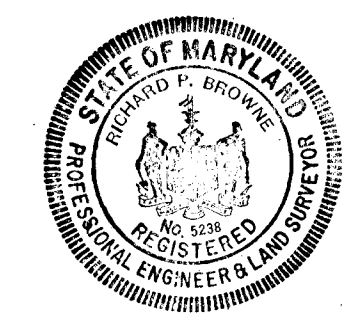


APPROVED
 OFFICE OF PLANNING
 AND ZONING OF
 HOWARD COUNTY
 DATE APR 20 1971
J.P.C.

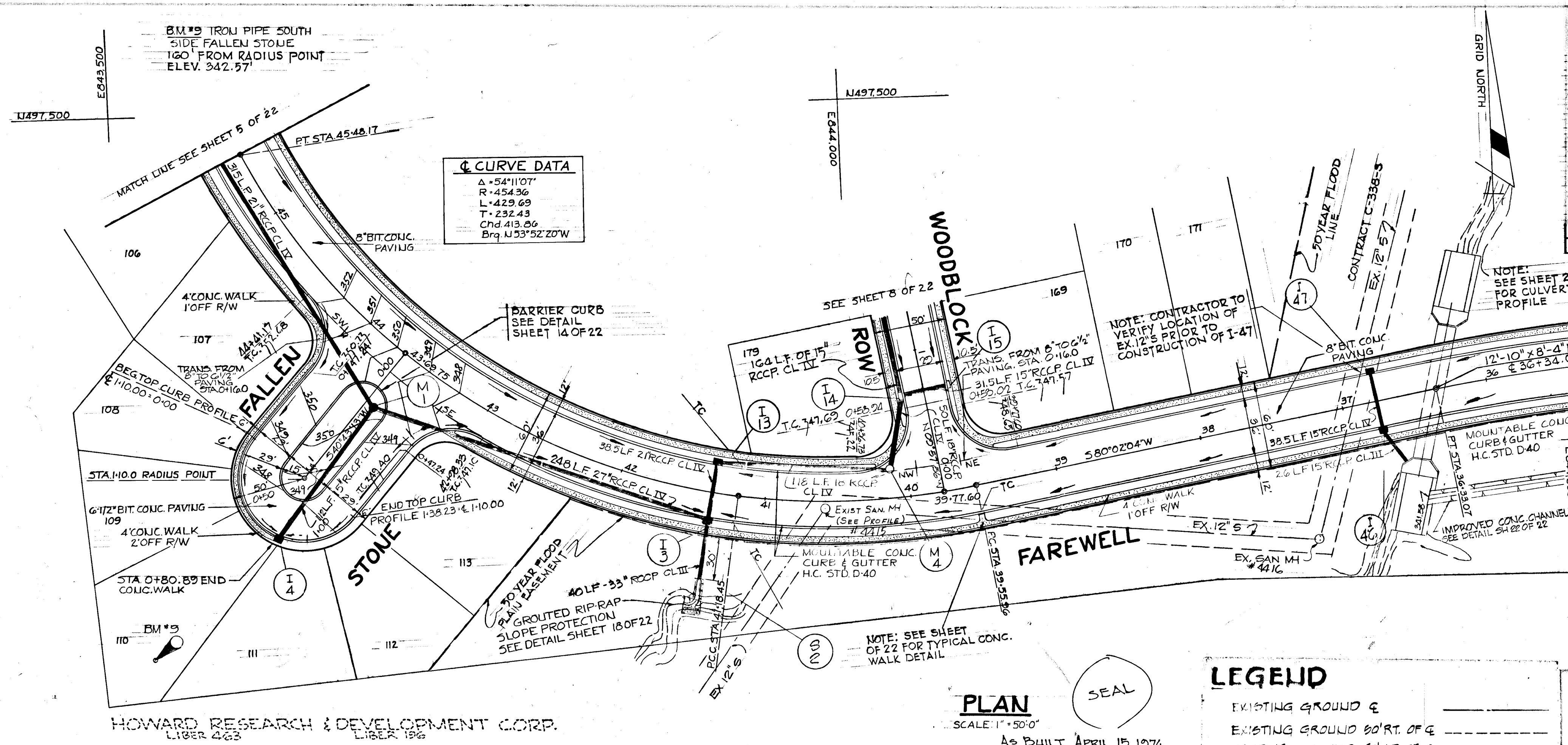
5-7-71	GEN REVISIONS	W.H.N.
FEB 17 71	1 REVISE AREAS H2, F2 & I2 T.P.	
Rev Date	Rev No	Revised Description
COLUMBIA		
MARYLAND		
OWNED AND DEVELOPED BY HOWARD RESEARCH AND DEVELOPMENT CORP 200 VILLAGE OF OAKLAND MILLS, BETHESDA, MARYLAND 20814		
PROJECT AREA VILLAGE OF OAKLAND MILLS SECTION 5 STEVENS FOREST AREA 6		
PROJECT TITLE DRAINAGE AREA MAP		
By: T.P.	Scale: 1" = 100'	Sheet: 2 OF 22
By: E.H.	Date: 22 JAN. '71	
By: T.P.		

Richard P. Browne
 Richard P. Browne, P. E. & L. S.
 Maryland License No. 5238



RICHARD P. BROWNE ASSOCIATES
 Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
 Wayne, New Jersey



NO	TYPE	LOCATION	INV. IN	INV. OUT	IC P ELEV	REMARKS
M1	STD. MANHOLE	± STA. 0+44.00 - 6.00 LT. F. FALLEN STONE	342.28	341.78	350.20	H.O. CO. STD. DWG. D-103, PA. 15B
I 4	A-B INLET W=2'-6"	TC STA. 0+80.89 FALLEN STONE	343.98	347.71	347.71	H.O. CO. STD. DWG. 64A, PA. 119A
I 13	A-B INLET W=3'-0"	± STA. 41+37.50 - 19.25 RT. F. FAREWELL RD.	340.12	338.87	344.18	H.O. CO. STD. DWG. 64A, PA. 119A
I 3	A-B INLET W=3'-0"	± STA. 41+37.50 - 19.50 LT. F. FAREWELL RD.	338.75	338.25	344.18	H.O. CO. STD. DWG. 64A, PA. 119A
5 2	12" EUDWALL	SEE PLAN	336.50			H.O. CO. STD. DWG. D-53, PA. 108
I 46	A-B INLET W=2'-6"	± STA. 36+77.00 - 19.25 LT. F. FAREWELL RD.	346.13	345.89	354.85	H.O. CO. STD. DWG. 64A, PA. 119A
I 47	A-B INLET W=2'-6"	± STA. 36+77.00 - 19.25 RT. F. FAREWELL RD.	350.30	354.85	354.85	H.O. CO. STD. DWG. 64A, PA. 119A

CURVE DATA
 Δ = 54°11'07"
 R = 454.36
 L = 429.69
 T = 232.43
 Chd = 413.66
 Brq = N 53°52'20"

CURVE DATA
 Δ = 12°00'06"
 R = 120.00'
 L = 251.36
 T = 126.14
 Chd = 250.90
 Brq = S 66°02'07\"/>

PLAN
 SCALE: 1" = 50'
 AS BUILT APRIL 15, 1974
 PAPER PRINT SIGNED BY
 WALTER PARK, P.E. # 05530

LEGEND
 EXISTING GROUND ±
 EXISTING GROUND 80' RT. OF ±
 EXISTING GROUND 80' LT. OF ±
 FINISHED GRADE ± P.C.L.

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

5-6-76 As BUILT (H.O. CO.) M.W.
 3-7-71 REVISE STORM DRAINS T.P.

COLUMBIA MARYLAND

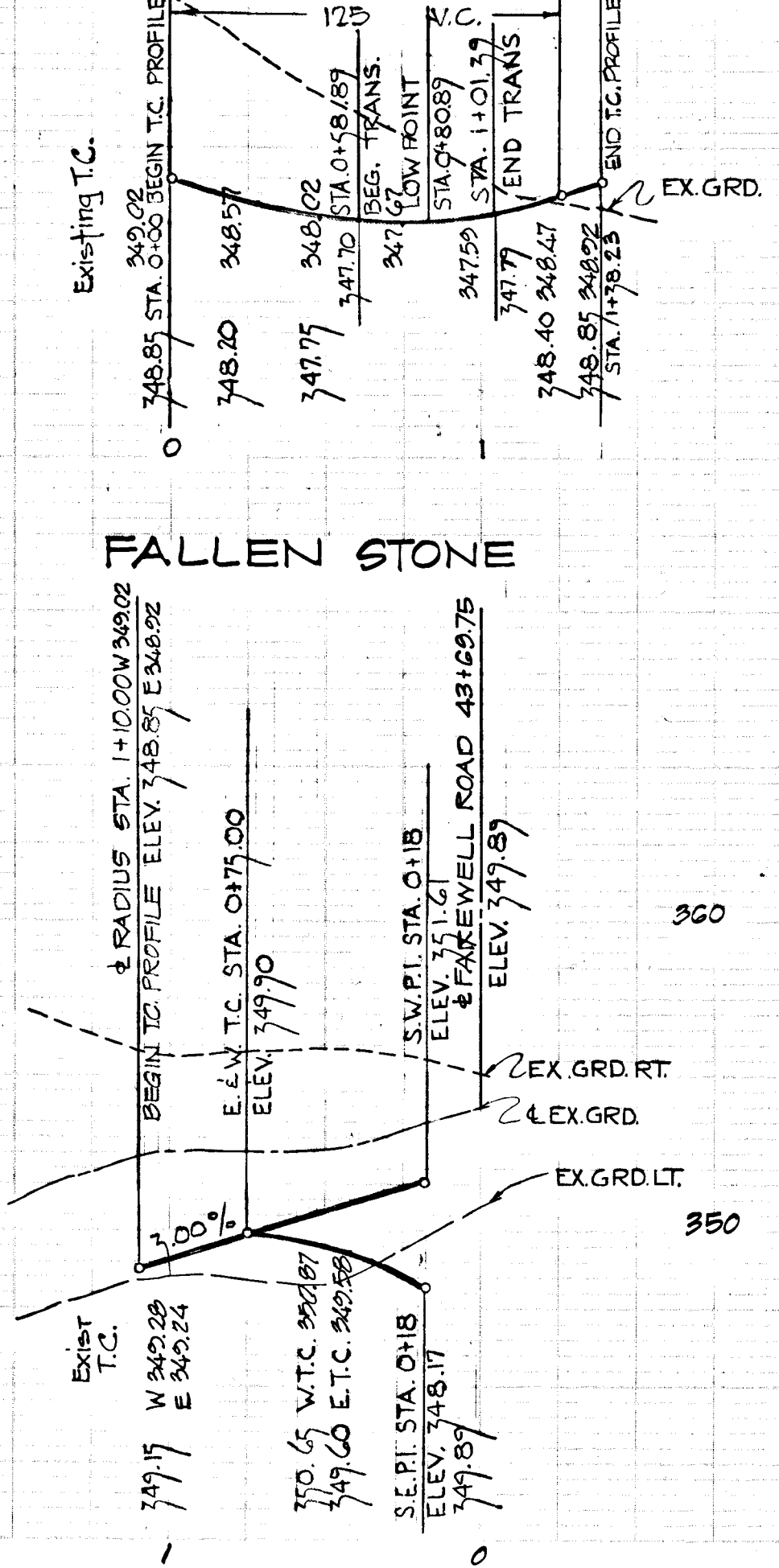
OWNER AND DEVELOPER:
HOWARD RESEARCH AND DEVELOPMENT CORP.
 THE VILLAGE OF OAKLAND MILLS - BALTIMORE, MARYLAND 21210

PROJECT AREA:
VILLAGE OF OAKLAND MILLS
 SECTION 5 STEVEN'S FOREST AREA 6

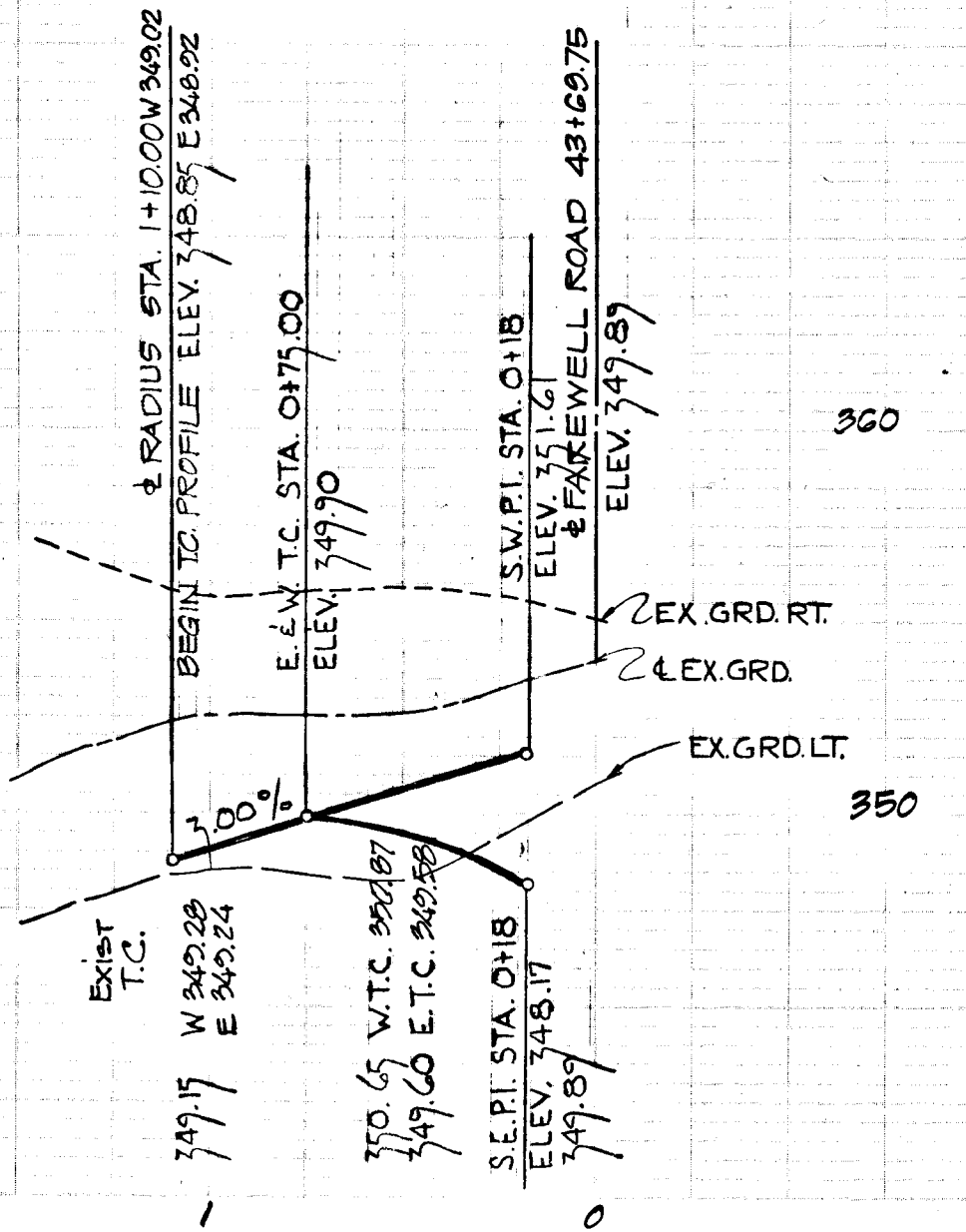
PROJECT TITLE:
PLAN & PROFILE FAREWELL ROAD

DATE: APR 20 1974

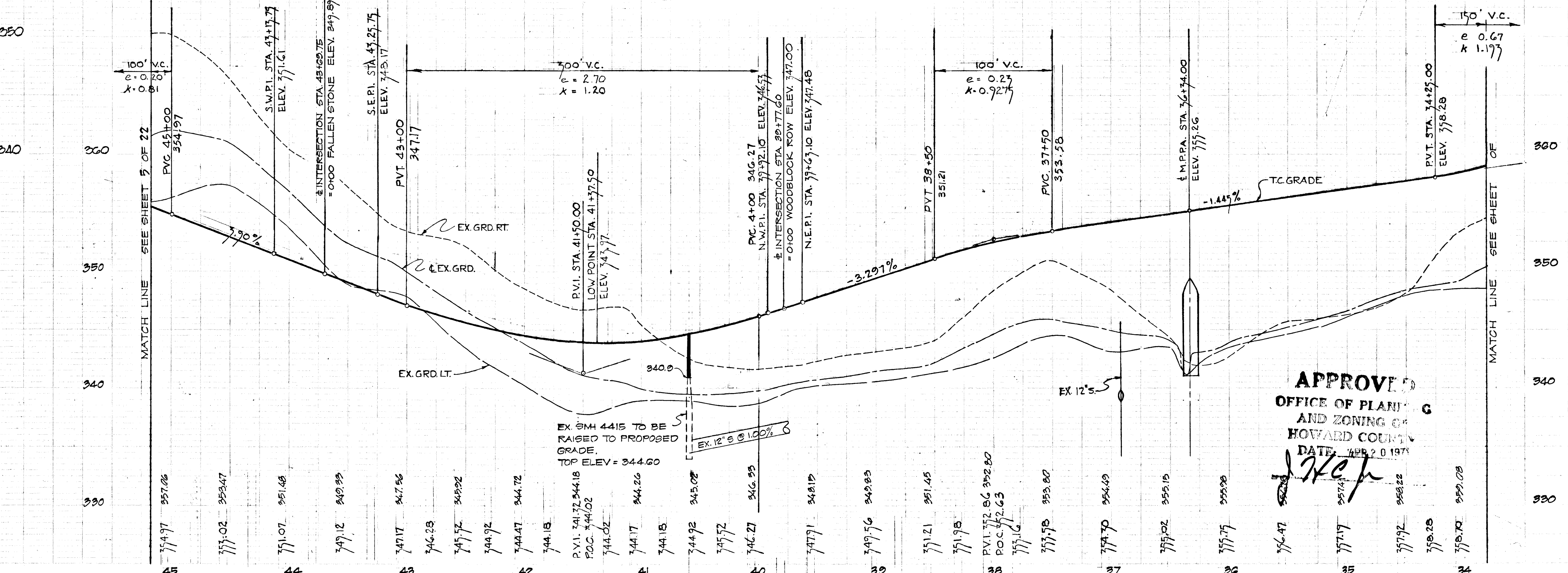
FALLEN STONE TOP CURB PROFILE



FALLEN STONE



FAREWELL ROAD



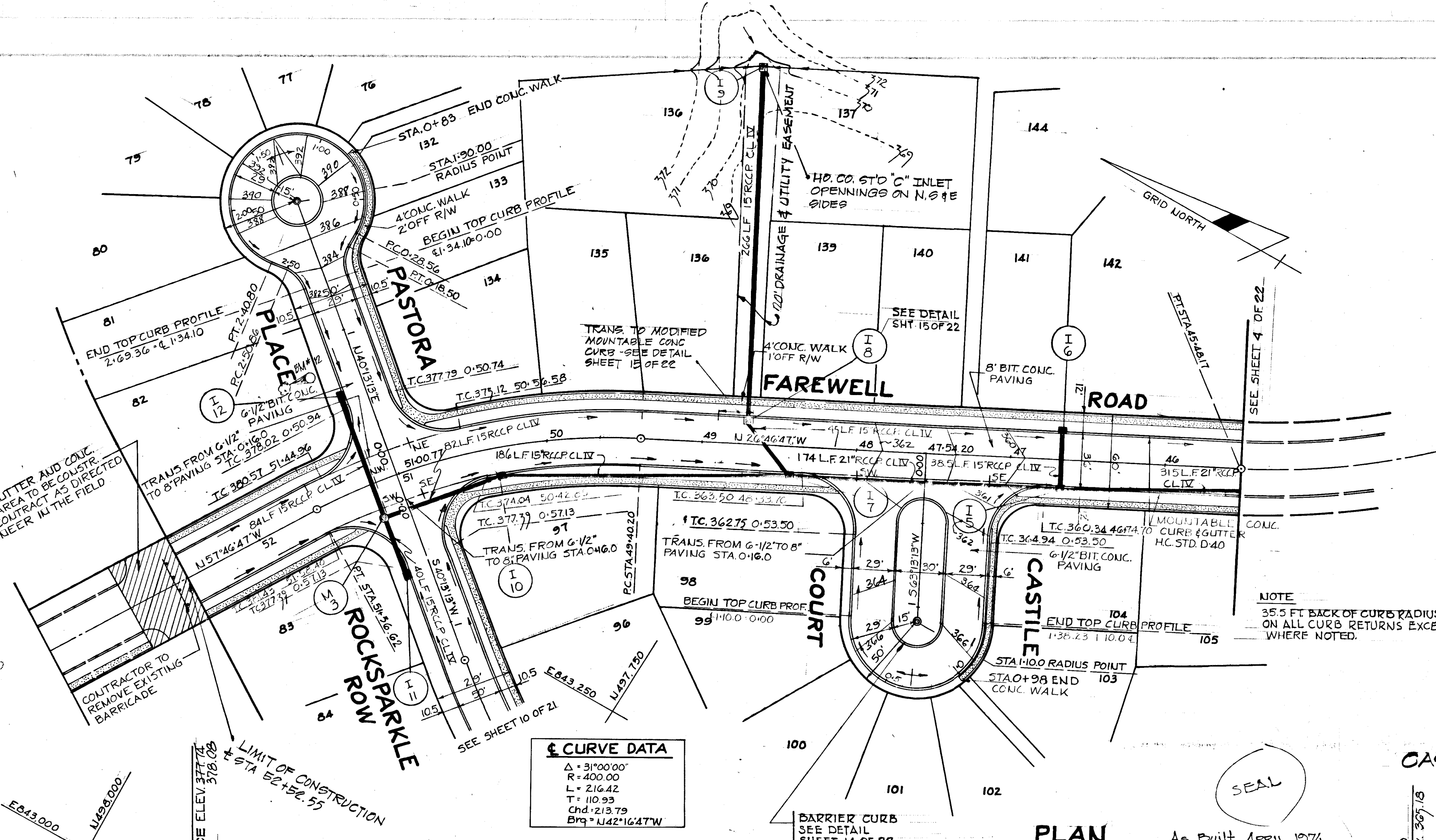
APPROVED
 OFFICE OF PLANNING AND ZONING OF HOWARD COUNTY
 DATE: APR 20 1974

BU 12 - GAL. SPIKE IN 12" DUCT W/1/2 PASTORA PLACE ELEV. 384.00

E643.230
U698.150

PAVING CURBS, GUTTER AND CONC. WALKS IN THIS AREA TO BE CONSTRUCTED UNDER THIS CONTRACT AS DIRECTED BY THE ENGINEER IN THE FIELD

VILLAGE OF OAKLAND MILLS
SECTION 5
AREA 2



Curve Data

Δ	31°00'00"
R	400.00
L	216.42
T	110.93
Chd	213.79
Brq	142°16'47"W

STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	TC ELEV.	REMARKS
I 12	A-5 INLET W=2'-6"	STA. 0+59.00 -15.75 LT. FAREWELL RD.	374.84	374.84	378.26	HO. CO. STD. DWG. 64A, PA. 119A
M 3	STD. MANHOLE	STA. 0+24.00-17.00 RT. FAREWELL RD.	373.20	373.00	378.62	HO. CO. STD. DWG. D-103, PA. 158
I 11	A-5 INLET W=2'-6"	STA. 0+64.63-15.75 RT. FAREWELL RD.	373.70	373.70	378.07	HO. CO. STD. DWG. 64A, PA. 119A
I 10	A-10 INLET W=2'-6"	STA. 50+35.35-19.25 LT. FAREWELL RD.	368.65	368.45	373.77	HO. CO. STD. DWG. 64A, PA. 119A
I 9	"C" INLET	SEE PLAN	362.95	362.50		HO. CO. STD. DWG. 64C, PA. 119C
I 8	D.B. 5" GRATE	STA. 48+71.20-14.73 RT. FAREWELL RD.	360.81	360.61	364.41	HO. CO. STD. DWG. D-102, P. 157
I 7	A-5 INLET W=2'-6"	STA. 48+41.20-19.25 LT. FAREWELL RD.	359.62	359.12	363.04	HO. CO. STD. DWG. 64A, PA. 119A
I 5	A-5 INLET W=2'-6"	STA. 46+67.00-19.38 LT. FAREWELL RD.	354.44	353.74	359.80	HO. CO. STD. DWG. 64A, PA. 119A
I 6	A-10 INLET W=2'-6"	STA. 46+67.00-19.25 RT. FAREWELL RD.	353.94	353.80	359.73	HO. CO. STD. DWG. 64A, PA. 119A

* ELEV. GIVEN TO GRATE

LEGEND

- EXISTING GROUND @
- EXISTING GROUND 20' RT. OF @
- EXISTING GROUND 20' LT. OF @
- FINISHED GRADE @ P.G.L.

RICHARD P. BROWNE ASSOCIATES
Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
Wayne, New Jersey

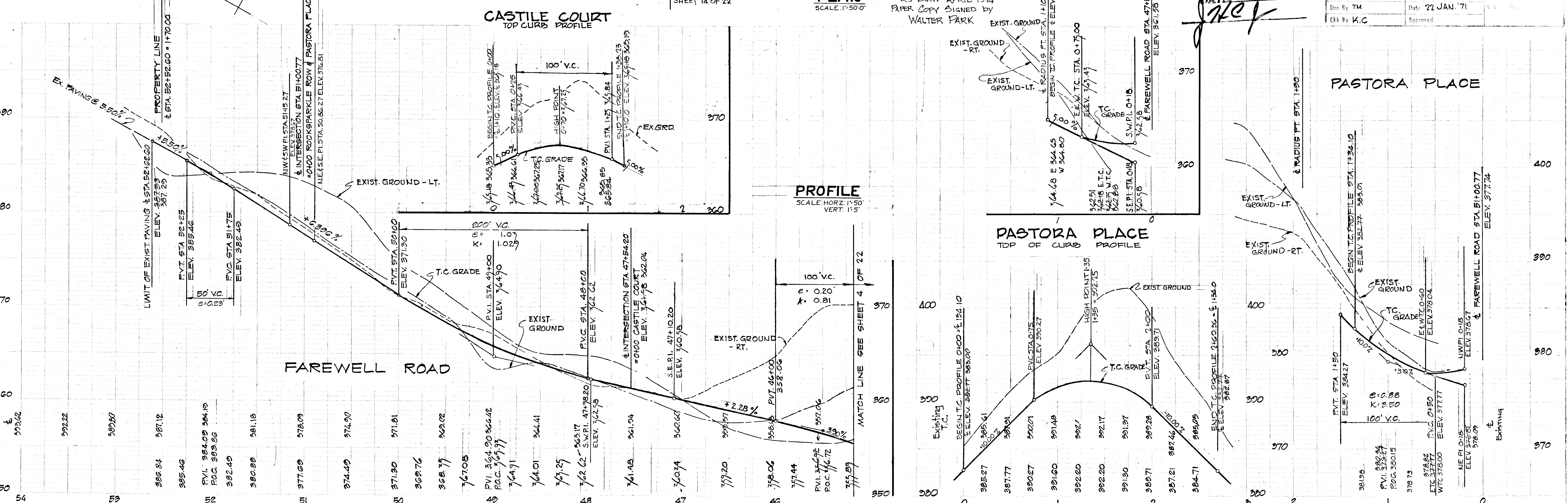
Richard P. Browne
Professional Engineer
No. 11987

COLUMBIA MARYLAND
OWNER AND DEVELOPER:
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF OAKLAND MILLS - BALTIMORE, MARYLAND 21210

APPROVED
OFFICE OF PLANNING AND ZONING OF HOWARD COUNTY
DATE: APR 20 1971

VILLAGE OF OAKLAND MILLS
SECTION 5 STEVEN'S FOREST AREA 6
PLAN & PROFILE
FAREWELL RD., CASTLE CT. & PASTORA PL.

As Shown 5 OF 22
Date: 22 JAN. 71
Approved

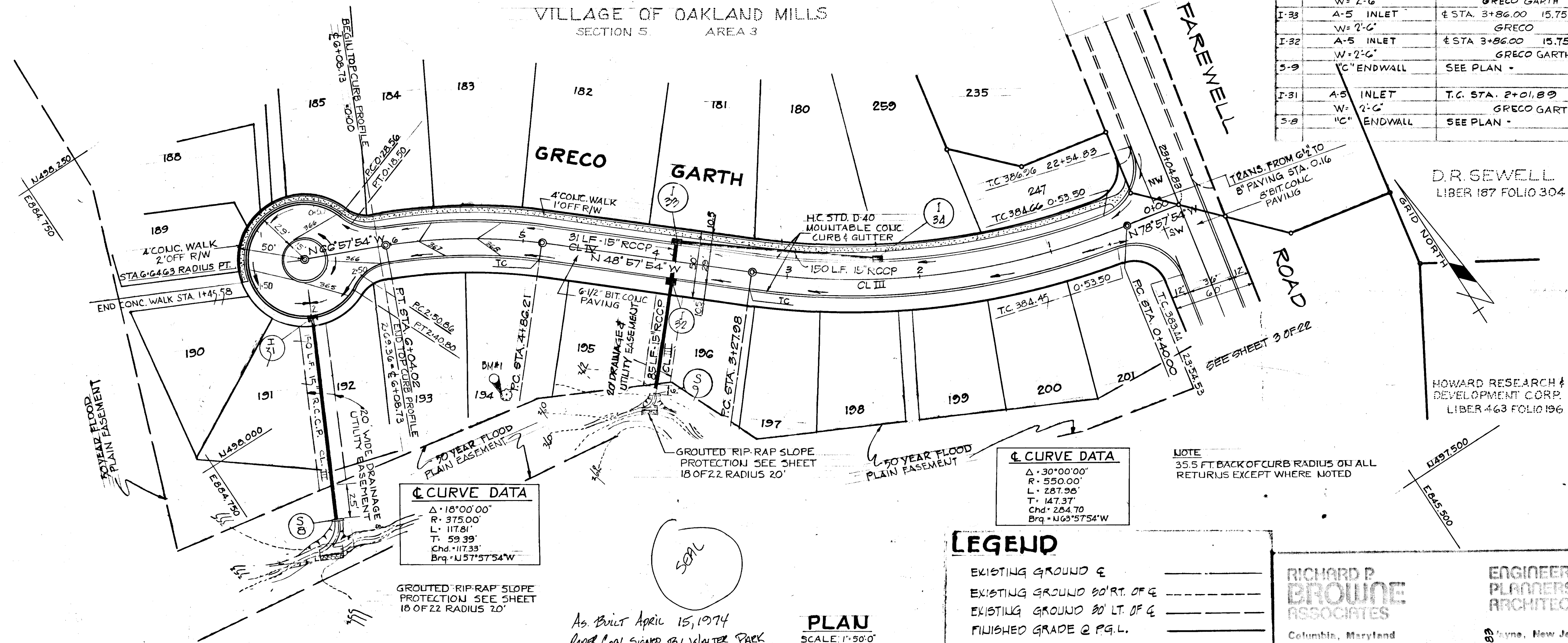


BM GAL SPIKE TO 30' OAK SW SIDE
GRECO GARTH - ELEV. 361.98

VILLAGE OF OAKLAND MILLS
SECTION 5 AREA 3

STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	I.C.P. ELEV.	REMARKS
I-34	A-10 INLET W=2'-6"	± STA. 2+31.00 15.75' RT. GRECO GARTH	373.00	377.00	378.18 377.62	Ho. Co. Std. Dwg. G4B, P110B
I-33	A-5 INLET W=2'-6"	± STA. 3+86.00 15.75 RT. GRECO	367.00	366.00	371.44 371.26	Ho. Co. Std. Dwg. G4A, P110A
I-32	A-5 INLET W=2'-6"	± STA. 3+86.00 15.75 LT. GRECO GARTH	366.40	366.24	371.44 371.26	Ho. Co. Std. Dwg. G4A, P110A
S-9	"C" ENDWALL	SEE PLAN		361.40		Ho. Co. Std. Dwg. D-53, P108
I-31	A-5 INLET W=2'-6"	T.C. STA. 2+01.89 GRECO GARTH	360.30	364.90	3490 364.90	Ho. Co. Std. Dwg. G4A, P110A
S-9	"C" ENDWALL	SEE PLAN		353.70		Ho. Co. Std. Dwg. D-53, P108



CURVE DATA
 $\Delta = 18^{\circ}00'00''$
 $R = 375.00'$
 $L = 117.81'$
 $T = 59.39'$
 $Chd = 117.33'$
 $Brg = N57^{\circ}57'54''W$

CURVE DATA
 $\Delta = 30^{\circ}00'00''$
 $R = 550.00'$
 $L = 287.28'$
 $T = 147.37'$
 $Chd = 284.70'$
 $Brg = N63^{\circ}57'54''W$

NOTE
 35.5 FT BACK OF CURB RADIUS ON ALL RETURNS EXCEPT WHERE NOTED

LEGEND

- EXISTING GROUND @
- EXISTING GROUND 50' RT. OF @
- EXISTING GROUND 50' LT. OF @
- FINISHED GRADE @ P.G.L.

RICHARD P. BROUWÉ ASSOCIATES
 Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
 Wayne, New Jersey

3-7-71 GENERAL REVISIONS W.H.N.
 Rev. No. Reason Description

COLUMBIA MARYLAND
 OWNER AND DEVELOPER
 HOWARD RESEARCH & DEVELOPMENT CORP.
 THE VILLAGE OF OAKLAND MILLS - BALTIMORE, MARYLAND 21210

PROJECT AREA: VILLAGE OF OAKLAND MILLS
 SECTION 5 STEVEN'S FOREST AREA 6

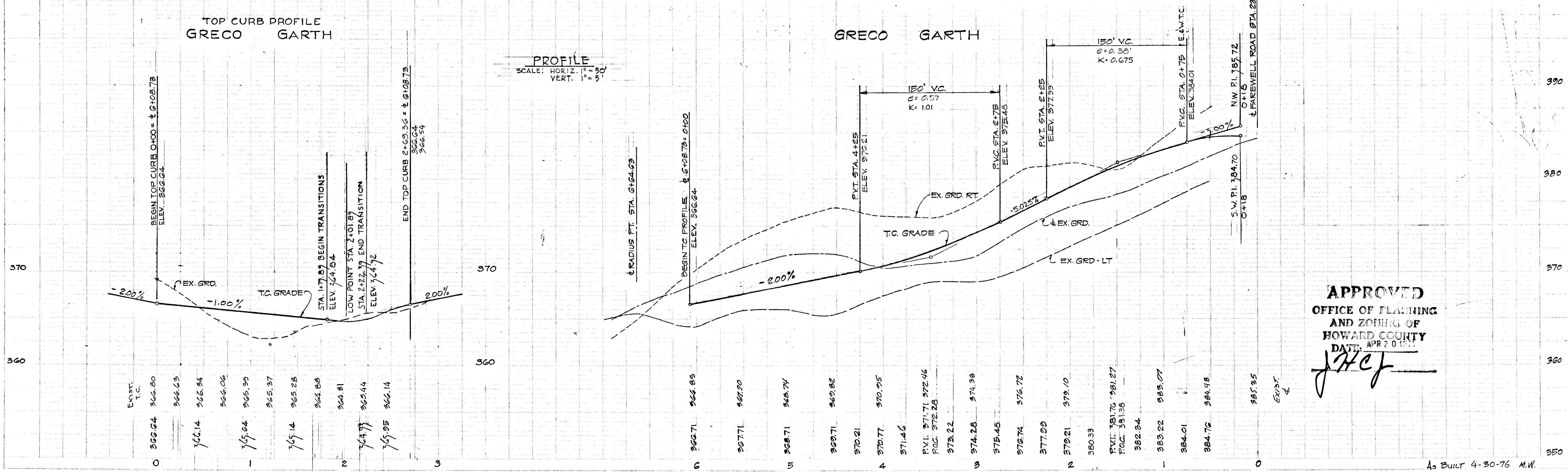
PROJECT TITLE: PLAN & PROFILE
GRECO GARTH

Des. By: TP
 Drawn By: TM
 Chk. By: K.C.

Scale: AS SHOWN
 Date: JAN. 22, 1970
 Approved: [Signature]

TOP CURB PROFILE
 GRECO GARTH

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



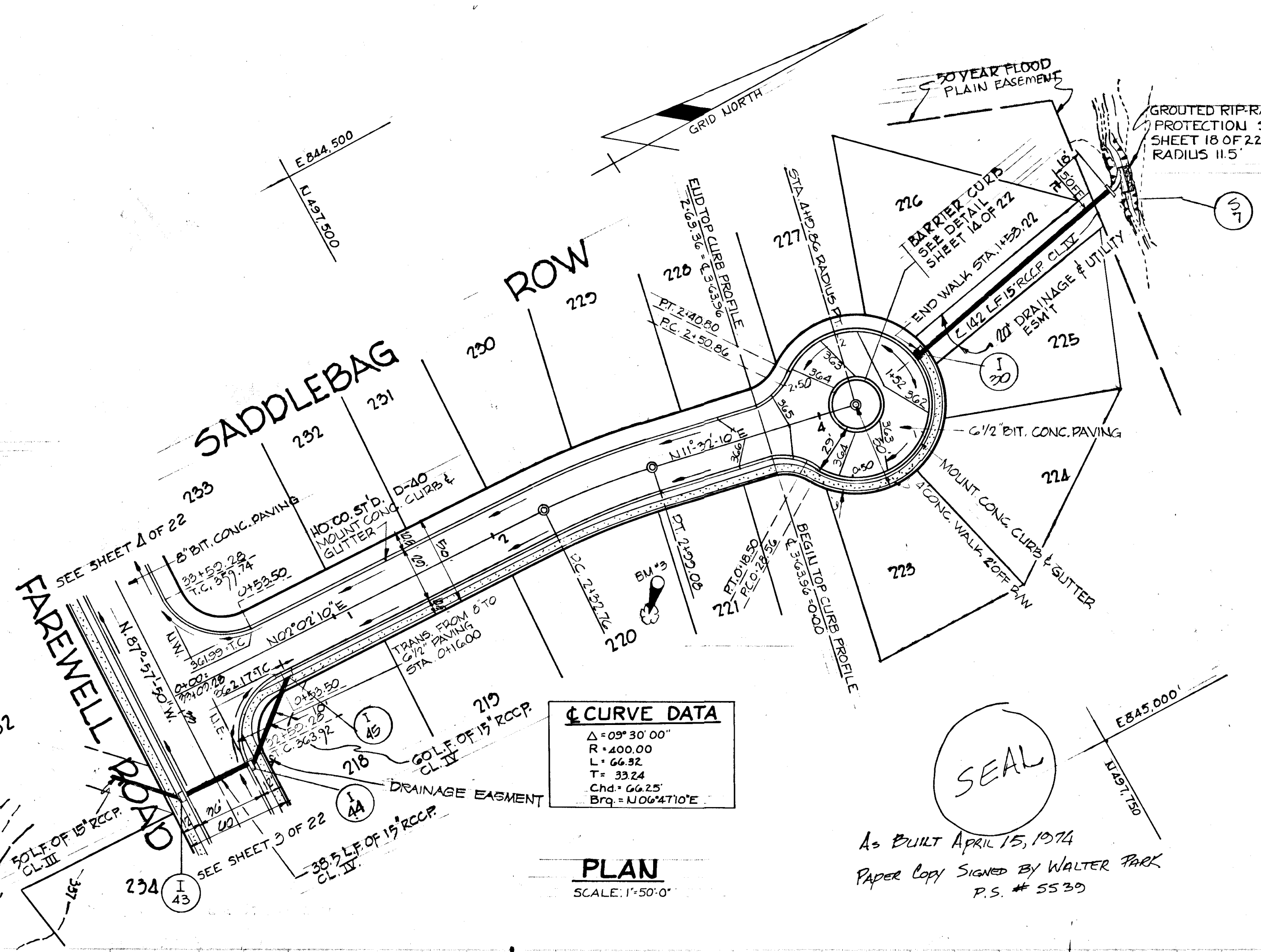
APPROVED
 OFFICE OF PLANNING
 AND ZONING OF
 HOWARD COUNTY
 DATE: APR 20 1971
 [Signature]

As Built 4-30-76 M.W.

STORM DRAINAGE STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	IN INV.	OUT T.C. ELEV.	REMARKS	
I-30	A-5 INLET	T.C. STA. 1+51.22	357.95	362.01	Ho Co. Std. Dwg. 44A, P. 110A	
S-7	"C" ENDWALL	SADDLEBAG ROW	351.70	362.01	Ho Co. Std. Dwg. 05D, P. 100	

BM #3 GAL SPIKE IN T&T OAK NE SIDE SADDLEBAG ROW ELEV 376.49

NOTE: 35.5 FT. BACK OF CURB RADIUS ON ALL CURB RETURNS EXCEPT WHERE NOTED



CURVE DATA
 $\Delta = 09^{\circ} 30' 00''$
 $R = 400.00$
 $L = 66.92$
 $T = 33.24$
 $Chd = 66.25$
 $Brg = N06^{\circ} 47' 10'' E$

PLAN
 SCALE: 1"=50'-0"

As BUILT APRIL 15, 1974
 Paper Copy Signed By WALTER PARK
 P.S. # 5530



Richard P. Browne
 REGISTERED PROFESSIONAL ENGINEER IN MARYLAND

3-7-71	REVISE STORM DRAINS	T.P.
2-7-71	REVISE LATCHKEY ROW GRADE	REVISION DESCRIPTION
Rev. Date	Rev. By	Revision Description
COLUMBIA MARYLAND		
OWNER AND DEVELOPER: HOWARD RESEARCH AND DEVELOPMENT CORP. THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210		
PROJECT AREA: VILLAGE OF OAKLAND MILLS SECTION 5 - STEVENS FOREST AREA 6		
PROJECT TITLE: PLAN & PROFILE SADDLEBAG ROW		
Des. By: T.P.	Scale: As Shown	Sheet No. 7 OF 22
Drn. By: T.M.	Date: JAN 22, 1971	C.C.T. No.
Chk. By: R.J.	Approved:	

LEGEND

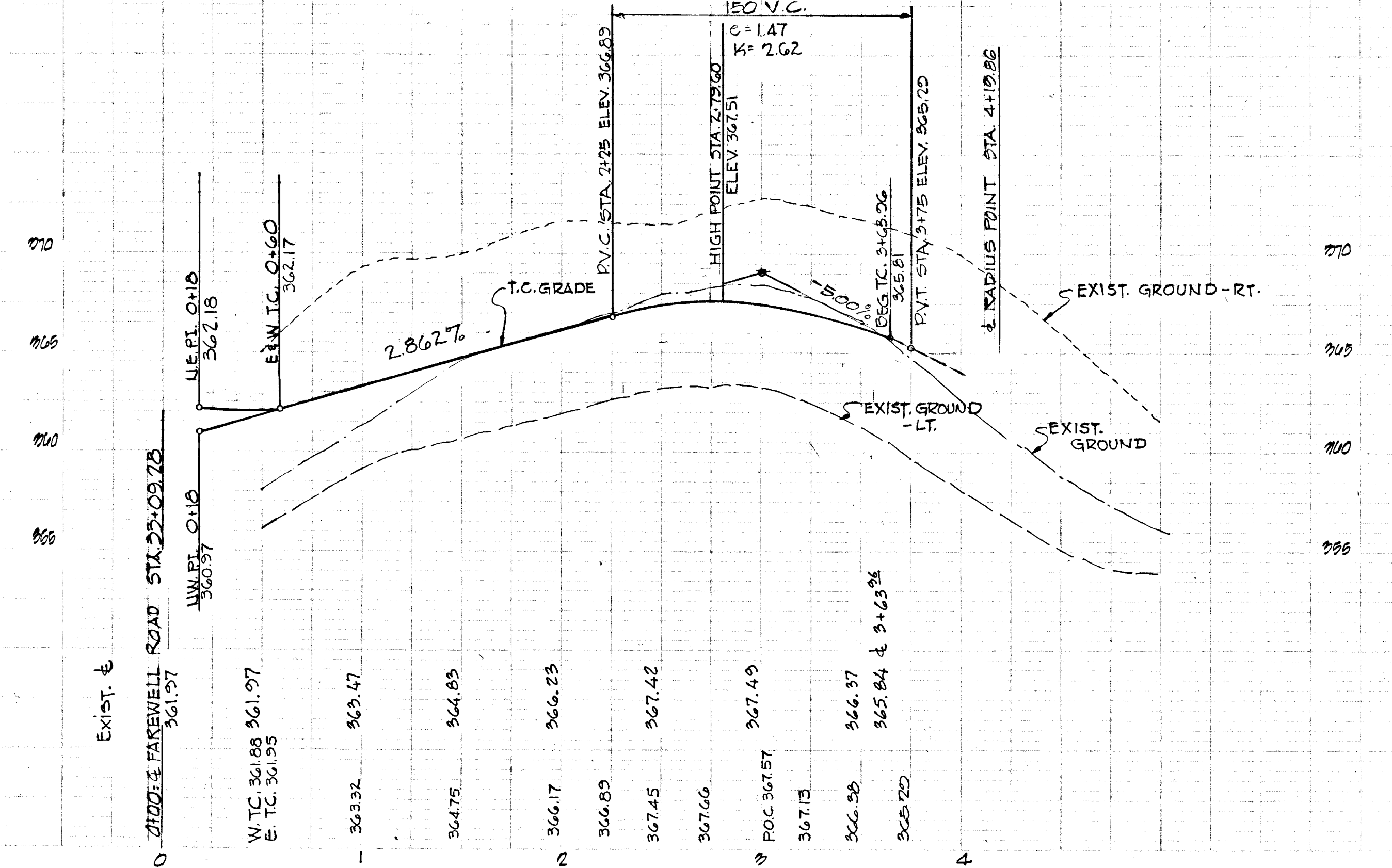
EXISTING GROUND @ _____

EXISTING GROUND 80' RT. OF @ - - - - -

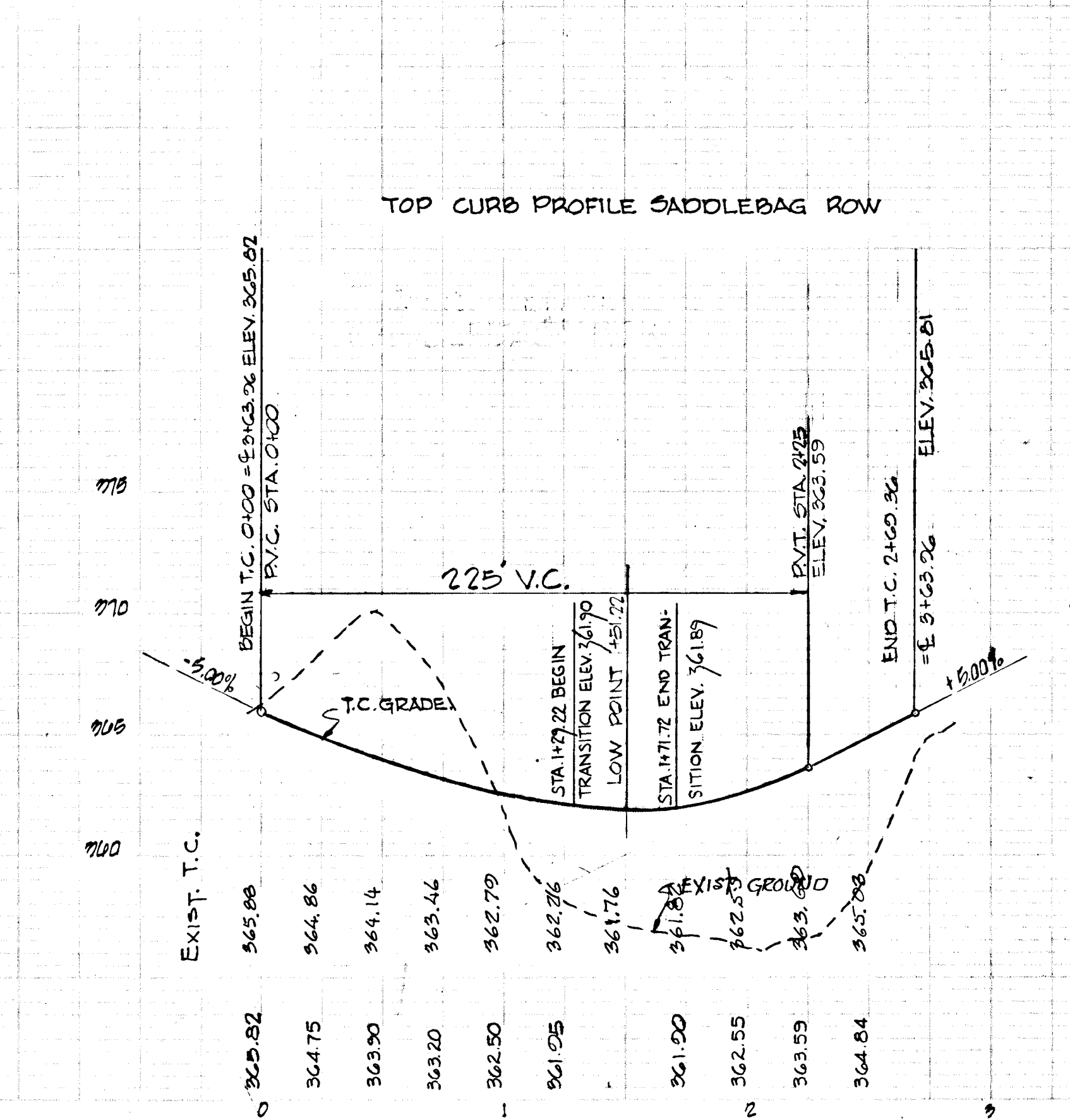
EXISTING GROUND 80' LT. OF @ - - - - -

FINISHED GRADE @ P.G.L. _____

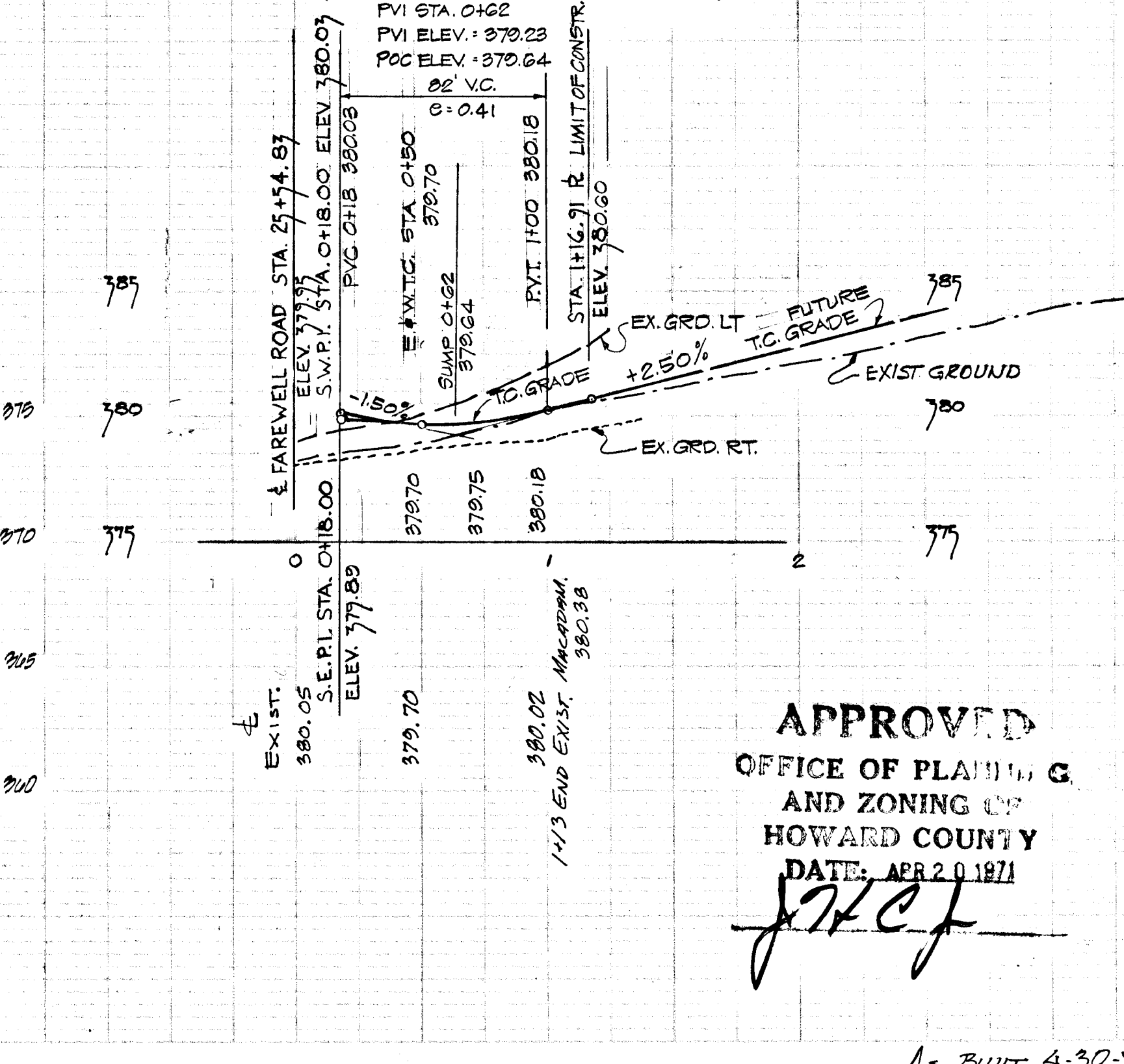
SADDLEBAG ROW



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



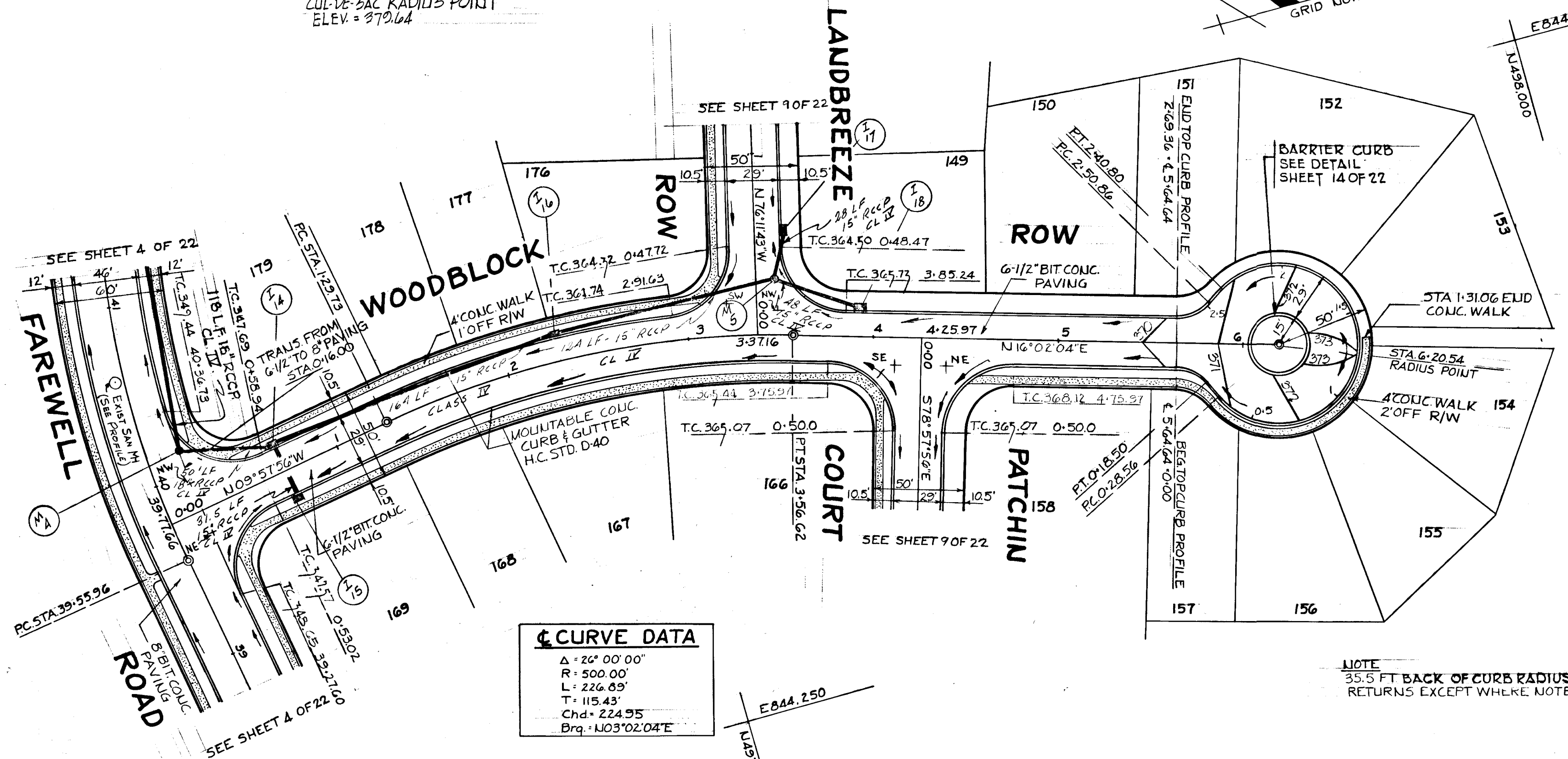
LATCHKEY ROW
 (SEE SHEET 3 OF 21 FOR PLAN)



APPROVED
 OFFICE OF PLANNING
 AND ZONING OF
 HOWARD COUNTY
 DATE: APR 20 1971

As BUILT 4-30-76 MW

DU. 1/4" GAL. SPIKE IN 8" LOGS
 5/8 LANDBREEZE ROW OPPOSITE
 CUL-DE-SAC RADIUS POINT
 ELEV. = 372.64



CURVE DATA

Δ	20° 00' 00"
R	500.00
L	226.48'
T	115.43'
Chd.	224.95'
Brg.	N03°02'04"E

NOTE
 35.5 FT BACK OF CURB RADIUS ON ALL CURB RETURNS EXCEPT WHERE NOTED



As Built April 15, 1974
 Paper Print signed by WALTER PARK
 P.S. # 5539

RICHARD P. BROUWÉ ASSOCIATES
 Columbia, Maryland

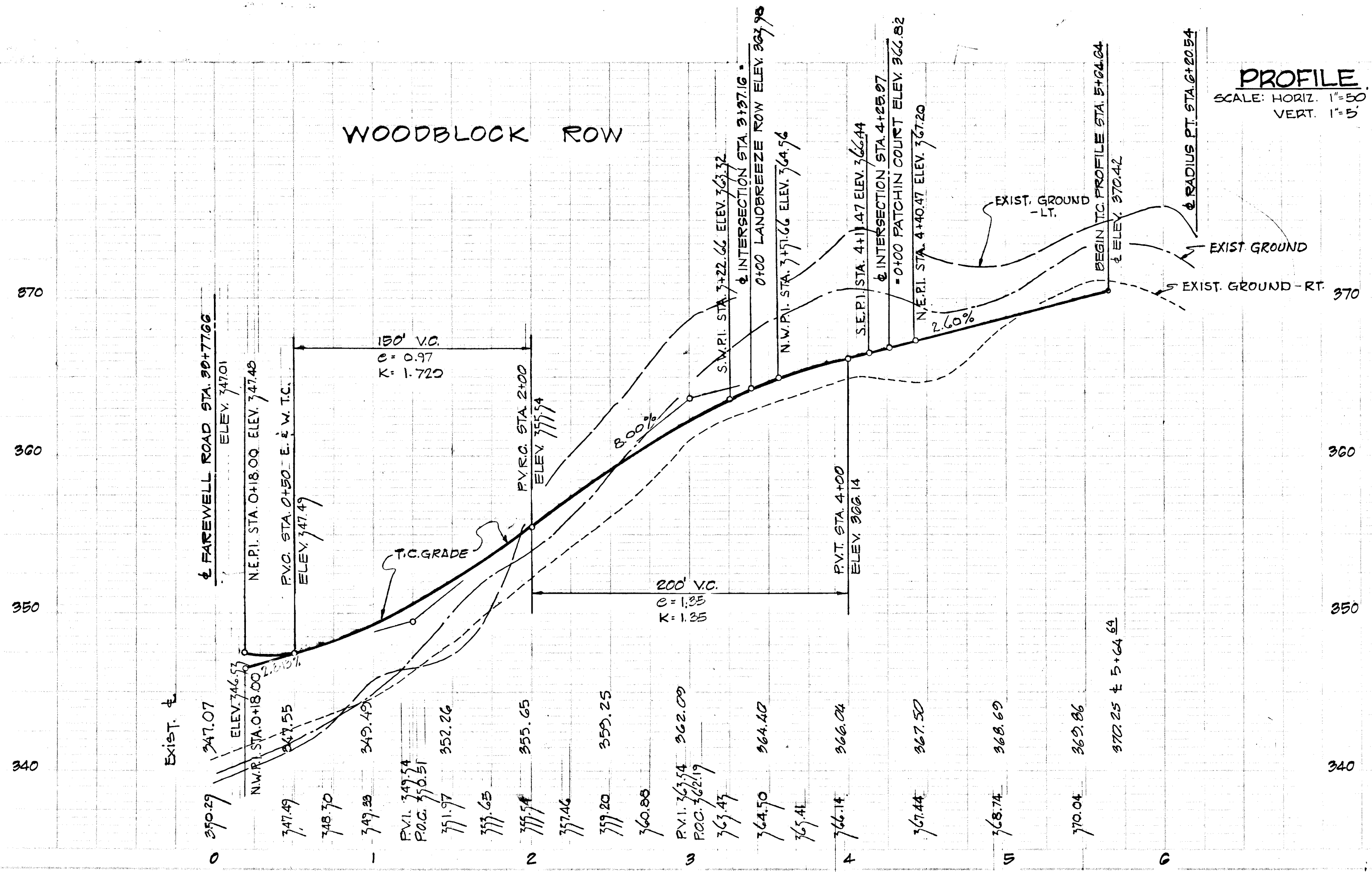
ENGINEERS PLANNERS ARCHITECTS
 Wayne, New Jersey

LEGEND

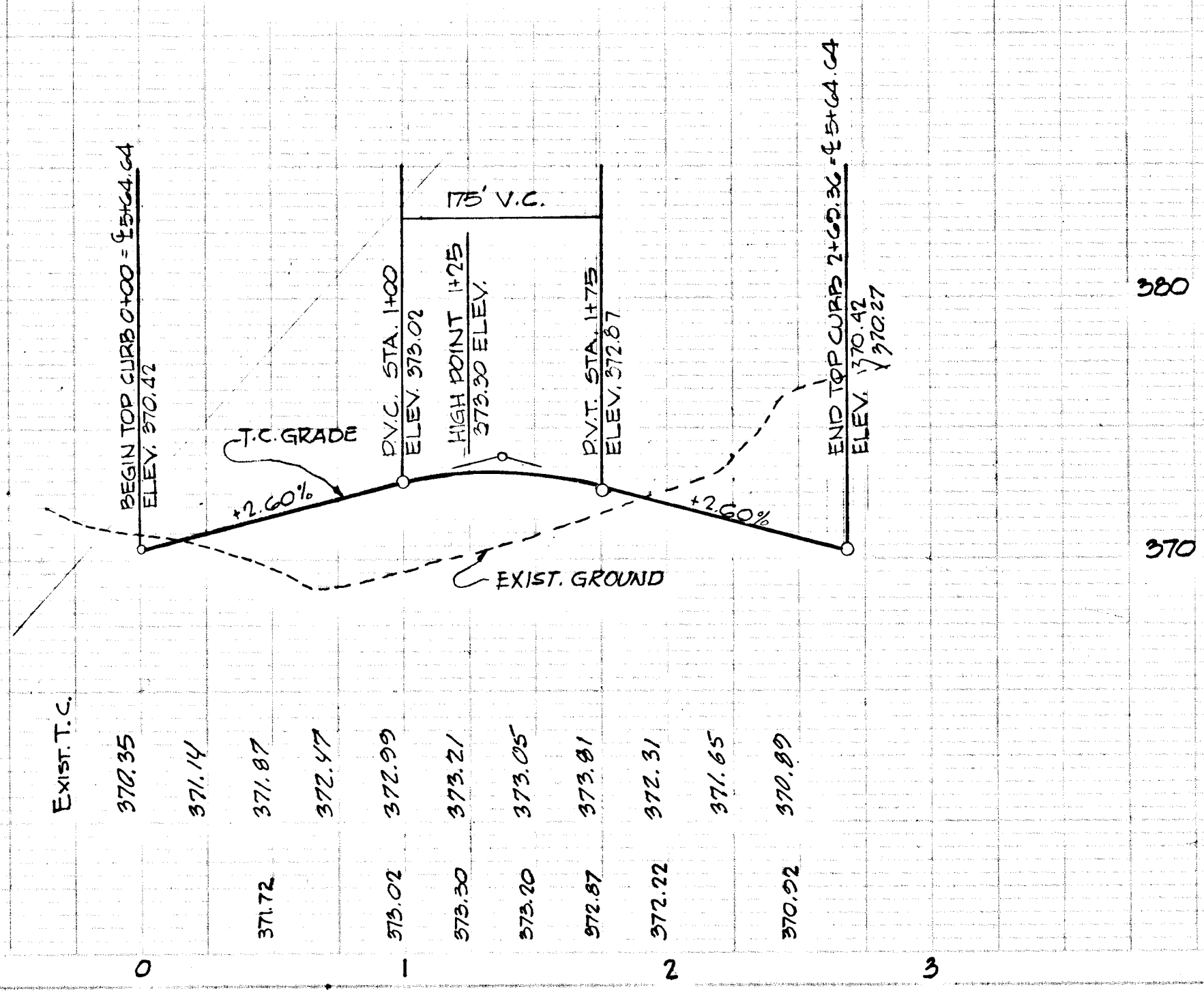
- EXISTING GROUND @
- EXISTING GROUND 80' RT. OF @
- EXISTING GROUND 80' LT. OF @
- FINISHED GRADE @ P.G.L.

PLAN
 SCALE: 1"=50'

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



TOP OF CURB PROFILE WOODBLOCK ROW

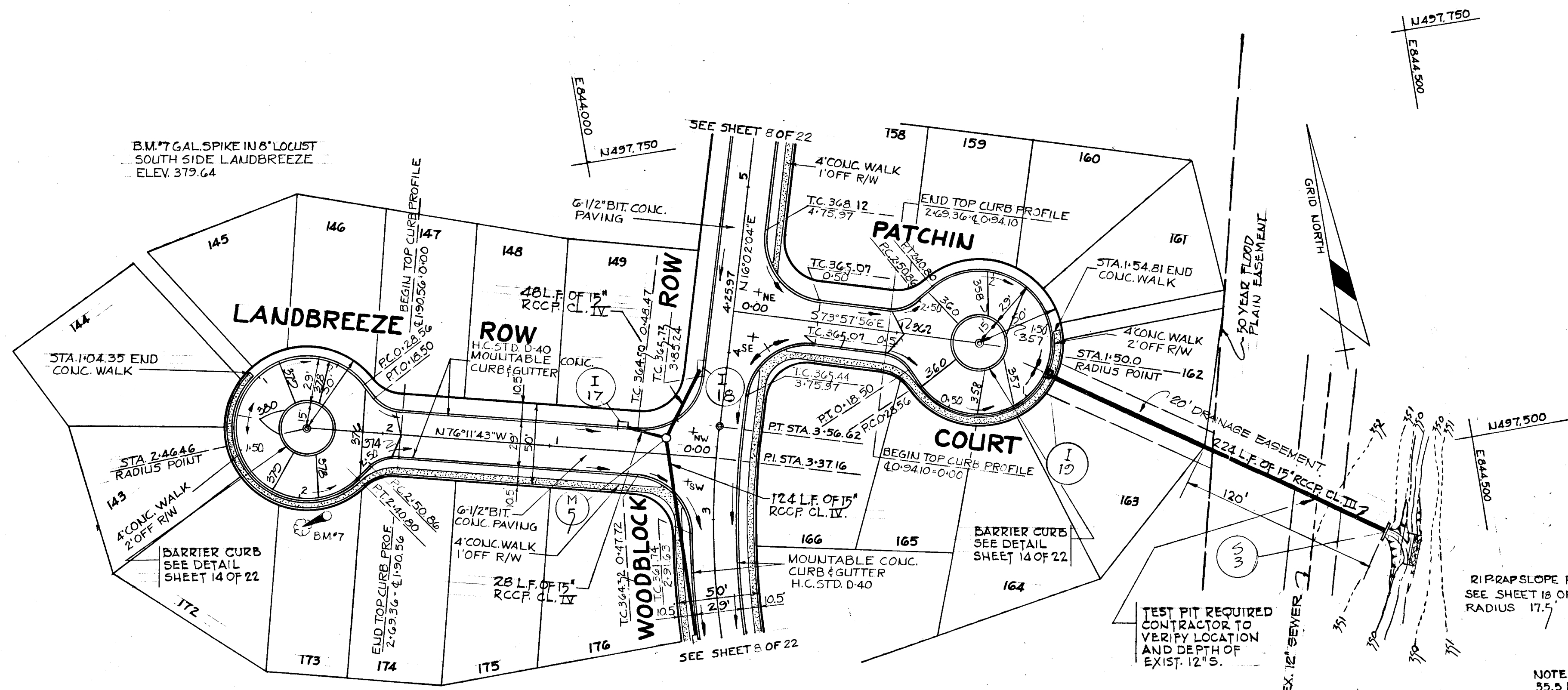


3-7-71	REVISE STORM DRAINS T.P.
Rev. No.	Revision Description
COLUMBIA MARYLAND	
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210	
PROJECT AREA VILLAGE OF OAKLAND MILLS SECTION 5 STEVEN'S FOREST AREA G	
PROJECT TITLE PLAN & PROFILE WOODBLOCK ROW	
Des. By TP	Scale AS SHOWN
Drawn By TM	Date JAN 22 1970
Chk. By RJ	Approved

APPROVED
 OFFICE OF PLANNING AND ZONING OF HOWARD COUNTY
 DATE: APR 20 1971

[Signature]

As Built 4-30-76 MW



Curve Data

Δ	241°00'00"
R	500.00'
L	226.85'
T	115.43'
Chd.	224.95'
Brq.	N03°02'04"E

PLAN
SCALE: 1" = 50' 0"

STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	T.C. ELEV.	REMARKS
119	A-5 INLET	T.C. STA. 1+20.10	352.00	356.71	356.71	H.O. CO. STD. DWG. 64A, PA. 119A
153	12" ENDWALL	SEE PLAN	343.22			H.O. CO. STD. DWG. D-53, PA. 108

Richard P. Browne

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 OAKLAND MILLS
SECTION 5 STEVEN'S FOREST AREA 6

PROJECT TITLE:
PLAN & PROFILE
LANDBREEZE R. and PATCHIN COURT

Des. By: T.P. State: AB SHOWN Draw No: 9 OF 22
 Des. By: T.M. Date: JAN. 22, 1971 C.C.I. No.:
 Chk. By: R.J. Approved:

LEGEND

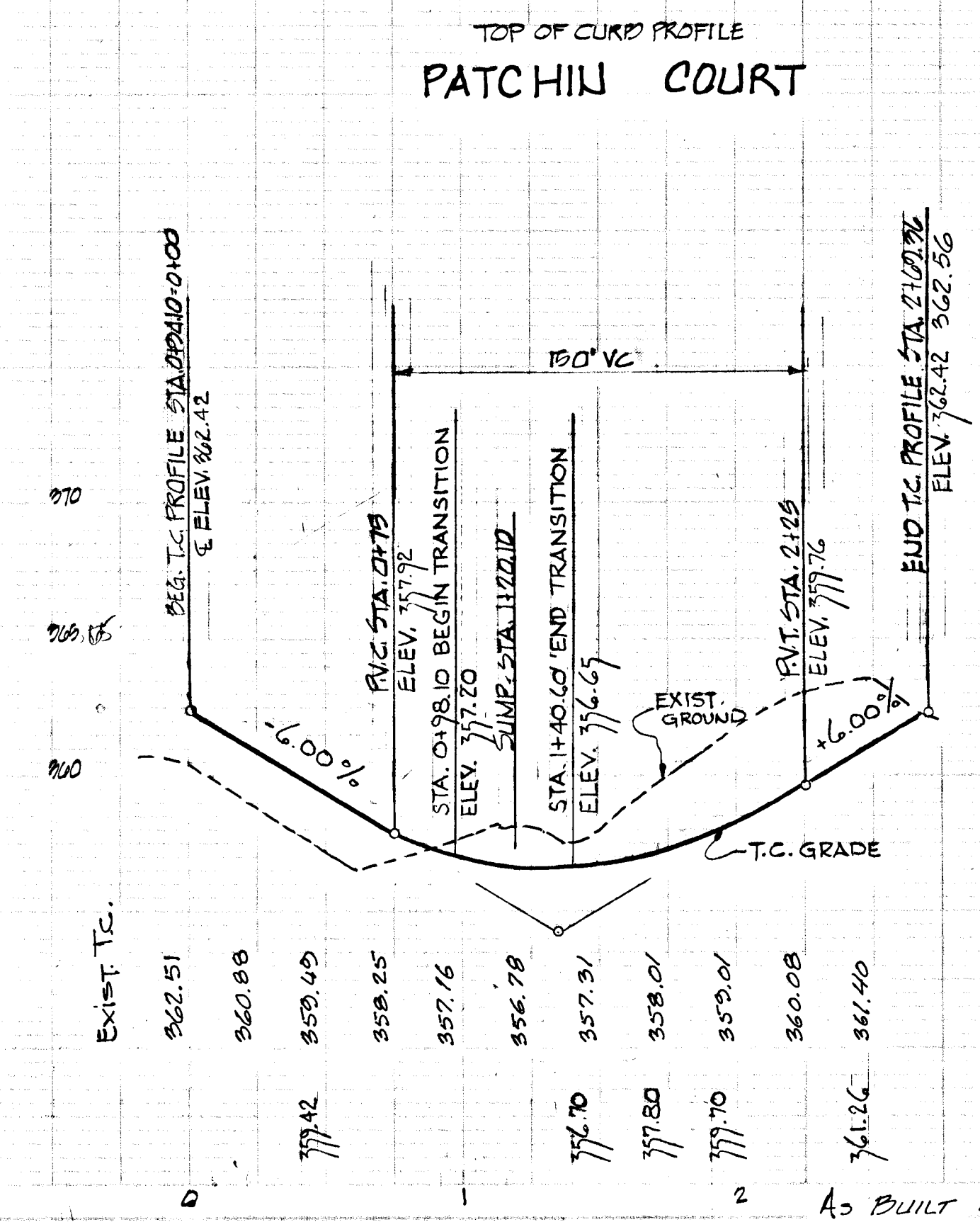
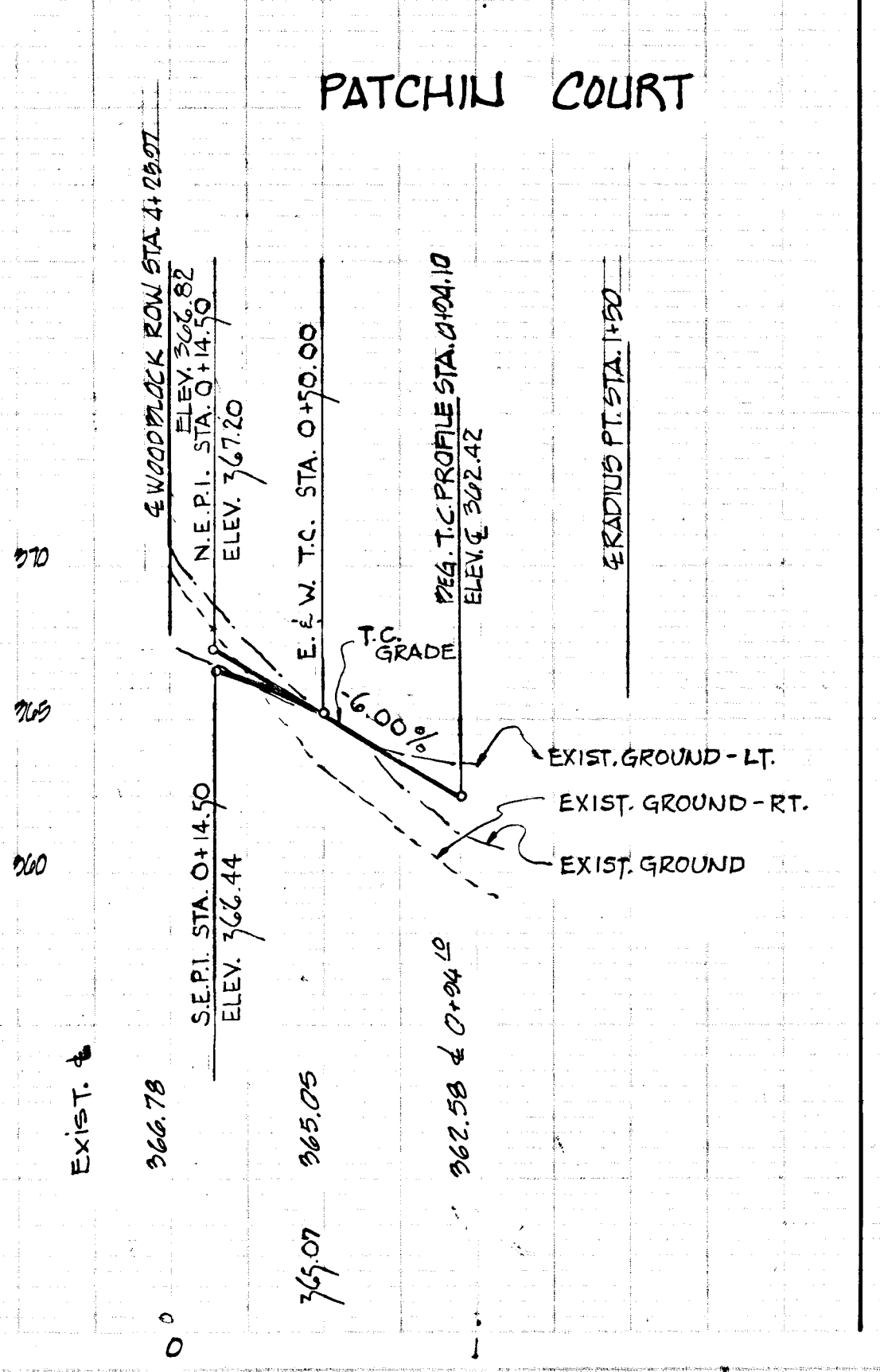
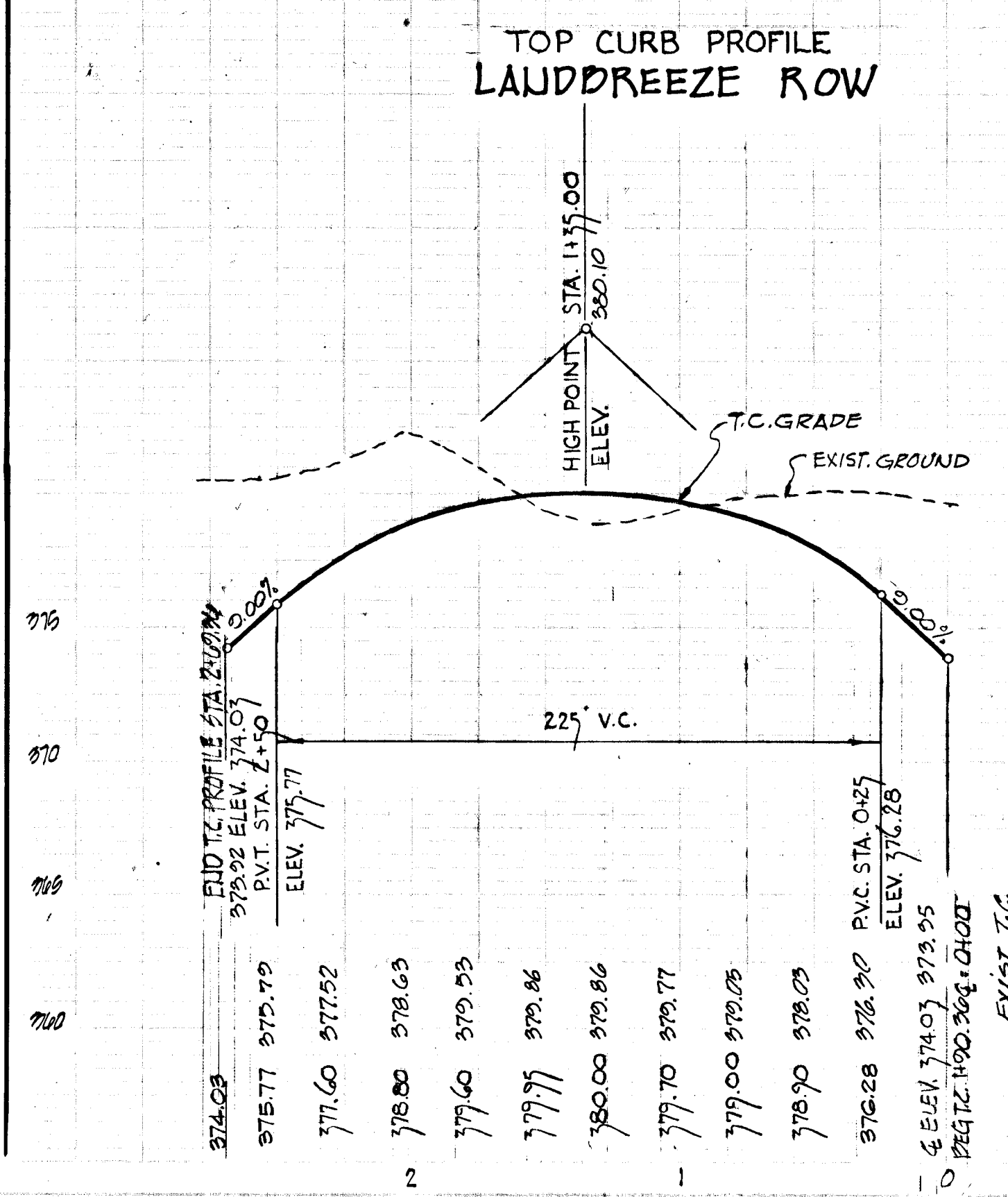
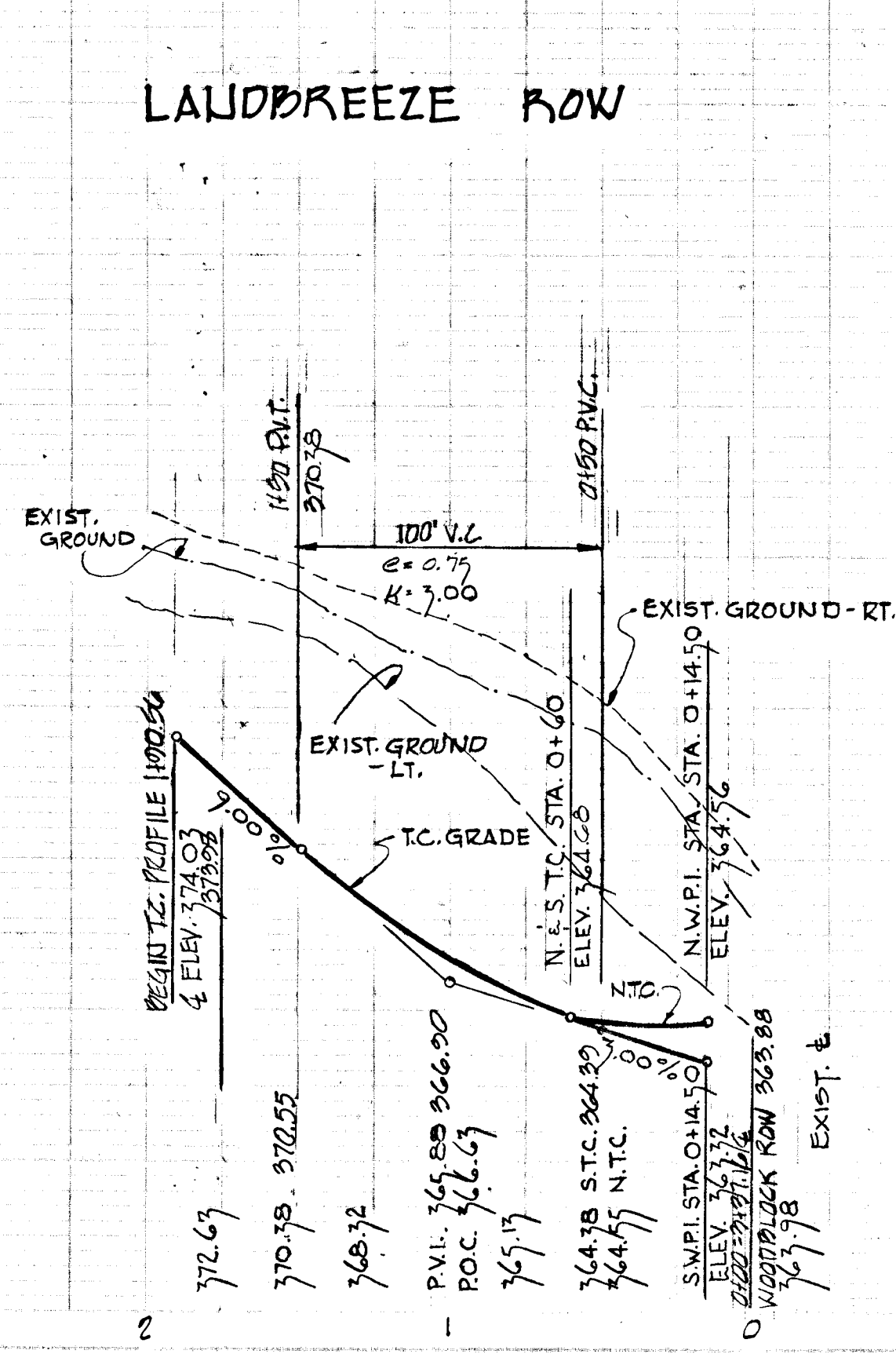
- EXISTING GROUND @ _____
- EXISTING GROUND 80' RT. OF @ _____
- EXISTING GROUND 80' LT. OF @ _____
- FINISHED GRADE @ P.G.L. _____

RICHARD P. BROWNE ASSOCIATES
Columbia, Maryland

ENGINEERS ARCHITECTS
Wayne, New Jersey

As Built April 14, 1974
 Paper Print Signed By Walter Park P.S. # 55330

PROFILE
SCALE: HOR: 1" = 50'
VERT: 1" = 5'



APPROVED
 OFFICE OF PLANNING AND ZONING OF HOWARD COUNTY
 DATE: APR 20 1974

STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	T.C. ELEV.	REMARKS
I 2	A-5 INLET	Q STA. 5+14.00-15.75 LT. E	347.61	351.15	351.10	HO. CO. STD. DWG. 64A, PA. 119A
I 1	A-5 INLET	T.C. STA. 0+90.56	345.00	344.80	348.61	HO. CO. STD. DWG. 64A, PA. 119A
S 1	"C" ENDWALL	REAR LOTS 123 & 124	339.62			HO. CO. STD. DWG. D-53, PA. 108

RICHARD P. BROWNE ASSOCIATES
Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
Wayne, New Jersey

Rev. Date: Rev. No: Revision Description:

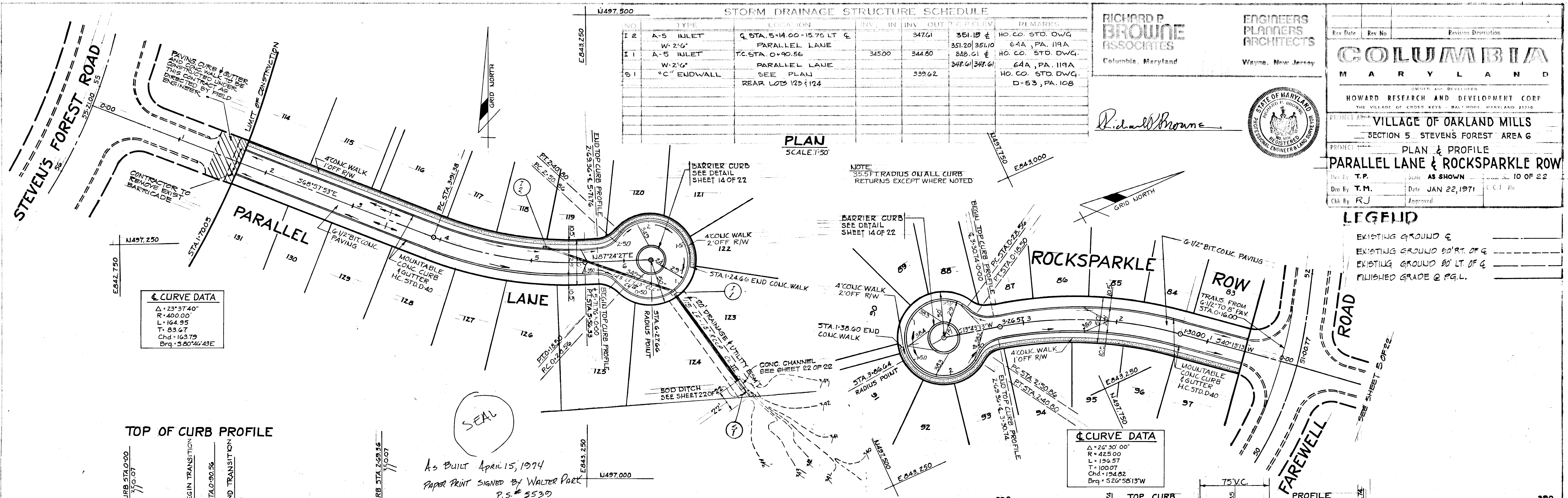
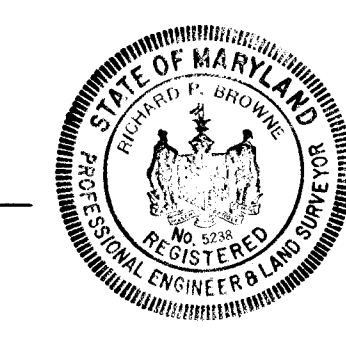
COLUMBIA
MARYLAND

OWNER AND DEVELOPER:
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF OAKLAND MILLS, BALTIMORE, MARYLAND 21210

PROJECT AREA:
VILLAGE OF OAKLAND MILLS
SECTION 5 STEVENS FOREST AREA G

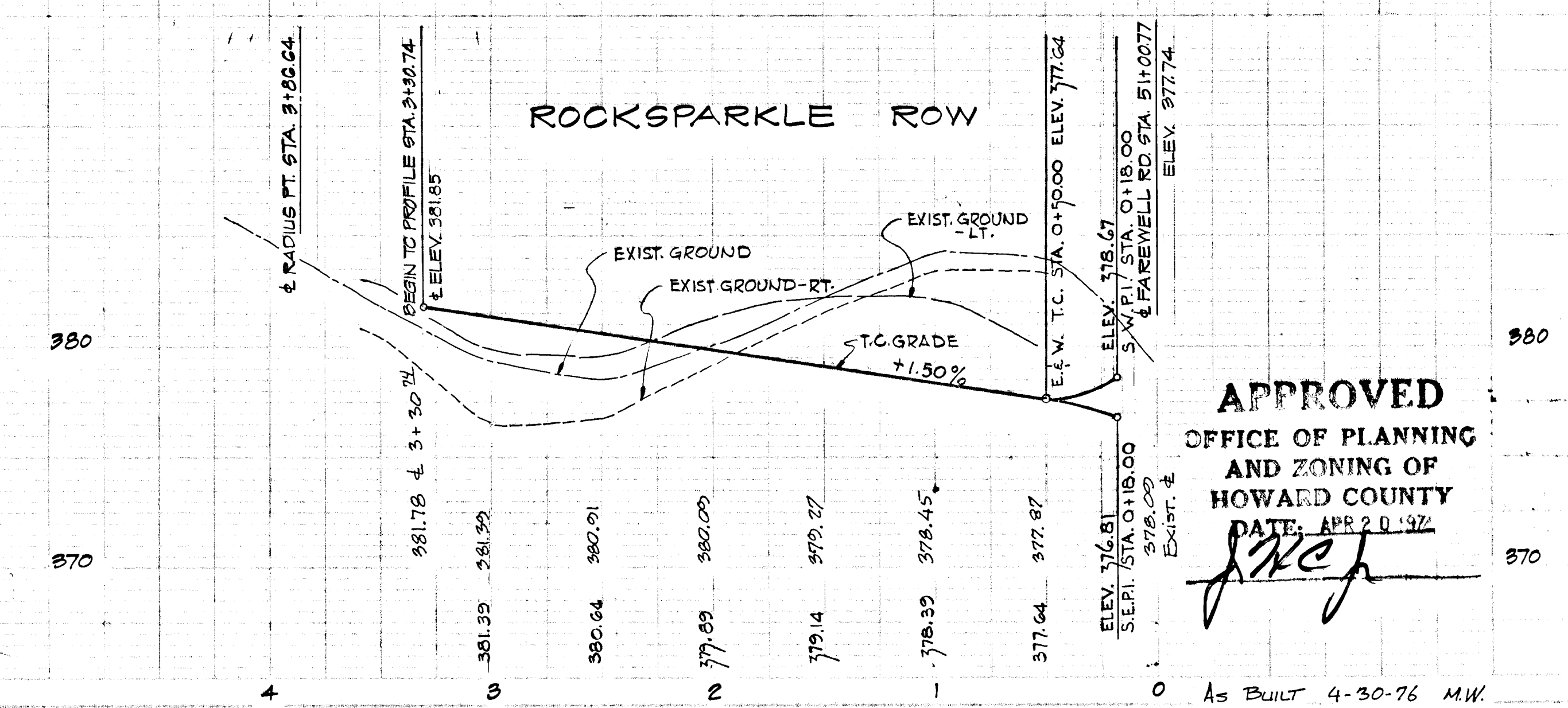
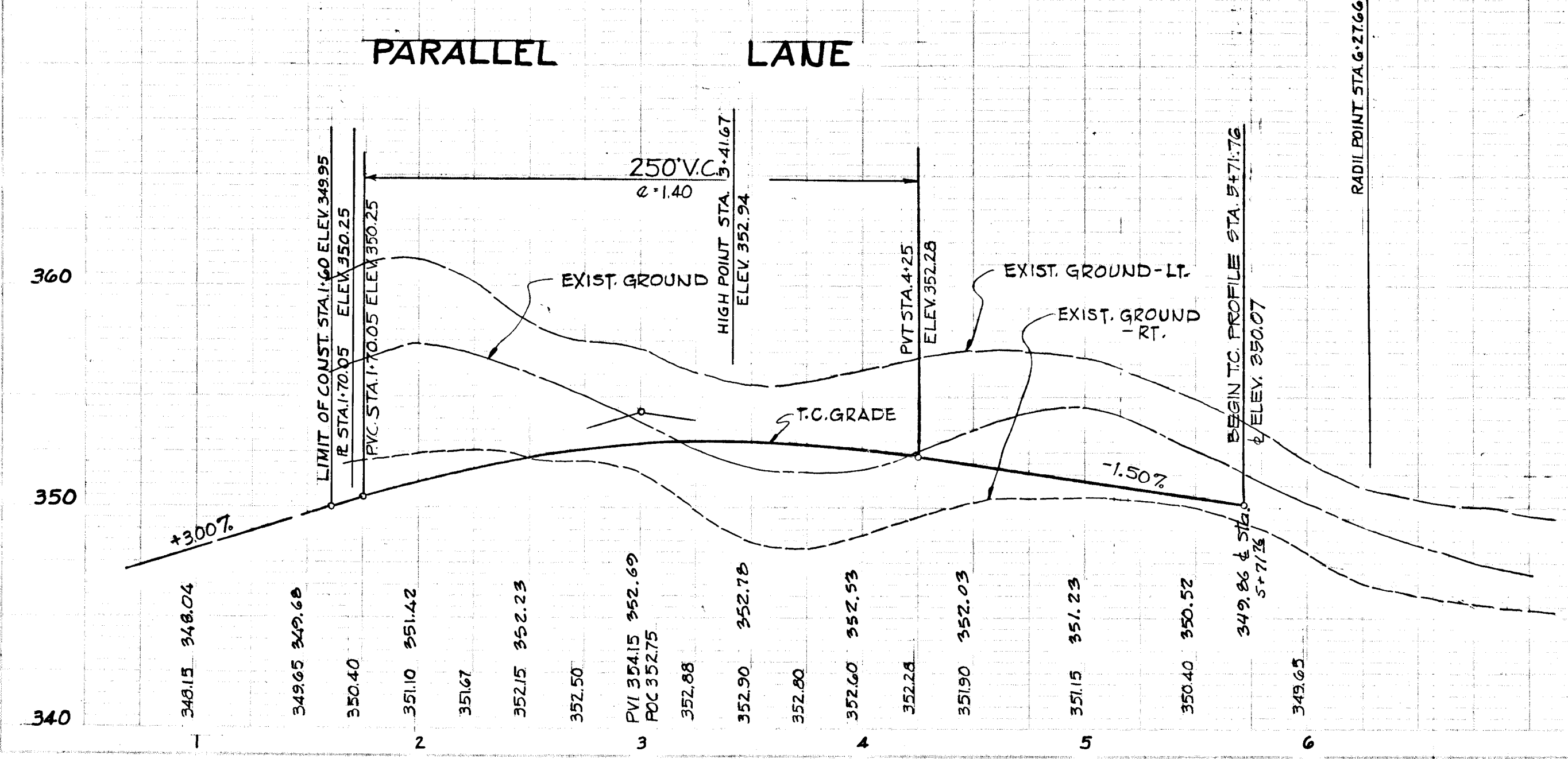
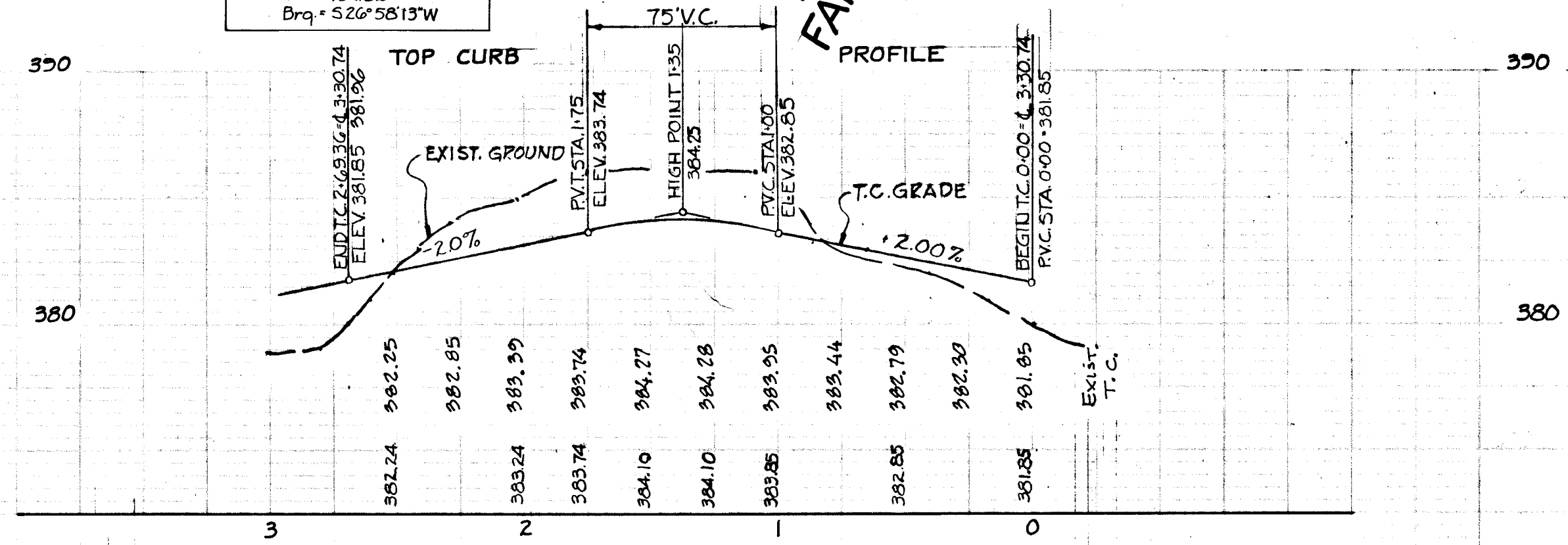
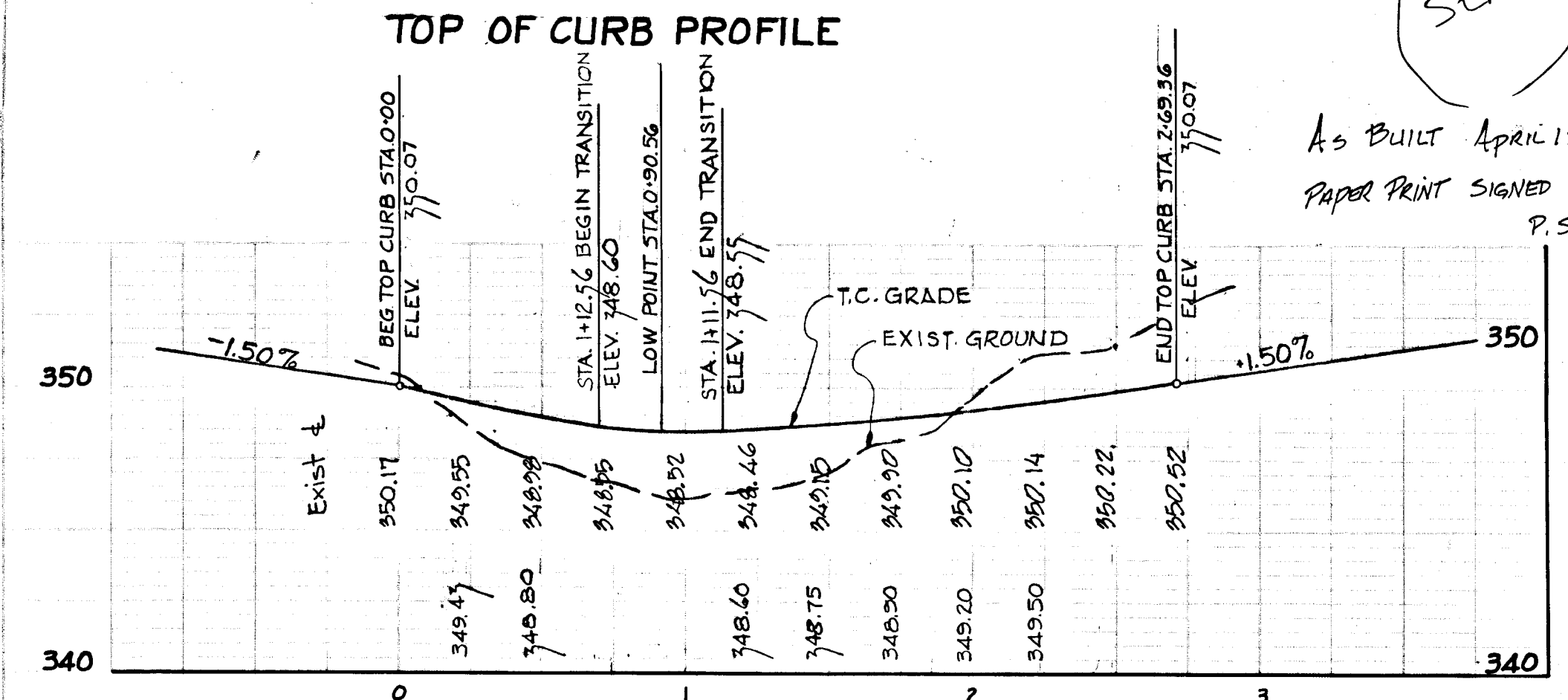
PROJECT:
PLAN & PROFILE
PARALLEL LANE & ROCKSPARKLE ROW

Drawn By: T.P. Scale: AS SHOWN Sheet 10 OF 22
 Dim. By: T.M. Date: JAN 22, 1974
 Chk. By: R.J. Approved:



☉ CURVE DATA
 Δ = 23° 37' 40"
 R = 400.00'
 L = 164.95'
 T = 83.67'
 Chd. = 163.79'
 Brq. = 58° 46' 43"E

☉ CURVE DATA
 Δ = 20° 30' 00"
 R = 425.00'
 L = 196.57'
 T = 100.07'
 Chd. = 194.62'
 Brq. = 52° 58' 13"W



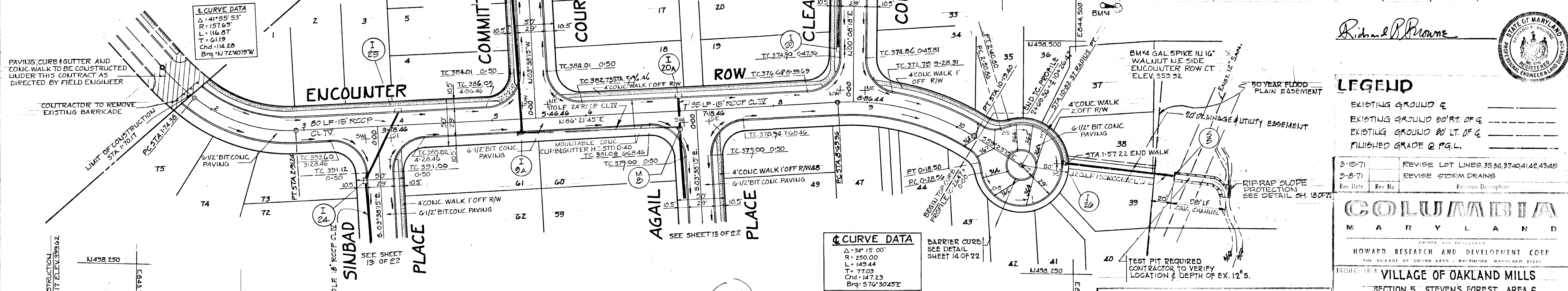
APPROVED
 OFFICE OF PLANNING AND ZONING OF HOWARD COUNTY
 DATE: APR 20 1974
[Signature]

VILLAGE OF OAKLAND MILLS
SECTION 5 AREA 2

VILLAGE OF OAKLAND MILLS
SECTION 5 AREA 6

STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	REMARKS
I 24	A-5 INLET W=2'-8"	Q STA. 5+30.71-15.75 RT. Q ENCOUNTER ROW	372.17	371.97	384.97 ± HO. CO. STD. DWG. D-103, PA. 158
M 8	STD. MANHOLE	Q STA. 7+02.71-19.00 RT. Q ENCOUNTER ROW	370.27	370.27	385.12 ± 379.85 ± HO. CO. STD. DWG. D-103, PA. 158
I 26	A-5 INLET W=2'-6"	TC STA. 1+58.97	358.50	363.61 ±	HO. CO. STD. DWG. 64A, PA. 119A
S 5	"C" ENDWALL	SEE PLAN,	351.30	363.61 ±	HO. CO. STD. DWG. D-53, PA. 108



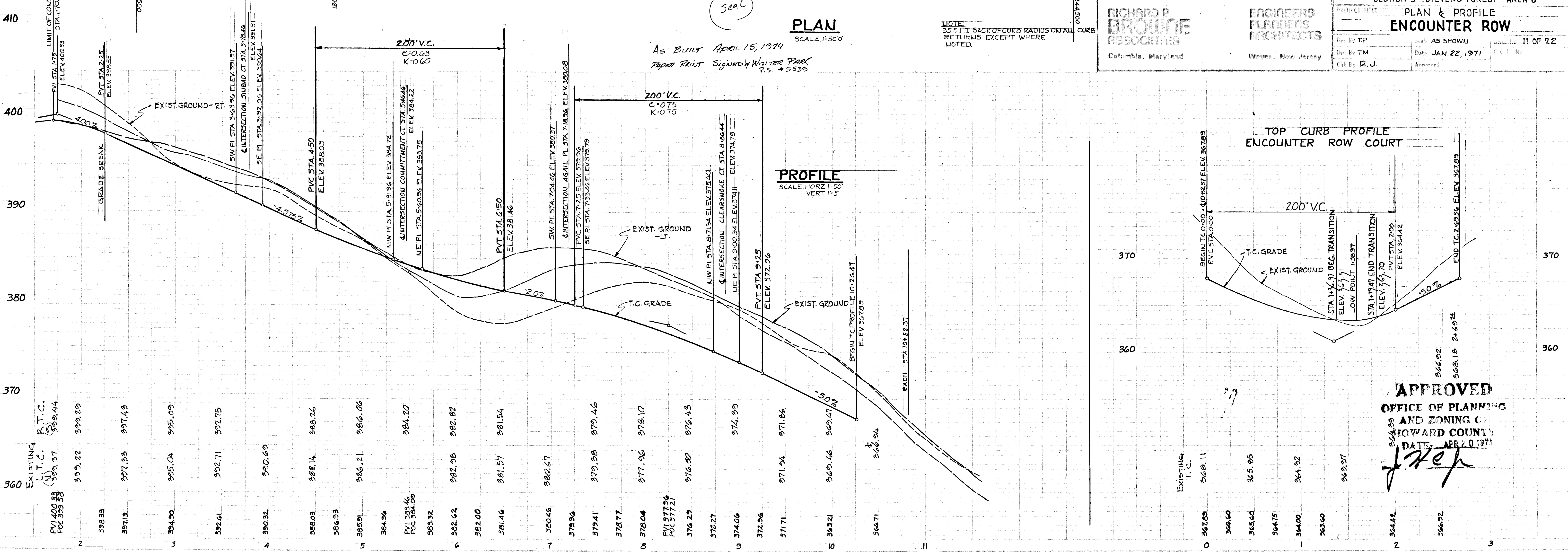
Richard P. Browne
 STATE OF MARYLAND
 PROFESSIONAL ENGINEER

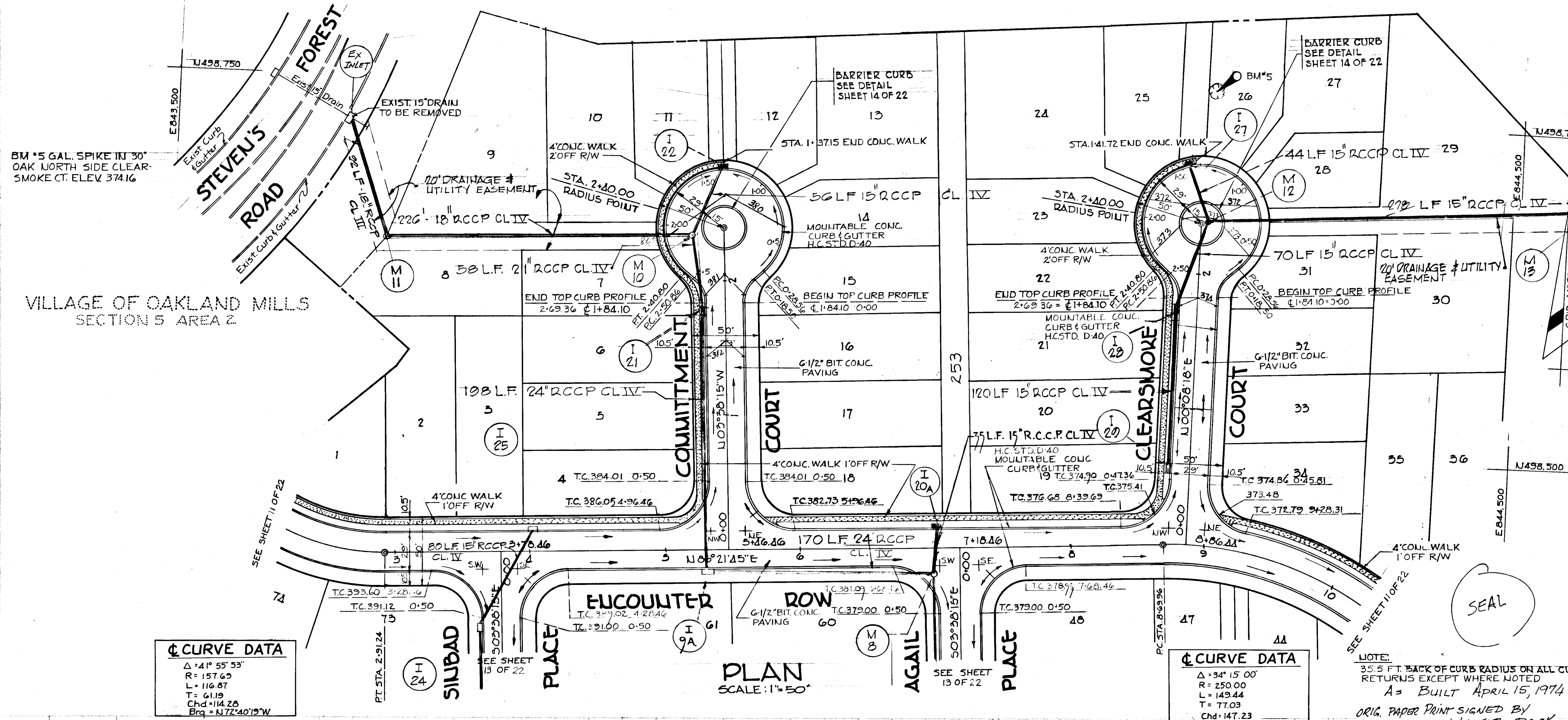
LEGEND
 EXISTING GROUND &
 EXISTING GROUND 80' RT. OF &
 EXISTING GROUND 80' LT. OF &
 FINISHED GRADE & P.G.L.

3-15-71 REVISE LOT LINES 35,36,37,40,41,42,43,45
 3-8-71 REVISE STORM DRAINS
 Rev. Date Rev. No. Revision Description

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

PROJECT: VILLAGE OF OAKLAND MILLS
 SECTION 5 STEVENS FOREST AREA 6
 PROJECT TITLE: PLAN & PROFILE
ENCOUNTER ROW
 This By: TP Scale: AS SHOWN Date: JAN. 22, 1971
 Des. By: TM Date: JAN. 22, 1971
 Chk. By: R.J. Approved





STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	REMARKS
M-11	STD. MANHOLE	SEE PLAN	386.88	386.68	HO. CO. STD. DWG. D-103
M-10	SHALLOW TYPE	± STA. 2+15.00 - 25.00' LT. COMMITMENT CT.	375.35	375.10	SEE DETAIL HO. CO. STD. DWG.
I-21	A-5 INLET W=2'-6"	± STA. 1+39.15 LIN. PROF. COMMITMENT CT.	-	376.16	G4A, PA 119A HO. CO. STD. DWG.
I-21	A-10 W=2'-6"	± STA. 1+77.00 - 15.75' LT. COMMITMENT CT.	374.40	374.15	G4A, PA 119A HO. CO. STD. DWG.
I-20A	A-5 W=2'-6"	± STA. 7+02.71 - 15.75' LT. ENCOUNTER ROW	-	375.84	G4A, PA 119A HO. CO. STD. DWG.
I-28	A-5 W=2'-6"	± STA. 1+175.00 - 15.75' LT. CLEARSMOKE CT.	369.49	369.49	380.08/380.56 HO. CO. STD. DWG.
I-29	A-5 INLET W=2'-6"	± STA. 0+54.86 15.75' LT.	-	371.80	G4A, PA 119A HO. CO. STD. DWG.

LEGEND
EXISTING GROUND &
EXISTING GROUND 80' RT. OF &
EXISTING GROUND 80' LT. OF &
FINISHED GRADE 2 P.G.L.

RICHARD B. BROUEN ASSOCIATES
Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
Wayne, New Jersey

APPROVED
OFFICE OF PLANNING AND ZONING OF HOWARD COUNTY
DATE: APR. 20 1974

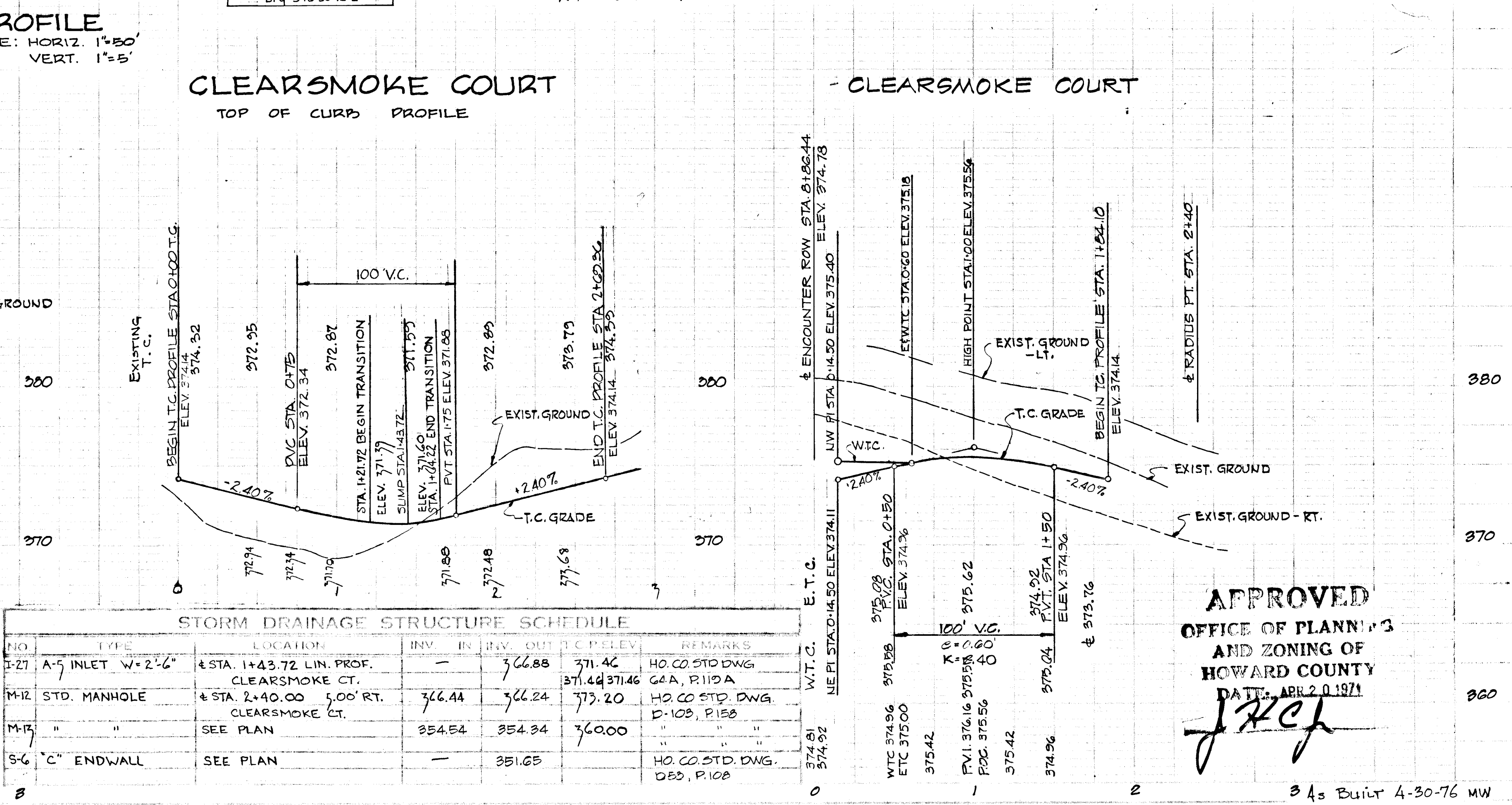
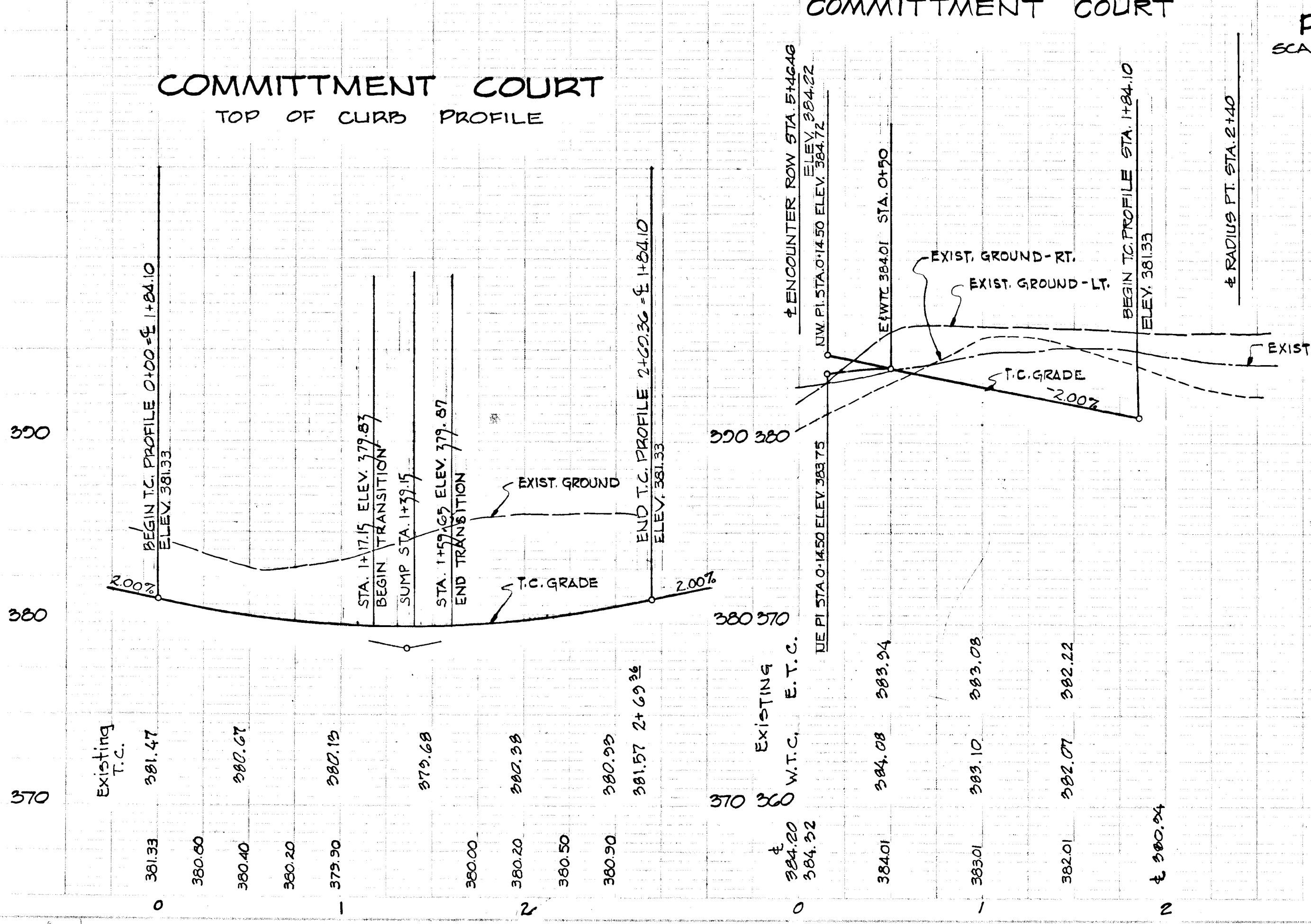
3-7-71 REVISE STORM DRAINS T.P.
2-11-71 CHANGE I-20A & I-28 FROM A-10 TO A-5
Rev. Date Rev. No. Rev. Description

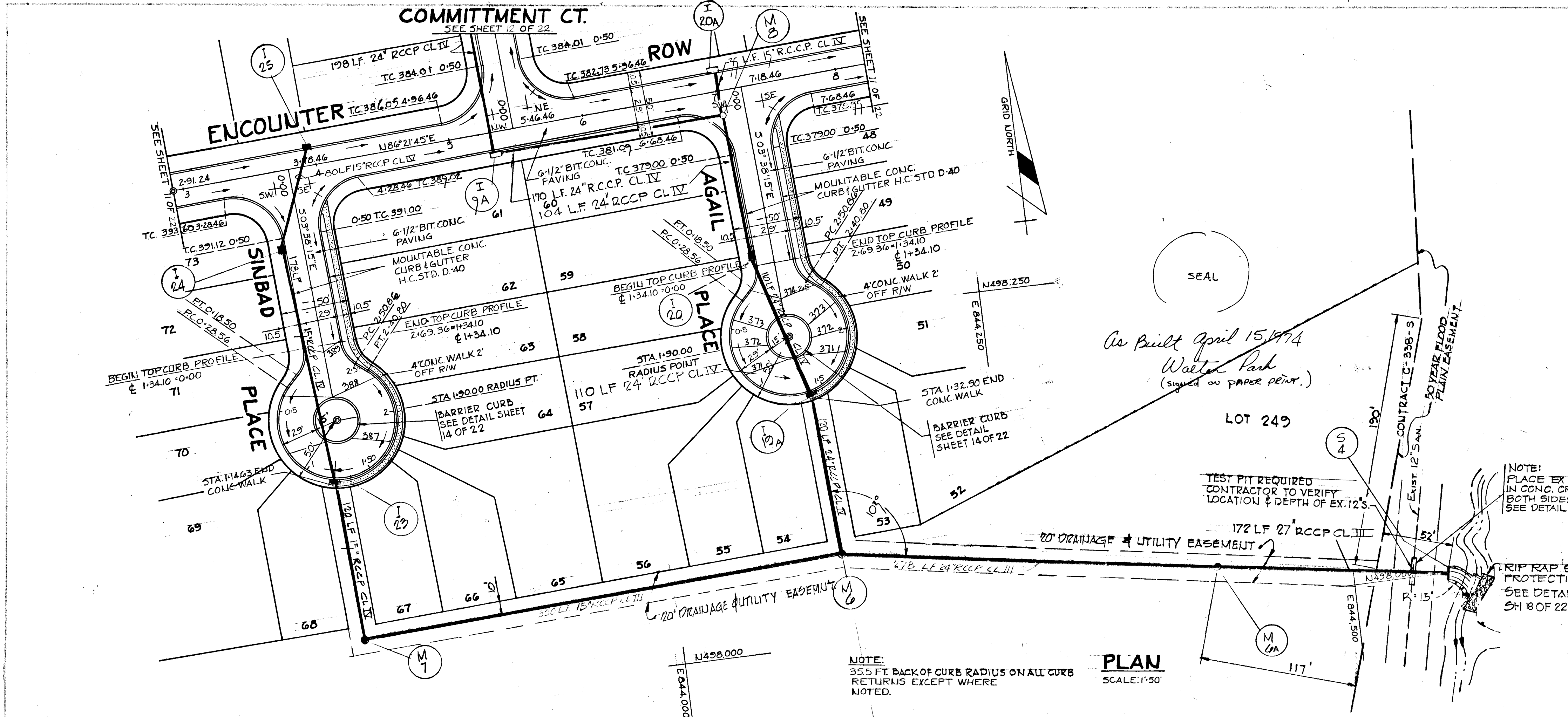
COLUMBIA MARYLAND
OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

VILLAGE OF OAKLAND MILLS SECTION 5 STEVENS FOREST AREA 6

PLAN & PROFILE COMMITMENT CT. & CLEARSMOKE CT.

Drawn By: T.P. Scale: AS SHOWN 12 OF 21
Des. By: T.M. Date: JAN. 22, 1971
Chk. By: RJ Approved





STORM DRAINAGE STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	T.C. P. ELEV.	REMARKS
I 25	A-5 INLET	± STA. 4+01.00-15.75 LT. ± ENCOUNTER ROW	387.12	380.49 ±	380.49 ±	HO. CO. STD. DWG. 64A, PA. 119A
I 24	A-5 INLET	± STA. 0+57.50-15.75 RT. ± SINBAD PLACE	386.32	386.11	391.23/391.07	HO. CO. STD. DWG. 64A, PA. 119A
I 23	A-5 INLET	T.C. STA. 1+15.58 SINBAD PLACE	382.75	382.53	387.01/387.01	HO. CO. STD. DWG. 64A, PA. 119A
M 7	STD. MANHOLE	SEE PLAN, REAR OF LOTS 67 & 68 SINBAD PL.	375.28	375.18	380.80 ±	HO. CO. STD. DWG. D-103, PA. 158
I 20	A-10 INLET	± STA. 1+24.10-15.88 RT. ± AGAIL PLACE	369.03	368.28	± 376.03	HO. CO. STD. DWG. 64B, PA. 119B
I 19A	A-5 INLET	T.C. STA. 1+33.69 AGAIL PLACE	365.09	364.89	370.49 ±	HO. CO. STD. DWG. 64A, PA. 119A
M 6	STD. MANHOLE	SEE PLAN, REAR OF LOTS 53 & 54 AGAIL PL.	361.53	361.33	368.00	HO. CO. STD. DWG. D-103, PA. 158
M 6A	STD. MANHOLE	SEE PLAN	340.00	340.70	357.30	HO. CO. STD. DWG. D-103, PA. 158
M 4	"C" ENDWALL	SEE PLAN	348.00	350.10		HO. CO. STD. DWG. D-53, PA. 108

LEGEND

- EXISTING GROUND ±
- EXISTING GROUND 90' RT. OF ±
- EXISTING GROUND 90' LT. OF ±
- FURNISHED GRADE ± P.G.L.

RICHARD P. BROWNE ASSOCIATES
Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
Wayne, New Jersey

APPROVED
OFFICE OF PLANNING AND ZONING OF HOWARD COUNTY
DATE: APR 20 1974
J.P.C.F.

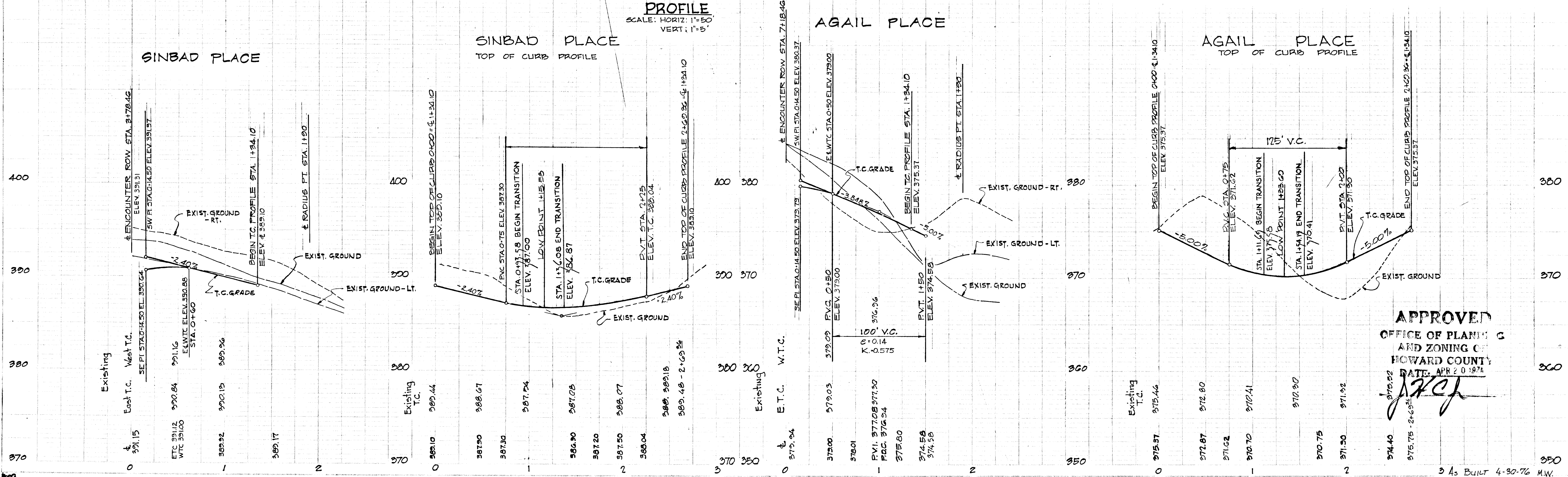
4-14-70 M-6A TO 6-4: 24" RCCP TO 27" RCCP; CRADLE ADDED
3-15-70 REVISE LOT LINES: 51, 52, 57, 58, 63, 64, 69, 70, 71
3-7-71 REVISE STORM DRAIN

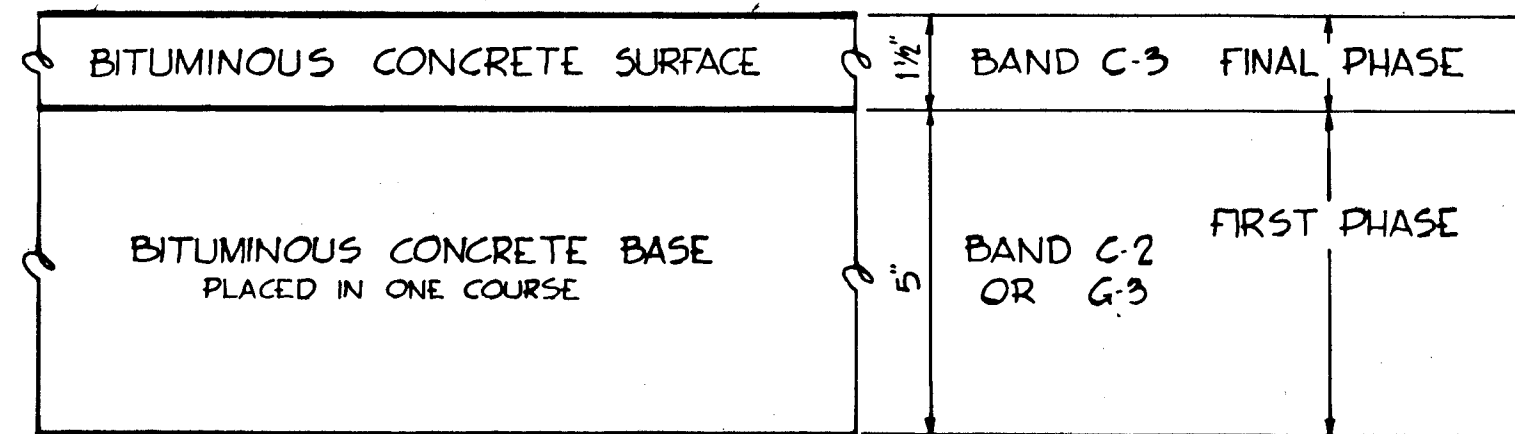
Rev. Date Rev. No. Revision Description

COLUMBIA MARYLAND
OWNED AND DEVELOPED BY
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF GROSSE KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA: VILLAGE OF OAKLAND MILLS
SECTION 5 STEVEN'S FOREST AREA 6
PROJECT: PLAN & PROFILE
SINBAD PLACE & AGAIL PLACE

Drawn By: T.P. Scale: AS SHOWN Date: JAN 22 1971
Checked By: T.M. Date: JAN 22 1971
Designed By: R.J.L. Approved

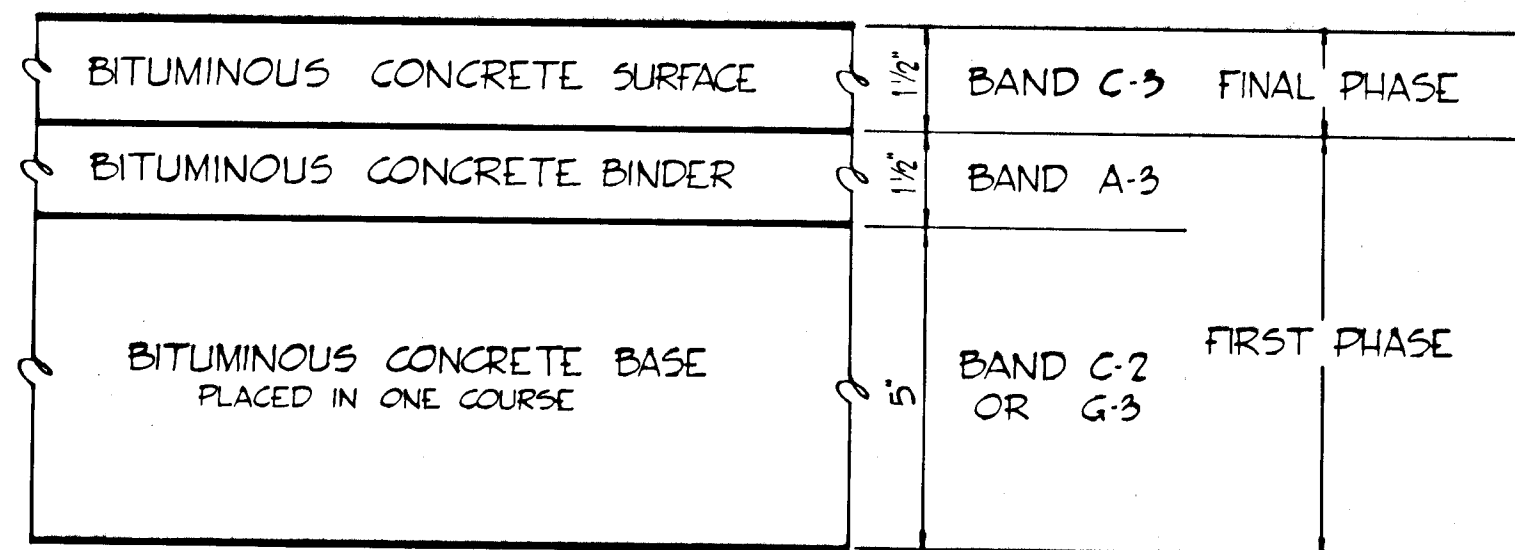




CLEARING AND GRADING ARTICLE C-1
 SUBGRADE ARTICLE C-2
 BASE COURSE ARTICLE C-31 OR C-33
 SURFACE COURSE ARTICLE C-31

NOTE: PAVEMENT TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS DWG D-113 RS 165

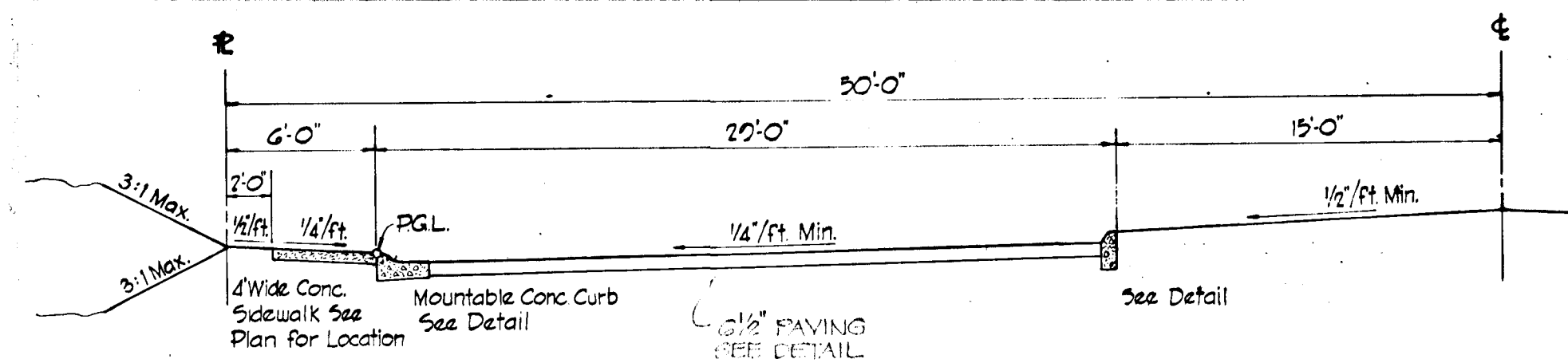
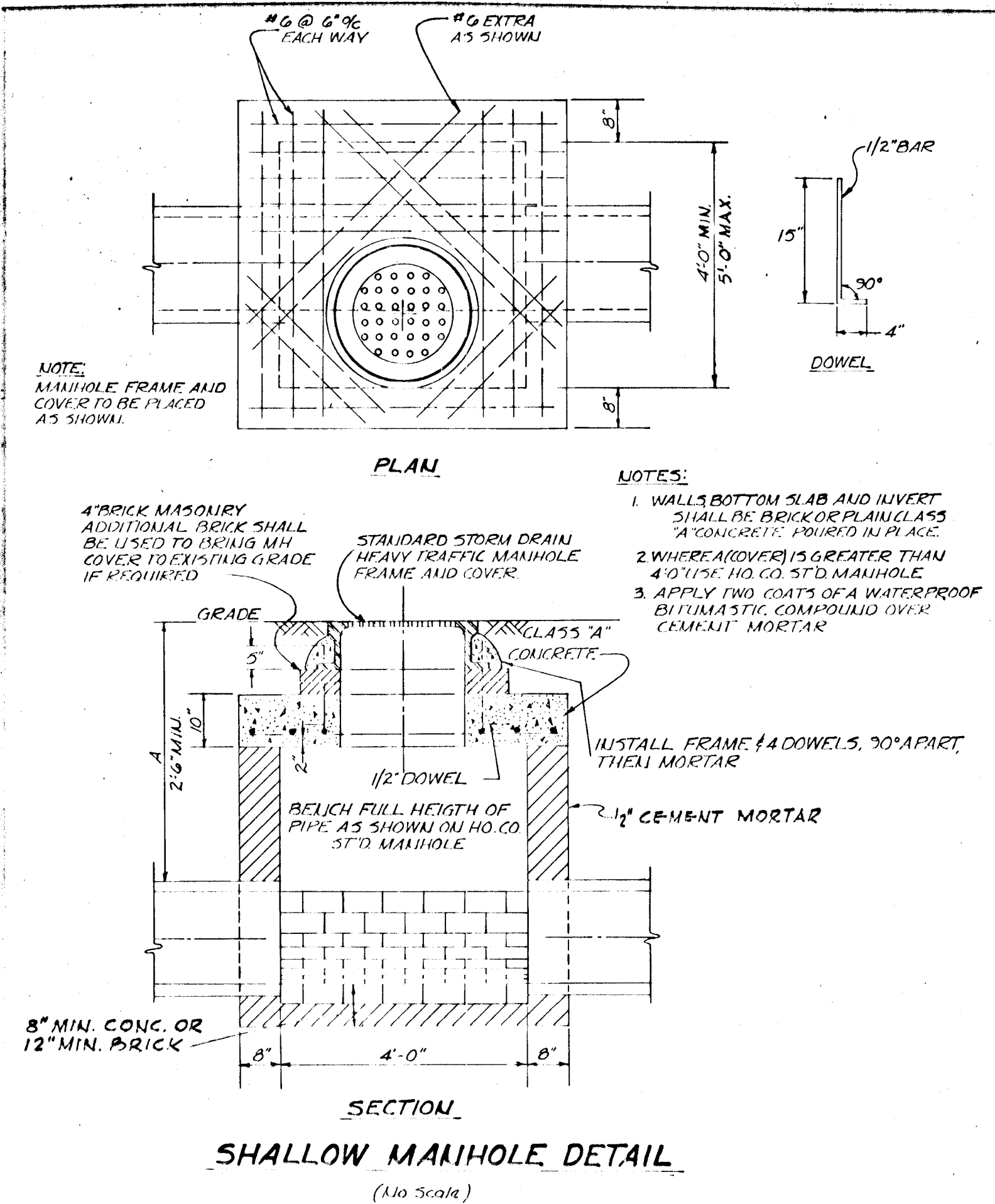
6 1/2" PAVEMENT DETAIL
NO SCALE



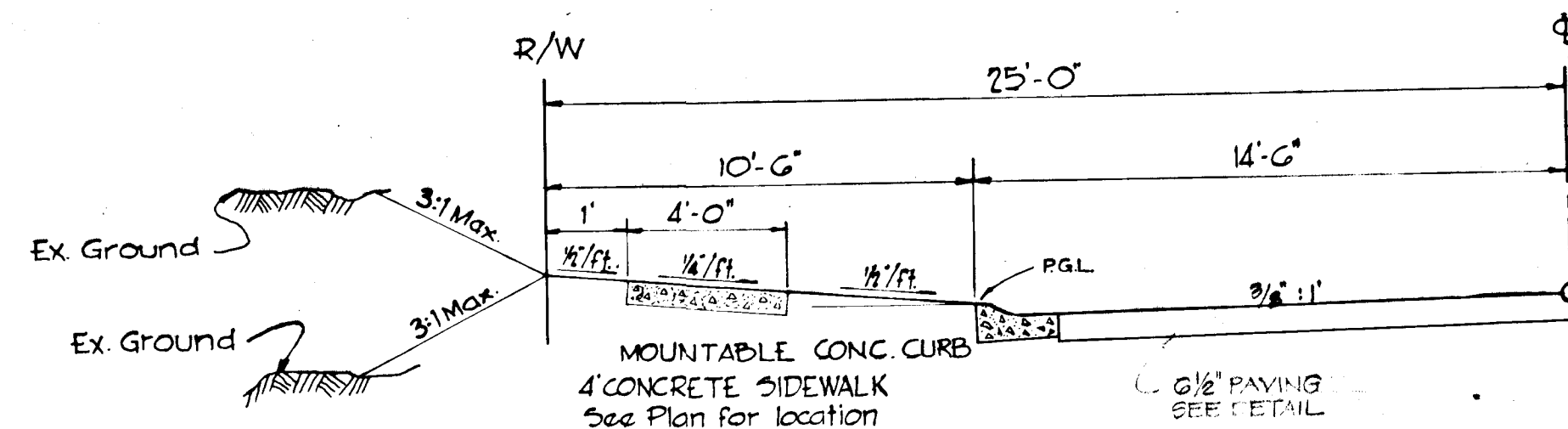
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 SUBGRADE ARTICLE C-2
 BASE COURSE ARTICLE C-31 OR C-33
 BINDER COURSE ARTICLE C-31
 SURFACE COURSE ARTICLE C-31

NOTE: PAVEMENT TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS DWG D-113 RS 165

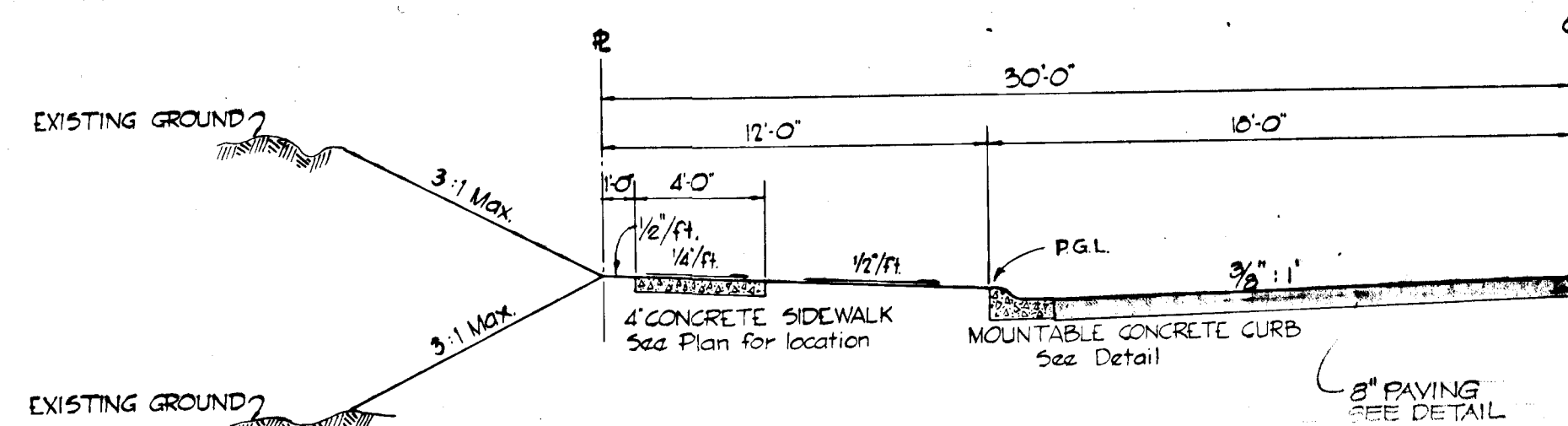
8" PAVEMENT DETAIL
NO SCALE



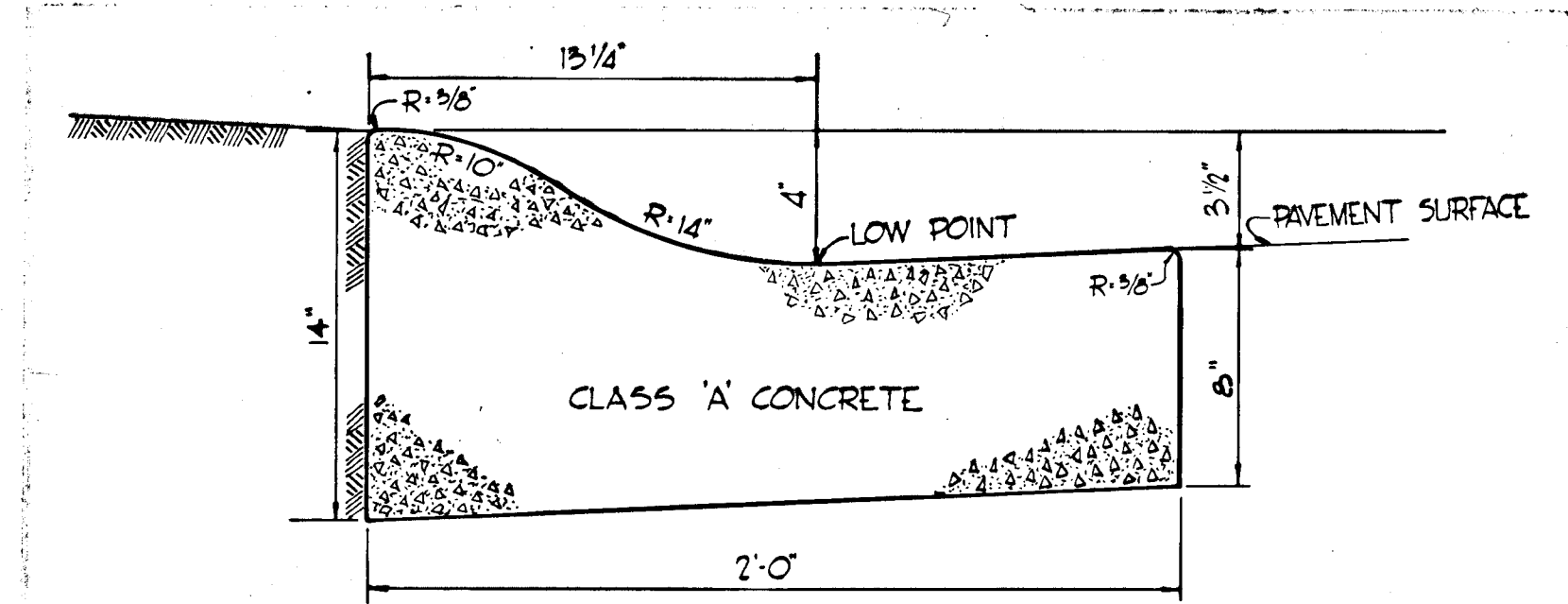
TYPICAL CUL-DE-SAC HALF-SECTION
NO SCALE



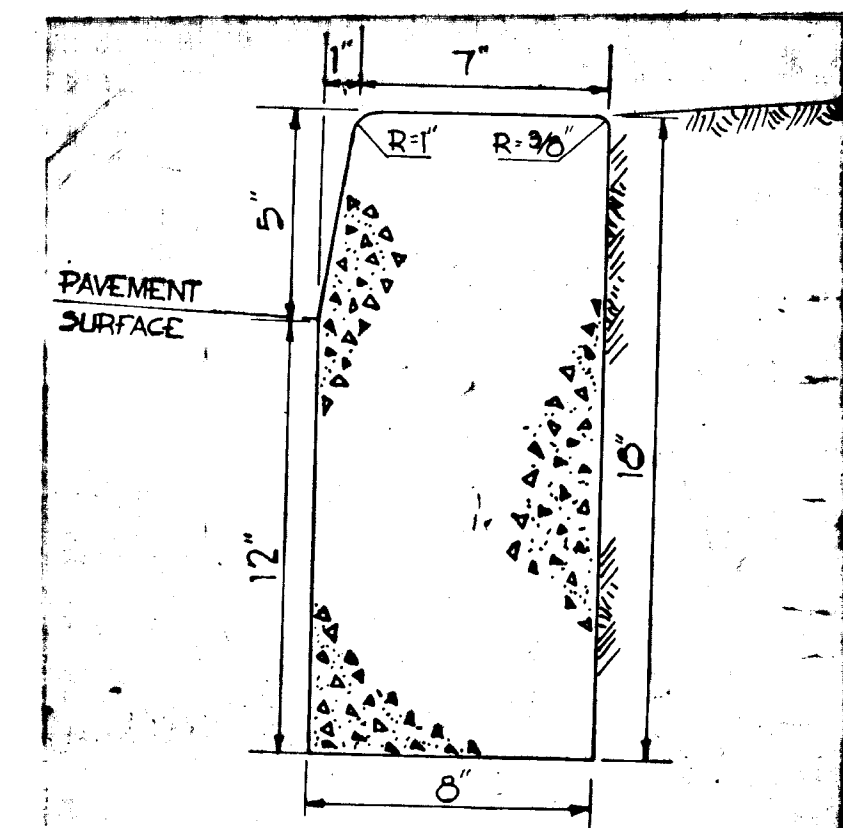
50' R.O.W. TYPICAL HALF-SECTION
NO SCALE



60' R.O.W. TYPICAL HALF-SECTION
SCALE 1"=5'



MOUNTABLE CONCRETE CURB
NO SCALE



BARRIER CONCRETE CURB
NO SCALE

APPROVED
 OFFICE OF PLANNING
 AND ZONING OF
 HOWARD COUNTY
 DATE: 10/2/00
[Signature]

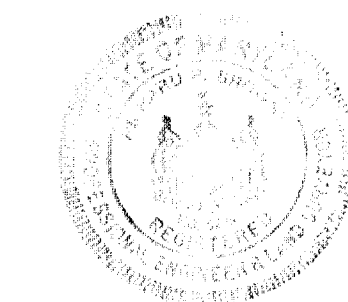
RICHARD P. BROWNE ASSOCIATES
 ENGINEERS, PLANNERS, ARCHITECTS
 Columbia, Maryland Wayne, New Jersey

Rev Date	Rev No	Revision Description

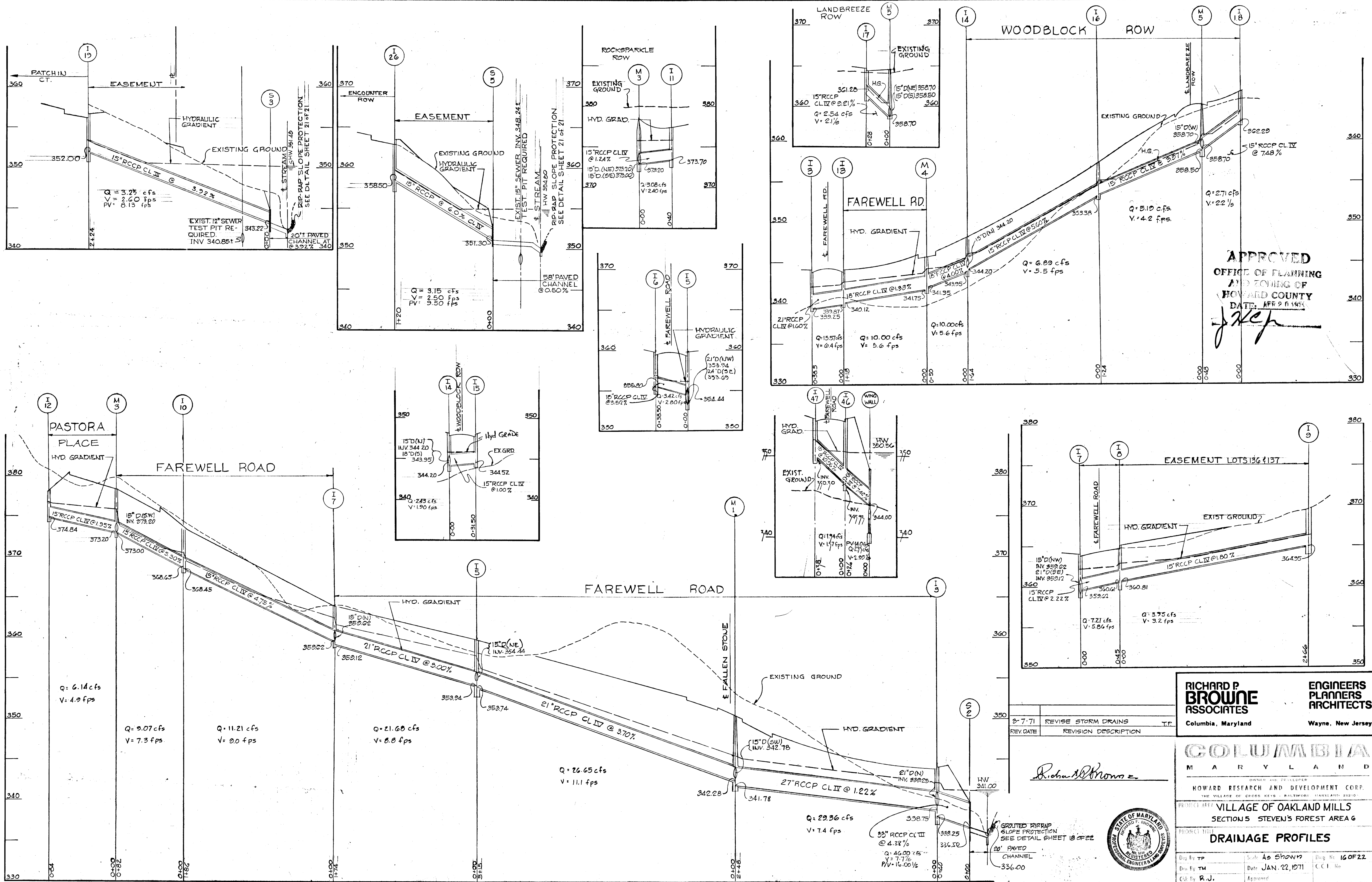
COLUMBIA MARYLAND
 OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.
 THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA: SECTION 5 STEVEN'S FOREST AREA 6
 PROJECT TITLE: ROADWAY DETAILS

Des By	Scale	Dwg. No
Drn By	Date	C.C.F. No
Chk By	Approved	



117-420



APPROVED
 OFFICE OF PLANNING
 AND ZONING OF
 HOWARD COUNTY
 DATE: APR 2 6 1971

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

REV. DATE	REVISION DESCRIPTION	T.P.
8-7-71	REVISE STORM DRAINS	T.P.

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

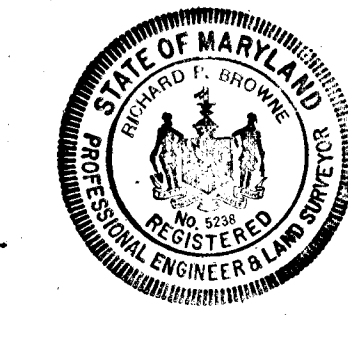
PROJECT AREA: **VILLAGE OF OAKLAND MILLS SECTION 5 STEVEN'S FOREST AREA G**

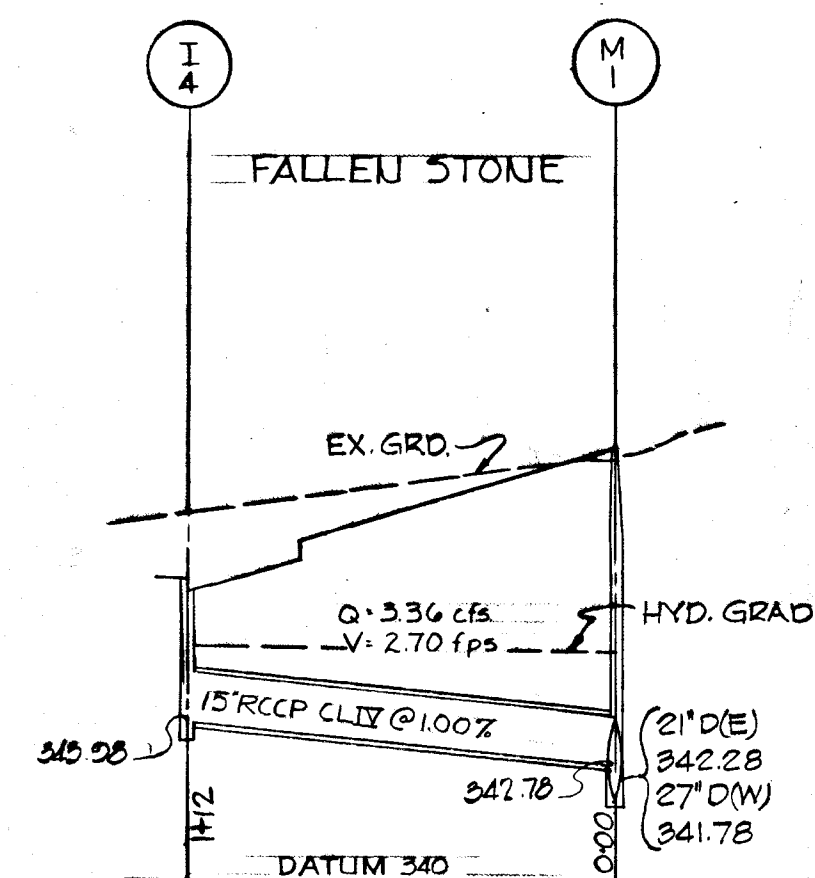
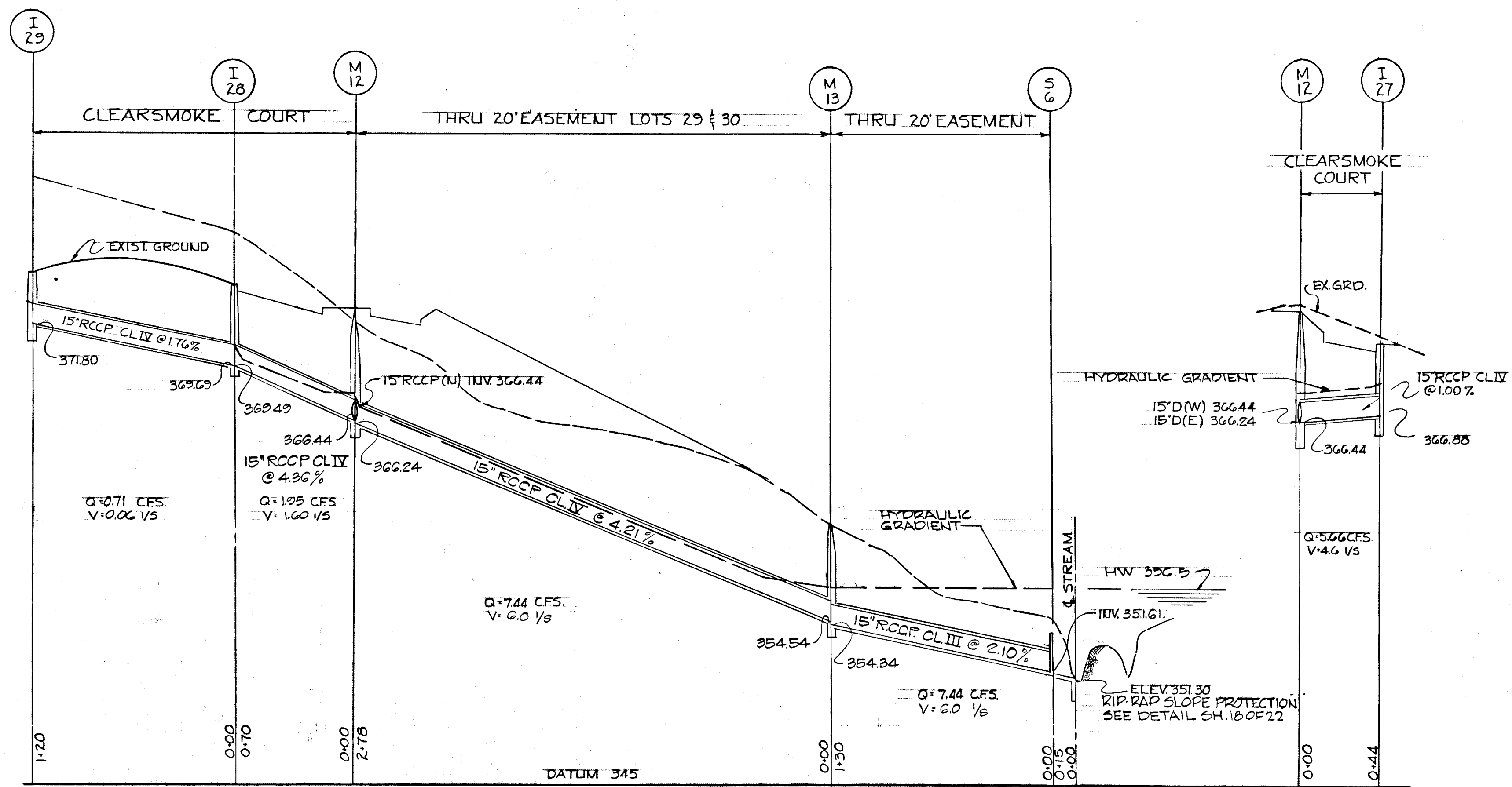
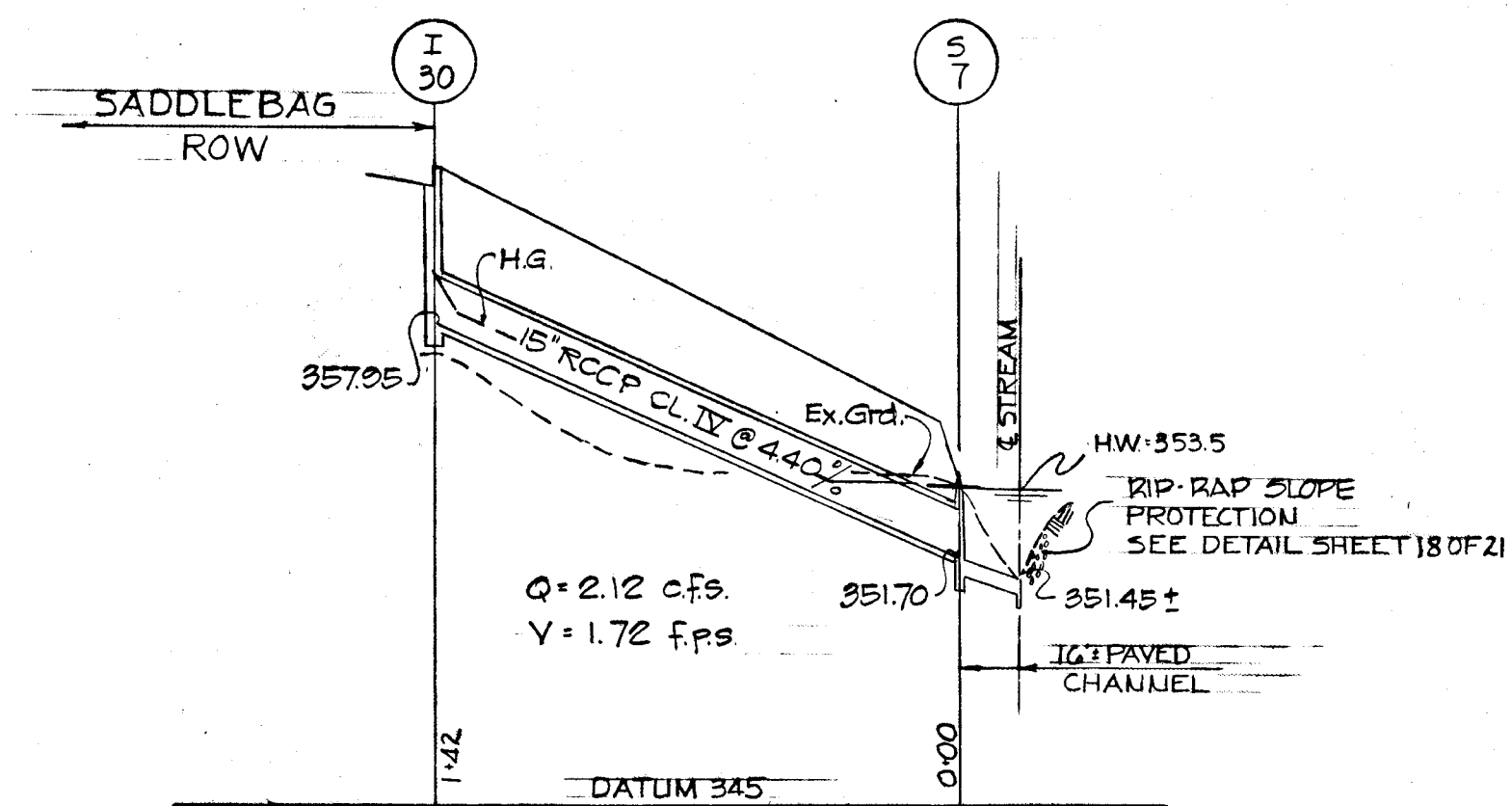
PROJECT TITLE: **DRAINAGE PROFILES**

Drawn by: TP Scale: As Shown
 Date: JAN. 22, 1971
 Checked by: R.J. Approved

Drawn by: TM Date: JAN. 22, 1971
 Checked by: R.J. Approved

Sheet No: 16 OF 22
 CCF No





APPROVED
 OFFICE OF PLANNING
 AND ZONING OF
 HOWARD COUNTY
 DATE: APR 20 1971

J. Hef

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

9-7-71	REVISE STORM DRAINS	TP
Rev. Date	Rev. No.	Revision Description

COLUMBIA MARYLAND

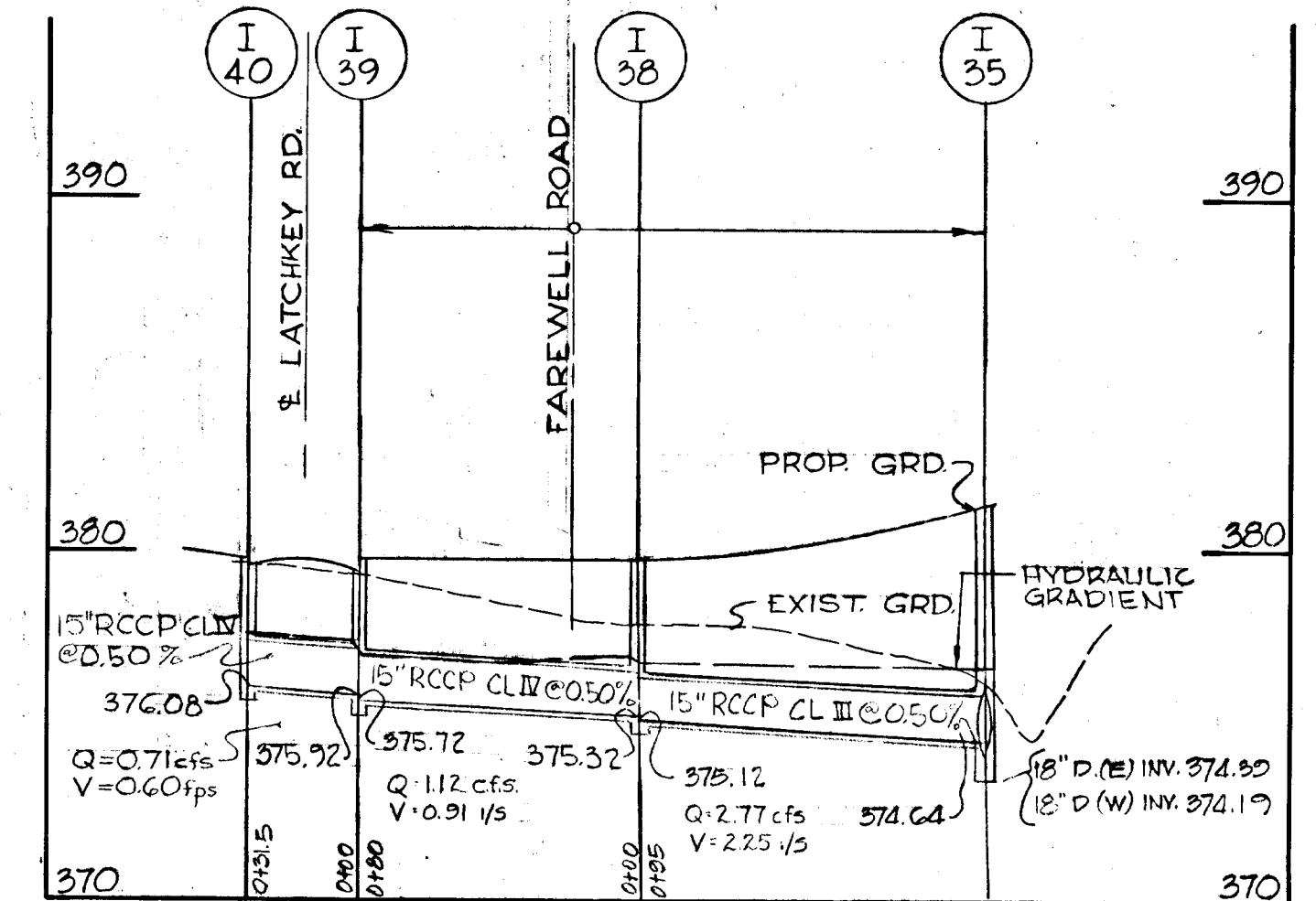
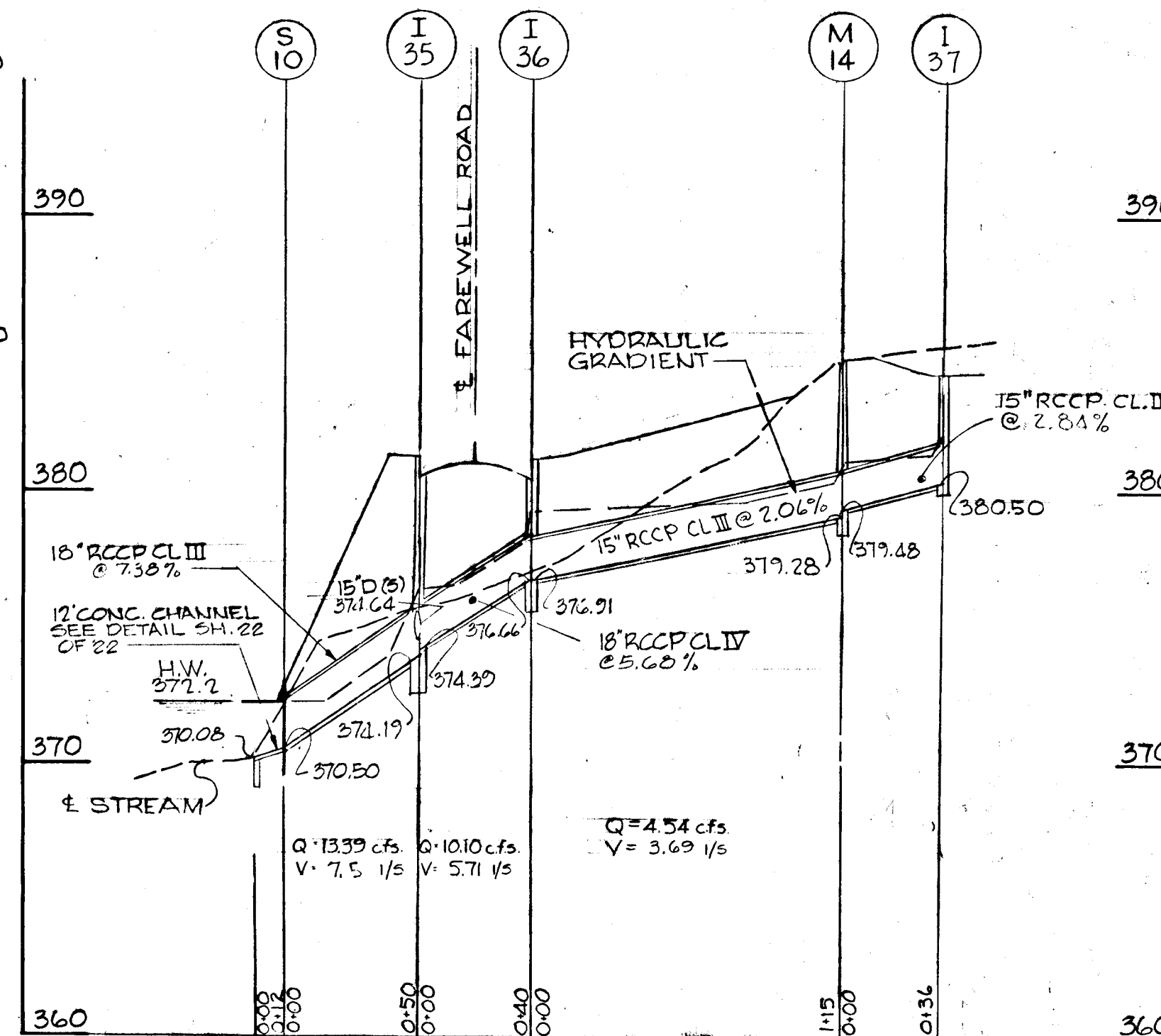
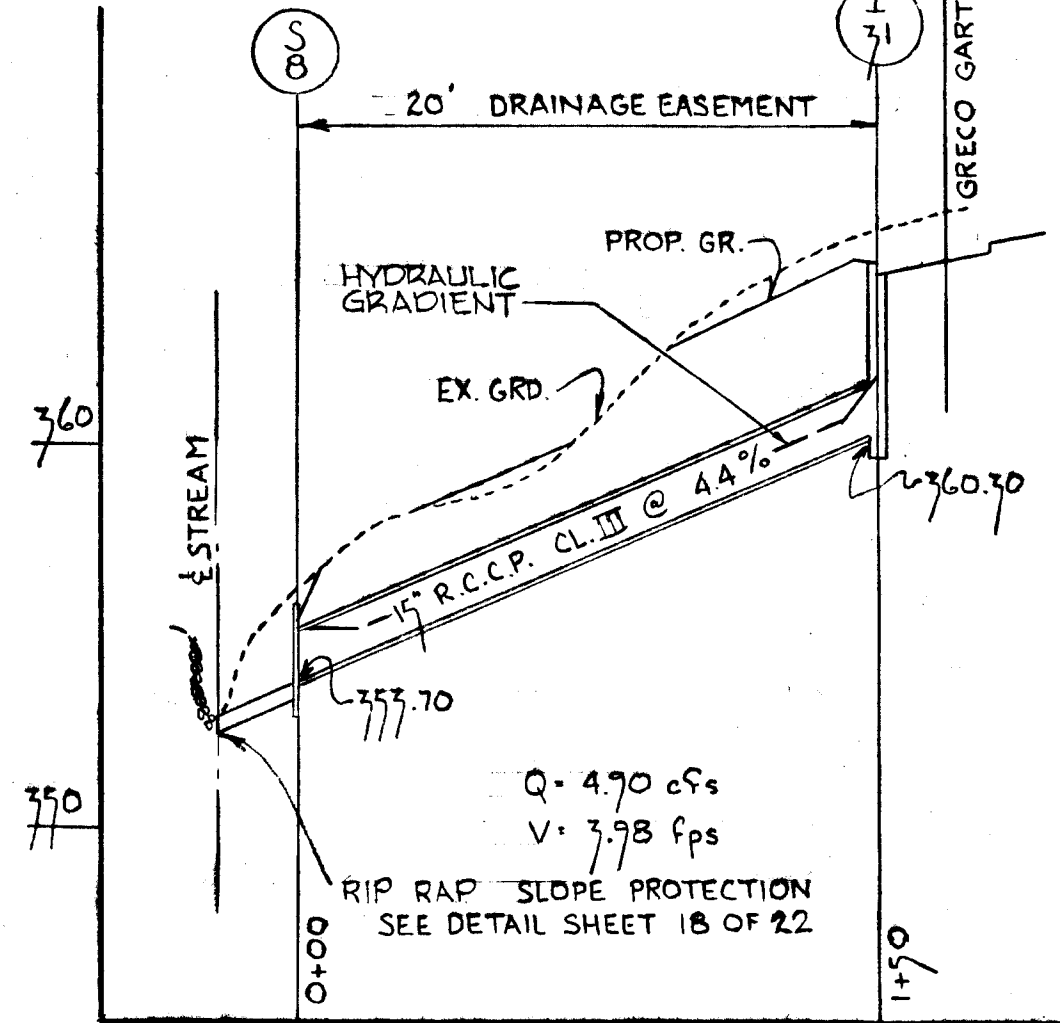
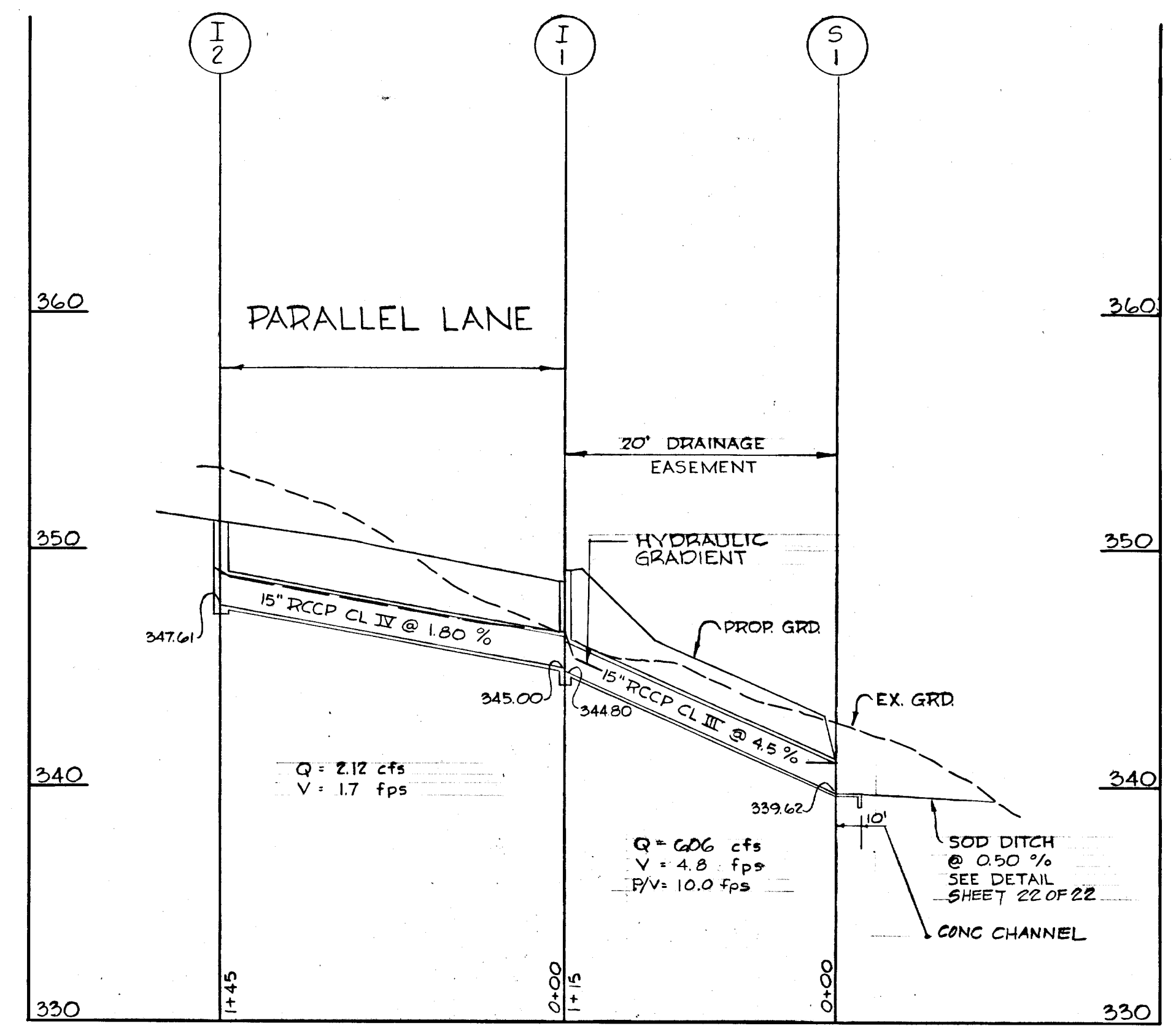
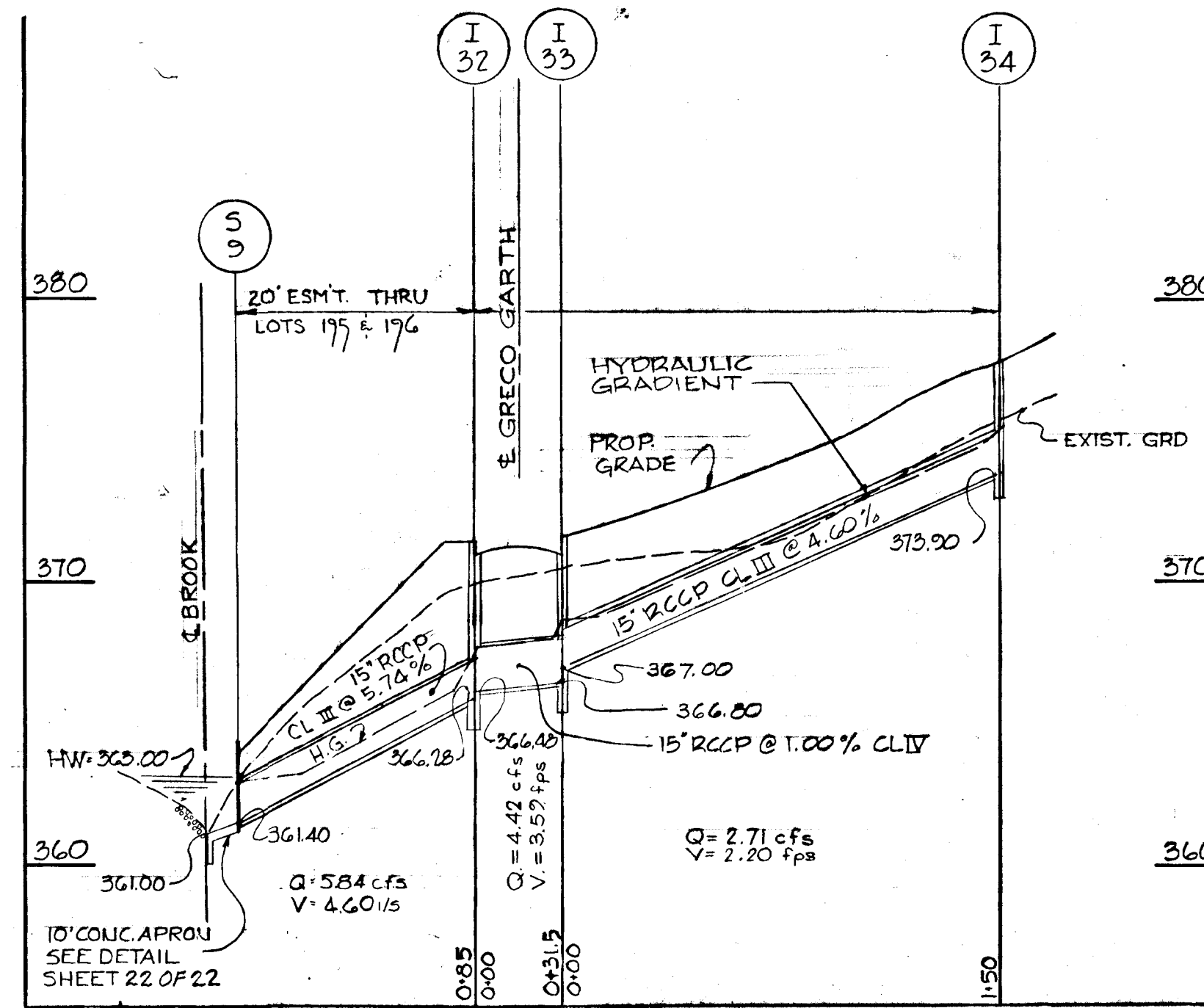
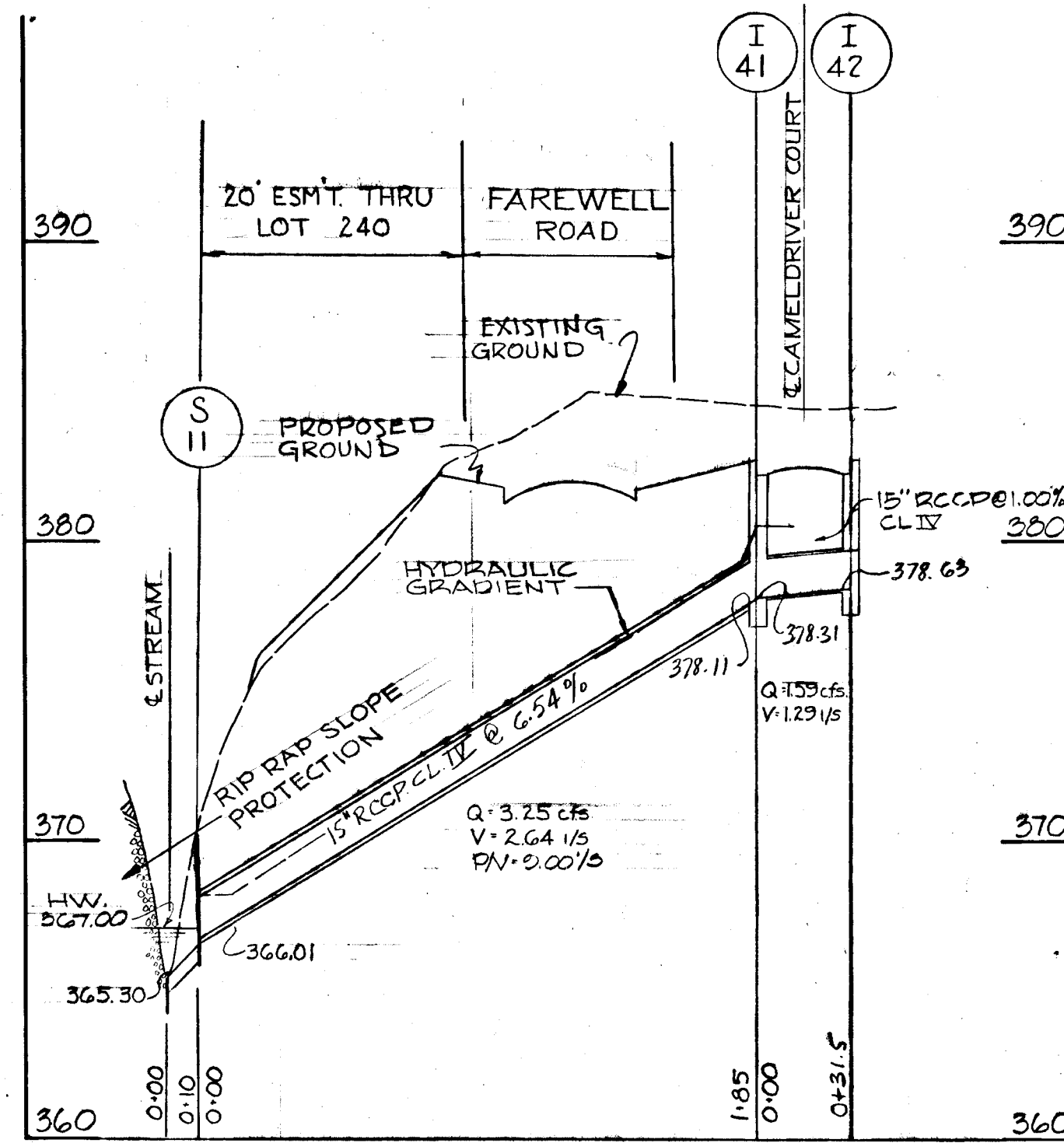
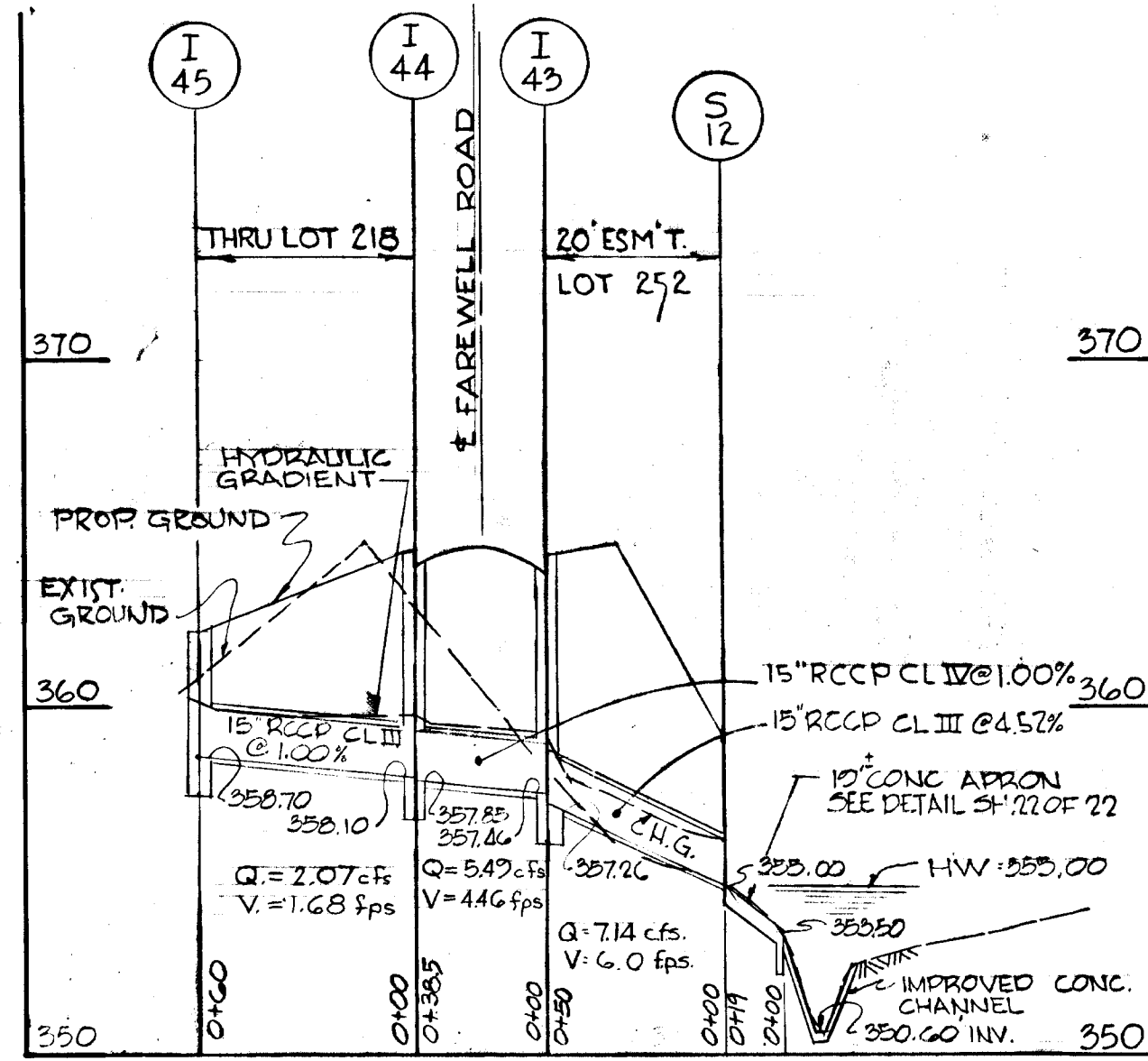
OWNER AND DEVELOPER:
 HOWARD RESEARCH AND DEVELOPMENT CORP.
 THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA: VILLAGE OF OAKLAND MILLS
 SECTION 5 STEVEN'S FOREST AREA G

PROJECT TITLE: DRAINAGE PROFILES

Des. By: TP	Scale: HOR: 1"=50'-0"	Draw. No.: 17 OF 22
Des. By: TM	VERT: 1"=5'-0"	Date: JAN 22, 1971
CM: R.J.	Approved:	CCC No.:





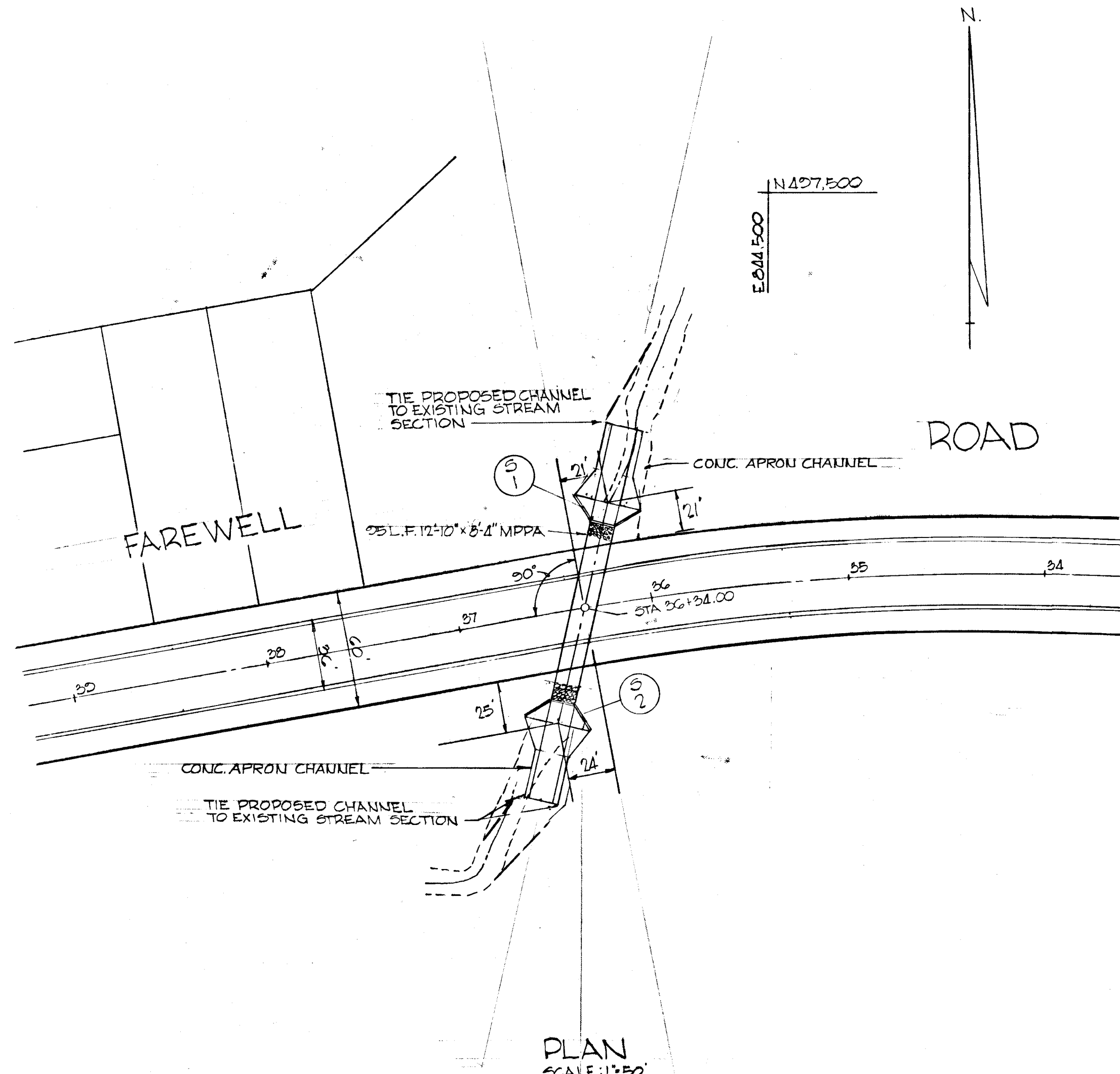
APPROVED
 OFFICE OF PLANNING
 AND ZONING OF
 HOWARD COUNTY
 DATE: APR 20 1971

Richard P. Browne

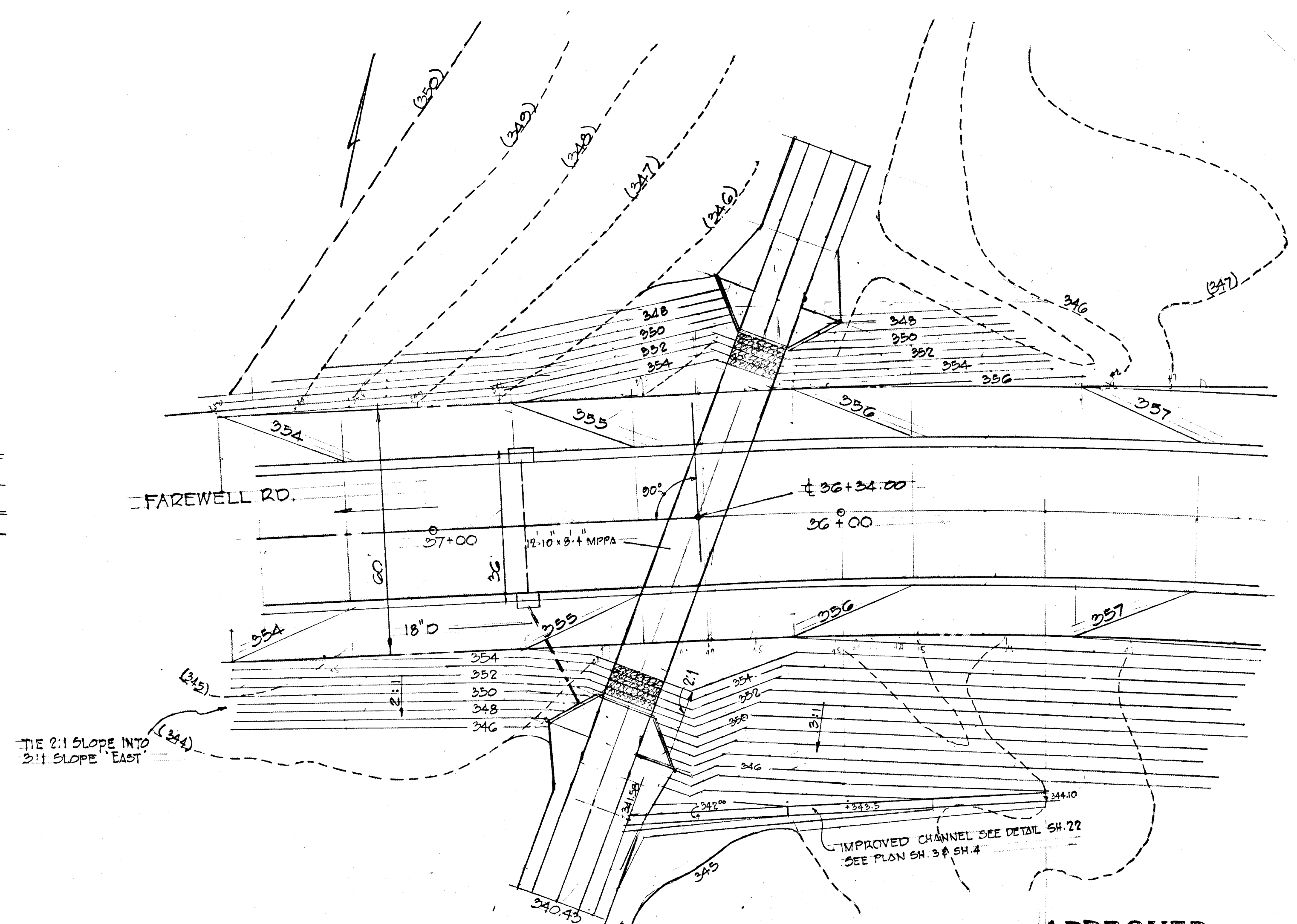


RICHARD P. BROWNE ASSOCIATES Columbia, Maryland		ENGINEERS PLANNERS ARCHITECTS Wayne, New Jersey	
3-12-71	REVISE SYSTEM I 40 TO I 35		
3-7-71	REVISE STORM DRAINS W.H.N.		
Rev Date	Rev No	Revised Description	
COLUMBIA MARYLAND			
HOWARD RESEARCH AND DEVELOPMENT CORP. THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210			
PROJECT TITLE VILLAGE OF OAKLAND MILLS SECTION 5 STEVEN'S FOREST AREA 6			
PROJECT TITLE DRAINAGE PROFILES			
Des. by: TP	Scale: HOR=1"=50' VERT=1"=5'	Drawn by: TM	Sheet No: 15 OF 22
Date: R.J.	Date: JAN. 22, 1971	Checked by: C.C.L.	

ELEM. 0.00
N427.500
ELEM. 0.00
N427.250



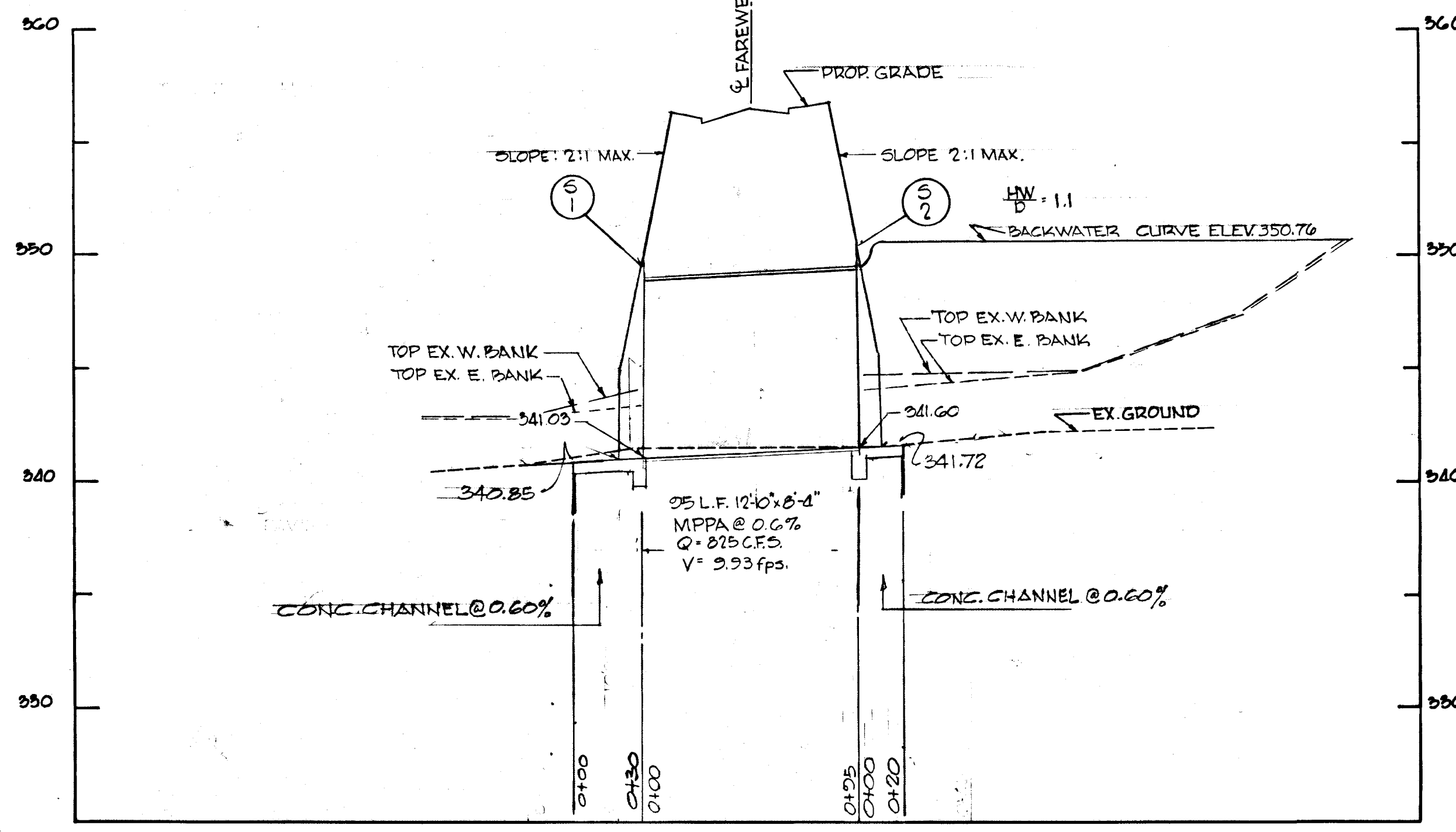
PLAN
SCALE: 1" = 50'



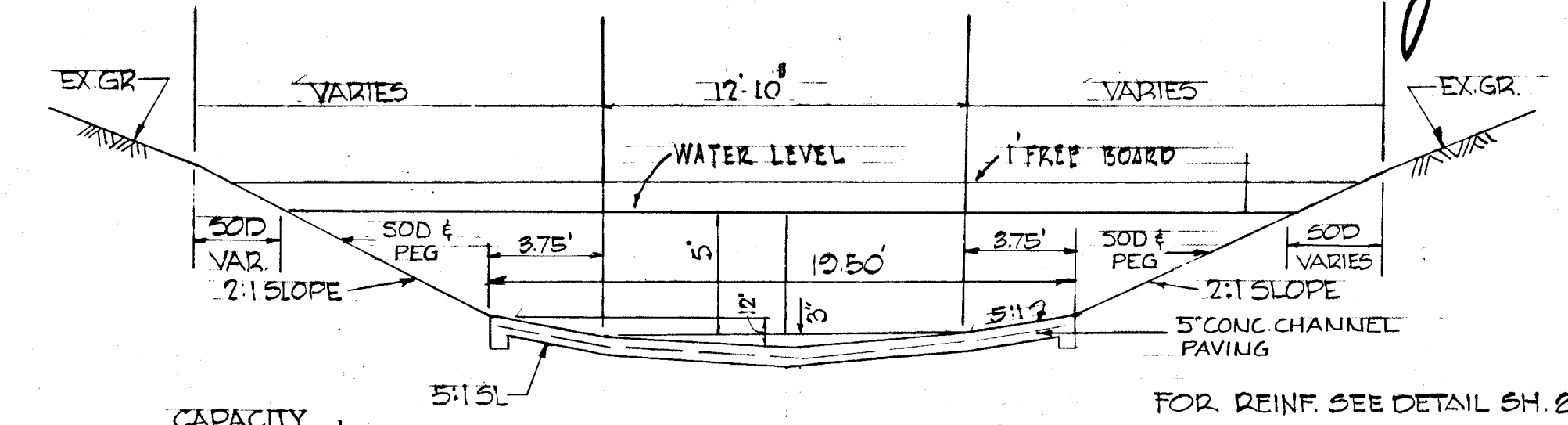
GRADING PLAN
12:10 x 8:4 MPPA
SCALE 1" = 20'

APPROVED
OFFICE OF PLANNING
AND ZONING OF
HOWARD COUNTY
DATE: APR 20 1971

J. Kelly



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



CAPACITY
A = 147 #
WD = 41.50
HR = 3.54
SL = 0.60% ANG.
V = 0.040
V = 6.8/6
Q = 899 CFS

TYPICAL SECTION
UPSTREAM & DOWNSTR.
SOD & EARTH CHANNEL
(RIPRAP INV.)
SCALE: 1" = 5'-0"



Richard P. Browne

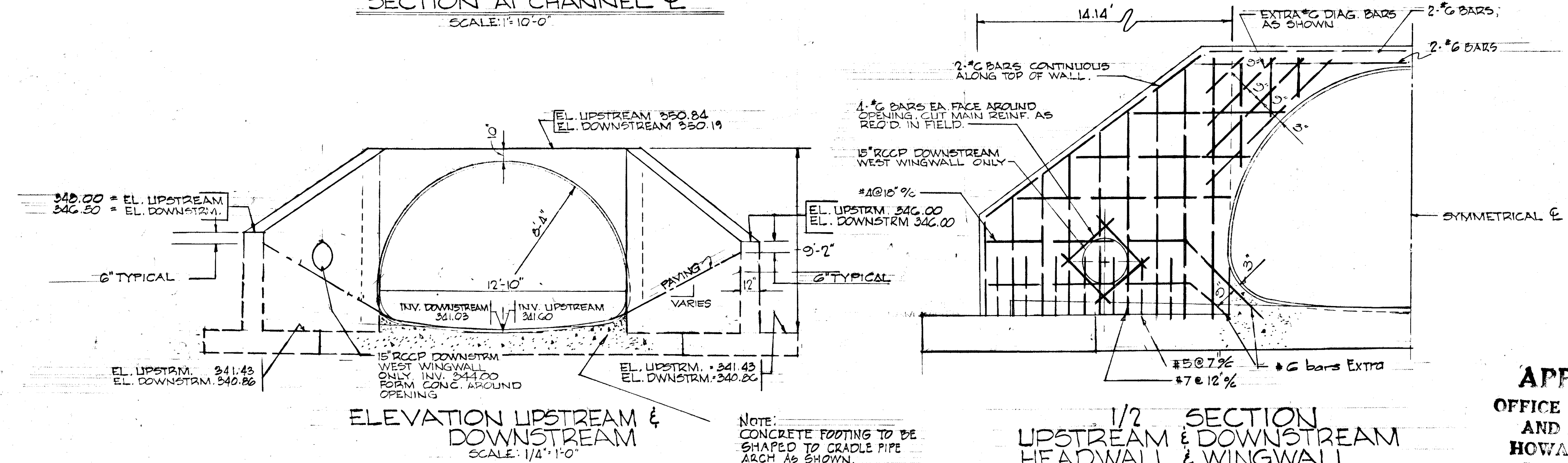
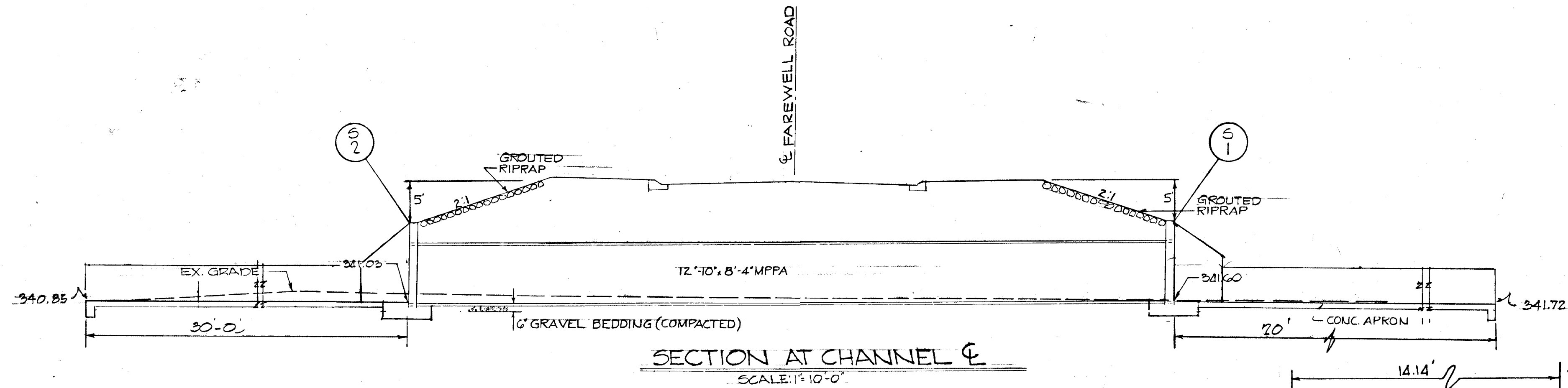
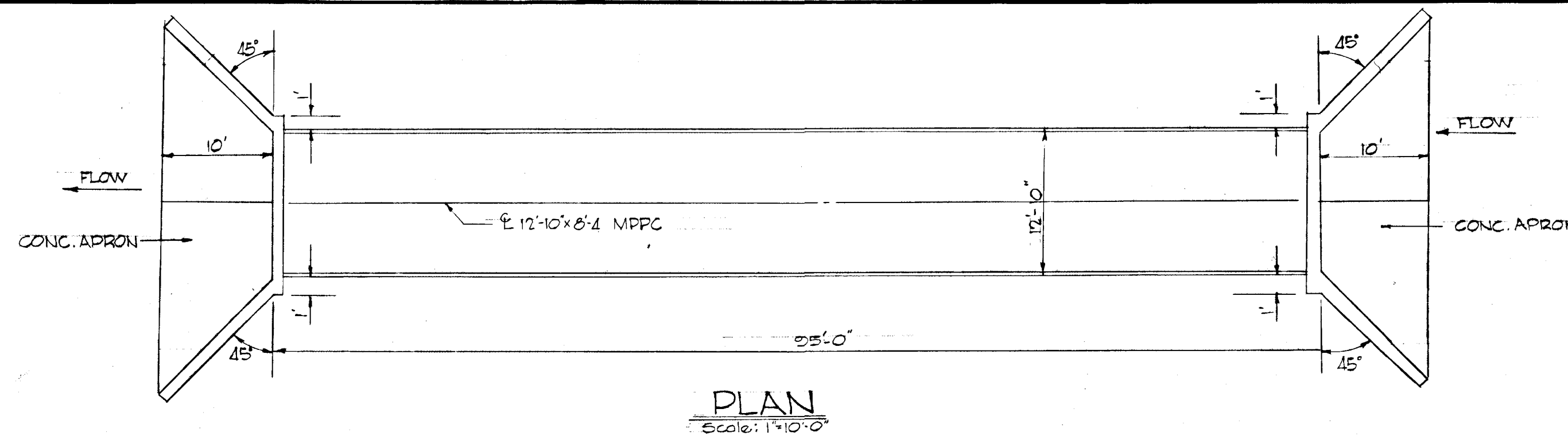
RICHARD P. BROWNE ASSOCIATES
Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
Weymouth, 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 OAKLAND MILLS SEC. 5 STEVENS FOREST AR. 6		
PROJECT TITLE 12:10' SPAN x 8:4' RISE MPPA PLAN AND PROFILE		
Des. By: TKS	Scale: AS SHOWN	Page No: 20 OF 22
Dis. By: RJ	Date: JAN. 22, 1971	Proj. No. FCF No.
Chk. By: TKS	Approved:	

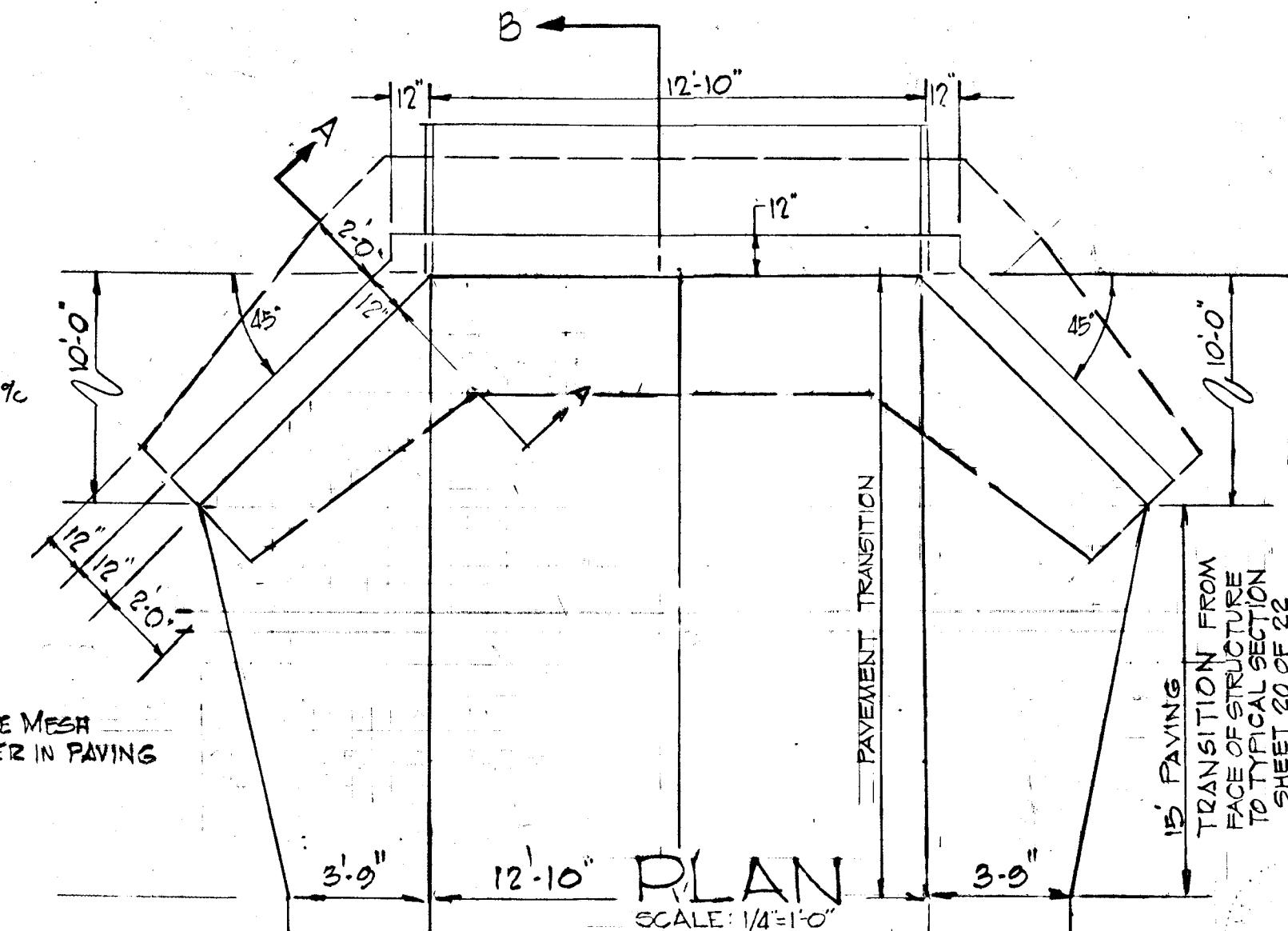
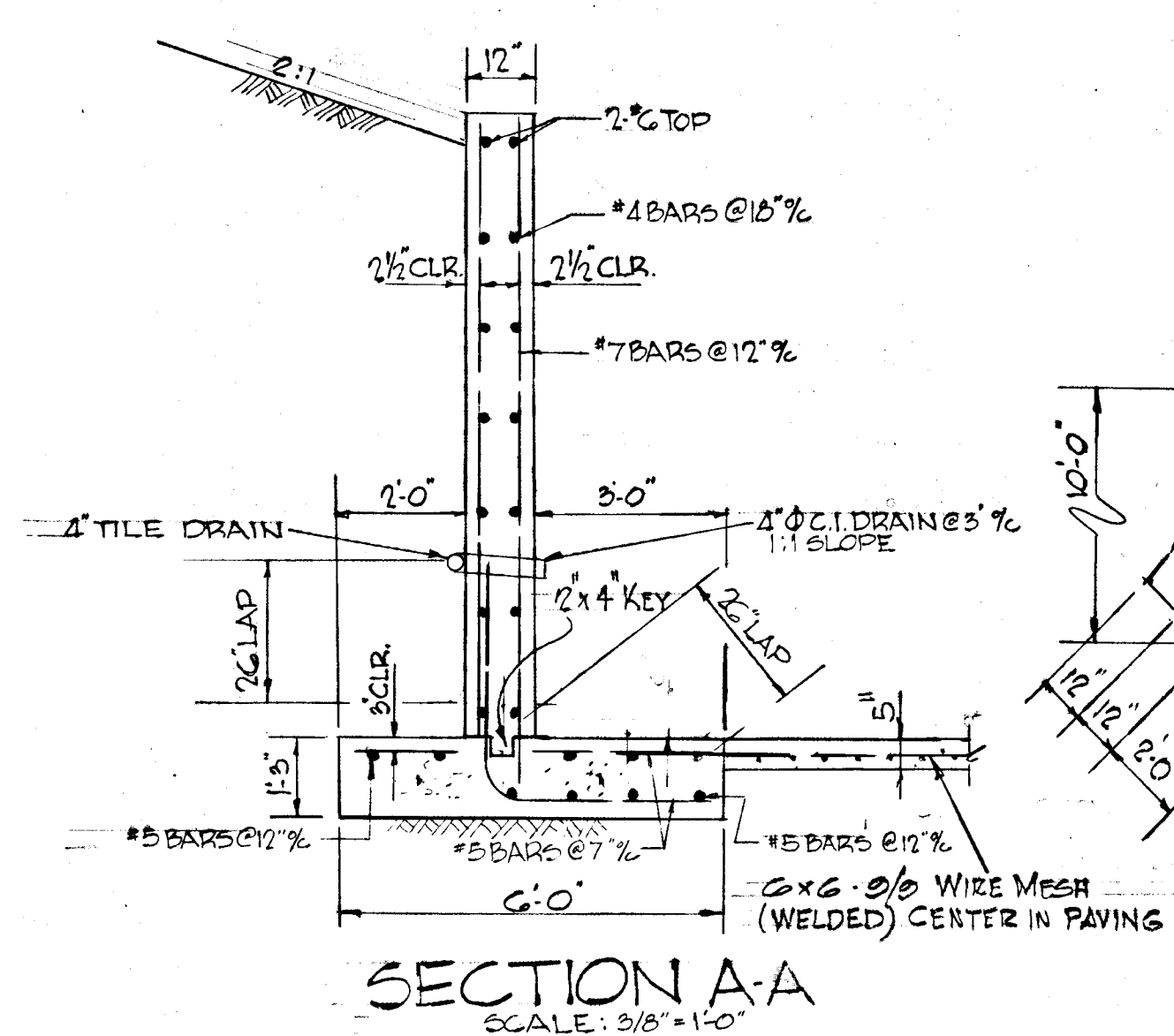
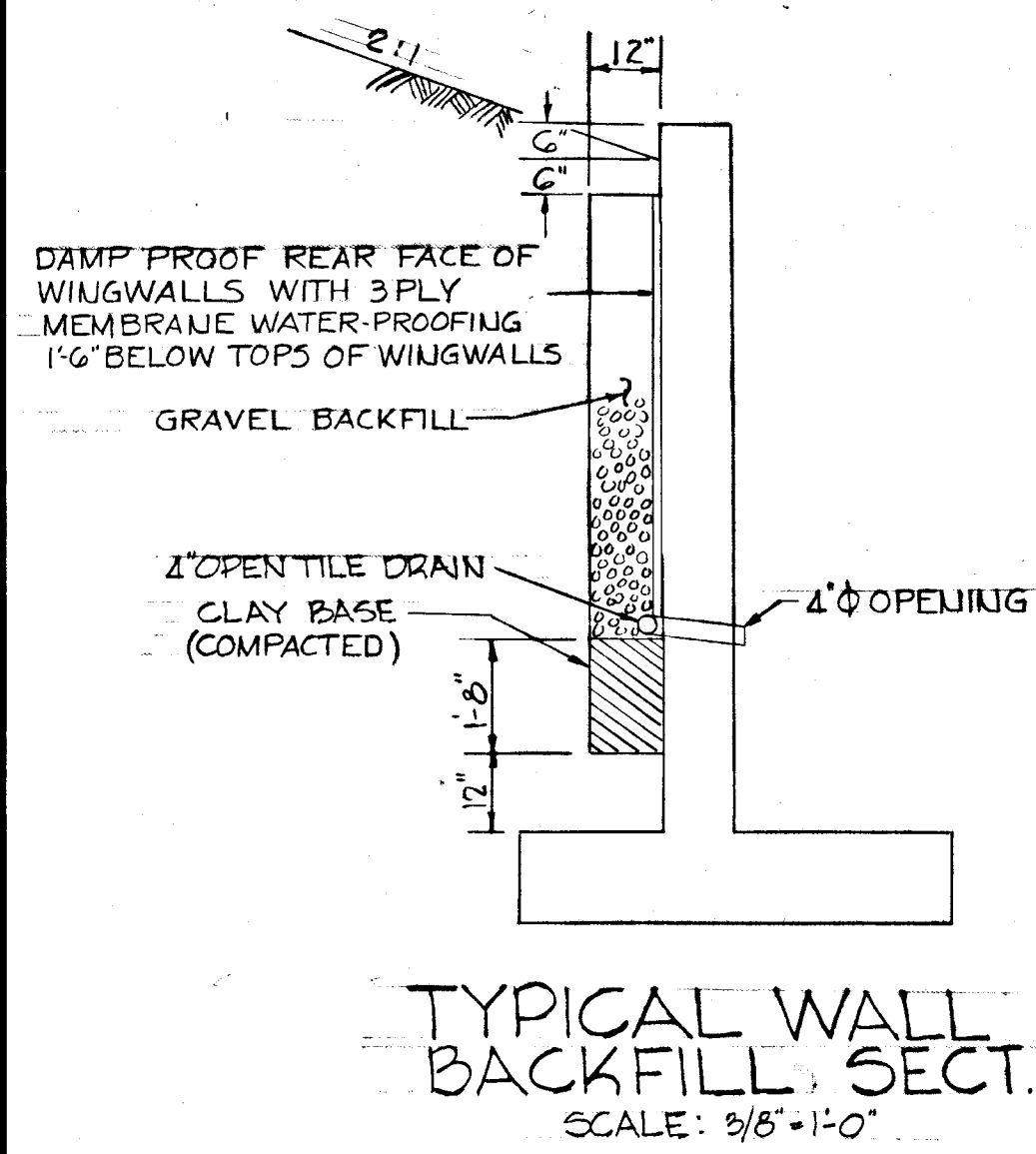
GENERAL NOTES

- LOADING:** H20 S-16-44
- REINFORCING:** REINFORCEMENT SHALL BE INTERMEDIATE GRADE DEFORMED BARS OF BILLET STEEL CONFORMING A.S.T.M. SPECS A-15 & A-305
- CONCRETE:** ALL CONC SHALL BE CLASS 'A' 3500 PSI, 70 DAY STRENGTH. CONC SHALL CONFORM TO ASTM SPECS. C-39 GRT, & C-150. ALL EXPOSED SURFACES SHALL HAVE A CLASS 1 RUBBED FINISH, OTHER SURFACES SHALL BE AN ORDINARY SURFACE FINISH.
- CHAMFER:** ALL EXPOSED SURFACES SHALL BE CHAMFERED 3/8" x 3/4"
- PIPE-ARCH:** PIPE ARCH TO BE 12'-10" SPAN x 8'-4" RISE MULTI-PLATE PIPE-ARCH, 12 GAGE WITH 6x2" CORRUGATIONS. STEEL STRUCTURAL PLATE SHALL CONFORM TO AASHTO SPEC. FOR HWY. BRIDGES, 10TH EDITION, 1989 & CORRUGATED METAL PIPE BFR-1970
- BITUMINOUS COATING:** PIPE ARCH SHALL BE COATED UNIFORMLY, INSIDE AND OUT WITH ASPHALT CEMENT TO A MINIMUM THICKNESS OF 0.02 IN., MEASURED ON THE CRESTS OF THE CORRUGATIONS.
- BITUMINOUS PAVING:** PIPE ARCH INVERT SHALL BE PAVED WITH ACCEPTABLE BITUMINOUS CONCRETE MATERIAL WHICH SHALL COVER 40% OF THE PERIPHERY. PAVING SHALL HAVE A THICKNESS OF 1" OVER CRESTS OF CORRUGATIONS. PAVING SHALL BE LAID AT A TEMPERATURE BETWEEN 250°F & 280°F AND SHALL BE TAMPED IN PLACE TO PROPER SHAPE & THICKNESS.

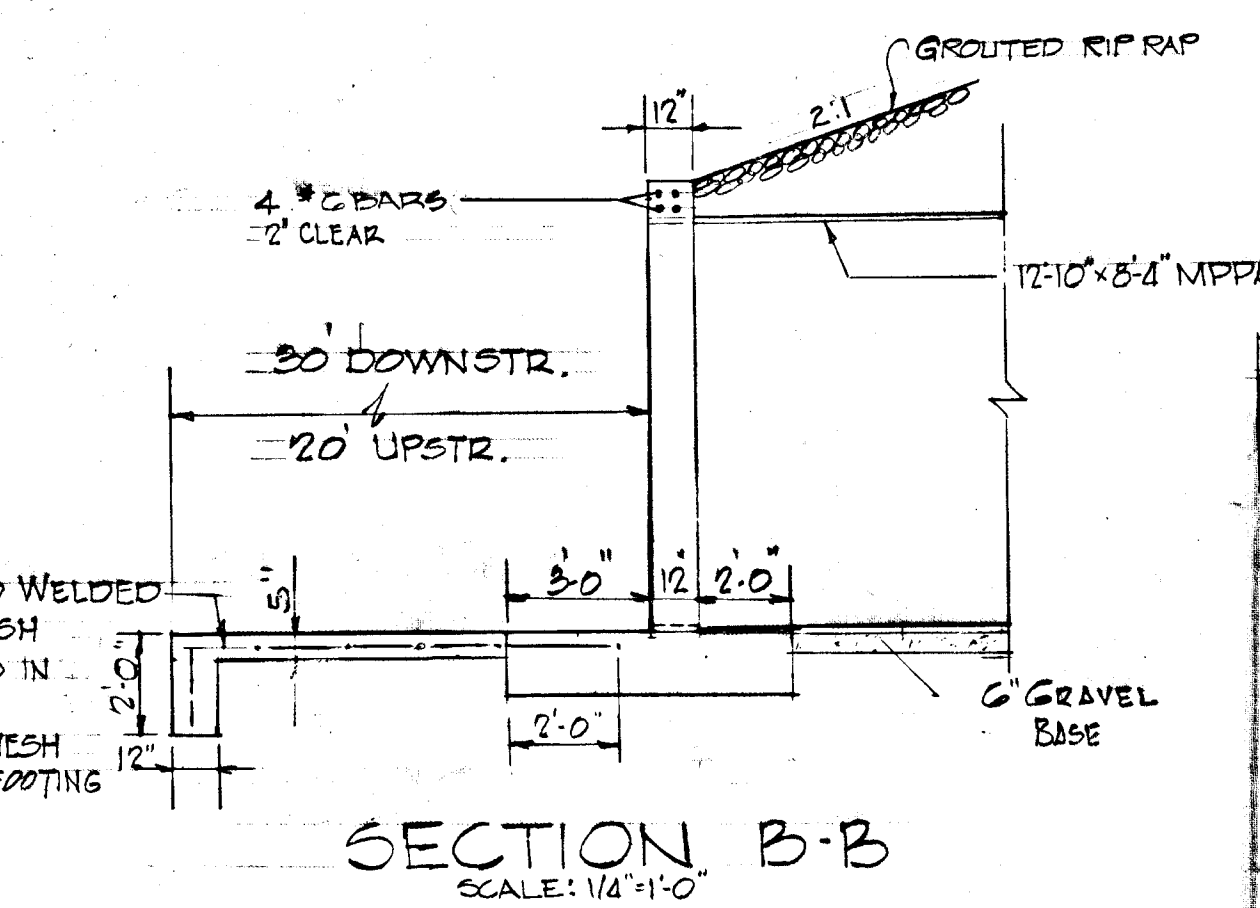


1/2 SECTION UPSTREAM & DOWNSTREAM HEADWALL & WINGWALL
SCALE: 3/8"=1'-0"

APPROVED
OFFICE OF PLANNING AND ZONING OF HOWARD COUNTY
DATE: APR 20 1978
[Signature]

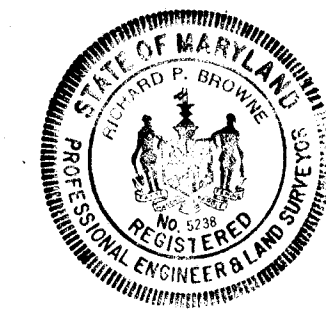


NOTE: CONCRETE FOOTING TO BE SHAPED TO CRADLE PIPE ARCH AS SHOWN.

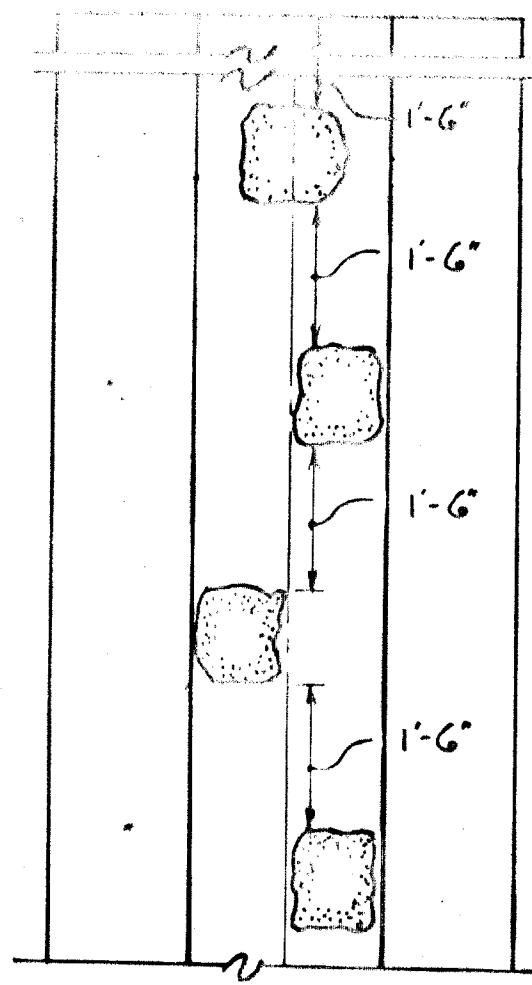


SECTION B-B
SCALE: 1/4"=1'-0"

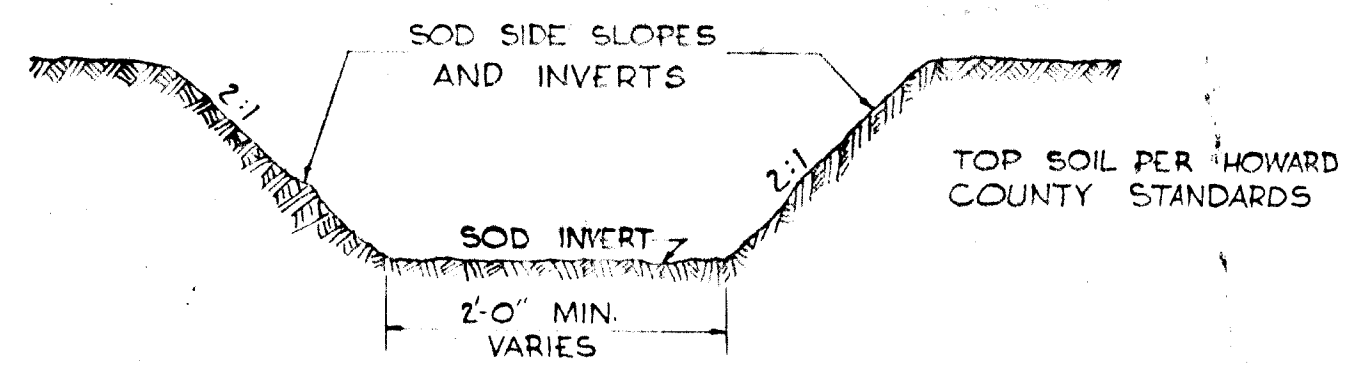
4-14-71	SHAPE FOOTING UNDER MPPA	T6
4-14-71	LAP WIRE MESH INTO FOOTING	T6
4-14-71	REV. STEEL PARAPET WALL - ADD 2#6 BARS	T6
4-5-71	REV. PER COUNTY COMMENTS	T6
Rev. Date	Rev. No.	Revision Description
COLUMBIA MARYLAND		
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210		
PROJECT AREA	VILLAGE OF OAKLAND MILLS STEVEN'S FOREST AD. 2	
PROJECT TITLE	12'-10" SPAN x 8'-4" RISE MPPA DETAILS	
Des. By	TKS	As Shown
Dim. By	R.J.	Date JAN 22, 1971
CHK. By	TKS	Approved



RICHARD P. BROWNE ASSOCIATES
Engineers Planners Architects
Columbia, Maryland
Winona, New Jersey

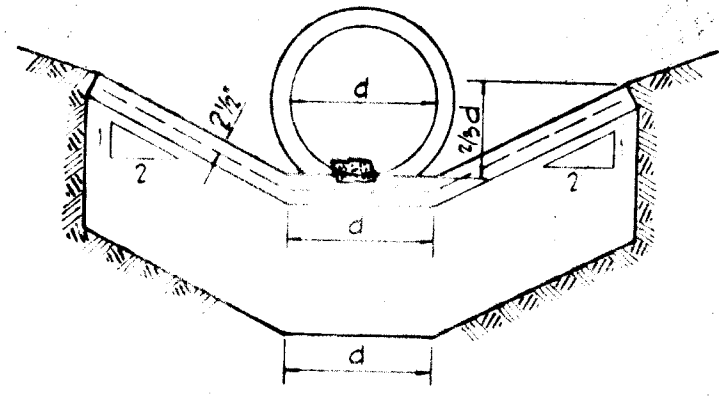
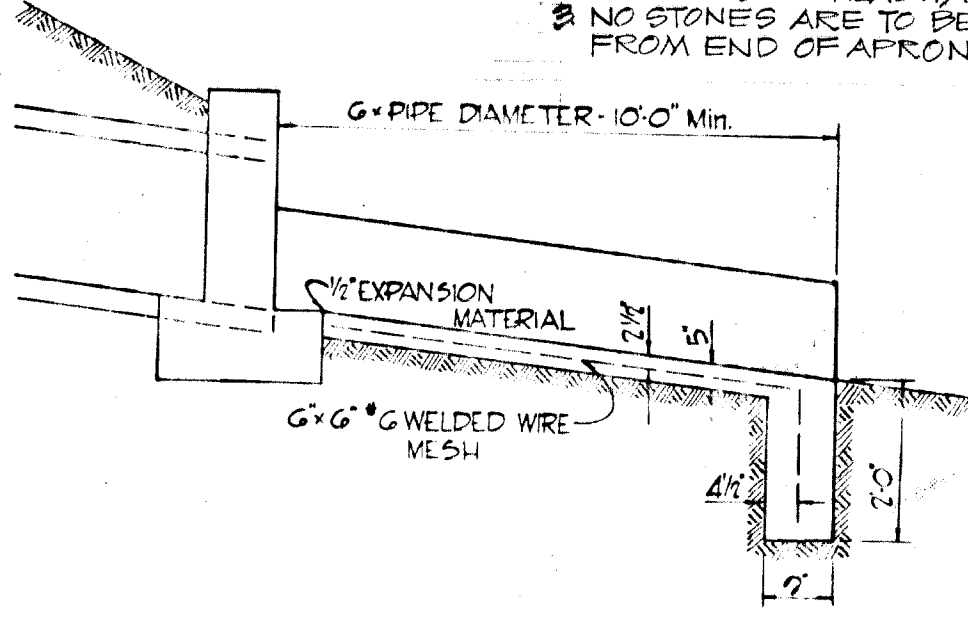


1. STONES SHALL BE 1 MAN STONES. NORMAL SIZE SHALL BE 12" x 12" x 8"
2. FIRST STONE SHALL BE PLACED 1'-6" MINIMUM FROM END OF HEADWALL & E. OF APRON.
3. NO STONES ARE TO BE LOCATED WITHIN 3' FROM END OF APRON.

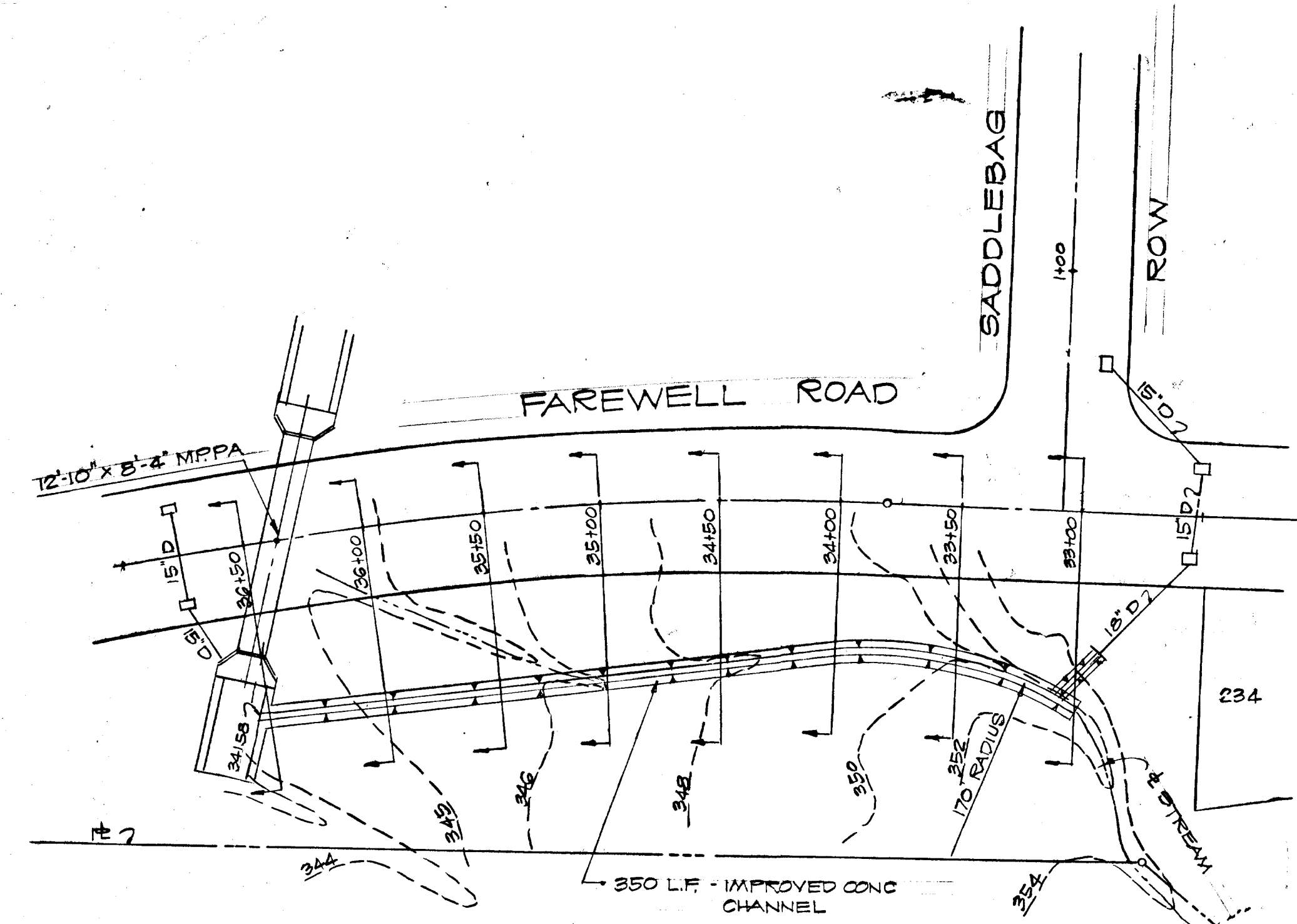


NOTE: ALL EXISTING DITCHES APPROACHING PROPOSED ENDWALLS SHALL BE TRIMMED IN ACCORDANCE WITH ARTICLE C-6 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.

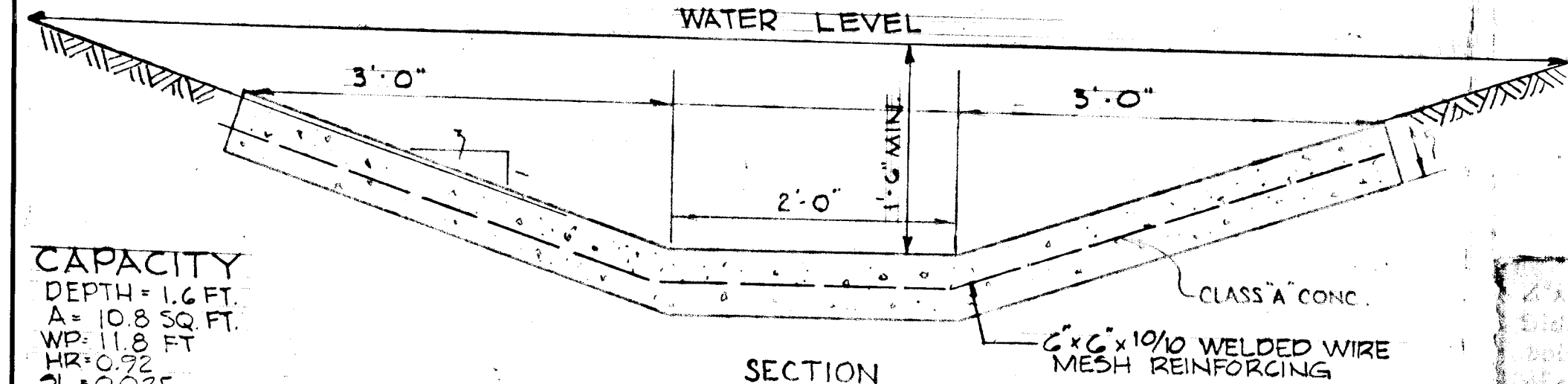
TYPICAL DRAINAGE DITCH
NO SCALE



TYPICAL CONCRETE CHANNEL AND CUTOFF WALL
NO SCALE

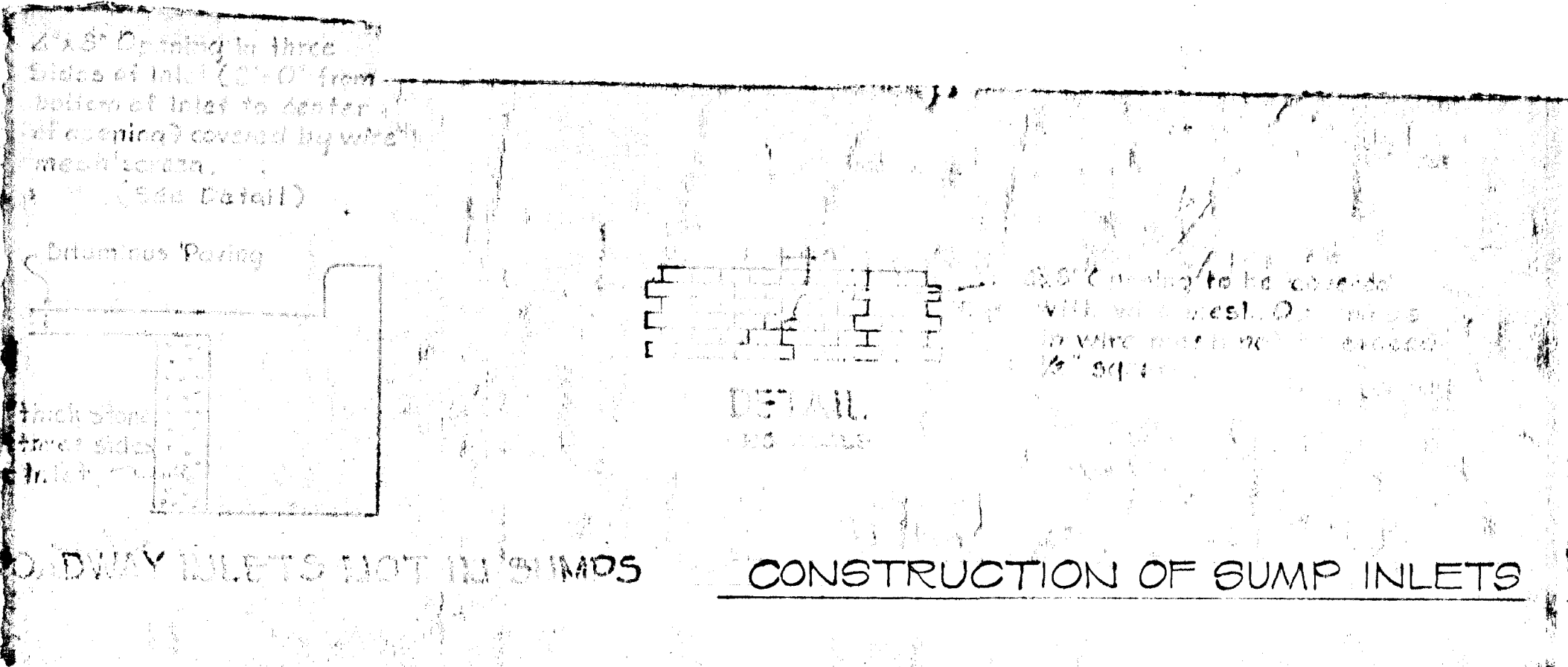


IMPROVED CHANNEL PLAN
SCALE 1"=50'

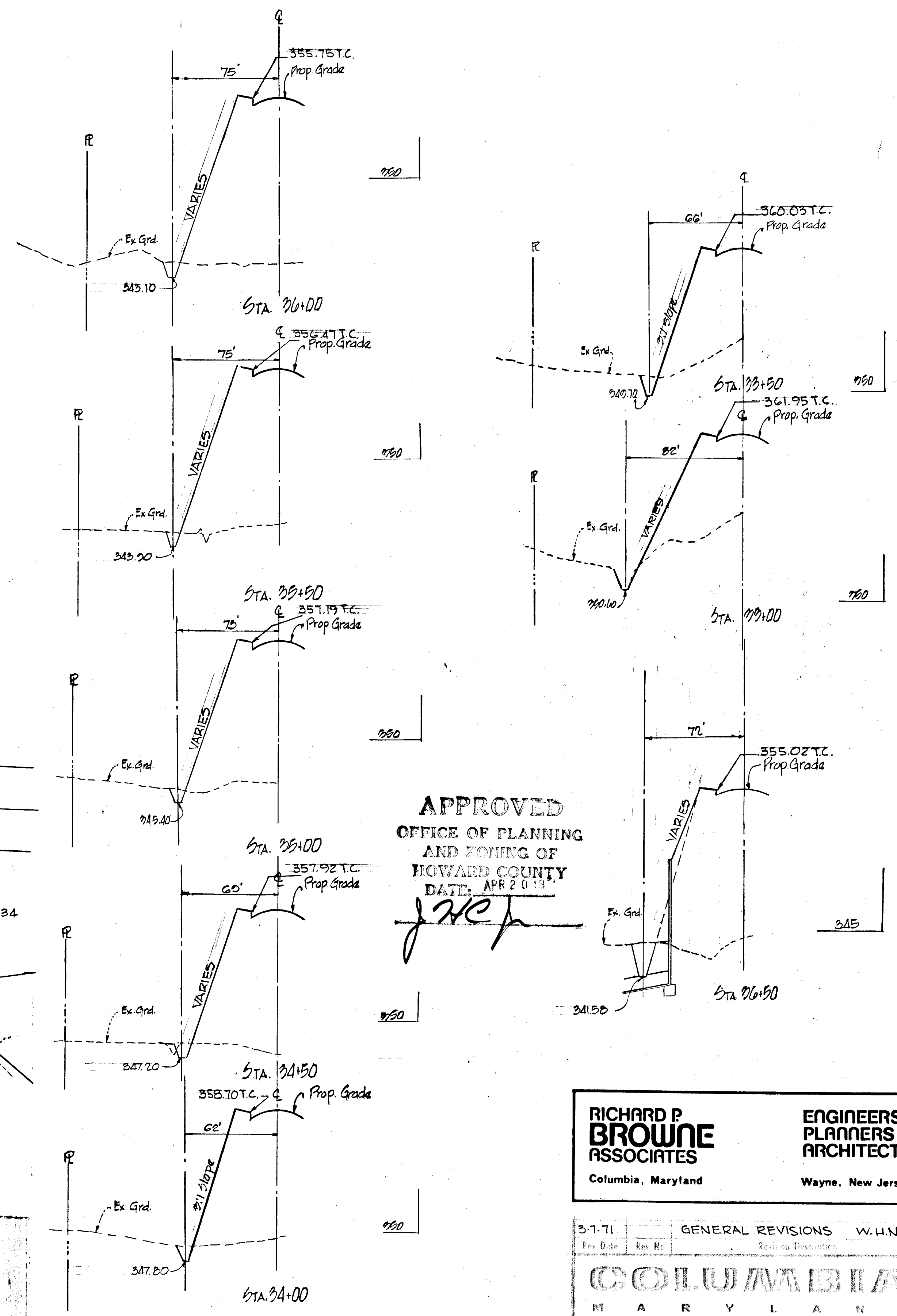


CAPACITY
DEPTH = 1.6 FT.
A = 10.8 SQ. FT.
WP = 11.8 FT.
WR = 0.92
SL = 0.025
V = 0.03 FT./SEC
Q = 100.44 C.F.S.

SECTION
IMPROVED CONC. CHANNEL
NO SCALE



CONSTRUCTION OF GUMP INLETS



IMPROVED CHANNEL SECTIONS
SCALE HORIZ 1"=50'
VERT 1"=5'

APPROVED
OFFICE OF PLANNING
AND ZONING OF
HOWARD COUNTY
DATE: APR 20 1974
J. H. P.

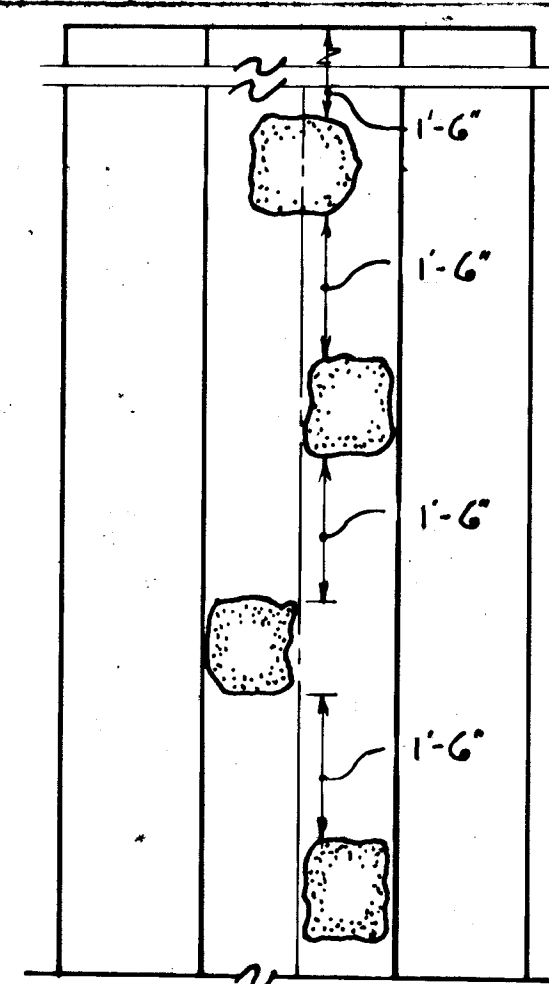
RICHARD P. BROWNE ASSOCIATES
Columbia, Maryland

ENGINEERS PLANNERS ARCHITECTS
Wayne, New Jersey

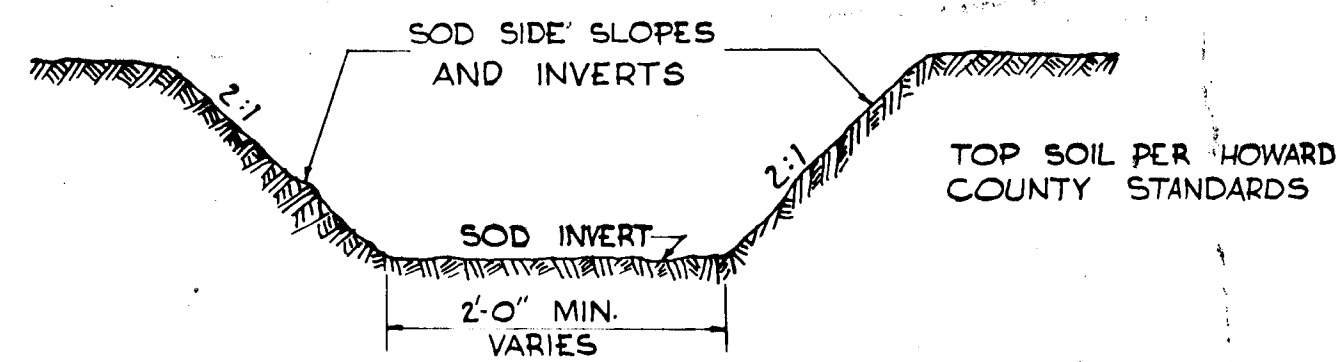
3-1-71	GENERAL REVISIONS	W.H.N.
Rev. No.	Revision Description	
COLUMBIA MARYLAND		
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT COOP. THE VILLAGE OF OAKLAND MILLS - BALTIMORE, MARYLAND 21210		
PROJECT AREA VILLAGE OF OAKLAND MILLS SECTION 5 STEVEN'S FOREST AREA 6		
PROJECT TITLE STORM DRAIN DETAILS		
Des. By	T.P.	Scale: As Shown
Dir. By	T.M.	Date: 22 JAN '71
Chk. By	T.P.	Sheet No: 22 of 22



Richard P. Browne

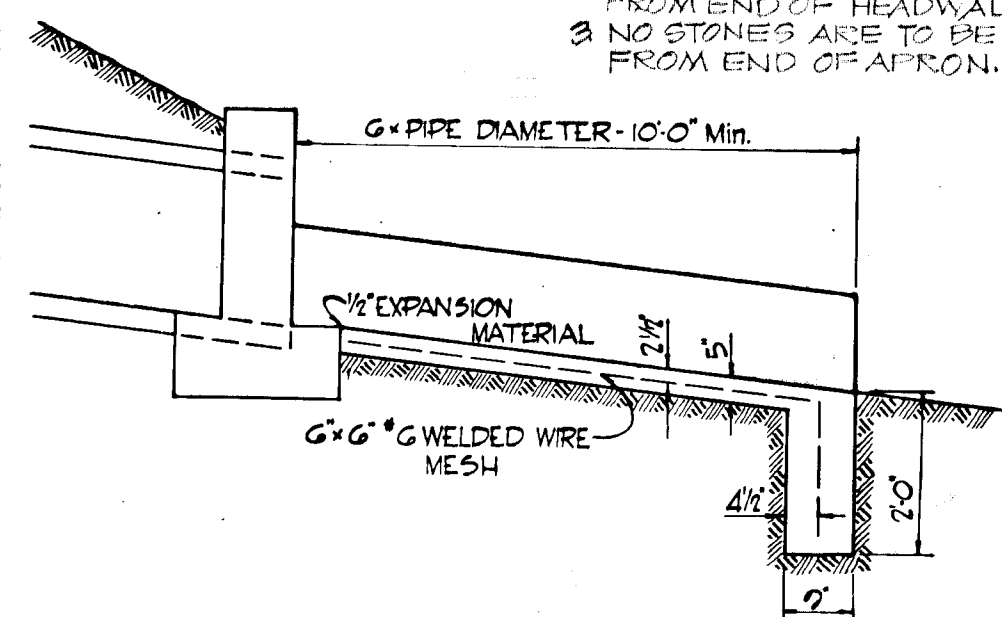


1. STONES SHALL BE 1 MAN STONES NORMAL
2. FIRST STONE SHALL BE PLACED 1'-6" MINIMUM FROM END OF HEADWALL
3. NO STONES ARE TO BE LOCATED WITHIN 3' FROM END OF APRON.

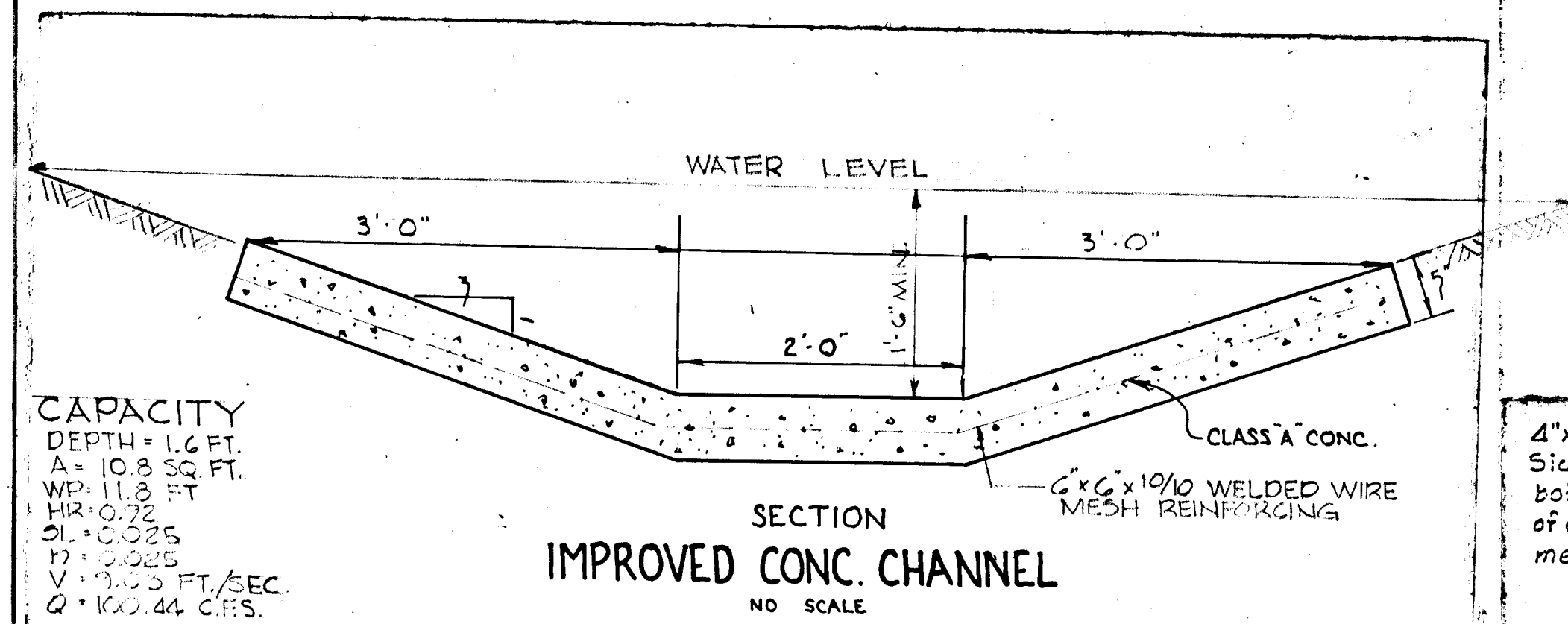


NOTE: ALL EXISTING DITCHES APPROACHING PROPOSED ENDWALLS SHALL BE TRIMMED IN ACCORDANCE WITH ARTICLE C-6 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.

TYPICAL DRAINAGE DITCH
NO SCALE

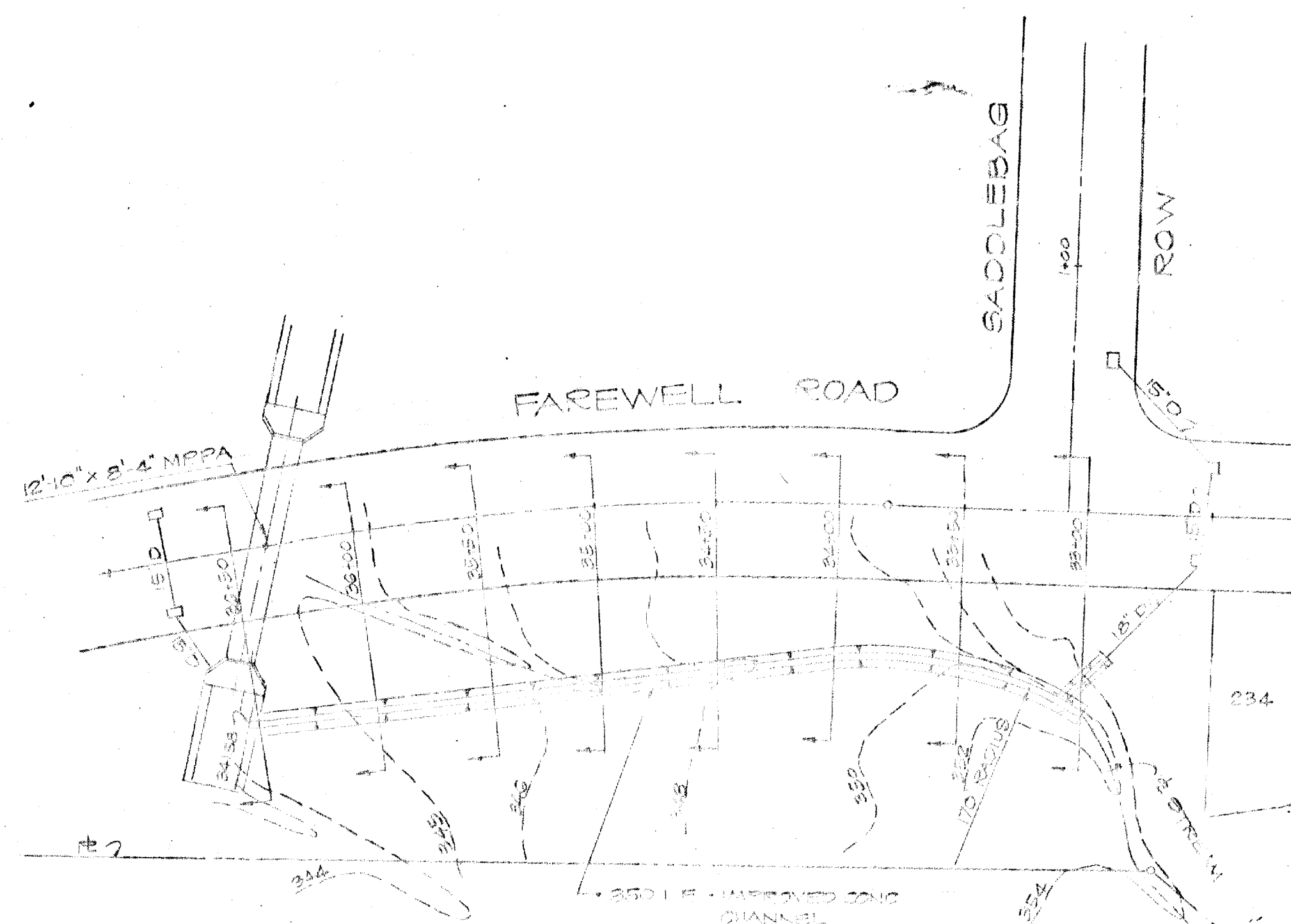


TYPICAL CONCRETE CHANNEL AND CUTOFF WALL
NO SCALE



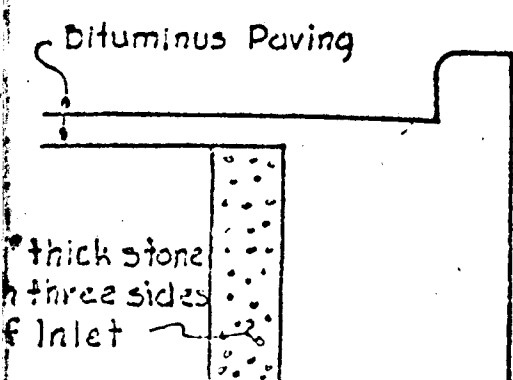
CAPACITY
DEPTH = 1.6 FT.
A = 10.8 SQ. FT.
WP = 11.8 FT.
HR = 0.72
SL = 0.025
V = 0.025
Q = 100.44 C.F.S.

SECTION IMPROVED CONC. CHANNEL
NO SCALE

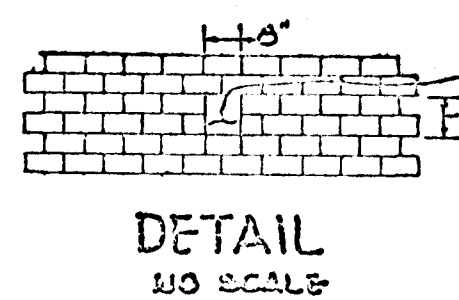


IMPROVED CHANNEL PLAN
SCALE 1" = 50'

4'x8" Opening in three Sides of Inlet (2'-0" from bottom of Inlet (2'-0" from center of opening) covered by wire mesh screen. (See Detail)

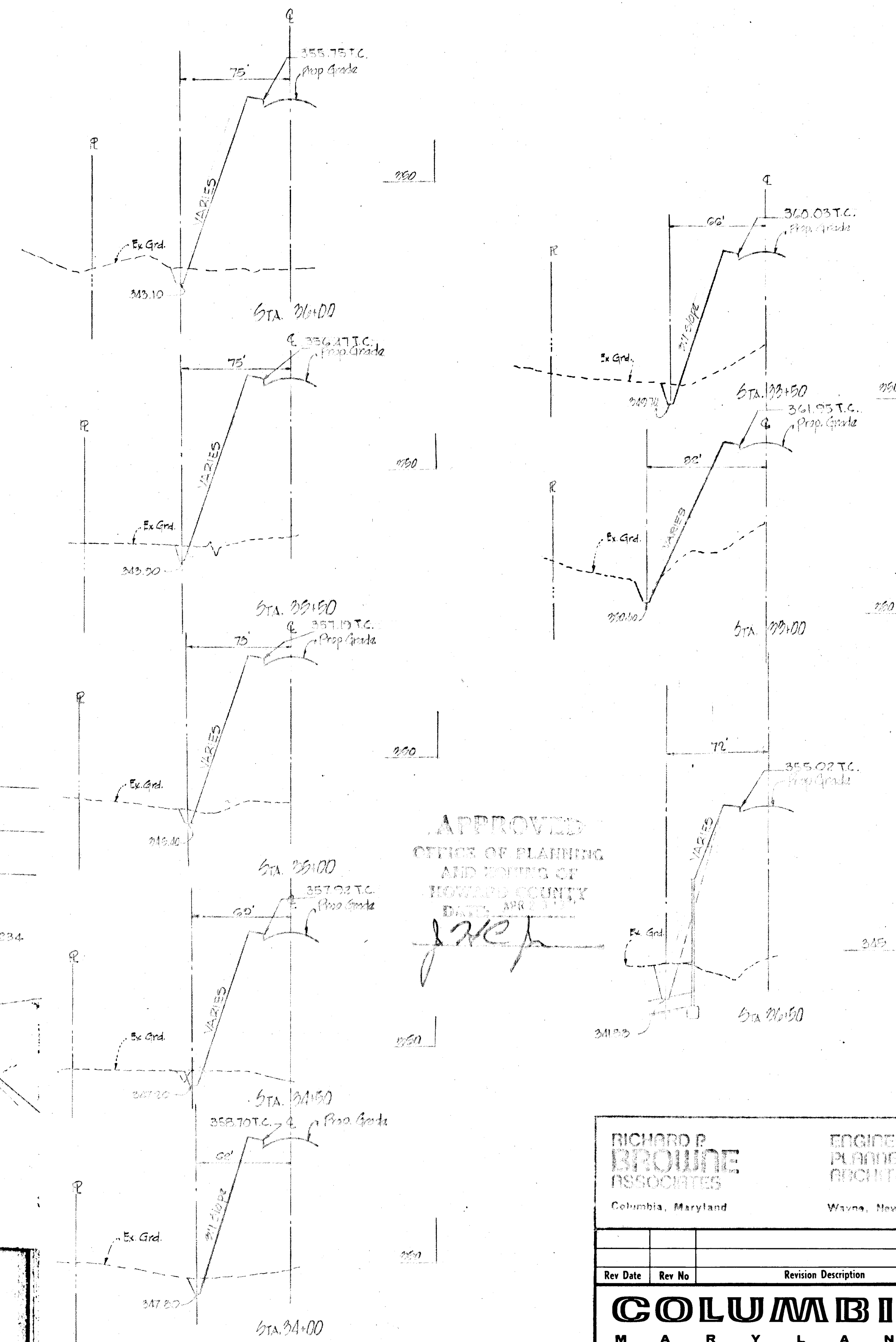


ROADWAY INLETS NOT IN SUMPS



DETAIL
NO SCALE

CONSTRUCTION OF GUMP INLETS



APPROVED
OFFICE OF PLANNING
AND ZONING OF
HOWARD COUNTY
DATE APR 11 1960
J. H. P.

IMPROVED CHANNEL SECTIONS
SCALE HORIZ 1" = 50'
VERT 1" = 5'

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 SECTION 5 - SEVEN'S FOREST AREA 6			
PROJECT TITLE FORM DRAIN DETAILS			
Des By	Scale	Dwg. No	
Dwn By	Date	C.C.F. No	
Chk By	Approved		