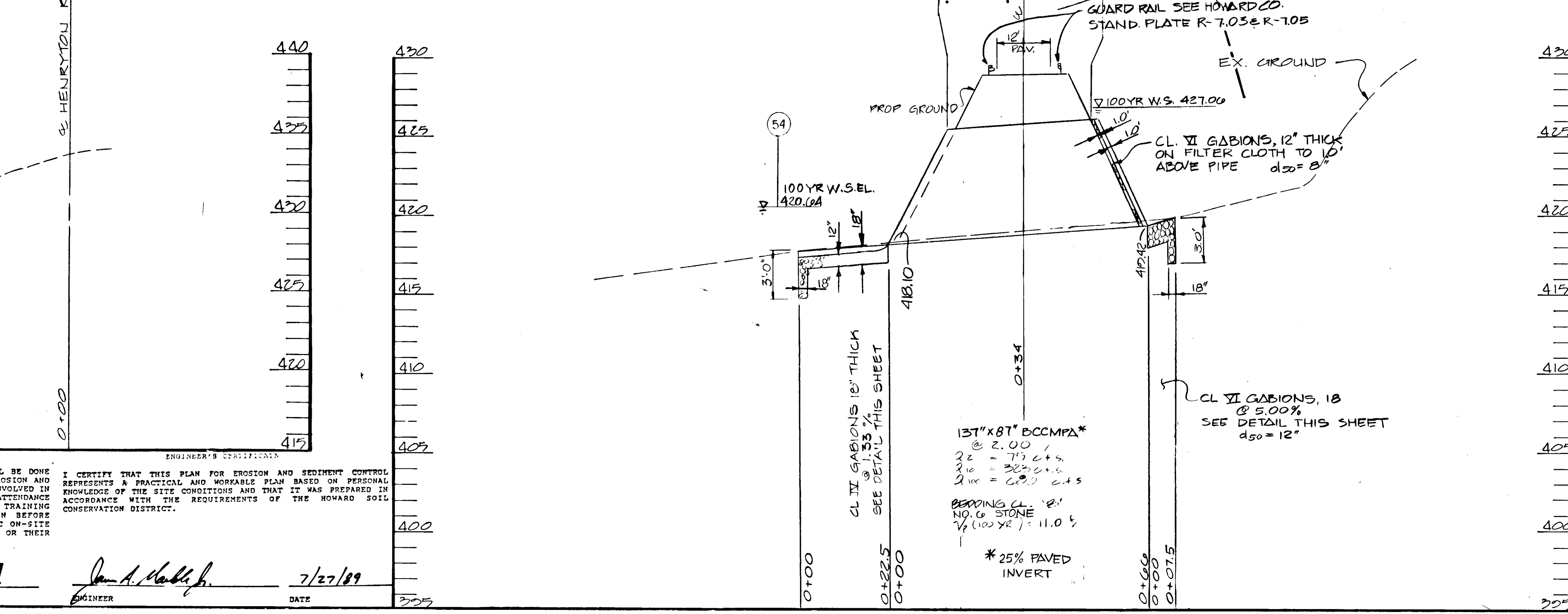
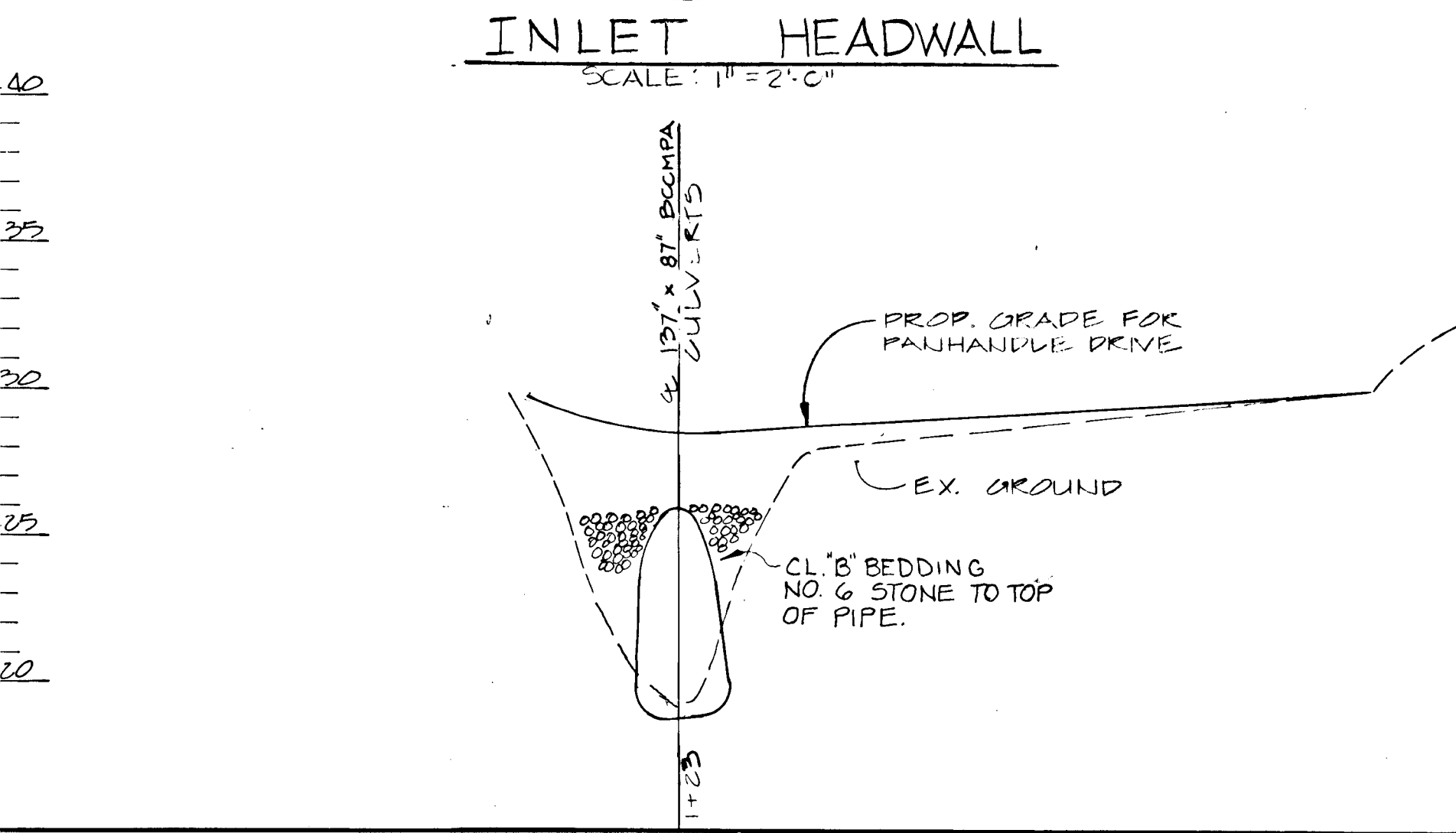


GABION SCHEDULE				
OUTFALL	A	B	LGTH	CY
S-1	18'	0'	27.5'	29'
S-2	18'	N/A	7.5'	4'

CULVERT DESIGN DATA - SUMMARY	
TOTAL D.A. TO CULVERT	134.0 AC (2.24 SQ. M)
RUNOFF CURVE NUMBER	0.2
TIME OF CONCENTRATION	0.25 HR.
PEAK DISCHARGES	75 C.F.S. (Q ₂) 323 C.F.S. (Q ₁₀) 620 C.F.S. (Q ₁₀₀)
HEADWATER (WATER SURFACE)	420.55' (10 YR.) 423.28' (10 YR.) 427.00' (100 YR.)



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Wesley J. D'Angelo 7/13/89
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Donald J. Spon 8/30/89
CHIEF, LAND DEVELOPMENT DIVISION

Debra L. Reed 8-30-89
CHIEF, BUREAU OF ENGINEERING

MEADOWOOD SECTION TWO, AREA ONE
33RD ELECTION DISTRICT HOWARD CO., MARYLAND

CULVERT GRADING PLAN & PROFILE

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

2 of 3

SCALE: HOR. 1" = 20' DATE: 11-1-88 DWG: 100-2
VERT. 1" = 5' YEAR: 10

DESIGN: T.L.B. DRWN: C.D.H.C.A.B./CHKD: T.H.M./J.A.C.

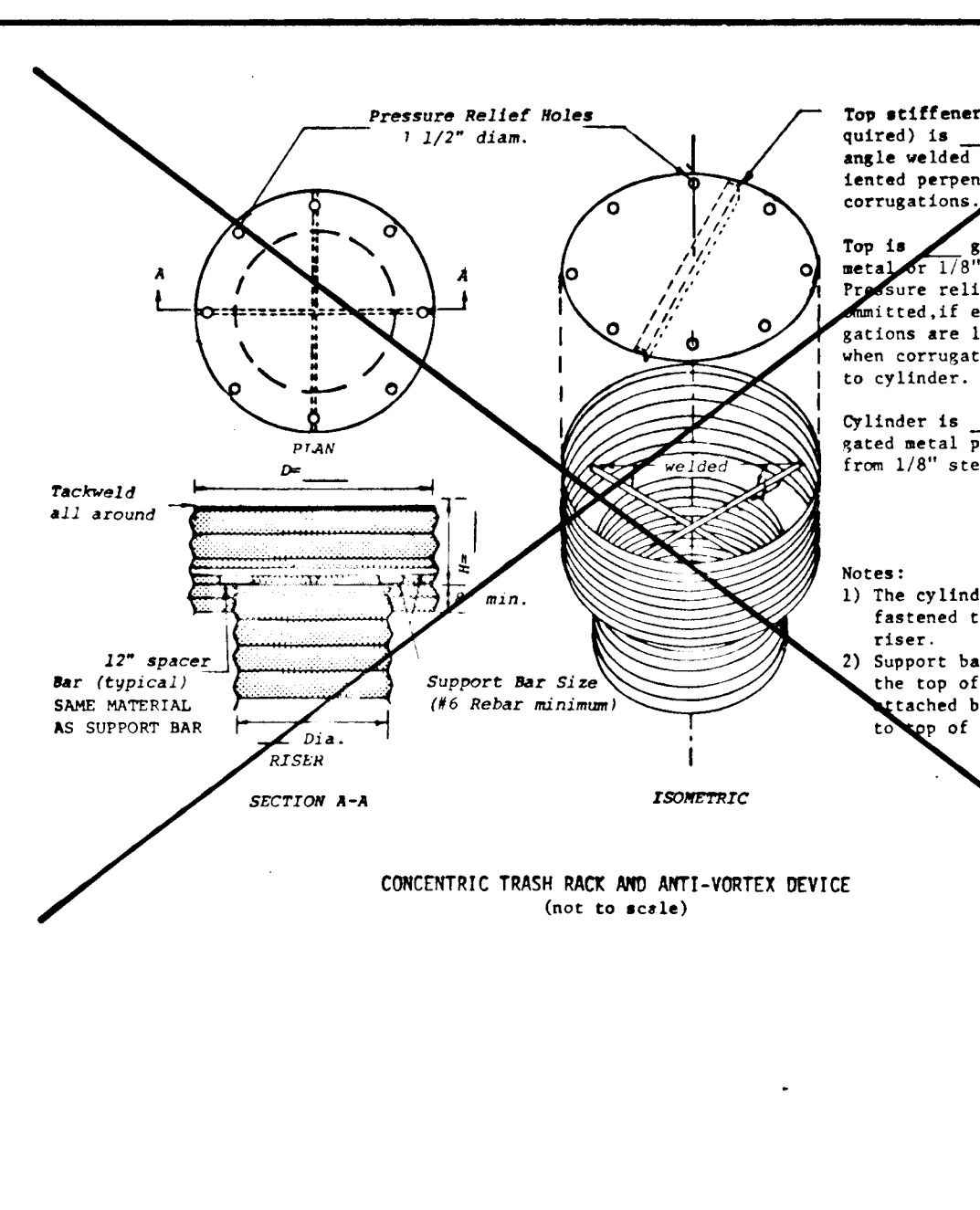
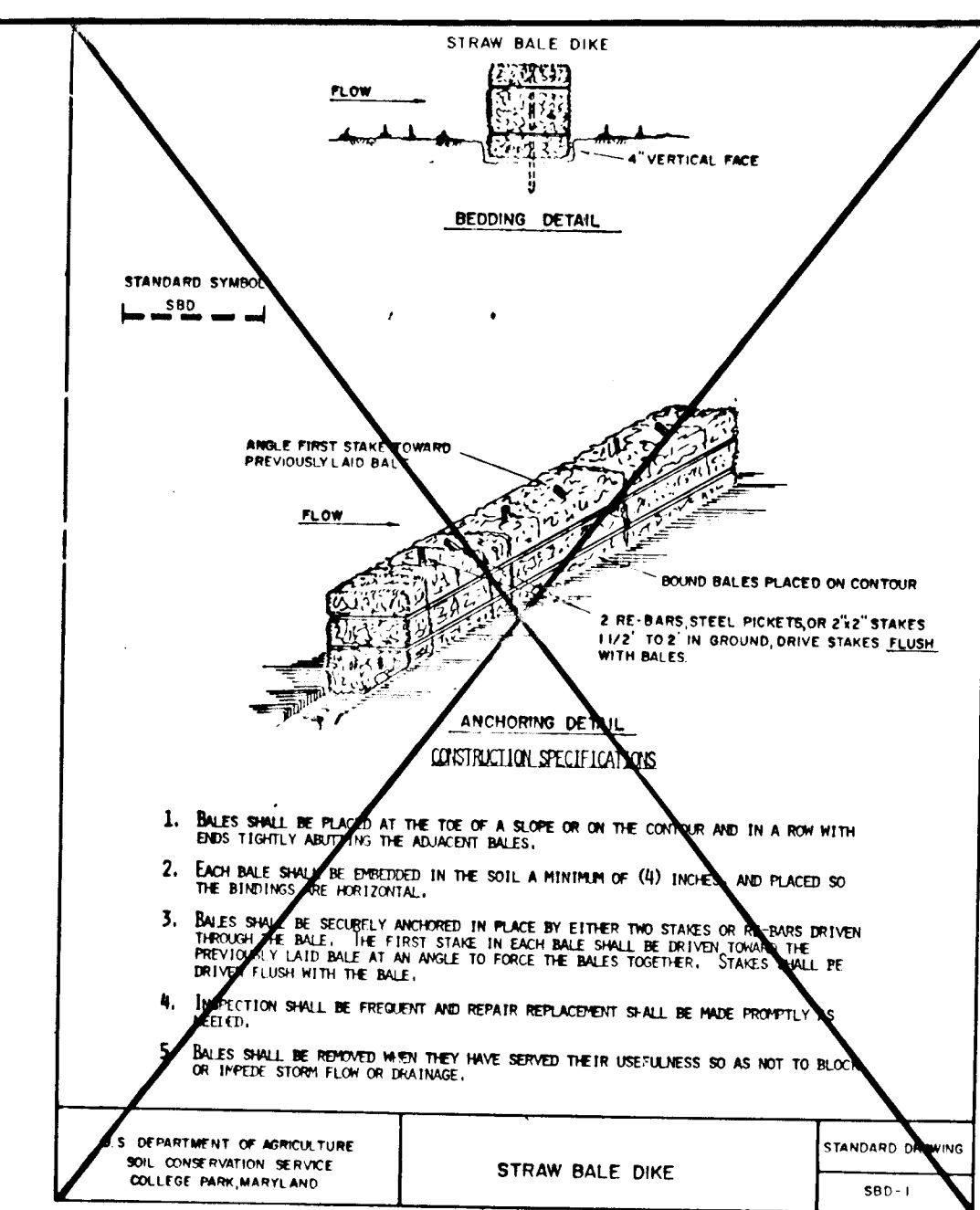
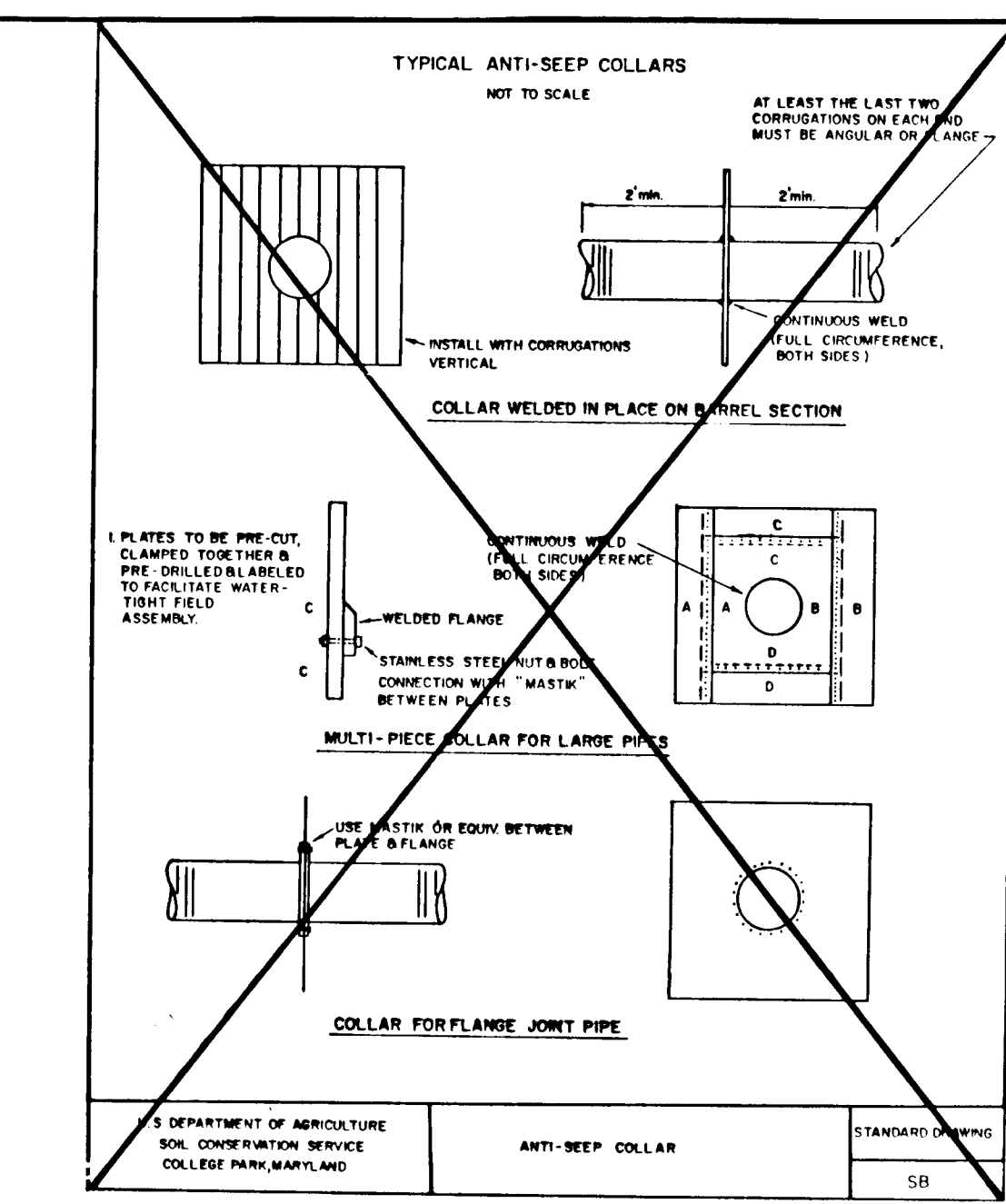
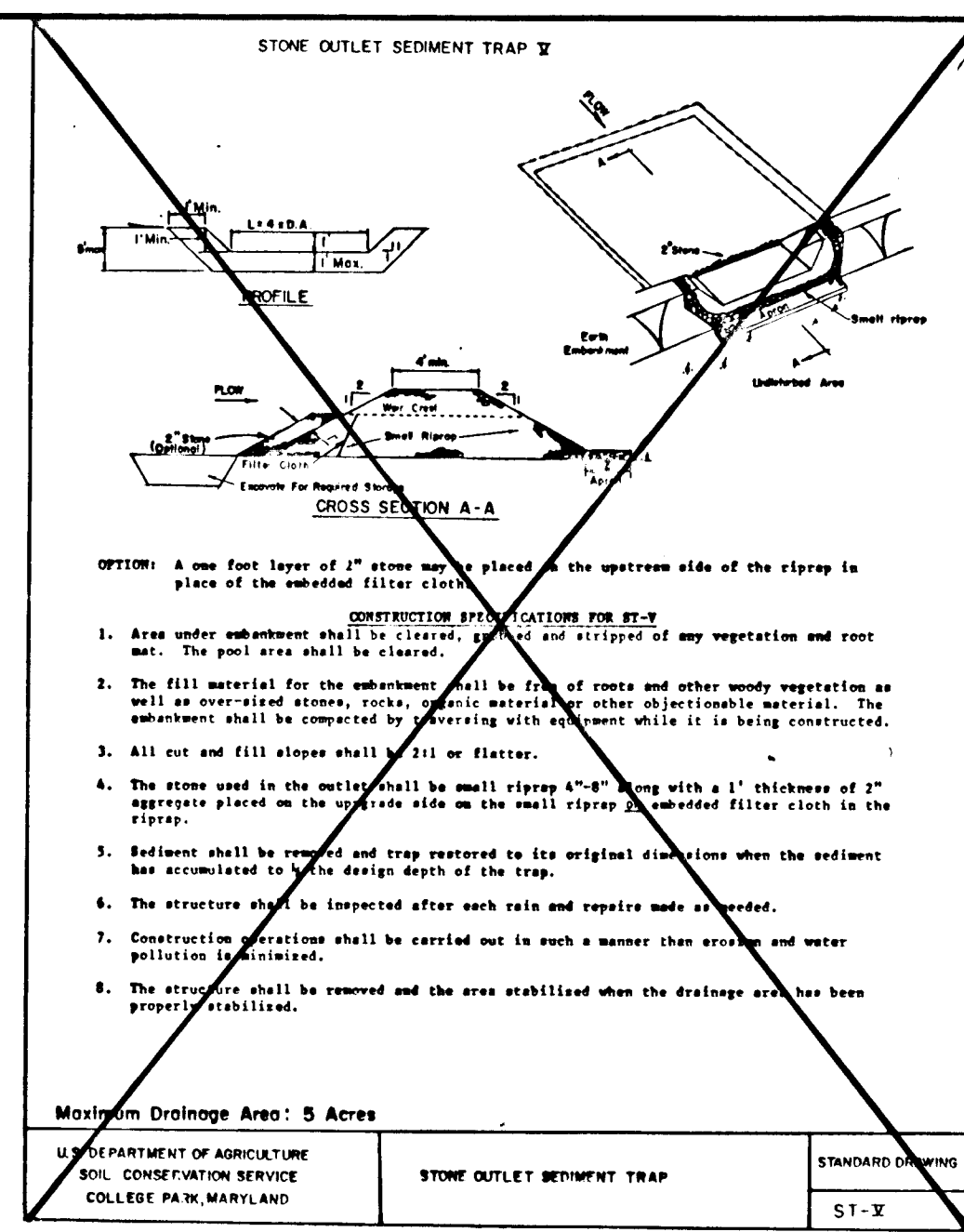
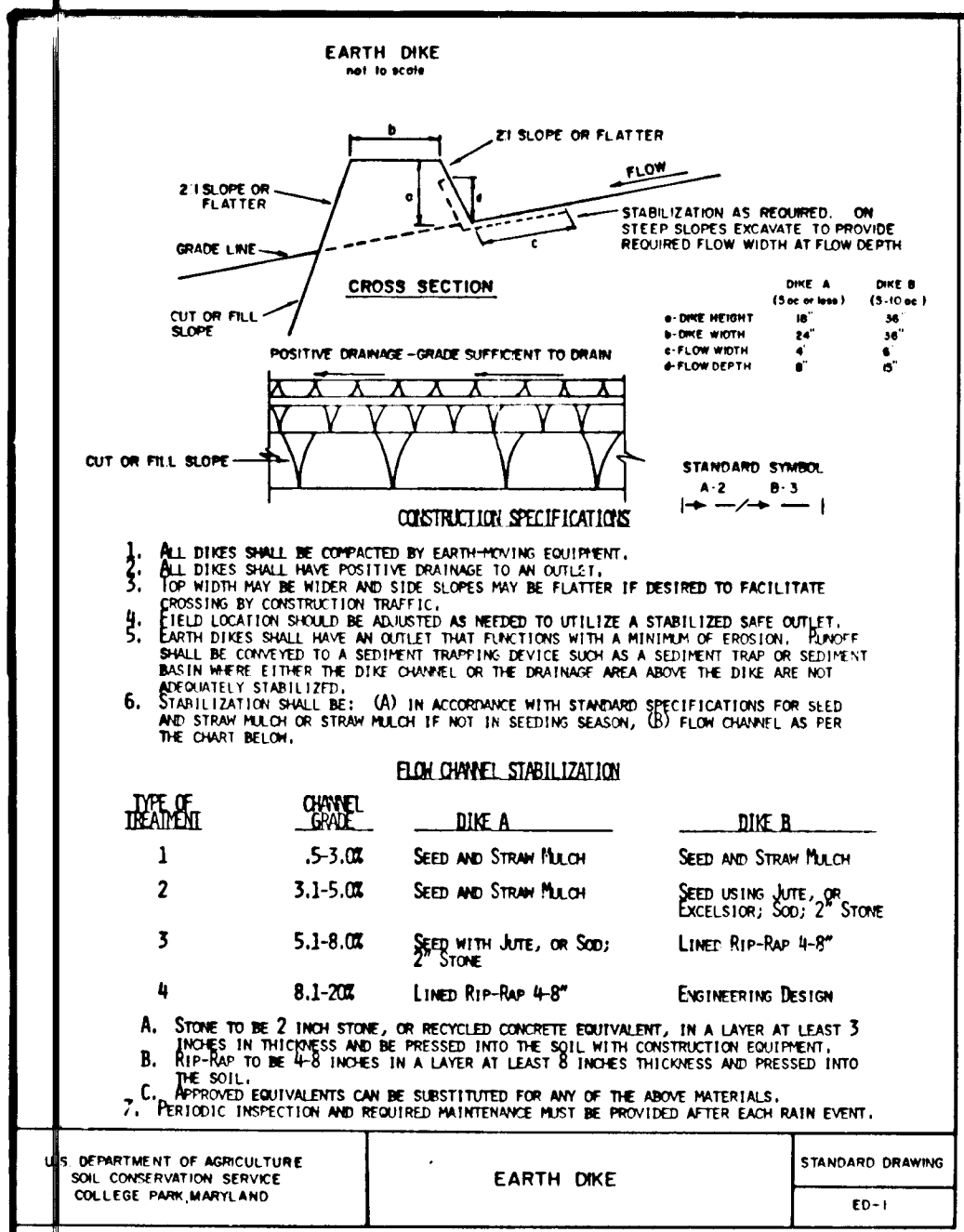
PIT & A
Incorporated, Inc.
11 WARREN RD. BALTIMORE, MD (301) 484-4100



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.

C. Wayne Cooper 3/29/89
DEVELOPER DATE

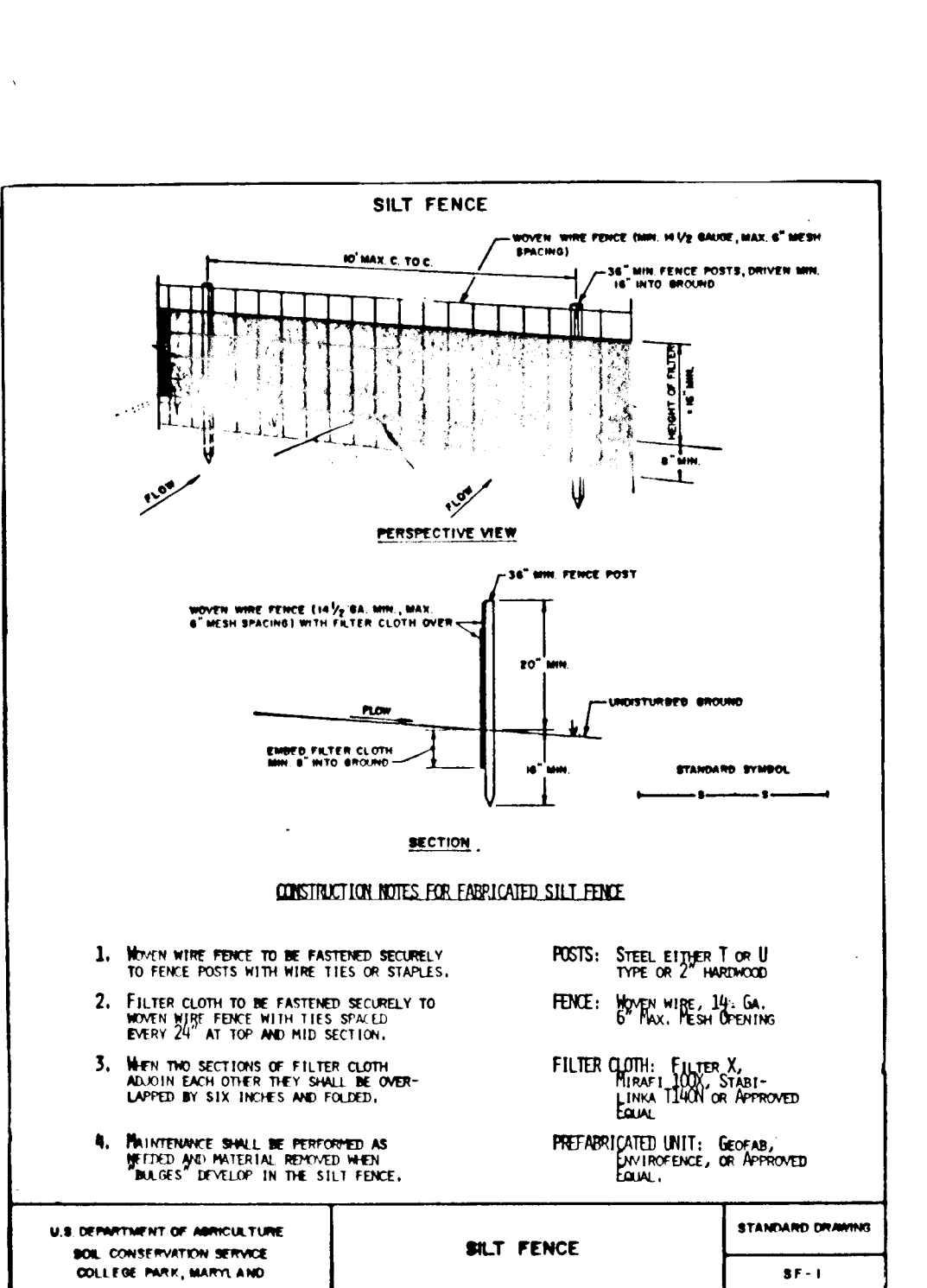
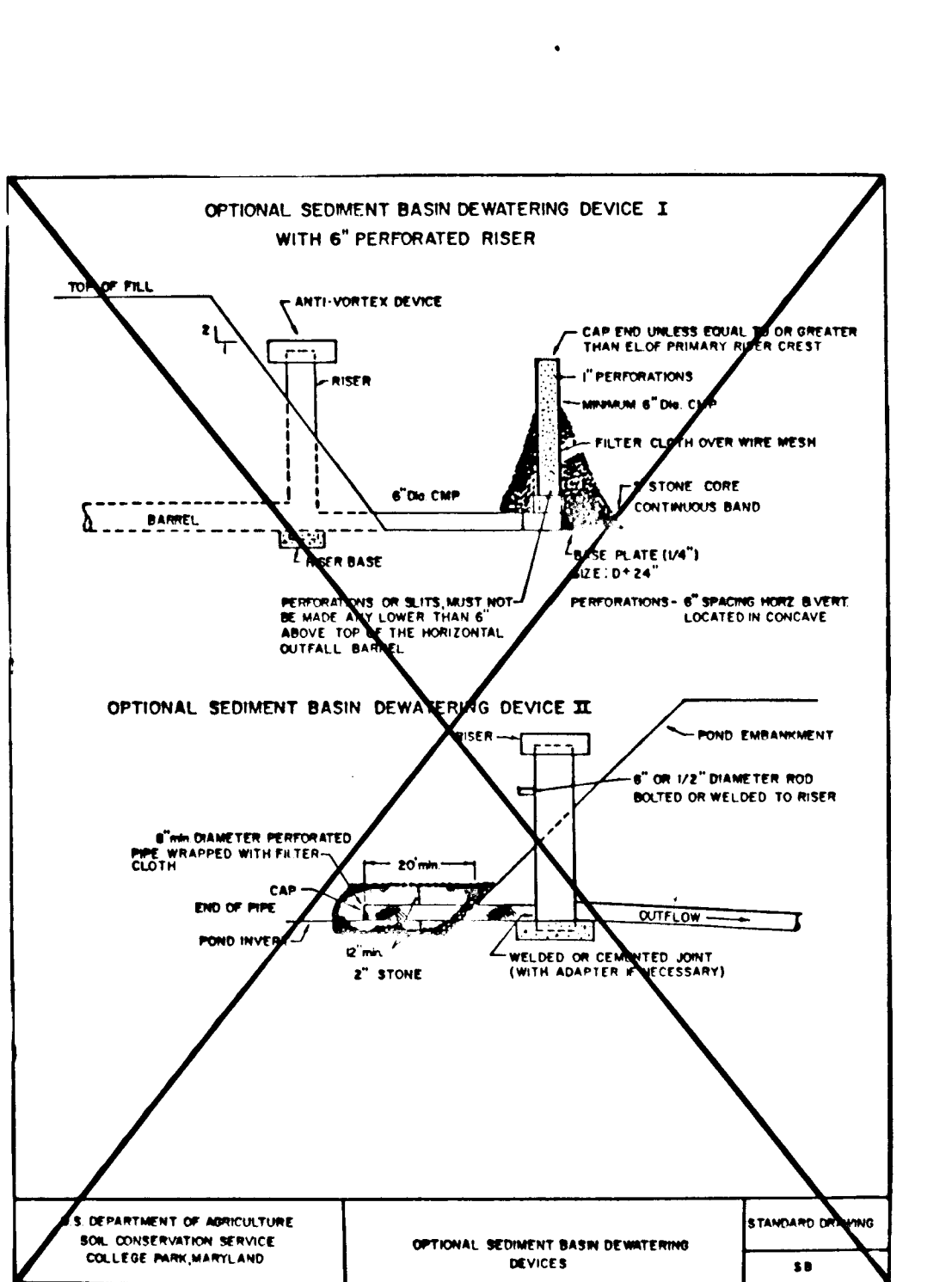
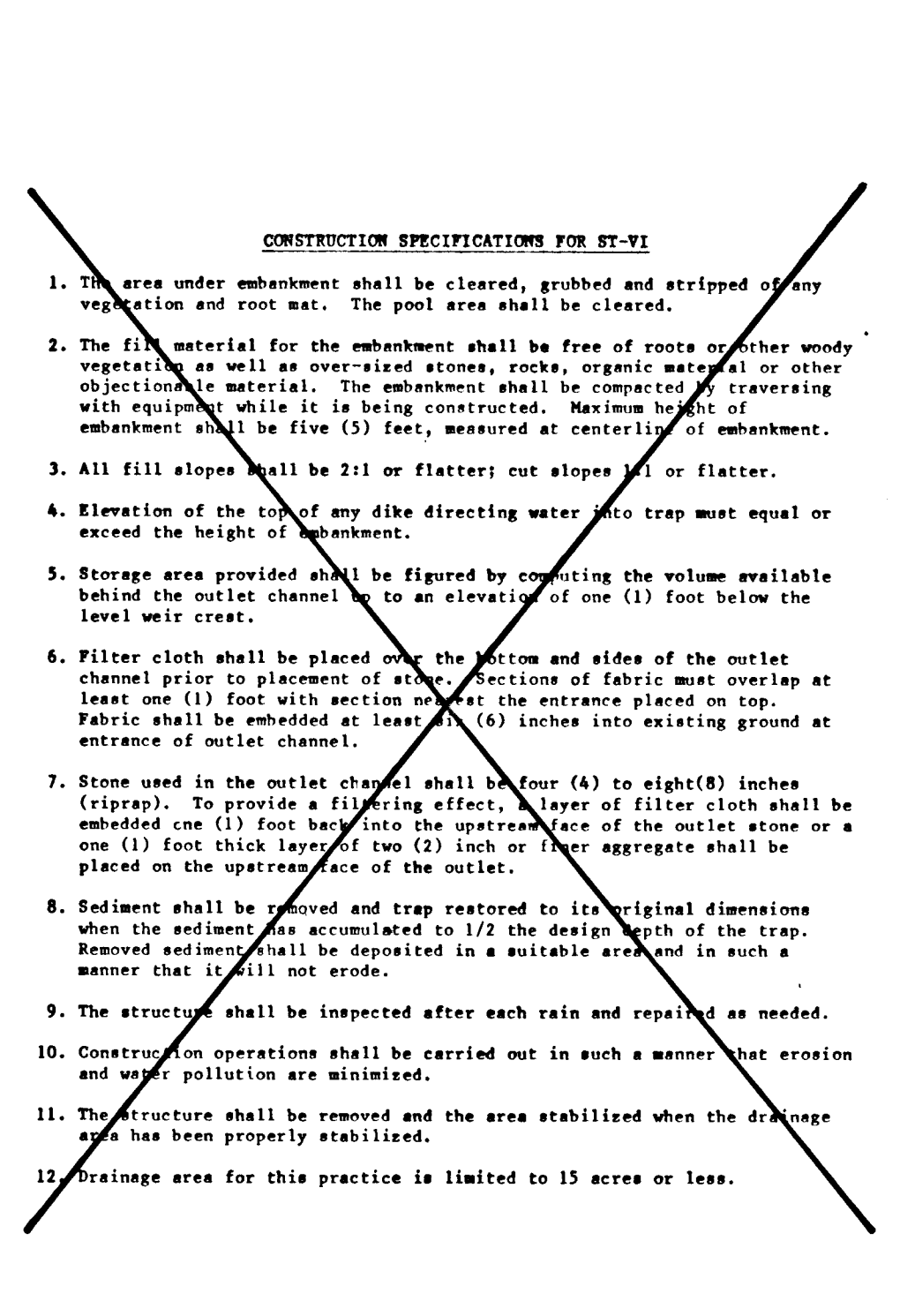
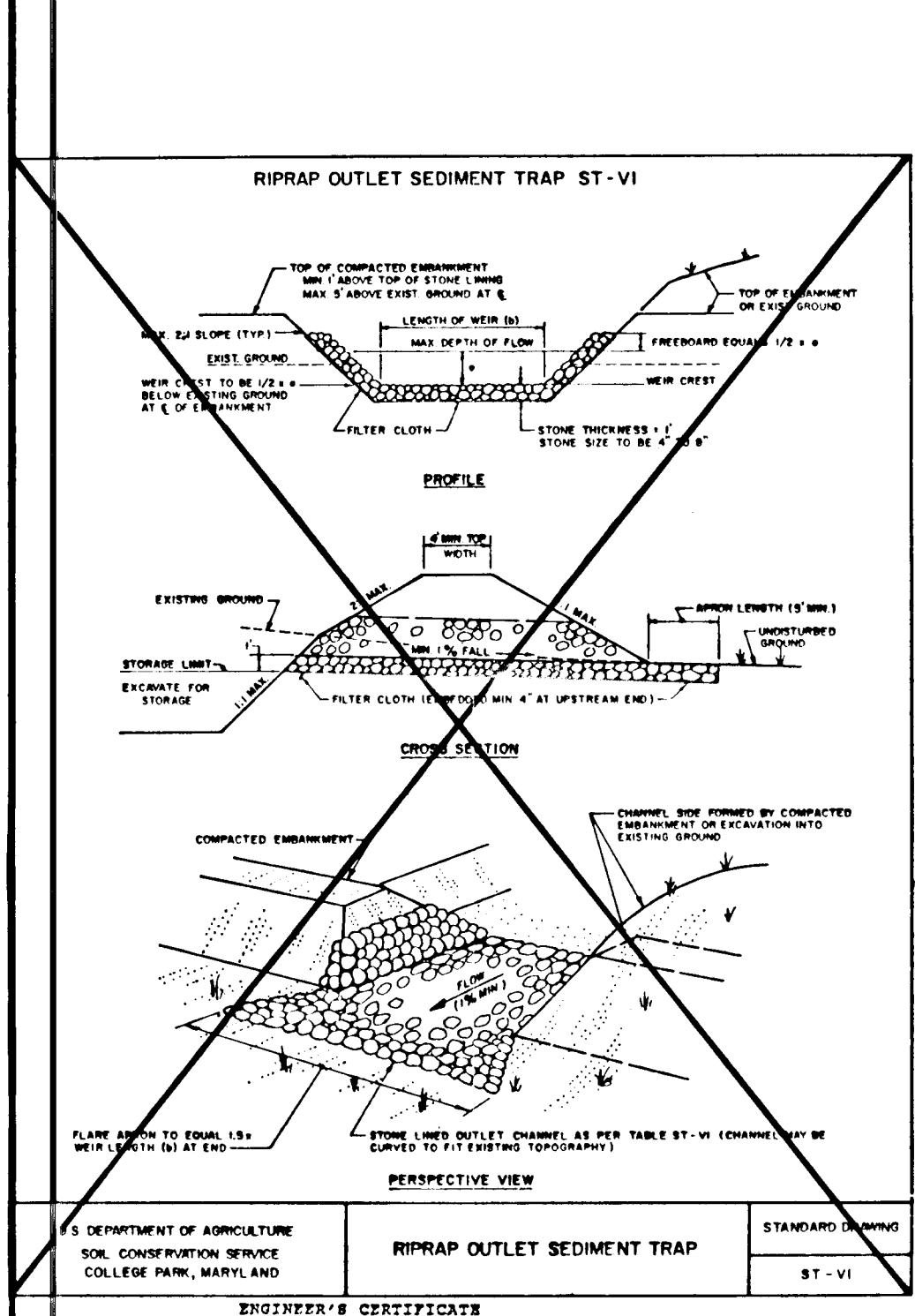
James M. Helms 7/27/89
ENGINEER DATE



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 (092-2437).
- 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, dikes, perimeter slopes and all slopes greater than 3:1. 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/structures shall be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Section 12.1.1.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MANAGEMENT STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51), and temporary seedings (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding rates 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	52.15	Acres
Area Disturbed	2.28	Acres
Area to be roofed or paved	0.30	Acres
Area to be vegetatively covered	0.30	Acres
Total Cut	880	Cu. Yds.
Total Fill	880	Cu. Yds.
Off-site waste/borrow location	N/A	
- 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 controls 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.



SEQUENCE OF CONSTRUCTION

- Obtain a grading permit.
- Notify the Howard County Department of Licenses and Permits Inspector 48 hours prior to beginning work.
- Install stabilized construction entrance.
- Install dikes, silt fence, moundable berms and stone outlet structures.
- Install culverts, endwall structures and gabions.
- Grade area around culverts.
- Stabilize all disturbed areas.
- After receiving permission from sediment control inspector remove all sediment control devices and stabilize those areas.

PERMANENT SEEDING NOTES

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

SEEDING PREPARATION: Loosen upper three inches of soil by raking, hand digging or other acceptable means before seeding, if not already done. Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/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.

SEEDING: For the periods March 1 through April 30, and August 1 through October 15, seed with 60 lbs per acre (14 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs per acre (14 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.

TEMPORARY SEEDING NOTES

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

SEEDING PREPARATION: Loosen upper three inches of soil by raking, hand digging or other acceptable means before seeding, if not already done. Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/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.

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 (3.2 lbs/1000 sq. ft.). For the period May 1 through August 14, seed with 3 lbs per acre of weeping lovegrass (7 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 feet 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.

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL PROVIDES A PROTECTION 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.

San A. Madsen 7/20/87
 ENGINEER DATE

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.

C. Wayne Caplo 8/29/89
 DEVELOPER DATE

REVIEWED FOR HOWARD S. C. D. AND MEETS TECHNICAL REQUIREMENTS.

James M. Helm 8/11/89
 U.S. SOIL CONSERVATION SERVICE DIVISION DATE

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

William L. Shala 8/16/89
 SOIL CONSERVATION DISTRICT DATE

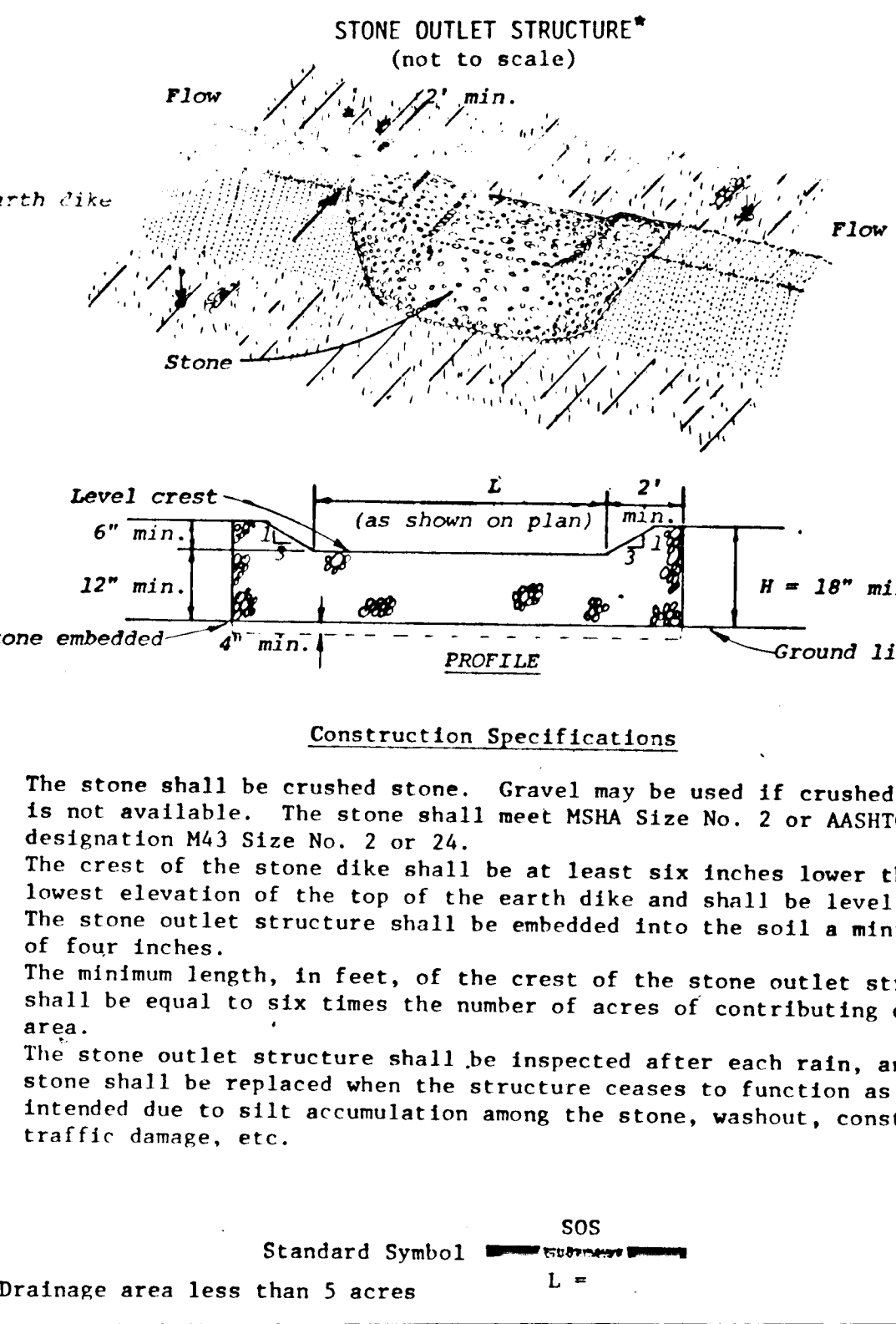
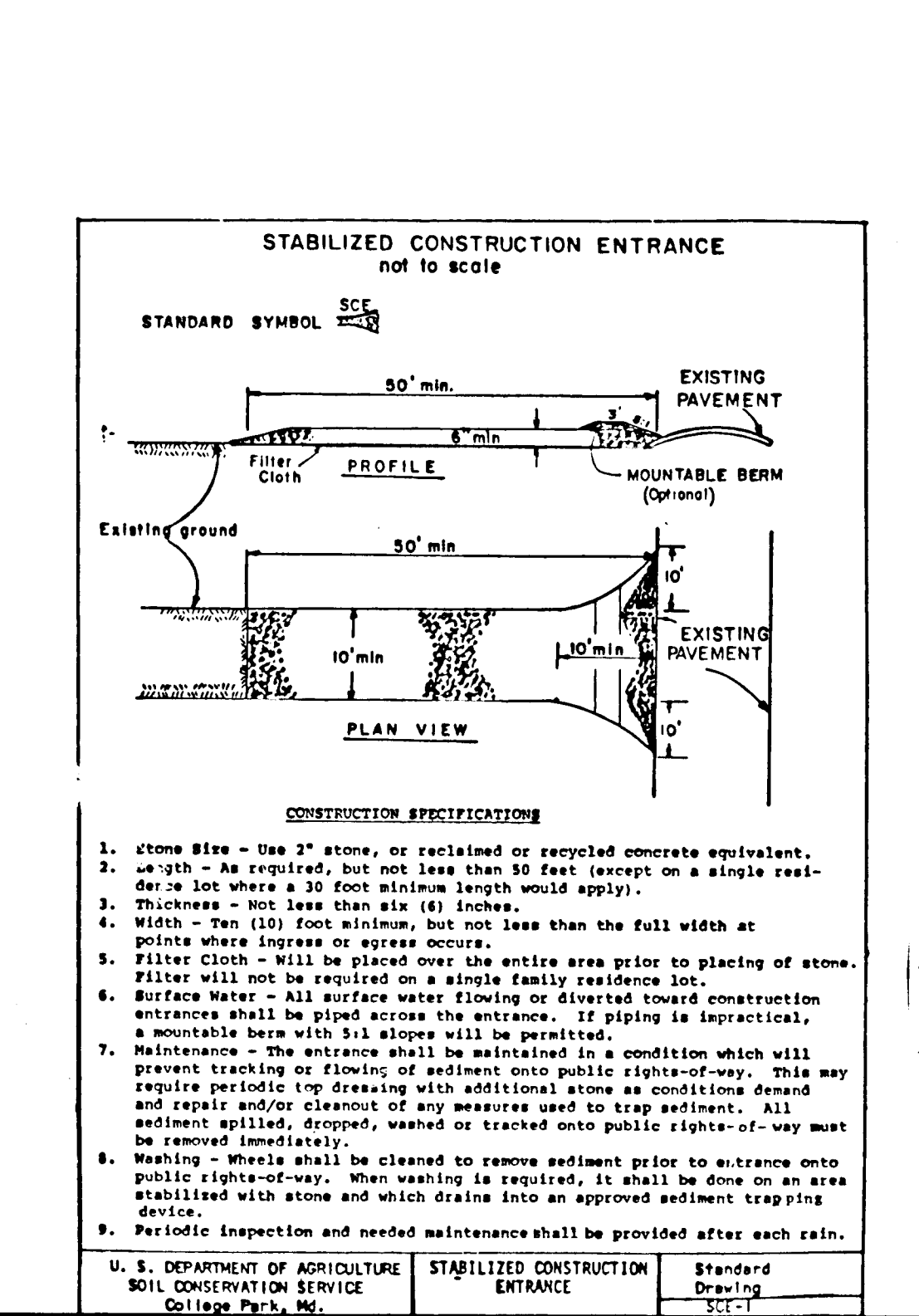
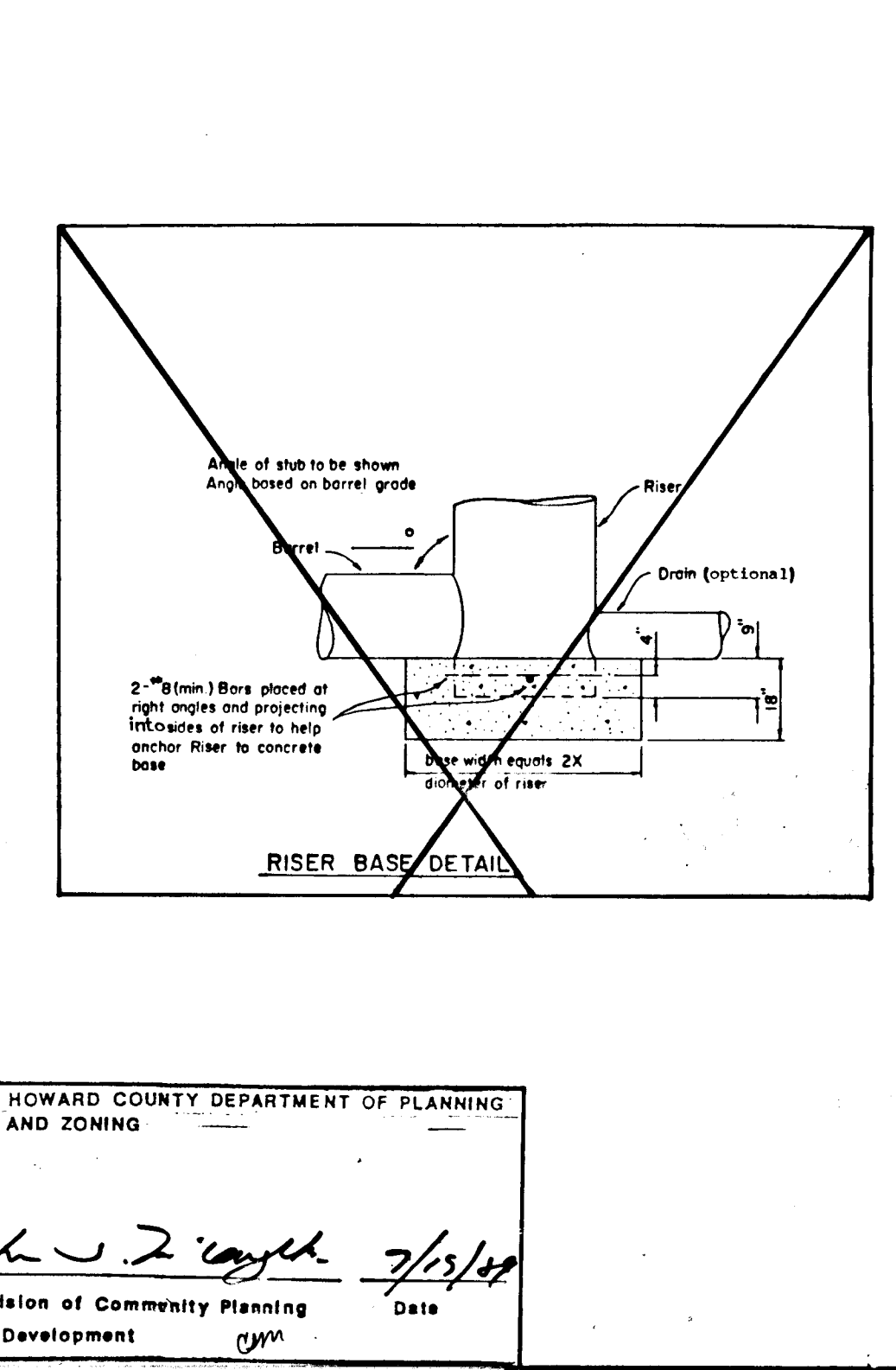
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Ronald J. Egan 8/30/89
 CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Wanda J. Lynch 7/13/88
 Chief, Division of Community Planning and Land Development DATE

William E. Riley 8/30/89
 CHIEF, BUREAU OF ENGINEERING DATE



OWNER / DEVELOPER

SPRINGHILL ASSOC.
 1427 W. D. C. BLDG. 30
 SYKEVILLE, MD. 21784

KOENIG DEVELOPMENT CO.
 5422 WATERBURY PL.
 COLUMBIA, MD. 21045

DETAILS

PROJECT: SECTION TWO AREA ONE
 MEADOWS

O.P. & Z. FILE NOS.: 87-12 P-117
 TAX MAP ID. BLOCK: PARCEL: 1301
 ELECTION DISTRICT: HOWARD COUNTY, MD.
 DES. BY: 30 DRAWN BY: CHKD. BY: DATE: T.H.M. MARCH 1988

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

SHEET 2 OF 2