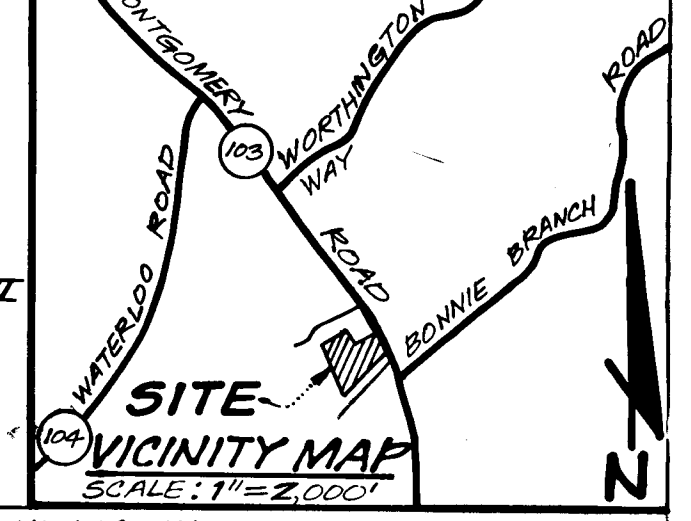


**GENERAL NOTES:**

1. ALL STORM DRAIN & PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST DETAILS & SPECIFICATIONS OF HOWARD COUNTY & MD. S.H.A.
2. TYPES OF STORM DRAIN STRUCTURES REFER TO THE STANDARD DETAILS OF HOWARD COUNTY & MD. S.H.A.
3. TRENCH COMPACTION FOR STORM DRAINS, WITHIN ROAD OR STREET RIGHT-OF-WAY LIMITS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL. III (CLASS C TRENCH BEDDING TO BE USED FOR ALL STORM DRAIN, UNLESS SHOWN OTHERWISE, SEE DETAIL SHT. 5)
4. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS, BY HAND, AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF CONSTRUCTION.
5. ALL UTILITY COMPANIES SHALL BE NOTIFIED 24 HRS. IN ADVANCE OF CONSTRUCTION.
6. ALL TRAFFIC CONTROL DEVICES, PARKING & SIGNING TO BE DONE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1984 REVISED EDITION.
7. SAG & CREST VERTICAL CURVES WERE DESIGNED IN ACCORDANCE WITH HOWARD CO. DESIGN MANUAL VOL. III.
8. PROVIDE CONCRETE SIDEWALK RAMPS, HOWARD CO. STD. TYPE 'A', R-401 WHERE SHOWN IN PLAN.
9. DESIGN SPEED: SEE CHART SHT. 5.
10. ZONING: R-20
11. CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION/SURVEY DIVISION 24 HRS. BEFORE COMMENCING WORK AT 792-1272.
12. FOR TREE SCHEDULE SEE THIS SHT.
13. STREET LIGHTS SHALL BE PROVIDED AT THE LOCATIONS SHOWN IN THE SCHEDULE ON SHT. 2 & IN ACCORDANCE WITH VOL. III OF THE HOWARD CO. DESIGN MANUAL.
14. STORM WATER MANAGEMENT FOR THIS SITE IS PROVIDED BY A REGIONAL FACILITY IN MONTGOMERY MEADOWS.

**CURVE DATA - LITTLE CREEK DRIVE**  
 R.C. = 5+56.51 TO RT. = 9+44.82  
 R = 295.00'  
 ARC = 388.31'  
 Δ = 75° 25' 10"  
 CHD = 571° 49' 32" E, 360.88'



**TREE PLANTING NOTES:**

1. CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO DIGGING.
2. FINAL LOCATION OF TREES MAY BE ADJUSTED SLIGHTLY TO ACCOMMODATE FIELD CONDITIONS.
3. PLANTING PROCEDURES SHALL COMPLY WITH "LANDSCAPE SPECIFICATIONS FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS."
4. SUBSTITUTIONS TO THE AREA SPECIES MAY BE PERMITTED PROVIDED THAT THE PLANTING IS IN ACCORDANCE WITH THE STREET TREE AND LANDSCAPE REQUIREMENTS AS SPECIFIED IN SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 5/2/90  
 CHIEF, LAND DEVELOPMENT DIVISION  
 [Signature] 4/30/90  
 CHIEF, BUREAU OF HIGHWAYS  
 [Signature] 5/2/90  
 CHIEF, BUREAU OF ENGINEERING  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 [Signature] 5/2/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

**G.W. GUTSCHICK LITTLE & WEBER, P.A.**  
 ENGINEERS, PLANNERS, SURVEYORS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20866  
 TEL.: (301) 421-4024

DESIGNED: C.K.G.  
 DRAWN: R.R.S.  
 CHECKED: C.K.G.  
 DATE: FEB 1990

**ROAD CONSTRUCTION PLANS**  
**LITTLE CREEK DRIVE**  
**CRYSTAL SPRINGS ESTATES 1 OF 6**  
 SECTION TWO AREA ONE  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 FOR: CRYSTAL SPRINGS, INC.  
 270 BERTON CONSTRUCTION CO.  
 610 EXEC. BLVD., SUITE 1090  
 ROCKVILLE, MARYLAND 20852

SCALE AS SHOWN  
 DRAWING 1 OF 6  
 JOB NO. 88-008

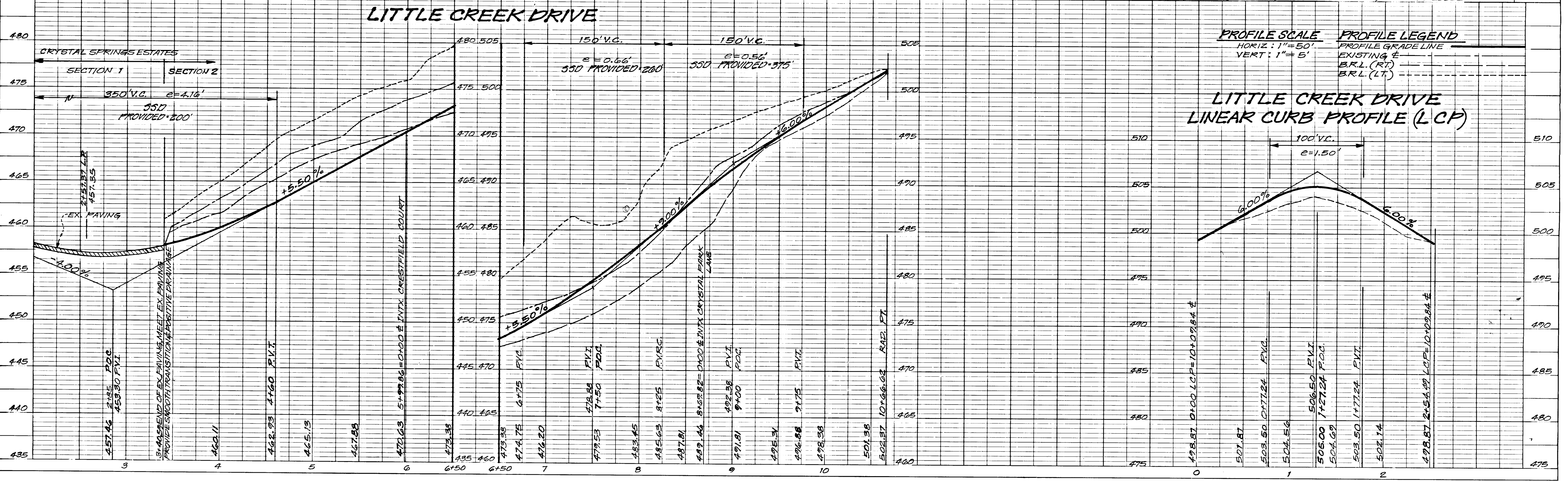
**TREE SCHEDULE**

KEY PLANT NAME	SIZE	QUANT.	REMARKS
(M) ACR. RUBRUM SUNSET SUNSET MAPLE	2 1/2" CAL. MIN.	25	8.5% HEALTHY
(C) QUERCUS RUBRA		30	
(D) NORTHERN RED OAK		3	
(E) CORNUS FLORIDA			
(F) WHITE DOGWOOD			

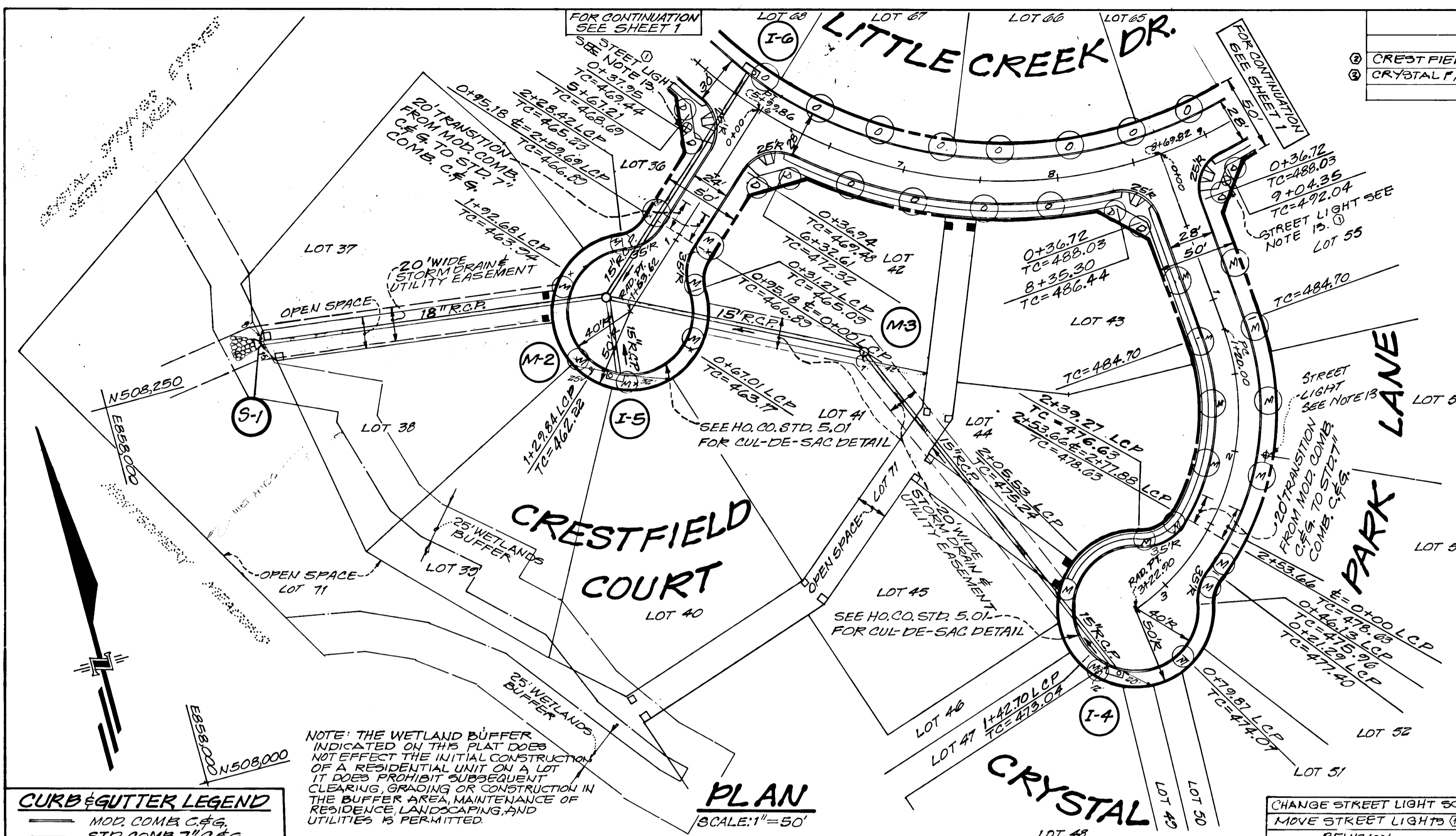
**CURB & GUTTER LEGEND**  
 MOD. COMB. C.G.G.

REVISION

REVISION	DATE	BY
MOVE STREET LIGHTS (1)	SEPT. 19 1990	M.C.F.



1470



STREET LIGHT SCHEDULE			
LOCATION	LAMP TYPE	MOUNTING	POLE TYPE
CRESTFIELD COURT & ST. 0+36	33RT	100 WATT	TRADITIONAL
CRYSTAL PARK LN. & ST. 0+31	33LT	100 WATT	TRADITIONAL

**CURVE DATA - CRYSTAL PARK LANE**  
 PC=1+20.00 TO PT.=3+22.90  
 R=155.00'  
 ARC=202.90°  
 Δ=75°00'00"  
 CHD=5.32' 31' 53" W, 188.72'



**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.  
 C.K. Hutcho 8-2-88

I/we certify that a development and construction will be done according to this plan and that any responsible personnel involved in the construction will be licensed and qualified. All work at a proposed site shall be done in accordance with the approved plan. I also authorize periodic on-site inspection by the H.S.C.D.  
 7/25/88

- 10 BOLLARDS TO BE INSTALLED AT A HEIGHT OF 18 INCHES FROM GROUND LEVEL WITH NO FACE PLATE (SEE HOWARD COUNTY OPEN SPACE BOLLARD DETAIL)
- 6 BOLLARDS TO BE INSTALLED AT A HEIGHT OF 24 INCHES FROM GROUND LEVEL WITH FACE PLATE (SEE HOWARD COUNTY OPEN SPACE BOLLARD DETAIL SHOWN ON PAGE 6)

DATE	REVISION
2-22-94	REMOVED 4" PATH & ADDED BOLLARDS - JK

PROFILE SCALE		PROFILE LEGEND	
HORIZ.: 1"=50'	VERT.: 1"=5'	PROFILE GRADE LINE	EXISTING E
		B.R.L. (RT)	B.R.L. (LT)

APPROVED: DEPARTMENT OF PUBLIC WORKS

*Donald W. Johnson* 5/2/90  
 CHIEF, LAND DEVELOPMENT DIVISION

*Shawelle W. Williams* 4/30/90  
 CHIEF, BUREAU OF HIGHWAYS

*James M. Adams* 5-1-88  
 CHIEF BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*James J. Taylor* 5/2/90  
 CHIEF DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

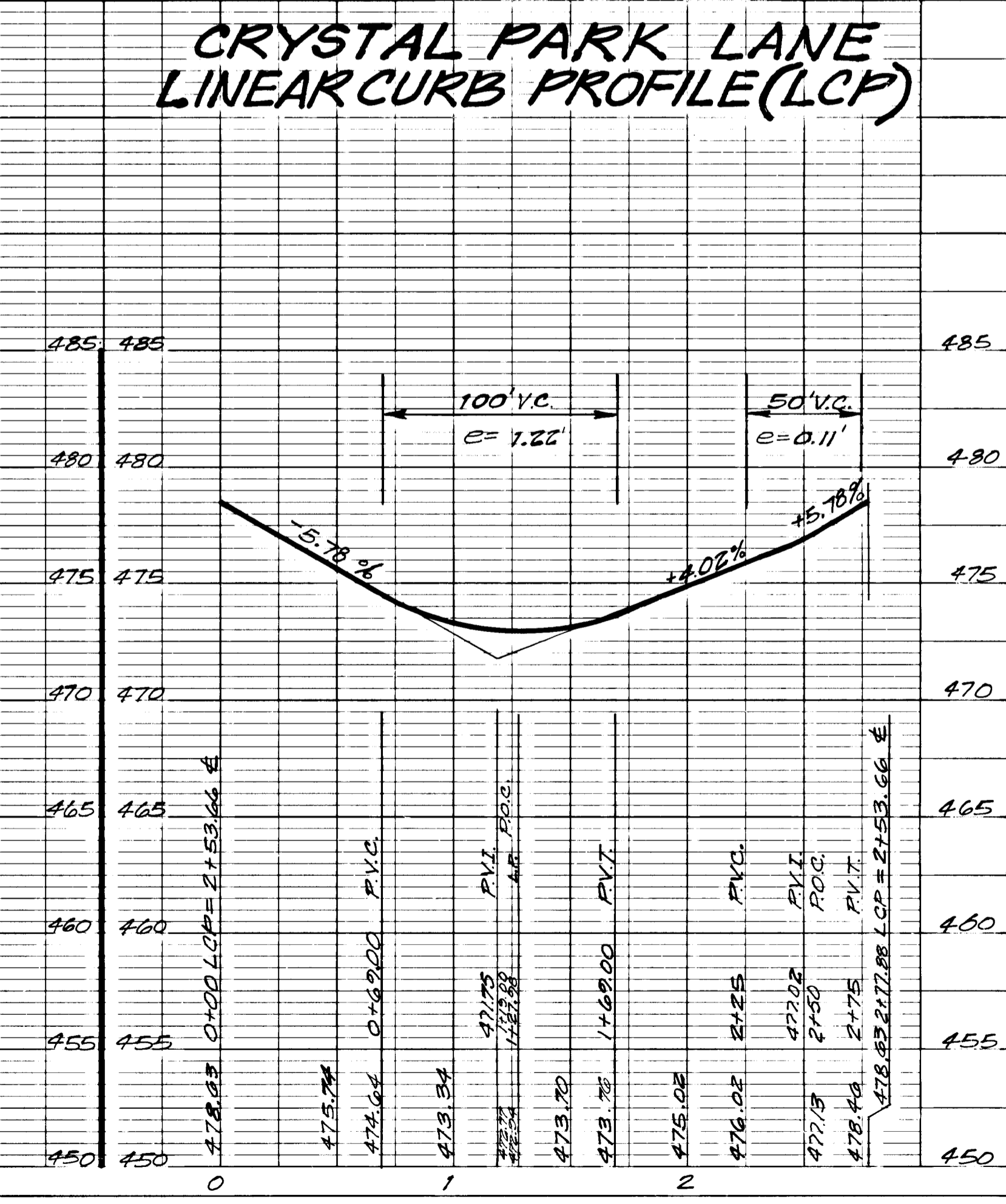
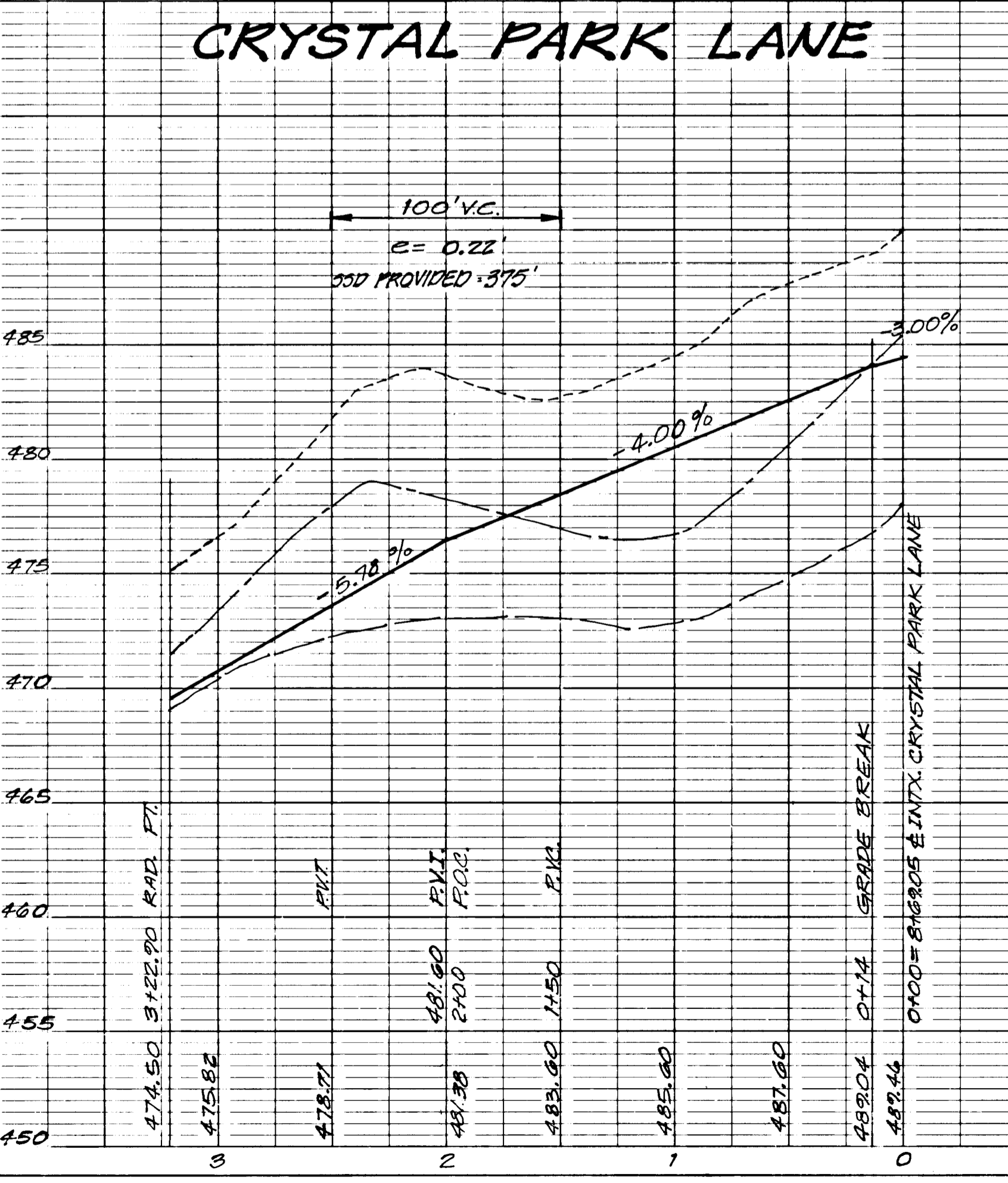
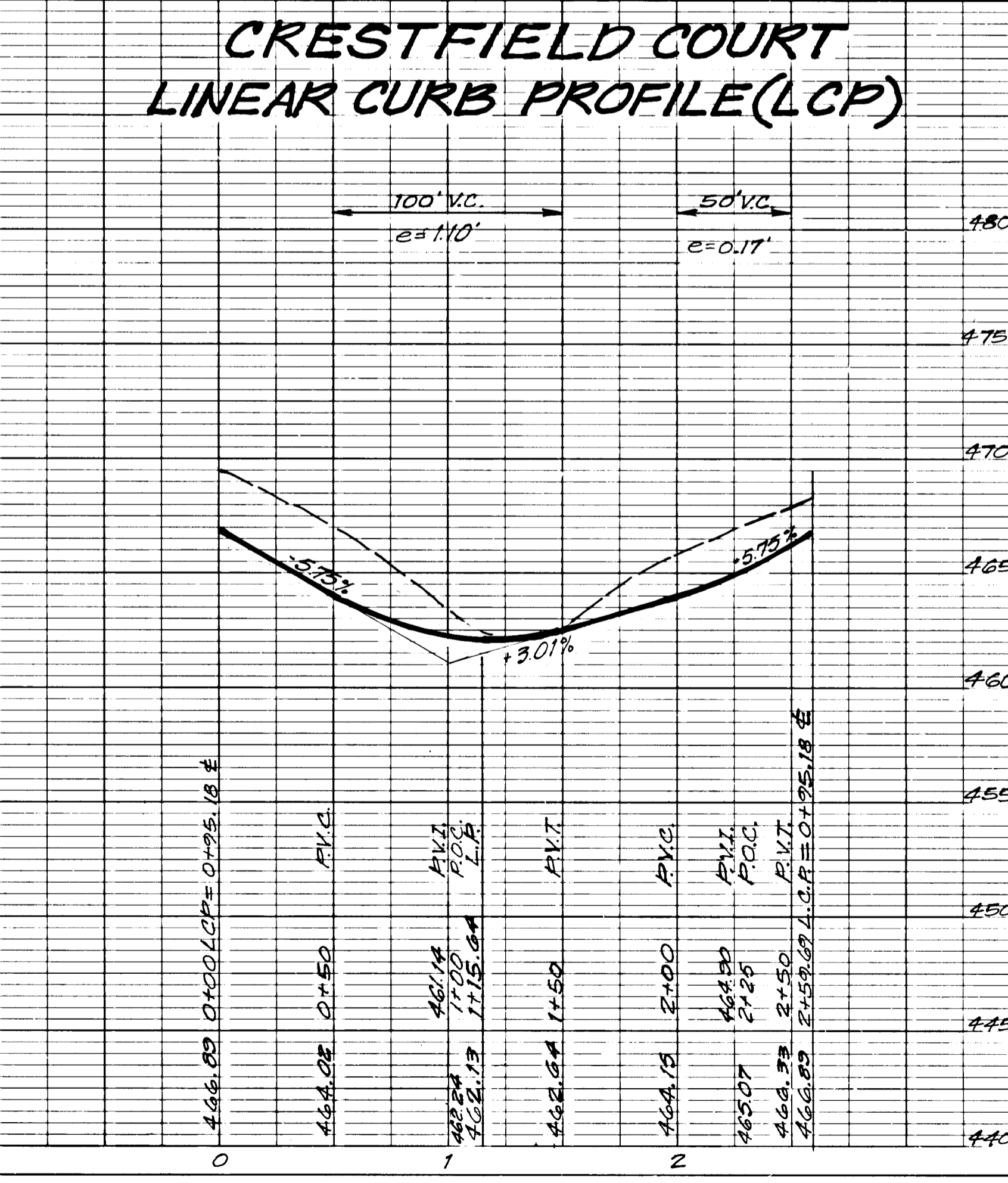
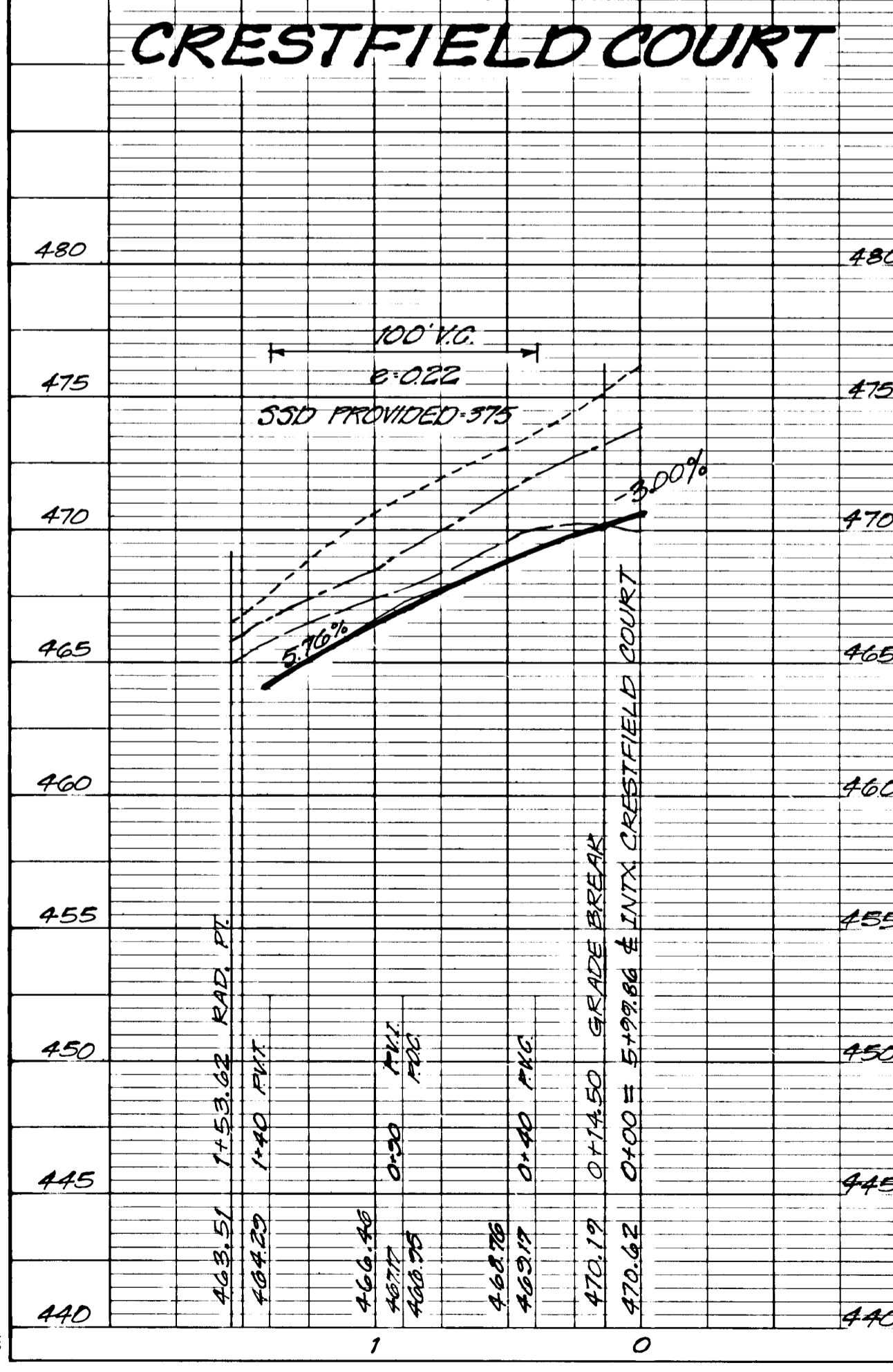
**G.W. GUTSCHICK LITTLE & WEBER, P.A.**  
 ENGINEERS, PLANNERS, SURVEYORS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20866  
 TEL.: (301) 421-4024

DESIGNED: C.K.G.  
 DRAWN: R.R.S.  
 CHECKED: C.K.G.  
 DATE: FEB. 1989

SCALE: AS SHOWN  
 DRAWING: 20 of 6

FOR: CRYSTAL SPRINGS, INC.  
 6110 EXEC. BLVD., SUITE 1090  
 ROCKVILLE, MARYLAND 20862

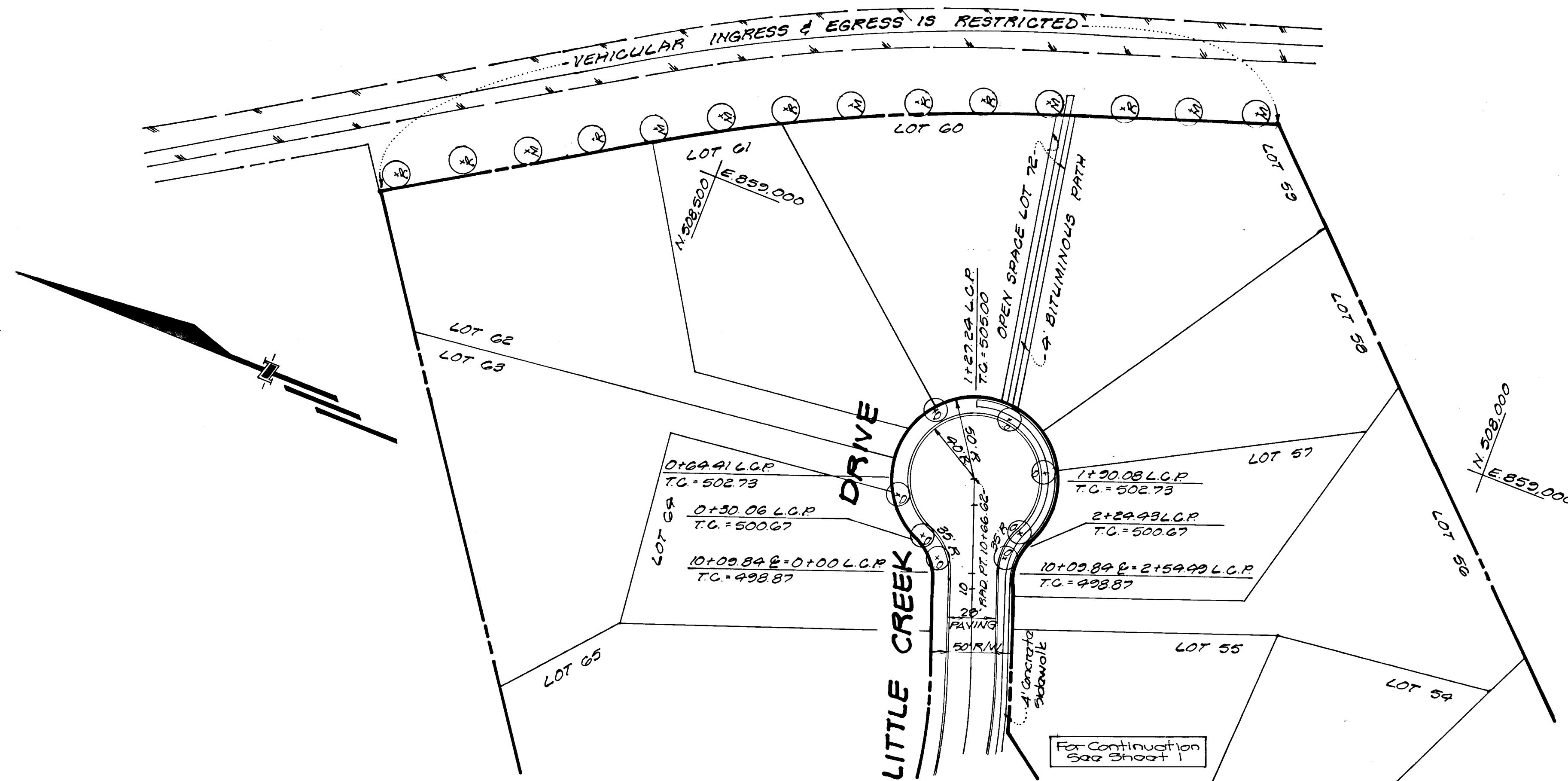
JOB NO. 88-008



1470

MONTGOMERY ROAD  
MD RTE 103

VEHICULAR INGRESS & EGRESS IS RESTRICTED



*C. K. G.*

Developers/Builder's Certificate  
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 at a Department of Natural Resources Approved Training Program for the Control of Sedimentation and Erosion before beginning this project. I/We also authorize periodic on-site inspection by H.S.C.D.

Builder/Developer Date

Engineers 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.

Engineers Date

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation Dist.  
Howard S.C.D. Date  
Reviewed for Howard S.C.D. and Made Technical Requirements.  
U.S. Soil Conservation Service Date

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Donald E. Seaman* 5/2/90  
CHIEF, LAND DEVELOPMENT DIVISION DATE  
*Lawrence W. Webeaud* 4/30/90  
CHIEF, BUREAU OF HIGHWAYS DATE  
*James R. G. G.* 5-2-90  
CHIEF, BUREAU OF ENGINEERING DATE  
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Mark J. Langley* 5/29/90  
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

**G.W. GUTSCHICK LITTLE & WEBER, P.A.**  
ENGINEERS, PLANNERS, SURVEYORS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20866  
TEL.: (301) 421-4024

DESIGNED C.K.G.	ROAD CONSTRUCTION PLANS BITUMINOUS SIDEWALK THROUGH OPEN SPACE LOT 72	SCALE AS SHOWN
DRAWN L.H.	CRYSTAL SPRINGS ESTATES	DRAWING 3 OF 6
CHECKED D.E.V.	SECTION TWO AREA ONE 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
DATE APRIL 1990	FOR: CRYSTAL SPRINGS, INC. 610 BERTON CONSTRUCTION CO. 610 EXECUTIVE BLVD., SUITE 1000 ROCKVILLE, MARYLAND 20852	JOB NO. 88-008

0471



SEDIMENT TRAP NO. 1

RIP-RAP OUTLET SEDIMENT TRAP

DRAINAGE AREA = 6.8 Ac. (PRE-DEVELOPMENT) 6.2 Ac. (POST-DEVELOPMENT)

STORAGE REQUIRED =  $6.20(1800) = 11,160 \text{ cu. ft.}$

STORAGE DEPTH = 3.25 FEET

CLEAROUT ELEVATION = 448.58

OUTLET ELEVATION = 451.0

BOTTOM ELEVATION = 440.75

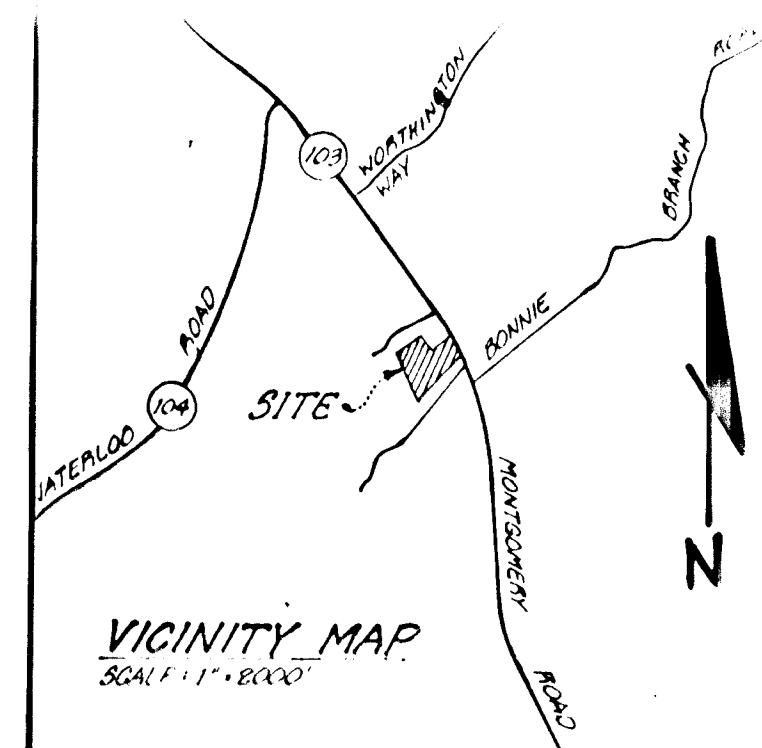
SIDE SLOPES = 2:1

SURFACE AREA @ ELEVATION 450.00 (\*L.O.S.) = 4185.0 SQ. FT.

SURFACE AREA @ ELEVATION 446.75 (BOTTOM) = 2,216.5 SQ. FT.

VOLUME PROVIDED =  $\frac{4185.0 + 2,216.5}{2} \times 3.25 = 11,532.0 \text{ cu. ft.}$

\*L.O.S. = LIMIT OF STORAGE



NOTE: GRADING AROUND THE SEDIMENT TRAP IS TEMPORARY. THE FINAL SITE PLAN WILL REFLECT FINAL GRADING IN ACCORDANCE WITH HOWARD COUNTY REGULATIONS.

NOTES FOR 18" PLASTIC CORRUGATED PIPE (P.C.P.)

1. CONTRACTOR SHALL SECURE 18" P.C.P. TO PROTECT 18" RCP IN ORDER TO PROVIDE A WATERTIGHT SEAL.

2. CONTRACTOR SHALL ALSO INSURE POSITIVE DRAINAGE TO SEDIMENT TRAP #1.

3. A MINIMUM OF 1.0' OF COVER SHALL BE PLACED OVER 18" P.C.P.

NOTES FOR MOUNTAIN BEAMS

1. MOUNTAIN BEAM AT SITE SHALL BE CONSTRUCTED WITH EARTH CURB IN ORDER TO ELIMINATE SEDIMENT RUNOFF BEYOND THE SLOPE.

2. BOTH BEAMS SHALL BE CONSTRUCTED TO INSURE POSITIVE DRAINAGE TOWARD TRAP #1.

3. BOTH BEAMS SHALL BE REPAIRED AND MAINTAINED ONLY AS ROAD ROUGH GRADING PROGRESSES.

SEDIMENT TRAP NO. 2

Sediment Trap

Drainage Area = 6.7 Ac. (Pre-Development) 6.3 Ac. (Post-Development)

Storage Required =  $6.3(1800) = 11,340 \text{ cu. ft.}$

Storage Depth = 3.5 Feet

Clearout Elevation = 452.75

Outlet Elevation = 451.0

Bottom Elevation = 441.0

Side Slopes = 2:1

Surface Area @ Elevation 454.5 (\*L.O.S.) = 4774.9 sq. ft.

Surface Area @ Elevation 451.0 (bottom) = 3100 sq. ft.

Volume Provided =  $\frac{4774.9 + 3100}{2} \times 3.5 = 12,763.0 \text{ cu. ft.}$

L.O.S. = Limit of Storage

LEGEND

EX. CONTOUR  $\frac{450}{1500000}$

PROP. CONTOUR  $\frac{42}{1500000}$

PROP. DRAINAGE DIVIDE  $\frac{E.D./B-1}{1500000}$

EARTH DIKE  $\frac{E.D./B-1}{1500000}$

SILT FENCE  $\frac{X}{1500000}$

STABILIZED CONSTRUCTION ENTRANCE  $\frac{X}{1500000}$

PROP. STORM DRAIN

TEMP. CONTOURS FOR SEDIMENT TRAPS

DEVELOPER'S/OWNER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan and that any responsible person involved in the construction project will have a reasonable knowledge of the site conditions and that it was made in accordance with the requirements of the project. I also authorize periodic on-site inspection by the State.

*Samuel Klein* 7/25/88

ENGINEER'S CERTIFICATE

I certify that this plan for erosion and sediment control represents a practical and suitable plan based on my personal knowledge of the site conditions and that it was made in accordance with the requirements of the project. It is intended to be used in accordance with the requirements of the project.

*C.K. Jantsch* 8-2-88

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING & ZONING

*John W. Hahn* 4/17/90

*John R. Hunter* 4/17/90

APPROVED: DEPARTMENT OF PUBLIC WORKS

*Donald J. Sapon* 5/2/90

*Graville W. Woodard* 4/30/90

*Franklin S. DeCay* 5/23/90

**GUTSCHICK LITTLE & WEBER, P.A.**

ENGINEERS, PLANNERS, SURVEYORS

3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20886

TELEPHONE (301) 421-4024

PREPARED FOR:

CRYSTAL SPRINGS, INC.

9% BERTON CONSTRUCTION CO.

6110 EXEC. BLVD., SUITE 1090

ROCKVILLE, MARYLAND 20852

SEDIMENT EROSION CONTROL PLAN & DRAINAGE PLAN

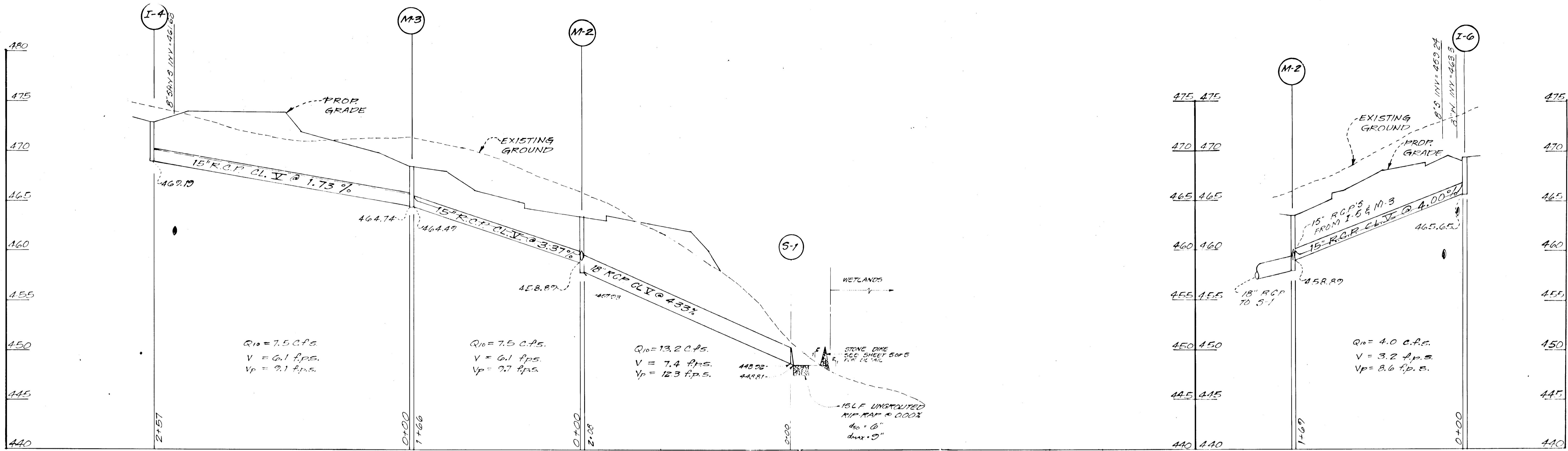
**CRYSTAL SPRINGS ESTATES**

SECTION TWO AREA ONE

1<sup>ST</sup> ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE	1" = 50'	ZONING		G.L.W. FILE NO.	88-008
DATE	FEB 1989	TAX MAP NO.	31	SHEET	4 OF 6
		PARCEL NO.	177		



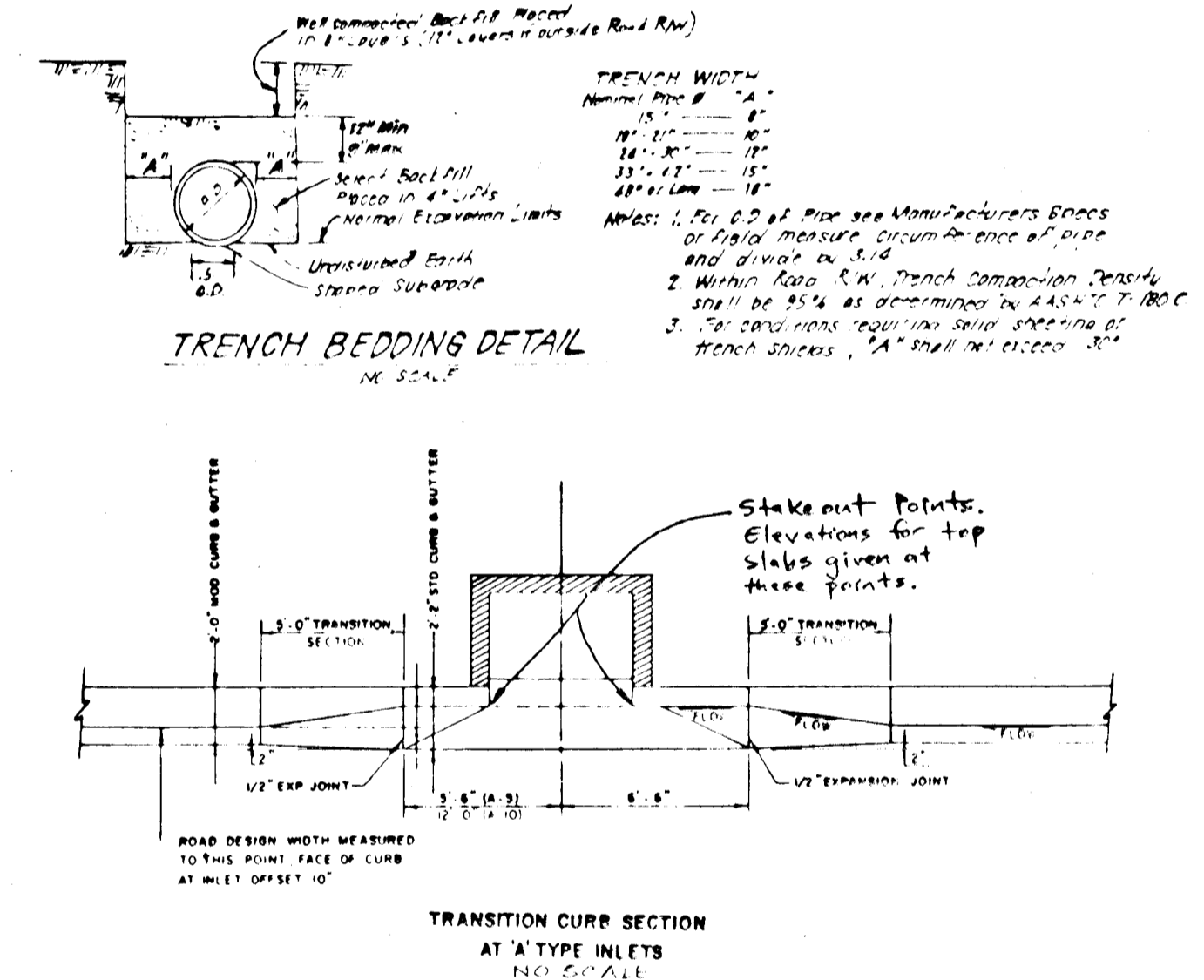
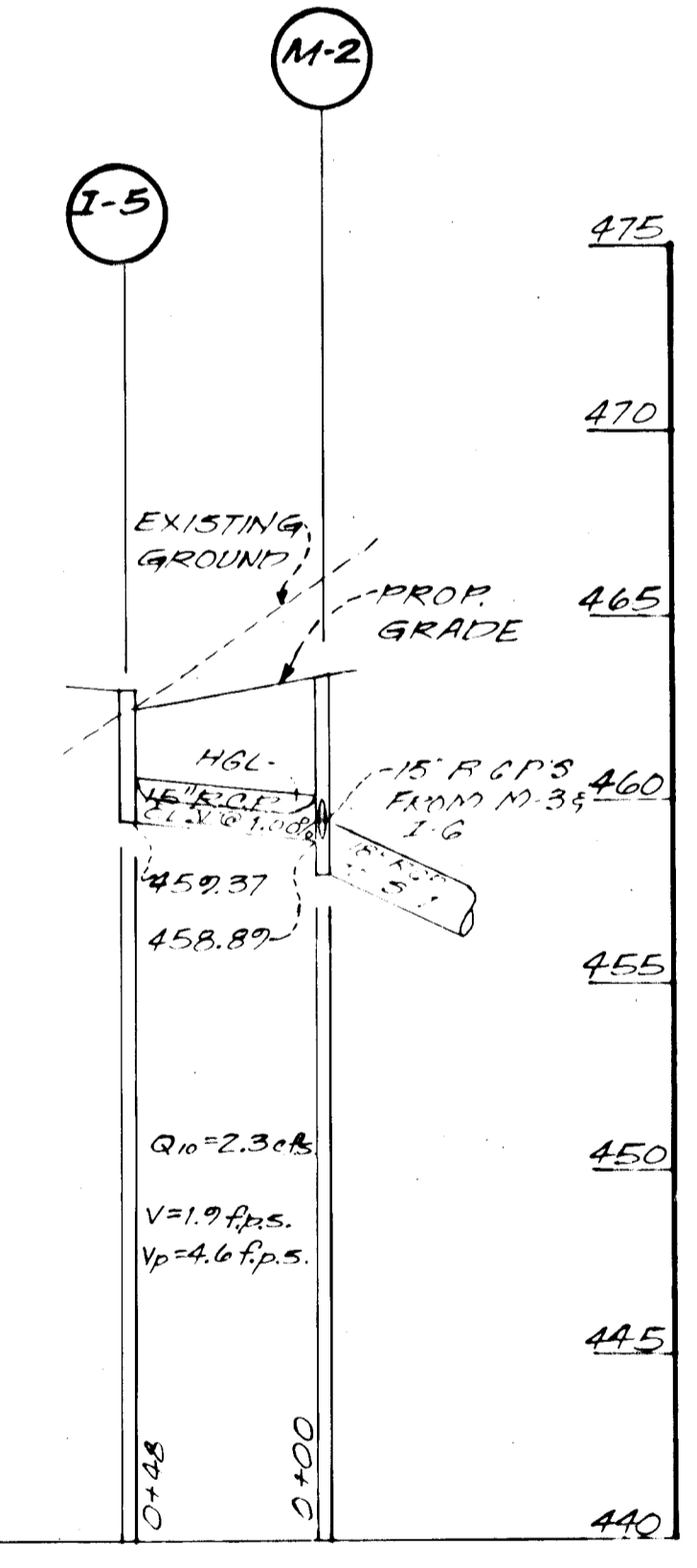
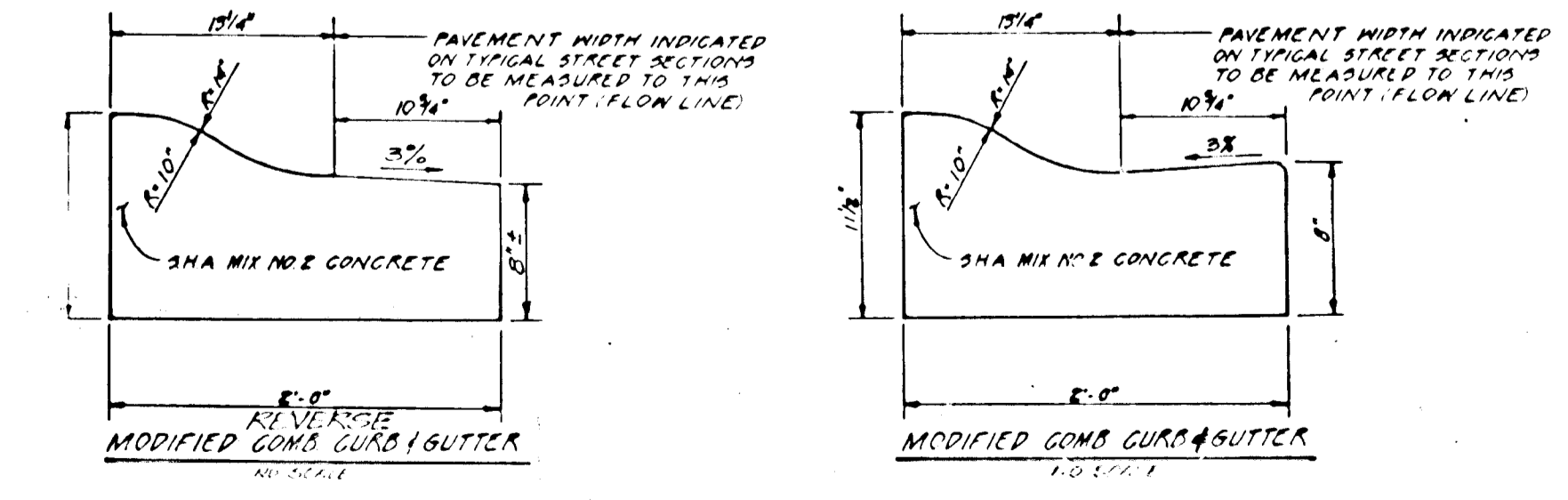
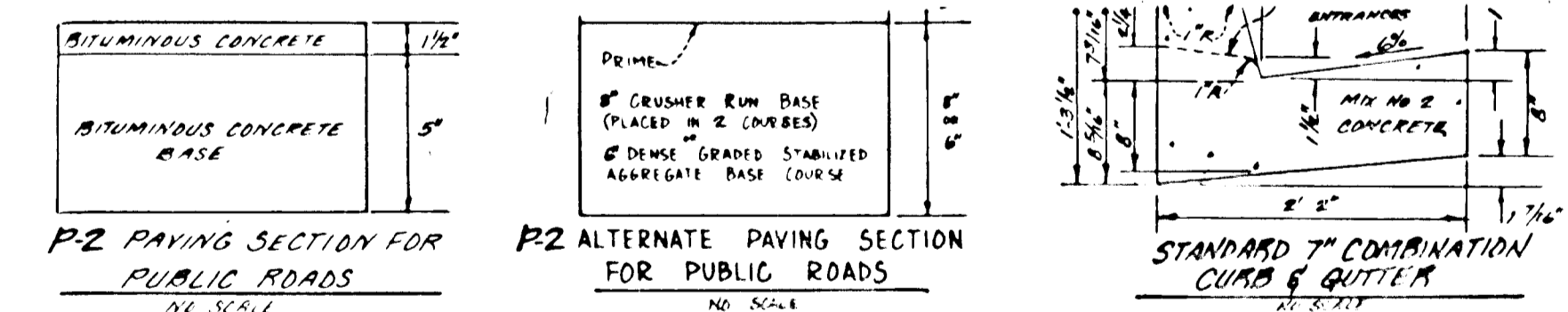
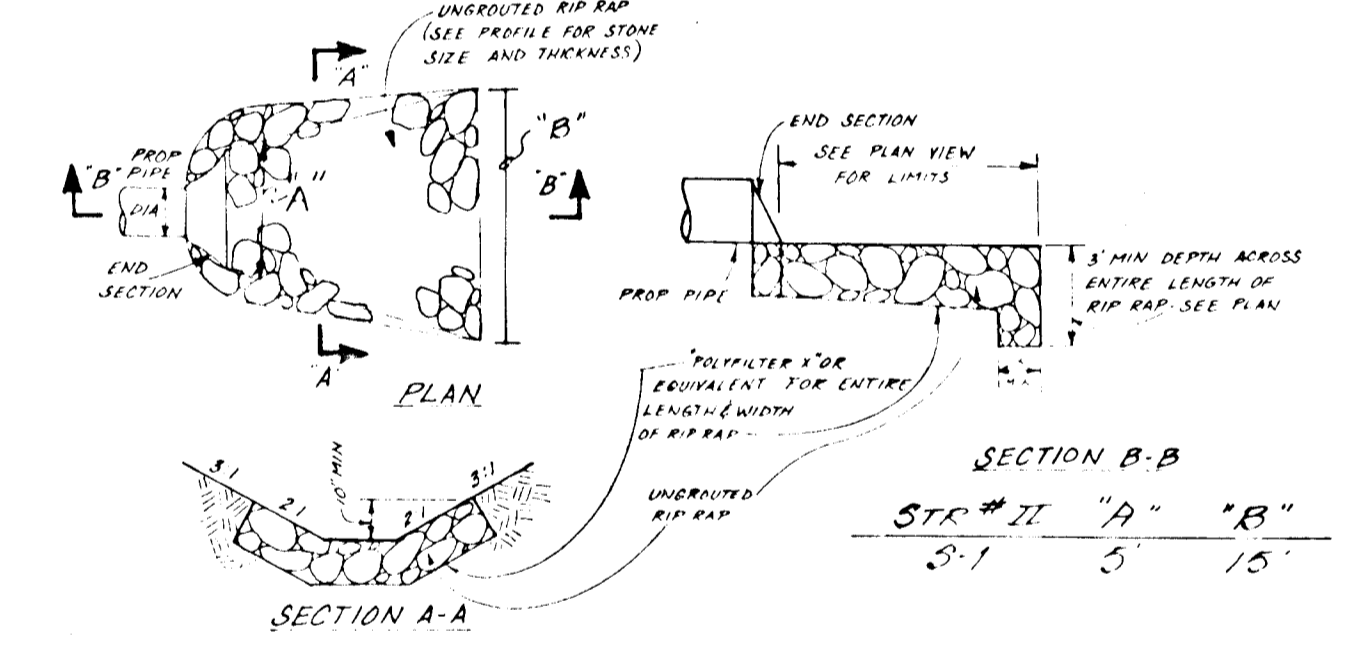
**PROFILES**

SCALES: HORIZ. 1"=50'  
VERT. 1"=5'

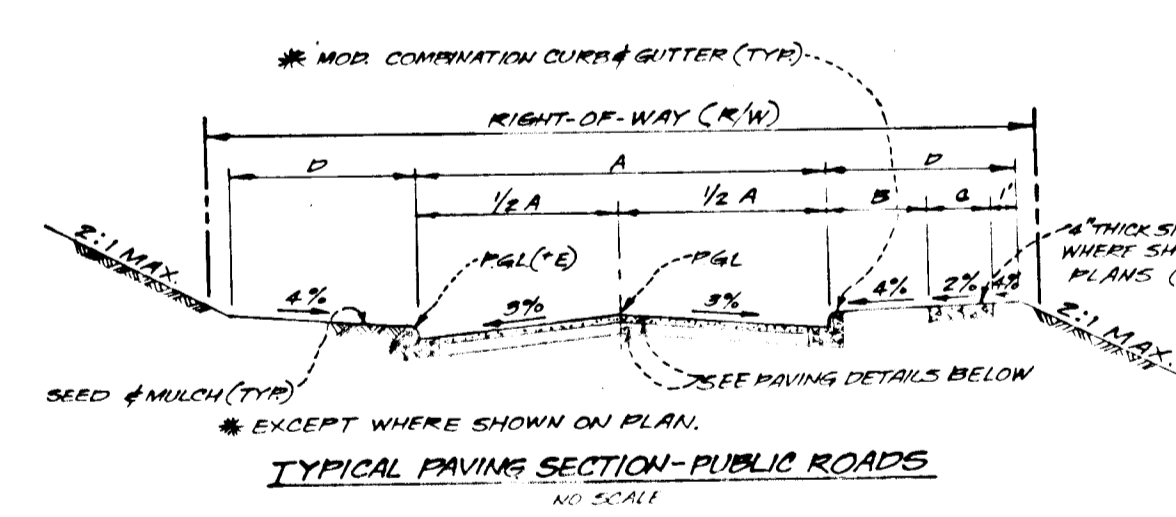
STRUCTURE SCHEDULE						
Struct. No.	Type	Inv. In	Inv. Out	Elevation Upper/Lower	Remarks	Location
S-1	END SECTION	449.02	448.81		HCS SD 5.52 21"	See Plan
M-1	Manhole	458.89	457.93	463.41	HCS G 5.05	See Plan
M-3	Manhole	464.74	464.49	468.50	HCS G 5.05	See Plan
M-4	A-10	---	459.77	463.77	HCS SD 4.02 W=2.5'	See Plan
M-5	A-10	---	459.37	463.17	HCS SD 4.02 W=2.5'	See Plan
M-6	A-10 w/ Deflector	---	465.65	469.95, 469.40	HCS SD 4.02 W=2.5'	SL Inlet 5'-80" Little Creek Dr 15.61' h.

- Notes:
- HCS = Howard County Standard.
  - "Top" Elevations for "A" Inlets are given from top slab, at projections of inside wall not at edge of slab.
  - Offsets for "A" Inlets from centerline are to face of top slab. See detail on this sheet for transition from modified curb and gutter section.

PIPE SCHEDULE			
Size	Type	Class	Length
15"	RCP	V	423 L.F.
18"	RCP	V	208 L.F.



CK [Signature] B-2-88  
I also authorize periodic on-site inspection by the H.C.S.D.  
[Signature] 7/25/88



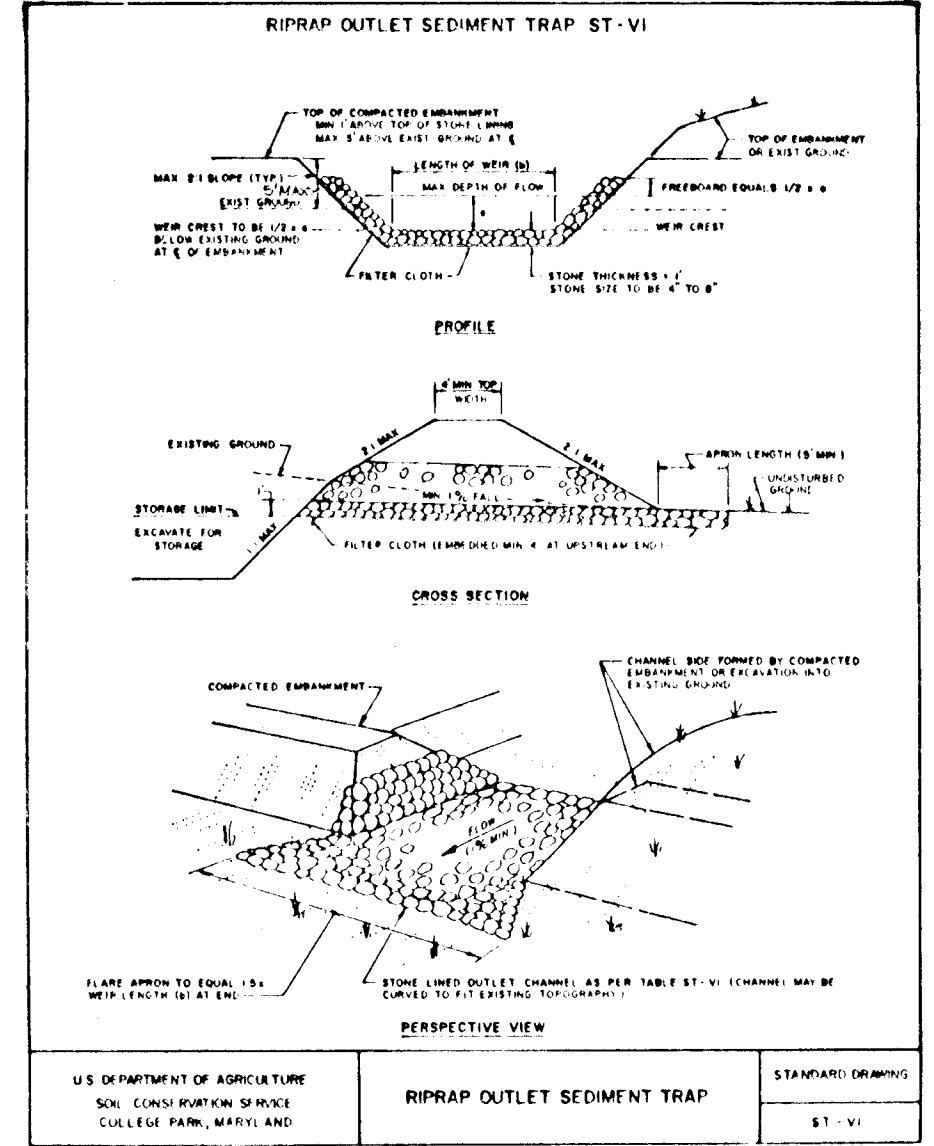
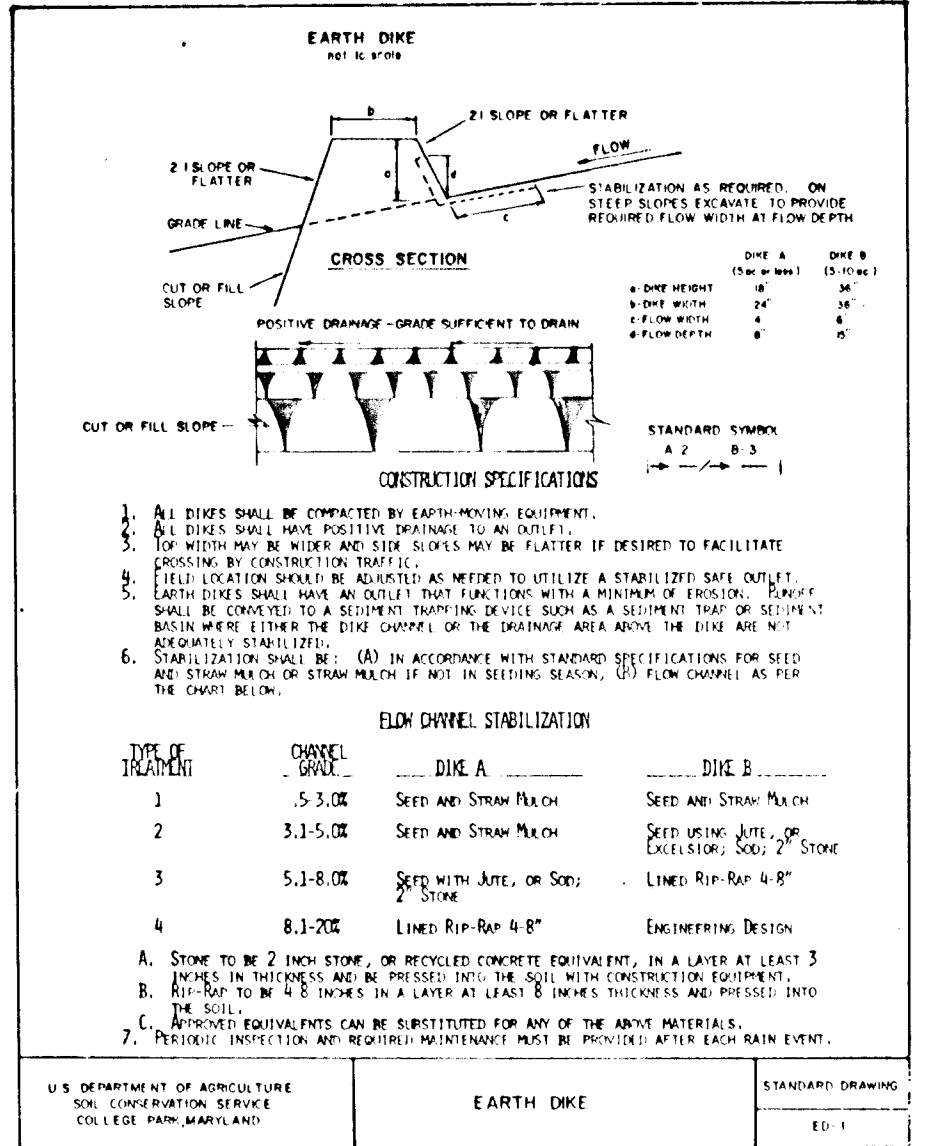
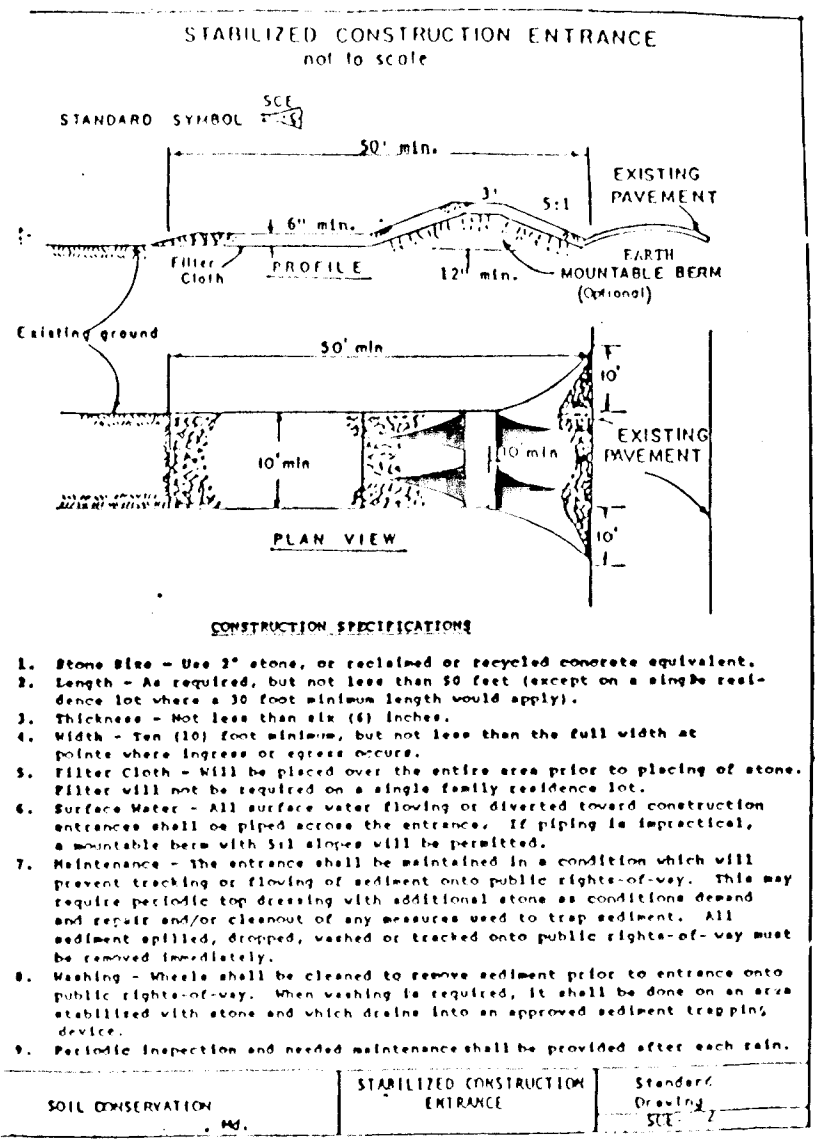
STREET NAME	STATION	TYPE OF TRAFFIC	A	B	C	D	R/W	ZONING	DESIGN SPEED
LITTLE CREEK DRIVE	3+40.89 TO 3+67.21	LOCAL ROAD	30'	4'	4'	9'	50'	R-20	30 MPH
LITTLE CREEK DRIVE	4+82.51 TO 10+66.68	CUL-DE-SAC	26'	4'	4'	9'	50'	R-20	30 MPH
CRYSTAL SPRING COURT	0+00 TO 1+53.62	CUL-DE-SAC	26'	4'	4'	9'	50'	R-20	25 MPH
CRYSTAL PARK LANE	0+00 TO 3+22.90	CUL-DE-SAC	26'	4'	4'	9'	50'	R-20	25 MPH

James M. [Signature] 4/17/90  
Howard  
John [Signature] 4/17/90

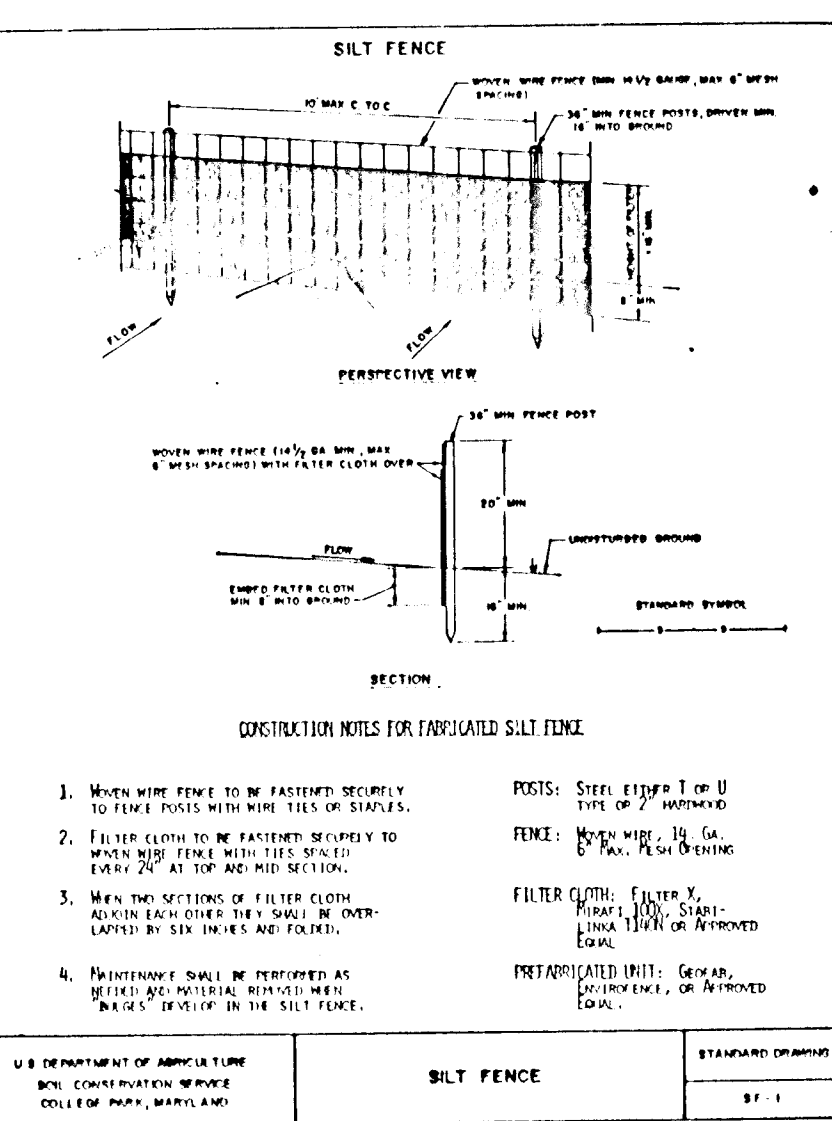


APPROVED: DEPARTMENT OF PUBLIC WORKS  
[Signature] 5/2/90  
[Signature] 4/30/90  
[Signature] 5-2-90  
[Signature] 5/29/90

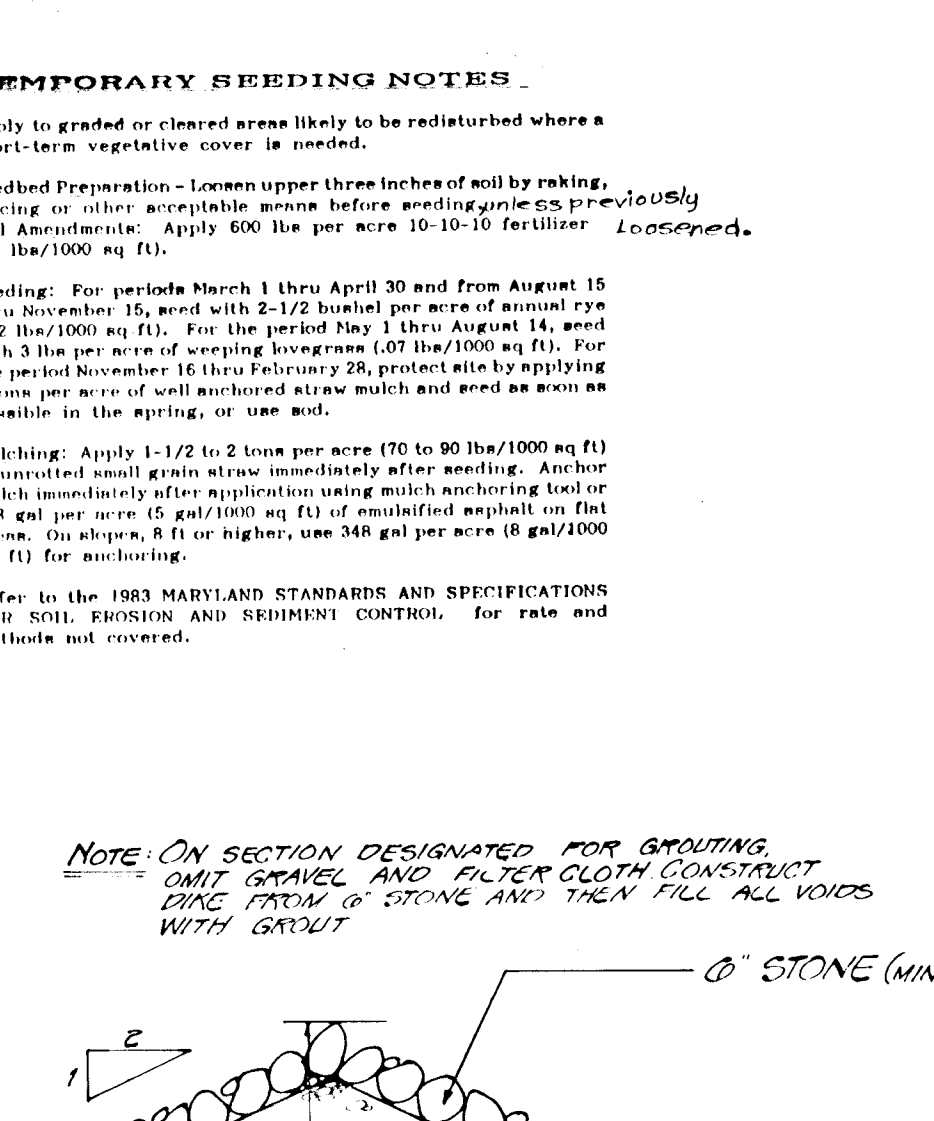
<b>GUTSCHICK LITTLE &amp; WEBER, P.A.</b> ENGINEERS, PLANNERS, SURVEYORS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 21086 TELEPHONE (301) 421-4024	DES. [Signature]	DRN. [Signature]	CHK. [Signature]	DATE	REVISION	BY	APP'R.	PREPARED FOR: CRYSTAL SPRINGS, INC. % BERTON CONSTRUCTION CO. 6110 EXEC. BLVD., SUITE 1000 ROCKVILLE, MARYLAND 20852	STORM DRAIN PROFILES AND DETAILS	SCALE AS SHOWN	ZONING R-20	G.I.W. FILE NO. 88-008
	<b>CRYSTAL SPRINGS ESTATES SECTION, 2 AREA 1</b> 1st ELECTION DISTRICT								DATE FEB 1989	TAX MAP No. 31	SHEET 5 OF 6	



- CONSTRUCTION SPECIFICATIONS FOR ST-11
- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
  - The fill material for the embankment shall be free of roots or other woody vegetation as well as over sized stones, rocks, organic material or other objectionable material. The embankment shall be constructed by layering with equipment while it is being constructed. Maximum height of embankment shall be five (5) feet, measured at crestline of embankment.
  - All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
  - Elevation of the top of any dike directing water into trap must equal or exceed the height of embankment.
  - Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of one (1) foot below the level weir crest.
  - Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least one (1) foot with section nearest the entrance placed on top. Fabric shall be secured at least six (6) inches into existing ground at entrance of outlet channel.
  - Stone used in the outlet channel shall be four (4) to eight (8) inches (approx.) to provide a filtering effect. A layer of filter cloth shall be embedded one (1) foot back into the upstream face of the outlet stone on a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.
  - 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. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
  - The structure shall be inspected after each rain and repaired as needed.
  - Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
  - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
  - Drainage area for this practice is limited to 15 acres or less.



- SEDIMENT CONTROL NOTES**
- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permit 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 all calendar days for all perimeter and sediment control structures, dikes and perimeter slopes and all slopes greater than 3:1, 14 days 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. 81) and (Sec. 84), temporary seedings (Sec. 80) and mulching (Sec. 82). Temporary stabilization with mulch alone can only be done when 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: 183 Acres  
Area Disturbed: 183 Acres  
Area to be seeded or planted: 22.2 Acres  
Total Cut: 22,200 Cu. Yds.  
Total Filled: 22,200 Cu. Yds.  
Off-site water/collection area 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 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 required upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building, grading, inspection approvals may not be authorized until this initial approval by the inspection agency is made.
  - If houses are to be constructed on an "As-Built" basis, at random, Single Lot Sediment Control as shown below shall be implemented.
  - All pipes to be blocked at the end of each day (see detail below).
  - The total amount of stream bank/pipe/wall fences equals 3,972 L.F.



- TEMPORARY SEEDING NOTES**
- Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
- Seedbed Preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seedling application. Loosely apply 600 lbs per acre 10-10-10 fertilizer. Loosened. (14 lbs/1000 sq ft).
- Seeding - For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 lbs per acre of annual ryegrass (12 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of creeping brome (10 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well aerated straw mulch and seed as soon as possible in the spring of the year.
- Mulching - Apply 1-1/2 to 2 tons per acre (10 to 20 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2 1/2 gal per acre 15 gal/1000 sq ft of emulsified asphalt on flat areas. On slopes 8 ft or higher, use 3 1/2 gal per acre (18 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.

I also authorize periodic on-site inspection by the H.C.C.P.

*James M. Helm* 7/25/88

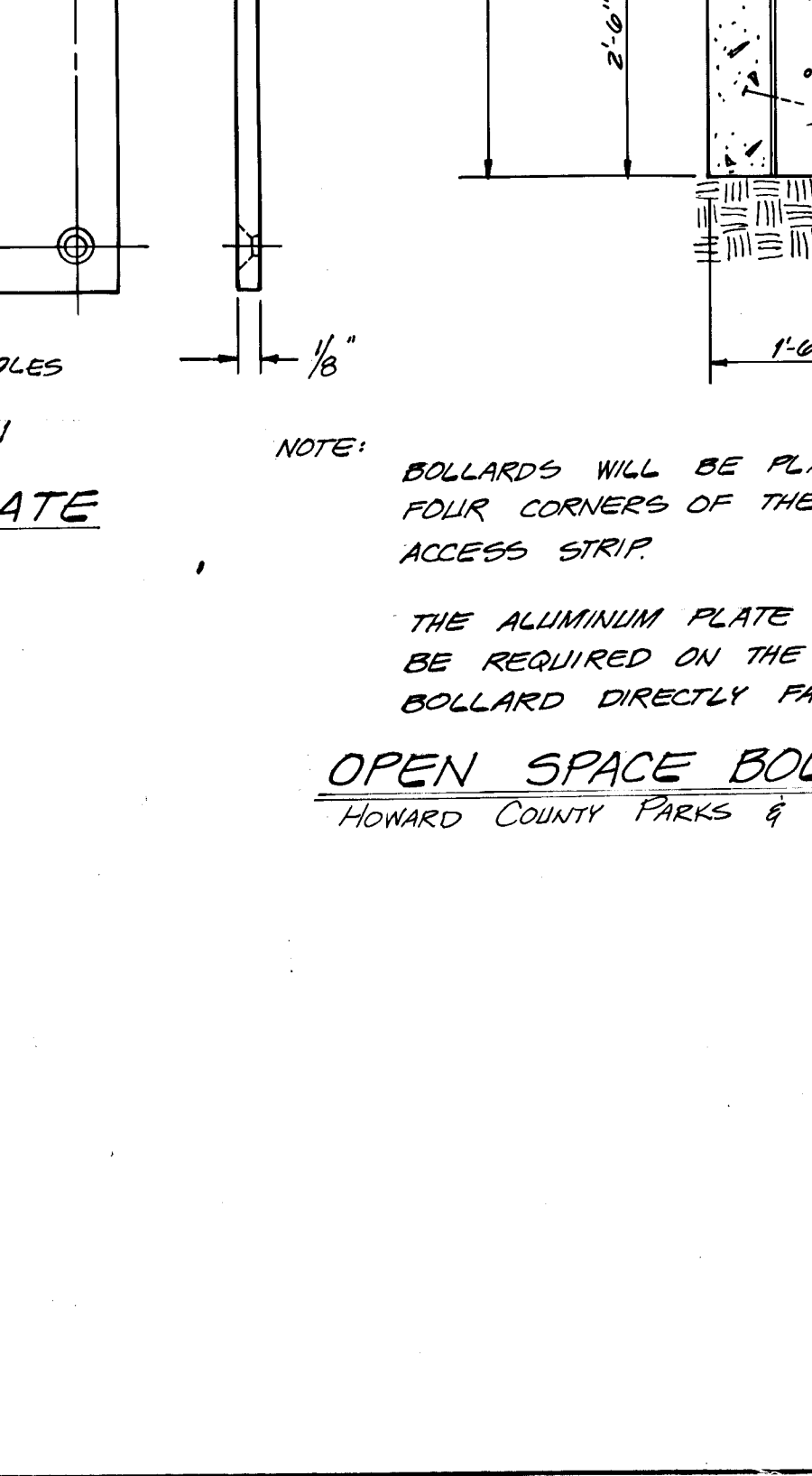
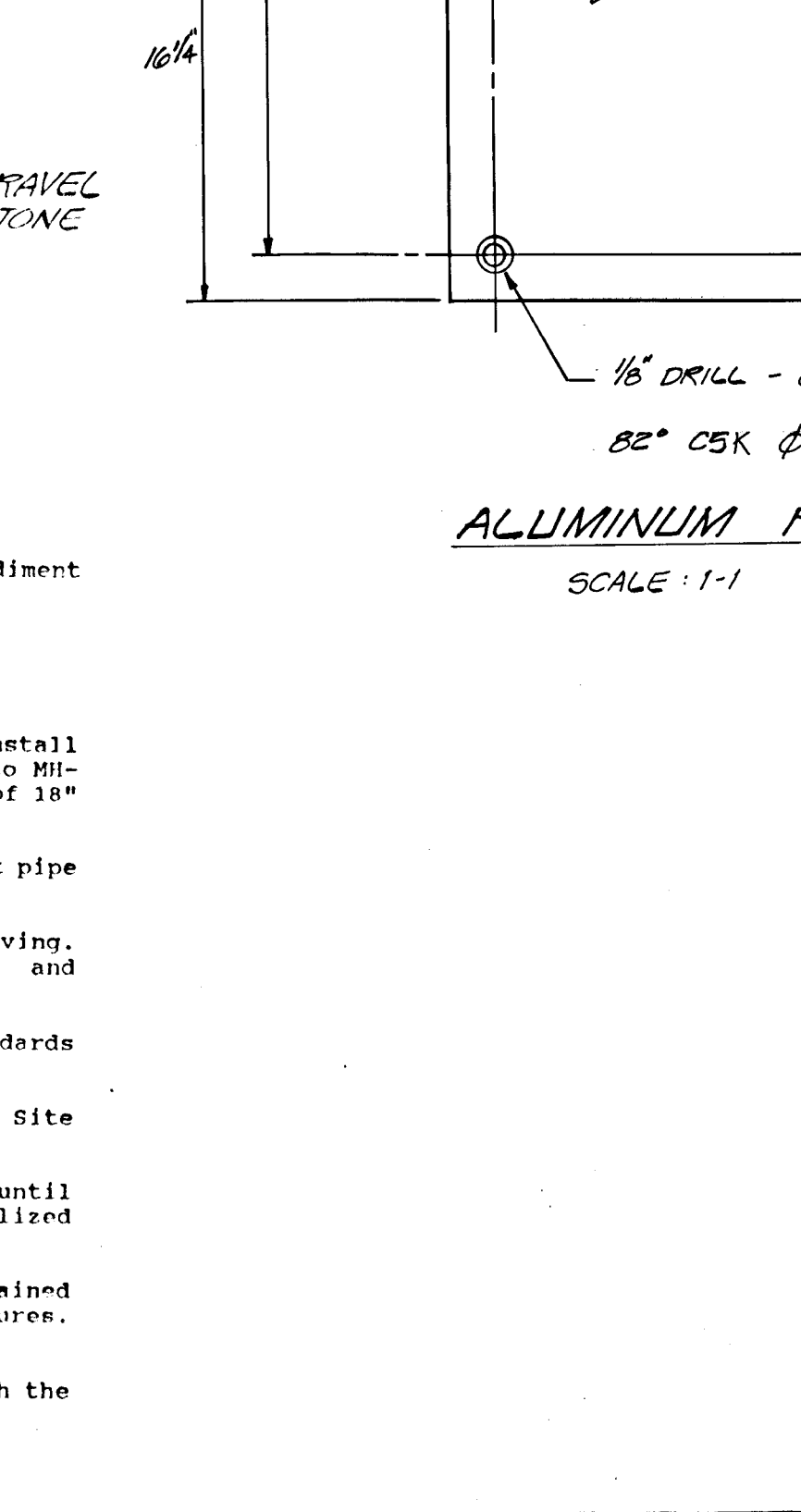
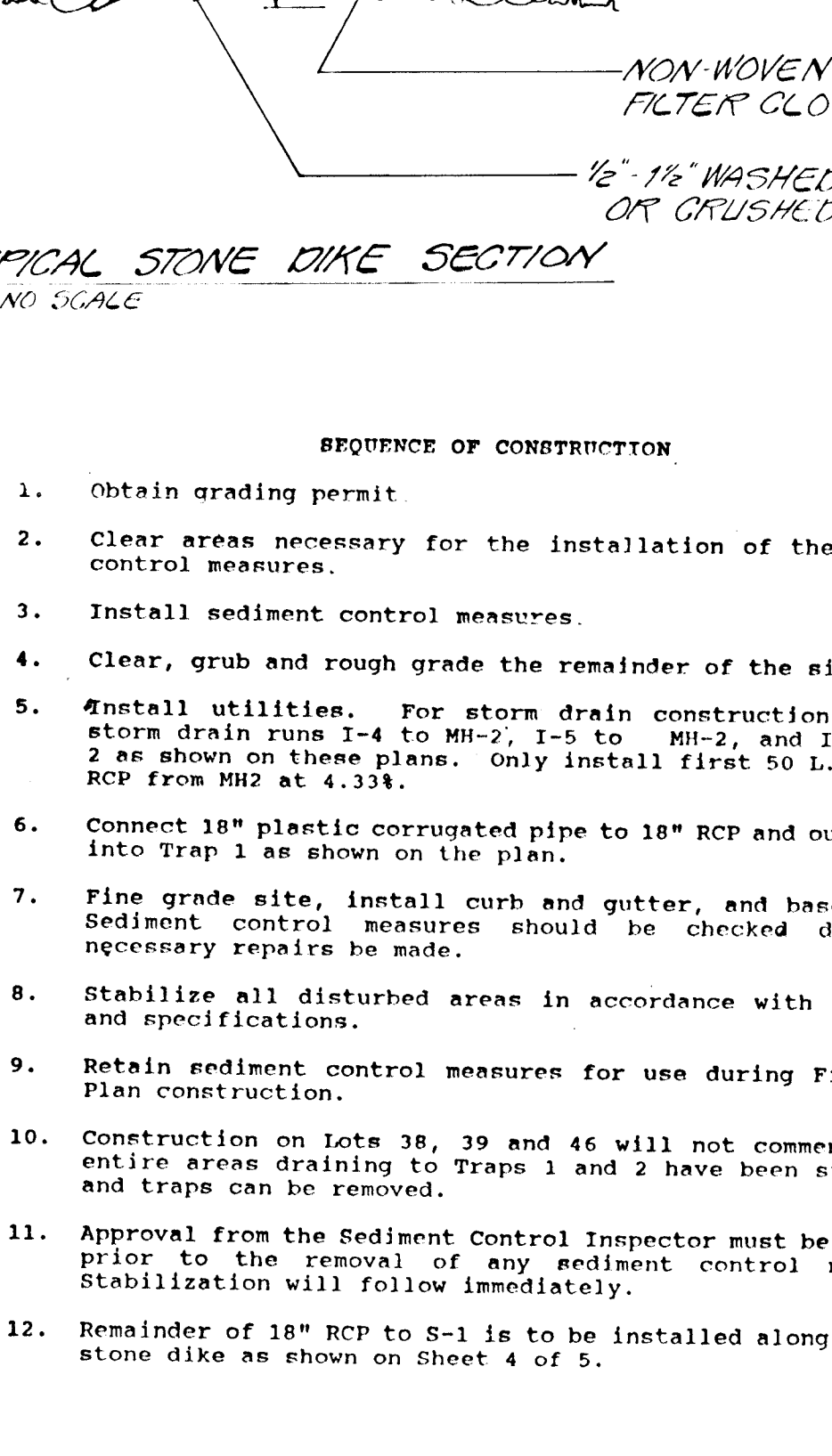
*CK J. J. J.* 8-2-88

Howard SCD

*James M. Helm* 4/17/90

*John R. Roberts* 4/17/90

- 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 raking, disking or other acceptable means before seedling application. Loosely apply 600 lbs per acre 10-10-10 fertilizer. Loosened. (14 lbs/1000 sq ft).
- Soil Sampling - In lieu of soil test recommendations, use one of the following alternatives:
- Preferred - Apply 2 tons per acre dolomitic limestone (82 lbs/1000 square feet) and 800 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 600 lbs per acre 30-0-0 urea-form fertilizer (9 lbs/1000 sq ft).
  - Acceptable - Apply 2 tons per acre dolomitic limestone (82 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.
- Seeding - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 80 lbs per acre (14 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 80 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (28 lbs/1000 sq ft) of creeping brome. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well aerated straw mulch and seed as soon as possible in the spring. Option (2) Use seed. Option (3) Seed with 80 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well aerated straw.
- Mulching - Apply 1-1/2 to 2 tons per acre (10 to 20 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2 1/2 gal per acre 15 gal/1000 sq ft of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 3 1/2 gal per acre (18 gal/1000 sq ft) for anchoring.
- Maintenance - Inspect all seeded areas and make needed repairs, re-planting and reseedings.



**OPEN SPACE BOLLARD DETAIL**  
HOWARD COUNTY PARKS & PLANNING

APPROVED: DEPARTMENT OF PUBLIC WORKS

*Donald J. Egan* 5/2/90  
CHIEF, LAND USE PLANNING DIVISION

*Francis W. McManus* 4/23/90  
CHIEF, BUILDING DIVISION

*James E. P. J.* 5/2/90  
CHIEF, BUREAU OF ENGINEERING

*James W. J. J.* 5/2/90  
CHIEF, DIVISION OF COMMUNITY DEVELOPMENT & PLANNING

GUTSCHICK LITTLE & WEBER, P.A. ENGINEERS, PLANNERS, SURVEYORS 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20866 TELEPHONE (301) 421-4024		PREPARED FOR: CRYSTAL SPRINGS, INC. 9 1/2 BARRON CONSTRUCTION CO. 6110 EXEC. BLVD., SUITE 1000 ROCKVILLE, MARYLAND 20852		SEDIMENT & EROSION CONTROL DETAILS & NOTES CRYSTAL SPRINGS ESTATES SECTION TWO AREA ONE 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
DATE: 2-22-90	BY: CK	APP'R: APPR	SCALE: NO SCALE	SHEET: 6 OF 6	PROJECT NO: 88-008
DES: CKS	DRN: RRC	CHK: CKS	DATE: FEB 1989	TAX MAP NO: 31	SHEET: 6 OF 6
REVISION: ADDED OPEN SPACE BOLLARD DETAIL		DATE: FEB 1989		TAX MAP NO: 31	