

REVISIONS

SHEET INDEX	
SHEET No.	DESCRIPTION
1	Title Sheet
2	Drainage Area Map
3	Tamar Road Sta. 43+41.20 to 53+81.85
4	Storm Drain Profiles and Details
5	Underpass Site Plan
6	Underpass Details
7	" " " " " "
8	Sediment and Erosion Control Plan
9	" " " " " (Supplement)

COLUMBIA

HOWARD COUNTY, MARYLAND

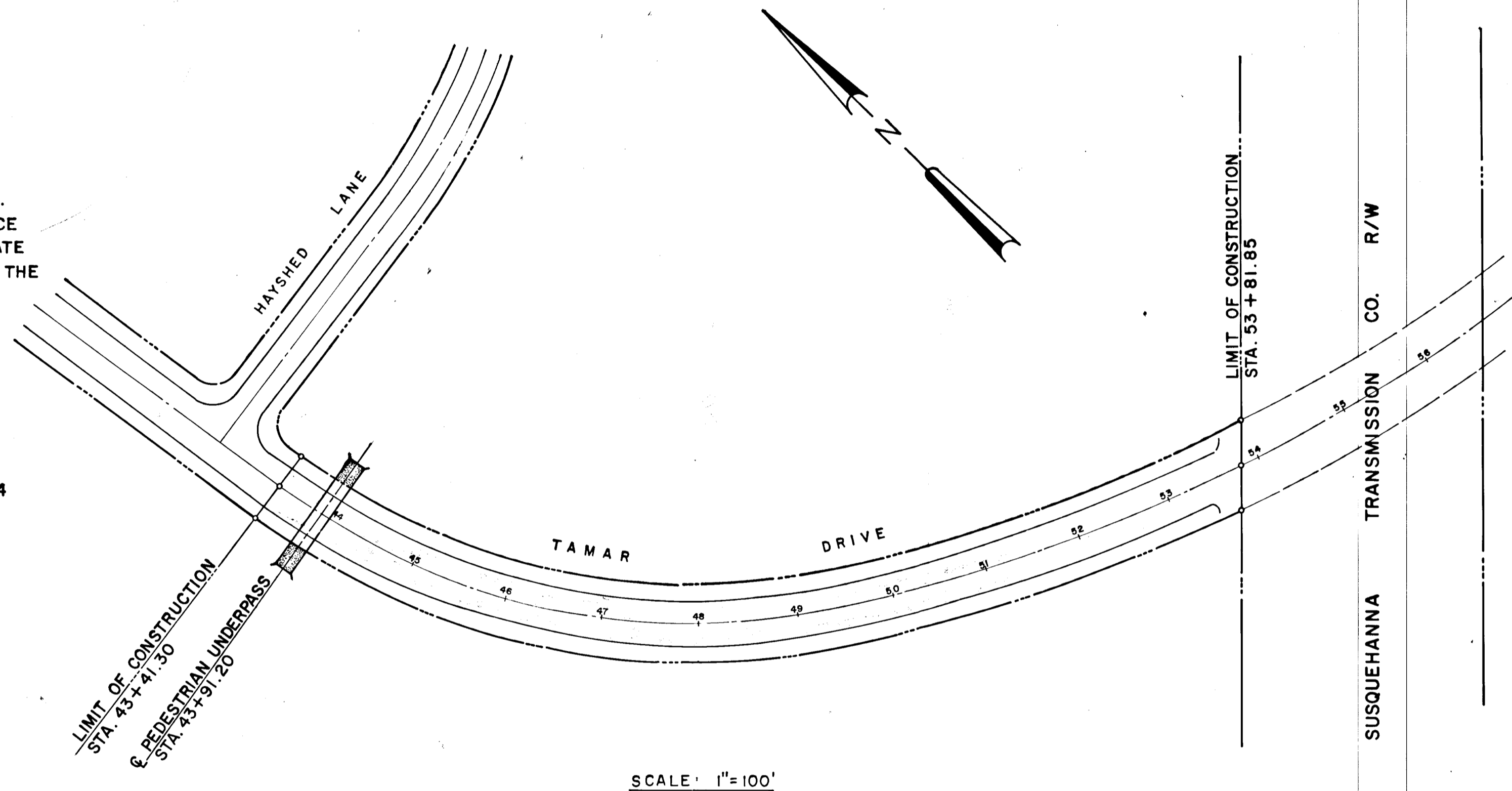
6th ELECTION DISTRICT

VILLAGE OF LONGREACH SECT. I AREA 4

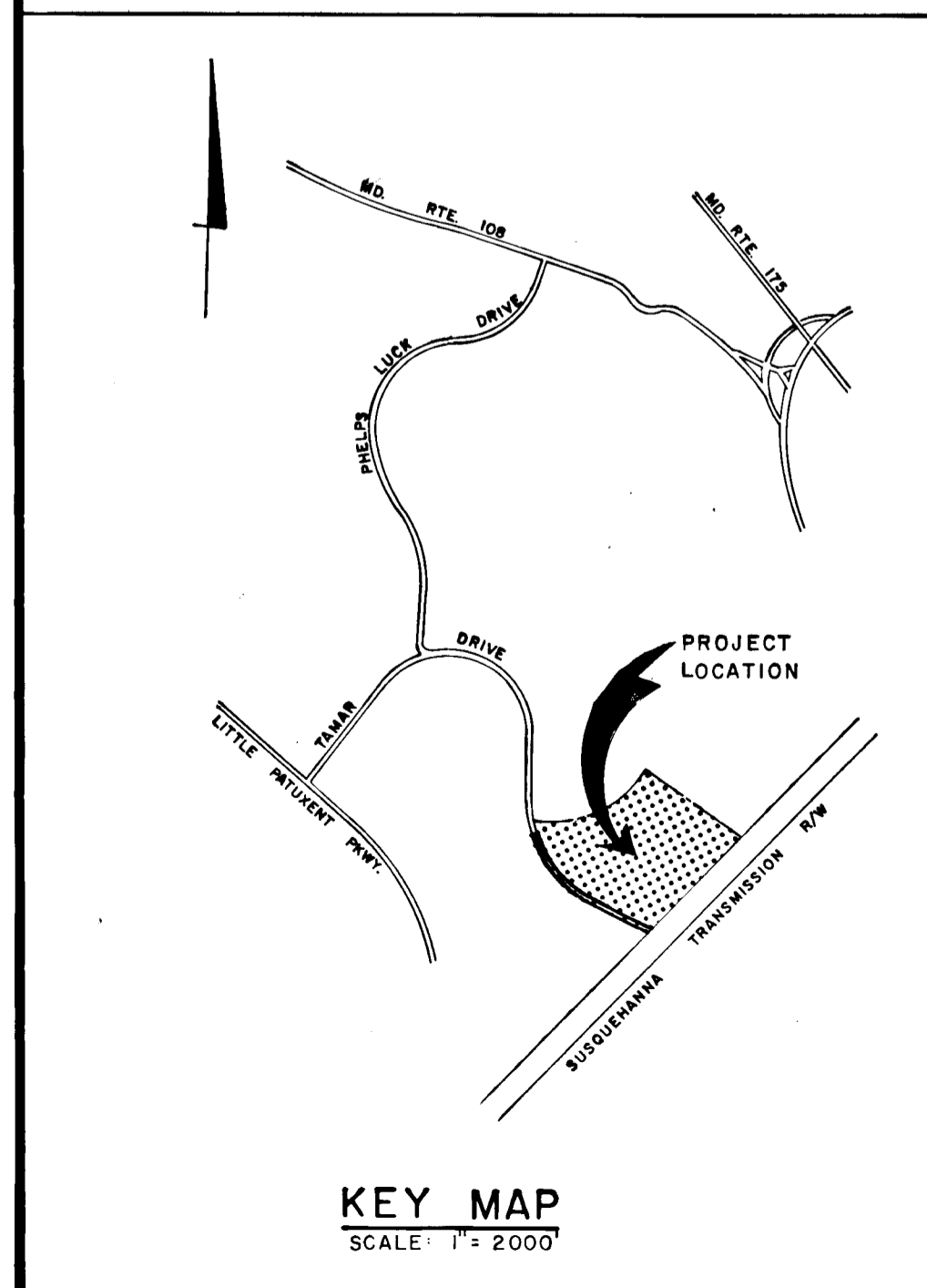
TAMAR DRIVE STA. 43+41.30 TO 53+81.85

PEDESTRIAN UNDERPASS AT STA. 43+91.20

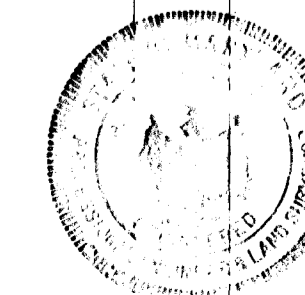
- NOTES:**
- ALL DETAILS ARE FROM THE "ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS" ISSUED OR APPROVED BY THE COUNTY COMMISSIONERS AND THE HOWARD COUNTY ROAD DEPARTMENT.
 - TAMAR DRIVE IS DESIGNED FOR 35 M.P.H. TRAFFIC SPEED. TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS STANDARDS
 - TIE DOWN OF SEEDING AND MULCHING SHOULD BE DONE AS SOON AS ROADS AND LOTS ARE DEVELOPED.
 - TOP SLOPES OF ALL FILL AREAS ON THE ROADS SHOULD BE BERMED DURING THE CONSTRUCTION TO PREVENT EXCESSIVE EROSION OF THESE FILL SLOPES. THESE BERMS SHOULD HAVE AN OUTLET ONTO UNDISTURBED GROUND. IF THIS IS NOT POSSIBLE, THEN TEMPORARY CONSTRUCTED DROP STRUCTURES (FLUMES OR CHUTES) SHOULD BE DESIGNED ON A 10YEAR FREQUENCY STORM. BERMS SHALL BE 18" HIGH WITH 2:1 SIDE SLOPES.
 - CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES 48 HRS AND HOWARD SOIL CONSERVATION DISTRICT 24 HRS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION.
 - ALL DISTURBED AREAS SHALL BE SEEDED WITH A MIXTURE OF ANNUAL RYE GRASS (20%), KENTUCKY BLUE GRASS (20%) & KENTUCKY 31 FESCUE (60%) TO BE SOWN AT THE RATE OF 200 LBS./ACRE WITH A MECHANICAL SPREADER; RAKE. A MINIMUM OF TWO PASSES WITH A YORK RAKE. PREPARE SURFACE WITH GRADE LIMESTONE OVER TOPSOIL SURFACE AREA AT THE RATE OF 1.5 TON/ACRE (60LBS/1000SQ.FT.), COMMERCIAL FERTILIZER AT THE RATE OF 3/4 TON/ACRE (35LBS/1000SQ.FT.) & SUPER PHOSPHATE AT THE RATE OF 600LBS/ACRE (15LBS/1000 SQ.FT.).
 - ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY ROAD CONSTRUCTION CODE.
 - CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES AT LEAST THREE DAYS BEFORE STARTING CONSTRUCTION:
 - BELL TELEPHONE SYSTEMS 363-3649
 - LONG DISTANCE CABLE-DIVISION OF BELL 393-3553 OR 3554
 - BALTIMORE GAS & ELECTRIC CO. 234-5691
 - COLONIAL PIPE LINE (WHERE APPLICABLE) 781-4641
 - HOWARD SOIL CONSERVATION DISTRICT 465-3180
 - HOWARD COUNTY BUREAU OF SEWER & WATER 465-5000
 - C & P TELEPHONE CO. 393-3648



OWNER & DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORP.
COLUMBIA, MARYLAND



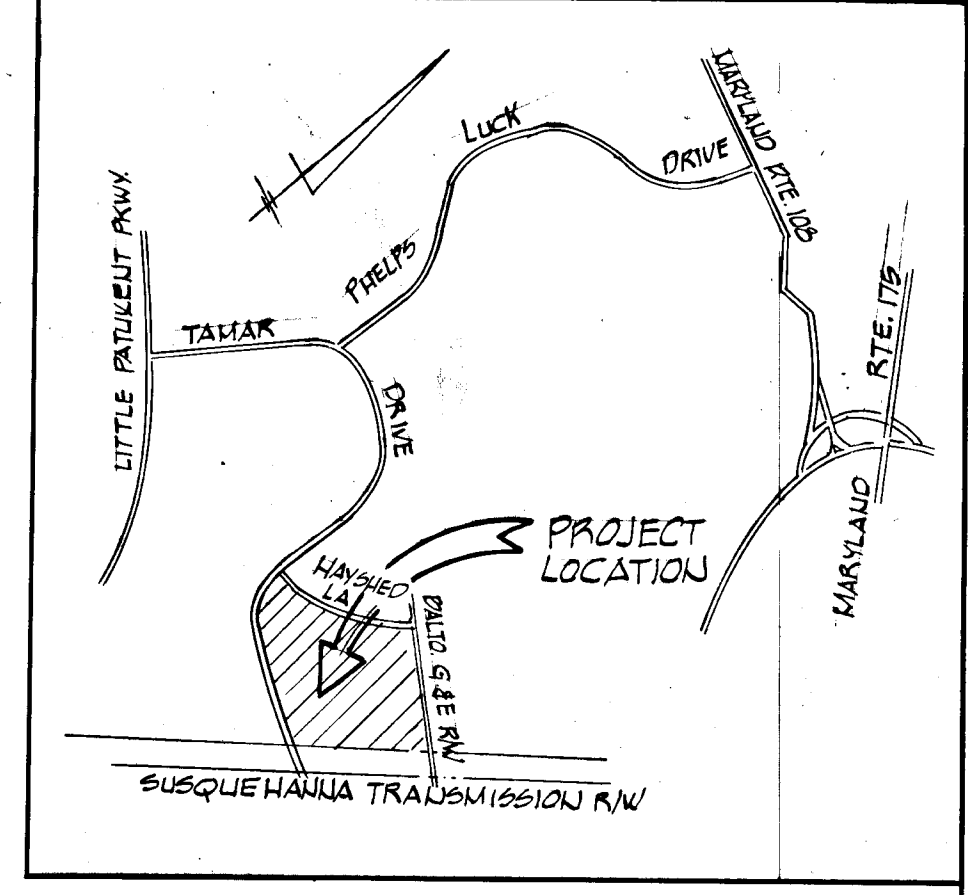
Richard P. Browne



RICHARD P. BROWNE ASSOCIATES
Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
Wayne, New Jersey

DEPARTMENT OF PUBLIC WORKS	4/9/71
<i>Brownell H. Hebland</i> CHIEF, BUREAU OF HIGHWAYS.	DATE
OFFICE OF PLANNING AND ZONING	4-6-71
<i>W. Clavin</i> CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT.	DATE



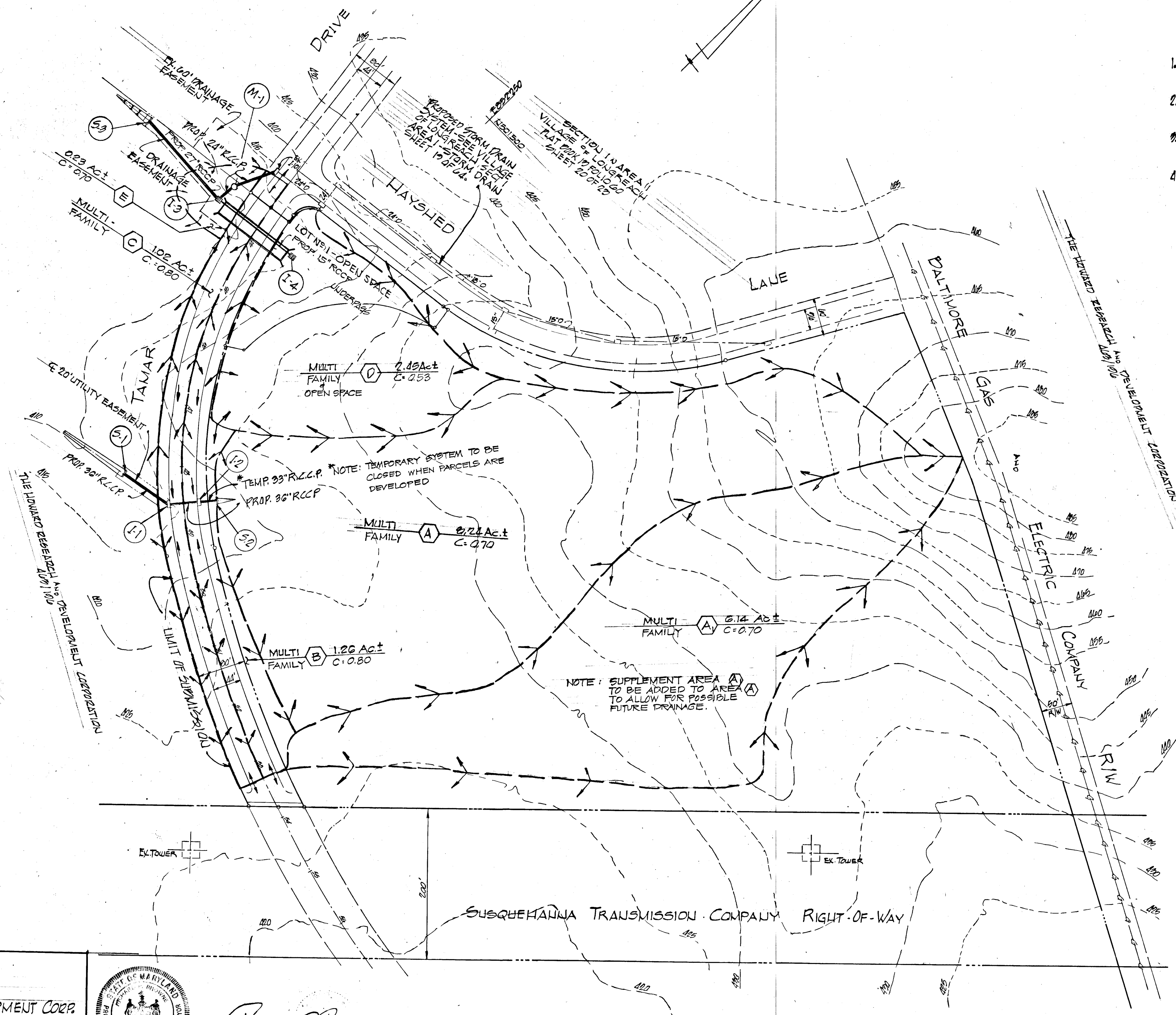
LOCATION PLAN
SCALE: 1" = 2000'

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.
2. ALL UTILITY COMPANIES SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF CONSTRUCTION.
3. TAMAHA DRIVE IS DESIGNED FOR 35 M.P.H. TRAFFIC SPEED IN ACCORDANCE WITH A.A.S.H.O. STANDARDS.
4. ALL INLETS SHALL BE BUILT IN ACCORDANCE WITH HOWARD COUNTY STANDARDS UNLESS OTHERWISE SHOWN.

STORM DRAIN COMPUTATIONS
VILLAGE OF LOUGREACH SECTION 1 - AREA 4 - 10YR. SYSTEM

AREA NO.	REMARKS	INCR. ACRES	TOTAL ACRES	C	C.A.	ACCUM. C.A.	TIME CONC.	I IN/HR.	Q CFS.	PIPE SIZE	SLOPE %	MIN. ACT. VEL.	L FT.	TIME PIPE
A+A1	H.W. S-2	14.38	07	1007	10.0	5.8	58.40	33"	1.4	2.8	24'	2.08		
D	INLET I-2	1.26	08	101	10.0	5.5	5.1	36"	0.9	8.4	46.5'	2.09		
A-B	I-2 TO I-1	5.24	08	082	11.08	12.1	8.9	60.94	36"	0.9	8.4	46.5'	2.09	
C	INLET I-1	1.22	08	082	11.90	12.2	8.9	63.45	36"	1.1	9.1	50'	2.1	OUT
A-C	I-1 TO S-1	16.66												
EX AREA	EX. SYSTEM - SEE P.L. 1-1-702.10	5.61			14.11	5.1	19.89	24"	0.9	4.3	120'	0.4		
I	I-4 TO I-3	2.49	059	130	7.0	6.3	8.19	18"	1.8	6.6	155'			
E	INLET I-3	2.23	070	016	8.0	6.38	1.02							
E-D	I-3 TO S-3	8.35			9.36	14.5	5.08	27.28	27"	0.9	6.8			OUT

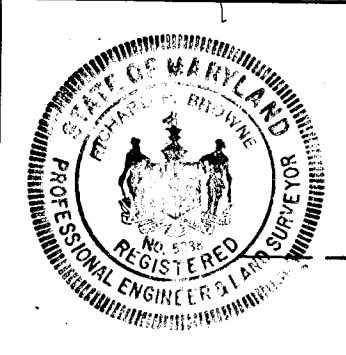


APPROVED
DIVISION OF
LAND DEVELOPMENT
OFFICE OF
PLANNING AND ZONING
OF HOWARD COUNTY
DATE: 4/16/71
JNEF

3-30-71	REVISE S.D. COMPUTATIONS	TP
3-2-71	REVISE STORM DRAINS	TP
Rev. Date	Rev. No.	Revision Description
COLUMBIA		
M A R Y L A N D		
5TH ELECTION DIST. HOWARD COUNTY, MD.		
HOWARD RESEARCH AND DEVELOPMENT CORP.		
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210		
PROJECT AREA	VILLAGE OF LOUGREACH SECTION 1 IN AREA 4	
PROJECT TITLE	STORM DRAIN AREA MAP	
DESIGNER	SCALE: 1" = 100'	DRAWING NO. 2 OF 3
DATE	FEB 1, 1971	C.E. NO.
CH. ENGR.	APPROVED:	

DEPARTMENT OF PUBLIC WORKS
APPROVED: *Drummond H. Neeland* 4/7/71
CHIEF, BUREAU OF HIGHWAYS
OFFICE OF PLANNING AND ZONING
APPROVED: *Richard P. Browne*
CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORP.
COLUMBIA, MARYLAND

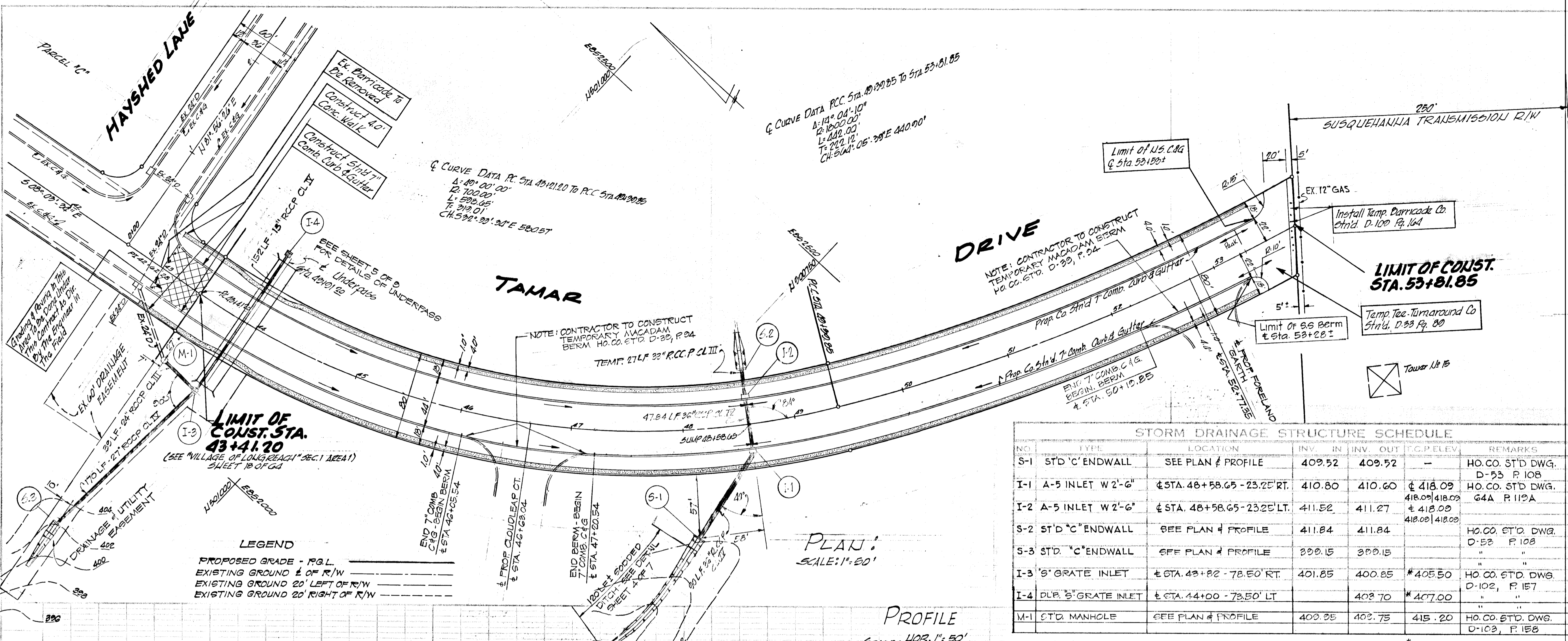


Richard P. Browne
2-2-71
DATE

2-2-71
DATE

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
4/8/71

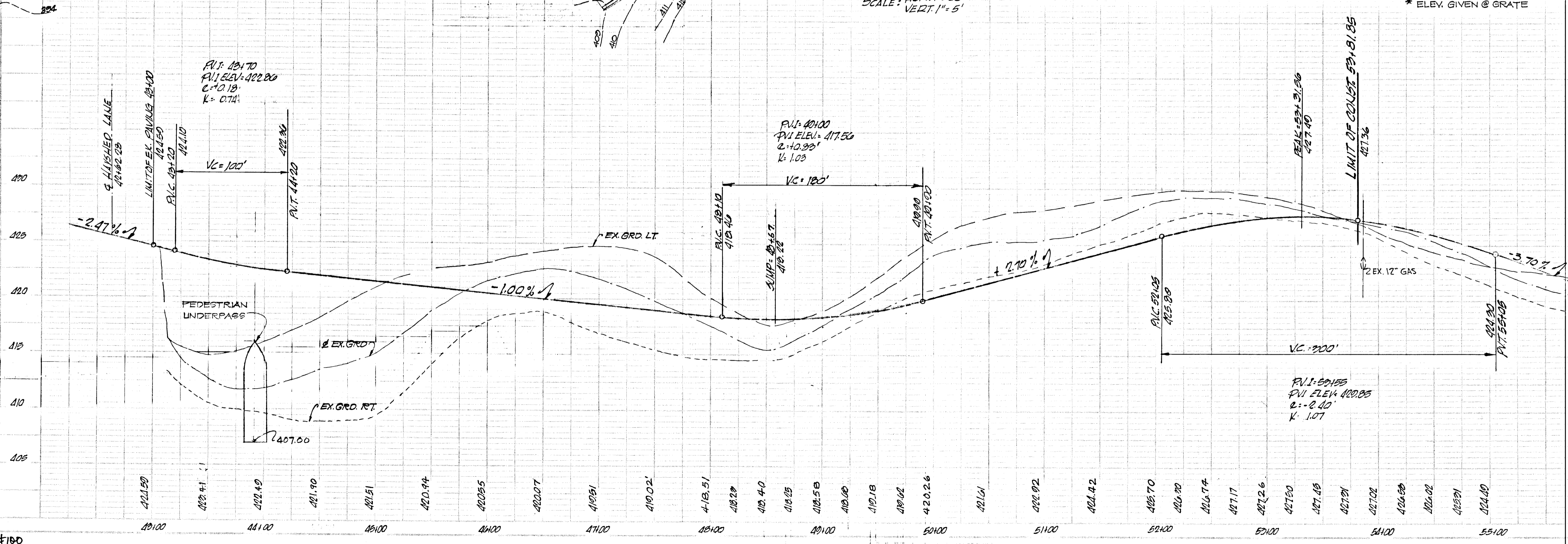
RICHARD P. BROWNE ASSOCIATES
CONSULTING ENGINEERS - PLANNERS
COLUMBIA, MARYLAND



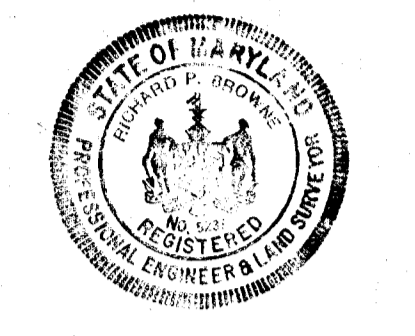
STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	C.C.P. ELEV.	REMARKS
S-1	ST'D 'C' ENDWALL	SEE PLAN & PROFILE	409.52	409.52	-	HO. CO. ST'D DWG. D-33 P 108
I-1	A-5 INLET W 2'-6"	± STA. 48+58.65 - 23.25' RT.	410.80	410.60	± 418.09	HO. CO. ST'D DWG. G4A P 119A
I-2	A-5 INLET W 2'-6"	± STA. 48+58.65 - 23.25' LT.	411.52	411.27	± 418.09	HO. CO. ST'D DWG. G4A P 119A
S-2	ST'D 'C' ENDWALL	SEE PLAN & PROFILE	411.84	411.84	-	HO. CO. ST'D DWG. D-33 P 108
S-3	ST'D 'C' ENDWALL	SEE PLAN & PROFILE	399.15	399.15	-	"
I-3	5' GRATE INLET	± STA. 43+02 - 78.50' RT.	401.85	400.85	*405.50	HO. CO. ST'D DWG. D-102, P 157
I-4	5' GRATE INLET	± STA. 44+00 - 73.50' LT.	403.70	402.70	*407.00	"
M-1	ST'D. MANHOLE	SEE PLAN & PROFILE	403.35	403.75	415.20	HO. CO. ST'D DWG. D-103, P 158

* ELEV. GIVEN @ GRATE



DEPARTMENT OF PUBLIC WORKS
 APPROVED: *Donnell W. Williams* 4-12-71
 CHIEF BUREAU OF HIGHWAYS DATE
 OFFICE OF PLANNING AND ZONING
 APPROVED: _____
 CHIEF ENGINEER, DIV. OF LAND DEVELOPMENT DATE



Richard P. Browne 2271
 RICHARD P. BROWNE REG. PROF. ENG. No. 1180 DATE
 RICHARD P. BROWNE ASSOCIATES
 CONSULTING ENGINEERS - PLANNERS
 COLUMBIA, MARYLAND
 3-29-71 REV. DATE REV. NO. REV. OFFSET TO I-1 4 I-2
 REV. DESCRIPTION

COLUMBIA

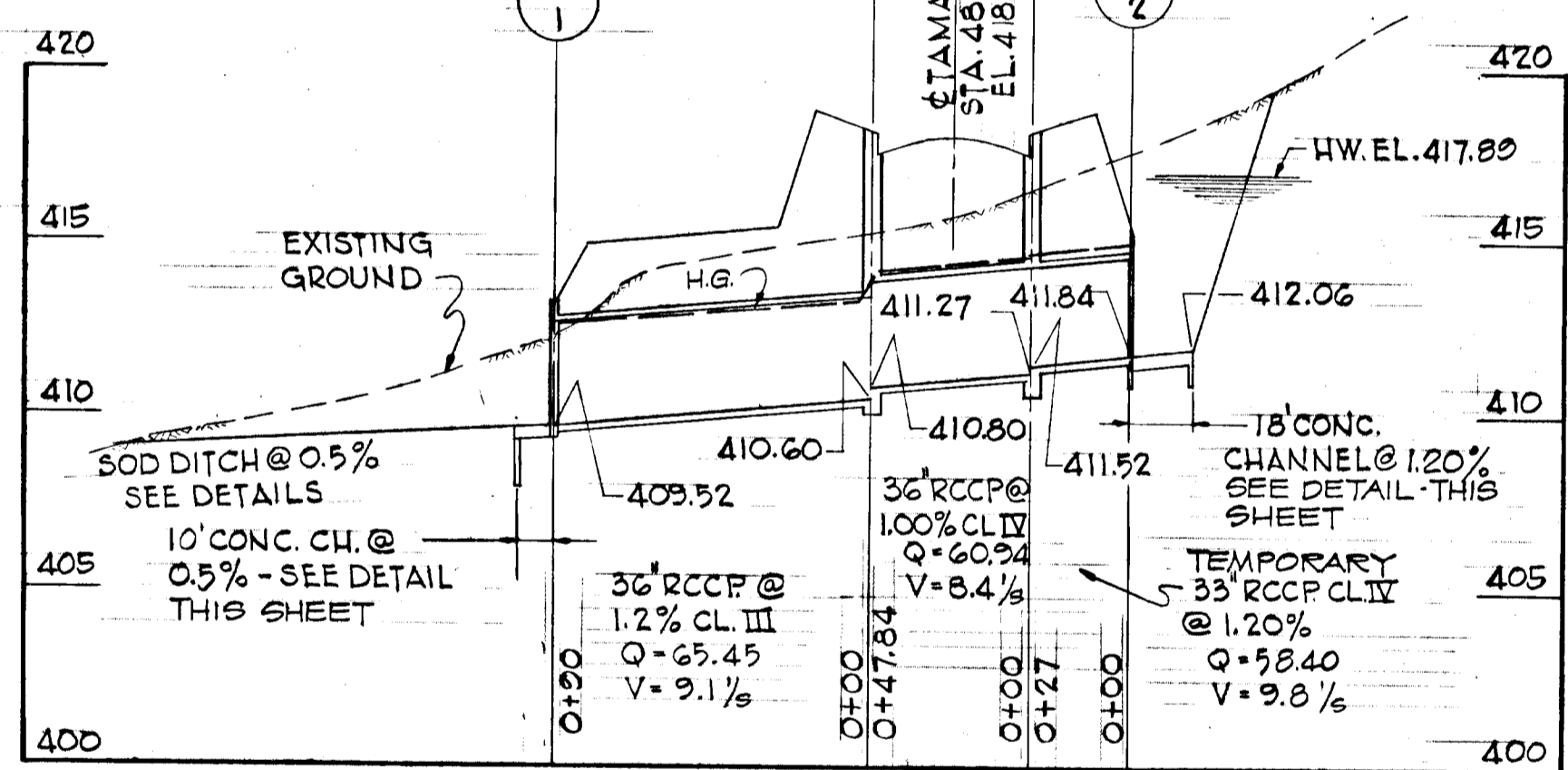
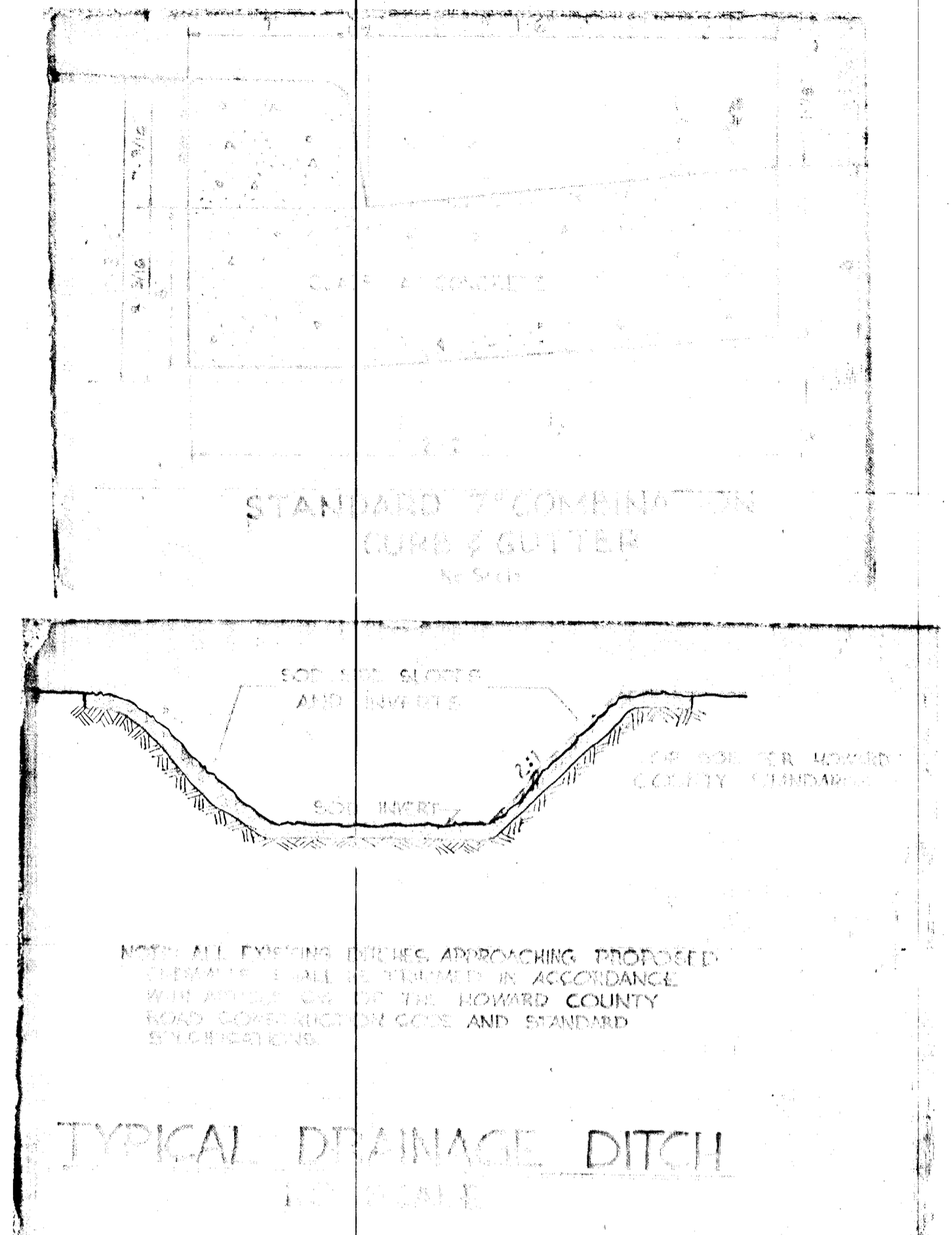
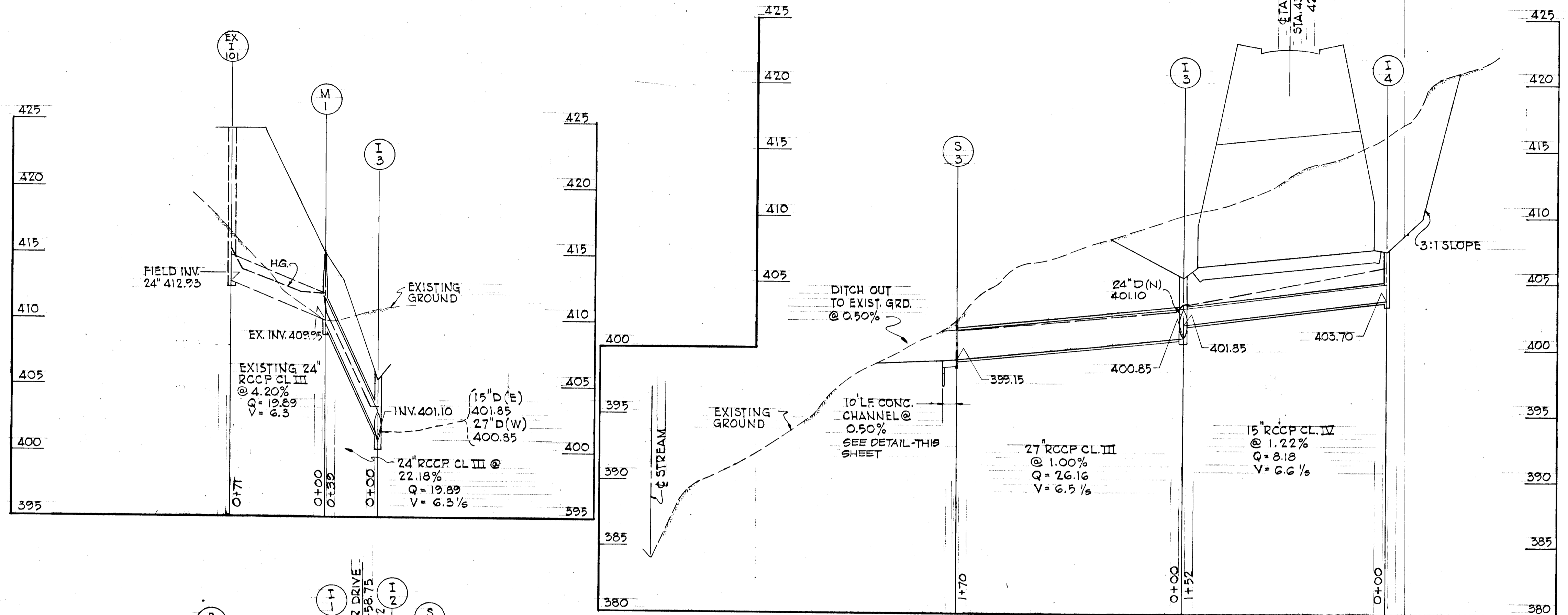
MARYLAND
 6TH ELECTION DIST. HOWARD COUNTY, MD.
 HOWARD RESEARCH AND DEVELOPMENT CORP.
 THE VILLAGE OF CRUISE KEYS - BALTIMORE, MARYLAND 21201

PROJECT AREA: **VILLAGE OF LONGREACH SECTION 1 AREA 4**

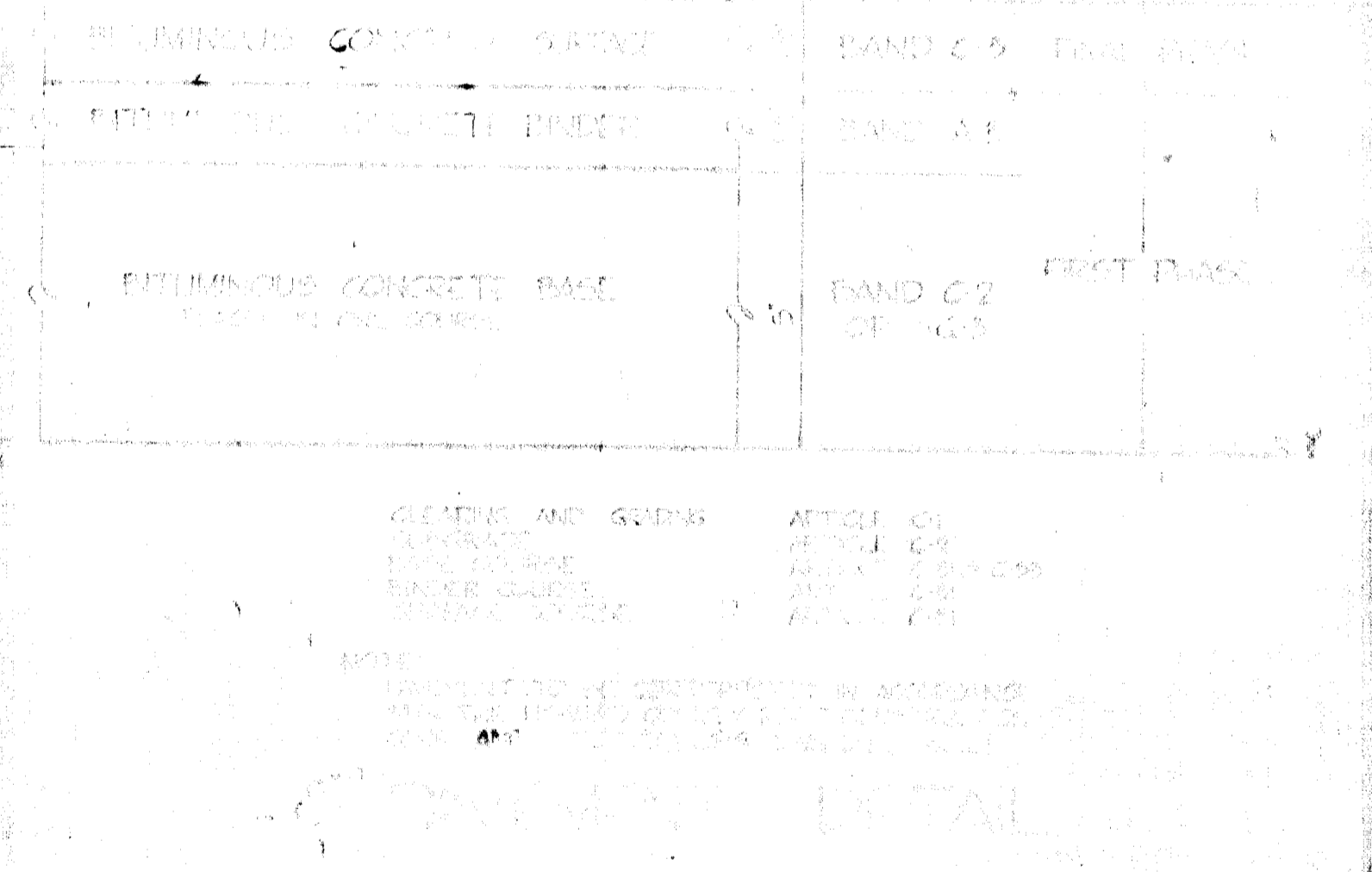
PROJECT TITLE: **PLAN AND PROFILE TAMAR DRIVE**

Des. By: T. PING 15 SHOWING DWG. No. 3059
 Dir. By: J.D. GARY Date: 12-1-70 C.C.F. No.
 Ckt. By: Approved:

APPROVED
 DIVISION OF
 LAND DEVELOPMENT
 OFFICE OF
 PLANNING AND ZONING
 OF HOWARD COUNTY
 DATE: 4/6/71
J. Key



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

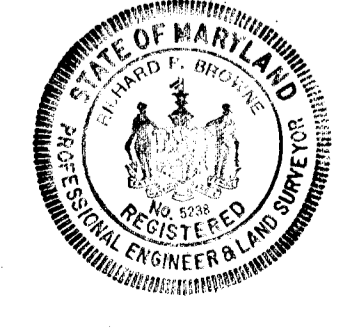


HYDRAULIC ANALYSIS OF
CONC. CHANNEL @ 0.5

DEPTH = 1.75'
A = 11.1 SF
WP = 11.0 FT.
HR = 1.0
S = 0.005 (0.5%)
V = 6.9 FTS
Q = 72.02 CFS
n = 0.015

APPROVED
DIVISION OF
LAND DEVELOPMENT
OFFICE OF
PLANNING AND ZONING
OF HOWARD COUNTY
DATE: 4/6/71
J. Kelly

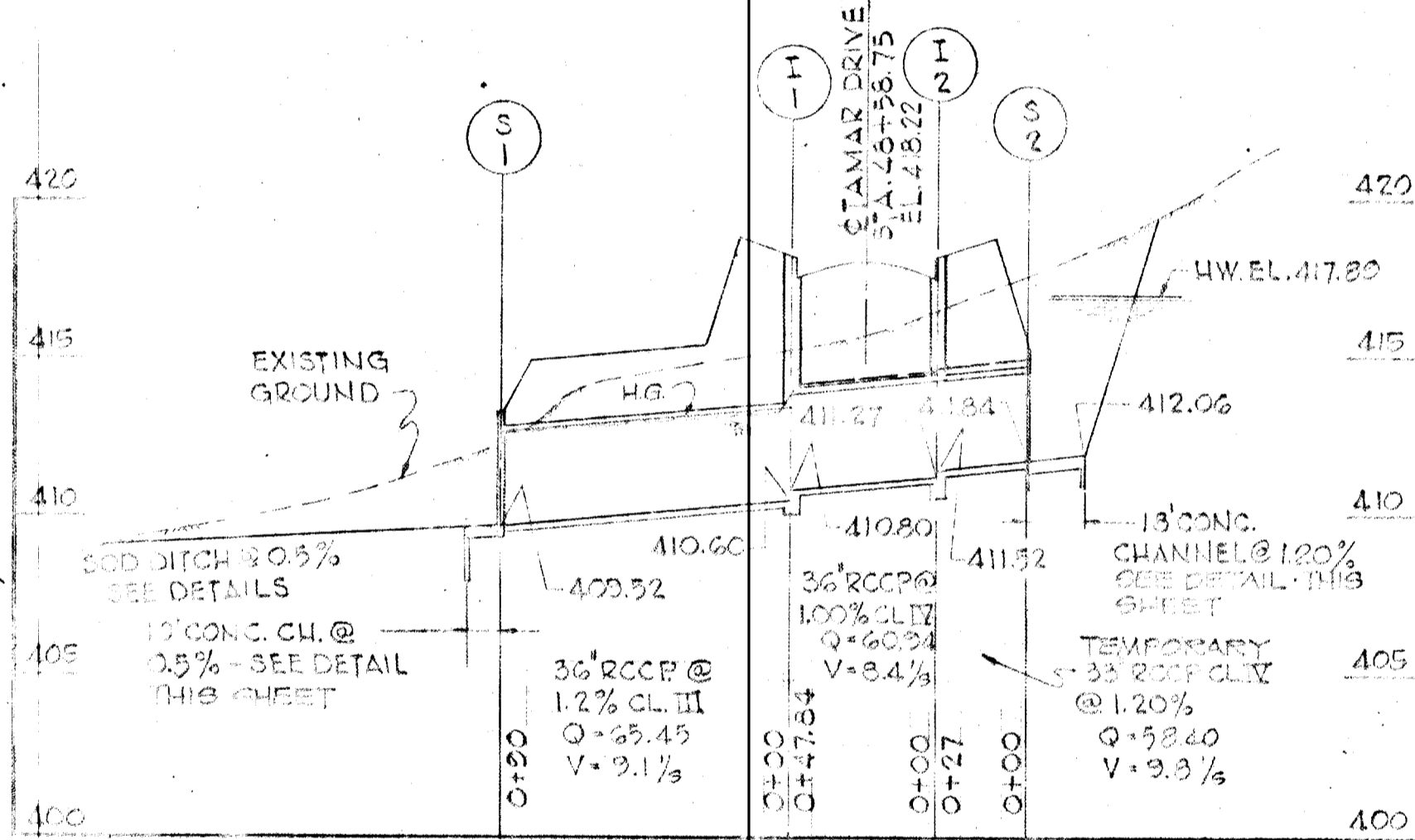
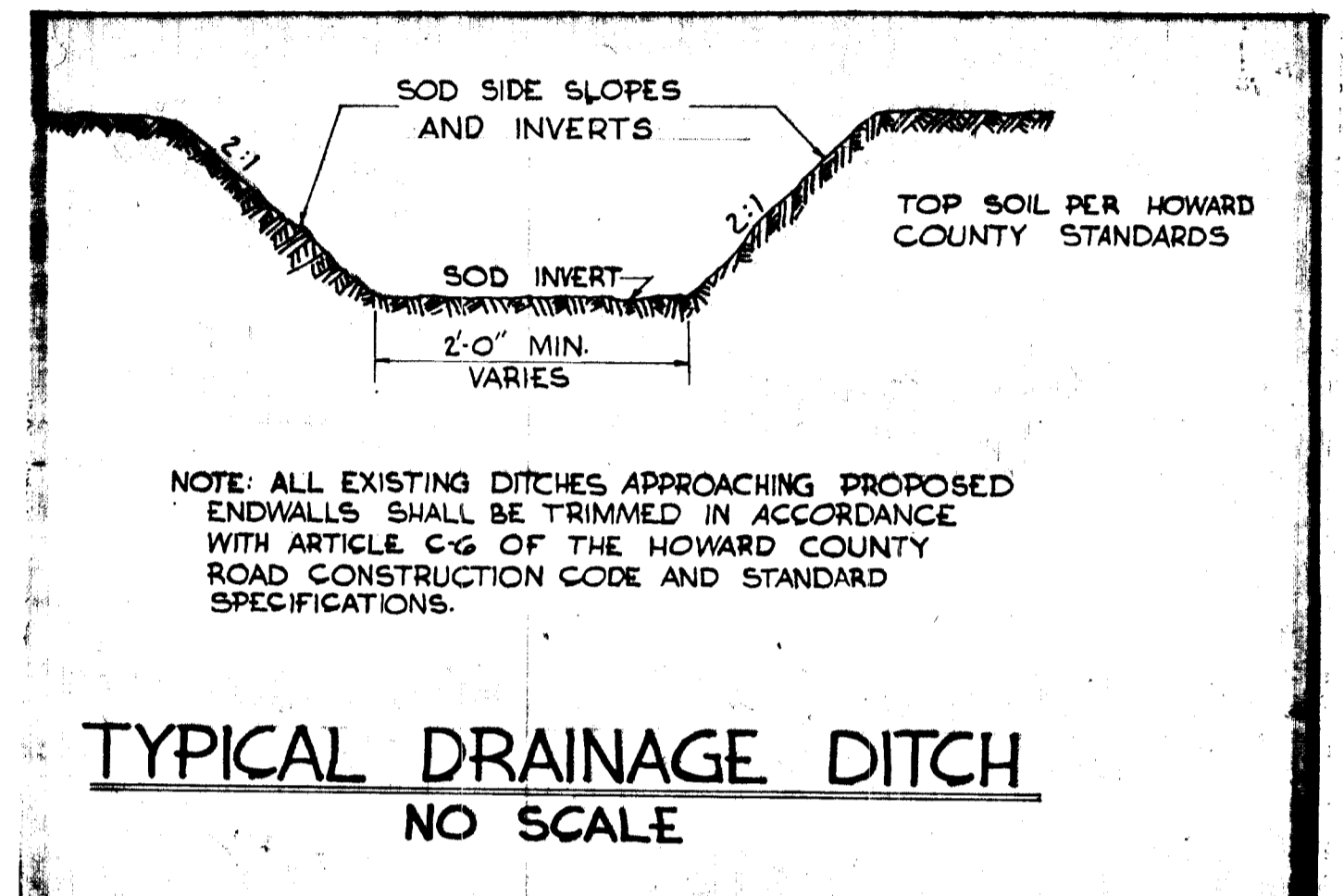
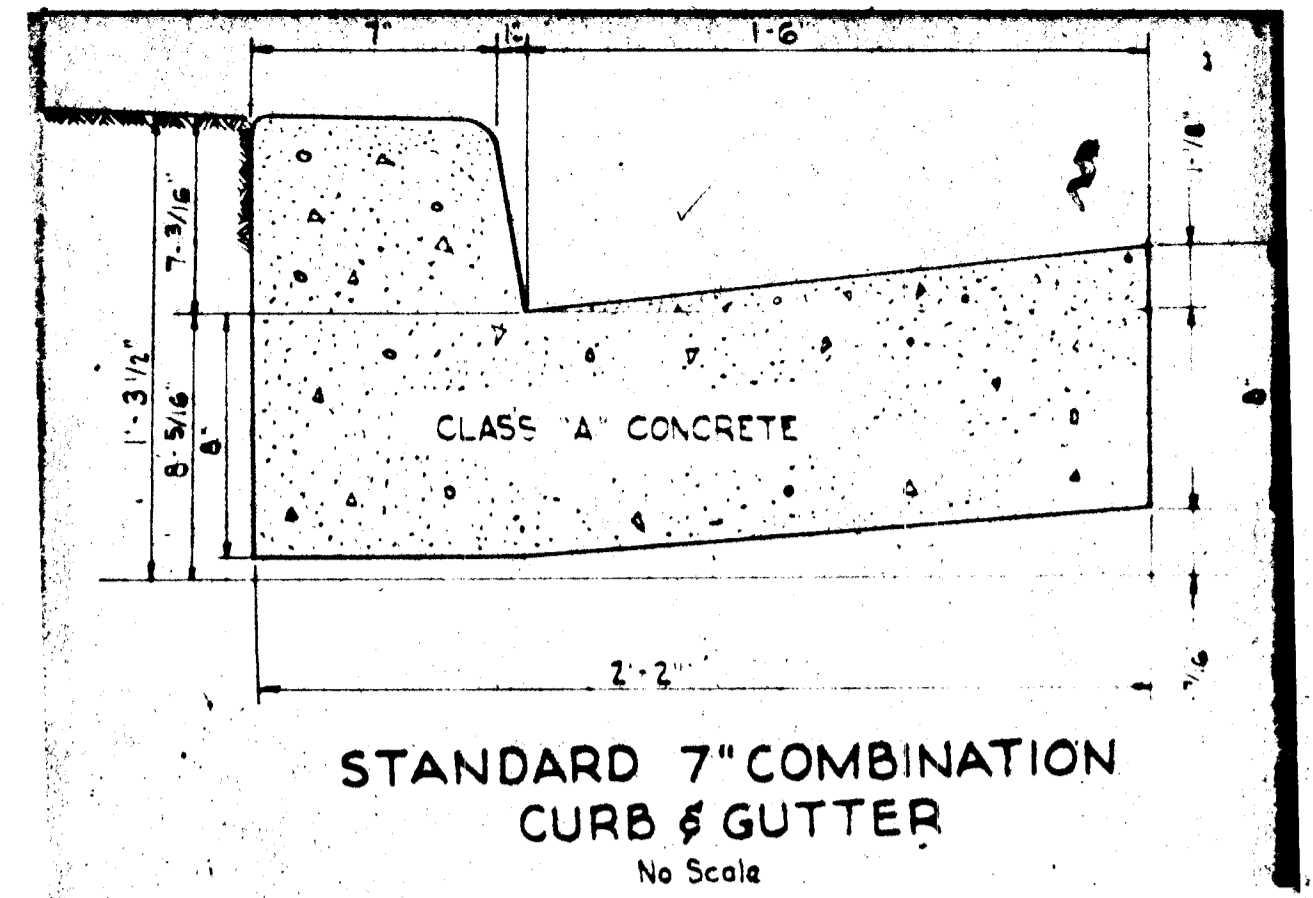
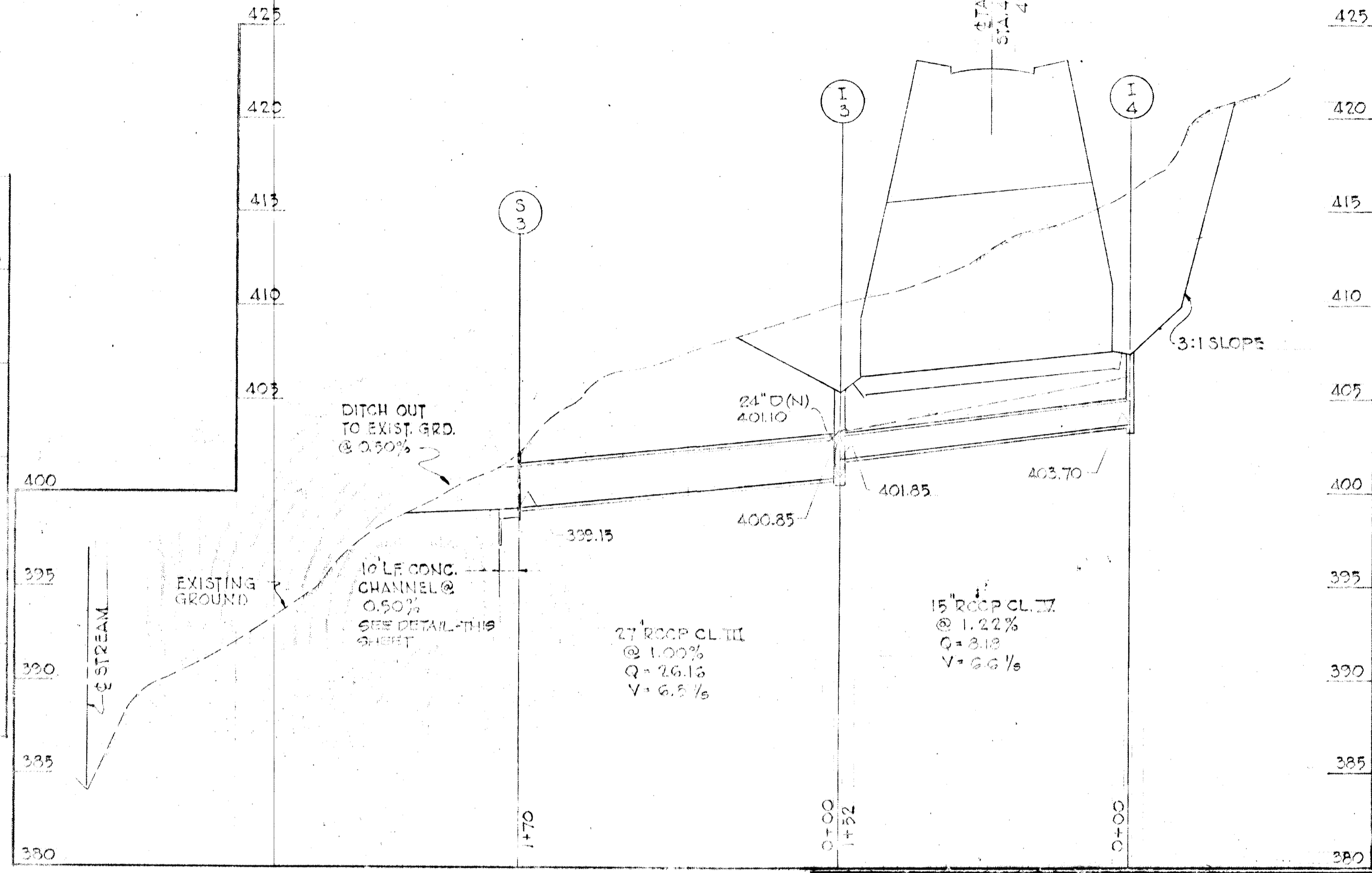
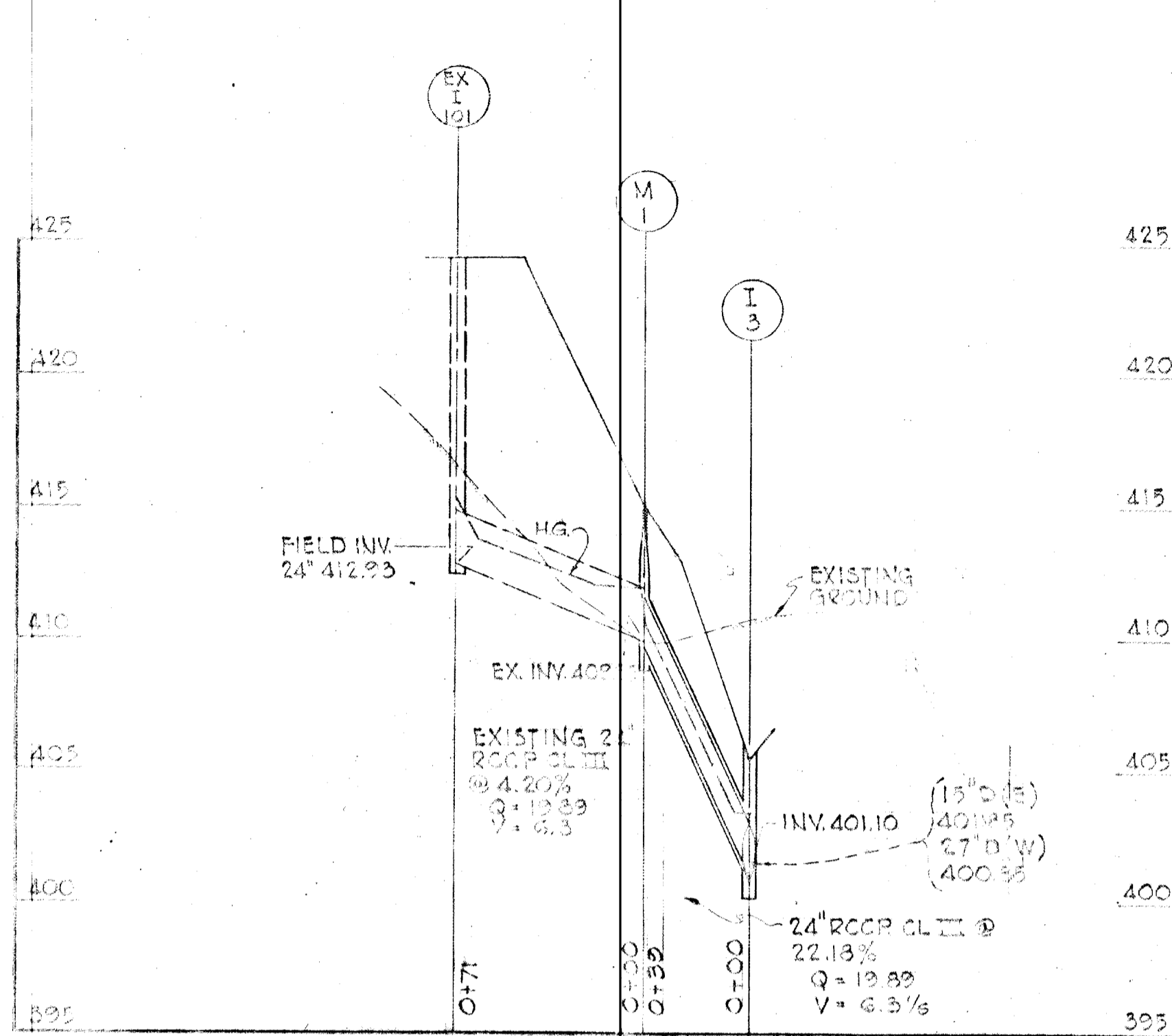
Richard P. Browne



RICHARD P. BROWNE ASSOCIATES
Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
Wayne, New Jersey

3-29-71	REV ROAD SECT; CHANNEL DETAIL; 02-4192	TR
3-8-71	REVISE STORM DRAINS	
Rev Date	Rev No	Revision Description
COLUMBIA MARYLAND		
HOWARD RESEARCH AND DEVELOPMENT CORP THE VILLAGE OF CROOK KEYS - BALTIMORE, MARYLAND 21216		
PROJECT AREA: VILLAGE OF LONGREACH SECTION 1 AREA 4		
PROJECT TITLE: DRAINAGE PROFILES & DETAILS		
Des By: T.F.	Scale: AS SHOWN	Dwn No: 4 OF 9
Des By: J.F.	Date: FEB. 2, 1971	C.C.T. No.
Chk By: T.F.	Approved:	



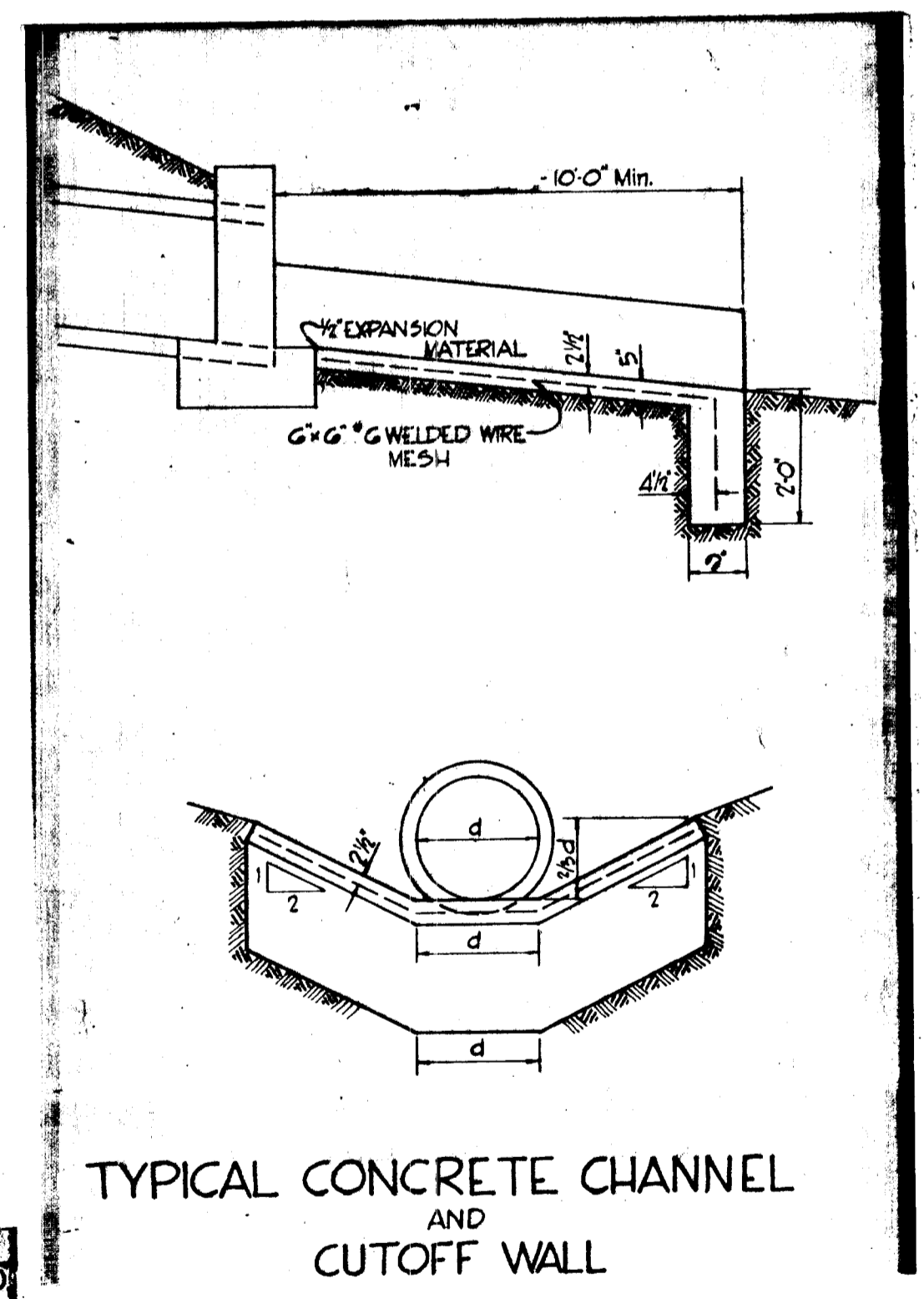
PROFILES
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

BITUMINOUS CONCRETE SURFACE	1 1/2"	BAND C-3	FINAL PHASE
BITUMINOUS CONCRETE BINDER	1/2"	BAND A-3	
BITUMINOUS CONCRETE BASE PLACED IN ONE COURSE	1"	BAND C-2 OR G-3	FIRST PHASE

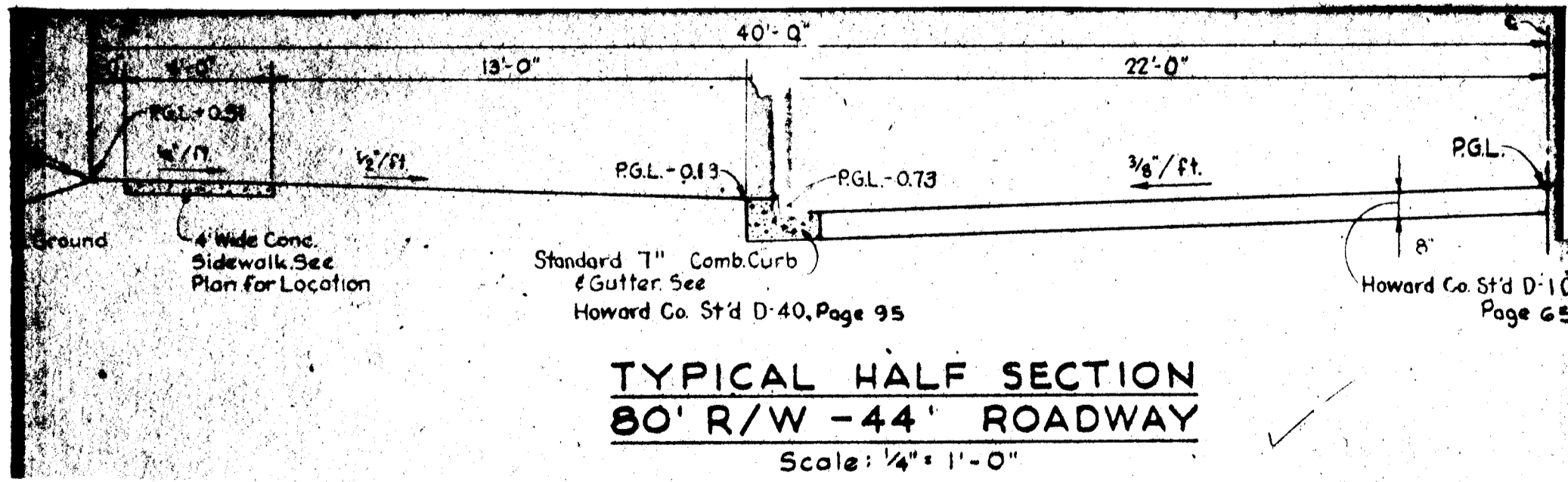
CLEARING AND GRADING: ARTICLE C-1
 SUBGRADE: ARTICLE C-2
 BASE COURSE: ARTICLE C-3 or C-3B
 BINDER COURSE: ARTICLE C-3
 SURFACE COURSE: ARTICLE C-31

NOTE: PAVEMENT TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS DWG. D-15 PG. 105

PAVEMENT DETAIL
NO SCALE



HYDRAULIC ANALYSIS OF CONC. CHANNEL @ 2:1
 DEPTH = 1.75'
 ALT. OF WEIR = 1.0 FT.
 HIR = 0.15
 Q = 10.0 (0.5%)
 V = 1.5
 Q = 10.0 OFC
 D = 1.75



APPROVED
 DIVISION OF LAND DEVELOPMENT
 PLANNING AND ZONING
 OF HOWARD COUNTY
 DATE: 4/6/71
J. Key

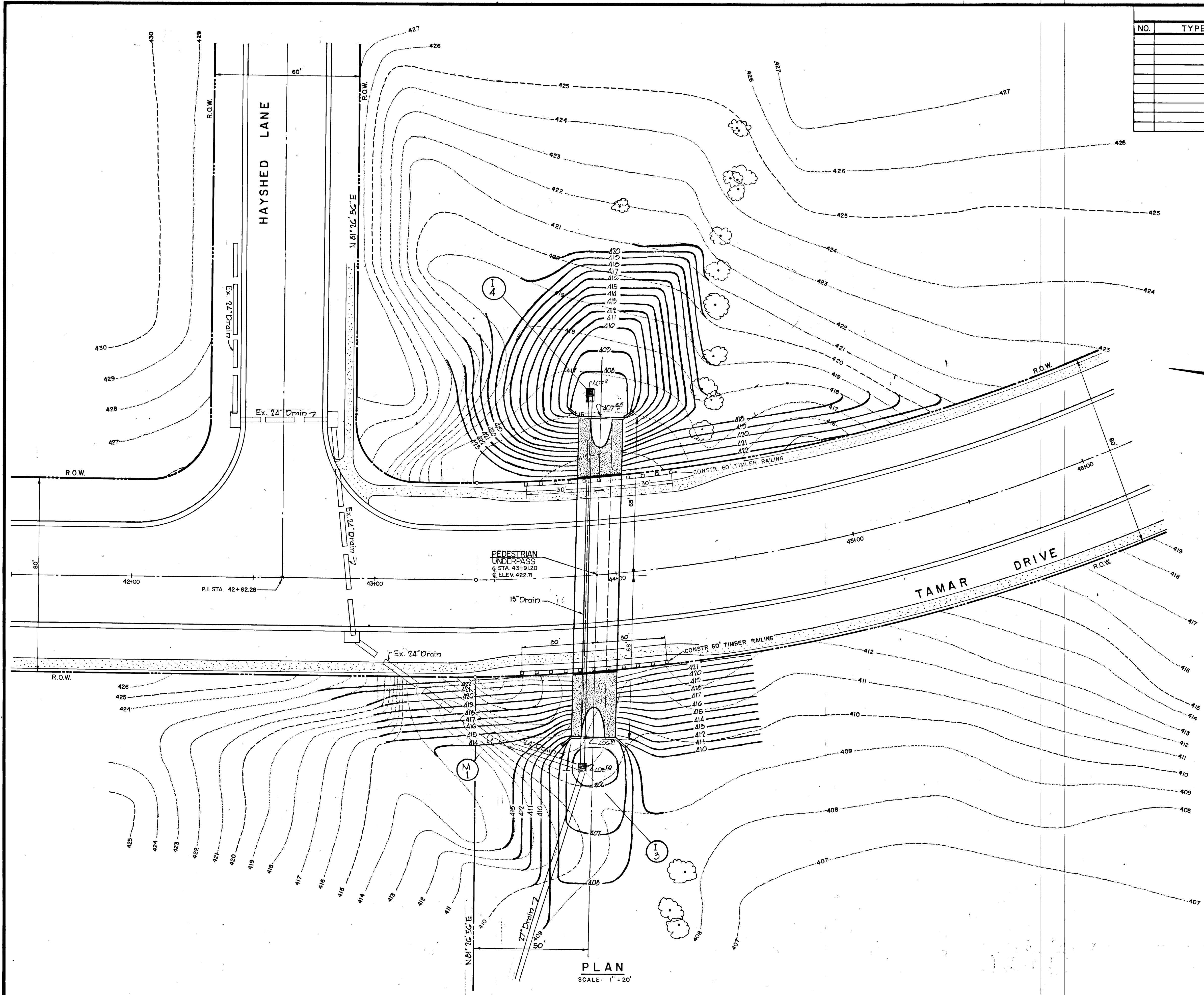
Richard P. Browne



RICHARD P. BROWNE ASSOCIATES
Columbia, Maryland

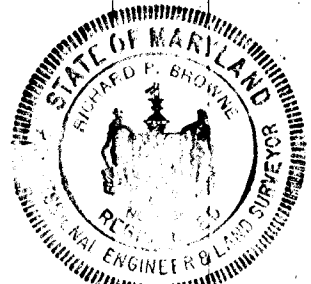
ENGINEERS PLANNERS ARCHITECTS
Wayne, New Jersey

Rev Date	Rev No	Revision Description
COLUMBIA MARYLAND		
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210		
PROJECT AREA VILLAGE OF CROSS KEYS SECTION I - AREA 4		
PROJECT TITLE VILLAGE OF CROSS KEYS SECTION I - AREA 4		
Des By	Scale	Dwg. No
Dwn By	Date	C.C.F. No
Chk By	Approved	



PLAN
SCALE: 1" = 20'

Richard B. Browne



DEPARTMENT OF PUBLIC WORKS
Drewella M. Wickland 4/7/71
 CHIEF, BUREAU OF HIGHWAYS DATE
 OFFICE OF PLANNING AND ZONING
 CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT. DATE

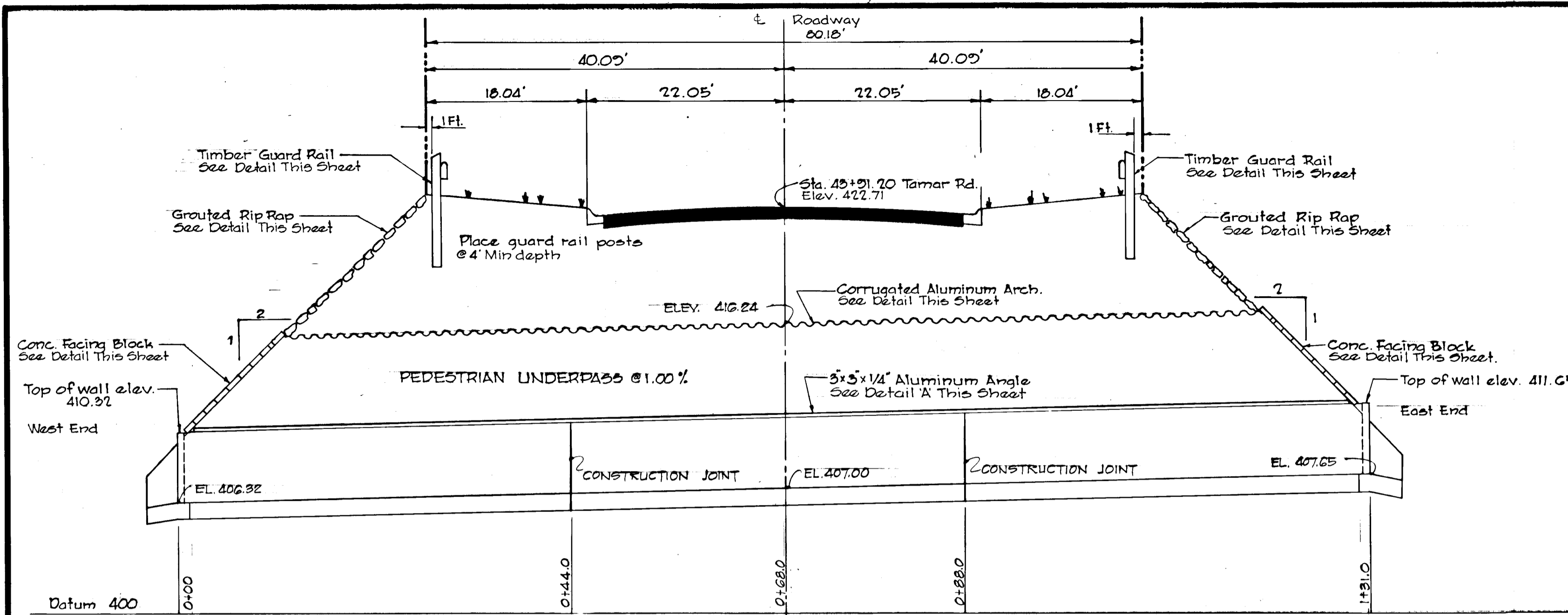
STORM DRAINAGE STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP GRATE	REMARKS

APPROVED
 DIVISION OF
 LAND DEVELOPMENT
 OFFICE OF
 PLANNING AND ZONING
 OF HOWARD COUNTY
 DATE: 4/6/71
J. J. J.

RICHARD P. BROWNE ASSOCIATES
 Columbia, Maryland
ENGINEERS PLANNERS ARCHITECTS
 Wayne, New Jersey

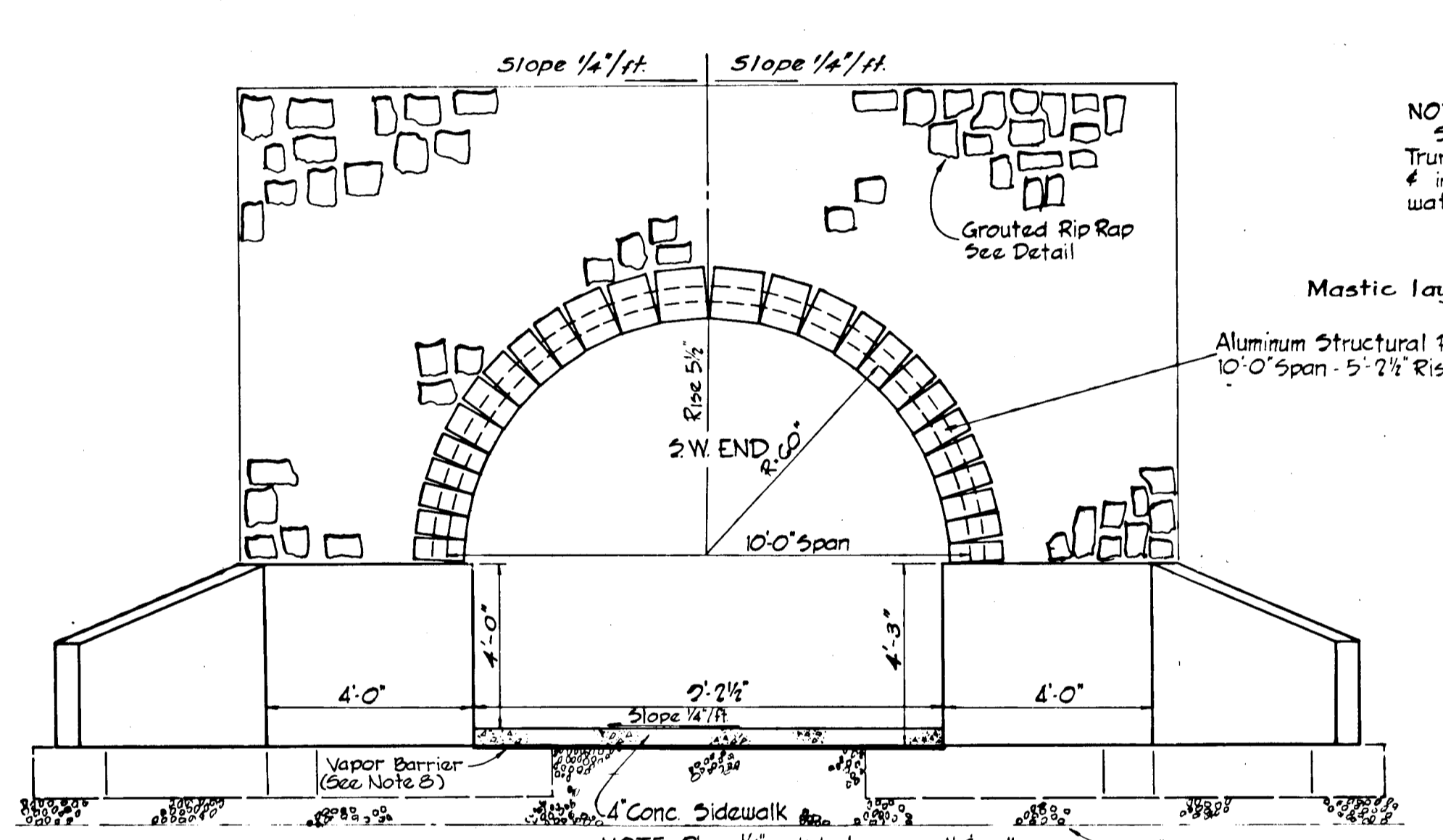
COLUMBIA MARYLAND
 OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.
 THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA: VILLAGE OF LONGREACH SECT. I AREA 4
 PROJECT TITLE: PEDESTRIAN UNDERPASS
 Des. By T.K.S. Scale As Shown Dwg. No. 5 of 5
 Dwn. By R.H.J. Date Feb. 1, 1971 C.C.F. No.
 Chk. By T.K.S. Approved



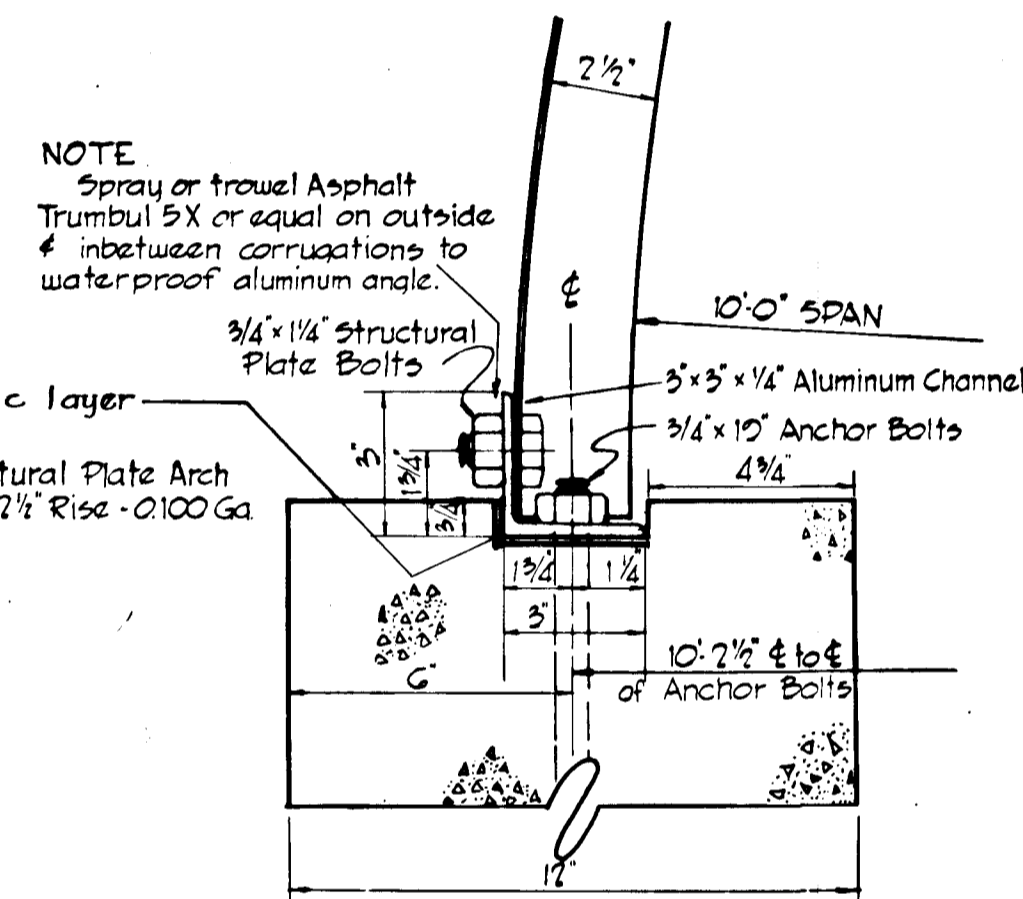
LONGITUDINAL SECTION

SCALE: VERT. 1"=5'
HORIZ. 1"=10'



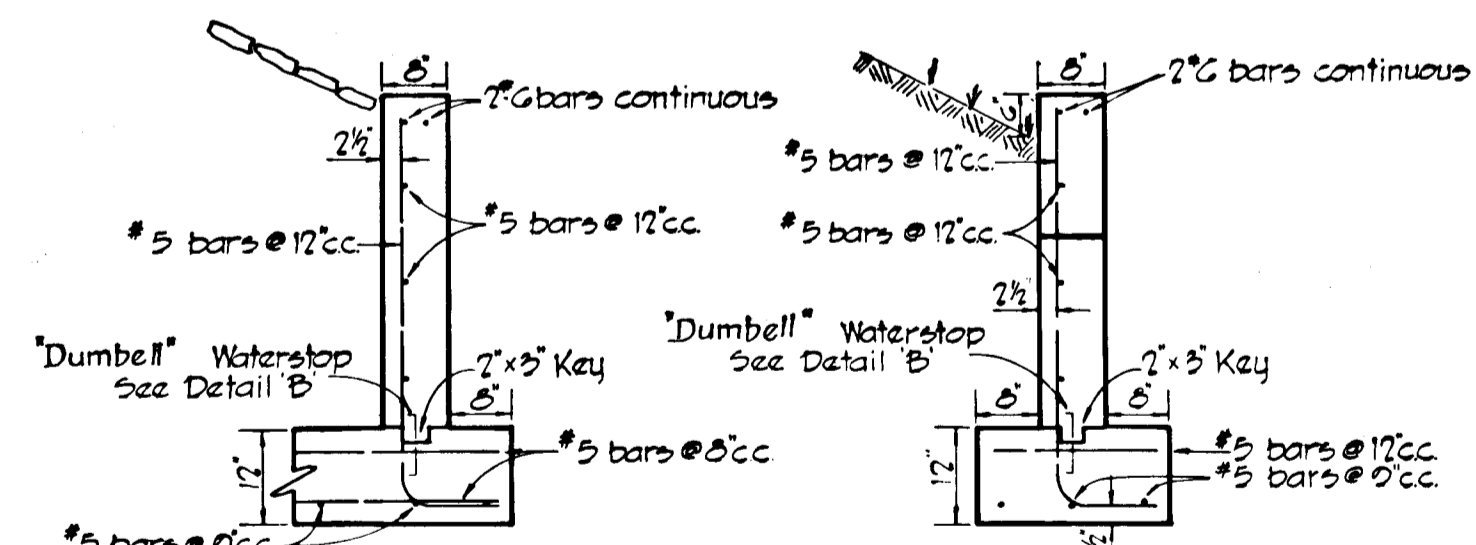
END TREATMENT DETAIL

SCALE: 3/8"=1'



DETAIL 'A'

SCALE: 3"=1'

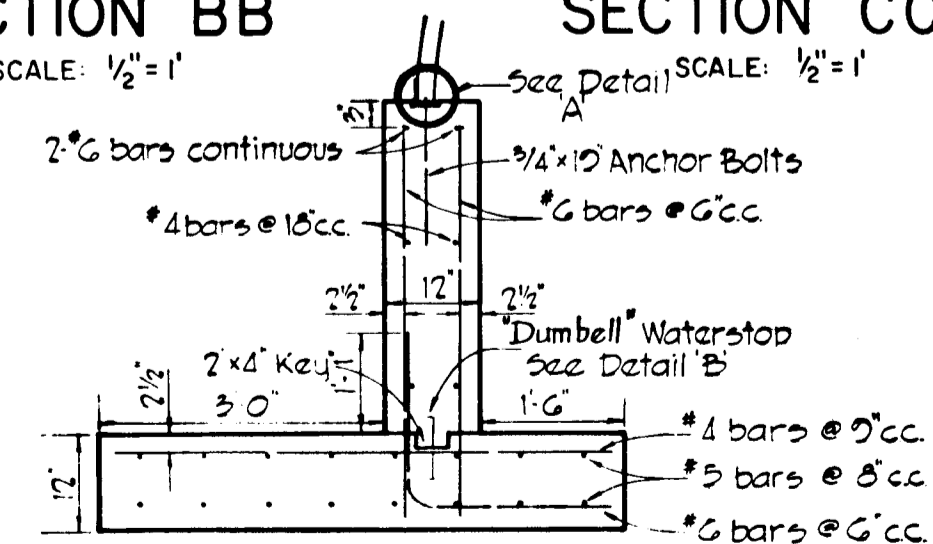


SECTION BB

SCALE: 1/2"=1'

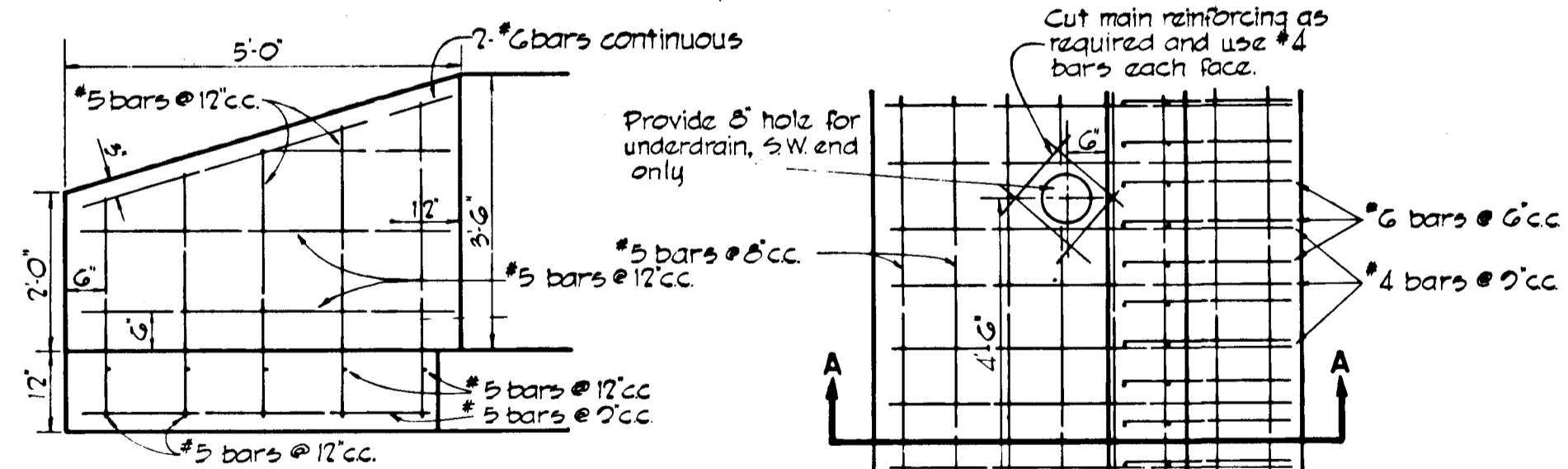
SECTION CC

SCALE: 1/2"=1'



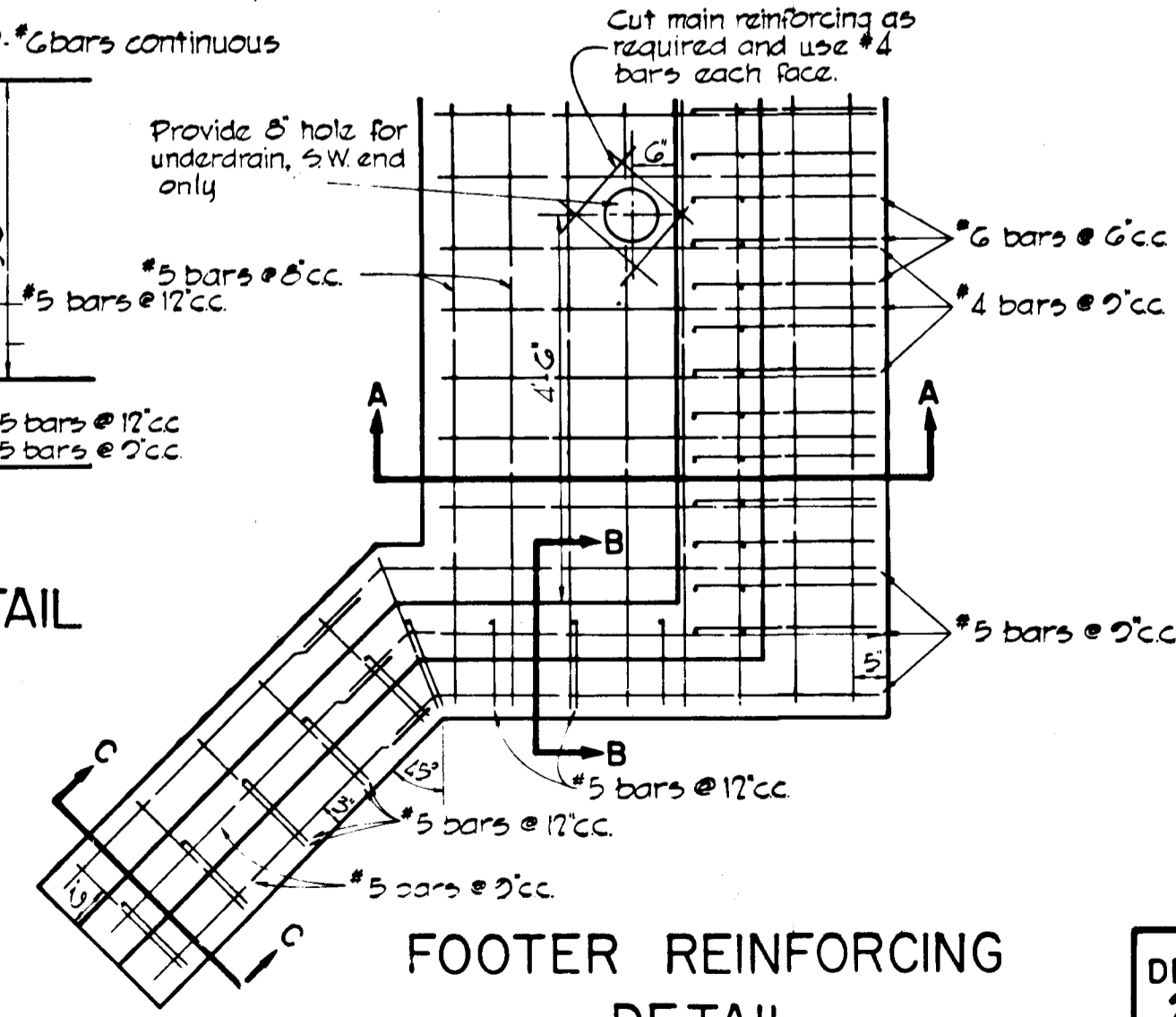
SECTION AA

SCALE: 1/2"=1'



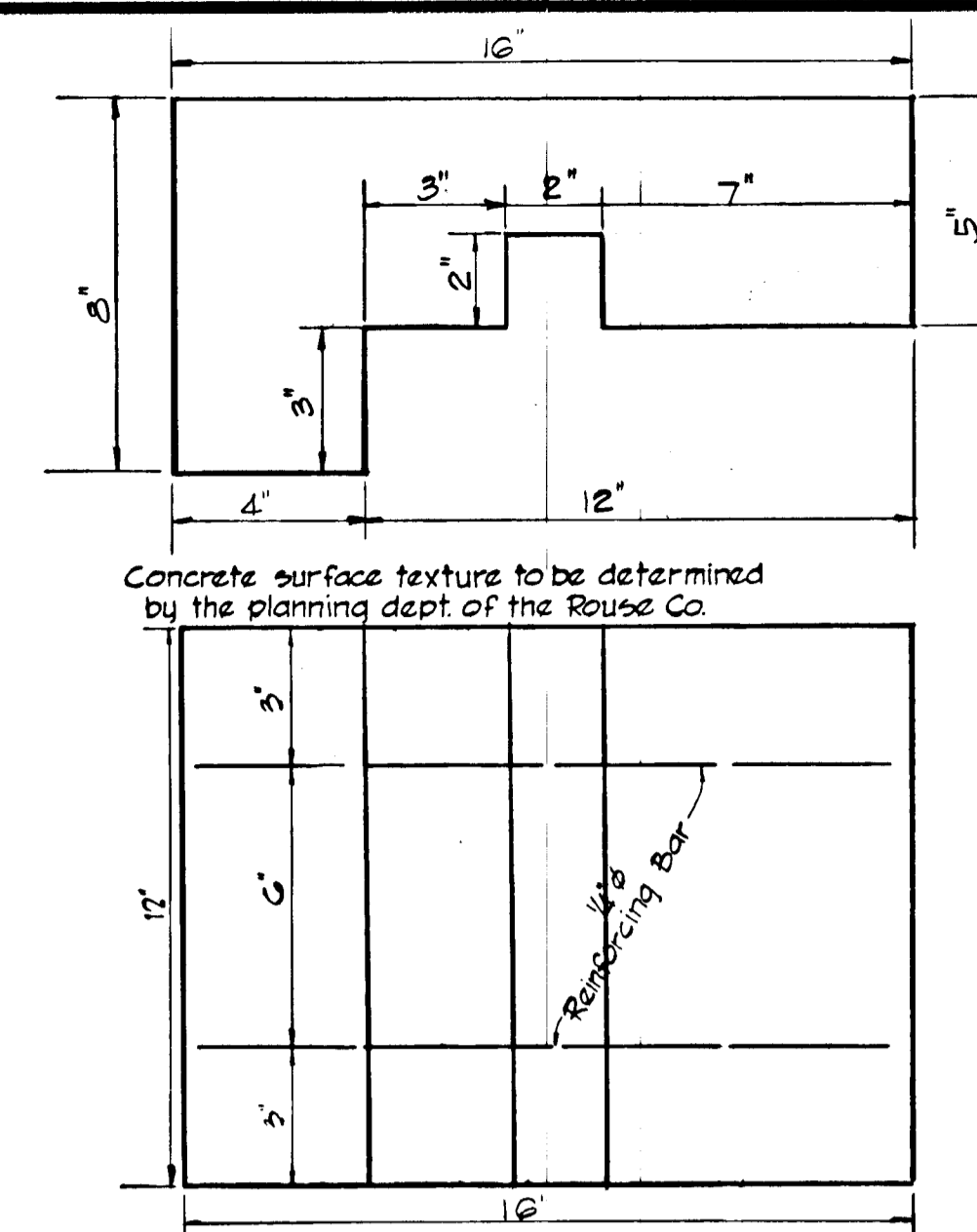
WING WALL REINFORCING DETAIL

SCALE: 1/2"=1'



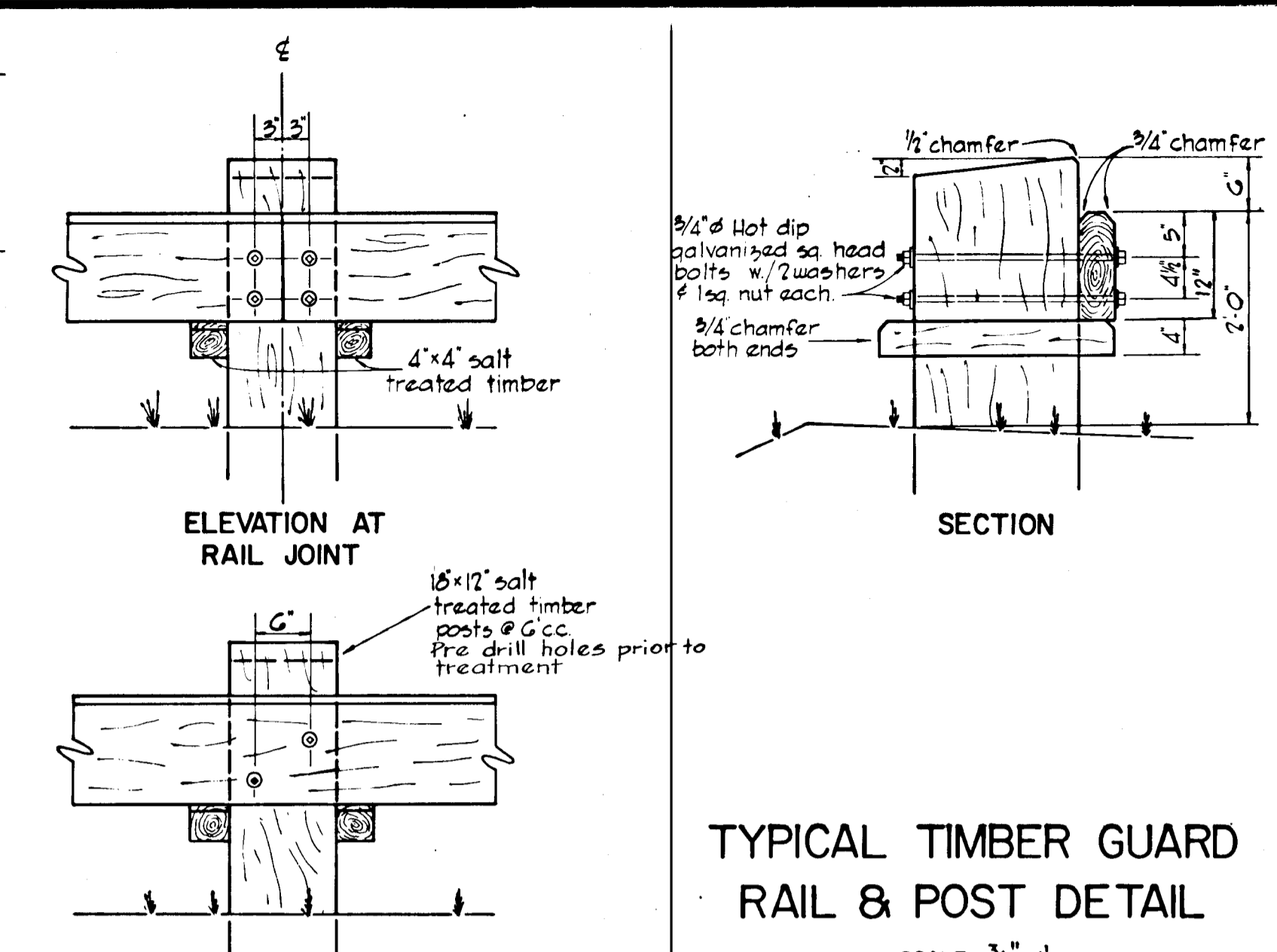
FOOTER REINFORCING DETAIL

SCALE: 1/2"=1'



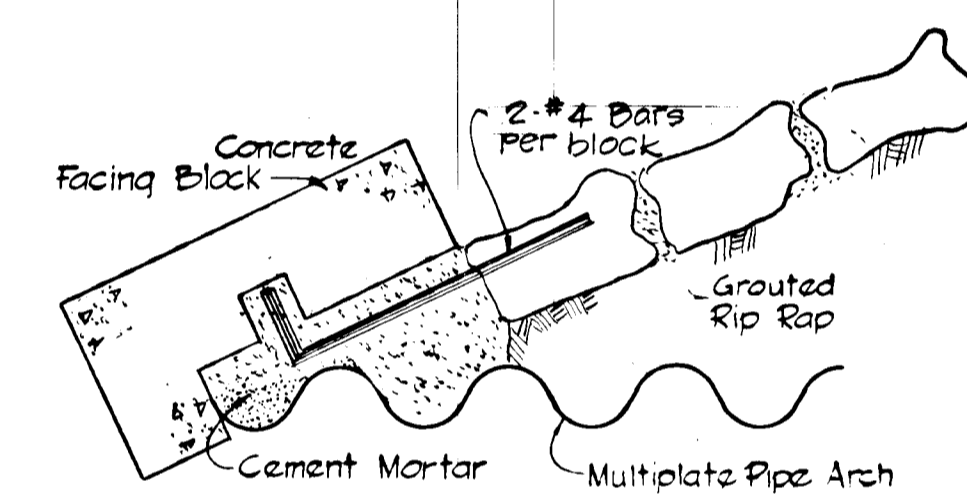
PRE-CAST CONCRETE FACING BLOCK DETAIL

SCALE: 3"=1'



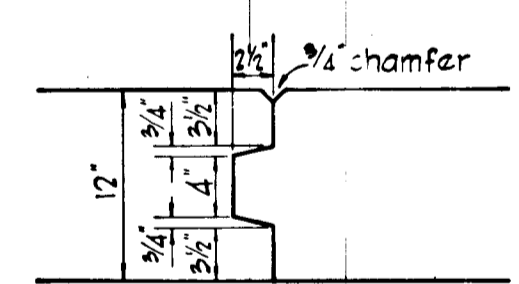
TYPICAL TIMBER GUARD RAIL & POST DETAIL

SCALE: 3/4"=1'



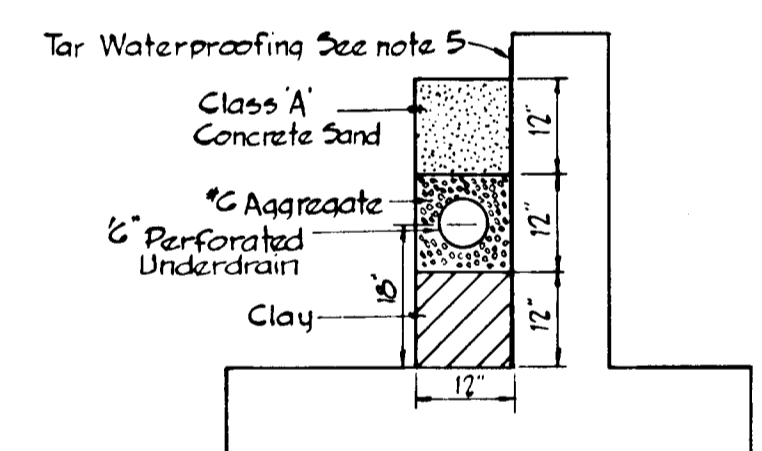
FACING BLOCK MOUNTING DETAIL

SCALE: 1 1/2"=1'



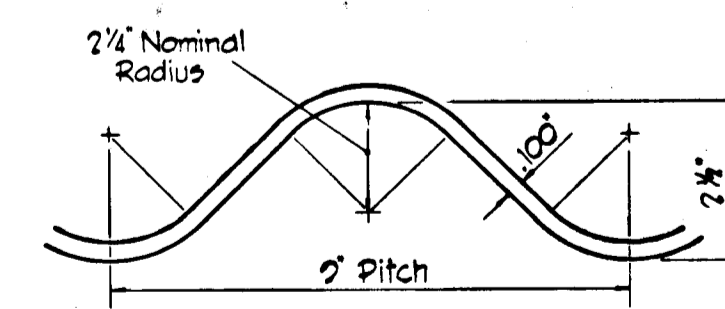
DETAIL 'D' CONSTRUCTION JOINT

SCALE: 1"=1'



TYPICAL BACKFILL SECTION

NO SCALE



CORRUGATION DETAIL

NO SCALE

- GENERAL NOTES**
- LOADING**
14-20 5-10-44
 - ALUMINUM STRUCTURAL PLATE ARCH**
shall be Kaiser Aluminum Structural Plate Arch or equivalent span 10'-0" Rise 5'-2 1/4" Area 41. Plate make up 2-10N, N Factor 23 Rise/Span Ratio: .50, Inches Radius: 60
 - CONCRETE**
All concrete shall be Class 'A' 3000 p.s.i. 28 day strength and shall conform to ASTM specs. C-55-GIT #C-175. All exposed surfaces shall have a class 1 rubbed finish, other surfaces shall have an ordinary surface finish. All exposed edges to have a 3/4" x 3/4" chamfer.
 - REINFORCING**
All reinforcement shall be intermediate grade deformed bars or billet steel conforming to ASTM specs. A-15 #A-205
 - WATERPROOFING**
Damp proof rear face of windows, endwalls and main walls with 2 absorbent Tar Primer Coats conforming to the requirements of A.A.S.H.O. designation M-121-42, and 1 Tar Seal Coat conforming to Md. S.R.C. designation RTCB-5 Tar.
All connecting bolts and fasteners, plate laps, receiving angles shall be waterproofed with sprayed or trowled Asphalt Trumbul 5X or equivalent on outside.
 - ROADWAY COMPACTION**
Roadway Compaction of earth embankment shall be to a density not less than 95 percent at a moisture content within 2 percent of optimum. Density determination to be by current A.S.T.M.D. 698
 - RIP RAP**
Rip Rap to be laid with minimum 1/2" depression between stones, Rip Rap to be cleaned after grouting.
 - VAPOR BARRIER**
Vapor barrier of polyethylene plastic or approved equal to be supplied as shown, under walk.

APPROVED
DIVISION OF
LAND DEVELOPMENT
OFFICE OF
PLANNING AND ZONING
OF HOWARD COUNTY
DATE: 4/6/71
J.H.C.

DEPARTMENT OF PUBLIC WORKS
Franklin M. McLeod 4/7/71
CHIEF, BUREAU OF HIGHWAYS DATE
OFFICE OF PLANNING AND ZONING
CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT DATE

Richard P. Browne

RICHARD P. BROWNE ASSOCIATES
CONSULTING ENGINEERS - PLANNERS
COLUMBIA, MARYLAND

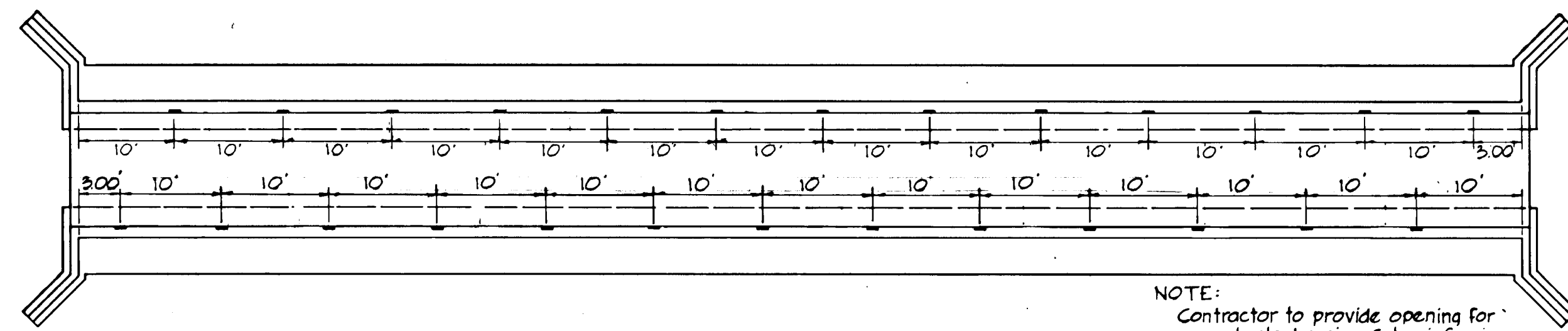
Rev. No.	Rev. Date	Revision Description

COLUMBIA
6 ELECTION DISTRICT
HOWARD COUNTY MARYLAND
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS - BALTIMORE MARYLAND 21210

PROJECT AREA: **VILLAGE OF LONGREACH SECT. I AREA 4**

PROJECT TITLE: **DETAILS PEDESTRIAN UNDERPASS**

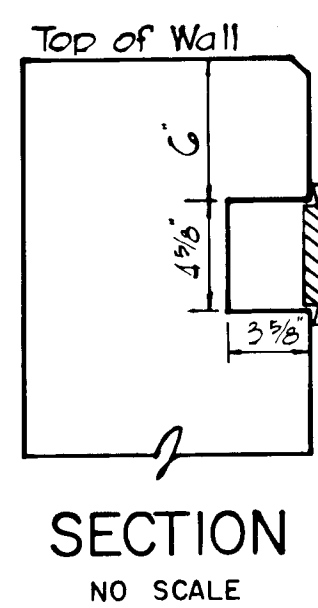
Des. By: T.K.S. Scale: As Shown Dwg. No. G of 3
Dwn. By: R.H.J. Date: Feb. 1, 1971 C.C.F. No.
Chk. By: T.K.S. Approved



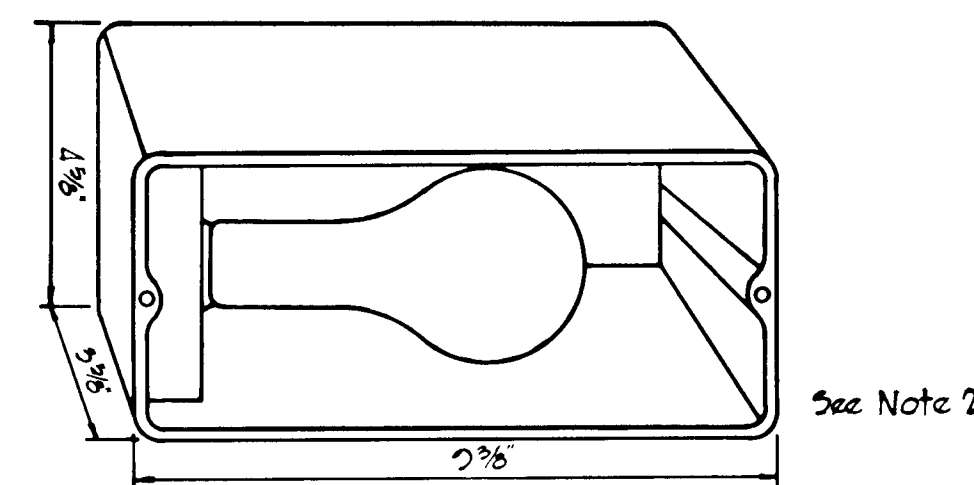
LIGHTING RECEPTACLE LOCATIONS

NO SCALE.

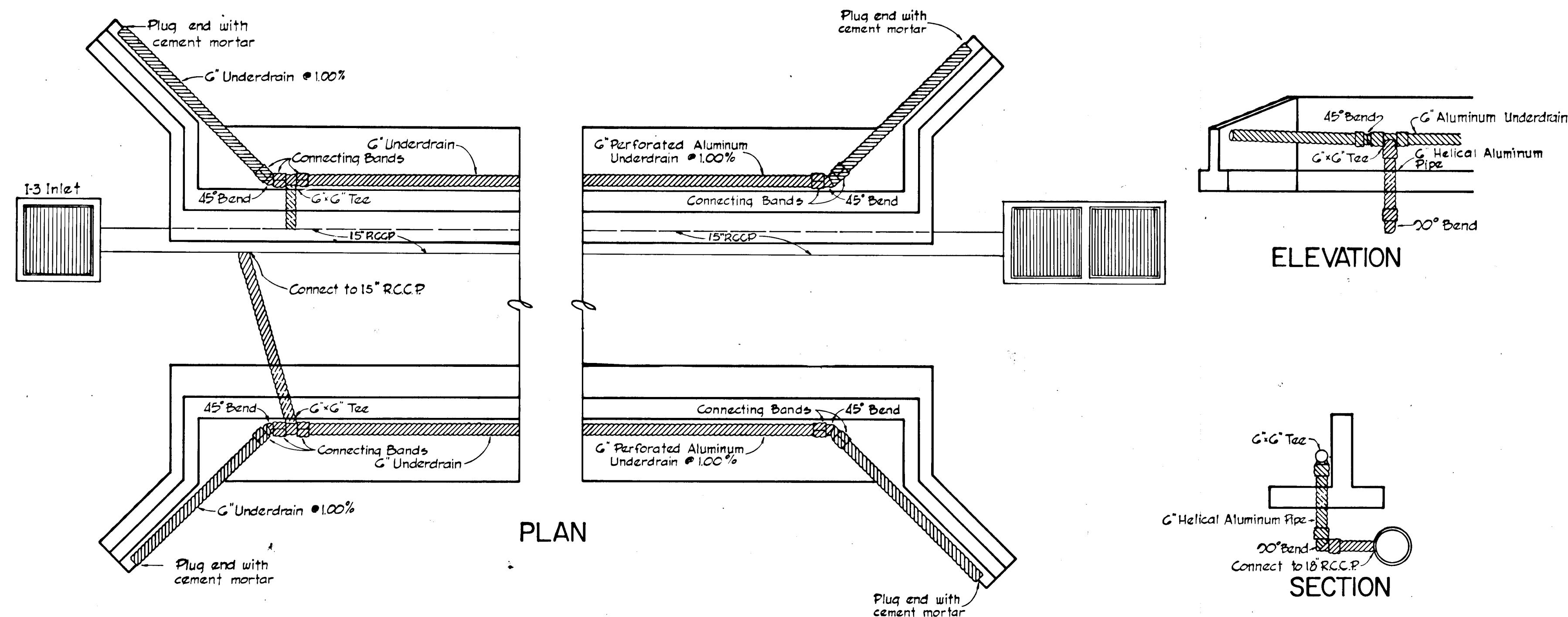
NOTE:
Contractor to provide opening for
receptacle housing. Cut reinforcing
steel as required.
Electrical service to be from East
side



SECTION
NO SCALE



RECEPTACLE DETAIL
NO SCALE



PLAN

ELEVATION

SECTION

UNDERDRAIN DETAILS

SCALE: 1/4" = 1'

Richard P. Browne

GENERAL NOTES

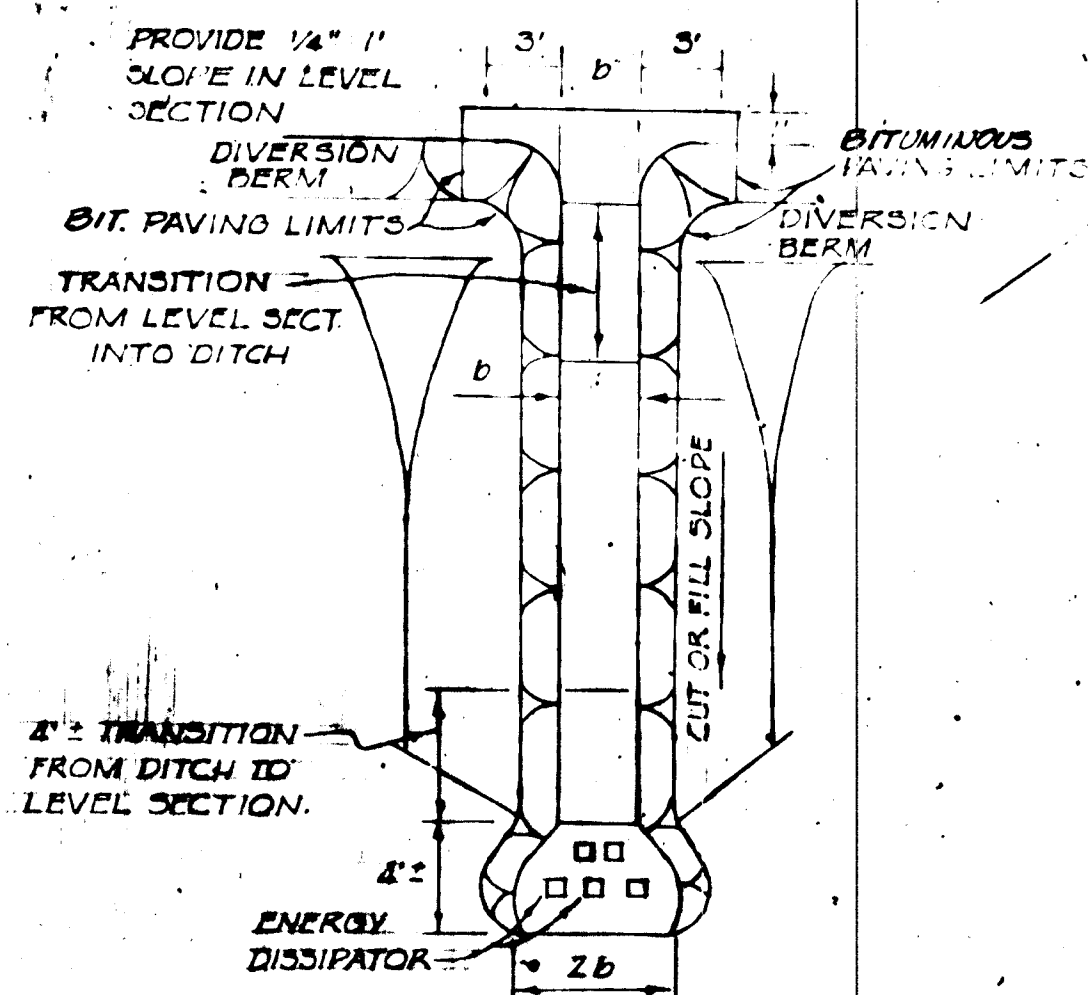
1. UNDERDRAIN
All underdrain and fittings shall be G Kaiser Aluminum Corlix Perforated Underdrain or an approved equal.
2. LIGHTING
Lighting receptacles to be type FG10-V3 as manufactured by the Marvin Electric Manufacturing Co. Devine Lighting Division, Kansas City, Missouri.

APPROVED
DEPARTMENT OF
LAND DEVELOPMENT
OFFICE OF
PLANNING AND ZONING
OF HOWARD COUNTY
DATE: 4/6/71
J.H.E.J.

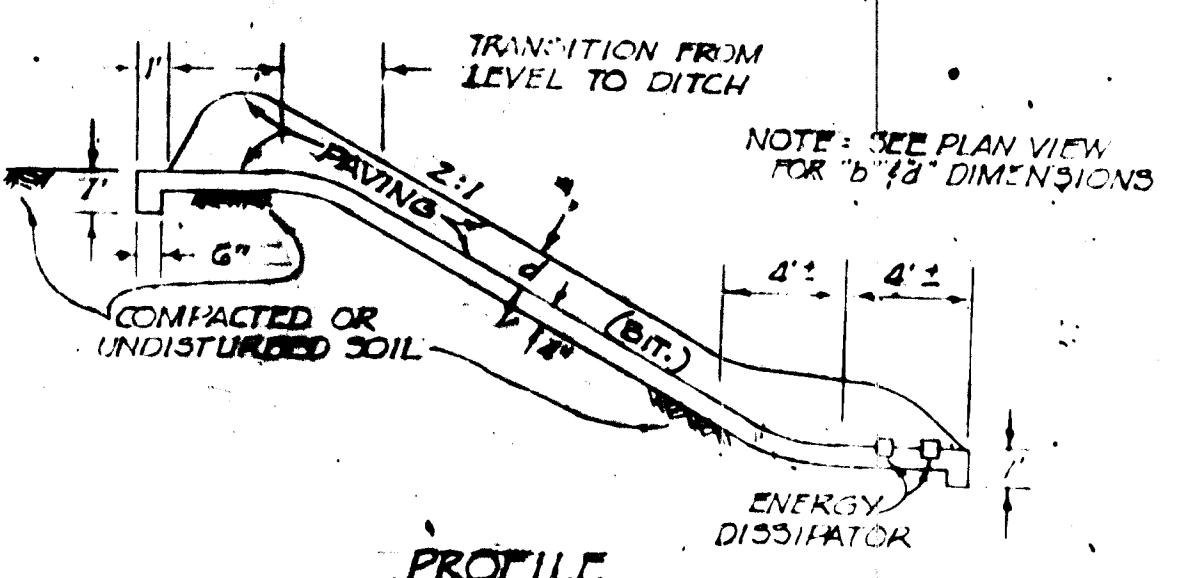
RICHARD P. BROWNE ASSOCIATES CONSULTING ENGINEERS - PLANNERS COLUMBIA, MARYLAND		
Rev Date	Rev No	Revision Description
COLUMBIA		
6 ELECTION DISTRICT HOWARD COUNTY MARYLAND		
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210		
PROJECT AREA	VILLAGE OF LONGREACH SECT. I AREA 4	
PROJECT TITLE	DRAINAGE DETAILS PEDESTRIAN UNDERPASS	
Des By T.K.S.	Scale As Shown	Dwg. No 7 of 5
Drn By R.H.J.	Date Feb. 1, 1971	C.C.F. No
Chk By T.K.S.	Approved	

DEPARTMENT OF PUBLIC WORKS
Brownville M. McLeod 4/7/71
CHIEF, BUREAU OF HIGHWAYS. DATE
OFFICE OF PLANNING AND ZONING
CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT DATE

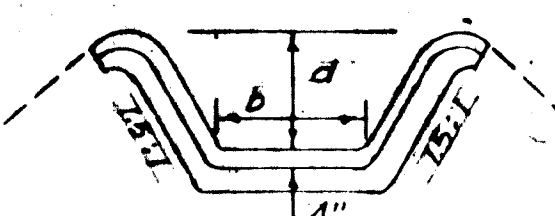




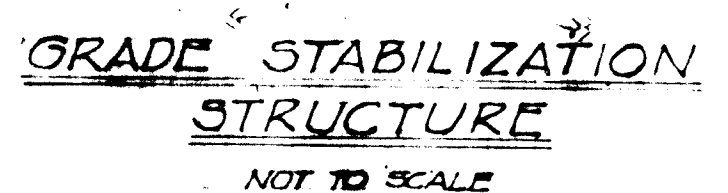
PLAN VIEW



PROFILE



STANDARD CHANNEL CROSS-SECTION



GRADE STABILIZATION STRUCTURE NOT TO SCALE

GENERAL NOTES

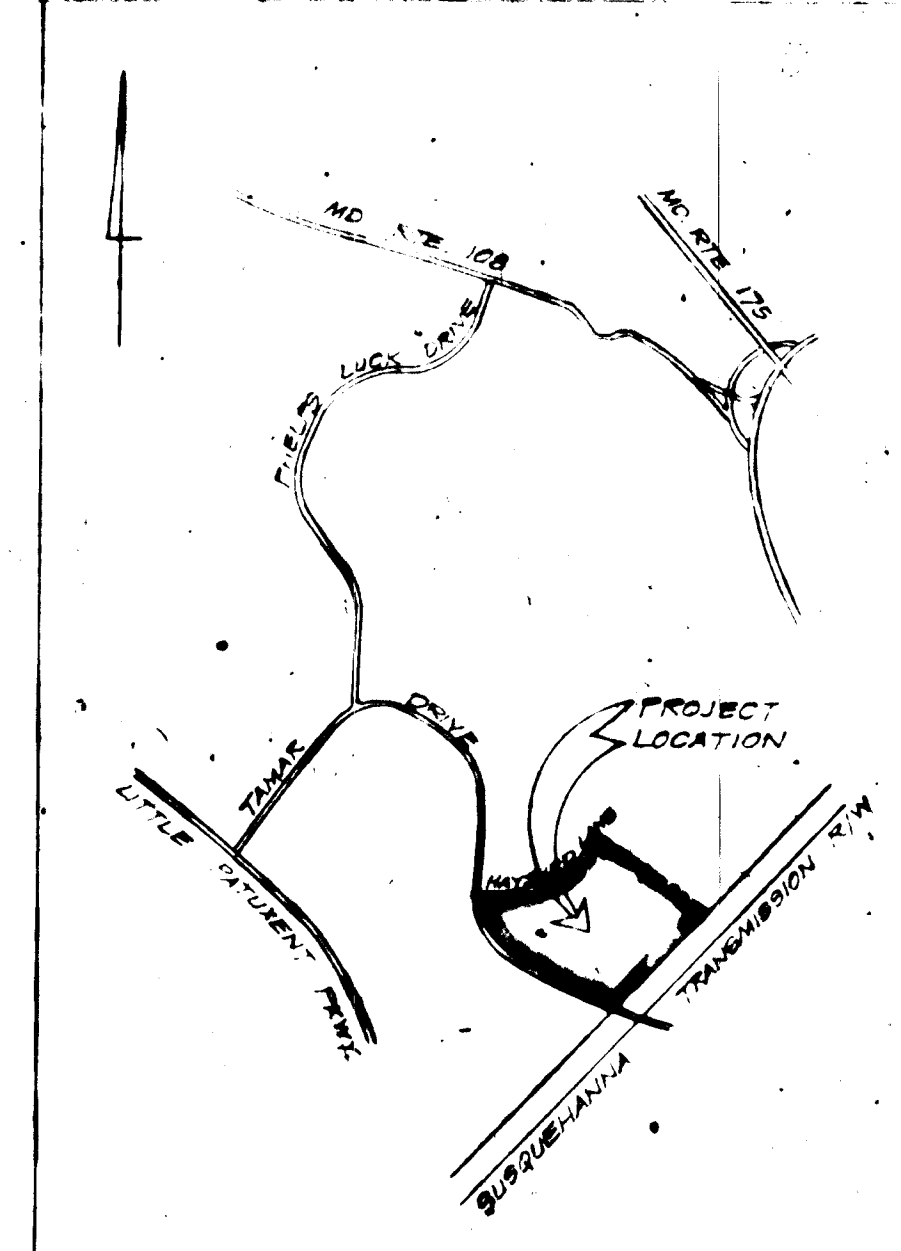
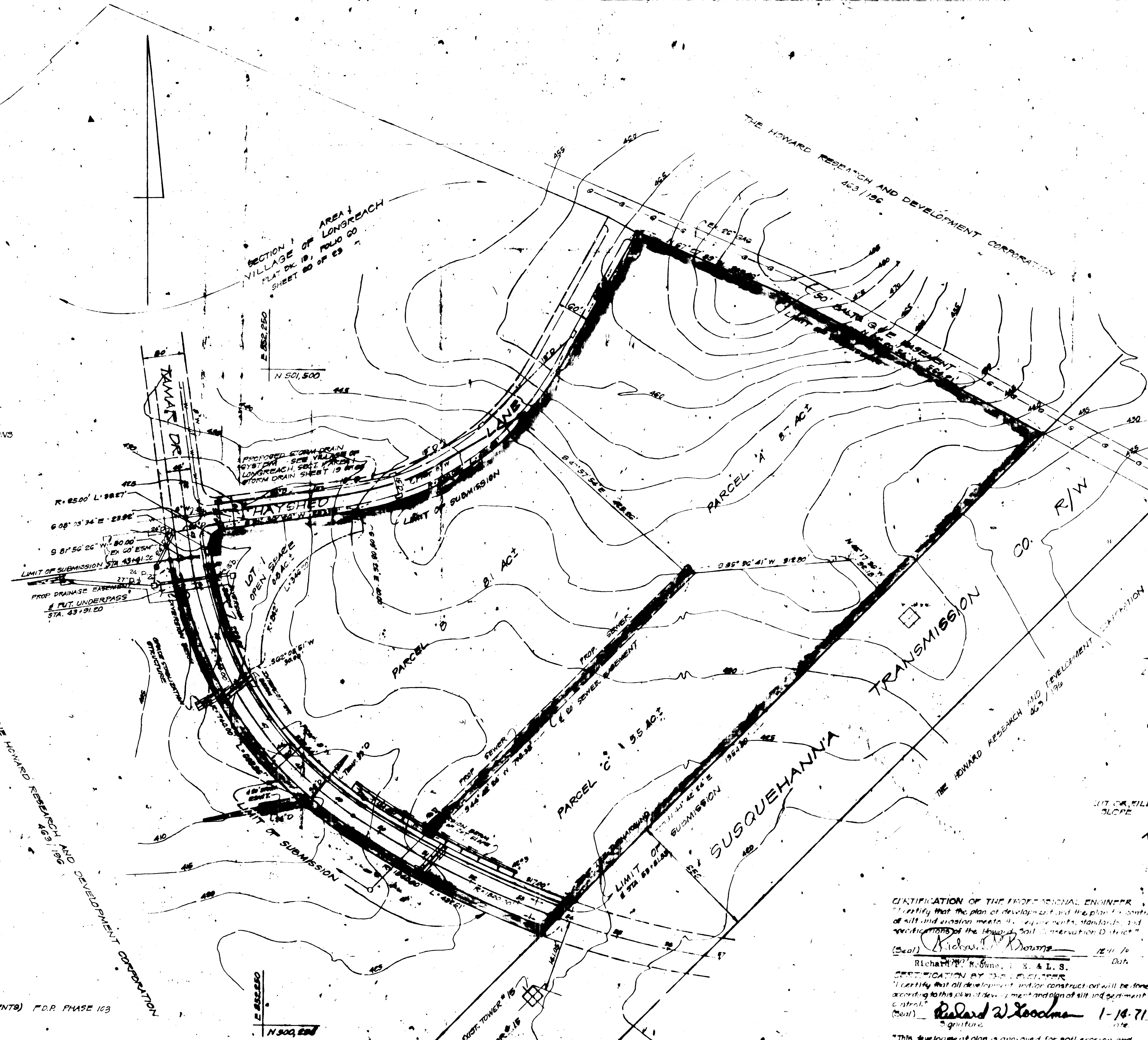
- 1. TOTAL NO. OF LOTS / PARCELS 4
- 2. TOTAL ACREAGE 25.1 AC±
- 3. PARCELS 22.4 AC±
- 4. ROADS 1.9 AC±
- 5. OPEN SPACE 0.8 AC±
- ZONING NEW TOWN
- PROPOSED ZONING MULTI-FAMILY (TOWNHOUSE/APARTMENTS) P.D.R. PHASE 103
- CONTOUR LINES SHOWN ARE BASED ON CONTOUR MAPS COMPILED BY MAPS INC., BALTIMORE, MD.
- PUBLIC SEWER AND WATER TO BE UTILIZED.

SEDIMENT & EROSION CONTROL

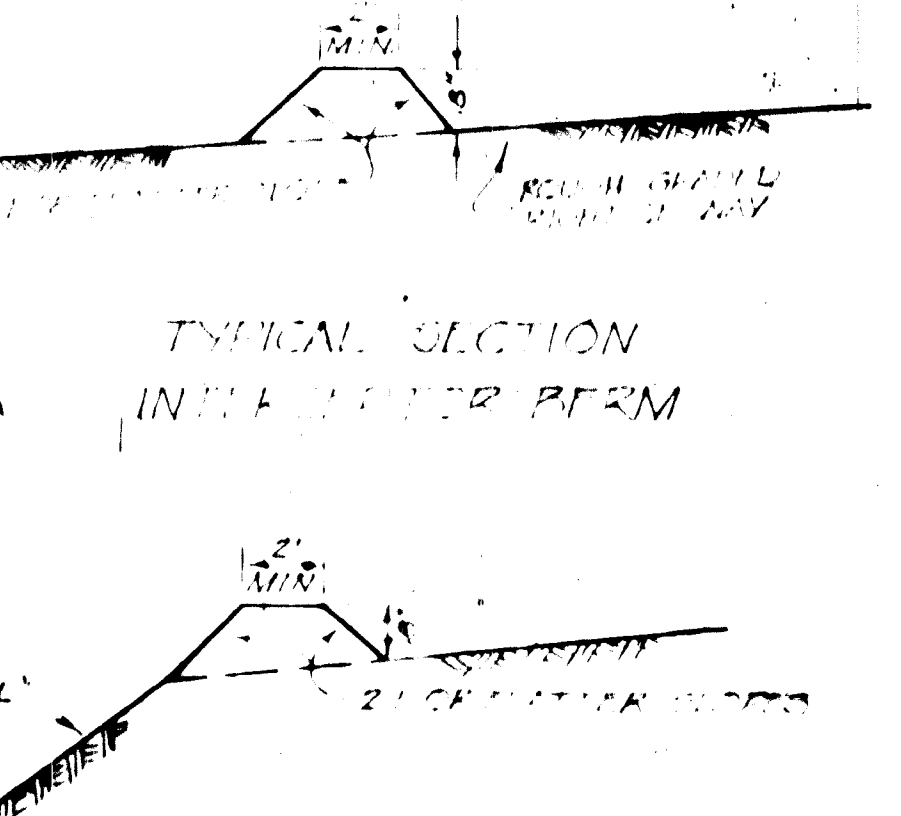
- 1. ALL BERMS MUST BE MACHINE COMPACTED.
- 2. FIELD LOCATION TO BE ADJUSTED AS DIRECTED BY ENGINEER IN THE FIELD TO PROVIDE A STABILIZED SAFE OUTLET.
- 3. DIVERGED RUNOFF SHALL OUTLET ONTO AN UNDISTURBED STABILIZED AREA OR A PREPARED LEVEL SPREADER.
- 4. STABILIZE ALL GRADED AND DISTURBED AREAS BY SEEDING AND MULCHING.
- 5. PERIODIC INSPECTION AND REQUIRED MAINTENANCE TO BE PROVIDED.

NOTES:

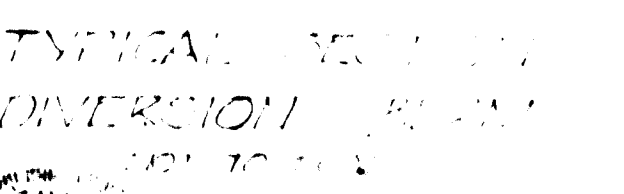
- 1. ALL SEDIMENT CONTROLS AS INDICATED ON SHEET 200 OF VILLAGE OF LONGREACH SEC. 1 AREA 4 MUST BE CONSTRUCTED PRIOR TO ANY GRADING ON THIS PROJECT.
- 2. NO TEMPORARY SEDIMENT CONTROL STRUCTURE MAY BE REMOVED OR DESTROYED WITHOUT APPROVAL OF THE HOWARD SOIL CONSERVATION DISTRICT.
- 3. AREA TO BE SEEDED WITHIN ROAD R/W'S SHALL USE A SEED MIXTURE AS FOLLOWS: ANNUAL RYE GRASS (20%), KENTUCKY BLUE GRASS (20%), AND KENTUCKY 31 FESCUE (60%) AT THE RATE OF 200#/A. SOW WITH MECHANICAL TRIPPER RAKE, MINIMUM OF TWO (2) PASSES WITH "WALK RAKE" COVER AND COMPACT WITH CULTIPACKER. SURFACE PREPARATION TO INCLUDE UNDOING LIMESTONE COVER TOPSOIL SURFACE AREA AT THE RATE OF 1 1/2 T/A (60#/A) (30#/A), COMMERICAL FERTILIZER (9-10-10) AT THE RATE OF 3/4 T/A (30#/A), AND SUPER PHOSPHATE AT THE RATE OF 2 1/2 T/A (100#/A).
- 4. CONTRACTOR TO NOTIFY THE SOIL CONSERVATION DISTRICT (410-3100) THREE DAYS PRIOR TO START OF CONSTRUCTION.



LOCATION PLAN SCALE 1"=2000'



TYPICAL SECTION IN THE CENTER BERM



TYPICAL SECTION OF DIVERSION BERM

CERTIFICATION OF THE PROFESSIONAL ENGINEER
 I certify that the plan of development and the plan for control of all land erosion meets the requirements, standards, and specifications of the Howard Soil Conservation District.
 (Seal) *Richard P. Browne* 11/11/70
 Richard P. Browne, P.E. & L.S.
 CONSULTING ENGINEER
 I certify that all development and/or construction will be done according to this plan of development and plan of site and sediment control.
 (Seal) *Richard W. Lockman* 1-18-71
 Richard W. Lockman
 Approved by the Howard Soil Conservation District Date: 11-30-70
 Robert J. Aikens MD 9 5467



11-11-70	REVISED PER 46 10 COMMENTS
11-18-71	REVISED PER 103 COMMENTS
Rev Date	Rev No
	Revision Description

COLUMBIA MARYLAND 8TH ELECTION DISTRICT HOWARD COUNTY, MD

OWNER AND DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORP.
 THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA
 VILLAGE OF LONGREACH
 SECTION 1 AREA 4

PROJECT TITLE
 PRELIMINARY PLAN
 SEDIMENT AND EROSION CONTROL

Des By TP	Scale 1"=100'	Des. No. 2 of 2
Des. By TP	Date NOV 19 1970	C.C.F. No.
CHK By KUC	Approved	

RICHARD P. BROWNE ASSOCIATES
 CONSULTING ENGINEERS - PLANNERS
 COLUMBIA, MARYLAND

