

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET

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GENERAL NOTES

- 1) Vehicular Ingress And Egress To U.S. Route One Is Restricted Except At Approved Points Of Access.
- 2) The Contractor Shall Notify The Following Utilities At Least Three (3) Days Before Beginning The Work Shown On These Drawings:
 - a) Bell Telephone System - Call 303-3640 Collect.
 - b) Long Distance Cables Call 303-3553 or 54 Coll.
 - c) Baltimore Gas & Electric Co Call 234-5601.
- 3) Onsite Construction Will Be Accomplished In Accordance With The Howard County Road Construction Code And Standard Specifications.
- 4) The Contractor Shall Place Topsoil And Seed & Mulch The Graded Area Behind The Curb On All Roads When They Are Developed.
- 5) The Bid Line For Excavation Shall Be The Paving Subgrade Within The Proposed Roads, And Existing Ground Elsewhere, Except As Otherwise Noted On The Plans.
- 6) All Work Within The State Right Of Way For U.S. Route One Shall Be Accomplished In Accordance With State Highway Administration Permit No.

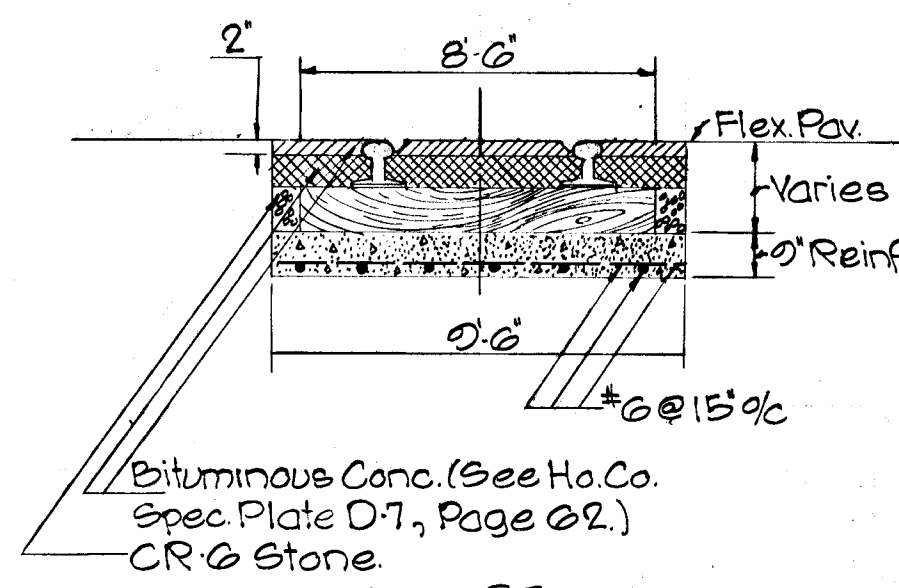
AS BUILT

DEPT. GEN. SER. PROJ. #
XB-4-72B

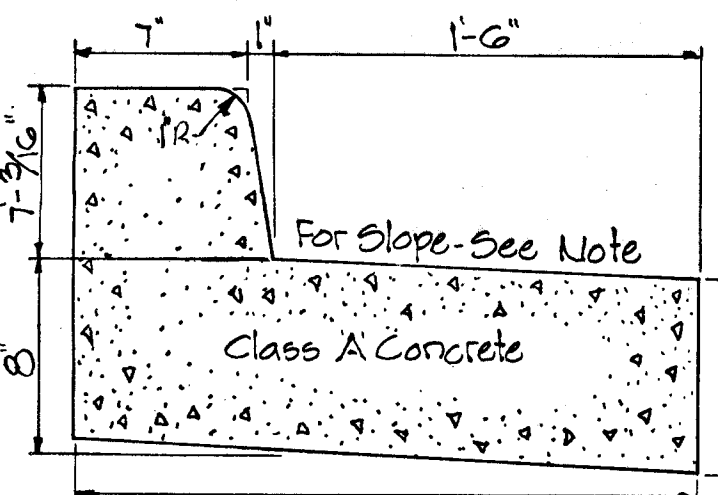
	Engineer Geo. Wm. Stephens, Jr. & Assoc., Inc. 303 Allegheny Avenue Towson, Md. 21204 <i>Charles E. Fecko</i> 10/1/71 Reg. No. 5048 Date	Department Of General Services							Secretary <i>Kayle Kelly</i>	Howard County Department of Public Works Bureau of Highways Chief <i>D. H. Weiland 10/25/71</i>	Div. Of Land Development & Transportation Planning Chief <i>J. H. Clawson 10-29-71</i>	Owner & Developer Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	Storm Drains And Roads PHASE ONE Howard Co., Md. Elect. Dist. Six	SHA/Permit No. A-HO-5454-72 Drawing No. 69-0051	Contract No. G.B.F.M. 2-1 G.B.F.M. U-3 Sheet No. 1 OF 19
	Prin. Engr. Prin. Arch. S.E. M.E. E.E. C.E. L.A.														
	These Plans are signed for Permanent Construction only. Future development must be resubmitted <i>S. H. 10/25/71</i>														

GENERAL NOTES

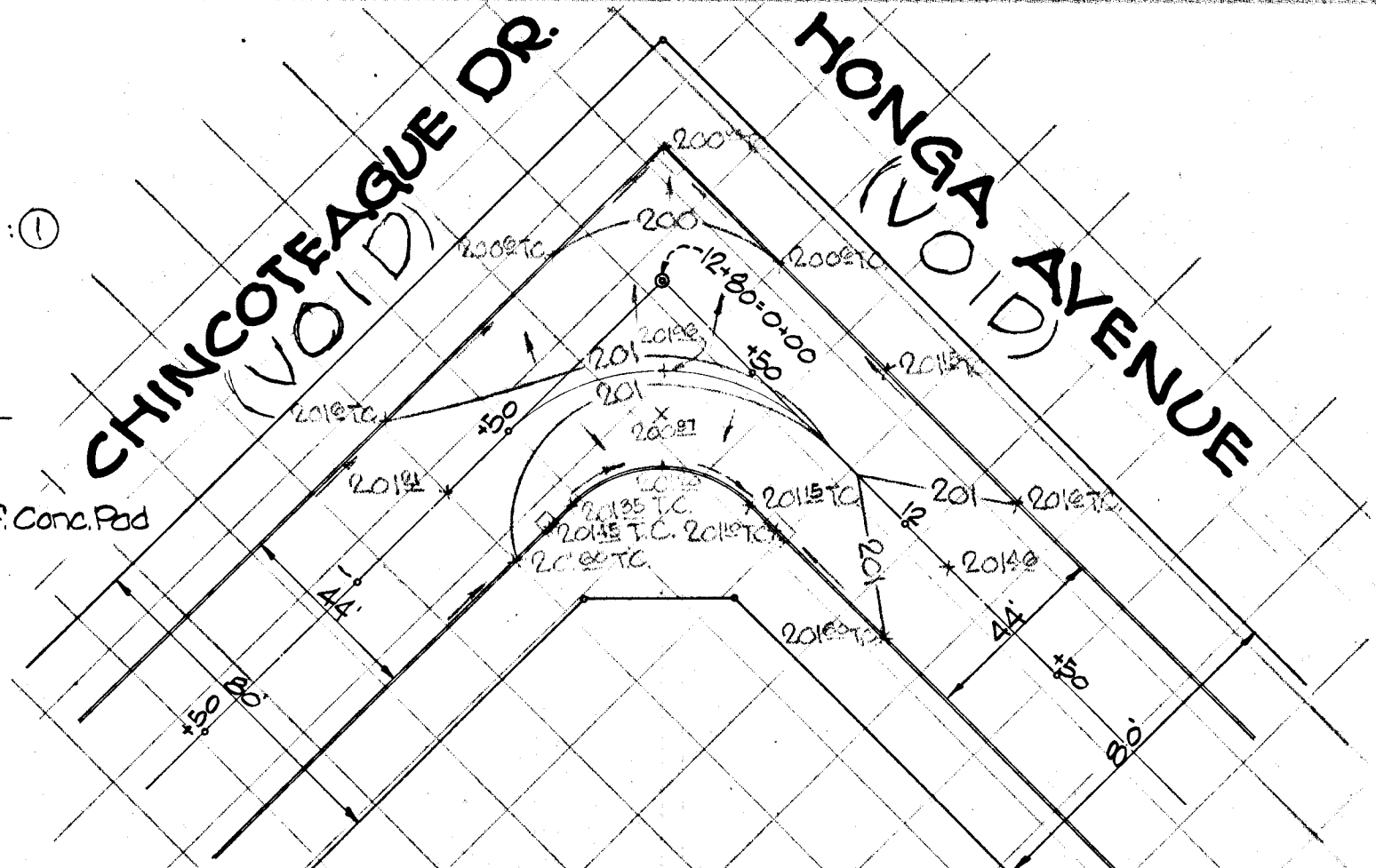
1) 4" Topsoil, Seed And Mulch Shown Thusly: (1)



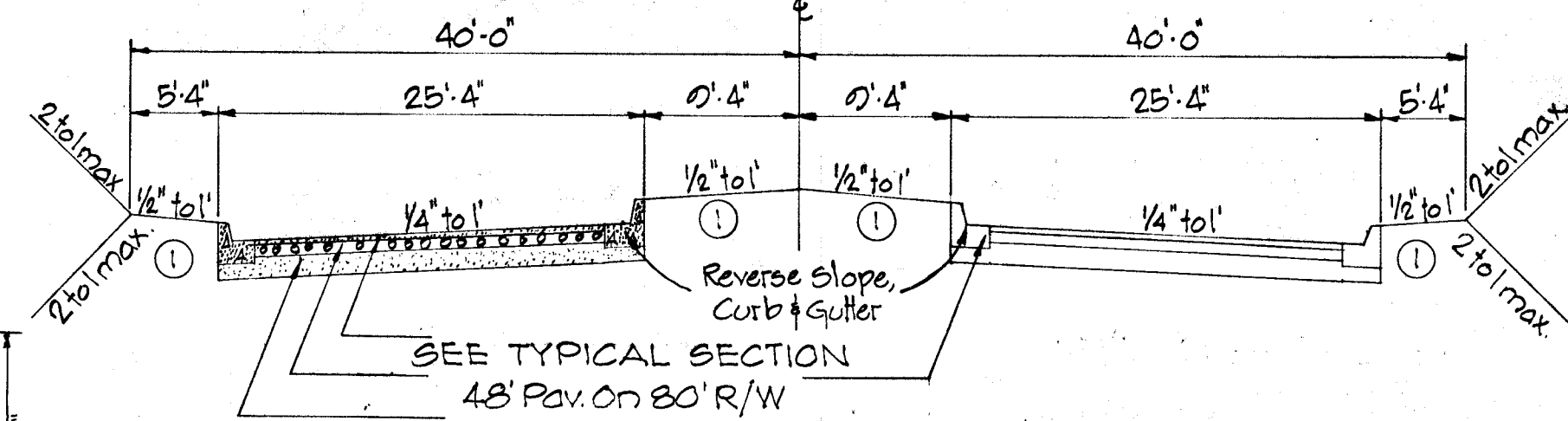
FUTURE TAD BAY DRIVE TYPICAL RR. GRADE CROSSING
NO SCALE



NOTE: Slope At Same Rate Linear Slope Across Paving.
REVERSE SLOPE CURB AND GUTTER.

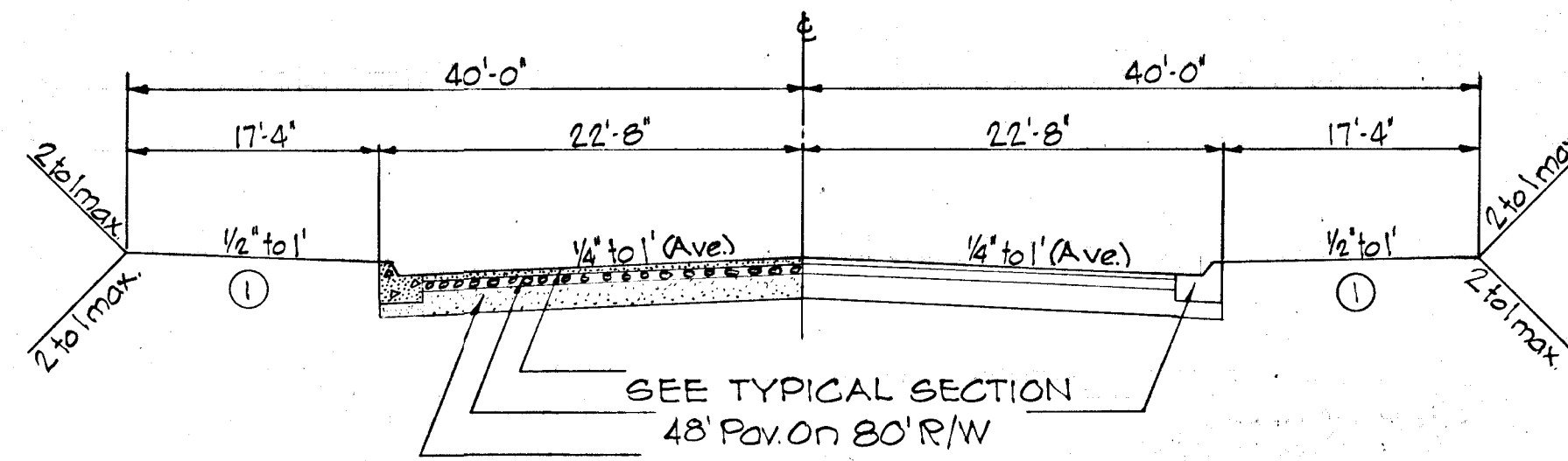


DETAIL 'A'
SCALE: 1" = 40'

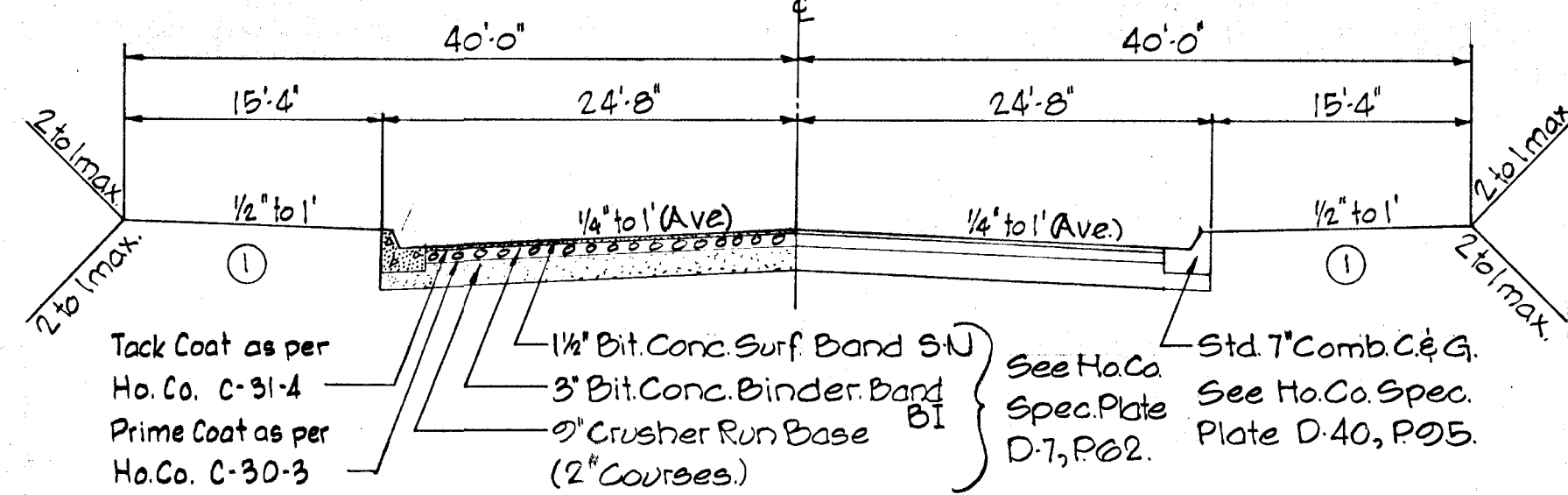


FUTURE TYPICAL SECTION
48' Pav. W/20' Med. On 80' R/W
NO SCALE

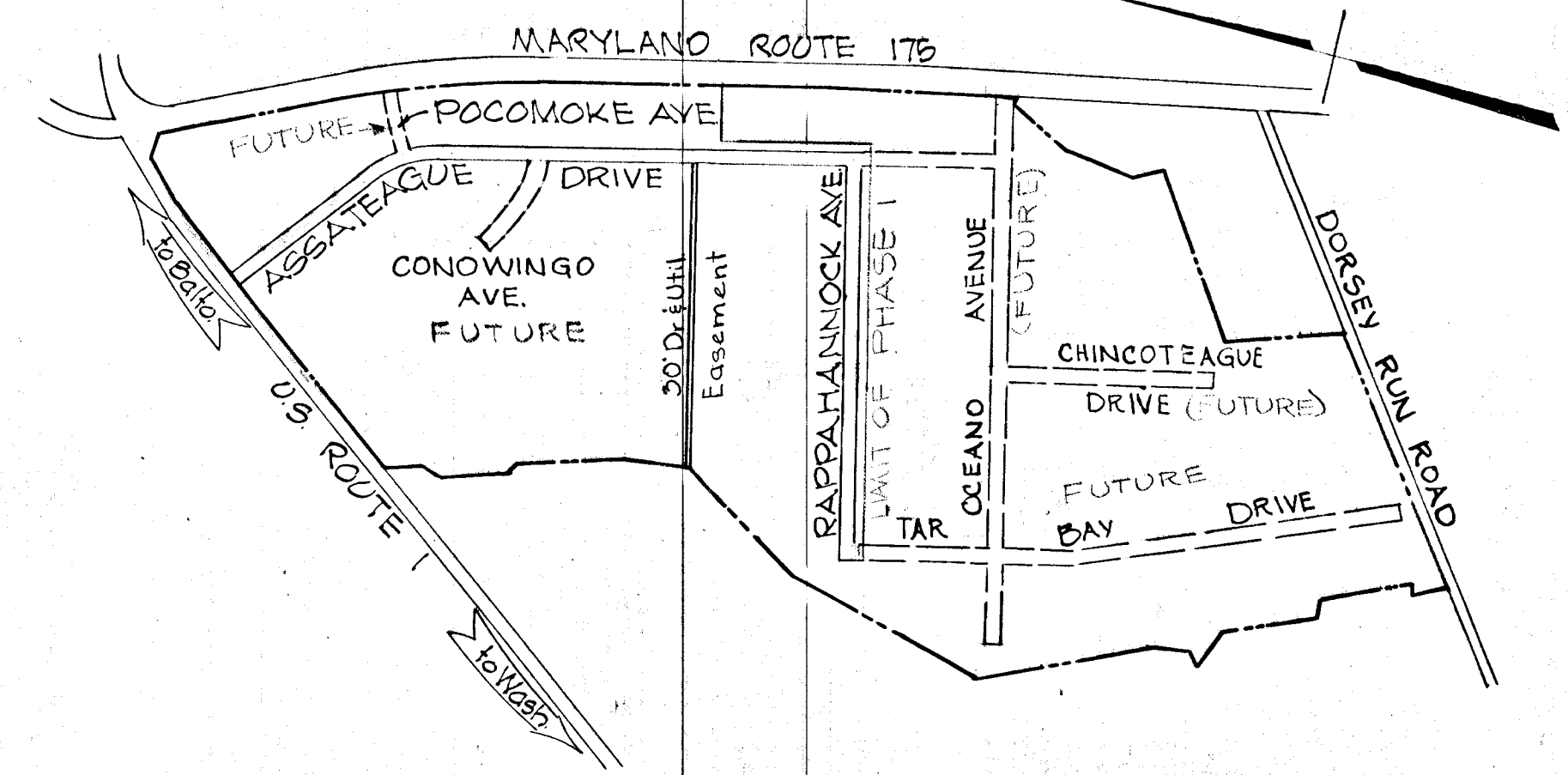
BENCH MARK #203 RESET ELEV 253.34
STATE ROADS COMMISSION BRASS MARKER SET IN CONCRETE ON EAST SIDE OF MD ROUTE 175, 45' FROM EDGE OF EXISTING CONCRETE PAVING, & 30' FROM THE SOUTH CURB OF THE NORTH ENTRANCE TO PATUXENT INSTITUTE.



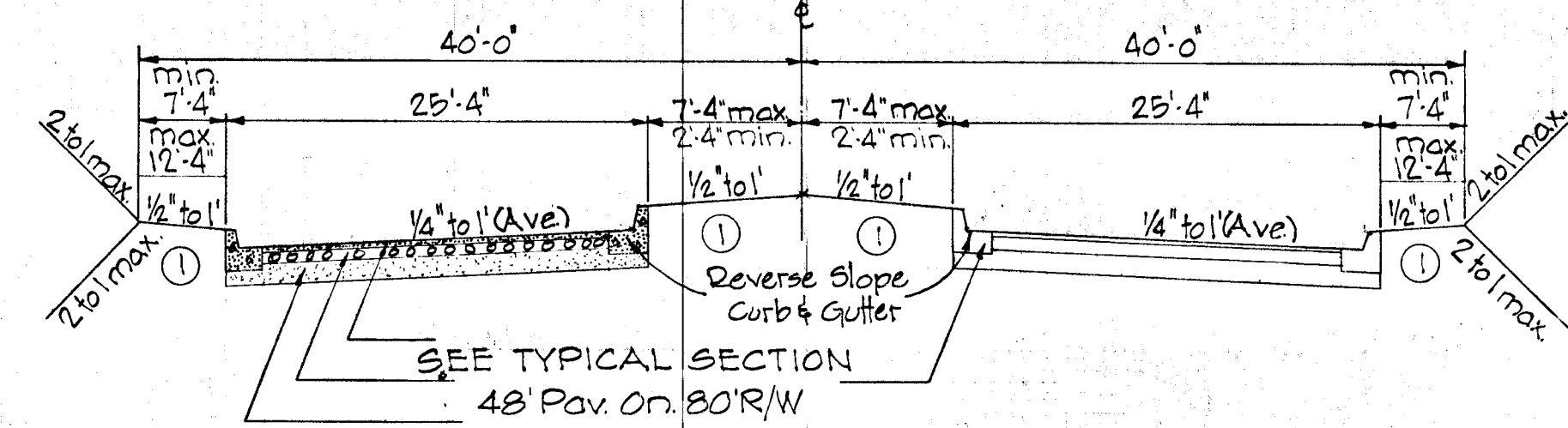
TYPICAL SECTION
44' Pav. on 80' R/W
NO SCALE



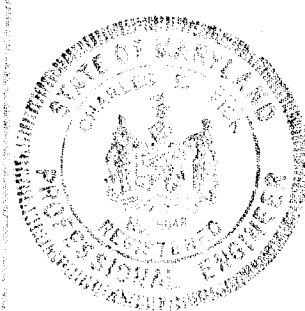
TYPICAL SECTION
48' Pav. on 80' R/W
NO SCALE



VICINITY MAP
SCALE: 1" = 1000'



TYPICAL SECTION
48' Pav. W/Var. Med. On 80' R/W
NO SCALE



Des. WLD GW Stephens, et & Assoc. Department of General Services
Dwn. T.W. Engr. Charles L. Lick Prin. Engr. Prin. Arch. SE ME EE CE LA.
Chk. DOR Lic. No. 5048 Date 10/1/71

Department of Public Works Office of Planning & Zoning
Chief, Bureau of Highways Chief Engr., Div. of Land Dev.
G.A. Menden Date 10/1/71 J.H. Clawson Date 10/1/71

Owner & Developer Date Revision By Scale
Greater Balto. Food Mkt. Auth. 9/26/73 AS BUILT GWB AS SHOWN

HOWARD COUNTY - DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

SECTIONS & DETAILS

JESSUP ELECT. DIST. 3
Dwg. Completed SRC/Permit No. Contract No. Drawing No. Sheet No.
GBFM D-3 60-0024 2 OF 3
GBFM R-1

AS BUILT F-71-37

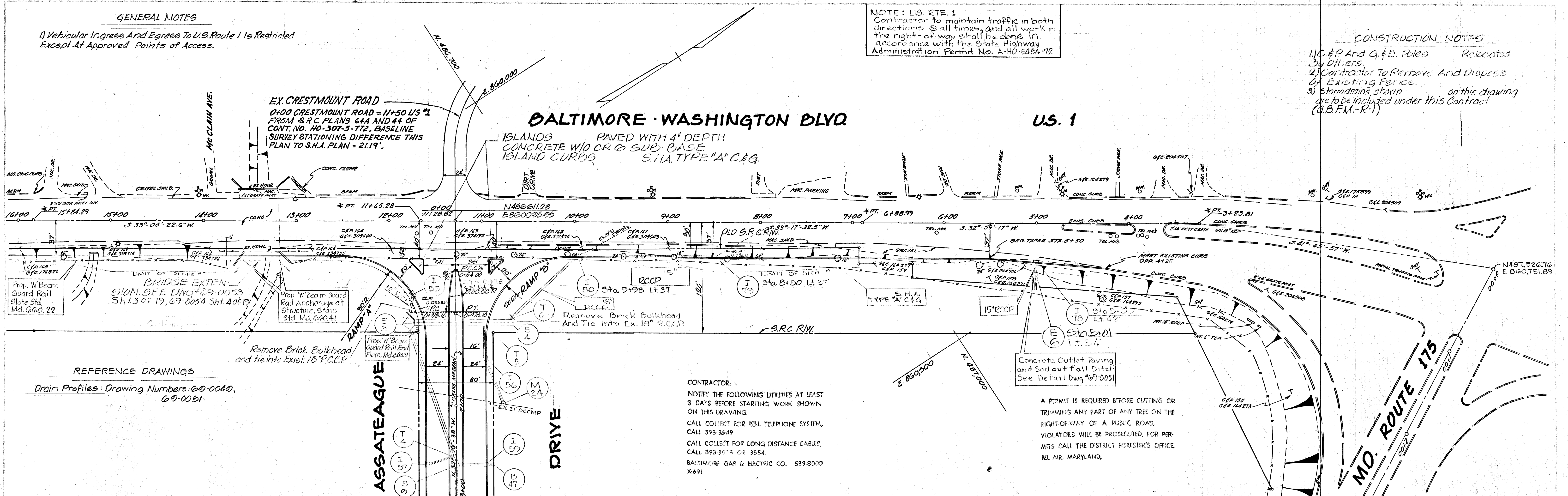
GENERAL NOTES

1) Vehicular Ingress And Egress To U.S. Route 1 Is Restricted Except At Approved Points of Access.

NOTE: U.S. RTE. 1
Contractor to maintain traffic in both directions @ all times, and all work in the right-of-way shall be done in accordance with the State Highway Administration Permit No. A-40-5454-72

CONSTRUCTION NOTES

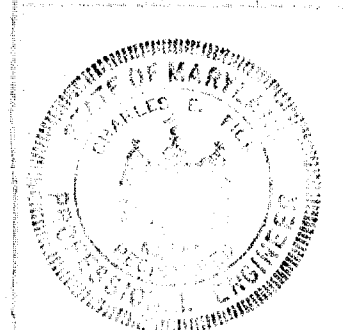
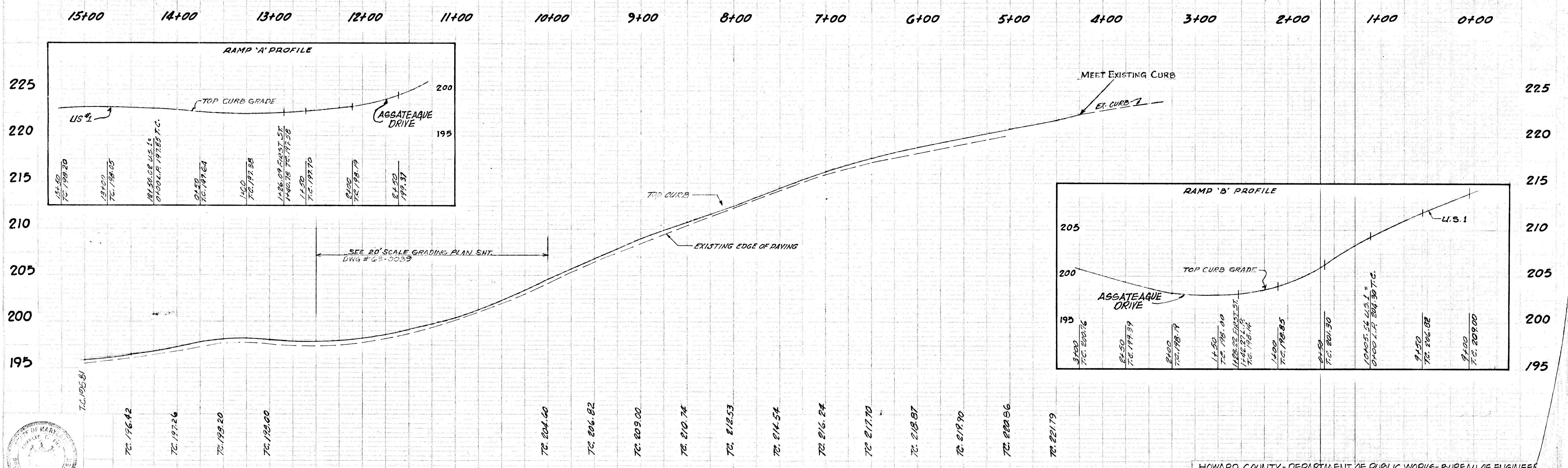
- 1) C.E.P. And G.E. Poles Relocated by Others.
- 2) Contractor To Remove And Dispose Of Existing Fence.
- 3) Stormdrains shown on this drawing are to be included under this Contract (G.B.F.M.-R-1)



REFERENCE DRAWINGS

Drain Profiles: Drawing Numbers 69-0040, 69-0051

CONTRACTOR:
NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3649
CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3573 OR 3554.
BALTIMORE GAS & ELECTRIC CO. 539-8000 X-691.



HOWARD COUNTY - DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERS

DEPT. GEN. SER. NO. **BALTIMORE-WASHINGTON BLVD.-U.S.**

JESSUP ELECT. DIST. 1

Des. WLD	GW Stephens, Jr. & Assoc.	Department of General Services	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	S.H.A./Permit No.	Contract No.	Drawing No.	Sheet
Drn. T.W.	Engr. <i>Charles E. Fooks</i>	SE	ME	EE	CE	L.A.	9/26/73	AS BUILT	Plan: 1"=50'	A-40-5454-72	G.B.F.M.-U-3	69-0020	6 OF	
Chk. DDR	Lic. No. 5043 Date 7/11/72	W.H. H.	W.H. H.	W.H. H.	W.H. H.	W.H. H.	W.H. H.	W.H. H.	Profile: Hor. 1"=50' Vert. 1"=5'					

Director: *John O. Kelly* Date 3/16/74

Chief, Bureau of Highways: _____ Date _____

Chief Engr. Div. of Land Dev: _____ Date _____

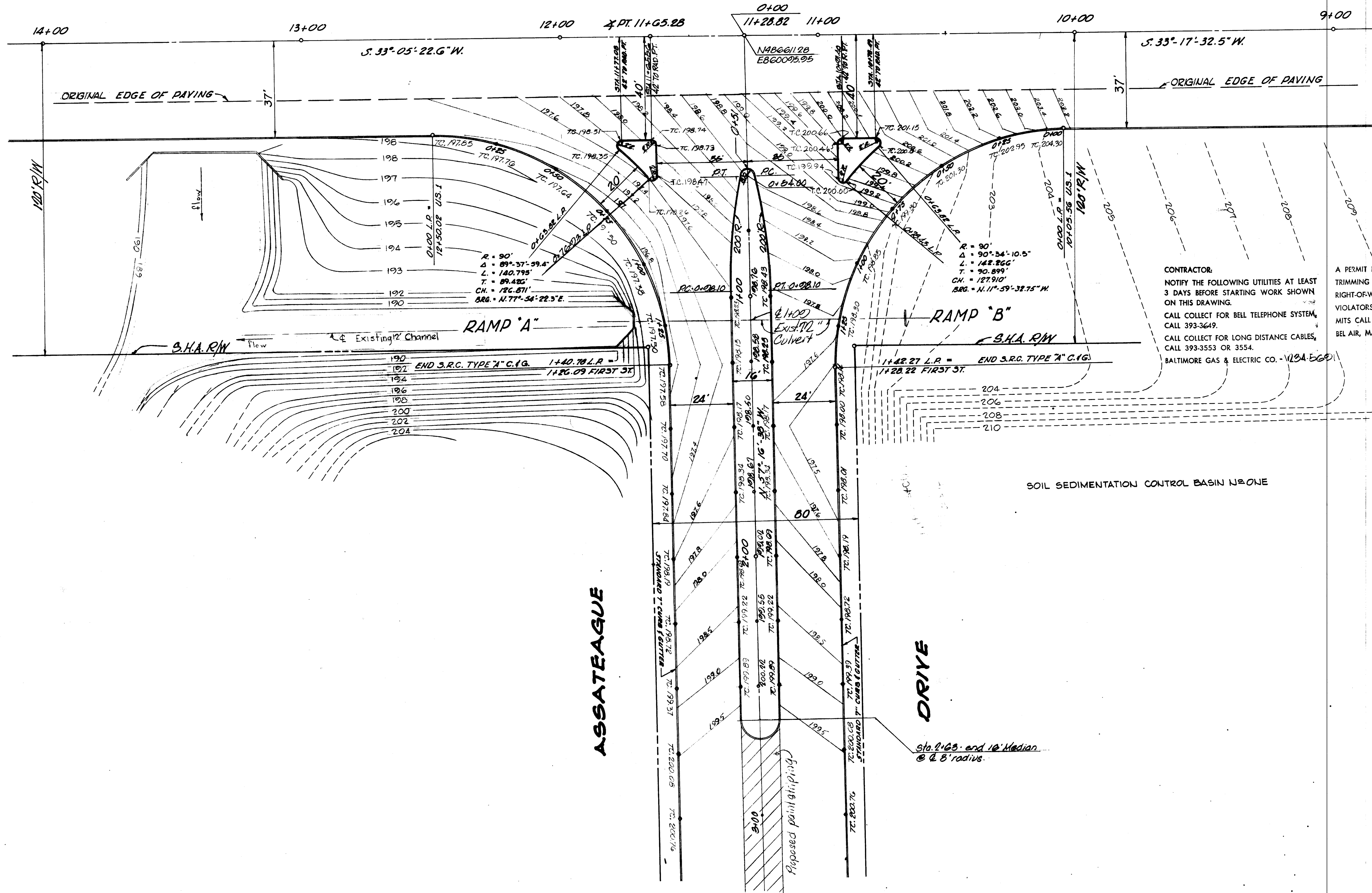
Greater Balto. Food Mkt. Auth. 1115 One Charles Center, Baltimore, Maryland, 21201

AS BUILT

NOTE: US RTE 1
 Contractor to maintain traffic in both directions @ all times. And all work in the right-of-way shall be done in accordance with State Highway Administration Permit No. AHO-5454-72

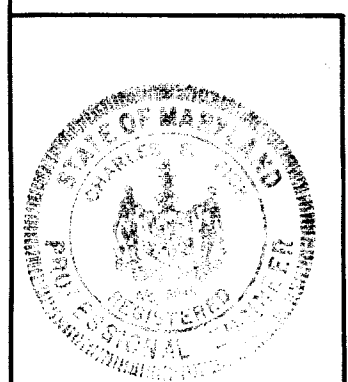
BALTIMORE-WASHINGTON BOULEVARD

U.S. ROUTE 1



CONTRACTOR:
 NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
 CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3649.
 CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3554.
 BALTIMORE GAS & ELECTRIC CO. - (VBA EGO)

A PERMIT IS REQUIRED BEFORE CUTTING OR TRIMMING ANY PART OF ANY TREE ON THE RIGHT-OF-WAY OF A PUBLIC ROAD. VIOLATORS WILL BE PROSECUTED. FOR PERMITS CALL THE DISTRICT FORESTER'S OFFICE, BEL AIR, MARYLAND.



DEPT. GEN. SER. PROJ. - XB-4-128
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING
BALTIMORE-WASHINGTON BLVD.-US.1
 JESSUP ELECT. DIST. SIX

Des. WLD	GW. Stephens, Jr. & Assoc.	Department of General Services					Department of Public Works		Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SHA/Permit No.	Contract No.	Drawing No.	Sheet No.
Drn. TW	Engr. <i>Shelley Eick</i>	Prin. Engr.	Prin. Arch.	S.E.	M.E.	E.E.	C.E.	L.A.	Director	Chief, Bureau of Highways	Chief Engr., Div. of Land Dev.	Greater Balto. Food Mkt. Auth.	1/6/73	Median & Length			G.B.F.M. D-3		
Chk. DOR	Lic. No. 5048 Date 10/1/72								<i>W. H. H. H.</i>	<i>W. H. H. H.</i>	<i>W. H. H. H.</i>	<i>W. H. H. H.</i>	1/24/73	AS BUILT		AHO-5454-72	G.B.F.M. R.1	60-0030	7 OF 19

AS BUILT F-71-37

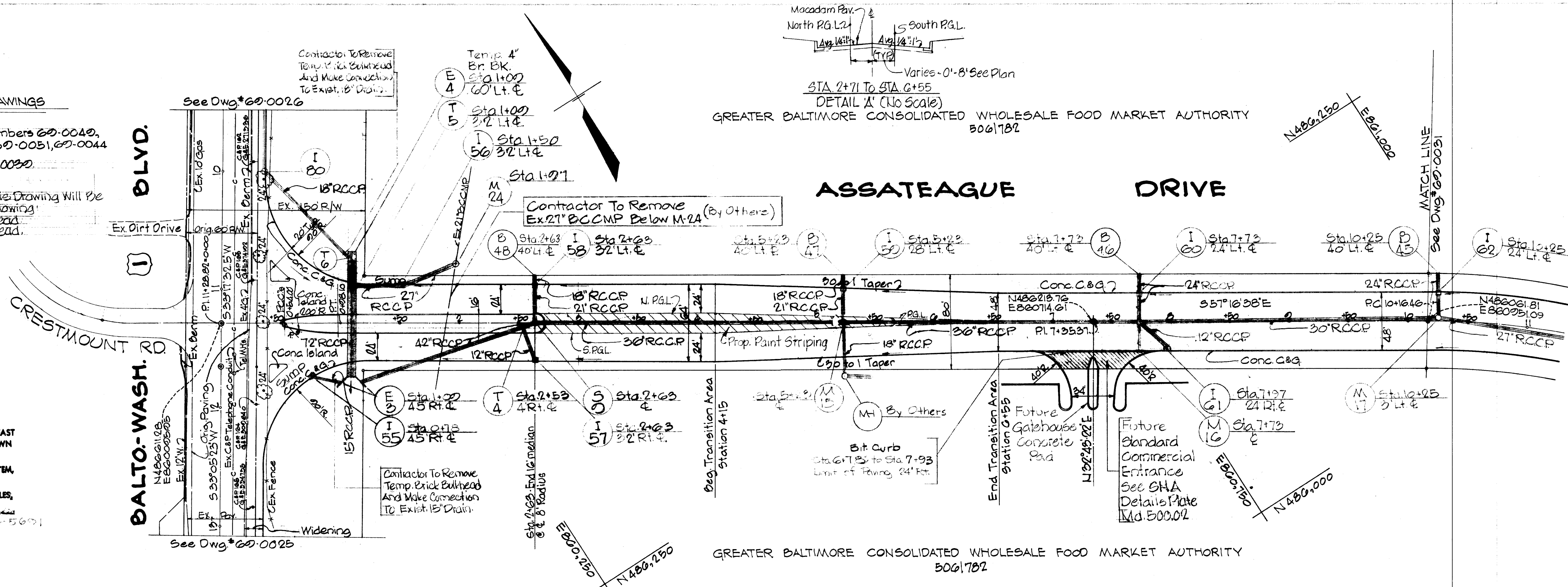
REFERENCE DRAWINGS

Drain Profiles: Drawing Numbers 60-0040, 60-0050, 60-0051, 60-0044

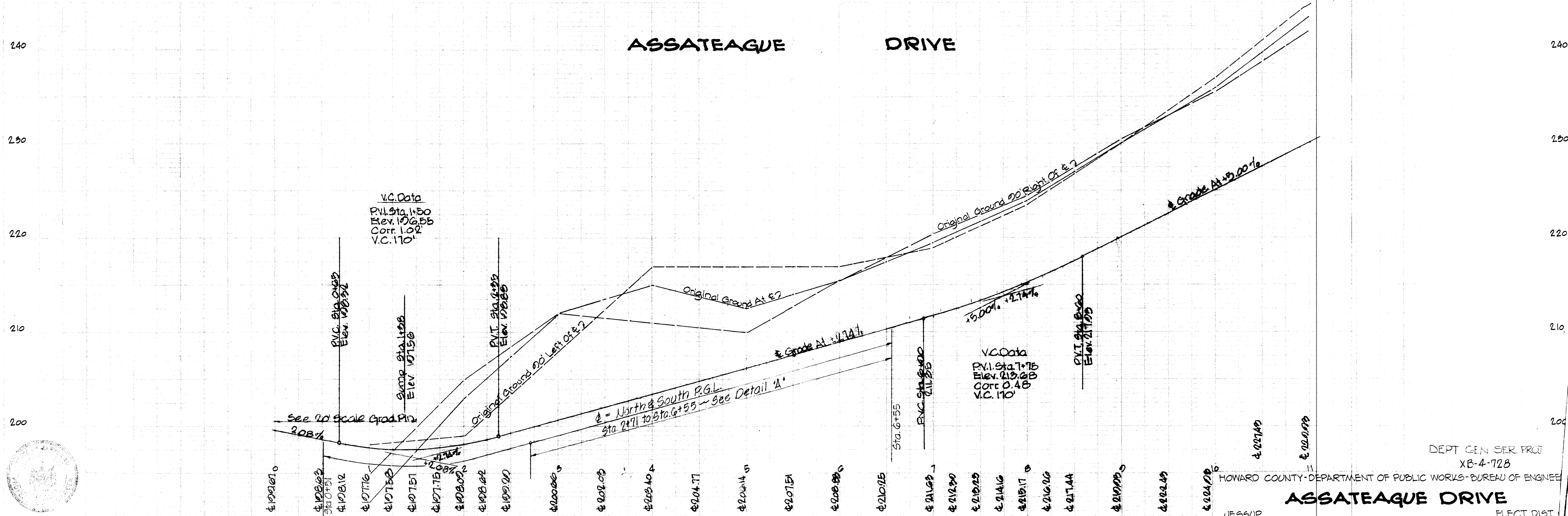
Road: Drawing Number 60-0030

Note: All Drains Shown On This Drawing Will Be Built By Others Except The Following:
 I-80 To Ex. Brick Bulkhead
 I-55 To Ex. Brick Bulkhead

CONTRACTOR:
 NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
 CALL TO COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-549.
 CALL TO COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3534.
 BALTIMORE GAS & ELECTRIC CO. 234-5601



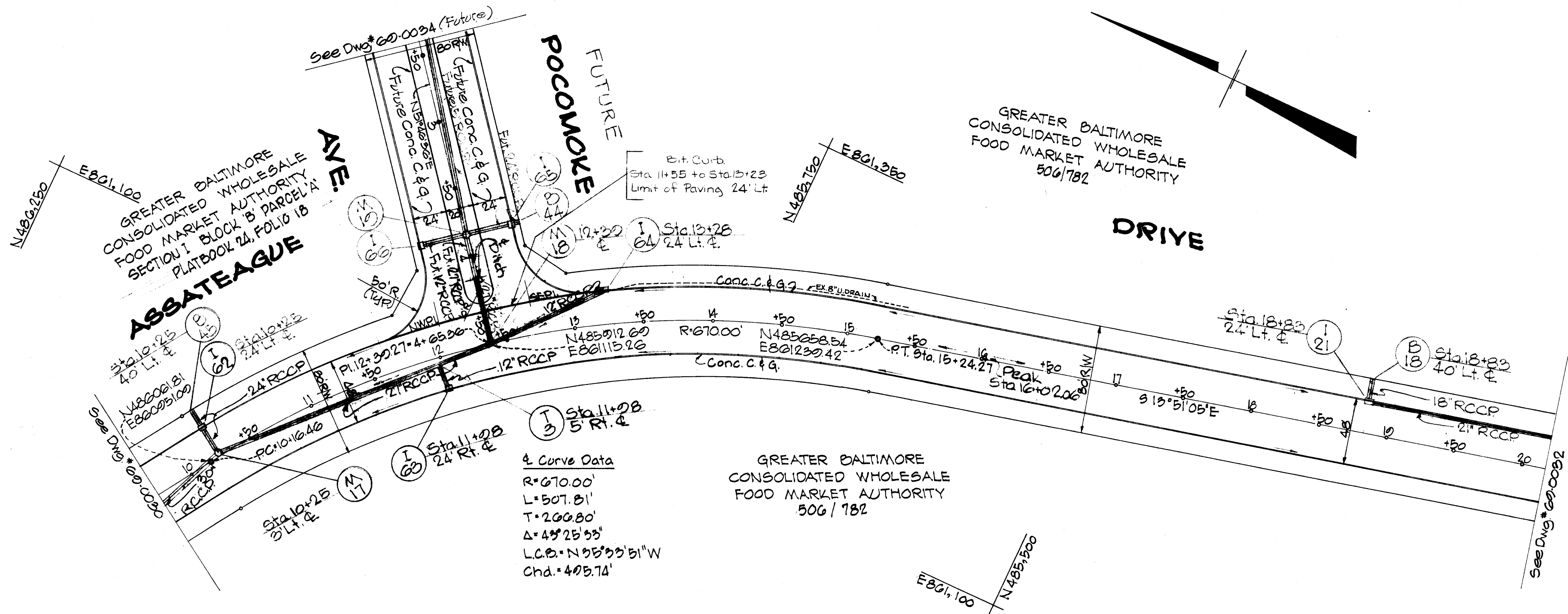
GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY
 5061782



Des: WLD	GW Stephens, Jr. & Assoc	Department of General Services	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SRC/Permit No	Contract No	Drawing No	Sheet
Dwn: TWT	Engr: <i>Harley S. Fick</i>	SE	ME	CE	Director	3/20/73	Revised Conc. Median	GW	Plan: 1"=50'	JESSUP	AS BUILT	60-0030	60-0030	8 OF 8
CHK: DOR	Lic No: 5048 Date: 10/1/71	EE	CE	LA	Chief, Bureau of Highways	9/26/73	AS BUILT	GW	Profile: Vert: 1"=5'					

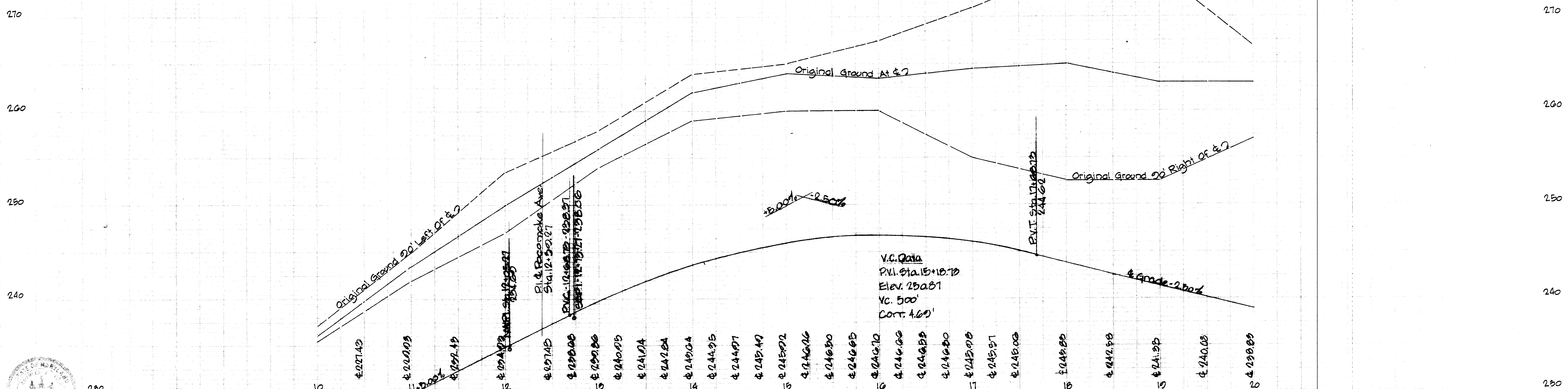
AS BUILT F-71-37

NOTE: All The Storm Drains Shown On This Plan Are To Be Built By Others.



REFERENCE DRAWINGS
 Drain Profiles: Drawing Numbers 00-0047 & 000050

ASSATEAGUE DRIVE



HOWARD COUNTY - DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

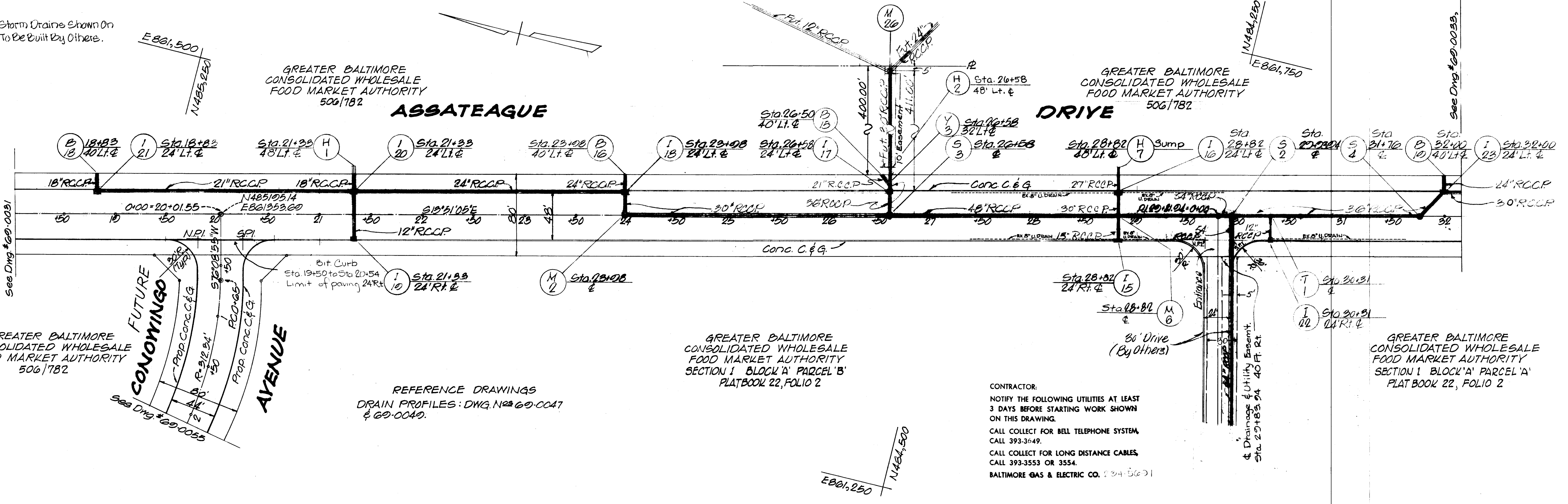
Des. WLD	GWS Stephens, Jr. & Assoc.	Department Of	General Services	Department Of Public Works	Office Of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SRC/Permit No.	Contract No.	Drawing No.	Sheet No.
Drn. TW	Engr. <i>Charles P. Rich</i>	SE	ME	EE	CE	LA	Director	Chief Bureau Of Highways	Chief Eng. Div. Of Land Dev.	Greater Balto. Food Mkt. Auth.	9/26/73	As BUILT	GBFM 0-3	00-0031	9 of 12
Chk. DOR	Lic. No. 5048 Date: 11/11/71						<i>John C. Kelly</i> Date: 11/11/71	<i>J. R. Johnson</i> Date: 9/27/73	<i>J. H. Clary</i> Date: 9/27/73	One Charles Center, Baltimore, Maryland 21201			GBFM R-1		

AS BUILT F-71-37

NOTE: All The Storm Drains Shown On This Plan Are To Be Built By Others.

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY 5061782
ASSATEAGUE DRIVE

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY 5061782
DRIVE



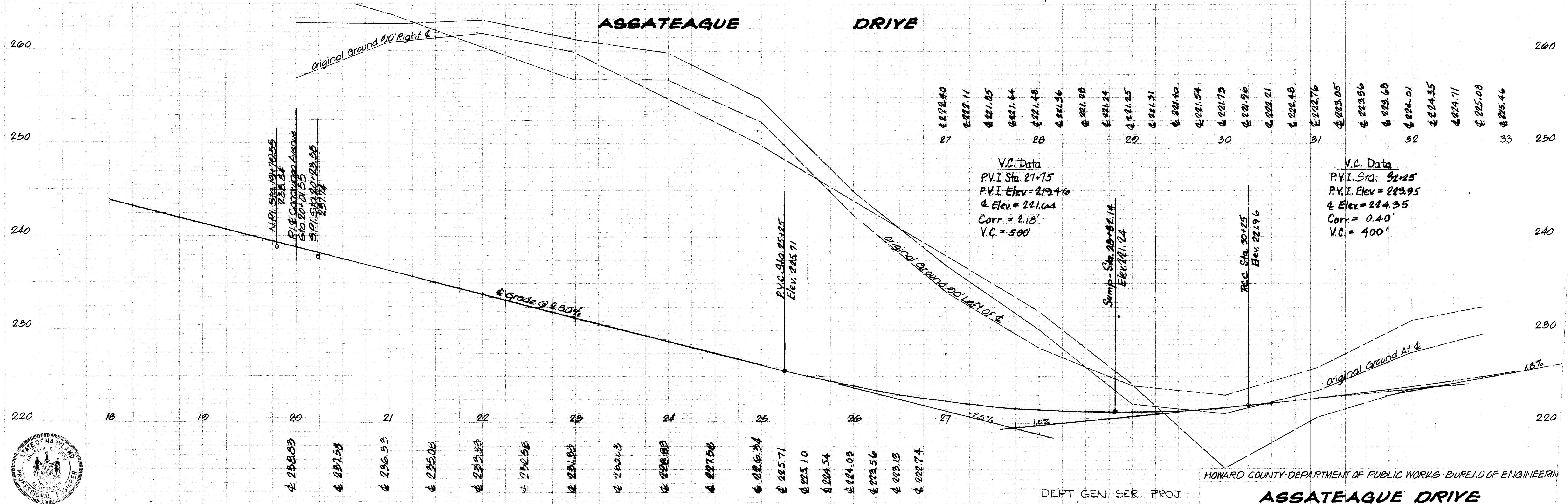
GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY 5061782

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY SECTION 1 BLOCK 'A' PARCEL 'B' PLATBOOK 22, FOLIO 2

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY SECTION 1 BLOCK 'A' PARCEL 'A' PLATBOOK 22, FOLIO 2

REFERENCE DRAWINGS
DRAIN PROFILES: DWG. NOS. 60-0047 & 60-0049.

CONTRACTOR:
NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3449.
CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3554.
BALTIMORE GAS & ELECTRIC CO. 34-5671



HONARD COUNTY DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

DEPT GEN SER. PROJ X B-4-72B
ASSATEAGUE DRIVE
ELECT. DIST. SIX

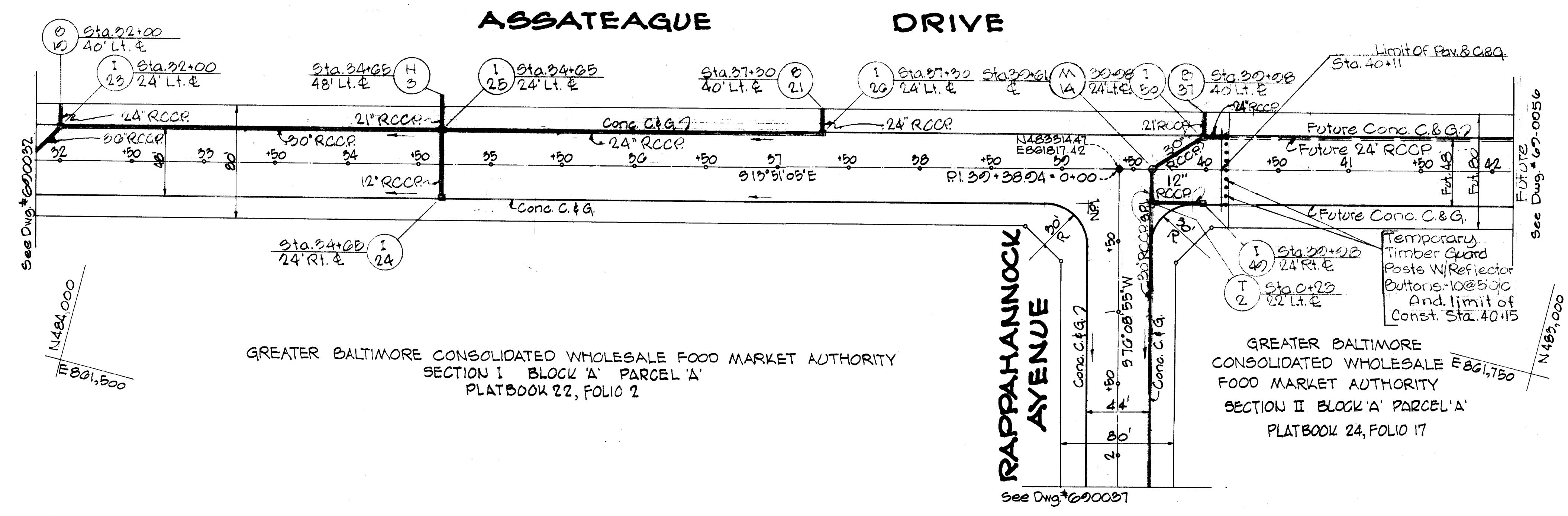
Des. WLD	G.W. Stephens, Jr. & Assoc.	Department of General Services	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	S.R.C./Permit No.	Contract No.	Drawing No.	Sheet No.
Drn. T.W.	Engr. G. Hardy & C. Ticker	SE	ME	EE	CE	LA	Director	Chief Engr.	Chief Engr., Div. of Land Dev.	Greater Balto Food Mkt. Auth.	5/25/78	1110 One Charles Center	Baltimore, Maryland, 21201	9/26/78
Chk. DOR	Lic. No. 5048 Date 1/1/77	111	111	111	111	111	111	111	111	111	111	111	111	111

AS BUILT F-71-37

NOTE: All The Storm Drains Shown On This Plan Are To Be Built By Others.

REFERENCE DRAWINGS
 Drain Profiles: Drawing Numbers 60-0047

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY
 506/782

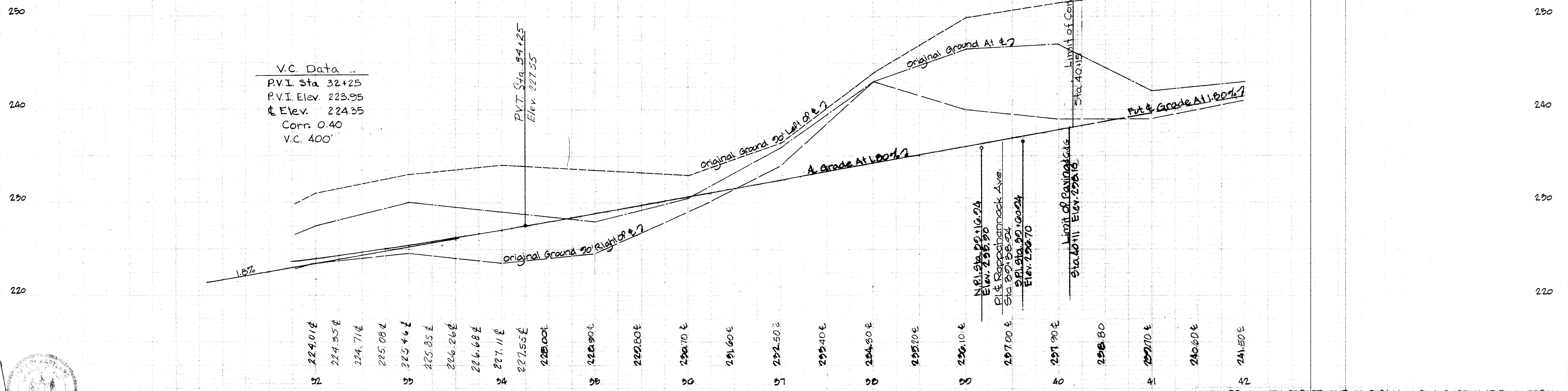


CONTRACTOR:
 NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
 CALL CONLECT FOR BELL TELEPHONE SYSTEM, CALL 333-3412.
 CALL CONLECT FOR LONG DISTANCE CALLS, CALL 330-5553 OR 335-1.
 FAULTS AND ELECTRICAL CO. (234-5601)

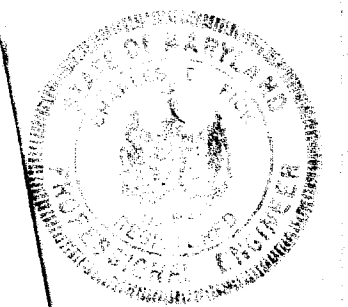
GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY
 SECTION I BLOCK 'A' PARCEL 'A'
 PLATBOOK 22, FOLIO 2

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY
 SECTION II BLOCK 'A' PARCEL 'A'
 PLATBOOK 24, FOLIO 17

ASSATEAGUE DRIVE



V.C. Data
 P.V.I. Sta 32+25
 P.V.I. Elev. 223.95
 G Elev. 224.35
 Conn 0.40
 V.C. 400'



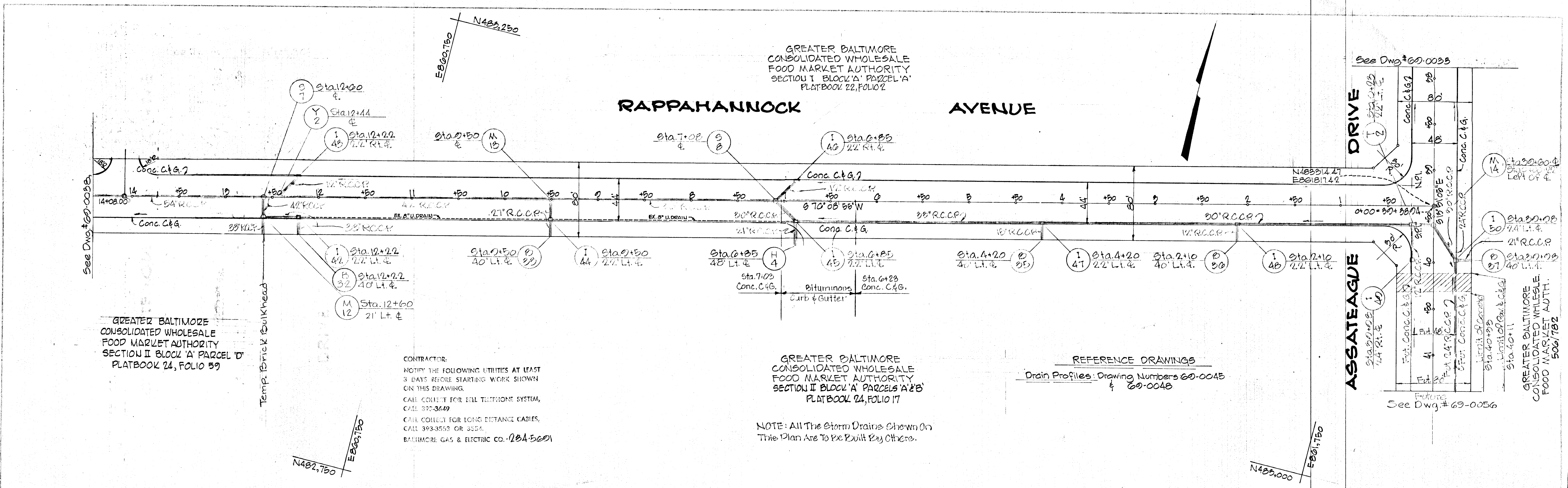
HOWARD COUNTY - DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

DEPT. GEN. SER. PROJ
 XB-4-728

ASSATEAGUE DRIVE

WLD	G.W. Stephens, Jr. & Assoc.	Department of General Services	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SRC/Permit No.	Contract No.	Drawing No.	ELECT. DIST. SIX
TW	Engr. <i>Charles E. Fish</i>	SE	ME	EE	CE	LA	Director	Chief, Bureau of Highways	Chief Engr., Div. of Land Dev.	Greater Balto. Food Mkt. Auth.	9/24/73	AS BUILT	gws	Plan: 1"=50'
DDR	Lic No. B048 Date 10/1/71						<i>Frank Kelly</i> Date 11/1/71	<i>R. H. Williams</i> Date 10/1/71	<i>J. H. Clavon</i> Date 10/1/71	1115, One Charles Center, Baltimore, Maryland, 21201				Profile: Vert: 1"=5'
												GDFM U-3	600033	11 OF 12

AS BUILT F-71-37



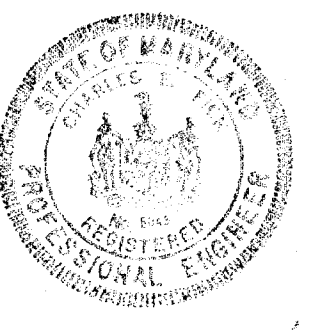
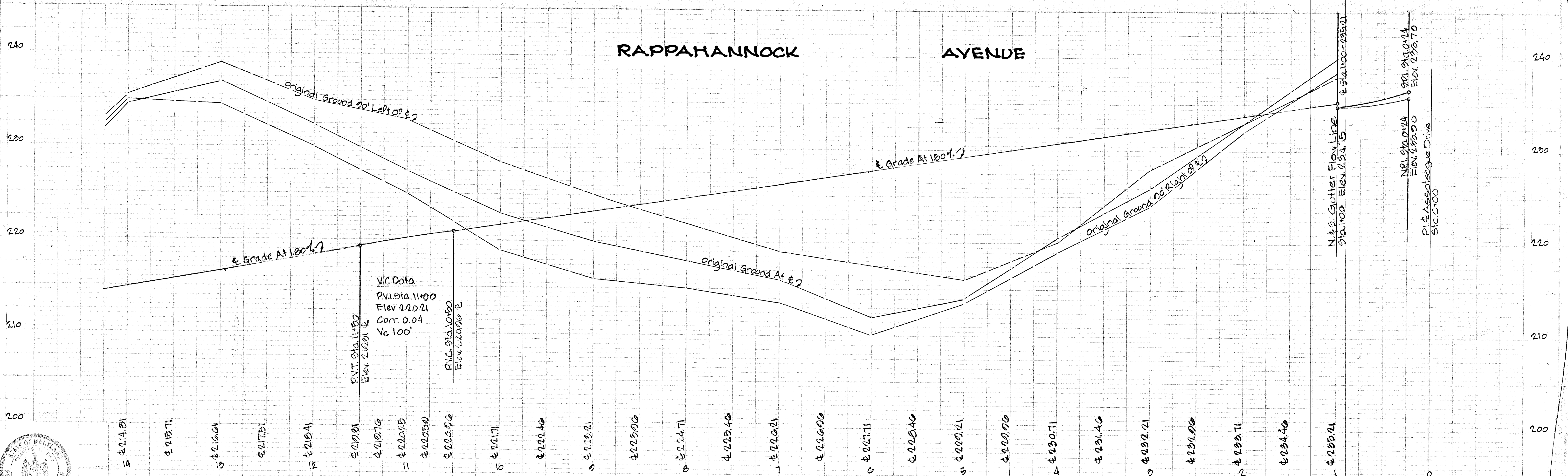
GREATER BALTIMORE
CONSOLIDATED WHOLESALE
FOOD MARKET AUTHORITY
SECTION II BLOCK 'A' PARCEL 'D'
PLATBOOK 24, FOLIO 59

CONTRACTOR:
NOTIFY THE FOLLOWING UTILITIES AT LEAST
3 DAYS BEFORE STARTING WORK SHOWN
ON THIS DRAWING.
CALL COLLECT FOR BELL TELEPHONE SYSTEM,
CALL 372-3649
CALL COLLECT FOR LONG DISTANCE CABLES,
CALL 393-3553 OR 3524.
BALTIMORE GAS & ELECTRIC CO. (284-5601)

GREATER BALTIMORE
CONSOLIDATED WHOLESALE
FOOD MARKET AUTHORITY
SECTION II BLOCK 'A' PARCELS 'A' & 'B'
PLATBOOK 24, FOLIO 17

NOTE: All The Storm Drains Shown On
This Plan Are To Be Built By Others.

REFERENCE DRAWINGS
Drain Profiles: Drawing Numbers 69-004B
& 69-004B



HOWARD COUNTY-DEPARTMENT OF PUBLIC WORKS- BUREAU OF ENGINEERING

DEPT. GEN. SER. PROJ.
XB-4-728

RAPPAHANNOCK AVENUE

Des. WLD Dm. T.W. CHK. DOR	GW. Stephens, Jr. & Assoc. Engr. <i>Charles L. Lick</i> Lic. No. 5048 Date 10/1/71	Department Of General Services SE ME EE CE LA Director <i>Kurt H. Kelly</i> Date 11/17/71	Department Of Public Works Chief, Bureau of Highways <i>H. H. Mahland</i> Date 10/25/71	Office Of Planning & Zoning Chief Engr., Div. Of Land Dev. <i>J. H. Lawrence</i> Date 10/25/71	Owner & Developer Greater Balto Food Mkt Auth. 1115 One Charles Center Baltimore, Maryland, 21201	Date 9/26/73	Revision AS BUILT	By GWS	Scale Plan: 1"=50' Profile: 1"=5'	Dwg. Completed	ERC/Permit No.	Contract No. GBFM-U-3 GBFM-R-1	Drawing No. 69-0057	ELECT. DIST. DIV. Sheet No. 13 OF 14
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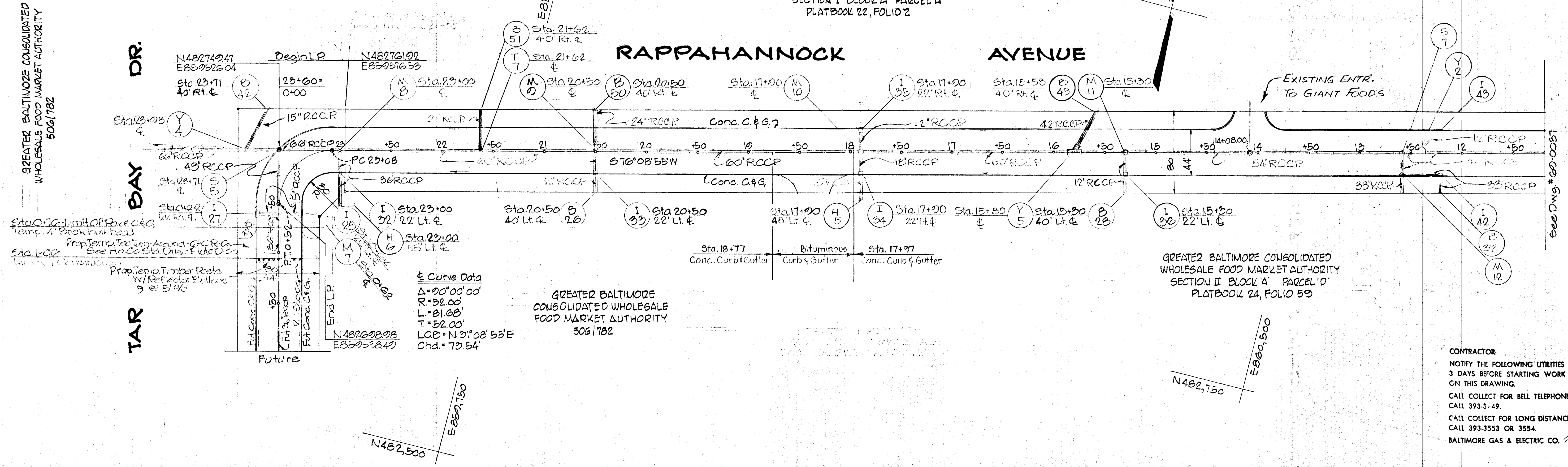
AS BUILT F-71-37

REFERENCE DRAWINGS

Drain Profiles: Drawing Numbers 69-0044, 69-0045, & 69-0048

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY SECTION I BLOCK 'A' PARCEL 'A' PLATBOOK 22, FOLIO 2

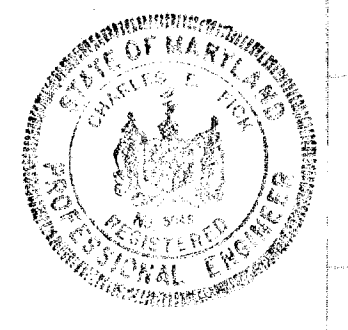
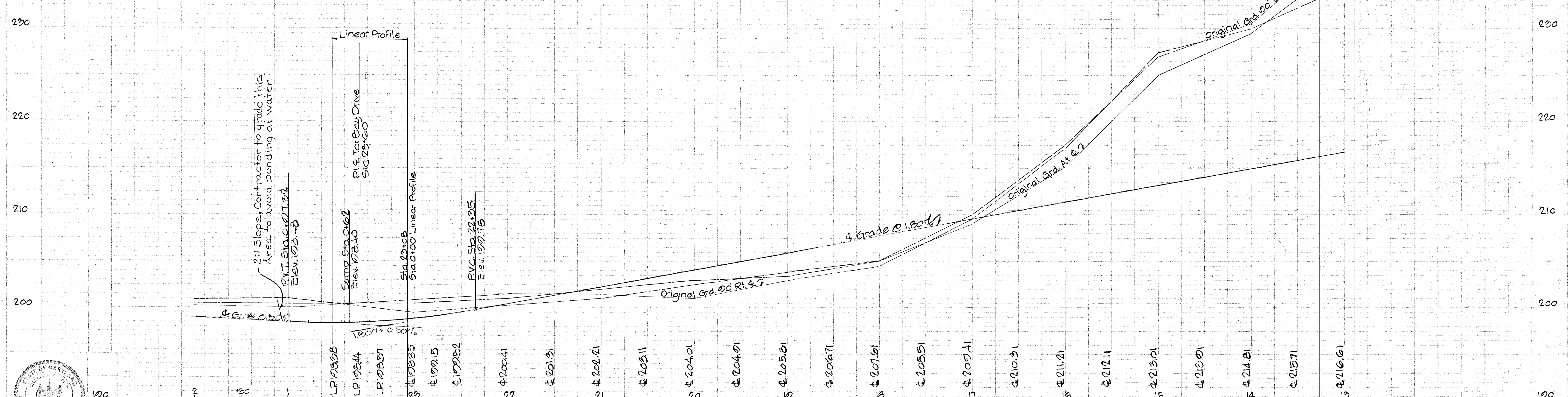
NOTE: All The Storm Drains Shown On This Plan Are To Be Built By Others.



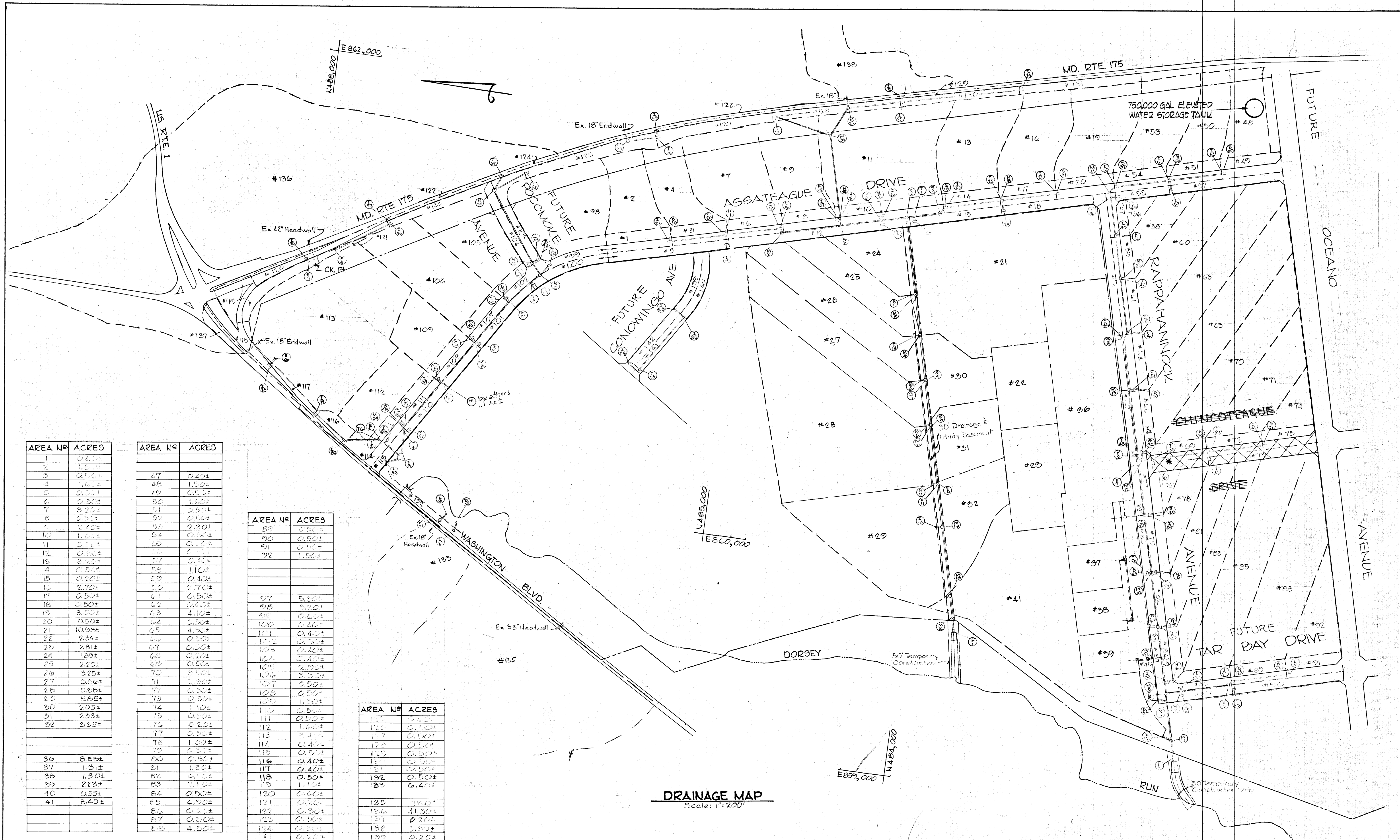
Curve Data
 Δ = 90° 00' 00"
 R = 52.00'
 L = 81.68'
 T = 52.00'
 LCP = N 31° 08' 55" E
 Chd. = 73.54'

CONTRACTOR:
 NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
 CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3149.
 CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3554.
 BALTIMORE GAS & ELECTRIC CO. 234-5691

RAPPAHANNOCK AVENUE



Des. WLD G.W. Stephens, Jr. & Assoc.		Department of General Services		Department of Public Works		Office of Planning & Zoning		Owner & Developer		Date	Revision	By	Scale	Dwg. Completed		SRC/Permit No.	Contract No.	Drawing No.	ELECT. DIST. SIX	Sheet No.
Drn. T.W.	Engr. <i>W. L. L. L.</i>	Prin. Engr.	Prin. Arch.	SE	ME	EE	CE	LA	Director	11/17/71	AS BUILT	GWS	Plan: 1"=50' Profile: 1"=5'			GDFM U-3 GDFM R-1	69-0038	14 of 12		F-71-37



DRAINAGE MAP
Scale: 1"=200'

*NOTE: THIS ROAD HAS BEEN ELIMINATED

AREA N ^o	ACRES
1	0.60±
2	1.80±
3	0.70±
4	1.20±
5	0.50±
6	0.50±
7	3.20±
8	0.50±
9	2.40±
10	1.00±
11	0.50±
12	0.80±
13	3.20±
14	0.50±
15	0.20±
16	2.70±
17	0.50±
18	0.50±
19	3.00±
20	0.50±
21	10.90±
22	2.34±
23	2.61±
24	1.80±
25	2.20±
26	3.25±
27	3.80±
28	10.80±
29	5.85±
30	2.05±
31	2.50±
32	2.65±
36	8.50±
37	1.31±
38	1.30±
39	2.83±
40	0.55±
41	8.40±

AREA N ^o	ACRES
47	0.40±
48	1.50±
49	0.50±
50	1.60±
51	0.50±
52	0.50±
53	2.30±
54	0.50±
55	0.50±
56	3.50±
57	0.40±
58	1.10±
59	0.40±
60	2.70±
61	0.50±
62	0.50±
63	4.10±
64	2.50±
65	4.50±
66	0.50±
67	0.50±
68	0.50±
69	0.50±
70	3.50±
71	1.80±
72	0.50±
73	0.50±
74	1.10±
75	0.50±
76	0.20±
77	0.50±
78	1.30±
79	0.50±
80	0.50±
81	1.80±
82	0.50±
83	5.10±
84	0.50±
85	4.20±
86	0.50±
87	0.50±
88	4.50±

AREA N ^o	ACRES
89	0.50±
90	0.50±
91	0.50±
92	1.50±
97	5.50±
98	3.20±
99	0.60±
100	0.40±
101	0.40±
102	0.50±
103	0.40±
104	0.40±
105	2.80±
106	3.30±
107	0.50±
108	0.50±
109	1.50±
110	0.50±
111	0.50±
112	1.60±
113	3.10±
114	0.40±
115	0.50±
116	0.40±
117	0.40±
118	0.50±
119	1.10±
120	0.60±
121	0.70±
122	0.30±
123	0.50±
124	0.30±
125	0.20±
126	0.20±

AREA N ^o	ACRES
127	0.50±
128	0.50±
129	0.50±
130	0.50±
131	0.50±
132	0.50±
133	6.40±
135	7.80±
136	41.50±
137	0.20±
138	0.50±
139	0.20±
140	0.20±

W.L. Duvall
Designed
W.L. Duvall
Drawn
D.D. Ramsey
Checked

ENGINEER
GEO. WM. STEPHENS, JR.
AND ASSOCIATES, INC.
Towson, Md. 21284
Charles E. Cook 5048
Prof. Engr. Reg# Date

OWNER AND DEVELOPER
Greater Baltimore
Food Market Authority
1115 One Charles Center
Baltimore, Md. 21201

DEPT. OF GENERAL SERVICES
Principal Eng. Date Principal Arch.
S.E. M.E. E.E. C.E. L.A.
Director *Kurt D. Reay*

HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways
J. H. McKeand 10/25/71
Approved Date

OFFICE OF PLANNING AND ZONING
Chief Engineer, Division of Land Development
J. H. McKeand 10/24/71
Approved Date

Storm Drains - Phase One
GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET
Howard County, Maryland Election District VII

DEPT. GEN. SER. PROJ. NO. XB-4-728
REVISIONS
Date Description By
9/24/71 AS BUILT GWS
Sheet 19 of 19
69-0040
Drawing No.
GBFM-U-3
GBFM-R-1
Contract No.

AS BUILT F-71-37

STORM DRAIN STRUCTURE LOSSES

Item No.	Type	V ₁ fps	V ₂ fps	Q ₁ cfs	Q ₂ cfs	Q ₁ /Q ₂	Losses				Total	Remarks
							A	B	C	D		
S-1	Double Wye w/Man	11.50	12.00	187.50	242.00	50	0.46	+0.20	-	0.66	1.32	By Others
M-2	Type 'C' Manhole	8.70	8.70	44.30	44.30	-	0.39	0.00	0.22	-	0.61	
M-4	Type 'C' Manhole	11.00	11.50	130.00	187.50	8	0.41	0.21	-	0.12	0.74	
M-5	Type 'C' Manhole	10.80	11.00	174.00	180.00	7	0.36	0.08	-	0.08	0.52	
T-6	Tee Cut-in	11.40	12.00	238.00	243.00	3	-	0.24	-	0.2	0.20	
M-1A	Type 'C' Manhole	13.00	14.00	375.00	413.00	15	0.67	0.40	-	0.48	1.51	
M-1C	Type 'C' Manhole	14.00	14.00	413.00	413.00	-	0.67	0.00	-	-	0.67	
M-3	Type 'C' Manhole	12.00	12.50	242.00	301.00	21	0.50	0.18	-	0.29	0.97	
S-11	Double Wye w/Man	12.50	13.00	301.00	375.00	32	0.56	0.20	-	0.42	1.18	By Others
S-2	Junction Chamber W/Man	7.60	10.80	124.30	174.00	45	0.34	0.91	0.34	0.30	1.89	By Others
M-6	Type 'C' Manhole	7.20	7.60	21.00	124.30	46	0.14	1.09	-	0.15	0.38	
I-16	Dbble 'S' Comb. Inlet	7.50	7.40	30.00	37.00	-	0.30	-0.03	-	-	0.27	
S-3	Bend W/Man	8.70	7.20	44.30	21.00	85	-	-0.35	0.22	0.55	0.42	
I-17	'S' Comb. Inlet	8.10	7.60	43.65	45.54	30	0.38	-0.24	0.42	-	0.56	
I-18	'S' Comb. Inlet	7.80	8.70	25.10	43.65	69	0.38	0.19	-	0.35	0.92	
I-20	'S' Comb. Inlet	5.00	7.80	12.50	25.10	70	0.31	0.55	-	0.16	1.02	
I-21	'S' Comb. Inlet	5.50	5.00	9.80	12.50	-	0.18	-0.06	0.16	-	0.28	
T-1	Tee Cut-in	7.70	7.80	55.50	56.80	3	0.18	0.01	-	0.02	0.21	
S-4	Bend	7.70	7.70	55.50	55.50	-	-	-	0.17	-	0.17	
I-23	'S' Comb. Inlet	7.50	7.70	37.10	55.50	47	0.17	0.03	0.17	0.28	0.65	
I-25	'S' Comb. Inlet	5.90	7.50	19.00	37.10	77	0.30	0.38	-	0.25	0.93	
I-26	'S' Comb. Inlet	5.10	5.90	16.30	19.00	-	0.19	0.10	0.20	-	0.49	
S-5	Junction Chamber W/Man	8.30	11.50	200.00	282.00	35	-	1.02	-	0.15	1.17	
M-7	Type 'C' Manhole	5.30	5.45	37.90	70.50	83	0.08	0.04	0.08	0.19	0.39	
I-28	Dbble 'S' Comb. Inlet	6.50	6.30	26.66	31.40	-	0.23	-0.03	-	-	0.18	
M-8	Type 'C' Manhole	12.00	11.00	243.00	271.00	17	0.40	-0.30	-	0.32	0.42	
I-32	'S' Comb. Inlet	4.60	5.85	11.40	14.50	-	0.19	0.18	-	-	0.37	
M-9	Type 'C' Manhole	10.50	11.40	214.00	238.00	6	0.40	0.40	-	0.08	0.78	
I-33	'S' Comb. Inlet	4.00	5.10	9.80	12.50	-	0.16	0.12	-	-	0.28	
M-10	Type 'C' Manhole	10.50	10.50	209.00	214.00	9	0.38	-0.00	-	0.14	0.52	
I-34	'S' Comb. Inlet	4.40	4.60	5.44	8.15	-	0.12	0.03	-	-	0.15	
M-11	Type 'C' Manhole	9.80	8.00	158.50	159.00	2	0.27	-0.45	-	0.02	-0.16	
I-36	'S' Comb. Inlet	1.40	4.70	1.09	3.75	-	0.13	0.26	-	-	0.39	
S-7	Junction Chamber W/Man	9.10	9.80	89.00	158.50	82	-	-0.20	-	0.56	0.48	
M-12	Type 'B' Manhole	6.60	7.40	47.70	73.00	37	0.14	0.17	-	0.23	0.54	
I-42	'S' Comb. Inlet	6.20	6.70	24.48	27.20	-	0.24	0.10	0.24	-	0.58	
I-38	'S' Comb. Inlet	6.80	6.60	27.17	47.70	70	0.25	-0.03	-	0.25	0.47	By Others
Y-2	Wye Cut-in	9.00	9.10	87.96	89.00	3	-	0.01	-	0.03	0.04	By Others
M-13	Type 'B' Manhole	9.00	9.00	65.50	87.96	38	0.23	-	-	0.25	0.58	By Others
I-44	'S' Comb. Inlet	5.80	6.20	22.30	25.00	-	0.21	0.15	-	-	0.36	
S-8	Junction Chamber	9.00	9.00	63.00	65.50	4	-	-	-0.36	0.02	0.38	
I-45	'S' Comb. Inlet	8.00	9.00	48.00	63.00	31	0.22	0.25	0.22	0.22	0.91	
I-47	'S' Comb. Inlet	8.20	8.00	41.30	48.00	15	0.35	-0.05	-	0.12	0.42	
I-48	'S' Comb. Inlet	7.70	8.20	36.50	41.30	4	0.35	0.14	-	0.02	0.51	
T-2	Tee Cut-in	7.50	7.70	37.60	38.50	4	-	0.03	-	0.03	0.06	
M-14	Type 'B' Manhole	7.50	7.50	37.60	37.60	-	0.30	-	0.16	-	0.46	
I-50	'S' Comb. Inlet	7.50	7.50	24.50	37.60	51	0.30	-	0.16	0.30	0.76	
Y-5	Preformed Wye Fitting	8.0	10.50	159.00	209.00	33	-	0.68	0.32	0.23	1.23	
M-18	Type 'C' Manhole	14.00	14.00	413.00	413.00	-	0.67	0	-	-	0.67	
M-7A	Type 'C' Manhole	13.00	15.50	321.00	377.00	10	0.80	1.24	-	0.45	2.53	
I-35	'S' Comb. Inlet	8.68	6.40	22.90	25.60	-	0.22	0.18	-	-	0.40	
T-4	Tee Cut-in	9.50	9.60	92.50	95.20	4	-	0.04	-	0.01	0.05	
S-9	Bend w/manhole	11.50	9.50	83.40	92.50	13	-	-0.63	0.40	0.22	0.07	
I-58	'S' Comb. Inlet	4.80	4.80	8.70	11.90	-	0.12	-	-	-	0.12	
M-15	Type 'B' Manhole	9.30	11.50	66.60	83.40	17	0.40	0.67	-	0.17	1.24	
I-59	'S' Comb. Inlet	4.60	4.80	8.20	10.90	-	0.12	-0.01	-	-	0.11	
M-16	Type 'B' Manhole	9.50	9.30	46.90	66.60	44	0.26	-0.07	-	0.47	0.66	
I-60	'S' Comb. Inlet	5.60	6.50	18.00	20.70	-	0.22	0.14	-	-	0.36	
M-17	Type 'B' Manhole	7.50	9.50	30.20	46.90	62	0.47	0.52	-	0.34	1.33	
I-62	'S' Comb. Inlet	5.00	6.00	15.80	18.80	-	0.20	0.16	-	-	0.36	
T-3	Tee Cut-in	7.00	7.50	28.50	30.20	7	-	0.10	-	0.03	0.13	
M-18	Type 'B' Manhole	6.50	7.00	26.40	28.50	10	0.28	0.12	0.26	0.24	0.70	
M-19	Type 'B' Manhole	6.40	6.50	20.10	26.40	27	0.22	0.01	0.11	0.30	0.64	
I-65	'S' Comb. Inlet	5.40	6.40	17.40	20.10	-	0.22	0.21	-	-	0.43	
M-20	Type 'B' Manhole	4.20	4.40	3.40	5.50	65	0.11	0.02	0.10	0.12	0.35	
M-23	Type 'B' Manhole	6.00	6.00	14.60	14.30	-	0.34	0.44	-	-	0.78	
I-70	'S' Comb. Inlet	4.20	6.00	10.60	14.60	32	0.20	0.28	-	0.07	0.55	
I-71	'S' Comb. Inlet	3.30	4.20	8.20	10.60	-	0.10	0.10	-	-	0.20	
I-73	'S' Comb. Inlet	3.60	3.30	2.90	8.20	97	0.08	-0.01	0.03	0.08	0.18	Future
I-80	Std type 'S' Inlet - Single Gate	3.30	5.60	2.70	4.50	-	0.17	0.30	0.05	-	0.52	
I-76	'S' Comb. Inlet	2.50	5.70	2.00	4.60	-	0.19	0.41	0.18	-	0.78	Future
T-5	Tee Cut-in	8.80	8.80	258.10	260.10	1	-	-	0.21	-	0.21	Future
Y-3	Preformed Wye Fitting	9.50	9.80	44.40	49.90	28.2	-	0.12	0.28	0.33	0.73	Future
I-83	Dbble 'S' Comb. Inlet	1.40	2.60	1.10	3.10	-	0.05	0.08	0.02	-	0.18	Future
I-85	'S' Comb. Inlet	2.60	3.80	2.10	3.00	-	0.09	0.12	-	-	0.21	Future
Y-4	Preformed Wye Fitting	10.50	11.50	264.00	282.00	10.5	-	0.50	0.41	0.15	1.06	Future

STORM DRAIN DESIGN COMPUTATIONS

10 YEAR STORM FREQUENCY EXCEPT AS DENOTED *

PIPE n=0.014

Location	From To	Area	Acres		T _c	CA	Adj. CA	CA	Time Conc. - Min.		Inter.	Q ²	Des. Q ²	% Inter.	Inter.	Pipe Size	Slope	% Act.	Vel.	Lgth. Ft.	Time in Pipe	REMARKS			
			Sub	Total					Inlet	Drain Total															
I-70	I-70	127	0.5	-	0.95	0.48	0.48	-	5	-	5	6.8	3.30	3.90	84	3.30	-	-	-	-	-	Future			
I-69	I-70	126	0.5	-	0.95	0.48	0.48	-	5	-	5	6.8	3.30	3.70	85	3.30	-	-	-	-	-	Future			
I-70	M-23	126+127	-	1.0	-	-	-	0.48	5	-	5	6.8	3.30	-	-	12"	1.00	2.00	4.1	4.0	0.2	Future			
M-23	Ex.	126+127	-	1.0	-	-	-	0.96	5	0.4	5.6	6.7	6.43	-	-	18"	0.42	5.46	3.6	85	-	Future			
I-68	I-68	125	0.6	-	0.84	0.50	0.50	-	5	-	5	6.8	3.40	4.00	84	3.40	-	-	-	-	-	Future			
M-20	I-67	124	0.3	-	0.95	0.29	0.32	-	5	-	5	6.8	2.00	2.40	89	2.20	-	-	12"	1.05	1.05	4.2	133	0.5	Future
I-67	M-20	124	-	0.3	-	-	-	0.32	5	-	5	6.8	2.20	-	-	12"	0.44	1.40	2.7	72	0.4				
M-20	M-19	124-125	-	0.9	-	-	-	0.82	5	0.5	5.5	6.7	5.50	-	-	15"	0.80	1.34	4.4	322	1.2				
I-65	I-65	103	0.4	-	0.95	0.38	0.40	-	5	-	5	6.8	2.60	3.20	85	2.70	-	-	-	-	-				
B-44	I-65	98	3.2	-	0.80	2.56	-	-	5	-	5	6.8	17.40	-	-	24"	0.66	1.00	5.4	6	-				
I-66	M-19	103+98	-	3.6	-	-	-	2.96	5	-	5	6.8	20.10	-	-	24"	0.90	2.68	6.4	34	-				
I-66	I-66	104	0.4	-	0.95	0.38	0.34	-	5	-	5	6.8	2.60	2.60	88	2.30	-	-	-	-	-	Future			
M-19	M-19	104	-	0.4	-	-	-	0.34	5	-	5	6.8	2.30	-	-	12"	0.48	1.40	2.8	34	-	Future			
M-19	M-18	103-104	-	4.9	-	-	-	4.12	5	1.2	6.7	6.4	26.40	-	-	27"	0.80	2.60	6.5	82	0.2	Future			
I-64	M-18	99	0.6	-	0.80	0.48	0.40	-	5	-	5	6.8	3.30	3.30	83	2.70	-	-	-	-	-				
M-18	T-3	103-104	-	5.5	-	-	-	4.82	5	0.2	6.9	6.3	28.50	-	-	27"	0.94	4.64	7.0	41	0.1				
I-63	T-3	100	0.4	-	0.80	0.32	0.28	-	5	-	5	6.8	2.20	2.20	87	1.90	-	-	-	-	-				
I-63	T-3	100	-	0.4	-	-	-	0.28	5	-	5	6.8	1.90	-	-	12"	0.33	1.00	2.4	19	-				
T-3	M-17	103-104	-	5.9	-	-	-	4.80	5	0.1	7.0	6.3	30.20	-	-										

INLET SCHEDULE

No	Type	Invert Out	Top Elevation	Q=(c.f.s)	Remarks
I-11	"K" Grate	106.10	205.80	36.10	See Howard Co. Details
I-12	"K" Grate	107.81	201.50	18.00	See Howard Co. Details
I-13	"K" Grate Double Throat	101.18	200.00	58.10	See Howard Co. Details
I-14	"K" Grate Single Throat	207.83	211.50	13.50	See Howard Co. Details
I-15	Dble "S" Comb. Inlet	218.12	221.34	5.28	See Howard Co. Details
I-16	Dble "S" Comb. Inlet	216.91	221.34	7.12	See Howard Co. Details
I-17	"S" Comb. Inlet	217.71	222.96	2.70	For Details See Specs
I-18	"S" Comb. Inlet	224.73	228.98	2.80	
I-19	"S" Comb. Inlet	232.75	235.60	2.30	
I-20	"S" Comb. Inlet	230.82	235.60	2.70	
I-21	"S" Comb. Inlet	237.86	241.86	2.70	
I-22	"S" Comb. Inlet	218.13	222.14	1.40	
I-23	"S" Comb. Inlet	218.13	224.11	2.70	
I-24	"S" Comb. Inlet	225.15	228.37	2.30	
I-25	"S" Comb. Inlet	224.10	228.37	2.80	
I-26	"S" Comb. Inlet	228.66	233.14	2.70	For Details See Specs
I-27	Dble "S" Comb. Inlet	194.80	198.44	5.50	See Howard Co. Details
I-28	Dble "S" Comb. Inlet	194.80	198.44	4.60	See Howard Co. Details
I-29	"S" Comb. Inlet	-	-	-	Future
I-30	"S" Comb. Inlet	-	-	-	Future
I-31	"S" Comb. Inlet	-	-	-	Future
I-32	"S" Comb. Inlet	198.04	198.04	2.70	For Details See Specs
I-33	"S" Comb. Inlet	198.82	203.25	2.70	
I-34	"S" Comb. Inlet	203.27	207.93	2.70	
I-35	"S" Comb. Inlet	203.75	207.93	2.30	
I-36	"S" Comb. Inlet	207.05	212.61	2.70	For Details See Specs
I-37	"S" Comb. Inlet	214.65	218.00	1.40	Future
I-38	"S" Comb. Inlet	212.50	218.25	2.70	
I-39	"S" Comb. Inlet	-	-	-	Future
I-40	"S" Comb. Inlet	-	-	-	Future
I-41	"S" Comb. Inlet	-	-	-	Future
I-42	"S" Comb. Inlet	212.83	218.15	2.70	For Details See Specs
I-43	"S" Comb. Inlet	214.29	218.15	2.70	
I-44	"S" Comb. Inlet	217.52	222.60	2.70	
I-45	"S" Comb. Inlet	221.85	226.31	2.40	
I-46	"S" Comb. Inlet	222.89	226.57	2.70	
I-47	"S" Comb. Inlet	225.24	230.55	2.20	
I-48	"S" Comb. Inlet	228.25	233.70	2.10	
I-49	"S" Comb. Inlet	235.95	237.26	1.40	
I-50	"S" Comb. Inlet	232.47	237.26	2.70	For Details See Specs
I-51	"S" Comb. Inlet	-	-	-	Future
I-52	"S" Comb. Inlet	-	-	-	Future
I-53	"S" Comb. Inlet	-	-	-	Future
I-54	Std. Type "S" Comb. Inlet	193.95	197.72	3.90	See SRC Plate Md. 310.04
I-56	Dble "S" Comb. Inlet	192.81	197.67	2.70	See Howard Co. Details
I-57	"S" Comb. Inlet	195.69	199.75	3.00	For Details See Specs
I-58	"S" Comb. Inlet	194.50	199.75	3.20	
I-59	"S" Comb. Inlet	202.97	206.87	2.70	
I-60	"S" Comb. Inlet	209.45	214.14	2.70	
I-61	"S" Comb. Inlet	210.81	215.89	2.20	
I-62	"S" Comb. Inlet	221.36	226.28	3.00	
I-63	"S" Comb. Inlet	231.99	234.93	1.90	
I-64	"S" Comb. Inlet	236.70	241.10	2.70	For Details See Specs
I-65	"S" Comb. Inlet	234.40	238.90	2.70	Future
I-66	"S" Comb. Inlet	234.97	238.20	2.30	
I-67	"S" Comb. Inlet	239.80	243.20	2.20	
I-68	"S" Comb. Inlet	240.19	243.65	3.40	
I-69	"S" Comb. Inlet	242.74	247.20	3.30	
I-70	"S" Comb. Inlet	241.66	246.70	3.20	
I-71	"S" Comb. Inlet	245.95	249.60	3.20	
I-72	"S" Comb. Inlet	249.27	253.45	2.90	
I-73	"S" Comb. Inlet	247.88	252.95	3.30	
I-74	"S" Comb. Inlet	254.53	260.80	2.80	
I-75	Dble "S" Comb. Inlet	217.24	220.85	4.50	
I-76	"S" Comb. Inlet	224.47	228.54	2.70	
I-77	"S" Comb. Inlet	225.50	229.04	2.00	Future
I-78	Std. Type "S" Comb. Inlet	218.09	221.00	2.70	See SRC Plate Md. 310.04
I-79	Std. Type "S" Comb. Inlet	206.31	210.85	2.70	379.04
I-80	Std. Type "S" Comb. Inlet	200.88	204.60	1.90	319.01
I-81	Std. Type "S" Comb. Inlet	188.36	195.65	3.60	See SRC Plate Md. 310.04
I-82	"K" Grate	Set in Field	-	-	Future (Temporary)
I-84	Dble "S" Comb. Inlet	214.70	218.84	1.10	Future
I-85	Dble "S" Comb. Inlet	215.00	218.84	1.10	
I-86	"S" Comb. Inlet	227.15	231.54	1.10	
I-86	"S" Comb. Inlet	227.79	231.54	1.10	Future

JUNCTION CHAMBER (By Others)

Structure No	Δ ₁	Δ ₂	T ₁	T ₂	X	D	D ₁	D ₂	R ₁	R ₂	Inv ₁	Inv ₂	Inv ₃
S-2	90°	90°	0.00	6.00	50	54	54	30	2.0	6	218.00	218.41	214.74
S-5	-	210°	-	8.00	-	69	69	48	-	8	220.00	220.00	220.00
S-7	-	210°	-	7.00	-	54	54	30	-	7	220.00	220.00	220.00
S-8	45°	45°	0.82	2.42	1.65	3.2	3.2	2.0	2	6.0	220.00	220.00	220.00

BEND STRUCTURE (By Others)

Structure No	Δ	LR	L	T
S-3	90°	6	0.42	0.00
S-4	45°	6	4.71	2.80
S-9	18°	6	1.80	0.05

DOUBLE WYE STRUCTURE (By Others)

No	Δ ₁	Δ ₂	A	B	C	X	D	D ₁	D ₂	D ₃	Inv	Inv ₁	Inv ₂	Inv ₃
S-1	30°	30°	10.5	10.5	10.5	1.0	60	54	42	42	194.67	195.84	196.79	196.83
S-11	20°	20°	7.0	7.0	3.0	7.0	72	66	18	42	185.44	186.07	187.40	187.01

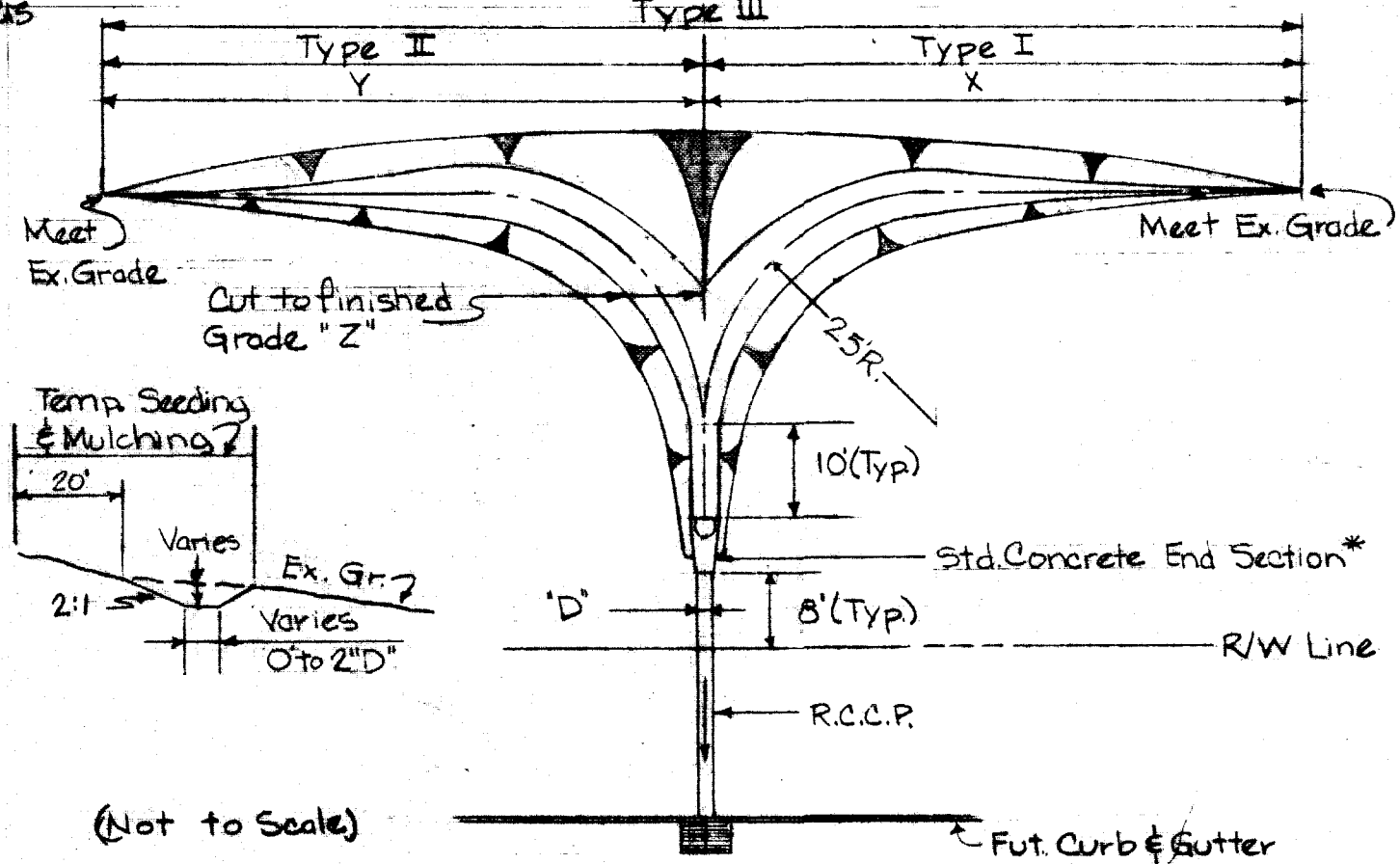
MANHOLE SCHEDULE

No	Type	Size	Invert Out	Top Elevation	Remarks
M-1A	Type "C" Manhole	74" x 48"	187.47	204.40	See detail Dwg. #69-0052
M-1B	Type "C" Manhole	74" x 48"	188.32	202.00	See detail Dwg. #69-0052
M-1C	Type "C" Manhole	74" x 48"	177.48	Set in field	See detail Dwg. #69-0052
M-4	Type "C" Manhole	48" x 48"	223.55	225.88	See detail Dwg. #69-0052
M-5	Type "C" Manhole	60" x 48"	192.35	208.35	See detail Dwg. #69-0052
M-4	Type "C" Manhole	54" x 48"	204.66	213.30	See detail Dwg. #69-0052
M-5	Type "C" Manhole	54" x 48"	206.06	214.90	See detail Dwg. #69-0052
M-6	Type "C" Manhole	54" x 48"	214.76	221.24	See detail Dwg. #69-0052
M-7	Type "C" Manhole	48" x 48"	191.47	198.40	See detail Dwg. #69-0052
M-7A	Type "C" Manhole	66" x 48"	181.44	Set in field	See detail Dwg. #69-0052
M-8	Type "C" Manhole	60" x 48"	190.72	198.85	See detail Dwg. #69-0052
M-9	Type "C" Manhole	60" x 48"	195.33	203.11	See detail Dwg. #69-0052
M-10	Type "C" Manhole	60" x 48"	192.64	207.79	See detail Dwg. #69-0052
M-11	Type "C" Manhole	60" x 48"	201.45	212.47	See detail Dwg. #69-0052
M-12	Type "C" Manhole	48" x 48"	210.98	216.87	See detail Dwg. #69-0052
M-13	Type "C" Manhole	48" x 48"	216.96	222.46	See detail Dwg. #69-0052
M-14	Type "B" Manhole	48" x 48"	231.81	237.11	See detail Dwg. #69-0052
M-15	Type "B" Manhole	48" x 48"	201.48	206.77	See detail Dwg. #69-0052
M-16	Type "B" Manhole	48" x 48"	207.72	214.40	See detail Dwg. #69-0052
M-17	Type "B" Manhole	48" x 48"	220.67	226.17	See detail Dwg. #69-0052
M-18	Type "B" Manhole	48" x 48"	230.75	236.89	See detail Dwg. #69-0052
M-19	Type "B" Manhole	48" x 48"	233.24	239.00	Future
M-20	Type "B" Manhole	48" x 48"	238.54	242.40	Future
M-21	Std. Chop Manhole	48" x 48"	189.40	Set in field	See SRC Detail Plate Md. 383.11
M-23	Type "B" Manhole	48" x 48"	238.47	Set in field	Future
M-24	Type "B" Manhole (Temp)	48" x 48"	196.51	Set in field	See Detail Dwg. #69-0052
M-25	Type "C" Manhole	-	-	-	Future
M-26	Type "C" Manhole	48" x 48"	226.12	Set in field	Future

STORM DRAIN DESIGN COMPUTATIONS

10 YEAR STORM FREQUENCY EXCEPT AS DENOTED * PIPE n=0.014

Location From To	Area	Acres		C'	CA	Adj CA	K CA	Time Conc. - Min		Q'	Des. Q' Q'+Q _s	% Inter	Q' Inter	Pipe Slope %		Vel.	Lgth. Ft.	Time in Pipe	Remarks
		Sub	Total					Inlet	Drain					Min.	Act.				
I-86	135	0.2	0.2	0.80	0.16	0.16	0.16	5	5	6.8	1.10	100	1.10	12"	0.11	1.4	44	0.5	Future
I-86	135	0.2	0.2	0.80	0.16	0.16	0.16	5	5	6.8	1.10	100	1.10	12"	0.11	1.4	44	0.5	
I-85	140	0.2	0.4	0.80	0.16	0.16	0.16	5	5	6.8	1.10	100	1.10	12"	0.40	2.6	320	2.1	
I-85	141	0.2	0.6	0.80	0.16	0.16	0.16	5	5	6.8	1.10	100	1.10	12"	0.83	3.8	43	0.2	
I-85	Y-1 (137-141)	0.2	0.2	0.80	0.16	0.16	0.16	5	5	6.8	1.10	100	1.10	12"	0.11	1.4	43	0.5	Future
I-84	Y-2 Ex. (142)	0.2	0.2	0.80	0.16	0.16	0.16	5	5	6.8	1.10	100	1.10	12"	0.11	1.4	43	0.5	Future



TYPICAL DITCHING DETAIL (By Others)

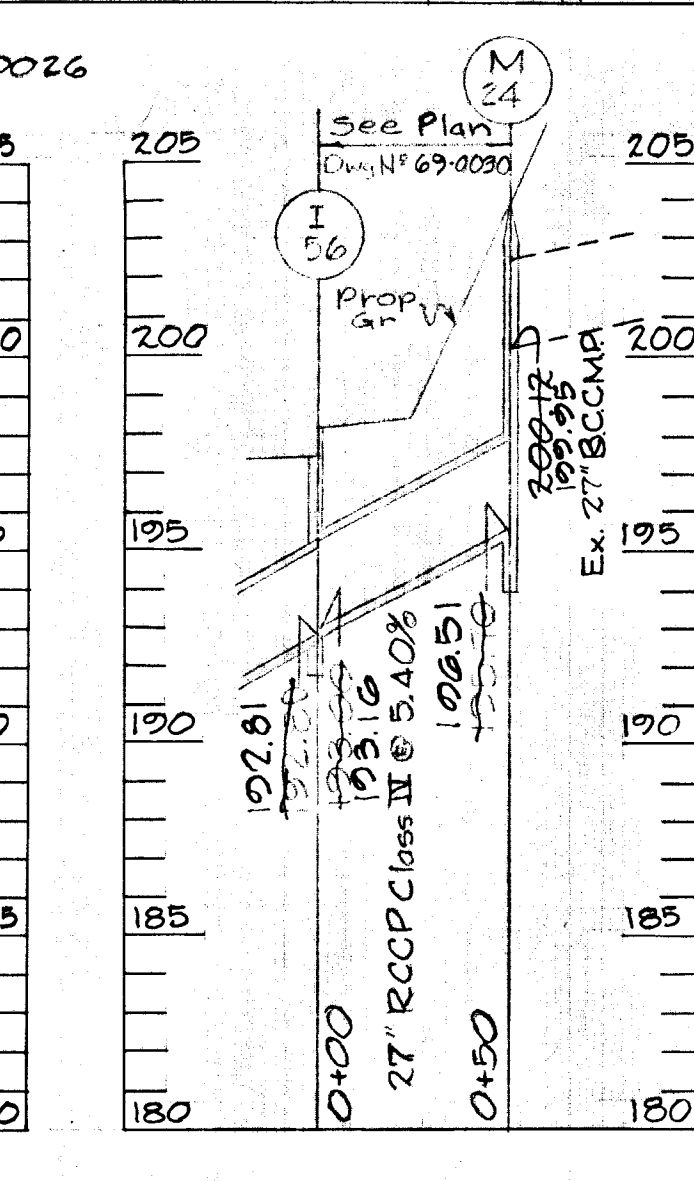
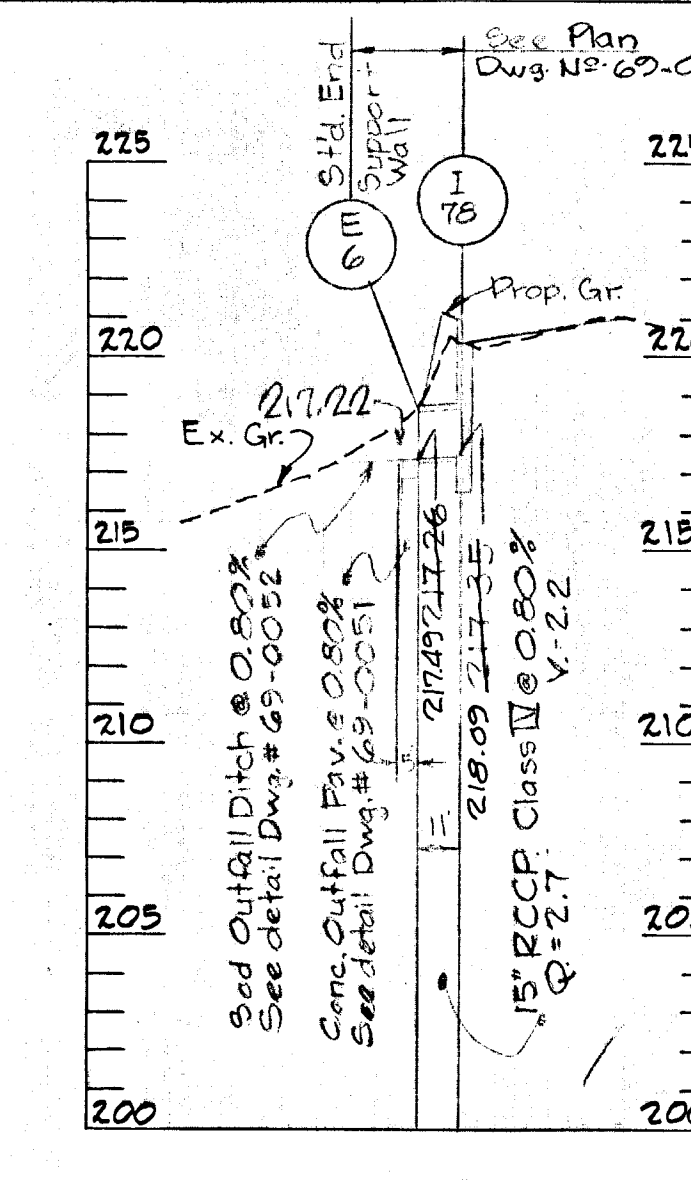
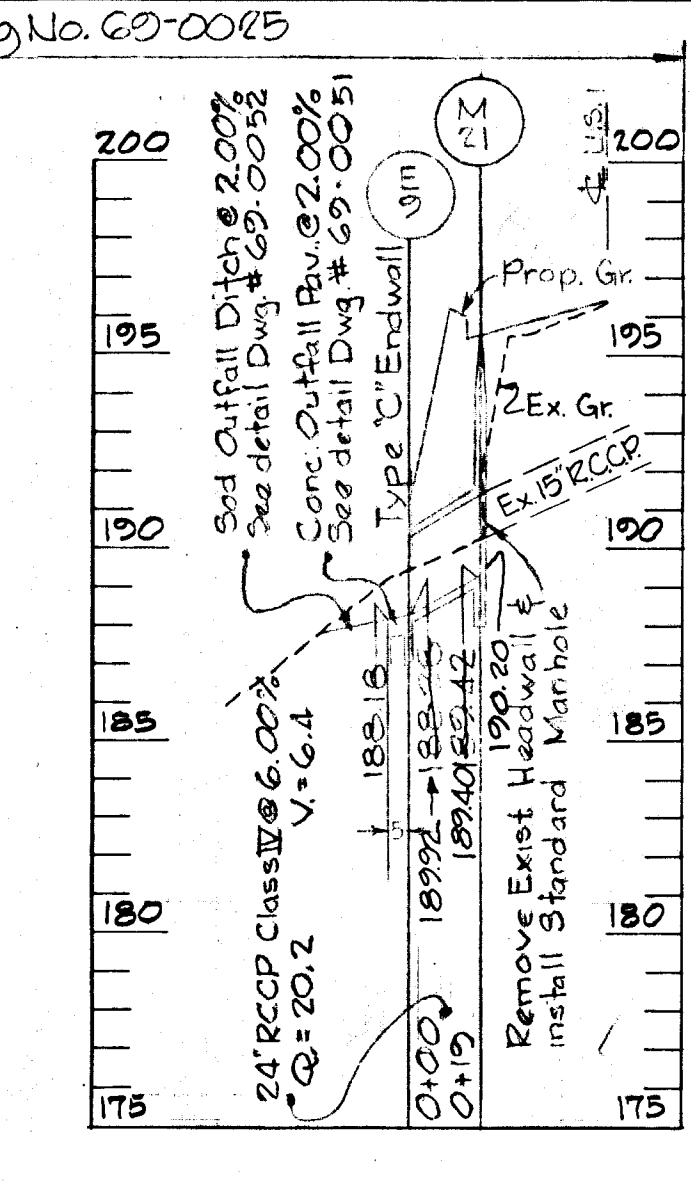
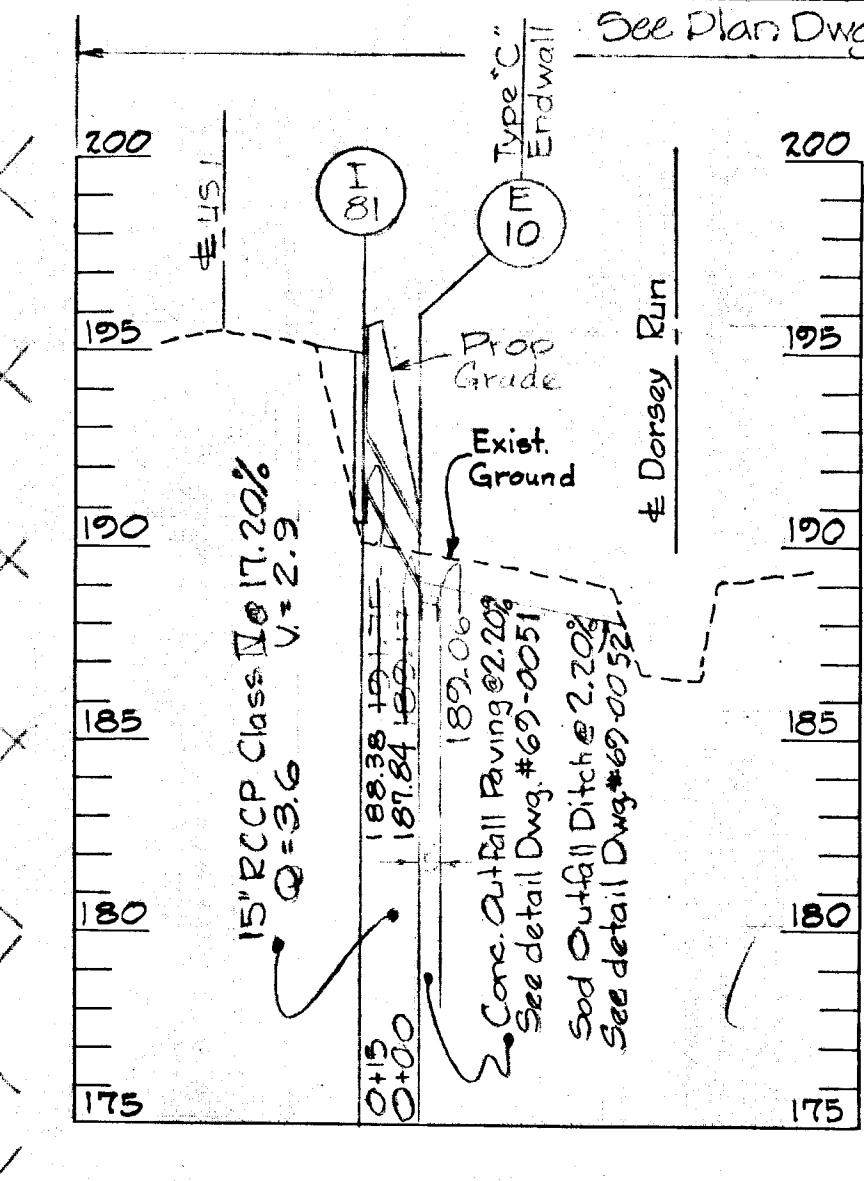
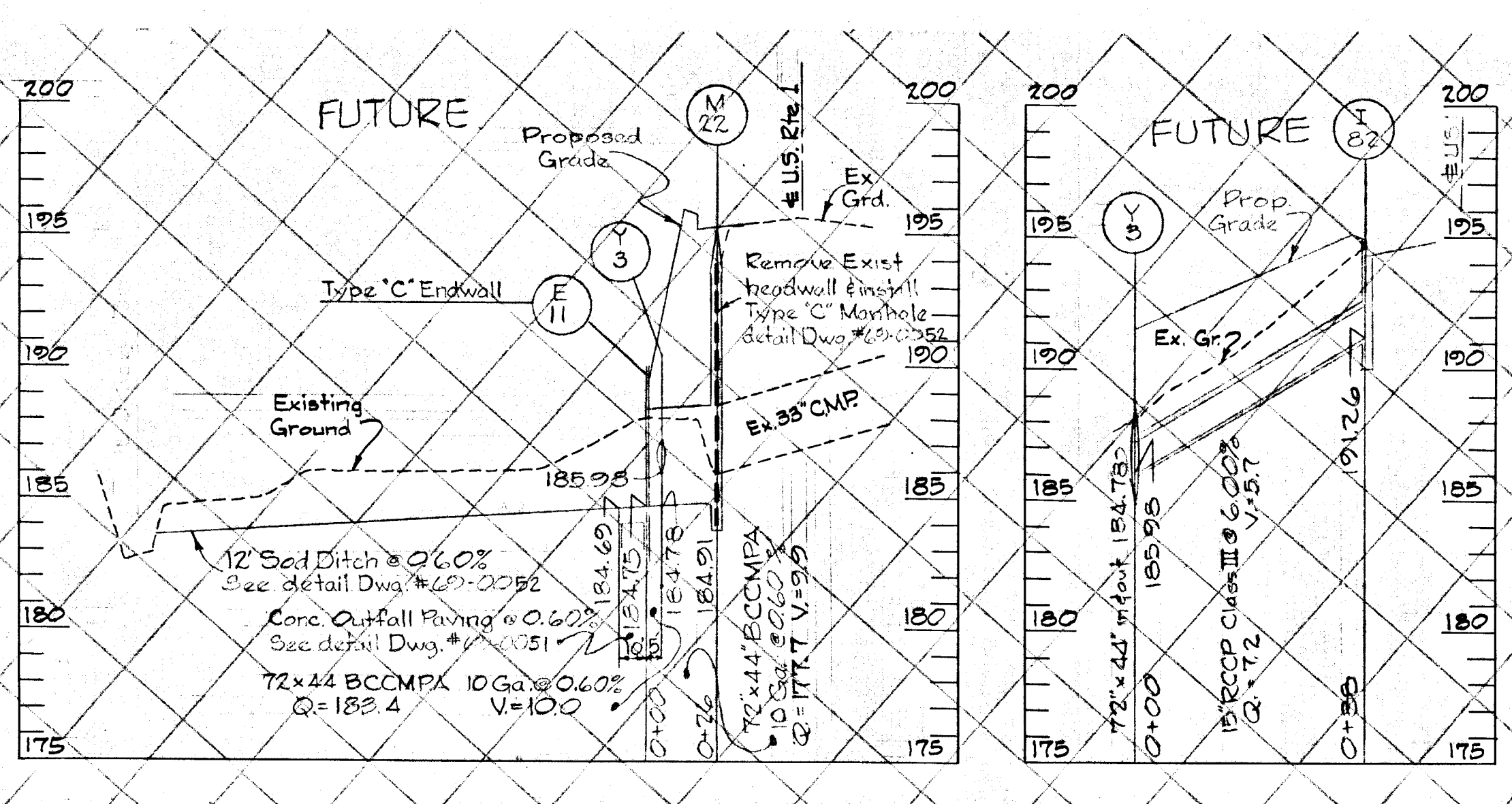
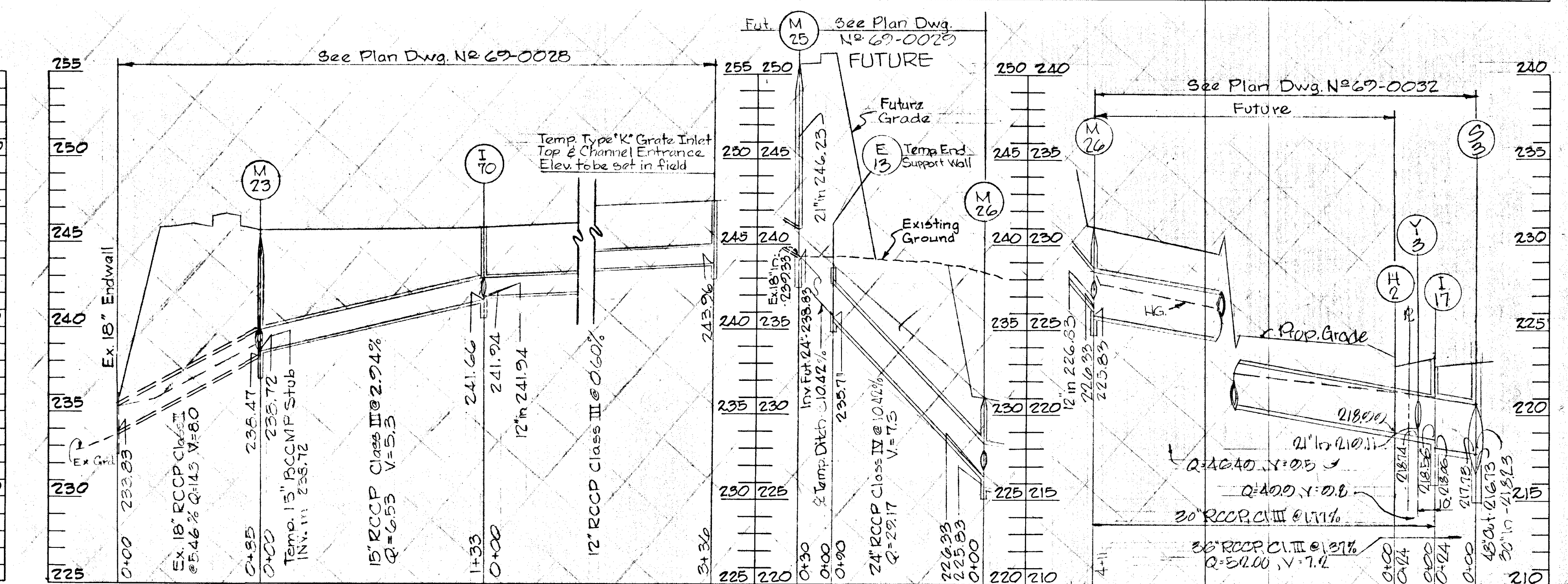
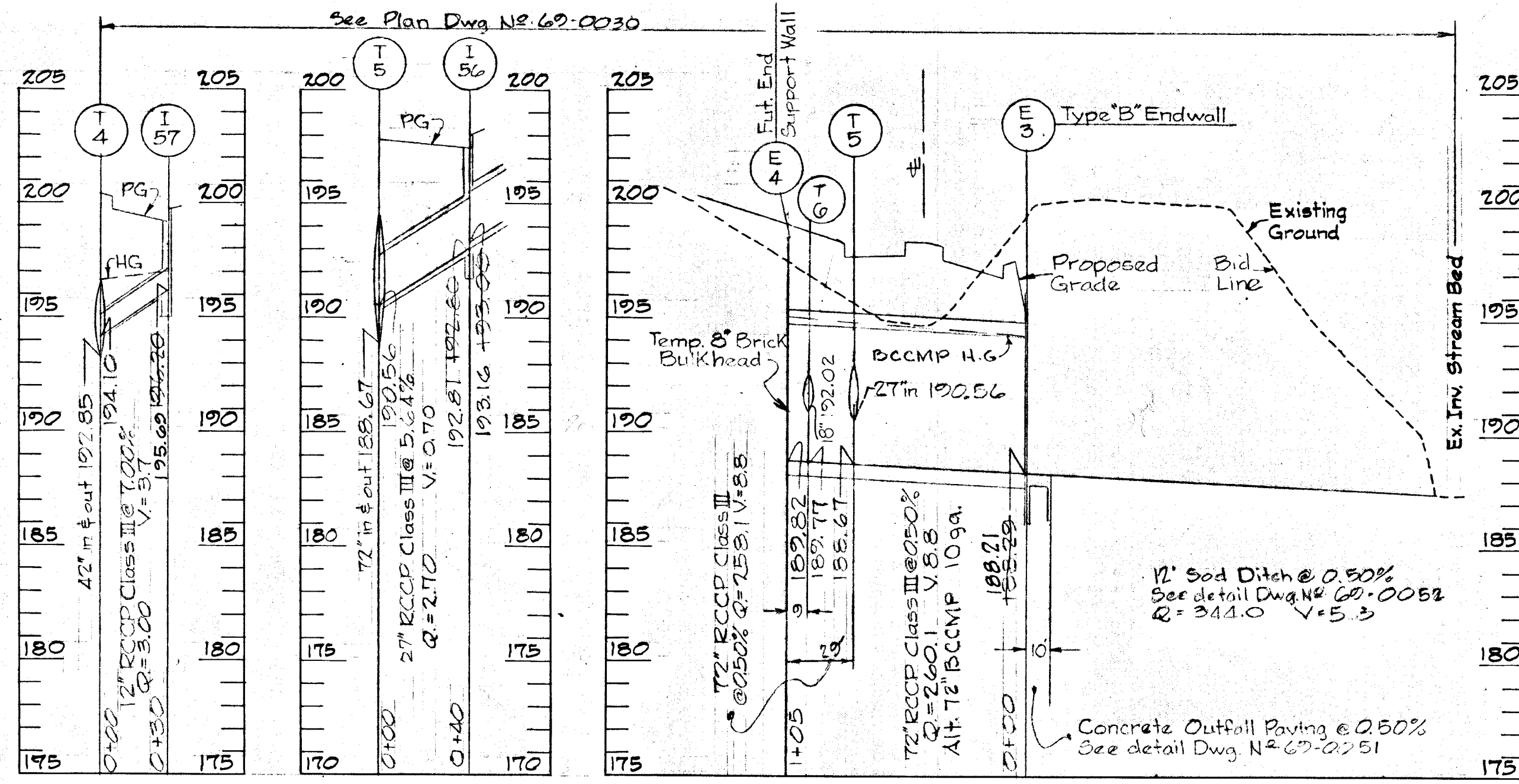
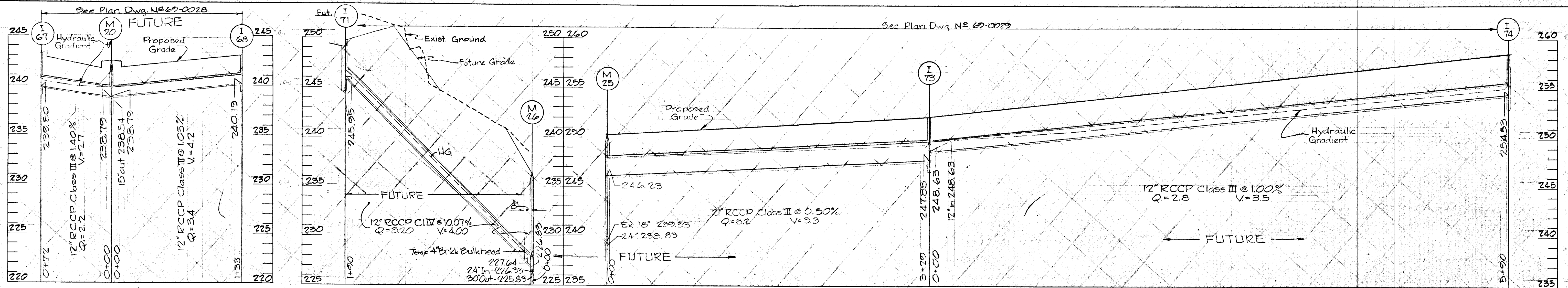
Std. Conc. End Section Schedule

No	Type	RCCP D.	X	Y	Z
H-1	II	18"	-	54"	231.75
H-2	III	30"	61"	27"	219.11
H-3	I	21"	71"	-	224.56
H-4	II	21"	-	25"	228.75
H-5	II	18"	-	25"	224.00
H-6	II	36"	-	105"	188.80
H-7	III	21"	30"	30"	217.99

*DELETE HEADWALL H-3

STRUCTURE SCHEDULE

No	Type	Size	Invert Out	Top Elevation	Remarks
S-1	Double Brick Wye	60" x 42" x 42"	193.47	-	See detail Dwg. #69-0048
S-2	Junction Chamber w/WH	54"	212.92	-	See detail Dwg. #69-0052
S-3	Bend w/manhole	48"	216.71	220.00	See detail Dwg. #69-0052
S-4	Bend	36"	217.54	-	See detail Dwg. #69-0052
S-5	Junction Chamber w/WH	66"	189.52	198.54	See detail Dwg. #69-0052
S-6	Bend	-	-	-	Future
S-7	Junction Chamber w/WH	54"	200.81	217.32	See detail Dwg. #69-0052
S-8	Junction Chamber	36"	210.57	219.25	See detail Dwg. #69-0052
S-9	Bend w/manhole	42"	193.40	199.65	See detail Dwg. #69-0052
E-1	Type "O" Endwall	72"	177.93	Set in field	See detail Dwg. #69-0052
E-2	Type "O" Endwall	66"	175.24	Set in field	See detail Dwg. #69-0052
E-3	Type "B" Endwall	72"	188.21	Set in field	See SRC Details
E-4	Std. End Support Wall	72"	182.82	Set in field	See SRC Details
E-6	Std. End Support Wall	18"	217.40	218.30	See SRC Detail Plate Md. 350.01
E-7	Std. End Support Wall	12"	215.00	Set in field	Future
E-8	Std. End Support Wall	12"	219.57	Set in field	Future
E-9	Std. Type "C" Endwall	24"	188.21	Set in field	See SRC Detail Plate Md. 350.01
E-10	Std. Type "C" Endwall	18"	187.84	191.17	See SRC Detail Plate Md. 350.01
T-1	Tee Cut-in	12" x 24"	215.13	-	Field Conn.
T-2	Tee Cut-in	12" x 30"	231.50	-	Field Conn.
T-3	Tee Cut-in	12" x 27"	229.01	-	Field Conn.
T-4	Tee Cut-in	12" x 42"	192.85	-	Field Conn.
T-5	Tee Cut-in	27" x 72"	188.67	-	Field Conn.
T-6	Tee Cut-in	18" x 72"	189.77	-	Field Conn.
Y-2	Wye Fitting	12" x 42"	211.13	-	Field Conn.
Y-3	Preformed Wye Fitting	30" x 21"	218.74	-	-
Y-4	Wye Fitting	12" x 24"	188.05	-	Field Connection
E-12	Std. End Support Wall	30"	187.73	-	See SRC Details
T-7	Tee Cut-in	21" x 60"	195.27	-	Field Connection
Y-5	Preformed Wye Fitting	42" x 60"	200.71	-	Field Connection
S-11	Double Brick Wye	72" x 18" x 42"	188.92	206.2	See detail Dwg. #69-0048



PROFILE
Scale:
Horiz.: 1"=50'
Vert.: 1"=5'

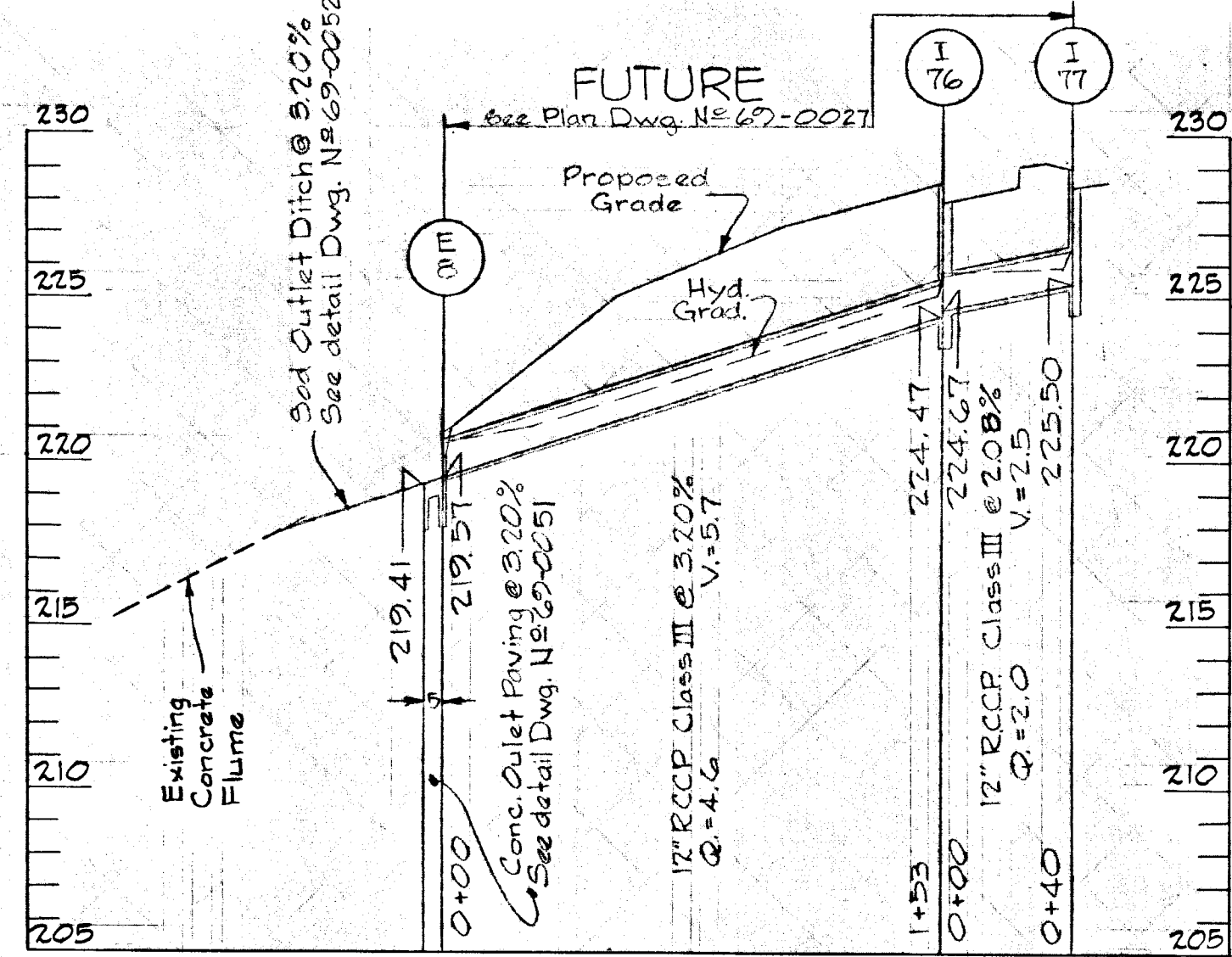
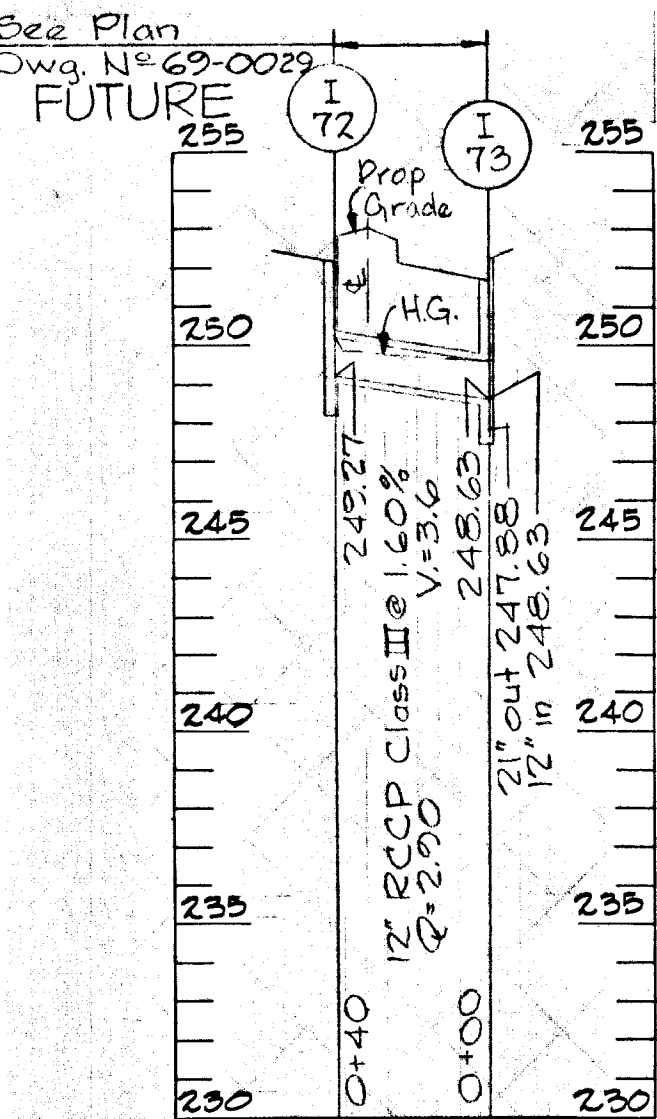
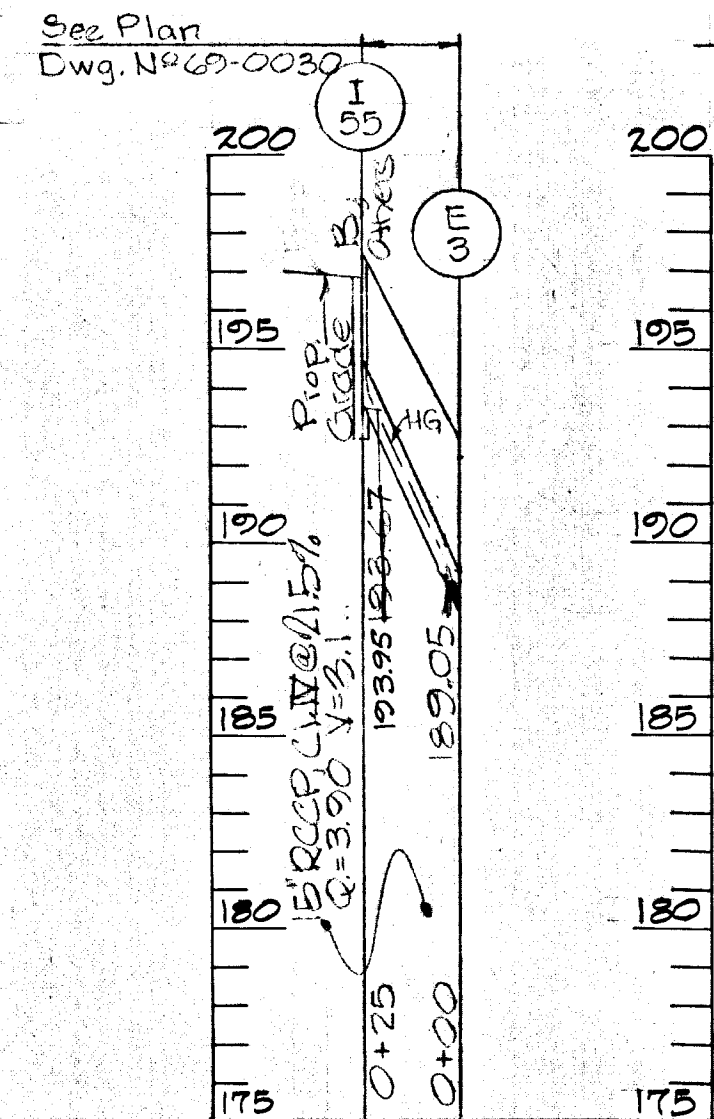
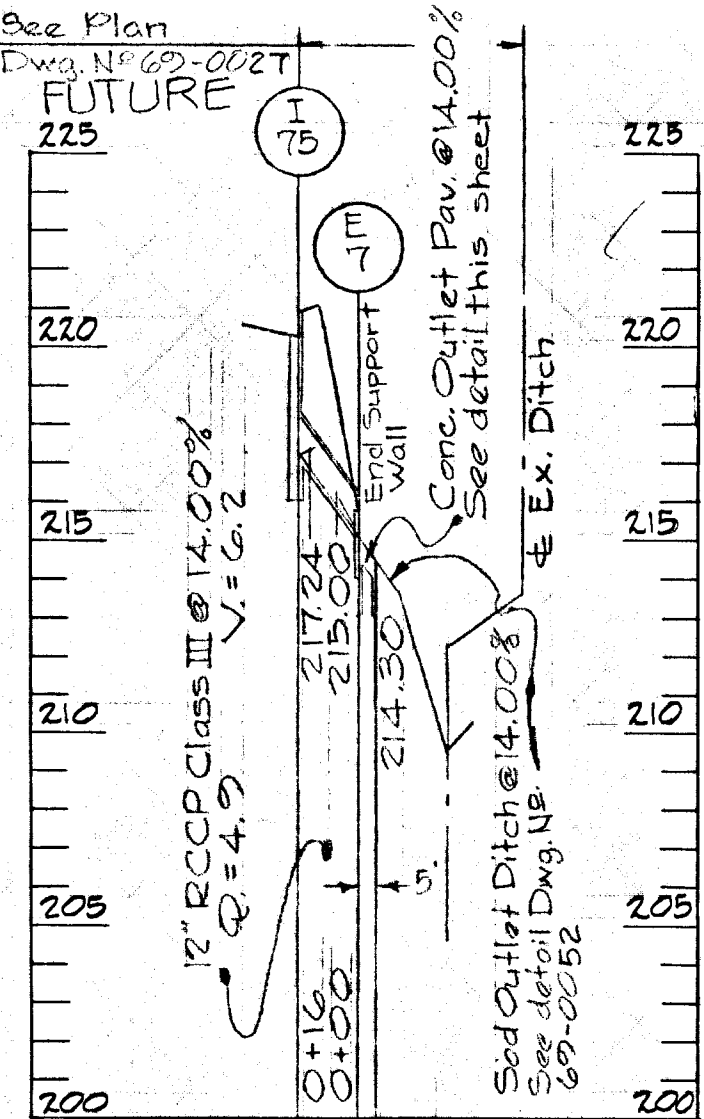
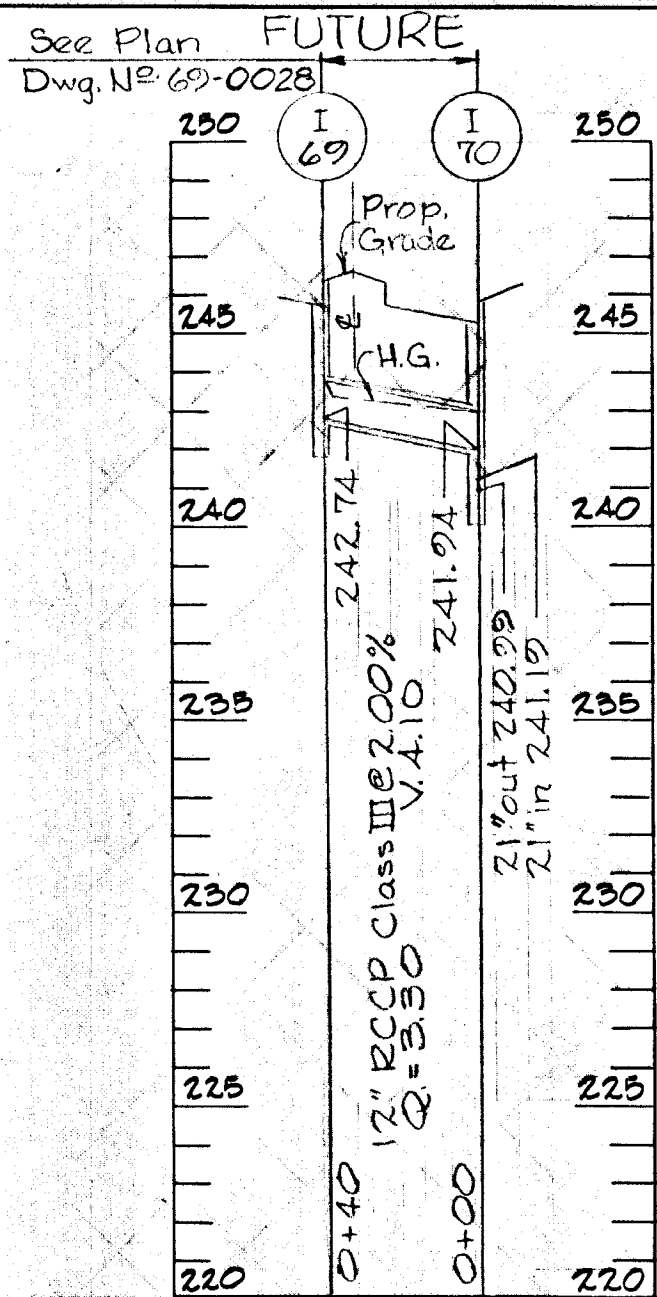
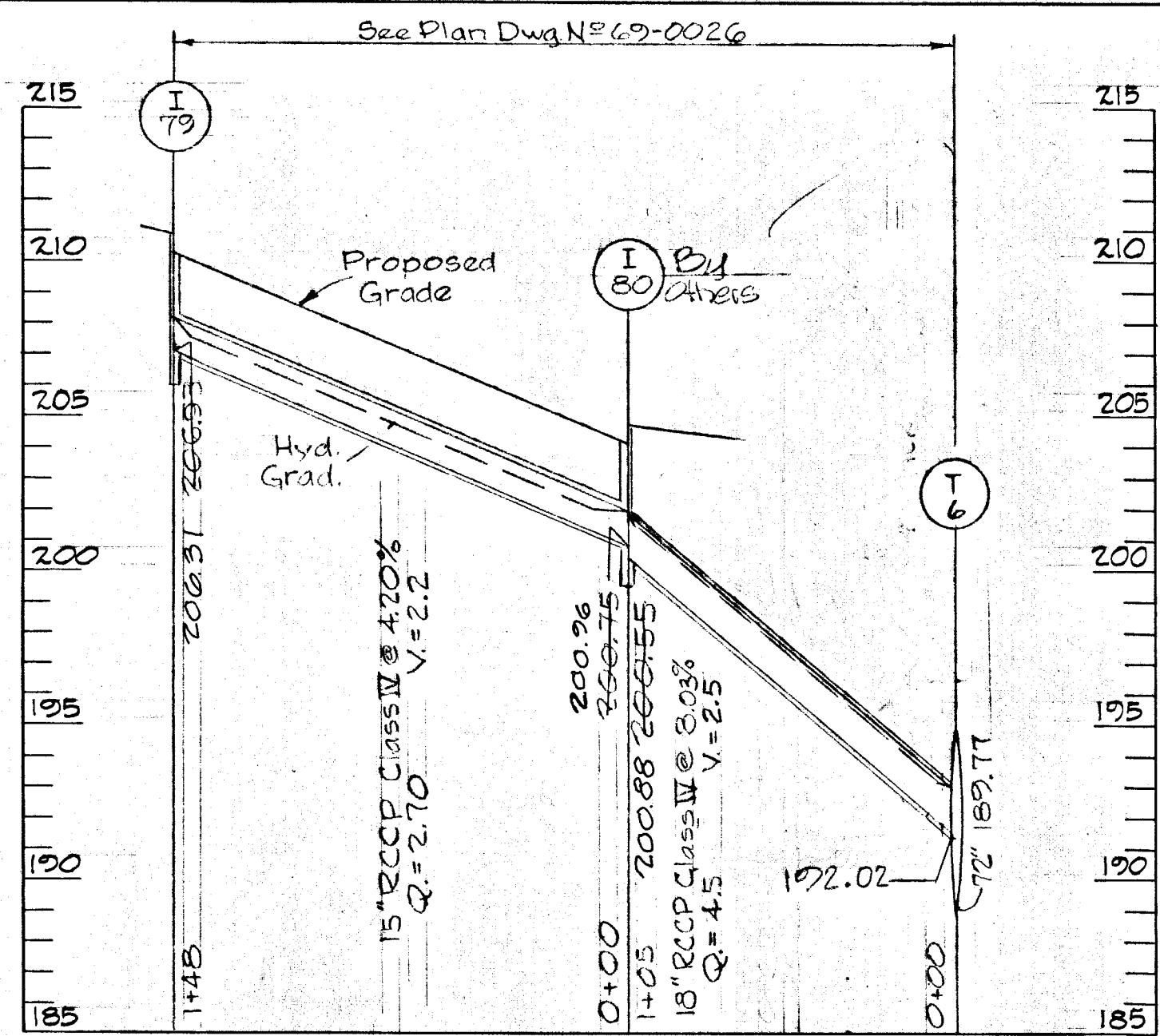
CONTRACTOR:
NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3649.
CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3554.
BALTIMORE GAS & ELECTRIC CO. (234-5600)

UNLESS OTHERWISE NOTED, BID LINE FOR EXCAVATION SHALL BE SUBGRADE UNDER PROPOSED ROADS, ESTABLISHED GRADE UNDER TURF AREAS, AND EXISTING GRADE ALONG EXISTING PAVING.

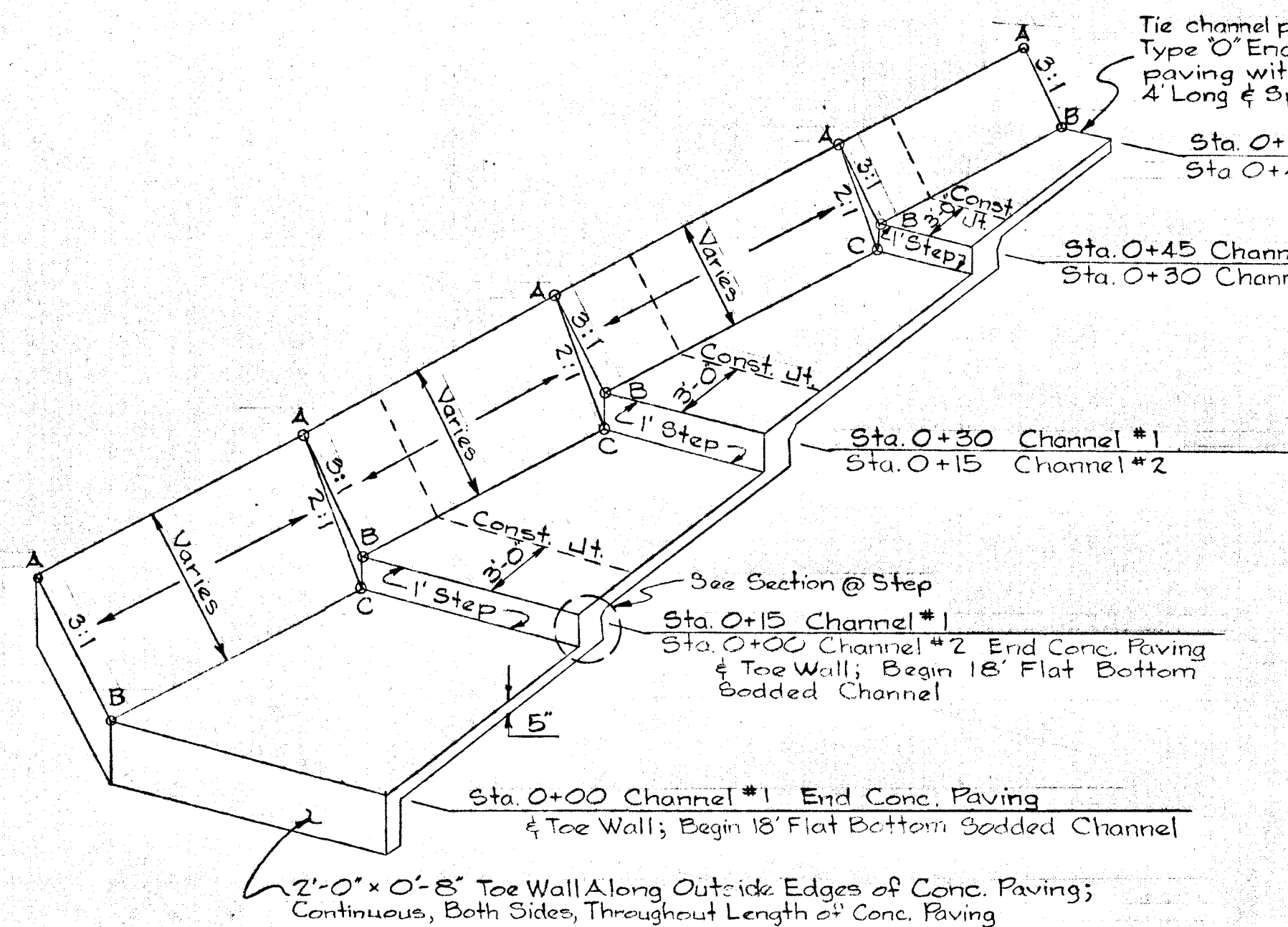
W. L. Duvall Designed		ENGINEER	GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204	OWNER AND DEVELOPER	Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES	Principal Engr. Date Principal Arch	HOWARD COUNTY	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways S. H. Noland 10/25/71	OFFICE OF PLANNING AND ZONING Chief Engineers, Division of Land Development J. H. Clowry 10/29/71	Storm Drains - Phase One	DEPT. GEN. SER. PROJ. # KB-4-728
W. L. Duvall Drawn		Director	Approved Date	Approved Date	REVISIONS	Sheet 12 of 19						
D. D. Ranney Checked		Prof. Engr. 5048 10/17/71 Reg. Date	Director	Approved Date	Approved Date	Date 9/20/75 Description AS BUILT By GWA 69-0049 Drawing # 4 GBFM-U3 GBFM-R-1 Contract #						

Line and Grade only
S. H. Noland 10/25/71

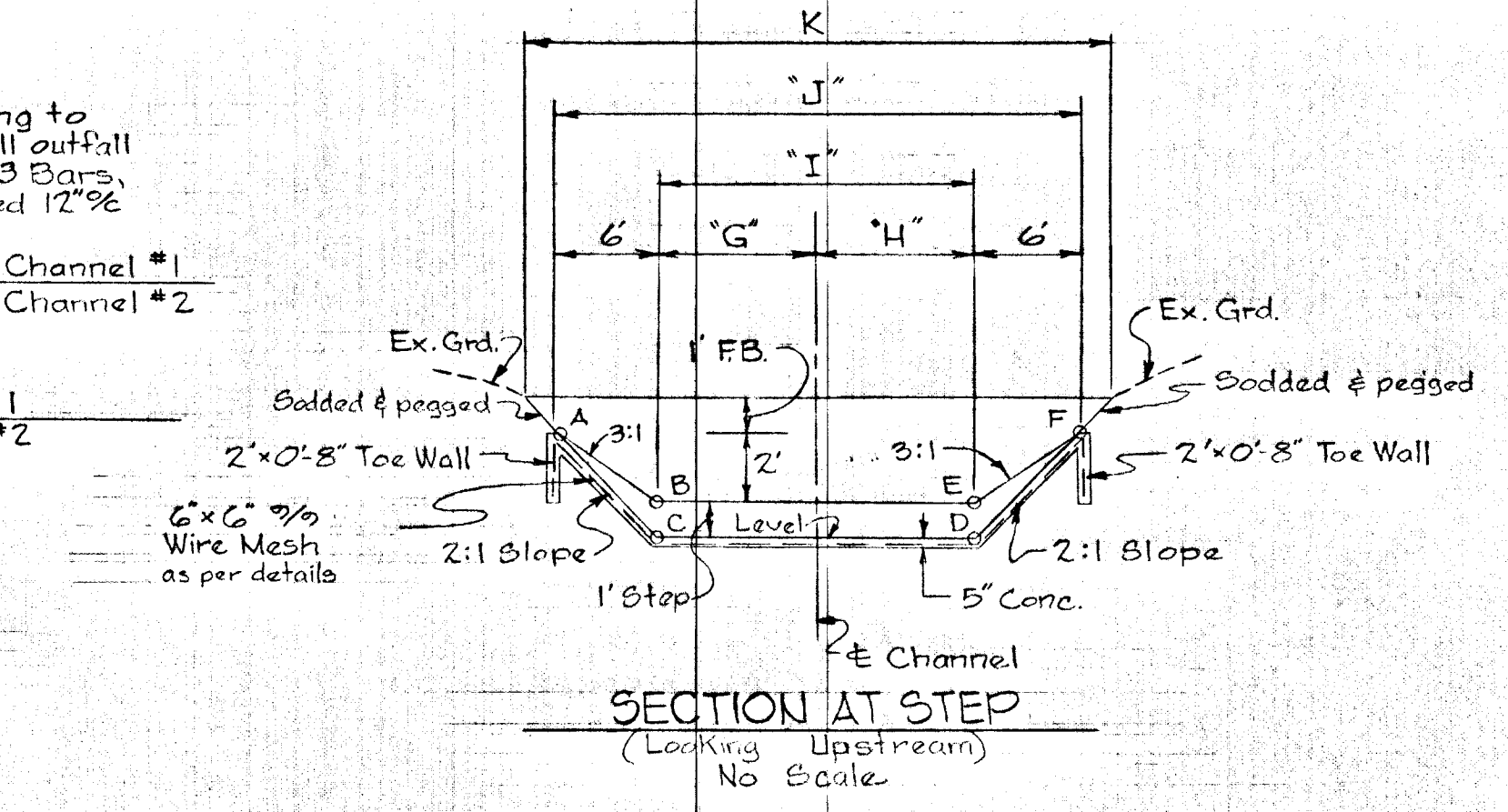
AS BUILT
F-71-37



PROFILE
Scale
Horiz.: 1"=50'
Vert.: 1"=5'

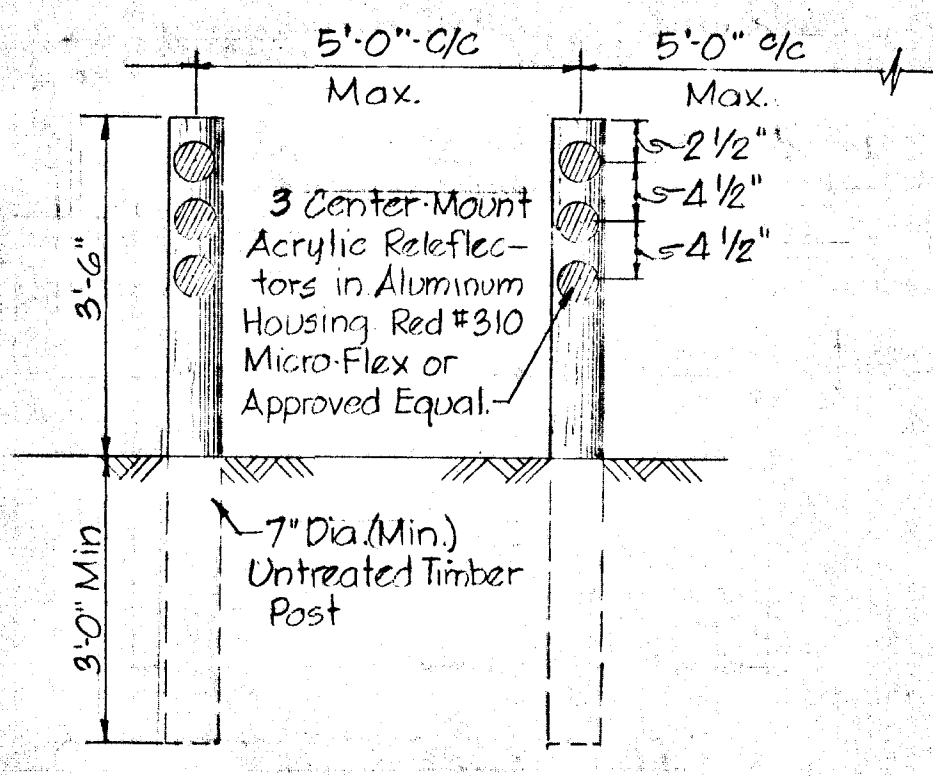


SECTION THRU CHANNEL
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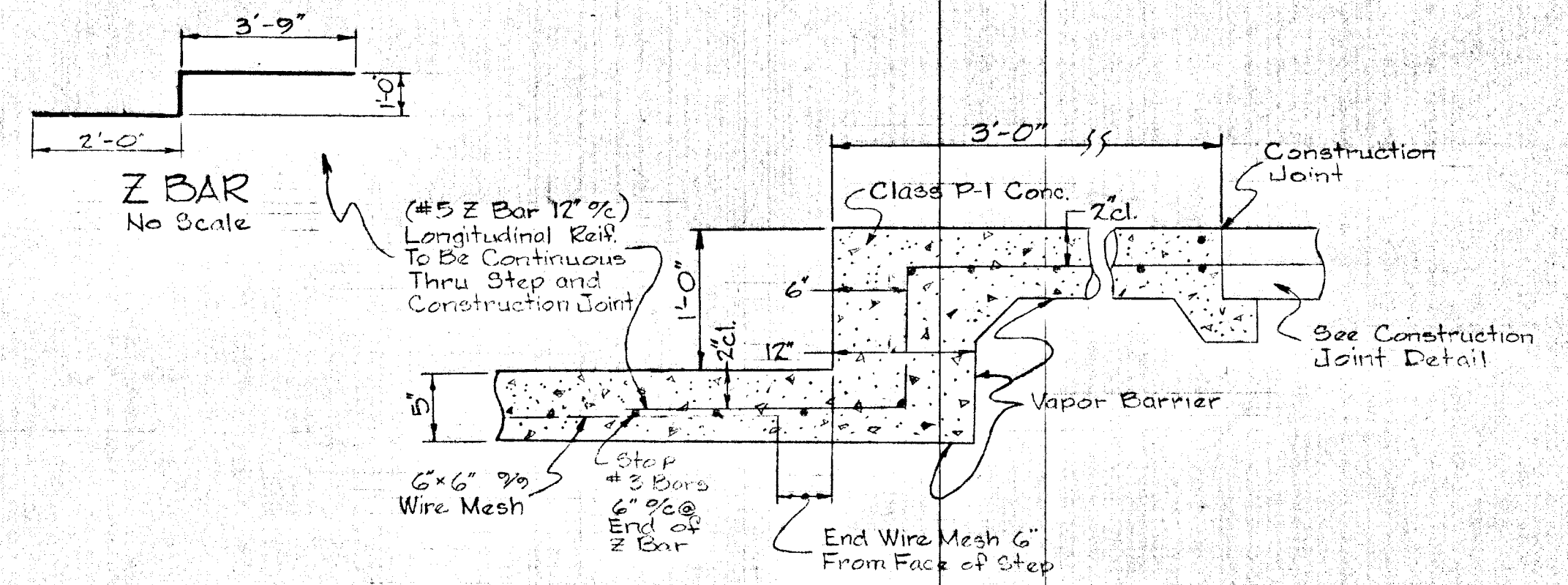


DISTANCE & ELEVATION TABLE

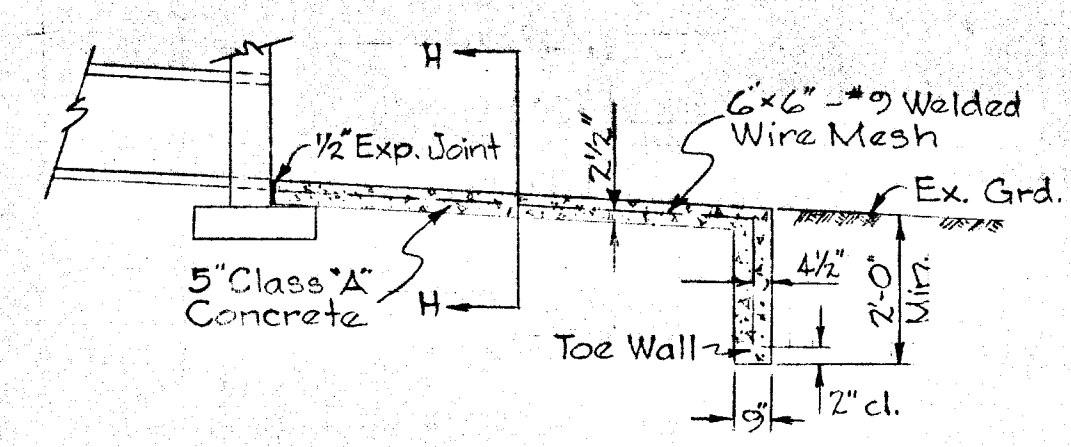
CHANNEL	STA.	ELEVATION			DISTANCE			
		A&F	B&E	C&D	G&H	I	J	K
1	No Step	0+00	170.76	165.76	9.00'	18.00'	30.00'	34.00'
1	Step	0+15	171.91	169.91	7.78'	15.57'	27.87'	31.57'
1	Step	0+30	174.10	171.10	6.57'	13.14'	25.14'	29.14'
1	Step	0+45	173.19	172.19	5.35'	10.70'	22.70'	26.70'
1	No Step	0+55	175.73	173.73	-	4.84'	9.02'	21.02'
2	No Step	0+00	176.13	174.13	-	9.00'	18.00'	30.00'
2	Step	0+15	177.28	175.28	174.28	7.47'	14.94'	26.94'
2	Step	0+30	178.37	176.37	175.37	5.94'	11.87'	23.87'
2	No Step	0+40	178.54	176.54	-	4.92'	9.83'	21.83'



TEMPORARY DEAD-END BARRICADE

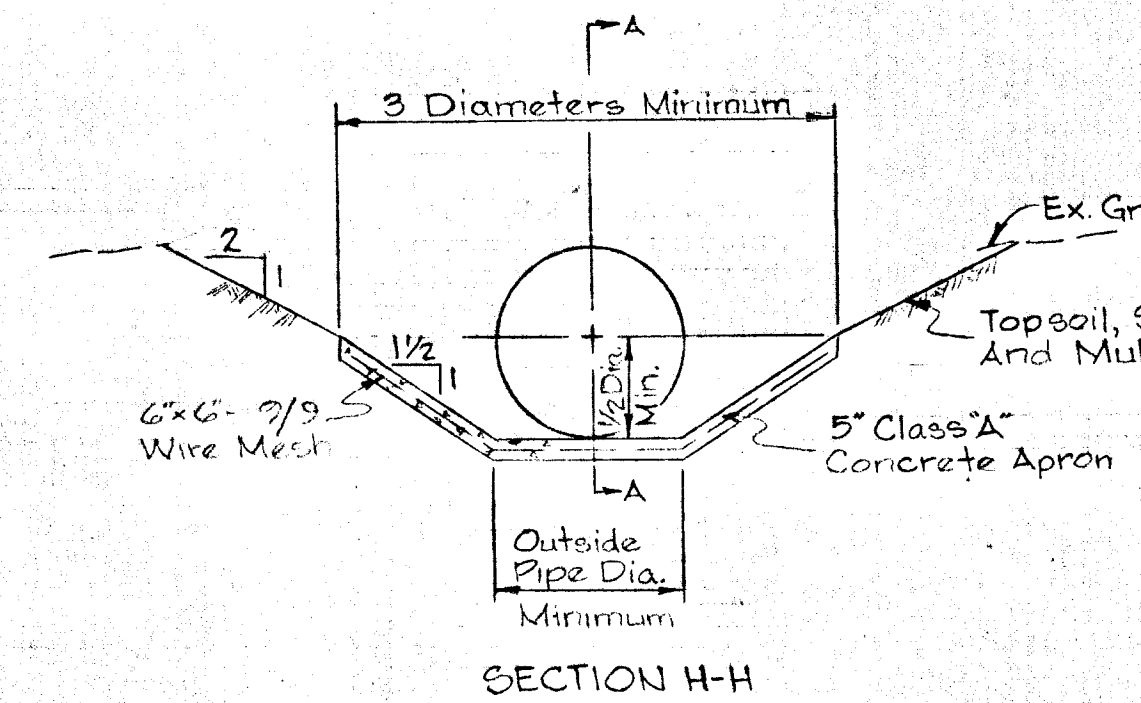


SECTION AT STEP
No Scale

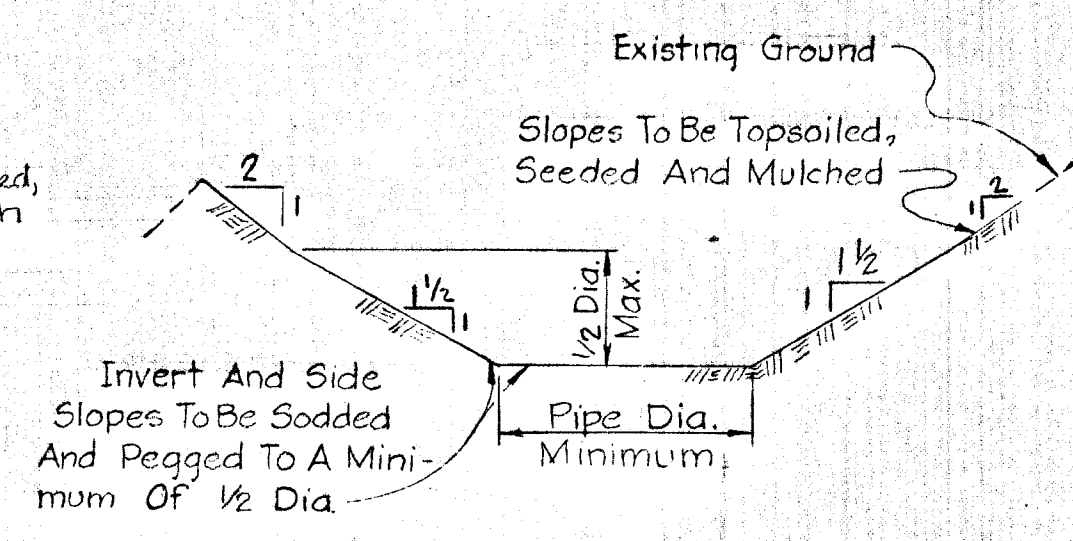


SECTION A-A

CONCRETE OUTLET PAVING
No Scale



SECTION H-H



(TYP.) OUTFALL DITCH
No Scale

CONTRACTOR:
NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-349.
CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3554.
BALTIMORE GAS & ELECTRIC CO. 234-6671

UNLESS OTHERWISE NOTED, BID LINE FOR EXCAVATION SHALL BE SUBGRADE UNDER PROPOSED ROADS, ESTABLISHED GRADE UNDER TURF AREAS, AND EXISTING GRADE ALONG EXISTING PAVING.

W.L. Duwall Designed		ENGINEER	OWNER AND DEVELOPER	DEPT. OF GENERAL SERVICES	HOWARD COUNTY		Storm Drains - Phase One	DEPT. GEN. SER. PROJ# XB-4-728
W.L. Duwall Drawn		GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204	Greater Baltimore Food Market Authority 115 One Charles Center Baltimore, Md. 21201	Principal Eng. Date 11/17/71	Principal Arch.	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development	REVISIONS
D.D. Ranney Checked		Charles Lick 5048 Prof. Engr. Reg. # 11/17/71		S.E. M.E. E.E. C.E. L.A.	Director	Approved Date	Approved Date	Date Description AS BUILT By GWS

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET
Howard County, Maryland Election District VI

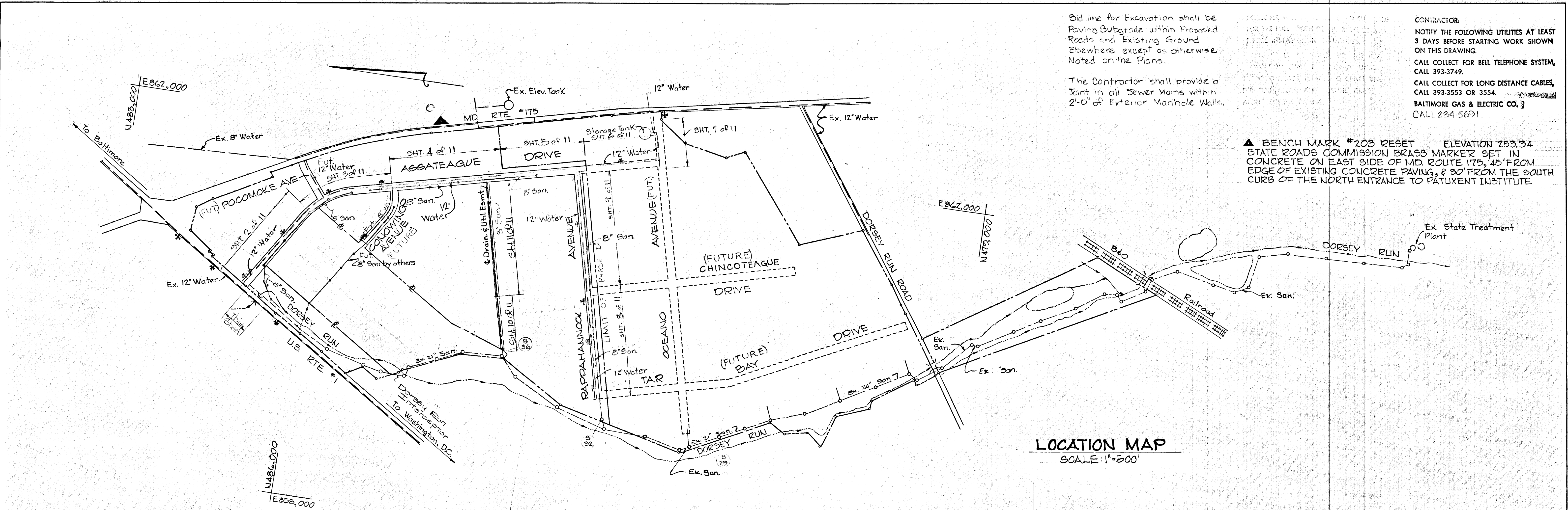
AS BUILT

Bid line for Excavation shall be Paving Subgrade within Proposed Roads and Existing Ground Elsewhere except as otherwise Noted on the Plans.

The Contractor shall provide a Joint in all Sewer Mains within 2'-0" of Exterior Manhole Walls.

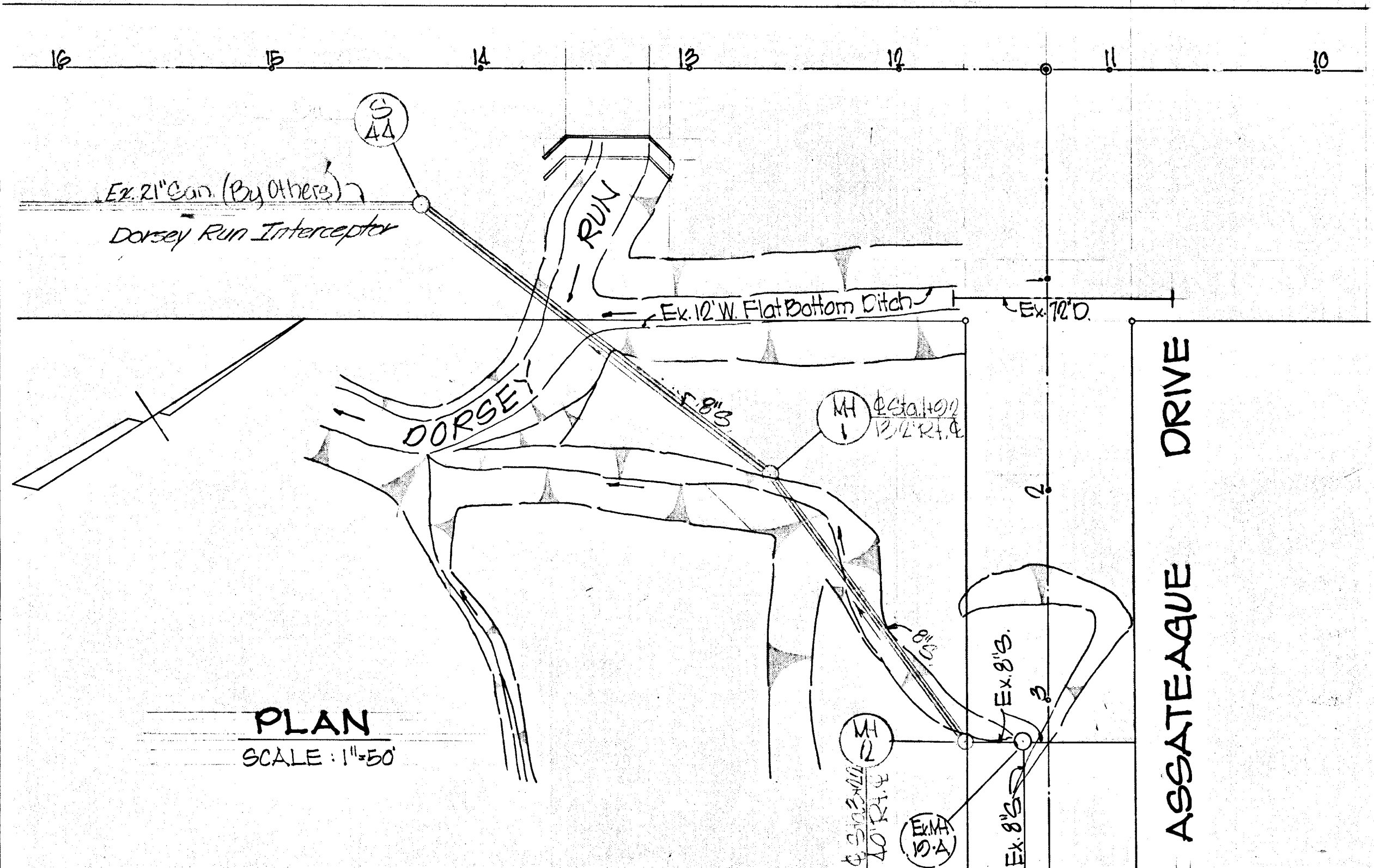
CONTRACTOR:
 NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
 CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3749.
 CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3554.
 BALTIMORE GAS & ELECTRIC CO. CALL 234-5671.

▲ BENCH MARK #203 RESET ELEVATION 253.34 STATE ROADS COMMISSION BRASS MARKER SET IN CONCRETE ON EAST SIDE OF MD. ROUTE 175, 45' FROM EDGE OF EXISTING CONCRETE PAVING, 30' FROM THE SOUTH CURB OF THE NORTH ENTRANCE TO PATUXENT INSTITUTE

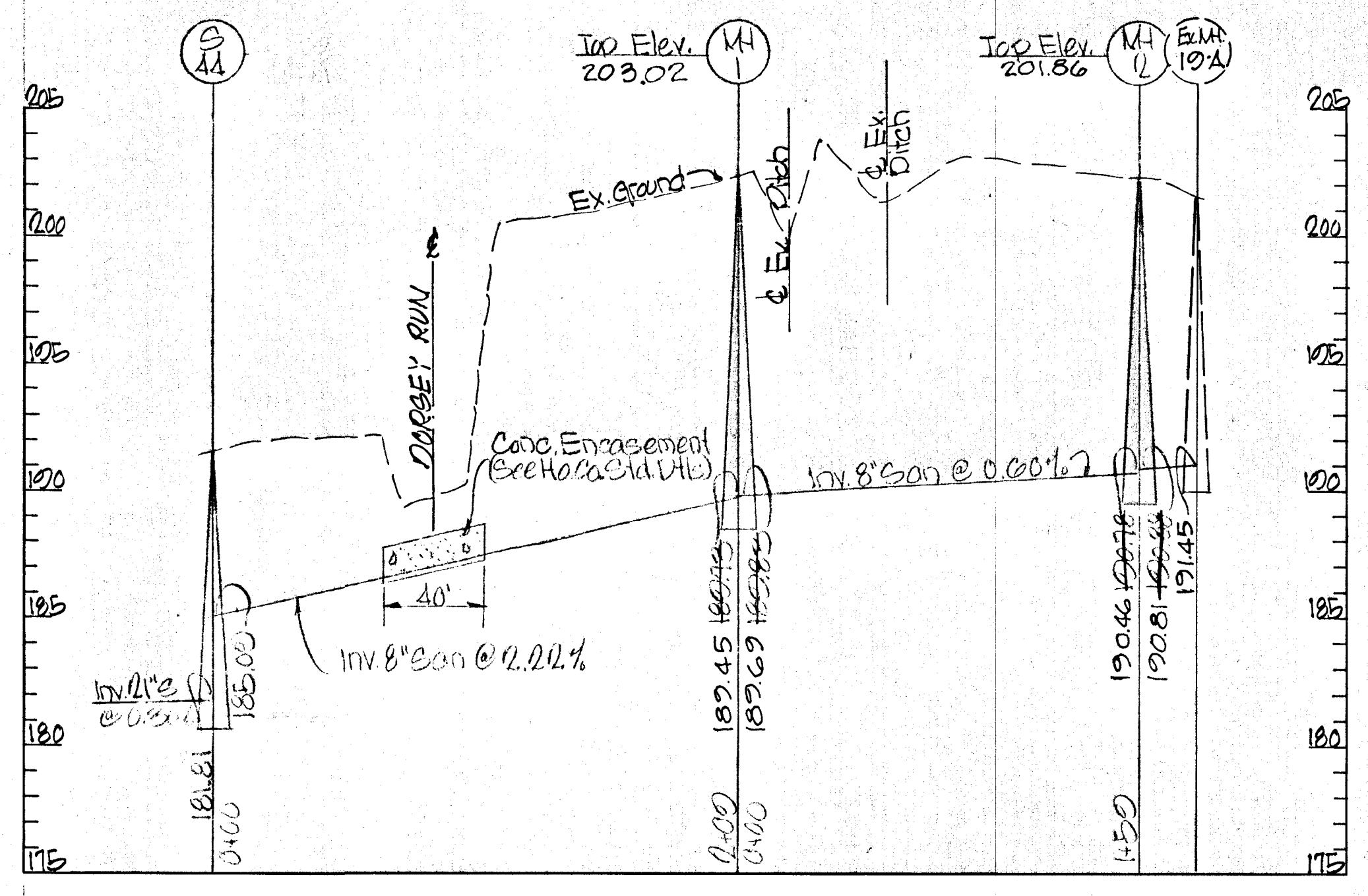


LOCATION MAP
 SCALE: 1"=500'

BALTIMORE - WASHINGTON BLVD. - U.S. RTE. 1



PLAN
 SCALE: 1"=50'



PROFILE
 SCALE: Hor: 1"=50'
 Vert: 1"=5'

Note: All Sanitary Sewers built under this contract are Redstone Cement Pipe (R.C.P.). All water mains built under this contract are Cast Iron Pipe (C.I.P.) or Ductile Iron Pipe (D.I.P.) as shown on plans.

W.L. Duvall Designed W.L. Duvall Drawn D.D. Ranney Checked		ENGINEER	OWNER AND DEVELOPER	DEPT. OF GENERAL SERVICES APPROVED			HOWARD COUNTY			Sanitary Sewers and Water Mains - Phase One		REVISIONS	
		GEORGE W.M. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204 Prof. Engineer Reg# 5048 Date 10/17/71	GREATER BALTIMORE FOOD MARKET AUTHORITY 1115 One Charles Center Baltimore, Md. 21201	Principal Engr. Date S.E. M.E. E.E. C.E. L.A. Secretary	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Water & Sewer Approved Date 10-22-71	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways Approved Date 10/25/71	DIV. OF LAND DEVELOPMENT & TRANSPORTATION PLANNING Chief Approved Date 10-22-71	GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Election District VI		SHEET 1 OF 11 Date Description By 7/24/70 Sanitary Plan & Profile T.W. G.W.S. 6/26/70 As Built			

CONTRACTOR - VERIFY ON FIRE HYDRANT LEAD SHALL BE TIED TO MAIN LINE TEE OR OUTLET WITH TWO (2) 3/4" DIAMETER THREADED STEEL RODS AND NUTS AS DIRECTED BY THE ENGINEER.

NOTE: US RTE. 1 R/W Contractor to maintain traffic in both directions @ all times. And all work in the right-of-way shall be done in accordance with State Roads Commission Permit N-7-40-1462

CAST IRON PIPE
 6" CLASS 22 THICKNESS 0.38
 8" CLASS 22 THICKNESS 0.41
 12" CLASS 23 THICKNESS 0.52

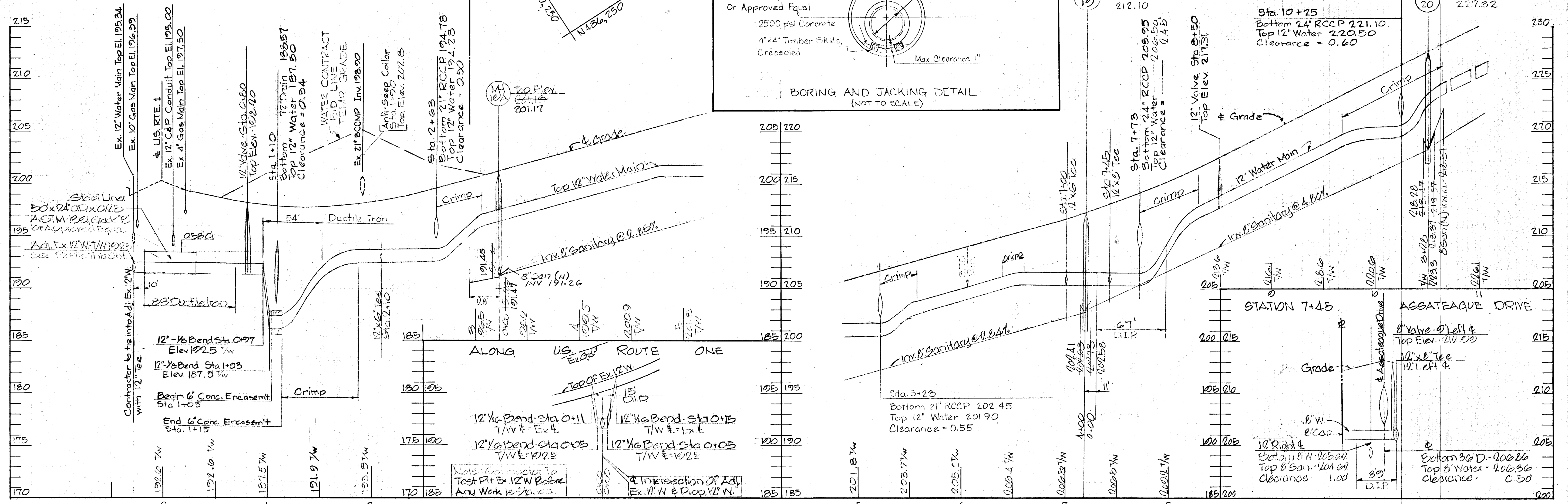
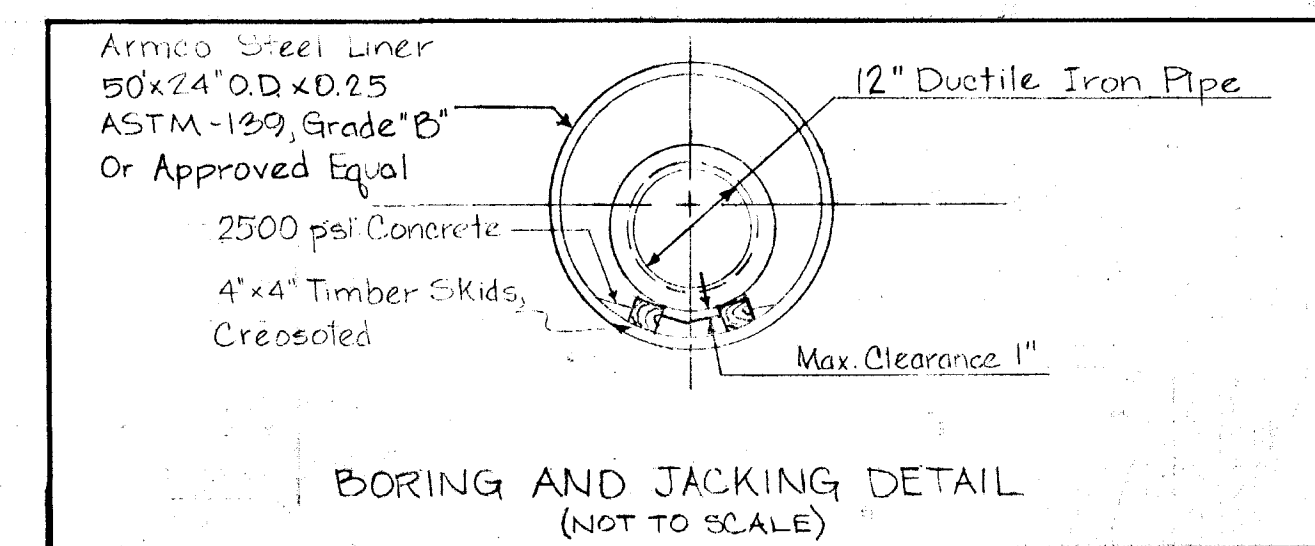
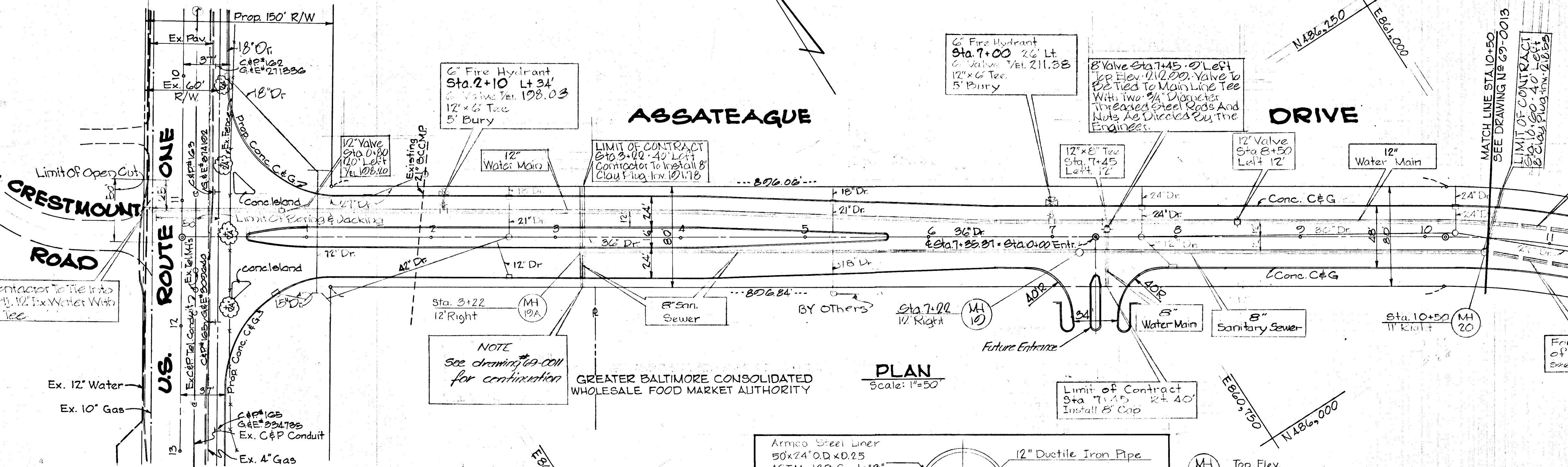
CAST IRON FITTINGS
 6" & 8" CLASS D CLASS 250
 CLASS B CLASS 150

DUCTILE IRON PIPE
 12" CLASS 4 THICKNESS 0.43
 CLASS THICKNESS

NORMAL OPERATING PRESSURE
 TEST PRESSURE 150 PSI

THE CONTRACTOR IS TO EXCAVATE FOR LOCATION AND DEPTH OF EXISTING MAIN BEFORE LAYING ANY PIPE.

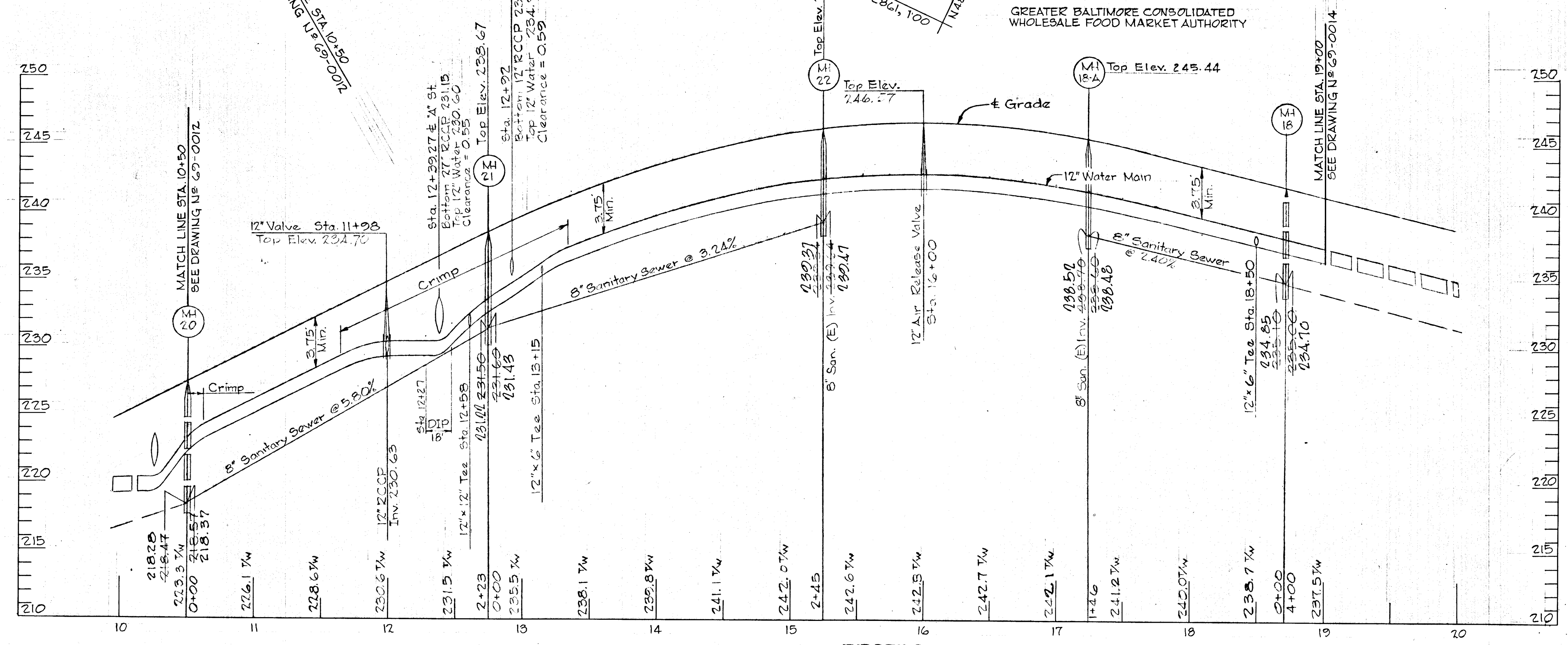
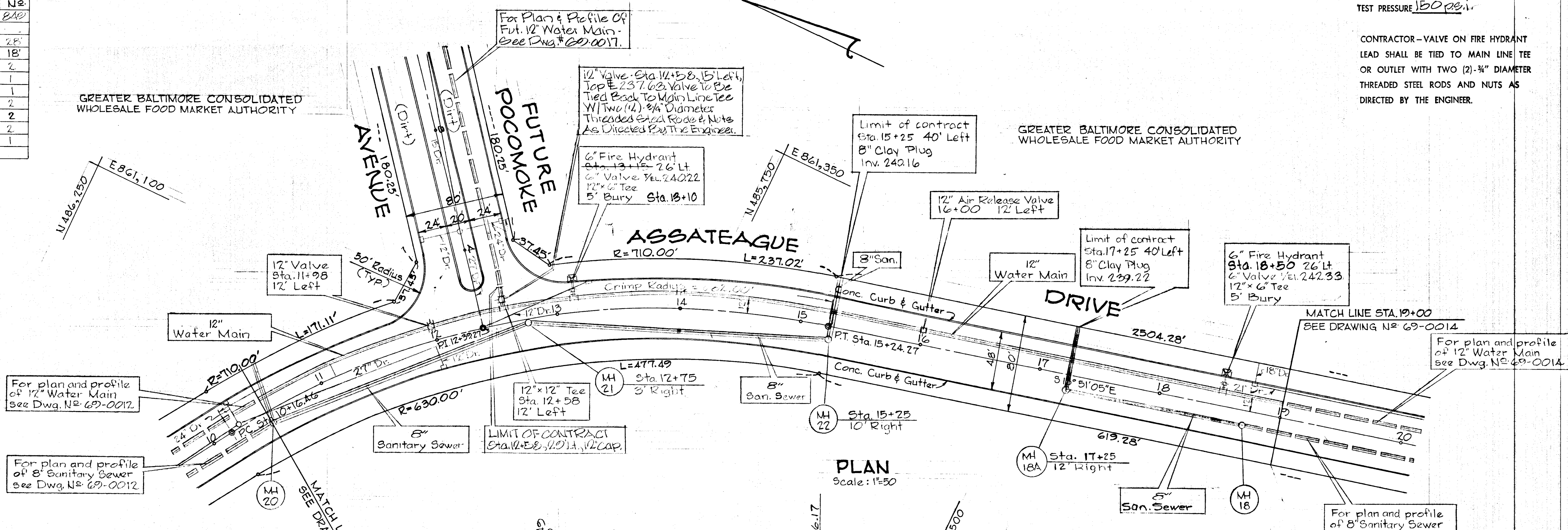
WATER MAIN BILL OF MATERIALS		
Size	Description	Qty
12"	CIP	86.7
8"	CIP	13
6"	CIP	20
12"	Ductile Iron	20.9
30x2	tee	1
12"x2	tee	1
12"x4	tee	1
12"	Valve	2
8"	Valve	1
6"	Valve	2
8"	Cap	1
6"	tee	2
6"	tee	2
8"	Ductile Iron	30



PROFILE
 Scale
 Horiz: 1"=50'
 Vert: 1"=5'

W.L. Duvall Designed W.L. Duvall Drawn D.D. Ranney Checked		ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204 Date: 10/17/71	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Eng. Date: 11/17/71 Principal Arch. Date: 11/17/71 Director: [Signature]	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Water & Sewer W.O. Robert Date: 10-27-71	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways H. McLeod Date: 10/27/71	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Planning and Development J.H. Cleary Date: 10-29-71	Sanitary Sewers and Water Mains Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District II	DEPT. GEN. SER. PROJ. # B694E REVISIONS Date: 6/26/74 Description: As BUILT By: GWS	Sheet 2 of 11 69-0012 Drawing No. GBFM-U3 Contract No.
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WATER MAIN BILL OF MATERIALS		
Size	Description	Qty
12"	CIP	840'
6"	CIP	28'
12"	DIP	18'
6"	Fire Hydrant 2" 50' Bury	2
12"x6"	Tee	1
12"	Cap	1
12"x6"	Tee	2
12"	Valve	2
6"	Valve	2
12"	Air Release Valve	1



NORMAL OPERATING PRESSURE
TEST PRESSURE 150 PSI

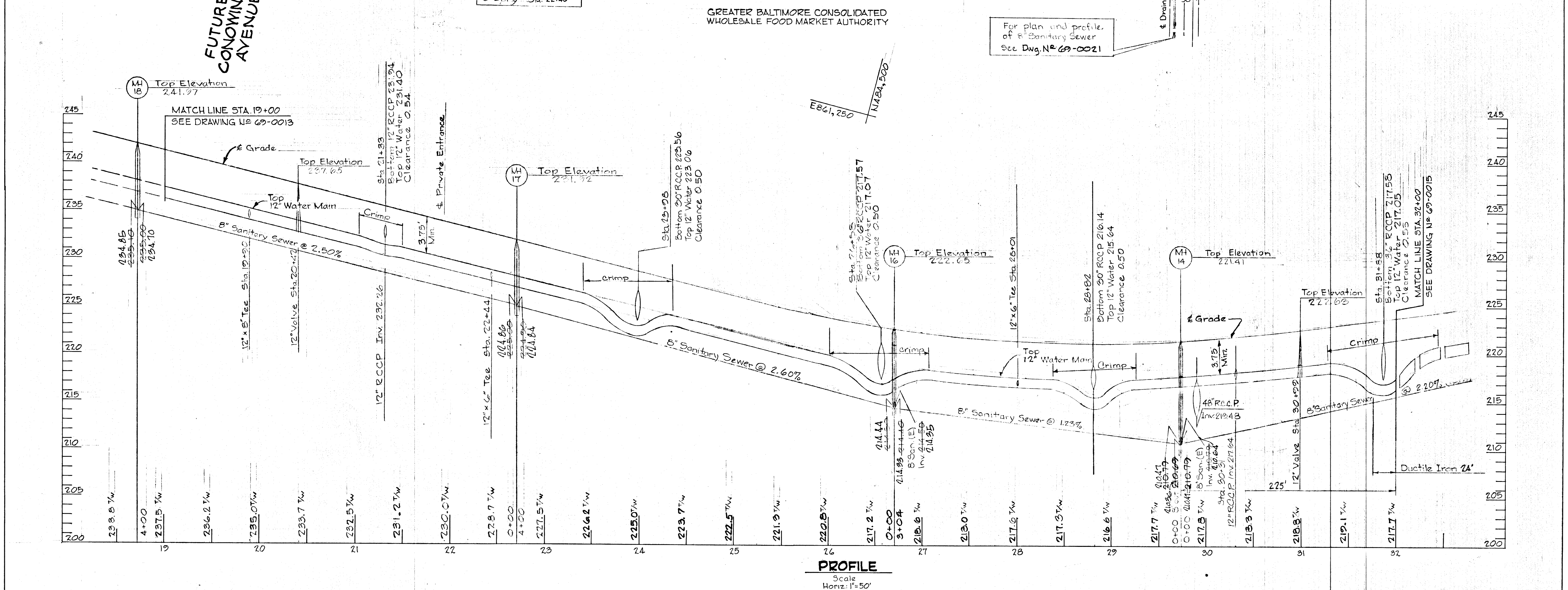
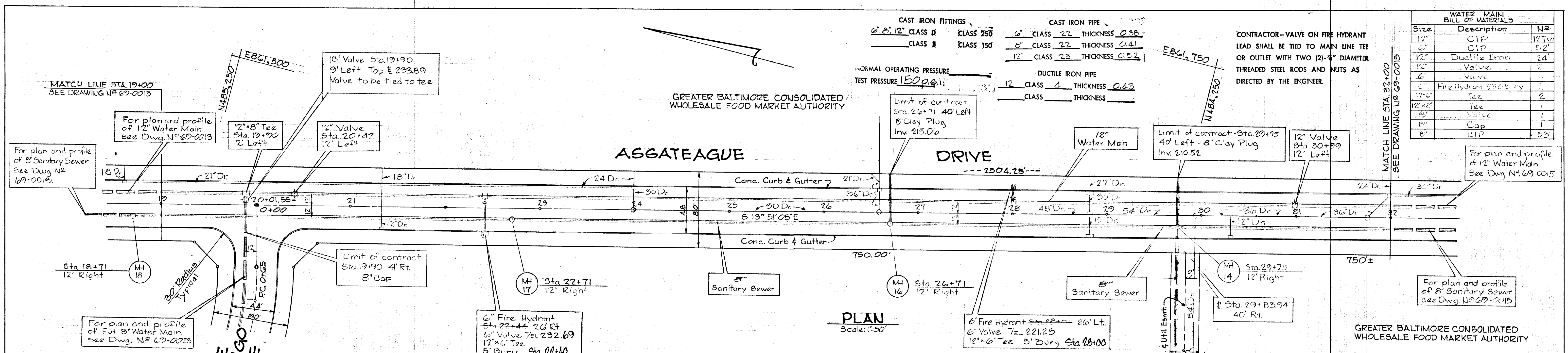
CONTRACTOR - VALVE ON FIRE HYDRANT LEAD SHALL BE TIED TO MAIN LINE TEE OR OUTLET WITH TWO (2) 3/4" DIAMETER THREADED STEEL RODS AND NUTS AS DIRECTED BY THE ENGINEER.

CAST IRON PIPE	
6" CLASS 22	THICKNESS 0.38
12" CLASS	THICKNESS
12" CLASS 23	THICKNESS 0.52

CAST IRON FITTINGS	
6" & 12" CLASS D	CLASS 250
CLASS B	CLASS 150

DUCTILE IRON PIPE	
12" CLASS 4	THICKNESS 0.42
CLASS	THICKNESS

W. L. Duvall Designed	ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Eng. Date 11/7/71 Principal Arch. Date 11/7/71	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Water & Sewer 10-12-71	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways 10-25-71	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development 10-29-71	Sanitary Sewers and Water Mains - Phase One	DEPT. GEN. SER. PROJ. # 694 B
W. L. Duvall Drawn	D. D. Ranney Checked	Prof. Engr. Date 10/11/71	Director	Approved	Approved	Approved	GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District VII	REVISIONS AS BUILT
							Sheet 3 of 11	69-0013 Drawing No.
							GBFM U-3 Contract No.	



CAST IRON FITTINGS

6" x 12" CLASS D	CLASS 250	6" CLASS 22	THICKNESS 0.38
CLASS B	CLASS 150	8" CLASS 22	THICKNESS 0.41
		12" CLASS 23	THICKNESS 0.52

CAST IRON PIPE

6" CLASS 22	THICKNESS 0.38
8" CLASS 22	THICKNESS 0.41
12" CLASS 23	THICKNESS 0.52

DUCTILE IRON PIPE

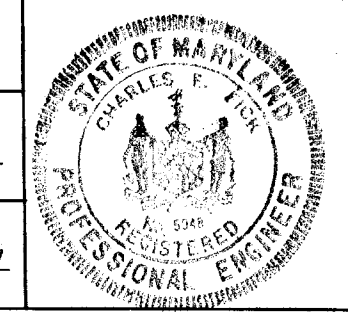
12" CLASS 4	THICKNESS 0.43
CLASS	THICKNESS

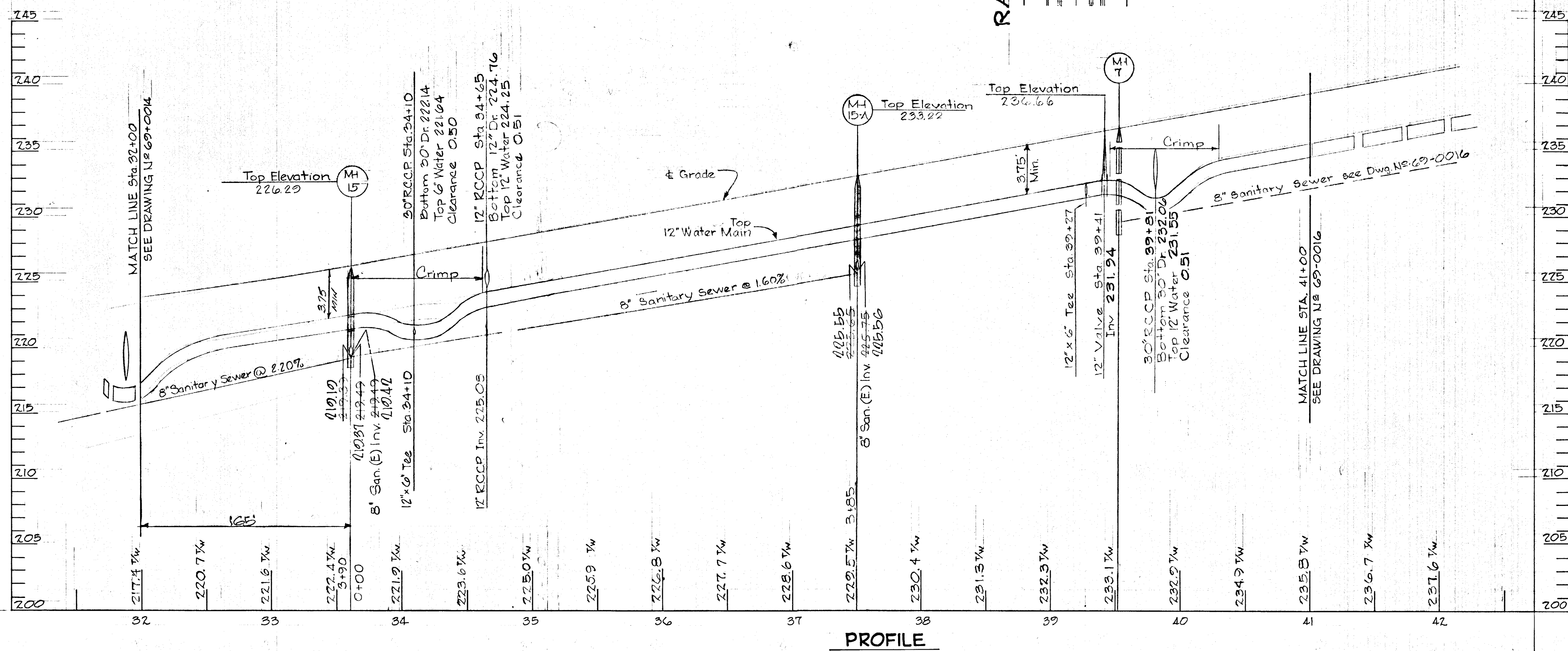
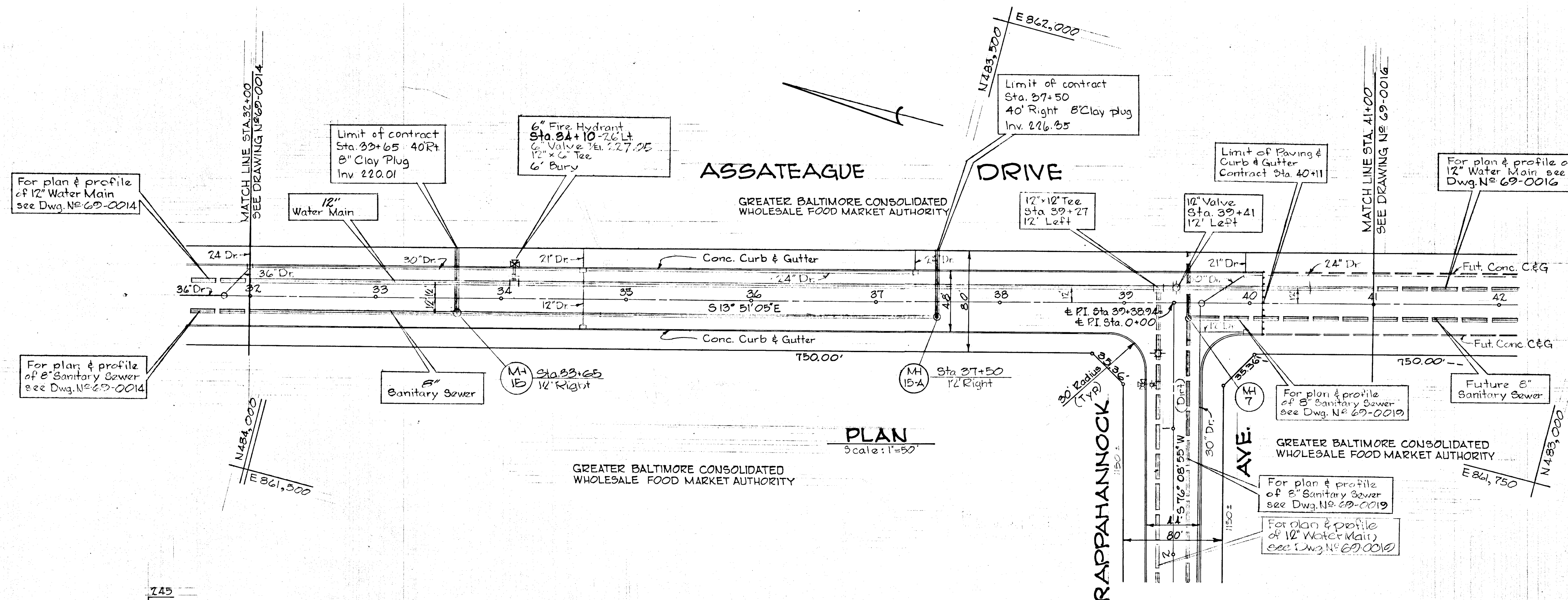
NORMAL OPERATING PRESSURE _____
TEST PRESSURE 150 p.s.i.

CONTRACTOR—VALVE ON FIRE HYDRANT LEAD SHALL BE TIED TO MAIN LINE TEE OR OUTLET WITH TWO (2) 3/4" DIAMETER THREADED STEEL RODS AND NUTS AS DIRECTED BY THE ENGINEER.

WATER MAIN BILL OF MATERIALS

Size	Description	No.
12"	CIP	12.6
6"	CIP	5.2
12"	Ductile Iron	2.4
6"	Valve	2
6"	Valve	1
12"	Fire Hydrant 3/4" Entry	1
12"	Tee	2
12" x 6"	Tee	1
8"	Valve	1
8"	Cap	1
8"	CIP	1.53

W. L. Duvall Designed W. L. Duvall Drawn D. D. Ramney Checked	 ENGINEER GEO WM. STEPHENS, JR. AND ASSOCIATES, INC., Towson, Md. 21204 Charles E. Fick 5048 10/17/77 Pr. Engr. Reg. # Date	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Eng. Date 11/17/77 Principal Arch. SE ME EE CE LVA Director	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Water & Sewer W. O. Albert 10-12-77 Approved Date	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways G. H. Holland 10/25/77 Approved Date	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development J. J. Clewley 10-29-77 Approved Date	Sanitary Sewers and Water Mains — Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District II	DEPT. GEN. SER. PROJ # B694B REVISIONS Date 6/24/77 Description As Built By GWS Sheet 4 of 11 69-0014 Drawing 115 GBFM-U3 Contract No.
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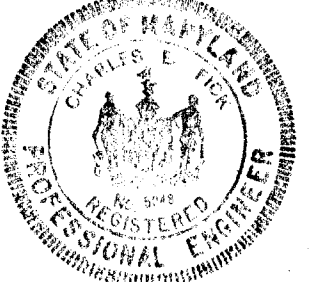
WATER MAIN BILL OF MATERIALS		
Size	Description	No.
12"	CIP	500
6"	CIP	14'
12" x 6"	Tee	1
12"	Valve	1
6"	Valve	1
6"	Fire Hydrant 1/2" Bury	1
1/2" x 1/2"	tee	1

CONTRACTOR - VALVE ON FIRE HYDRANT LEAD SHALL BE TIED TO MAIN LINE TEE OR OUTLET WITH TWO (2) 3/4" DIAMETER THREADED STEEL RODS AND NUTS AS DIRECTED BY THE ENGINEER.

CAST IRON PIPE
6" CLASS 22 THICKNESS 0.28
CLASS THICKNESS
12" CLASS 23 THICKNESS 0.32

CAST IRON FITTINGS
6" x 12" CLASS D CLASS 250
CLASS B CLASS 150

NORMAL OPERATING PRESSURE
TEST PRESSURE 150 p.s.i.

W. L. Duvall Designed	 ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21284 Charles L. Fick Prof. Engr. 5048 10/17/71 Reg. Date	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Eng. Date Principal Arch S.E. M.E. E.E. C.E. Director			HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Water & Sewer Approved			OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development Approved			Sanitary Sewers and Water Mains - Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District VII		REVISIONS Date Description By 6/22/71 As Built GWS		Sheet 5 of 11 69-0015 Drawing No. GBFM-103 Contract No.
W. L. Duvall Drawn			DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways Approved			DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways Approved			DEPARTMENT OF PLANNING AND ZONING Chief Engineer, Division of Land Development Approved		DEPARTMENT OF PLANNING AND ZONING Chief Engineer, Division of Land Development Approved		DEPARTMENT OF PLANNING AND ZONING Chief Engineer, Division of Land Development Approved			
D. D. Ranney Checked			DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Water & Sewer Approved			DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways Approved			DEPARTMENT OF PLANNING AND ZONING Chief Engineer, Division of Land Development Approved		DEPARTMENT OF PLANNING AND ZONING Chief Engineer, Division of Land Development Approved		DEPARTMENT OF PLANNING AND ZONING Chief Engineer, Division of Land Development Approved			

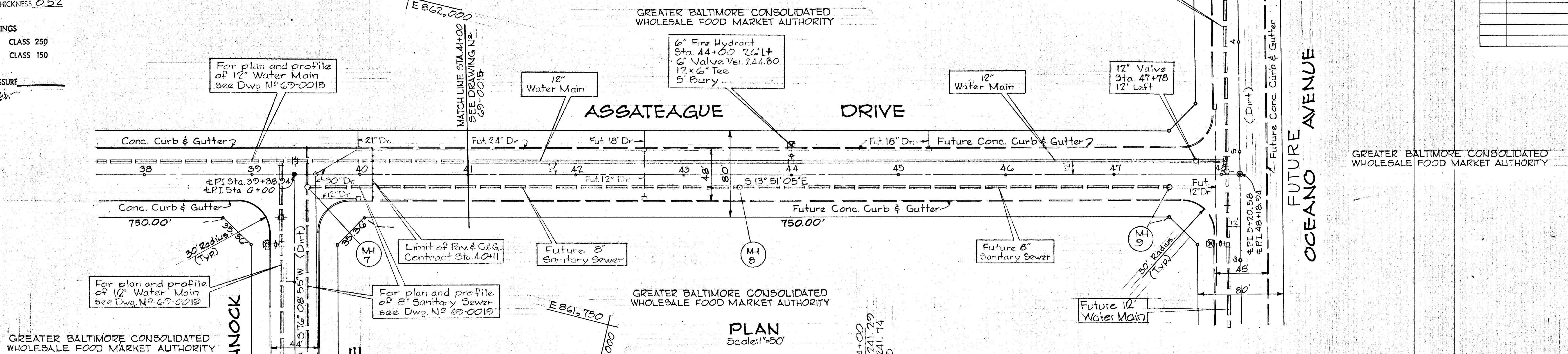
CONTRACTOR—VALVE ON FIRE HYDRANT LEAD SHALL BE TIED TO MAIN LINE TEE OR OUTLET WITH TWO (2)- $\frac{1}{4}$ " DIAMETER THREADED STEEL RODS AND NUTS AS DIRECTED BY THE ENGINEER.

CAST IRON PIPE
 6" CLASS 22 THICKNESS 0.38
 CLASS THICKNESS
 12" CLASS 22 THICKNESS 0.52

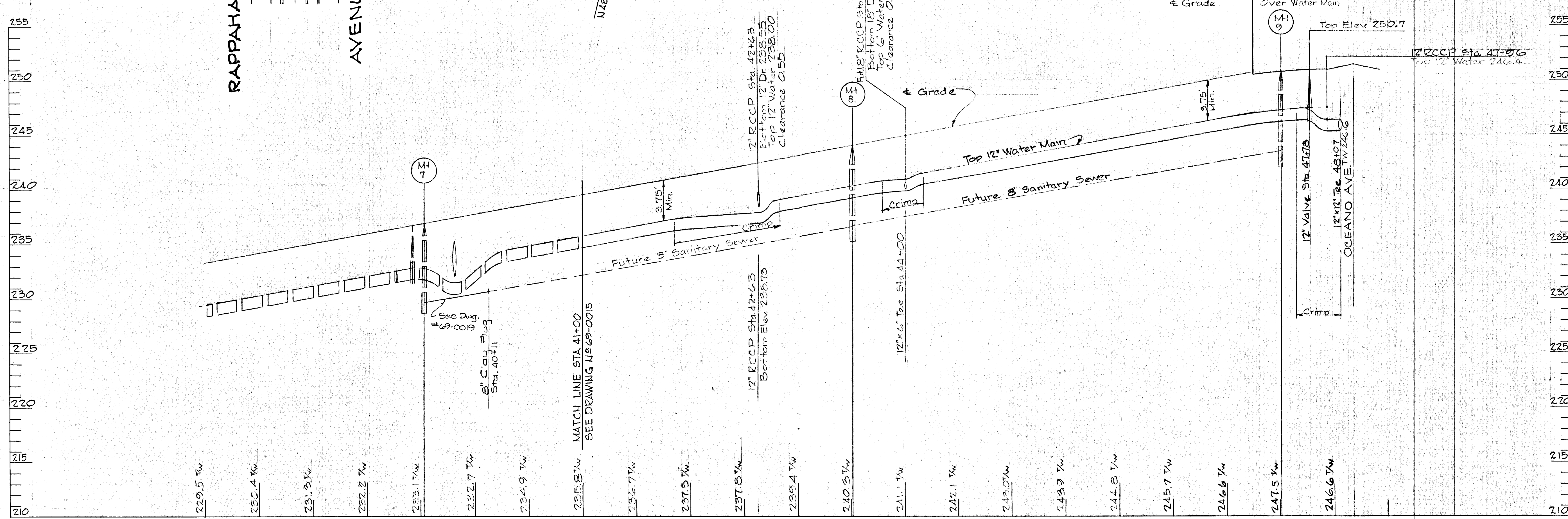
CAST IRON FITTINGS
 6" CLASS D CLASS 250
 CLASS B CLASS 150

NORMAL OPERATING PRESSURE
 TEST PRESSURE 150 PSI

WATER MAIN BILL OF MATERIALS		
Size	Description	No.
12"	CIP	107
6"	CIP	14
12x6"	Tee	1
12"	Valve	1
6"	Valve	1
6"	Fire Hydrant 4" Bury	1

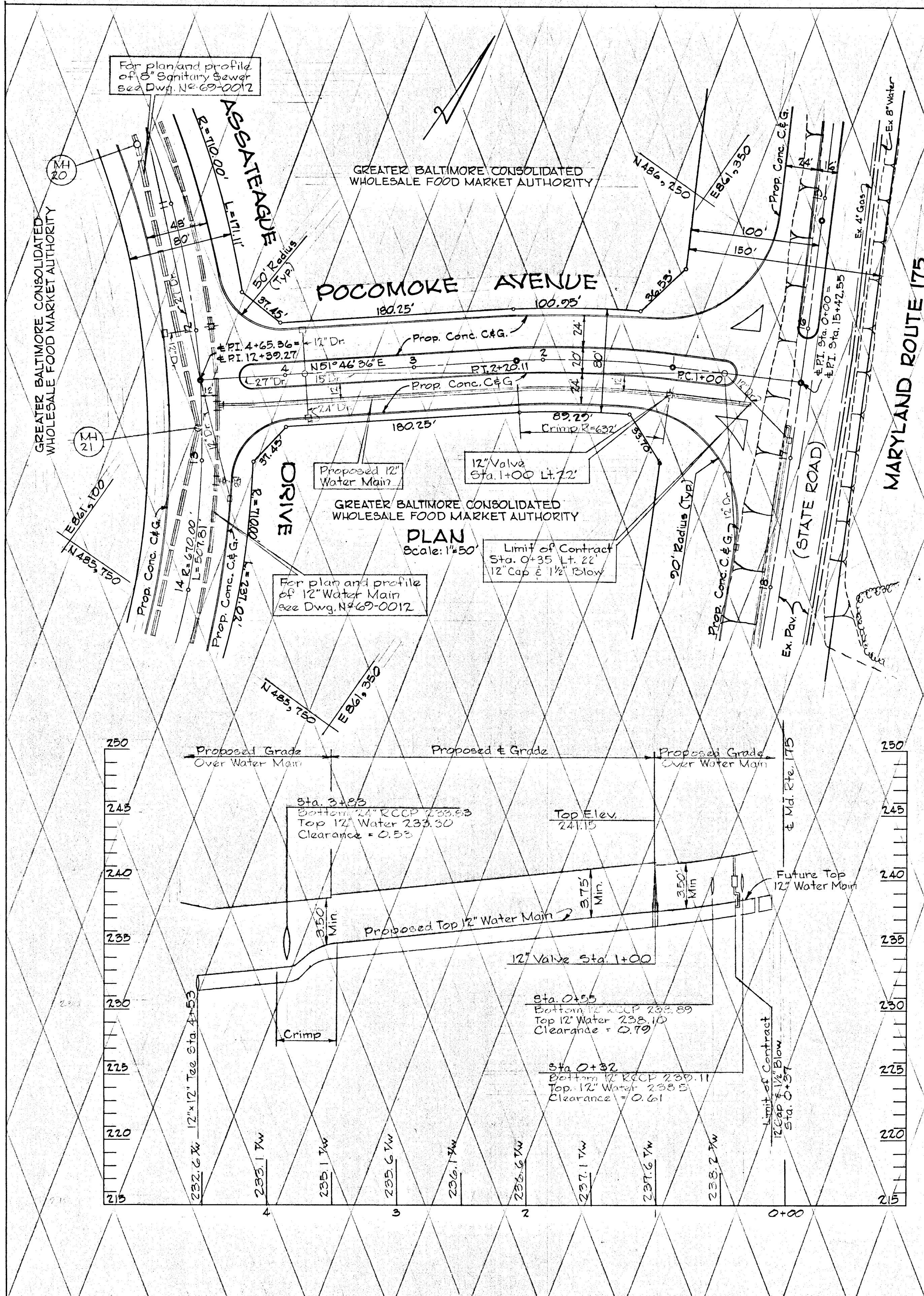


PLAN Scale: 1"=50'



PROFILE Scale Horiz: 1"=50' Vert: 1"=5'

W.L. Duvall Designed W.L. Duvall Drawn D. D. Ranney Checked		ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES			HOWARD COUNTY			Sanitary Sewer and Water Mains — Phase One			REVISIONS			Sheet 6 of 11
		Principal Eng. Date 11/17/71 S.E. M.E. E.E. G.E. L.A. Director	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Water & Sewer W.D. Ribert 10-12-71 Approved Date	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways J.H. McKeel 10/18/71 Approved Date	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development J.H. Clouston 10-22-71 Approved Date	GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District II			Date 6/26/74 Description As Built By G.W.S.	Date Description By	69-0016 Drawing No. GBFM-U3 Contract No.					

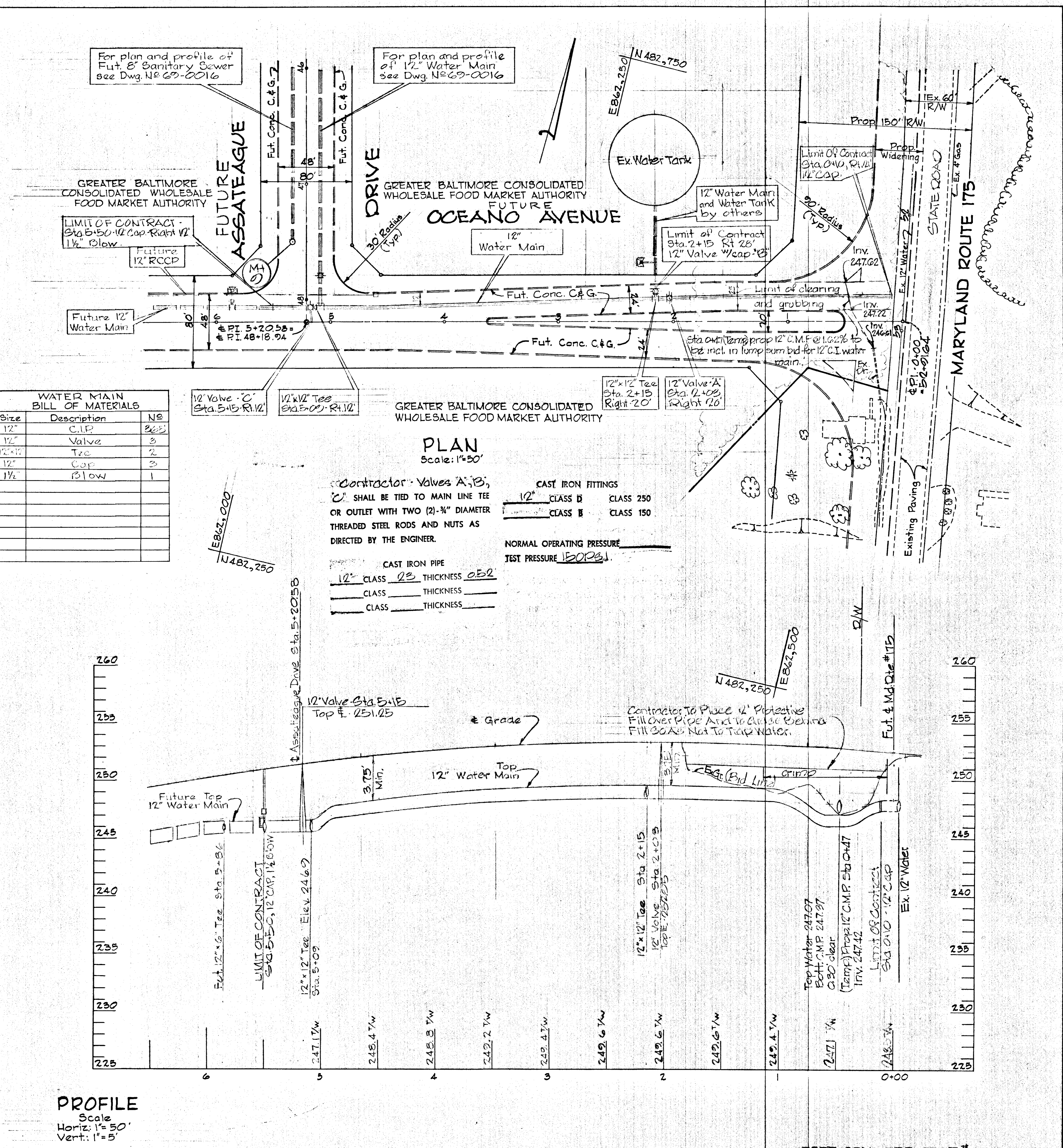


WATER MAIN BILL OF MATERIALS

Size	Description	NO
12"	C.I.P.	2633
12"	Valve	3
12"x12"	Tee	2
12"	Cap	3
1 1/2"	Blow	1

PROFILE
Scale
Horiz: 1" = 50'
Vert: 1" = 5'

W.L. Duvall Designed W.L. Duvall Drawn D.D. Ranney Checked	ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204 <i>Charles E. Lick</i> Pror. Engr. 5042-11/17 Reg. Date	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Engr. Date Principal Arch. S.E. M.E. E.E. R.E. E.A. Director <i>Kull</i>	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Water & Sewer <i>W.O. Albert</i> 10/12/71 Approved Date	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways <i>J.P. Neeland</i> 10/15/71 Approved Date	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development <i>J.H. Clewson</i> 10/24/71 Approved Date	Sanitary Sewer and Water Mains - Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District V	DEPT. GEN. SER. PROJ. # BCF4B REVISIONS Date Description By 11/2/71 Added 15' from OHB to 1+85 in Ocean Ave. As Built GWS 6/26/70	Sheet 7 of 11 69-0011 Drawing No. GBFM-U3 Contract No.
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For plan and profile of 8" Sanitary Sewer see Dwg. No. 69-0012
 For plan and profile of Fut. 8" Sanitary Sewer see Dwg. No. 69-0016
 For plan and profile of 12" Water Main see Dwg. No. 69-0016

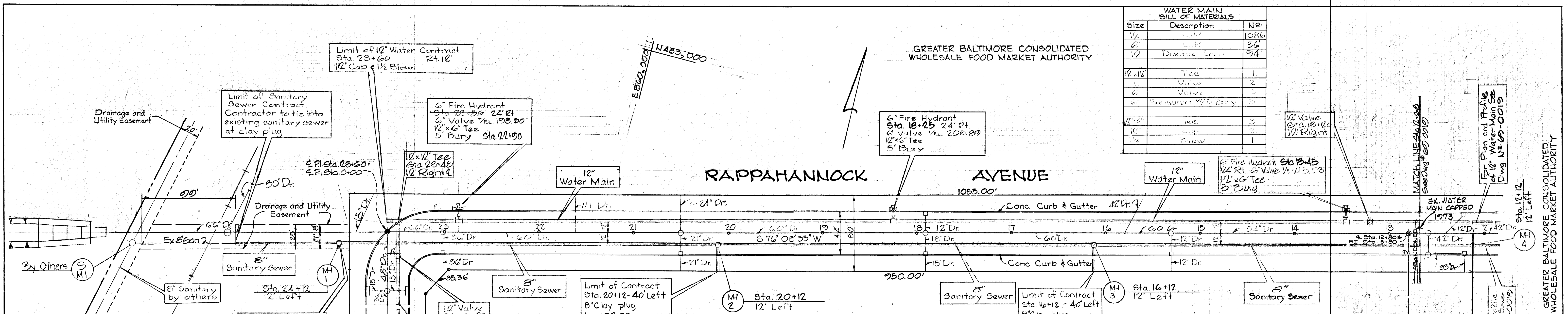
PLAN
 Scale: 1" = 50'
 Contractor - Valves 'A', 'B', 'C' SHALL BE TIED TO MAIN LINE TEE OR OUTLET WITH TWO (2) 3/4" DIAMETER THREADED STEEL RODS AND NUTS AS DIRECTED BY THE ENGINEER.
CAST IRON FITTINGS
 12" CLASS B CLASS 250
 CLASS B CLASS 150
NORMAL OPERATING PRESSURE
 TEST PRESSURE 150 P.S.I.

CAST IRON PIPE
 12" CLASS 25 THICKNESS 0.52
 CLASS THICKNESS
 CLASS THICKNESS

CONTRACTOR TO PLACE 12" PROTECTIVE FILL OVER PIPE AND TO CURB AND GUTTER FILL TO GRADE NEXT TO TOP WATER.

Top Water 247.07
 Ex. C.M.P. 247.97
 12" Clear
 (Temp.) Prop. 12" C.M.P. Sta. 0+47
 Inv. 247.42
 LIMIT OF CONTRACT STA. 0+10 - 12" CAP

Top Water 247.07
 Ex. C.M.P. 247.97
 12" Clear
 (Temp.) Prop. 12" C.M.P. Sta. 0+47
 Inv. 247.42
 LIMIT OF CONTRACT STA. 0+10 - 12" CAP



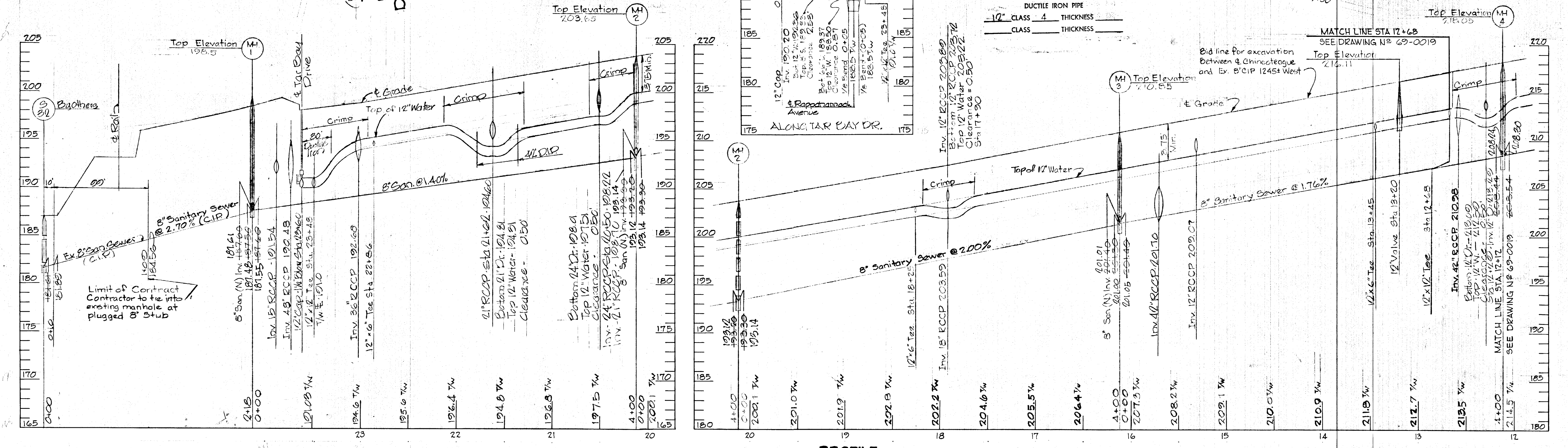
WATER MAIN BILL OF MATERIALS		
Size	Description	Qty
12"	Cast Iron Pipe	1086
6"	Cast Iron Pipe	36
12"	Ductile Iron Pipe	54
12"	Valve	1
6"	Valve	2
6"	Fire Hydrant - 1/2" Bury	2
12"	tee	3
12"	tee	2
12"	tee	1

RAPPAHANNOCK AVENUE
1055.00'

PLAN
SCALE 1"=50'

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY

- CAST IRON PIPE**
 6" CLASS 22 THICKNESS 0.38
 CLASS THICKNESS
 12" CLASS 23 THICKNESS 0.52
- CAST IRON FITTINGS**
 6" CLASS D CLASS 250
 CLASS B CLASS 150
- DUCTILE IRON PIPE**
 12" CLASS 4 THICKNESS
 CLASS THICKNESS
- CONTRACTOR-VALVE ON FIRE HYDRANT LEAD SHALL BE TIED TO MAIN LINE TEE OR OUTLET WITH TWO (2) 3/4" DIAMETER THREADED STEEL RODS AND NUTS AS DIRECTED BY THE ENGINEER.
- NORMAL OPERATING PRESSURE
 TEST PRESSURE 100 P.S.I.



PROFILE
Scale Horiz.: 1"=50' Vert.: 1"=5'

W. L. Duvall
Designed
W. L. Duvall
Drawn
D. D. Ranney
Checked

ENGINEER
GEO. WM. STEPHENS, JR.
AND ASSOCIATES, INC.
Towson, Md. 21204

OWNER AND DEVELOPER
Greater Baltimore
Food Market Authority
1115 One Charles Center
Baltimore, Md. 21201

DEPT. OF GENERAL SERVICES
Principal Eng. Date
Principal Arch. 11/17/71

S.E. M.E. E.E. C.E.
M.E. M.S. J.W. J.S.
Director Keith A. Kelly

DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Water & Sewer

Approved Date 10-22-71

DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways

Approved Date 10/25/71

OFFICE OF PLANNING AND ZONING
Chief Engineer, Division of Planning and Development

Approved Date 10-29-71

Sanitary Sewers and Water Mains - Phase One

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET
Howard County, Maryland Election District II

REVISIONS		
Date	Description	By
6/26/74	As Built	GWS.

Sheet 2 of 11
 69-001B
 Drawing No.
 GBFM-U3
 Contract No.

CONTRACTOR—VALVE ON FIRE HYDRANT LEAD SHALL BE TIED TO MAIN LINE TEE OR OUTLET WITH TWO (2)-3/4" DIAMETER THREADED STEEL RODS AND NUTS AS DIRECTED BY THE ENGINEER.

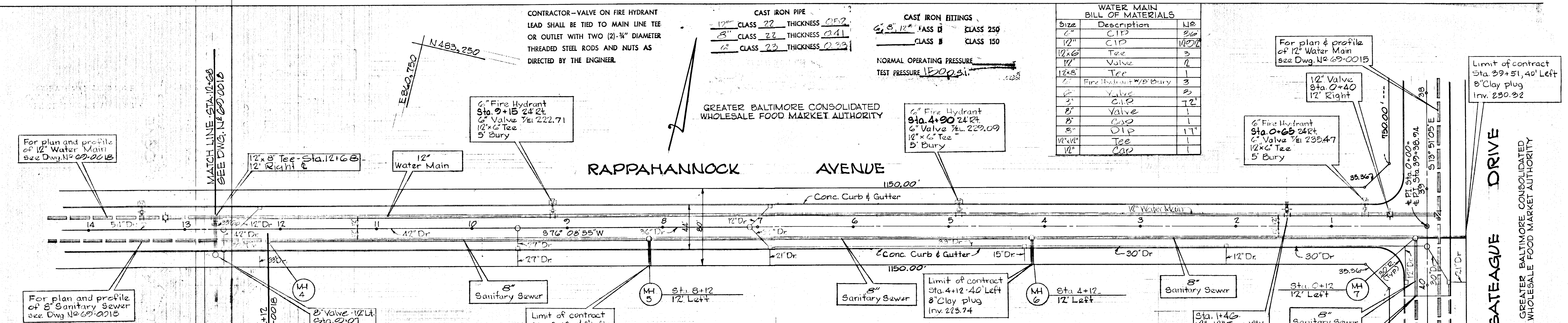
CAST IRON PIPE
 12" CLASS 22 THICKNESS 0.57
 8" CLASS 22 THICKNESS 0.41
 6" CLASS 22 THICKNESS 0.33

CAST IRON FITTINGS
 6", 8", 12" CLASS B CLASS 250
 CLASS B CLASS 150
 NORMAL OPERATING PRESSURE
 TEST PRESSURE 150 P.S.I.

WATER MAIN BILL OF MATERIALS		
Size	Description	No.
12"	CIP	30
12"	CIP	100
12x6	Tee	3
12"	Valve	7
12x8	Tee	1
6"	Fire Hydrant w/5' Bury	3
6"	Valve	3
6"	CIP	72
8"	Valve	1
8"	Cap	1
8"	DIP	17
12x12"	Tee	1
12"	Cap	1

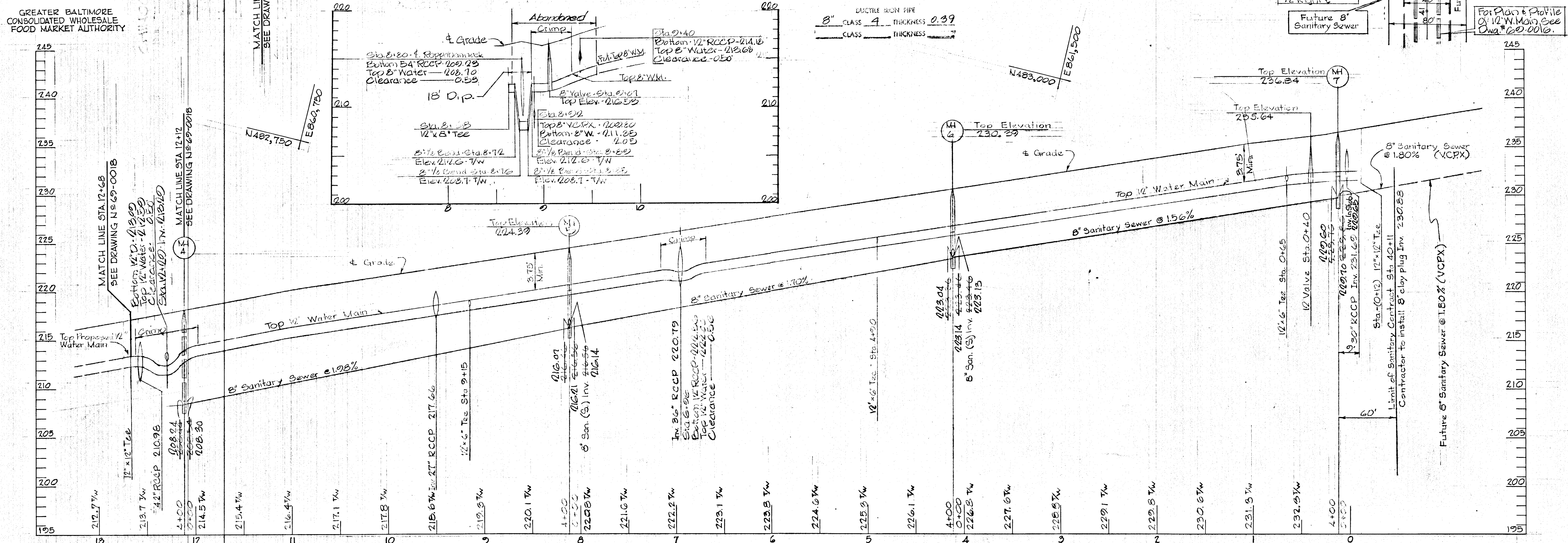
For plan & profile of 12" Water Main see Dwg. No. 69-0015

Limit of contract Sta. 39+51.40' Left 8" Clay plug Inv. 230.32



PLAN Scale: 1"=50' GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY



PROFILE Scale: Horiz. 1"=50' Vert. 1"=5'

W.L. Duval
 Designed
 W.L. Duval
 Drawn
 D.D. Ranney
 Checked

ENGINEER
 GEO WM. STEPHENS, JR.
 AND ASSOCIATES, INC.
 Towson, Md. 21204
 Date: 10/11/77

OWNER AND DEVELOPER
 Greater Baltimore
 Food Market Authority
 115 One Charles Center
 Baltimore, Md. 21201

DEPT. OF GENERAL SERVICES
 Principal Eng. Date
 Principal Arch. Date
 Director

DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Water & Sewer
 Approved: W.O. Libert 10-12-77

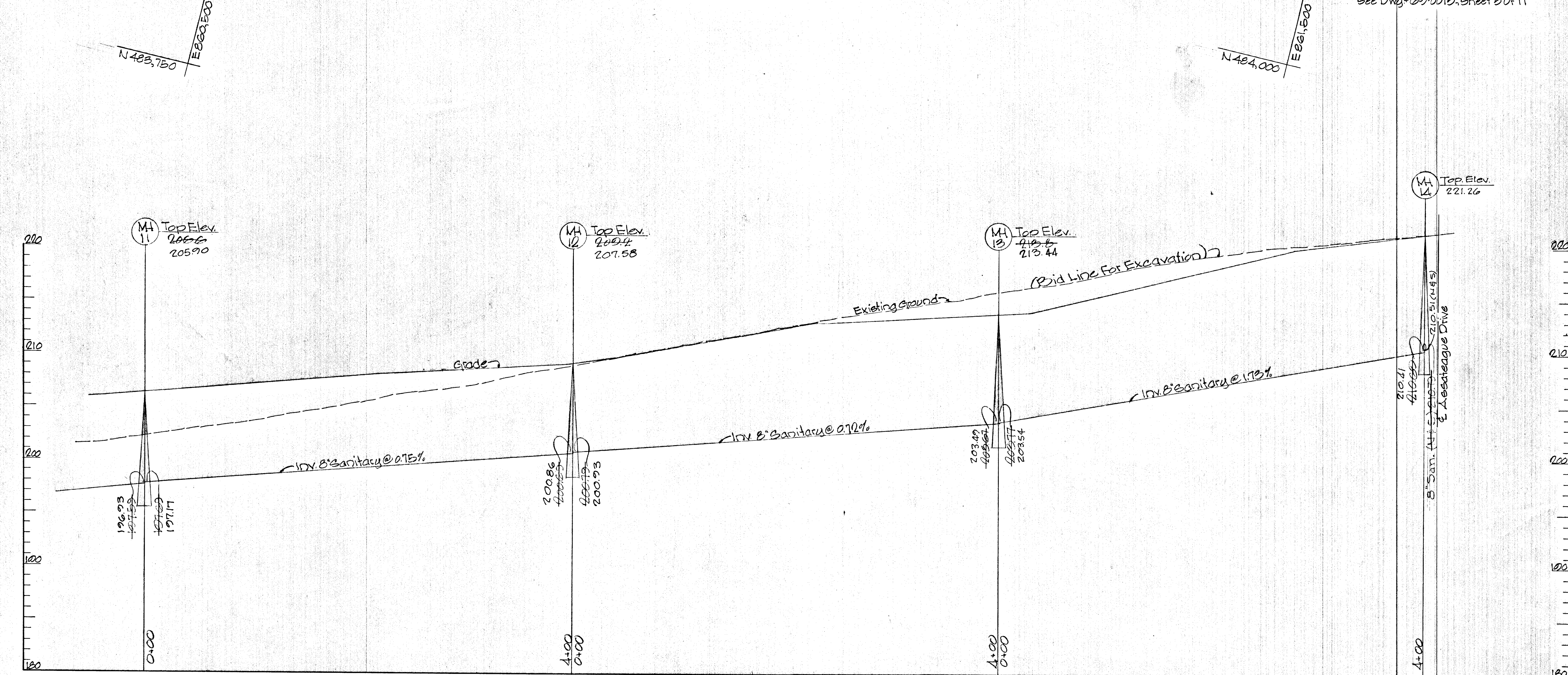
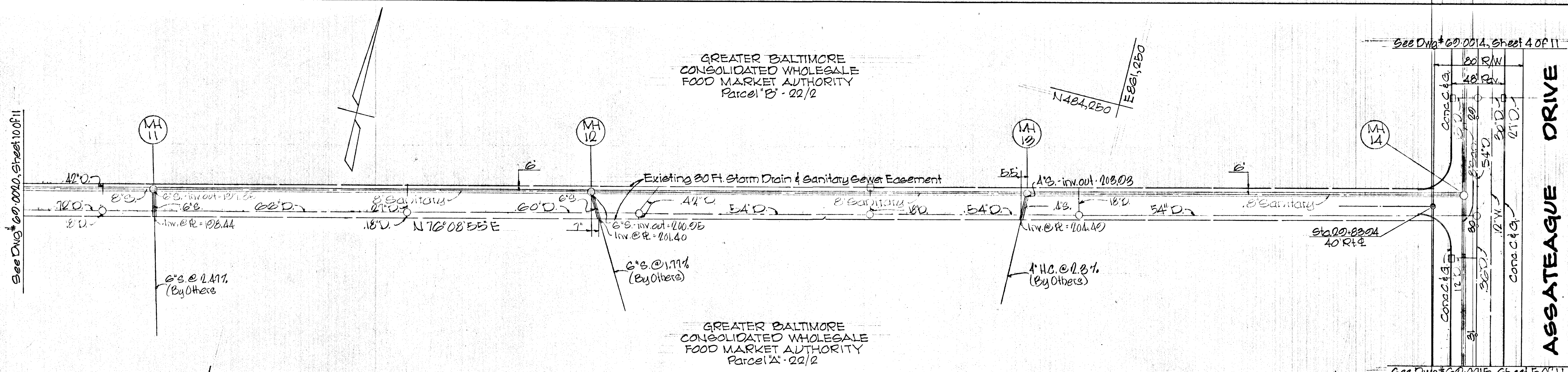
HOWARD COUNTY
 DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Approved: J.M. McLeod 10-24-77

OFFICE OF PLANNING AND ZONING
 Chief Engineer, Division of Development
 Approved: J.L. Clemons 10-24-77

Sanitary Sewers and Water Mains - Phase One
GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET
 Howard County, Maryland Election District VII

REVISIONS		
Date	Description	By
6/24/74	As Built	GW

Sheet 2 of 11
 69-0019 Drawing No.
 GBFM-13 Contract No.



PROFILE - SCALE: Horizontal: 1"=50' Vertical: 1"=5'

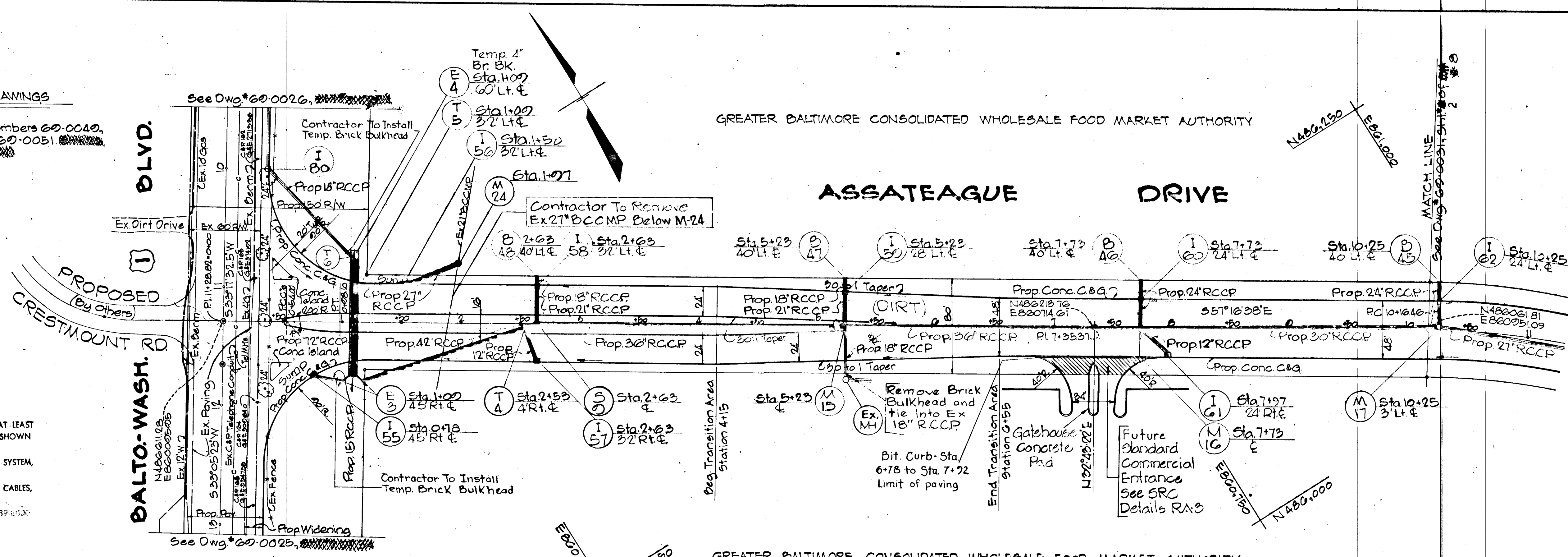
FER Designed T.W. Drawn DDR Checked		ENGINEER	OWNER AND DEVELOPER	DEPT. OF GENERAL SERVICES			HOWARD COUNTY			Sanitary Sewers and Water Mains - Phase One		DEPT. GEN. SER. PROJ. 136943	
		GEORGE WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204 <i>Charles L. Stephens</i> Prof. Engineer Reg. # 101171 Date 10/1/71	GREATER BALTIMORE FOOD MARKET AUTHORITY 1115 One Charles Center Baltimore, Md. 21201	Principal Engr. Date SE M.E. E.E. C.E. LA Director	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Water & Sewer <i>W. O. Felbert</i> Approved Date 10-12-71	DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways <i>B. W. Howard</i> Approved Date 10/23/71	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development <i>J. H. Clouston</i> Approved Date 10-27-71	GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Md. Election District VI		REVISIONS Date Description By 6/24/74 AS BUILT G.W.S.		Sheet 11 of 11 60-0021 Drawing No. GBFM-U3 Contract No.	

REFERENCE DRAWINGS

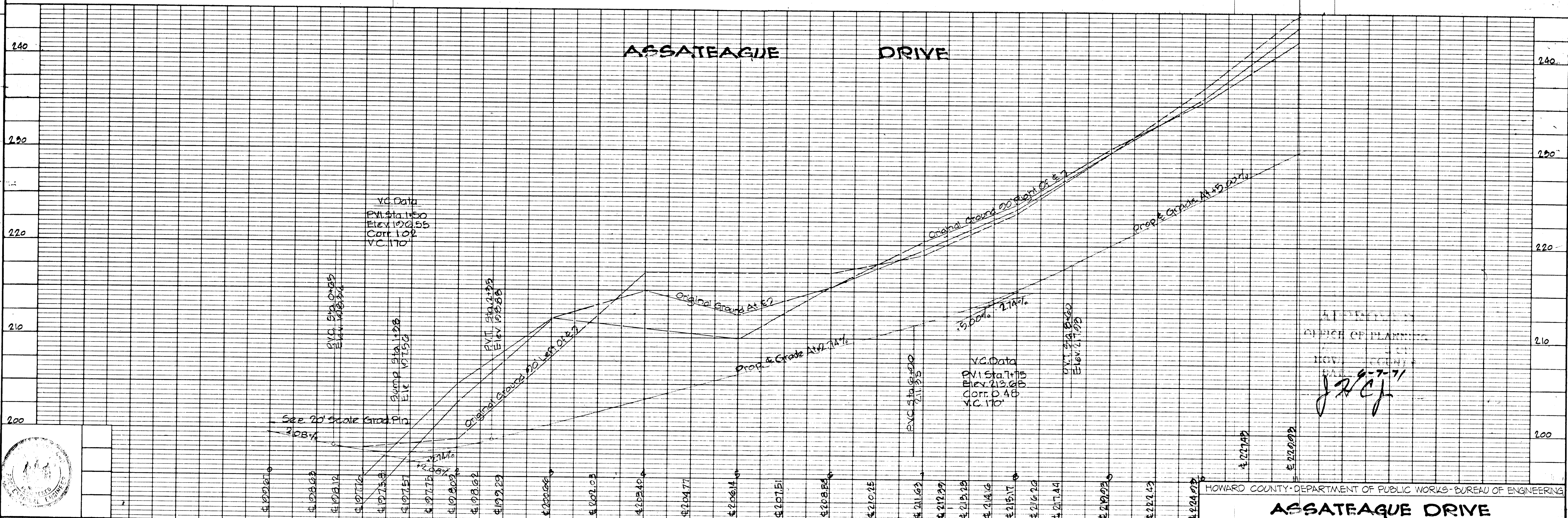
Drain Profiles: Drawing Numbers 60-0040, 60-0050, 60-0051

DATE	BY	REVISION

CONTRACTOR: NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
 CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3649.
 CALL COLLECT FOR LONG-DISTANCE CABLES, CALL 393-3553 OR 3554.
 BALTIMORE GAS & ELECTRIC CO. 393-4530



DATE	BY	REVISION



Des: WLD	G.W. Stephens, Jr. & Assoc.	Department of Public Improvements Approved	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	ERC Permit No.	Contract No.	Drawing No.	Sheet No.
Orn: T.W.	Engr. <i>Richard E. Fick</i>	Prin. Eng. Prin. Arch.	SE	ME	EE	CE	LA	Director	Chief, Bureau of Highways	Chief Engr., Div. of Land Dev.	Greater Balto Food Mkt Auth.	1115 One Charles Center	Baltimore, Maryland, 21201	7-7-71
CHK: DOR	Lic. No. 5048 Date 6/1/71													

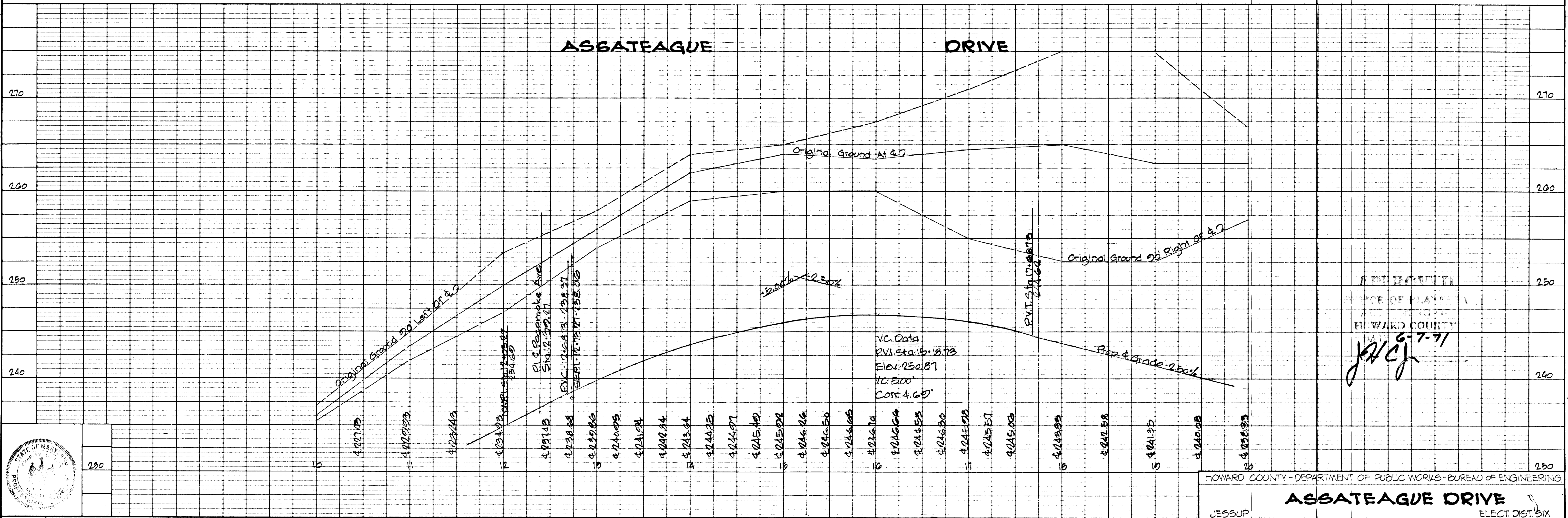
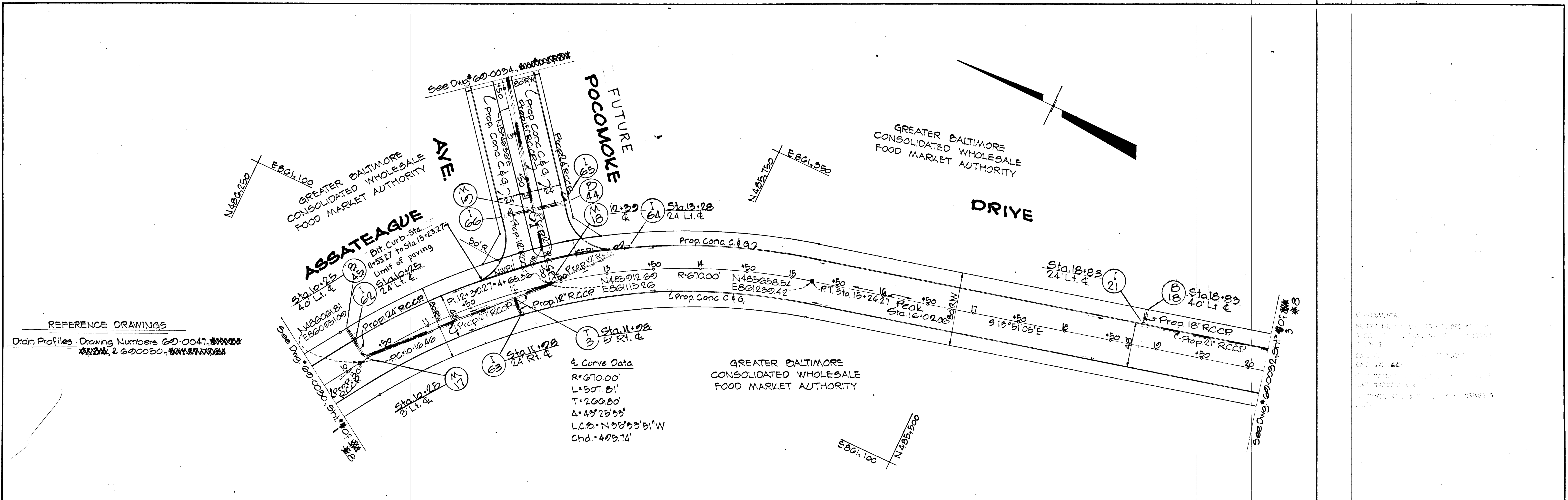
HOWARD COUNTY DEPARTMENT OF PLANNING
 HOWARD COUNTY
JRC



RP255

DATE	
BY	
SURVEYED	
NOTE BOOK	
ALIGNMENT CHECKED	
RT. OF WAY CHECKED	
NO.	

DATE	
BY	
SURVEYED	
NOTE BOOK	
GRADES CHECKED	
B. M. NOTED	
STRUCTURE NOTATIONS CHECKED	
NO.	



Des. WLD	GWS Stephens, Jr & Assoc.	Department of Public Improvements Approved					Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SRC/Permit No.	Contract No.	Drawing No.	Sheet No.
Drn. TW	Engr. <i>Charles E. Fuchs</i>	Prin. Engr.	Prin. Arch.	SE	ME	EE	CE	LA.	Director	Chief, Bureau of Highways	Chief, Div. of Land Dev.	Greater Balto. Food Mkt. Auth.	1115 One Charles Center			GBFM US	02-0031	2 of 3
Chk. OOR	Lic. No. 5048 Date 6/1/71								Date	Date	Date	Baltimore, Maryland 21201						

RP 255-#28

F71-37

APPROVED
OFFICE OF PLANNING & ZONING
HOWARD COUNTY
DATE 6-7-71
JAC

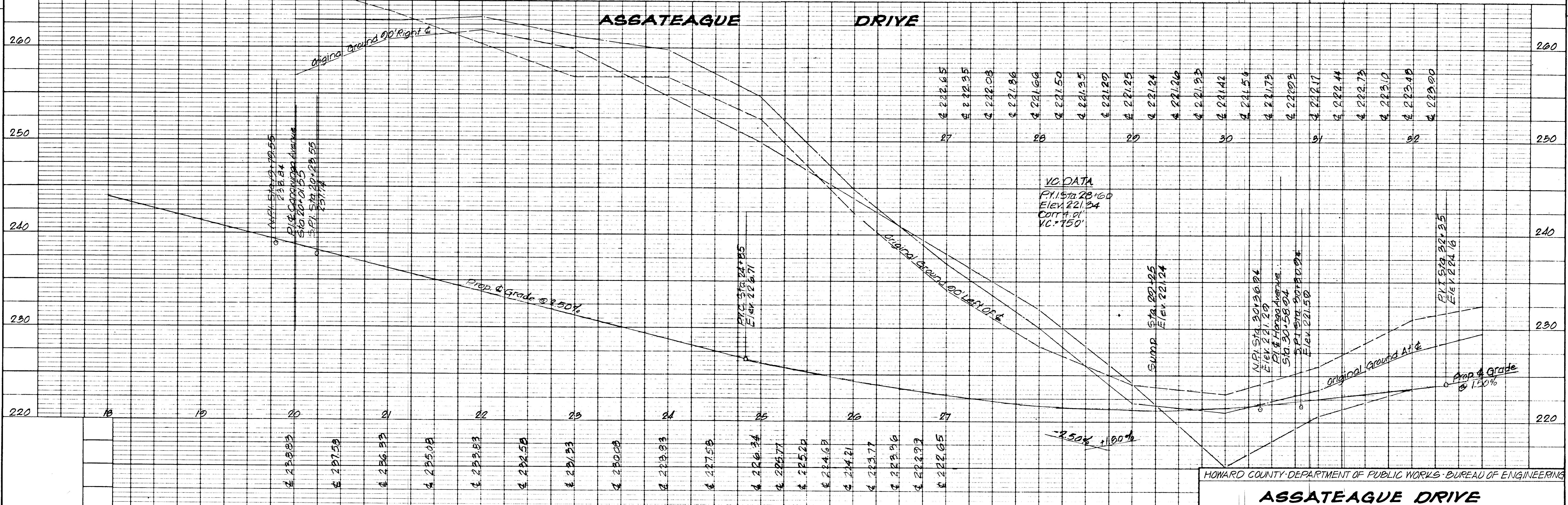
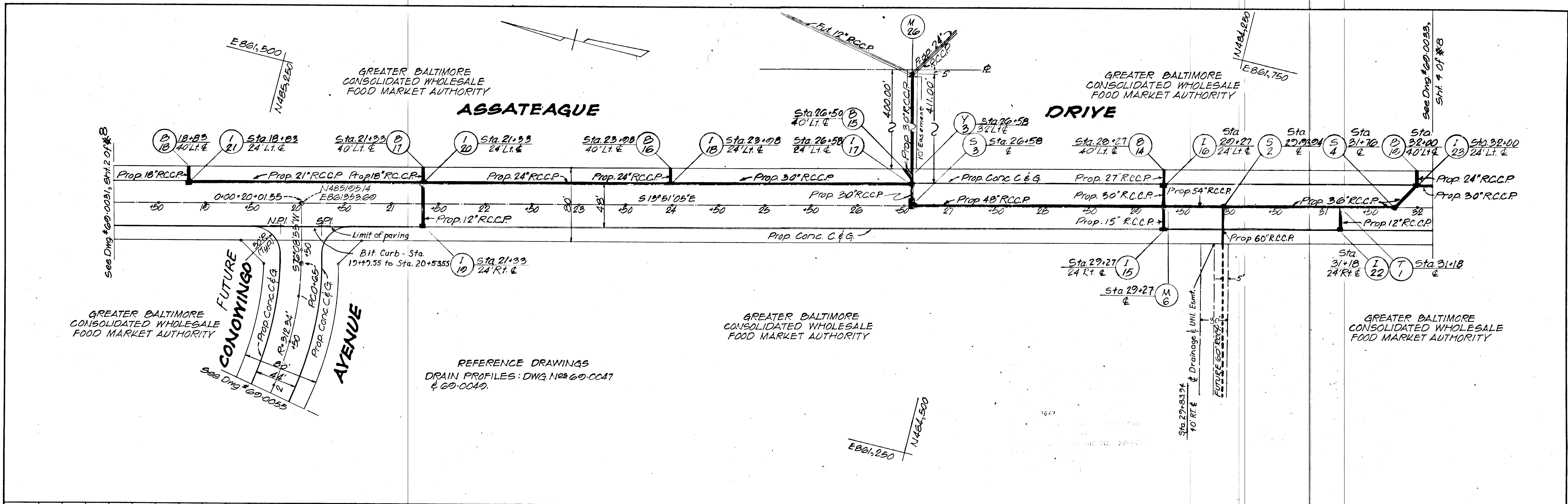
HOWARD COUNTY - DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

ASSATEAGUE DRIVE

JESSUP ELECT. DIST. SIX

PLAN
 SURVEYED BY
 PLOTTED BY
 CHECKED BY
 DATE

PROFILE
 SURVEYED BY
 PLOTTED BY
 CHECKED BY
 DATE



HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

ASSATEAGUE DRIVE

ELECT. DIST. SIX

Des. WLD	G.W. Stephens, Jr. & Assoc.	Department of Public Improvements Approved	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	ERC/Permit No.	Contract No.	Drawing No.	Sheet No.
Dr. T.W.	Engr.	Prin. Engr.	Prin. Arch.	SE	ME	EE	CE	L.A.	Director				60-0032	3 of 8
Chk. DOR	Lic. No. 5048	Date							Date					

RP 255 #28

VOIT

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY

RAPPAHANNOCK AVENUE

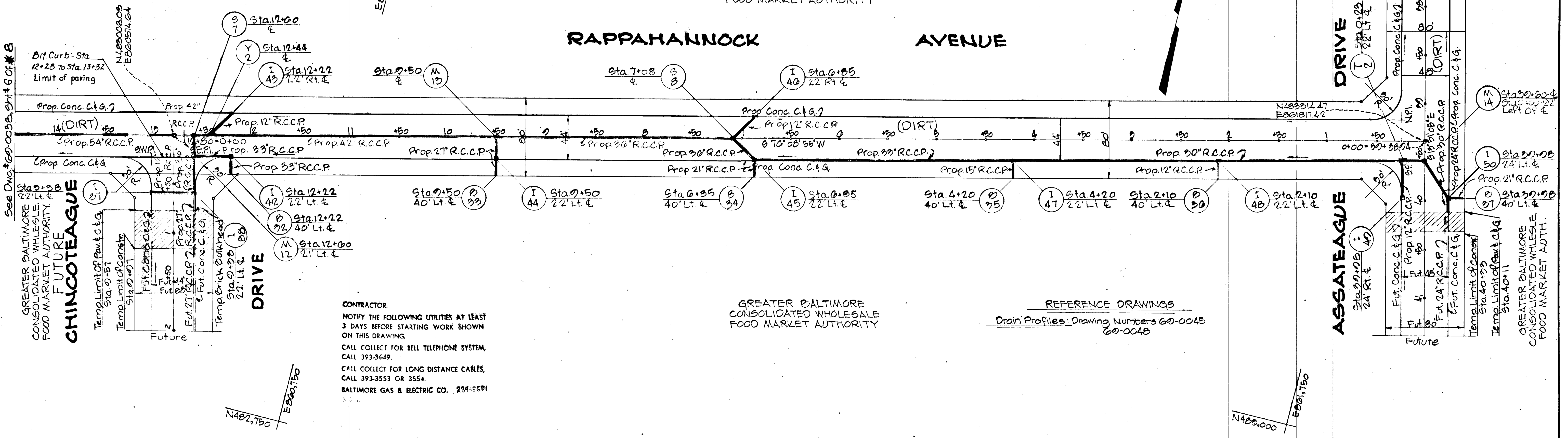
See Dwg # 60-0035, SH # 4 OF 8

DRIVE

ASSATEAGUE DRIVE

See Dwg # 60-0035, SH # 6 OF 8

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY FUTURE



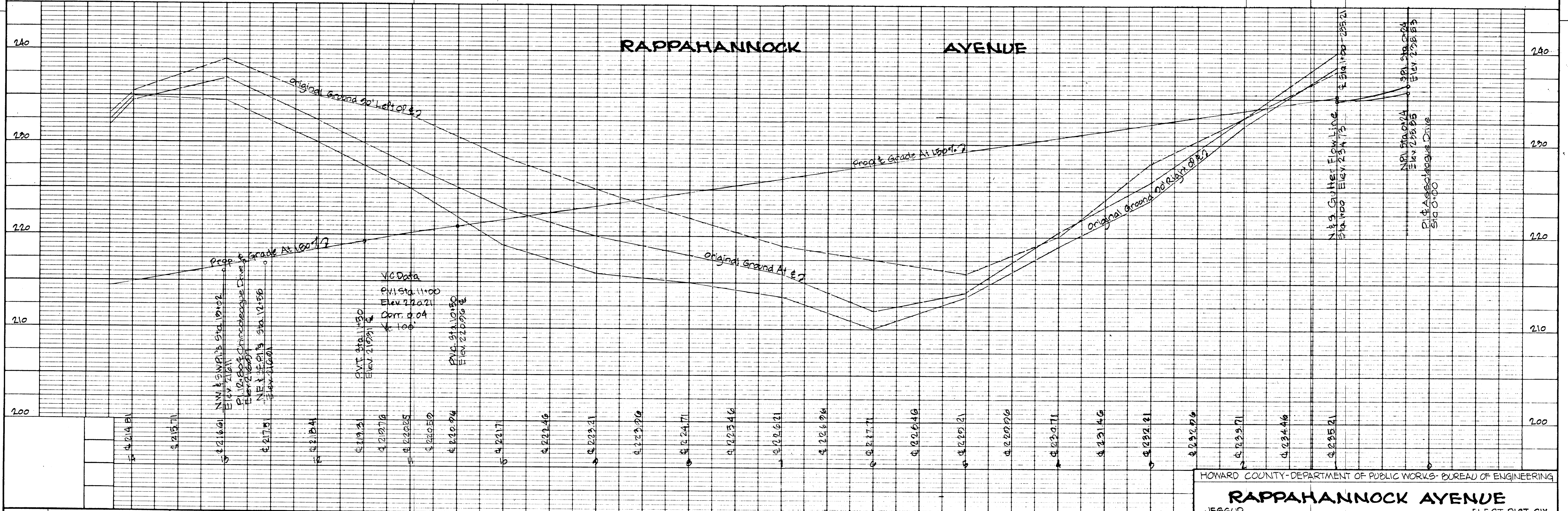
CONTRACTOR:
 NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
 CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3649.
 CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3554.
 BALTIMORE GAS & ELECTRIC CO. 234-5691

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY

REFERENCE DRAWINGS
 Drain Profiles: Drawing Numbers 60-0048
 60-0048

PLAN	DATE
BY	
DATE	
BY	
DATE	
BY	
DATE	
BY	
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PROFILE	DATE
BY	
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HOWARD COUNTY-DEPARTMENT OF PUBLIC WORKS- BUREAU OF ENGINEERING

RAPPAHANNOCK AVENUE

JESSUP ELECT. DIST. SIX

Des. WLD	G.W. Stephens, Jr. & Assoc.	Department Of Public Improvements Approved						Department Of Public Works	Office Of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SRC/Permit No.	Contract No.	Drawing No.	Sheet No.
Dir. TW	Engr.	Prin. Engr.	Prin. Arch.	SE	ME	EE	CE	LA	Director	Date									
Chk. DDR	Lic. No. 5048	Date																	

P255 #28

F71-37

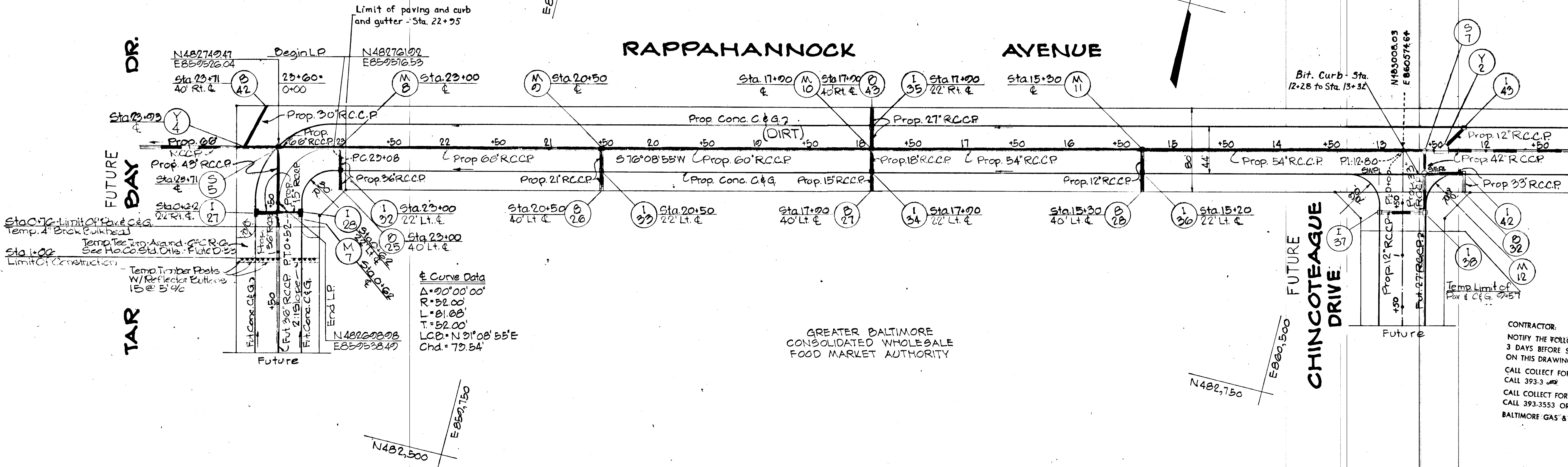
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Drain Profiles: Drawing Numbers 60-0044, 60-0045, & 60-0048

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY

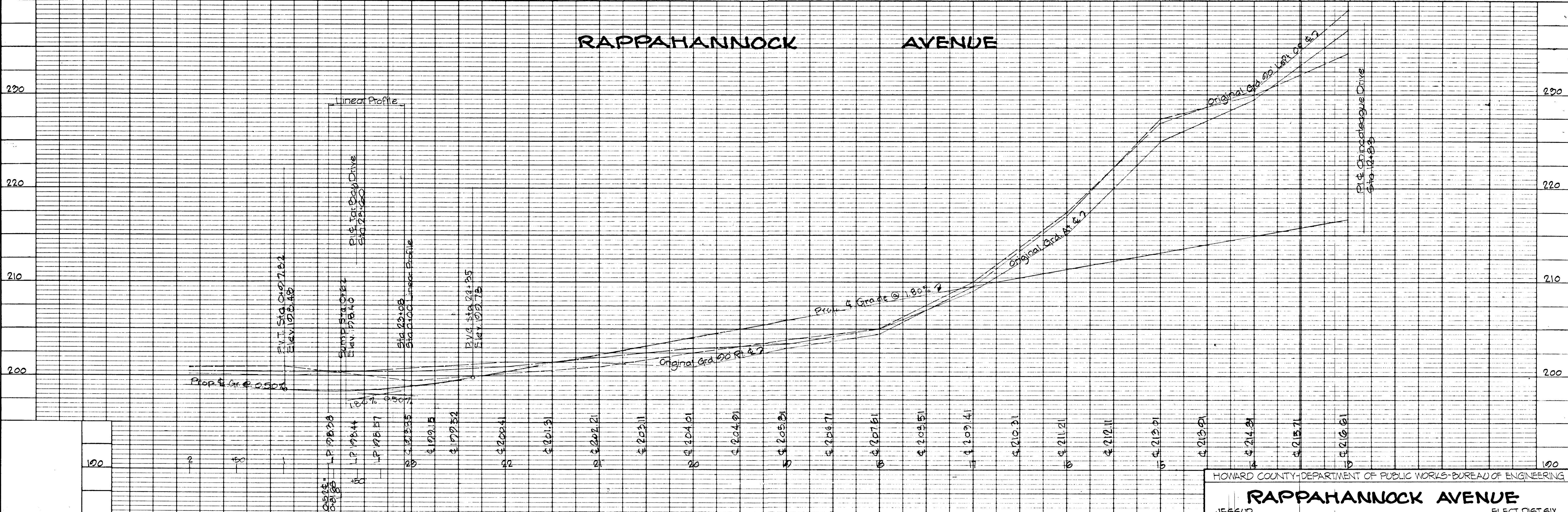
PLAN	DATE	BY
DESIGNED		
PLOTTED		
GRADES CHECKED		
8" AT NOTED		
STRUCTURE LOCATIONS CHECKED		
NO.		

PROFILE	DATE	BY
DESIGNED		
PLOTTED		
GRADES CHECKED		
8" AT NOTED		
STRUCTURE LOCATIONS CHECKED		
NO.		



Curve Data
 Δ = 90° 00' 00"
 R = 52.00'
 L = 81.00'
 T = 52.00'
 LCB = N 31° 08' 55" E
 Chd. = 73.54'

CONTRACTOR:
 NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING
 CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3400
 CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3554
 BALTIMORE GAS & ELECTRIC CO. 234-5691



HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

RAPPAHANNOCK AVENUE

JESSUP ELECT. DIST. SIX

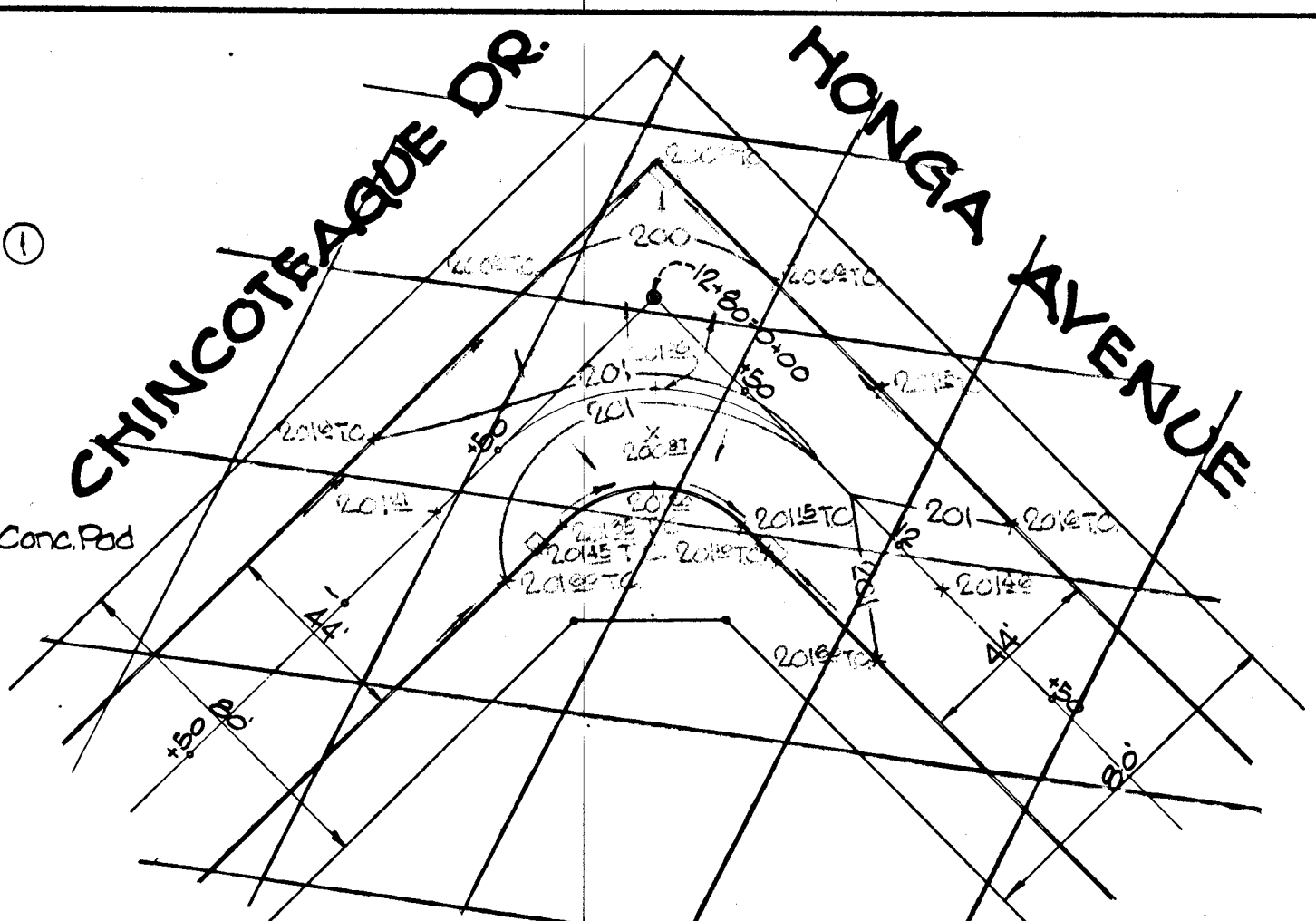
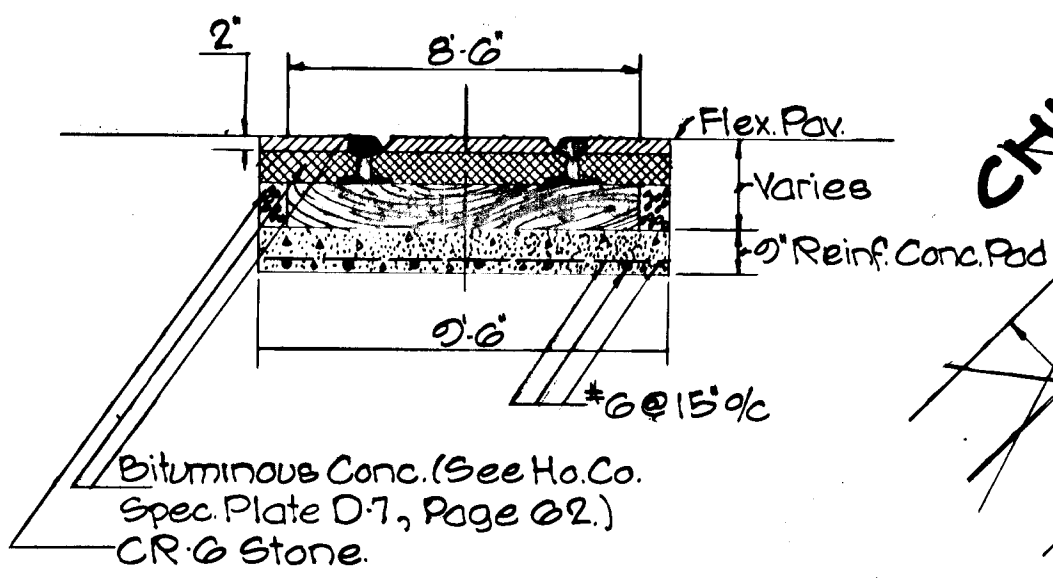
Des. WLD	GW Stephens, Jr. & Assoc.	Department of Public Improvements Approved	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SRC Permit No.	Contract No.	Drawing No.	Sheet No.
Drn. TW	Engr.	Prin. Engr.	Prin. Arch.	SE	ME	EE	CE	L.A.	Director	Chief Bureau of Highways	Chief Engr. Div. of Land Dev.	Greater Balt. Food Mkt. Auth.	1115 One Charles Center	Baltimore, Maryland 21201
Chk. DDR	Lic. No. B04B	Date							Date				60-0038	6 of 8

RP255 #28

F 71-37

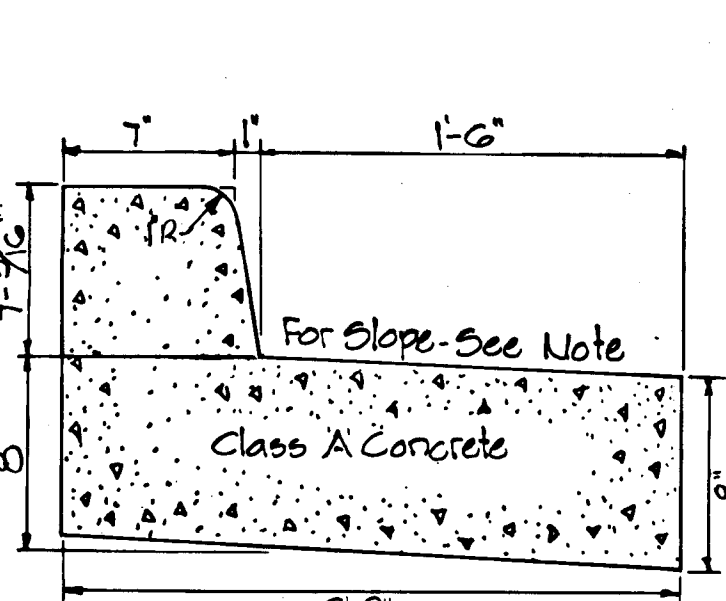
GENERAL NOTES

1) 4" Topsoil, Seed And Mulch Shown Thusly: ①

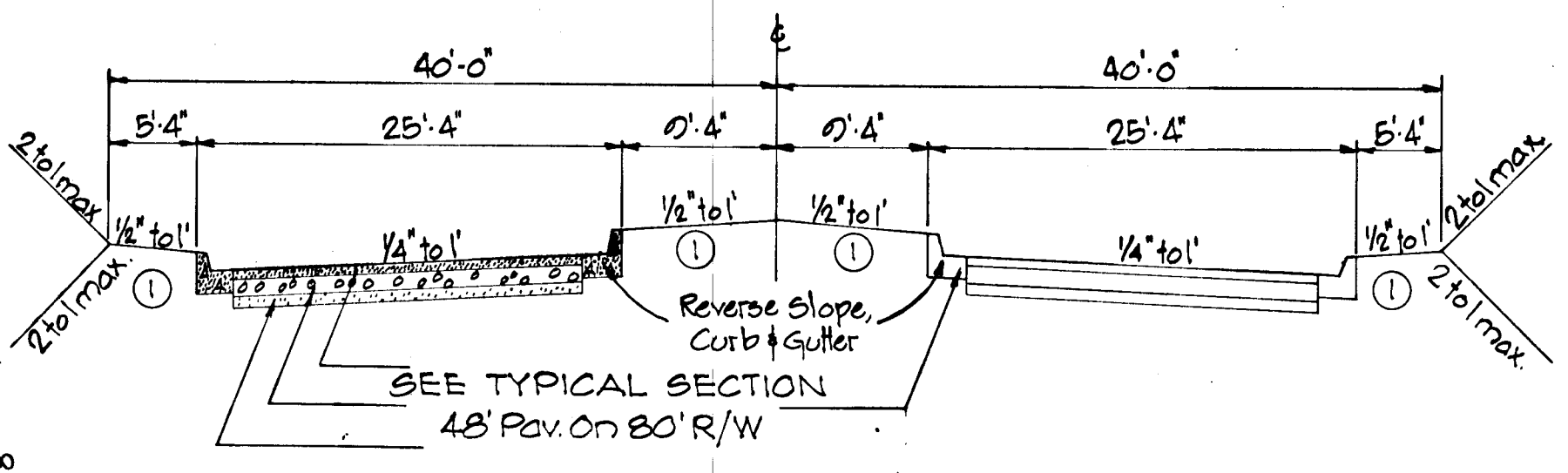


DETAIL 'A'
SCALE: 1" = 40'

TYPICAL RR. GRADE CROSSING
NO SCALE

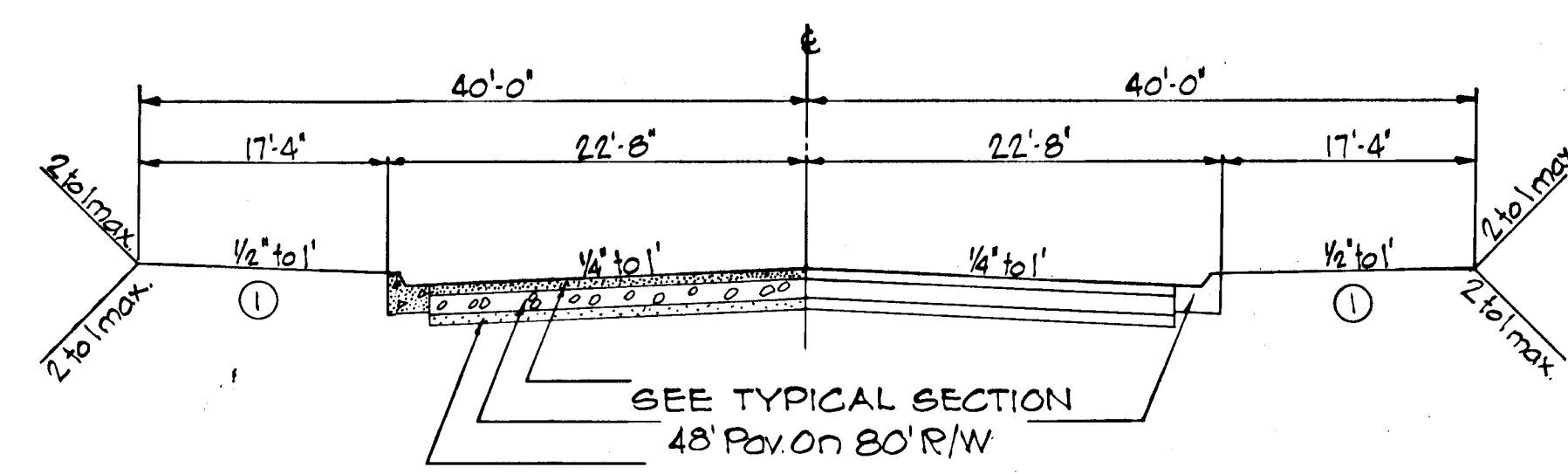


NOTE:
Slope At Same Rate Linear Slope Across Paving.
REVERSE SLOPE CURB AND GUTTER.

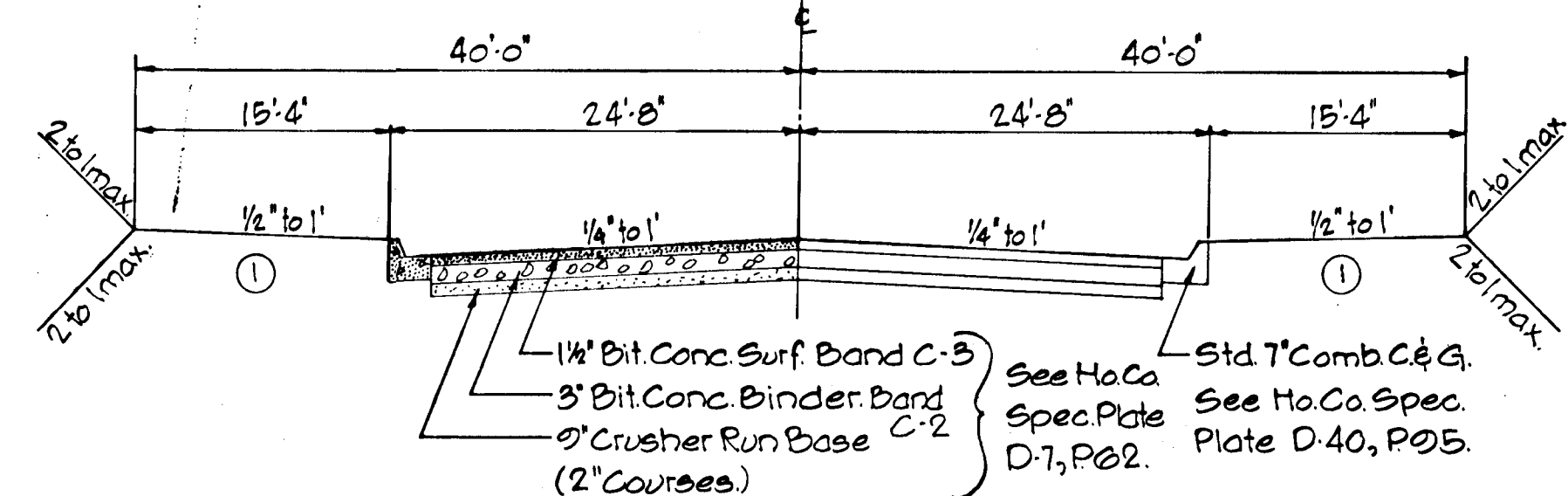


TYPICAL SECTION
48' Pav. W/20' Med. On 80' R/W
NO SCALE

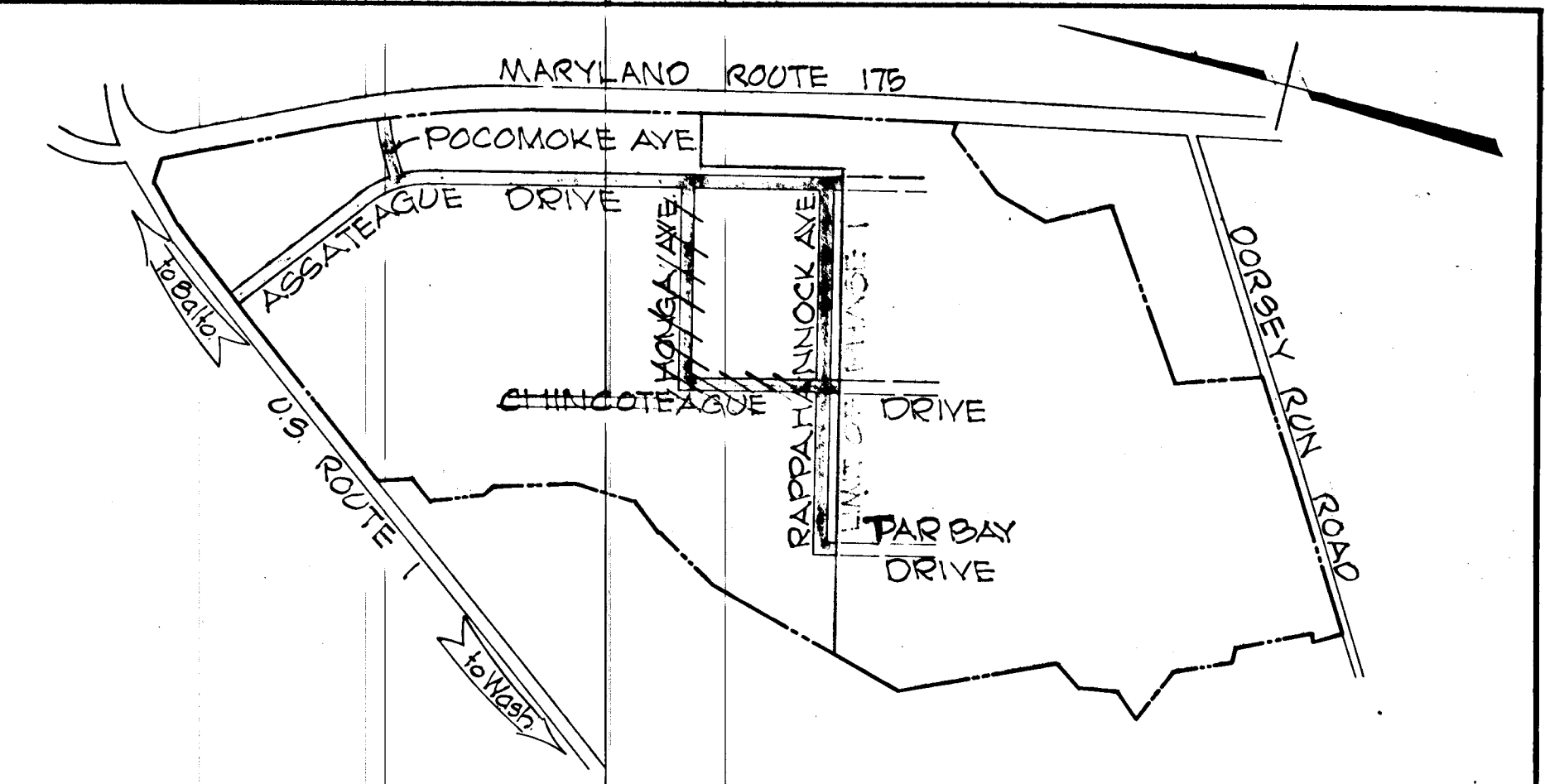
BENCH MARK #205 RESET ELEV 253.94
STATE ROADS COMMISSION BRASS MARKER SET IN CONCRETE ON EAST SIDE OF MD. ROUTE 175, 48' FROM EDGE OF EXISTING CONCRETE PAVING, & 30' FROM THE SOUTH CURB OF THE NORTH ENTRANCE TO PATUXENT INSTITUTE.



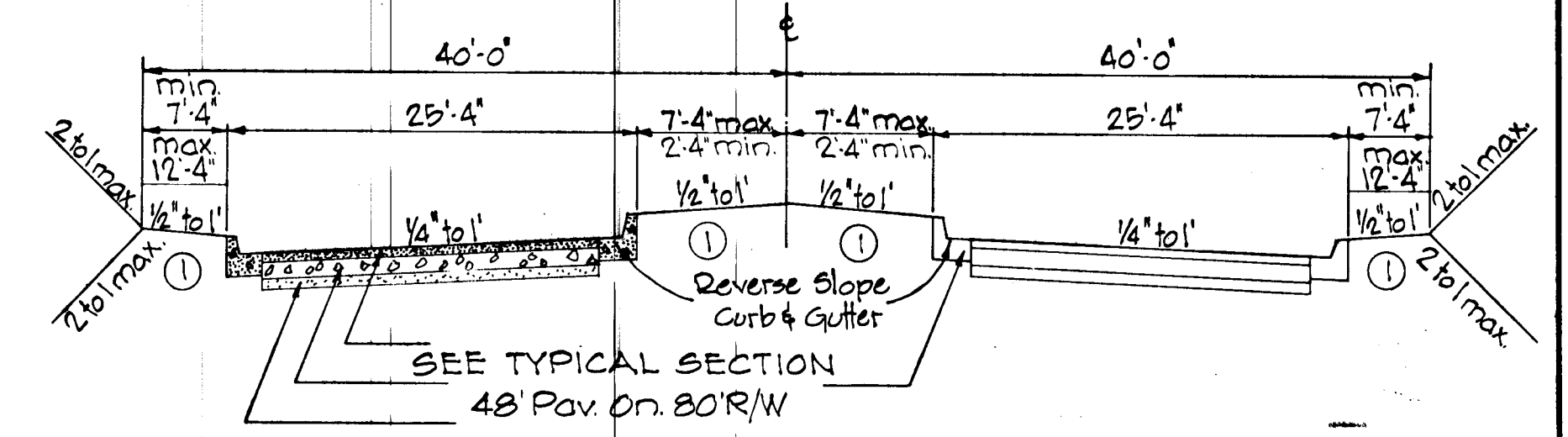
TYPICAL SECTION
44' Pav. On 80' R/W
NO SCALE



TYPICAL SECTION
48' Pav. On 80' R/W
NO SCALE



VICINITY MAP
SCALE: 1" = 1000'



TYPICAL SECTION
48' Pav. W/Var. Med. On 80' R/W
NO SCALE

DATE	
BY	
DESIGNED	
PLOTTED	
GRADES CHECKED	
ALIGNMENT CHECKED	
RT. OF WAY CHECKED	
NOTE BOOK NO.	
NO.	

DATE	
BY	
DESIGNED	
PLOTTED	
GRADES CHECKED	
STRUCTURE NOTATION CHECKED	
NOTE BOOK NO.	
NO.	



APPROVED
DATE 6-7-71
JRC

Des. WLD	GW Stephens, Jr & Assoc.	Department of Public Improvements Approved	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SRC/Permit No.	Contract No.	Drawing No.	Sheet No.						
Dir. T.W.	Engr. G. Kelly	SE	M.E.	EE	CE	LA.	Director	date	5. H. McKeand	Date 6/1/71	JRC	Date 7-7-71	Greater Balto Food Mkt Auth	115 One Charles Center	baltimore, Maryland, 21201	AS SHOWN		GBFM U-3	69-0024	1 of 2

RP255 #28

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET


Greater Baltimore Food Market Authority

INDEX OF DRAWINGS

Description	Plan		Profile		Description	Plan		Profile		
	Drawing No.	Sheet No.	Drawing No.	Sheet No.		Drawing No.	Sheet No.	Drawing No.	Sheet No.	
Baltimore Washington Boulevard- US Route One	69-0025	2	69-0040	26	Chincoteague Dr.	69-0036	13	69-0048	25	
	69-0026	3	69-0040	26		Rappahannock Avenue	69-0037	14	69-0045	22
	69-0039	16	69-0051	28			69-0038	15	69-0048	25
Md. Route #175	69-0027	4	69-0051	28	Conowingo Avenue	69-0055	32	69-0044	21	
	69-0028	5	69-0040	26				69-0045	22	
	69-0020	6	69-0051	28				69-0048	25	
			69-0040	26				69-0048	25	
Assateague Drive	69-0030	7	69-0040	26	Sections & Details	69-0024	1	—	—	
			69-0050	27	69-0053	30	—	—		
	69-0031	8	69-0051	28	Bridge Widening	69-0054	31	—	—	
			69-0047	24	Drainage Outfalls	69-0044	21	69-0044	21	
	69-0050	27	69-0046	23		69-0046	23			
	69-0032	9	69-0047	24	Drainage Map	69-0040	17	—	—	
			69-0049	26				—	—	
	69-0033	10	69-0047	24	Storm Drain Details	69-0051	23	—	—	
			69-0056	33		69-0052	30	—	—	
	Pocomoke Ave	69-0034	11	69-0050	27	Storm Drain Design Data	69-0041	18	—	—
Hongo Ave	69-0035	12	69-0046	23	69-0042		19	—	—	
			69-0048	25	69-0043		20	—	—	

GENERAL NOTES

- 1) Vehicular Ingress And Egress To US Route One And Maryland Route 175 Is Restricted Except At Points Of Access Approved By The Howard County Office Of Planning And Zoning.
- 2) The Contractor Shall Notify The Following Utilities At Least Three (3) Days Before Beginning The Work Shown On These Drawings:
 - a) Bell Telephone System - Call 800-3640 Collect.
 - b) Long Distance Cables - Call 303-3553 or 54 Call.
 - c) Baltimore Gas & Electric Co Call 234-5601.
- 3) All Construction Will Be Accomplished In Accordance With The Howard County Road Construction Code And Standard Specifications.
- 4) The Contractor Shall Place Topsoil And Seed & Mulch The Graded Area Behind The Curb On All Roads When They Are Developed.

	Engineer Geo Wm Stephens, Jr & Assoc., Inc. 303 Allegheny Avenue Towson, Md. 21204 <i>Charles E. Tack</i> 6/1/71 Reg No 5048 Date	Department Of Public Improvements						Director	Department Of Public Works Bureau Of Highways Chief <i>S. M. Richard</i> 6/1/71	Div. Of Land Development & Transportation Planning Chief <i>H. Clavin</i> 6-7-71	Owner & Developer Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	Storm Drains And Roads PHASE ONE Howard Co., Md. Elect. Dist. Six	SRC/Permit No. Contract No. G.B.F.M.-03	
	Prin. Engr. Prin. Arch. SE. ME. EE. CE. LA.												Drawing No. 69-0057	Sheet No. 5 of 54
	F71-37													

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET

INDEX OF DRAWINGS

Description	Plan		Profile		Description	Plan		Profile	
	Drawing No	Sheet No	Drawing No	Sheet No		Drawing No	Sheet No	Drawing No	Sheet No
Pacowrie Washington Boulevard US Route One	69-0025	2	69-0049	26	Chincoteague St	69-0036	13	69-0048	25
	69-0026	3	69-0049	26		69-0037	8	69-0048	18
	69-0035	4	69-0051	28		69-0038	9	69-0048	20
Md Route #175	69-0027	4	69-0051	28	Spartanburg Avenue	69-0033	7	69-0048	17
	69-0028	5	69-0049	26				69-0048	18
	69-0029	6	69-0051	28				69-0048	20
			69-0049	26				69-0048	20
			69-0051	28				69-0048	20
69-0030	3	69-0049	26	Sections & Details	69-0024	2			
Assateague Drive	69-0031	4	69-0050	21	Bridge Widening	69-0033	30		
			69-0050	22				69-0034	31
			69-0051	23					
	69-0032	5	69-0047	10	Drainage Outfalls	69-0044	17	69-0044	17
			69-0050	22				69-0035	15
			69-0047	10					
			69-0049	21					
69-0033	6	69-0047	10	Drainage Map	69-0040	10			
69-0036	7			Storm Drain Details	69-0031	13			
							69-0032	14	
69-0034	11	69-0030	17	Storm Drain Design Data	69-0041	11			
69-0035	15	69-0035	15				69-0042	12	
69-0036	16	69-0036	16				69-0043	13	

GENERAL NOTES

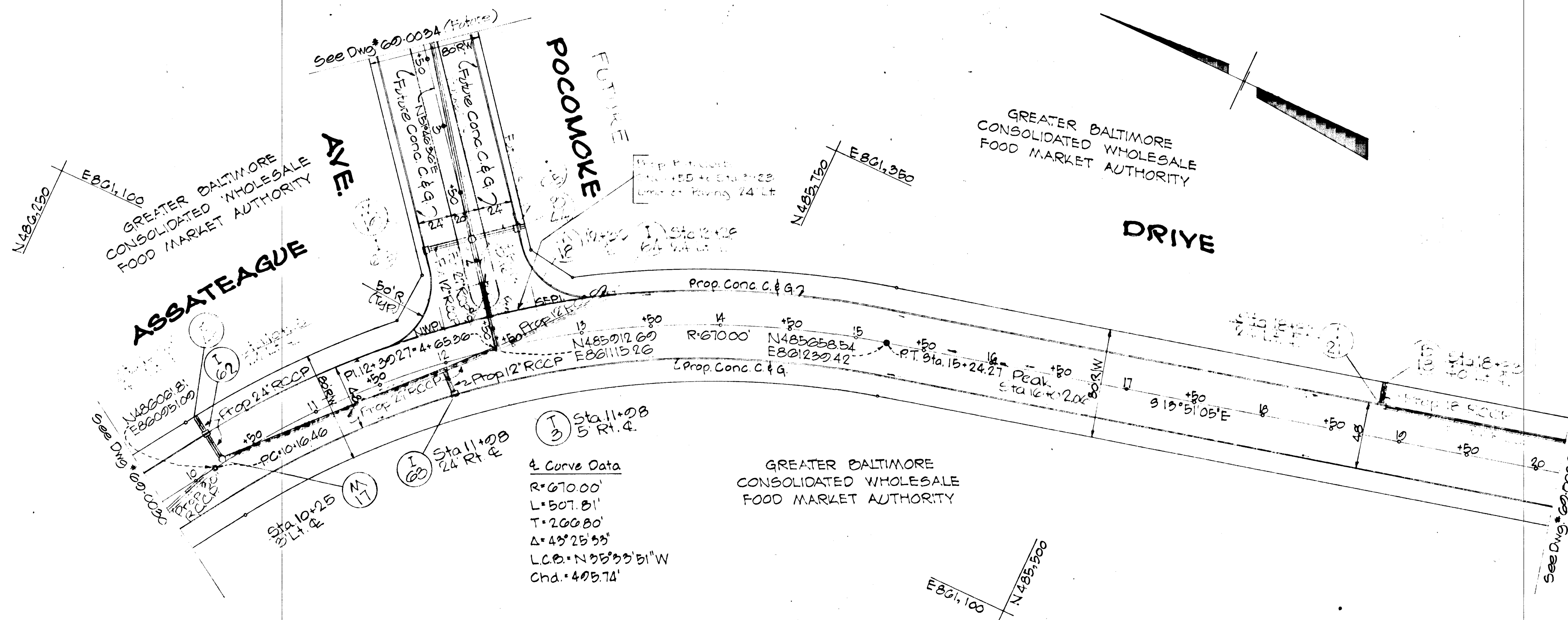
- 1) Vehicular Ingress And Egress To US Route One And Maryland Route 175 Is Restricted Except At Points Of Access Approved By The Howard County Office Of Planning And Zoning
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 - a. Bell Telephone System Co. 303-3640 Collect
 - b. Long Distance Cables Co. 473-3533 or 54 Col.
 - c. Baltimore Gas & Electric Co. Call 345-6711
- 3) All Construction Will Be Accomplished In Accordance With The Howard County Road Construction Code And Standard Specifications
- 4) The Contractor Shall Place Topsoil And Seed & Mulch In The Trade Area Beyond The Curb On All Roads When They Are Developed
- 5) The Bid Line For Excavation Shall Be The Paving Subgrade With In The Proposed Road - And Existing Ground Elevations Except As Otherwise Indicated On The Plans

Engineer	Department Of General Services							Howard County		Owner & Developer	Storm Drains And Roads	SRC/Permit No	Contract No
Geo. Wm. Stephens, Jr & Assoc., Inc. 303 W. Lighter Avenue Towson, Md. 21284 Reg No B048 Date	Prin. Engr.	Prin. Arch.	SE	ME	EE	CE	LA	Secretary	Department Of Public Works Bureau Of Highways Chief	Div Of Land Development & Transportation Planning Chief	Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	PHASE ONE	GDEMUB
											Howard Co., Md. Elect Dist Six	Drawing No 69-0051	Sheet No 01 of 10

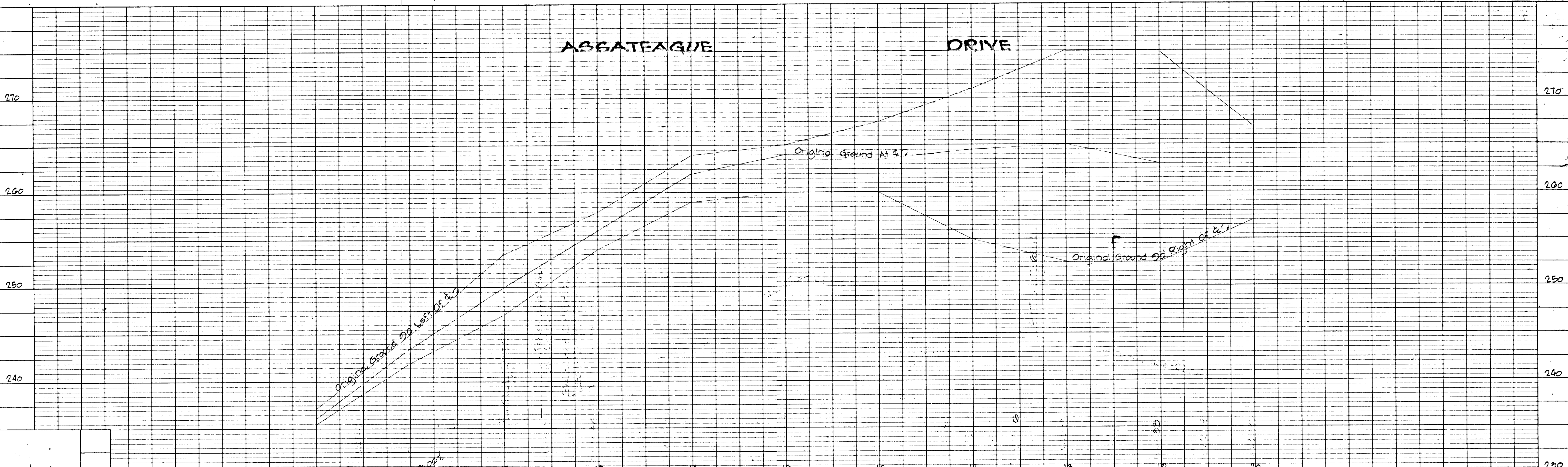
RP155 #28
17-55

DATE	
BY	
SURVEYED	
PLOTTED	
NOTED	
NO.	

REFERENCE DRAWINGS
 Drain Profiles Drawing Numbers 60-0047
 & 60-0050



ASSATEAGUE DRIVE



DATE	
BY	
SURVEYED	
PLOTTED	
NOTED	
NO.	

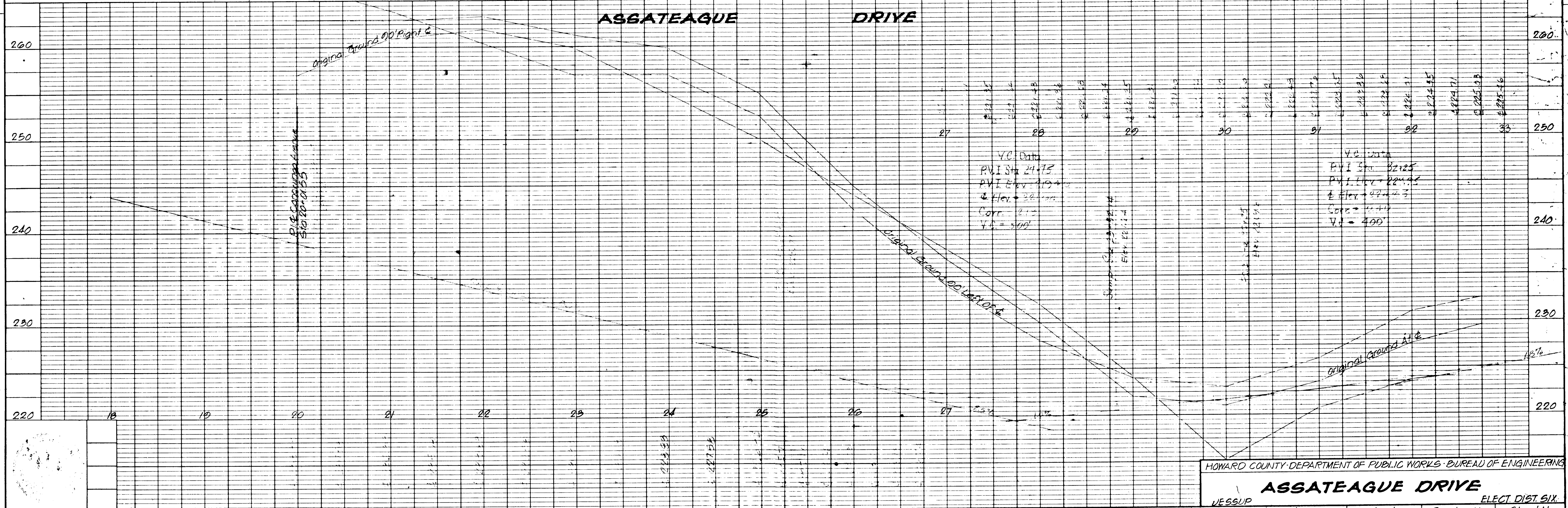
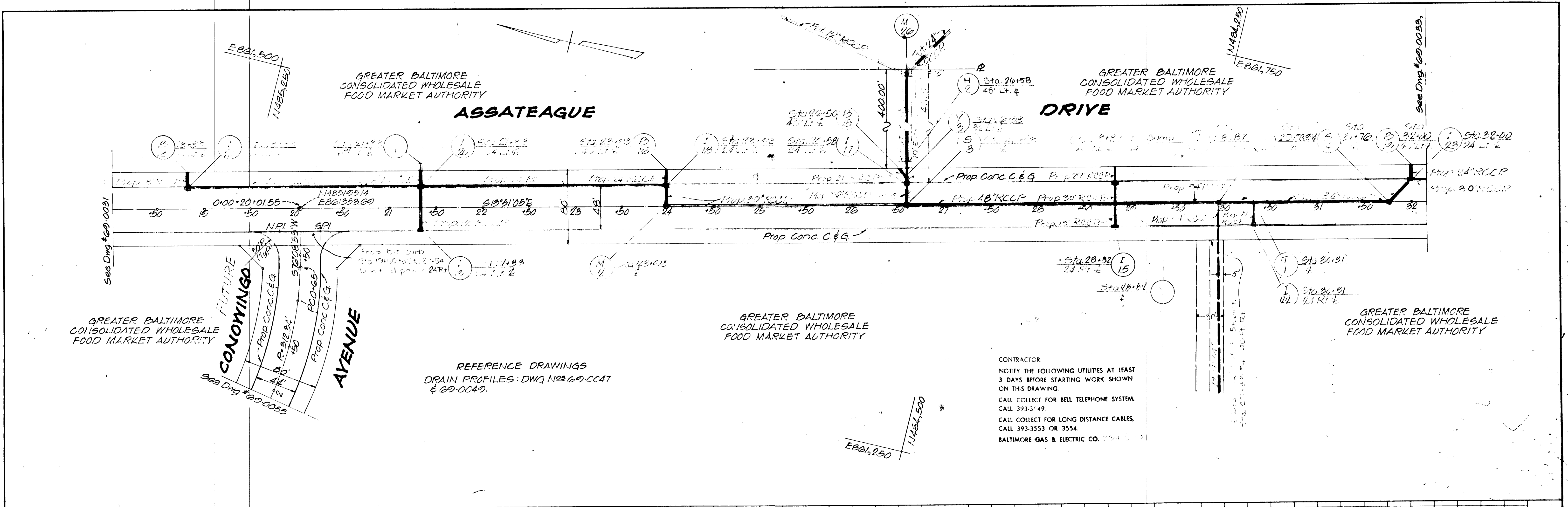
HOWARD COUNTY - DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING
ASSATEAGUE DRIVE
 JESSUP ELECT. DIST SIX

Des. H.C. G.W. Stephens, Jr. & Assoc.	Department of Public Improvements Approved	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Swg. Completed	SRC/Permit No.	Contract No.	Drawing No.	Sheet No.
Chf. Engr. Lic. No. 5048 Date 10/1/71	Director Date	Chief, Bureau of Highways	Chief Engr. Div. of Land Dev.	Greater Baltimore Food Mkt. Auth.	11/15			Plan: 1"=50' Profile: 1"=50'			GBFM 03	60-0031	4 of 24

LE-71-37

DATE	
BY	
PLAN	
SURVEYED	
PLOTTED	
CHECKED	
DATE	
BY	
NO.	

DATE	
BY	
PROFILE	
SURVEYED	
PLOTTED	
CHECKED	
DATE	
BY	
NO.	



HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

ASSATEAGUE DRIVE

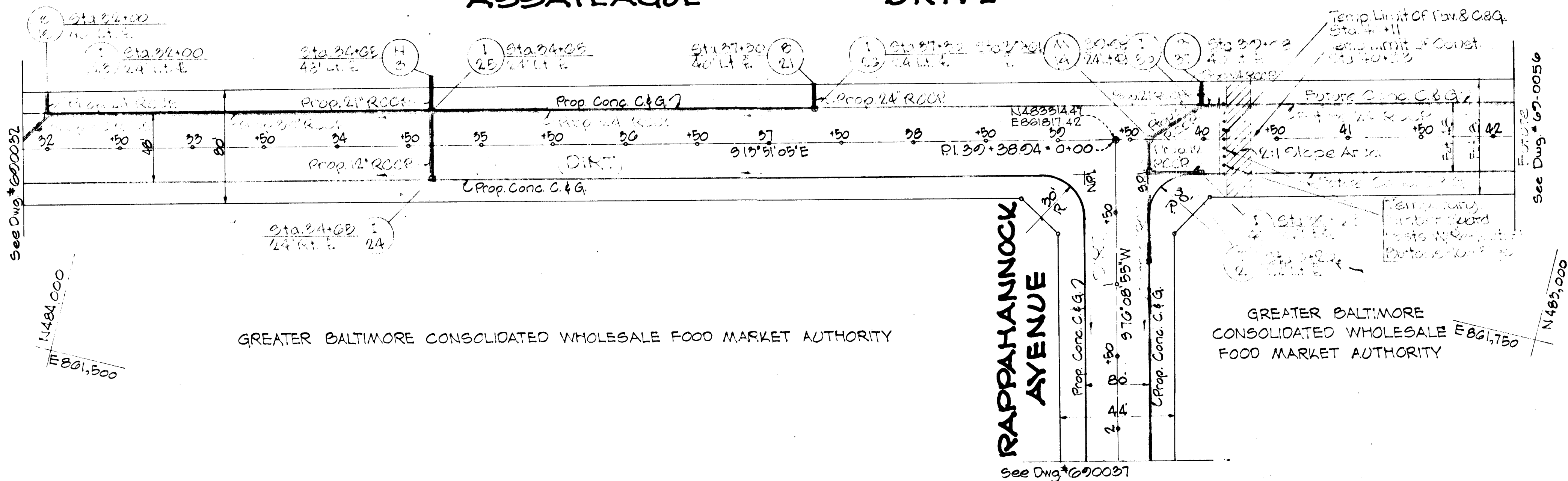
VESSUP ELECT. DIST. SIX

Des. BY: M.D. G.W. Stephens, Jr. & Assoc.	Department of Public Improvements Approved	Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SRC/Permit No.	Contract No.	Drawing No.	Sheet No.
Drn. BY: T.W. Enger & Larky & Larky	Prin. Engr. Prin. Arch.	SE M.E. E.E. CE. L.A.	Director	Chief, Bureau of Highways	Chief Engr., Div. of Land Dev.	Greater Balto. Food Mkt. Auth.	1115 One Charles Center	Plan: 1"=50'			GBMF-U-3	60-0032	5 OF 4
Chk. ORR: Lic. No. 5048 Date 10/1/71			Date	J. H. Wickland Date 1/1/72	J. H. Wickland Date 1/1/72	Baltimore, Maryland, 21201	Profile: Vert. 1"=5'						

REFERENCE DRAWINGS
 Drain Profiles Drawing Numbers 60-0047

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY

ASSATEAGUE DRIVE

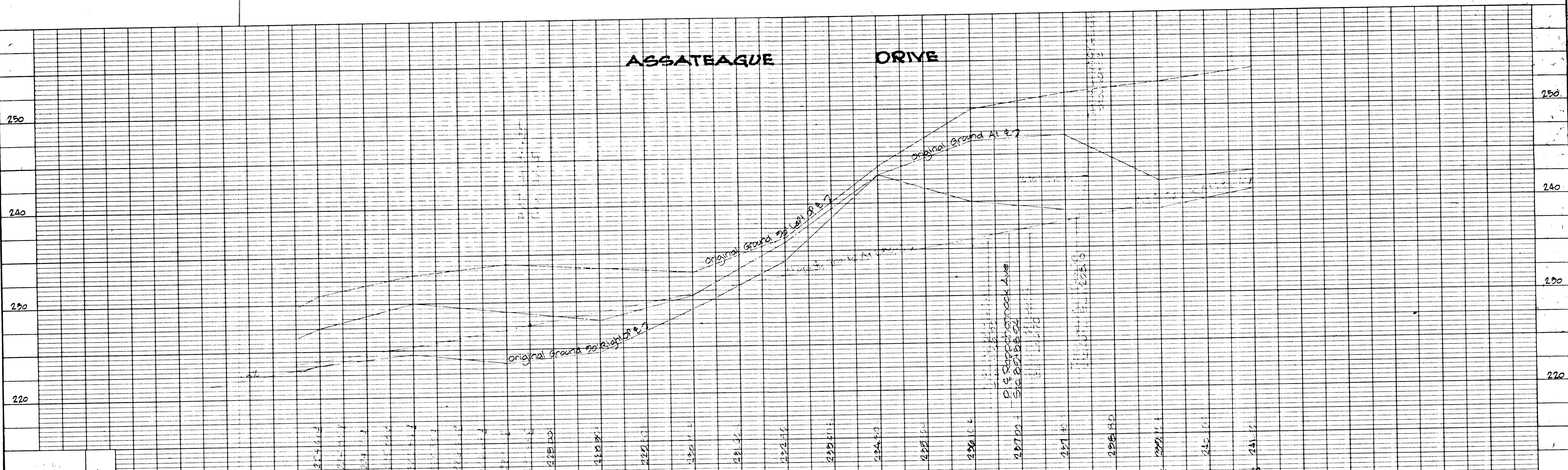


GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET AUTHORITY

RAPPAHANNOCK AVENUE

ASSATEAGUE DRIVE



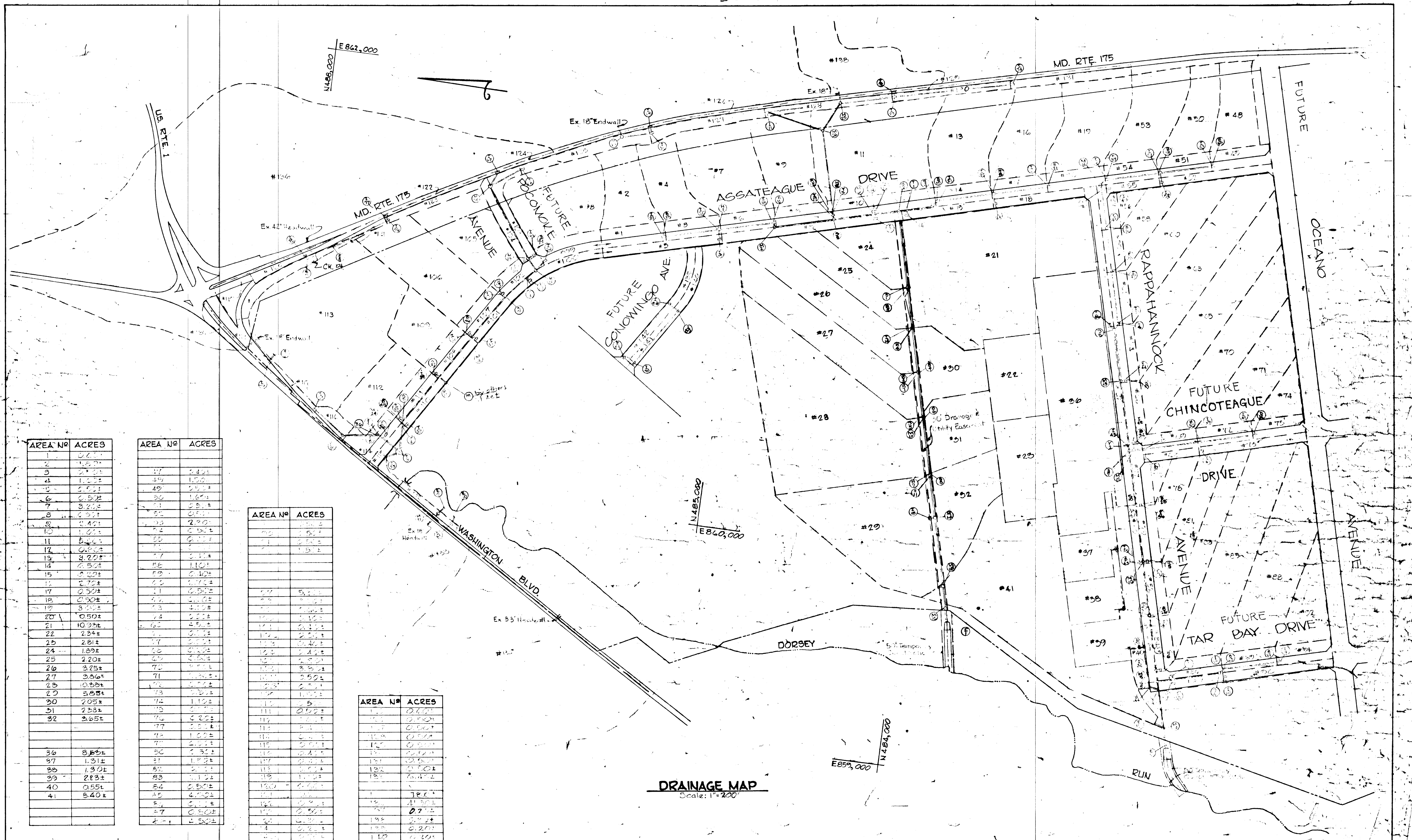
HOWARD COUNTY - DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING
ASSATEAGUE DRIVE
 JESSUP ELECT. DIST. SIX

Des. WLD	Engr.	Prin. Engr.	Prin. Arch.	SE	ME	EE	CE	LA	Director	Date	Chief, Bureau of Highways	Chief Engr., Div. of Land Dev.	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	SRC/Permit No.	Contract No.	Drawing No.	Sheet No.
Des WLD	Engr. G. Hartley, Lic. No. 6048										Chief, Bureau of Highways	Chief Engr., Div. of Land Dev.	Greater Balto Food Mkt Auth.				Plan: 1"=50'			GOPM U-3	600033	2 OF 44

DATE	BY	SURVEYED	PLOTTED	ALIGNMENT CHECKED	RT. OF WAY CHECKED

DATE	BY	SURVEYED	PLOTTED	GRADES CHECKED	STRUCTURE NOTATIONS CHECKED

11/28




AREA NO	ACRES
1	0.72±
2	1.27±
3	2.12±
4	1.22±
5	2.52±
6	0.50±
7	3.22±
8	2.52±
9	2.42±
10	1.02±
11	8.22±
12	0.82±
13	3.22±
14	2.52±
15	2.52±
16	2.72±
17	0.52±
18	0.90±
19	3.02±
20	0.50±
21	10.22±
22	2.34±
23	2.01±
24	1.89±
25	2.20±
26	3.25±
27	3.86±
28	10.88±
29	3.85±
30	2.05±
31	2.38±
32	3.65±
36	8.55±
37	1.31±
38	1.30±
39	2.23±
40	0.55±
41	5.40±

AREA NO	ACRES
33	2.42±
34	1.50±
35	2.52±
36	1.62±
37	0.81±
38	0.81±
39	2.30±
40	0.52±
41	2.30±
42	1.10±
43	0.81±
44	0.81±
45	0.81±
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AREA NO	ACRES
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DRAINAGE MAP
Scale: 1"=200'

W.L. Duvall Designed W.L. Duvall Drawn D.D. Ramsey Checked	 ENGINEER GEO WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21284 Prof. Engr. Reg. No. 10117 Date 10/25/71	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. PUBLIC IMPROVEMENTS APPROVED Principal Eng. Date Principal Arch. S.E. M.E. E.E. C.E. L.A. Director					HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways Approved <i>[Signature]</i> Date 10/25/71		OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development Approved <i>[Signature]</i> Date 10/25/71		Storm Drains - Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District VI		REVISIONS Date Description By		Sheet 10 of 14 69-0040 Drawing No. GBPM-12 Contract No.
			Approved _____ Date _____		Approved _____ Date _____		Approved _____ Date _____		Approved _____ Date _____		Approved _____ Date _____		Approved _____ Date _____			

STORM DRAIN DESIGN COMPUTATIONS

10 YEAR STORM FREQUENCY EXCEPT AS DENOTED * PIPE N°=0.014

Location		Area		C	CA	Adj. CA	Σ CA	Time Conc.			Inten.	Q'	Des. Q' Q+Qs	% Inter.	Q' Inter.	Pipe Size	Slope %		Vel.	Lgth. Ft.	Time in Pipe	REMARKS	
From	To	Sub	Total					Inlet	Drain	Total							Min.	Act.					Vel.
I-21	I-21	1	0.40	0.80	0.48	0.40	-	5.00	-	5.00	6.8	3.26	3.26	83	2.70	-	-	-	-	-	-	-	-
B-18	I-21	2	1.80	0.80	1.44	-	-	5.00	-	5.00	6.8	2.80	-	-	18"	0.98	1.20	5.50	16	0.05	-	-	
I-21	I-20	1-2	2.40	-	-	1.84	-	5.00	0.05	5.05	6.8	12.50	-	-	21"	0.68	2.46	5.00	250	0.84	-	-	
I-19	I-20	5	0.50	0.80	0.40	0.34	-	5.00	-	5.00	6.8	2.72	2.72	85	2.30	-	-	-	-	-	-	-	-
I-20	I-20	5	0.50	-	-	-	0.34	5.00	-	5.00	6.8	2.30	-	-	12"	0.48	0.60	2.80	18	-	-	-	
H-1	I-20	4	1.60	0.80	1.28	-	-	5.00	-	5.00	6.8	2.72	3.28	83	2.70	-	-	-	-	-	-	-	-
I-20	I-18	1-5	5.00	-	-	-	3.86	5.00	0.84	5.89	6.8	25.10	-	-	24"	1.38	2.46	7.80	265	0.57	-	-	
B-16	I-18	7	3.20	0.80	2.56	-	-	5.00	-	5.00	6.8	17.40	-	-	24"	0.65	1.00	5.40	16	-	-	-	
I-18	I-18	6	0.50	0.80	0.40	0.41	-	5.00	-	5.00	6.8	2.72	3.30	83	2.80	-	-	-	-	-	-	-	-
I-18	M-2	1-7	8.70	-	-	-	6.83	5.00	0.57	6.46	6.8	44.30	-	-	30"	1.20	1.33	8.70	24	0.04	-	-	
M-2	S-3	1-7	8.70	-	-	-	6.83	5.00	0.04	6.50	6.8	44.30	-	-	30"	1.20	2.03	8.70	240	0.50	-	-	
I-17	S-3	8	0.50	0.80	0.40	0.40	-	5.00	-	5.00	6.8	2.72	3.22	83	2.70	-	-	-	-	-	-	-	-
S-3	M-6	9	18.9	-	-	-	15.97	10.80	0.05	10.85	5.7	91.00	-	-	36"	0.65	-	7.2	24	0.05	-	-	
I-16	I-16	10	1.00	0.80	0.80	1.05	-	5.00	-	5.00	7.6*	6.08	7.12	100	7.12	-	-	-	-	-	-	-	20 Yr. Storm
H-7	I-16	11	5.50	0.80	4.40	-	-	5.00	-	5.00	6.8	30.00	-	-	27"	1.10	1.60	7.50	16	0.04	-	-	
I-16	M-6	10-11	6.5	-	-	-	5.45	5.00	0.04	5.04	6.8	37.00	-	-	30"	0.90	2.16	7.40	24	-	-	-	
I-15	I-15	12	0.80	0.80	0.64	0.78	-	5.00	-	5.00	7.6*	4.86	5.28	100	5.28	-	-	-	-	-	-	-	20 Yr. Storm
M-6	S-2	12-18	26.20	-	-	-	22.10	10.85	0.53	11.38	6.8	5.28	-	-	15"	0.75	2.16	4.30	24	-	-	-	
I-26	I-26	20	0.50	0.80	0.40	0.40	-	5.00	-	5.00	6.8	2.72	3.28	83	2.70	-	-	-	-	-	-	-	-
B-21	I-26	19	3.00	0.80	2.40	-	-	5.00	-	5.00	6.8	16.30	-	-	24"	0.57	1.00	5.10	16	0.05	-	-	
I-26	I-25	10-20	3.50	-	-	-	2.80	5.00	0.05	5.05	6.8	19.00	-	-	24"	0.78	1.80	5.90	265	0.75	-	-	
H-3	I-25	17	0.50	0.80	0.40	0.41	-	5.00	-	5.00	6.8	2.72	3.30	83	2.80	-	-	-	-	-	-	-	-
I-24	I-25	18	0.50	-	-	-	0.34	5.00	-	5.00	6.8	2.30	-	-	12"	0.48	0.60	2.80	18	-	-	-	
I-25	I-23	10-20	7.20	-	-	-	5.71	5.00	0.73	5.80	6.8	37.10	-	-	30"	0.90	2.16	7.50	265	0.59	-	-	
I-23	I-23	14	0.50	0.80	0.40	0.40	-	5.00	-	5.00	6.8	2.72	3.22	83	2.70	-	-	-	-	-	-	-	-
B-19	I-23	13	3.20	0.80	2.56	-	-	5.00	-	5.00	6.8	17.40	-	-	24"	0.66	1.00	5.50	16	-	-	-	
I-23	S-4	13-19	10.90	-	-	-	8.67	5.00	0.59	4.39	6.4	55.50	-	-	30"	0.75	1.06	7.70	34	0.07	-	-	
S-4	T-1	13-19	10.90	-	-	-	8.67	5.00	0.07	4.46	6.4	55.50	-	-	30"	0.75	1.60	7.70	145	0.31	-	-	
I-22	T-1	15	0.20	0.80	0.16	0.21	-	5.00	-	5.00	6.8	1.09	1.51	92	1.40	-	-	-	-	-	-	-	-
T-1	S-2	13-20	11.10	-	-	-	8.88	5.00	0.12	6.58	6.4	56.80	-	-	36"	0.80	1.10	1.80	24	-	-	-	
S-2	M-5	24	37.30	-	-	-	31.08	11.38	0.20	11.58	5.6	174.00	-	-	54"	0.82	1.52	10.50	265	0.70	-	-	
B-1	M-5	24	189	0.90	1.70	-	-	5.00	-	5.00	6.8	115.50	-	-	18"	1.3	1.00	6.40	25	-	-	-	
M-5	M-4	23-25	42.10	-	-	-	32.78	11.58	0.70	12.28	5.5	180.00	-	-	54"	0.90	1.20	11.00	192	0.29	-	-	
T-14	M-4	25	220	0.90	1.98	-	-	5.00	-	5.00	6.8	185.50	-	-	18"	1.80	2.64	7.5	28	-	-	-	
M-4	S-1	25-28	44.59	-	-	-	34.76	12.28	0.29	12.57	5.4	187.50	-	-	54"	1.00	1.60	11.00	212	0.31	-	-	
S-1	S-1	26	3.25	0.90	2.93	-	-	5.00	-	5.00	6.8	19.90	-	-	42"	0.04	1.00	2.0	25	-	-	-	
S-4	S-1	21	10.93	-	-	-	11.48	5.00	0.29	2.29	6.3	71.00	-	-	42"	0.55	1.00	7.30	25	-	-	-	
S-1	M-3	23-25	58.57	-	-	-	49.12	12.57	0.21	12.88	5.4	242.00	-	-	60"	0.95	0.60	12.00	210	0.29	-	-	
I-11	M-3	27-30	5.91	0.90	5.91	-	-	5.00	-	5.00	6.8	26.20	-	-	27"	1.5	1.00	9.0	25	-	-	-	
B-6	M-3	22	2.54	-	-	-	2.22	5.00	-	5.87	6.6	14.70	-	-	18"	2.10	1.00	8.0	25	-	-	-	
M-3	S-11	23-27	66.88	-	-	-	56.66	12.88	0.29	13.17	5.5	301.0	-	-	66"	0.85	1.05	12.50	278	0.37	-	-	
I-11	S-11	28-31	12.76	0.90	11.48	-	-	5.00	-	5.00	6.8	78.00	-	-	42"	0.65	1.00	8.00	15	-	-	-	
S-11	S-11	29	2.81	-	-	-	2.67	5.00	0.71	5.71	6.7	17.90	-	-	18"	3.10	1.00	9.9	25	-	-	-	
S-11	M-1A	29-30	8.240	-	-	-	7.081	13.17	0.37	13.54	5.3	375.00	-	-	72"	0.85	0.95	13.00	200	0.26	-	-	
M-1A	M-1A	29-30	9.50	0.87	8.25	8.55	-	5.00	-	5.00	7.6*	58.10	-	-	36"	0.82	1.00	8.10	40	-	-	20 Yr. Storm	
M-1A	M-1C	29-30	91.90	-	-	-	79.36	13.54	0.26	13.80	5.2	413.00	-	-	72"	1.00	0.95	14.00	225	0.39	-	-	
M-1C	E-1	29-30	91.90	-	-	-	79.36	14.19	0.11	14.30	5.2	413.00	-	-	72"	1.00	1.00	14.00	34	-	-	-	

W.L. Duvall
Designed
W.L. Duvall
Drawn
D.D. Ranney
Checked

ENGINEER
GEO. WM. STEPHENS, JR.
AND ASSOCIATES, INC.
Towson, Md. 21284
Charles P. Stephens
5048 10/17
Reg. No. 10172
Date

OWNER AND DEVELOPER
Greater Baltimore
Food Market Authority
1115 One Charles Center
Baltimore, Md. 21201

DEPT. OF GENERAL SERVICES
Principal Eng. Date Principal Arch.
S.E. ME. E.E. C.E.
Director *John C. Kelly*

HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways
S. H. Brubaker 10/25/71
Approved Date

OFFICE OF PLANNING AND ZONING
Chief Engineer, Division of Land and Development
John C. Kelly 10/29/71
Approved Date

GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET
Howard County, Maryland Election District II

REVISIONS
Date Description By
9/22/71 AS BUILT GWS
Sheet 11 of 44
62-0041 - Drawing No.
G.B.F.M. 2-1
G.B.F.M.-U3
Contract No.

AS BUILT F-71-37

STORM DRAIN STRUCTURE LOSSES

Item No	Type	V ₁ fps	V ₂ fps	Q ₁ cfs	Q ₂ cfs	Q ₂ /Q ₁ %	Losses				Total	Remarks
							A	B	C	D		
S-1	Double Wye W/Man	11.50	11.00	137.50	244.00	50	0.46	0.20	-	0.66	1.32	
M-2	Type 'C' Manhole	8.00	8.00	44.00	44.00	-	0.22	0.22	-	0.44	0.61	
M-4	Type 'C' Manhole	11.00	11.50	30.00	137.50	8	0.41	0.21	-	0.12	0.74	
M-5	Type 'C' Manhole	10.30	11.00	174.00	180.00	7	0.40	0.28	-	0.08	0.52	
T-6	Tee Cut-in	11.40	12.00	222.00	243.00	3	-	0.24	-	-	0.24	
M-1A	Type 'C' Manhole	13.00	14.00	375.00	413.00	15	0.67	0.40	-	0.43	1.51	
M-1C	Type 'C' Manhole	14.00	14.00	413.00	413.00	-	0.67	0.00	-	-	0.67	
M-3	Type 'C' Manhole	12.00	12.50	242.00	301.00	21	0.50	0.15	-	-	0.33	
S-11	Double Wye W/Man	12.50	13.00	301.00	375.00	32	0.56	0.20	-	0.42	1.18	
S-2	Junction Chamber W/Man	7.20	7.20	124.00	174.00	45	0.34	0.21	0.24	0.30	1.09	
M-6	Type 'C' Manhole	7.20	7.20	124.00	124.00	47	0.14	0.02	-	0.15	0.30	
I-16	Double 'S' Comb. Inlet	7.50	7.50	30.00	37.50	-	0.30	0.03	-	-	0.27	
S-3	Bend W/Man	7.70	7.70	41.30	91.00	35	-	0.25	0.24	0.55	0.32	
I-17	'S' Comb. Inlet	7.70	7.70	41.30	45.54	68	0.35	0.24	-	-	0.59	
I-18	'S' Comb. Inlet	7.80	8.00	25.11	43.15	68	0.35	0.19	-	0.35	0.22	
I-20	'S' Comb. Inlet	5.00	7.80	12.33	37.10	70	0.31	0.55	-	0.16	1.02	
I-21	'S' Comb. Inlet	5.00	5.00	8.00	12.50	-	0.16	0.06	0.10	-	0.32	
T-1	Tee Cut-in	7.70	7.80	57.97	56.80	3	0.18	0.01	-	0.22	0.21	
I-4	Bend	7.70	7.70	37.00	35.50	-	-	0.17	-	0.17	0.17	
I-23	'S' Comb. Inlet	7.50	7.70	37.10	56.50	47	0.17	0.03	0.17	0.25	0.65	
I-25	'S' Comb. Inlet	5.00	7.50	15.00	37.10	77	0.25	0.30	-	0.25	0.53	
I-26	'S' Comb. Inlet	5.10	5.00	10.20	10.00	-	0.10	0.10	0.20	-	0.40	
S-5	Junction Chamber W/Man	8.30	11.50	227.72	287.00	35	-	0.02	-	2.15	1.17	
M-7	Type 'B' Manhole	8.30	8.45	37.00	73.50	93	0.68	0.24	0.24	0.19	0.35	
I-28	Double 'S' Comb. Inlet	6.50	7.00	22.00	31.40	-	0.23	0.03	-	-	0.15	
M-8	Type 'C' Manhole	2.00	1.90	37.50	31.30	17	0.40	0.20	-	0.22	0.42	
I-32	'S' Comb. Inlet	1.20	5.85	11.40	14.50	-	0.19	0.15	-	-	0.34	
M-9	Type 'C' Manhole	10.50	1.40	34.27	33.00	0	0.40	0.20	-	0.08	0.28	
I-33	'S' Comb. Inlet	4.70	5.10	24.90	22.50	-	0.11	0.15	-	-	0.26	
M-10	Type 'C' Manhole	10.50	10.50	20.00	21.00	0	0.21	0.00	-	0.14	0.32	
I-34	'S' Comb. Inlet	4.40	4.00	5.44	8.15	-	0.12	0.35	-	-	0.15	
M-11	Type 'C' Manhole	0.80	3.00	158.50	153.00	2	0.21	0.40	-	0.52	0.16	
I-36	'S' Comb. Inlet	1.40	4.70	1.00	37.50	-	0.13	0.16	-	-	0.29	
S-7	Junction Chamber W/Man	0.15	0.80	80.00	158.50	32	-	0.02	-	0.51	0.44	
M-12	Type 'B' Manhole	6.00	5.40	47.35	73.50	57	0.14	0.17	-	0.25	0.54	
I-42	'S' Comb. Inlet	6.20	6.70	21.48	27.70	-	0.21	0.10	0.21	-	0.52	
I-38	'S' Comb. Inlet	2.80	5.50	27.17	47.70	70	0.25	0.03	-	0.25	0.17	
Y-2	Wye Cut-in	3.00	3.10	87.00	87.00	3	-	0.01	-	0.23	0.24	
M-13	Type 'B' Manhole	2.00	2.00	25.00	27.00	33	0.23	-	-	0.23	0.68	
I-44	'S' Comb. Inlet	0.50	0.20	25.00	25.00	-	0.21	0.15	-	-	0.36	
S-8	Junction Chamber	0.20	2.00	28.00	28.00	4	-	0.20	0.02	0.22	0.38	
I-45	'S' Comb. Inlet	0.20	0.20	48.00	48.00	31	0.22	0.25	0.22	0.22	0.91	
I-47	'S' Comb. Inlet	0.20	0.20	41.30	48.70	15	0.25	0.25	-	0.12	0.42	
I-48	'S' Comb. Inlet	0.20	0.20	39.50	41.30	4	0.35	0.14	-	0.02	0.51	
T-2	Tee Cut-in	7.50	7.70	37.20	38.50	4	-	0.53	-	0.23	0.23	
M-14	Type 'B' Manhole	1.50	0.50	37.20	37.20	-	0.30	-	0.16	-	0.46	
I-50	'S' Comb. Inlet	7.50	7.50	24.50	37.20	51	0.30	-	0.16	-	0.46	
Y-3	Preformed Wye Fitting	0.20	10.50	152.00	277.00	33	-	0.65	0.27	0.23	1.15	
M-18	Type 'C' Manhole	14.00	14.00	413.00	413.00	-	0.67	0	-	-	0.67	
M-7A	Type 'C' Manhole	0.20	15.50	321.70	377.00	3	0.26	1.24	-	0.45	2.53	
I-35	'S' Comb. Inlet	0.20	0.40	26.20	23.50	-	0.26	0.18	-	-	0.40	
T-4	Tee Cut-in	2.50	2.60	22.50	25.20	4	-	0.04	-	0.21	0.25	
S-9	Bend W/Manhole	11.50	2.50	83.40	92.50	10	-	0.63	0.40	0.27	0.07	
I-55	'S' Comb. Inlet	4.80	4.20	87.00	11.50	-	0.12	-	-	-	0.12	
M-15	Type 'B' Manhole	0.30	4.20	6.00	83.40	17	0.40	0.67	-	0.17	1.24	
I-57	'S' Comb. Inlet	4.60	4.50	37.00	13.50	-	0.12	0.01	-	-	0.11	
M-16	Type 'B' Manhole	0.50	2.30	46.00	66.00	44	0.26	0.07	-	0.41	0.66	
I-60	'S' Comb. Inlet	5.60	6.50	18.00	26.70	-	0.21	0.14	-	-	0.36	
M-17	Type 'B' Manhole	7.50	9.50	30.70	36.70	62	0.41	0.22	-	0.34	1.38	
I-62	'S' Comb. Inlet	5.00	6.00	15.80	18.50	-	0.26	0.16	-	-	0.36	
T-3	Tee Cut-in	7.50	7.50	28.50	30.20	7	-	0.10	-	0.03	0.13	
M-18	Type 'B' Manhole	6.50	7.00	26.40	28.70	10	0.25	0.12	0.26	0.04	0.70	
M-19	Type 'B' Manhole	6.40	6.50	23.10	22.40	27	0.25	0.01	0.11	0.30	0.64	
I-65	'S' Comb. Inlet	5.40	6.40	17.40	20.10	-	0.25	0.21	-	-	0.33	
M-20	Type 'B' Manhole	4.20	4.40	3.40	5.90	65	0.11	0.07	0.10	0.12	0.35	
M-23	Type 'B' Manhole	6.00	6.00	14.00	14.00	-	0.34	0.41	-	-	0.75	
I-70	'S' Comb. Inlet	4.20	6.00	10.20	14.00	32	0.20	0.22	-	0.27	0.55	
I-71	'S' Comb. Inlet	3.20	4.20	8.20	10.20	-	0.20	0.10	-	-	0.30	
I-73	'S' Comb. Inlet	3.40	3.20	1.20	5.80	97	0.25	0.21	0.23	0.05	0.74	
I-80	'S' Comb. Inlet	3.20	5.00	2.70	4.30	-	0.17	0.30	0.25	-	0.52	
I-76	'S' Comb. Inlet	2.80	3.10	2.20	4.30	-	0.17	0.21	0.18	-	0.56	
T-5	Tee Cut-in	8.20	8.00	28.30	26.90	1	-	-	-	0.21	0.21	
Y-3	Preformed Wye Fitting	0.20	2.30	4.40	49.70	28.2	-	0.12	0.18	0.33	0.13	
I-83	Double 'S' Comb. Inlet	1.40	2.20	1.10	2.10	-	0.05	0.05	0.22	-	0.13	
I-85	'S' Comb. Inlet	2.20	2.20	2.20	3.20	-	0.22	0.12	-	-	0.21	
Y-4	Preformed Wye Fitting	10.50	11.50	34.20	33.50	10.5	-	0.50	0.41	0.15	1.06	

STORM DRAIN DESIGN COMPUTATIONS

10 YEAR STORM FREQUENCY EXCEPT AS DENOTED *

PIPE n=0.014

Location	From To	Area	Acres		C'	CA	Adj. CA	K CA	Time Inlet	Conc. - Min.		Inten.	Q'	Des. Q' Q'-Q ₀	% Inter	Q' Inter	Pipe Size	Slope %		Vel.	Lgth. Ft.	Time in Pipe	REMARKS
			Sub.	Total						Inlet	Drain							Min.	Act.				
I-17	M-12	11.14	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
M-2	M-4	11.00	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
M-4	M-5	11.50	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
M-5	M-6	12.00	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
M-6	M-1A	14.00	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
M-1A	M-1C	14.00	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
M-1C	M-3	12.50	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
M-3	S-11	13.00	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
S-11	I-27	12.7	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
I-27	I-29	12.6	0.5	0.5	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
I-29	M-23	12.6	1.0	1.0	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
M-23	Ex. 18	12.6	1.0	1.0	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
I-25	I-27	12.5	0.4	0.4	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
I-27	I-27	12.4	0.3	0.3	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
I-27	M-23	12.4	0.3	0.3	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
M-23	M-10	12.4	0.3	0.3	0.25	0.125	0.125	0.125	5	5	5	5	3.20	3.20	100	3.20	12	0.11	1.2	3.0	0.8	Future	
I-25	I-25	12.3	0.4	0.4	0.25	0.125	0.125	0.125	5	5	5	5	3.20										

INLET SCHEDULE

No	Type	Invert Out	Top Elevation	Q = (c.f.g)	Remarks
I-11	K' Grate	196.53	205.80	36.20	See Howard Co. Details
I-12	K' Grate	192.57	201.20	72.00	See Howard Co. Details
I-13	K' Grate	192.57	201.20	72.00	See Howard Co. Details
I-14	K' Grate	192.57	201.20	72.00	See Howard Co. Details
I-15	Double Comb. Inlet	192.57	201.20	72.00	See Howard Co. Details
I-16	Double Comb. Inlet	192.57	201.20	72.00	See Howard Co. Details
I-17	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-18	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-19	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-20	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-21	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-22	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-23	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-24	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-25	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-26	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-27	Double Comb. Inlet	192.57	201.20	72.00	See Howard Co. Details
I-28	5" Comb. Inlet	192.57	201.20	72.00	Future
I-29	5" Comb. Inlet	192.57	201.20	72.00	Future
I-30	5" Comb. Inlet	192.57	201.20	72.00	Future
I-31	5" Comb. Inlet	192.57	201.20	72.00	Future
I-32	5" Comb. Inlet	192.57	201.20	72.00	Future
I-33	5" Comb. Inlet	192.57	201.20	72.00	Future
I-34	5" Comb. Inlet	192.57	201.20	72.00	Future
I-35	5" Comb. Inlet	192.57	201.20	72.00	Future
I-36	5" Comb. Inlet	192.57	201.20	72.00	Future
I-37	5" Comb. Inlet	192.57	201.20	72.00	Future
I-38	5" Comb. Inlet	192.57	201.20	72.00	Future
I-39	5" Comb. Inlet	192.57	201.20	72.00	Future
I-40	5" Comb. Inlet	192.57	201.20	72.00	Future
I-41	5" Comb. Inlet	192.57	201.20	72.00	Future
I-42	5" Comb. Inlet	192.57	201.20	72.00	Future
I-43	5" Comb. Inlet	192.57	201.20	72.00	Future
I-44	5" Comb. Inlet	192.57	201.20	72.00	Future
I-45	5" Comb. Inlet	192.57	201.20	72.00	Future
I-46	5" Comb. Inlet	192.57	201.20	72.00	Future
I-47	5" Comb. Inlet	192.57	201.20	72.00	Future
I-48	5" Comb. Inlet	192.57	201.20	72.00	Future
I-49	5" Comb. Inlet	192.57	201.20	72.00	Future
I-50	5" Comb. Inlet	192.57	201.20	72.00	Future
I-51	5" Comb. Inlet	192.57	201.20	72.00	Future
I-52	5" Comb. Inlet	192.57	201.20	72.00	Future
I-53	5" Comb. Inlet	192.57	201.20	72.00	Future
I-54	5" Comb. Inlet	192.57	201.20	72.00	Future
I-55	Double Comb. Inlet	192.57	201.20	72.00	See Howard Co. Details
I-56	Double Comb. Inlet	192.57	201.20	72.00	See Howard Co. Details
I-57	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-58	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-59	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-60	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-61	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-62	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-63	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-64	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-65	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-66	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-67	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-68	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-69	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-70	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-71	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-72	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-73	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-74	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-75	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-76	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-77	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-78	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-79	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.
I-80	5" Comb. Inlet	192.57	201.20	72.00	For Details See Specs.

JUNCTION CHAMBER

Structure No	A	A ₂	T	T ₂	X	D	D ₂	R	R ₂	Inv	Inv ₁	Inv ₂
1	90	30	0.00	0.00	150	54	54	0.00	0.00	13.00	13.00	13.00
2	30	30	0.00	0.00	150	54	54	0.00	0.00	13.00	13.00	13.00
3	30	30	0.00	0.00	150	54	54	0.00	0.00	13.00	13.00	13.00

BEND STRUCTURE

Structure No	A	R	L	T
1	30	60	0.00	0.00
2	30	60	4.71	2.40
3	30	60	1.80	0.00

DOUBLE WYE STRUCTURE

No	A	A ₂	A	B	C	X	D	D ₂	D ₃	Inv	Inv ₁	Inv ₂	Inv ₃
1	30	30	105	105	105	1.0	60	54	42	42	13.00	13.00	13.00
2	30	30	70	70	70	1.0	72	66	18	42	13.00	13.00	13.00

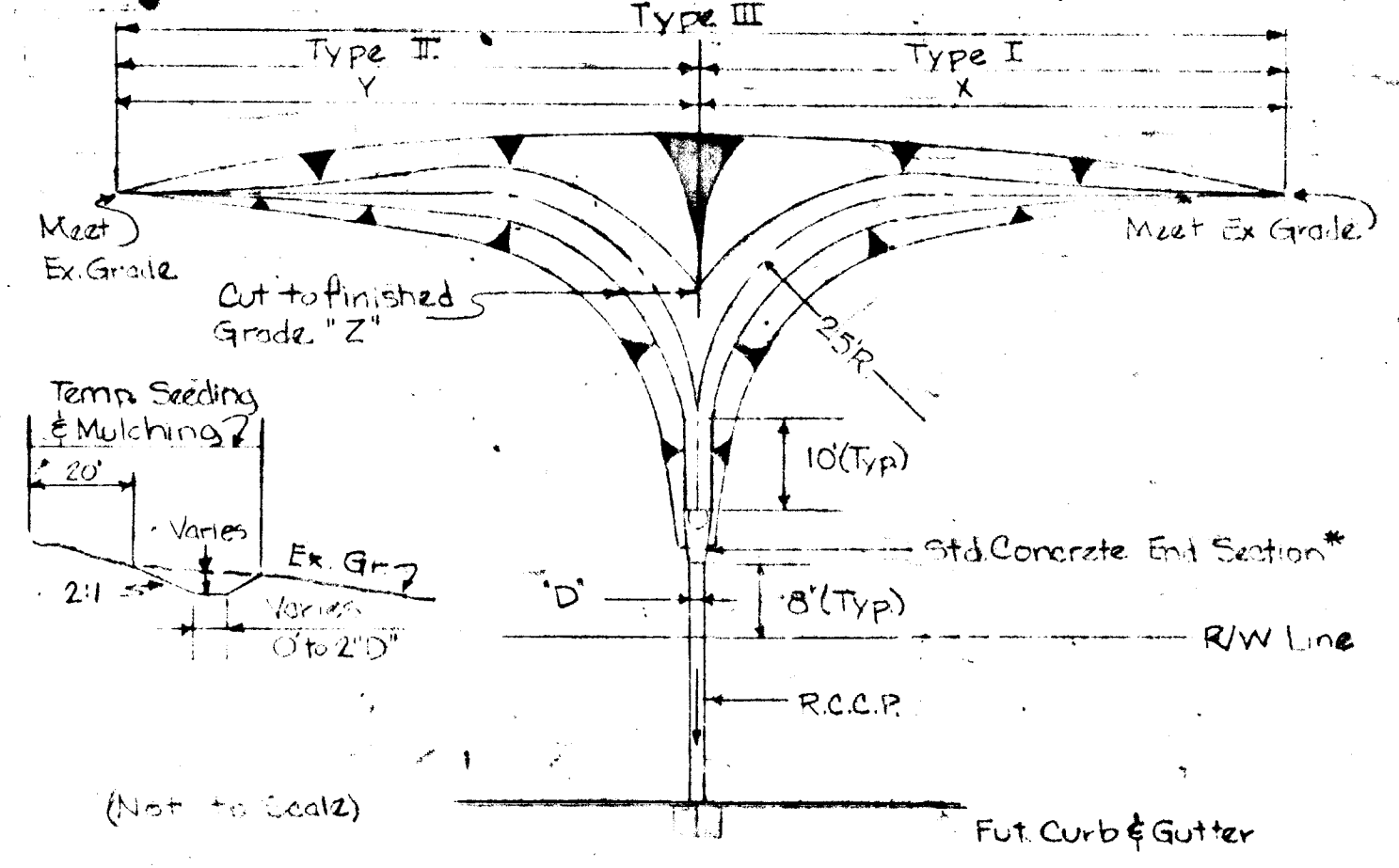
MANHOLE SCHEDULE

No	Type	Size	Invert Out	Top Elevation	Remarks
M-1A	Type A Manhole	18" x 18"	18.10	204.40	See detail Dwg # 69-0052
M-1B	Type A Manhole	18" x 18"	18.10	204.40	See detail Dwg # 69-0052
M-1C	Type A Manhole	18" x 18"	18.10	204.40	See detail Dwg # 69-0052
M-2	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-3	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-4	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-5	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-6	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-7	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-8	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-9	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-10	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-11	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-12	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-13	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-14	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-15	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-16	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-17	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-18	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-19	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-20	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-21	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-22	Type A Manhole	18" x 18"	19.20	208.35	See detail Dwg # 69-0052
M-23	Type B Manhole	18" x 18"	19.20	208.35	Future
M-24	Type B Manhole	18" x 18"	19.20	208.35	Future
M-25	Type B Manhole	18" x 18"	19.20	208.35	Future
M-26	Type B Manhole	18" x 18"	19.20	208.35	Future

STORM DRAIN DESIGN COMPUTATIONS

10 YEAR STORM FREQUENCY EXCEPT AS DENOTED * PIPE n=0.014

Location	From	To	Area	Acres		C	CA	Adj CA	K CA	Time Conc. - Min		Q'	Des Q' / Q'	% Inter	Q' Inter	Pipe Size	Slope %		Vel.	Lgth Ft	Time in Pipe	Remarks
				Sub	Total					Inlet	Drain						Min	Act				
I-36	I-35	I-36	1.2	0.2	0.80	0.16	0.16	0.16	0.16	5	5	6.8	1.10	1.10	1.10	18	2.11	1.4	44	2.3	Future	
I-37	I-36	I-37	1.4	0.1	0.80	0.16	0.16	0.16	0.16	5	5	6.8	1.10	1.10	1.10	18	2.11	1.4	44	2.3	Future	
I-38	I-37	I-38	1.4	0.1	0.80	0.16	0.16	0.16	0.16	5	5	6.8	1.10	1.10	1.10	18	2.11	1.4	44	2.3	Future	
I-39	I-38	I-39	1.4	0.1	0.80	0.16	0.16	0.16	0.16	5	5	6.8	1.10	1.10	1.10	18	2.11	1.4	44	2.3	Future	
I-40	I-39	I-40	1.4	0.1	0.80	0.16	0.16	0.16	0.16	5	5	6.8	1.10	1.10	1.10	18	2.11	1.4	44	2.3	Future	



TYPICAL DITCHING DETAIL

*State Roads Commission Standard No. Md-30-A.0 on Page 32. Note: For use on Non-100' roads.

Std. Conc. End Section Schedule

No	Type	Rec'd D	X	Y	Z
1	1	18	18	18	18
2	2	24	24	24	24
3	3	30	30	30	30
4	4	36	36	36	36
5	5	42	42	42	42
6	6	48	48	48	48

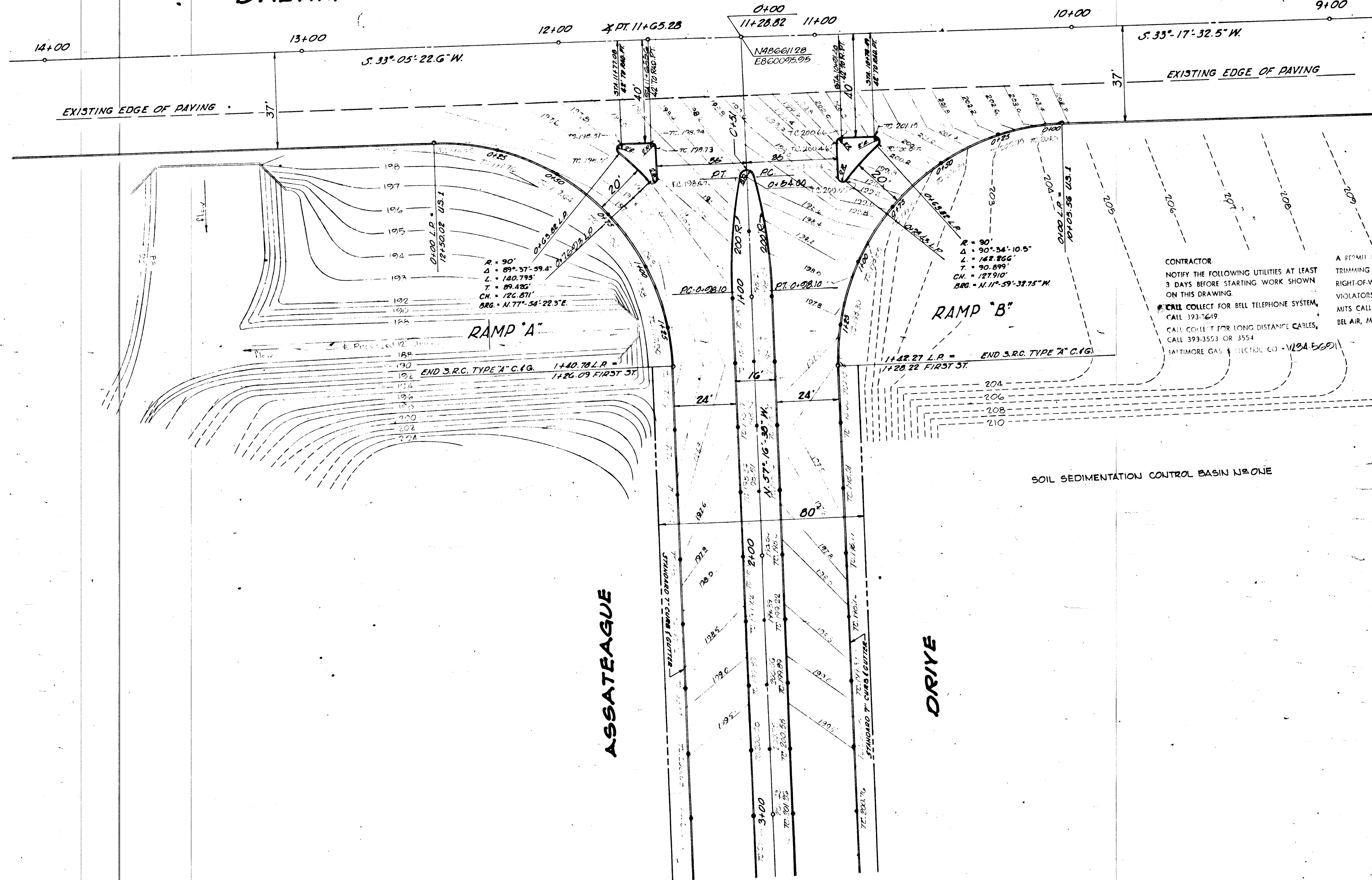
STRUCTURE SCHEDULE

No	Type	Size	Invert Out	Top Elevation	Remarks
1	Double Brick Wye	60" x 42" x 42"	18.14	204.40	See detail Dwg # 69-0048
2	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
3	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
4	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
5	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
6	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
7	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
8	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
9	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
10	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
11	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
12	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
13	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
14	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
15	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
16	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
17	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
18	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
19	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
20	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
21	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
22	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
23	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
24	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
25	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
26	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
27	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
28	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
29	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
30	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
31	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
32	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
33	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048
34	Double Brick Wye	54"	18.14	204.40	See detail Dwg # 69-0048

NOTE: US RTE 1
Contractor to maintain traffic in both directions at all times. And all work in the right-of-way shall be done in accordance with the applicable provisions of the State Code.

BALTIMORE-WASHINGTON BOULEVARD

U.S. ROUTE 1

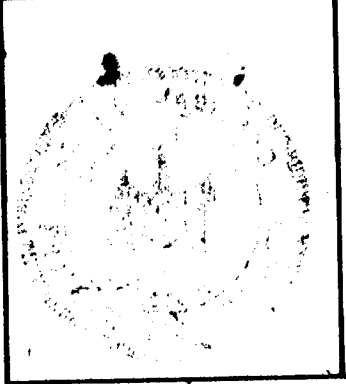


CONTRACTOR
NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING
CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3649
CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 3554
BALTIMORE GAS & ELECTRIC CO. (WBA 5601)

A PERMIT IS REQUIRED BEFORE CUTTING OR TRIMMING ANY PART OF ANY TREE ON THE RIGHT-OF-WAY OF A PUBLIC ROAD. VIOLATORS WILL BE PROSECUTED. FOR PERMITS CALL THE DISTRICT FORESTER'S OFFICE, BEL AIR, MARYLAND.

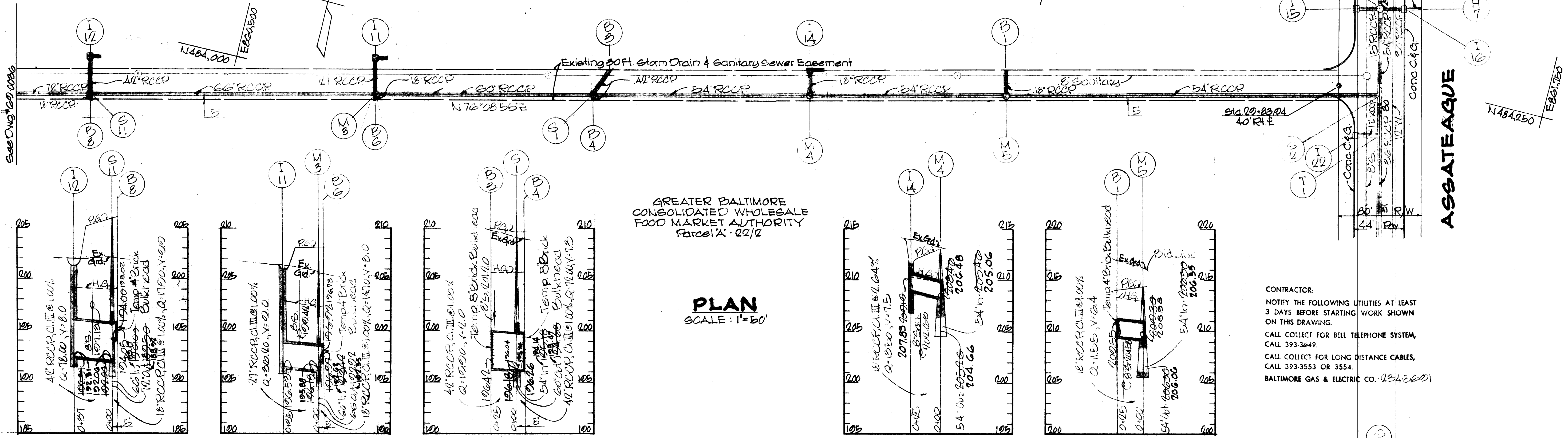
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING
BALTIMORE-WASHINGTON BLVD-US 1
ELECT. DIST. SIX

Des. YLD	GW. Stephens, Jr. & Assoc.	Department of Public Improvements Approved					Department of Public Works	Office of Planning & Zoning	Owner & Developer	Date	Revision	By	Scale	Dwg. Completed	S.R.C./Permit No.	Contract No.	Drawing No.	Sheet No.
Dir. T.W.	Engr. William E. Zick	SE	ME	EE	CE	LA.	Director	Chief, Bureau of Highways	Chief Engr., Div. of Land Dev.	Greater Balto. Food Mkt. Auth.			Plan: 1"=20'	7-40-1462	GDFM U-2	60-0030	14 OF 14	
Chk. DOR	Lic. No. 5048 Date 10/1/11						Date	Date 1/1/11	Date 1/1/11	115 One Charles Center								



7455

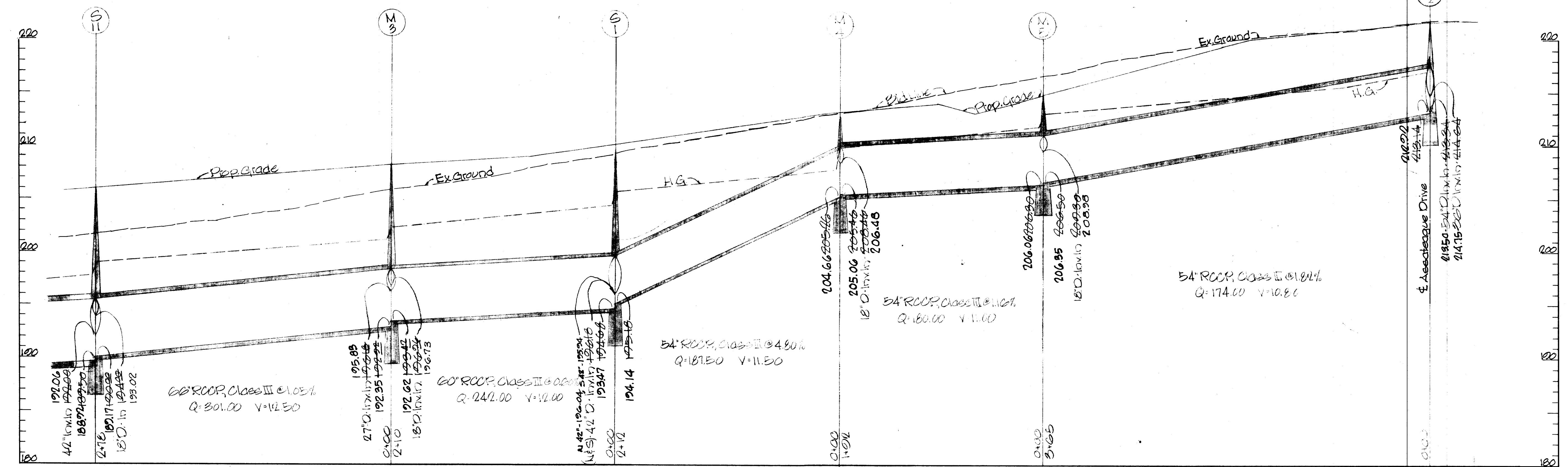
GREATER BALTIMORE
CONSOLIDATED WHOLESALE
FOOD MARKET AUTHORITY
Parcel 'B' - 22/2



GREATER BALTIMORE
CONSOLIDATED WHOLESALE
FOOD MARKET AUTHORITY
Parcel 'A' - 22/2

PLAN
SCALE: 1"=50'

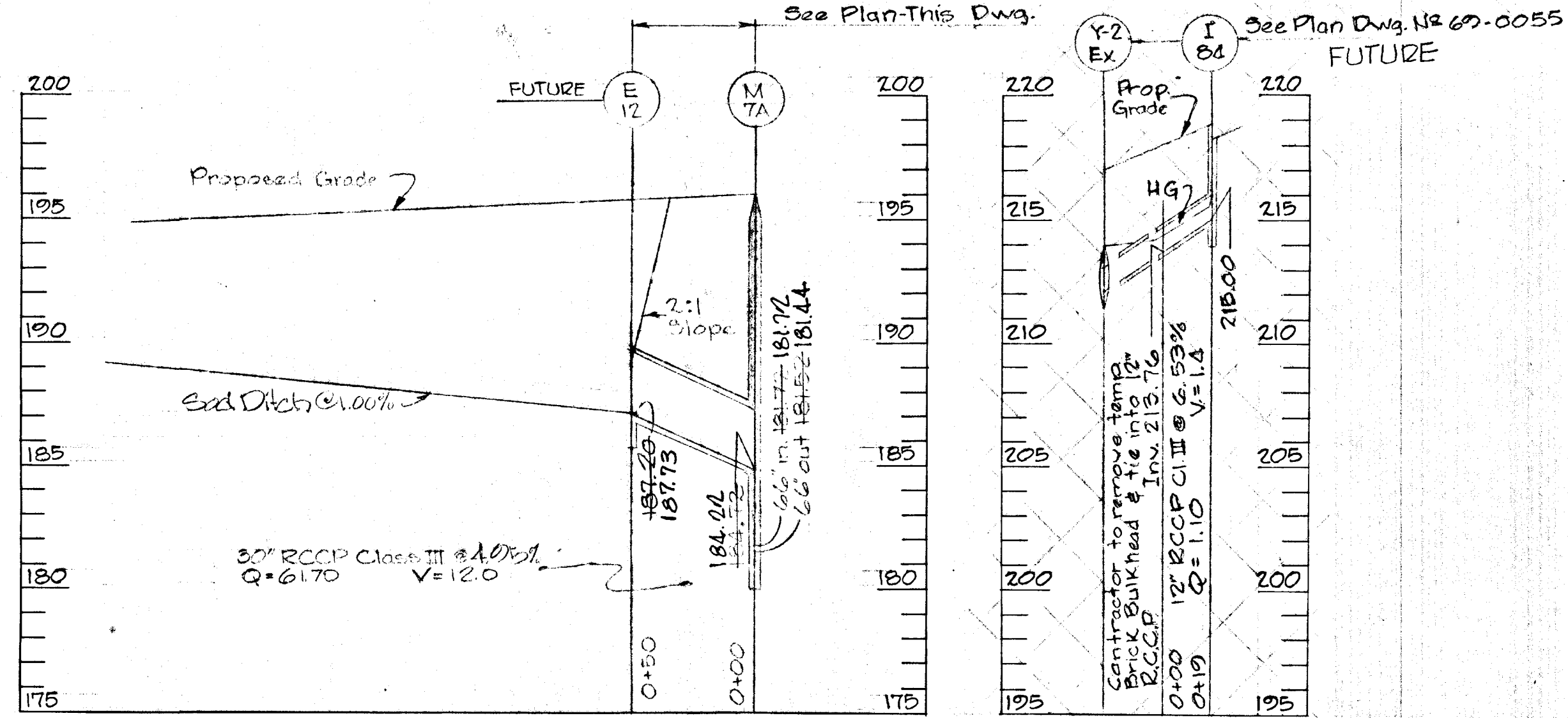
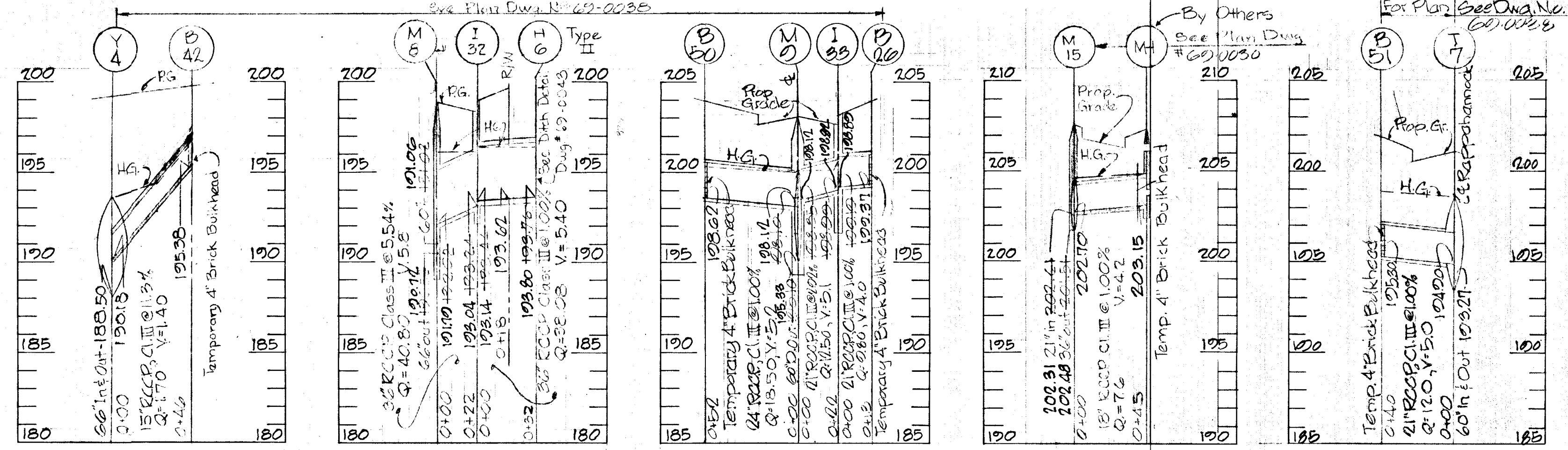
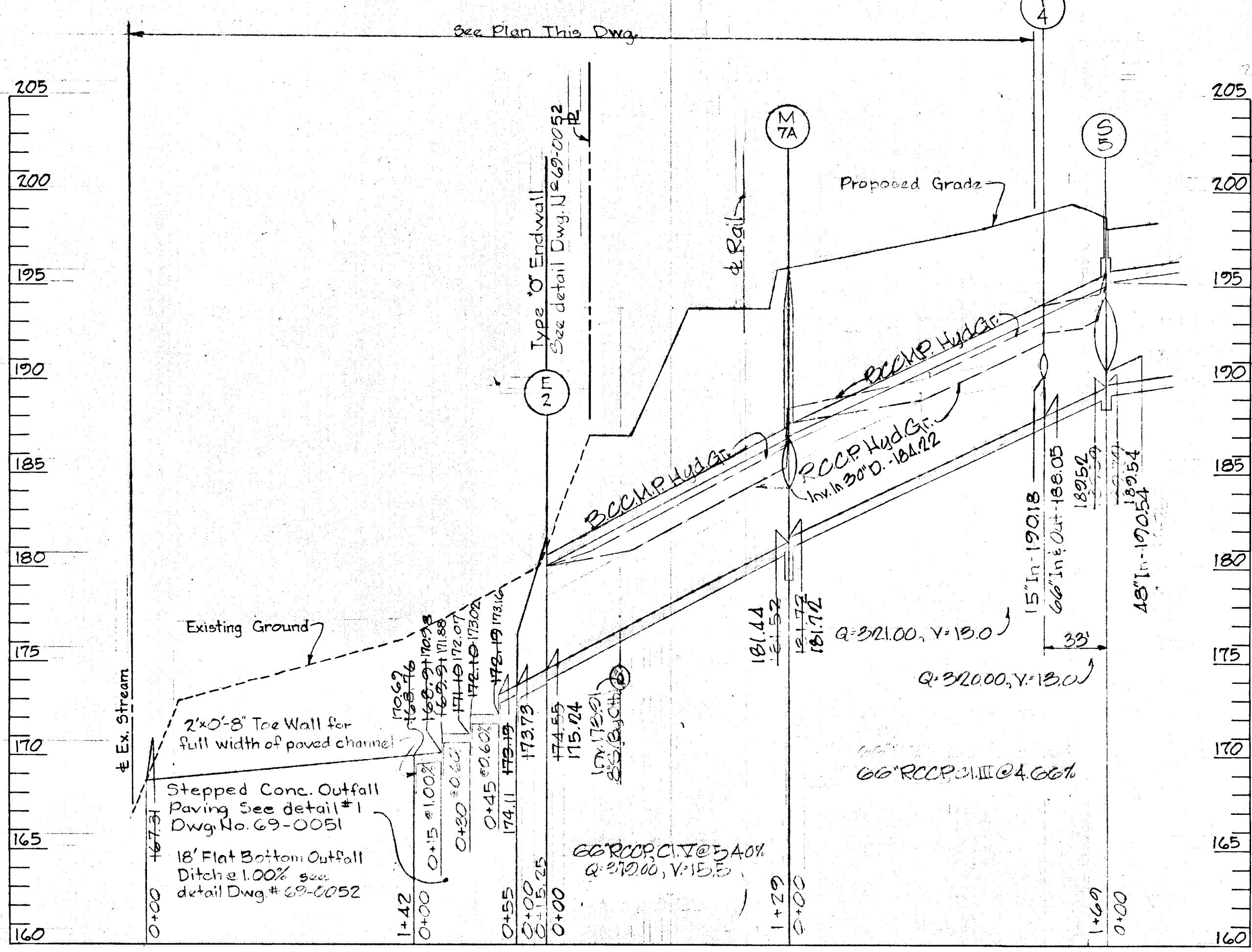
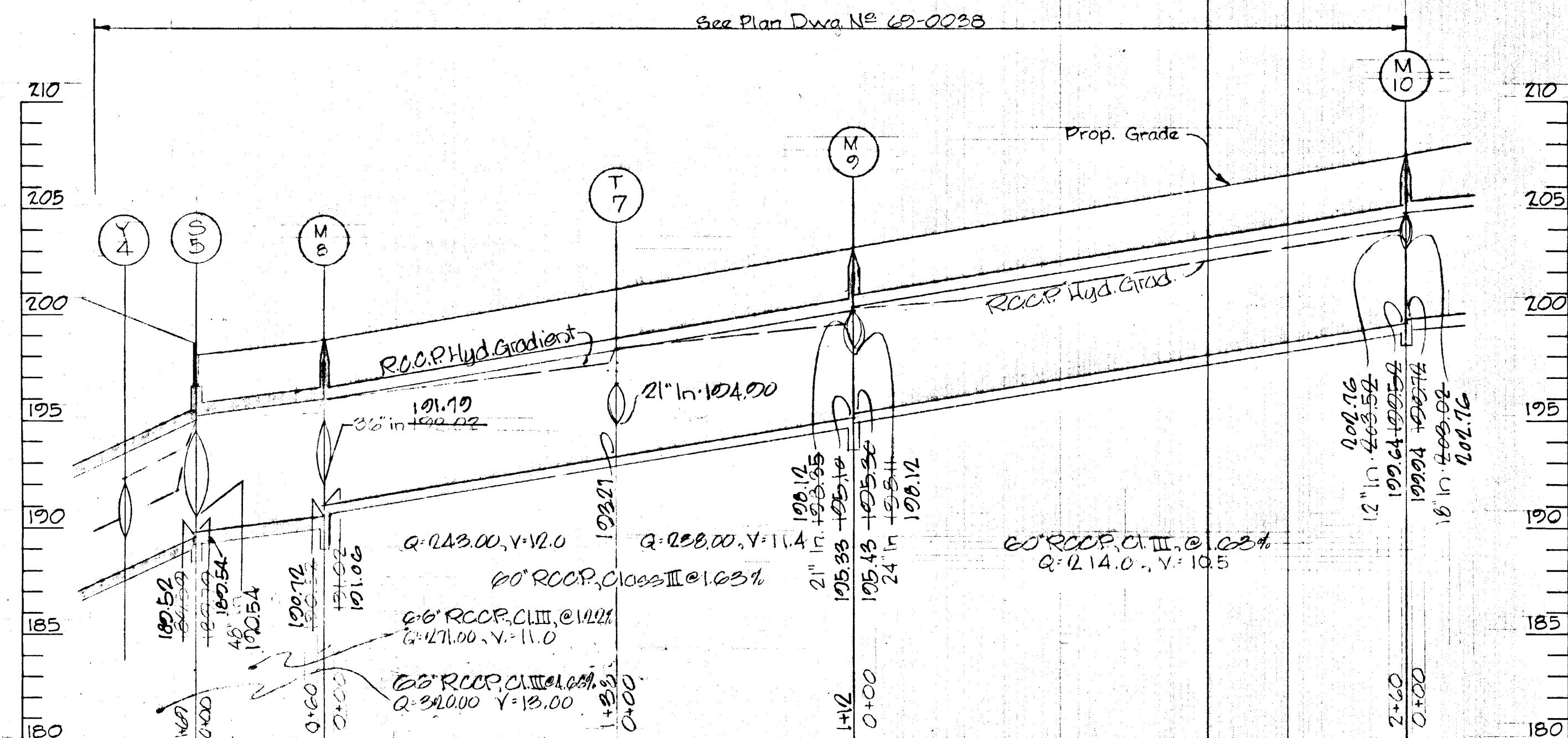
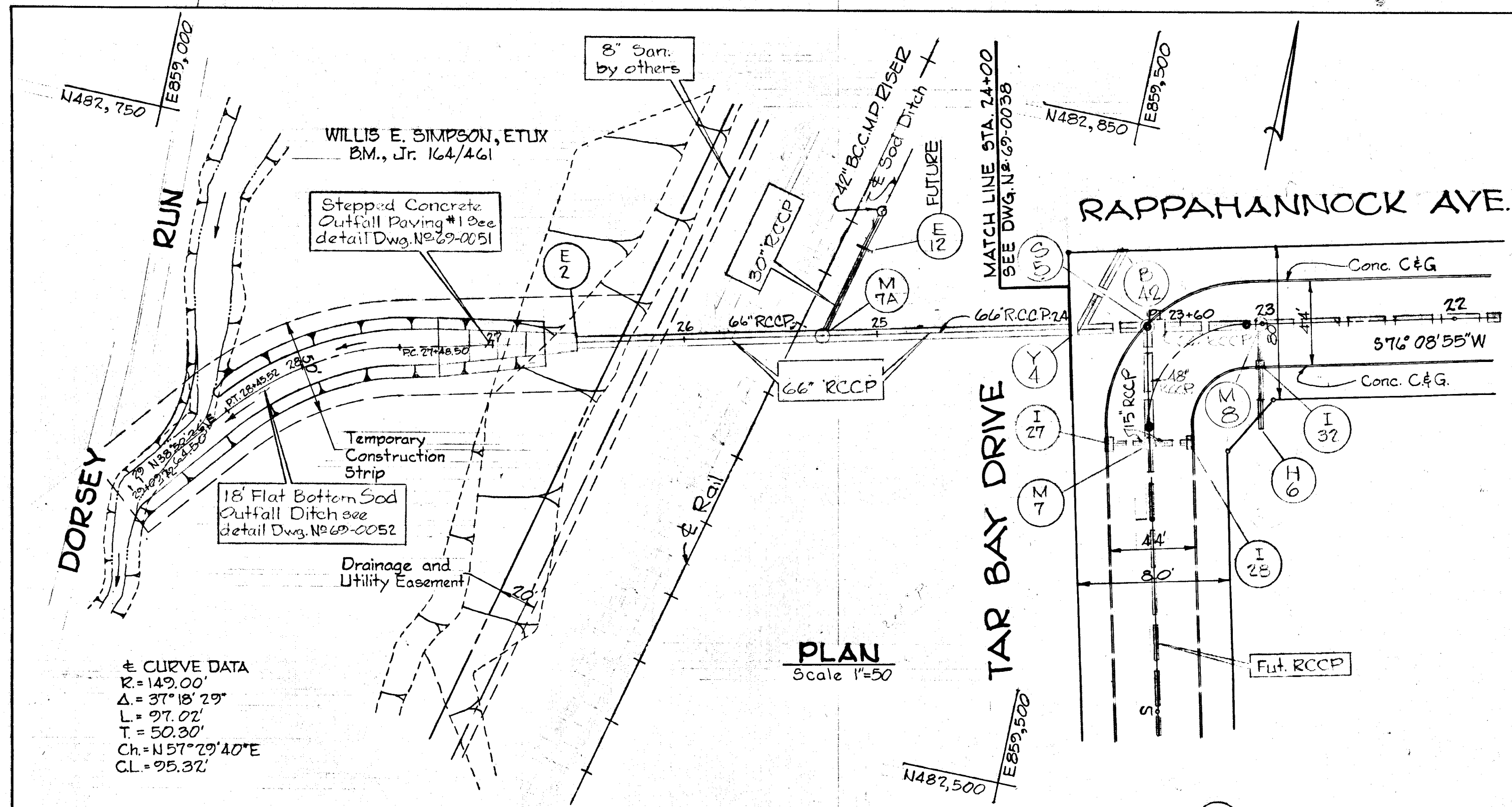
CONTRACTOR:
NOTIFY THE FOLLOWING UTILITIES AT LEAST
3 DAYS BEFORE STARTING WORK SHOWN
ON THIS DRAWING.
CALL COLLECT FOR BELL TELEPHONE SYSTEM,
CALL 393-3649.
CALL COLLECT FOR LONG DISTANCE CABLES,
CALL 393-3553 OR 3554.
BALTIMORE GAS & ELECTRIC CO. (234-5600)



PROFILE - SCALE: Horizontal: 1"=50'
Vertical: 1"=5'

TW Designed TW Drawn DDR Checked		ENGINEER	OWNER AND DEVELOPER	DEPT. OF GENERAL SERVICES		DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways <i>J. H. Ireland</i> 10/25/77 Approved Date	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development <i>J. J. Clavon</i> 10/24/77 Approved Date	Storm Drains - Phase One		DEPT. GEN. SER. PROJ. # 3694B
		GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204 <i>Geo. Wm. Stephens, Jr.</i> 5045 Reg. # Date	Greater Baltimore Food Market Authority 115 One Charles Center Baltimore, Md. 21201	Principal Engr. Date Principal Arch. S.E. M.E. E.E. C.E. Director	GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District VI			REVISIONS Date Description By 9/26/77 AS BUILT	Sheet 12 of 14 60-0025 Drawing No. G.B.F.M.:R-1 G.P.E.M.:S Contract No.	

AS BUILT F-71-37

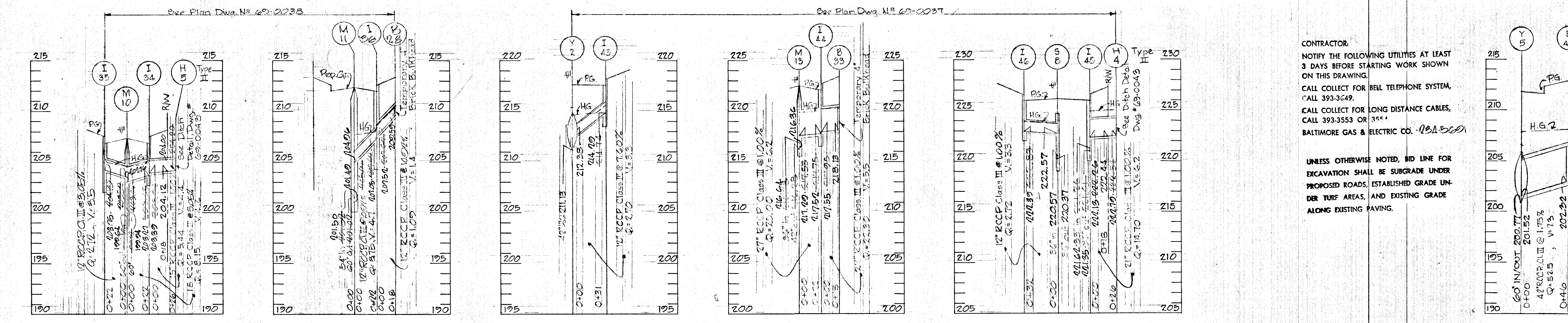
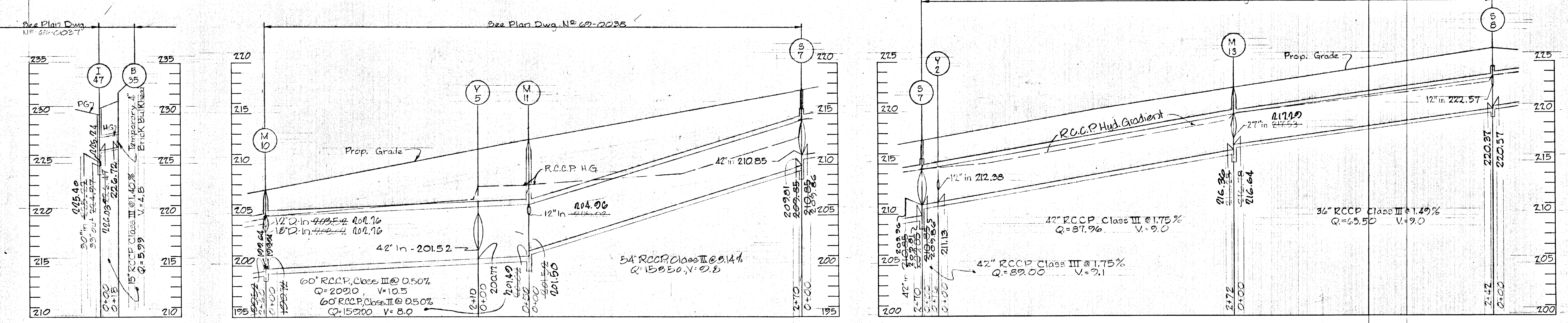
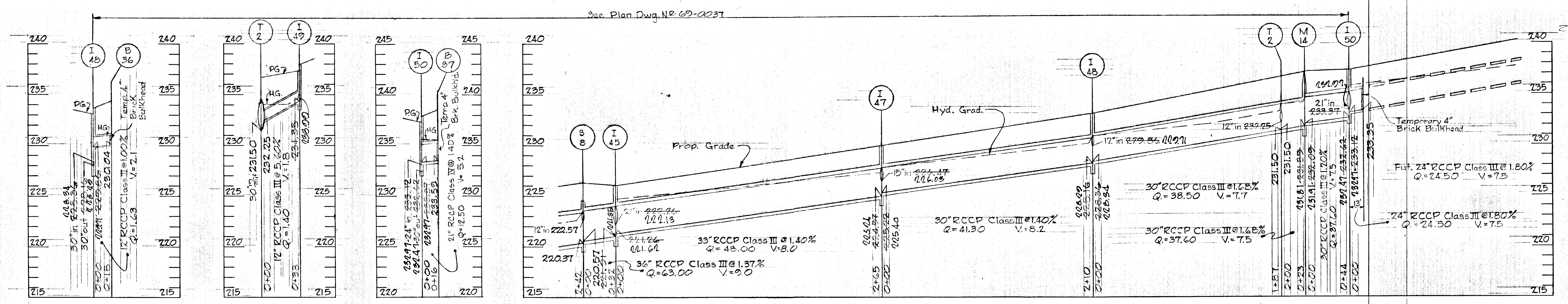


CONTRACTOR -
 NOTIFY THE FOLLOWING UTILITIES AT LEAST
 3 DAYS BEFORE STARTING WORK SHOWN
 ON THIS DRAWING.
 CALL COLLECT FOR BELL TELEPHONE SYSTEM,
 CALL 393-3749.
 CALL COLLECT FOR LONG DISTANCE CABLES,
 CALL 393-3553 OR 3554.
 BALTIMORE GAS & ELECTRIC CO. 393-3554

UNLESS OTHERWISE NOTED, BID LINE FOR
 EXCAVATION SHALL BE SUBGRADE UNDER
 PROPOSED ROADS, ESTABLISHED GRADE UN-
 DER TURF AREAS, AND EXISTING GRADE
 ALONG EXISTING PAVING.

PROFILE Scale: Horiz.: 1"=50'
 Vert.: 1"=5'

W.L. Duvall Designed	ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Eng. Date Principal Arch SE ME EE CE LA Director	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development	Storm Drains - Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District VII	DEPT. GEN. SER. PROJ. # B694B REVISIONS Date Description By 9/26/78 AS BUILT GWS	Sheet 17 of 14 69-0044 Drawing No. GBFM-R-1 GBFM-UB Contract No.
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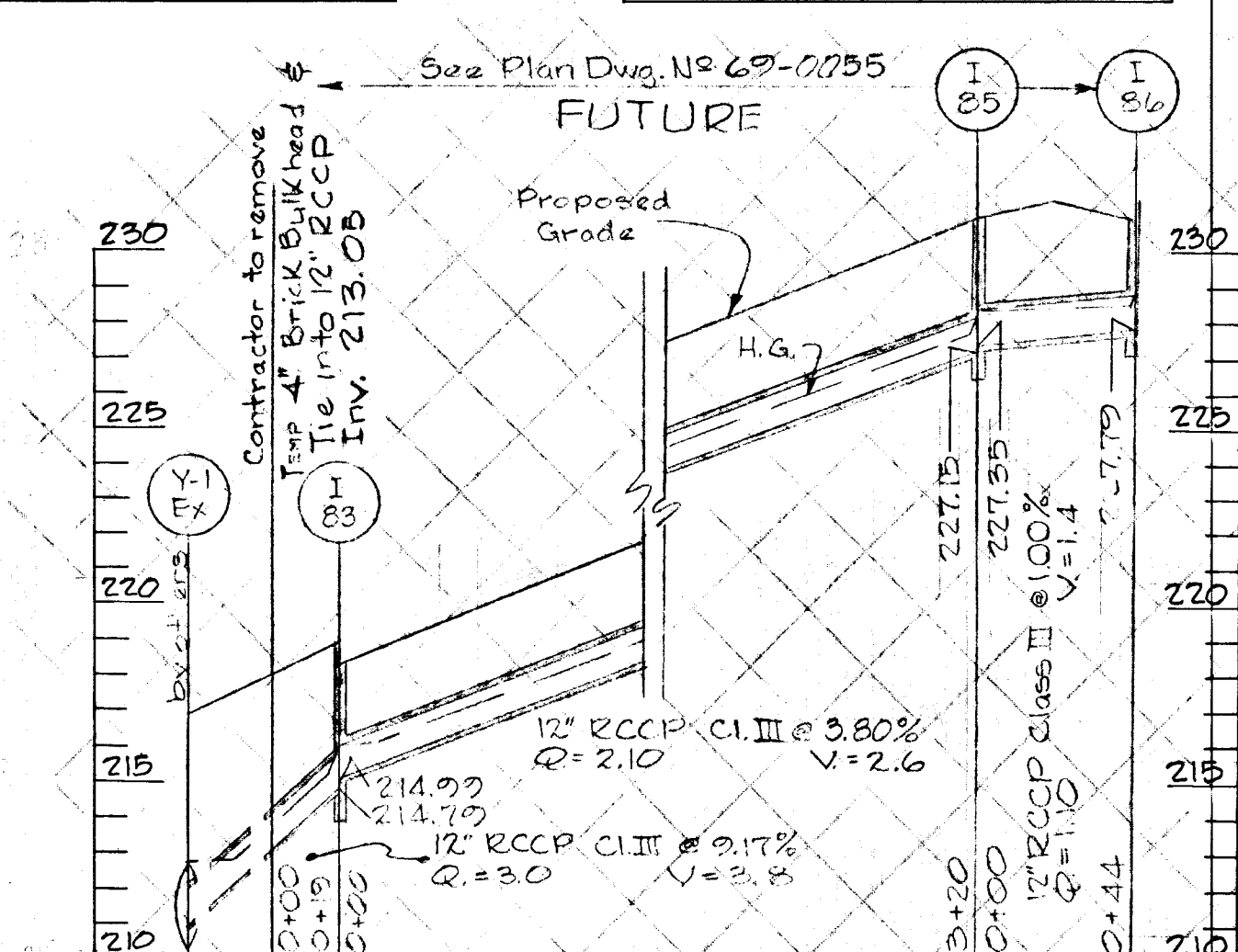
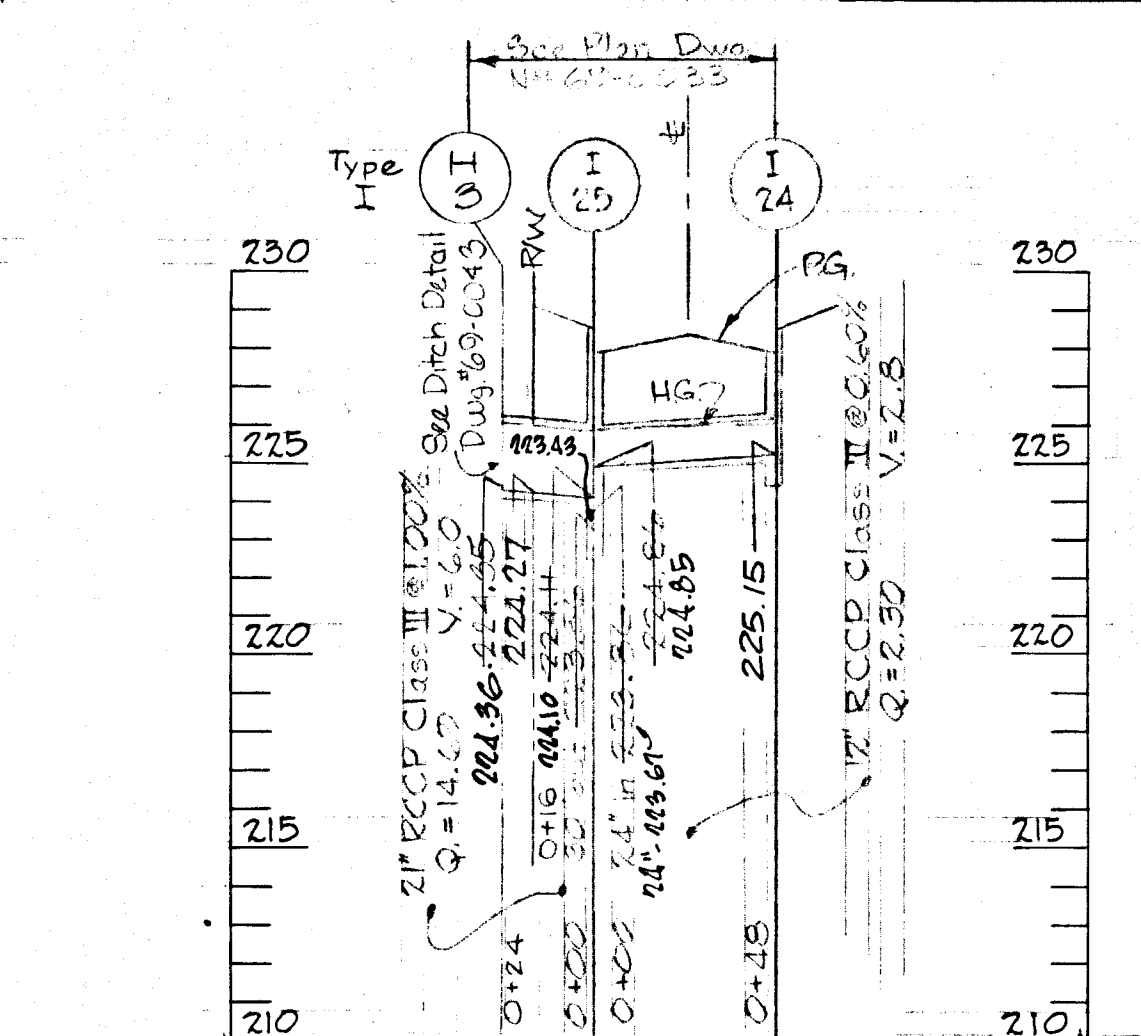
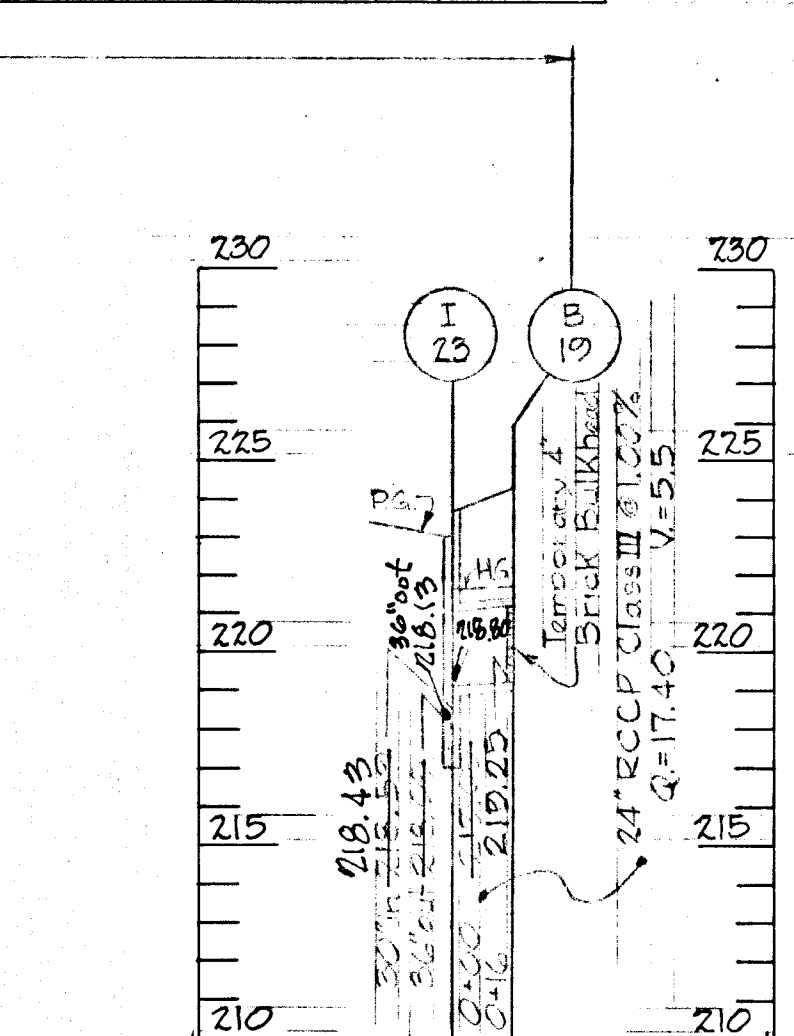
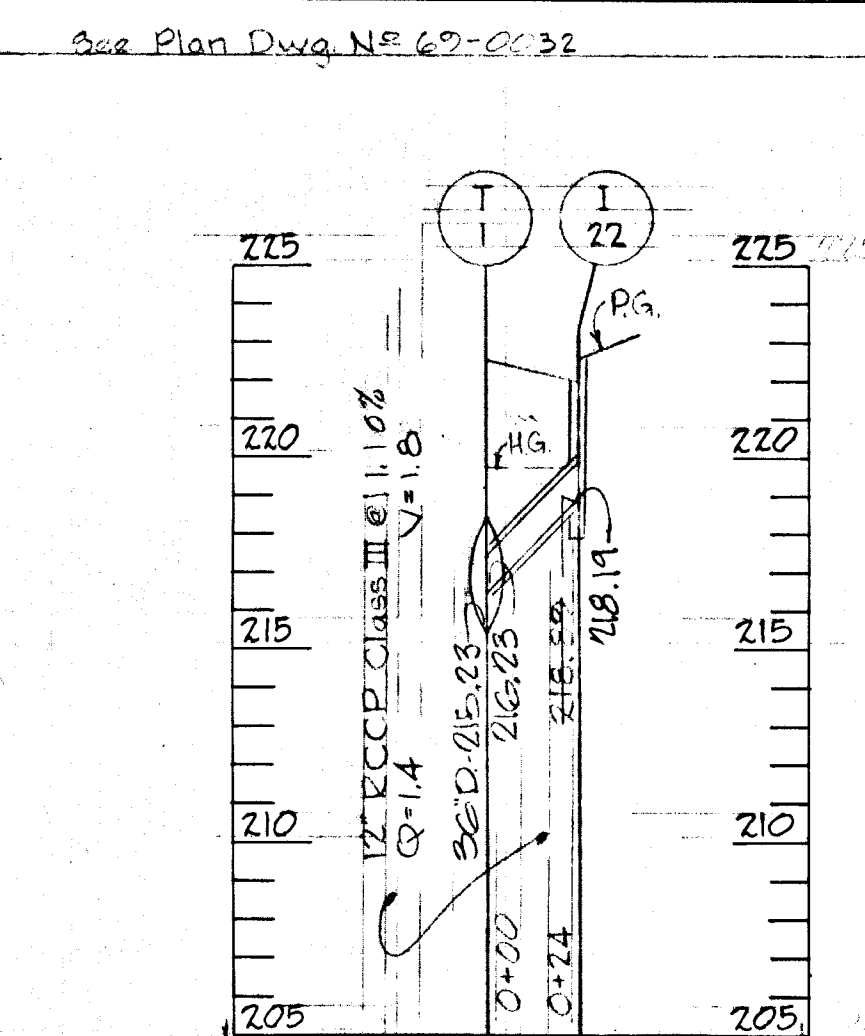
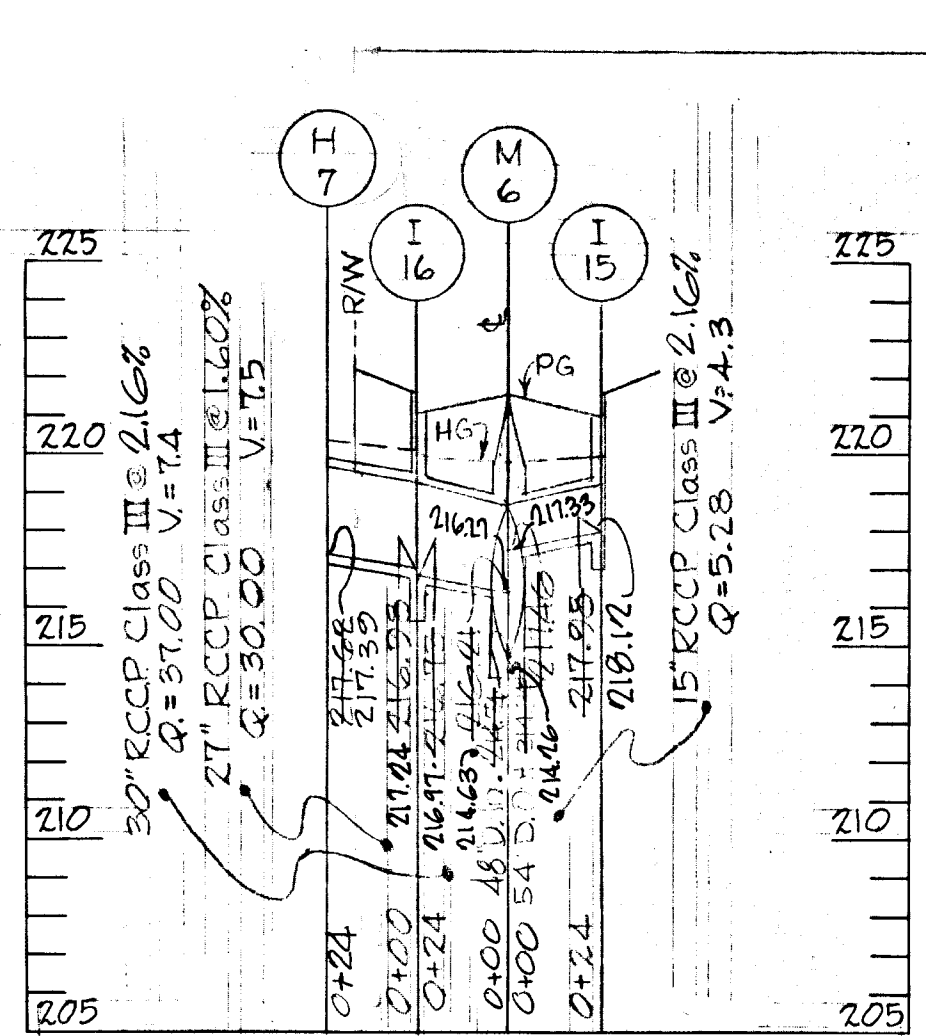
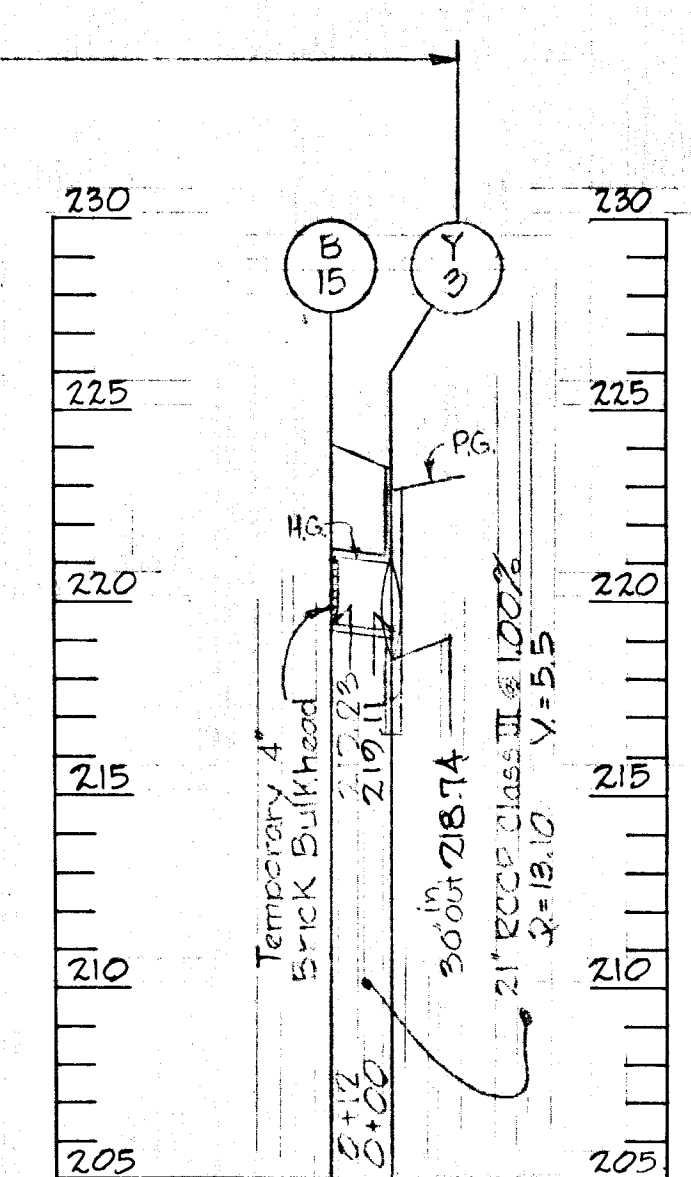
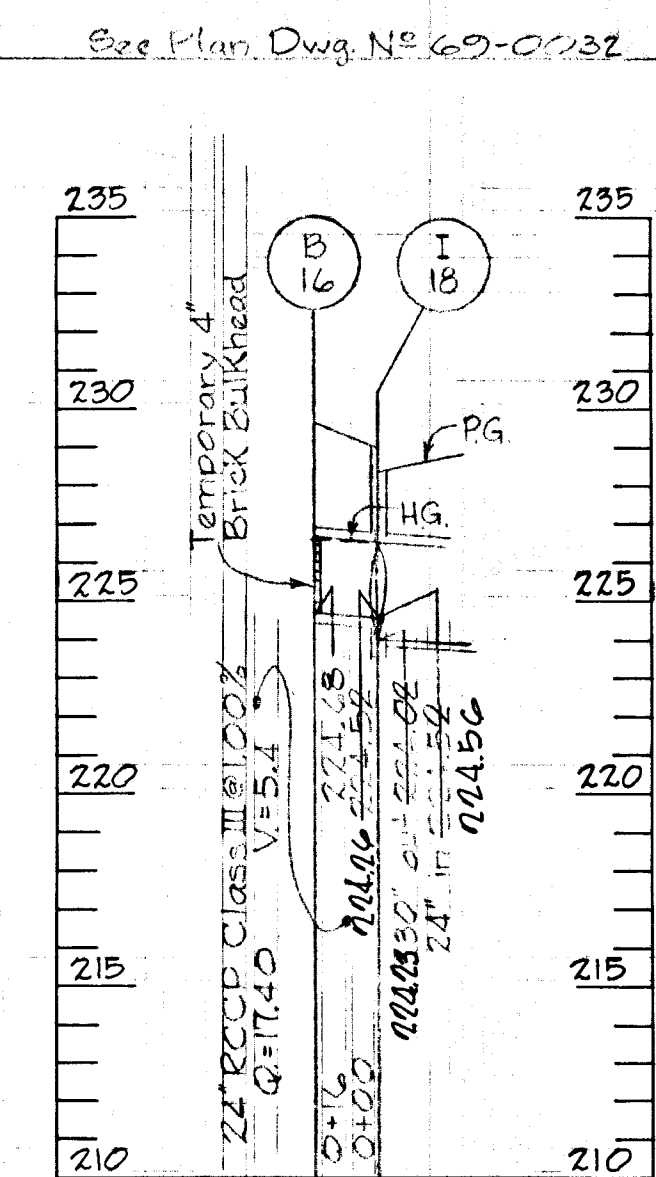
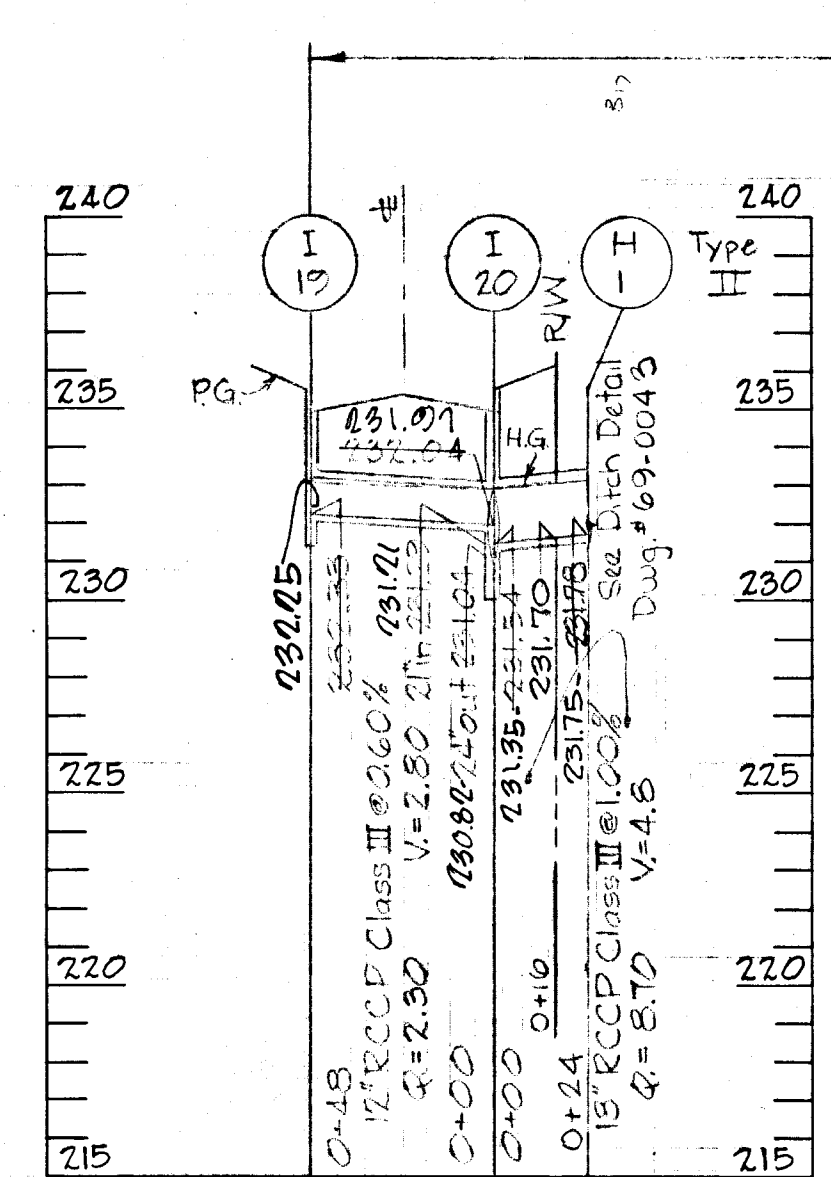
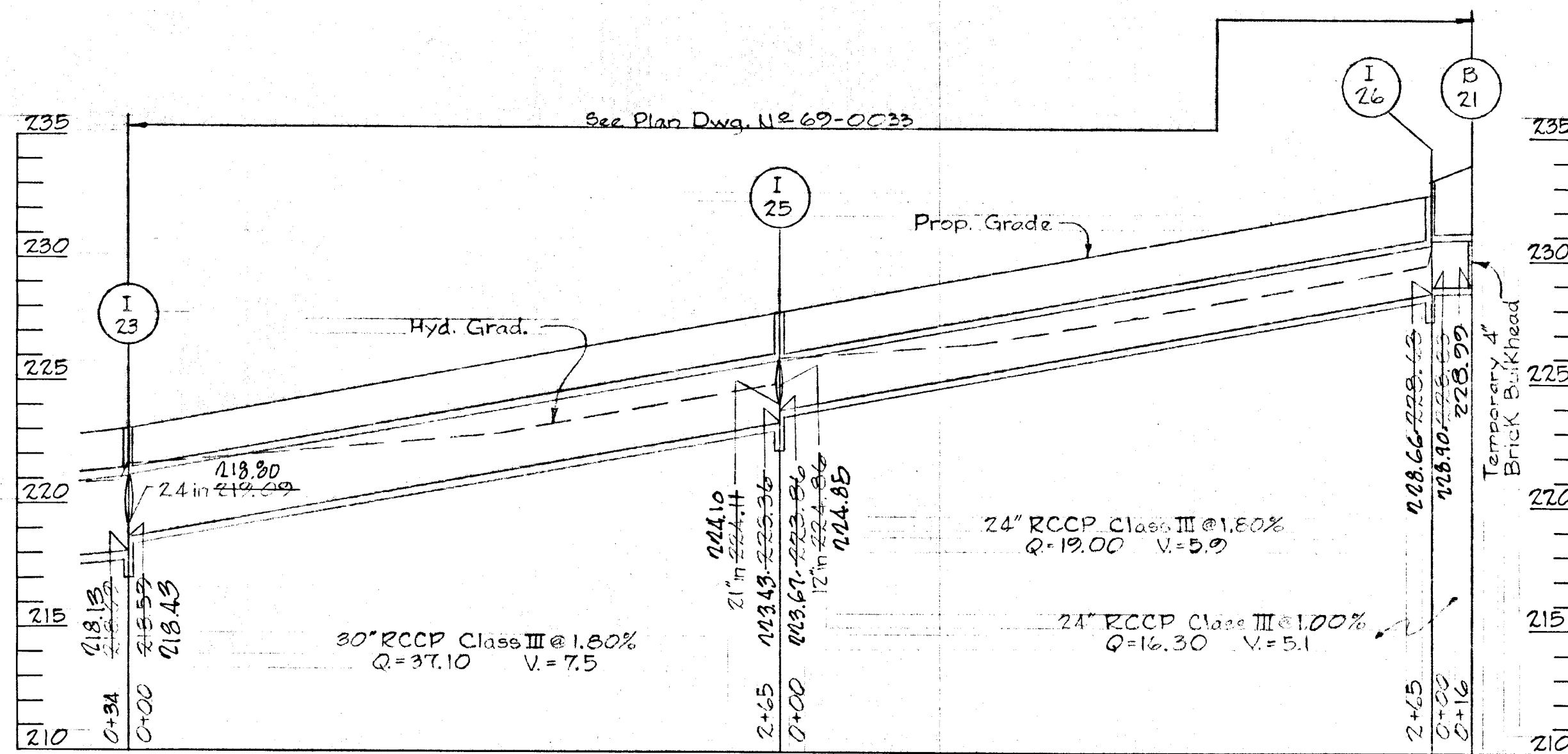
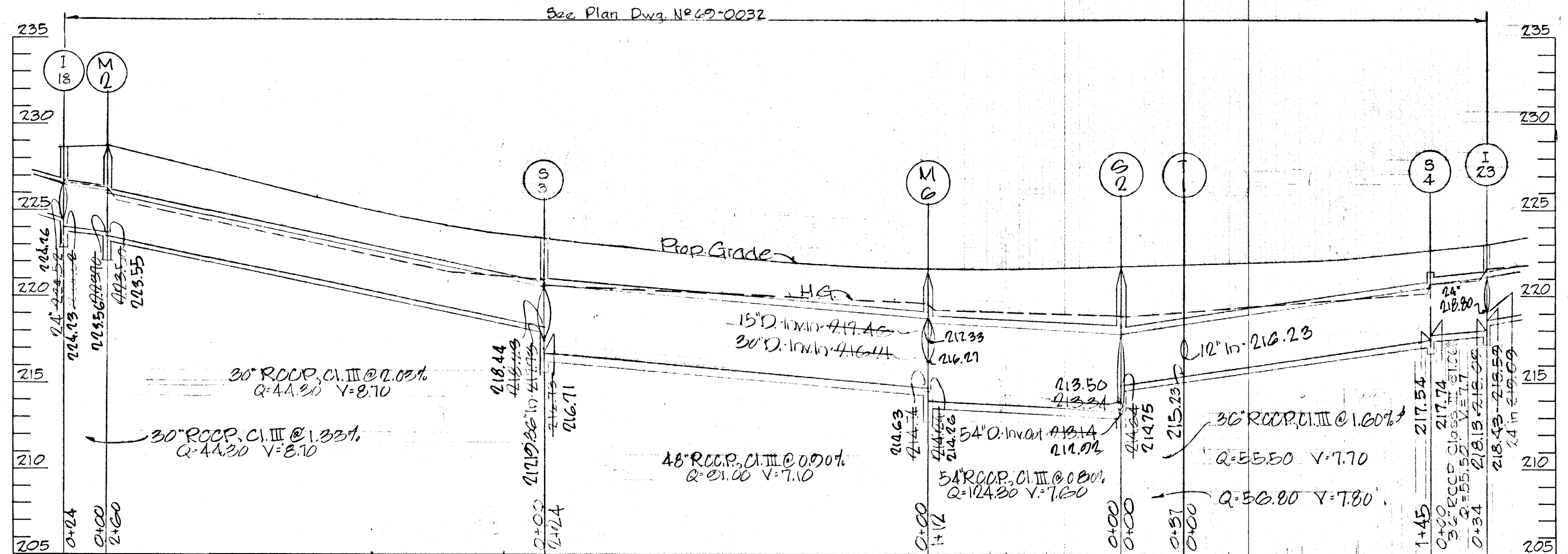
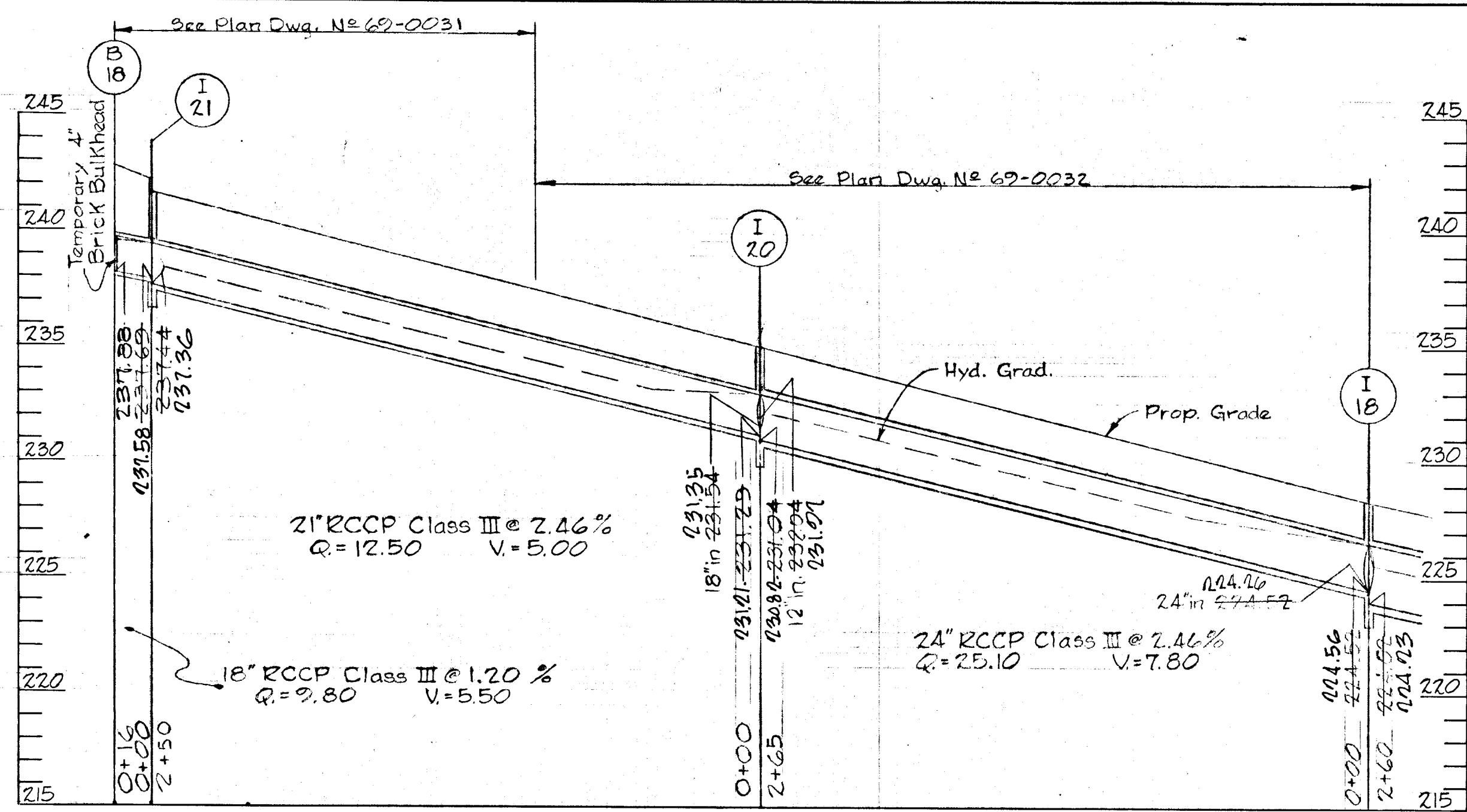


CONTRACTOR:
 NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
 CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3649.
 CALL COLLECT FOR LONG DISTANCE CABLES, CALL 393-3553 OR 393-3554.
 BALTIMORE GAS & ELECTRIC CO. (B&E) 360

UNLESS OTHERWISE NOTED, BID LINE FOR EXCAVATION SHALL BE SUBGRADE UNDER PROPOSED ROADS, ESTABLISHED GRADE UNDER TURF AREAS, AND EXISTING GRADE ALONG EXISTING PAVING.

PROFILE Scale: Horiz.: 1"=50'
 Vert.: 1"=5'

W.L. Duvall Designed W.L. Duvall Drawn D.D. Ramsey Checked		ENGINEER GEO WM. STEPHENS, JR And ASSOCIATES INC. Towson, Md. 21204 <i>Charles E. Cook</i> 5048 10/1/71 Prof. Engr. No. Date	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Eng. Date Principal Arch 7/17 11/17/71 S.E. ME EE CE Director	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways <i>J.P. McKenna</i> 10/25/71 Approved Date	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development <i>J.P. Clewson</i> 10/25/71 Approved Date	GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Storm Drains - Phase One Howard County, Maryland Election District VI	REVISIONS Date Description By 9/22/71 AS BUILT GWS Sheet 15 of 14 69-0045 Drawing No. GBFM-P-1 GBFM-103 Contract No.
		AS BUILT						

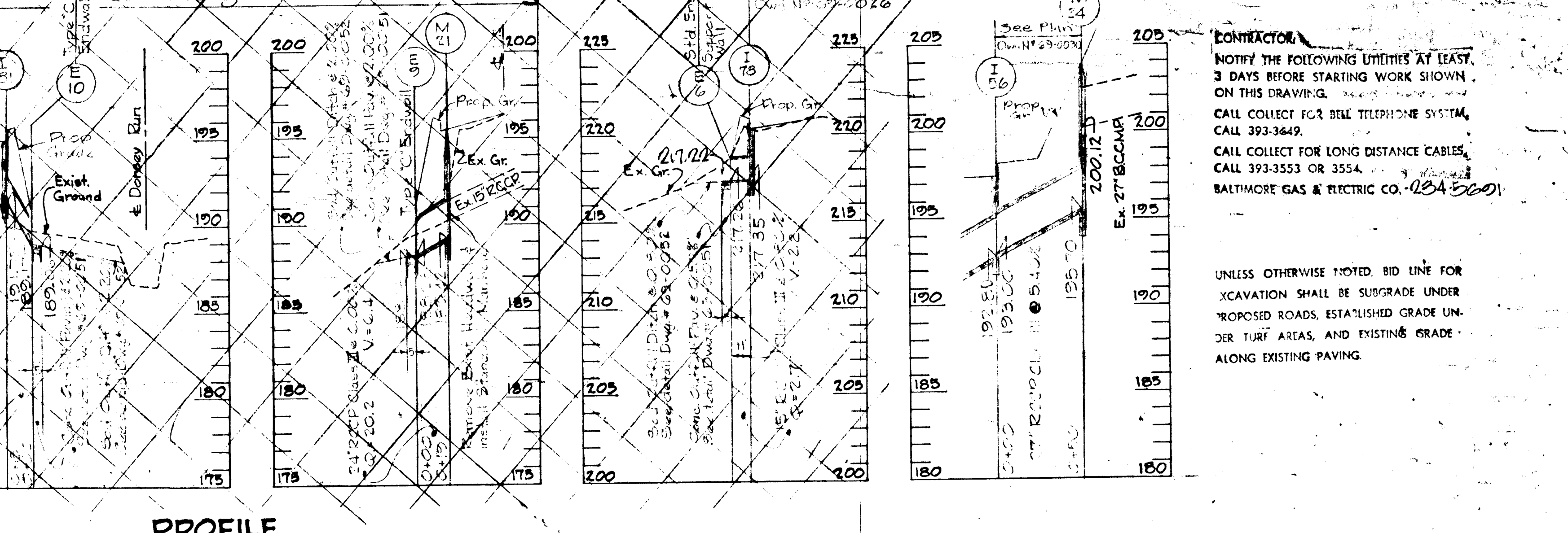
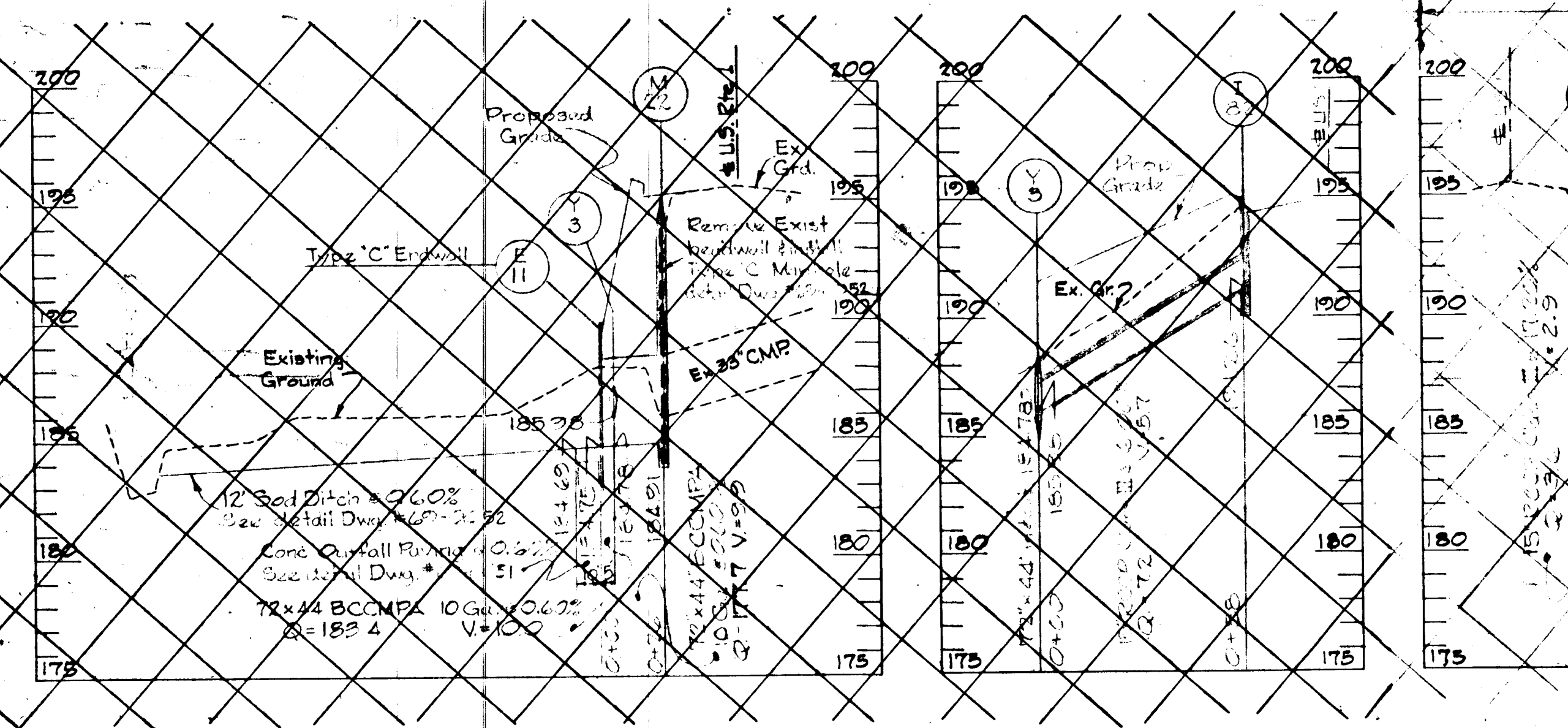
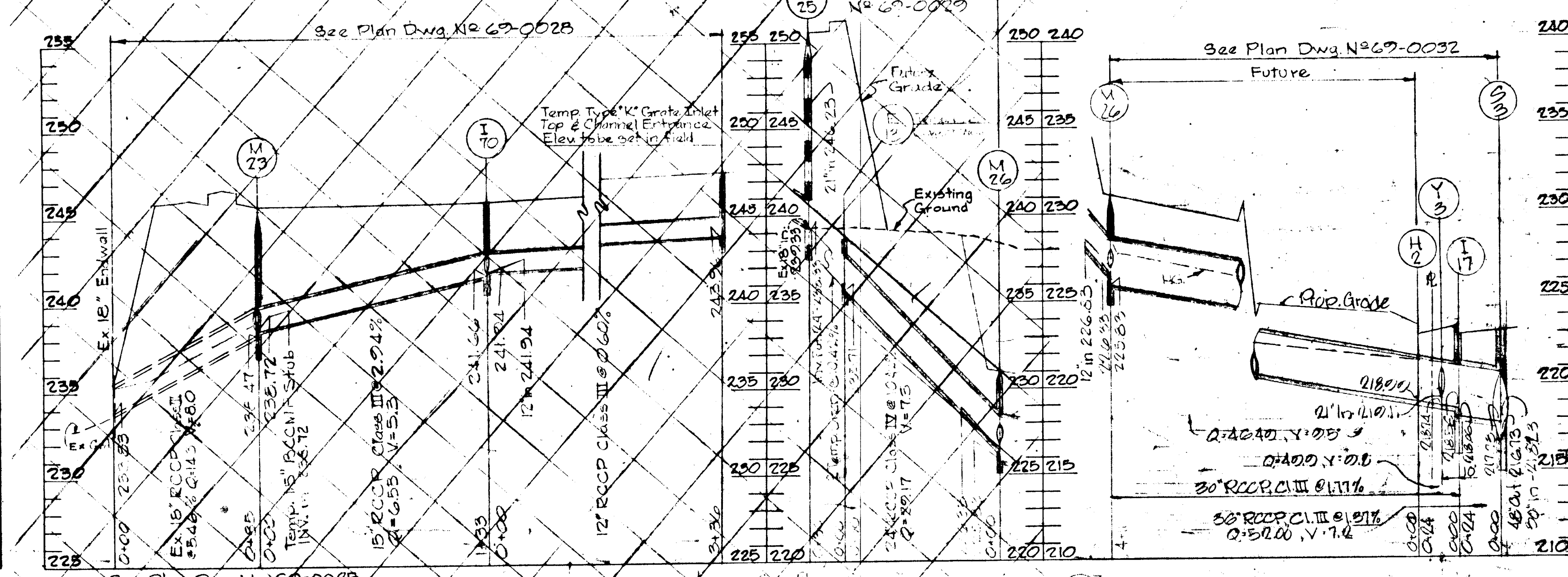
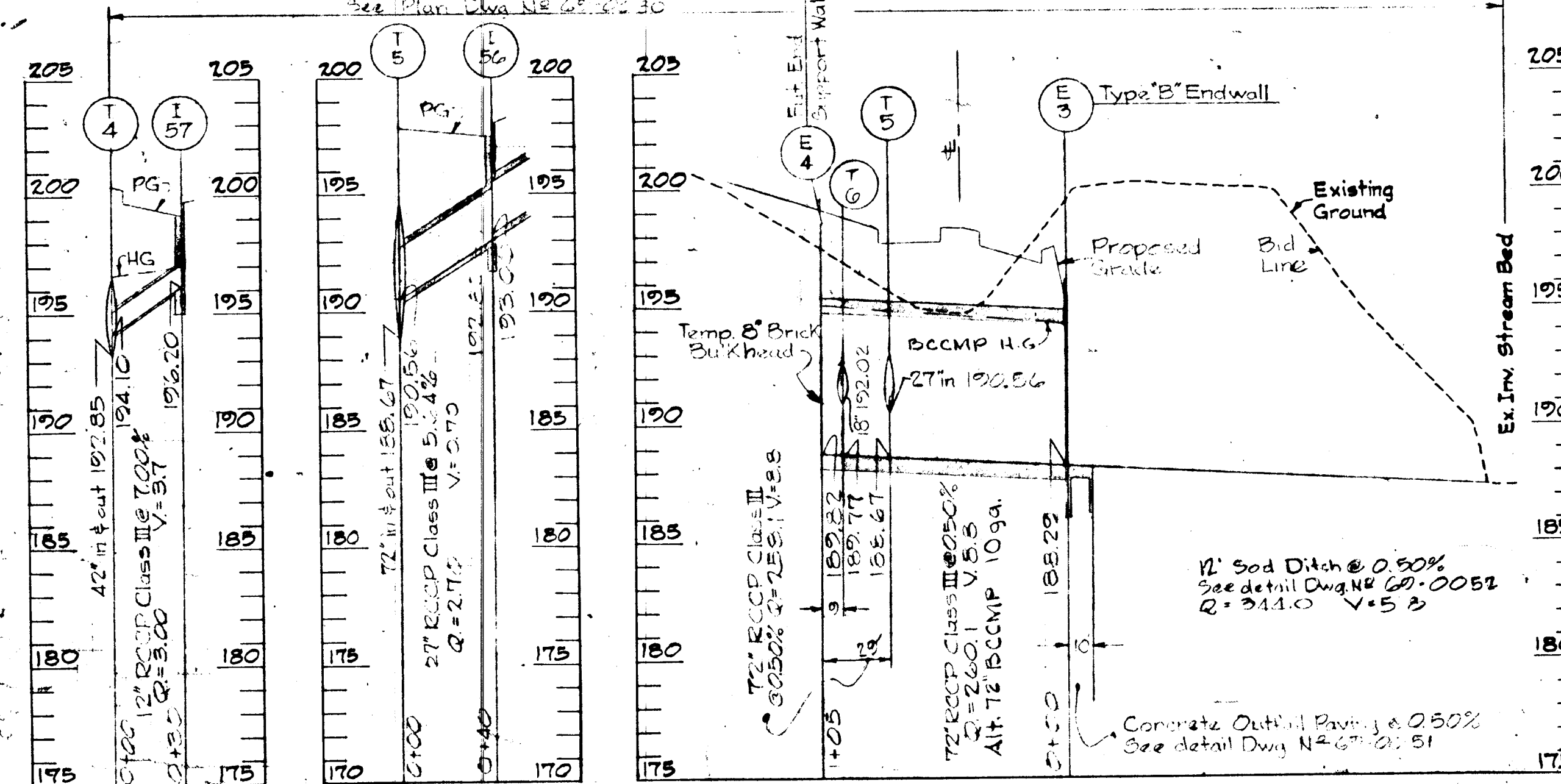
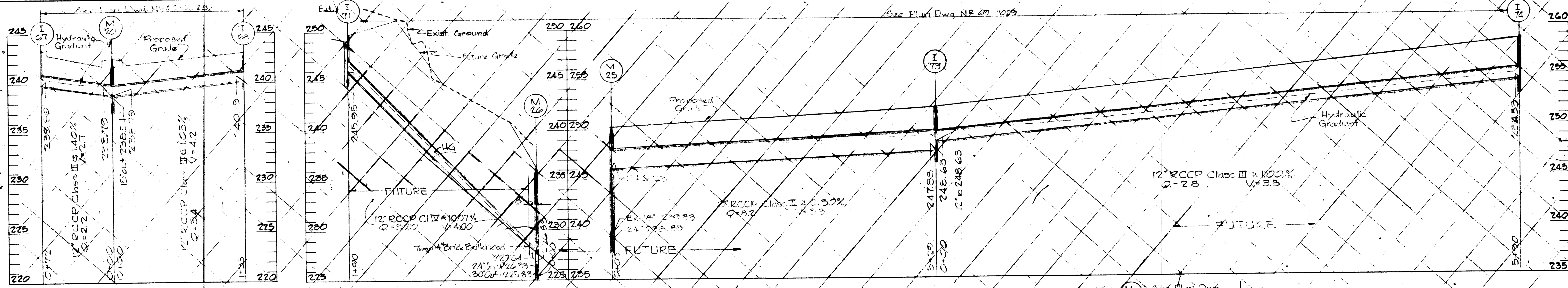


PROFILE Scale: Horiz: 1"=50'
Vert: 1"=5'

CONTRACTOR
NOTIFY THE FOLLOWING UTILITIES AT LEAST
3 DAYS BEFORE STARTING WORK SHOWN
ON THIS DRAWING.
CALL COLLECT FOR BELL TELEPHONE SYSTEM,
CALL 393-3149.
CALL COLLECT FOR LONG DISTANCE CABLES,
CALL 393-3553 OR 3554.
BALTIMORE GAS & ELECTRIC CO. 204-5600

UNLESS OTHERWISE NOTED, BID LINE FOR
EXCAVATION SHALL BE SUBGRADE UNDER
PROPOSED ROADS, ESTABLISHED GRADE UNDER
TURF AREAS, AND EXISTING GRADE
ALONG EXISTING PAVING.

W.L. Duvall Designed	ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Eng. Date Principal Arch. SE M.E. E.E. CE Director	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways P. H. Heiland 10/25/71 Approved Date	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Planning and Development J. A. Clewley 10/29/71 Approved Date	Storm Drains - Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District VI	DEPT. GEN. SER. PROJ. # B694B	REVISIONS Date Description By 9/28/73 AS BUILT GWS	Sheet 10 of 24 69-0047 Drawing No. GBFM-R1 GBFM-U3 Contract No.
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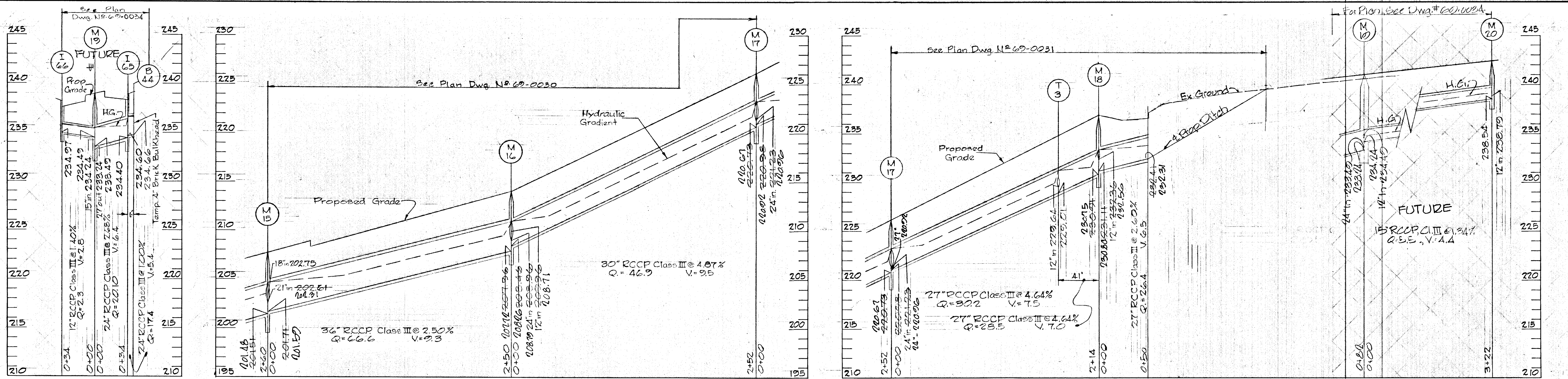


CONTRACTOR
 NOTIFY THE FOLLOWING UTILITIES AT LEAST
 3 DAYS BEFORE STARTING WORK SHOWN
 ON THIS DRAWING.
 CALL COLLECT FOR BELL TELEPHONE SYSTEM,
 CALL 393-3649.
 CALL COLLECT FOR LONG DISTANCE CABLES,
 CALL 393-3553 OR 3554.
 BALTIMORE GAS & ELECTRIC CO. (234-5001)

UNLESS OTHERWISE NOTED BID LINE FOR
 EXCAVATION SHALL BE SUBGRADE UNDER
 PROPOSED ROADS, ESTABLISHED GRADE UN-
 DER TURF AREAS, AND EXISTING GRADE
 ALONG EXISTING PAVING.

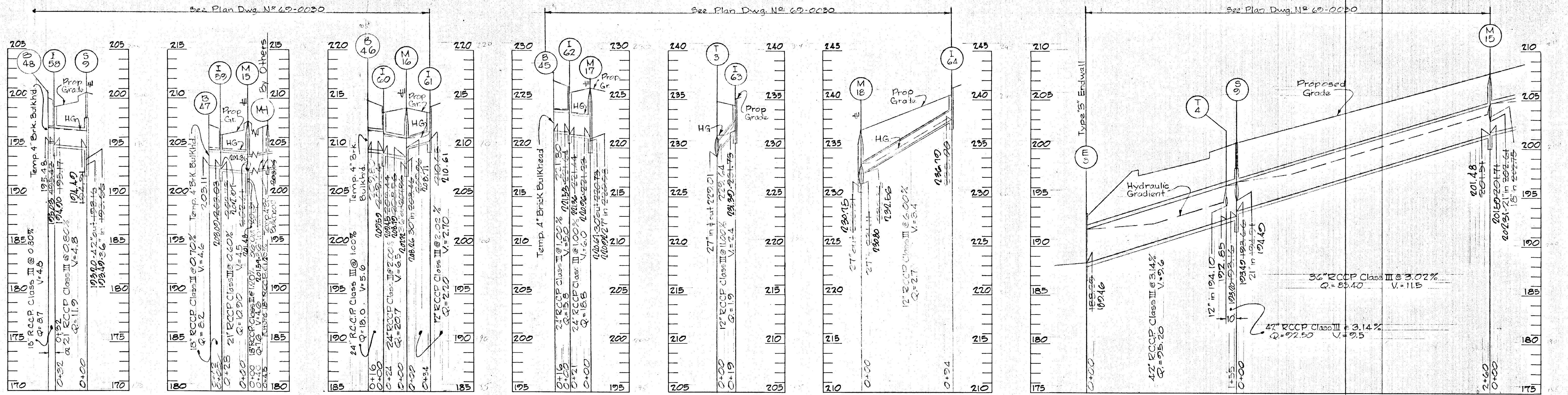
PROFILE
 Scale:
 Horiz.: 1"=50'
 Vert.: 1"=5'

W.L. Davell Designed W.L. Davell Drawn D.D. Ramsey Checked		ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. PUBLIC IMPROVEMENTS APPROVED Principal Engr. Date Principal Arch. S.E. M.E. E.E. C.E. L.A. Director					HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways S. H. Winkler 10/25/71 Approved Date		OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development J. L. ... 10/29/71 Approved Date		GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Storm Drains - Phase One Howard County, Maryland Election District VI		REVISIONS Date Description By		Sheet 11 of 24 69-0019 Drawing No. GBFM-US Contract No.
		Prof. Engr. Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date			



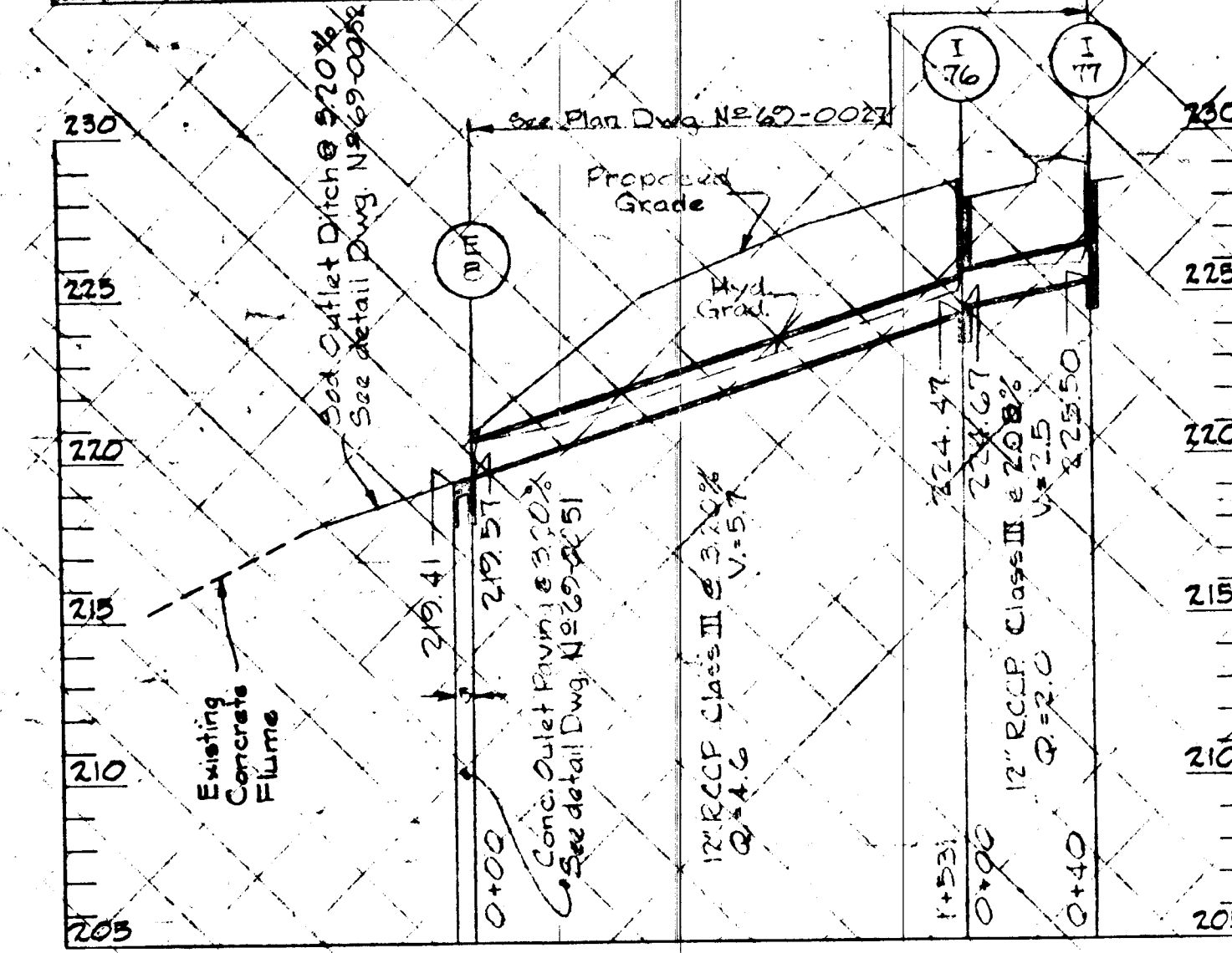
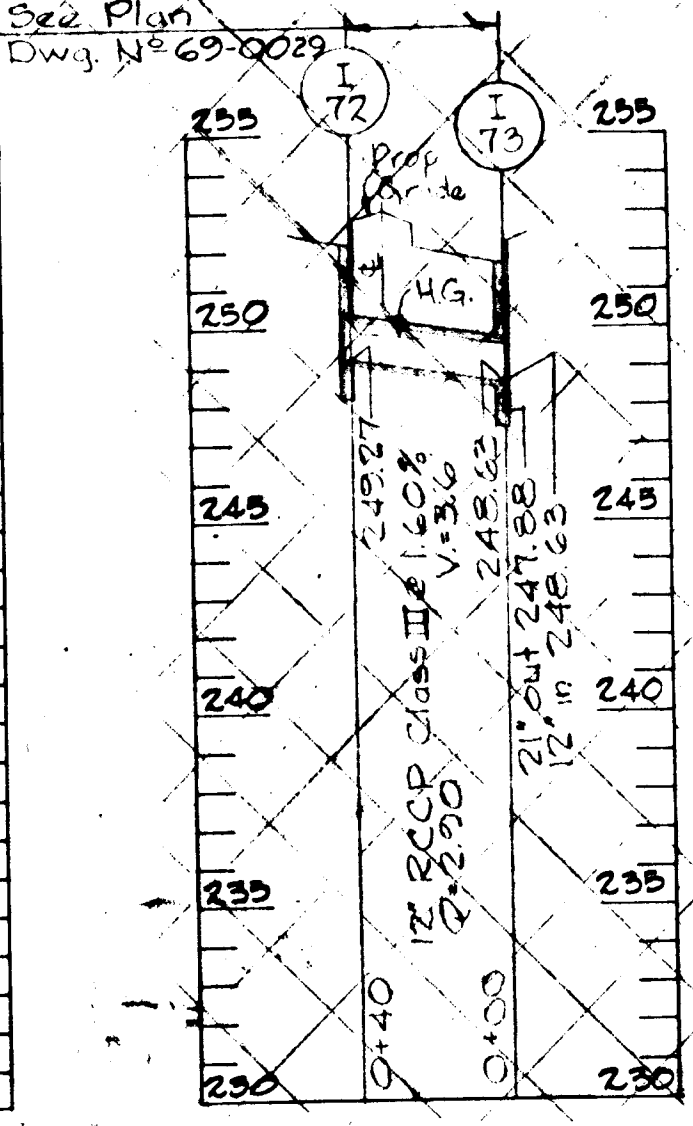
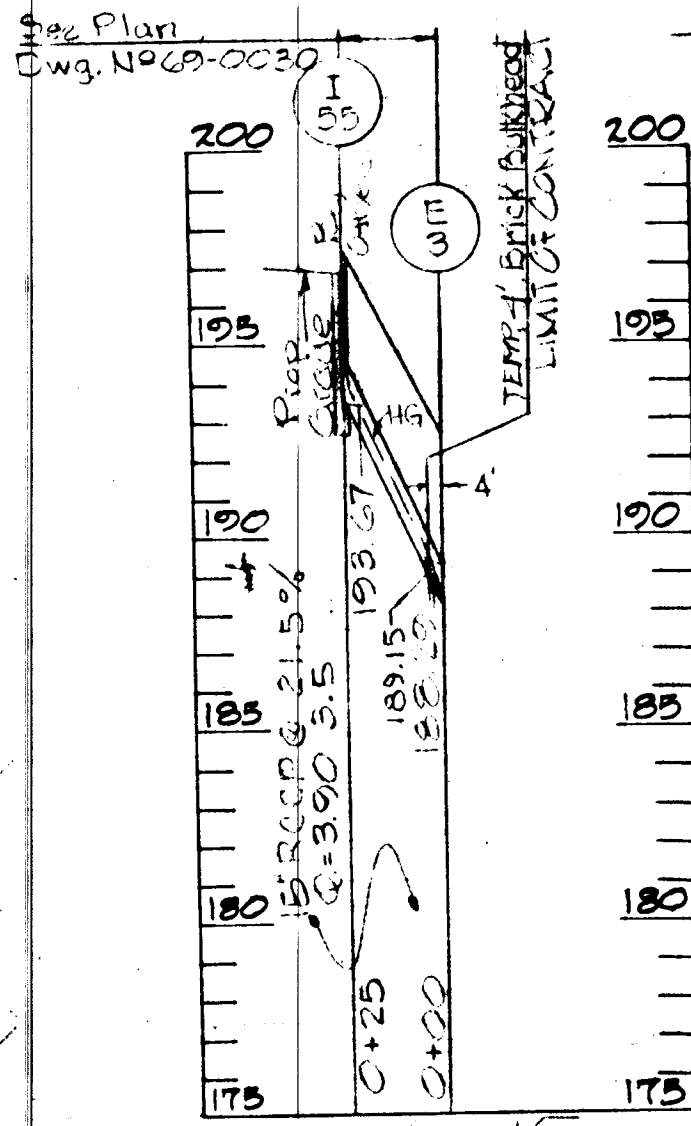
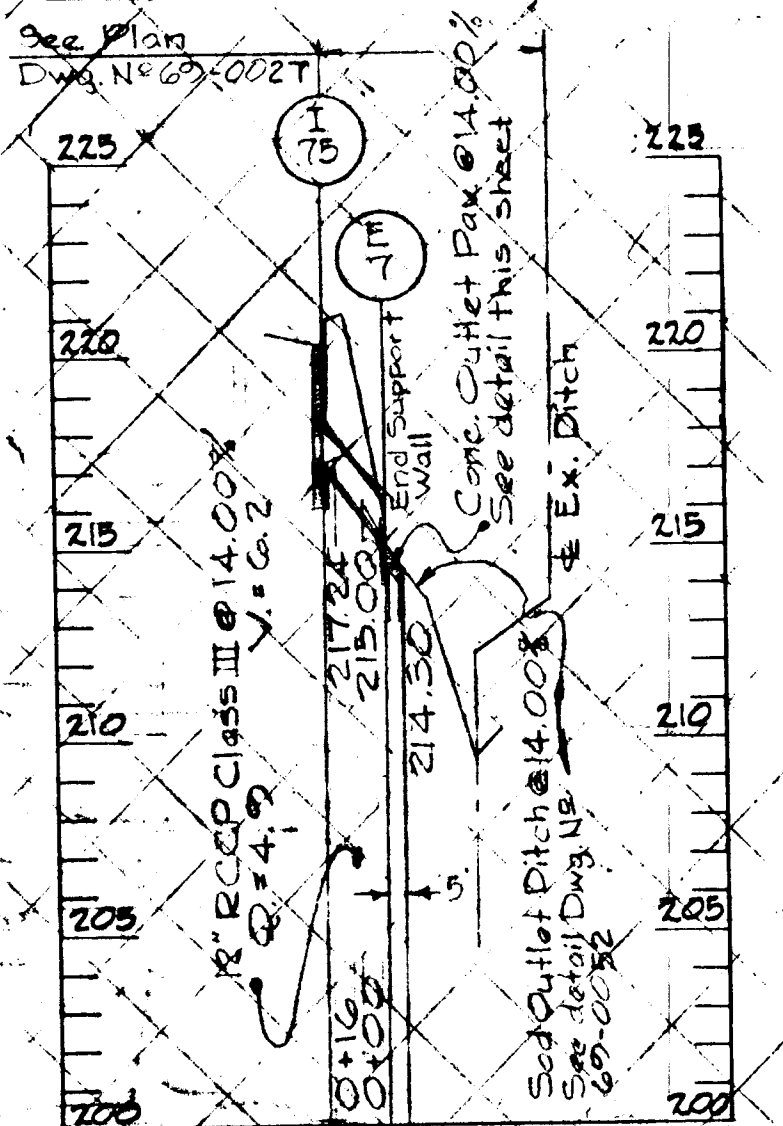
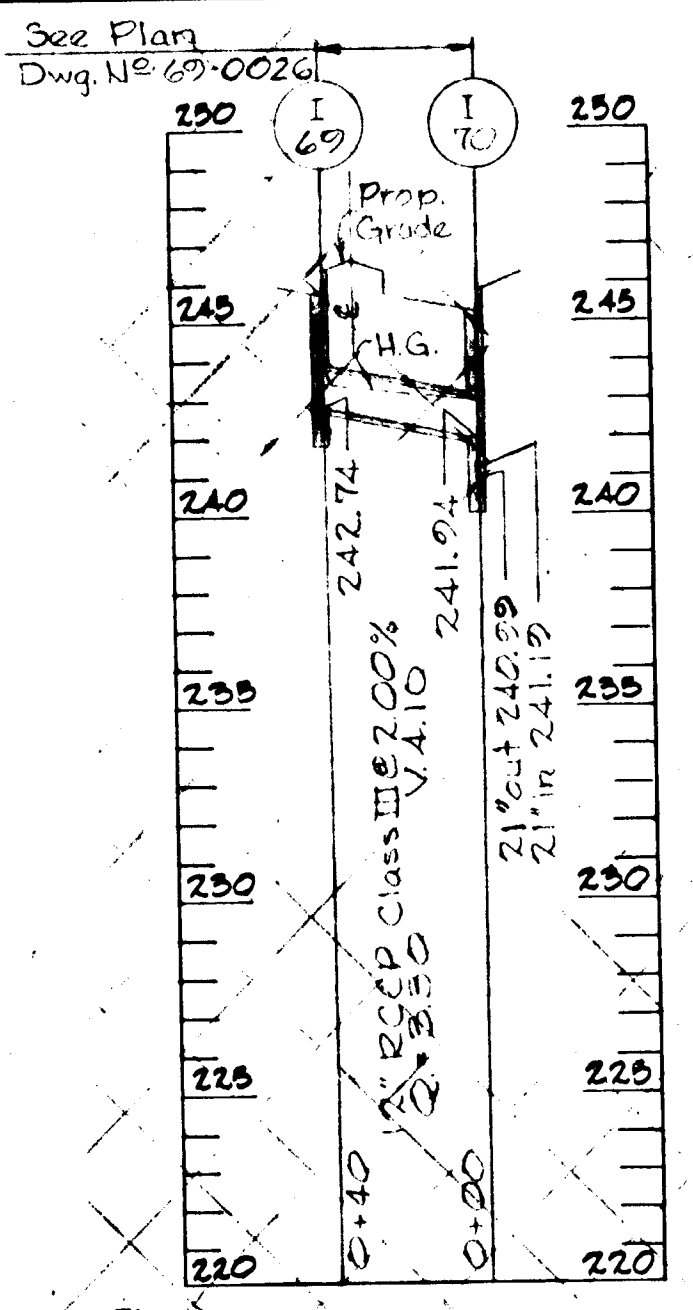
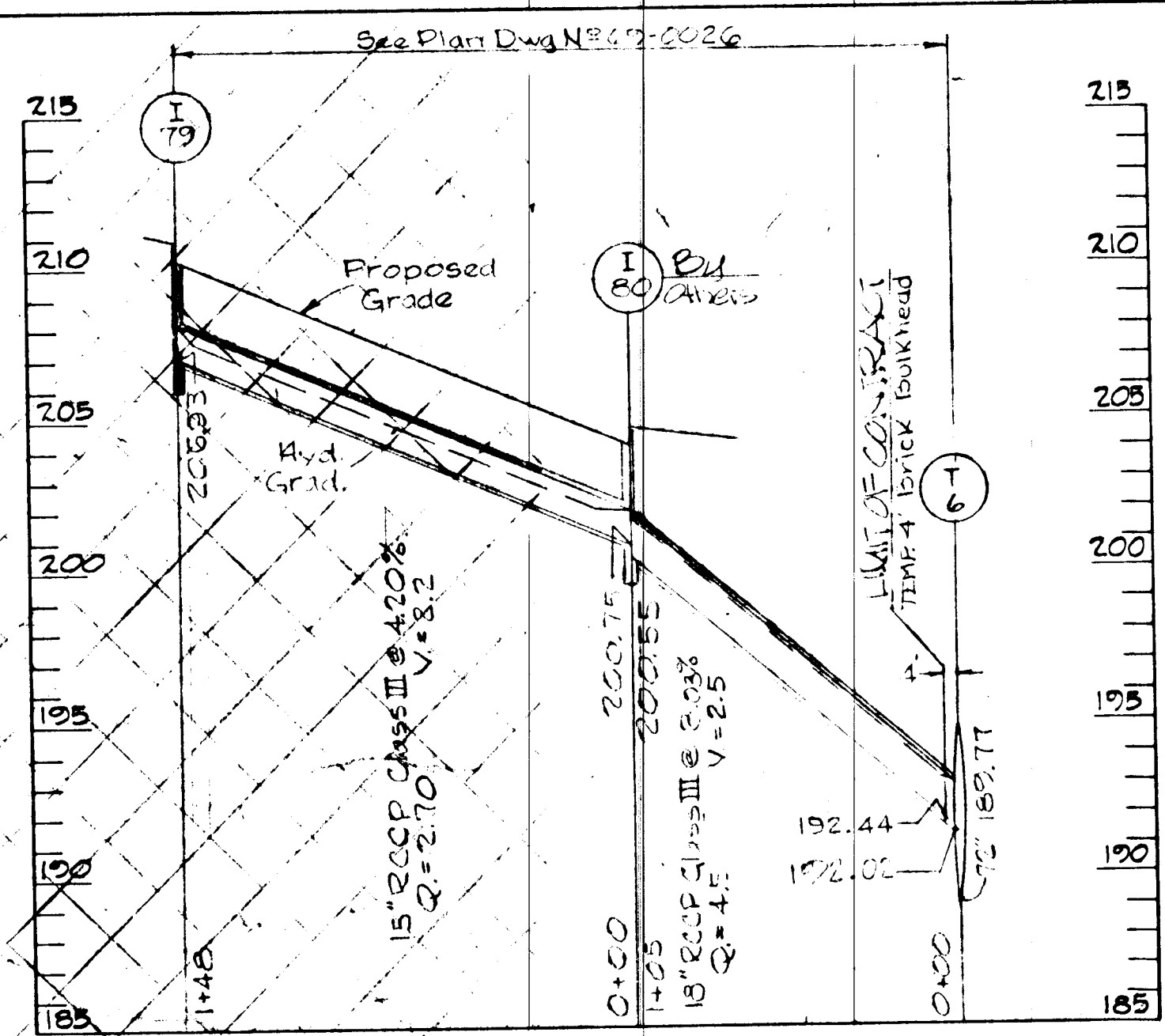
CONTRACTOR:
 NOTIFY THE FOLLOWING UTILITIES AT LEAST
 3 DAYS BEFORE STARTING WORK SHOWN
 ON THIS DRAWING.
 CALL COLLECT FOR BELL TELEPHONE SYSTEM,
 CALL 393-3749.
 CALL COLLECT FOR LONG DISTANCE CABLES,
 CALL 393-3553 OR 3554.
 BALTIMORE GAS & ELECTRIC CO.

UNLESS OTHERWISE NOTED, BID LINE
 EXCAVATION SHALL BE SUBGRADE UNLESS
 PROPOSED ROADS, ESTABLISHED GRADE
 DER TURF AREAS, AND EXISTING GRADE
 ALONG EXISTING PAVING.

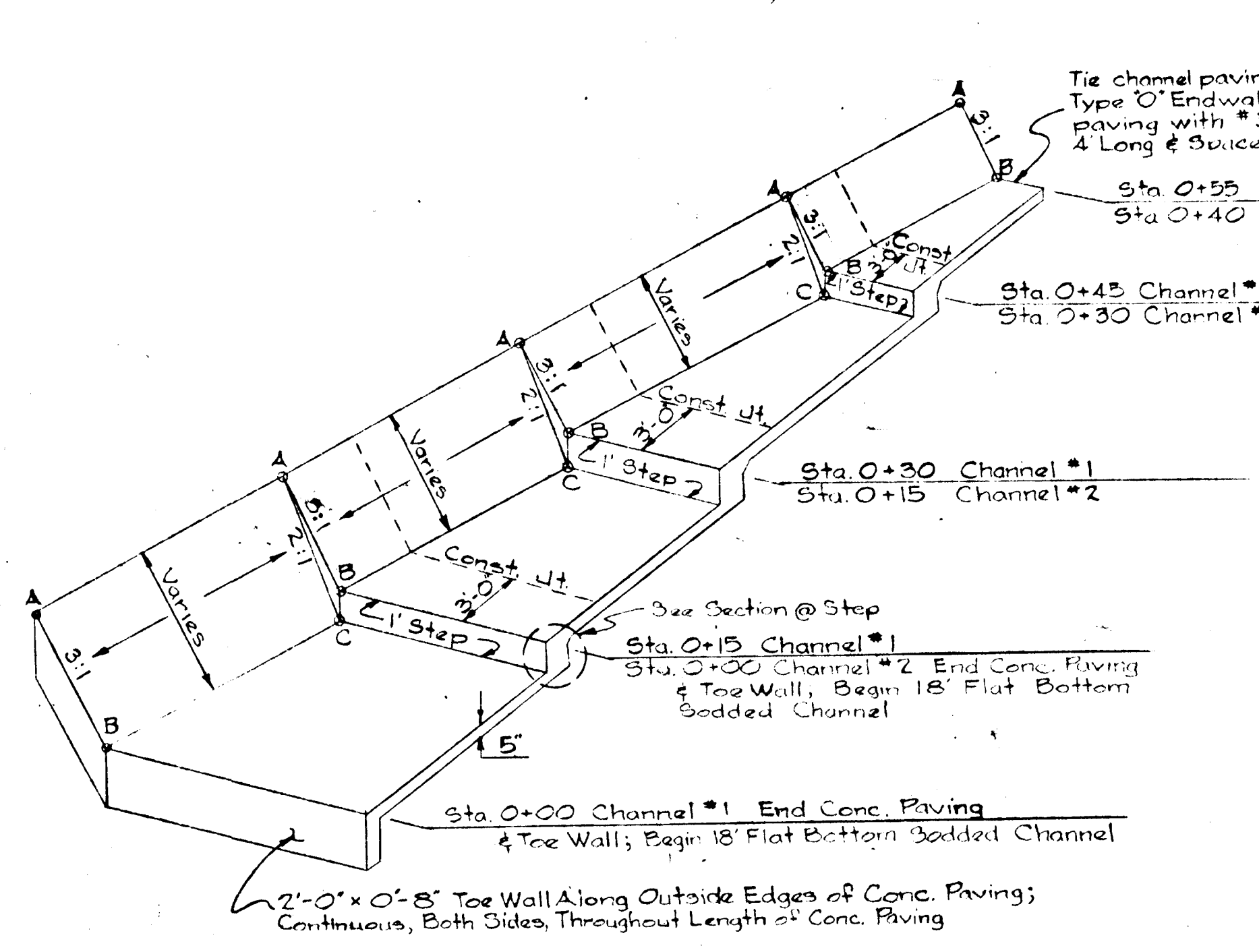


PROFILE
 Scale: Hor. 1"=50'
 Vert. 1"=5'

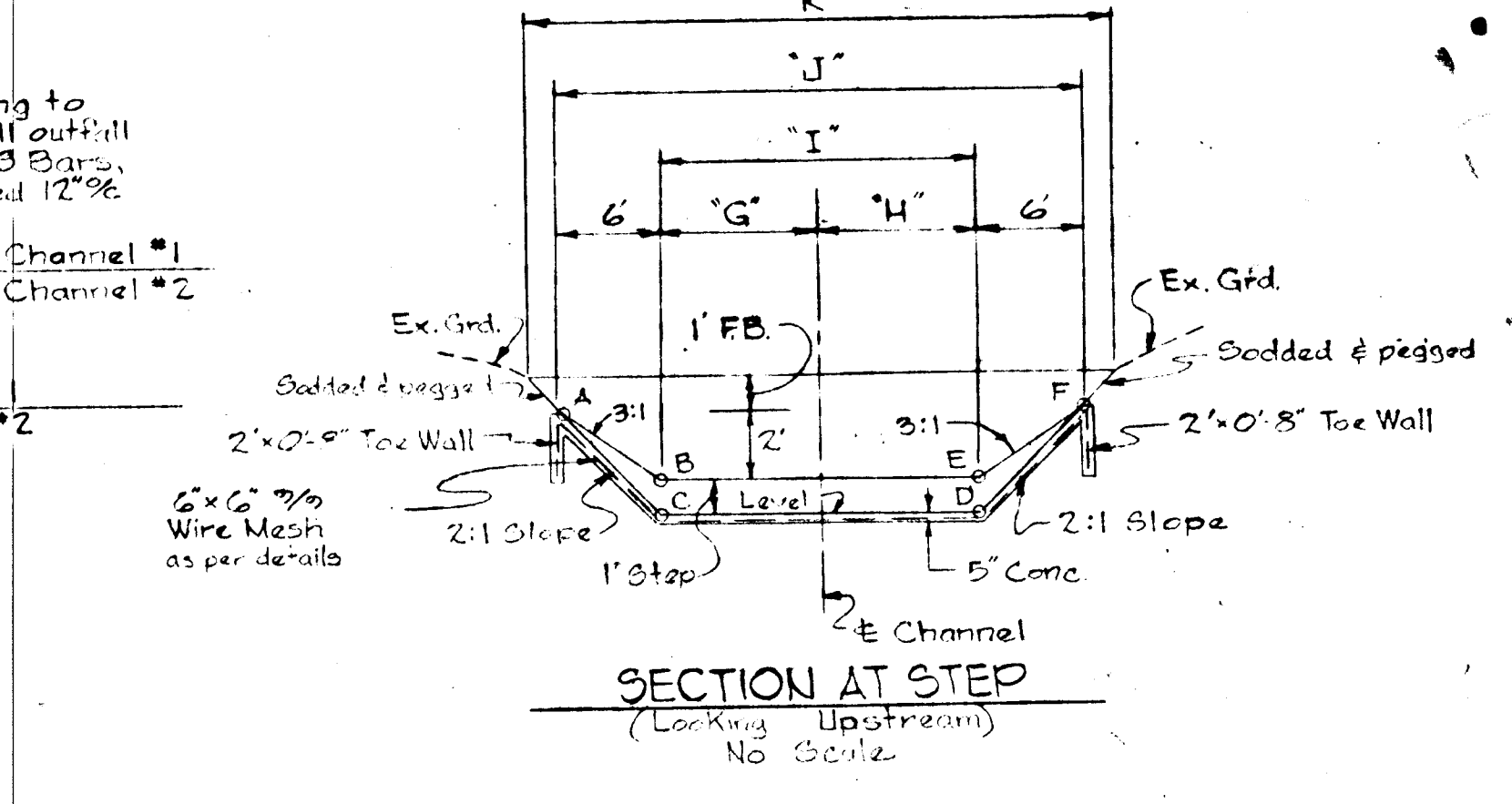
W.L. Duvall Designed W.L. Duvall Drawn D.D. Ranney Checked		ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204 Charles L. Fickel Prof. Engr. Reg. # 5048 10/1/77	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Engr. Date Principal Arch. S.E. M.E. E.E. C.E. P.E. Director	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways J. H. Keenan 10/25/77 Approved Date	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development J. H. Keenan 10/25/77 Approved Date	Storm Drains Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District VI	DEPT. GEN. SER. PROJ # B694B REVISIONS Date Description By 9/26/73 AS BUILT GWS Sheet 22 of 24 69-0050 Drawing No. GBFM-R-1 GBFM-10 Contract No.
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PROFILE
Scale
Horiz. 1"=50'
Vert. 1"=5'

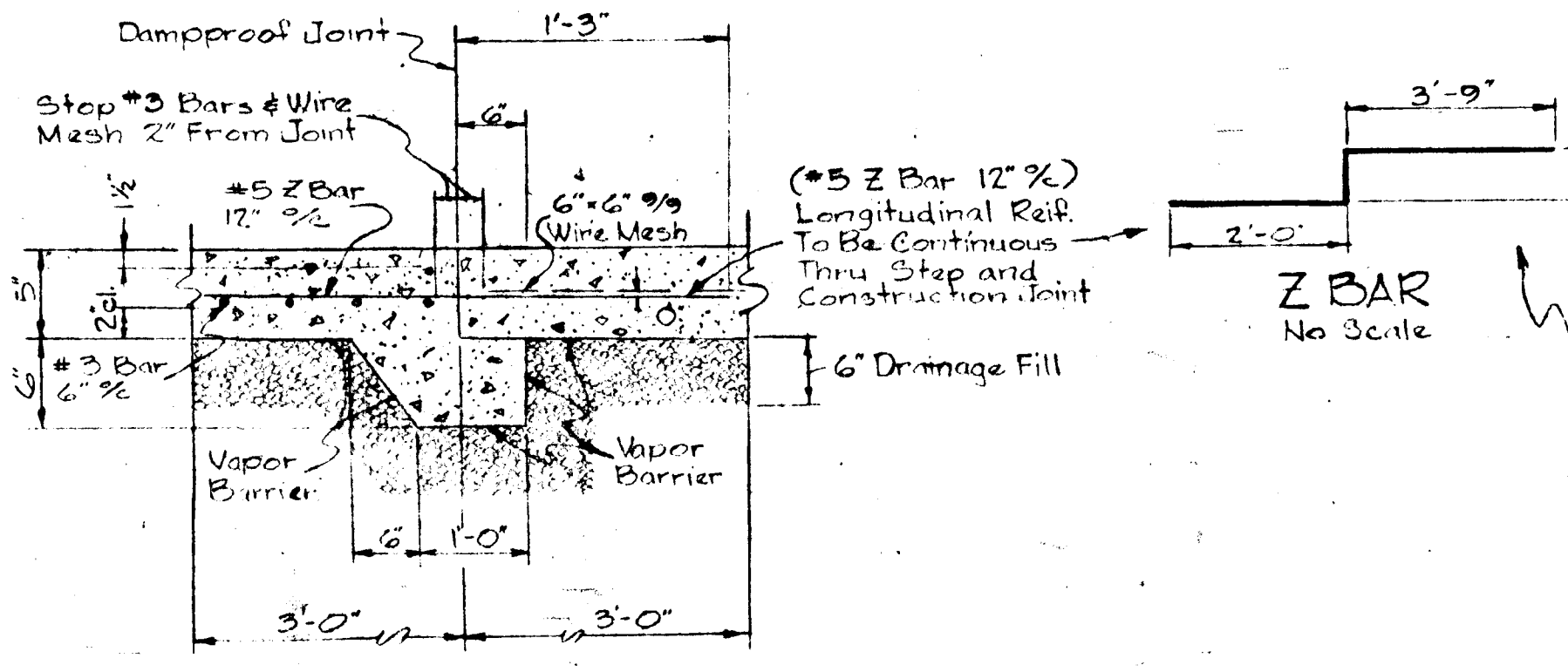


SECTION THRU CHANNEL
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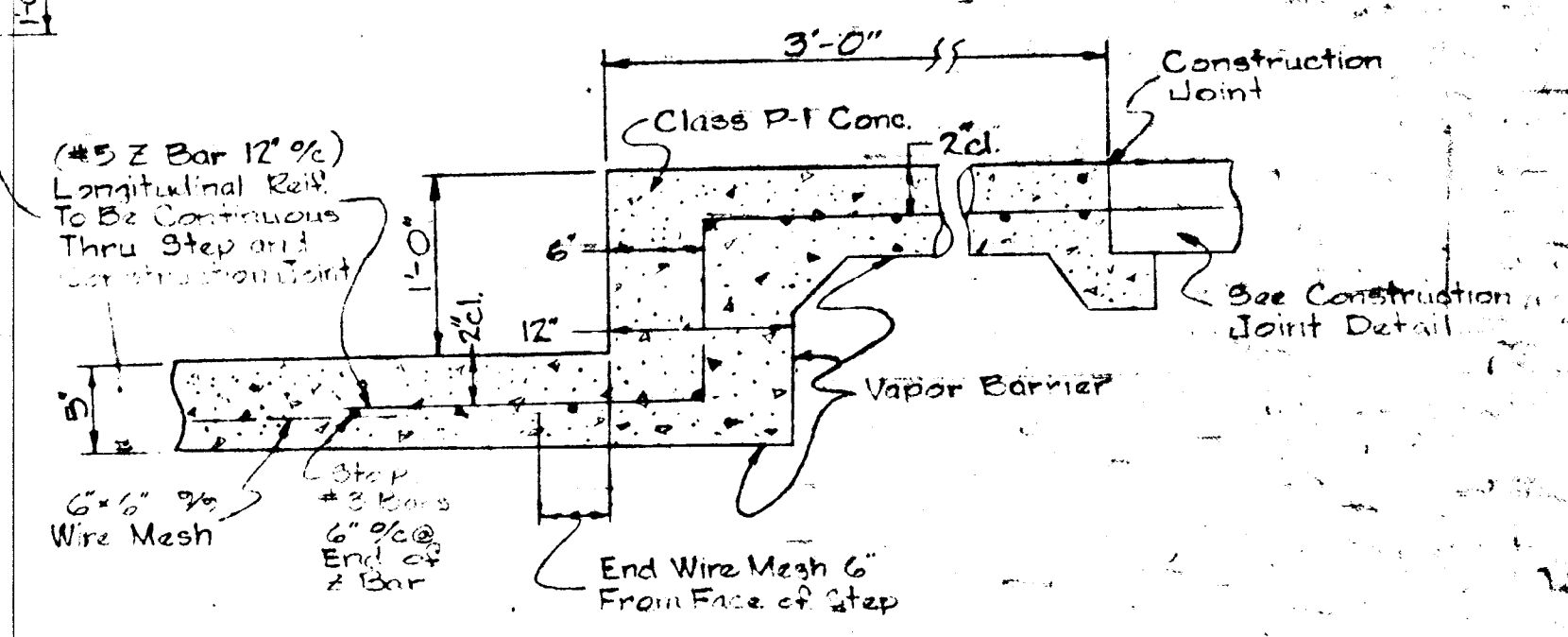


DISTANCE & ELEVATION TABLE

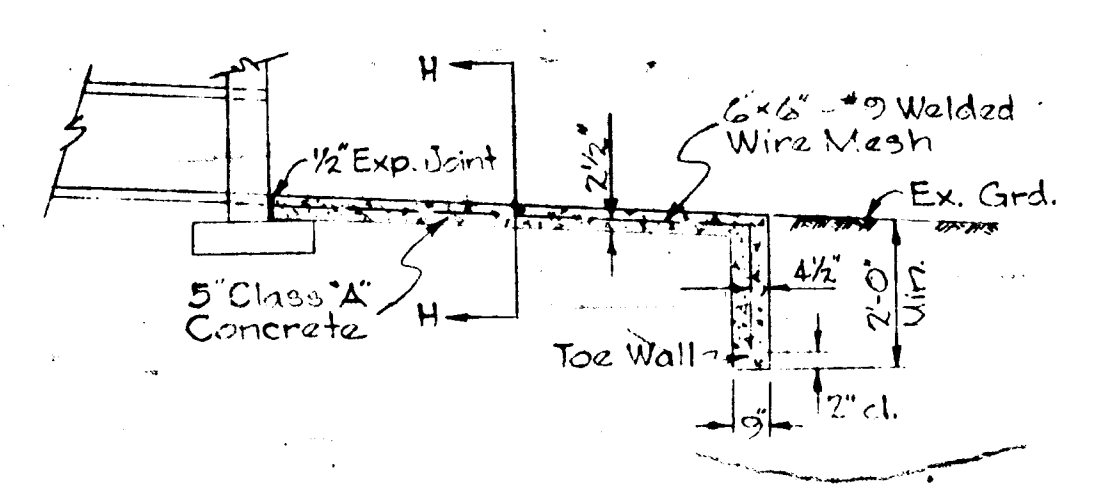
CHANNEL	STA.	ELEVATION				DISTANCE			
		A&F	B&E	C&D	G&H	I	J	K	
1	No Step	0+00	170.76	168.76	-	2.00'	18.00'	30.00'	34.00'
1	Step	0+15	171.21	169.21	168.21	7.78'	15.57'	27.87'	31.57'
1	Step	0+30	174.10	172.10	171.10	6.57'	13.14'	23.14'	27.14'
1	Step	0+45	173.19	172.19	171.19	5.35'	10.70'	22.70'	26.70'
1	No Step	0+55	175.73	173.73	-	4.84'	9.83'	21.83'	25.83'
2	No Step	0+00	176.13	174.13	-	2.00'	18.00'	30.00'	34.00'
2	Step	0+15	177.28	175.28	174.28	7.47'	14.94'	26.94'	30.94'
2	Step	0+30	178.37	176.37	175.37	5.94'	11.87'	23.87'	27.87'
2	No Step	0+40	178.54	176.54	-	4.92'	9.83'	21.83'	25.83'



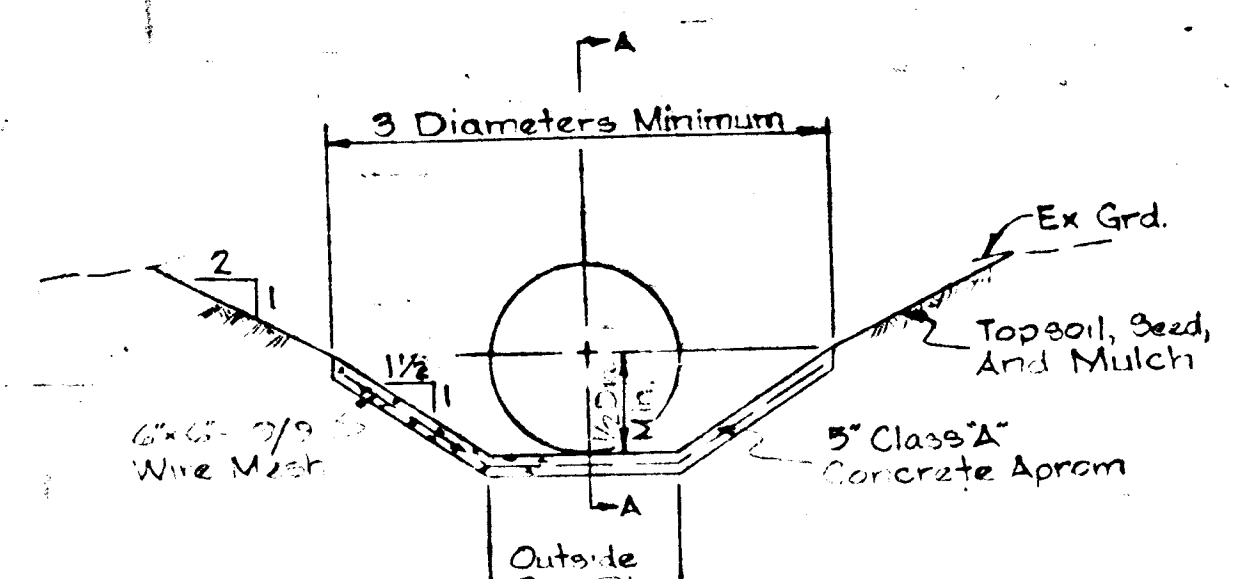
CONSTRUCTION JOINT
No Scale



SECTION AT STEP
No Scale



SECTION A-A



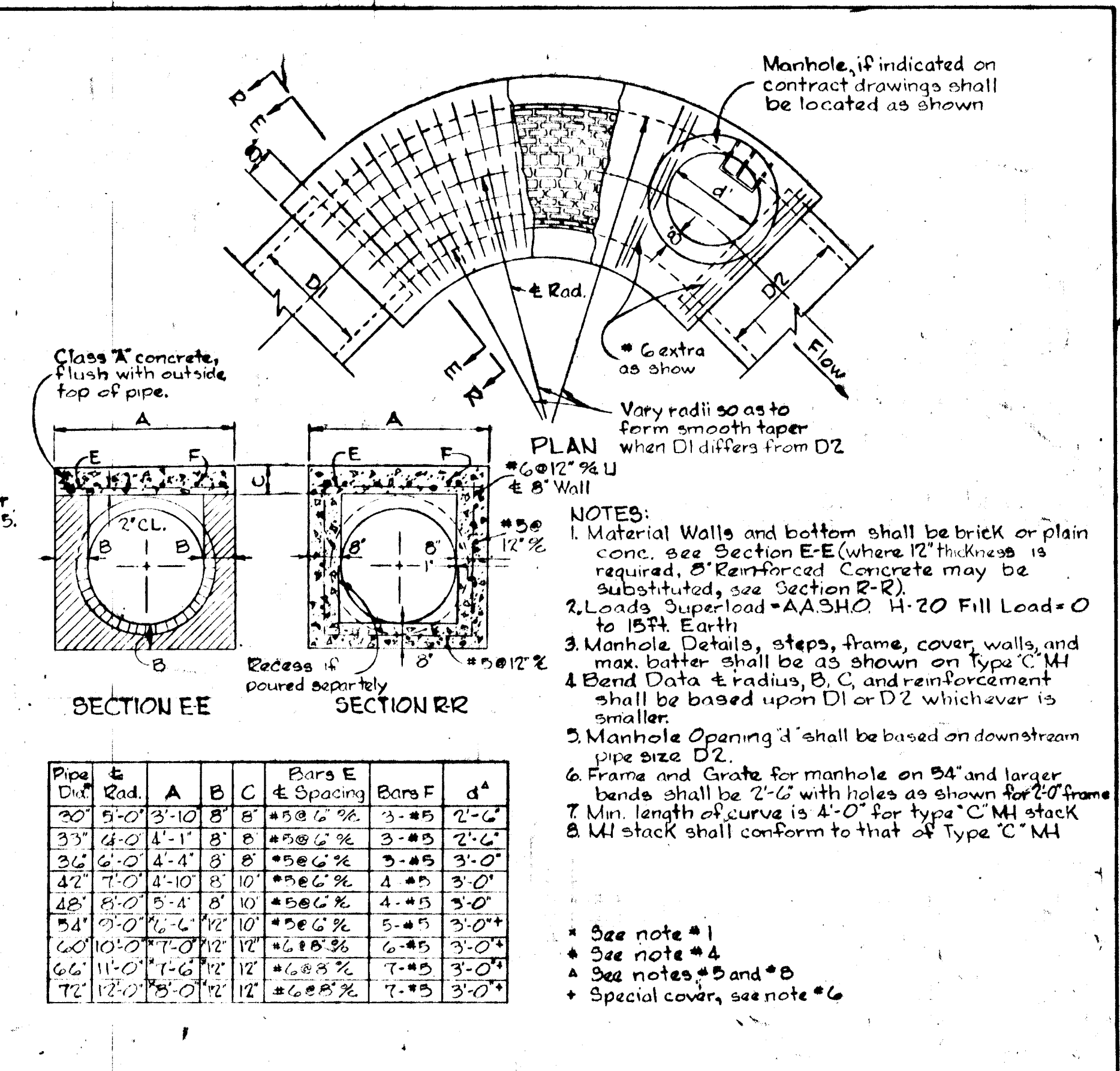
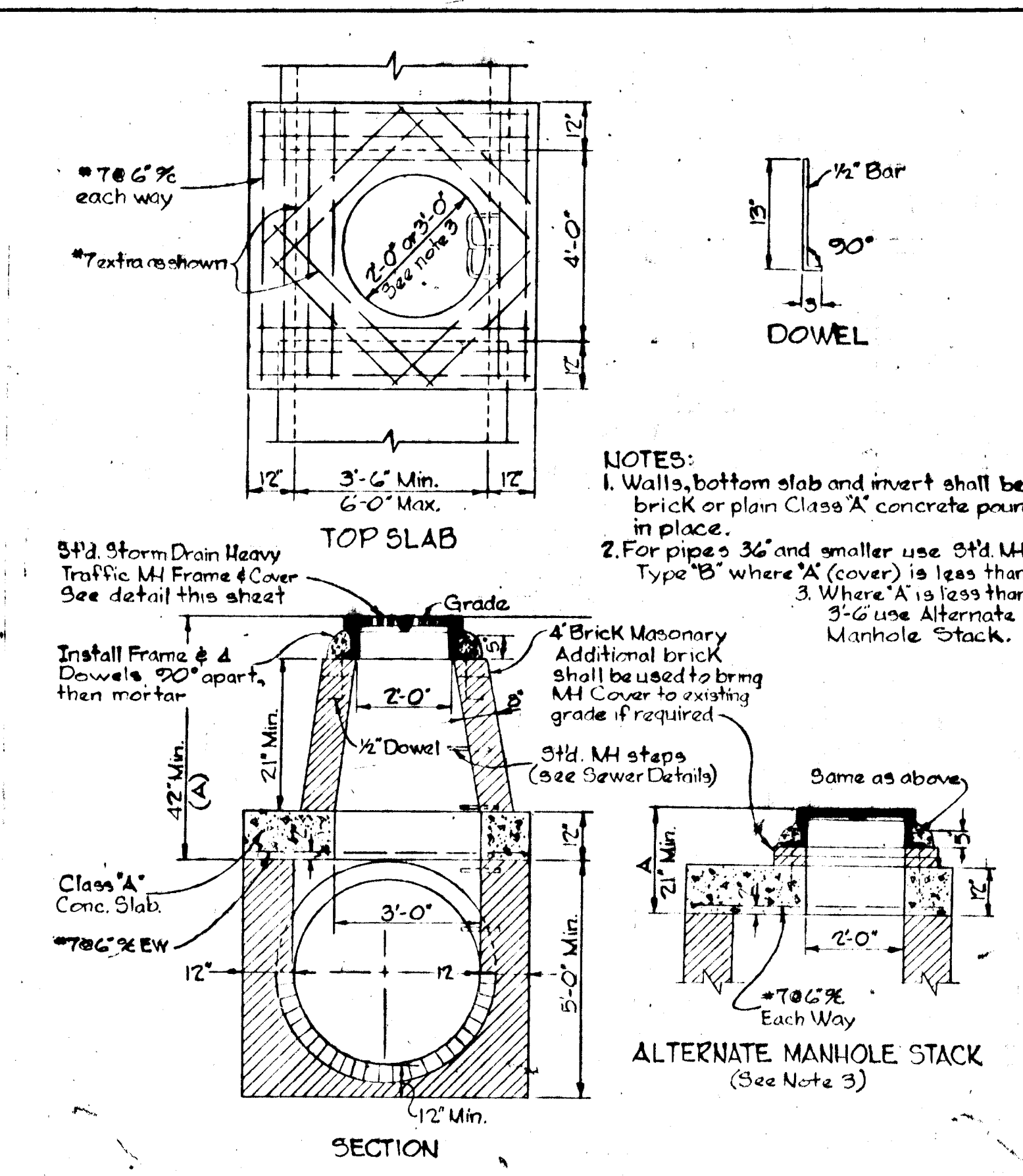
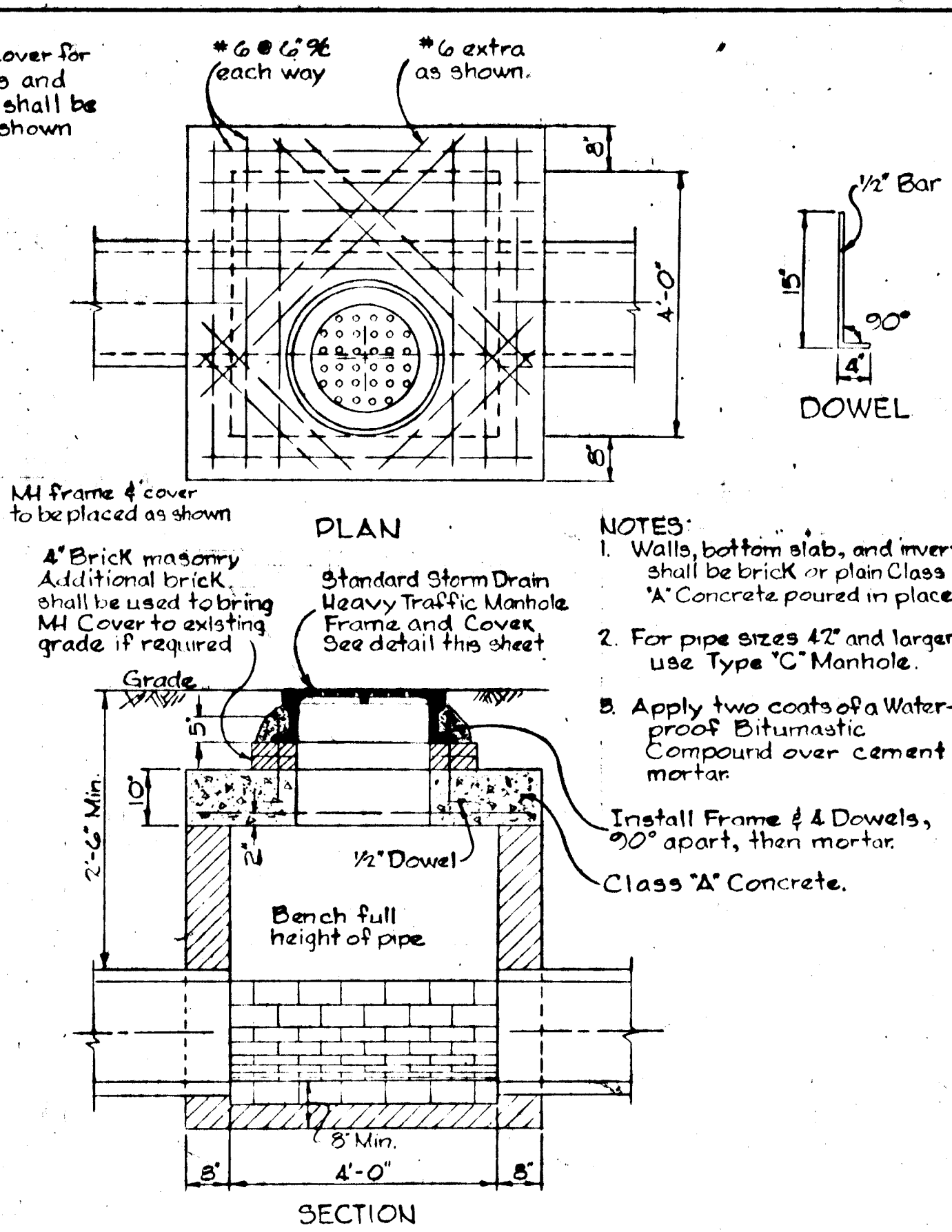
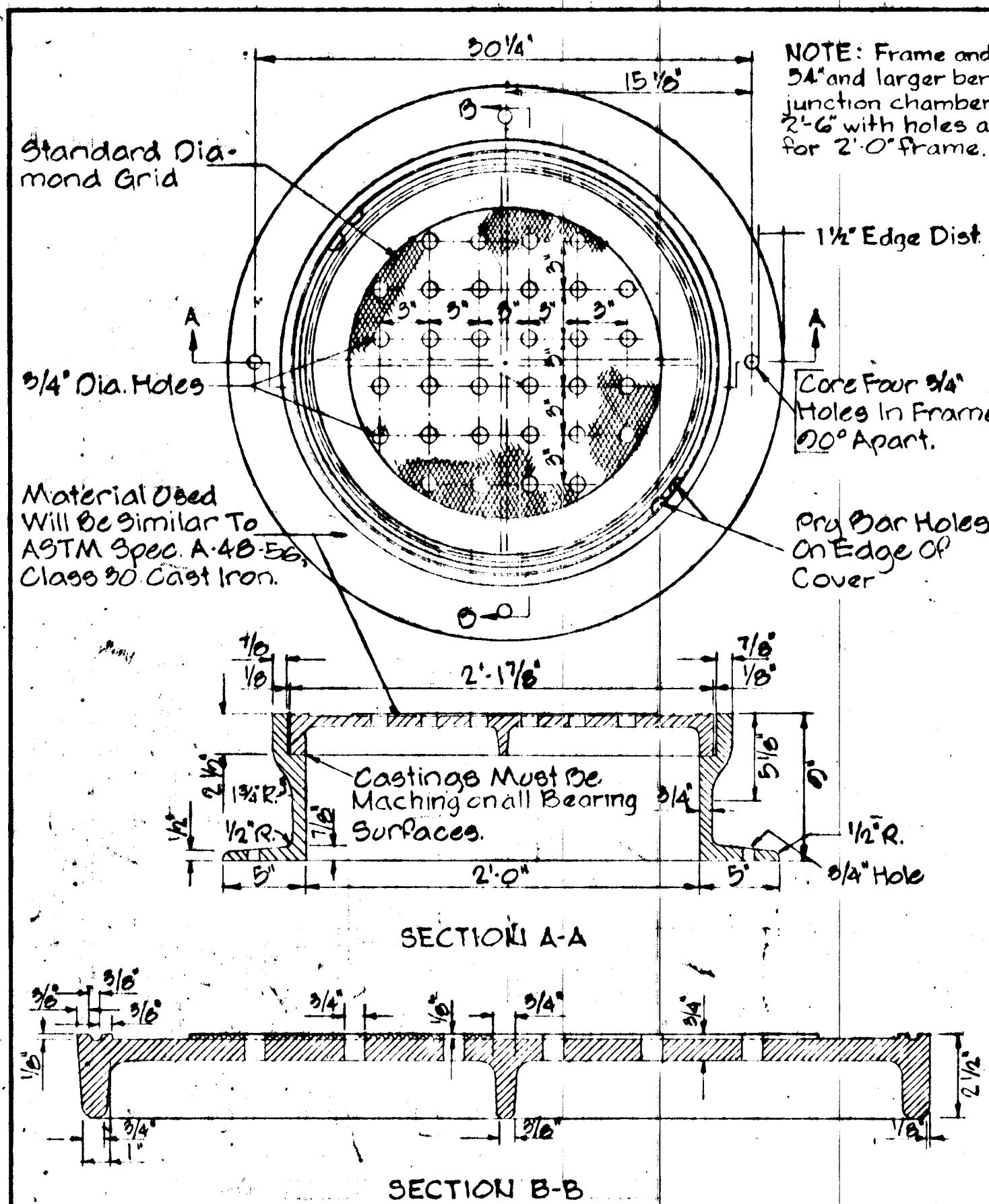
SECTION H-H

CONCRETE OUTLET PAVING
No Scale

CONTRACTOR:
NOTIFY THE FOLLOWING UTILITIES AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THIS DRAWING.
CALL COLLECT FOR BELL TELEPHONE SYSTEM, CALL 393-3649.
CALL COLLECT FOR LONG DISTANCE CABLE, CALL 393-3553 OR 3554.
BALTIMORE GAS & ELECTRIC CO. 234-5621

UNLESS OTHERWISE NOTED, BID LINE FOR EXCAVATION SHALL BE SUBGRADE UNDER PROPOSED ROADS, ESTABLISHED GRADE UNDER TURF AREAS, AND EXISTING GRADE ALONG EXISTING PAVING.

W.L. Duwall Designed W.L. Duwall Drawn D.D. Ranney Checked		ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21284		OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201		DEPT. PUBLIC IMPROVEMENTS APPROVED Principal Eng. Date Principal Archt.		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways <i>B. H. Hebland</i> 10/15/71 Approved Date		OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development <i>M. J. ...</i> 10/15/71 Approved Date		Storm Drains - Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District VII		REVISIONS Date Description By		Sheet 12 of 14 69-0051 Drawing No. GBFM-US Contract No.
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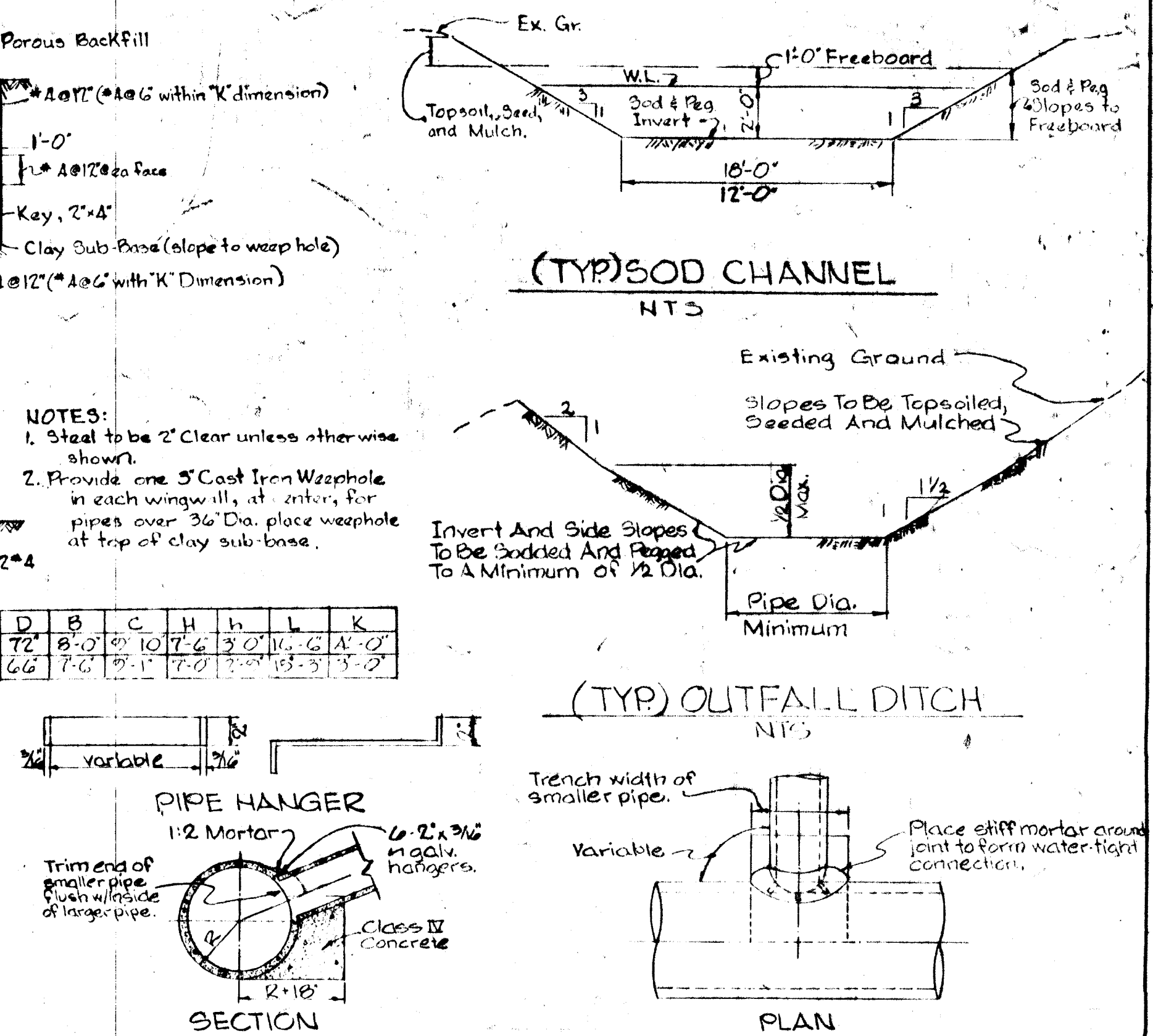
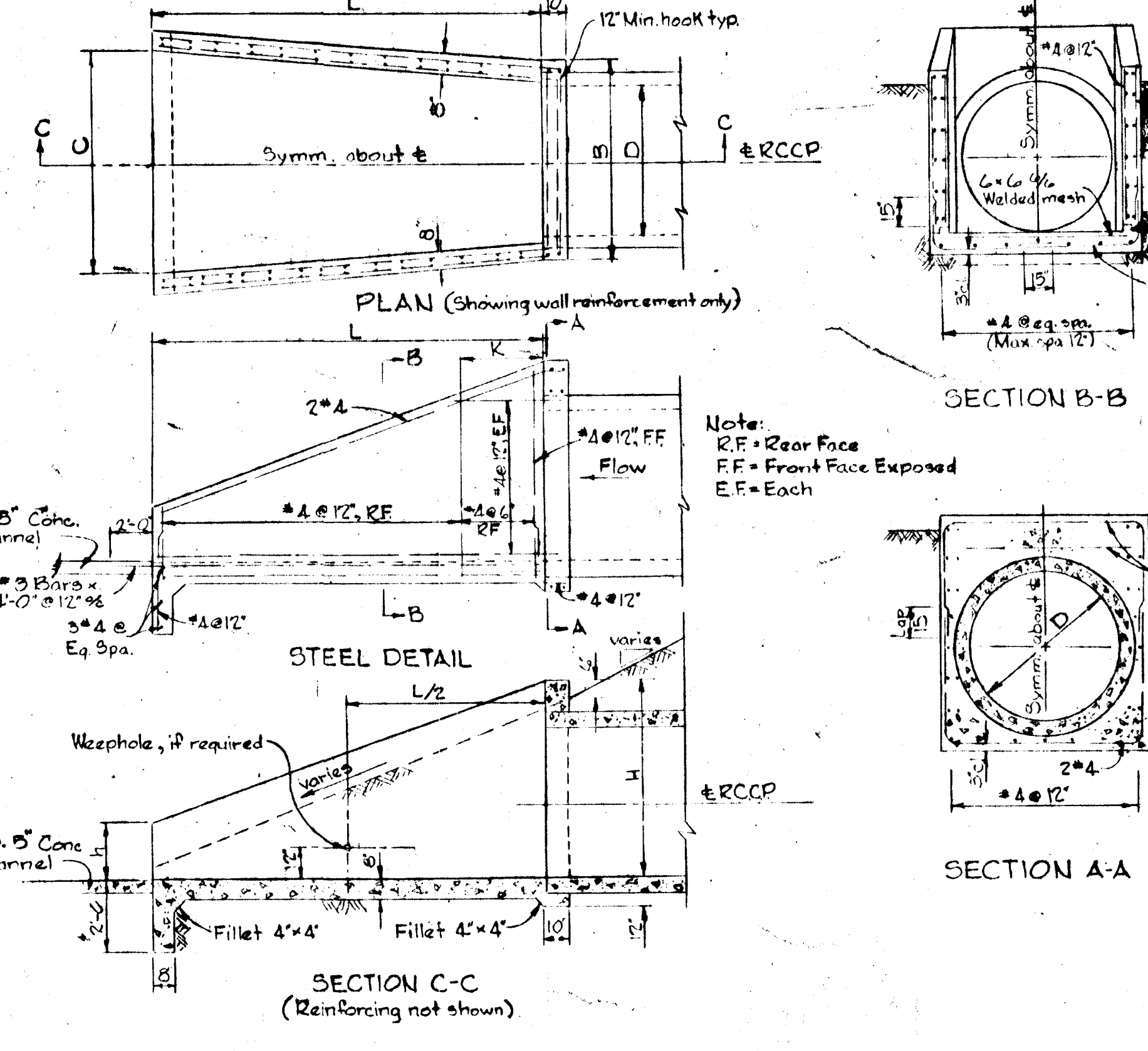
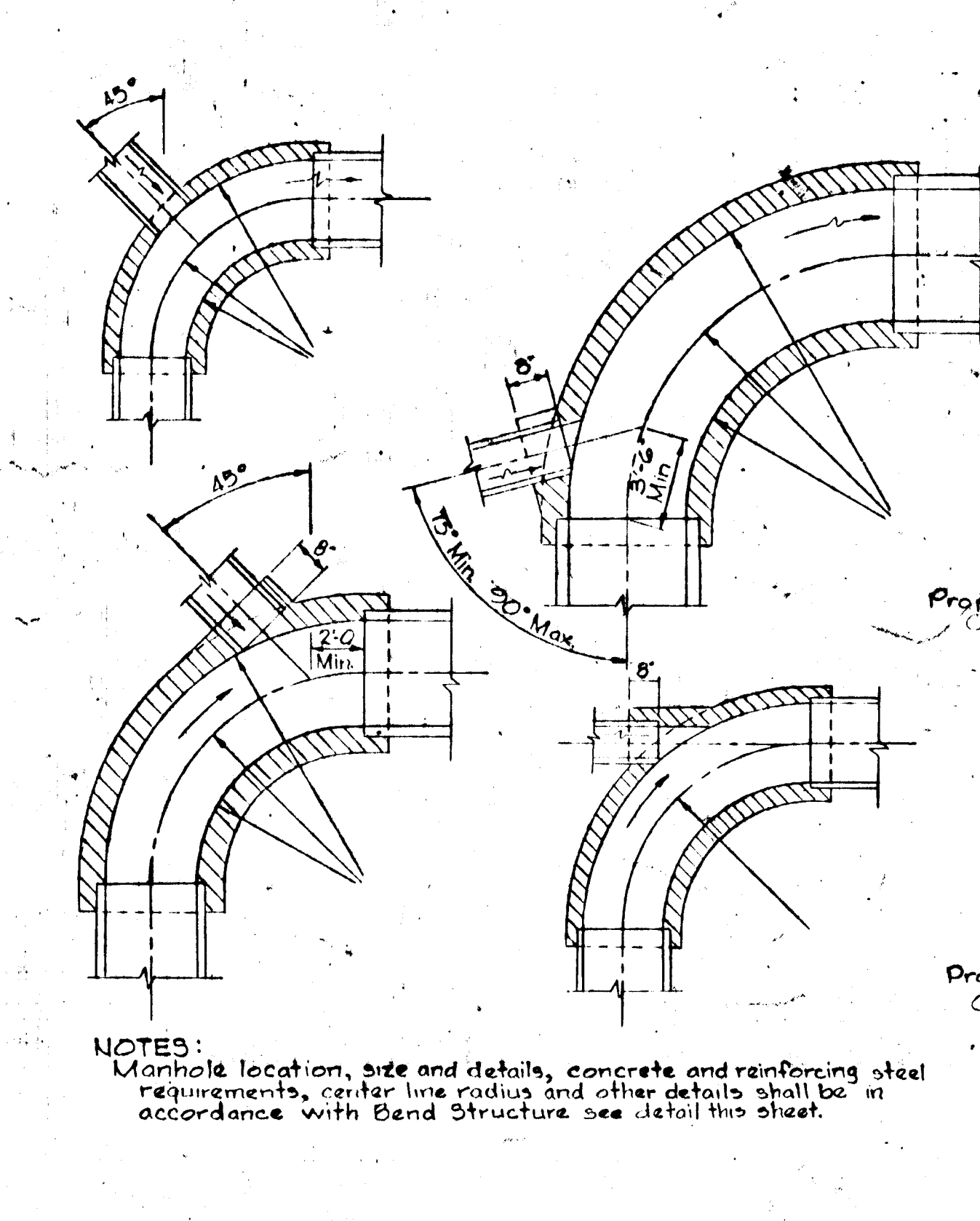
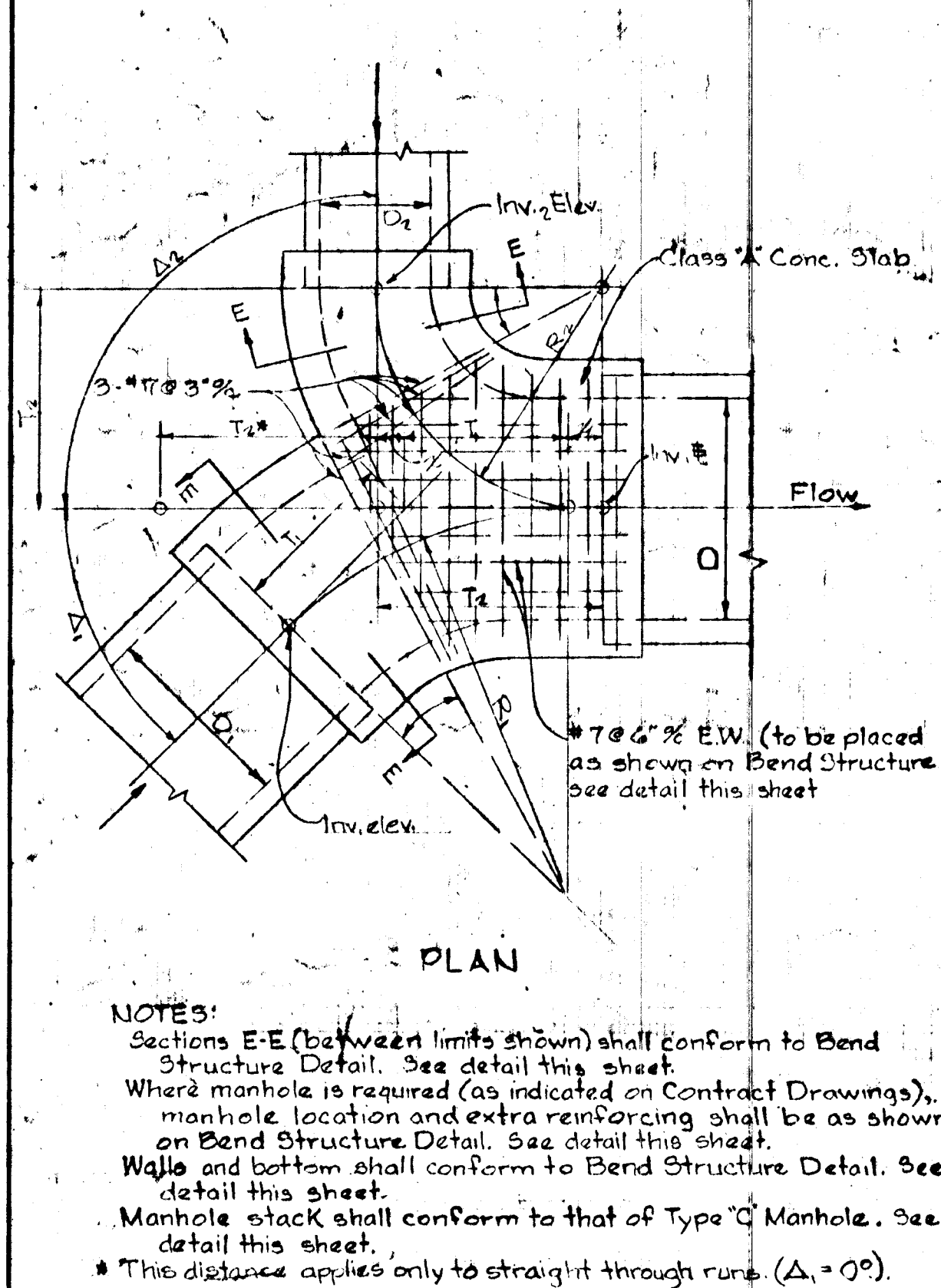


HEAVY TRAFFIC MANHOLE FRAME & COVER

TYPE "B" MANHOLE

TYPE "C" MANHOLE

BEND STRUCTURE



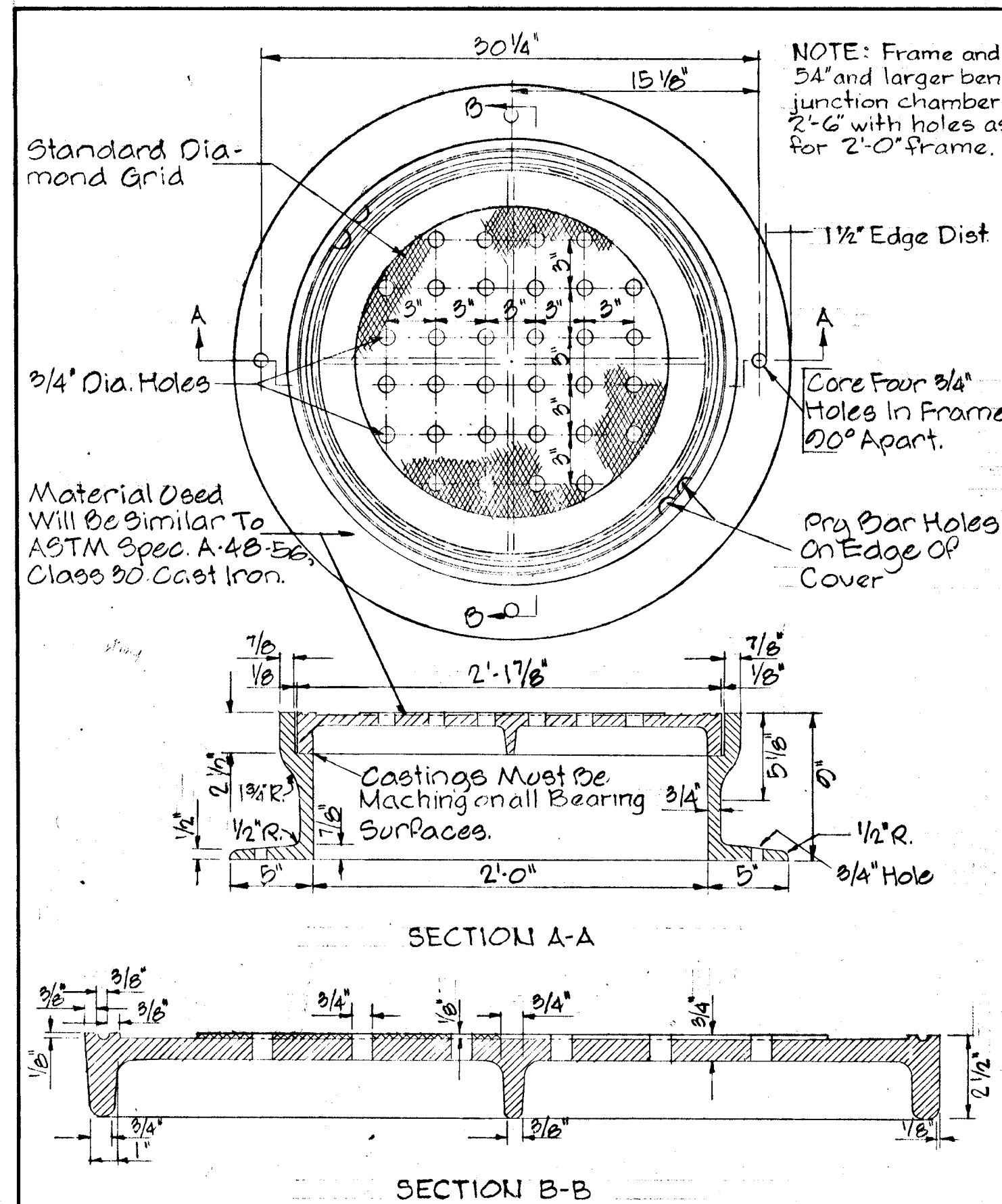
JUNCTION CHAMBER TOP SLAB REINFORCING & DETAILS

CONNECTIONS TO BEND STRUCTURES

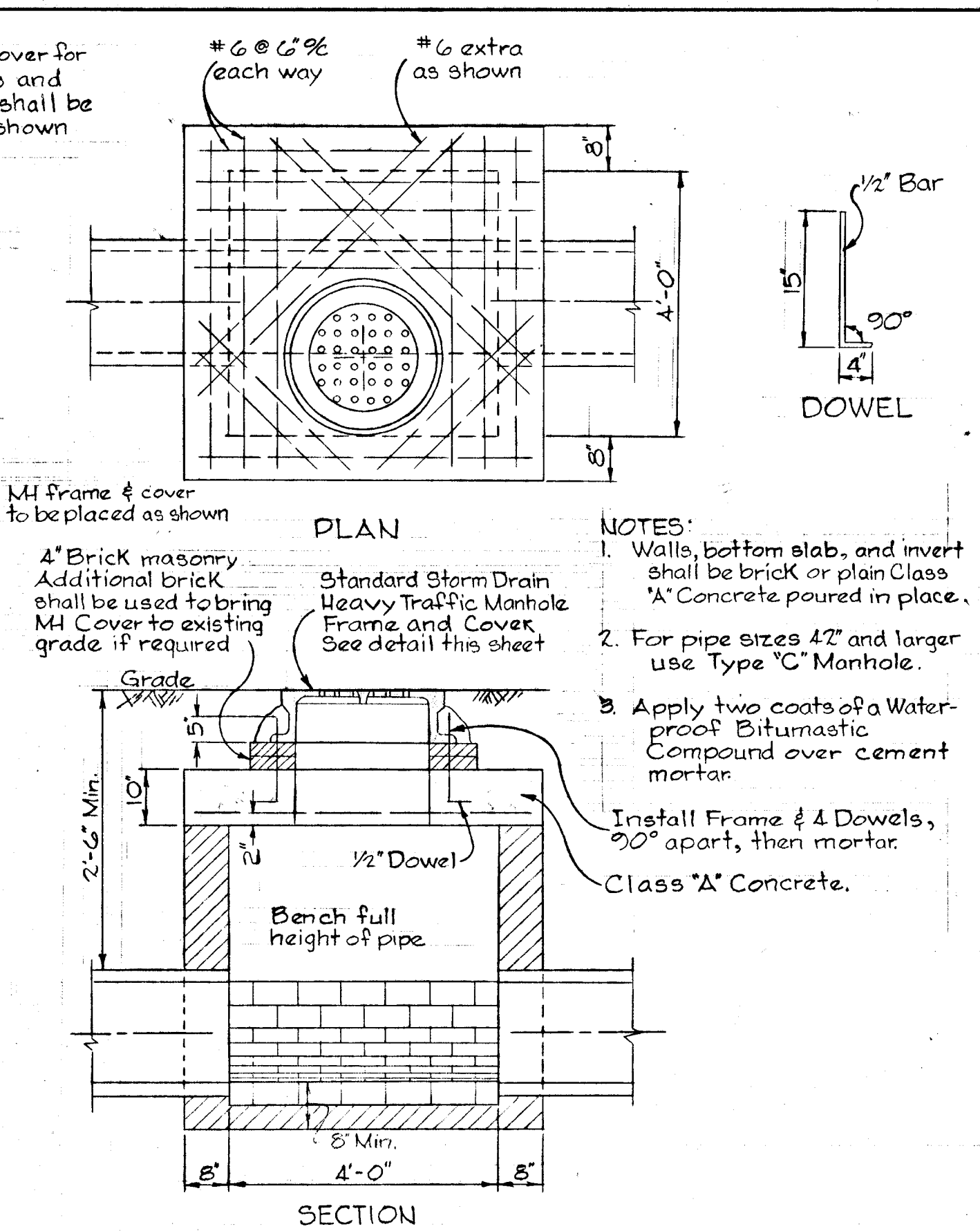
TYPE "O" HEADWALL

FIELD CONNECTION

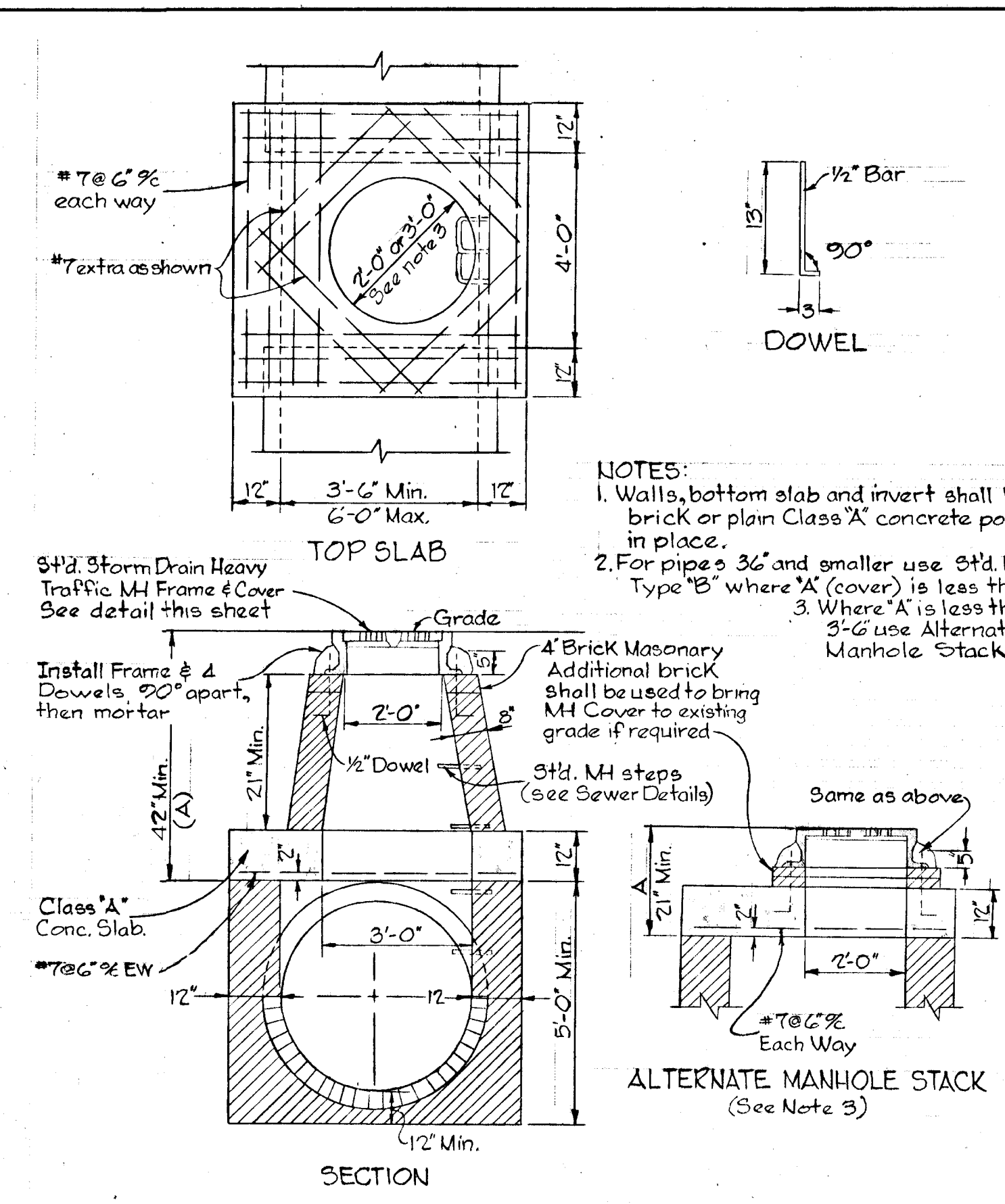
W.L. Duvall Designed W.L. Duvall Drawn D.D. Ranney Checked		ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204 Date: 10/11/71	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. PUBLIC IMPROVEMENTS APPROVED Principal Eng. Date: 10/29/71 Principal Arch. Date: 10/29/71 Director:	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways B. H. Madala 10/29/71 Approved Date:	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development J. H. Clawson 10/29/71 Approved Date:	Storm Drains - Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District II	REVISIONS Date Description By 69-0052 Drawing 11 GBFM-U-3 Contract No.	Sheet 1A of 2A F-71-37
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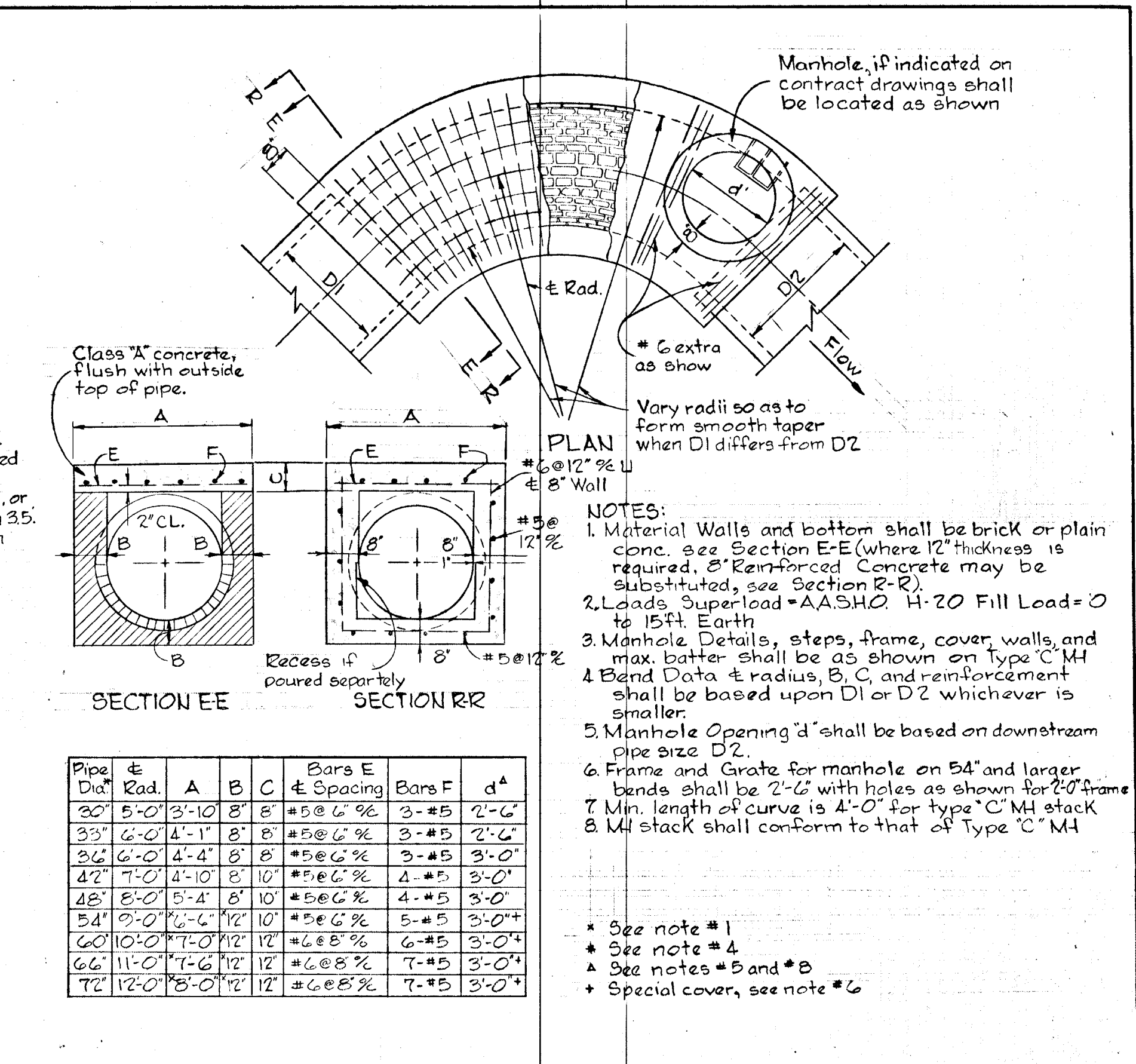
HEAVY TRAFFIC MANHOLE FRAME & COVER



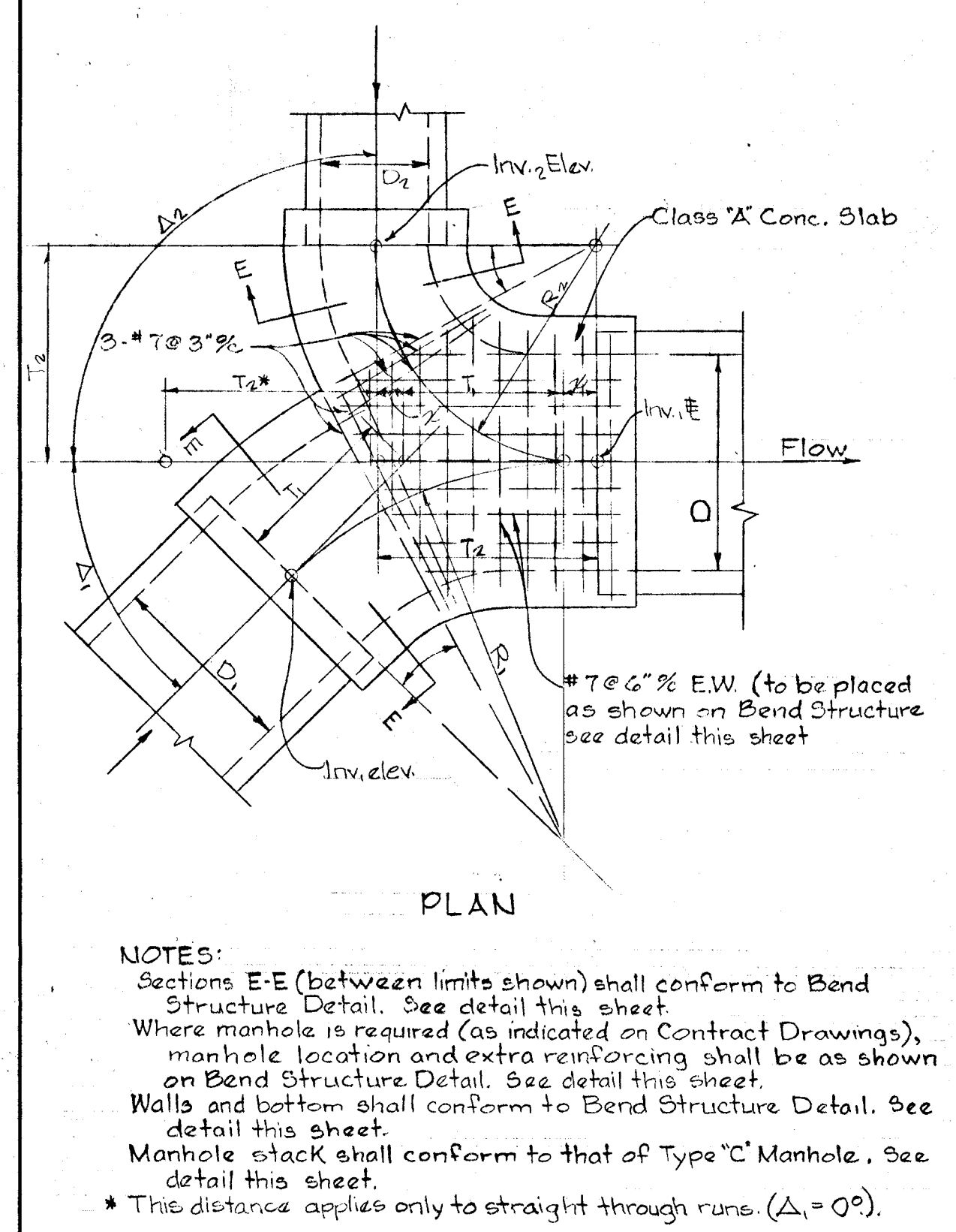
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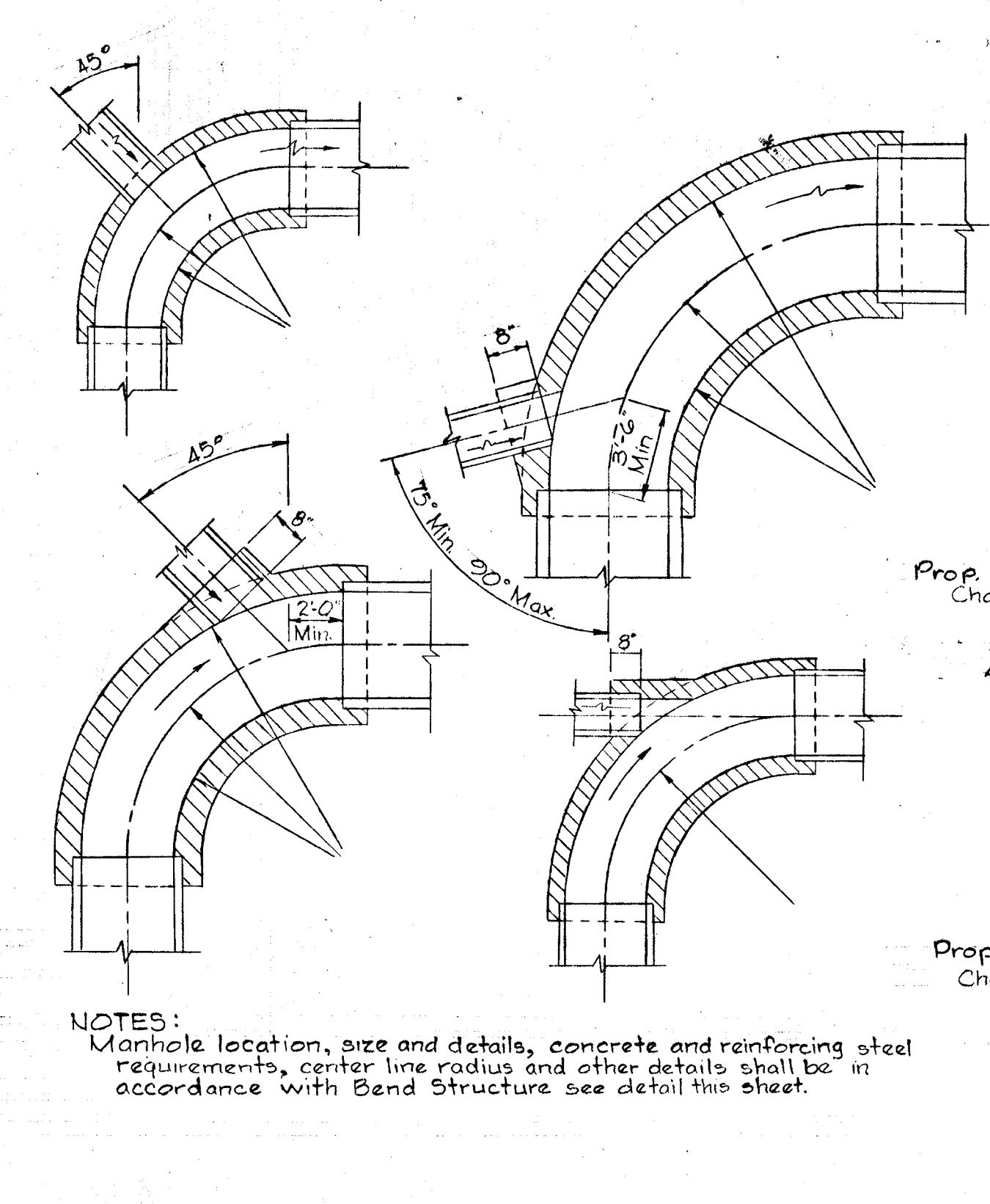
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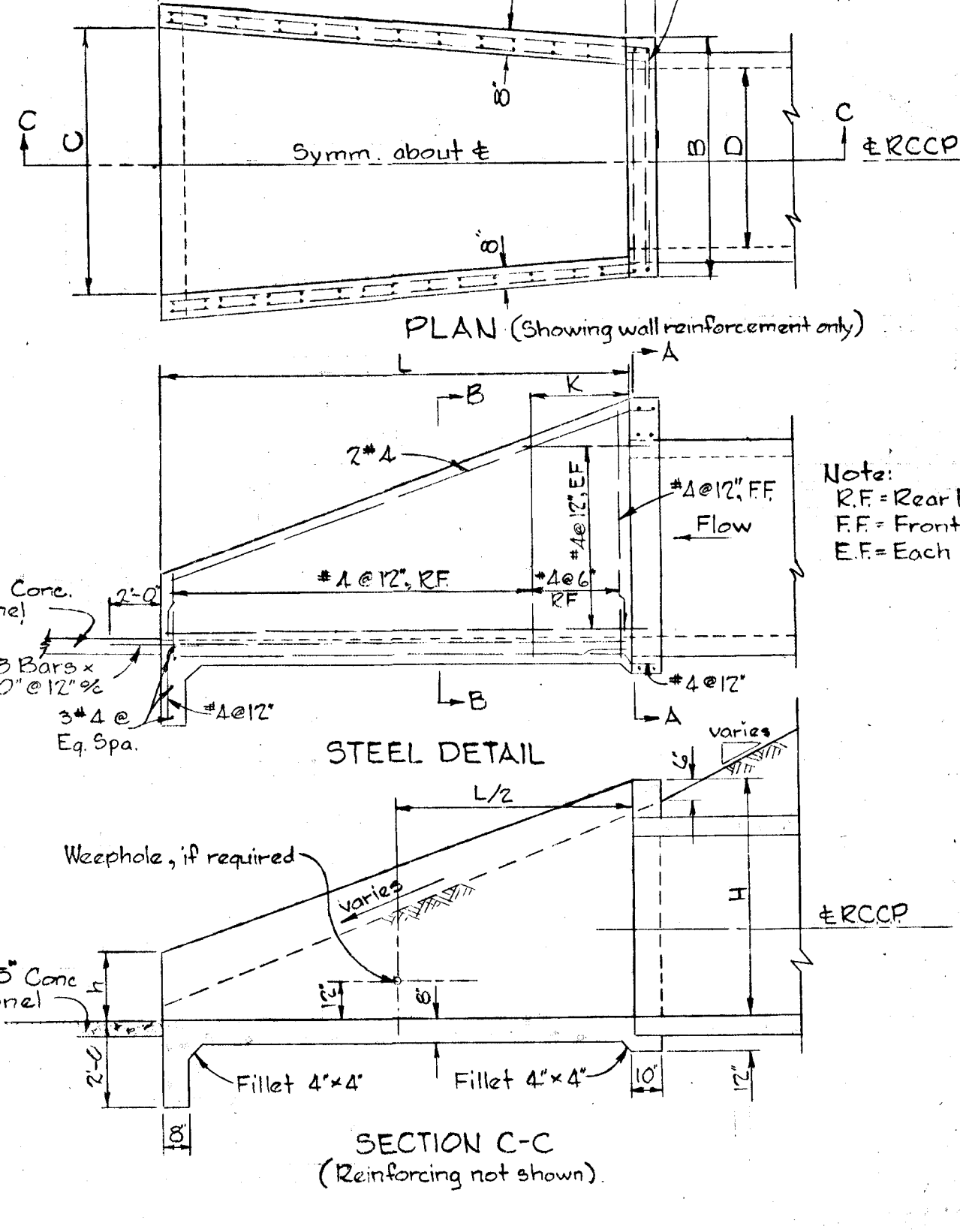
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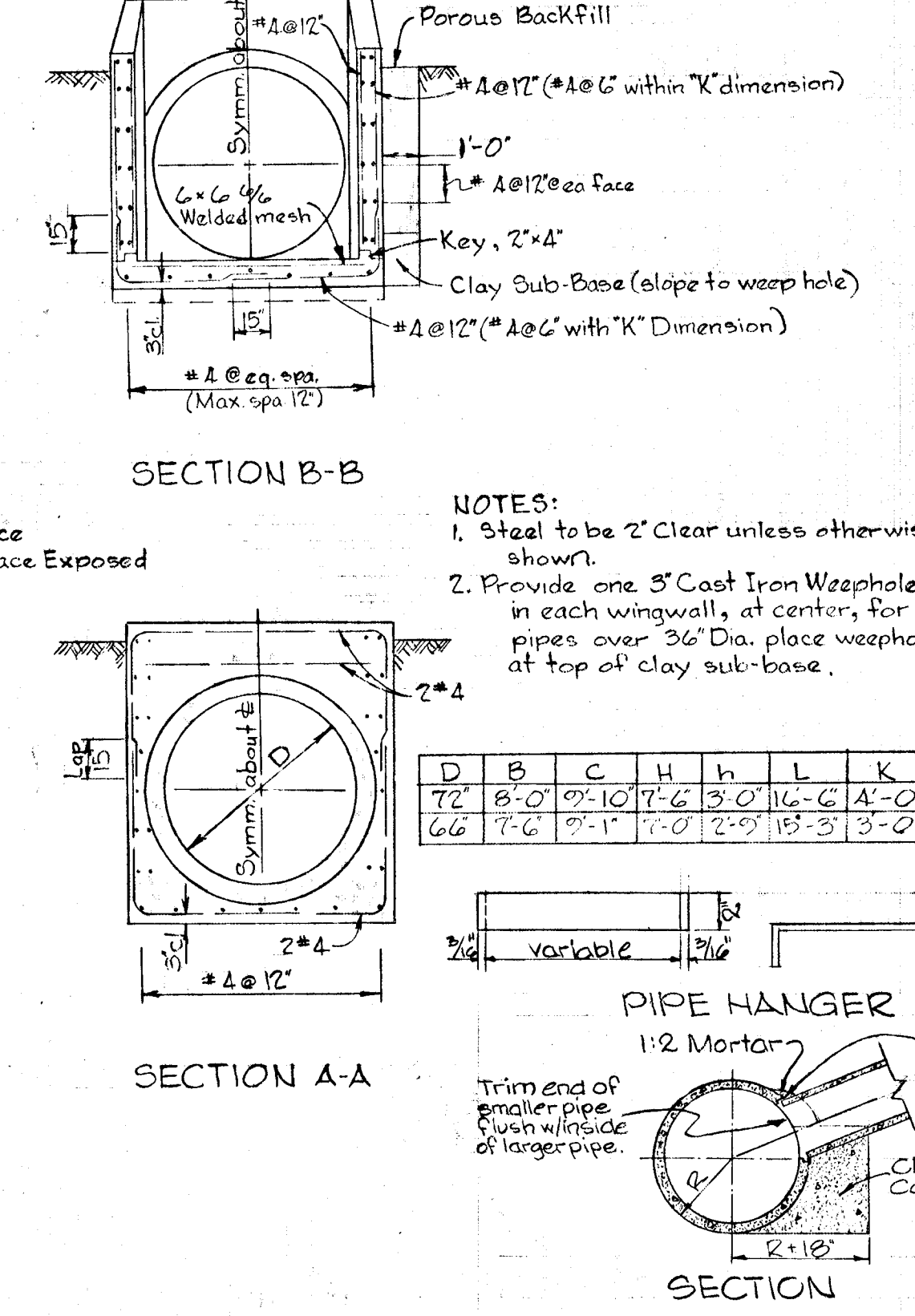
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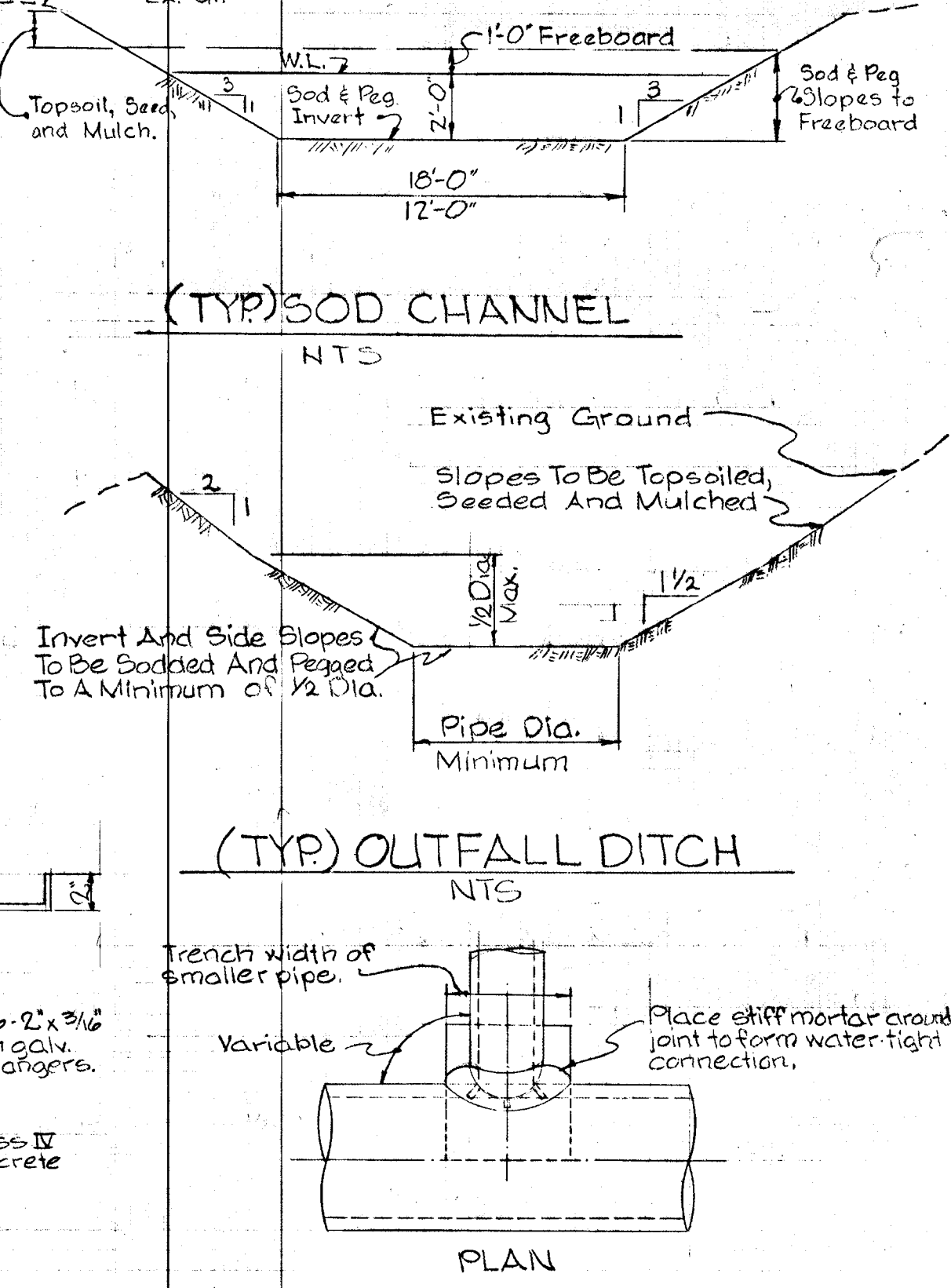
CONNECTIONS TO BEND STRUCTURES



DETAILS



TYPE "O" HEADWALL



FIELD CONNECTION

W. L. Duvall Designed		ENGINEER GEO. WM. STEPHENS, JR. AND ASSOCIATES, INC. Towson, Md. 21204	OWNER AND DEVELOPER Greater Baltimore Food Market Authority 1115 One Charles Center Baltimore, Md. 21201	DEPT. OF GENERAL SERVICES Principal Eng. Date Principal Arch. 11/17/71 S.E. M.E. E.E. C.E. Director	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Highways Approved	OFFICE OF PLANNING AND ZONING Chief Engineer, Division of Land Development Approved	Storm Drains - Phase One GREATER BALTIMORE CONSOLIDATED WHOLESALE FOOD MARKET Howard County, Maryland Election District II	DEPT. GEN. SER. PROJ. # B694B	REVISIONS Date Description By 9/26/73 AS BUILT GWS	Sheet 24 of 24 60-C052 Drawing 116 GBFM-D-1 GBFM-D-3 Contract 116
W. L. Duvall Drawn		Charles L. Dick 2048 10/1/71 Prof. Engr. Reg. Date								
D.D. Ranney Checked										