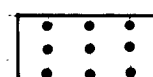
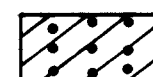
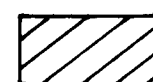



SOIL LEGEND

-  A-2 SAND & FINES
-  A-2-U SILTY SAND
-  A-U SILT
-  BORING LOCATION

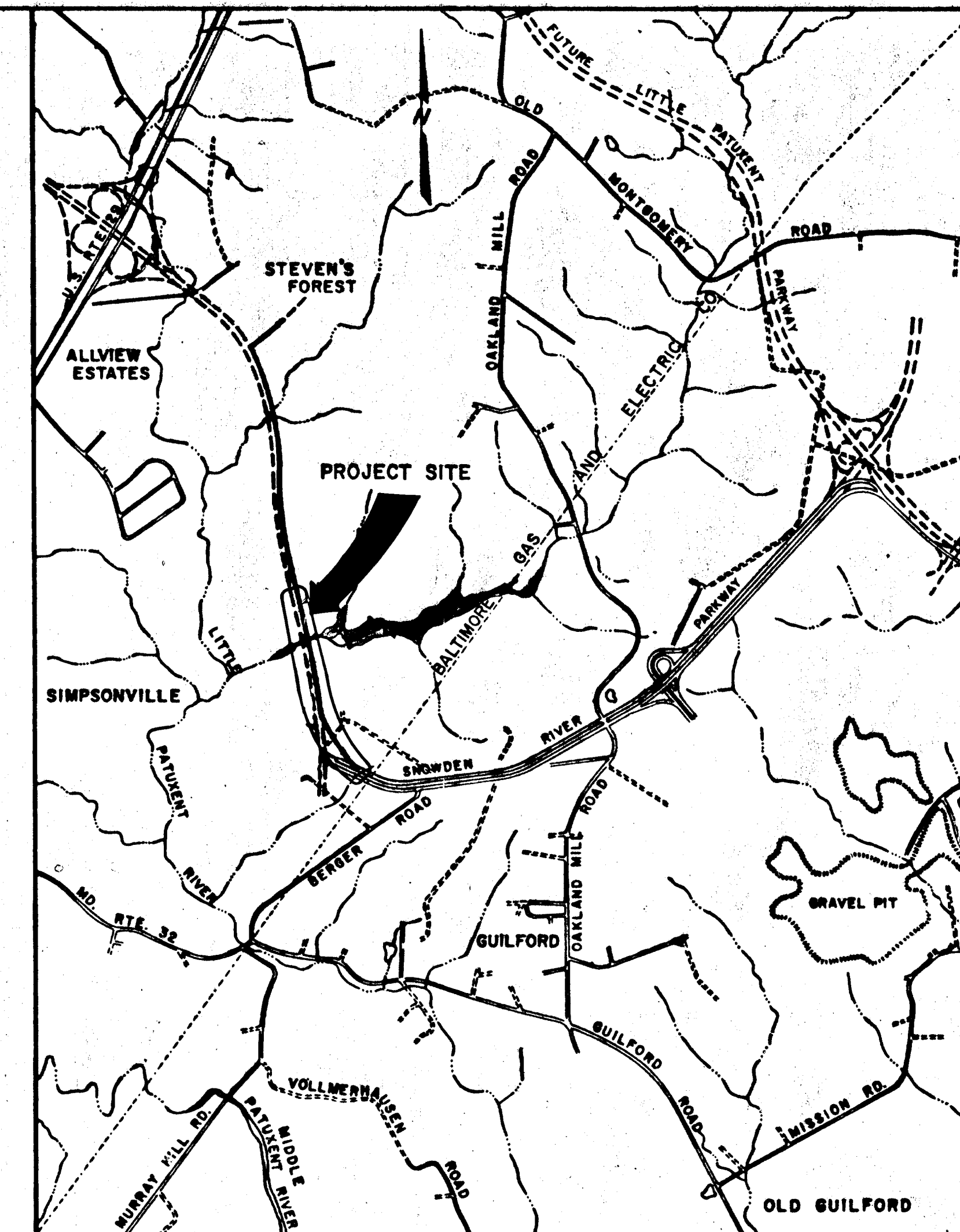
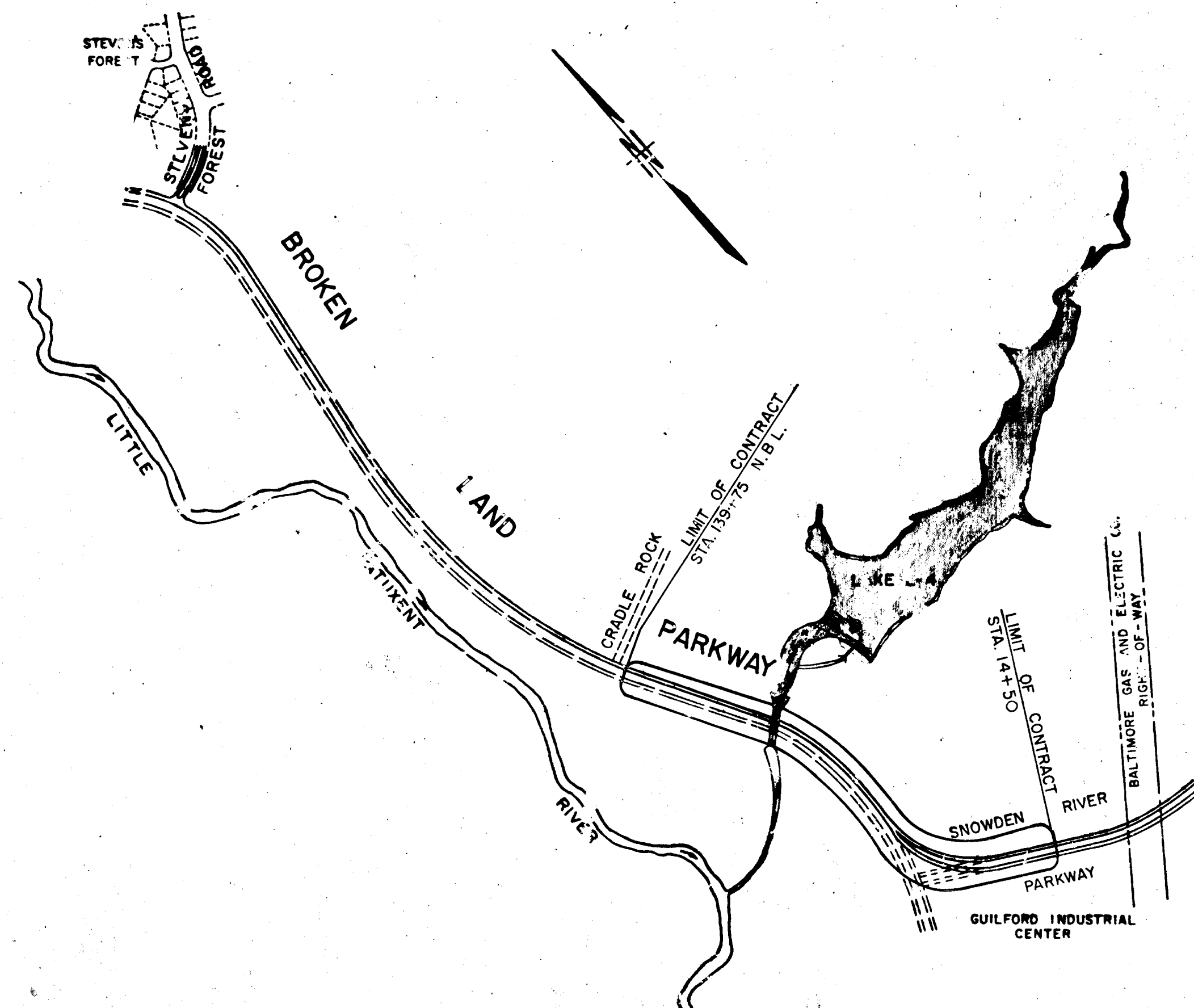
PROFILE VERTICAL
SCALE: 1" = 5'

COLUMBIA

ELECTION DISTRICT 6 ROAD CONSTRUCTION PLANS BROKEN LAND PARKWAY

HOWARD RESEARCH & DEVELOPMENT CORP.
HOWARD COUNTY, MARYLAND

SHEET INDEX	
SHEET	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTIONS
3	DRAINAGE AREA MAP
4	S.R.P., RAMP 'B' & TEMP. CON. PLAN
5	B.L.P. STA. 115 TO STA. 129+62.37
6	B.L.P. STA. 129+62.37 TO STA. 139+75
7	DRAINAGE PROFILES
8	PAVING ELEVATIONS & PROFILES
9	B.L.P. - TWIN MULTI PLATE PIPE ARCH - DETAILS
10 & 11	B.L.P. - PEDESTRIAN UNDERPASS - PLAN & DETAILS
12	SUMMARY OF QUANTITIES



VICINITY MAP
SCALE: 1" = 2000'

GENERAL NOTES

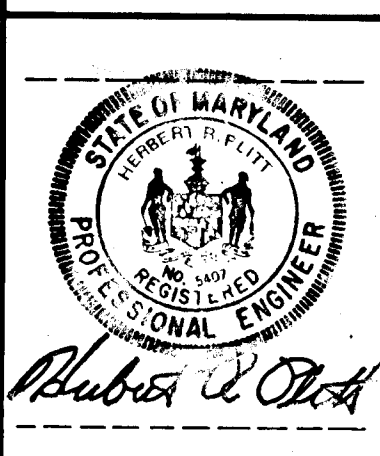
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES, WHERE DIRECTED BY THE ENGINEER, A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS.
- CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES AT LEAST THREE DAYS BEFORE STARTING WORK SHOWN ON THIS/ THESE DRAWINGS:

BELL TELEPHONE SYSTEM	393-3649
LONG DISTANCE CABLE DIVISION	393-3553 OR 3554
BALTIMORE GAS & ELECTRIC CO.	539-8000 EXT. 691
- BRICK BULKHEAD SHALL BE INSTALLED IN ALL STORM DRAIN STUBS.
- ALL INLETS SHALL BE HOWARD COUNTY STANDARDS UNLESS OTHERWISE SHOWN.
- ALL STREET CURB RETURNS SHALL HAVE 35.0 RADIUS UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1971 EDITION.
- TREES ARE TO BE PROTECTED AGAINST DAMAGE TO THE MAXIMUM EXTENT REASONABLE. TREES WHICH ARE TO REMAIN IN STREETS AND OTHER RIGHTS OF WAY WILL BE MARKED BY THE ENGINEER PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- END WALLS: THE TYPES OF ENDWALLS SHOWN ON THE PLANS ARE SUBJECT TO CHANGE AND ARE NOT TO BE CONSTRUCTED UNTIL GRADING IS COMPLETED. DIMENSIONS OF ENDWALLS AS SHOWN ON STANDARD PLATES MAY BE MODIFIED FOR USE WITH CORRUGATED METAL PIPE, PIPE ARCH OR OTHERWISE AS DIRECTED BY THE ENGINEER.
- INVERTS OF INLETS AND HEADWALLS: INVERT ELEVATIONS OF INLETS AND HEADWALLS MAY BE MODIFIED TO MEET CONDITIONS ENCOUNTERED DURING INSTALLATION OF DRAINAGE STRUCTURES. DIMENSIONS OF STRUCTURES AS SHOWN ON STANDARD PLATES MAY BE MODIFIED FOR USE WITH CORRUGATED METAL PIPE, PIPE ARCH OR OTHERWISE AS DIRECTED BY THE ENGINEER.
- CONSTRUCTION FROM STA. 116+49.58 BROKEN LAND PARKWAY TO STA. 19+26.55 SNOWDEN RIVER PARKWAY IS TEMPORARY.

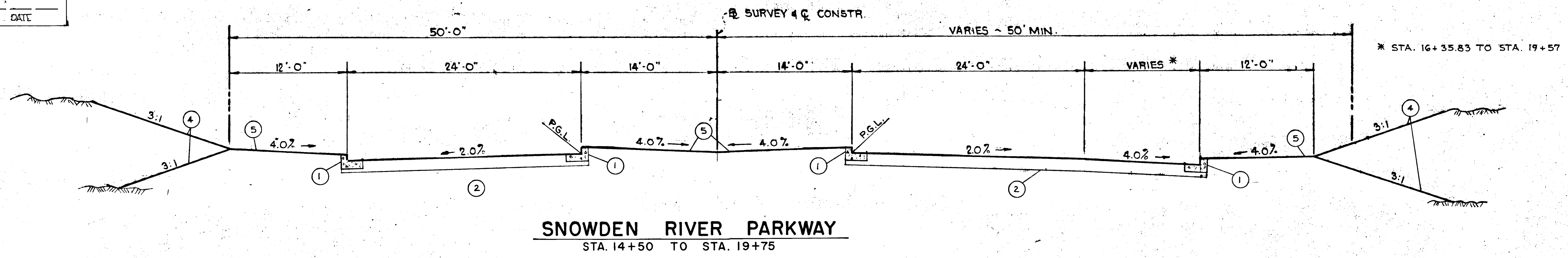
DEPARTMENT OF PUBLIC WORKS
A. N. Redmond 9/26/74
CHIEF, BUREAU OF HIGHWAYS DATE

OFFICE OF PLANNING AND ZONING
J. J. Claman 9/25/74
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

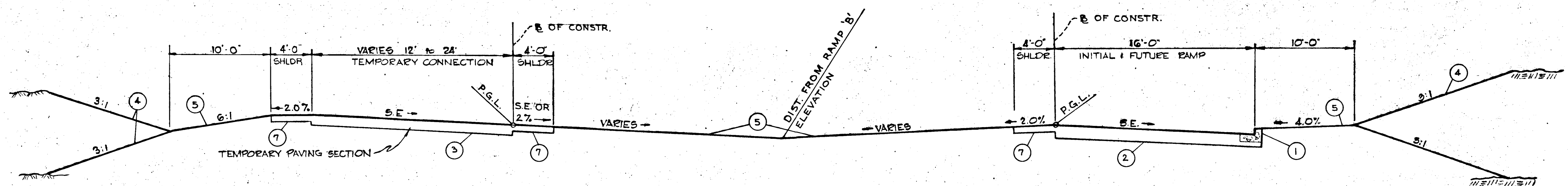
GREEN ASSOCIATES, INC.
ENGINEERS ARCHITECTS PLANNERS
32 WEST ROAD
TOWSON, MARYLAND



LOCATION PLAN
SCALE: 1" = 800'

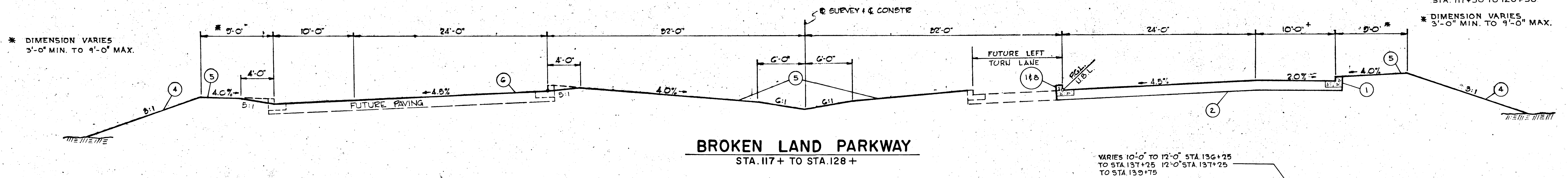


SNOWDEN RIVER PARKWAY
 STA. 14+50 TO STA. 19+75



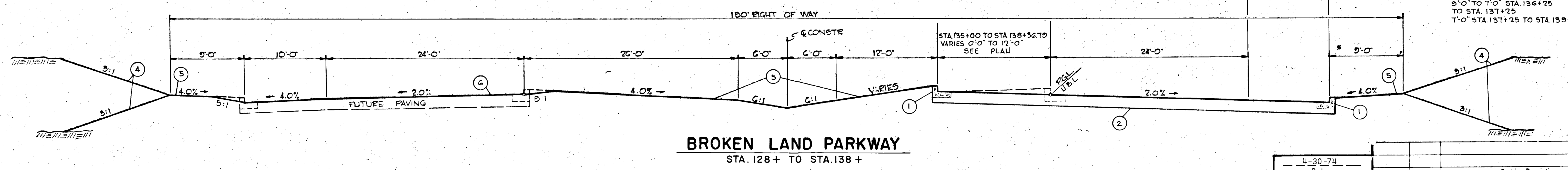
TEMPORARY CONNECTION
 STA. 0+00 TO STA. 5+69.01

RAMP 'B'
 STA. 0+00 TO STA. 7+65.23



BROKEN LAND PARKWAY
 STA. 117+ TO STA. 128+

VARIES 10'-0" TO 12'-0" STA. 136+25 TO STA. 137+25 12'-0" STA. 137+25 TO STA. 139+75



BROKEN LAND PARKWAY
 STA. 128+ TO STA. 138+

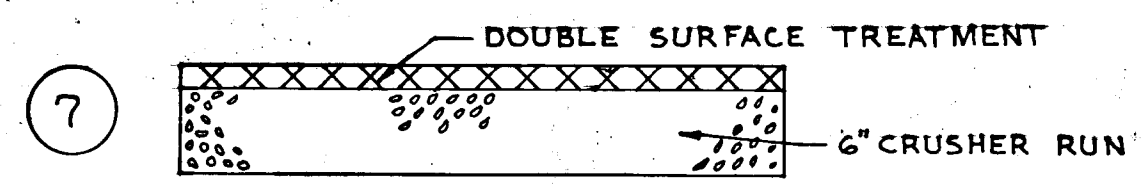
* DIMENSION VARIES 3'-0" MIN. TO 9'-0" MAX.
 * DIMENSIONS VARIES 9'-0" TO 1'-0" STA. 136+25 TO STA. 137+25 1'-0" STA. 137+25 TO STA. 139+75

LEGEND

- ① HOWARD COUNTY COMBINATION C & G (1'-6" PAN, 8" DEPTH)
- ② ROADWAY PAVEMENT (SEE BELOW)
- ③ TEMPORARY PAVEMENT (SEE BELOW)
- ④ 2" TOPSOIL, SEEDING & MULCHING
- ⑤ 4" TOPSOIL, SEEDING & MULCHING
- ⑥ TEMPORARY SEEDING
- ⑦ SHOULDER SECTION (SEE BELOW)
- ⑧ HOWARD COUNTY MOUNTABLE CURB, DWG. 39

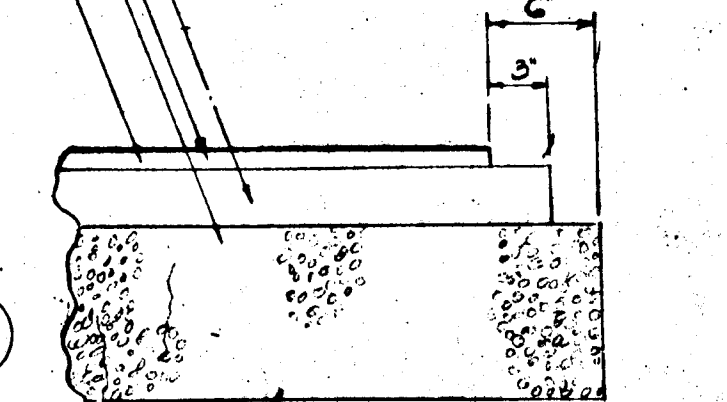
BITUMINOUS CONC. SURFACE	1.5"
BITUMINOUS CONC. SURFACE	1.5"
BITUMINOUS CONC. BINDER	2.5"
BITUMINOUS CONC. BASE	4.0"
7" CRUSHER RUN SUB-BASE	

TYPICAL PAVING SECTION

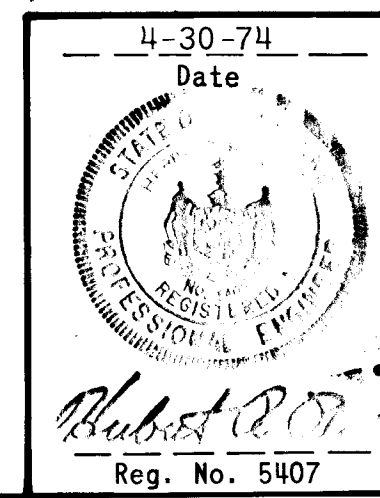


SHOULDER SECTION

- PRIME COAT SECTION C-30-3
- TACK COAT SECTION C-31-4
- 1" BIT. CONC. SURFACE
- 2 1/2" BIT CONC. BINDER



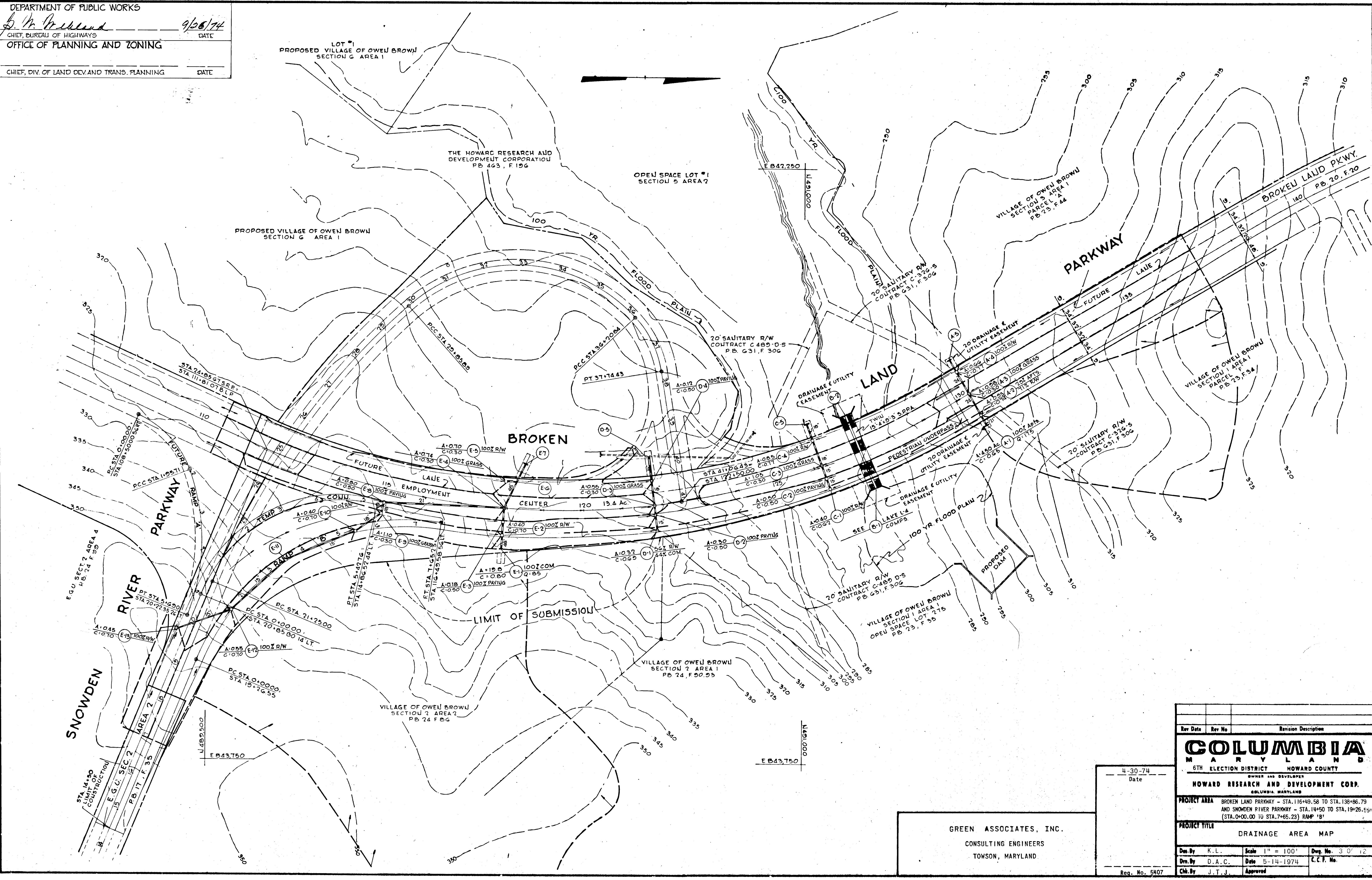
TEMPORARY PAVING SECTION



GREEN ASSOCIATES, INC.
 CONSULTING ENGINEERS
 TOWSON, MARYLAND

Rev Date	Rev No.	Revision Description
COLUMBIA M A R Y L A N D 6TH ELECTION DISTRICT HOWARD COUNTY OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. COLUMBIA, MARYLAND		
PROJECT AREA BROKEN LAND PARKWAY - STA. 116+89.58 TO STA. 138+86.79 AND SNOWDEN RIVER PARKWAY - STA. 14+50 TO STA. 19+26.55 = (STA. 0+00.00 TO STA. 7+65.23) RAMP 'B'		
PROJECT TITLE TYPICAL SECTIONS		
Des. By K. L.	Scale 1" = 6'-0"	Dwg. No. 2 OF 12
Dir. By D. A. C.	Date 5-14-1974	C. C. F. No.
Chk. By J. T. J.	Approved	

DEPARTMENT OF PUBLIC WORKS
S. H. Ireland 9/26/74
 CHIEF, BUREAU OF HIGHWAYS DATE
 OFFICE OF PLANNING AND ZONING
 CHIEF, DIV. OF LAND DEV. AND TRANS. PLANNING DATE



GREEN ASSOCIATES, INC.
 CONSULTING ENGINEERS
 TOWSON, MARYLAND

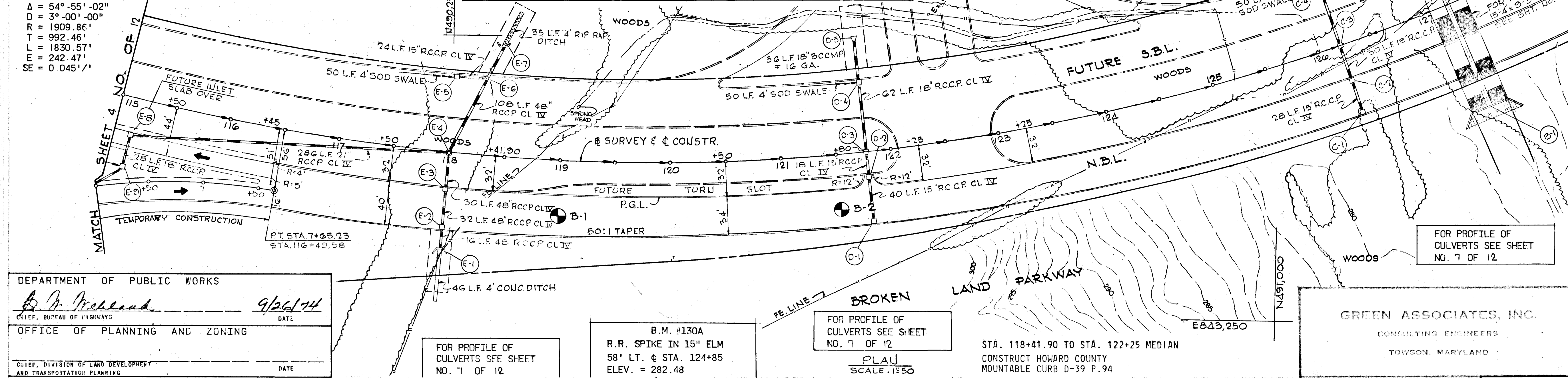
4-30-74
 Date

Rev. Date	Rev. No.	Revision Description
COLUMBIA MARYLAND		
6TH ELECTION DISTRICT HOWARD COUNTY		
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. COLUMBIA, MARYLAND		
PROJECT AREA BROKEN LAND PARKWAY - STA. 116+49.58 TO STA. 138+86.79 AND SNOWDEN RIVER PARKWAY - STA. 14+50 TO STA. 19+26.55 (STA. 0+00.00 TO STA. 7+65.23) RAMP 'B'		
PROJECT TITLE DRAINAGE AREA MAP		
Des. By	K.L.	Scale 1" = 100'
Drn. By	D.A.C.	Date 5-14-1974
Chk. By	J.T.J.	Approved
Req. No. 5407		

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN.	INV. OUT.	T.C.P. ELEV.	REMARKS
B-1	SPECIAL ENDWALL	STA. 127+25 - 102' RT.	279.50	-	-	SEE DETAIL SHEET 10
B-2	SPECIAL ENDWALL	STA. 127+25 - 96' LT.	-	276.90	-	SEE DETAIL SHEET 10
C-1	DBL. 'S' COMB.	STA. 126+20.65 - 66' RT.	-	290.50	294.56	HO. CO. DWG. 99 PG. 154
C-2	DBL. 'S' COMB.	STA. 126+20.65 - 32' RT.	289.60	289.40	293.68	HO. CO. DWG. 99 PG. 154
C-3	DBL. 'S' COMB.	STA. 126+20.65 - 0'	288.10	287.85	291.60	HO. CO. DWG. 102 PG. 154
C-4	DBL. 'S' COMB.	STA. 126+20.65 - 70.6' LT.	287.37	287.17	291.94	HO. CO. DWG. 99 PG. 154
C-5	'C' ENDWALL	STA. 126+20.65 - 114' LT.	-	278.50	-	HO. CO. DWG. 52 PG. 107
D-1	DBL. 'S' COMB.	STA. 121+80 - 66' RT.	-	298.50	302.94	HO. CO. DWG. 99 PG. 154
D-2	DBL. 'S' COMB.	STA. 121+80 - 20' RT.	296.98	296.78	301.07	HO. CO. DWG. 99 PG. 154
D-3	DBL. 'S' COMB.	STA. 121+80 - 0'	296.06	295.81	301.07	HO. CO. DWG. 102 PG. 157

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN.	INV. OUT.	T.C.P. ELEV.	REMARKS
D-4	DBL. 'S' COMB.	STA. 121+80 - 65' LT.	295.19	294.99	300.08	HO. CO. DWG. 99 PG. 154
D-5	METAL END SECT.	STA. 121+80 - 102' LT.	-	299.80	-	SEE DETAILS
E-1	B-48 HEADWALL	STA. 118+00 - 88' RT.	307.30	-	-	HO. CO. DWG. 48 PG. 103
E-2	DBL. 'S' COMB.	STA. 118+00 - 71' RT.	306.70	306.50	315.46	HO. CO. DWG. 99 PG. 154
E-3	DBL. 'S' COMB.	STA. 118+00 - 32' RT.	305.28	305.08	314.68	HO. CO. DWG. 99 PG. 154
E-4	DBL. 'S'	STA. 118+00 - 0'	303.94	303.74	312.64	HO. CO. DWG. 102 PG. 157
E-5	DBL. 'S'	STA. 118+00 - 71' LT.	-	309.00	312.92	HO. CO. DWG. 99 PG. 154
E-6	PIPE CONN.	STA. 118+30 - 70' LT.	-	302.00	-	-
E-7	B-48 HEADWALL	STA. 118+40 - 100' LT.	-	299.20	-	HO. CO. DWG. 48 PG. 103
E-8	DBL. 'S'	STA. 115+15 - 32' RT.	318.50	318.25	322.00	FUTURE DBL. 'S' COMB.
E-9	DBL. 'S'	STA. 115+15 - 66' RT.	320.10	319.90	323.50	FUTURE DBL. 'S' COMB.

CURVE DATA
 A = 54°-55'-02"
 D = 3°-00'-00"
 R = 1909.86'
 T = 992.46'
 L = 1830.57'
 E = 242.47'
 SE = 0.045 1/1'



DEPARTMENT OF PUBLIC WORKS
B. M. McNeill 9/26/74
 CHIEF, BUREAU OF HIGHWAYS
 OFFICE OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING

FOR PROFILE OF CULVERTS SEE SHEET NO. 7 OF 12

B.M. #130A
 R.R. SPIKE IN 15" ELM
 58' LT. & STA. 124+85
 ELEV. = 282.48

FOR PROFILE OF CULVERTS SEE SHEET NO. 7 OF 12
 PLAN SCALE: 1"=50'

STA. 118+41.90 TO STA. 122+25 MEDIAN
 CONSTRUCT HOWARD COUNTY MOUNTABLE CURB D-39 P.94

GREEN ASSOCIATES, INC.
 CONSULTING ENGINEERS
 TOWSON, MARYLAND

Rev. Date: Rev. No.: Revision Description:

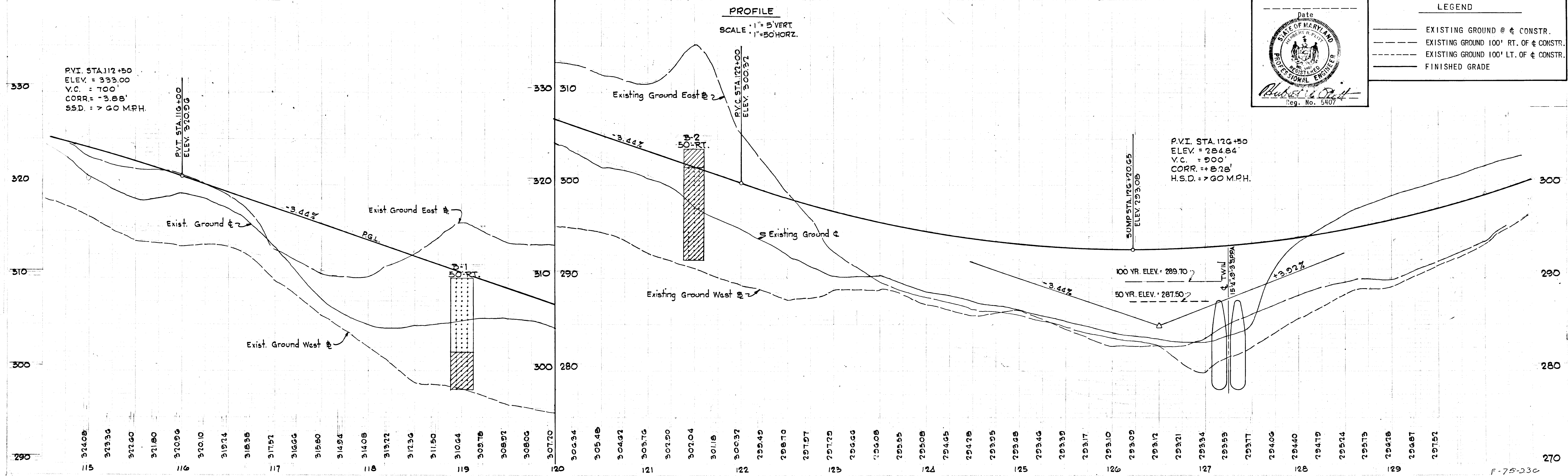
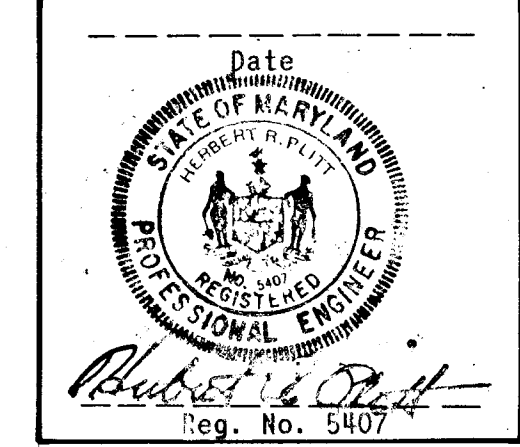
COLUMBIA
 MARYLAND
 ELECTION DISTRICT: HOWARD COUNTY
 HOWARD RESEARCH AND DEVELOPMENT CORP.
 COLUMBIA, MARYLAND

PROJECT TITLE: BROKEN LAND PARKWAY
 PLAN AND PROFILE
 STA. 115+00 TO STA. 129+62.37

Drawn By: F.T. & K.L. AS SHOWN 5 OF 12
 Date: 5-14-1974
 Checked By: D.A.C. Approved
 Date: 5-14-1974
 Checked By: J.T.J. Approved

LEGEND

- EXISTING GROUND @ & CONSTR.
- - - EXISTING GROUND 100' RT. OF & CONSTR.
- - - EXISTING GROUND 100' LT. OF & CONSTR.
- FINISHED GRADE



STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	T.C.P. ELEV.	REMARKS
A-1	ST'D. 'E' WALL	STA. 130+35 - 92' RT.	294.00			HO.CO. DWG. 54 PG. 109
A-2	DBL. 'S' COMB.	STA. 130+35 - 66' RT.	293.69	293.44	300.65	HO.CO. DWG. 99 PG. 154
A-3	DBL. 'S'	STA. 130+35 - 6'	292.82	292.62	TOP 298.50	HO.CO. DWG. 101 PG. 156
A-4	DBL. 'S' COMB.	STA. 130+35 - 66' LT.	292.00	291.80	299.76	HO.CO. DWG. 99 PG. 154
A-5	ST'D. 'C' WALL	STA. 130+35 - 98' LT.	291.41			HO.CO. DWG. 52 PG. 107

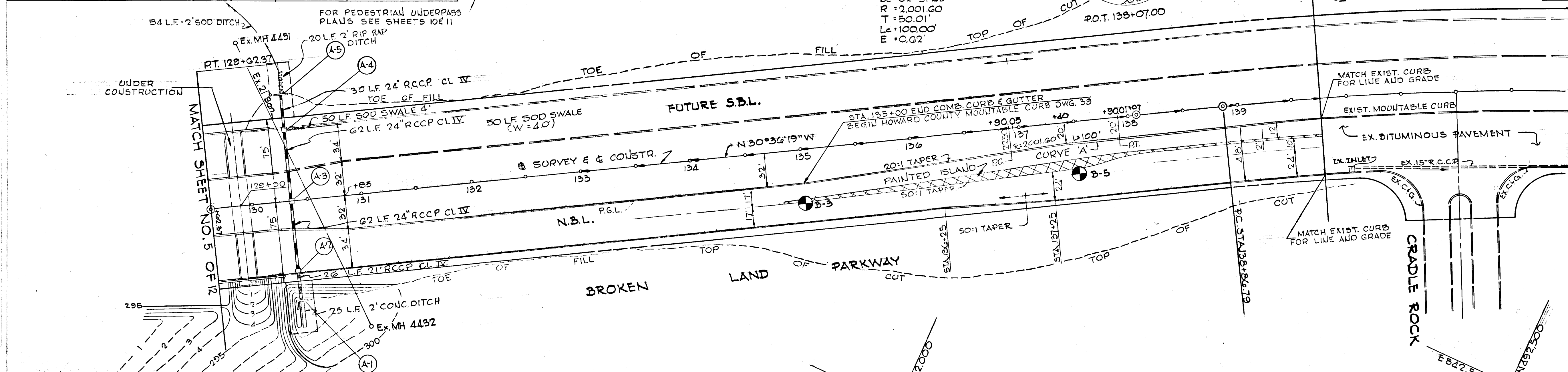
B.M. #130-A
R.R. SPIKE IN 36" POPULAR
130' RT. STA. 142+80
ELEV. = 297.94'

A
CURVE DATA

$\Delta = 02^{\circ}51'45"$
 $D_c = 02^{\circ}51'45"$
 $R = 2,001.60$
 $T = 50.01$
 $L = 100.00'$
 $E = 0.62'$

LIMIT OF CONTRACT
STA. 139+75

CURVE DATA
 $\Delta = 25^{\circ}28'46"$
 $D = 2^{\circ}00'00"$
 $R = 2864.79'$
 $T = 647.70'$
 $L = 1273.97'$
 $E = 22.31'$
 $SE = 0.035'/'$



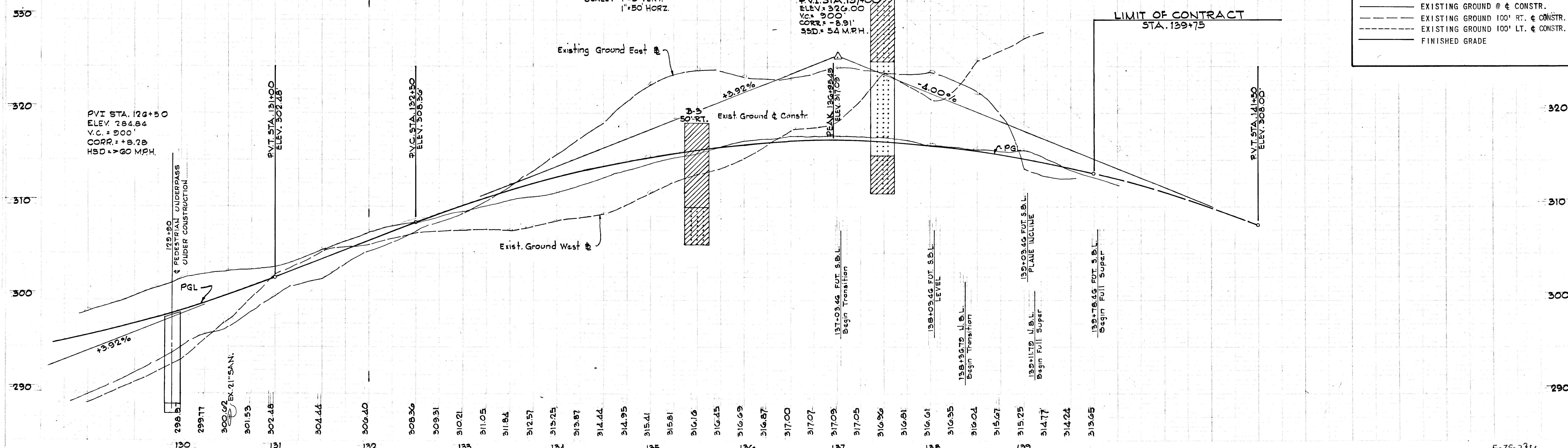
DEPARTMENT OF PUBLIC WORKS
B. W. McKeand
CHIEF, BUREAU OF HIGHWAYS
OFFICE OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING

FOR PROFILE OF CULVERT
@ STA. 130+35 SEE
SHEET NO. 7 OF 12

PLAN
SCALE: 1"=50'

PROFILE

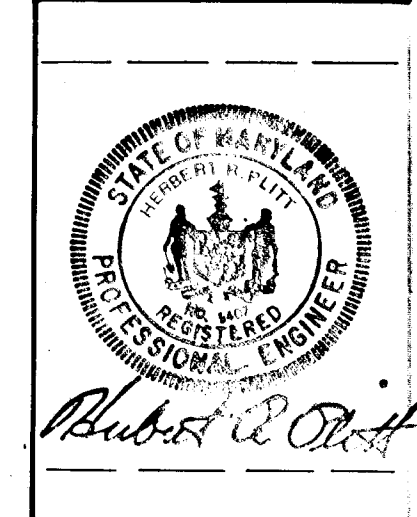
SCALE: 1"=5' VERT.
1"=50' HORIZ.

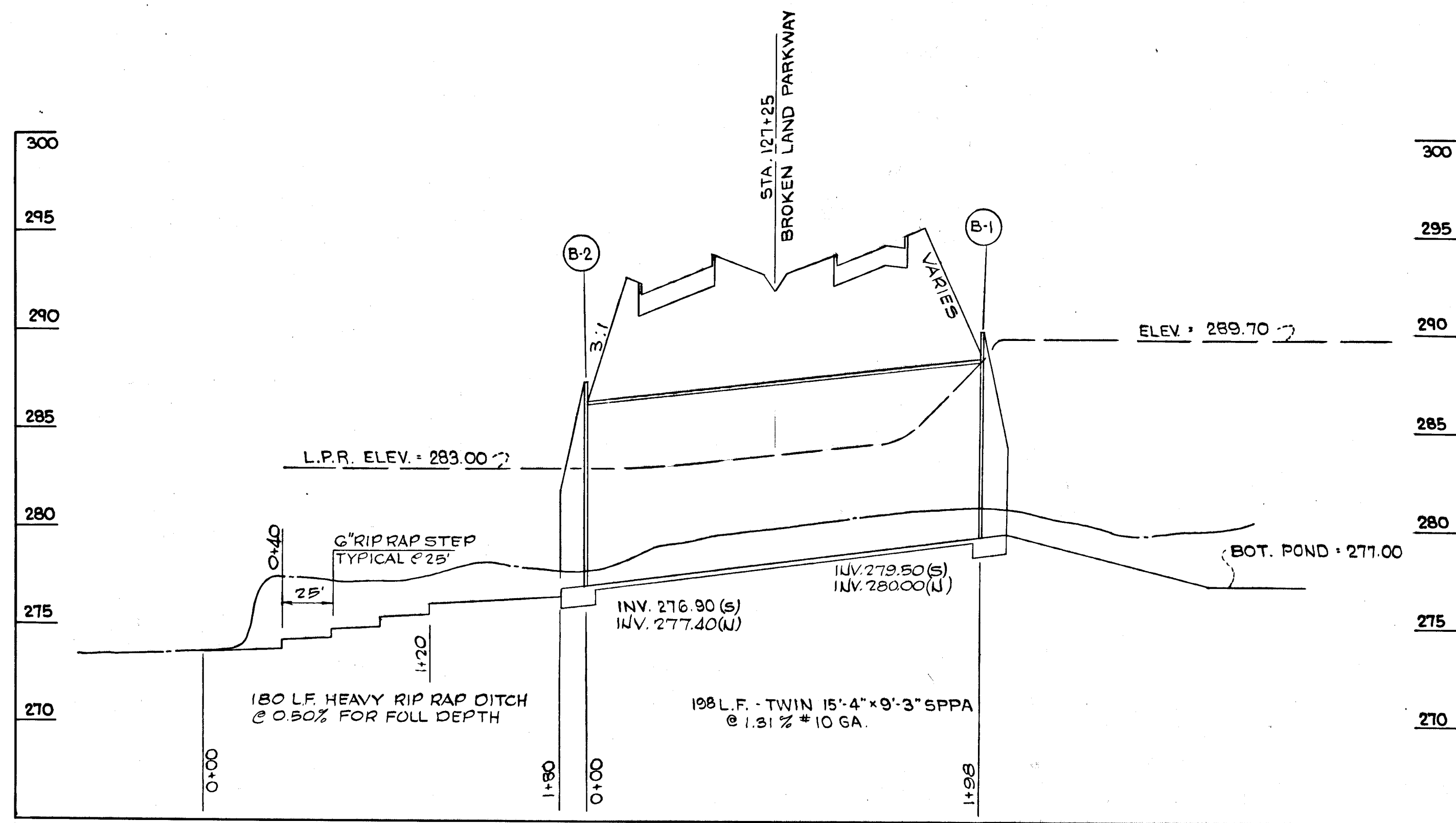


Rev. Date	Rev. No.	Revision Description
COLUMBIA MARYLAND 6TH ELECTION DISTRICT HOWARD COUNTY OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. COLUMBIA, MARYLAND		
PROJECT AREA BROKEN LAND PARKWAY		
PROJECT TITLE PLAN AND PROFILE STA. 129+62.37 TO STA. 139+75		
Des. By	F.T. & K.L.	Scale AS SHOWN
Dr. By	D.A.C.	Date 5-14-1974
Ch. By	J.T.J.	Approved
Sheet No. 6 OF 12		

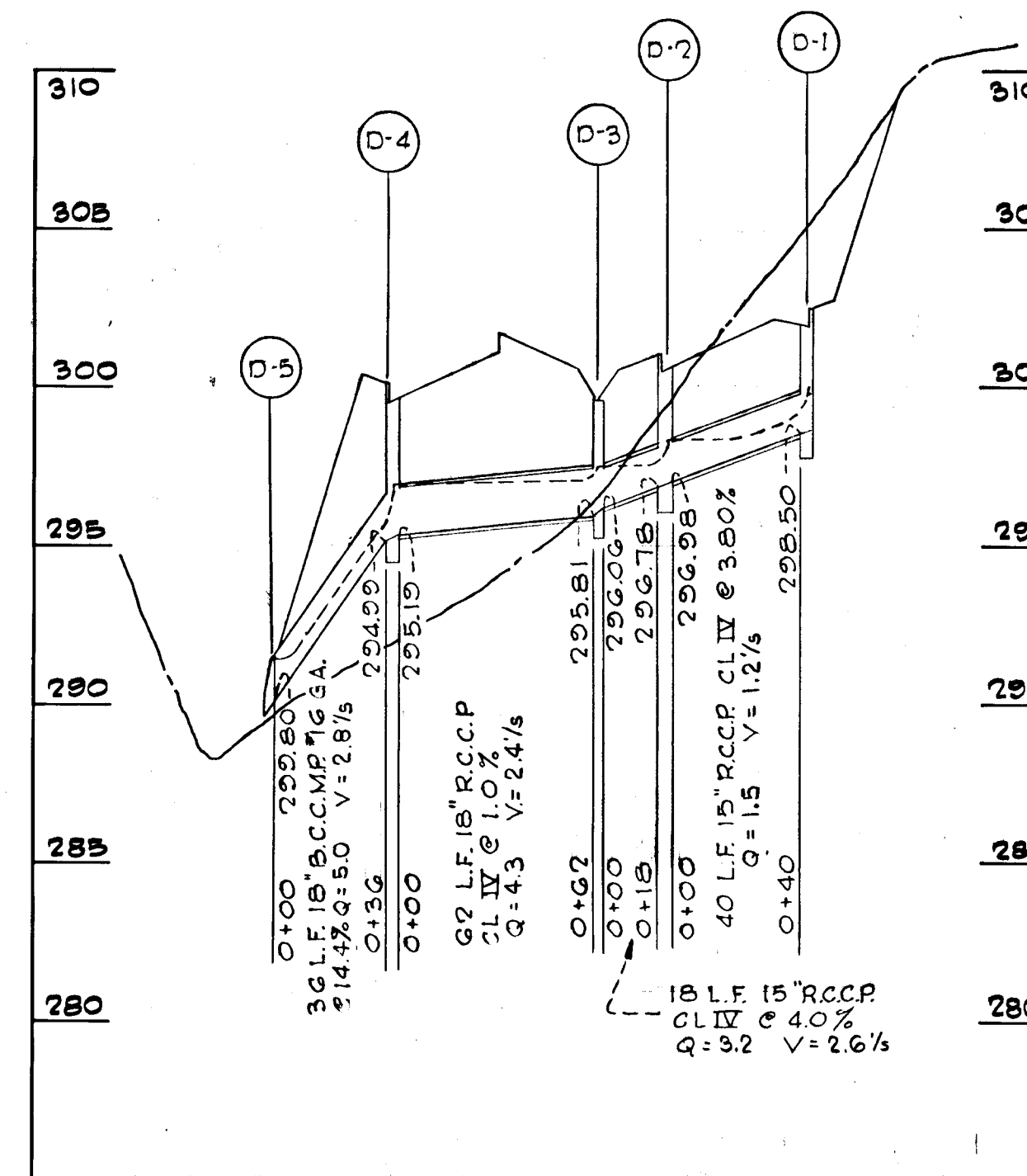
LEGEND

—	EXISTING GROUND @ & CONSTR.
- - -	EXISTING GROUND 100' RT. & CONSTR.
- - -	EXISTING GROUND 100' LT. & CONSTR.
—	FINISHED GRADE

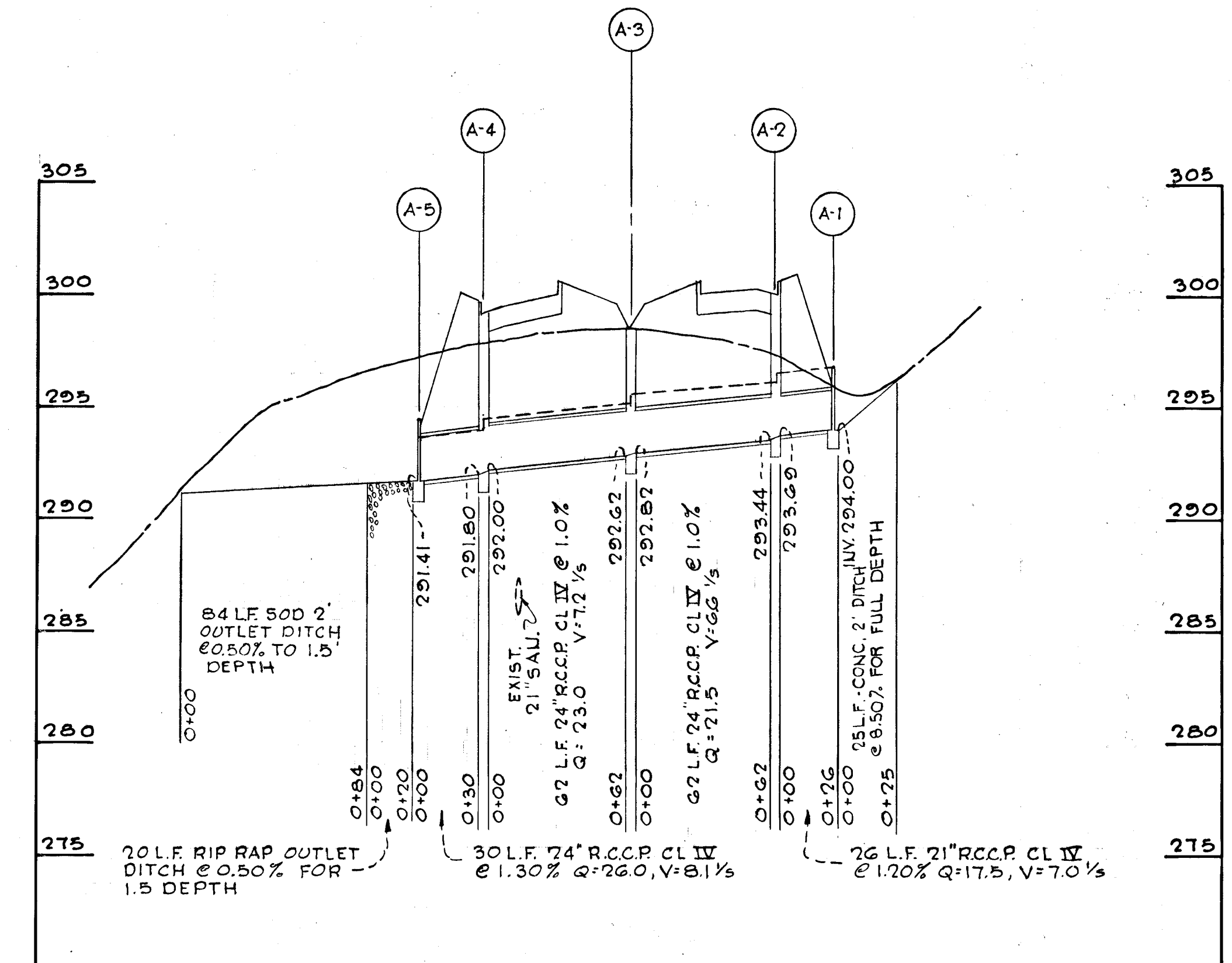




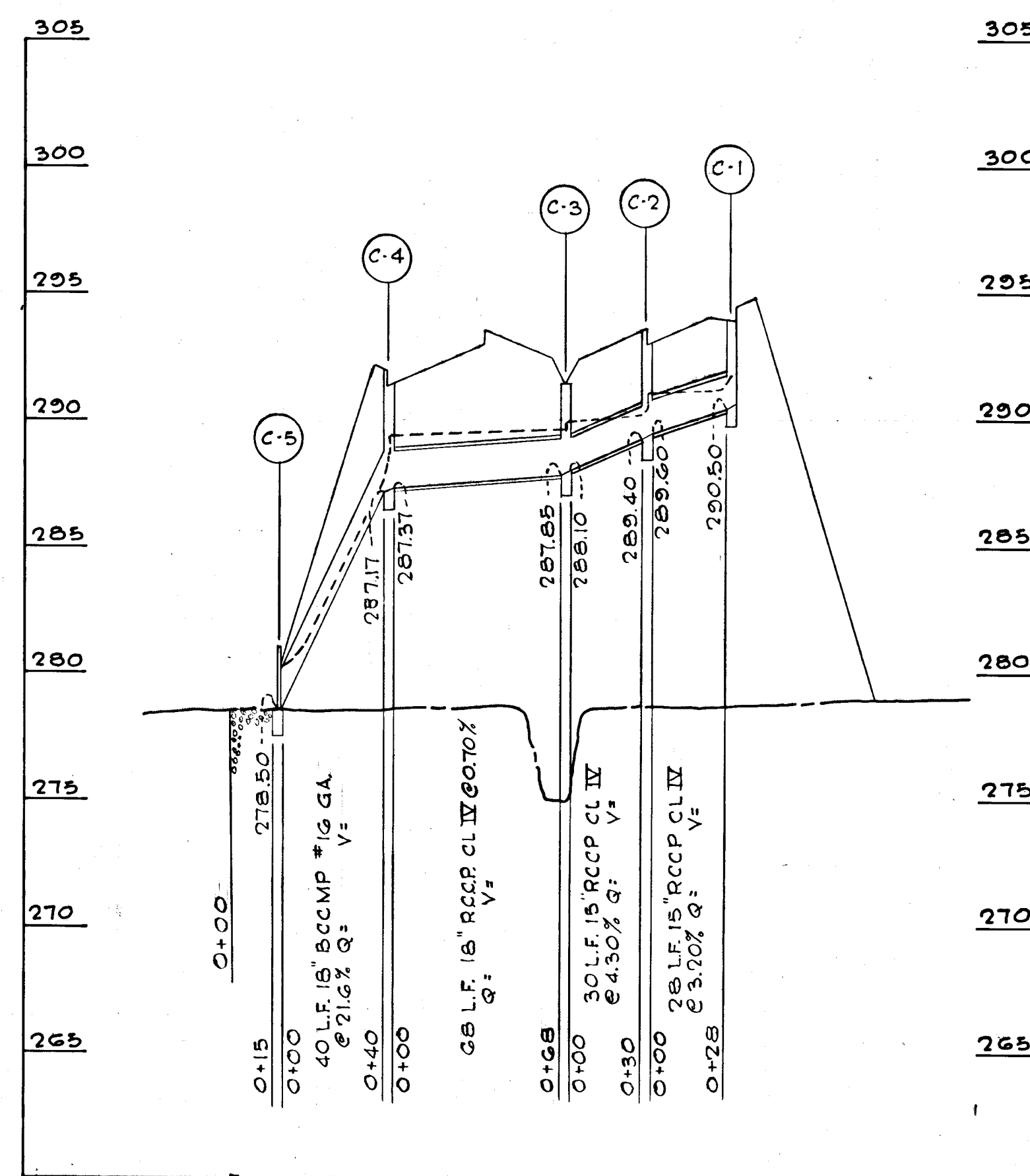
SYSTEM 'B'
DRAINAGE STRUCTURE - STA. 127+25
 FOR PLAN SEE SHEET NO. 5



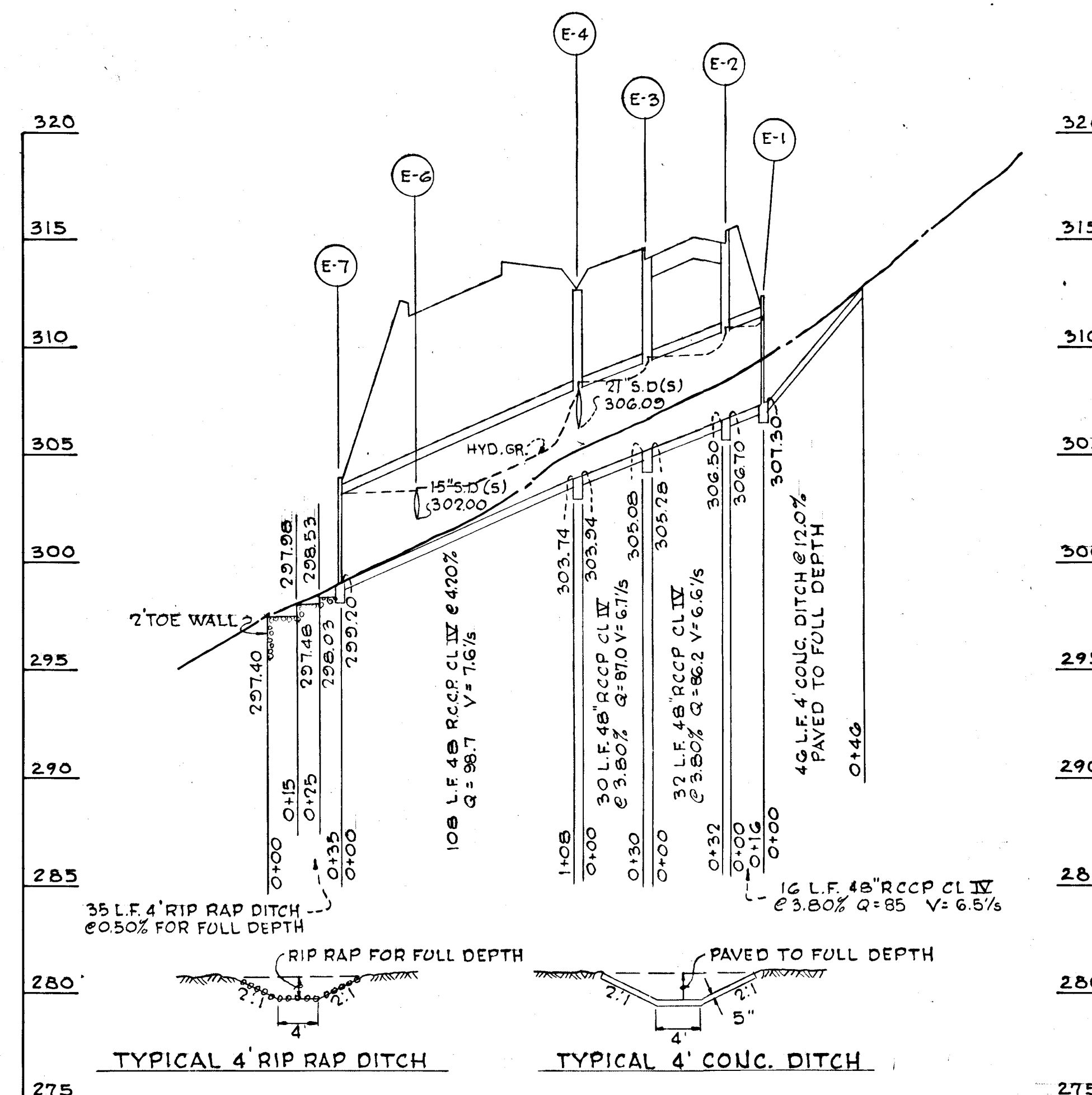
SYSTEM D - STA. 121+80
 FOR PLAN SEE SHEET NO. 5



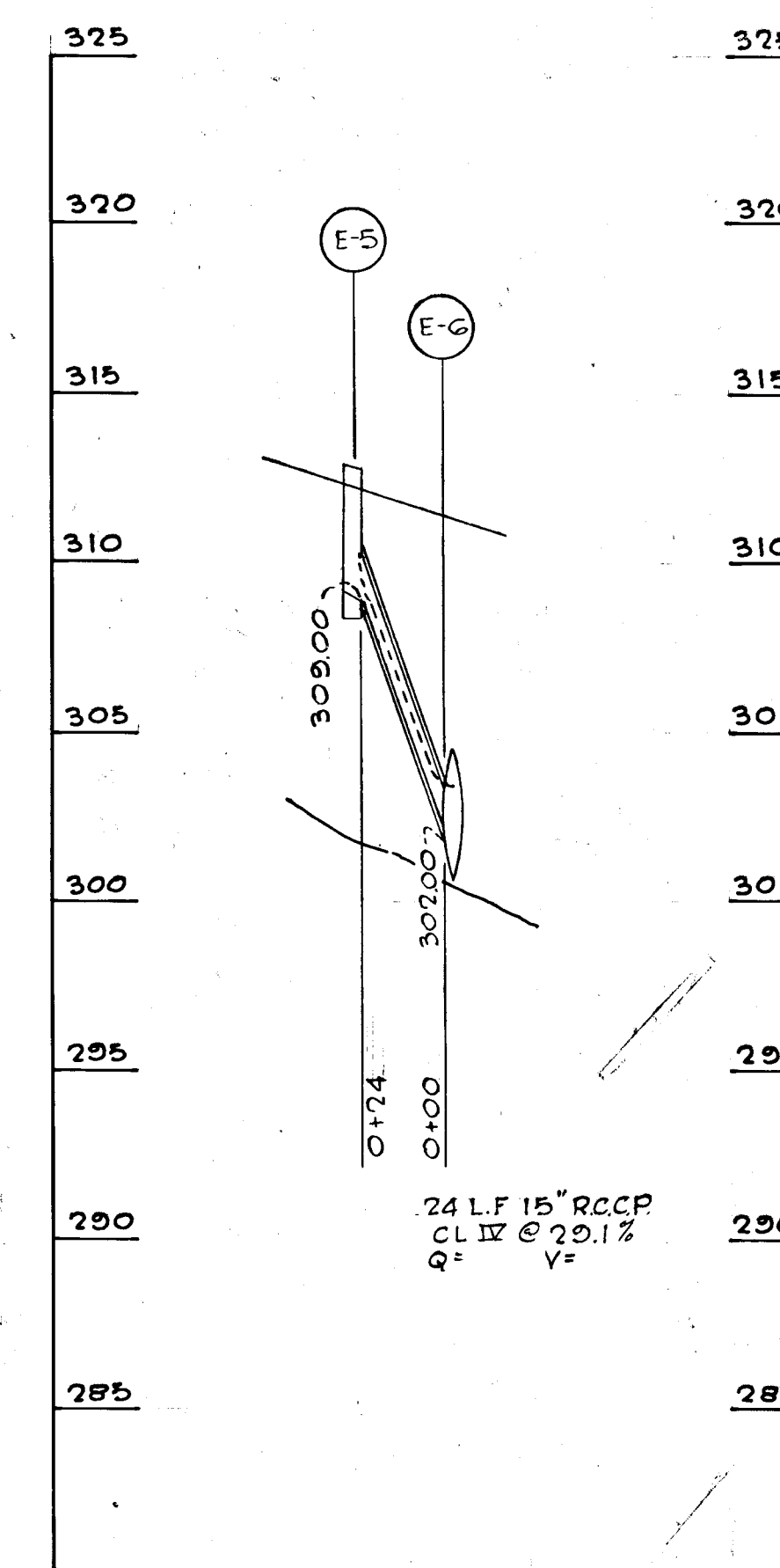
SYSTEM 'A' - STA. 130+35
 FOR PLAN SEE SHEET NO. 6



SYSTEM C (SUMP) - STA. 126+20.65
 FOR PLAN SEE SHEET NO. 5

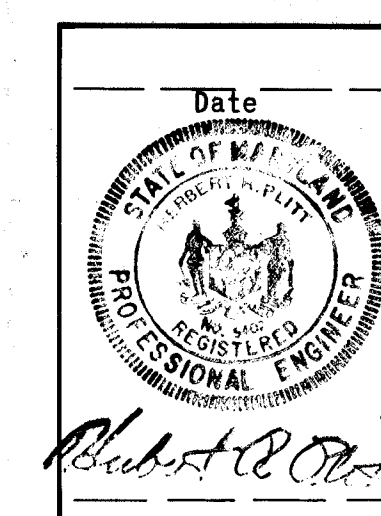


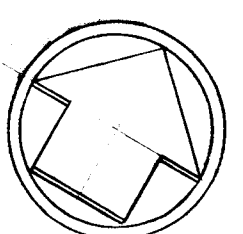
SYSTEM E - STA. 118+00
 FOR PLAN SEE SHEET NO. 5



SYSTEM E STA. 118+00
 FOR PLAN SEE SHEET NO. 5

DEPARTMENT OF PUBLIC WORKS	
<i>S. P. Prasad</i>	9/26/74
CHIEF, BUREAU OF HIGHWAYS	DATE
OFFICE OF PLANNING AND ZONING	
CHIEF, DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING	DATE
GREEN ASSOCIATES, INC.	
CONSULTING ENGINEERS	
TOWSON, MARYLAND	
Rev. Date	Rev. No. / Revision Description
COLUMBIA MARYLAND	
6 TH ELECTION DISTRICT HOWARD COUNTY	
HOWARD RESEARCH AND DEVELOPMENT CORP.	
COLUMBIA, MARYLAND	
PROJECT AREA	
BROKEN LAND PARKWAY	
PROJECT TITLE	
Date	Scale: 1" = 5' VERT. / 1" = 50' HORIZ.
By: K.A.L.	Drawn: 7 OF 12
By: K.A.L.	Date: 5-14-1974
By: J.T.J.	Approved: 75-236
Reg. No. 5407	

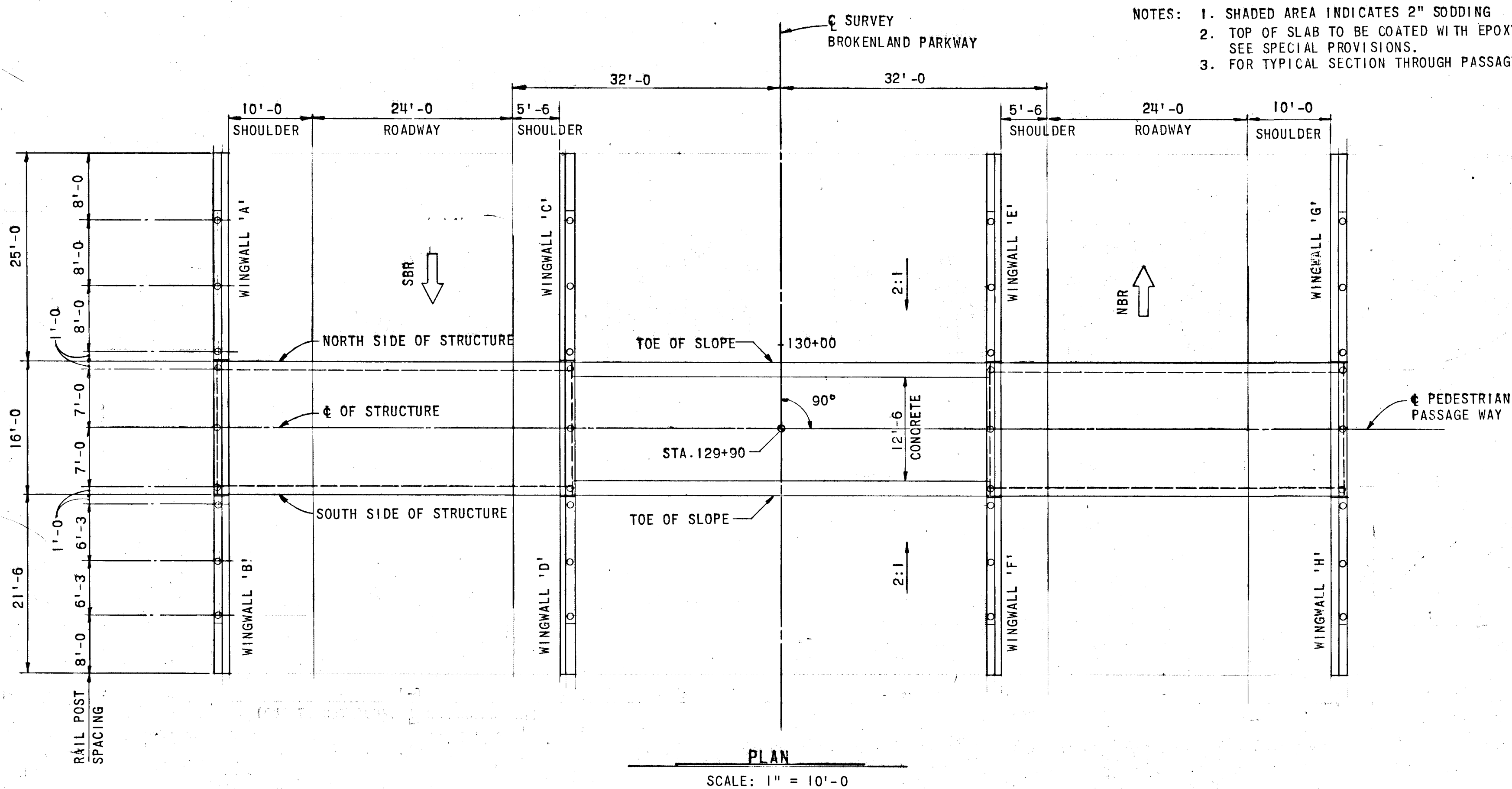




- NOTES: 1. SHADED AREA INDICATES 2" SODDING
 2. TOP OF SLAB TO BE COATED WITH EPOXY COATING, SEE SPECIAL PROVISIONS.
 3. FOR TYPICAL SECTION THROUGH PASSAGE, SEE SHEET NO. 12.

TOP OF ROADWAY ELEVATION			
	LOCATION	SOUTH EDGE OF STRUCTURE	NORTH EDGE OF STRUCTURE
S.B.R.	L.P.	299.90	300.18
	L.C.	297.23	297.51
	B/S ₁	297.63	297.91
	P.G.L.	298.42	298.66
	R.C.	298.31	298.55
N.B.R.	R.P.	300.98	301.22
	L.P.	300.98	301.23
	L.C.	298.31	298.56
	P.G.L.	298.42	298.66
	B/S ₂	298.88	299.08
R.C.	298.68	298.88	
R.P.	301.35	301.55	

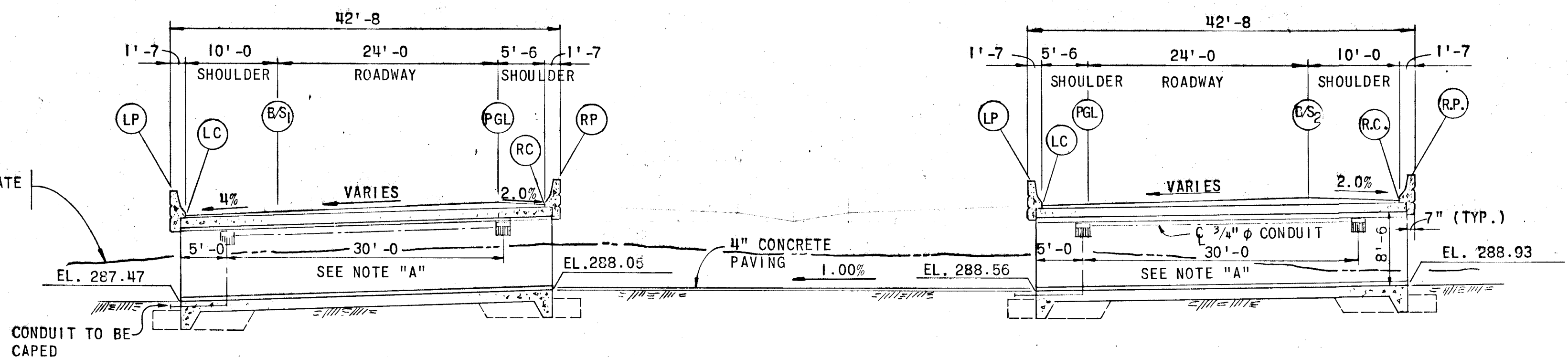
NOTE: FOR WINGWALL DETAIL AND ELEVATIONS, SEE SHEET NO. 12.



PLAN
 SCALE: 1" = 10'-0"

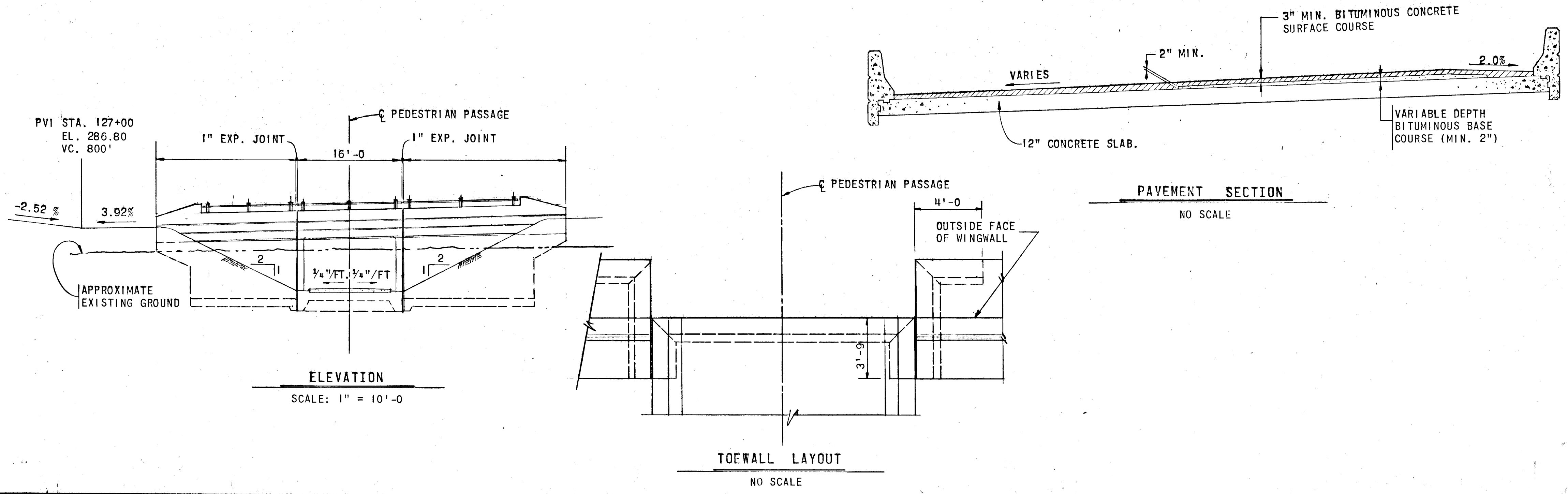
GENERAL NOTES

- DATUM:
 ALL ELEVATIONS REFER TO U.S.C. AND G.S. DATUM (MEAN SEA LEVEL OF SAND HOOK).
- SPECIFICATIONS
 S.R.C. SPECIFICATIONS AND ERRATA TO SPECIFICATIONS DATED MARCH, 1968 AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION. A.A.S.H.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 1969 FOR DESIGN INCLUDING 1971 INTERIM SPECIFICATIONS. FOR REINFORCED CONCRETE DESIGN FC = 1,200 LBS. PER SQ. IN.
- LOADING:
 HS 20-44 AND BITUMINOUS CONCRETE PAVEMENT.
- CONCRETE:
 CLASS A-1 CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 LBS. PER SQ. IN. AT 28 DAYS. SEE SPECIAL PROVISIONS.
- CHAMFER:
 ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED 3/4" X 3/4" WITH MILLED CHAMFER STRIPS. EXCEPT WHERE INDICATED BY THE FOLLOWING NOTATION ON THE PLANS, "DO NOT CHAMFER".
- REINFORCING STEEL:
 REINFORCING STEEL SHALL CONFORM TO A.S.T.M. DESIGNATION A-615 GRADE 40. ALL SPLICES SHALL BE LAPPED A MINIMUM OF 24 BAR DIAMETERS UNLESS OTHERWISE NOTED. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED.
- KEYS:
 ALL KEYS SHALL BE NOMINAL TIMBER SIZE.
- EXCAVATION:
 SEE SPECIAL PROVISIONS.
- RAILING:
 FOR BRIDGE RAILING DETAILS NOT SHOWN, SEE S.R.C. STANDARD DRAWINGS TITLED "STANDARD ONE AND TWO STANDARD ALUMINUM BRIDGE RAILING" SHEET NO. 1 OF 1; AND "STANDARD ONE AND TWO STRAND GALVANIZED STEEL BRIDGE RAILING" SHEET NO. 1 OF 1. FOR THIS STRUCTURE USE ONE STRAND BRIDGE RAILING.



TRANSVERSE SECTION
 SCALE: 1" = 10'-0"

NOTE "A"
 PROVIDE 4"X4"X3" WATERPROOF JUNCTION BOX & UNDERPASS LIGHTS. (ONE SIDE OF PASSAGEWAY ONLY) FOR DETAILS SEE SHEET NO. 12

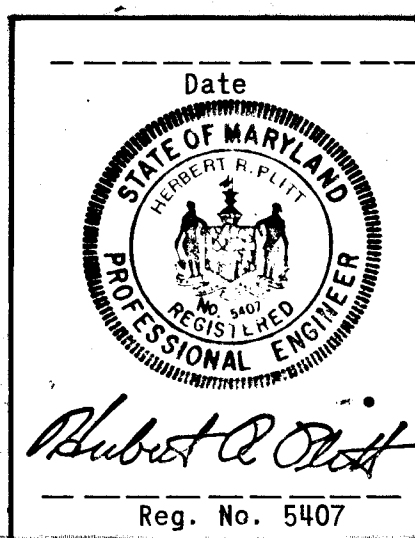


ELEVATION
 SCALE: 1" = 10'-0"

PAVEMENT SECTION
 NO SCALE

TOEWALL LAYOUT
 NO SCALE

DEPARTMENT OF PUBLIC WORKS
A.P. Ireland 9/26/74
 CHIEF, BUREAU OF HIGHWAYS DATE
 OFFICE OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION DATE



GREEN ASSOCIATES, INC.
 CONSULTING ENGINEERS
 TOWSON, MARYLAND

10-30-73
 MOVED PED UNDERPASS FROM STA. 129+25 TO STA. 129+90
 COLUMBIA MARYLAND
 6TH ELECTION DISTRICT HOWARD COUNTY
 HOWARD RESEARCH AND DEVELOPMENT CORP.
 BROKEN LAND PARKWAY
 PEDESTRIAN UNDERPASS @ STA. 129+90
 PLAN AND ELEVATION
 Des. By L.J.W. Date AS NOTED Dwg. No. 10 OF 12
 Dra. By V.S.K. Date 5-14-1974 C.E. No.
 Ck. By M.J.S. Approved F-75-23c

SUMMARY OF QUANTITIES

DRAINAGE AND PAVING QUANTITIES

DESCRIPTION	UNIT	SHEET NUMBER						TOTAL QUANTITY	CONTINGENT QUANTITY	PROPOSAL QUANTITY
		4	5	6						
DRAINAGE ITEMS										
15" R.C.C.P. CL. IV	L.F.	530	110					640		640
18" R.C.C.P. CL. IV	L.F.	76	208					284		284
21" R.C.C.P. CL. IV	L.F.		286	26				312		312
24" R.C.C.P. CL. IV	L.F.			154				154		154
48" R.C.C.P. CL. IV	L.F.		186					184		184
18" B.C.C.M.P. #16 GA.	L.F.		76					76		76
15'-4" X 9'-3" S.P.P.A. #10 GA.	L.F.		396					396		396
ENDWALL FOR 15'-4" X 9'-3" S.P.P.A.	EA.		2					2		2
METAL END SECTION 18" B.C.C.M.P.	EA.		1					1		1
ST'D. 'C' ENDWALL FOR 18" PIPE	EA.		1					1		1
ST'D. 'C' ENDWALL FOR 24" PIPE	EA.			1				1		1
ST'D. B-48" ENDWALL FOR 48" PIPE	EA.		2					2		2
ST'D. 'E' ENDWALL FOR 21" PIPE	EA.			1				1		1
ST'D. DOUBLE 'S' COMB. INLET	EA.	3	8	2				13		13
ST'D. DOUBLE 'S' INLET	EA.		6	1				7		7
ST'D. MANHOLE	EA.	1						1		1
PIPE CONN. FOR 48"	EA.		1					1		1
PAVING ITEMS										
5" CONCRETE DITCH PAVING	S.Y.		20	6				26		26
RIP-RAP	S.Y.		19	6				25		25
HEAVY RIP RAP	S.Y.		950					950		950
LAND SCAPING ITEMS										
SOLID SODDING	S.Y.		89	22				111	9	120
STRIP & STOCKPILE TOPSOIL	C.Y.	3,160	2,204					5,364		5,364
PLACE 2" STOCKPILED TOPSOIL	S.Y.	4,048	7,234	2,552				13,834	1,386	15,220
PLACE 4" STOCKPILED TOPSOIL	S.Y.	8,673	12,155	8,267				29,095	2,986	32,082
SEEDING & MULCHING	S.Y.	12,721	19,389	10,819				42,929	5,111	48,040
TEMPORARY SEEDING	S.Y.		7,156	3,827				10,983	1,097	12,080
STRUCTURAL ITEMS										
PEDESTRIAN PASSAGES	L.S.			1				1		1

GRADING TABLE

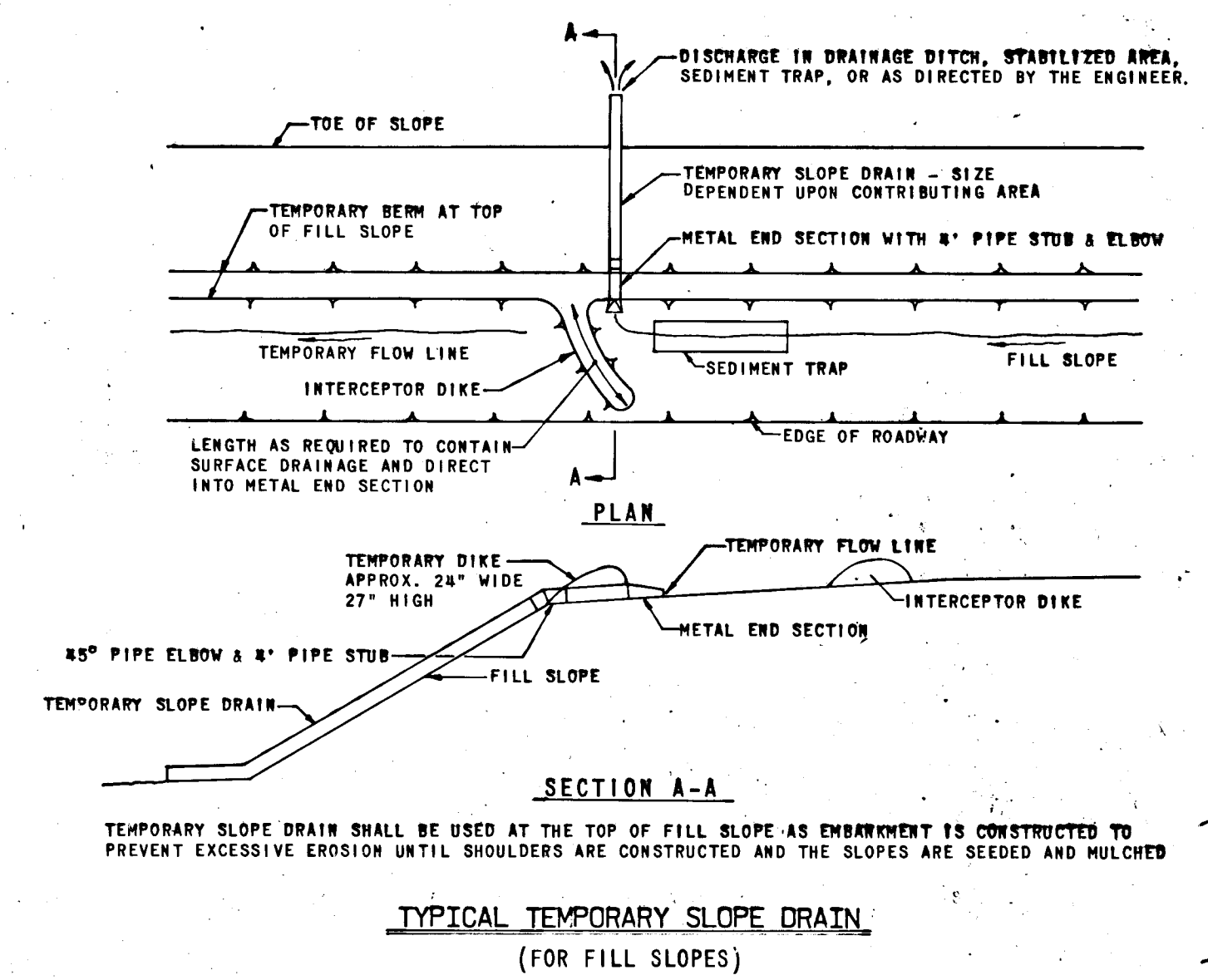
STATION		CUT CY	FILL CY	TOPSOIL		ROOTMAT		CUT ADJUSTED CY	CUT DENSIFIED CY	REMARKS
FROM	TO			CUT	FILL	CUT	FILL			
SNOWDEN RIVER PKWY.										
14+50	19+00	8,708		1,084				7,624	6,480	
TEMP. CONN.										
0+00	5+50	6,884	220	720	91			6,164	5,239	
RAMP 'B'										
0+00	7+50	15,653 *1	376	1,159	106			14,494	12,320	
BROKEN LAND PKWY.										
115+50	122+00	1,393	19,305	344	1,860			1,049	892	*2
TOTAL		32,638 *1	19,901	3,307	2,057			29,331	24,931	

EARTHWORK ANALYSIS

CUT		
UNCLASSIFIED EXCAVATION	=	32,638 C.Y.
TOPSOIL REMOVED IN FILL	=	2,057 C.Y.
TOTAL CUT	=	34,695 C.Y.
EXCAVATION AVAILABLE FOR EMBANKMENT		
MINUS:		
TOPSOIL IN CUT	=	3,307 C.Y.
TOPSOIL IN FILL	=	2,057 C.Y.
TOTAL CUT ADJUSTED	=	29,331 C.Y.
DENSIFICATION (15%)	=	4,400 C.Y.
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	=	24,931 C.Y.
EMBANKMENT REQUIRED		
FILL	=	19,901 C.Y.
REFILL TOPSOIL IN FILL	=	2,057 C.Y.
TOTAL EMBANKMENT REQUIRED	=	21,958 C.Y.
WASTE	24,931 C.Y. - 21,958 C.Y. =	2,973 C.Y.
STOCKPILED TOPSOIL EXCESS	=	5,364 - 5164 = 200 C.Y.

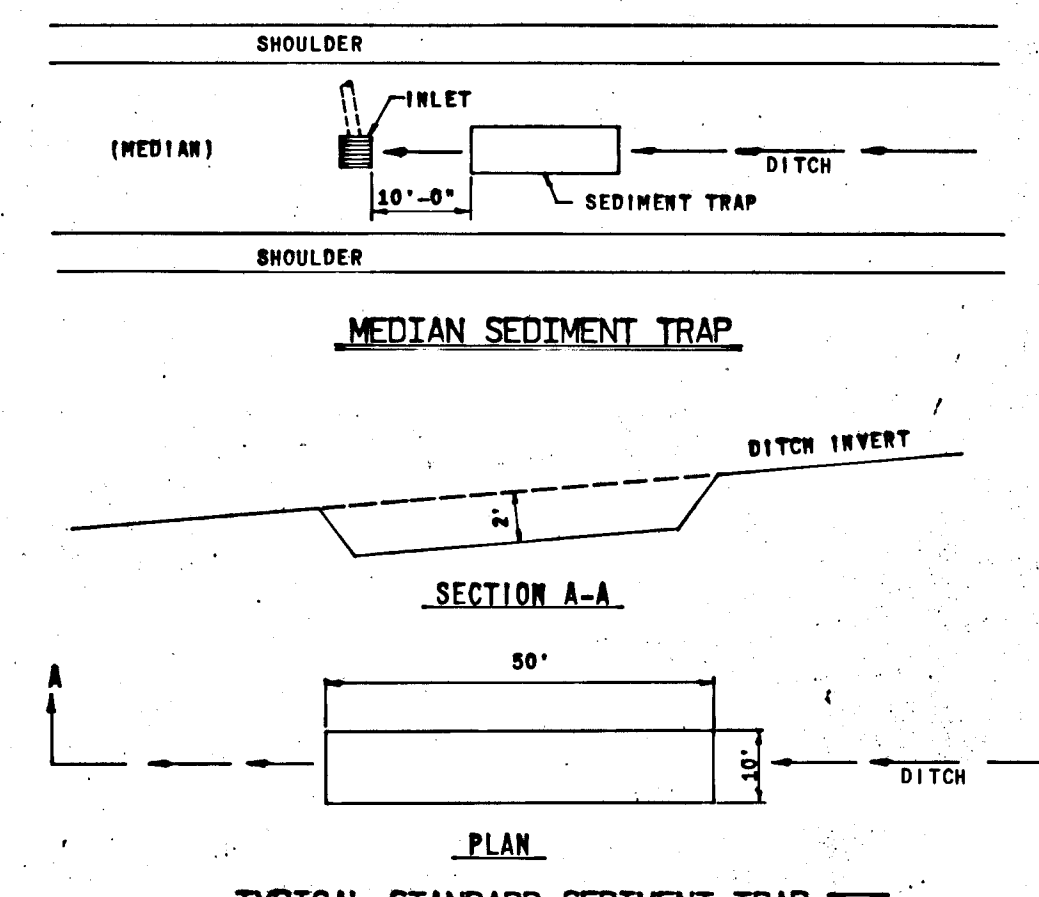
DEPARTMENT OF PUBLIC WORKS			
<i>D. J. McNeill</i>		9/23/74	
CHIEF, BUREAU OF HIGHWAYS		DATE	
OFFICE OF PLANNING AND ZONING			
CHIEF, DIV. OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING			DATE
5-31-74	*1	REVISED TO CUT EXCAVATION	
6-28-74	*2	REVISED LIMITS OF GRADING	
Rev Date	Rev No	Revision Description	
COLUMBIA			
M A R Y L A N D			
6TH ELECTION DISTRICT HOWARD COUNTY			
OWNER AND DEVELOPER			
HOWARD RESEARCH AND DEVELOPMENT CORP.			
COLUMBIA, MARYLAND			
PROJECT AREA			
BROKEN LAND PARKWAY			
PROJECT TITLE			
CENTURY ENGINEERING, INC.			
CONSULTING ENGINEERS - PLANNERS			
TOWSON, MARYLAND 21204			
Des. By	K.A.L.	Scale	NO SCALE
Drn. By	D.A.L.	Date	5-29-1974
Chk. By	J.T.J.	Approved	
		Dwg No. 12 OF 12	
		C.C.F. No.	

#65



INTERCEPTOR & TEMPORARY DIKE SECTION

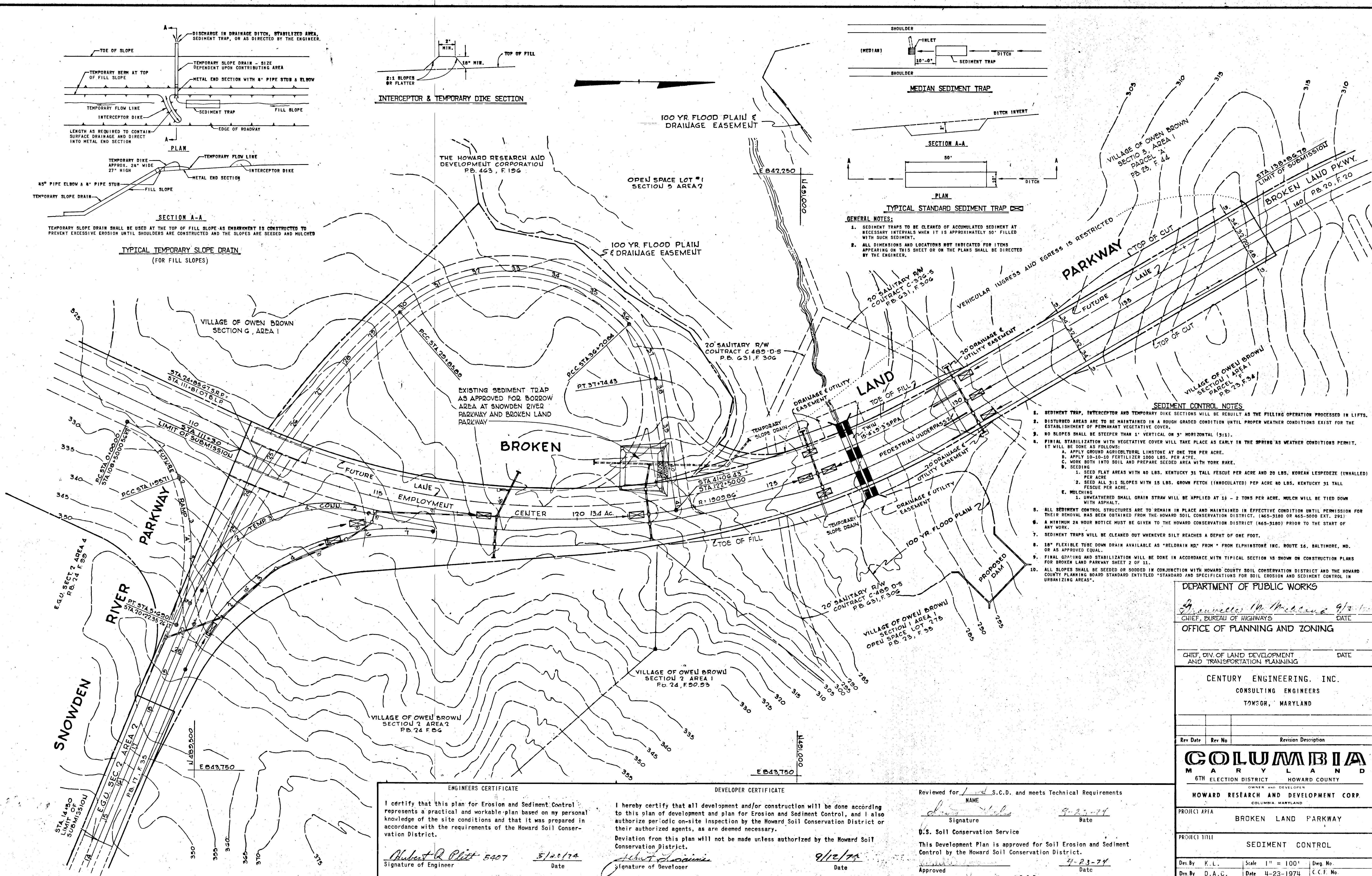
100 YR FLOOD PLAIN & DRAINAGE EASEMENT



TYPICAL STANDARD SEDIMENT TRAP

GENERAL NOTES:
 1. SEDIMENT TRAPS TO BE CLEANED OF ACCUMULATED SEDIMENT AT NECESSARY INTERVALS WHEN IT IS APPROXIMATELY 50% FILLED WITH SUCH SEDIMENT.
 2. ALL DIMENSIONS AND LOCATIONS NOT INDICATED FOR ITEMS APPEARING ON THIS SHEET OR ON THE PLANS SHALL BE DIRECTED BY THE ENGINEER.

- SEDIMENT CONTROL NOTES
- SEDIMENT TRAP, INTERCEPTOR AND TEMPORARY DIKE SECTIONS WILL BE RESULT AS THE FILLING OPERATION PROCESSED IN LIFTS.
 - DISTURBED AREAS ARE TO BE MAINTAINED IN A ROUGH GRADED CONDITION UNTIL PROPER WEATHER CONDITIONS EXIST FOR THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
 - NO SLOPES SHALL BE STEEPER THAN 1" VERTICAL ON 3" HORIZONTAL (3:1).
 - FINAL STABILIZATION WITH VEGETATIVE COVER WILL TAKE PLACE AS EARLY IN THE SPRING AS WEATHER CONDITIONS PERMIT. IT WILL BE DONE AS FOLLOWS:
 - APPLY GROUND AGRICULTURAL LIMESTONE AT ONE TON PER ACRE.
 - APPLY 10-10-10 FERTILIZER 1000 LBS. PER ACRE.
 - WORK BOTH INTO SOIL AND PREPARE SEEDING AREA WITH YORK RAKE.
 - SEEDING
 - SEED FLAT AREAS WITH 40 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 20 LBS. KOREAN LESPEDEZE (UNHALLED) PER ACRE.
 - SEED ALL 3:1 SLOPES WITH 15 LBS. BROWN FETCH (INOCULATED) PER ACRE AND 40 LBS. KENTUCKY 31 TALL FESCUE PER ACRE.
 - MULCHING
 - UNWEATHERED SMALL GRAIN STRAW WILL BE APPLIED AT 10 - 2 TONS PER ACRE. MULCH WILL BE TIED DOWN WITH ASPHALT.
 - ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND MAINTAINED IN EFFECTIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD SOIL CONSERVATION DISTRICT, (465-3100 OR 465-3000 EXT. 291).
 - A MINIMUM 24 HOUR NOTICE MUST BE GIVEN TO THE HOWARD CONSERVATION DISTRICT (465-3100) PRIOR TO THE START OF ANY WORK.
 - SEDIMENT TRAPS WILL BE CLEANED OUT WHENEVER SILT REACHES A DEPTH OF ONE FOOT.
 - 18" FLEXIBLE TUBE DOWN DRAIN AVAILABLE AS "RELDRAIN HD" FROM "FROM ELPHINSTONE INC. ROUTE 16, BALTIMORE, MD. OR AS APPROVED EQUAL.
 - FINAL GRADING AND STABILIZATION WILL BE DONE IN ACCORDANCE WITH TYPICAL SECTION AS SHOWN ON CONSTRUCTION PLANS FOR BROKEN LAND PARKWAY SHEET 2 OF 11.
 - ALL SLOPES SHALL BE SEED OR SODED IN CONJUNCTION WITH HOWARD COUNTY SOIL CONSERVATION DISTRICT AND THE HOWARD COUNTY PLANNING BOARD STANDARD ENTITLED "STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN URBANIZING AREAS".



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.
 Signature of Engineer: *Robert R. Platt* 5407
 Date: 5/20/74

DEVELOPER CERTIFICATE
 I hereby certify that all development and/or construction will be done according to this plan of development and plan for Erosion and Sediment Control, and I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.
 Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District.
 Signature of Developer: *Robert R. Platt*
 Date: 9/12/74

Reviewed for S.C.D. and meets Technical Requirements
 NAME: *James M. McLaughlin*
 Signature: *James M. McLaughlin*
 Date: 9-23-74
 U.S. Soil Conservation Service
 This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
 Approved: *James M. McLaughlin*
 Date: 9-23-74
 Howard S.C.D.

DEPARTMENT OF PUBLIC WORKS		
<i>James M. McLaughlin</i> 9/23/74 CHIEF, BUREAU OF HIGHWAYS DATE		
OFFICE OF PLANNING AND ZONING		
CHIEF, DIV. OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING DATE		
CENTURY ENGINEERING, INC. CONSULTING ENGINEERS TOWSON, MARYLAND		
Rev Date	Rev No	Revision Description
COLUMBIA MARYLAND 6TH ELECTION DISTRICT HOWARD COUNTY OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. COLUMBIA, MARYLAND		
PROJECT AREA	BROKEN LAND PARKWAY	
PROJECT TITLE	SEDIMENT CONTROL	
Des. By: K.L.	Scale: 1" = 100'	Dwg. No.
Des. By: D.A.C.	Date: 4-23-1974	C.C.F. No.
Chk. By: J.T.J.	Approved	Date: 9-23-74