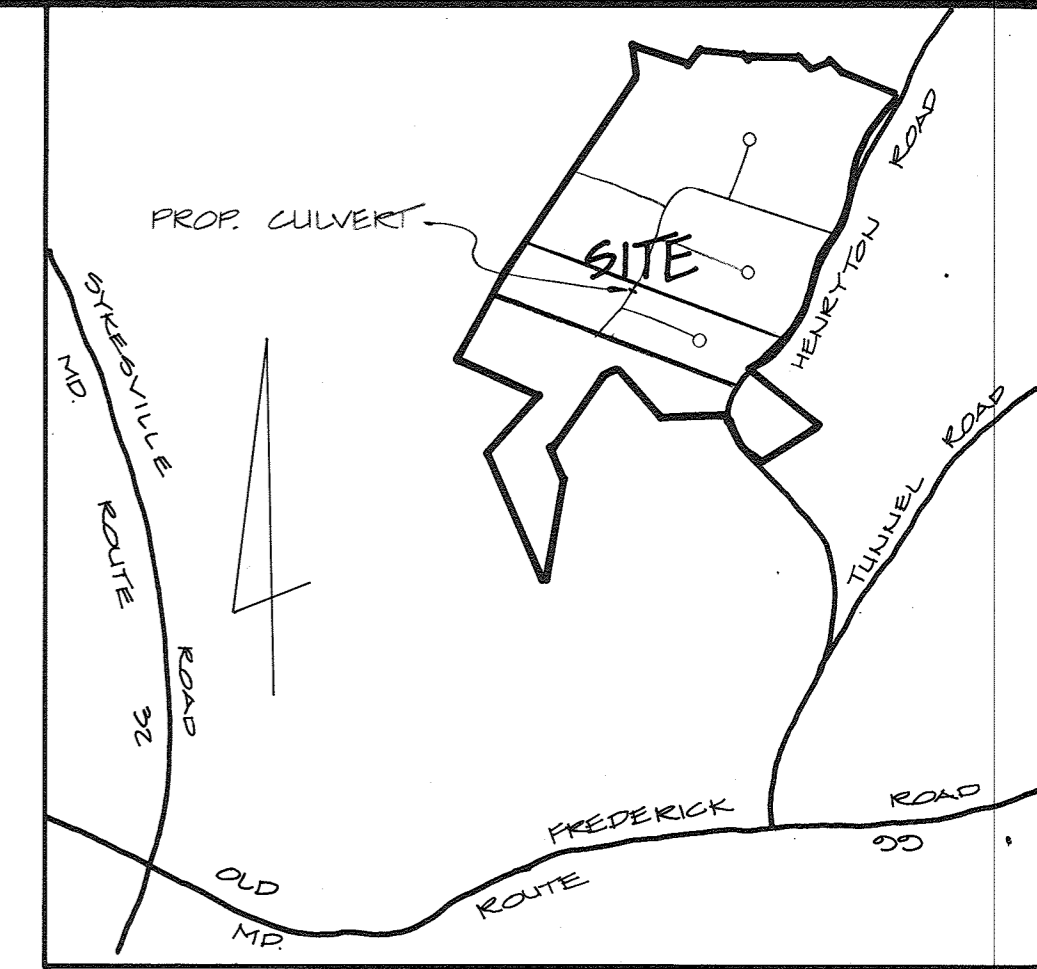
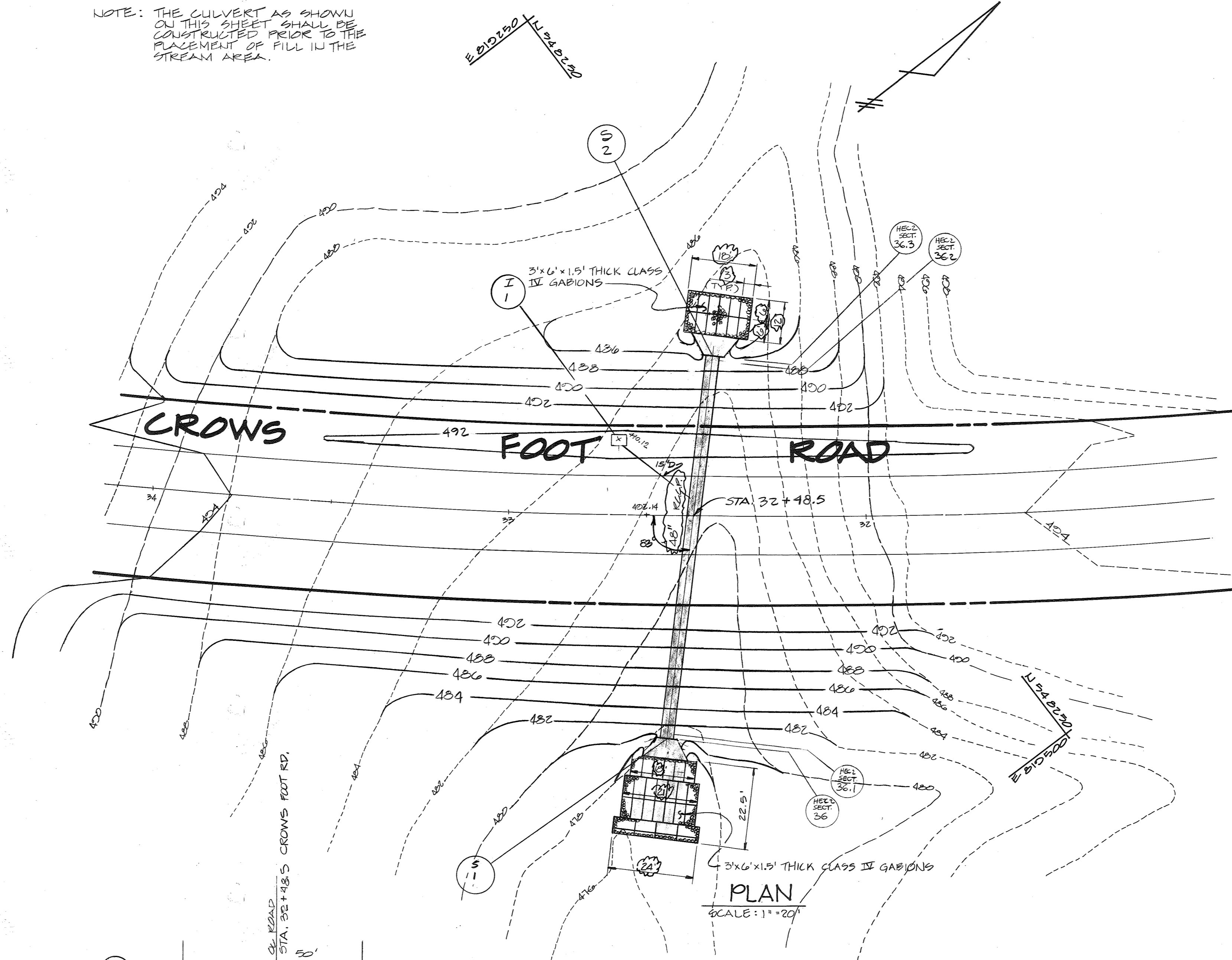
1318



NOTE: CONTRACTOR SHALL PROVIDE 3'-45° BEVEL AROUND PIPE OPENING ON UPSTREAM HEADWALL.



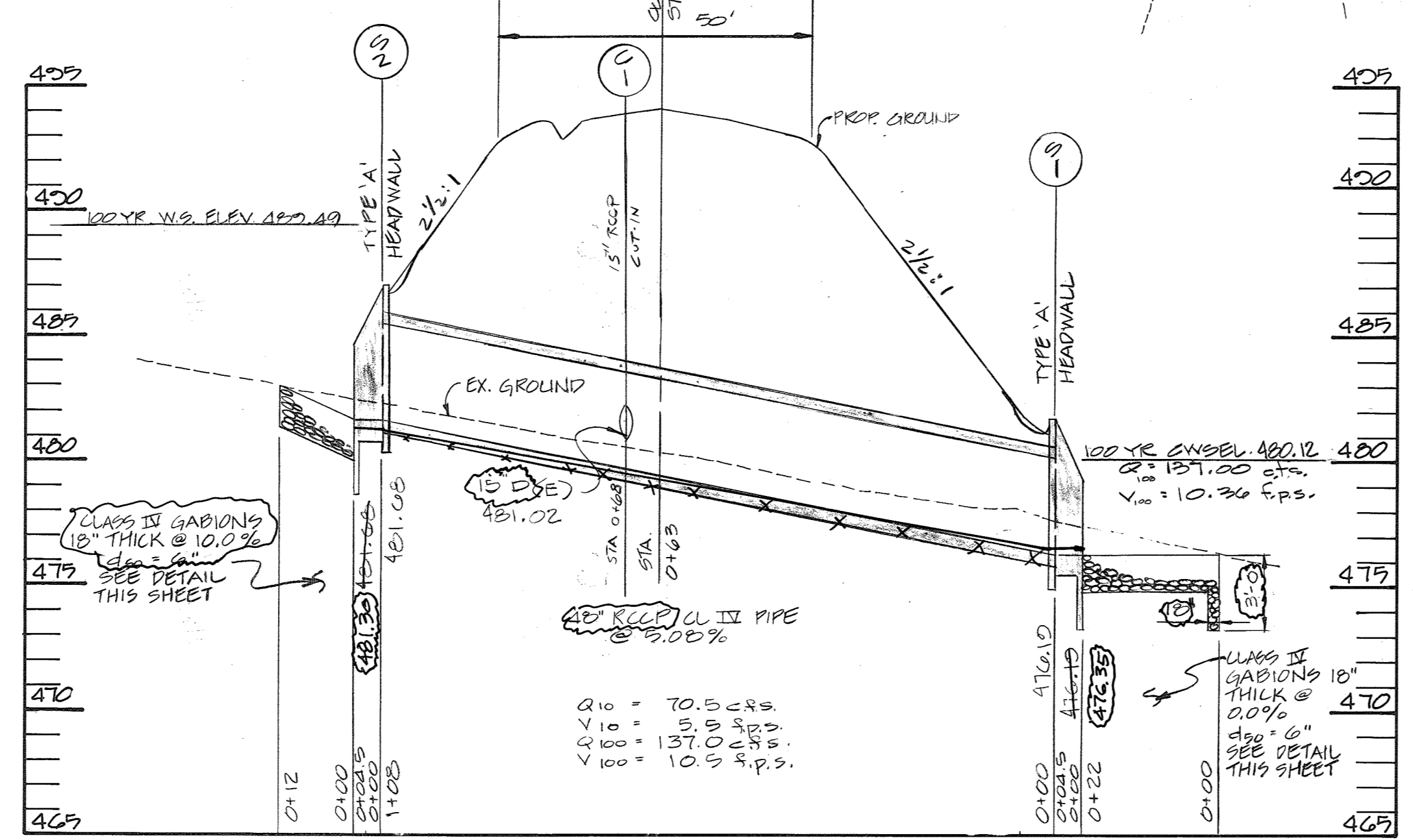
NOTE: THE CULVERT AS SHOWN ON THIS SHEET SHALL BE CONSTRUCTED PRIOR TO THE PLACEMENT OF FILL IN THE STREAM AREA.



GABION SCHEDULE				
OUTFALL	A	B	LGTH	CY.
S-2	12'	3'	12'	12
S-1	18'	1.5'-3'	25.5	32

CULVERT DESIGN DATA - SUMMARY

TOTAL D.A. TO CULVERT	20.44	R ₁
RUNOFF CURVE NUMBER	0.75	
TIME OF CONCENTRATION	20.05	CS ₁₀ (Q ₁)
PEAK DISCHARGE	137.0	CS ₁₀₀ (Q ₁₀₀)
	483.60	CS ₁₀ (Q ₁₀)
HEADWATER (WATER SURFACE)	483.60	(2 YR)
	483.64	(10 YR)
	489.49	(100 YR) HEC-2



SHANABERGER & LANE ROAD AS-BUILT
 8726 TOWN & COUNTRY BLVD.
 SUITE 106 & 107
 ELICOTT CITY, MD 21043
 (410) 461-9868

OWNER / DEVELOPER
SPRING HILL ASSOCIATES
 RUTH H. WESTON
 1427 MD. RT. 92
 SPRINGVILLE, MD. 21154
 (301) 442-2700

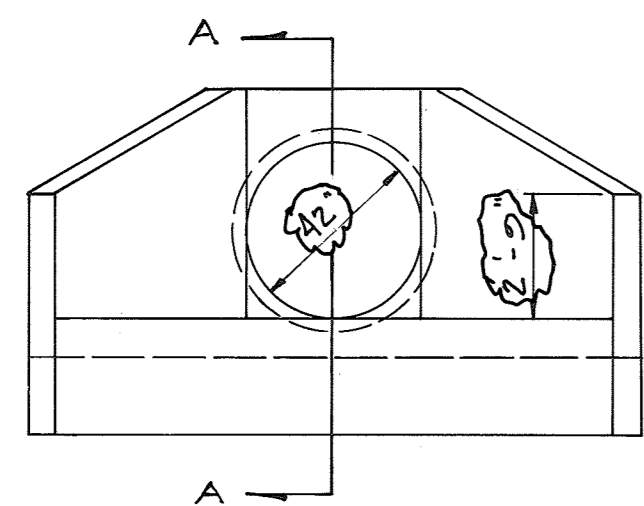
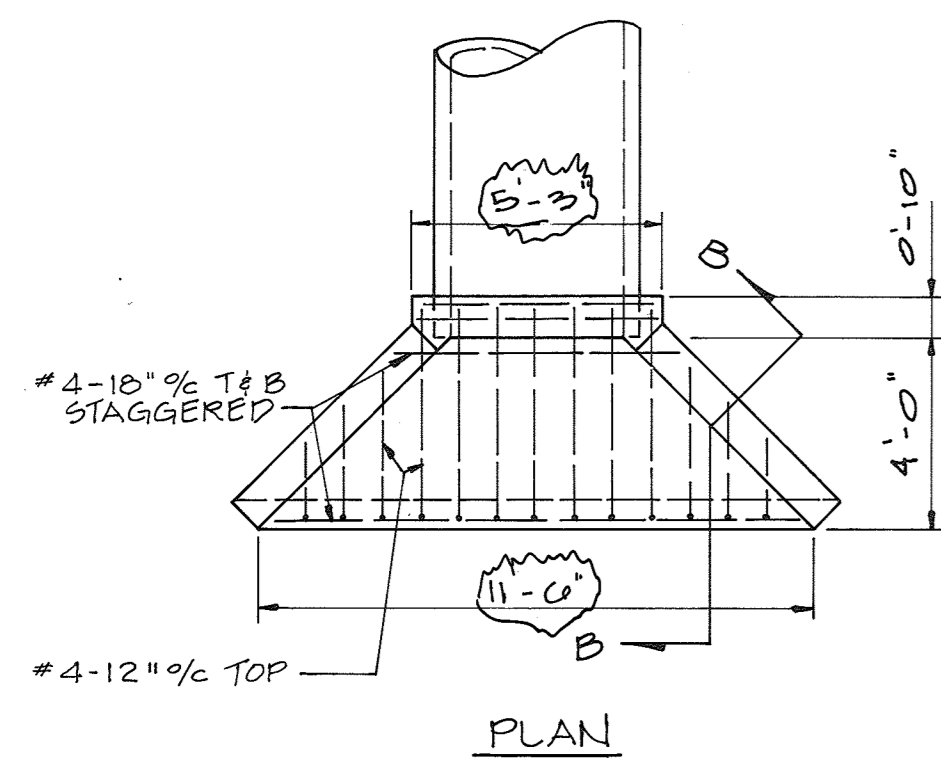
KOREN DEVELOPMENT CORP., INC.
 8000 CENTRE PARK DRIVE
 SUITE 207
 COLUMBIA, MD. 21043
 (301) 740-1010



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Chief, Land Development Div. Date 6/6/89
 Chief, Bureau of Highways Date 4/23/89
 Chief, Bureau of Engineering Date 7/5/89

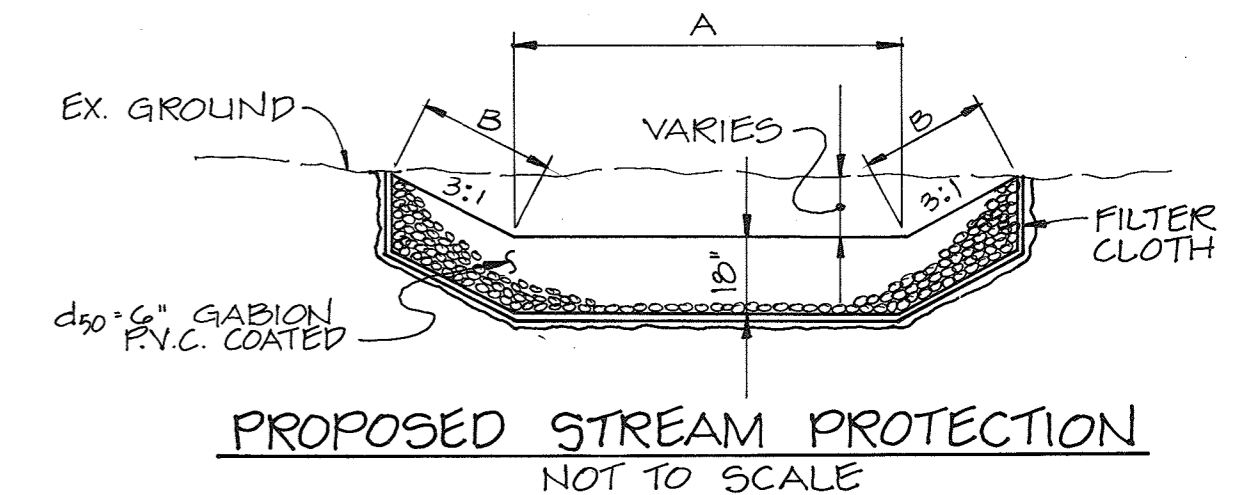
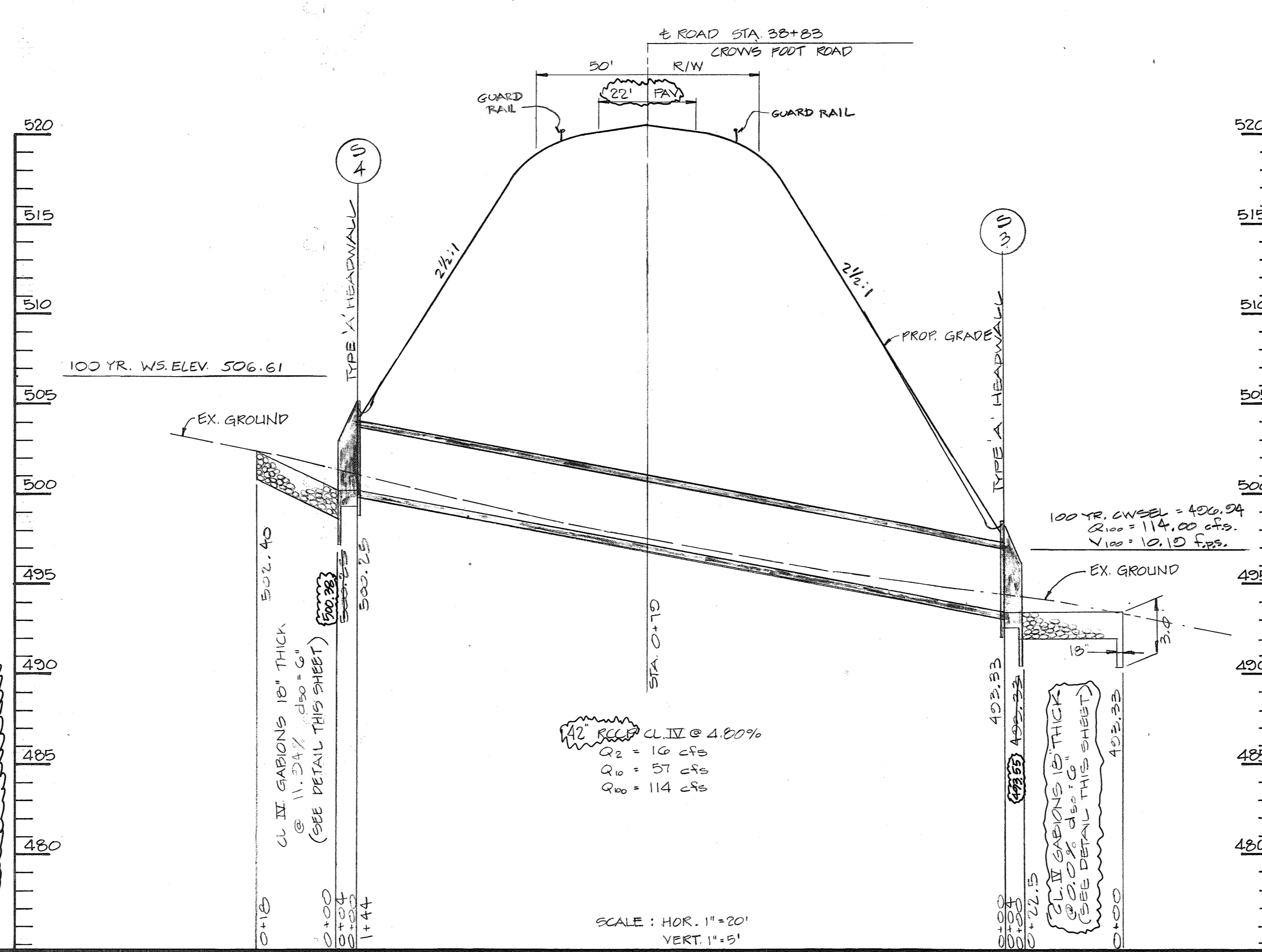
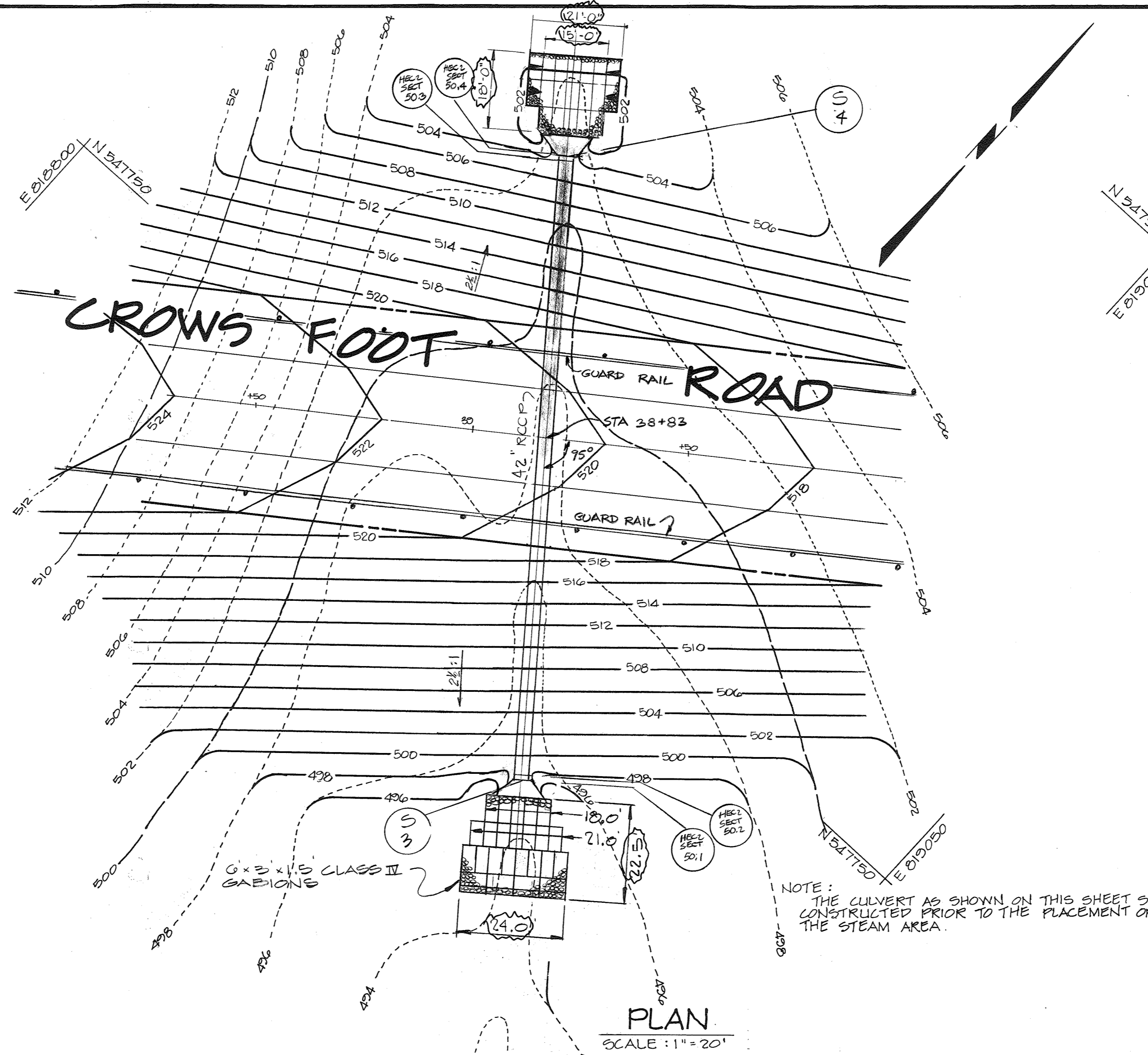
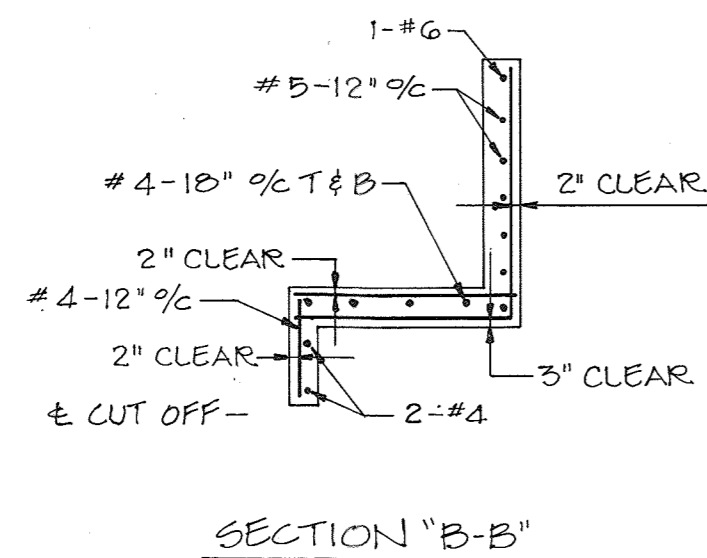
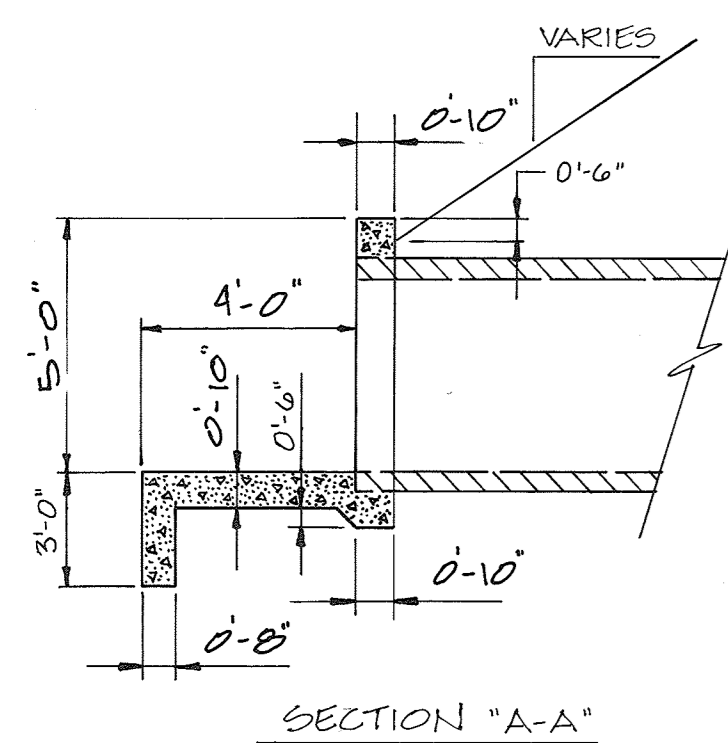
APPROVED: OFFICE OF PLANNING AND ZONING.
 Chief, Division of Community Planning and Land Development Date 7/2/89

TITLE: GRADING PLAN & PROFILE
CULVERT
 PROJECT: SECTION 2, AREA 2
MEADOWOOD
 O.P.&Z. FILE NOS. VP2430A, 2430B, 2430C, 2430D, 2430E, 2430F, 2430G, 2430H, 2430I, 2430J, 2430K, 2430L, 2430M, 2430N, 2430O, 2430P, 2430Q, 2430R, 2430S, 2430T, 2430U, 2430V, 2430W, 2430X, 2430Y, 2430Z
 TAX MAP: 10, BLOCK: 7, PARCEL: P70 150
 ELECTION DISTRICT: HOWARD COUNTY, MD.
 DES. BY: R.L.R. DRAWN BY: C.A.B. CHKD. BY: T.H.M. DATE: 10/22/88
 CIVIL ENGINEERS - SITE PLANNERS SURVEYORS
DST&A Inc.
 11 WARREN ROAD
 BALTIMORE, MD. 21208
 (301) 484-4100
 SCALE: 1" = 20' SHEET 6 OF 9



NOTE: CONTRACTOR SHALL PROVIDE 2" - 45° BEVEL AROUND PIPE OPENING ON UPSTREAM HEADWALLS.

HEADWALL DETAIL
NO SCALE



GABION SCHEDULE				
OUTFALL	A	B	LGTH.	C.Y.
S-4	15'-0"	3'	10'-0"	15
S-3	15'-0"	4'-0"	25'-6"	30.5

CULVERT DESIGN DATA - SUMMARY

TOTAL D.A. TO CULVERT	27.26 Ac±
RUNOFF CURVE NUMBER	63
TIME OF CONCENTRATION	0.14 HR.
PEAK DISCHARGES	16 C.F.S. (Q_2) 57 C.F.S. (Q_{10}) 114 C.F.S. (Q_{100})
HEADWATER (WATER SURFACE)	521.07 (2 YR.) 524.07 (10 YR.) 506.61 (100 YR.) HEC-2

OWNER / DEVELOPER

SPRING HILL ASSOCIATES
RUTH H. WESTON
1427 MD. RTE. 32
SYKESVILLE, MD. 21784
(301) 442-2785

WOKEN DEVELOPMENT CORP., INC.
8800 CENTRE PARK DRIVE
SUITE 207
COLUMBIA, MD. 21043
(301) 740-1010

APPROVED: OFFICE OF PLANNING AND ZONING.
Frank S. DeAngelis 7/27/89
Chief, Division of Community Planning and Land Development

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Paul J. [Signature] 6/16/89
Chief, Land Development Div.

Ernest W. [Signature] 6/16/89
Chief, Bureau of Highways

[Signature] 7/5/89
Chief, Bureau of Engineering

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 106 #107
ELMONT CITY, MD 21049
(410) 461-9963

ROAD AS-BUILT

Scott Shanabarger 7/12/89
A. SCOTT SHANABARGER, PRESIDENT
PROFESSIONAL LAND SURVEYOR # 10849

ROAD AS-BUILT INFORMATION DESIGNATED AS THIS: (478.21)

TITLE: GRADING PLAN & PROFILE
CULVERT

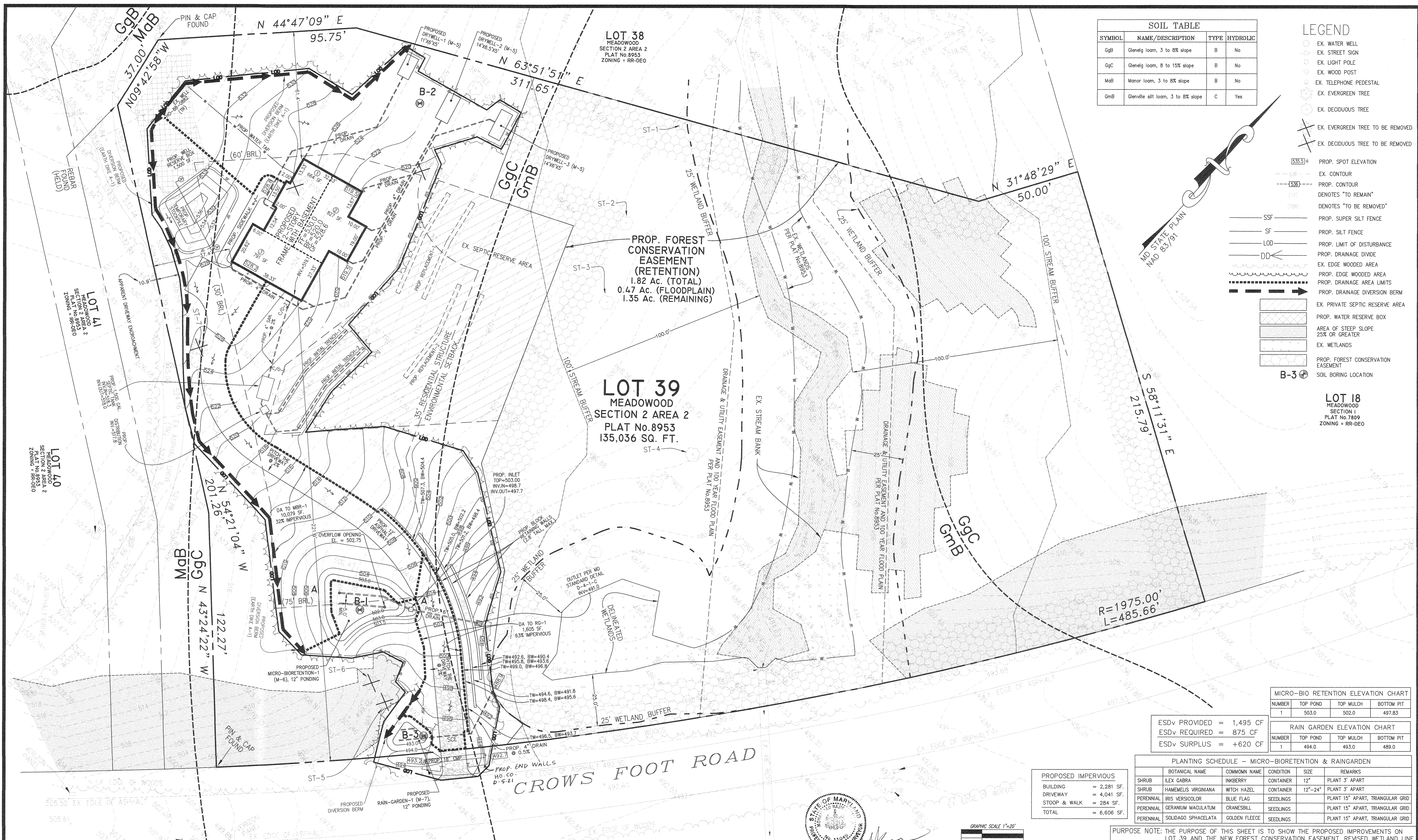
PROJECT: SECTION 2 AREA 2
MEADOWOOD

O.P. & Z. FILE NOS.: VP-84 90-21-1-04-20 9-81-19 100-76
TAX MAP: 10, BLOCK: 7, PARCEL: P20 125

DES. BY: R.L.K. DRAWN BY: C.A.B. CHKD. BY: T.H.M. DATE: OCT. 1988

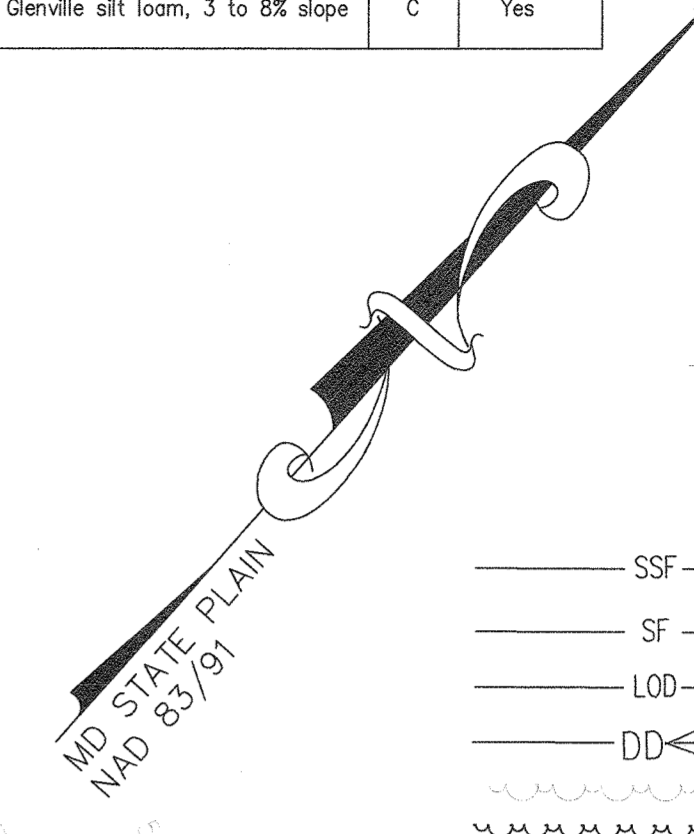
11 WARREN ROAD
BALTIMORE, MD. 21208
(301) 484-4100

SCALE: 1" = 20' SHEET 7 OF 8



SOIL TABLE			
SYMBOL	NAME/DESCRIPTION	TYPE	HYDROLOGIC
GgB	Geneq loam, 3 to 8% slope	B	No
GgC	Geneq loam, 8 to 15% slope	B	No
MaB	Manor loam, 3 to 8% slope	B	No
GmB	Glenville silt loam, 3 to 8% slope	C	Yes

LEGEND	
	EX. WATER WELL
	EX. STREET SIGN
	EX. LIGHT POLE
	EX. WOOD POST
	EX. TELEPHONE PEDESTAL
	EX. EVERGREEN TREE
	EX. DECIDUOUS TREE
	EX. EVERGREEN TREE TO BE REMOVED
	EX. DECIDUOUS TREE TO BE REMOVED
	PROP. SPOT ELEVATION
	EX. CONTOUR
	PROP. CONTOUR
	DENOTES "TO REMAIN"
	DENOTES "TO BE REMOVED"
	SSF
	SF
	LOD
	DD
	PROP. SUPER SILT FENCE
	PROP. SILT FENCE
	PROP. LIMIT OF DISTURBANCE
	PROP. DRAINAGE DIVIDE
	EX. EDGE WOODED AREA
	PROP. EDGE WOODED AREA
	PROP. DRAINAGE AREA LIMITS
	PROP. DRAINAGE DIVERSION BERM
	EX. PRIVATE SEPTIC RESERVE AREA
	PROP. WATER RESERVE BOX
	AREA OF STEEP SLOPE 25% OR GREATER
	EX. WETLANDS
	PROP. FOREST CONSERVATION EASEMENT
	SOIL BORING LOCATION



LOT 18
MEADOWOOD
SECTION 1
PLAT No. 7809
ZONING = RR-DEO

MICRO-BIO RETENTION ELEVATION CHART			
NUMBER	TOP POND	TOP MULCH	BOTTOM PIT
1	503.0	502.0	497.83

RAIN GARDEN ELEVATION CHART			
NUMBER	TOP POND	TOP MULCH	BOTTOM PIT
1	494.0	493.0	489.0

ESDv PROVIDED = 1,495 CF
ESDv REQUIRED = 875 CF
ESDv SURPLUS = +620 CF

PLANTING SCHEDULE - MICRO-BIORETENTION & RAINGARDEN					
SHRUB	BOTANICAL NAME	COMMON NAME	CONDITION	SIZE	REMARKS
	ILEX GABRA	INKBERRY	CONTAINER	12"	PLANT 3' APART
	HAMAMELIS VIRGINIANA	WITCH HAZEL	CONTAINER	12"-24"	PLANT 3' APART
	IRIS VERSICOLOR	BLUE FLAG	SEEDLINGS		PLANT 15" APART, TRIANGULAR GRID
	GERANIUM MACULATUM	CRANESBILL	SEEDLINGS		PLANT 15" APART, TRIANGULAR GRID
	SOLIDAGO SPHACELATA	GOLDEN FLEECE	SEEDLINGS		PLANT 15" APART, TRIANGULAR GRID

PROPOSED IMPERVIOUS	
BUILDING	= 2,281 SF.
DRIVEWAY	= 4,041 SF.
STOOP & WALK	= 284 SF.
TOTAL	= 6,606 SF.

STORMWATER MANAGEMENT SUMMARY				
FACILITY	ESDv CREDIT	TARGET Pe	REQUIRED Pe	
MICRO-BIORETENTION-1 (M-6)	817 CF	1.4"	2.6"	
DRYWELL-1 (M-5)	130 CF	1.4"	2.6"	
DRYWELL-2 (M-5)	170 CF	1.4"	2.6"	
DRYWELL-3 (M-5)	163 CF	1.4"	2.6"	
RAIN GARDEN-1 (M-7)	215 CF	1.4"	2.6"	
TOTAL	1,495 CF			

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Chief, Development Engineering Division

ENGINEERS CERTIFICATE
 "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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 COUNTY CONSERVATION DISTRICT."
 M.N. ROSHAN, L.S.
 October 2, 2019
 DATE



DEVELOPER
 CARUSO HOMES
 2120 BALDWIN AVENUE, Ste 200
 GROFTON, MD 21144
 (301) 261-0277
 OWNER
 INWHA & YOUNG CHO
 3150 NORTH RIDGE ROAD
 No. 307
 ELLICOTT CITY, MD 21043
 (410) 599-3350

PLAN PREPARED BY:
NJR & ASSOCIATES
 Land Surveying and Planning
 2770 STATE ROUTE 32
 WEST FRIENDSHIP, MD 21794
 TEL: (240) 508-3200

PURPOSE NOTE: THE PURPOSE OF THIS SHEET IS TO SHOW THE PROPOSED IMPROVEMENTS ON LOT 39 AND THE NEW FOREST CONSERVATION EASEMENT, REVISED WETLAND LINE AND THEIR ASSOCIATED SET BACKS AND BUFFERS.
 TITLE: SITE, STORMWATER MANAGEMENT, GRADING AND SOIL EROSION AND SEDIMENT CONTROL
 PROJECT: SECTION 2, AREA 2 MEADOWOOD LOT 39
 PLAT No. 8953, 1272 CROWS FOOT ROAD
 TAX MAP 10, GRID 7, PARCEL 312
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 20'
 JOB NO.: 3458
 DATE: APRIL 19, 2019
 SHEET: 9 OF 9