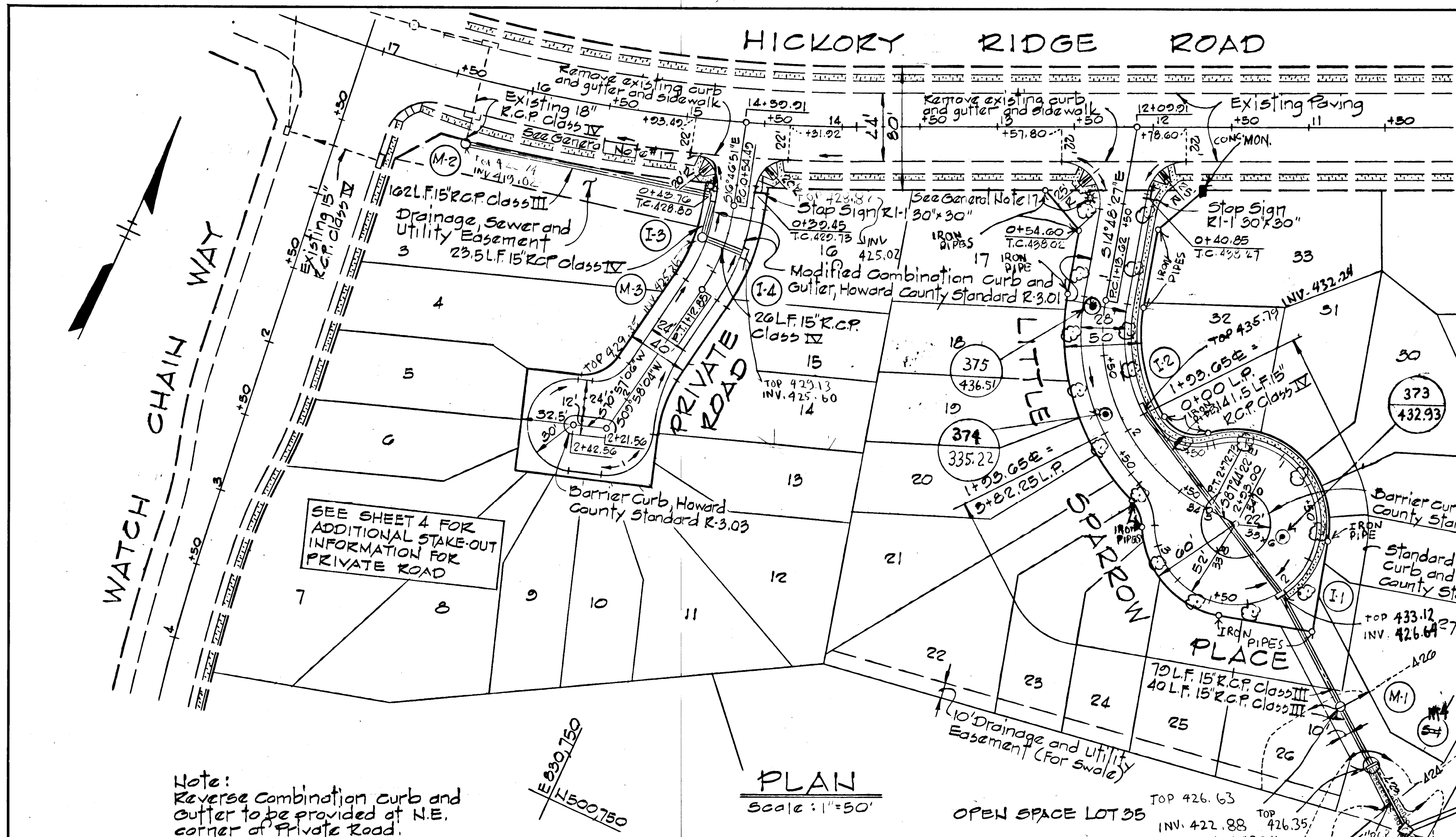


DATE	
BY	
REVISIONS	
NO.	
PLAN	
NO.	

DATE	
BY	
REVISIONS	
NO.	
PROFILE	
NO.	



STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	LOCATION
S-1	Type C Endwall 5D 5.21	424.27	422.27	422.27	See Plan and Profile
M-1	Shallow Precast MH 6.5.12	426.80	422.00	422.43	See Plan and Profile
I-1	A-5 Inlet Width 25.5D 4.01	433.92	426.71	426.51	inlet 1.25 back L.P. Sta. 2+02.23
I-2	A-5 Inlet Width 25.5D 4.01	435.74	---	431.89	inlet 10.07 Left E Sta. 1+91
M-2	Shallow Precast MH 6.5.12	422.50	418.01	418.00	See Plan and Profile
I-3	A-5 Inlet Width 25.5D 4.02	428.80	425.12	425.02	inlet 14.07 Right E Sta. 0+49
M-3	Shallow Precast MH 6.5.12	429.00	425.30	425.20	inlet 15 Right E Sta. 0+82
I-4	A-5 Inlet Width 25.5D 4.02	429.00	---	425.50	inlet 14.67 Left E Sta. 0+82

± CURVE DATA

PRIVATE ROAD
 P.C. 0+54.49 To P.T. 1+16.85
 Δ = 20°44'55" Tan = 29.72'
 R = 125.00' Chd. Drg. = 57.83'
 Arc = 58.36' Chd. Drg. = 50°24'24"E

LITTLE SPARROW PLACE
 P.C. 1+13.02 To P.T. 2+12.73
 Δ = 12°55'55" Tan = 22.38'
 R = 125.00' Chd. = 148.50'
 Arc = 159.11' Chd. Drg. = 55°16'25"E

NOTE:
 PAVING WIDTH - 28'
 LENGTH OF ROAD - 293'
 3 SEWER MH'S IN ROAD P/W

NOTE: FOR CURVE DATA SEE ENLARGED PLAN (1"=30') ON SHEET 4.

NOTE: DRAIN EXTENDED UNDER F-86-98

Street Trees, see Note on Sheet No. 1.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 8/25/85
 CHIEF, BUREAU OF ENGINEERING
 OFFICE OF PLANNING & ZONING
 JOHN M. MULLIN
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION
 DATE

"AS-BUILT" ELEVATIONS AS OF AUG. 14, 1986
 KENNETH A. MCCORD P.E. # 1914

REV. DATE	REV. NO.	REVISION DESCRIPTION
8/26/85	2	Added Street Lights
8/12/85	1	As Per Planning and D.P.W. Comments

COLUMBIA
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION

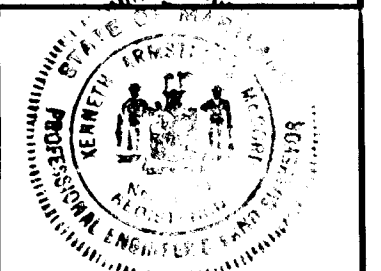
PROJECT AREA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2
 LOTS 9 THRU 33

PROJECT TITLE
 PLAN AND PROFILE
 PRIVATE ROAD AND
 LITTLE SPARROW PLACE

SCALE: AS SHOWN DATE:

WHITMAN, REQUARDT AND ASSOCIATES
 ENGINEERS
 BALTIMORE, MARYLAND 21218

Kenneth A. McCord
 Registered Engineer
 No. 1914

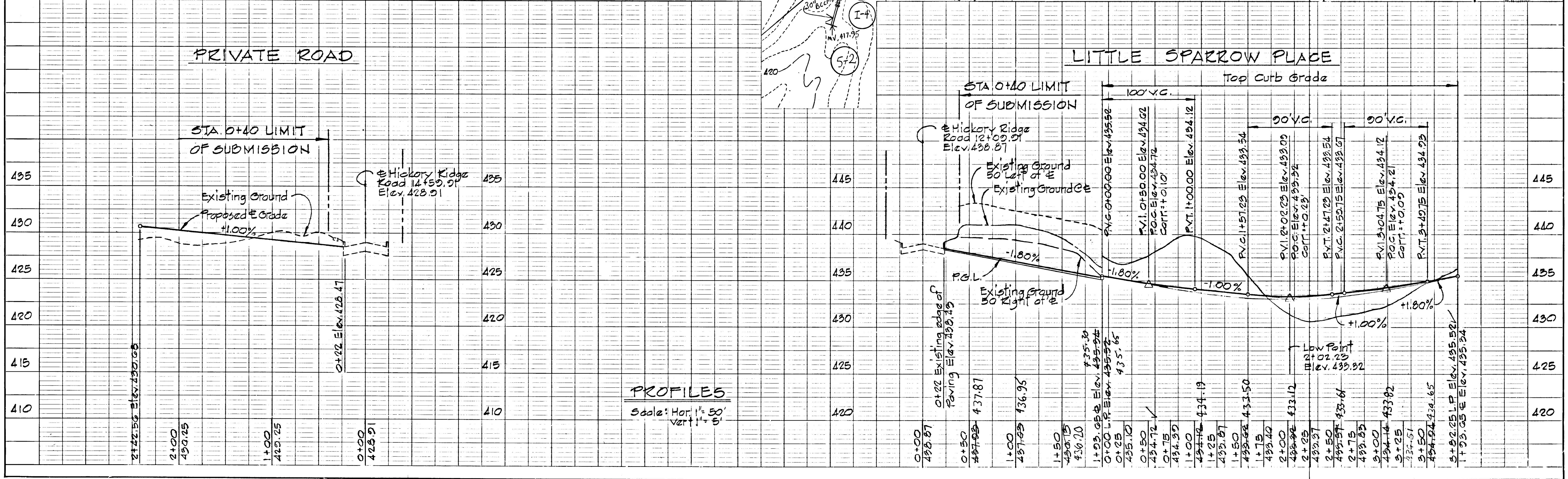


Note: Reverse Combination Curb and Gutter to be provided at N.E. corner of Private Road.

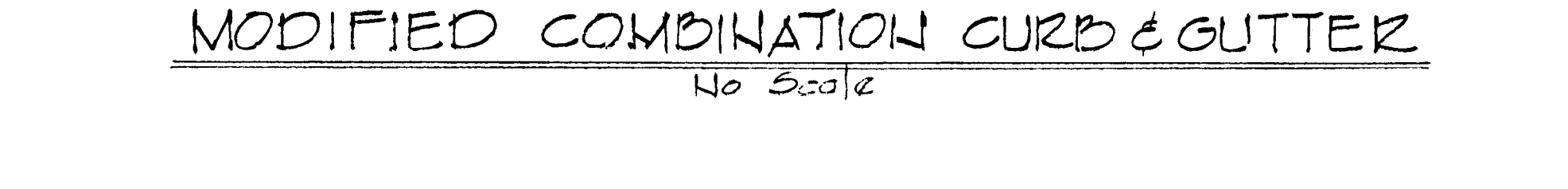
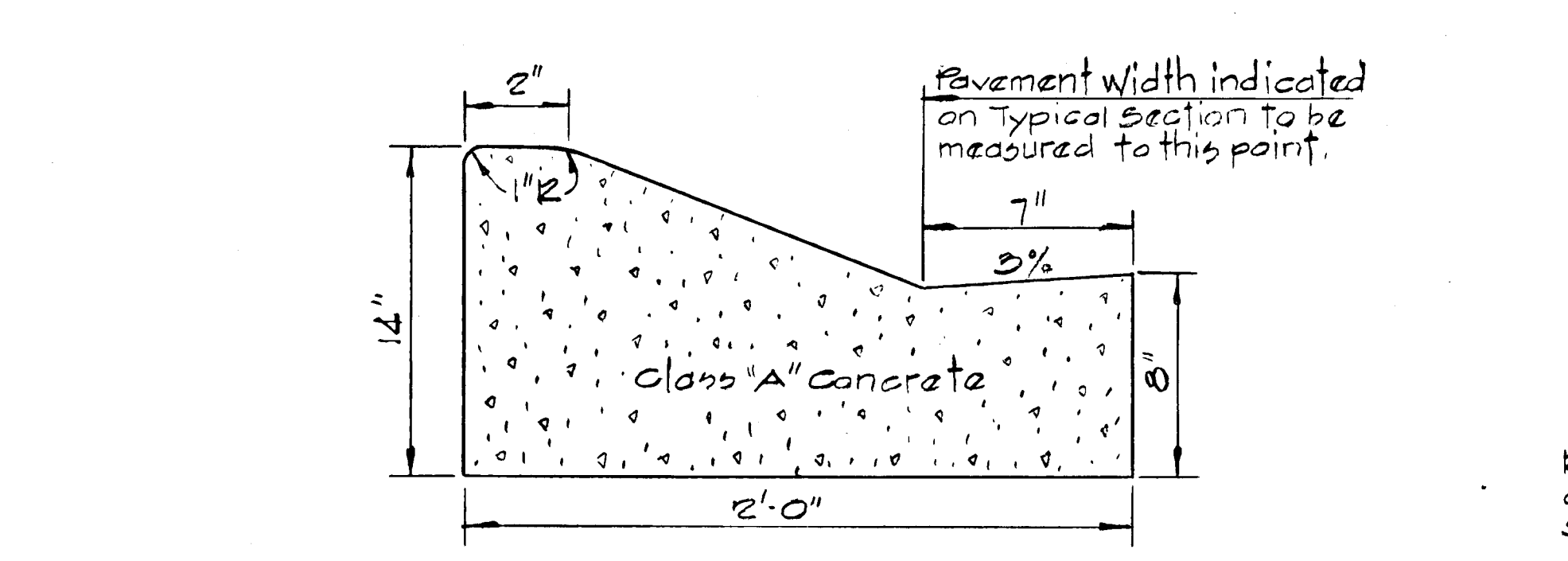
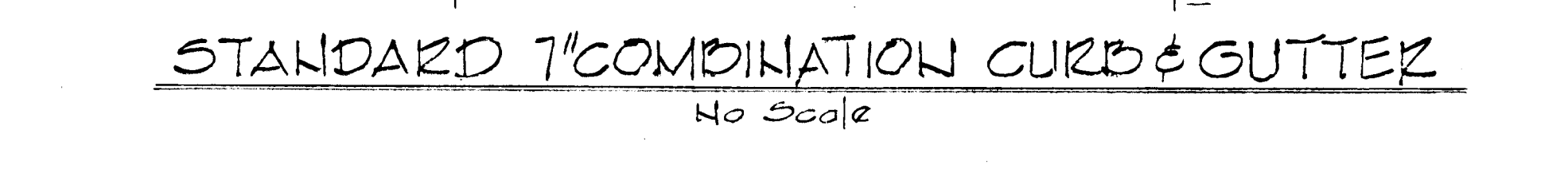
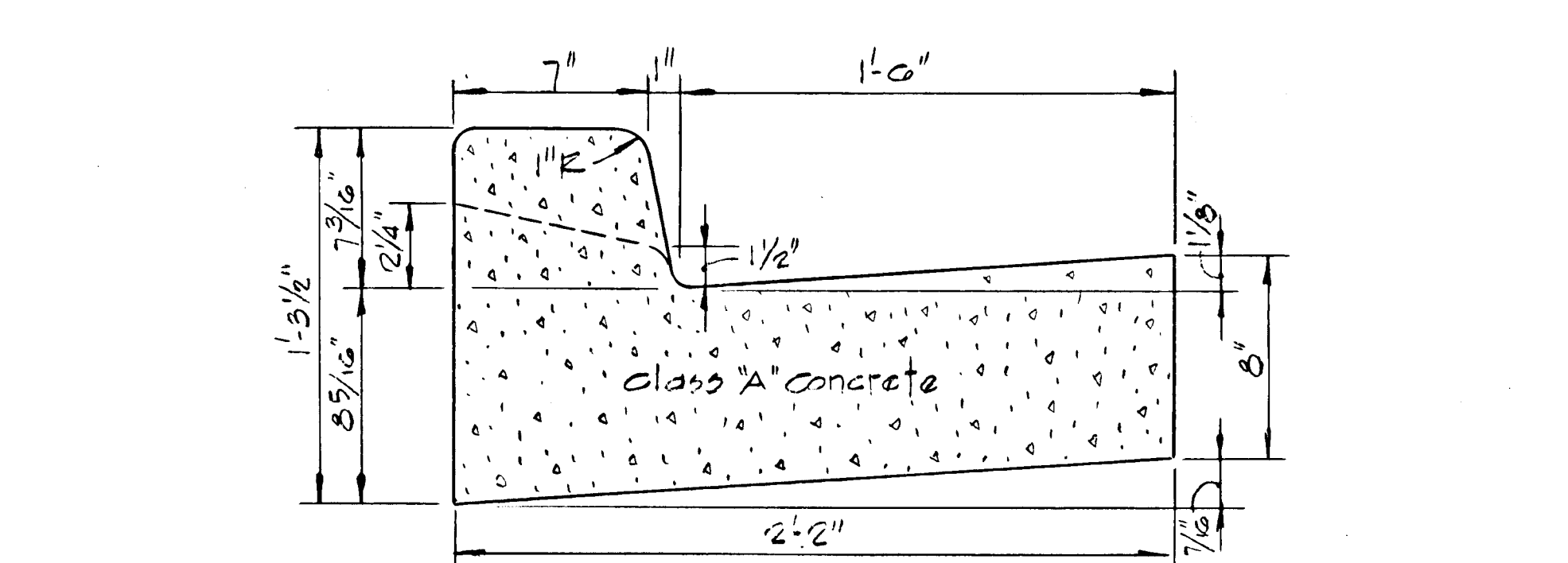
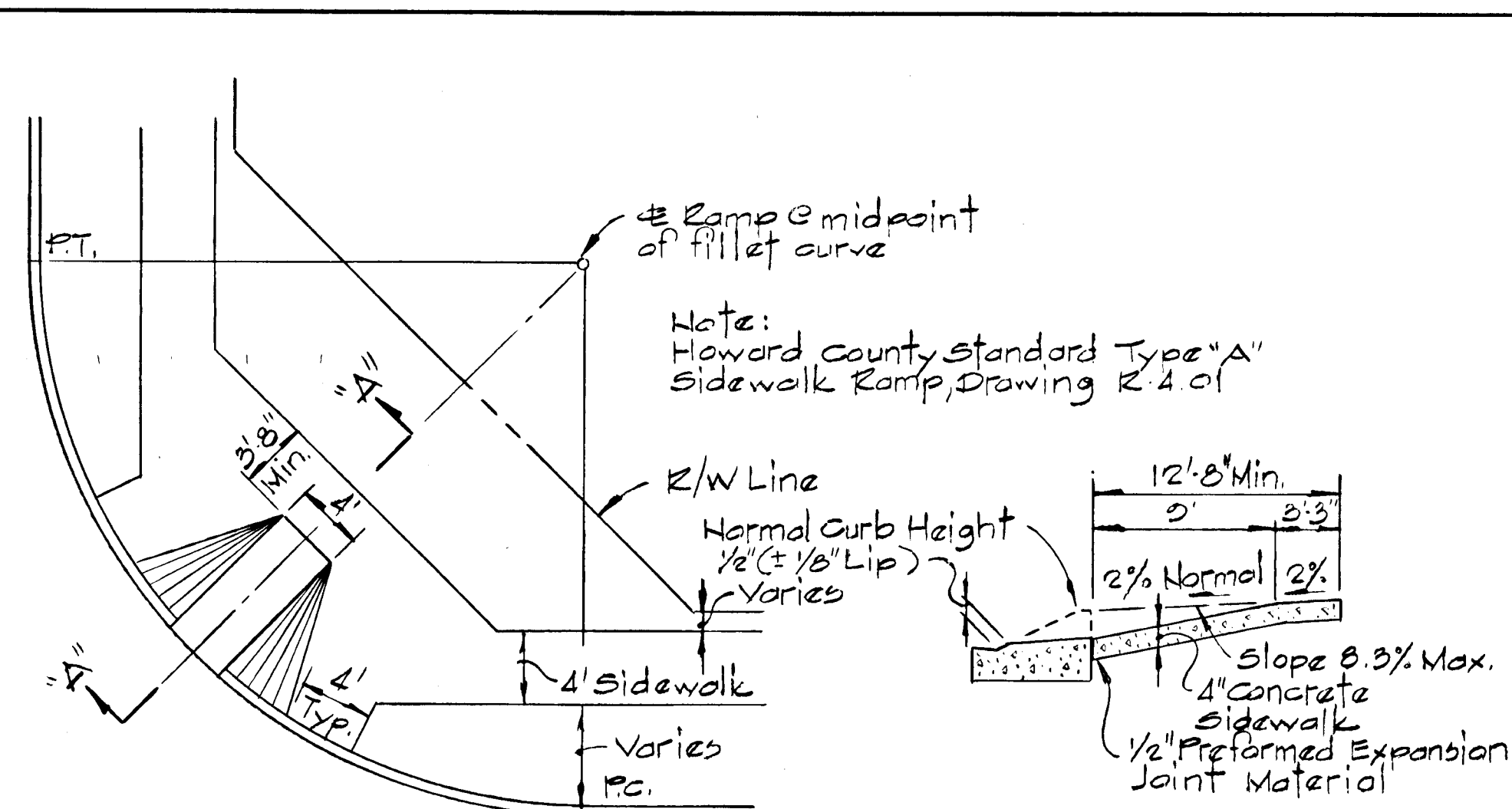
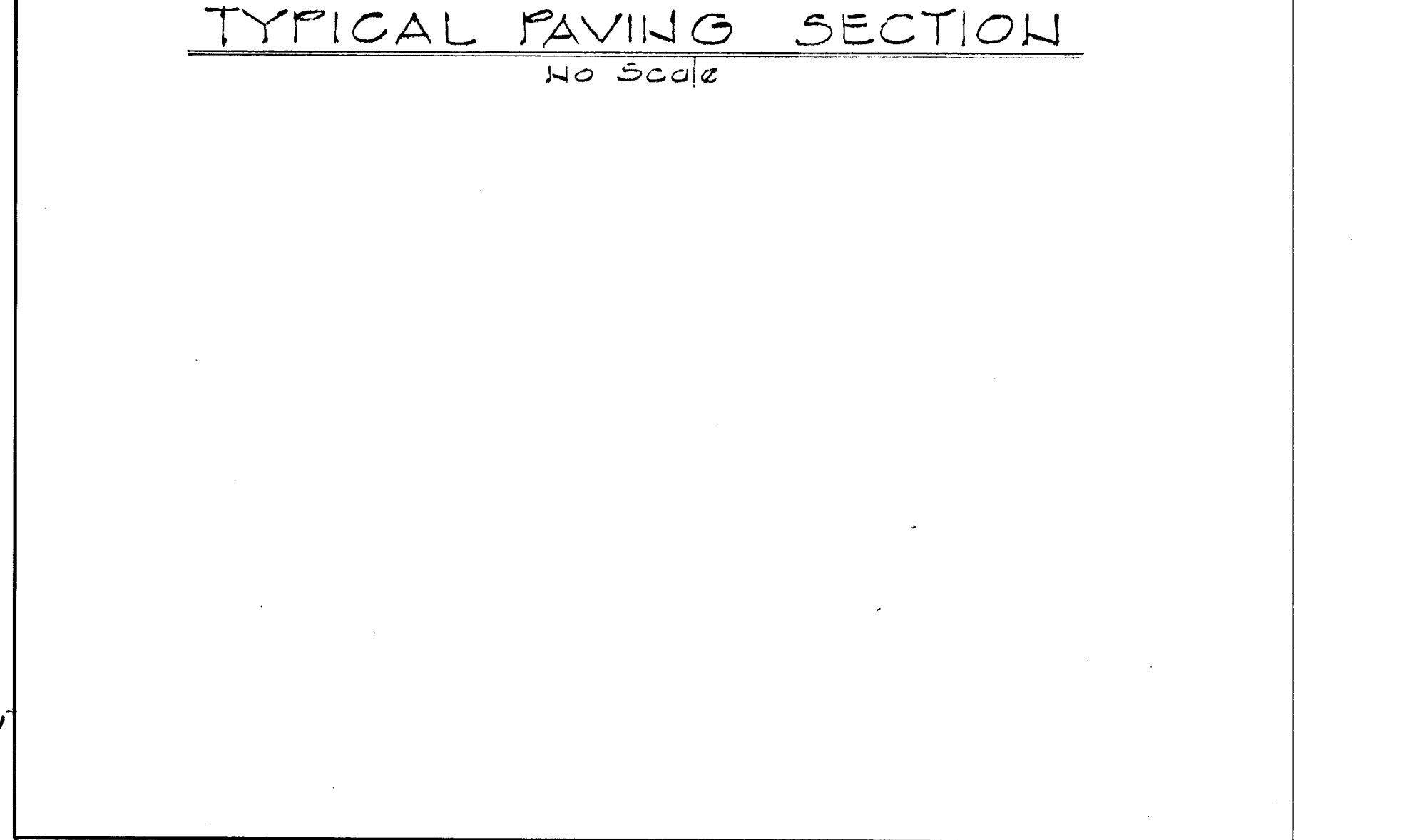
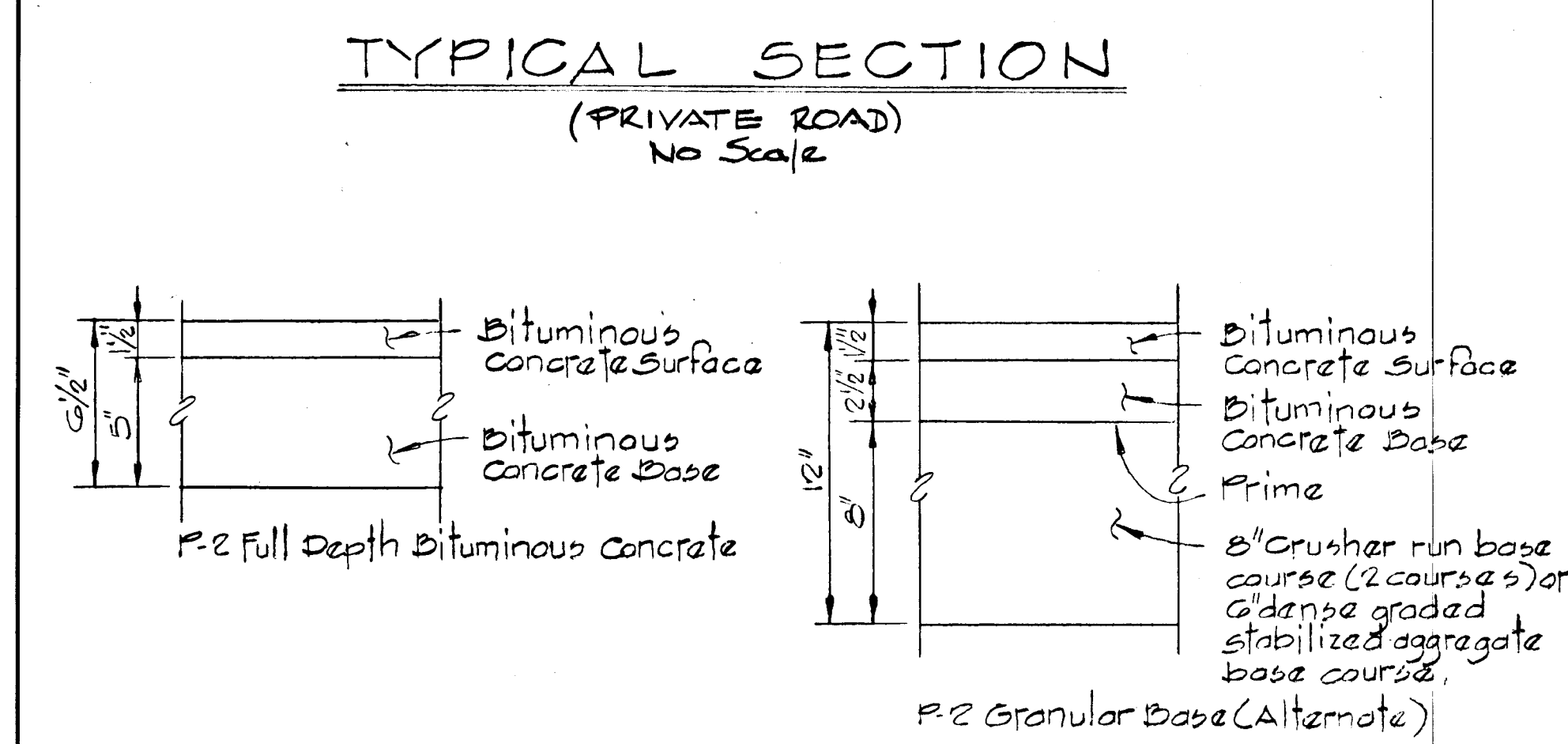
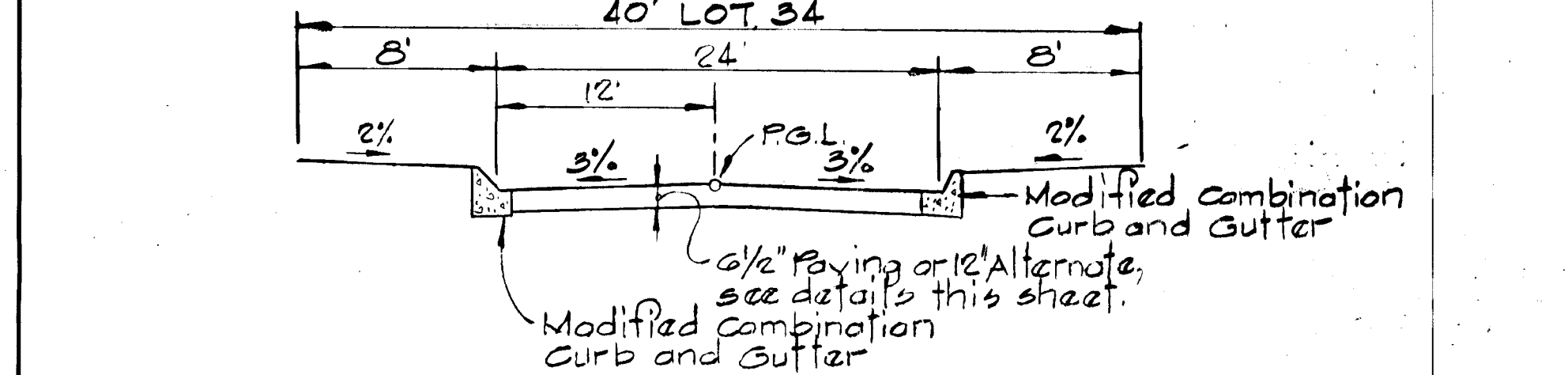
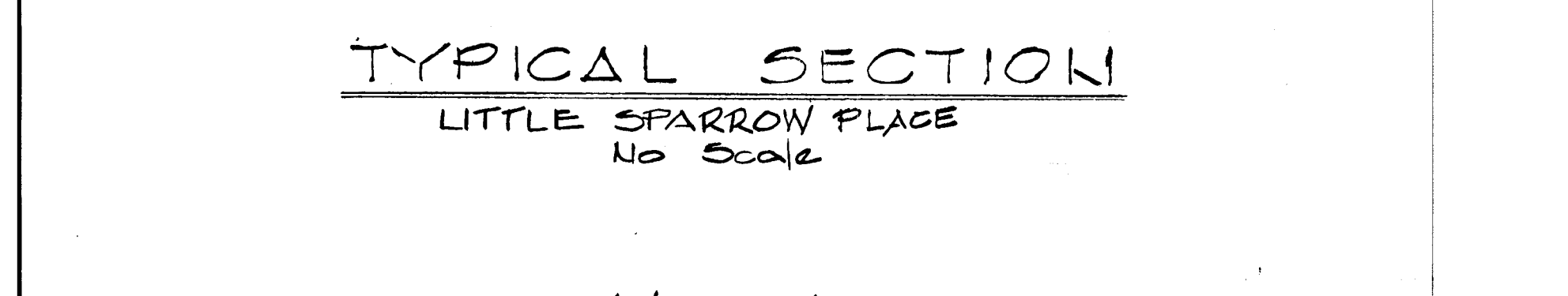
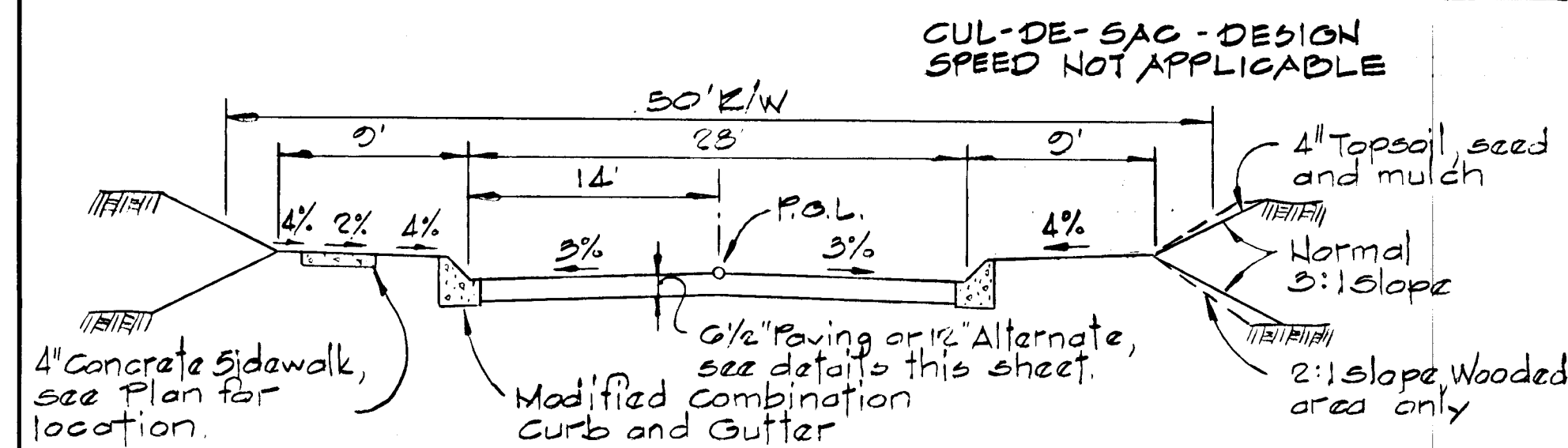
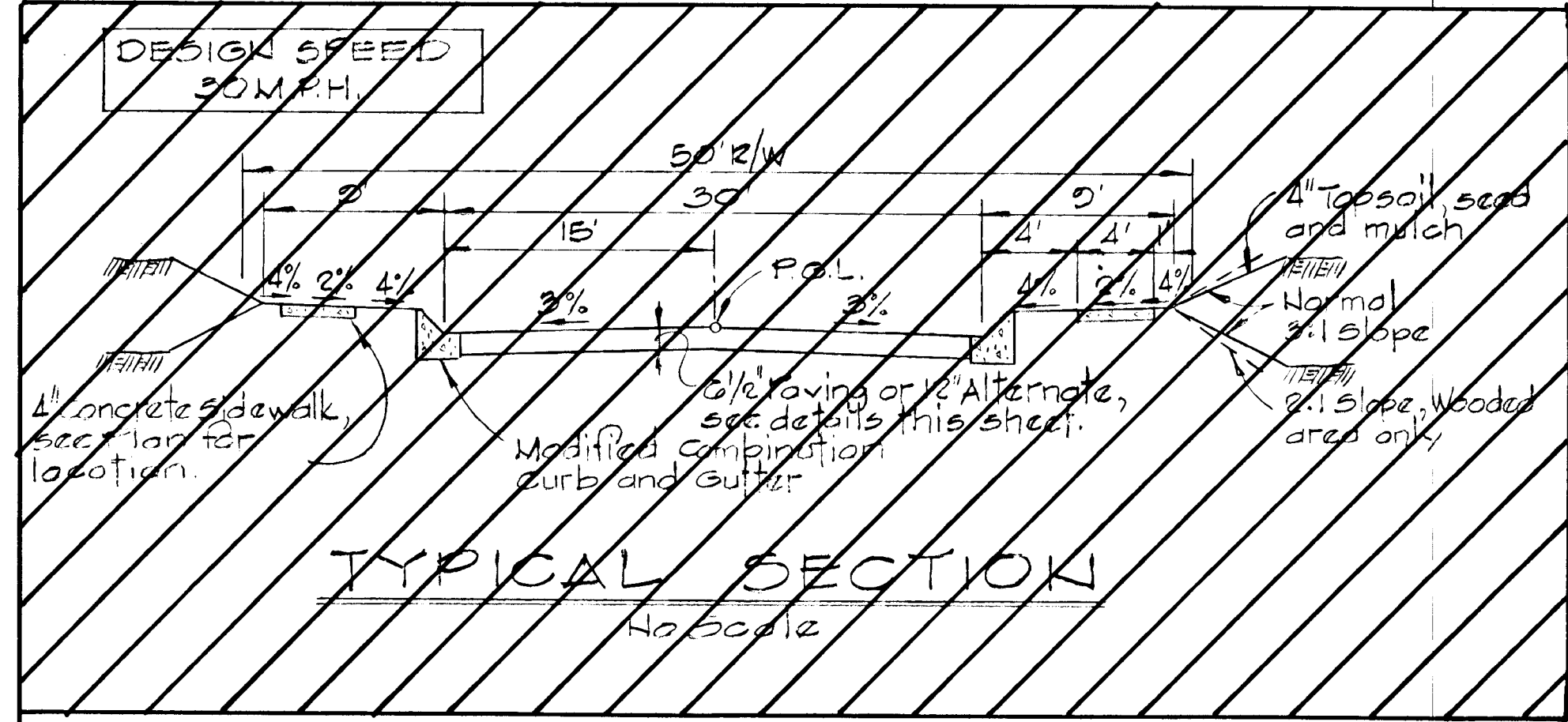
PLAN
 Scale: 1"=50'

PRIVATE ROAD

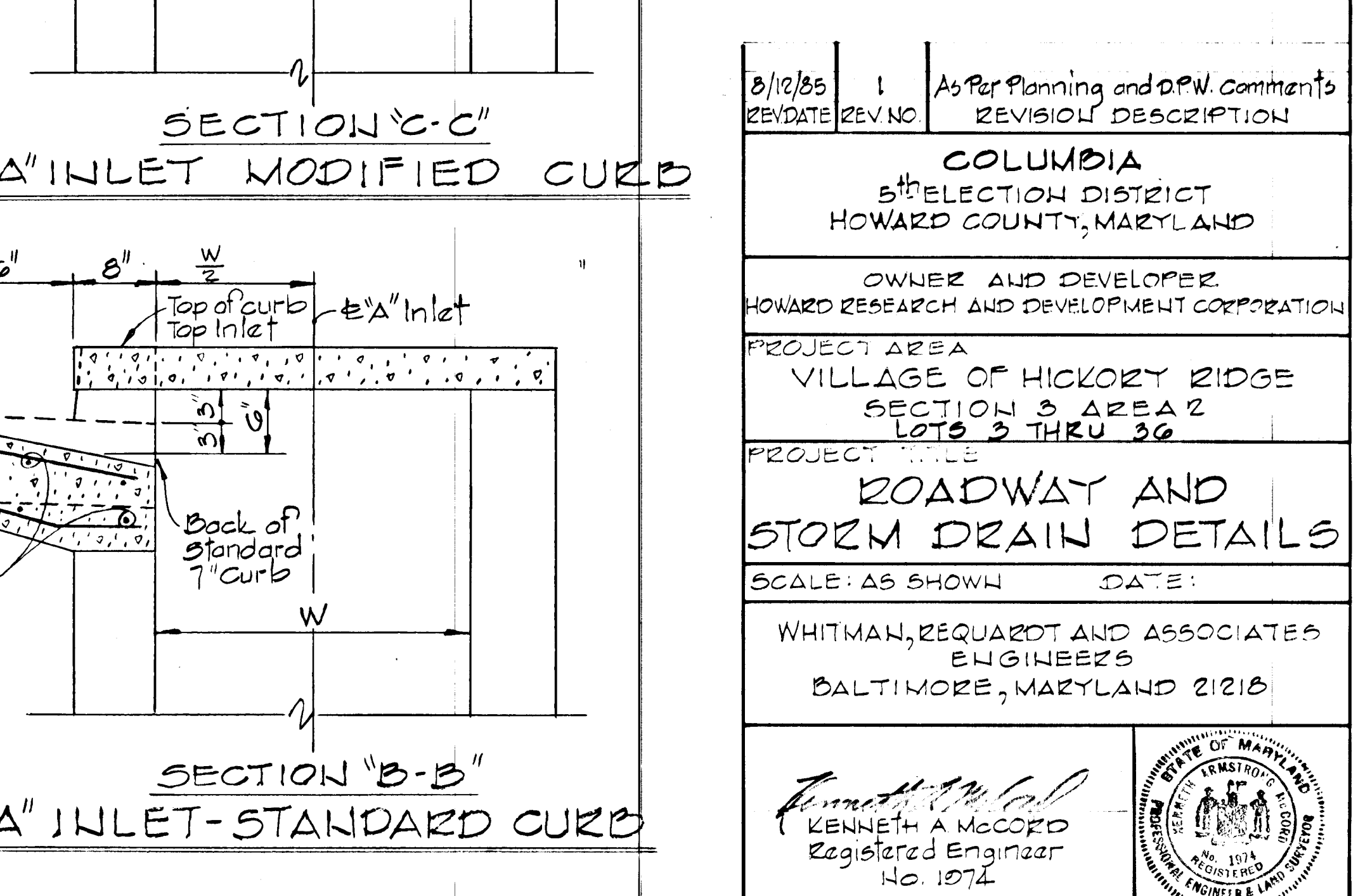
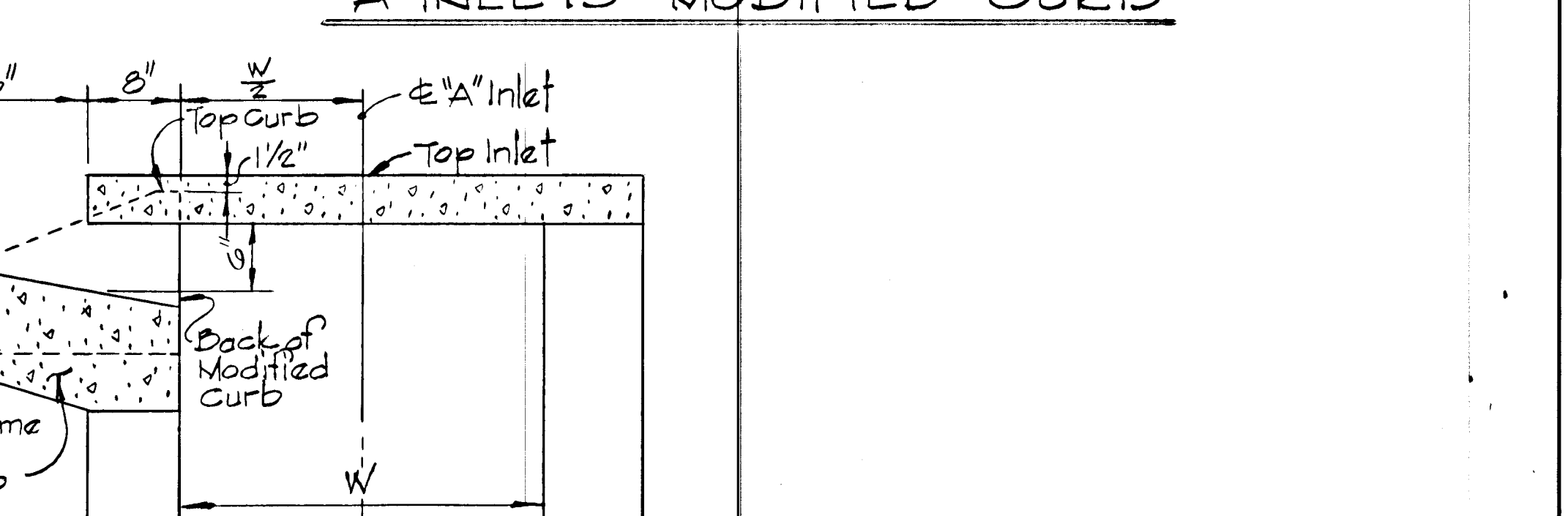
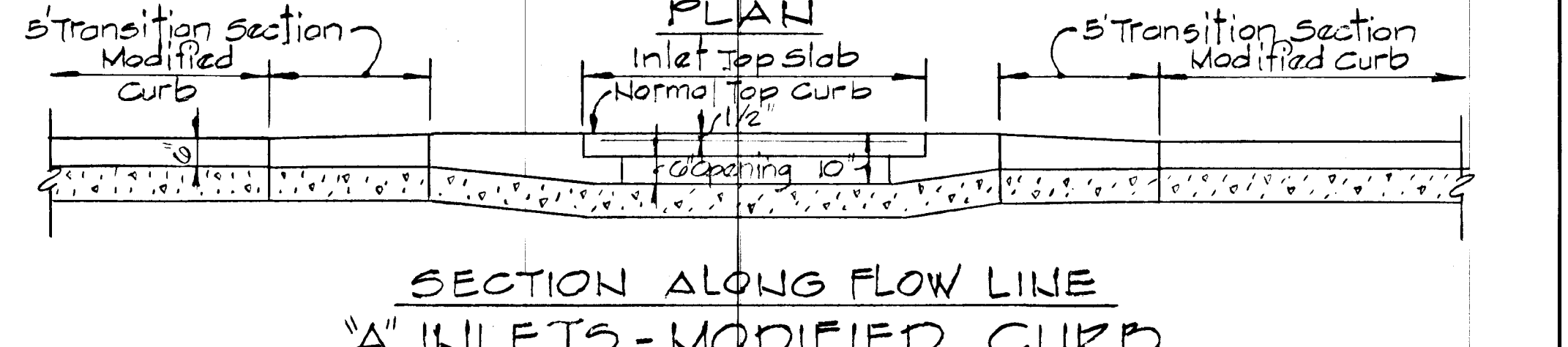
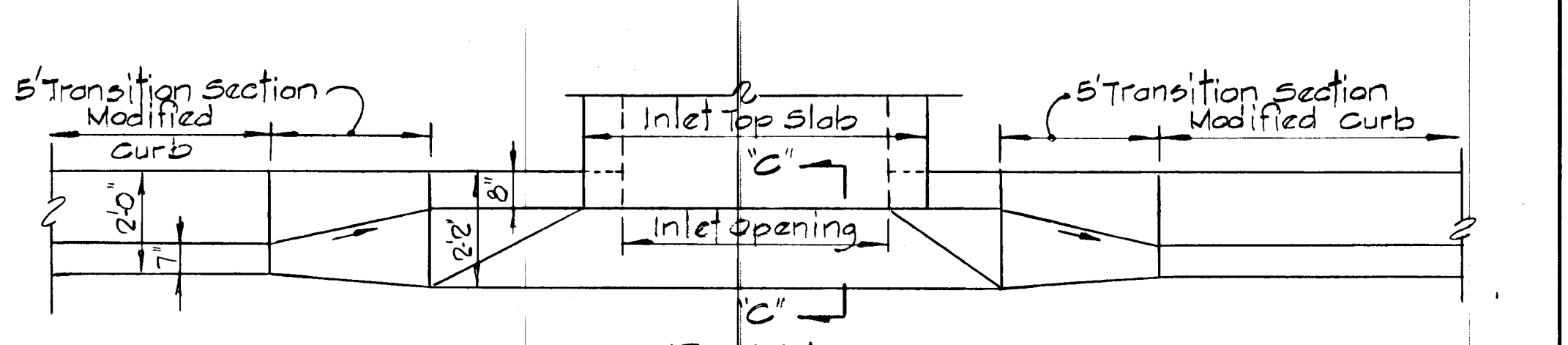
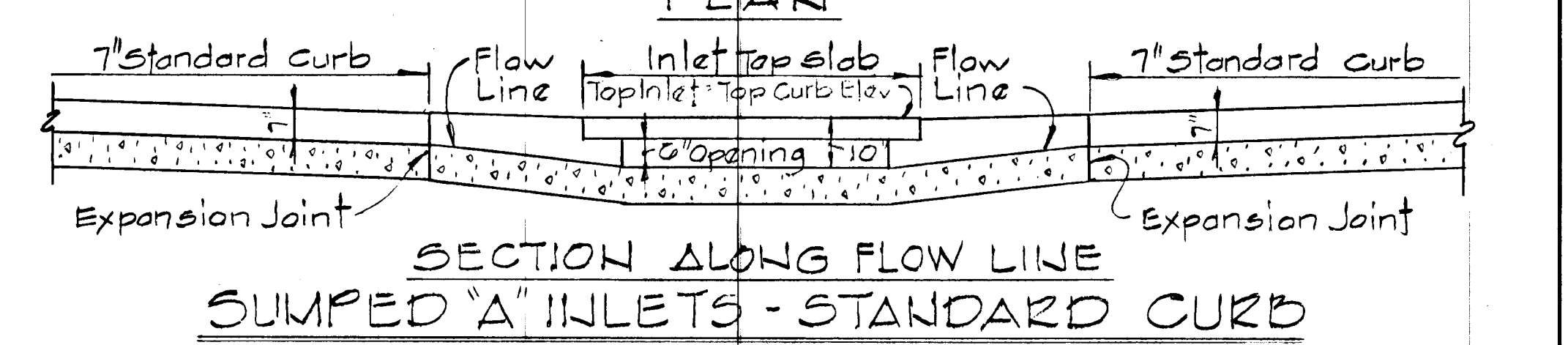
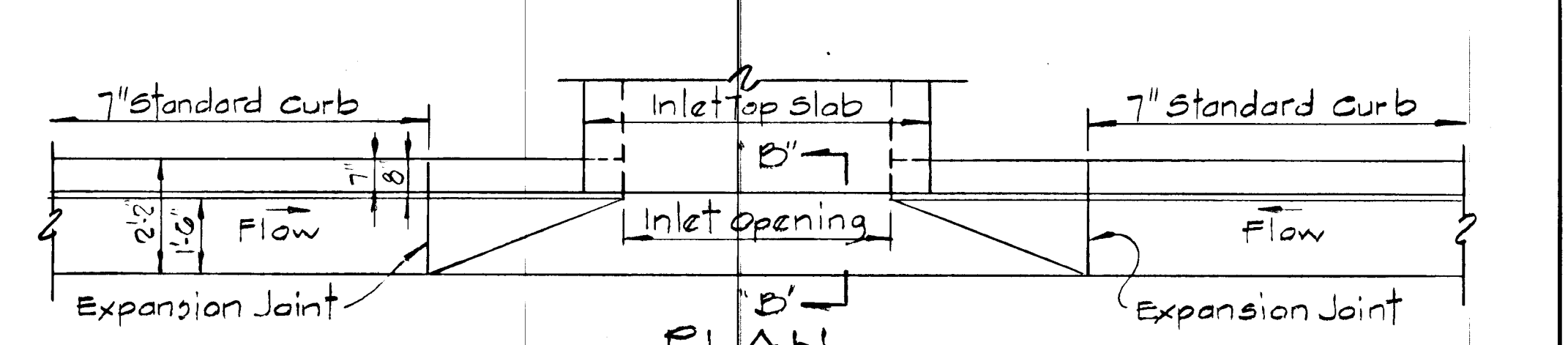
LITTLE SPARROW PLACE



PROFILES
 Scale: Hor. 1"=50'
 Vert. 1"=5'



APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF ENGINEERING
 OFFICE OF PLANNING & ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION



REV DATE	REV NO	DESCRIPTION
8/12/85	1	As Per Planning and DPW Comments REVISION DESCRIPTION

COLUMBIA
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2
 LOTS 3 THRU 36

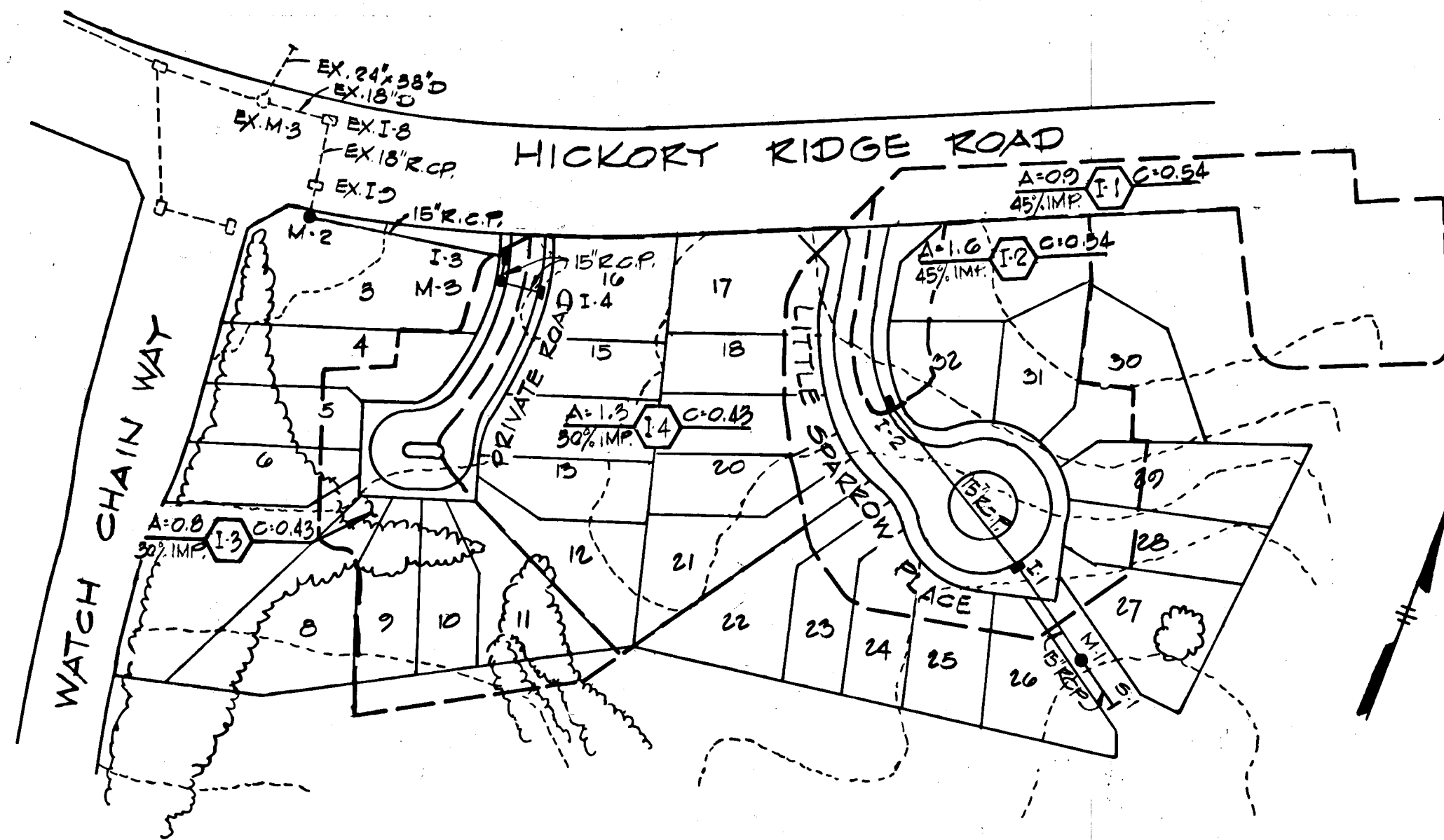
PROJECT TITLE
ROADWAY AND STORM DRAIN DETAILS

SCALE: AS SHOWN DATE:

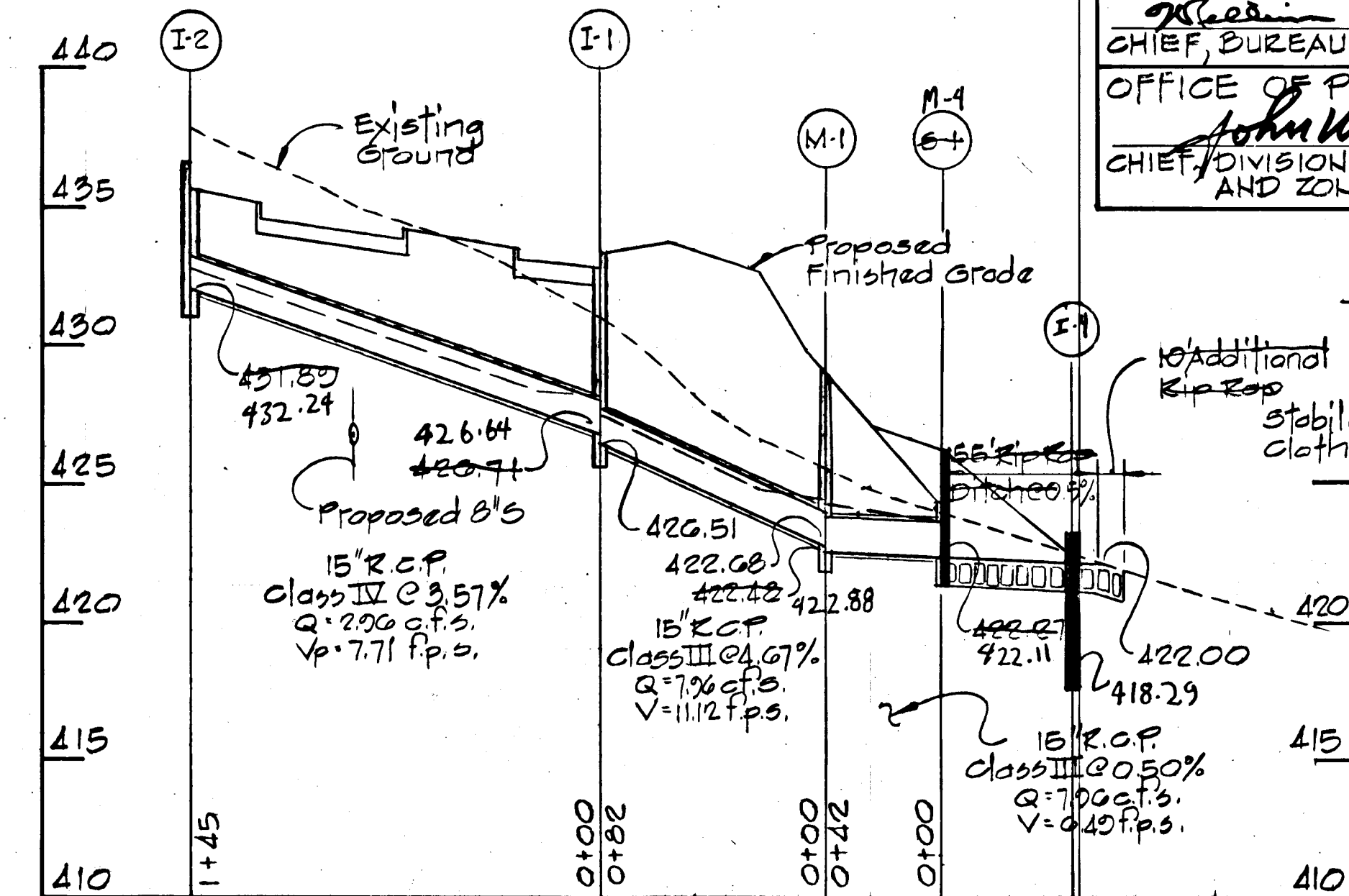
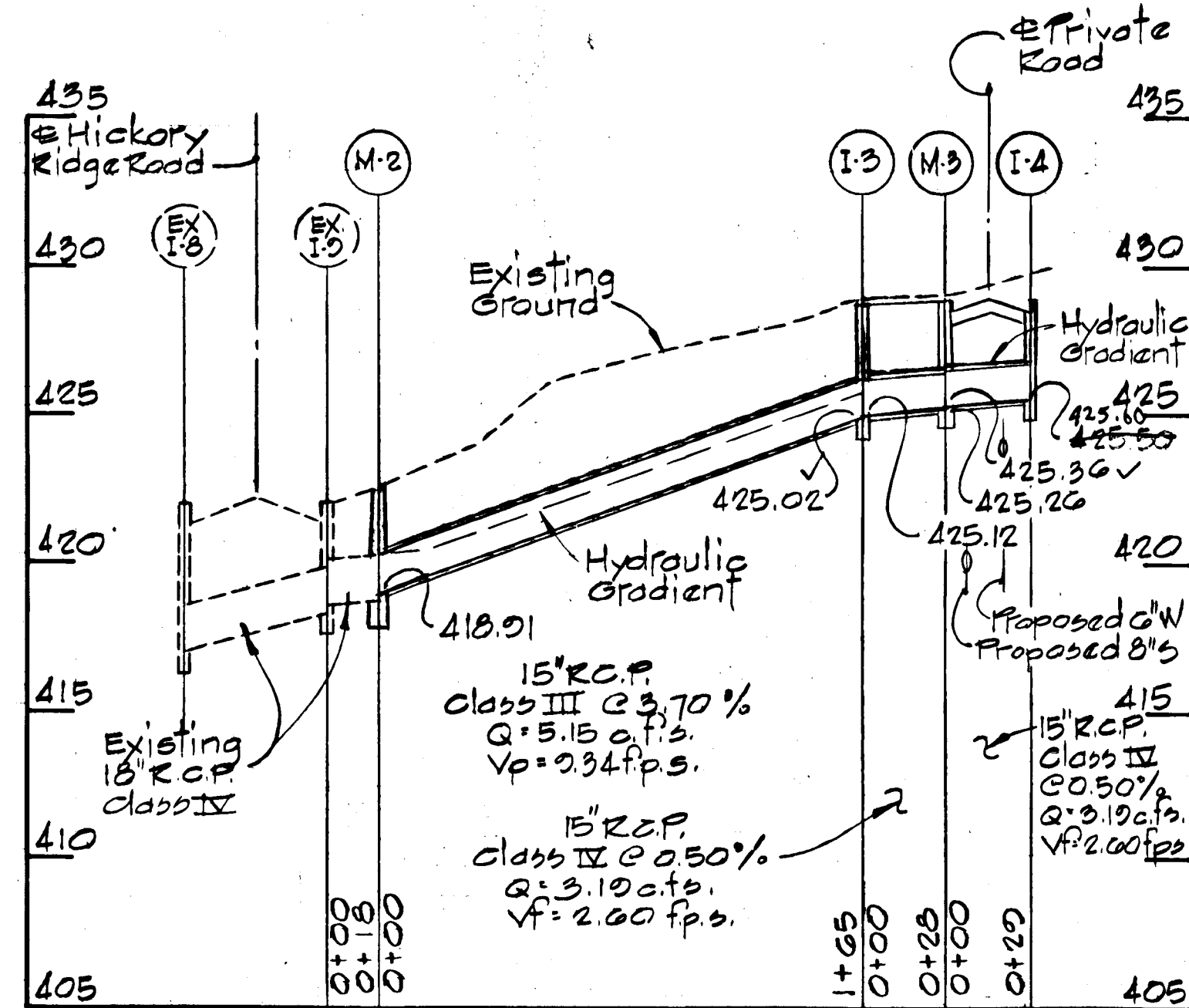
WHITMAN, REQUAZOT AND ASSOCIATES
 ENGINEERS
 BALTIMORE, MARYLAND 21218

Kenneth A. McCord
 KENNETH A. MCCORD
 Registered Engineer
 No. 1574

NOTE: FOR EXISTING STORM DRAIN SYSTEM SEE VILLAGE OF HICKORY RIDGE SECTION 3 AREA 1 ROAD CONSTRUCTION DRAWINGS (F-83-120)

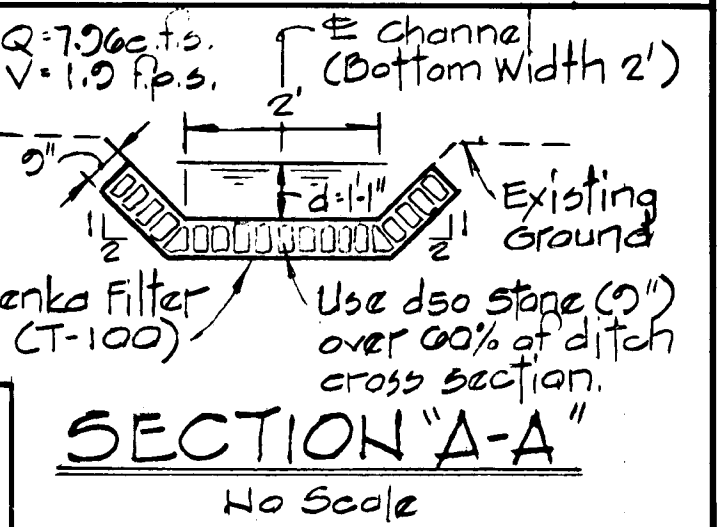


DRAINAGE AREA MAP
Scale: 1" = 100'

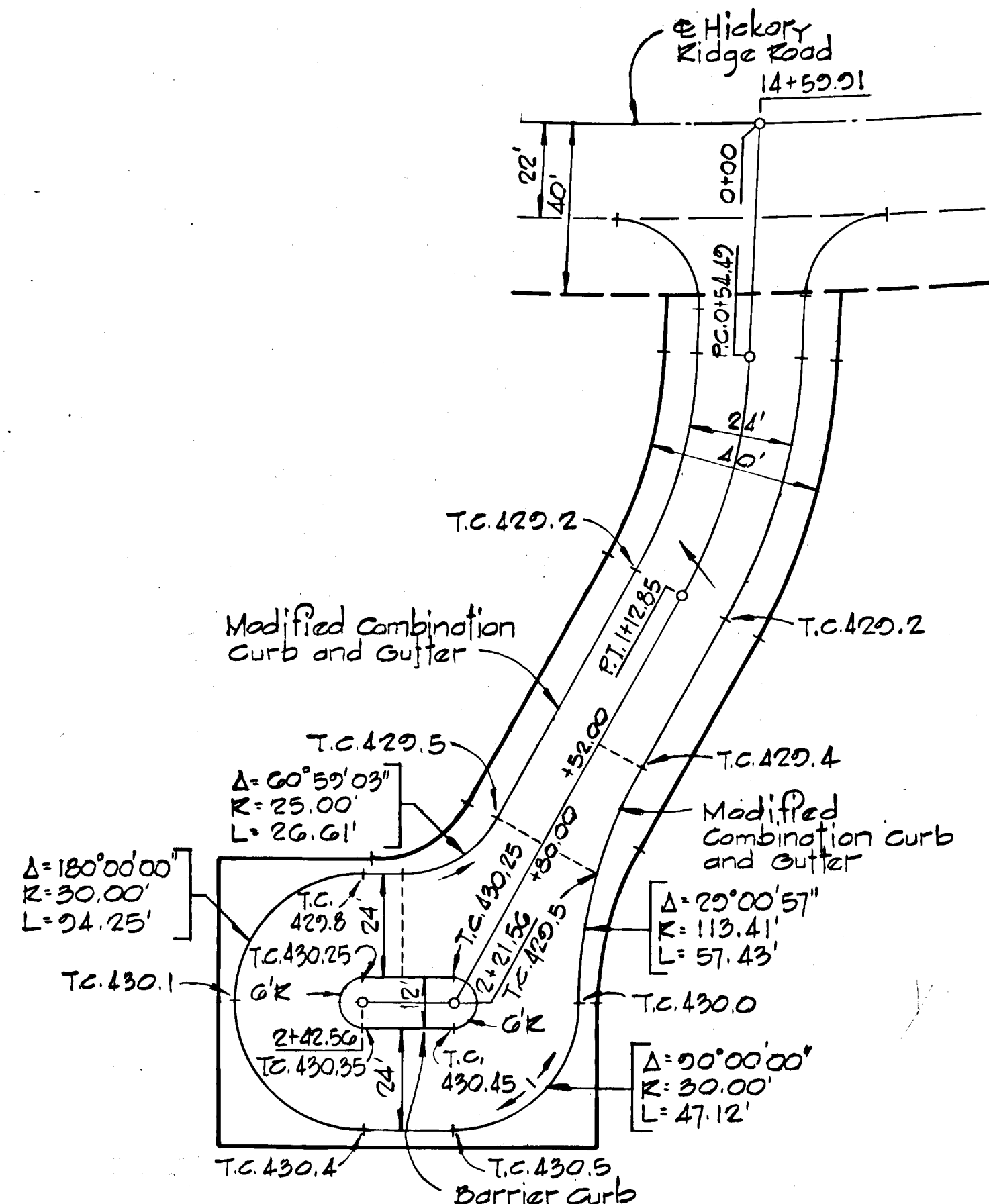


PROFILES
Scale: Hor. 1" = 50'
Vert. 1" = 5'

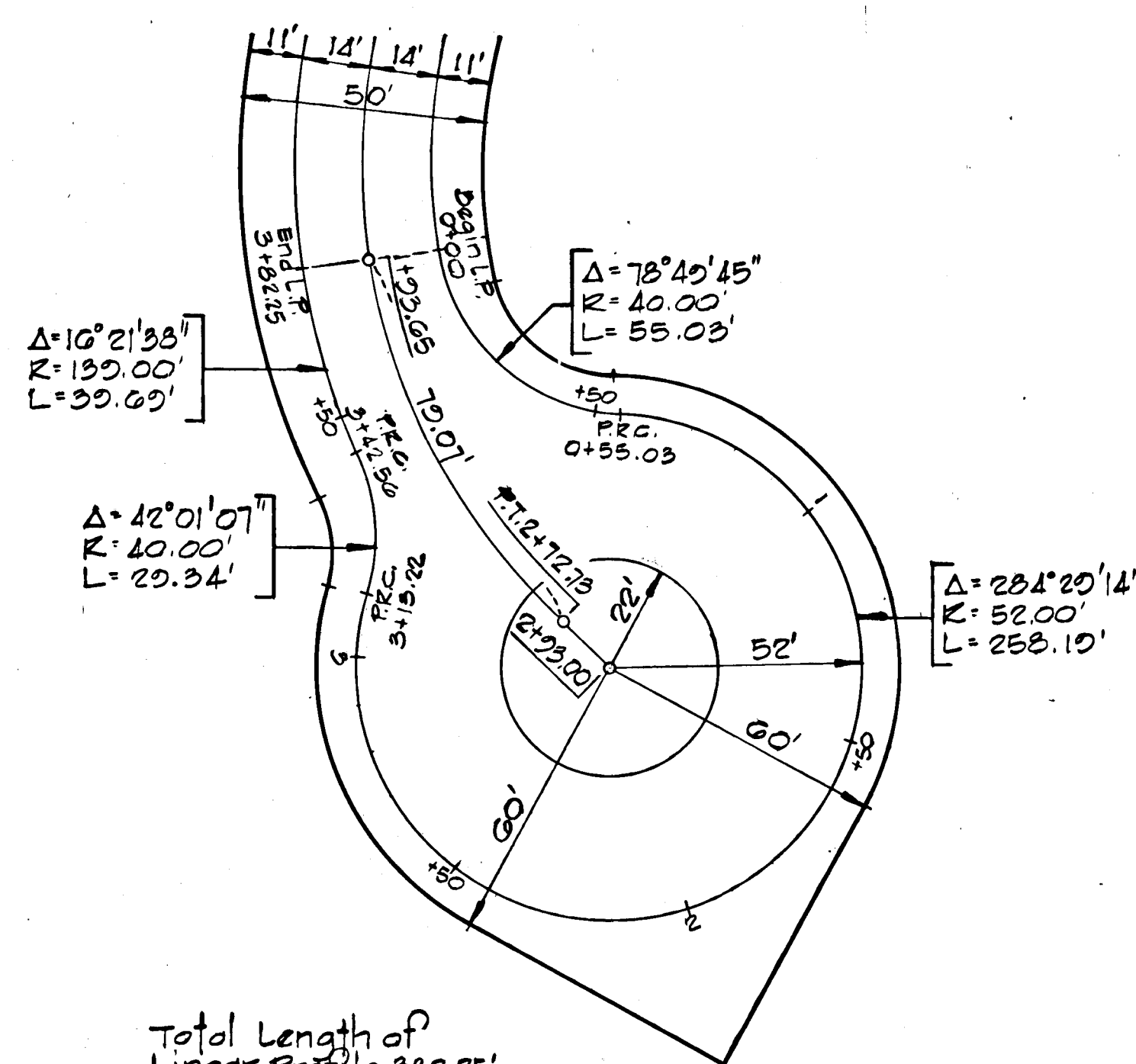
APPROVED: DEPARTMENT OF PUBLIC WORKS
John W. Mauchman 8-21-85
CHIEF, BUREAU OF ENGINEERING
OFFICE OF PLANNING & ZONING
John W. Mauchman 8-26-85
CHIEF, DIVISION OF LAND DEVELOPMENT DATE AND ZONING ADMINISTRATION



NOTE: DRAIN EXTENDED UNDER F-86-98



PRIVATE ROAD
Scale: 1" = 30'

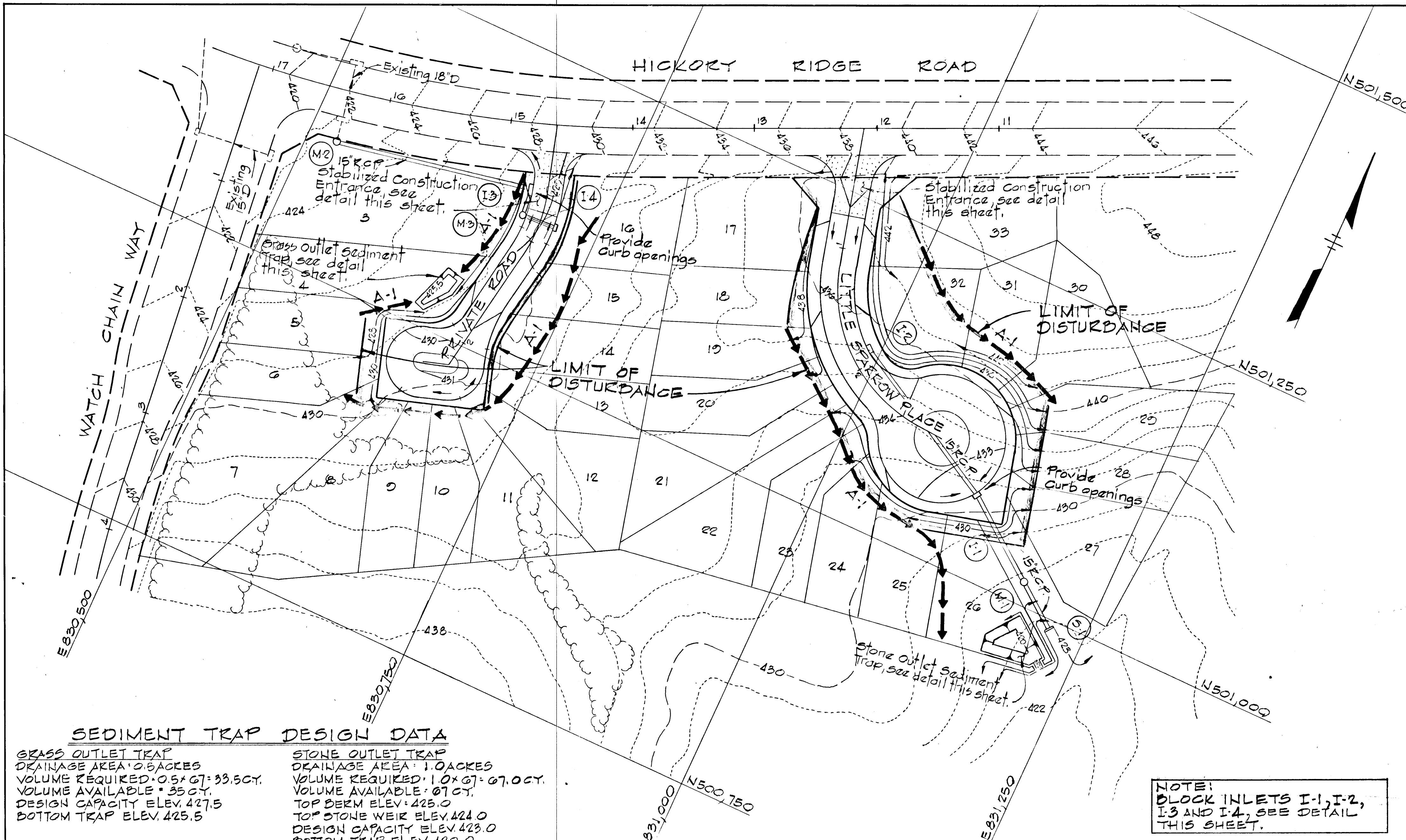


Total Length of Linear Profile 382.25'.
LITTLE SPARROW PLACE
Scale: 1" = 50'

"AS-BUILT" ELEVATIONS AS OF AUG. 14, 1986
KENNETH A. McCORD P.E. # 1974

Note:
The type of bedding used for storm drain pipe shall be class C shaped subgrade. If rock is encountered, the trench invert should be overexcavated 6 inches and the overexcavation of 6" refilled with granular material.

DATE	REV. NO.	REVISION DESCRIPTION
8/12/85	1	As Per Planning and DPW Comments
		REVISION DESCRIPTION
COLUMBIA 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORPORATION		
PROJECT AREA VILLAGE OF HICKORY RIDGE SECTION 3 AREA 2 LOTS 3 THRU 30		
PROJECT TITLE DRAINAGE AREA MAP, STORM DRAIN PROFILES AND ROAD DETAILS		
SCALE: AS SHOWN		DATE:
WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS BALTIMORE, MARYLAND 21218		
<i>Kenneth A. McCord</i> KENNETH A. McCORD Registered Engineer No. 1974		



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, discing or other acceptable means before seeding.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lb/1000 sq ft) and 600 lbs per acre 10-10-10 fertilizer (14 lb/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 lb/1000 sq ft).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lb/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lb/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 30 lbs per acre (1.4 lb/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (2.0 lb/1000 sq ft) of creeping lovegrass. During the period October 15 thru 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 lb/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 retreadings.

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 raking, discing or other acceptable means before seeding.

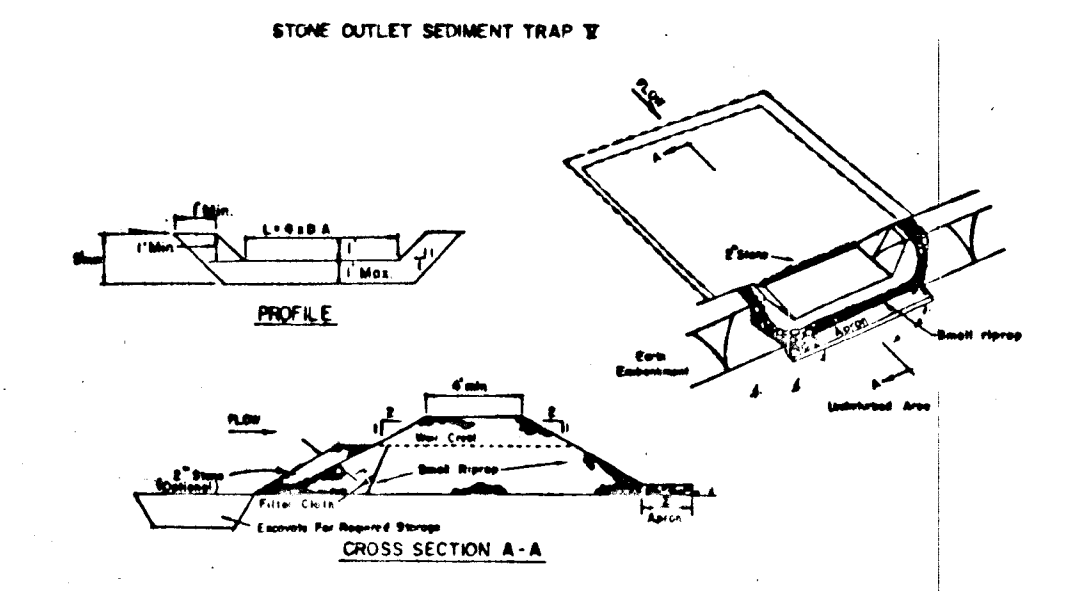
Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lb/1000 sq ft)

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 25 bushel per acre of annual rye (3.2 lb/1000 sq ft). For the period May 1 thru August 14, seed 10 lbs per acre of creeping lovegrass (1.0 lb/1000 sq ft). For the period November 15 thru 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 lb/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

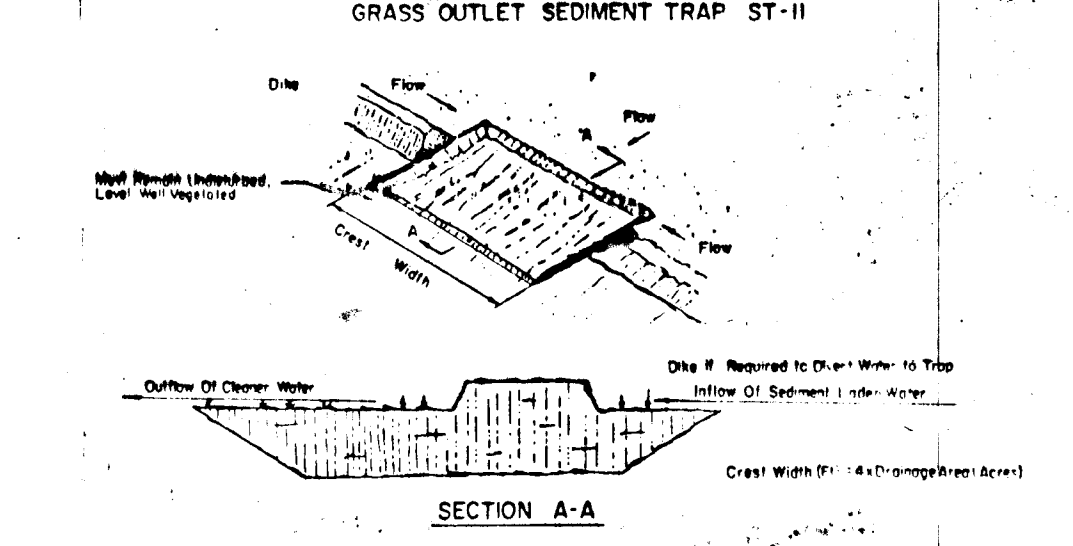
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Engineering
 OFFICE OF PLANNING & ZONING
 Chief, Division of Land Development and Zoning Administration



CONSTRUCTION SPECIFICATIONS FOR ST-I

1. Area under embankment shall be cleared, graded and stripped of any vegetation and root mat. The soil area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by tamping with equipment while it is being constructed.
3. All cut and fill slopes shall be 1:1 or flatter.
4. The stone used in the outlet shall be well riprap 4" along with a 1" thickness of 1/2" aggregate placed on the up-grade side on the small riprap 22 unrotted filter cloth on the riprap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to the design depth of the trap.
6. The structure shall be inspected after each rain and repairs made as needed.
7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.



EXCAVATED GRASS OUTLET SEDIMENT TRAP

CONSTRUCTION SPECIFICATION FOR ST-II

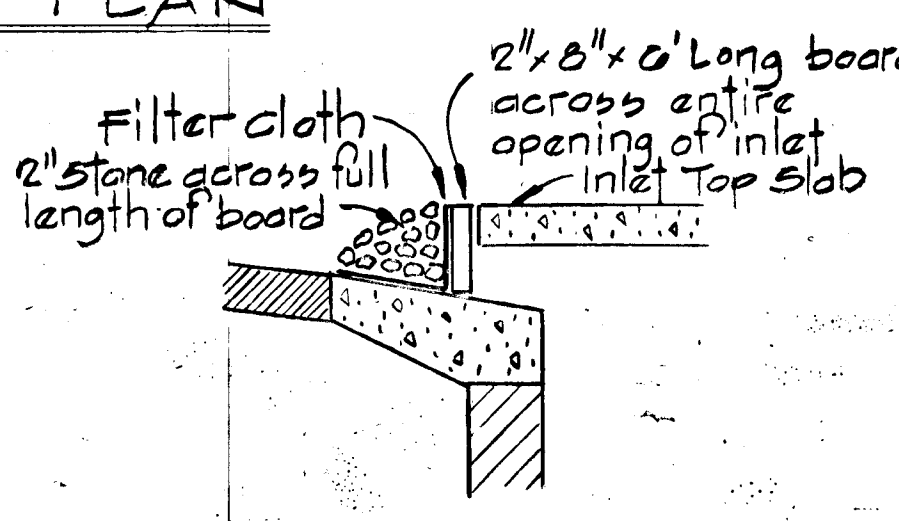
1. Volume of sediment storage shall be 1800 cubic feet per acre of contributing drainage area.
2. Minimum crest width shall be 4 X Drainage Area.
3. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
4. The structure shall be inspected after each rain and repairs made as needed.
5. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
6. The sediment trap shall be removed and area stabilized when the remaining drainage area has been properly stabilized.
7. All cut slopes shall be 1:1 or flatter.

Maximum Drainage Area: 5 Acres

SEDIMENT TRAP DESIGN DATA

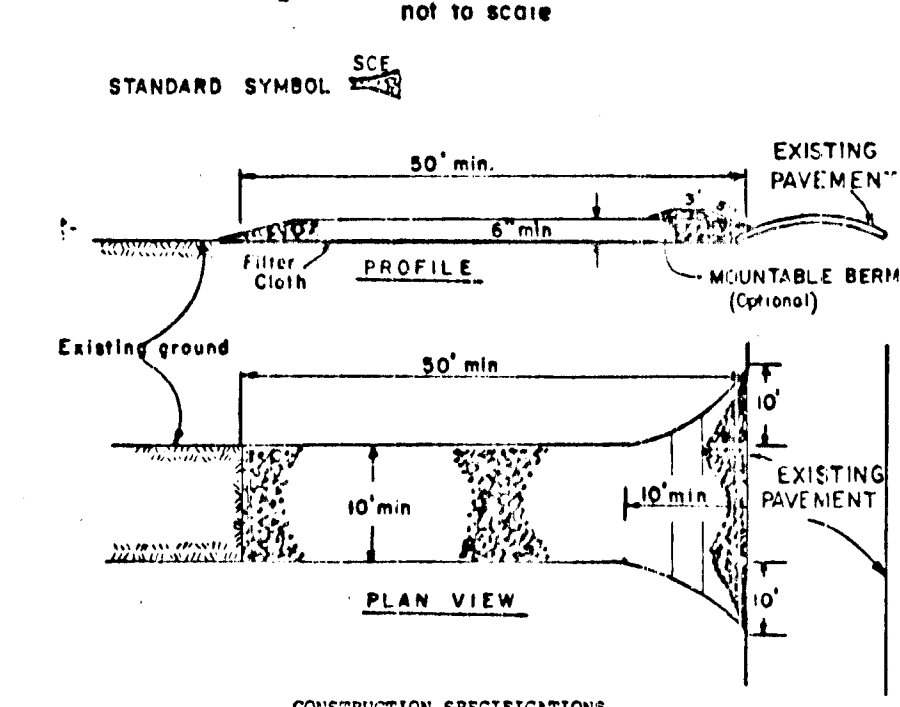
GRASS OUTLET TRAP	STONE OUTLET TRAP
DRAINAGE AREA: 0.6 ACRES	DRAINAGE AREA: 1.0 ACRES
VOLUME REQUIRED: 0.5 x 67 = 33.5 CY	VOLUME REQUIRED: 1.0 x 67 = 67.0 CY
VOLUME AVAILABLE: 35 CY	VOLUME AVAILABLE: 67 CY
DESIGN CAPACITY ELEV: 427.5	TOP SOLE WEIR ELEV: 424.0
BOTTOM TRAP ELEV: 425.5	DESIGN CAPACITY ELEV: 423.0
	BOTTOM TRAP ELEV: 420.0

SEDIMENT CONTROL PLAN
 Scale: 1" = 50'



BLOCKED INLET DETAIL
 NO SCALE

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residential lot where a 30 foot minimum length would apply).
3. Thickness - 100 lbs less than site (4) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where inlets or access occurs.
5. Filter Cloth - Will be placed over the entire area prior to placement of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or directed toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5% slope will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.



CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residential lot where a 30 foot minimum length would apply).
3. Thickness - 100 lbs less than site (4) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where inlets or access occurs.
5. Filter Cloth - Will be placed over the entire area prior to placement of stone. Filter will not be required on a single family residence lot.
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8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

NOTE:
 BLOCK INLETS I-1, I-2, I-3 AND I-4, SEE DETAIL THIS SHEET.

SEQUENCE OF CONSTRUCTION

1. Obtain Grading Permit
 2. Construct stabilized construction entrance on Little Sparrow Place and Private Road (2 Days)
 3. Clear and grub areas for sediment control facilities only. (3 Days)
 4. Construct sediment traps and earth dikes (3 Days)
 5. Stabilize earth dikes with temporary seeding, see specifications, this sheet. (1 Day)
 6. Strip and rough grade limits of construction (3 Weeks)
 7. Construct all utilities. (4 Weeks)
 8. Fine grade roads, construct curb and gutter, sidewalks and seed disturbed areas. (2 Weeks)
 9. Pave roads. (1 Week)
 10. Remove all sediment control facilities after grass is established in the contributing drainage areas. Stabilize sediment trap removal areas, see permanent seeding notes, this sheet. (1 Week)
- * Allow for 10' long curb openings at locations indicated.

REV. DATE	REV. NO.	REVISION DESCRIPTION
8/12/85	1	As Per Planning, D.P.W. and S.C.S. Comments

COLUMBIA
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT AREA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2
 LOTS 3 THRU 36

PROJECT TITLE
 SEDIMENT CONTROL PLAN
 AND DETAILS

SCALE: AS SHOWN **DATE:**

WHITMAN, REQUARDT AND ASSOCIATES
 ENGINEERS
 BALTIMORE, MARYLAND 21218

Kenneth A. McCord
 Registered Engineer
 No. 1974

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

Thomas M. Nelson 8/23/85
 DATE

U.S. SOIL CONSERVATION DISTRICT

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

Stephen L. Rubin 8/23/85
 HOWARD S.C.D. DATE

CERTIFICATION BY THE ENGINEER

"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."

Kenneth A. McCord 6-11-85
 KENNETH A. MCCORD PE 1974 DATE

CERTIFICATION BY THE DEVELOPER

"I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Walter E. Woodford 6-10-85
 WALTER E. WOODFORD DATE