



**CUY-90-14.90**

**PID 77332/85531**

---

**APPENDIX EX-23**

---

**CUY-090-1164 PID 0.284**

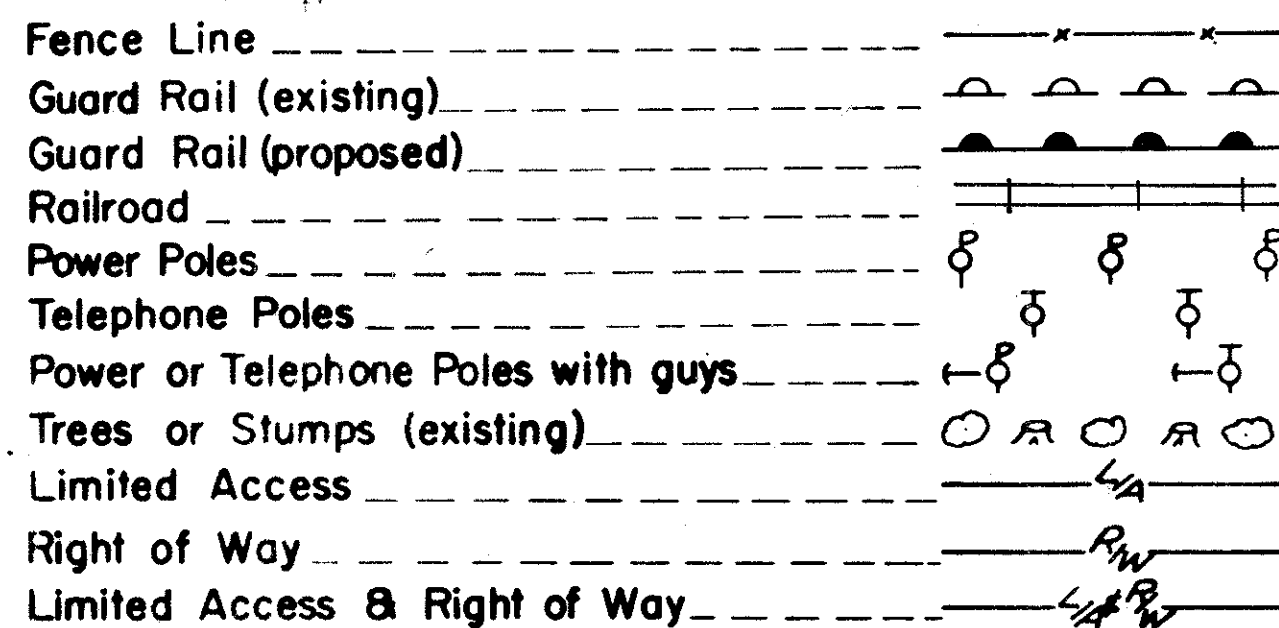
**(Reference Document)**

State of Ohio  
Department of Transportation  
Jolene M. Molitoris, Director

**Innerbelt Bridge  
Construction Contract Group 1 (CCG1)**

P.19

CONVENTIONAL SIGNS



Sheets 611, 631, 633, 644, 647, 648, 652, 668, 674, 675, 684, 692, 696, 697, 699, 706, 6718 revised 10-31-75 EBL

Sheets 624, 625, 635 revised 11-14-75 EBL, Sheets 674, 697, 699, 663, revised 12-8-75 EBL, Sheet 642 revised 2-2-76 EBL, Sheet 696 revised 3-22-76 EBL

Sheet 139, 621, 623, 637, 638, 679, 681, 689 revised 4-23-76 EBL

Sheet 707 revised 6-2-77 EBL

INDEX OF SHEETS

Table listing sheet titles and page numbers, including Title Sheet, Schematic Plan & Profile, Ramp Profiles, Marginal & Frontage Road Profiles, Geometric Layout, etc.

LINE DATA

DELETED SHEETS - 81, 294, 483-487, 562-566, 729-733, 601-610, 729-733

BEGIN PROJECT STA. 792+00.00, END PROJECT STA. 880+07.53, PROJECT LENGTH 8,807.53 LIN. FT. 1.668 MILES

Form for FILE NO., DATE OF LETTING, CONTRACT NO.

FEB 5 1987, MICROFILMED, SEP 30 1982

STATE OF OHIO DEPARTMENT OF TRANSPORTATION CUY-90-11.64 CITY OF CLEVELAND CUYAHOGA COUNTY

I-90-1(38)21

Table with columns: FHWA REG., STATE, PROJECT, and a circular stamp with number 838.

CUYAHOGA COUNTY CUY-90-11.64

FEDERAL REGION THE FEDERAL REGION SHOULD BE 5 INSTEAD OF 2 AS SHOWN IN PROJECT DESIGNATION BLOCK ON ALL SHEETS.

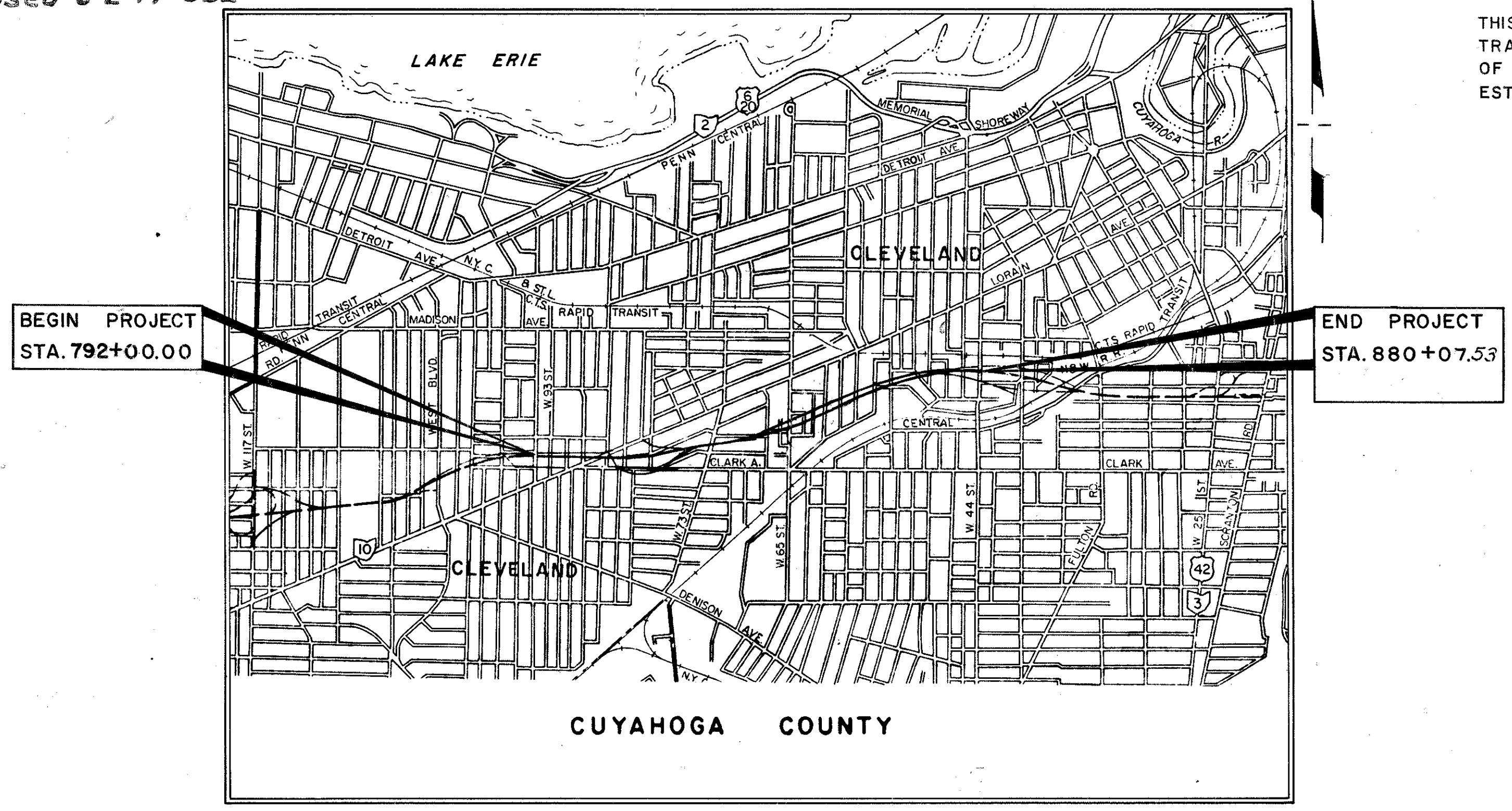
1975 SPECIFICATIONS -LIMITED ACCESS-

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF TRANSPORTATION IN ACCORDANCE WITH PROVISIONS OF SECTION 5511.02 REVISED CODE OF OHIO.

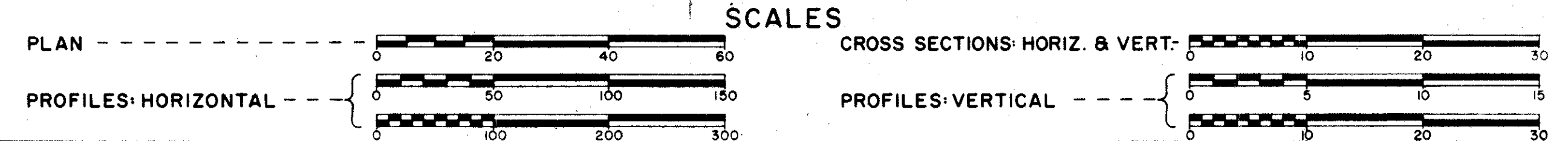
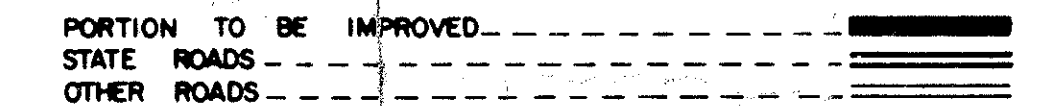
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

THE RIGHT OF WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING OF THE HIGHWAY TO TRAFFIC AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.



LOCATION MAP



SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS table with columns for drawing type and sheet number.

SUPPLEMENTAL SPECIFICATIONS FOR ADDITIONAL SPECIFICATIONS SEE SUPPLEMENTAL SPECIFICATIONS M.E.L.P. ATTACHED TO PLANS.

PREPARED AND RECOMMENDED BY DALTON - DALTON - LITTLE ARCHITECTS ENGINEERS PLANNERS CLEVELAND - AKRON, OHIO

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION APPROVED: DIVISION ENGINEER DATE

- APPROVED [Signature] DATE [Date] DIRECTOR OF PUBLIC SERVICE, CITY OF CLEVELAND
APPROVED [Signature] DATE [Date] DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION
APPROVED [Signature] DATE [Date] ENGINEER, BUREAU OF BRIDGES
APPROVED [Signature] DATE [Date] ENGINEER, BUREAU OF ROADWAY DESIGN
APPROVED [Signature] DATE [Date] ASSISTANT DEPUTY DIRECTOR FOR HIGHWAY DESIGN
APPROVED [Signature] DATE [Date] ASSISTANT DEPUTY DIRECTOR FOR REAL ESTATE
APPROVED [Signature] DATE [Date] ASSISTANT DEPUTY DIRECTOR FOR PROGRAM DEVELOPMENT
APPROVED [Signature] DATE [Date] CHIEF ENGINEER, DESIGN
APPROVED [Signature] DATE [Date] ASSISTANT DIRECTOR, DEPARTMENT OF TRANSPORTATION
APPROVED [Signature] DATE [Date] DIRECTOR, DEPARTMENT OF TRANSPORTATION

Table with columns for drawing number and date, listing various sheets and their revision dates.





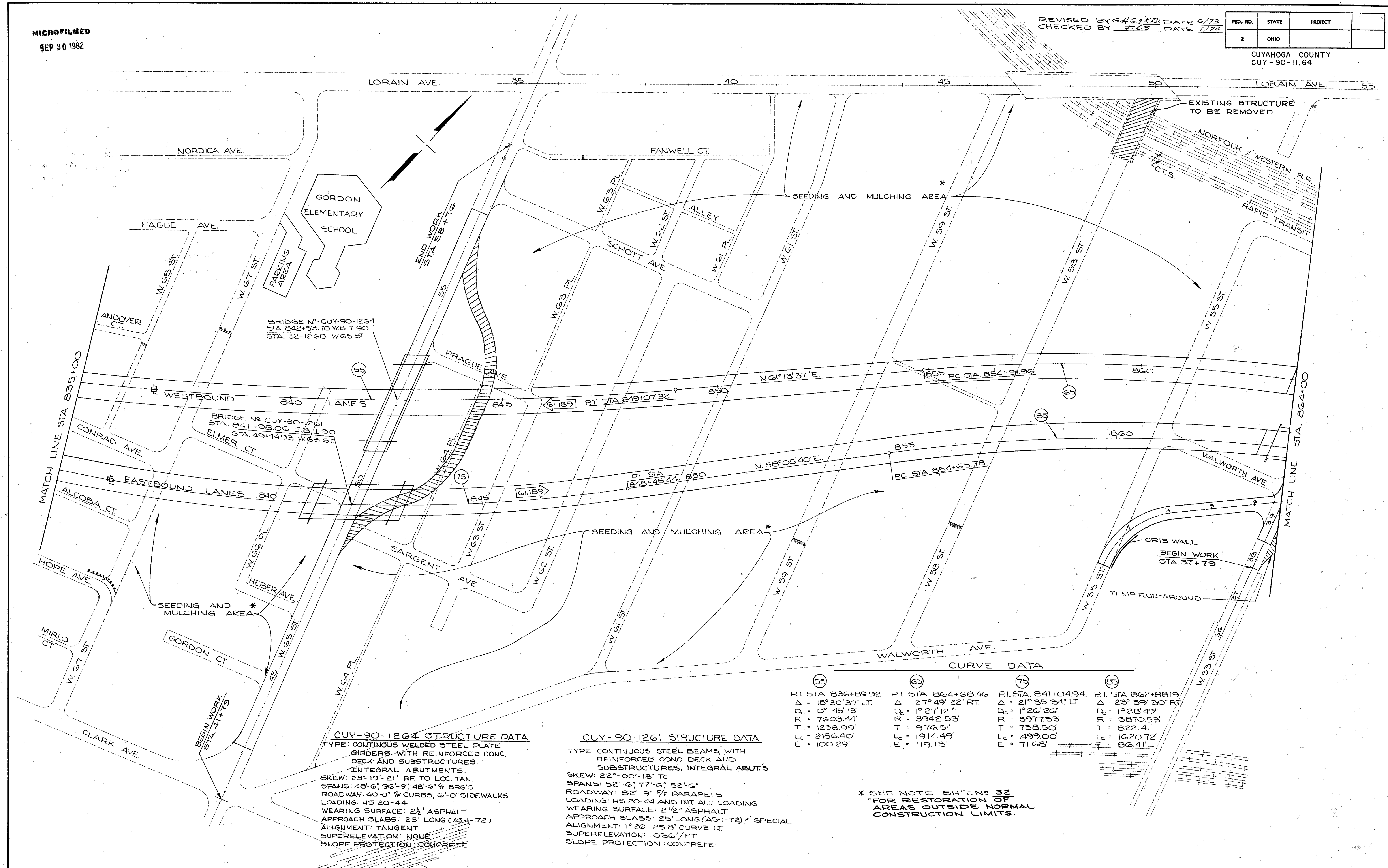
MICROFILMED  
SEP 30 1982

REVISED BY G.H.G.F.R.D. DATE 6/73  
CHECKED BY J.L.S. DATE 7/74

FED. RD.	STATE	PROJECT
2	OHIO	

4  
838

CUYAHOGA COUNTY  
CUY-90-11.64



BRIDGE NO. CUY-90-1264  
STA. 842+53.70 WB I-90  
STA. 52+12.68 W65 ST

BRIDGE NO. CUY-90-1261  
STA. 841+98.06 E.B. I-90  
STA. 49+44.93 W65 ST

**CUY-90-1264 STRUCTURE DATA**  
TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONC. DECK AND SUBSTRUCTURES. INTEGRAL ABUTMENTS.  
SKEW: 23° 19' 21" RF TO LOC. TAN.  
SPANS: 48'-6", 96'-9", 48'-6" BRG'S  
ROADWAY: 40'-0" CURBS, 6'-0" SIDEWALKS.  
LOADING: HS 20-44  
WEARING SURFACE: 2 1/2" ASPHALT.  
APPROACH SLABS: 25' LONG (AS-1-72)  
ALIGNMENT: TANGENT  
SUPERELEVATION: NONE  
SLOPE PROTECTION: CONCRETE

**CUY-90-1261 STRUCTURE DATA**  
TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONC. DECK AND SUBSTRUCTURES. INTEGRAL ABUT'S  
SKEW: 22°-00'-18" TC  
SPANS: 52'-6", 77'-6", 52'-6"  
ROADWAY: 82'-9" PARAPETS  
LOADING: HS 20-44 AND INT ALT. LOADING  
WEARING SURFACE: 2 1/2" ASPHALT  
APPROACH SLABS: 25' LONG (AS-1-72) SPECIAL  
ALIGNMENT: 1° 26' - 25.8' CURVE LT.  
SUPERELEVATION: .036'/FT.  
SLOPE PROTECTION: CONCRETE

**CURVE DATA**

(55)	(65)	(75)	(85)
P.I. STA. 836+89.92	P.I. STA. 864+68.46	P.I. STA. 841+04.94	P.I. STA. 862+88.19
Δ = 18° 30' 37" LT.	Δ = 27° 49' 22" RT.	Δ = 21° 35' 34" LT.	Δ = 23° 59' 30" RT.
D <sub>c</sub> = 0° 45' 13"	D <sub>c</sub> = 1° 27' 12"	D <sub>c</sub> = 1° 26' 26"	D <sub>c</sub> = 1° 28' 49"
R = 7603.44'	R = 3942.53'	R = 3977.53'	R = 3870.53'
T = 1238.99'	T = 976.51'	T = 758.50'	T = 822.41'
L <sub>c</sub> = 2456.40'	L <sub>c</sub> = 1914.49'	L <sub>c</sub> = 1499.00'	L <sub>c</sub> = 1620.72'
E = 100.29'	E = 119.13'	E = 71.68'	E = 86.41'

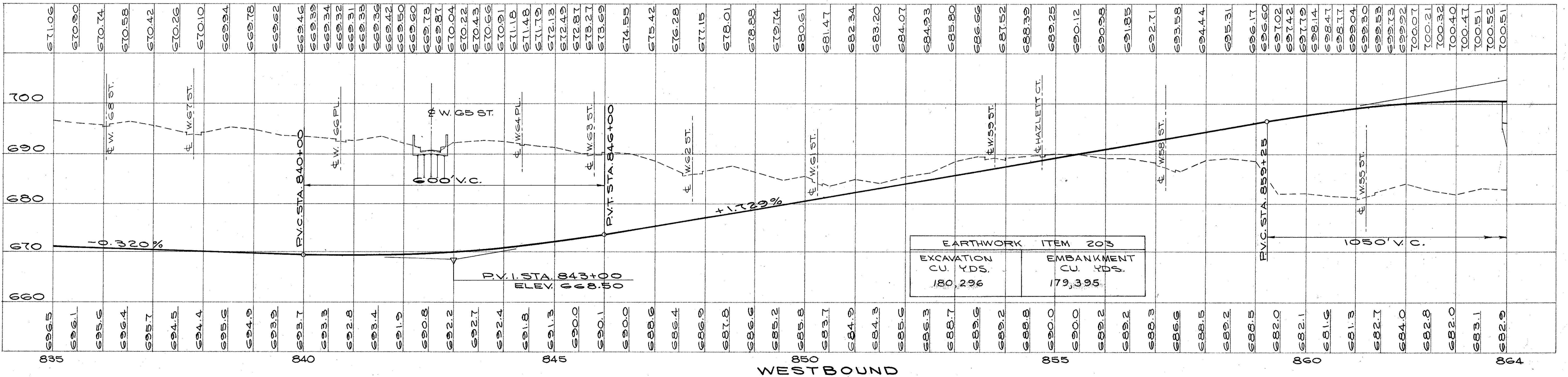
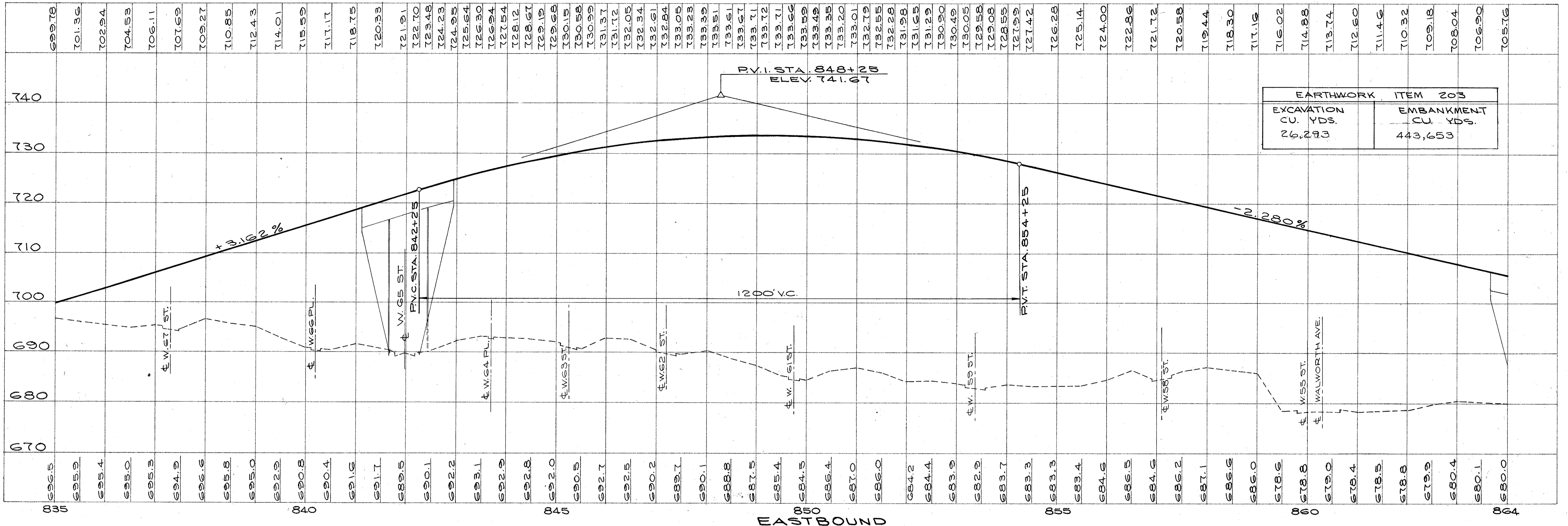
\* SEE NOTE SH'T. NO. 32 FOR RESTORATION OF AREAS OUTSIDE NORMAL CONSTRUCTION LIMITS.

SEP 30 1982

CALCULATED BY R.E.R. DATE 1/71  
 CHECKED BY R.F.D. DATE 3/72  
 REVISED BY R.D.H. DATE 2-75  
 CHECKED BY B.P.K. DATE 3-75

FED. RD.	STATE	PROJECT
2	OHIO	

CUYAHOGA COUNTY  
 CUY-90-11.64  
 PART 1



EASTBOUND & WESTBOUND PROFILES

\* SEE NOTE SH.T.N. 32 FOR RESTORATION OF AREAS OUTSIDE NORMAL CONSTRUCTION LIMITS.

FED. RD.	STATE	PROJECT
2	OHIO	

6  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

CALCULATED BY R.E.R. DATE 1/71  
CHECKED BY R.E.D. DATE 3/72

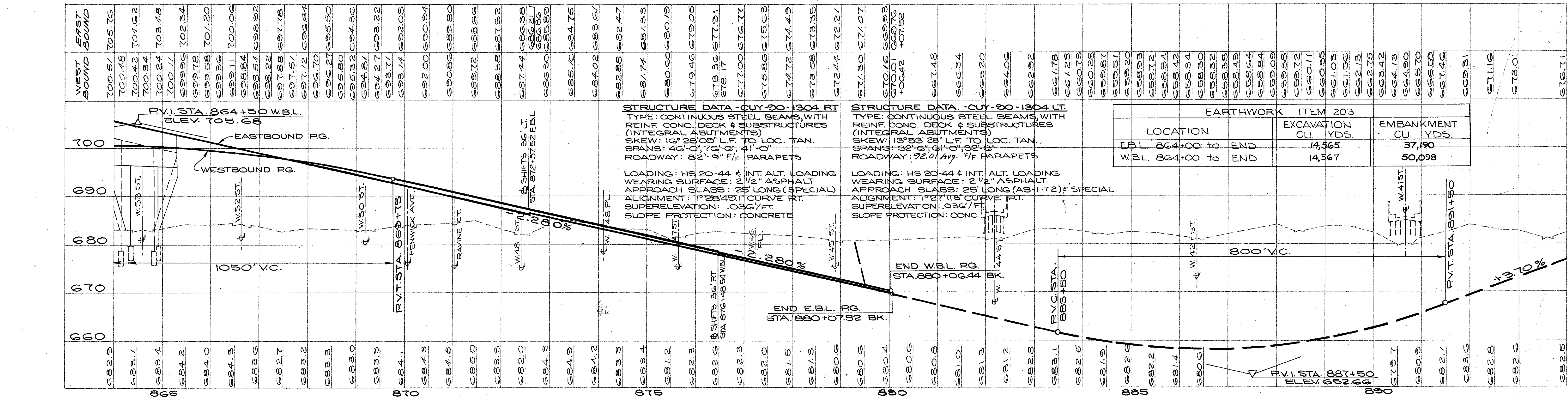
(A) CURVE DATA  
P.I. STA. 885+05.55  
Δ = 16°28'30" RT.  
D = 1"2800  
R = 3904.53  
T = 505.55'  
L = 1123.30'  
E = 40.73'

(84) P.I. STA. 864+08.46  
Δ = 27°49'22" RT.  
D = 1"2712"  
R = 3942.53  
T = 976.51'  
L = 1914.49'  
E = 119.13'

(85) P.I. STA. 862+88.10  
Δ = 23°59'30" RT.  
D = 1"2849"  
R = 3870.53  
T = 822.41'  
L = 1620.72'  
E = 86.41'

(86) P.I. STA. 871+72.02  
Δ = 1°17'20" RT.  
D = 0'45'13"  
R = 7603.44'  
T = 85.52'  
L = 171.02'  
E = 0.48'

(87) P.I. STA. 876+32.83  
Δ = 5°37'00" RT.  
D = 0'45'00"  
R = 7639.44'  
T = 750.00'  
L = 921'

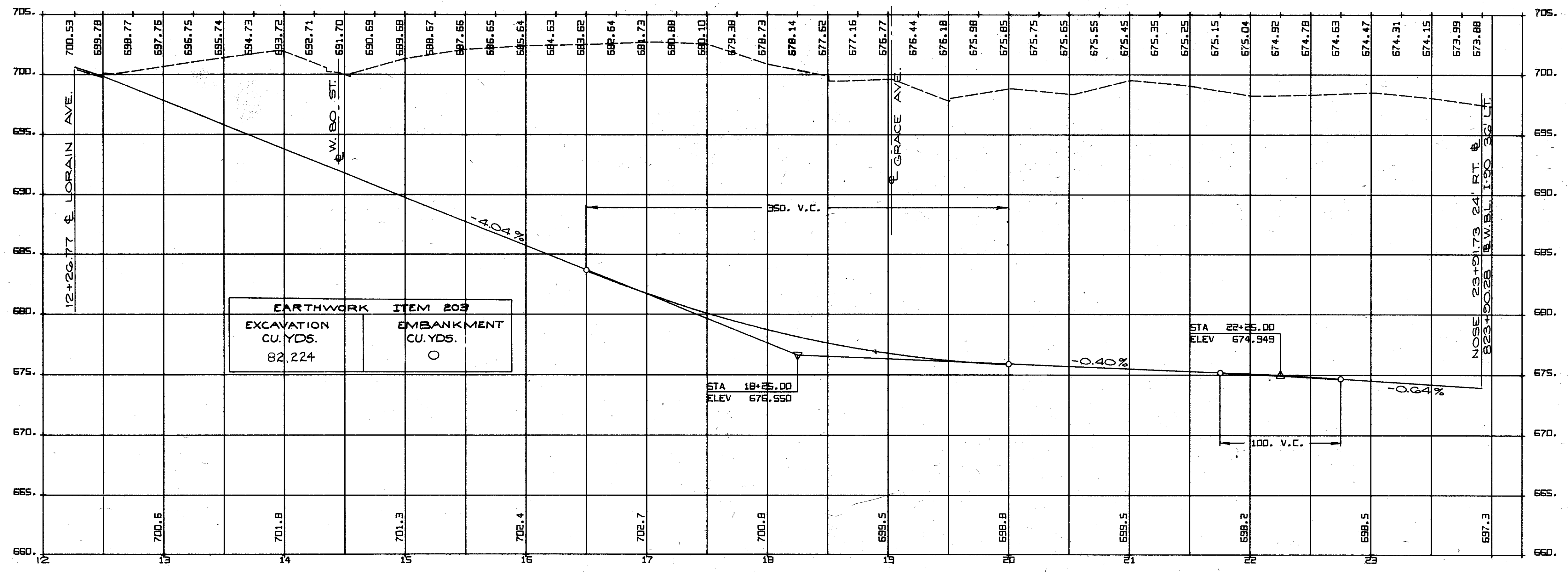


SCHEMATIC PLAN, DESIGN DESIGNATION & PROFILE

FED. RD.	STATE	PROJECT
2	OHIO	

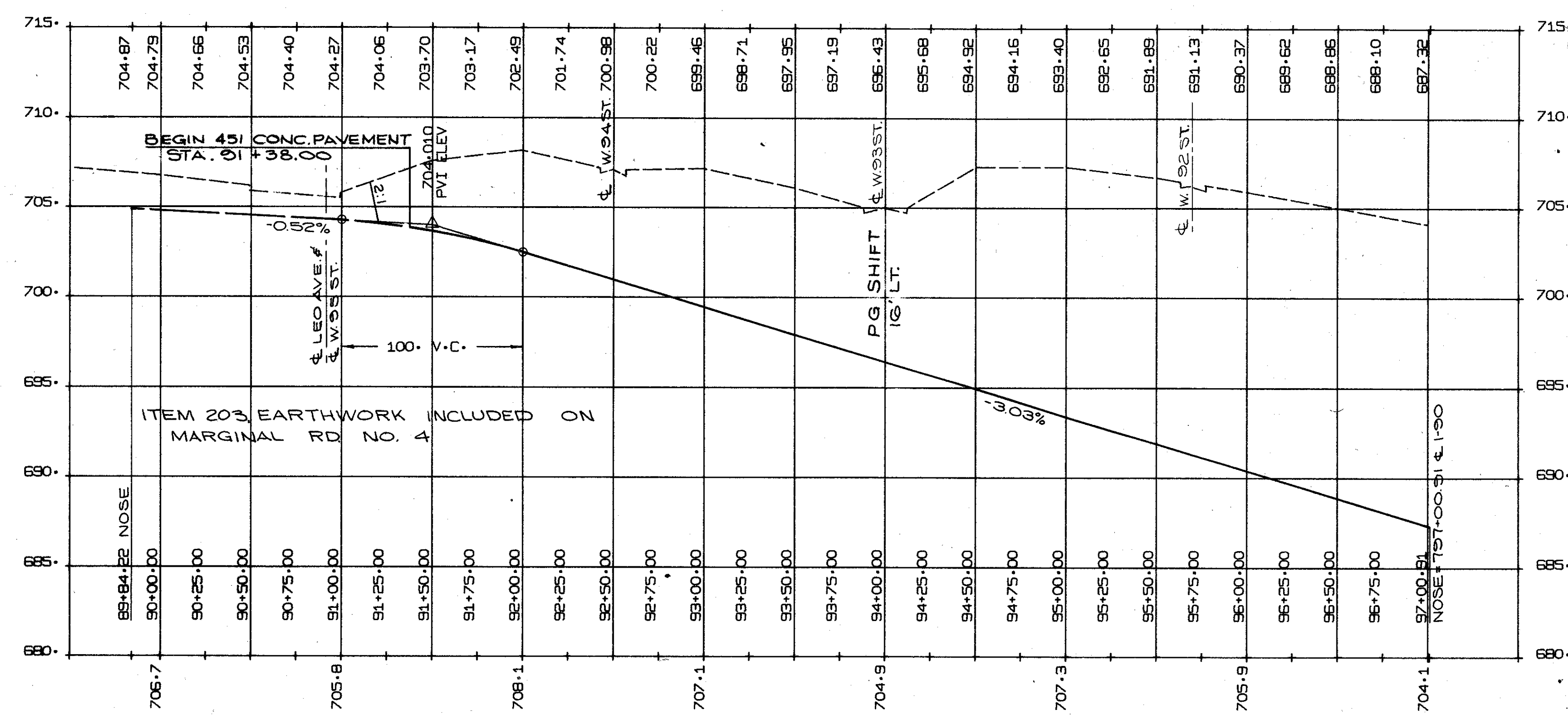
7  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
PART 1

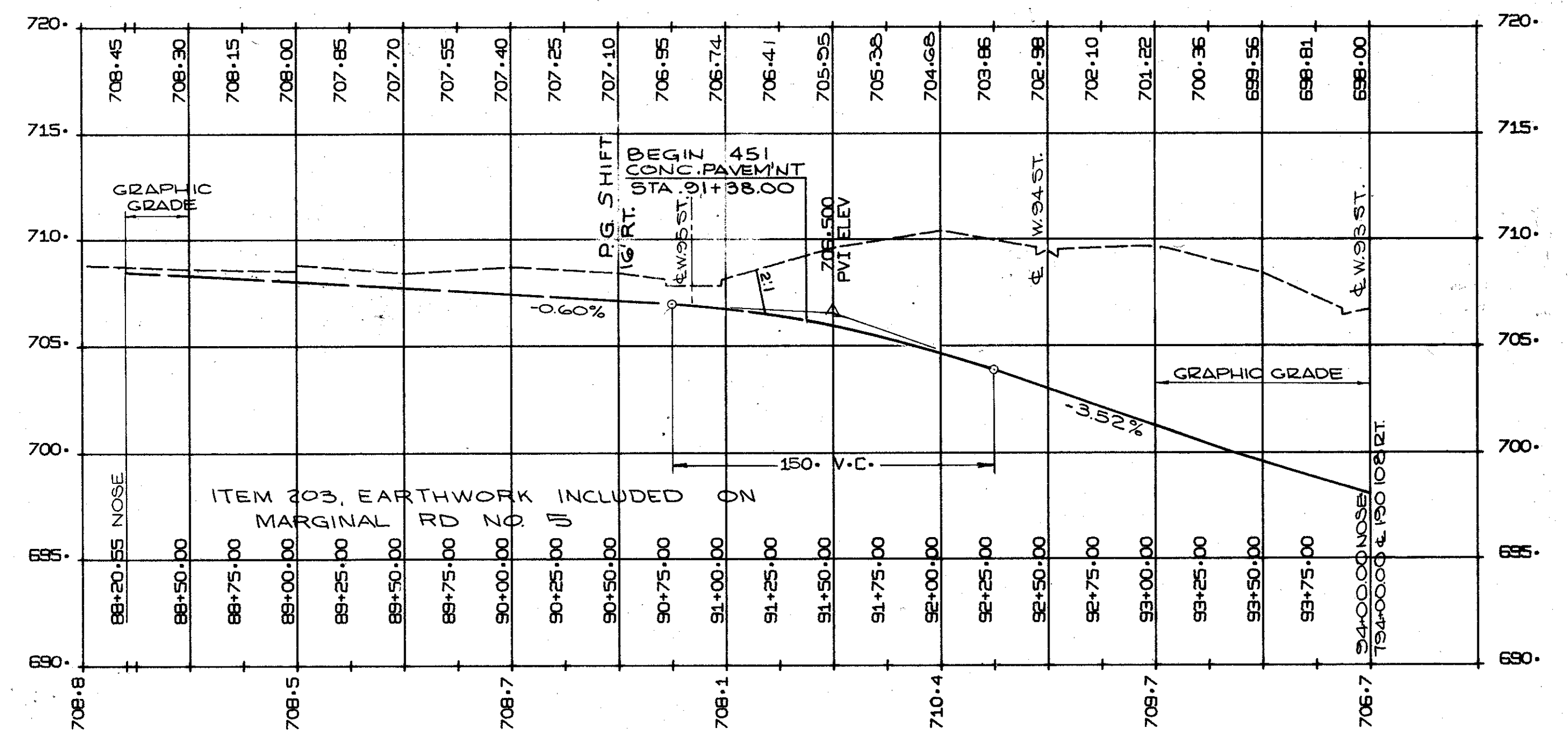


RAMP 17

CALCULATED BY R.E.R. DATE 1/71  
CHECKED BY R.E.D. DATE 3/72  
REVISED BY R.E.D. DATE 4/73  
CHECKED BY G.H.G. DATE 7/74



RAMP 15



RAMP 16

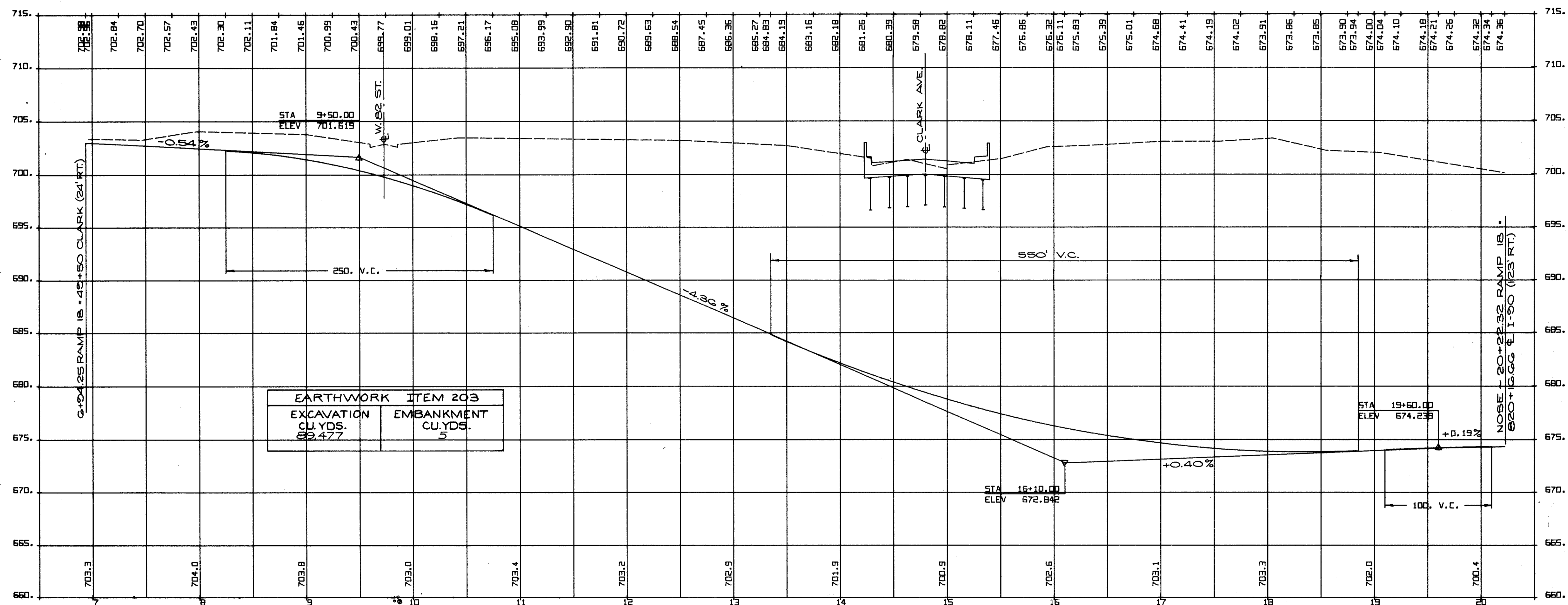
PROFILES  
RAMPS 15, 16 AND 17



FED. RD.	STATE	PROJECT
2	OHIO	

8  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64  
PART 1

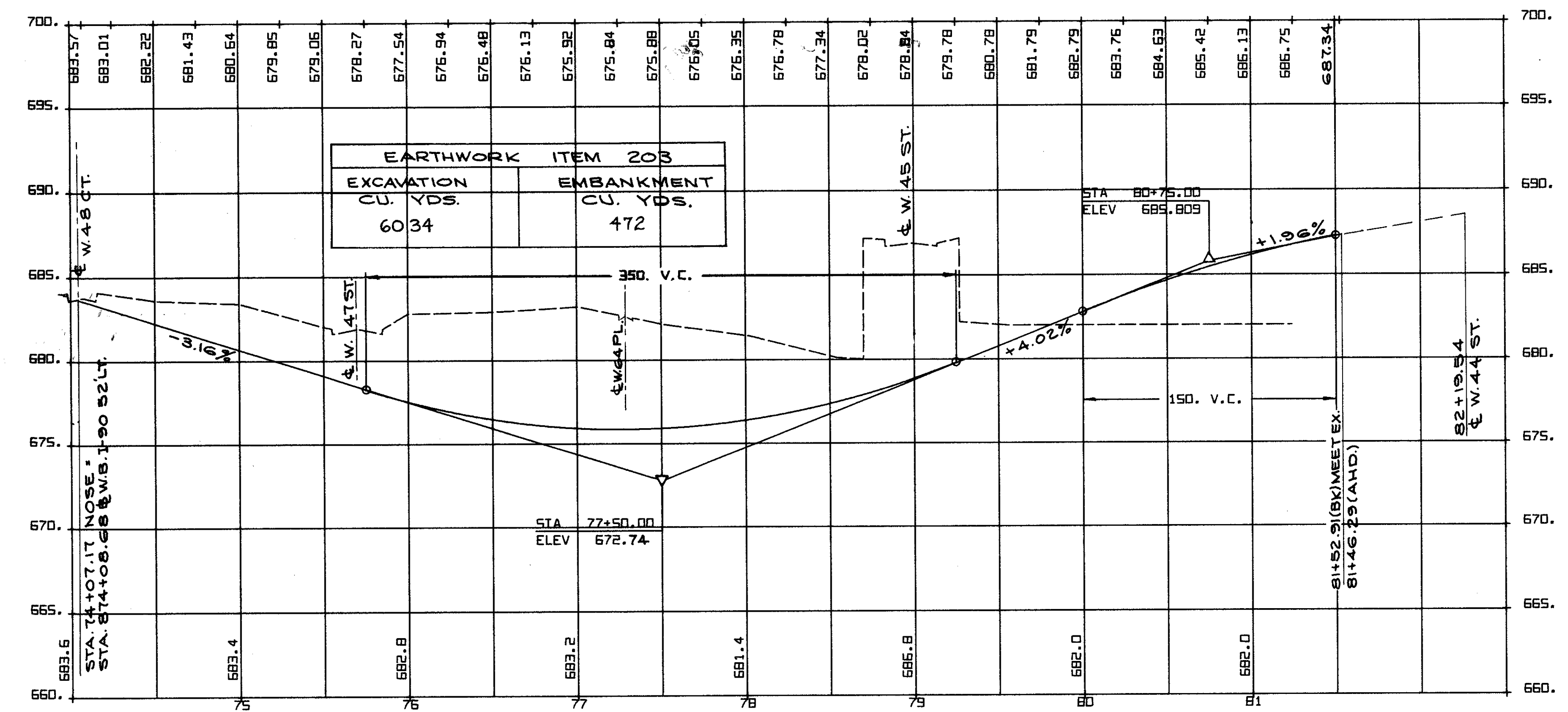


RAMP 18

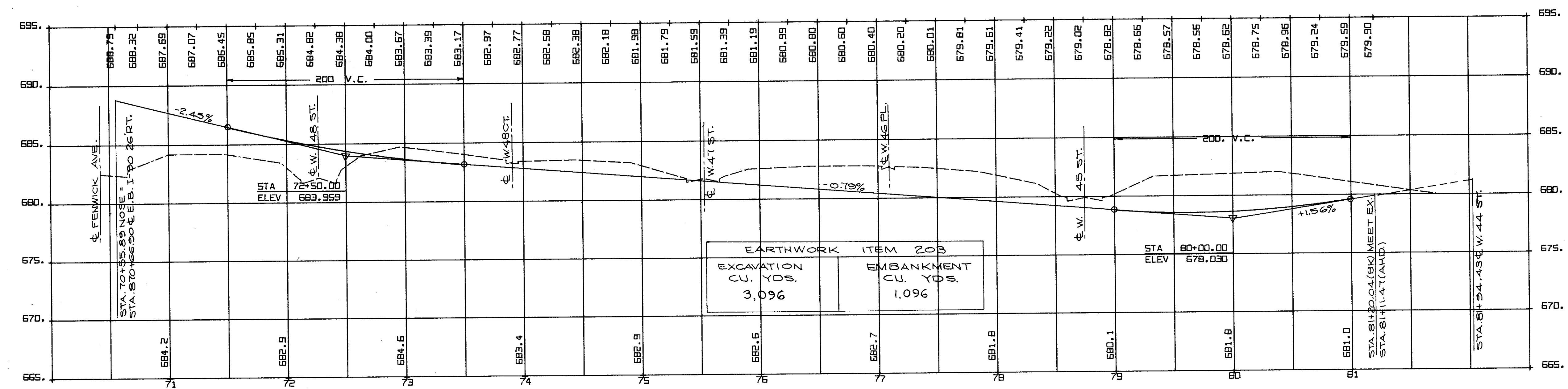
REVISED BY R.E.D. DATE 4/73  
CHECKED BY G.H.G. DATE 7/74  
CALCULATED BY R.E.R. DATE 1/71  
CHECKED BY R.C.D. DATE 3/72

PROFILE  
RAMP 18

CUYAHOGA COUNTY  
CUY - 90 - 11.64  
PART 1



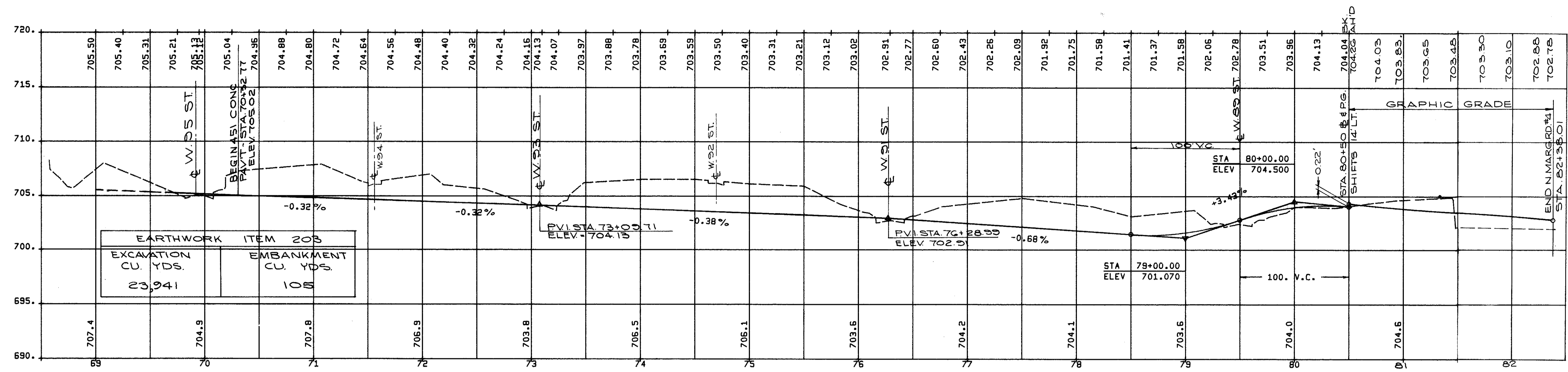
RAMP 27



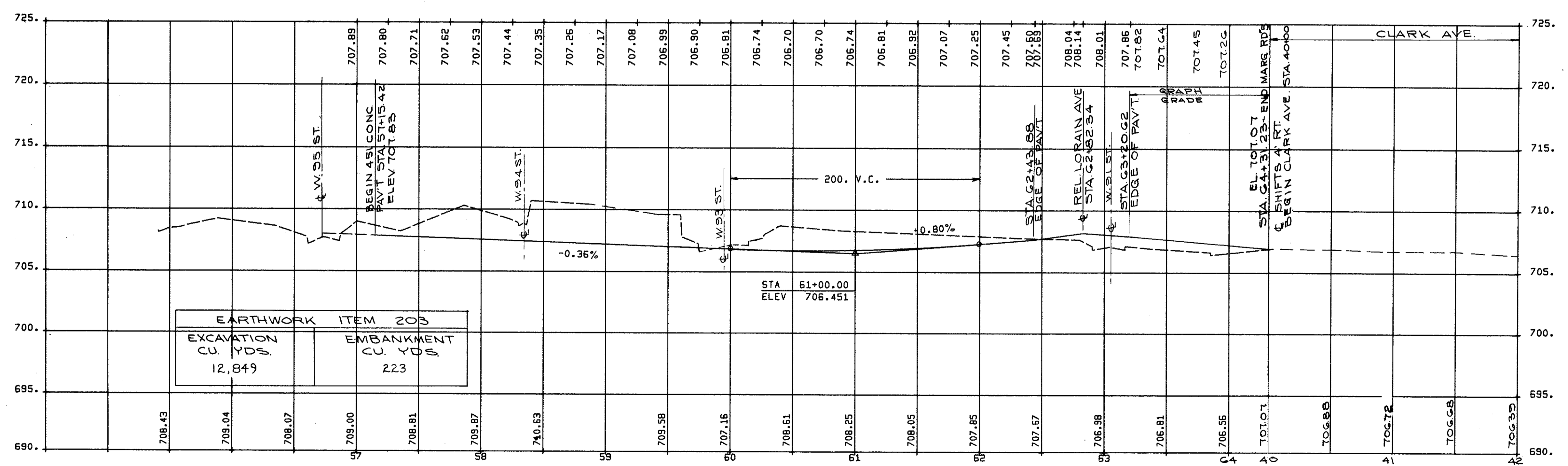
RAMP 28

REVISED B.E.K. DATE 5/73  
 CHECKED G.H.G. DATE 7/74  
 CALCULATED BY R.E.R. DATE 1/71  
 CHECKED BY R.S.D. DATE 3/72

PROFILES  
RAMPS 27 AND 28



MARGINAL RD. No. 4

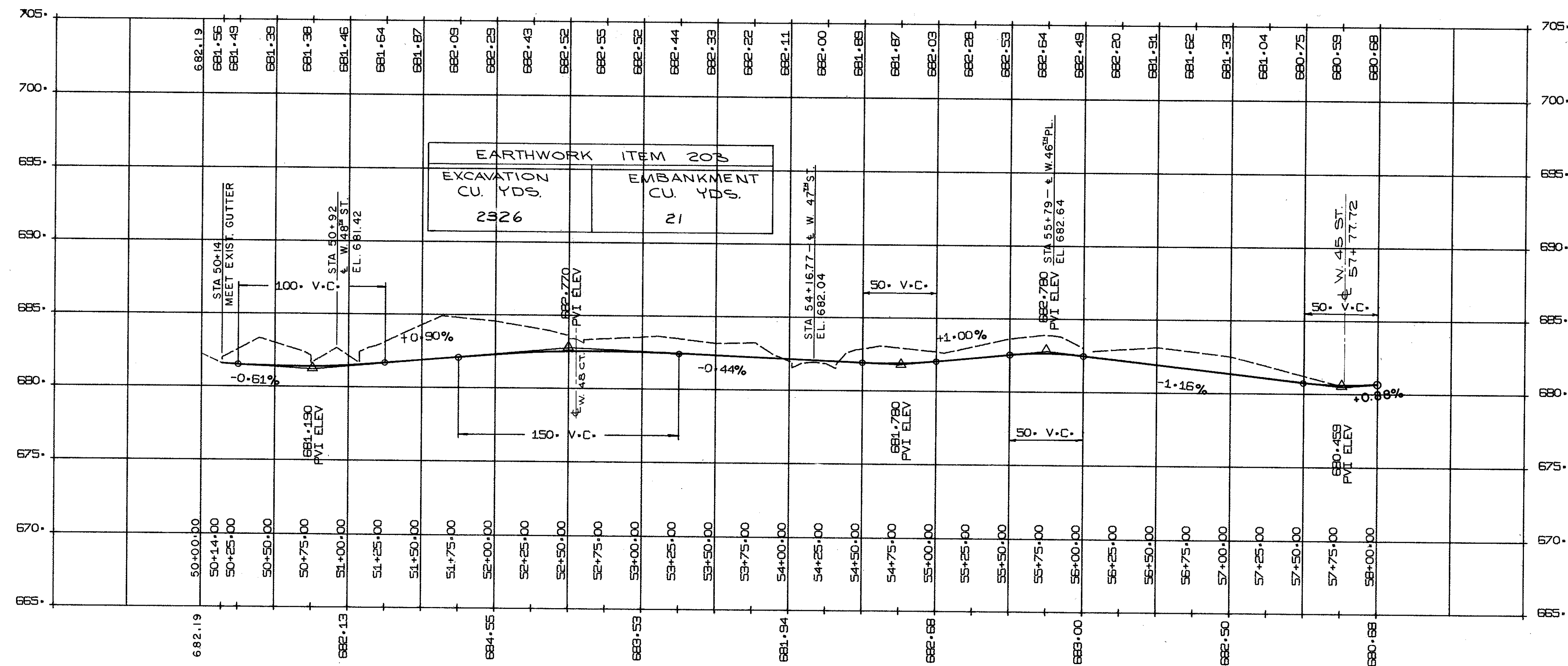


MARGINAL RD. No. 5

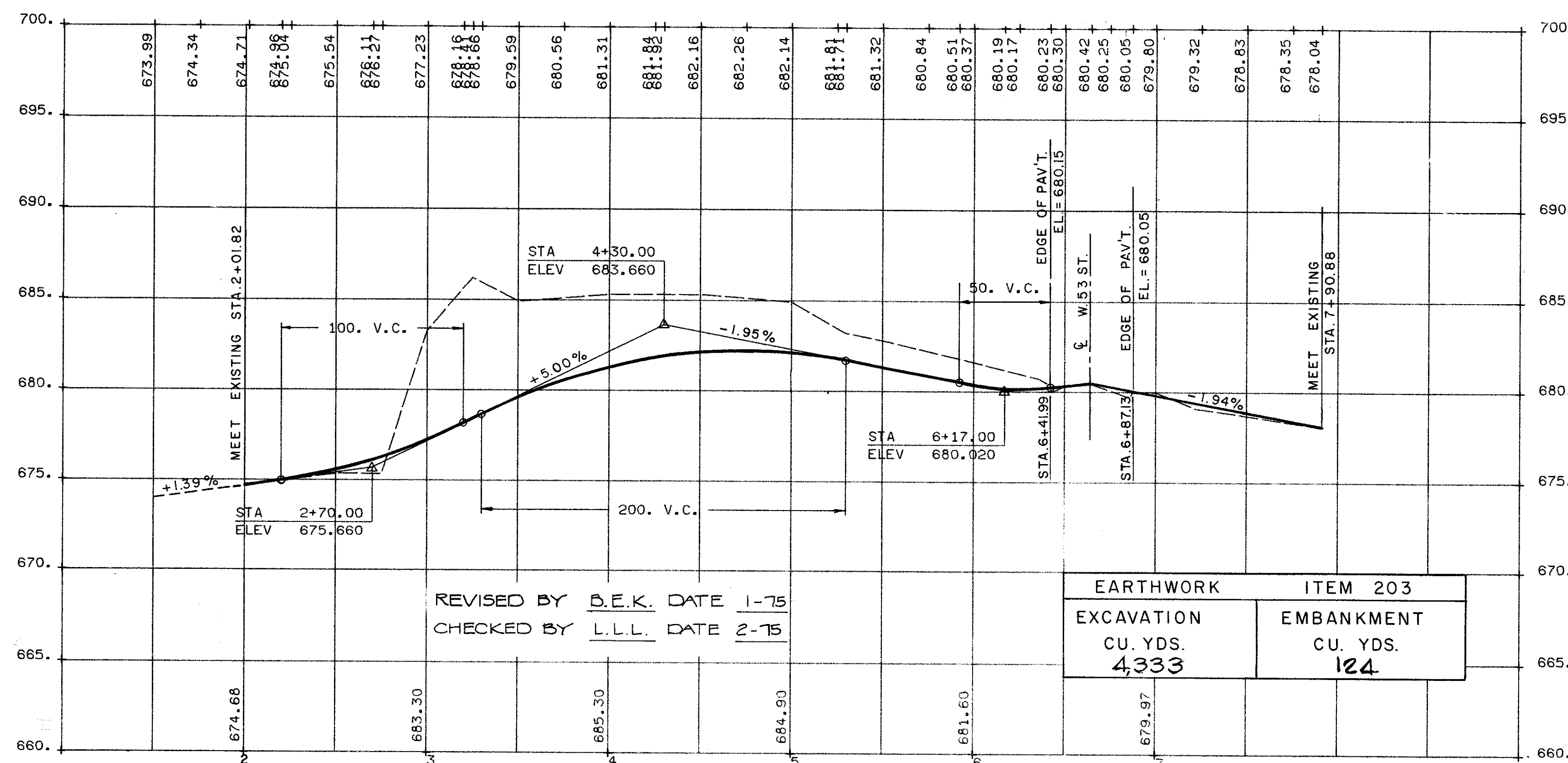
CALCULATED BY R.E.R. DATE 1/71  
CHECKED BY R.E.D. DATE 5/72

PROFILES  
MARGINAL ROAD No. 4 &  
MARGINAL ROAD No. 5

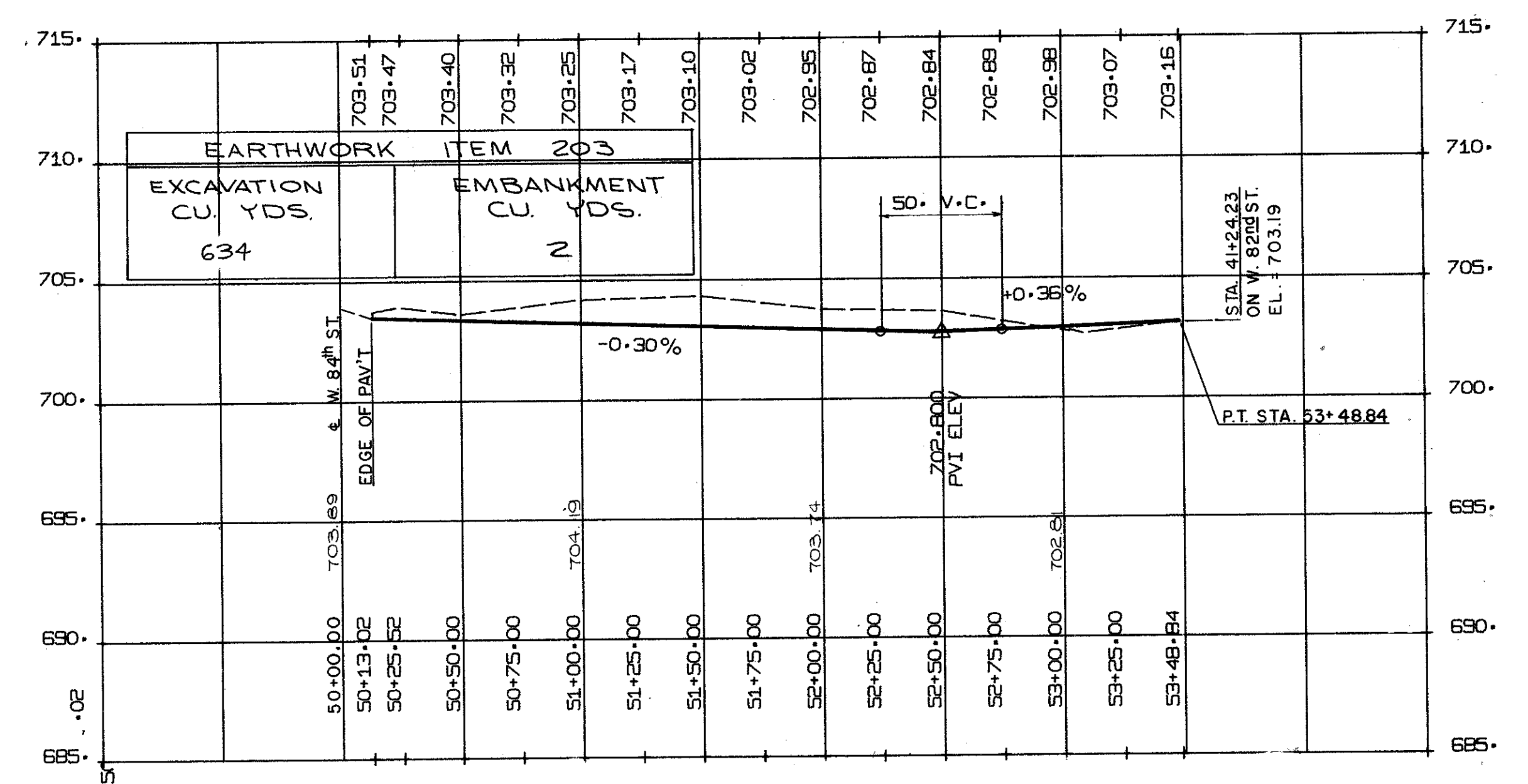
CUYAHOGA COUNTY  
CUY - 90 - 11.64  
PART 1



S. FRONTAGE RD. No 5



W. 55 ST - WALWORTH RD. CONNECTOR



RELOCATED EMILY AVENUE

PROFILES

S. FRONTAGE RD. No 5  
W. 55 ST. - WALWORTH AVE. CONN.  
RELOCATED EMILY AVE.

CALCULATED BY R.E.R. DATE 1/71  
CHECKED BY R.E.D. DATE 5/72

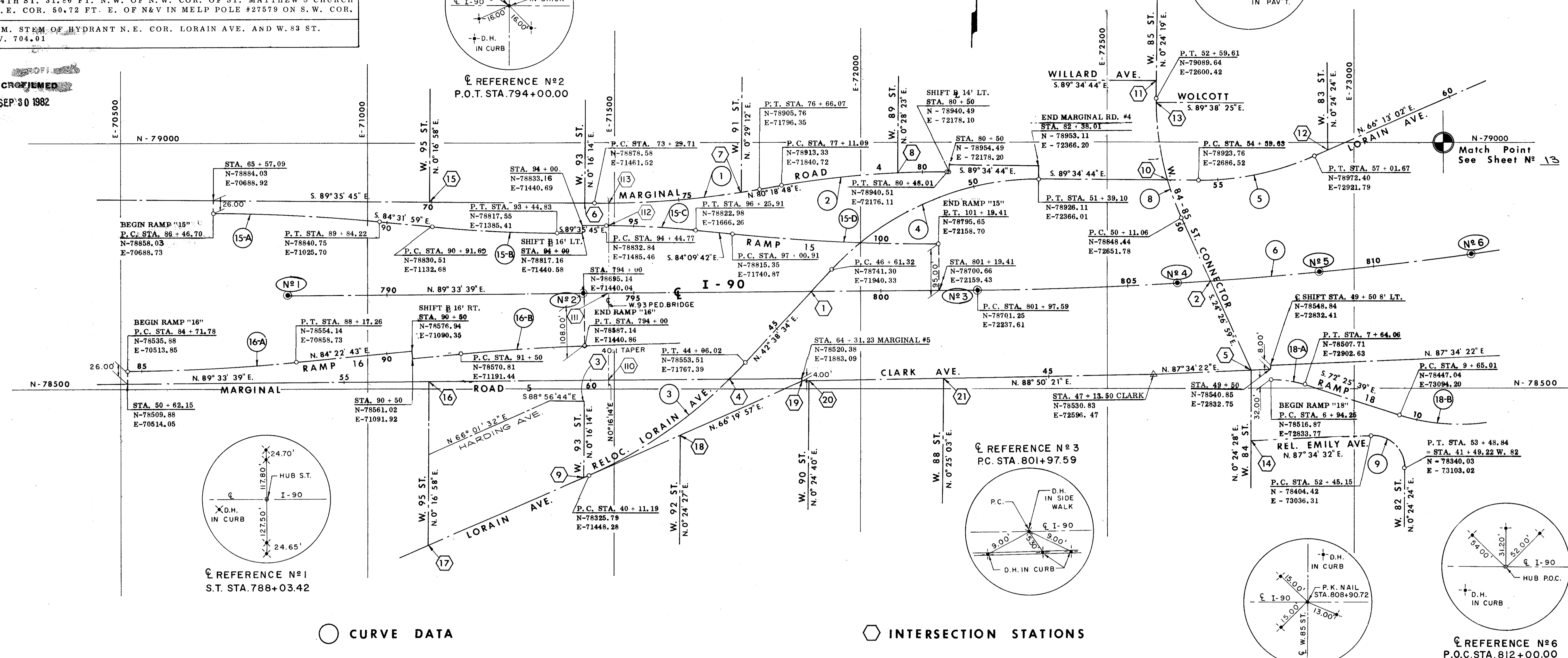
O. M. 1217 LORAIN AVE. ELEV. 706.479  
 APPROX. 27 FT. S. OF C.L. OF LORAIN AVE. AND 18 FT. W. OF C.L. OF W. 90TH ST. 9.53 FT. N.E. OF N.E. COR. OF BLDG. #9005 LORAIN. 31.62 FT. N.W. OF TOP AND CENTER OF HYD. ON S.E. COR.

O. M. 1165 CLARK AVE. ELEV. 702.963  
 APPROX. 25 FT. S. OF C.L. OF CLARK AVE. AND 24 FT. E. ON C.L. OF W. 84TH ST. 31.80 FT. N.W. OF N.W. COR. OF ST. MATTHEW'S CHURCH ON S.E. COR. 50.72 FT. E. OF N&V IN MELP POLE #27579 ON S.W. COR.

T. B. M. STEM OF HYDRANT N.E. COR. LORAIN AVE. AND W. 83 ST. ELEV. 704.01

CUYAHOGA COUNTY  
 CUY-90-11.64  
 PART 1

MICROFILMED  
 SEP 30 1982



REFERENCE #1  
 S.T. STA. 788+03.42

REFERENCE #3  
 P.C. STA. 801+97.59

REFERENCE #5  
 P.O.C. STA. 808+90.72

REFERENCE #6  
 P.O.C. STA. 812+00.00

CURVE DATA

INTERSECTION STATIONS

CODE	LOCATION	Δ	D <sub>c</sub>	R	T	L <sub>c</sub>	E	C	STATION	PI	N	E
1	MARGINAL #4	10° 05' 27"	3° 00' 00"	1909.86	168.62	336.36	7.43	335.93	74 + 98.33	78877.39	71630.13	
2	MARGINAL #4	10° 06' 28"	3° 00' 00"	1909.86	168.90	336.92	7.45	336.49	78 + 79.89	78941.75	72007.21	
3	RELOC. LOR.	23° 41' 23"	6° 00' 00"	954.93	200.28	394.83	20.78	392.02	42 + 11.47	78406.19	71631.71	
4	RELOC. LOR.	47° 46' 42"	10° 00' 00"	572.96	253.77	477.78	53.68	464.06	49 + 15.09	78927.98	72112.24	
5	RELOC. LOR.	24° 12' 14"	10° 00' 00"	572.96	122.85	242.04	13.02	240.24	55 + 82.48	78922.85	72809.37	
6	C	9° 49' 25"	0° 45' 00"	7639.44	656.52	1309.82	28.16	1308.21	808 + 54.11	78706.29	72894.10	
8	RELOC. 84-85	24° 51' 18"	10° 00' 00"	572.96	126.26	248.55	13.75	246.61	51 + 37.32	78963.38	72599.52	
15A	RAMP #15	5° 03' 46"	1° 30' 00"	3819.72	168.87	337.52	3.73	337.41	88 + 15.57	78856.83	70857.60	
15B	RAMP #15	5° 03' 46"	2° 00' 00"	2864.79	126.65	253.14	2.80	253.06	92 + 18.34	78818.44	71258.76	
15C	RAMP #15	5° 26' 03"	3° 00' 00"	1909.86	90.64	181.14	2.15	181.07	95 + 35.41	78832.20	71576.09	
15D	RAMP #15	6° 12' 39"	1° 30' 00"	3819.72	209.46	418.50	5.74	418.29	99 + 10.37	78794.05	71949.25	
16A	RAMP #16	5° 10' 56"	1° 30' 00"	3819.72	172.86	345.48	3.91	345.36	86 + 44.64	78537.21	70686.71	
16B	RAMP #16	3° 45' 00"	1° 30' 00"	3819.72	125.04	250.00	2.05	249.96	92 + 75.04	78583.06	71315.39	
18A	RAMP #18	20° 00' 00"	28° 38' 53"	200.00	35.27	69.81	3.09	69.46	7 + 29.51	78518.36	72869.01	
18B	RAMP #18	49° 15' 00"	14° 00' 00"	409.26	187.59	351.79	40.94	341.06	11 + 52.60	78390.41	73273.03	
9	REL. EMILY	92° 49' 52"	--	64.00	67.24	103.69	28.83	92.72	53 + 12.39	78407.26	73103.49	

CODE	INTERSECTION STATIONS	COORDINATES	
		N	E
1	STA 798 + 61.05 I-90	78698.67	71901.07
2	STA 806 + 70.81 I-90	78719.53	72710.39
3	STA 51 + 66.30 HARDING	78477.35	71430.23
4	STA 62 + 82.34 MARG-5	78519.24	71734.20
5	STA 49 + 09.62 CLARK	78539.14	72792.41
6	STA 73 + 09.71 MARG-4	78878.72	71441.52
7	STA 76 + 28.99 MARG-4	78899.87	71759.73
8	STA 79 + 47.97 MARG-4	78938.62	72076.10
9	STA 40 + 00.93 REL. LORAIN	78321.68	71438.89
10	STA 53 + 96.71 REL. LORAIN	78924.22	72623.60
11	STA 50 + 00 WILLARD	79126.14	72600.68
12	STA 57 + 30.24 REL. LORAIN	78983.92	72947.93
13	STA 52 + 44.88 W. 84-85	79074.91	72600.50
14	STA 50 + 00.00 REL. EMILY	78394.05	72791.38
15	STA 69 + 94.85 MARG.-4	78890.94	71126.66
16	STA 48 + 72.97 MARG.-5	78514.57	71124.86
17	STA 45 + 00.00 W. 95	78183.32	71123.22
18	STA 50 + 00.00 W. 92	78407.75	71635.27
19	STA 44 + 85.02 LORAIN	78516.38	71883.12
20	STA 49 + 93.95 W. 90	78516.67	71897.54
21	STA 42 + 85.04 CLARK	78522.53	72163.10
110	STA 60 + 35.94 MARG-5	78517.35	71487.82
111	STA 794 + 48.63 I-90	78695.51	71488.66
112	STA 94 + 48.62 RAMP-15	78832.81	71489.30
113	STA 73 + 57.71 MARG.-4	78878.58	71489.52
	STA 46 + 03.37 REL. LORAIN		
	STA 48 + 69.45 84-85 CONNTR		
	STA 46 + 13.50 93 ST.		
	STA 43 + 58.31 REL. LORAIN		
	STA 46 + 71.28 84-85 CONNTR		
	STA 50 + 21.29 93 ST.		
	STA 4 + 39.22 91 ST.		
	STA 49 + 73.94 89 ST.		
	STA 44 + 64.25 93 ST.		
	STA 50 + 91.98 84-85 CONNTR		
	STA 52 + 96.12 84-85 CONNTR		
	STA 50 + 00 83 ST.		
	STA 48 + 54.91 W. 84 ST.		
	STA 51 + 97.63 W. 95 ST.		
	STA 48 + 31.25 W. 95 ST.		
	STA 36 + 55.34 LORAIN		
	STA 42 + 14.41 LORAIN		
	STA 40 + 00.00 CLARK		
	STA 40 + 14.42 CLARK		
	STA 48 + 21 83 PED. BRIDGE		
	STA 50 + 00.00 "		
	STA 51 + 37.30 "		

T.B.M. TOP OF HYDRANT IN FRONT OF HOUSE NO. 7401 CLARK AVE.  
ELEV - 701.63

O.M. 594 W. 73RD ST. ELEV. 697.503

APPROX. 22 FT. E. OF C.L. OF W. 73RD ST. AND 26 FT. N. OF C.L. OF CLARK AVE. APPROX. 38.68 FT. N.E. OF DRILL HOLE IN MON. AT C.L. INT. 8.53 FT. S.E. OF TOP AND CENTER OF HYD. ON N.E. COR.

T.B.M. W. HEAD BOLT ON HYDRANT N.E. COR. WALWORTH & W. 59 ST.  
ELEV. 678.05

O.M. 595 W. 73RD ST. ELEV. 698.903

APPROX. 37 FT. E. OF C.L. OF W. 73RD ST. AND 28 FT. S. OF C.L. OF LORAIN AVE. 6.99 FT. E. OF N&V IN CEI POLE #12202. 15.10 FT. S.W. OF CROSS IN IRON TROLLEY POLE ON S. SIDE OF LORAIN.

T.B.M. STEM OF HYDRANT N.E. COR. HOPE AVE. & W. 70 ST. - ELEV. 696.82

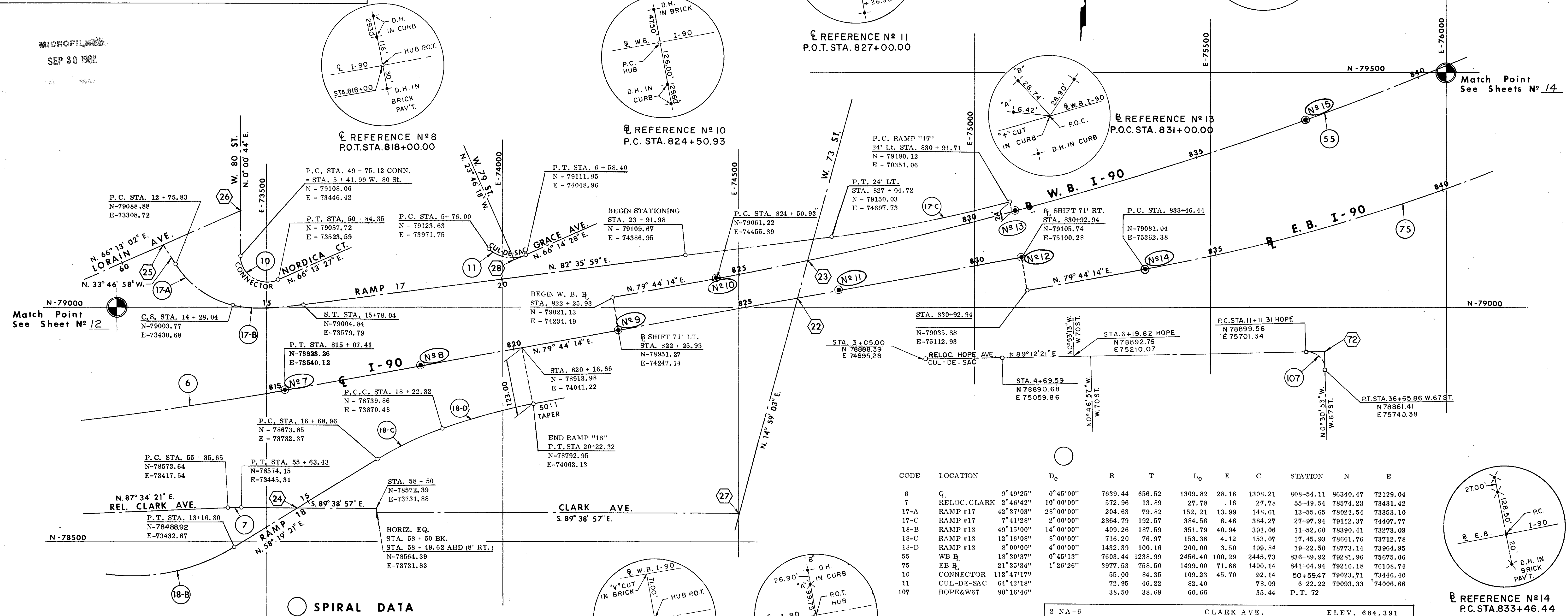
REFERENCE N° 15  
P.O.C. STA. 837+50.00

FED. RD.	STATE	PROJECT
2	OHIO	

13  
838

CUYAHOGA COUNTY  
CUI - 90 - 11.64  
PART 1

MICROFILMED  
SEP 30 1982



CODE	LOCATION	D <sub>c</sub>	R	T	L <sub>c</sub>	E	C	STATION	N	E	
6	Q	9°49'25"	0°45'00"	7639.44	656.52	1309.82	28.16	1308.21	808+54.11	86340.47	72129.04
7	RELOC. CLARK	2°46'42"	10°00'00"	572.96	13.89	27.78	.16	27.78	55+49.54	78574.23	73431.42
17-A	RAMP #17	42°37'03"	28°00'00"	204.63	79.82	152.21	13.99	148.61	13+55.65	78022.54	73353.10
17-C	RAMP #17	7°41'28"	2°00'00"	2864.79	192.57	384.56	6.46	384.27	27+97.94	79112.37	74407.77
18-B	RAMP #18	49°15'00"	14°00'00"	409.26	187.59	351.79	40.94	391.06	11+52.60	78390.41	73273.03
18-C	RAMP #18	12°16'08"	8°00'00"	716.20	76.97	153.36	4.12	153.07	17+45.93	78661.76	73712.78
18-D	RAMP #18	8°00'00"	4°00'00"	1432.39	100.16	200.00	3.50	199.94	19+22.50	78773.14	73964.95
55	WB R <sub>1</sub>	18°30'37"	0°45'13"	7603.44	1238.99	2456.40	100.29	2445.73	836+89.92	79281.96	75675.06
75	EB R <sub>1</sub>	21°35'34"	1°26'26"	3977.53	758.50	1499.00	71.68	1490.14	841+04.94	79216.18	76108.74
10	CONNECTOR	113°47'17"		55.00	84.35	109.23	45.70	92.14	50+59.47	79023.71	73446.40
11	CUL-DE-SAC	64°43'18"		72.95	46.22	82.40		78.09	6+22.22	79093.33	74006.66
107	HOPE&W67	90°16'46"		38.50	38.69	60.66		35.44	P.T. 72		

SPIRAL DATA

CODE	LOCATION	O <sub>s</sub>	L <sub>s</sub>	LT	ST	STA	PI	N	E
17B	RAMP "17"	21°00'00"	150'	100.71	50.65'		78991.86	73479.91	

INTERSECTION STATIONS

CODE	INTERSECTION STATIONS		COORDINATES	
	N	E	N	E
22	STA 826+11.55 REV. I-90	STA 44+76.51 73 ST.	79019.97	74626.59
23	STA 826+46.23 W.B. I-90	STA 45+57.78 73 ST.	79098.48	74647.60
24	STA 14+77.65 RAMP 18	STA 56+87.68 REL. CLARK	78573.39	73569.56
25	STA 60+94.00 LORAIN	STA 12+25.83 RAMP 17	79130.61	73280.80
26	STA 62+75.01 LORAIN	STA 6+37.46 80 ST.	79203.61	73446.44
27	STA 40+00.00 W.73 ST.	STA 66+21.19 CLARK	78559.67	74503.39
28	STA 6+30.91 GRACE	STA 50+00.00 W. 79 ST.	79100.87	74023.80
72	STA 11+50.00 HOPE AVE.	STA 37+04.55 W. 67 ST.	78900.10	75740.03

REFERENCE N° 9  
P.O.T. STA. 822+25.93

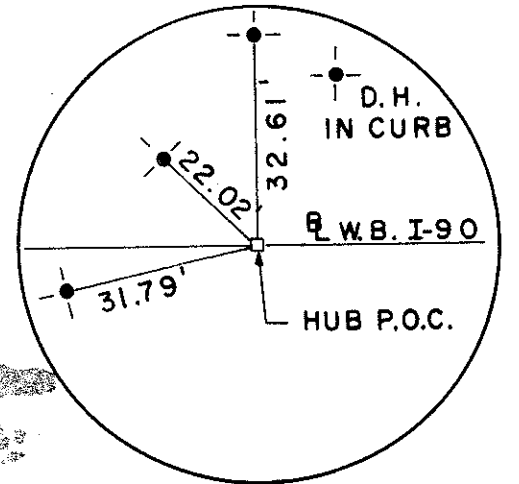
REFERENCE N° 12  
P.O.T. STA. 830+92.94

2 NA-6 TBM-4	CLARK AVE.	ELEV. 684.391
CROSS ON N.E. COR. OF CONCRETE C.B. TOP ON S.W. COR. OF INT. APPROX. 19 FT. S. OF C.L. OF CLARK AVE. AND 31 FT. W. OF C.L. OF W. 70TH ST.		
T.B.M. TOP OF MANHOLE STA. 0+35 W. 68 ST.	ELEV. 695.81	
T.B.M. TOP N.W. COR. OF MON. BOX, Q CONRAD AVE. & 30' W. Q.	W. 67 ST. ELEV. 695.11	
T.B.M. "+" ON E. RIM OF CATCH BASIN AT INTERSECTION OF W. 68 ST & ANDOVER CT.	ELEV. 694.49	
T.B.M. TOP OF HYDRANT S.E. COR. CLARK AVE. & W. 58 ST.	ELEV. 696.041	

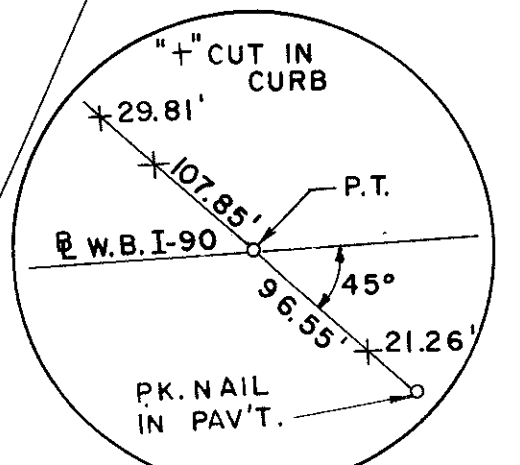
2 NA-6 TBM-4	CLARK AVE.	ELEV. 684.391
CROSS ON N.W. COR. OF STONE STEP OF ENTRANCE TO 2 STORY BRICK BLDG. ON N.E. COR. OF CLARK AVE., W. 65TH ST., AND WALWORTH AVE. APPROX. 58 FT. N. OF C.L. OF CLARK AND 40 FT. E. OF C.L. OF W. 65TH.		
O.M. 268	W. 65TH ST.	ELEV. 688.517
APPROX. 21 FT. E. OF C.L. OF W. 65TH ST. AND 104 FT. S. OF C. L. INT. OF W. 65TH AND STOCK AVE. MEASURED ALONG C.L. OF W. 65TH. 23.42 FT. N.W. OF N&V IN CEI POLE # 103611 ON E. SIDE OF W. 65TH. 98.60 FT. S. OF N&V IN CEI POLE #804647 ON S.E. COR. OF W. 65TH AND STOCK.		
2 NA-6 TBM-3	CLARK AVE.	ELEV. 688.740
L.H.&T. ON N.E. COR. OF CONCRETE C.B. TOP ON N.E. COR. OF INT. APPROX. 23FT. N. OF C.L. OF CLARK AVE. AND 21 FT. E. OF C.L. OF TRAIN AVE.		
T.B.M. "+" IN SANDSTONE CURB 12' EAST & 5' SOUTH OF INTERSECTION OF SCHOTT AVE. AND W. 61 ST. ELEV 687.55		

GEOMETRIC LAYOUT

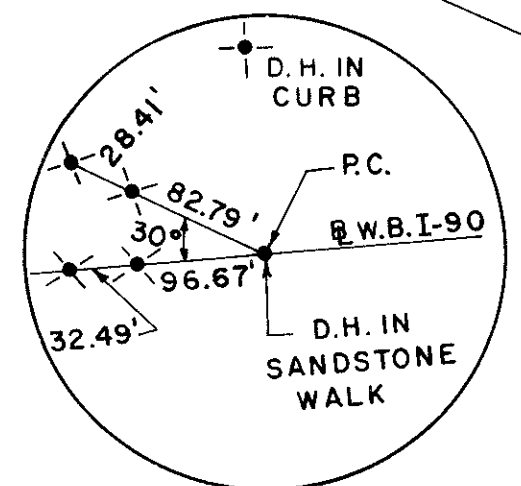
MICROFILMED  
SEP 30 1982



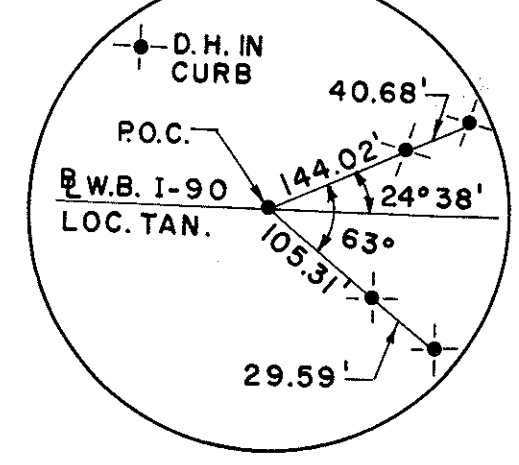
REFERENCE N<sup>o</sup> 16  
P.O.C. STA. 843+00.00



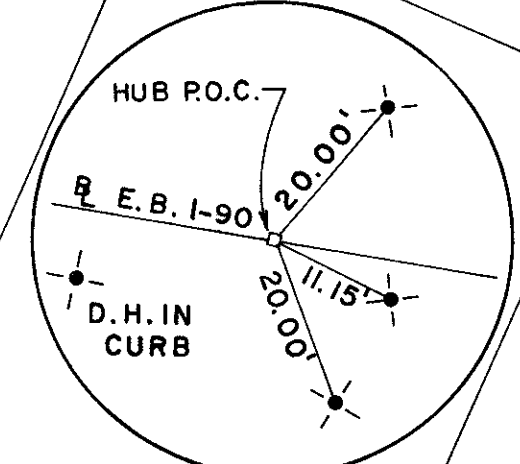
REFERENCE N<sup>o</sup> 17  
P.T. STA. 849+07.32



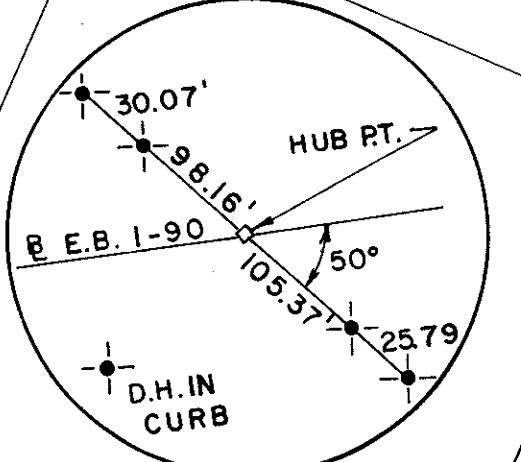
REFERENCE N<sup>o</sup> 18  
P.C. STA. 854+91.96



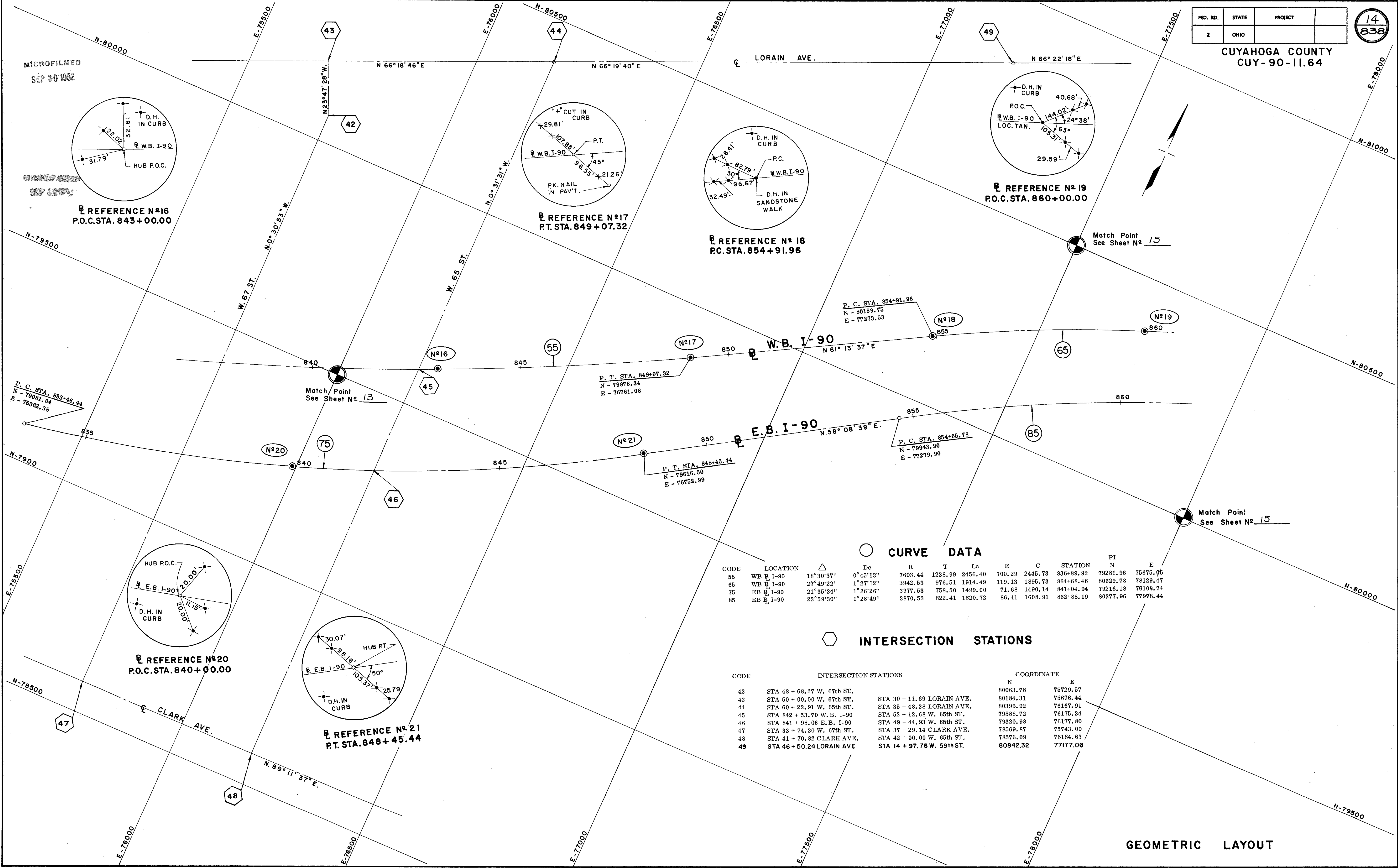
REFERENCE N<sup>o</sup> 19  
P.O.C. STA. 860+00.00



REFERENCE N<sup>o</sup> 20  
P.O.C. STA. 840+00.00



REFERENCE N<sup>o</sup> 21  
P.T. STA. 848+45.44



CURVE DATA

CODE	LOCATION	$\Delta$	Dc	R	T	Lc	E	C	STATION	PI	E
55	WB I-90	18°30'37"	0°45'13"	7603.44	1238.99	2456.40	100.29	2445.73	836+89.92	79281.96	75675.06
65	WB I-90	27°49'22"	1°27'12"	3942.53	976.51	1914.49	119.13	1895.73	864+68.46	80629.78	78129.47
75	EB I-90	21°35'34"	1°26'26"	3977.53	758.50	1499.00	71.68	1490.14	841+04.94	79216.18	76109.74
85	EB I-90	23°59'30"	1°28'49"	3870.53	822.41	1620.72	86.41	1608.91	862+88.19	80377.96	77978.44

INTERSECTION STATIONS

CODE	INTERSECTION STATIONS	COORDINATE	
		N	E
42	STA 48 + 68.27 W. 67th ST.	80063.78	75729.57
43	STA 50 + 00.00 W. 67th ST.	80184.31	75676.44
44	STA 60 + 23.91 W. 65th ST.	80399.92	76167.91
45	STA 842 + 53.70 W. B. I-90	79588.72	76175.34
46	STA 841 + 98.06 E. B. I-90	79820.98	76177.80
47	STA 33 + 74.30 W. 67th ST.	78569.87	75743.00
48	STA 41 + 70.82 CLARK AVE.	78576.09	76184.63
49	STA 46 + 50.24 LORAIN AVE.	80842.32	77177.06

T.B.M. "O" IN OPEN ON HYDRANT S.W. COR. LAWN AVE. & W. 61 ST. ELEV. 691.14

T.B.M. TOP OF C.E.I.C. BOX STA. 46 + 71, 30' RT. CL LORAIN AVE. ELEV. 690.138

T.B.M. "M" IN MATHEWS ON HYDRANT IN FRONT OF HOUSE NO. 2127 W. 58 ST. ELEV - 687.23

O.M. 1076 LORAIN AVE. ELEV. 690.218

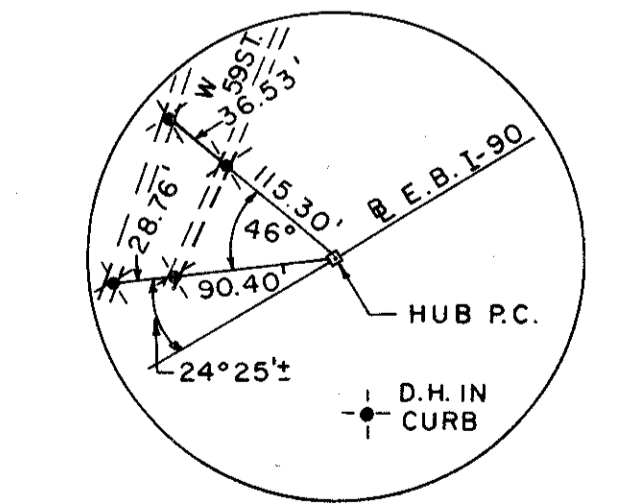
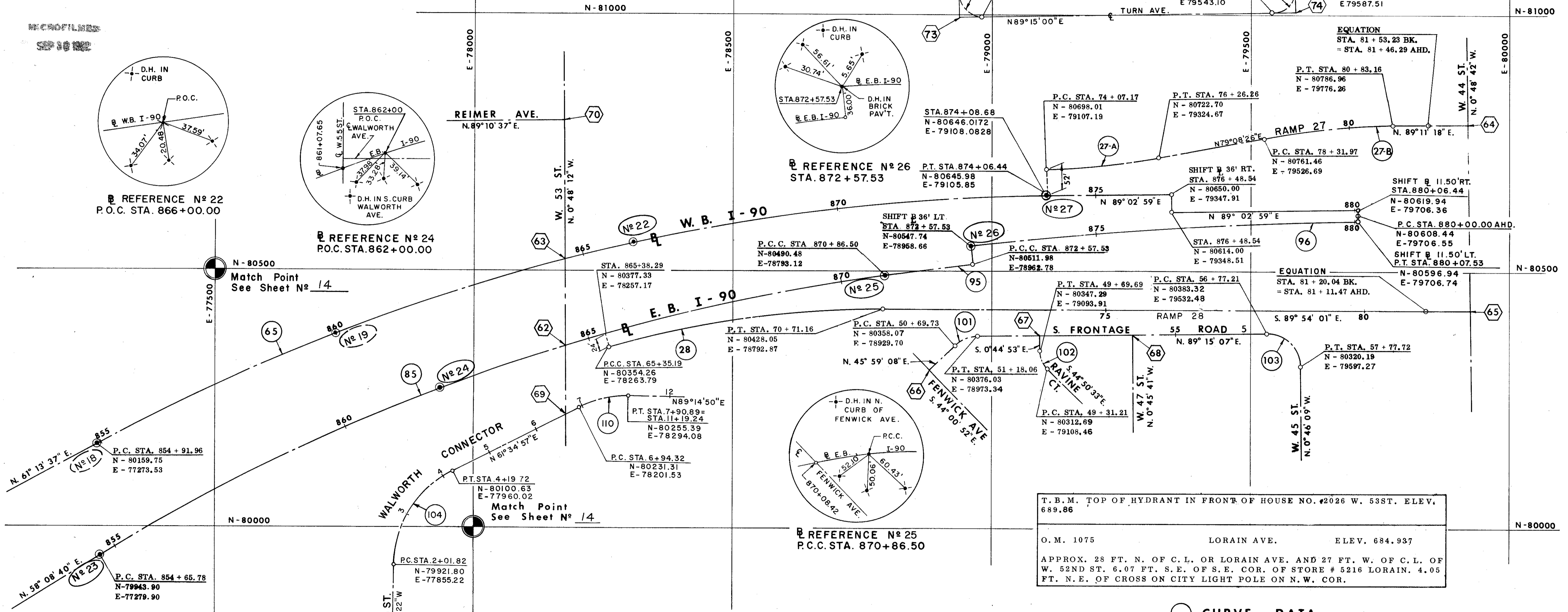
APPROX. 28 FT. N. OF C.L. OF LORAIN AVE. AND 26 FT. E. OF C.L. OF W. 58TH ST. 6.48 FT. S.W. COR. OF STORE #5730 LORAIN. 14.83 FT. S.E. OF TOP AND CENTER OF HYD. ON N.E. COR.

O.M. 1080 FRANKLIN BLVD. ELEV. 678.514

APPROX. 29 FT. N. OF C.L. OF FRANKLIN BLVD. AND 28 FT. W. OF C.L. OF W. 58TH ST. 30.88 FT. W. OF CENTER OF MON. BOX ON C.L. OF W. 58TH AND N. S.L. OF FRANKLIN. 27.10 FT. S.E. OF S.E. COR. OF PORCH OF RESIDENCE #5802 FRANKLIN.

2 NA-6 CLARK AVE. ELEV. 689.824  
TBM-2

CROSS ON S. END OF IRON RIM OF MELP MANHOLE ON N.W. COR. INT. APPROX. 24 FT. N. OF C.L. OF CLARK AVE. AND 26 FT. W. OF C.L. OF W. 53RD ST.



REFERENCE #23  
P.C. STA. 854 + 65.78

INTERSECTION STATIONS

CODE	INTERSECTION STATIONS	COORDINATE	
		N	E
62	STA 864 + 50.92 E.B. I-90	80352.34	78173.46
63	STA 864 + 60.70 W.B. I-90	80517.57	78171.15
64	STA 82 + 19.54 RAMP "27"	80788.99	79919.57
65	STA 81 + 94.43 RAMP "28"	80426.08	79924.71
66	STA 50 + 00.00 FRONTAGE	80309.61	78879.55
67	STA 52 + 38.25 FRONTAGE	80377.60	79003.92
68	STA 54 + 16.77 FRONTAGE	80379.93	79272.02
69	STA 64.56 WALWORTH	80217.15	78175.36
70	STA 50 + 00.00 REIMER	80795.21	78167.25
73	STA. 50+00.00 TURN AVE.	80993.74	78939.46
74	STA. 56+48.71 TURN AVE.	81002.23	79588.11

CURVE DATA

CODE	LOCATION	Δ	D <sub>c</sub>	R	T	L <sub>c</sub>	E	C	PT STATION	PI N	E
65	WB I-90	27° 49' 22"	1' 27' 12"	3942.53	976.51	1914.49	119.13	1895.73	864 + 68.46	80629.79	78129.47
95	EB I-90	23° 59' 30"	1' 28' 49"	3870.53	822.41	1620.72	86.41	1609.91	862 + 88.19	80377.96	77978.44
95	EB I-90	1° 17' 20"	0° 45' 13"	7603.44	85.52	171.02	.48	171.02	871 + 72.02	80502.18	78877.83
96	EB I-90	5° 37' 30"	0° 45' 00"	7639.44	375.30	750.00	9.21	749.70	876 + 32.83	80590.71	79331.49
27-A	RAMP "27"	8° 45' 48"	4° 00' 00"	1432.39	109.76	219.08	4.20	218.87	75 + 16.93	80702.02	79216.87
27-B	RAMP "27"	10° 02' 52"	4° 00' 00"	1432.39	125.92	251.19	5.52	250.87	79 + 57.89	80785.18	79550.36
28	RAMP "28"	16° 04' 44"	3° 00' 00"	1903.96	269.75	535.96	18.96	534.21	68 + 04.95	80428.52	78523.11
101	FRONTAGE #5	43° 15' 59"		64.00	25.38	48.38	4.85	47.19	50 + 95.11	80375.70	78947.96
102	RAVINE CT.	44° 05' 40"		50.00	20.25	38.48	3.94	37.54	49 + 51.46	80327.04	79094.18
103	FRONTAGE #5	89° 58' 44"		64.00	63.98	100.51	26.49	90.49	57 + 41.19	80384.16	79596.41
104	WALWORTH	62° 25' 19"		200.00	121.18	217.90	33.85	207.28	3 + 23.00	80042.96	77853.44
CONN.											
105	WB E.P.	4° 31' 58"	2° 30' 00"	229183	9070	181.31	1.79	181.26		80696.62	79445.76
108	TURN AVE.	89° 57' 47"		45.00	44.97	70.66		63.62	P.I. 73		
109	TURN AVE.	90° 01' 09"		45.00	45.02	70.70		63.65	P.I. 74		
110	WALWORTH	27° 39' 53"		200.00	49.24	96.57	5.97	95.63	7 + 43.56	80254.74	78244.84
CONN.											

T.B.M. TOP OF HYDRANT IN FRONT OF HOUSE NO. #2026 W. 53ST. ELEV. 689.86

O.M. 1075 LORAIN AVE. ELEV. 684.937

APPROX. 28 FT. N. OF C.L. OF LORAIN AVE. AND 27 FT. W. OF C.L. OF W. 52ND ST. 6.07 FT. S.E. OF S.E. COR. OF STORE # 5216 LORAIN. 4.05 FT. N.E. OF CROSS ON CITY LIGHT POLE ON N.W. COR.

T.B.M. TOP OF MONUMENT BOX INTERSECTION OF FENWICK AVE & W. 48 ST. ELEV. 682.02

T.B.M. TOP BOLT N.E. COR. FOOT BRIDGE W. 47 ST. ELEV 685.77

T.B.M. "O" IN OPEN ON HYDRANT, 212' SOUTH OF BAILEY & 24' EAST OF G. OF W. 44 ST. ELEV. 690.88



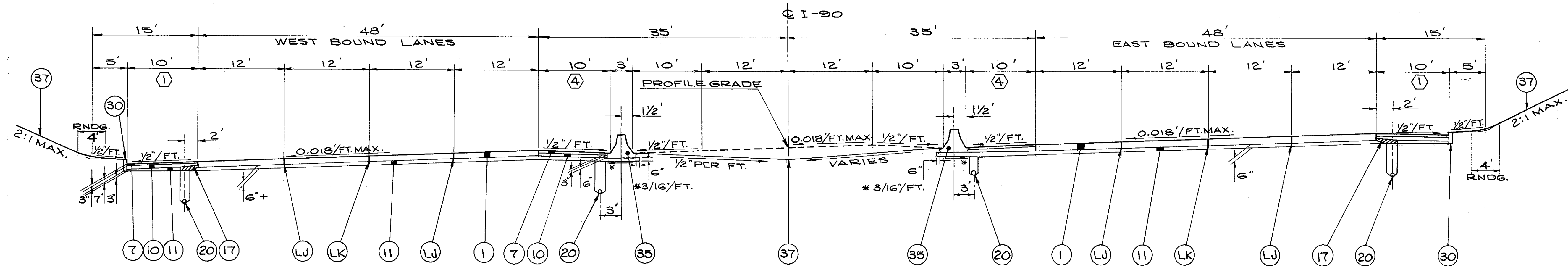


# TYPICAL SECTIONS TYPE 45I TYPE CODE 722I

FED. RD.	STATE	PROJECT
2	OHIO	

17  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



+ AN ADDITIONAL 12 IN. OF SUBBASE WILL BE REQUIRED BENEATH THE PAVEMENT AND PAVED SHOULDER BETWEEN STA. 812+00 TO STA. 831+00 (W.B.L. & E.B.L.) AND STA. 831+00 TO STA. 835+00 (W.B.L. ONLY). THE COMPOSITION OF THE ADDITIONAL 12 IN. SUBBASE SHALL CONFORM TO 310 SUBBASE REGULAR GRADING. THE DEPTH TRANSITION SHALL BE ACCOMPLISHED WITHIN 50 FT. OF THE ABOVE LIMITS. THE REQUIREMENTS FOR 203.13 SUBGRADE COMPACTION WILL BE WAIVED IN THESE AREAS OF ADDITIONAL SUBBASE.

SEE SHEET 35 FOR ADJUSTED EARTHWORK QUANTITY IN AREAS OF ADDITIONAL 12" SUBBASE.

NOTE: SHOULDERS HAVING THE SAME (O) NUMBER SHALL HAVE THE SAME BUILD-UP AND THICKNESS. SEE SHEET N° 21 FOR SHOULDER DETAILS.

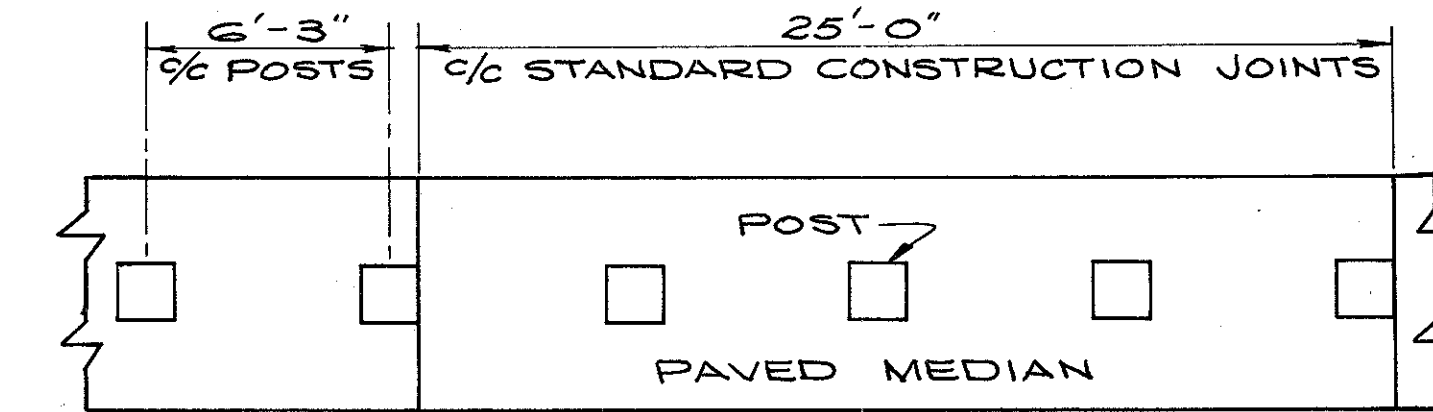
FOR LOCATION AND DEPTHS OF UNDERDRAINS SEE SHEET N° 124-130.

FOR LEGEND. SEE SH'T. N° 16.

## SUPERELEVATED SECTION

### LIMITING STATIONS

STA. 792+00 TO STA. 792+58.28 (TRANS. TO NORMAL)  
STA. 798+31.59 TO STA. 801+37.59 (TRANS. NORMAL TO 0.018'/FT.)  
STA. 801+37.59 TO STA. 815+07.41 (FULL SUPER)  
STA. 815+07.41 TO STA. 818+73.41 (TRANS. 0.018'/FT. TO NORMAL)



### JOINT DETAIL GUARD RAIL POSTS

#### NOTES

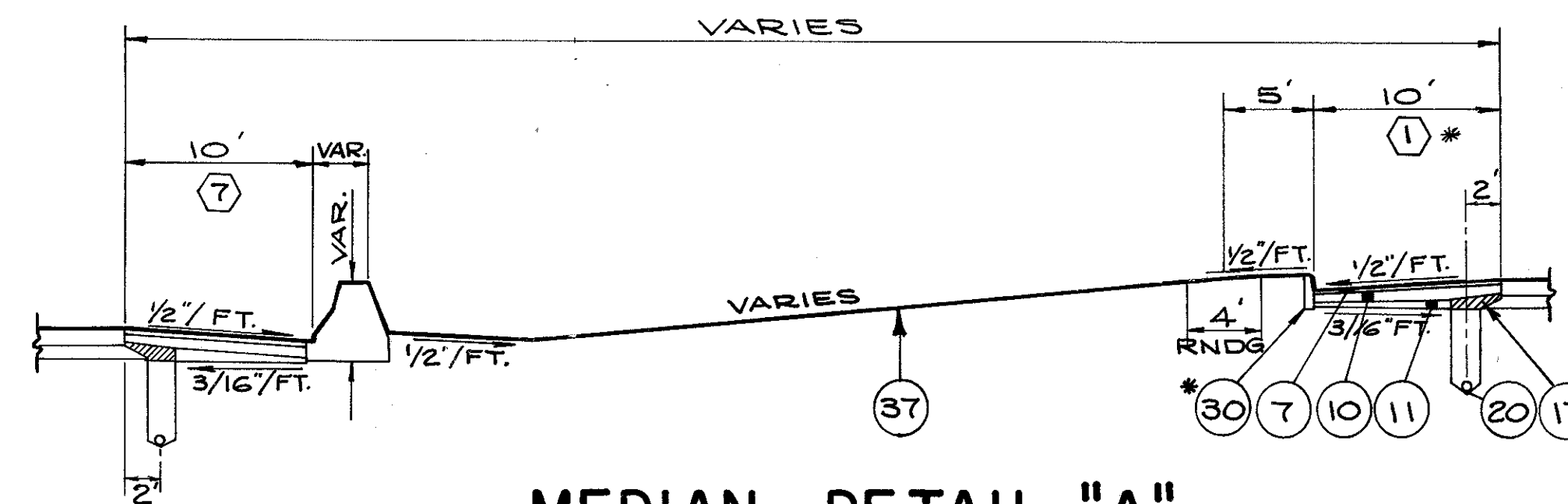
IN LIEU OF THE SPACING REQUIREMENTS OF STANDARD DRAWING MC-6 EXPANSION AND CONTRACTION JOINTS SHALL BE PROVIDED IN THE CONCRETE MEDIAN AS REQUIRED HEREON WHENEVER GUARDRAIL IS SPECIFIED.

1/4" EXPANSION JOINTS 705.03 SHALL BE PROVIDED AT EACH CONSTRUCTION JOINT AT EACH END OF EACH INLET AND APPROXIMATELY 20 FT. AND 60 FT. BEYOND EACH APPROACH SLAB. COST INCLUDED WITH G12 FOR PAYMENT.

CONTRACTION JOINTS SHALL CONFORM WITH DETAILS SHOWN ON STANDARD DRAWING BP-4 305 BASE, EXCEPT THAT SPACING SHALL BE 25 FT. JOINT OPENINGS SHALL NOT EXTEND BELOW SURFACE OF SHOULDER PAVING.

CIRCULAR OR SQUARE OPENINGS MAY BE CAST IN THE MEDIAN PAVING SO THAT GUARDRAIL POSTS MAY BE INSTALLED LATER. MAXIMUM DIMENSIONS FOR OPENINGS SHALL BE 18 IN. DIAMETER OR 18 IN. SQUARE. REMAINING SPACE SHALL BE FILLED WITH 1:3 GROUT OR CLASS "C" CONCRETE.

FOR SQUARE-SAWED WOOD POSTS 1/4" 705.03 EXPANSION JOINT MATERIAL SHALL BE USED ON ALL FOUR SIDES FOR THE DEPTH OF MEDIAN. WHEN STEEL POSTS ARE USED, A COATING OF AN OIL SUCH AS S.A.E. 140 OR OTHER "BOND BREAKING" MATERIAL SHALL BE APPLIED TO THE DEPTH OF MEDIAN PRIOR TO PLACING THE CONCRETE. PAYMENT SHALL BE INCLUDED IN G12.

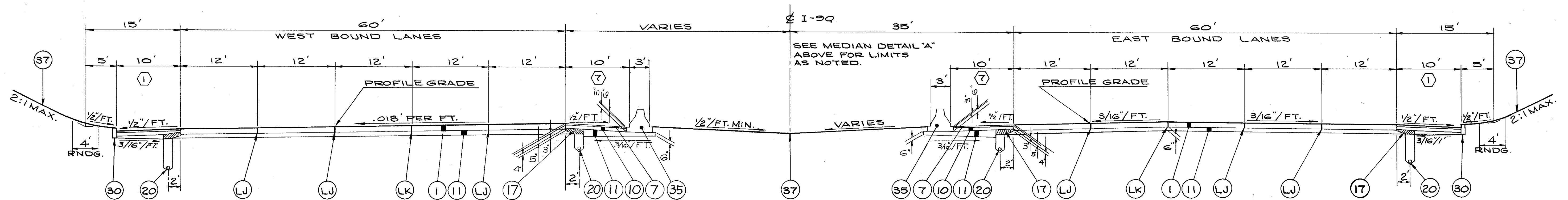


## MEDIAN DETAIL "A"

### LIMITING STATIONS

\* E.B.L. STA. 826+80 TO STA. 830+92.94  
W.B.L. STA. 826+50 TO STA. 828+55.00

NOTE: FOR LIMITS OF DITCH, SEE CROSS SECTIONS.



## SUPERELEVATED SECTION

### LIMITING STATIONS

\* W.B.L. STA. 823+25.93 TO STA. 825+68.03 (TRANS. NORMAL TO .018'/FT.)  
W.B.L. STA. 825+68.03 TO STA. 828+55.00 (FULL SUPER .018'/FT.)  
NOTE: W.B.L. - 4 LANES FROM STA. 823+25.93 TO STA. 823+90.28

## NORMAL SECTION

### LIMITING STATIONS

E.B.L. STA. 820+16.19 TO STA. 830+92.94

TYPICAL SECTIONS

# TYPICAL SECTIONS

## TYPE 451

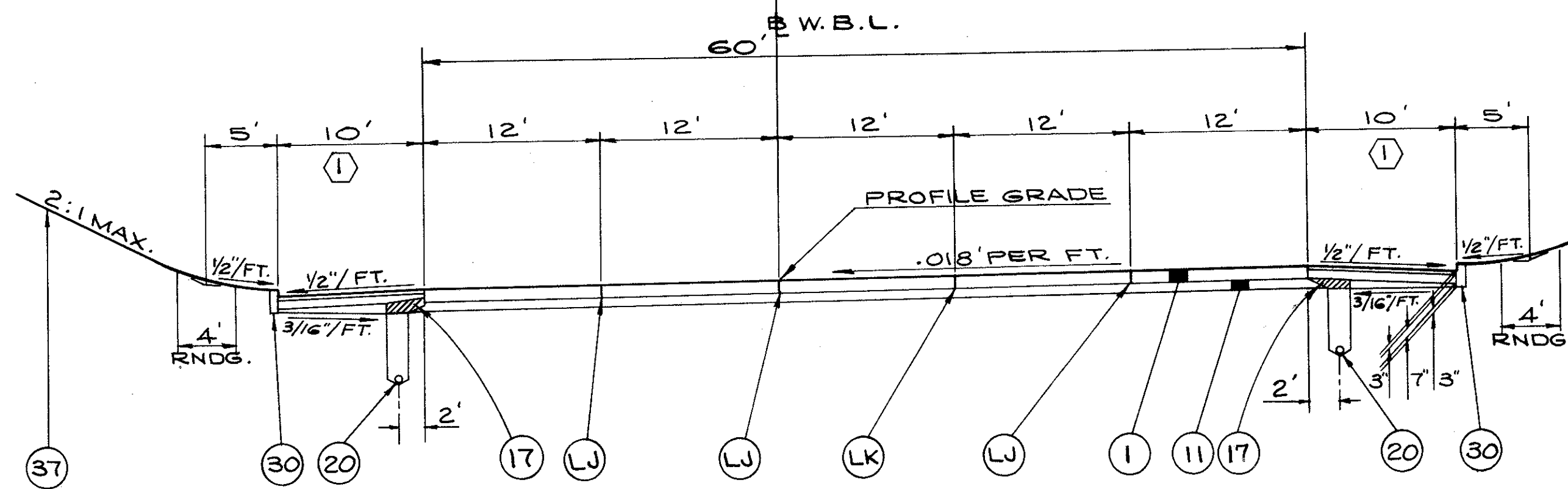
### TYPE CODE 7221

FED. RD.	STATE	PROJECT	
2	OHIO		

18  
838

CUYAHOGA COUNTY  
CUY-90-11.64

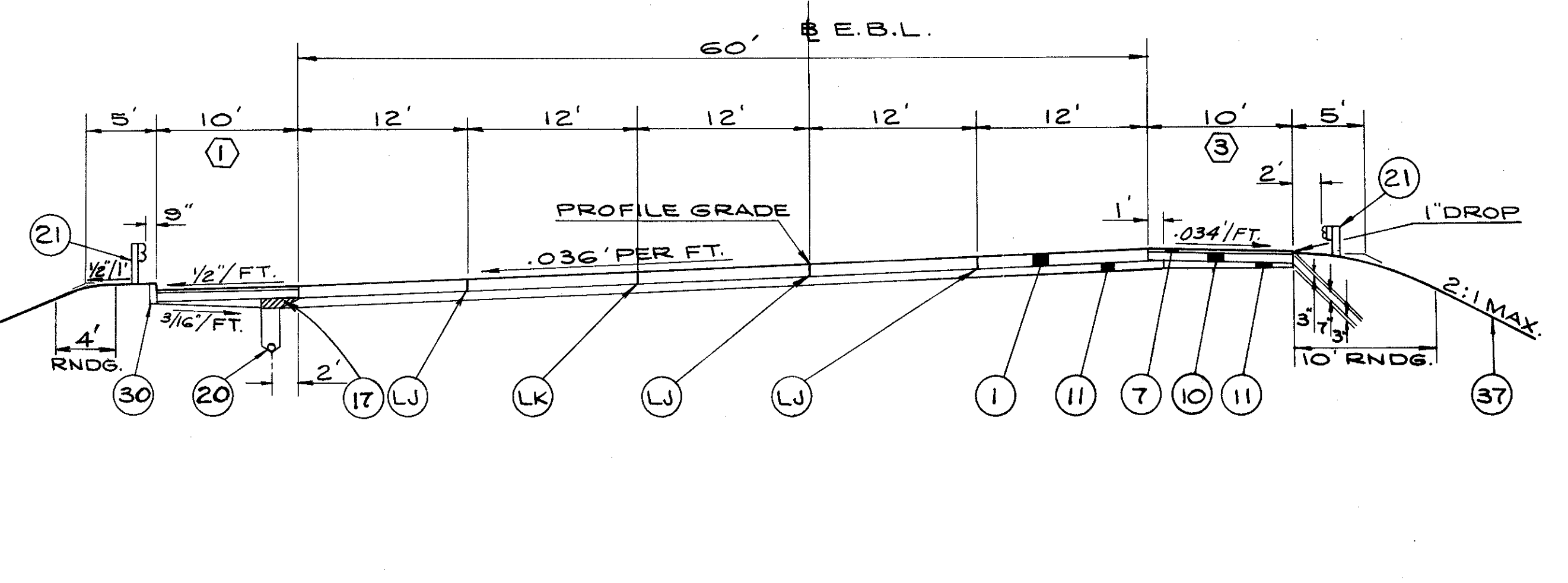
NOTE: \* CROSS SLOPE BREAK SHALL NOT EXCEED 0.07' PER FT.  
NOTE: SHOULDERS HAVING THE SAME  $\text{\textcircled{O}}$  NUMBER SHALL HAVE THE SAME BUILD-UP AND THICKNESS. SEE SHEET N<sup>o</sup> 21 FOR SHOULDER DETAILS.  
FOR LEGEND. SEE SHEET N<sup>o</sup> 16  
FOR LOCATION AND DEPTH OF UNDERDRAINS, SEE SHEET N<sup>o</sup> 124-130



**SUPERELEVATED SECTION**  
LIMITING STATIONS

W.B.L. STA. 828+55.00 TO W.B.L. STA. 848+90.22 (FULL SUPER .018'/1')  
W.B.L. STA. 848+90.22 TO W.B.L. STA. 851+32.32 (TRANS. .018'/1' TO NORMAL)  
E.B.L. STA. 830+92.94 TO E.B.L. STA. 835+77.02 (TRANS. NORMAL TO .036'/1')  
E.B.L. STA. 835+77.02 TO E.B.L. STA. 841+12.50 (FULL SUPER .036'/1')

E.B.L. STRUCTURE LIMITS ~ STA. 841+12.50 TO STA. 842+97.30  
E.B.L. STA. 842+97.30 TO E.B.L. STA. 847+15.84 (FULL SUPER .036'/1')  
E.B.L. STA. 847+15.84 TO E.B.L. STA. 849+75.04 (TRANS. .036'/1' TO NORMAL)



**NORMAL SECTION**  
LIMITING STATIONS

W.B.L. STA. 851+32.32 TO W.B.L. STA. 852+49.86  
E.B.L. STA. 849+75.04 TO E.B.L. STA. 852+23.68

# TYPICAL SECTIONS

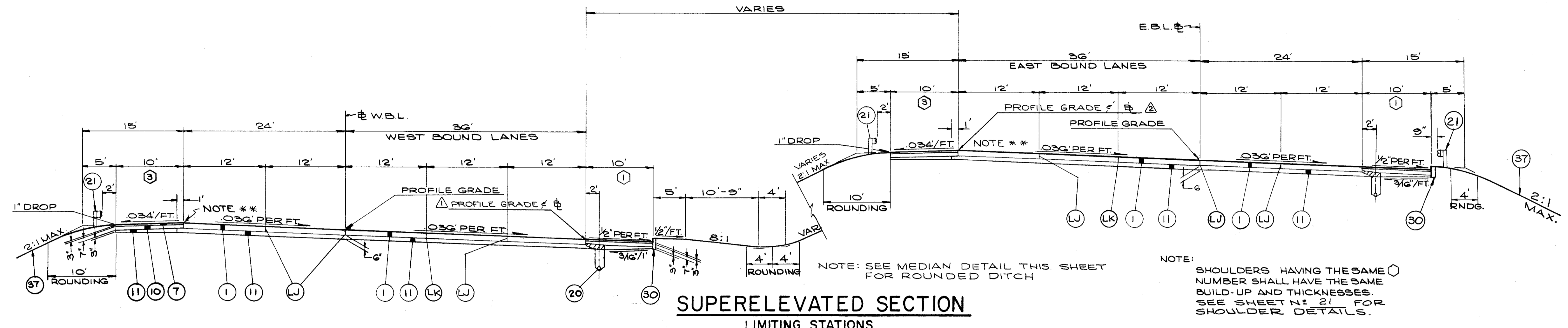
## TYPE 451

### TYPE CODE 7221

FED. RD.	STATE	PROJECT
2	OHIO	

19  
838

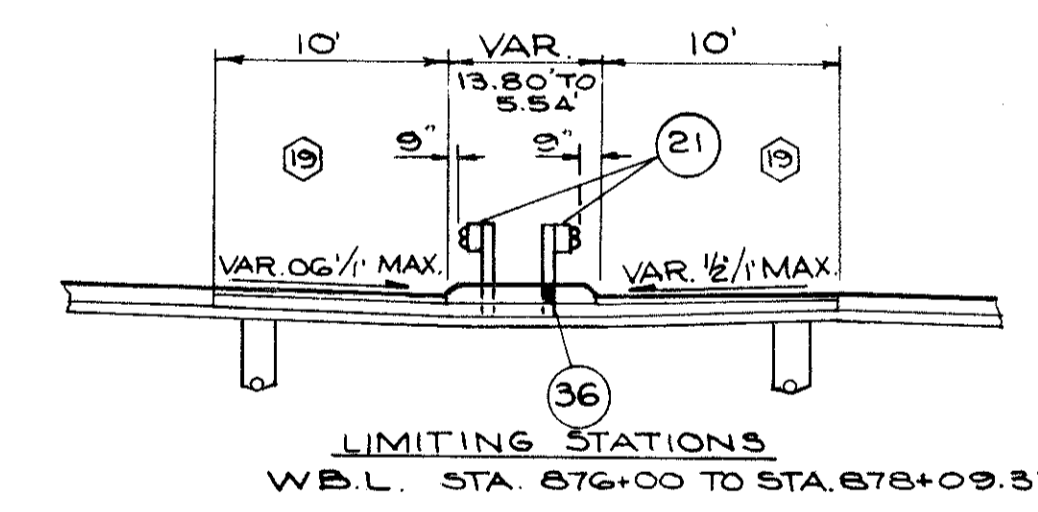
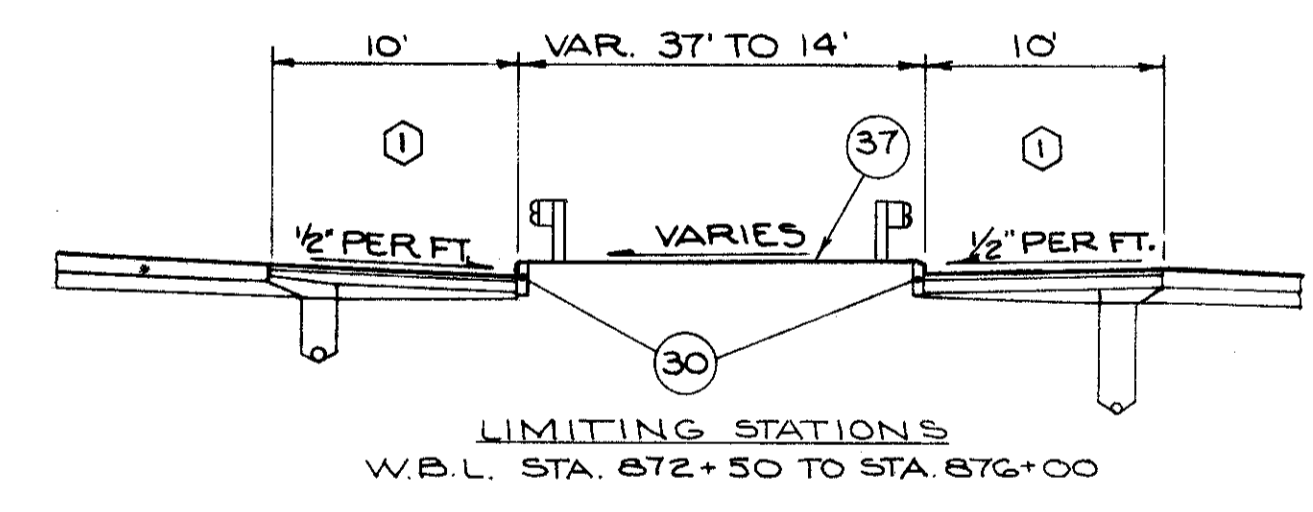
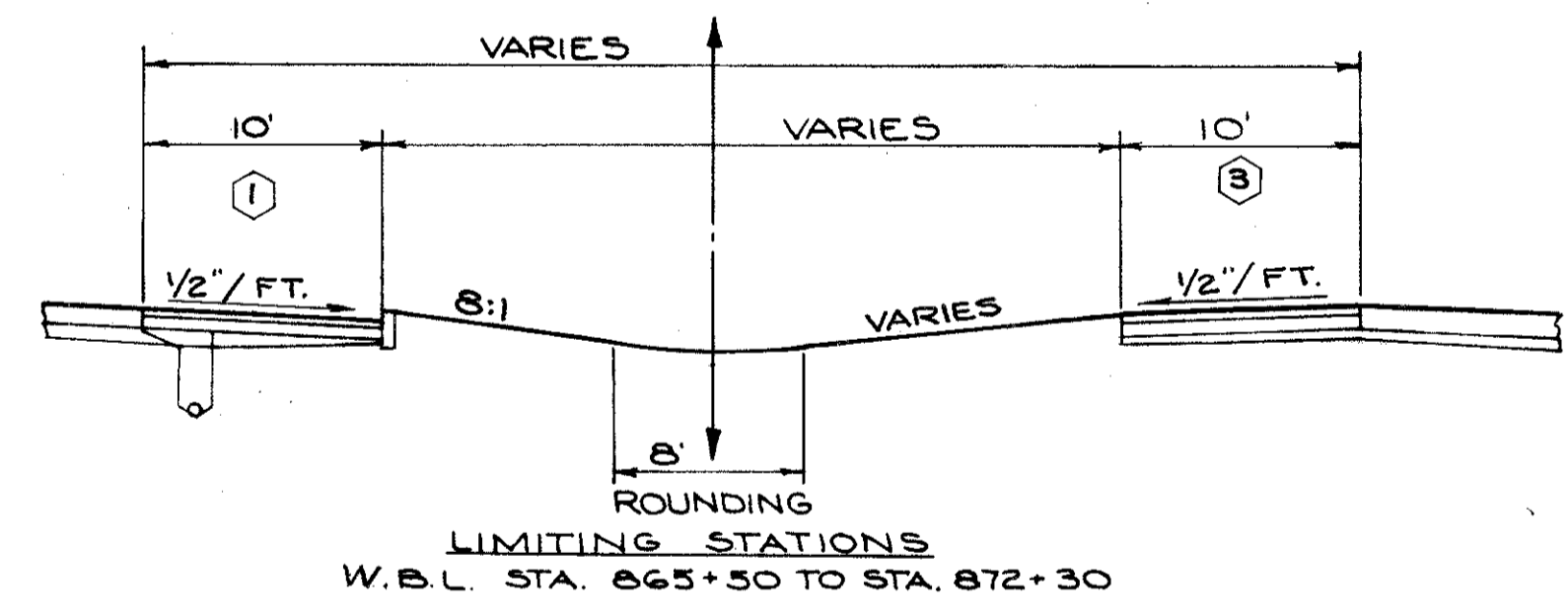
CUYAHOGA COUNTY  
CUY-90-11.64



### SUPERELEVATED SECTION

**WEST BOUND LANES**  
 STA. 852+49.86 TO STA. 856+21.56 (TRANS. NORMAL TO .036'/ft)  
 STA. 856+21.56 TO STA. 863+96.54 (FULL SUPER .036'/ft)  
 STRUCTURE LIMITS STA. 863+96.54 TO STA. 865+24.61  
 STA. 865+24.61 TO STA. 872+76.84 (FULL SUPER .036'/ft)  
 STA. 872+76.84 TO STA. 874+08.68 (TRANS. .036'/ft TO .0177)  
 (SEE SH'T. N° 18 FOR STA. 851+32 TO STA. 853+62.36)

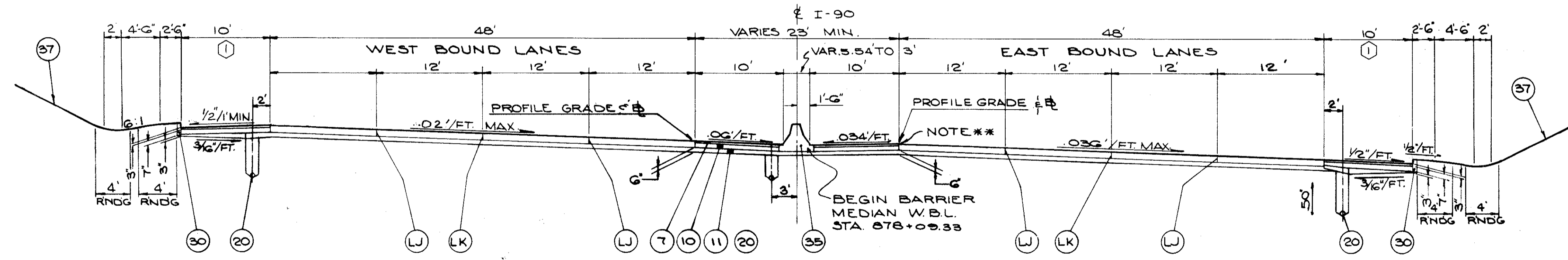
**EAST BOUND LANES**  
 STA. 852+23.68 TO STA. 855+95.38 (TRANS. NORMAL TO .036'/ft)  
 STA. 855+95.38 TO STA. 863+65.35 (FULL SUPER .036'/ft)  
 STRUCTURE LIMITS STA. 863+65.35 TO STA. 865+30.98  
 STA. 865+30.98 TO STA. 869+56.90 (FULL SUPER .036'/ft)  
 STA. 869+56.90 TO STA. 870+66.90 (TRANS. .036'/ft TO .0208'/ft)



### MEDIAN DETAILS

▲ STA. 876+48.54 W.B.L. EBL PROFILE GRADE SHIFTS 36' RT.

▲ STA. 872+57.53 E.B.L. EBL PROFILE GRADE SHIFTS 36' LT.



### SUPERELEVATED SECTION & ADJACENT SECTION

NOTE: FOR LEGEND, SEE SHEET N° 16

FOR LOCATION & DEPTH OF UNDERDRAINS SEE SHEET N°S. 124-130

**LIMITING STATIONS**  
 W.B.L. STA. 874+08.68 TO STA. 876+48.54 (TRANS. .0177'/ft TO NORMAL)  
 W.B.L. STA. 876+48.54 TO STA. 878+56.44 (NORMAL SECTION) \* NOTE  
 W.B.L. STA. 878+56.44 TO STA. 880+06.44 (TRANS. NORMAL TO .02'/ft)  
 E.B.L. STA. 870+66.90 TO STA. 870+86.50 (TRANS. .0208'/ft TO .018'/ft)  
 E.B.L. STA. 870+86.50 TO STA. 877+21.53 (FULL SUPER .018'/ft)  
 E.B.L. STA. 877+21.53 TO STA. 880+07.53 (TRANS. .018'/ft TO .036'/ft)

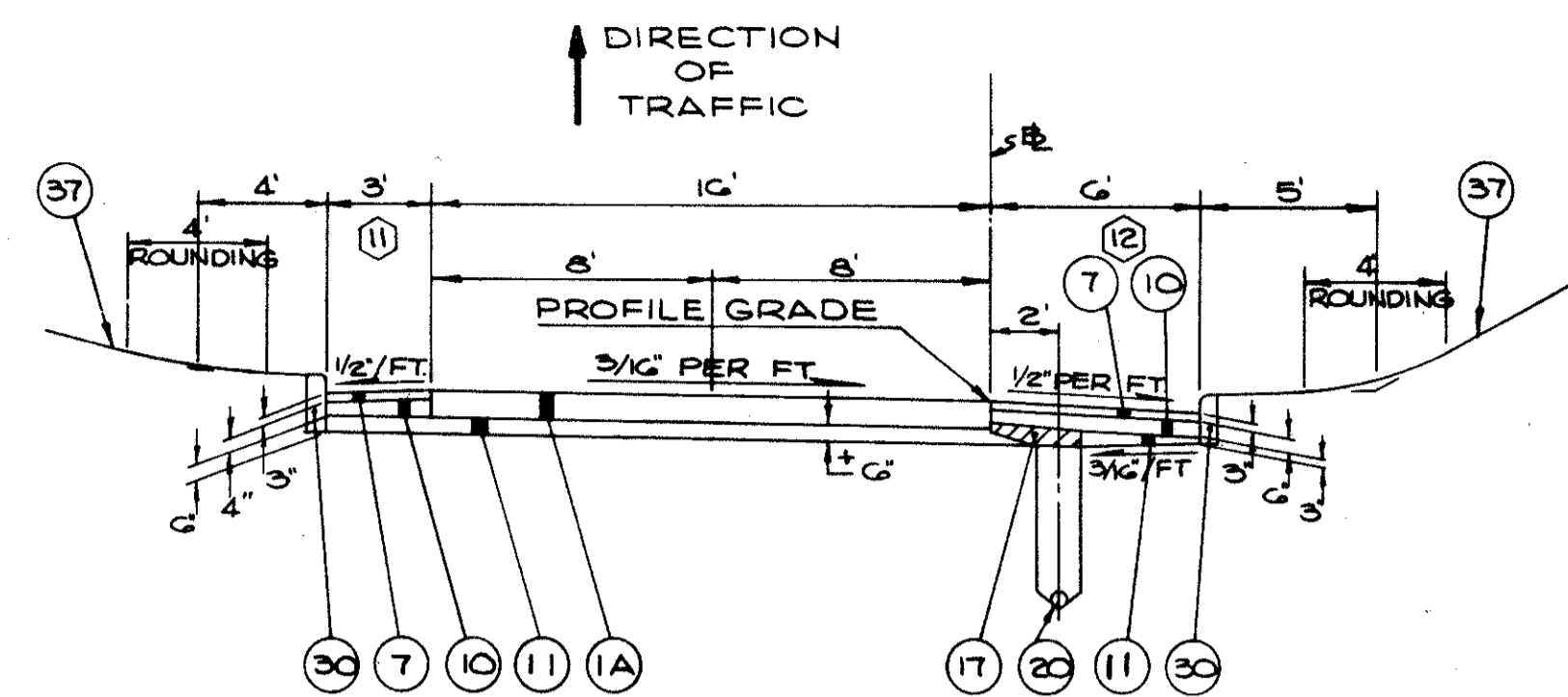
# TYPICAL SECTIONS

TYPE 451  
TYPE CODE 7221

FED. RD.	STATE	PROJECT
2	OHIO	

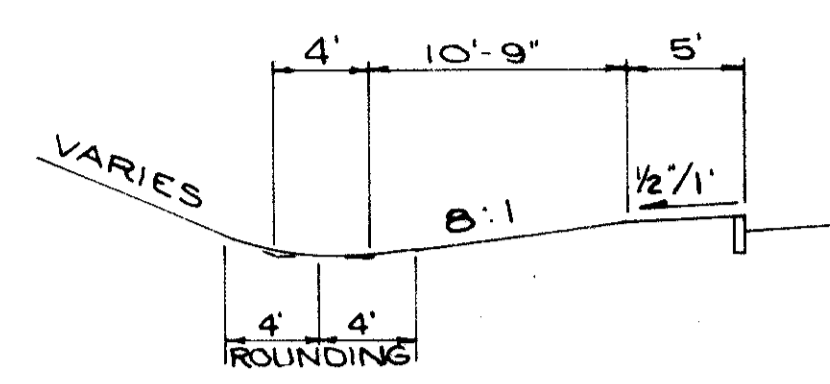
20  
838

CUYAHOGA COUNTY  
CUY-90-11.64

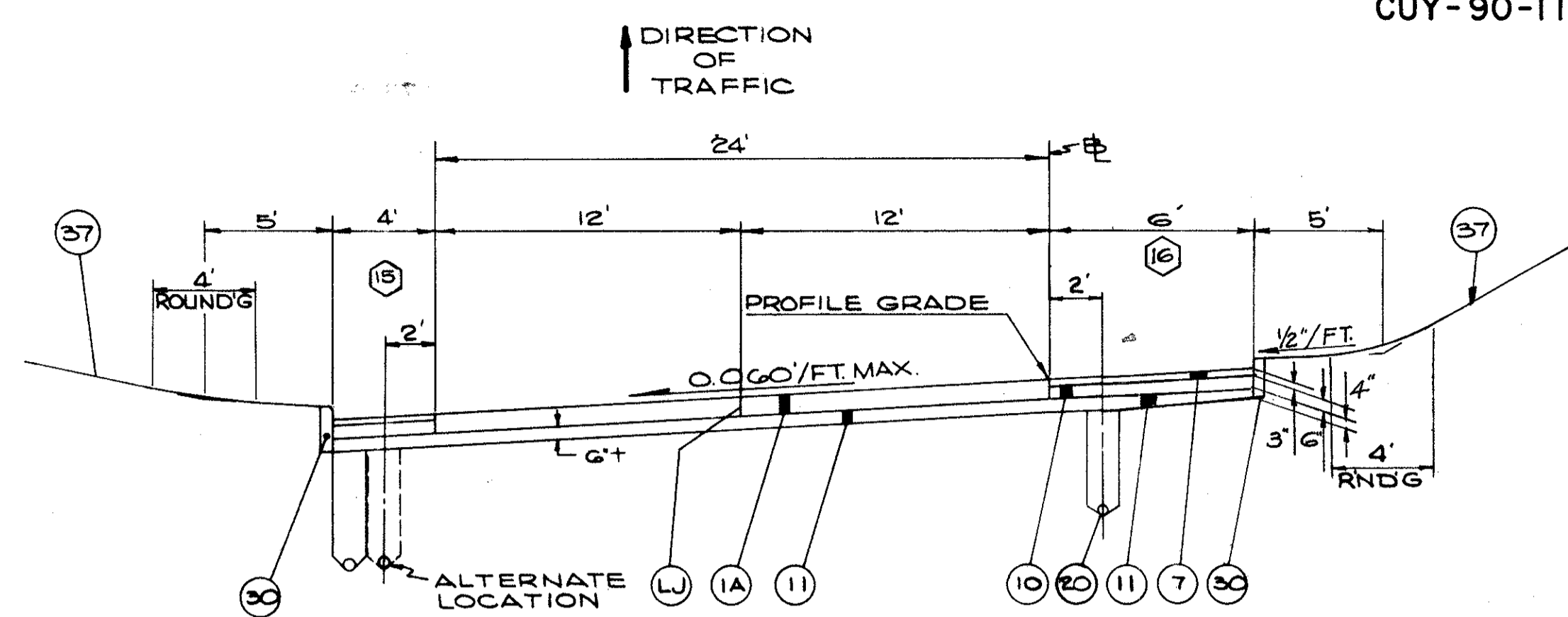


**NORMAL SECTION (CURBED)**

RAMPS 15, 16

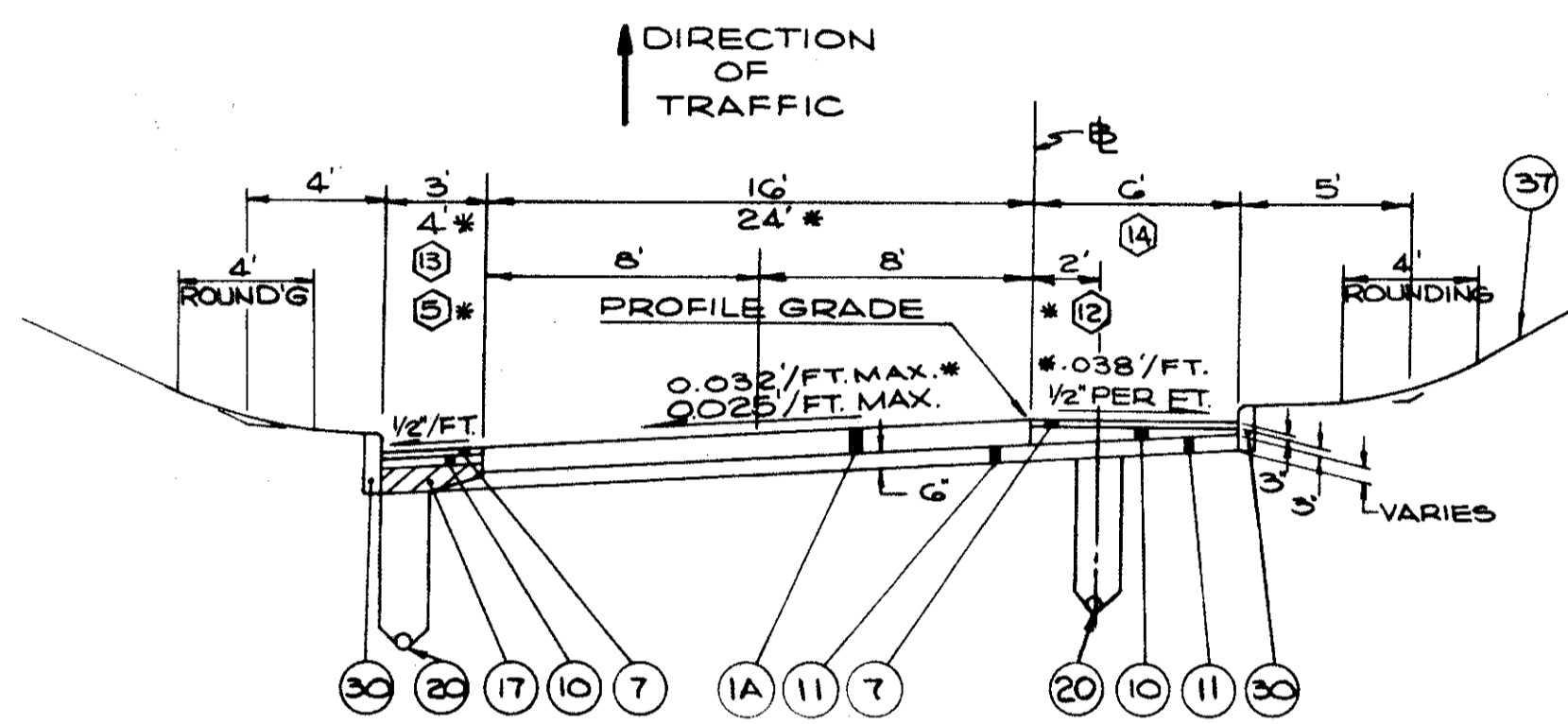


**CURBED SHOULDER WITH DITCH**



**SUPERELEVATED SECTION LEFT  
TWO LANES (CURBED)**

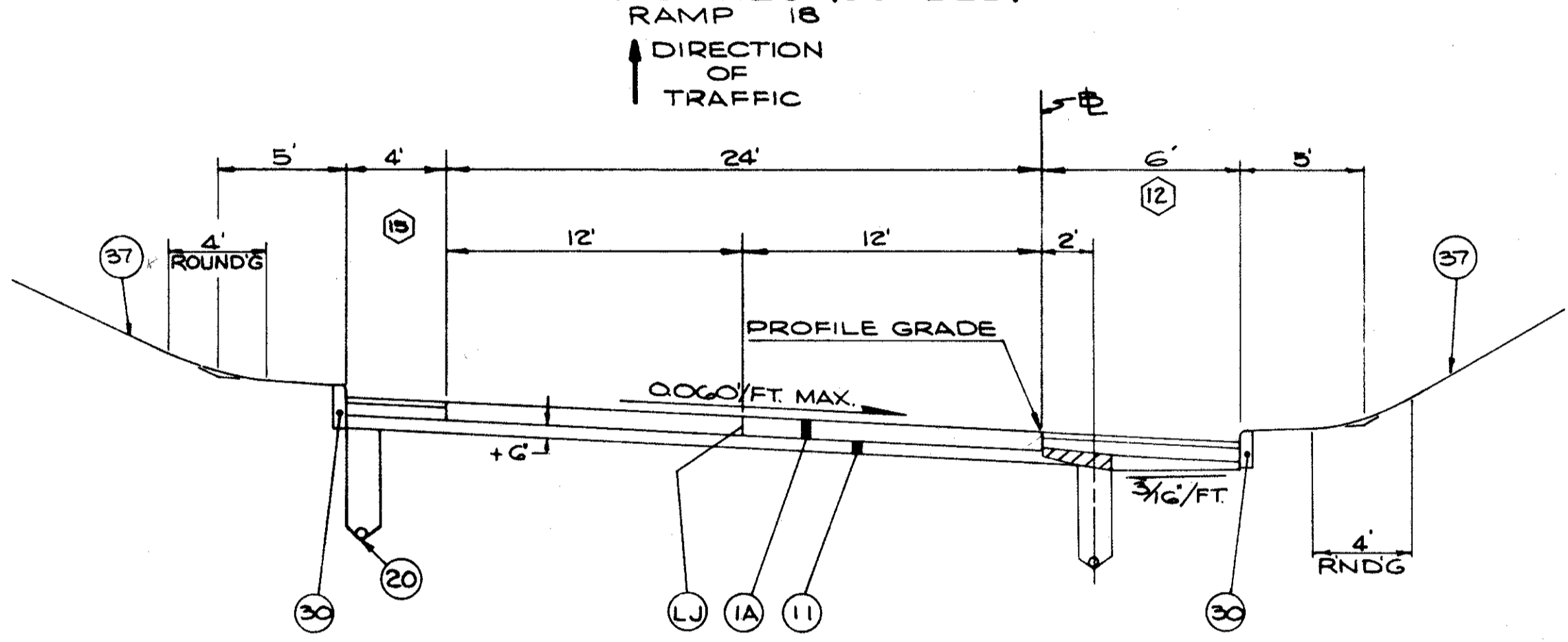
\* WITHOUT ROUNDING



**SUPERELEVATED SECTION LEFT  
(CURBED)**

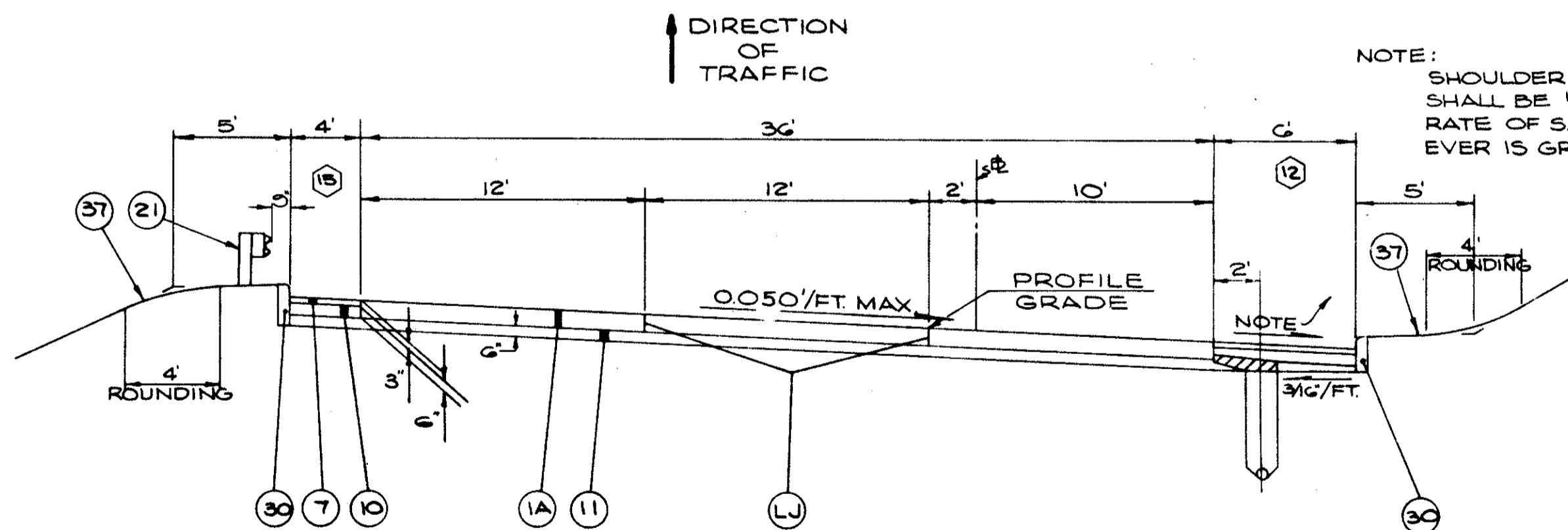
RAMP 15

\* RAMP - 27 (LT. SHOULDER UNCURBED)



**SUPERELEVATED SECTION RIGHT  
TWO LANES (CURBED)**

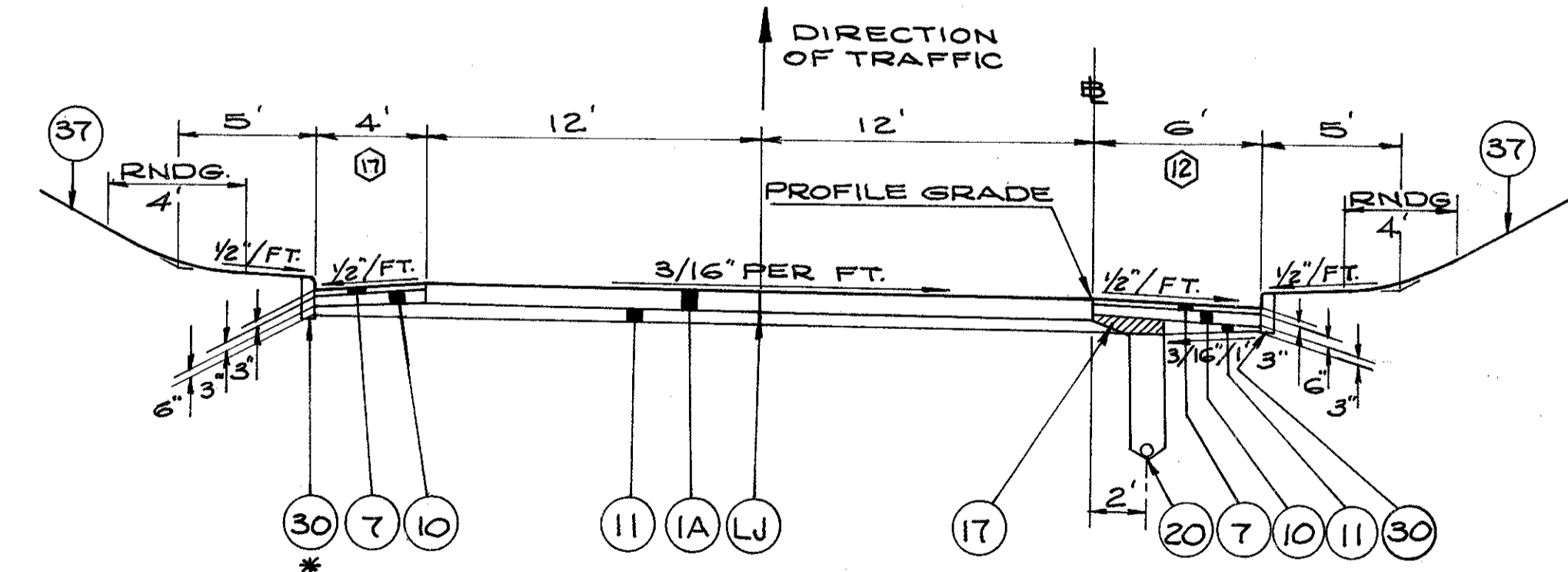
RAMP 18



**SUPERELEVATED SECTION RIGHT  
THREE LANES (CURBED)**

RAMP 17

NOTE: SHOULDER X-SLOPE SHALL BE 1/2" / FT. OR RATE OF S.E. WHICH-EVER IS GREATER



**NORMAL SECTION (CURBED)**

RAMPS 17 & 18

\* RAMP - 28 (LT. SHOULDER UNCURBED)

SEE SHEET 35 FOR ADJUSTED EARTHWORK QUANTITY IN AREAS OF ADDITIONAL 12" SUBBASE.

+ AN ADDITIONAL 12" OF SUBBASE WILL BE REQUIRED BENEATH THE PAVEMENT AND PAVED SHOULDERS OF THE FOLLOWING RAMPS: RAMP 17, STA. 18+00 TO STA. 20+00; RAMP 18, STA. 10+00 TO STA. 19+00

THE COMPOSITION OF THE ADDITIONAL SUBBASE SHALL CONFORM TO 310 SUBBASE, REGULAR GRADING. THE DEPTH TRANSITION SHALL BE ACCOMPLISHED WITHIN 50 FEET OF THE ABOVE LIMITS. THE REQUIREMENT OF 203.13 SUBGRADE COMPACTION WILL BE WAIVED IN THESE AREAS OF ADDITIONAL SUBBASE.

NOTE: SHOULDERS HAVING THE SAME NUMBER SHALL HAVE THE SAME BUILDUP AND THICKNESS. SEE SHEET NO. 21 FOR SHOULDER DETAILS.

FOR LEGEND SEE SH'T. NO. 16

FOR LOCATION & DEPTH OF UNDER-DRAINS. SEE SHEET NO'S. 124-130

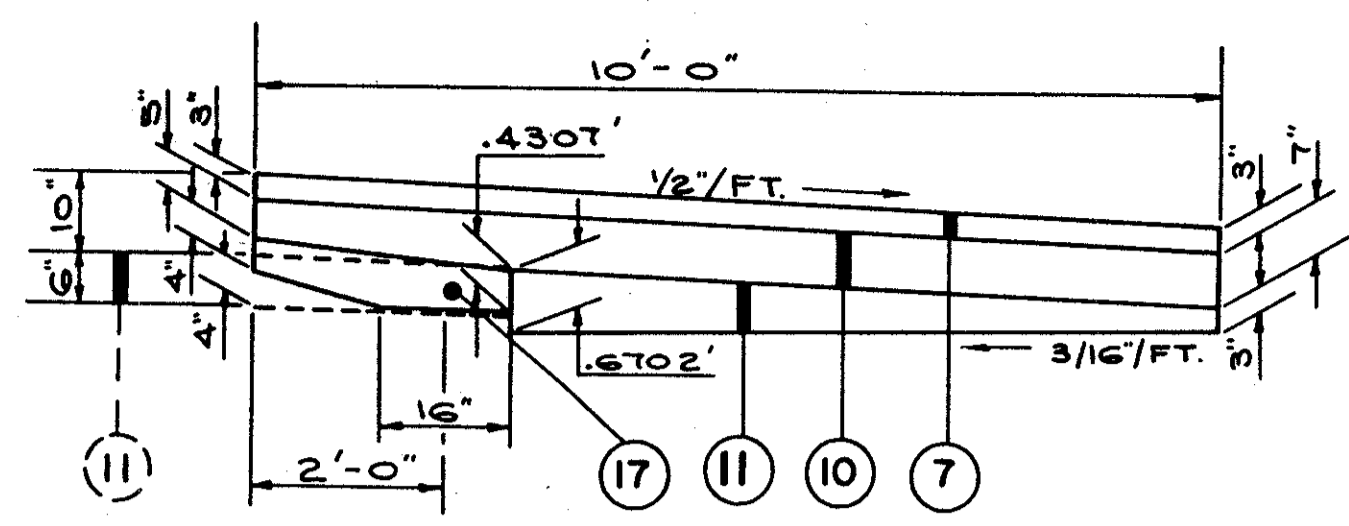
**RAMP  
TYPICAL SECTIONS**

FED. RD.	STATE	PROJECT
2	OHIO	

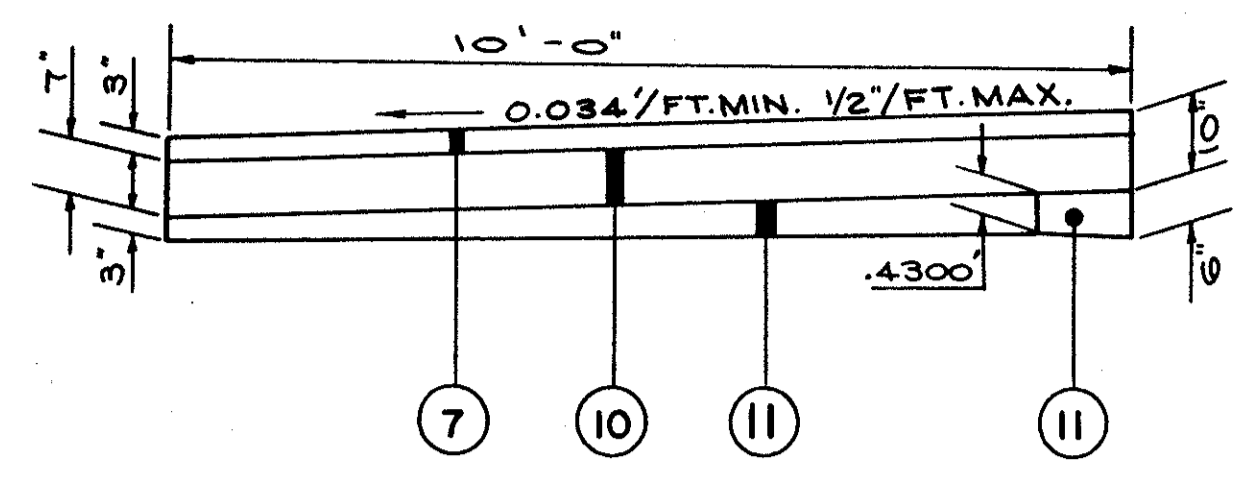
21  
838

CUYAHOGA COUNTY  
CUY-90-11.64

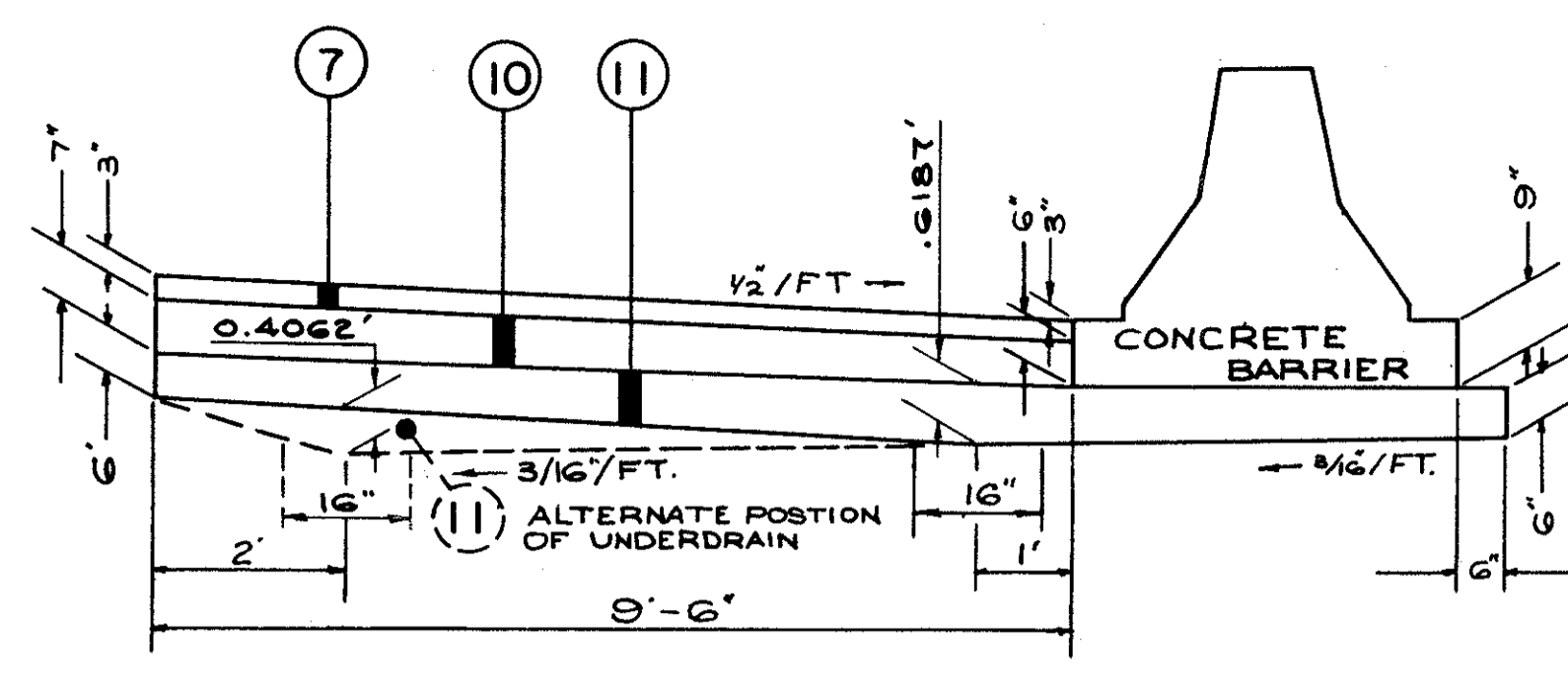
SECTION N<sup>o</sup> 1.



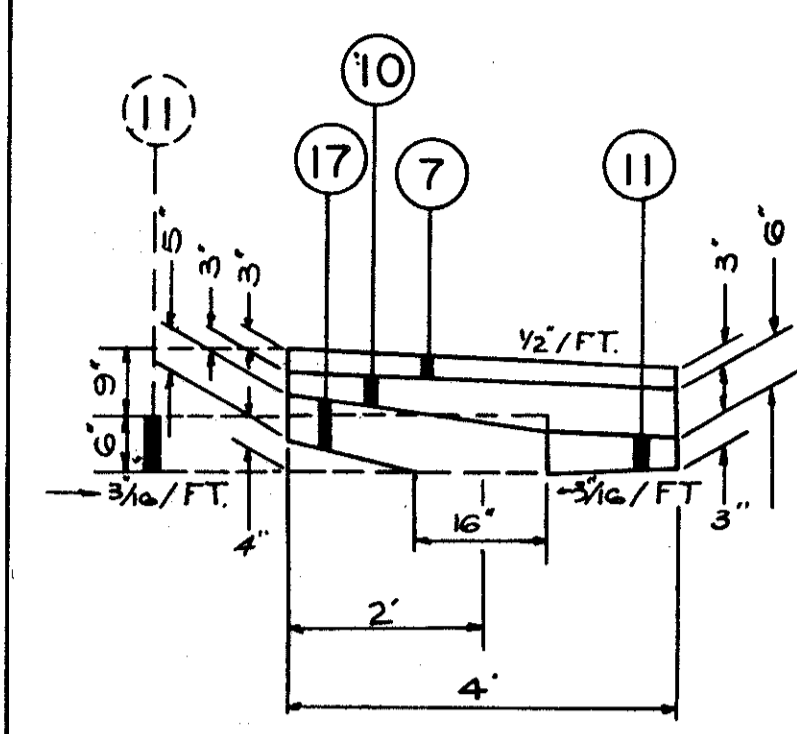
SECTION N<sup>o</sup> 3.



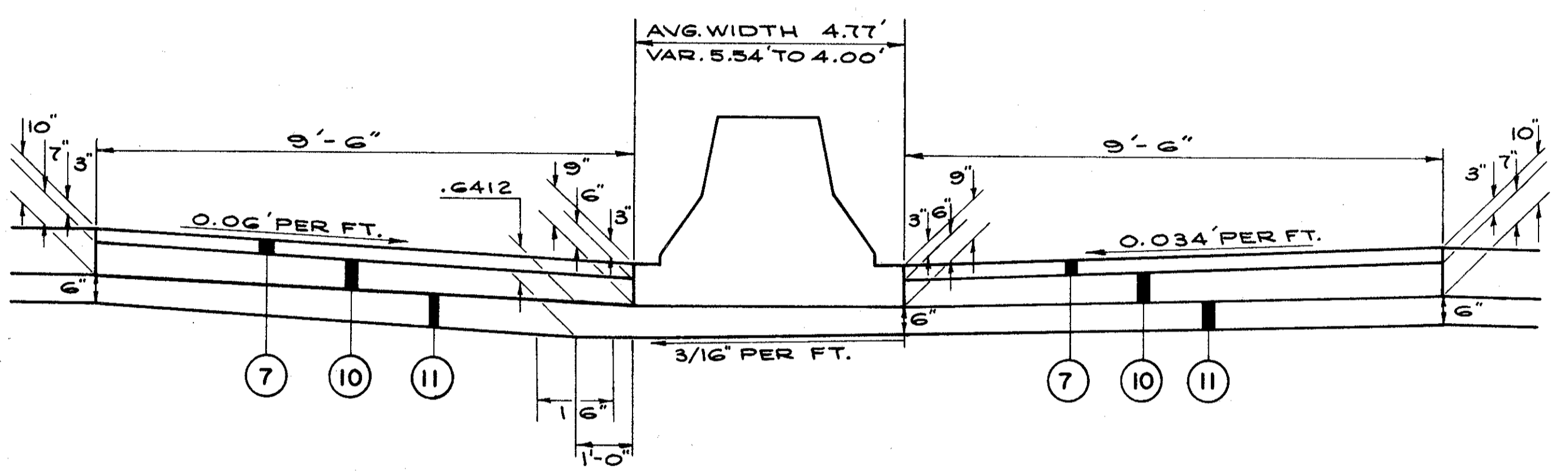
SECTION N<sup>o</sup> 4.



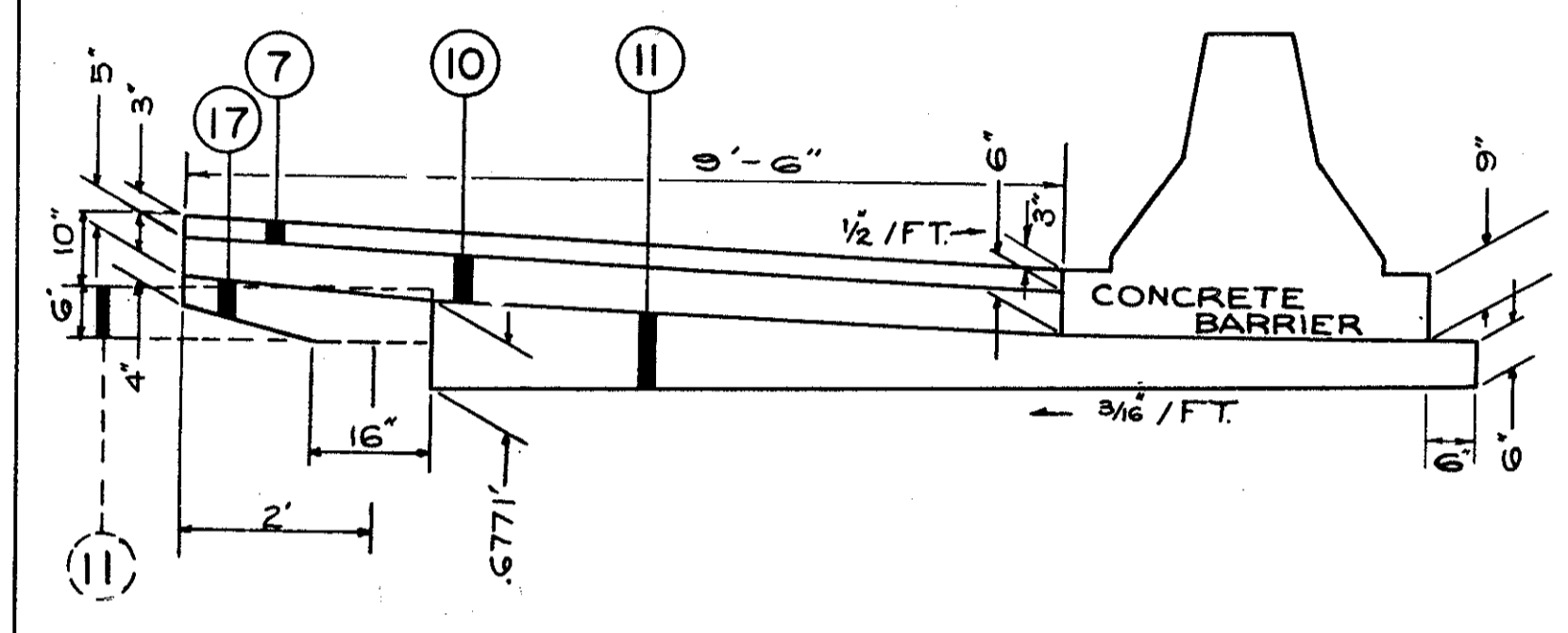
SECTION N<sup>o</sup> 5.



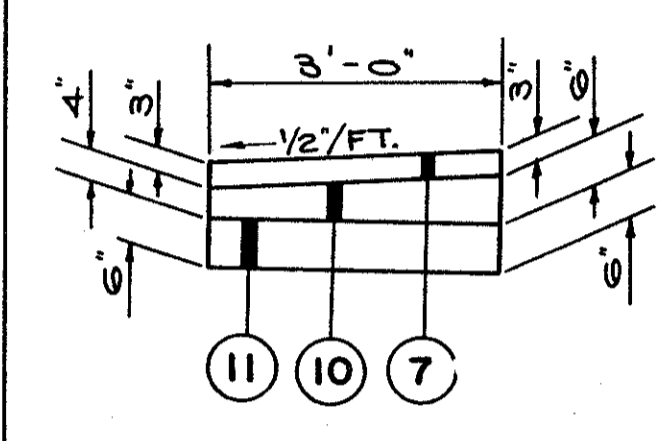
SECTION N<sup>o</sup> 6.



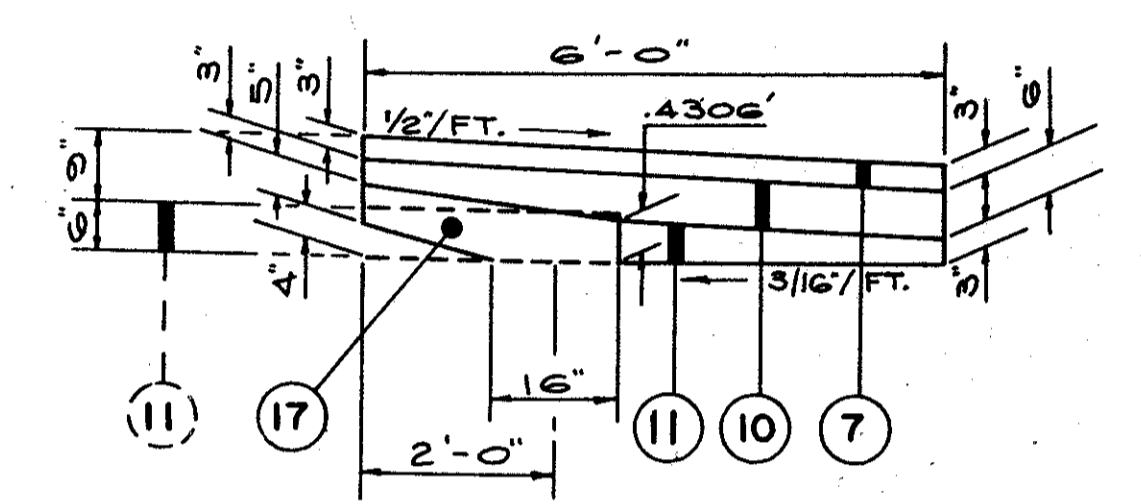
SECTION N<sup>o</sup> 7.



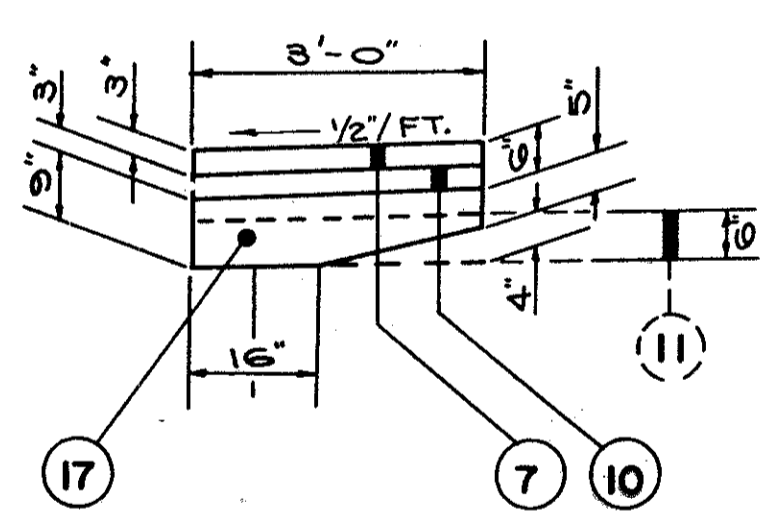
SECTION N<sup>o</sup> 11.



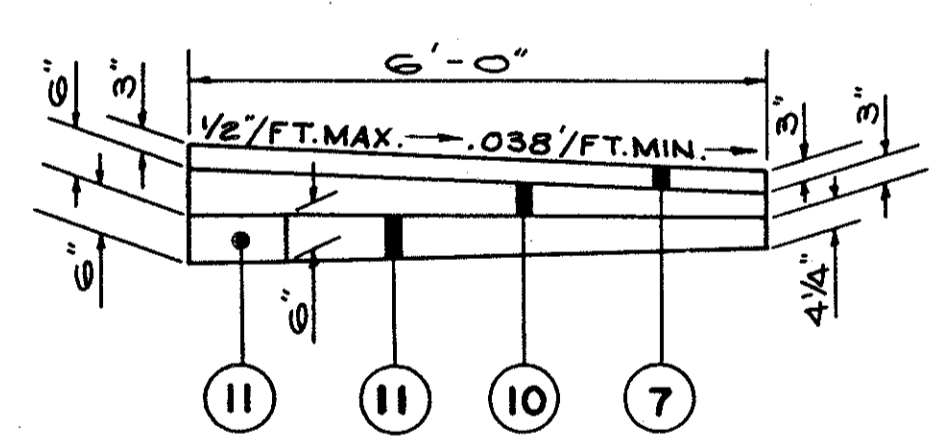
SECTION N<sup>o</sup> 12.



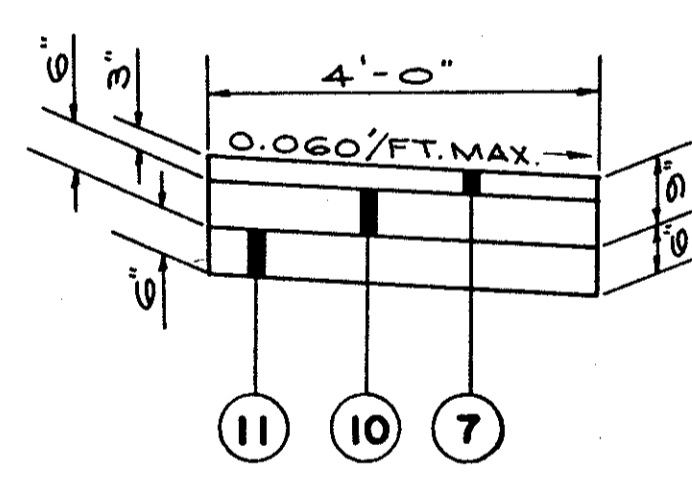
SECTION N<sup>o</sup> 13.



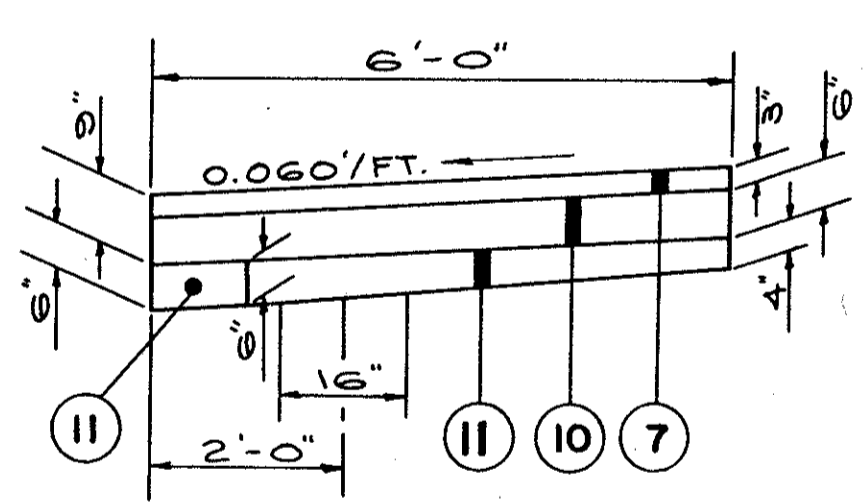
SECTION N<sup>o</sup> 14.



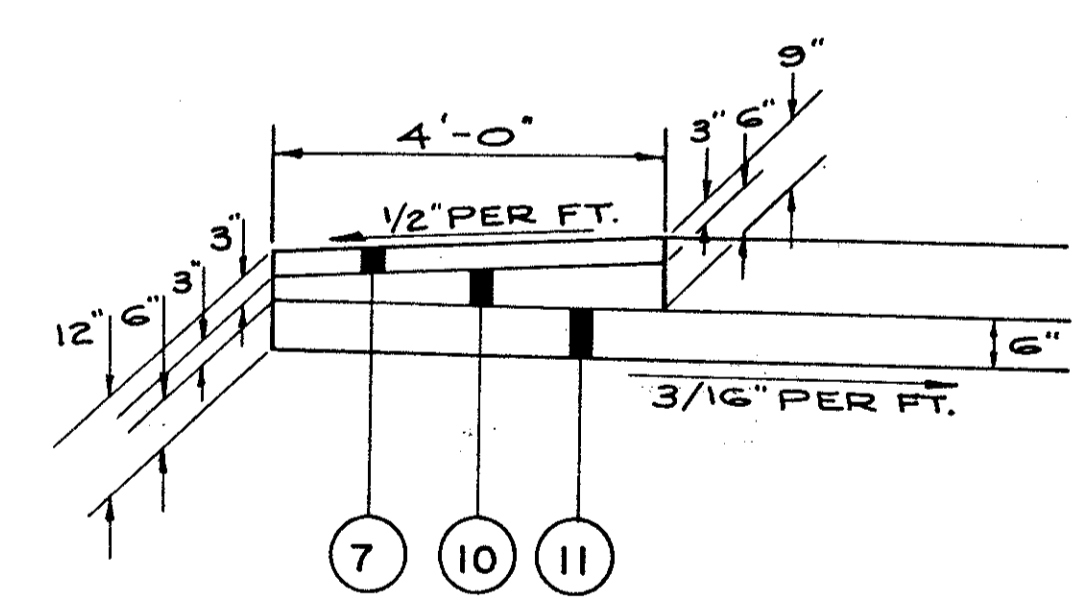
SECTION N<sup>o</sup> 15.



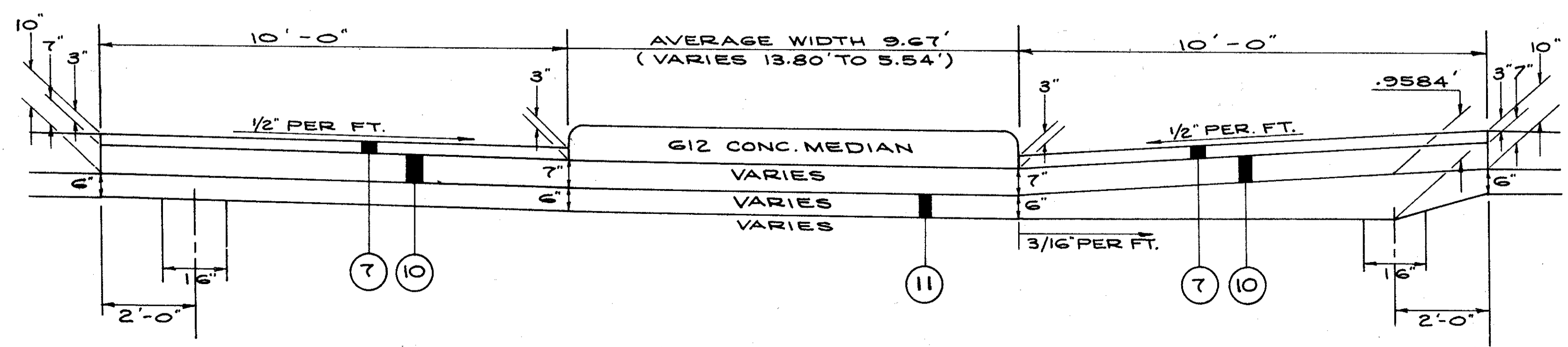
SECTION N<sup>o</sup> 16.



SECTION N<sup>o</sup> 17.



SECTION N<sup>o</sup> 19.



PAVED SHOULDER DETAILS

# TYPICAL SECTIONS

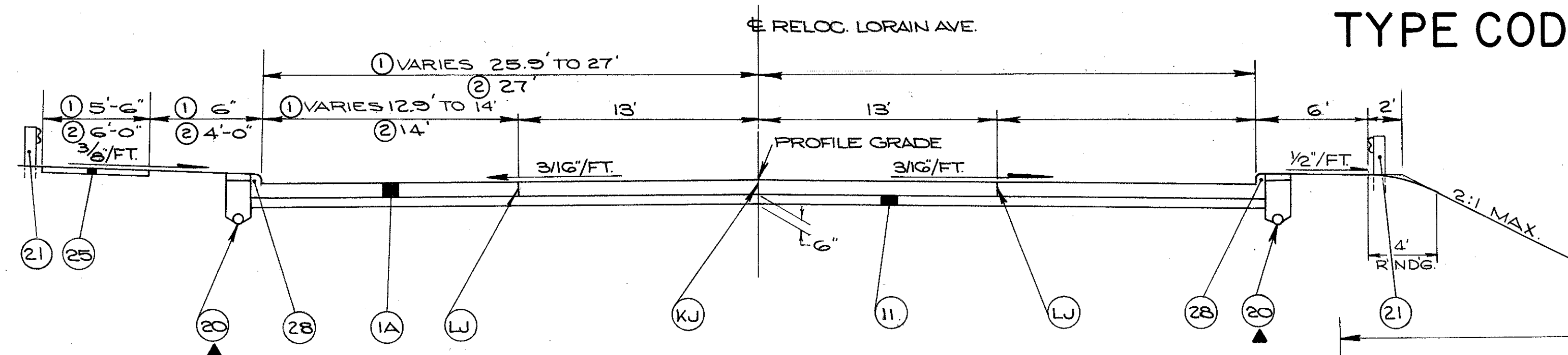
## TYPE 45I

### TYPE CODE 722I

FED. RD.	STATE	PROJECT
2	OHIO	

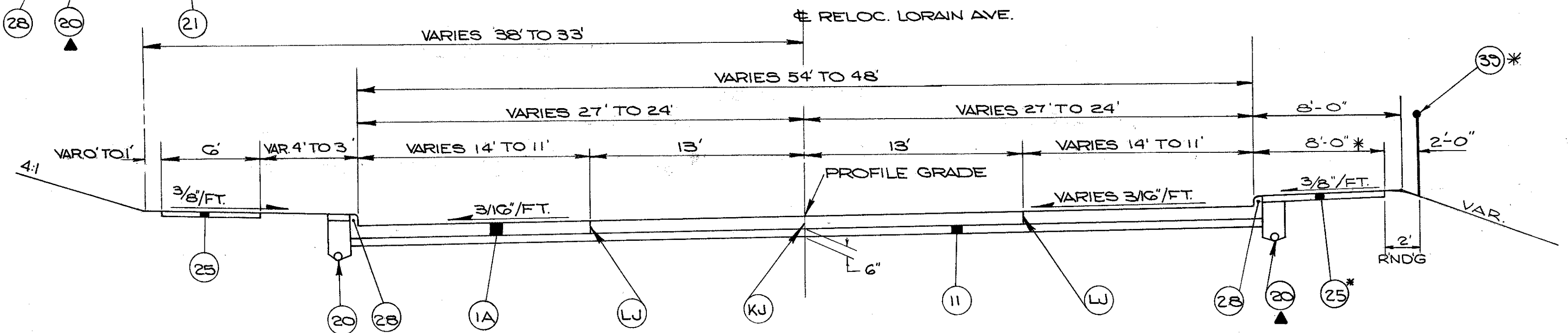
2.2  
838

CUYAHOGA COUNTY  
CUY-90-1164  
PART I



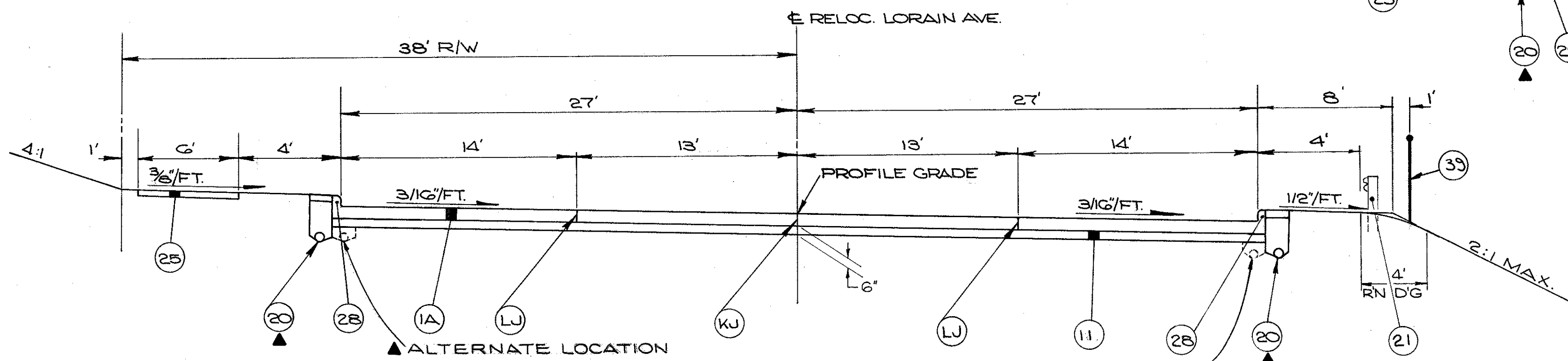
**RELOC. LORAIN AVE.  
NORMAL SECTION**

**LIMITING STATIONS**  
① STA. 42+91.00 TO STA. 44+46.08  
STRUCTURE LIMITS STA. 44+46.08 TO STA. 47+67.26  
② STA. 52+75.00 TO STA. 53+07.50 X



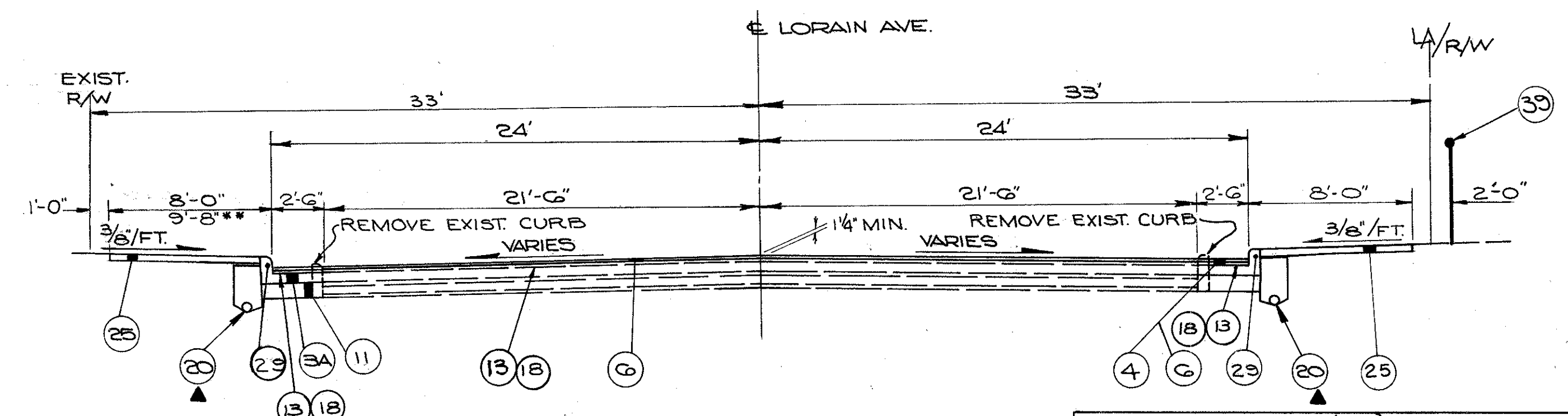
**RELOC. LORAIN AVE.  
TRANSITION SECTION**

**LIMITING STATIONS**  
STA. 53+07.50 TO STA. 54+00  
\* STA. 54+00 TO STA. 58+00



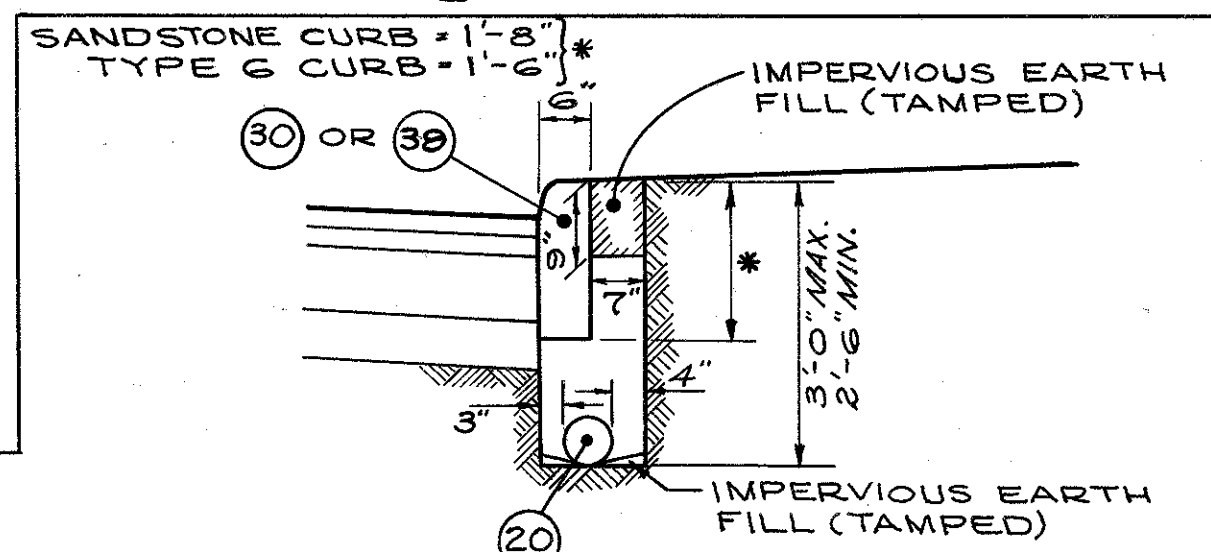
**RELOC. LORAIN AVE.  
SUPERELEVATED SECTION**

**LIMITING STATIONS**  
STA. 47+67.26 TO STA. 52+75.00

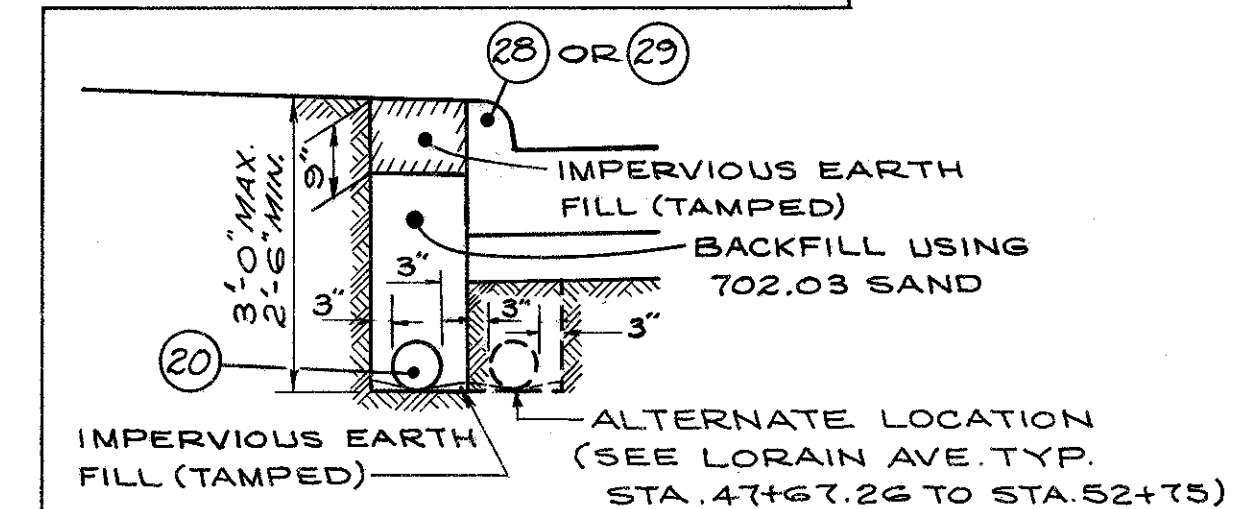


**RELOC. LORAIN AVE.  
WIDENING SECTION**

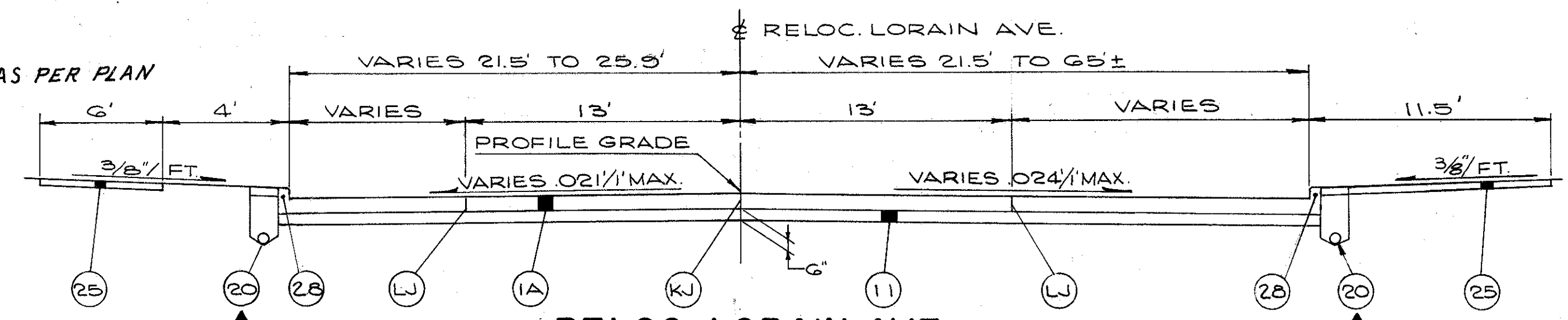
**LIMITING STATIONS**  
STA. 58+00.00 TO STA. 62+66.50  
\*\* CONC. WALK EXTENDED TO BUILDING BETWEEN W. 81ST & W. 80TH STREETS



**SANDSTONE CURB  
& TYPE 6 CURB**



**CONCRETE CURB  
TYPE 2-A or 2-B**



**RELOC. LORAIN AVE.  
TRANSITION SECTION**

**LIMITING STATIONS**  
(RT. SIDE) STA. 40+00 TO STA. 42+91  
(LT. SIDE) STA. 40+22 TO STA. 42+91

▲ FOR UNDERDRAIN DETAILS SEE THIS SHEET.

- LEGEND**
- ①A ITEM 45I 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
  - ③A ITEM 305 8" PORTLAND CEMENT CONCRETE BASE
  - ④ ITEM 402 1/4" ASPHALT CONCRETE, AC-20
  - ⑤ ITEM 403 ASPHALT CONCRETE LEVELING COURSE, AC-20 (VARIABLE THICKNESS)
  - ⑥ ITEM 404 1/4" ASPHALT CONCRETE, AC-20
  - ⑪ ITEM 310 SUBBASE GRADING A, AS PER PLAN (THICKNESS AS SHOWN)
  - ⑫ ITEM 310 SUBBASE (THICKNESS AS SHOWN)
  - ⑬ ITEM 407 TACK COAT: 702.04, SS-1, SS-1H, MS-2 or RS-1; or 702.02, RC-250. APPLIED AT THE RATE OF 0.10 GAL. PER SQ. YD.
  - ⑱ ITEM 407 COVER AGGREGATE
  - ⑳ ITEM 605 6" SHALLOW, DEEP, OR UNCLASSIFIED UNDERDRAIN, AS PER PLAN
  - ㉑ ITEM 606 GUARDRAIL, STANDARD TYPE 5
  - ㉒ ITEM 608 4" CONCRETE WALK
  - ㉓ ITEM 609 CONCRETE CURB, STANDARD TYPE 2-A
  - ㉔ ITEM 659 SEEDING AND MULCHING
  - ㉕ ITEM 609 SANDSTONE CURB
  - ㉖ ITEM 607 CHAIN LINK FENCE
  - LJ STANDARD LONGITUDINAL JOINT
  - KJ STANDARD LONGITUDINAL KEY-JOINT WITHOUT TIE BARS
  - ㉘ ITEM 609 CONCRETE CURB, STANDARD TYPE 2-B
  - ㉙ ITEM 609 CONCRETE CURB, STANDARD TYPE 6

TYPICAL SECTIONS

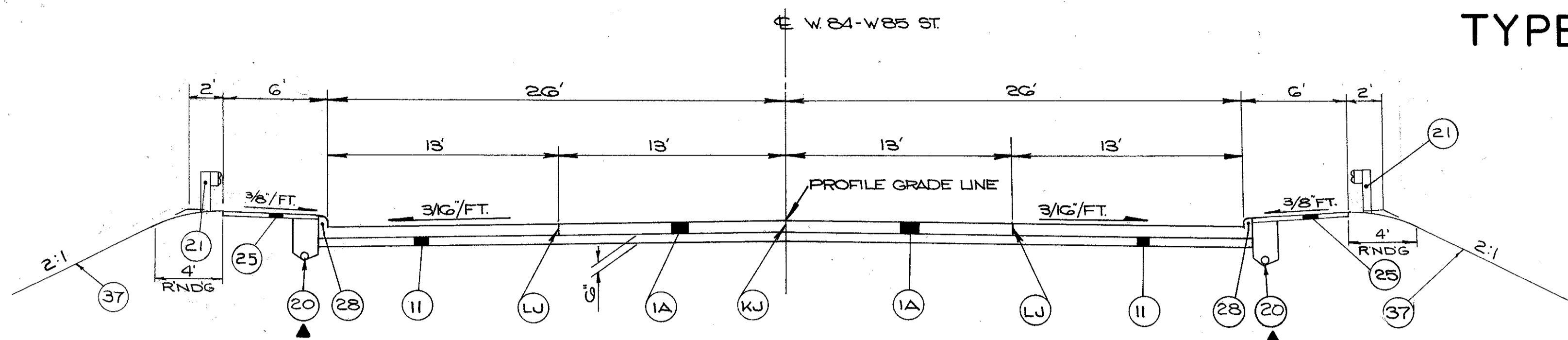
# TYPICAL SECTIONS

TYPE 45I  
TYPE CODE 722I

FED. RD.	STATE	PROJECT
2	OHIO	

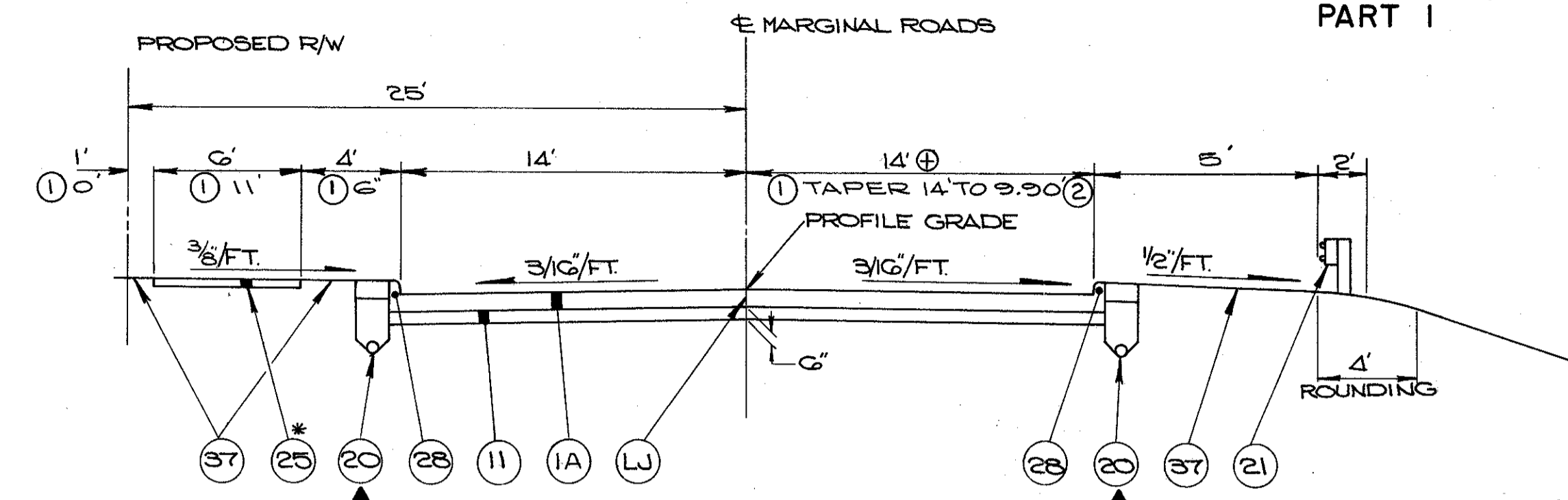
23  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I



## WEST 84-WEST 85 ST.

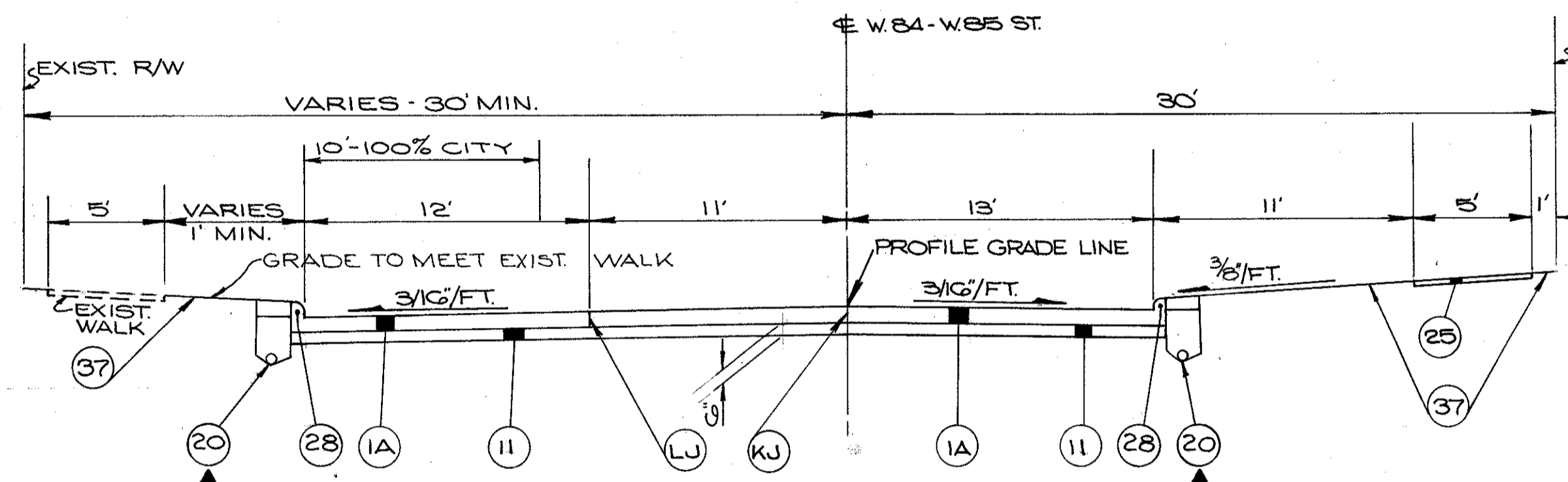
**LIMITING STATIONS**  
STA. 47+22.67 TO STA. 47+52.67  
STRUCTURE LIMITS ~ STA. 47+52.67 TO STA. 49+86.24  
STA. 49+86.24 TO STA. 50+63.31



## MARGINAL RDS. LIMITING STATIONS

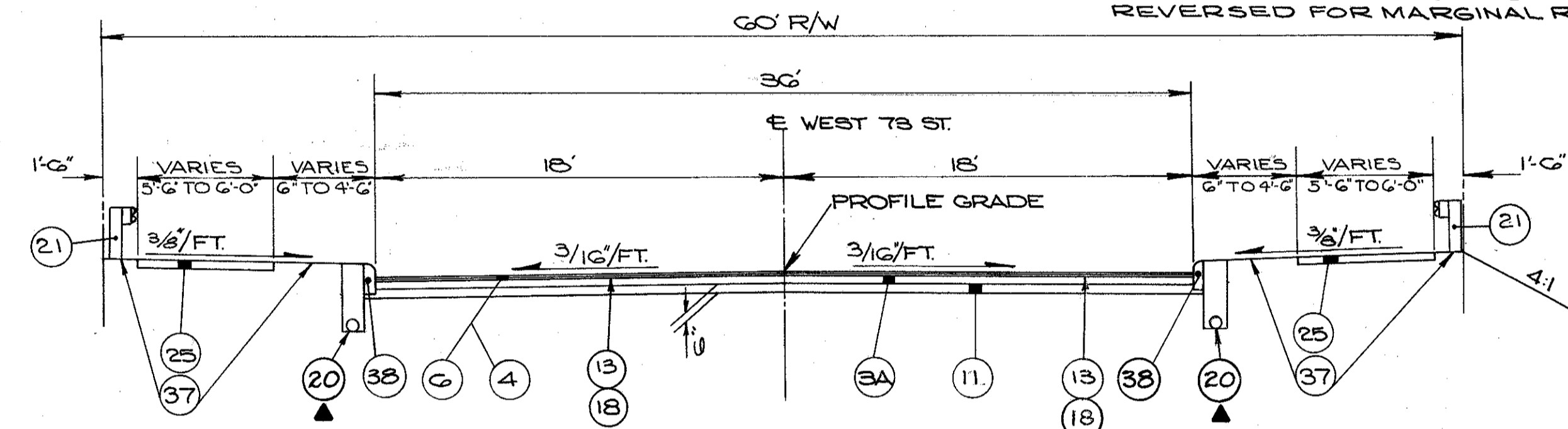
**MARGINAL RD N° 4**  
STA. 70+50.00 TO STA. 80+43.87  
\* CONC. WALK EXTENDED FROM CURB TO SCHOOL BLDG. # WALL FROM W. 95 ST. TO W. 93 ST.  
⊕ PAVEMENT TAPERS 14' TO 6' STA. 79+43.87 TO STA. 80+43.87

**MARGINAL RD N° 5 \*\***  
STA. 57+30.00 TO STA. 62+43.88  
STA. 63+20.62 TO STA. 63+67.37  
STA. 63+67.37 TO STA. 41+00 (CLARK)  
⊕ CLARK AVE. 4' RT. OF E MARGINAL RD. N° 5  
\*\* NOTE: TYPICAL SECTION AS SHOWN IS REVERSED FOR MARGINAL RD. N° 5



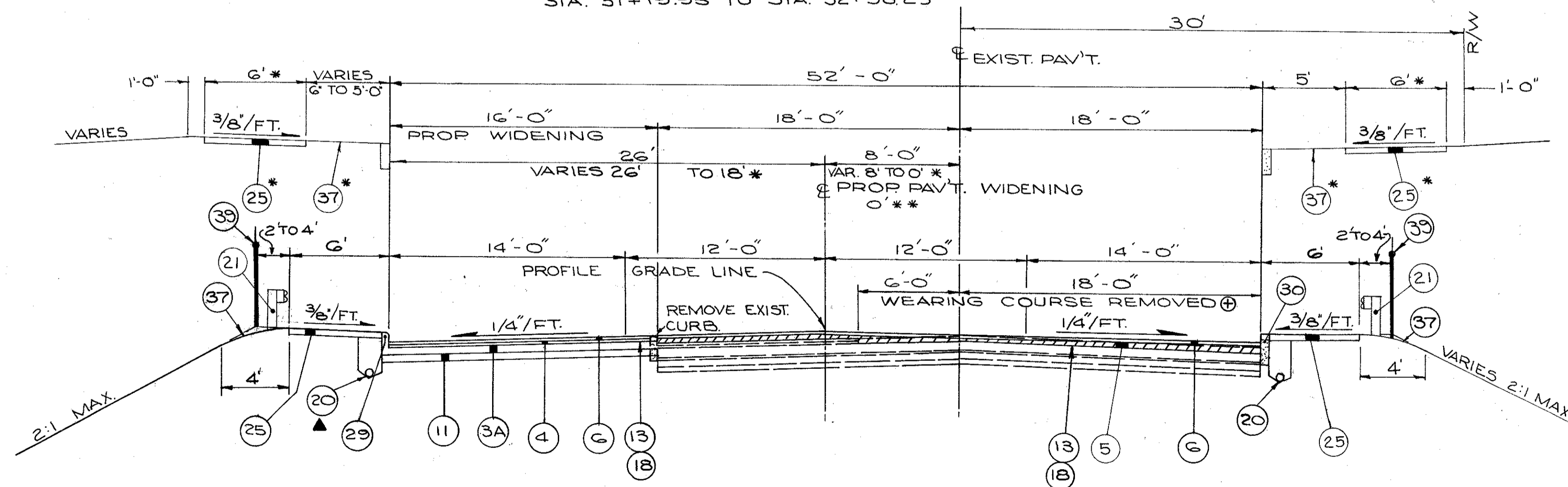
## WEST 84-WEST 85 ST.

**LIMITING STATIONS**  
STA. 51+19.95 TO STA. 52+58.25



## WEST 73 ST. LIMITING STATIONS

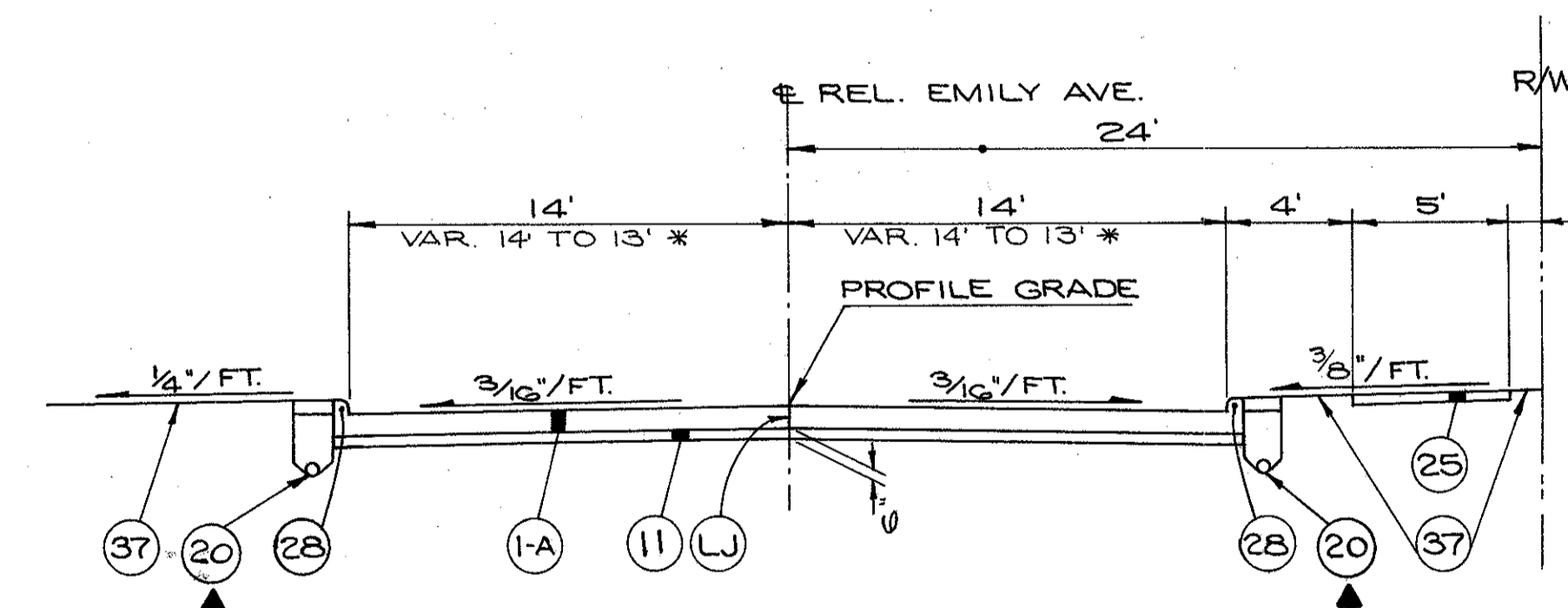
STA. 42+65.00 TO STA. 43+36.04  
STRUCTURE LIMITS ~ STA. 43+36.04 TO STA. 46+23.02  
STA. 46+23.02 TO STA. 47+15.00



## CLARK AVE.

**LIMITING STATIONS**  
\*\* STA. 48+66.88 TO STA. 49+50  
STA. 49+50.00 TO STA. 55+62.32  
STRUCTURE LIMITS ~ STA. 55+62.32 TO STA. 57+85.80  
STA. 57+85.80 TO STA. 58+50.00  
\* STA. 58+50.00 TO STA. 60+50.00  
⊕ SEE PAVEMENT REMOVAL PLANS

FOR LEGEND  
SEE SH'T. N° 22  
▲ FOR UNDERDRAIN DETAILS  
SEE SHEET N° 22



## REL. EMILY AVE.

**LIMITING STATIONS**  
STA. 50+11.00 TO STA. 52+45.15  
\* STA. 52+45.15 TO STA. 53+48.84



# TYPICAL SECTIONS

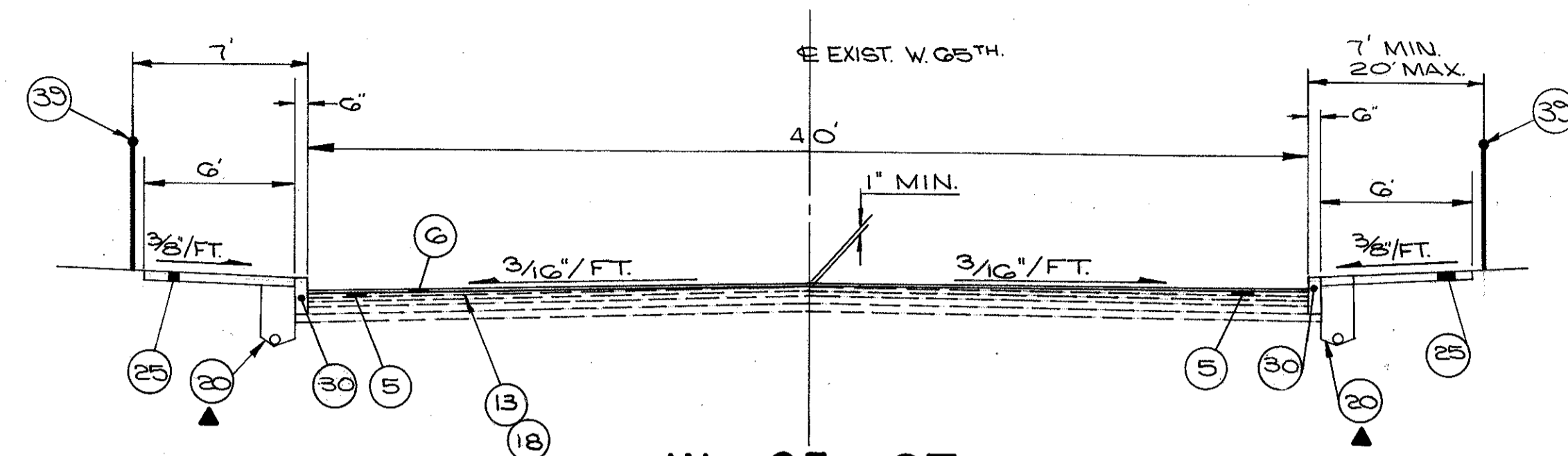
## TYPE 451

### TYPE CODE 7221

FED. RD.	STATE	PROJECT
2	OHIO	

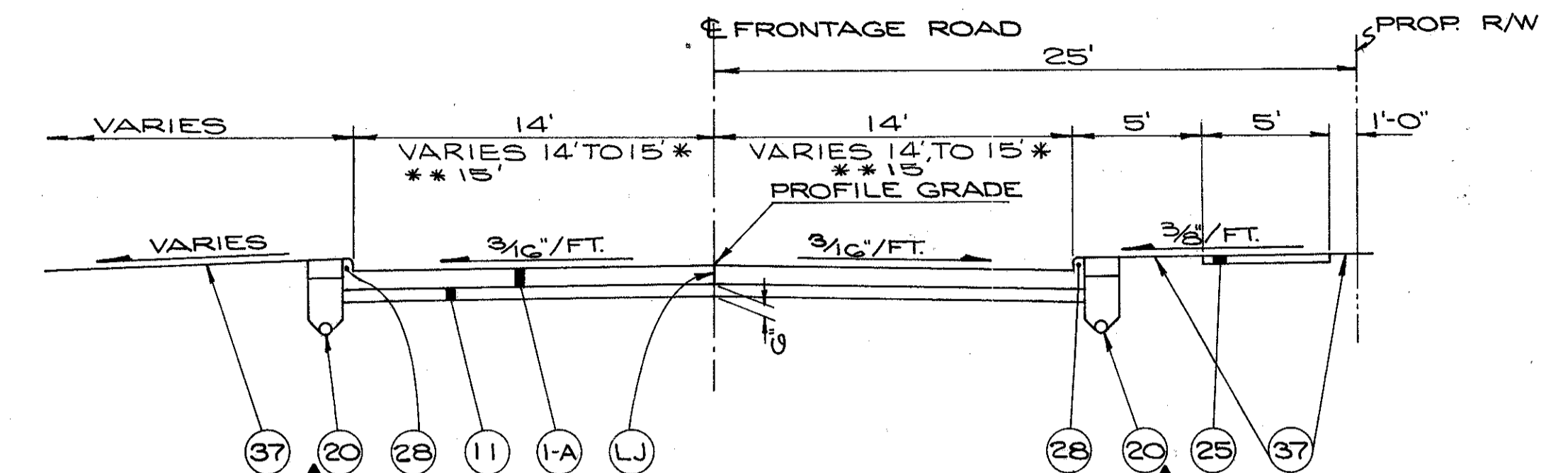
24  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I



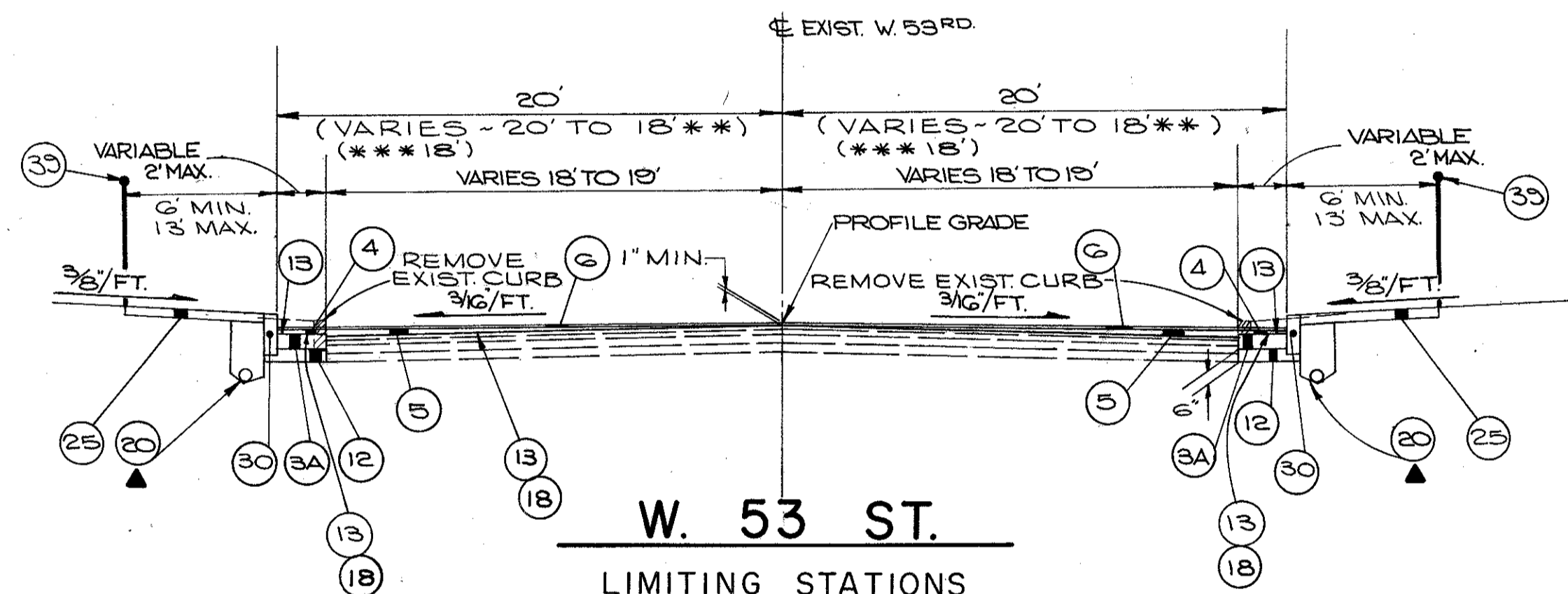
### W. 65 ST.

LIMITING STATIONS  
STA. 43+15 TO STA. 49+75  
STA. 54+50 TO STA. 57+00



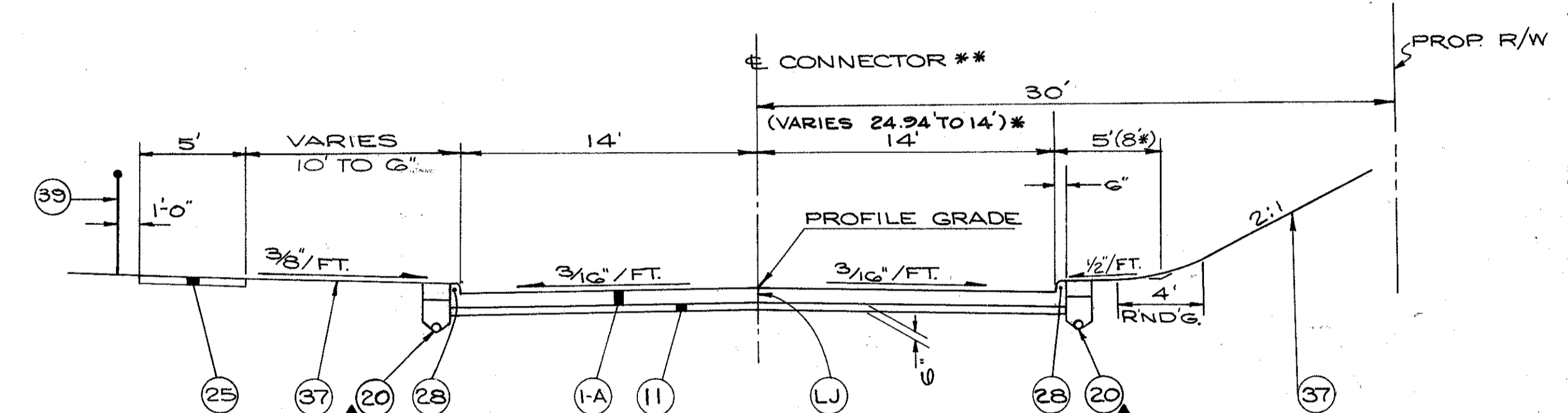
### S. FRONTAGE ROAD No 5

LIMITING STATIONS  
STA. 50+14.00 TO STA. 56+77.21  
\* STA. 56+77.21 TO STA. 57+77.72  
\*\* STA. 57+77.72 TO STA. 58+00



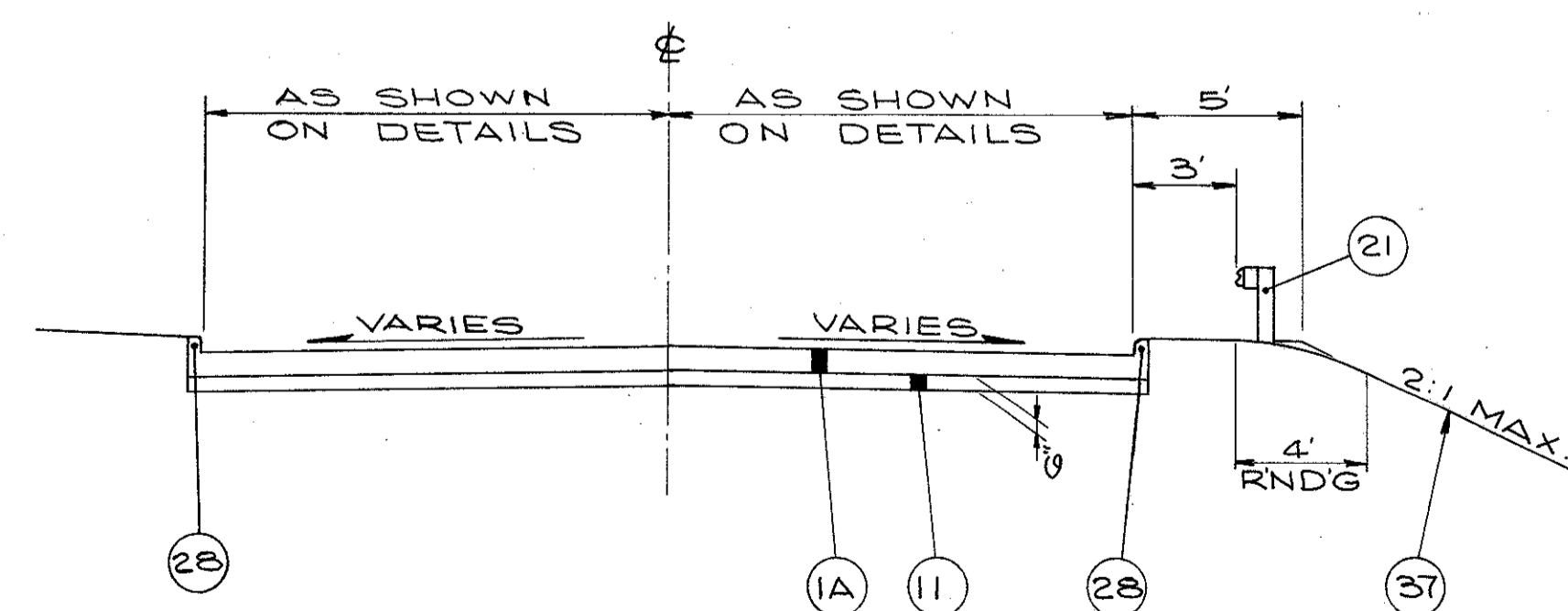
### W. 53 ST.

LIMITING STATIONS  
STA. 33+17.04 TO STA. 44+00  
\*\* STA. 44+00 TO STA. 45+00  
\*\*\* STA. 45+00 TO STA. 45+4.4



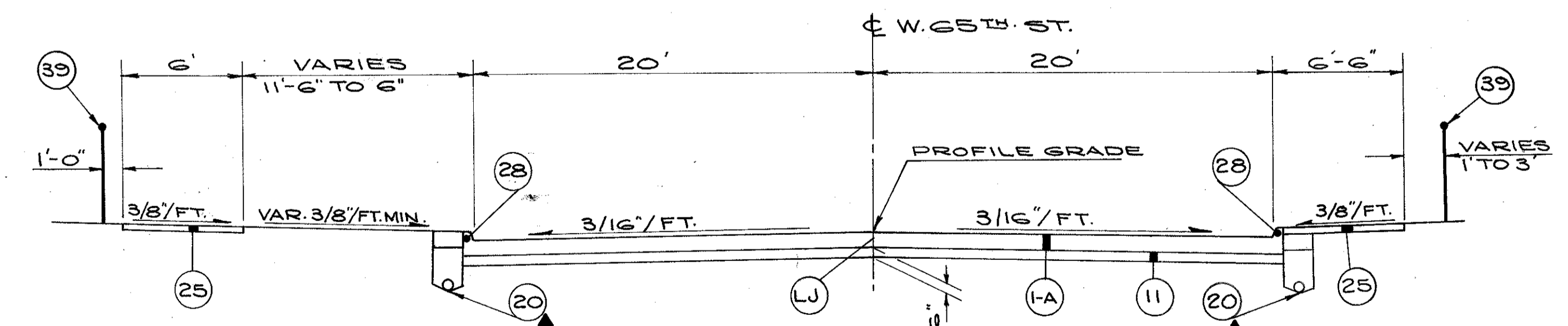
### W. 55 ST. - WALWORTH CONNECTOR

LIMITING STATIONS  
STA. 2+01.82 TO STA. 7+90.88  
\*\* SECTION REVERSED EAST OF W. 53 ST.  
EXCEPT R/W LINE.  
\* EAST OF W. 53 ST. ONLY



### CUL - DE - SAC

HOPE AVE STA. 2+75 TO STA. 3+90  
GRACE AVE. at W. 79 ST. STA. 5+40 TO STA. 6+58.40



### W. 65 ST.

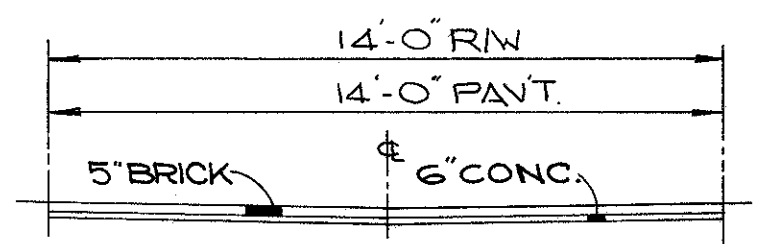
LIMITING STATIONS  
STA. 49+75 TO STA. 51+08.34  
STRUCTURE LIMITS - STA. 51+08.34 TO STA. 53+04.27  
STA. 53+04.27 TO STA. 54+50.00

FOR UNDERDRAIN DETAILS  
SEE SHEET No 22

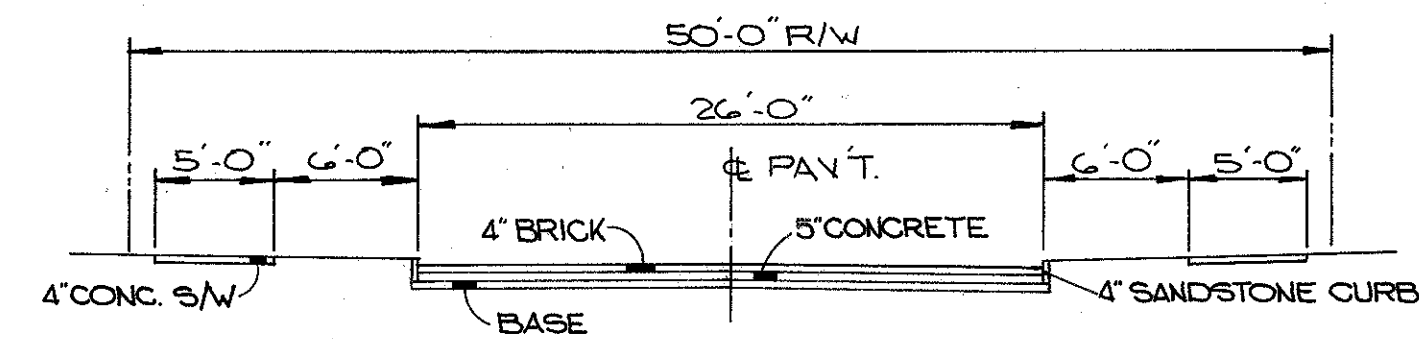
▲ FOR LEGEND SEE SHEET No 22

TYPICAL SECTIONS

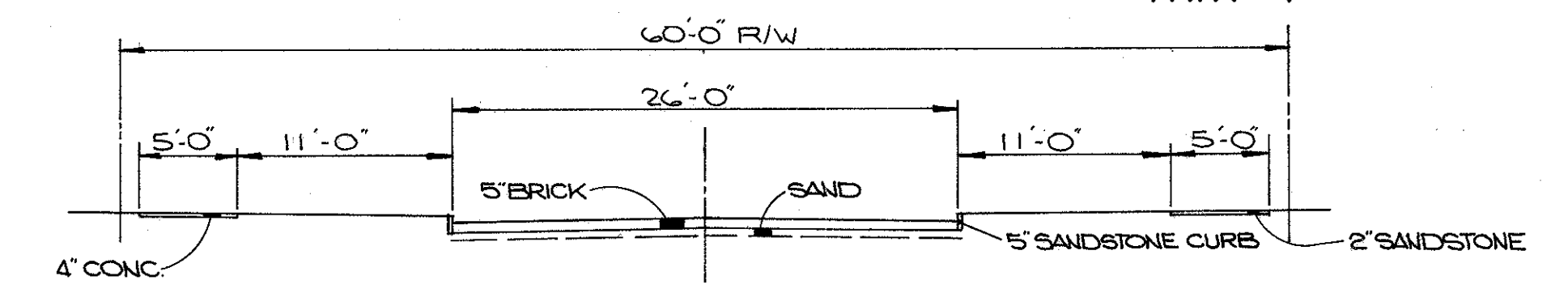
CUYAHOGA COUNTY  
CUY-90-11.64  
PART I



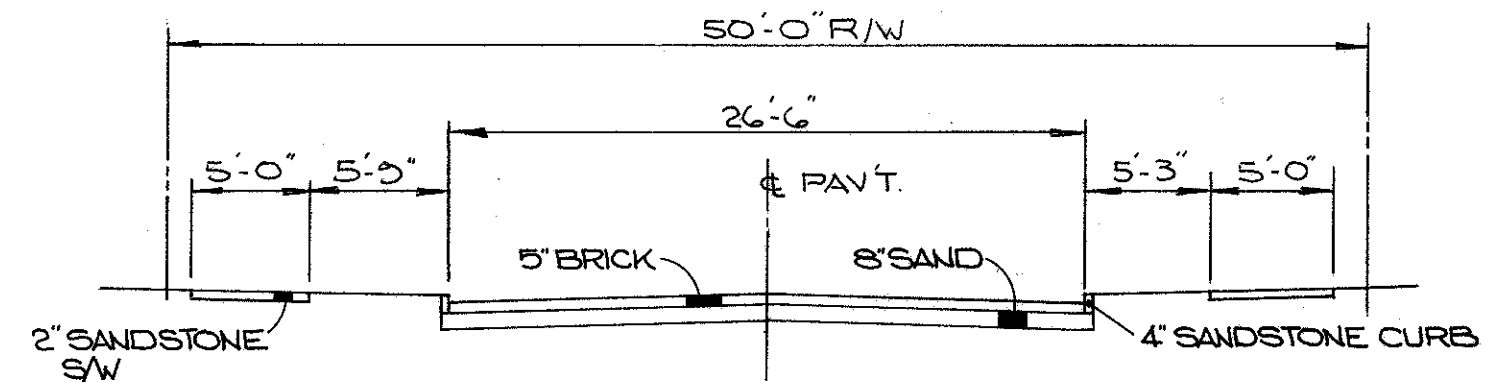
WEST 24 STREET



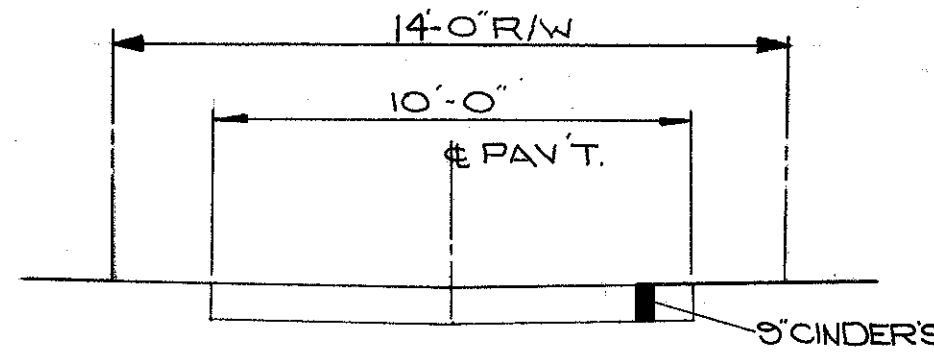
WEST 21 STREET



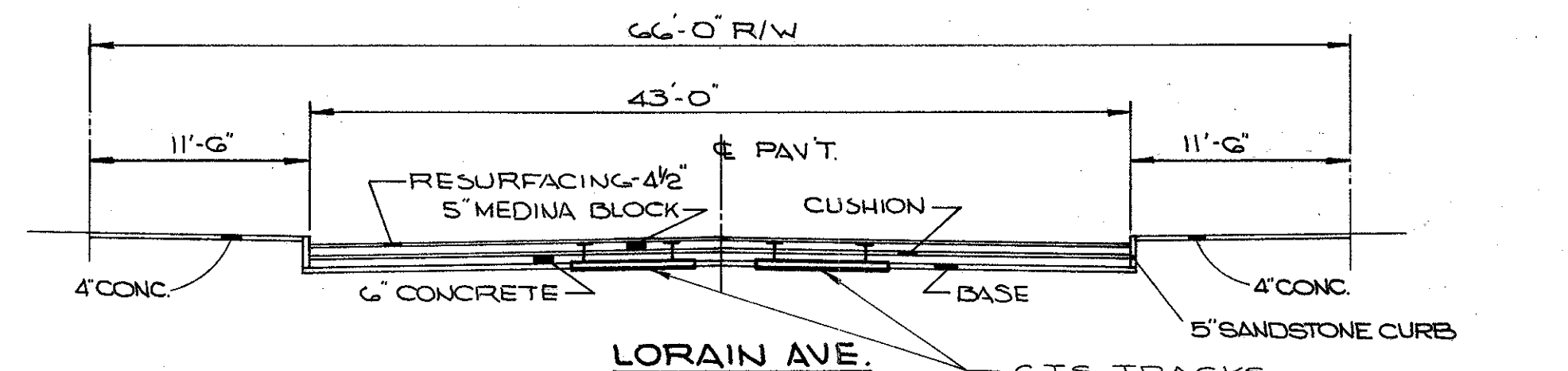
WEST 85 STREET



WEST 23 STREET

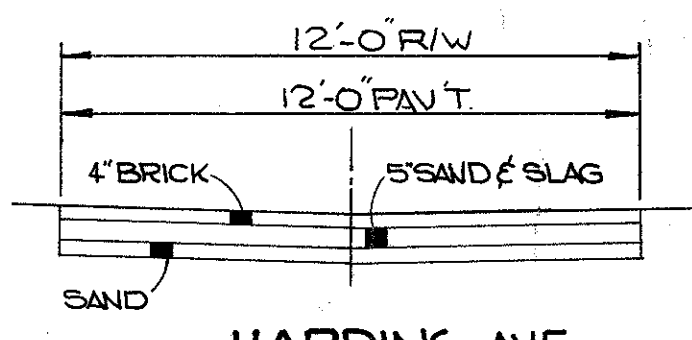


WEST 20 STREET  
NORTH OF LORAIN

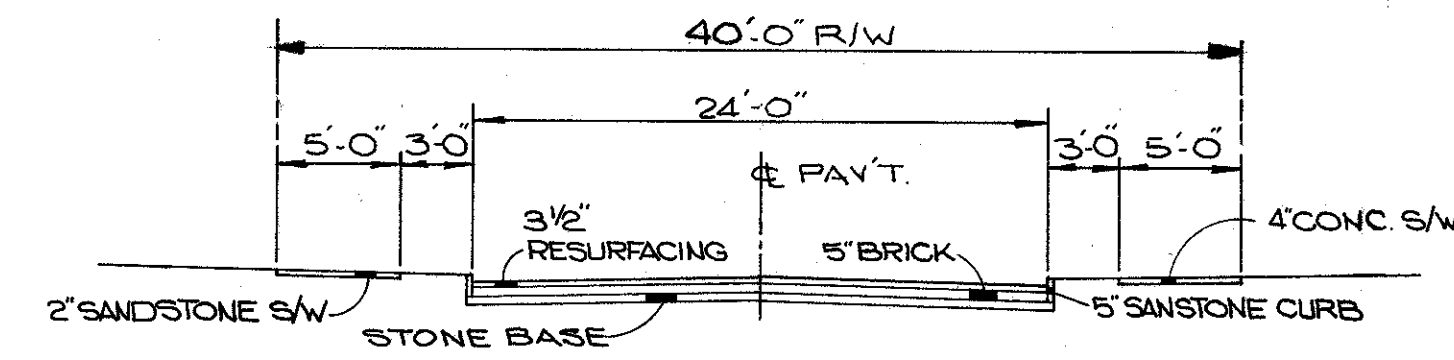


LORAIN AVE.

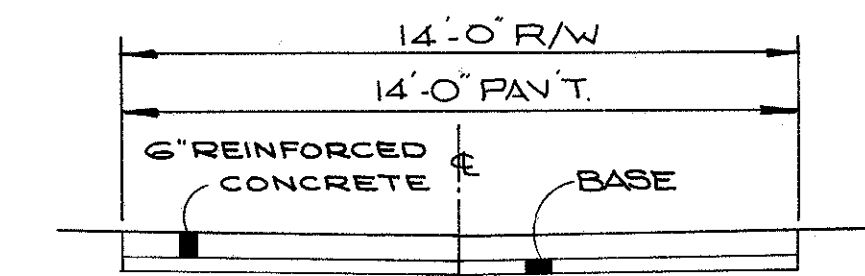
C.T.S. TRACKS  
(RECORDS DO NOT INDICATE IF  
TRACKS WERE REMOVED OR  
ABANDONED.)



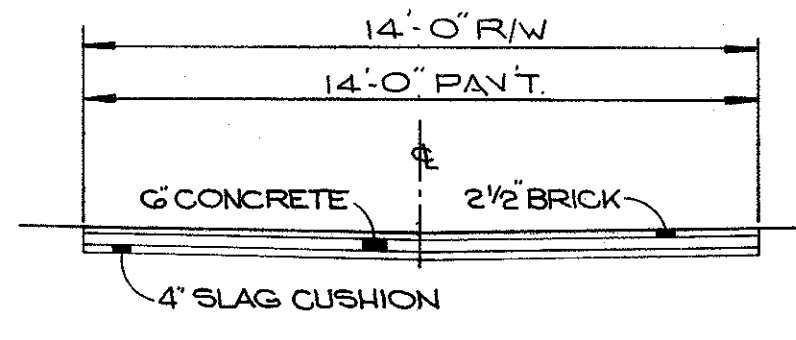
HARDING AVE.



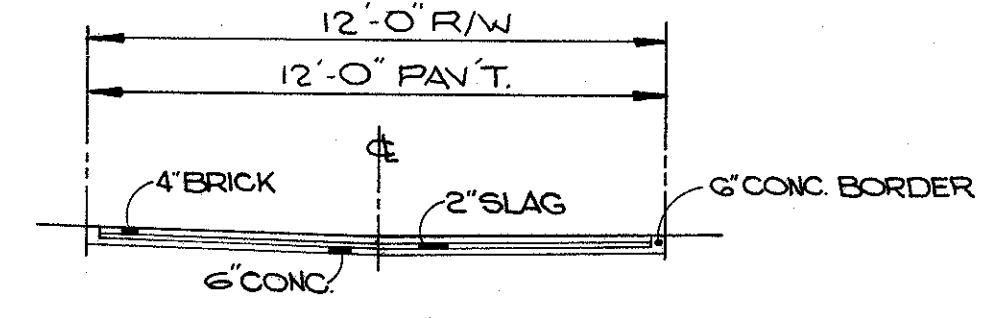
WEST 20 STREET  
SOUTH OF LORAIN



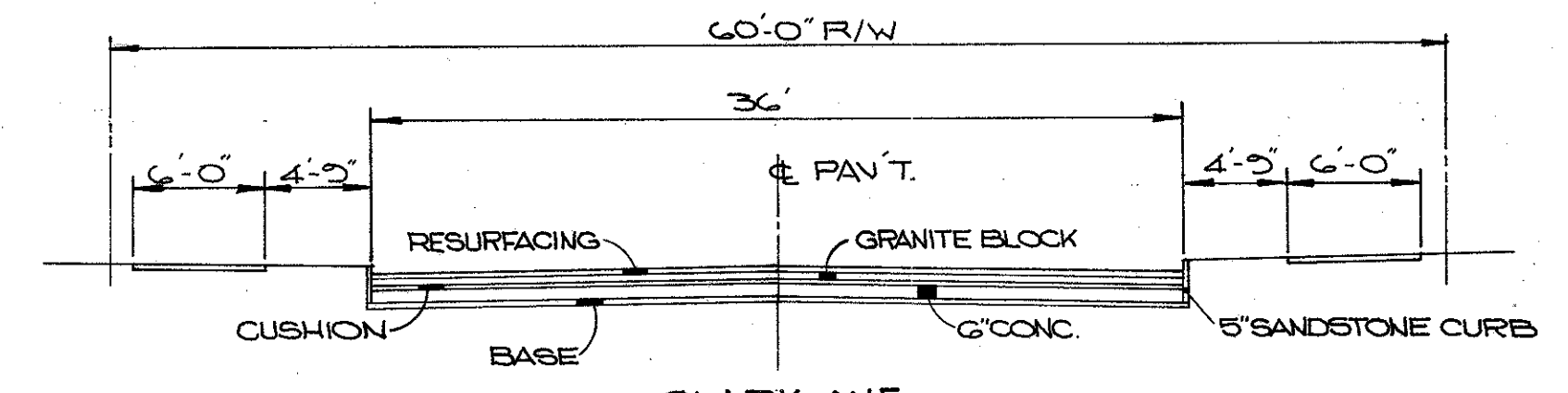
WOLCOTT AVE.



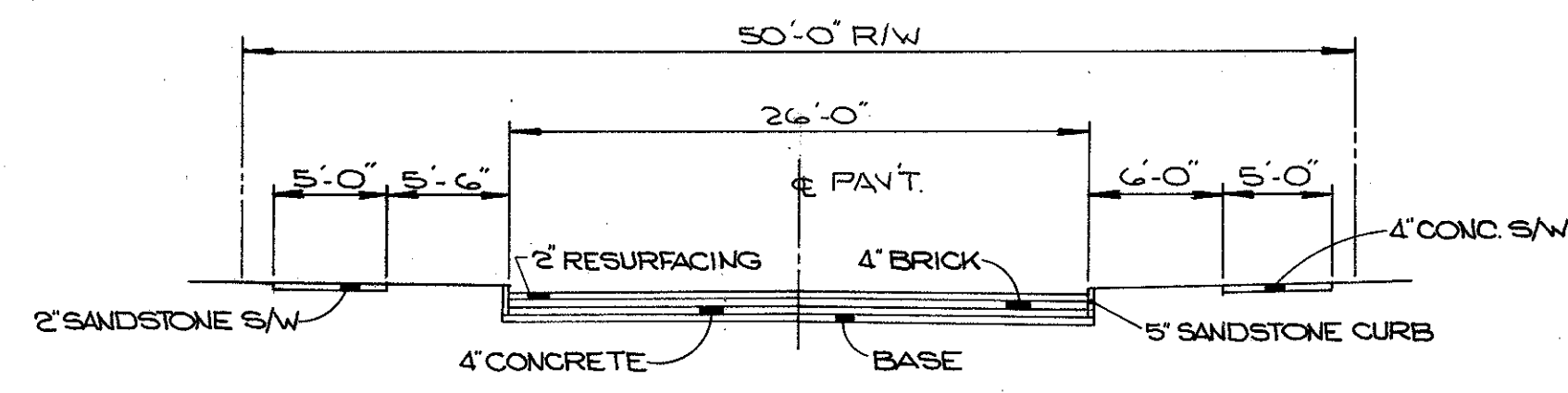
WEST 22 STREET  
NORTH OF LORAIN



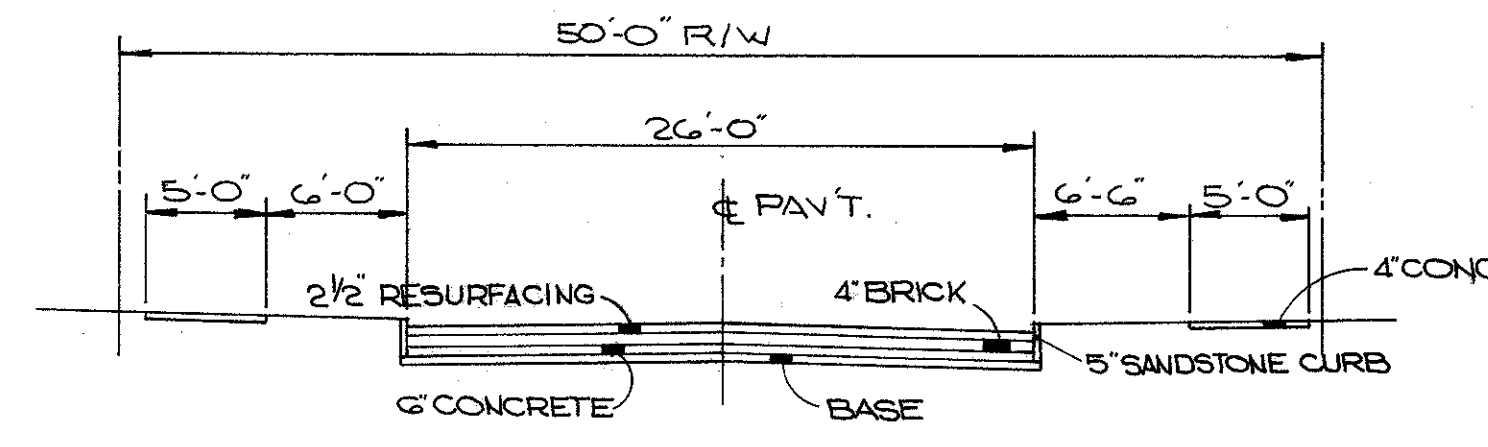
KEITH AVE.



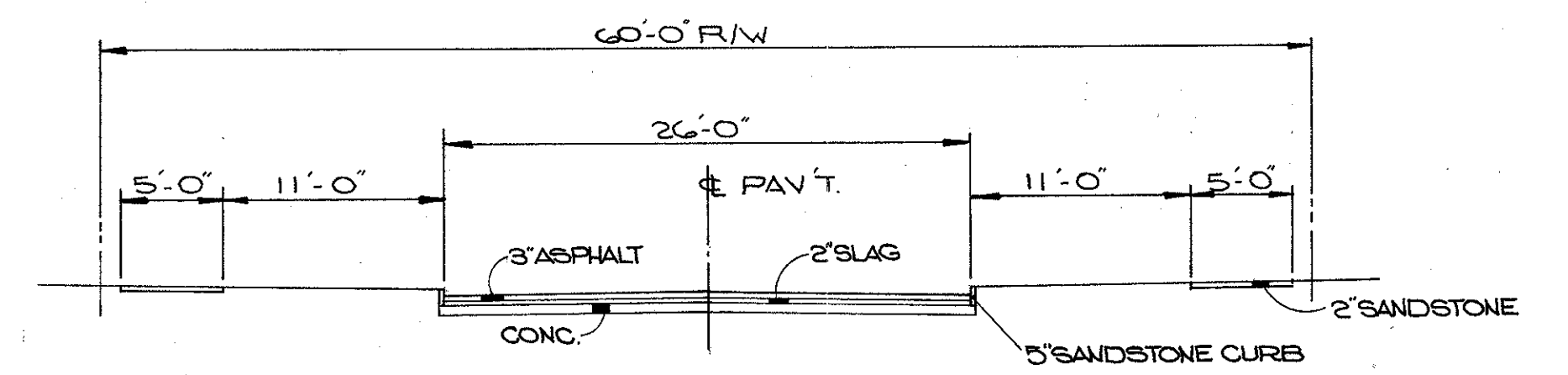
CLARK AVE.



WEST 22 STREET  
SOUTH OF LORAIN



WEST 82 STREET



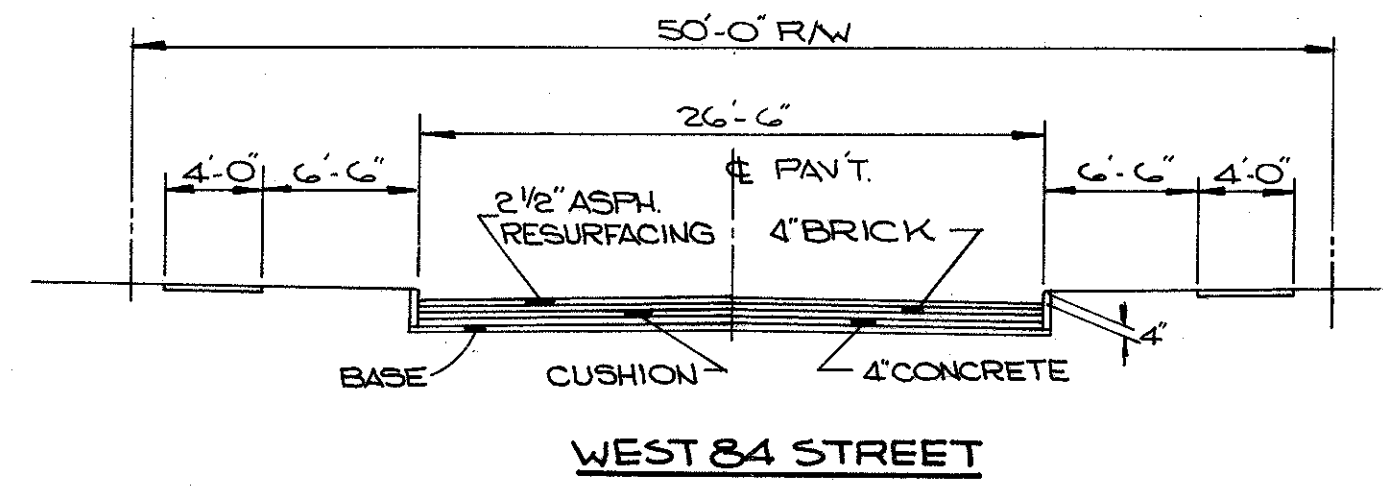
WILLARD AVE.

EXISTING  
TYPICAL SECTIONS

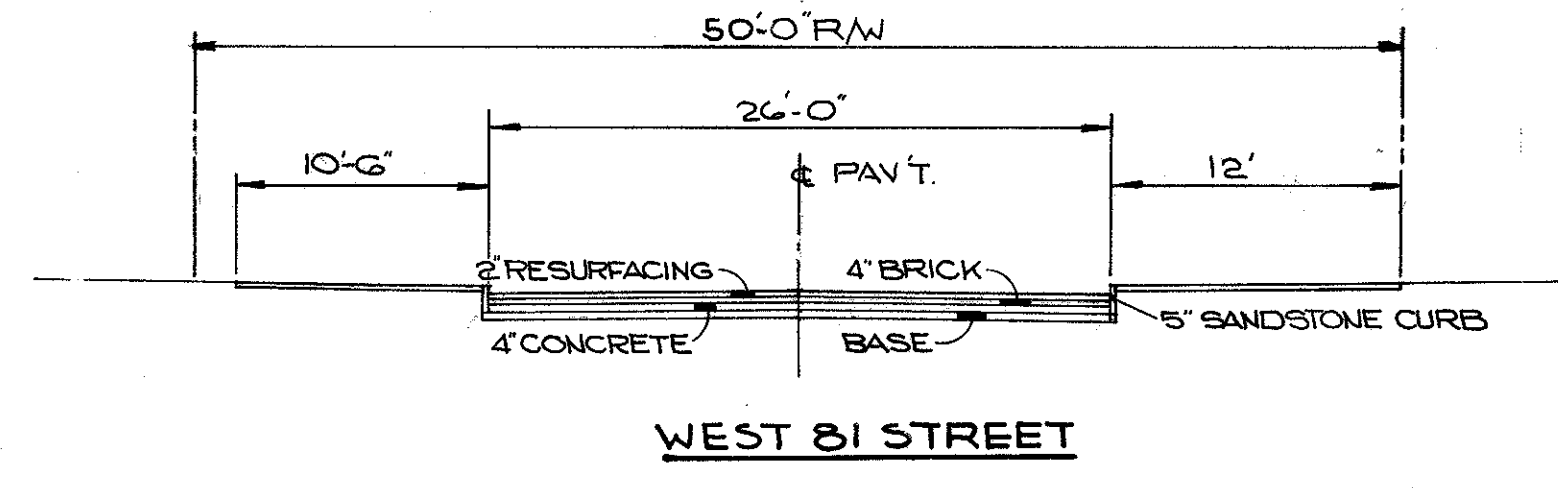
FED. RD.	STATE	PROJECT
2	OHIO	

26  
838

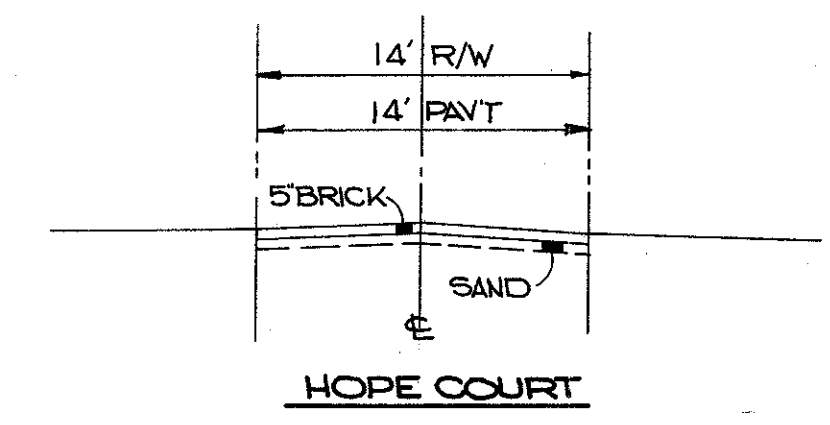
CUYAHOGA COUNTY  
CUY-90-11.64  
PART I



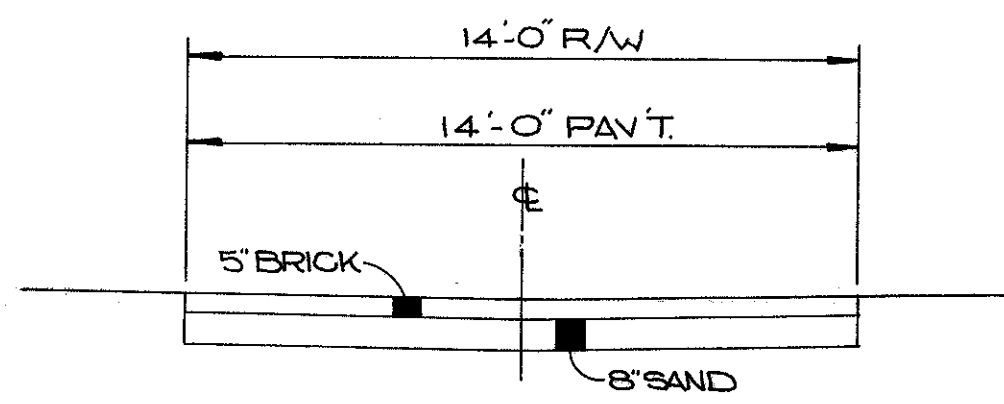
WEST 84 STREET



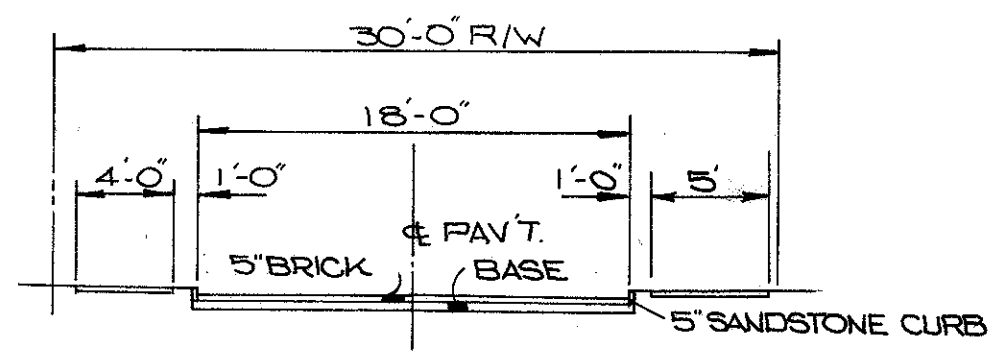
WEST 81 STREET



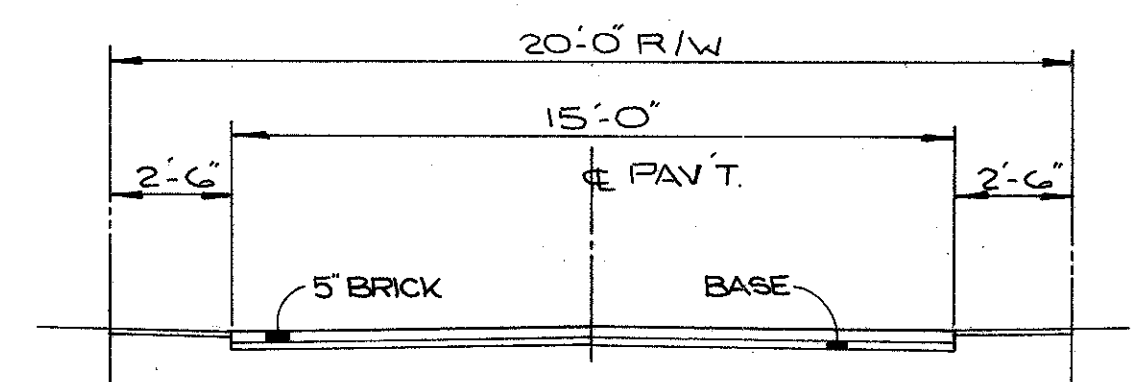
HOPE COURT



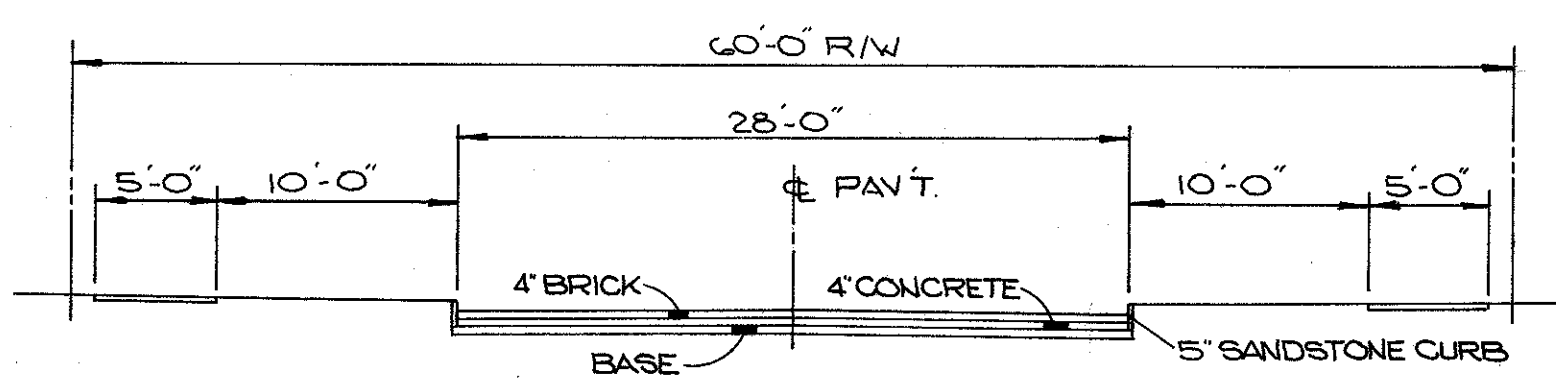
EMILY AVE.



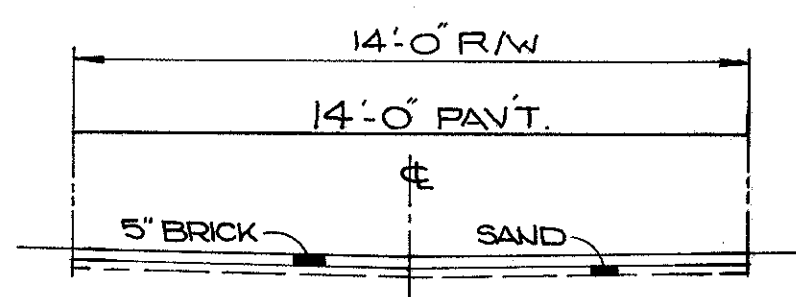
WEST 80 STREET



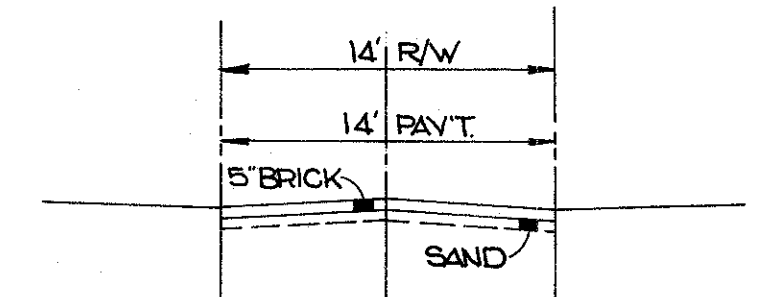
WEST 79 STREET



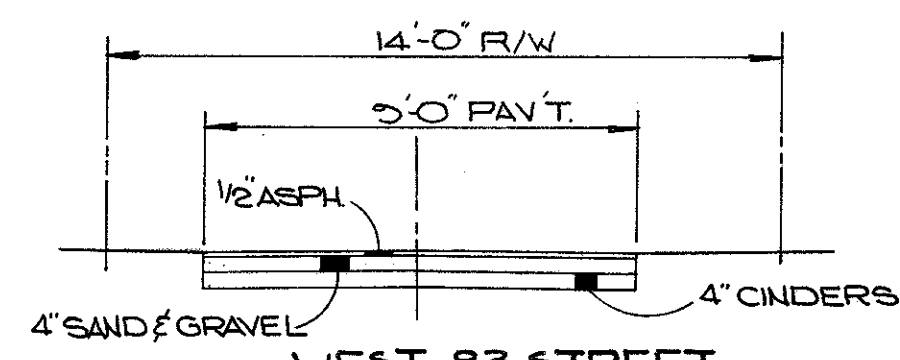
WEST 83 STREET  
NORTH OF LORAIN



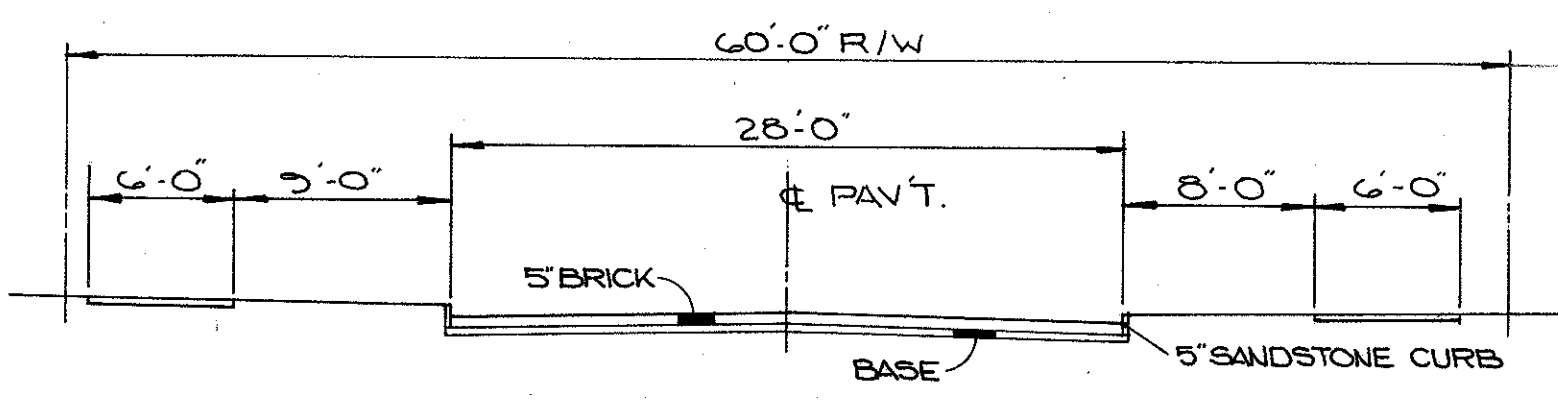
NORDICA COURT



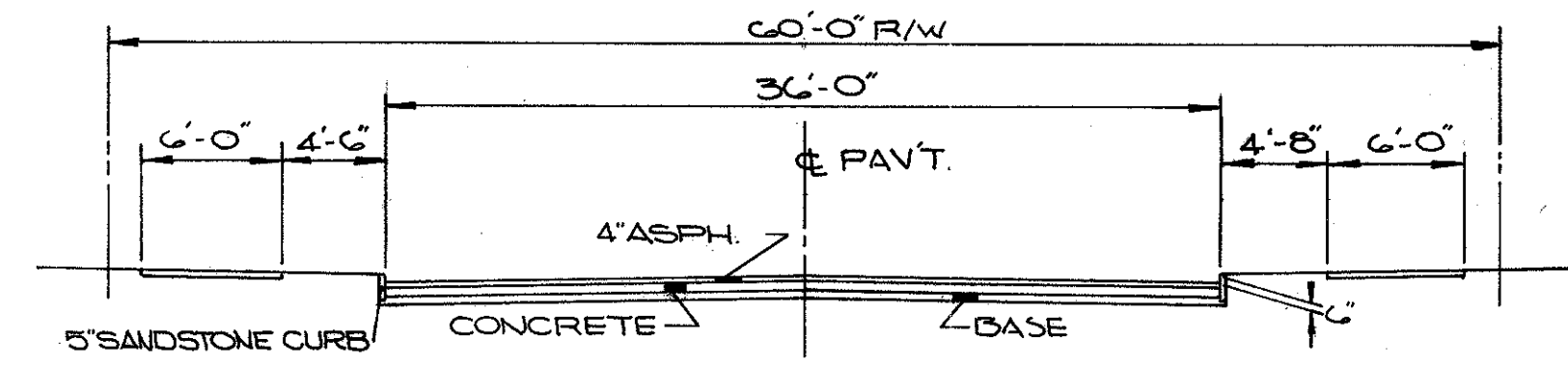
WEST 74 STREET



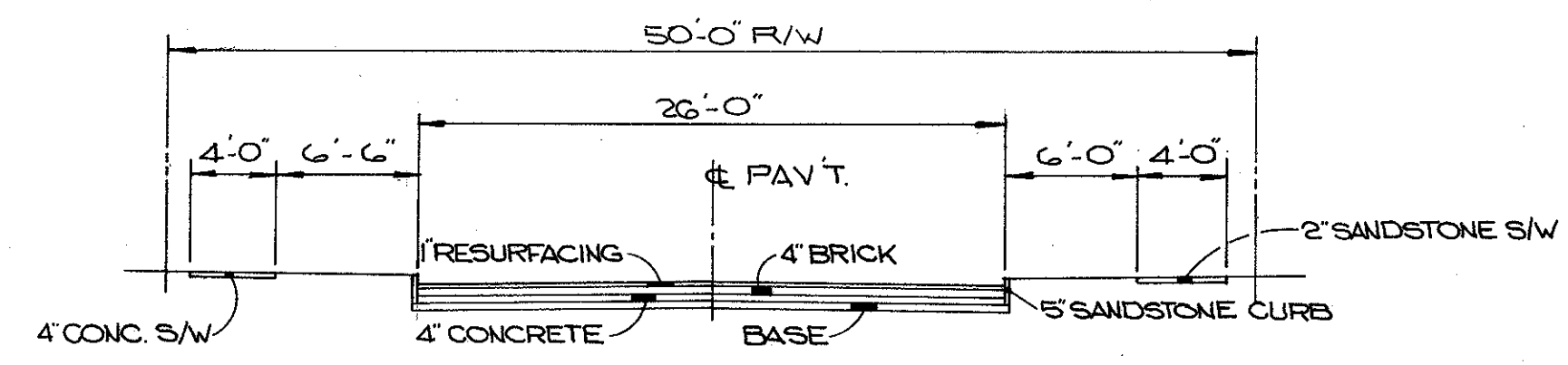
WEST 83 STREET  
SOUTH OF CLARK



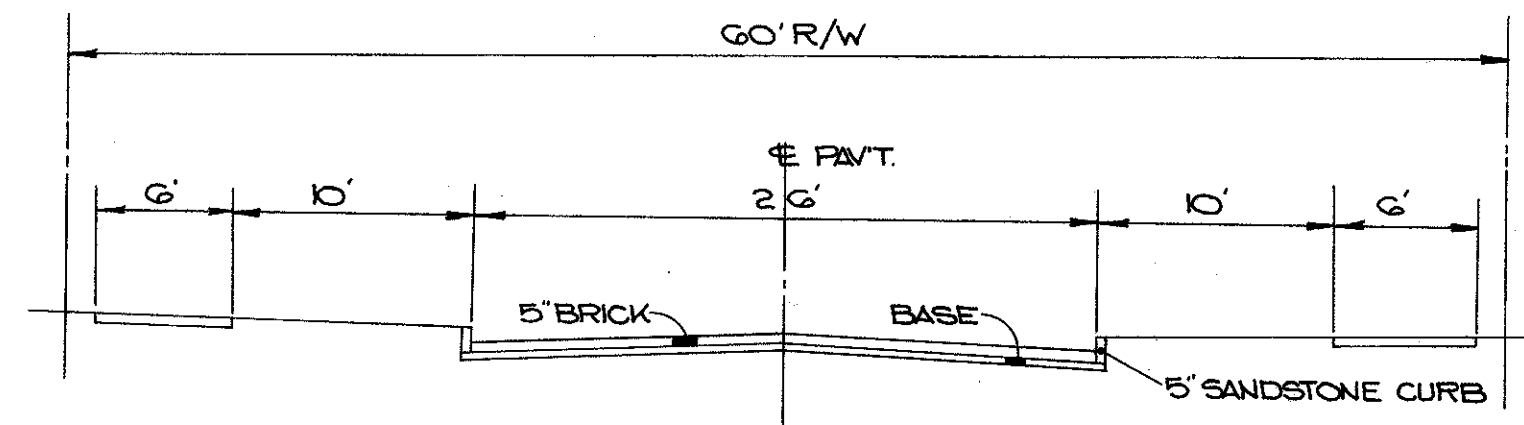
GRACE AVE.  
EAST OF 80 ST.



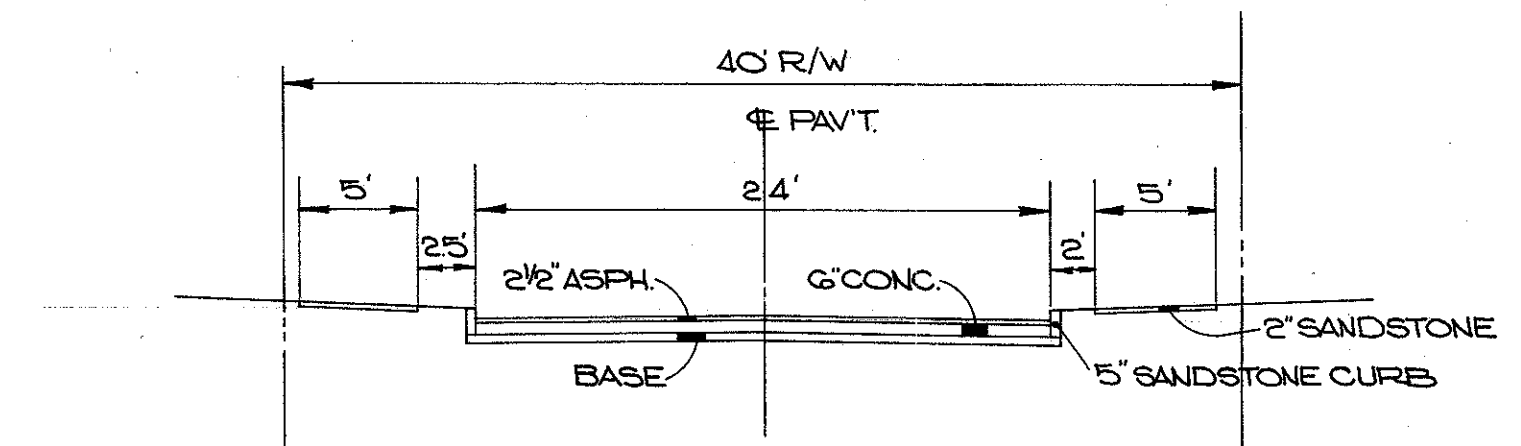
WEST 73 STREET



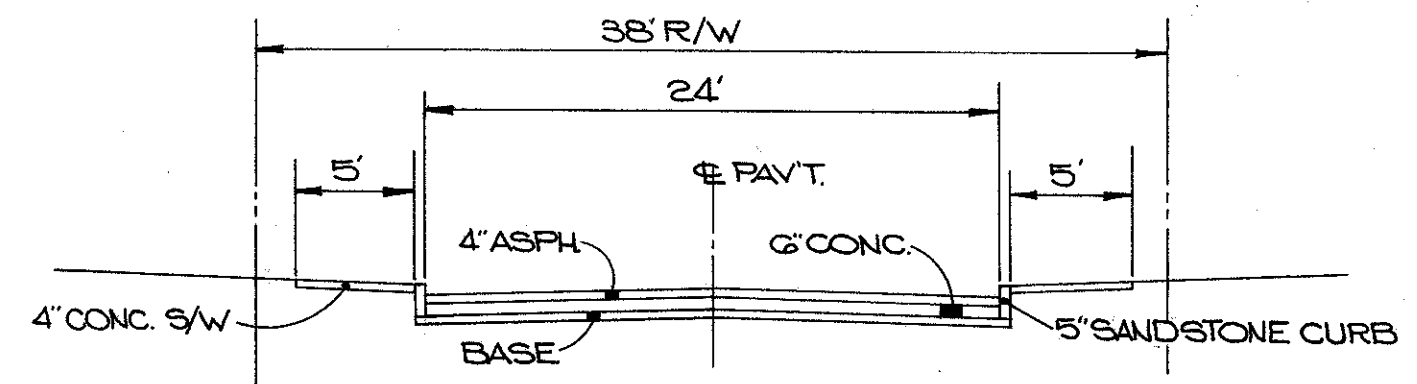
WEST 82 STREET



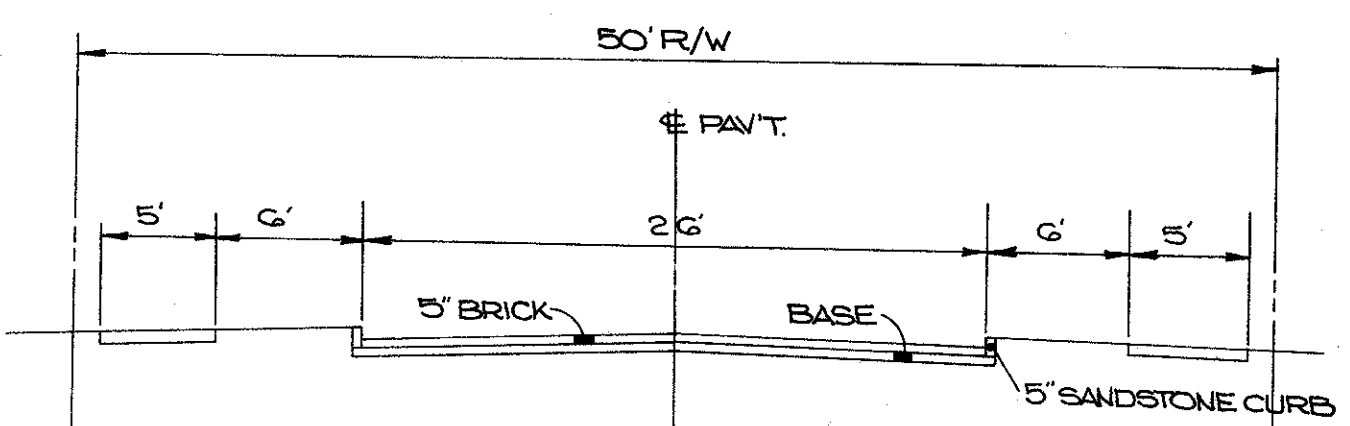
HOPE AVE.  
EAST OF 73 ST.



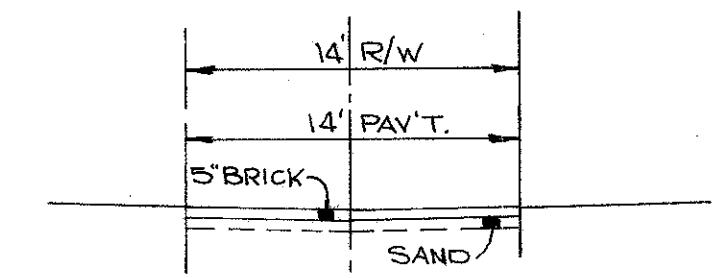
GRACE AVE.  
WEST OF 80 ST.



WEST 83 STREET  
NORTH OF CLARK



HOPE AVE.  
WEST OF 73 ST.



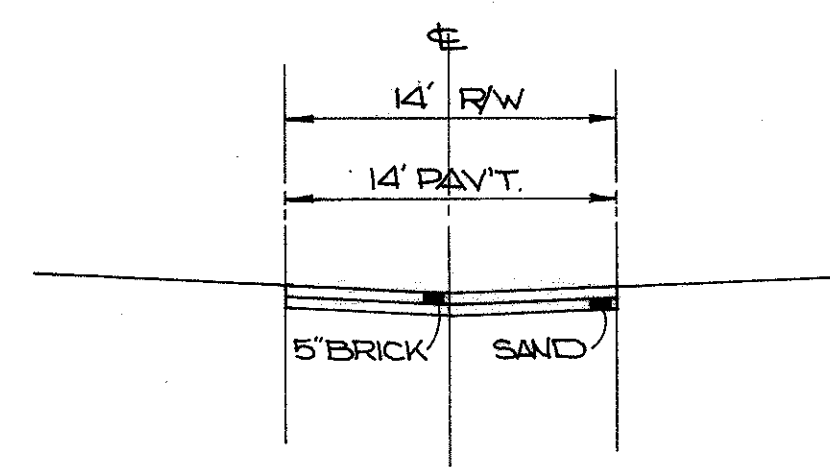
WEST 73 PLACE  
NORTH OF CONRAD

EXISTING  
TYPICAL SECTIONS

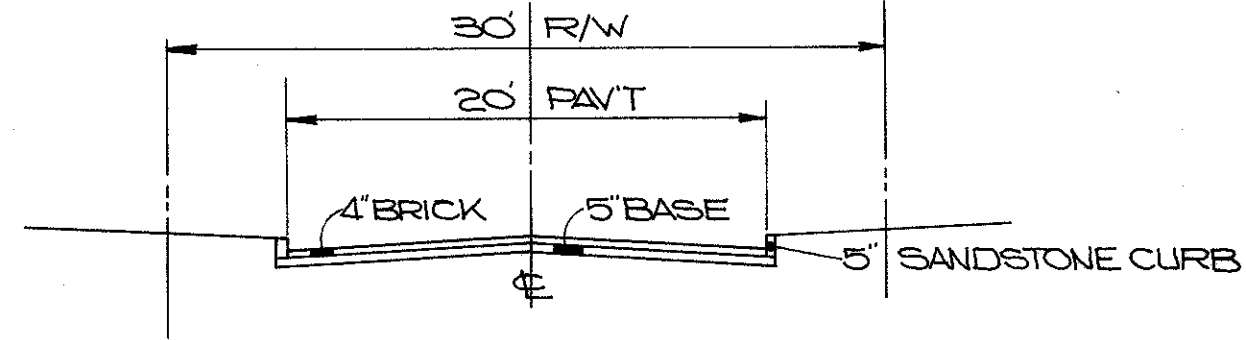
FED. RD.	STATE	PROJECT
2	OHIO	

27  
838

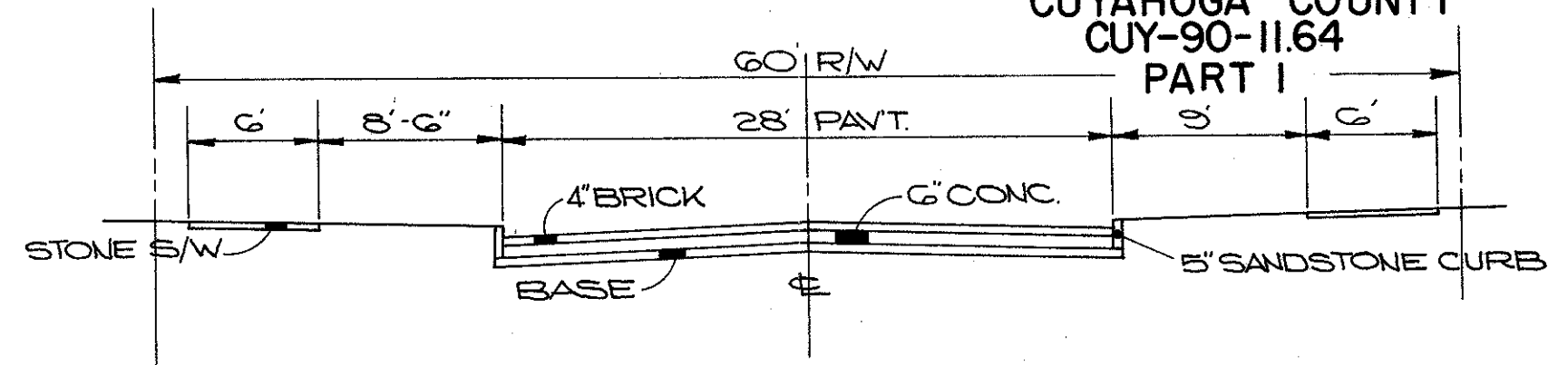
CUYAHOGA COUNTY  
CUY-90-1164  
PART I



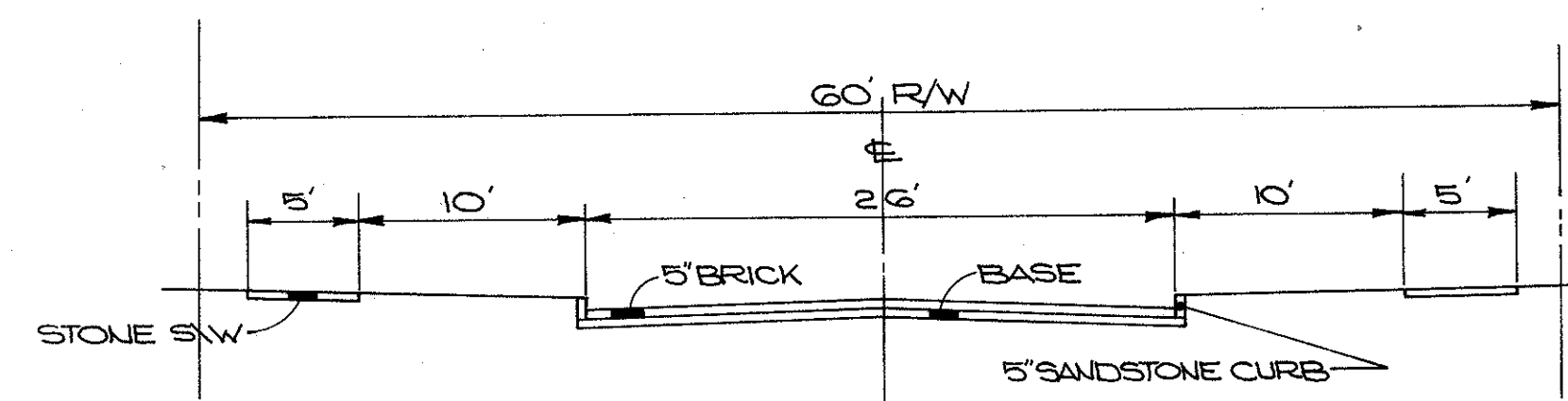
ALCOBA CT.



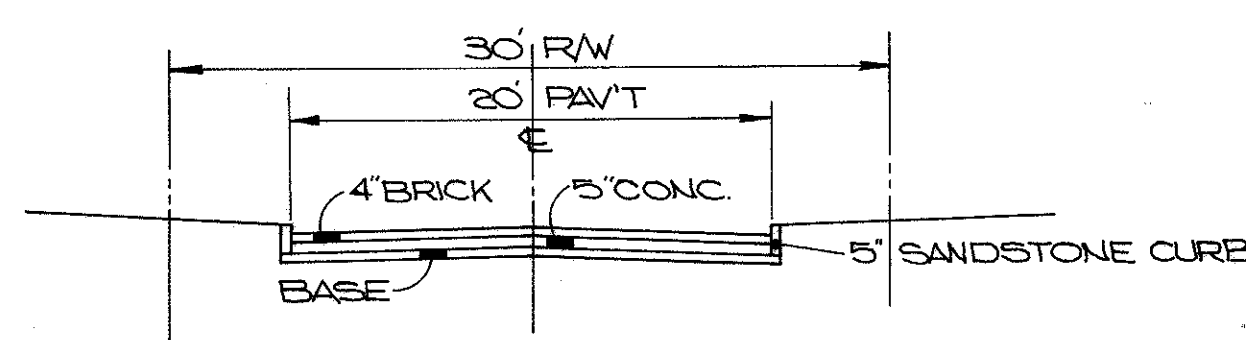
W66 PL.



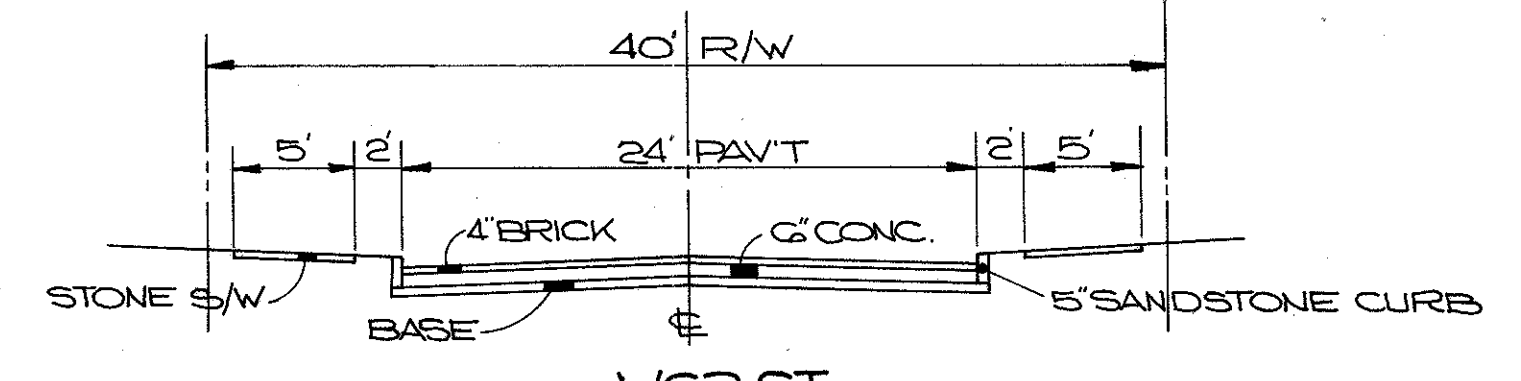
SARGENT AVE.



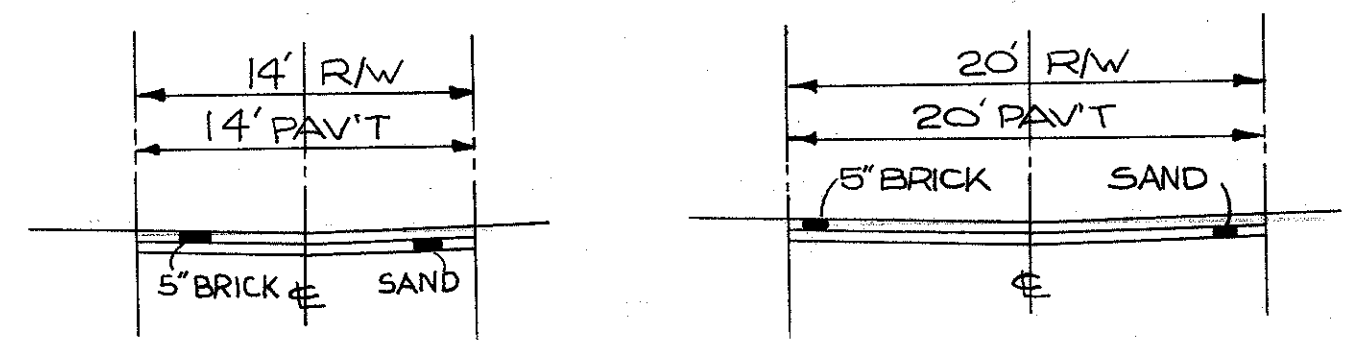
CONRAD AVE.



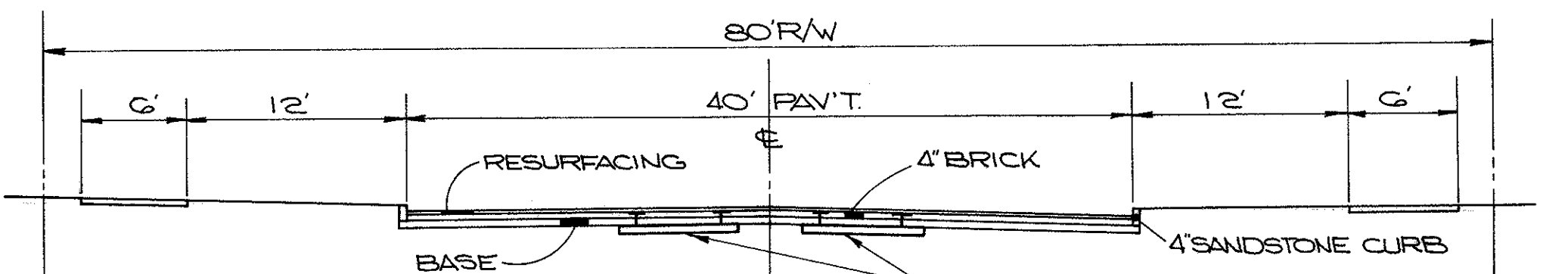
HEBER CT.



W63 ST.  
N. OF SARGENT

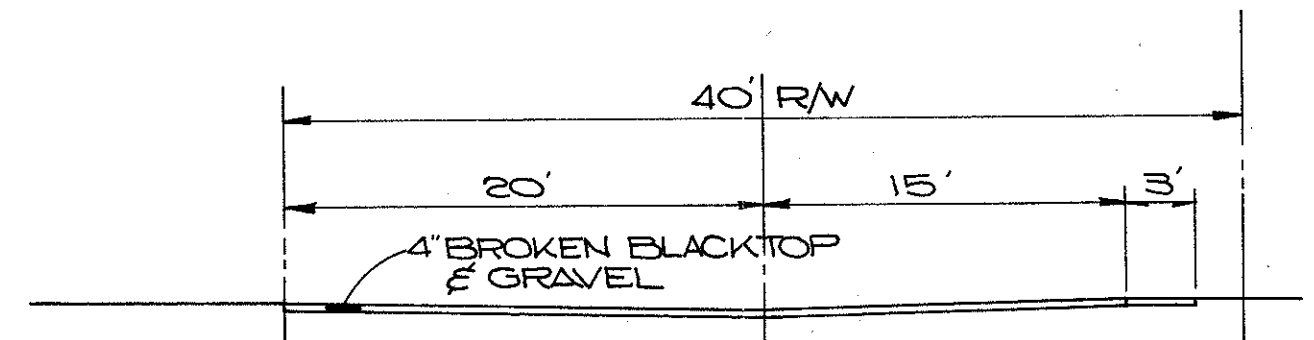


HOPE TO CLARK W70 ST. HOPE TO CONRAD

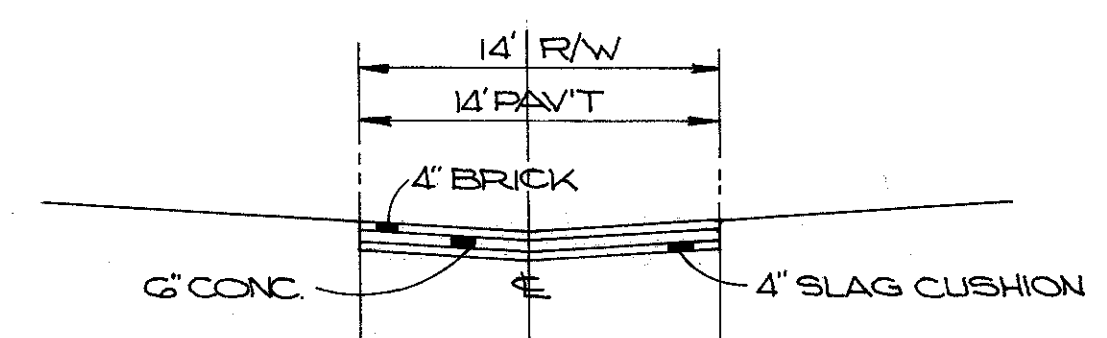


W65 ST.

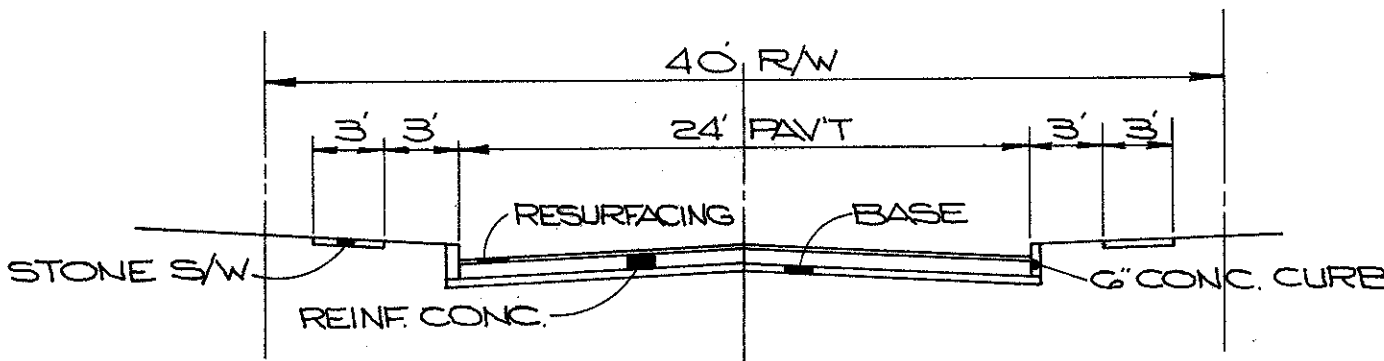
C.T.S. TRACKS  
(RECORDS DO NOT INDICATE IF TRACKS  
WERE REMOVED OR ABANDONED.)



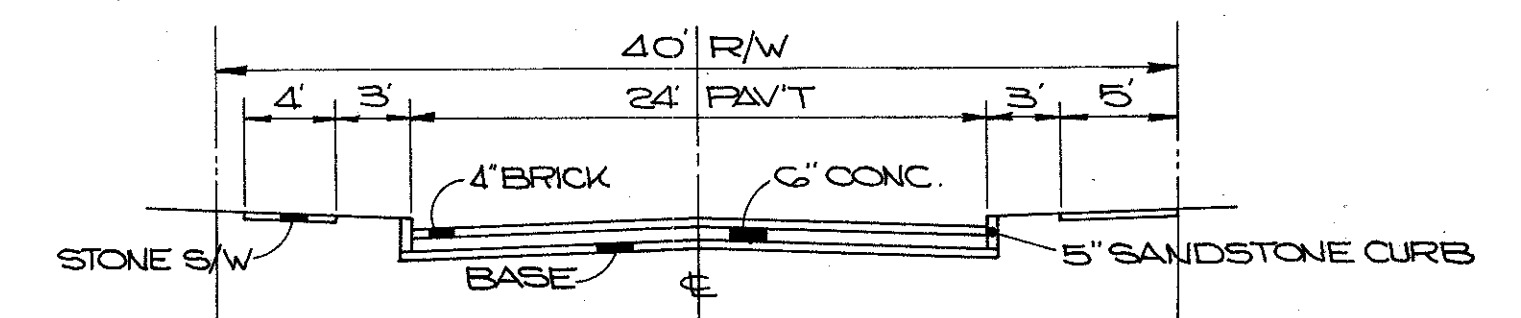
W63 ST.  
S. OF SARGENT



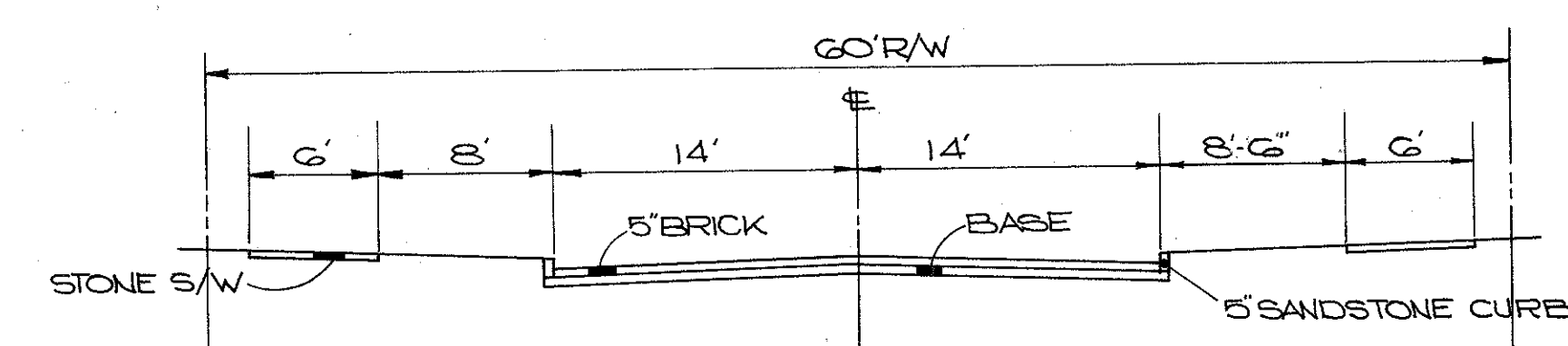
W68 ST. &  
ANDOVER CT.



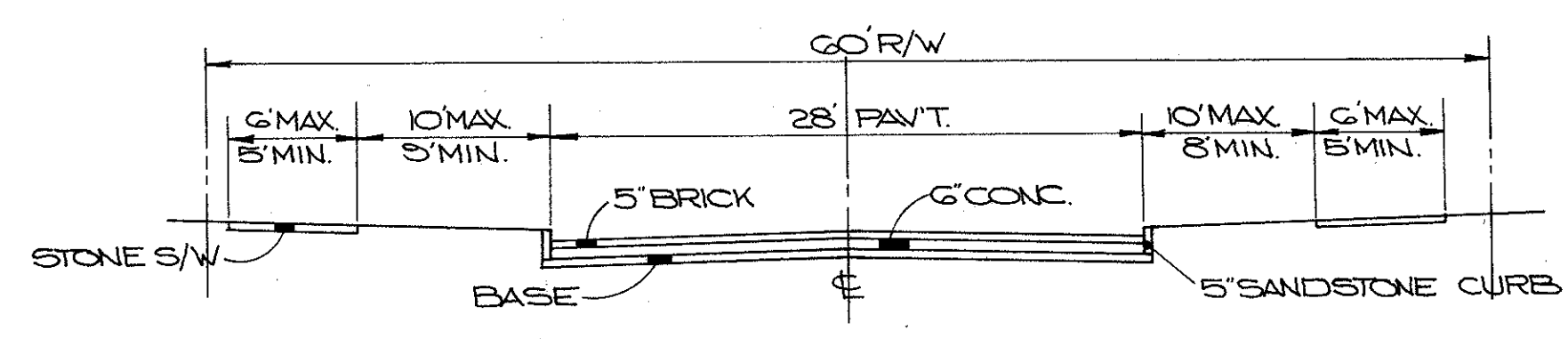
GORDON CT.



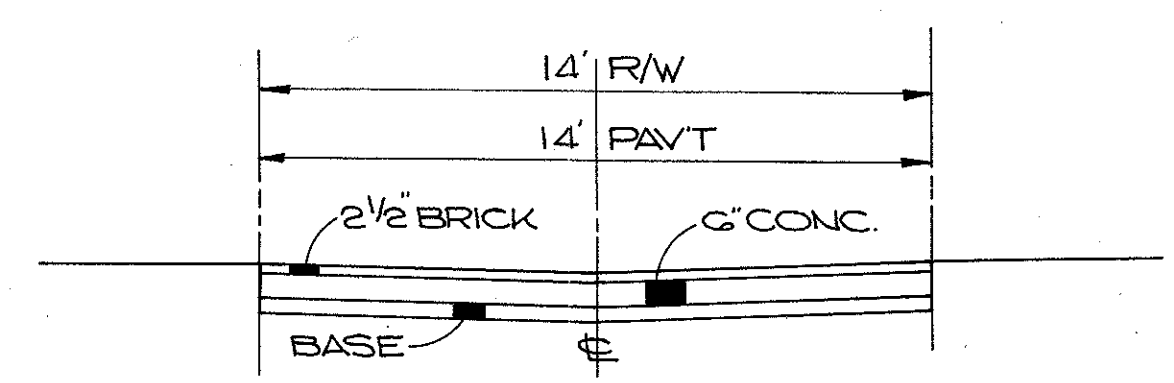
PRAGUE AVE.



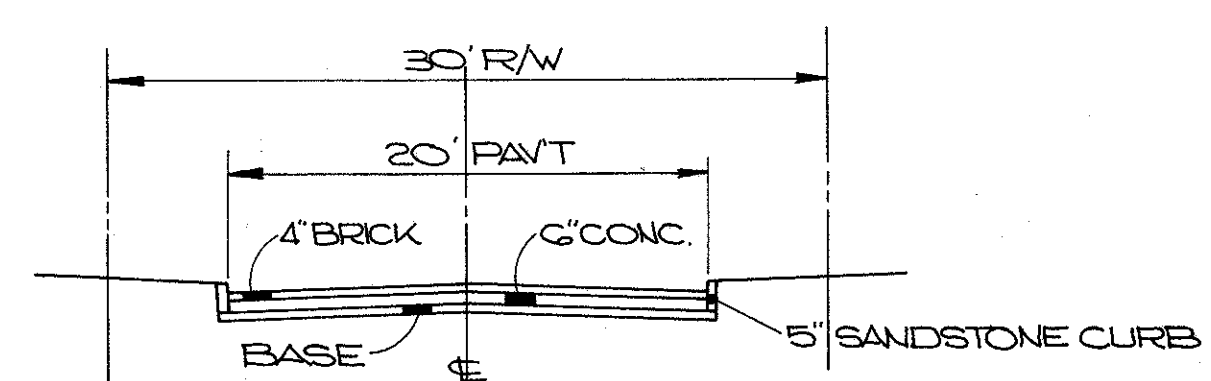
W67 ST.



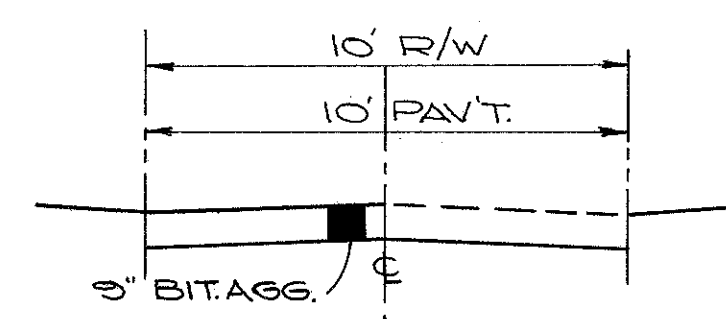
WALWORTH AVE.  
W. OF W. 53<sup>RD.</sup> ST.



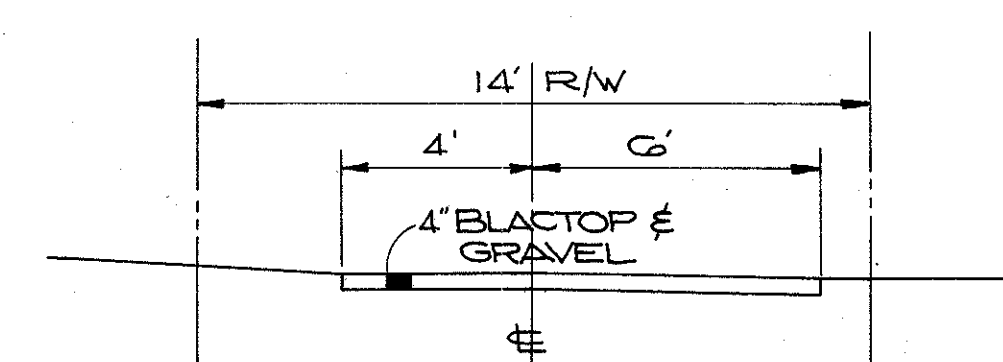
W63 PL.  
S. OF SCHOTT



ELMER CT.



W64 PL.

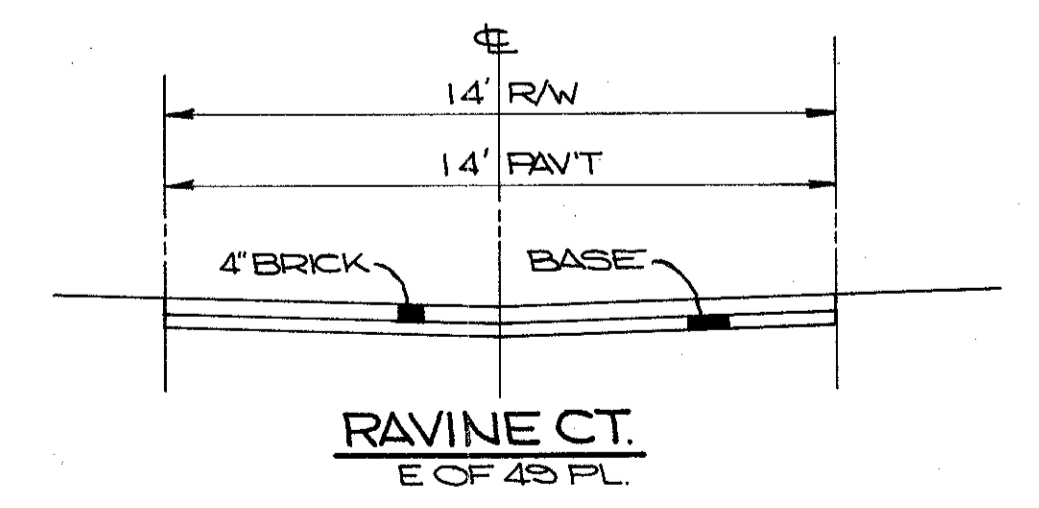
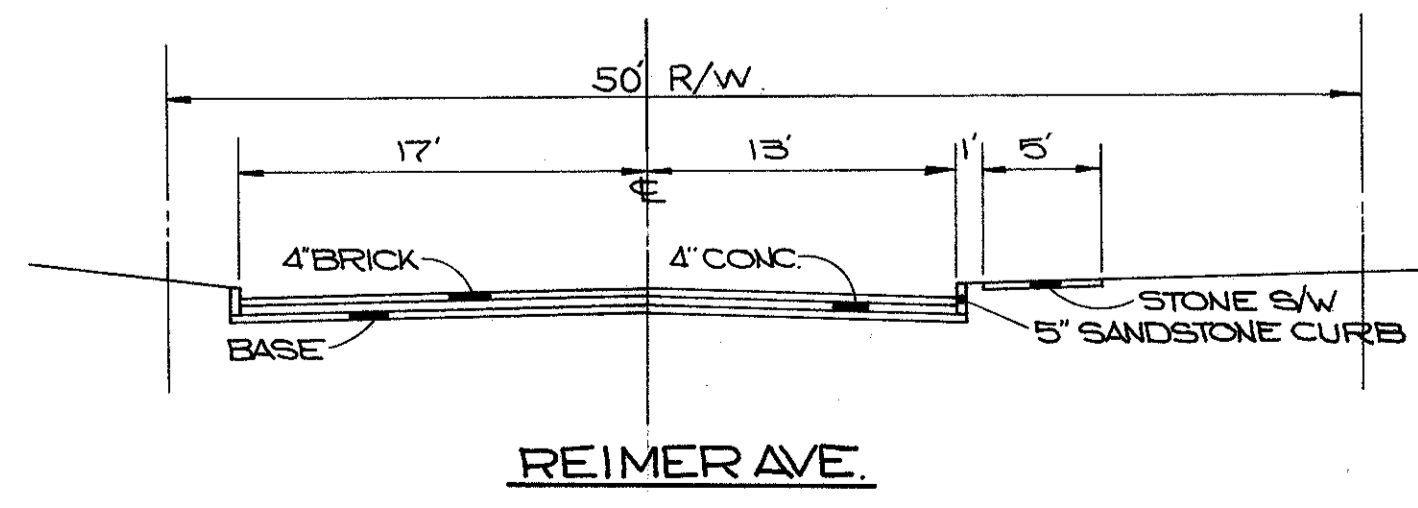
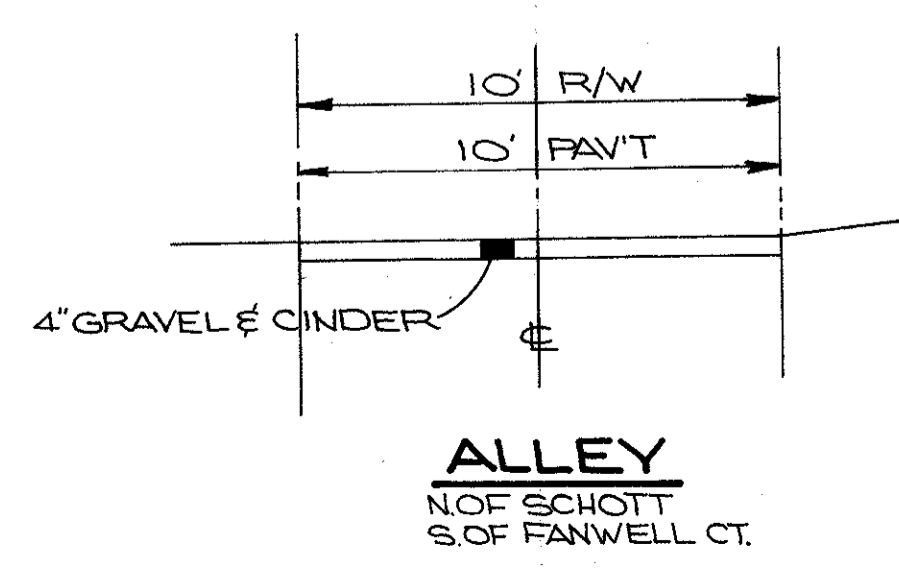
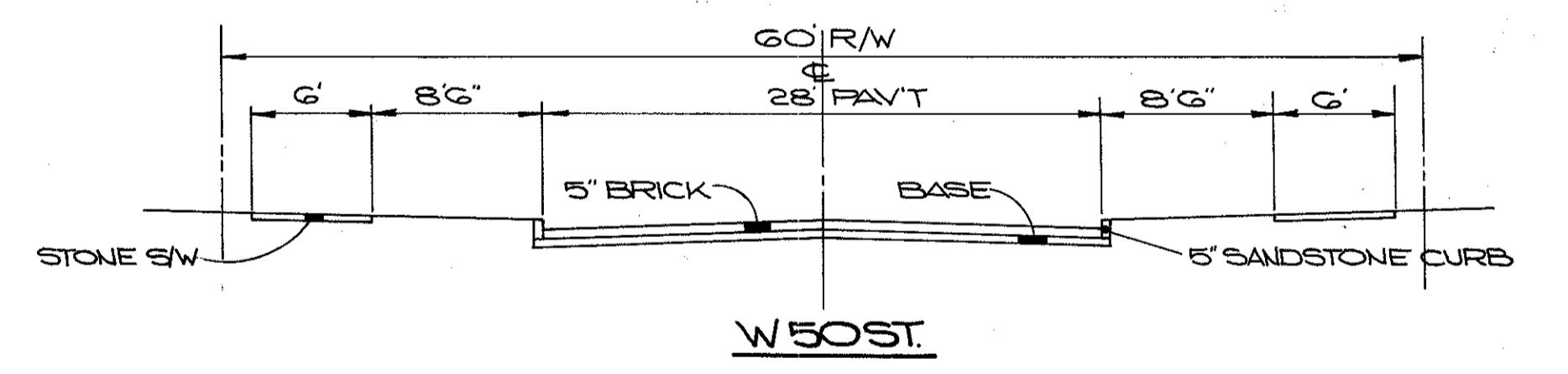
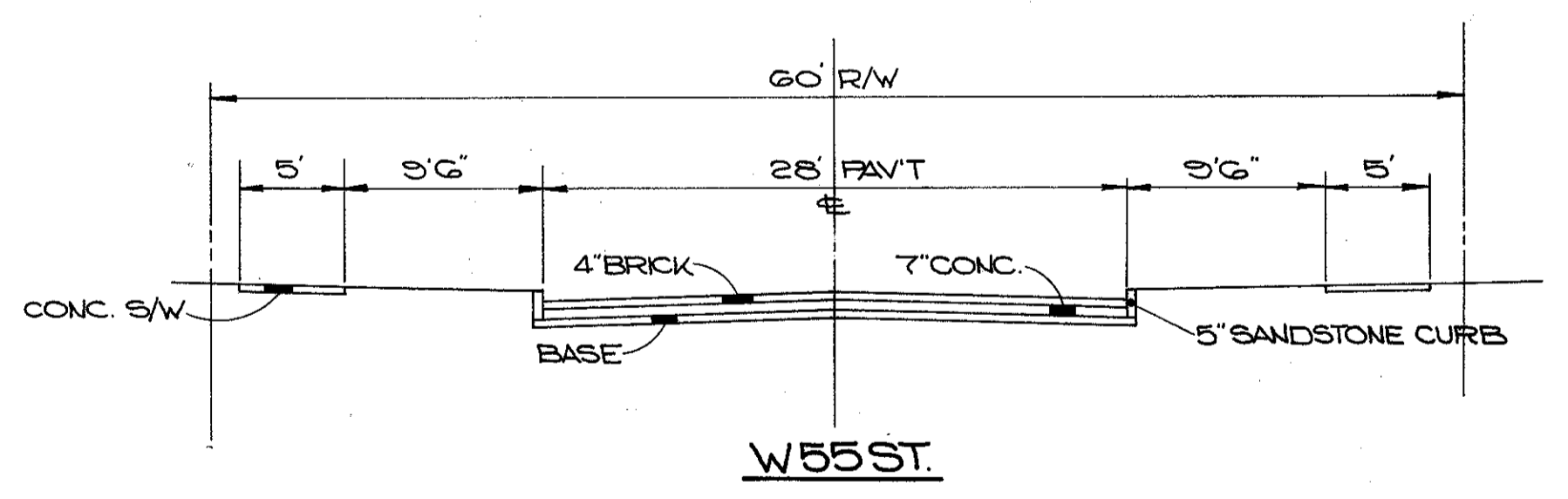
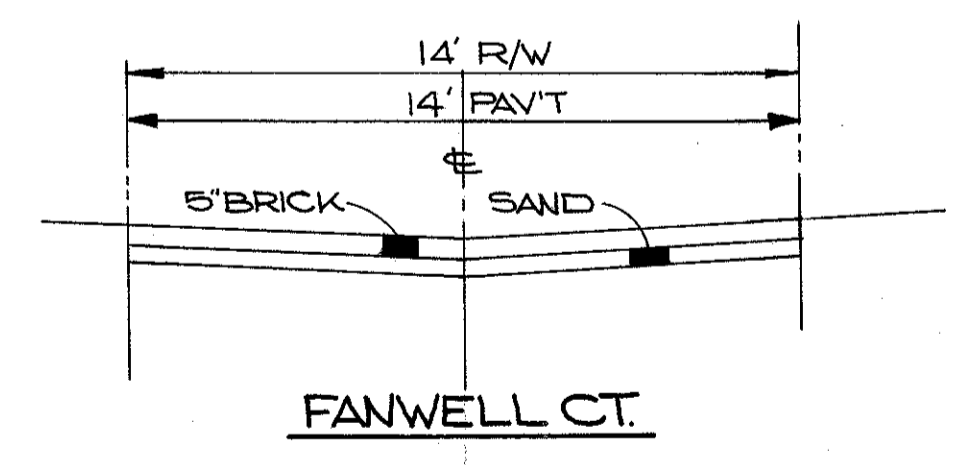
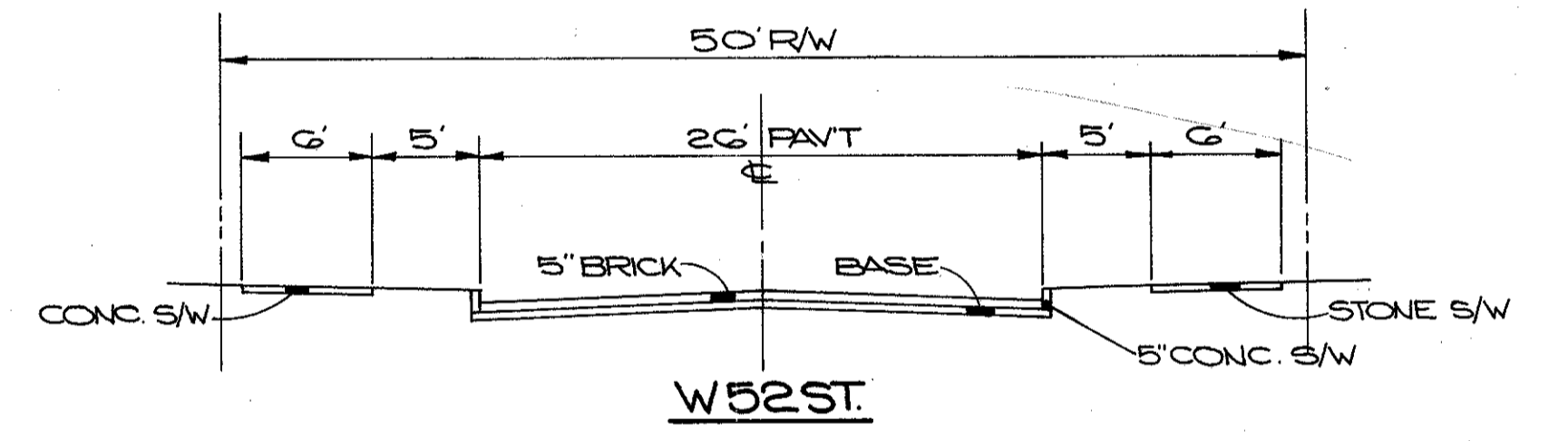
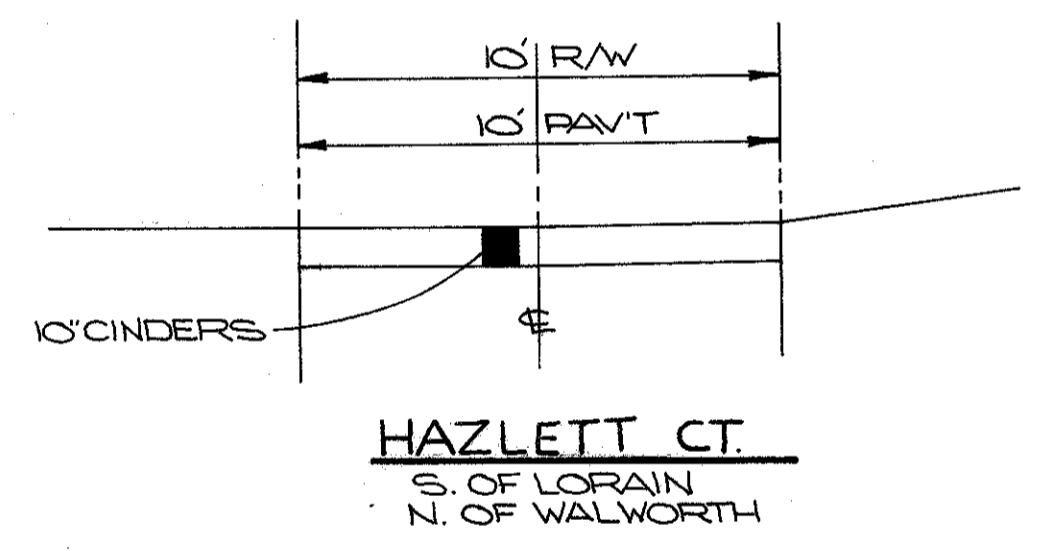
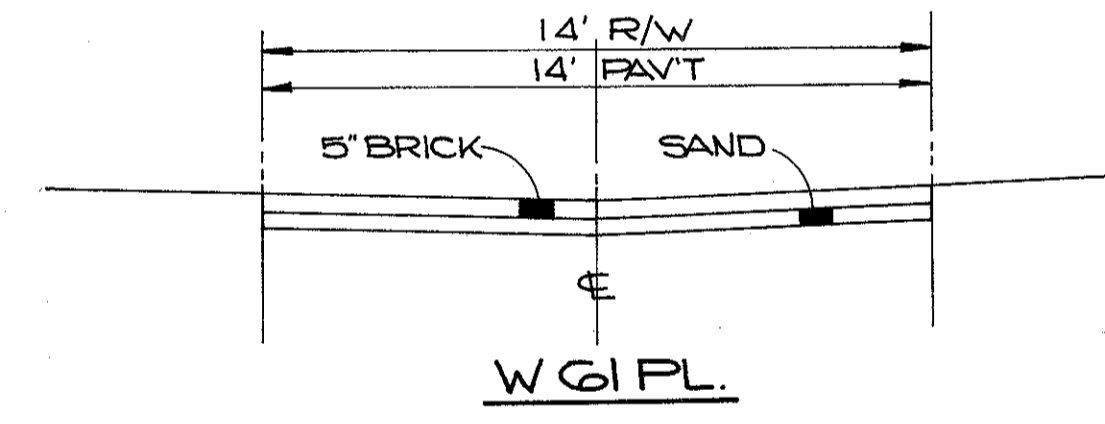
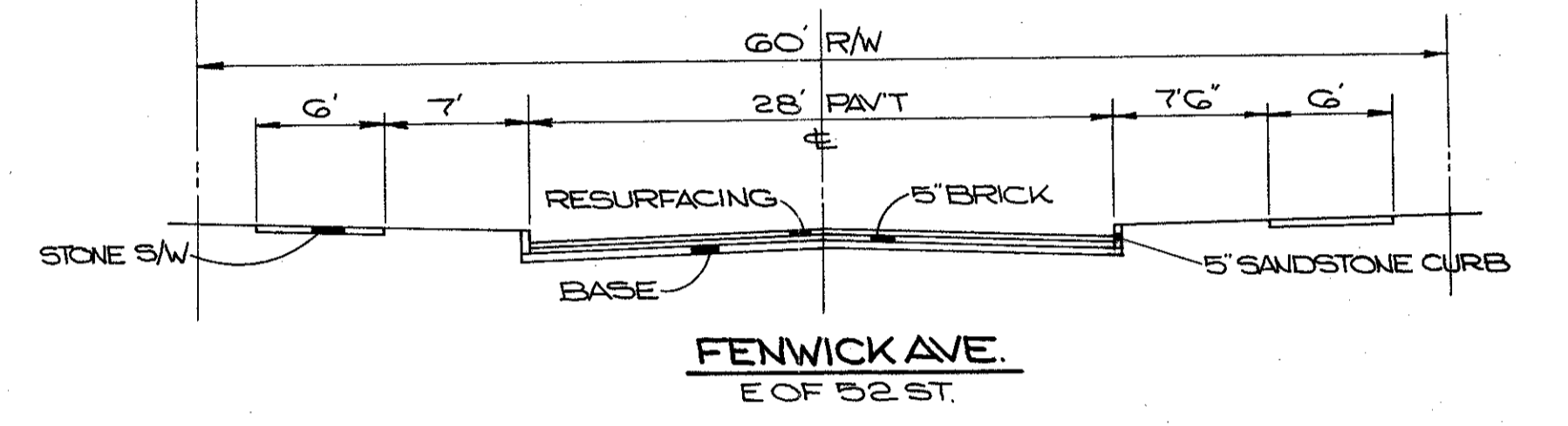
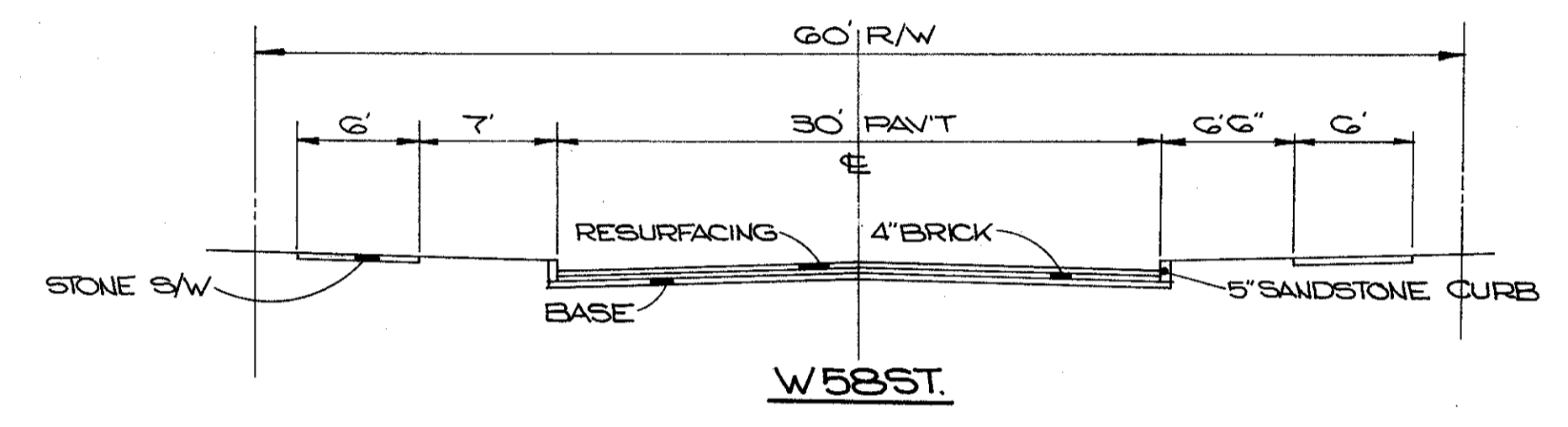
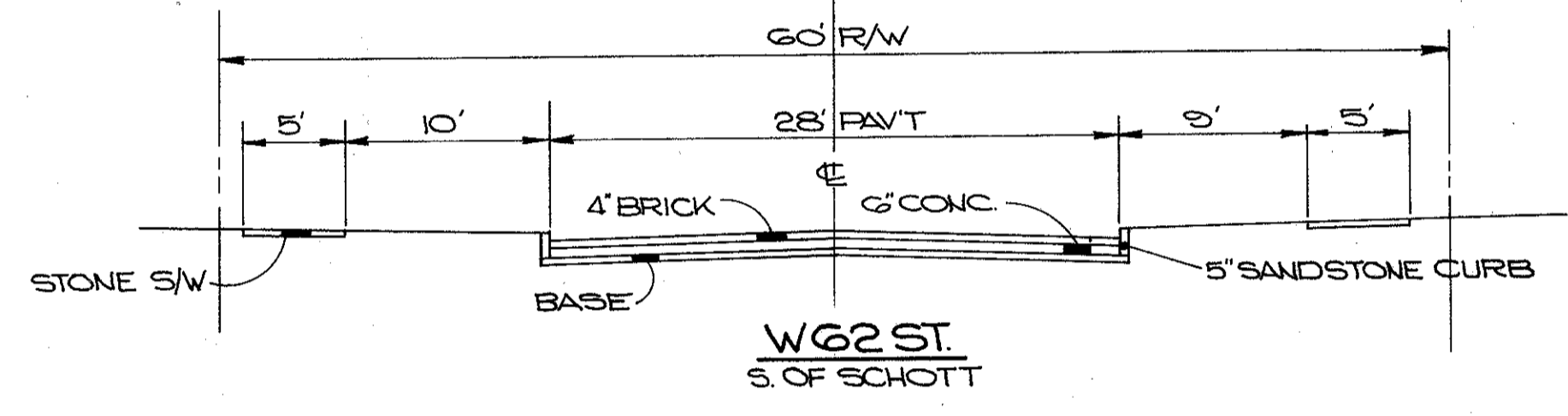
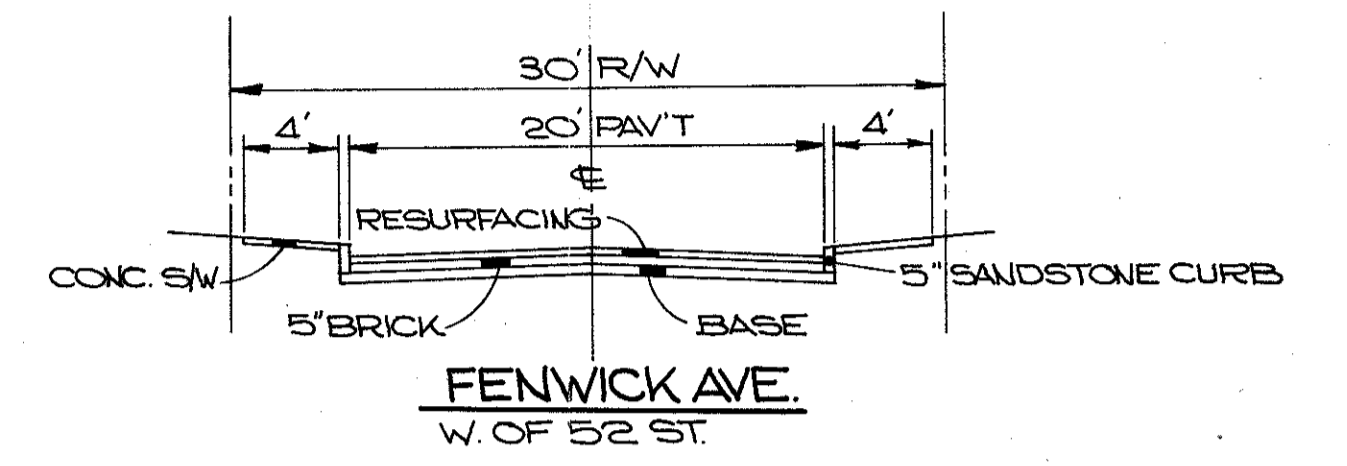
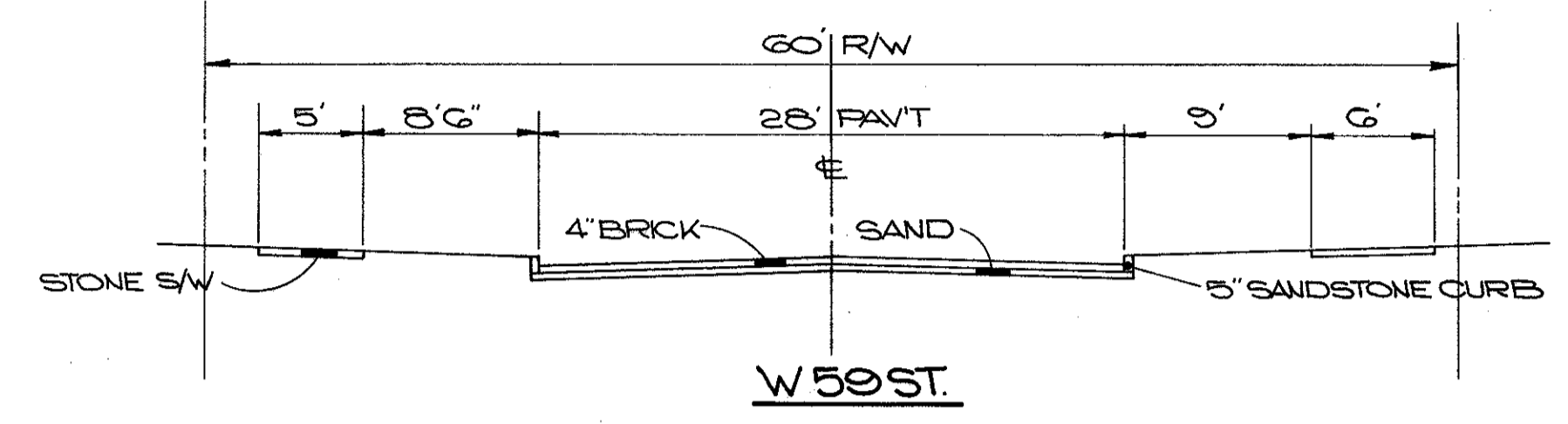
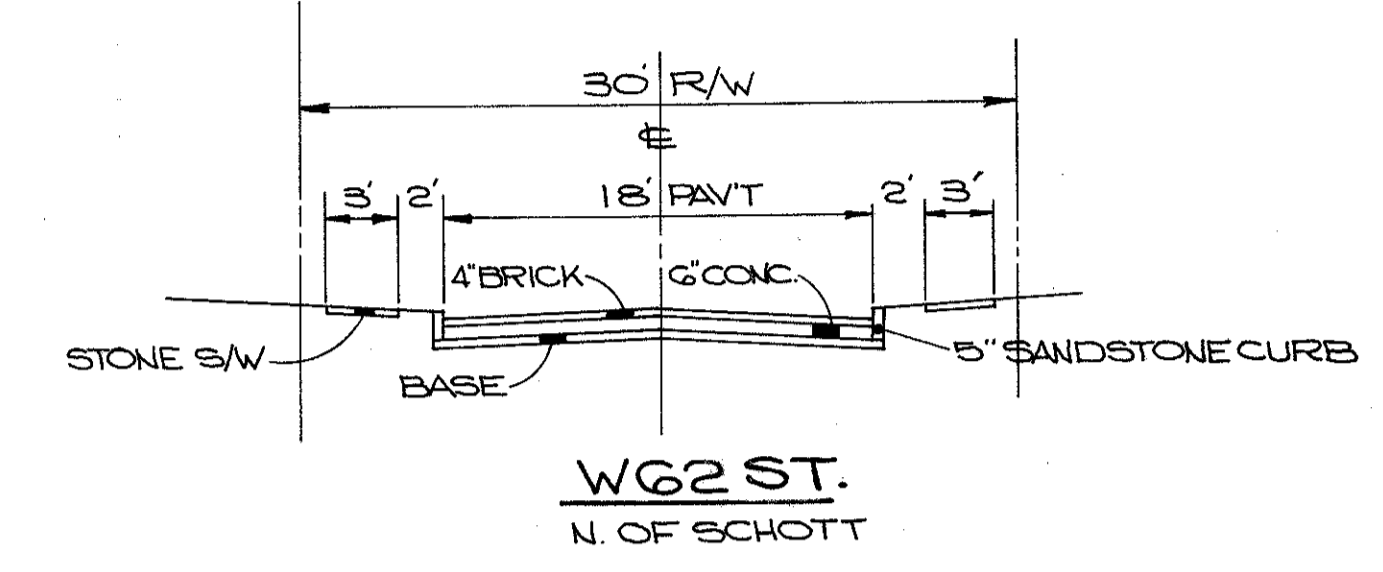
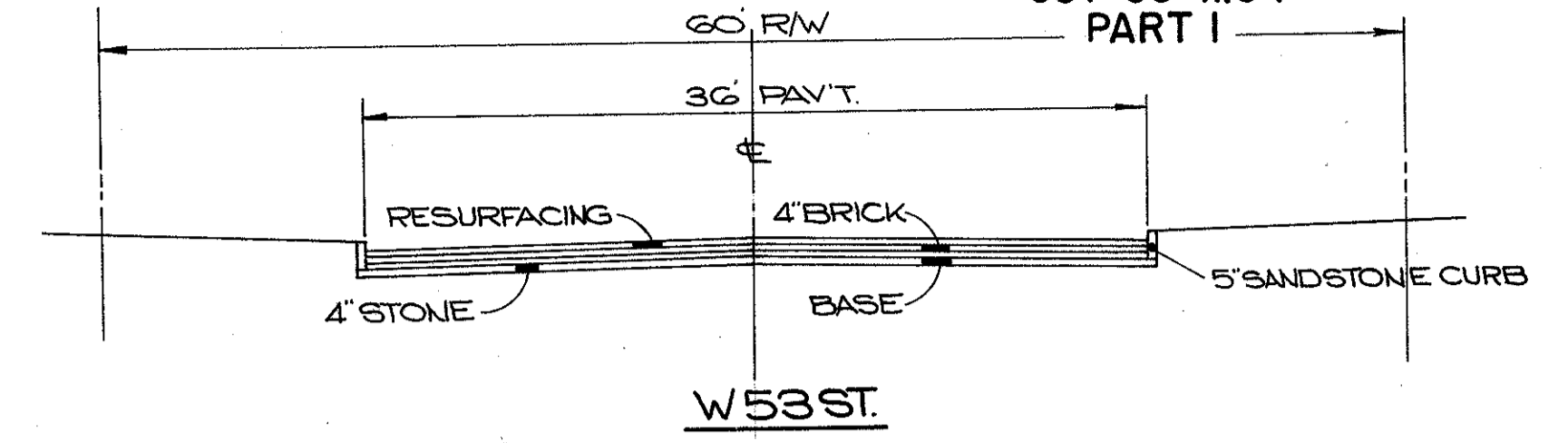
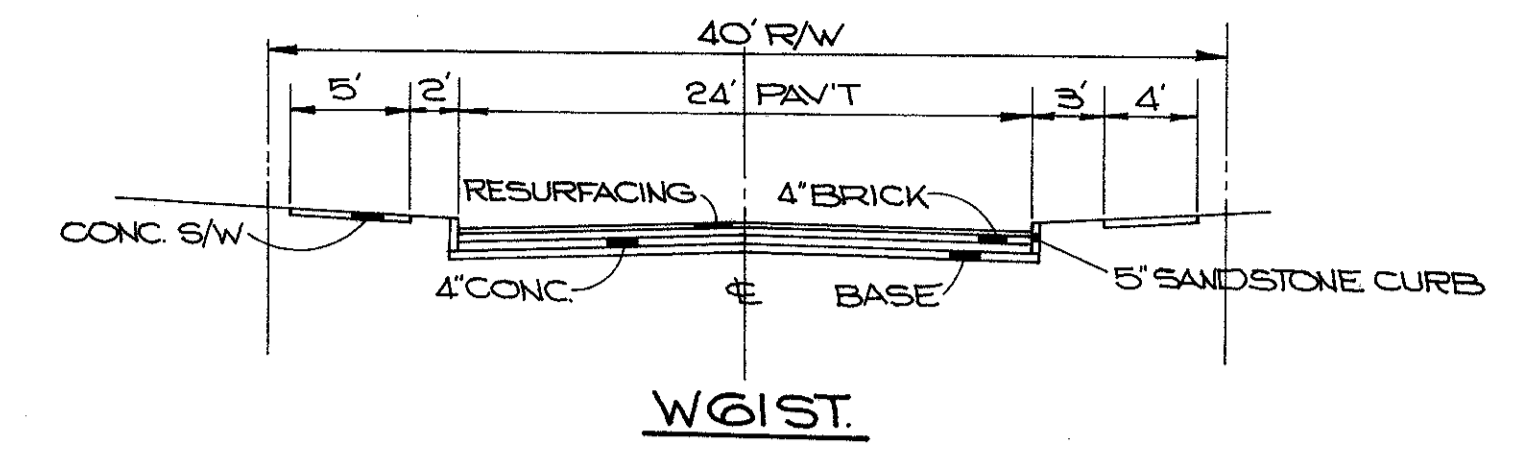
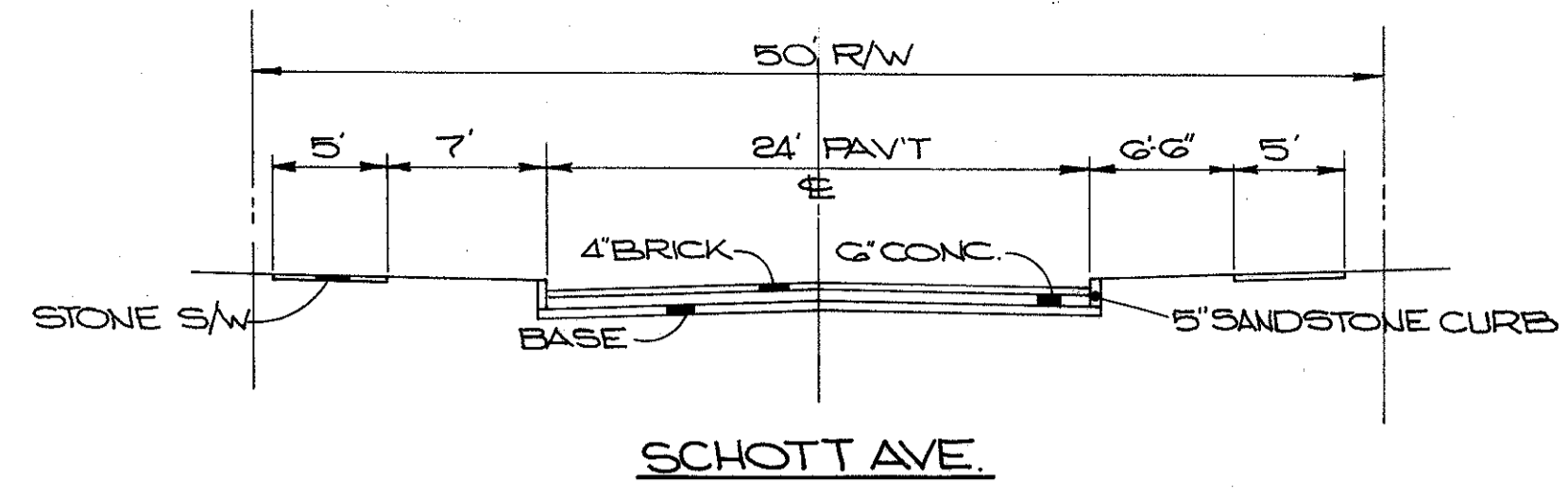


W63 PL.  
N. OF SCHOTT

EXISTING  
TYPICAL SECTIONS

FED. RD.	STATE	PROJECT
2	OHIO	

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

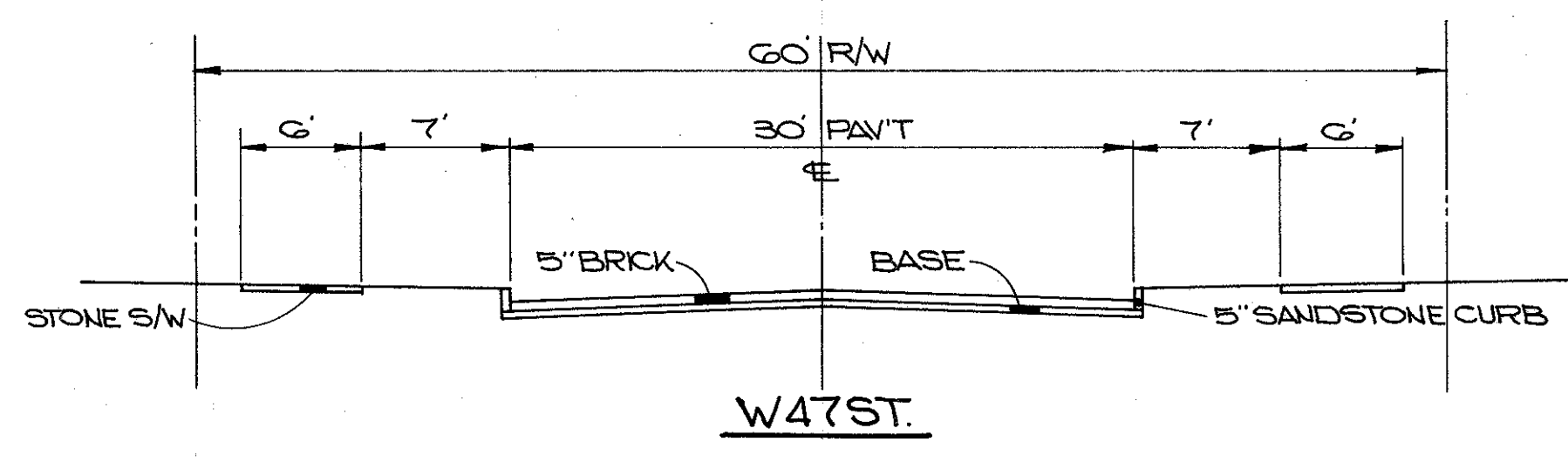
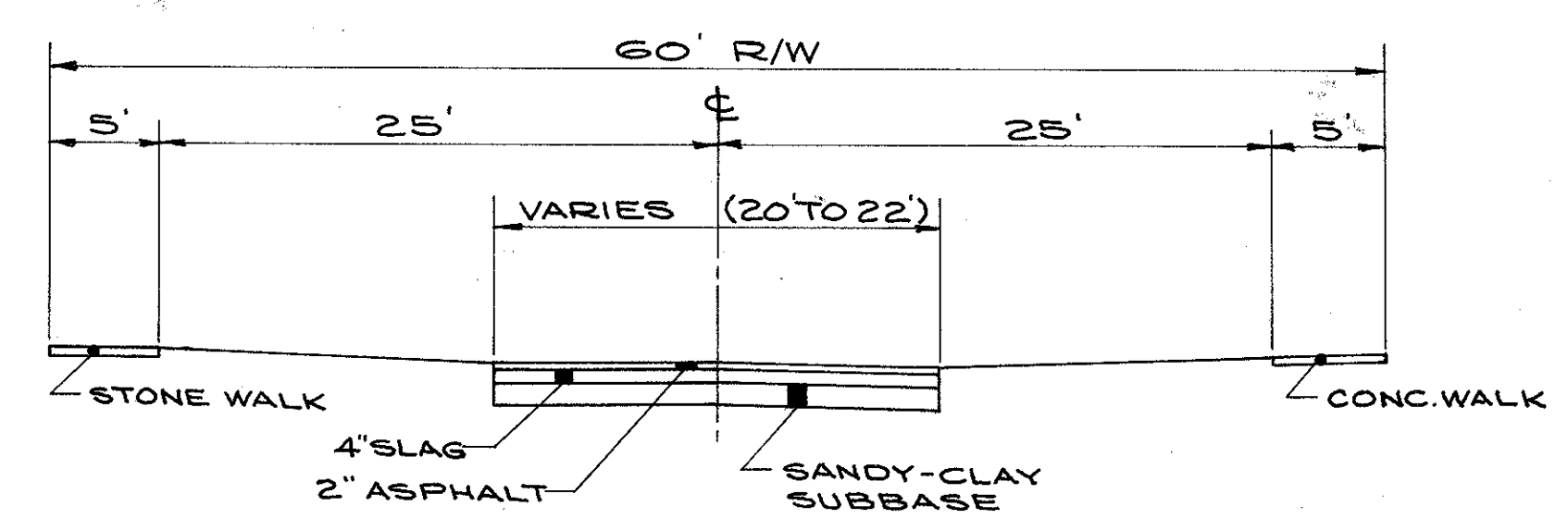
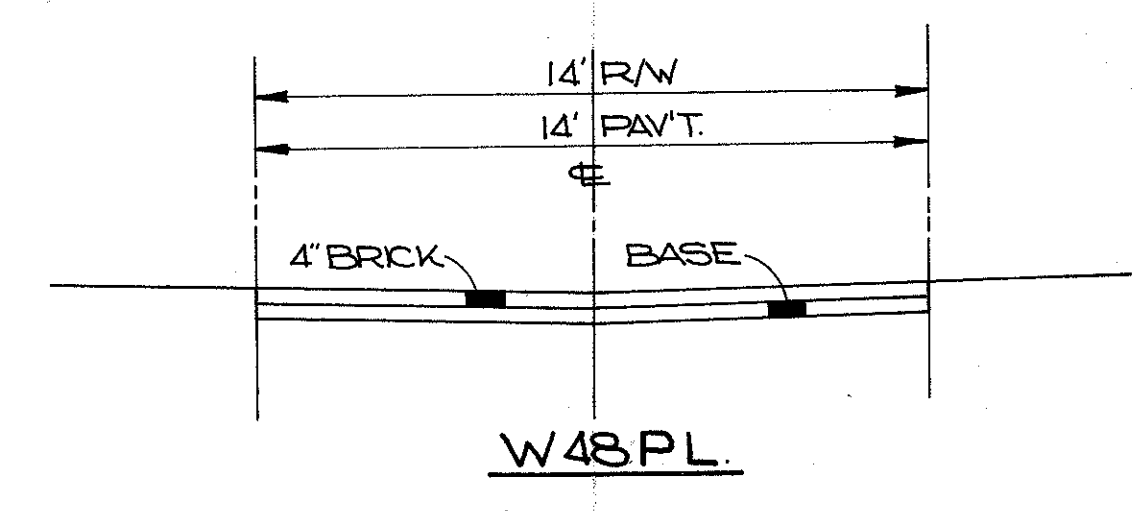
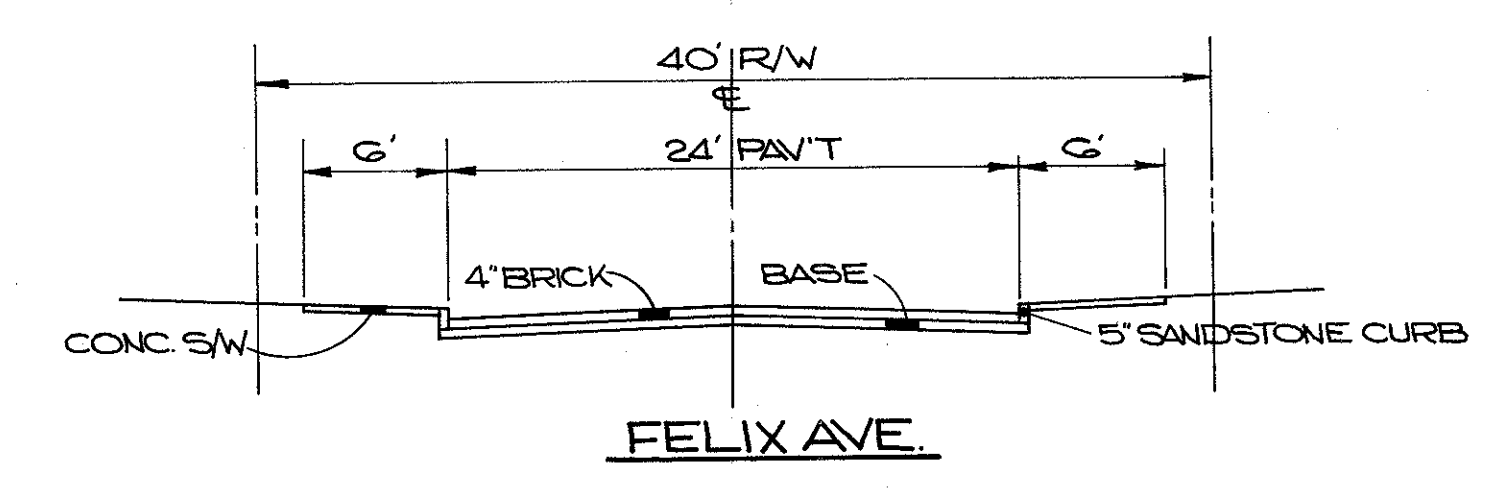
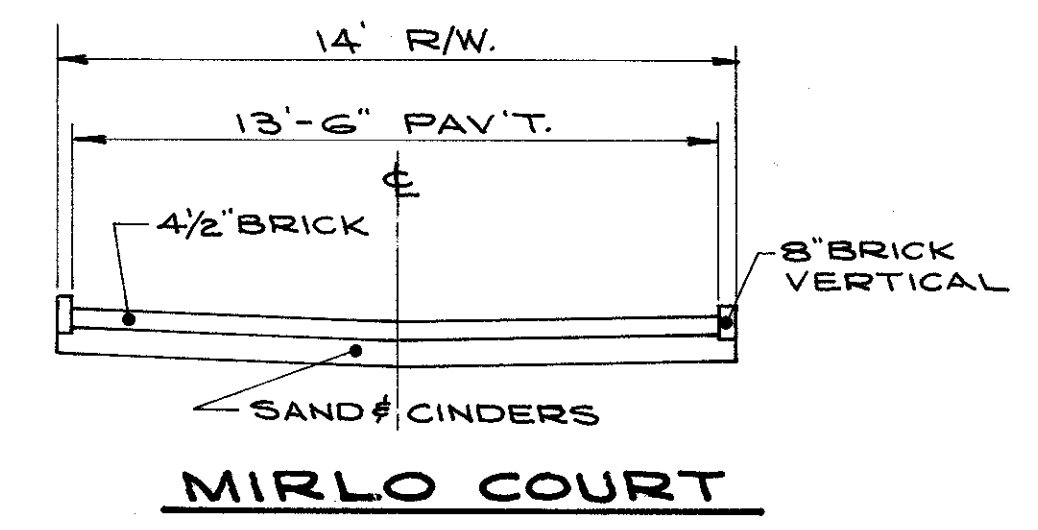
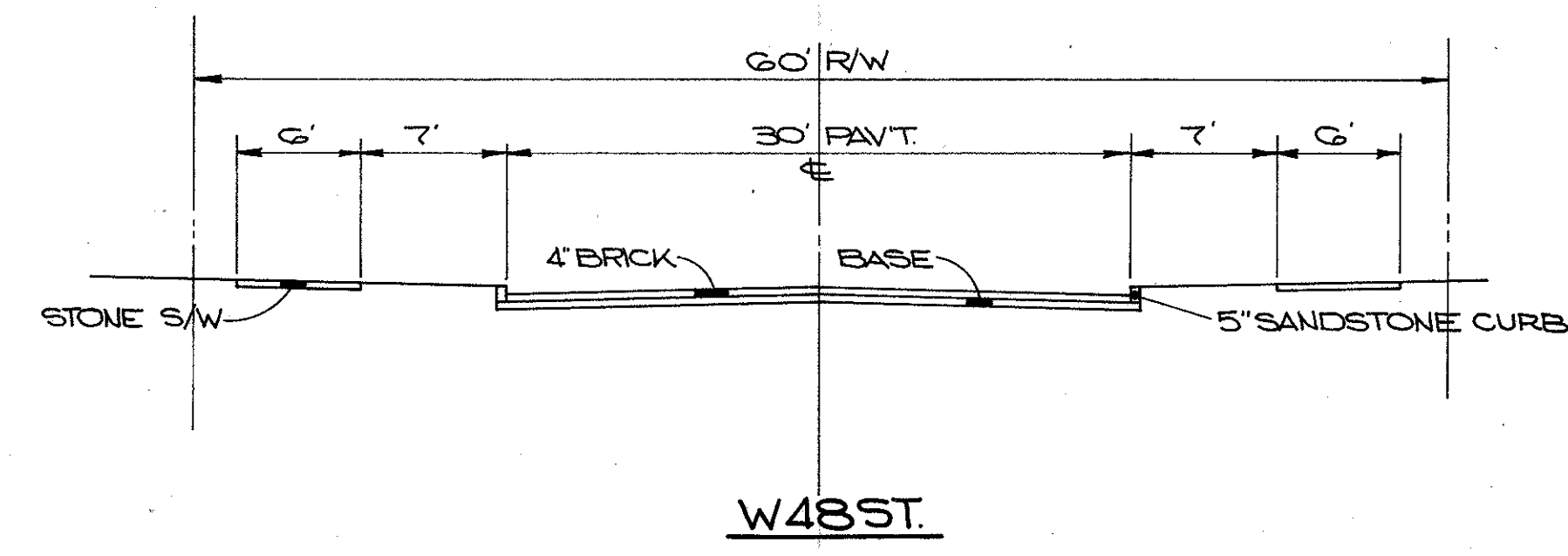
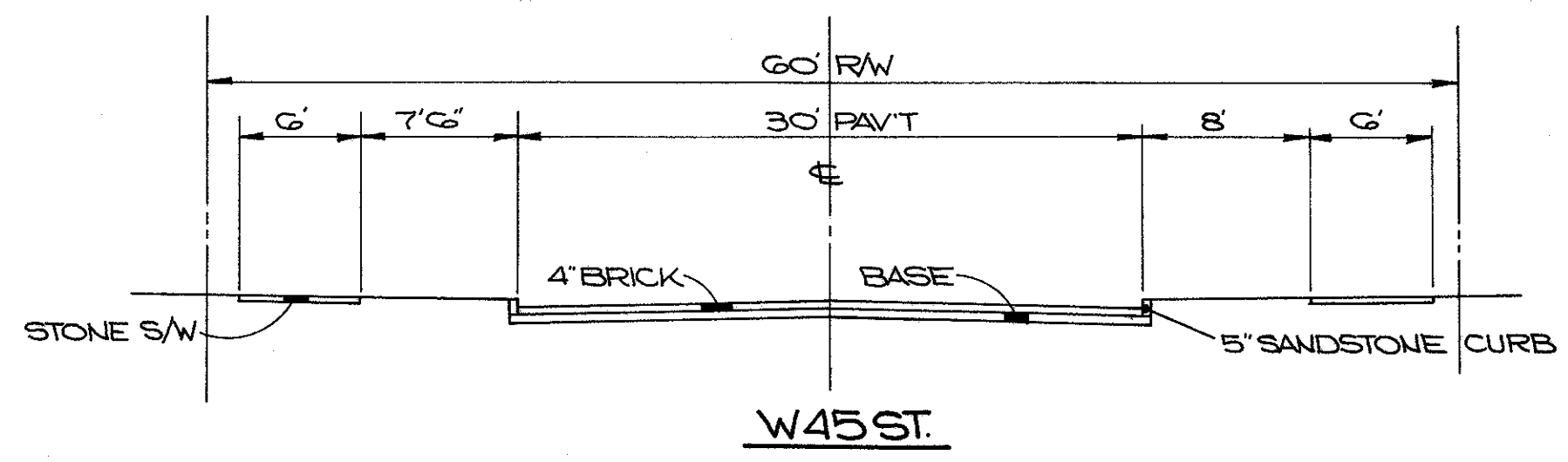
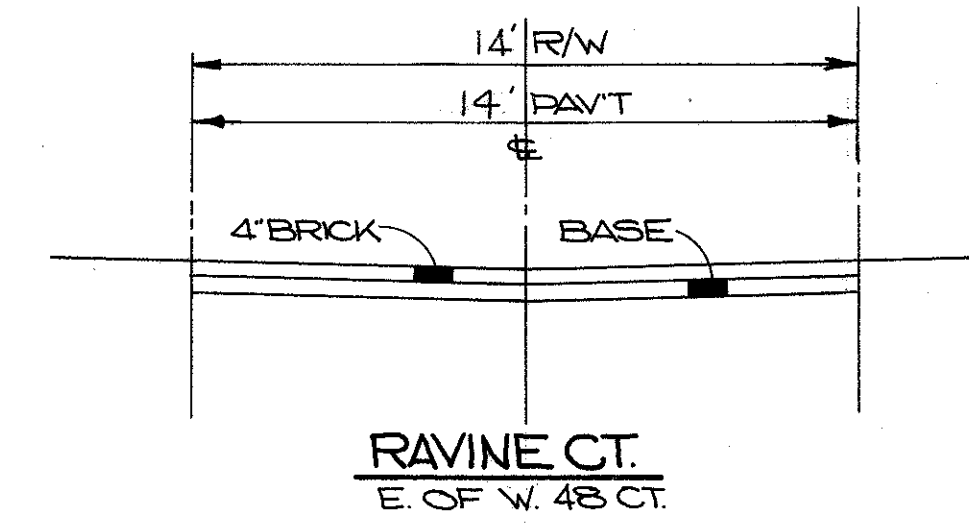
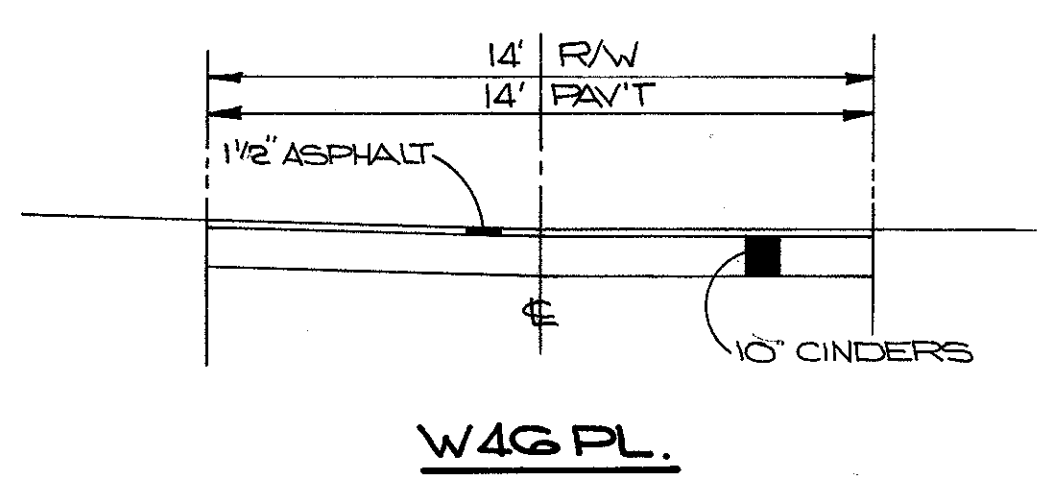
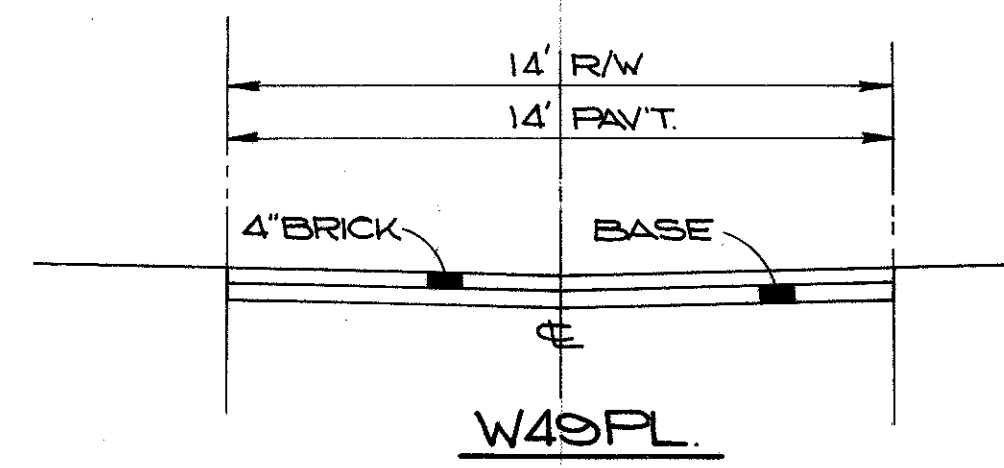


EXISTING  
TYPICAL SECTIONS

FED. RD.	STATE	PROJECT
2	OHIO	

29  
838

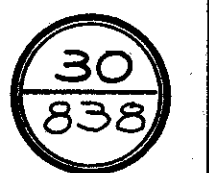
CUYAHOGA COUNTY  
CUY-90-11.64  
PART I



EXISTING  
TYPICAL SECTIONS

# MAINTENANCE OF TRAFFIC

FED. RD.	STATE	PROJECT
2	OHIO	



CUYAHOGA COUNTY  
 CUY - 90 - 11.64  
 PART 1

## MAINTAINING TRAFFIC AND SEQUENCE OF CONSTRUCTION

IT IS THE INTENT OF THESE NOTES THAT ALL FRONTAGE ROADS, MARGINAL ROADS AND CITY STREETS BE THE FIRST ORDER OF WORK AND SO PERFORMED AS TO SAFELY MAINTAIN LOCAL VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE CONSTRUCTION OF THIS PROJECT.

THE FOLLOWING STREETS WILL BE SEVERED BY THE CONSTRUCTION OF THIS PROJECT AND MAY BE CLOSED TO THROUGH TRAFFIC UNLESS OTHERWISE NOTED.

STREET	LOCATION
KEITH AVENUE	W. 95TH STREET TO W. 93RD STREET
W. 94TH STREET	HARDING AVENUE TO KEITH AVENUE
W. 93RD STREET	HARDING AVENUE TO KEITH AVENUE
HARDING AVENUE	W. 93RD STREET TO W. 89TH STREET
W. 92ND STREET	HARDING AVENUE TO KEITH AVENUE
W. 91ST STREET	LORAIN AVENUE TO KEITH AVENUE
W. 90TH STREET	HARDING AVENUE TO KEITH AVENUE
KEITH AVENUE	W. OF W. 89TH STREET TO W. 89TH STREET
W. 89TH STREET	LORAIN AVENUE TO KEITH AVENUE
① W. 85TH STREET	CLARK AVENUE TO LORAIN AVENUE
② W. 83RD STREET	CLARK AVENUE TO LORAIN AVENUE
EMILY AVENUE	W. 82ND STREET TO W. 84TH STREET
W. 82ND STREET	EMILY AVENUE TO CLARK AVENUE
GRACE AVENUE	W. 83RD STREET TO W. 79TH STREET
W. 80TH STREET	CLARK AVENUE TO NORDICA COURT
HOPE COURT	W. 80TH STREET TO W. 74TH STREET
③ HOPE AVENUE	CLARK AVENUE TO W. OF W. 70TH STREET
W. 79TH STREET	HOPE AVENUE TO GRACE AVENUE
W. 74TH STREET	S. OF HOPE AVENUE TO GRACE AVENUE
ALCOBA COURT	W. 73RD STREET TO W. 67TH STREET
CONRAD AVENUE	W. 73RD STREET TO W. 67TH STREET
W. 73RD PLACE	CONRAD AVENUE TO ANDOVER COURT
W. 70TH STREET	HOPE AVENUE TO CONRAD AVENUE
W. 68TH STREET	CONRAD AVENUE TO ANDOVER COURT
W. 67TH STREET	HOPE AVENUE TO N. OF ELMER COURT
GORDON COURT	BEGINNING TO W. 65TH STREET
HERBER AVENUE	W. 66TH PLACE TO W. 65TH STREET
W. 66TH PLACE	HERBER AVENUE TO END
ELMER COURT	W. 67TH STREET TO W. 65TH STREET
SARGENT AVENUE	W. 65TH STREET TO W. 62ND STREET
W. 64TH PLACE	WALWORTH AVENUE TO PRAGUE AVENUE
PRAGUE AVENUE	W. 65TH STREET TO W. 63RD STREET
W. 63RD STREET	S. OF SARGENT AVENUE TO PRAGUE AVENUE
W. 63RD PLACE	PRAGUE AVENUE TO FANWELL COURT
SCHOTT AVENUE	W. 65TH STREET TO W. 61ST STREET
FANWELL COURT	E. OF W. 65TH STREET TO W. 61ST PLACE
ALLEY	W. 63RD PLACE TO W. 61ST PLACE
W. 62ND PLACE	SCHOTT AVENUE TO FANWELL COURT
W. 62ND STREET	SARGENT AVENUE TO SCHOTT AVENUE
W. 61ST PLACE	SCHOTT AVENUE TO LORAIN AVENUE
W. 61ST STREET	WALWORTH AVENUE TO LORAIN AVENUE
④ W. 59TH STREET	N. OF WALWORTH TO LORAIN AVENUE
W. 58TH STREET	N. OF WALWORTH TO LORAIN AVENUE
HAZLETT COURT	W. 59TH STREET TO W. 58TH STREET
W. 55TH STREET	N. OF WALWORTH AVENUE TO RAIMER COURT
WALWORTH AVENUE	W. 55TH STREET TO W. 53RD STREET
FENWICK AVENUE	W. 53RD STREET TO N. OF W. 48TH STREET
W. 52ND STREET	FENWICK AVENUE TO C. T. S. TRACKS
W. 50TH STREET	FENWICK AVENUE TO N. END OF PED. BRIDGE
RAVINE COURT	W. 50TH STREET TO W. 48TH STREET
W. 49TH PLACE	RAVINE COURT TO C. T. S. TRACKS
W. 48TH STREET	FENWICK AVENUE TO TURN AVENUE
RAVINE COURT	W. 48TH STREET TO W. 48TH COURT
W. 48TH COURT	RAVINE COURT TO N. OF FELIX AVENUE
FELIX AVENUE	W. 48TH STREET TO W. 47TH STREET
W. 47TH STREET	N. OF RAVINE COURT TO TURN AVENUE
W. 46TH PLACE	N. OF FENWICK AVENUE TO C. T. S. TRACKS
W. 45TH STREET	N. OF FENWICK AVENUE TO TURN AVENUE
①	SEE W. 85TH STREET
②	SEE W. 83RD STREET
③	SEE HOPE AVENUE AND W. 67TH STREET
④	SEE W. 55TH WALWORTH CONNECTOR

## NOTICE OF INTENT TO CLOSE STREET

THE CONTRACTOR SHALL BE REQUIRED TO GIVE THE ENGINEER AND THE DIVISION OF TRAFFIC ENGINEERING AND PARKING OF THE CITY OF CLEVELAND NOTICE IN WRITING TEN (10) DAYS IN ADVANCE OF ANY SUCH CLOSING OF ANY EXISTING STREET. NO STREET OR ALLEY WILL BE CLOSED UNTIL NECESSARY FOR CONSTRUCTION AS DETERMINED BY THE ENGINEER.

## LANE WIDTH

WHERE A "LANE IS REFERRED TO IN THE PLAN IT SHALL BE A MINIMUM OF 10' IN WIDTH.

## PEDESTRIAN BRIDGE

THE PROPOSED PEDESTRIAN BRIDGE AT STA. 794 + 48.63 SHALL BE CONSTRUCTED AS ONE OF THE FIRST ITEMS OF WORK. THE CONTRACTOR SHALL COORDINATE HIS SCHEDULE WITH ADJACENT CONTRACTOR TO ENABLE PEDESTRIAN TRAFFIC TO BE MAINTAINED VIA EXISTING WEST 85TH STREET UNTIL PEDESTRIAN BRIDGE IS COMPLETED AND OPENED TO TRAFFIC. IF PEDESTRIAN TRAFFIC CAN NOT BE MAINTAINED BY THIS METHOD A TEMPORARY WALK MAY BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.

## LORAIN AVENUE (W. 93RD STREET TO W. 80TH STREET)

TWO WAY TRAFFIC (ONE LANE FOR EACH DIRECTION) AND PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON LORAIN AVENUE VIA THE EXISTING PAVEMENT, TEMPORARY ROAD AS SHOWN ON SHEET NOS. 313 - 319, OR RELOCATED LORAIN AVENUE. DURING RUSH HOURS OF 7 A.M. TO 9 A.M. AND 3:30 P.M. TO 6:30 P.M. A MINIMUM OF THREE LANES OF TRAFFIC SHALL BE MAINTAINED. 7 A.M. TO 9 A.M. SHALL BE TWO EASTBOUND LANES AND ONE WESTBOUND LANE AND 3:30 P.M. TO 6:30 P.M. SHALL BE TWO WESTBOUND LANES AND ONE EASTBOUND LANE. THE CONTRACTOR TO BE RESPONSIBLE FOR OPERATION AS DESCRIBED ABOVE THROUGH THE USE OF TEMPORARY PAVEMENT STRIPING, BARRELS, AND OTHER NECESSARY DEVICES.

DURING OPERATIONAL USE OF THE TEMPORARY RUNAROUND THE LINES SEPARATING THE TWO DIRECTIONS OF TRAVEL SHALL BE DEFINED WITH BARRELS ON A 24 HOUR PER DAY BASIS.

PART WIDTH CONSTRUCTION SHALL BE USED FOR CONNECTION OF RELOCATED LORAIN AVENUE TO LORAIN AVENUE BETWEEN W. 93RD AND W. 91ST STREETS AND WIDENING AND RESURFACING OF LORAIN AVENUE BETWEEN W. 81ST AND W. 80TH STREETS.

PAYMENT FOR THE TEMPORARY ROADS IS AS FOLLOWS:  
 ITEM 615 TEMPORARY ROADS LUMP SUM  
 ITEM 615 TEMPORARY PAVEMENT, CLASS A 7,275 SQ. YDS.

ALSO SEE SEQUENCE OF CONSTRUCTION BELOW.

## SEQUENCE OF CONSTRUCTION FOR RELOCATED LORAIN AVENUE AND W. 84TH - 85TH CONNECTOR

THE EXISTING AND PROPOSED CITY STREETS, SEWERS AND UTILITIES IN THIS AREA REQUIRE A COMPLEX AND CLOSELY COORDINATED CONSTRUCTION SCHEDULE TO MAINTAIN TRAFFIC AND SERVICE FOR THE SEWERS AND UTILITIES. IT IS THEREFORE SUGGESTED THE CONTRACTOR INCORPORATE THE FOLLOWING SEQUENCE OF CONSTRUCTION IN HIS SCHEDULE. IT SHOULD BE NOTED THE LETTERED SUB-HEADINGS UNDER THE SAME NUMBER MAY BE INTERCHANGED IN SOME CASES OR DONE SIMULTANEOUSLY.

1. a. CONSTRUCT RELOCATED 54" COMBINATION SEWER OUTSIDE THE LIMITS OF EXISTING LORAIN AVENUE (S-4 THRU MANHOLE S-13 AND A PORTION OF THE PIPE EAST FROM S-13).
- b. COMPLETE THE CONNECTION OF THE RELOCATED 54" AT BOTH ENDS (S-1, 2, 3, 41, AND THE REST OF THE PIPE EAST FROM S-13 AND MANHOLE S-14) WITH THE EXISTING SEWERS. MAINTAIN TRAFFIC ON LORAIN AVENUE VIA TEMPORARY ROADS NO. 1 AND 3.
- c. CONSTRUCT RELOCATED 16" WATER MAIN FROM W. 88TH TO W. 89TH STREETS. MAINTAIN TRAFFIC ON LORAIN AVENUE VIA TEMPORARY ROAD NO. 2 AND ON CLARK VIA W. 85TH STREET AND LORAIN AVENUE.
- d. CONSTRUCT RELOCATED 8" WATER MAIN AT W. 90TH STREET AND CLARK AVENUE. MAINTAIN TRAFFIC ON LORAIN AVENUE DURING TIE IN VIA TEMPORARY ROAD NO. 1.
- e. CONSTRUCT PROPOSED 8" WATER MAIN ON RELOCATED LORAIN AVENUE. MAINTAIN TRAFFIC ON LORAIN AVENUE AT POINT OF TIE IN VIA TEMPORARY ROAD NO. 3.
- f. CONSTRUCT PORTION OF RELOCATED MELP UNDERGROUND LINE WITHIN THE LIMITS OF LORAIN AVENUE AT W. 92ND AND W. 85TH STREETS. MAINTAIN TRAFFIC ON LORAIN AVENUE VIA TEMPORARY ROAD NO'S 1 AND 3.
- g. CONSTRUCT RELOCATED 8" WATER MAIN ON MARGINAL ROAD NO. 5 AND TIE INTO EXISTING WATER MAIN ON LORAIN AVENUE. MAINTAIN TRAFFIC ON LORAIN AVENUE VIA EXISTING STREET.
2. a. CONSTRUCT RELOCATED LORAIN AVENUE BRIDGE.
- b. COMPLETE THE MELP UNDERGROUND LINE AND CONSTRUCT THE PAVEMENT ON RELOCATED LORAIN AVENUE.
- c. TIE RELOCATED LORAIN AVENUE INTO EXISTING LORAIN AND COMPLETE THE WIDENING AND RESURFACING OF LORAIN. MAINTAIN TRAFFIC ON LORAIN AVENUE VIA PART WIDTH CONSTRUCTION, TEMPORARY ROAD NO. 3 AND RELOCATED LORAIN AVENUE PAVEMENT.

d. RECONSTRUCT W. 85TH STREET FROM WILLARD AVENUE TO RELOCATED LORAIN AVENUE.

3. CONSTRUCT 84TH - 85TH CONNECTOR BRIDGE AND PAVEMENT. LORAIN AVENUE TRAFFIC SHALL BE MAINTAINED VIA RELOCATED LORAIN AVENUE AND W. 85TH STREET TRAFFIC BETWEEN LORAIN AVENUE AND CLARK AVENUE VIA W. 83RD STREET.

ALL SEWER AND UTILITY WORK REQUIRING USE OF TEMPORARY ROAD NO. 1 SHALL BE ACCOMPLISHED DURING THE TIME PERIOD. TEMPORARY ROADS NO. 1 AND NO. 2 SHALL NOT BE IN OPERATION AT THE SAME TIME.

FOR FURTHER DETAILS SEE THE REQUIREMENTS FOR EACH INDIVIDUAL STREET.

## W. 92ND AND W. 90TH STREETS

W. 92ND AND W. 90TH STREETS MAY BE CLOSED TO VEHICULAR TRAFFIC AT LORAIN AVENUE FOR A SHORT PERIOD OF TIME DURING THE SEWER, UTILITY AND PAVEMENT CONSTRUCTION ON LORAIN AVENUE AT W. 92ND AND W. 90TH STREETS. THIS TIME SHALL BE HELD TO A MINIMUM AND TRAFFIC SHALL BE MAINTAINED AT ALL OTHER TIMES. DURING THE CLOSING PERIOD LOCAL ACCESS TO W. 92ND AND W. 90TH STREETS WILL BE VIA DENISON AVENUE. PEDESTRIAN TRAFFIC ON W. 92ND AND W. 90TH STREETS AT LORAIN SHALL BE MAINTAINED AT ALL TIMES.

## W. 88TH AND W. 86TH STREETS

ONE WAY SOUTHBOUND VEHICULAR TRAFFIC ON W. 88TH STREET AND ONE WAY NORTHBOUND VEHICULAR TRAFFIC ON W. 86TH STREET AT CLARK AVENUE SHALL BE MAINTAINED AT ALL TIMES. LOCAL ACCESS FROM CLARK AVENUE TO W. 88TH AND W. 86TH STREETS SHALL BE MAINTAINED FROM AT LEAST ONE DIRECTION AT ALL TIMES. PEDESTRIAN TRAFFIC ON W. 88TH AND W. 86TH STREETS AT CLARK AVENUE SHALL BE MAINTAINED AT ALL TIMES.

## W. 85TH STREET

TWO WAY VEHICULAR AND PEDESTRIAN TRAFFIC SHALL BE MAINTAINED ON W. 85TH STREET AT ALL TIMES EXCEPT AS DESCRIBED HEREIN. W. 85TH STREET FROM WILLARD AVENUE TO LORAIN AVENUE MAY BE CLOSED DURING THE SEWER, UTILITY AND PAVEMENT CONSTRUCTION TO CONNECT W. 85TH STREET TO RELOCATED LORAIN AVENUE. TRAFFIC ON W. 85TH STREET SHALL BE DETOURED FROM AND TO LORAIN AVENUE VIA WILLARD AVENUE AND 95TH STREET. TWO WAY VEHICULAR AND PEDESTRIAN TRAFFIC SHALL BE MAINTAINED ON W. 85TH STREET FROM CLARK AVENUE TO LORAIN AVENUE UNTIL RELOCATED LORAIN AVENUE IS OPENED TO TRAFFIC.

## W. 84TH STREET

W. 84TH STREET MAY BE CLOSED TO VEHICULAR TRAFFIC AT CLARK AVENUE FOR A SHORT PERIOD OF TIME DURING THE SEWER, UTILITY AND PAVEMENT CONSTRUCTION ON CLARK AVENUE AT W. 84TH STREET. THIS TIME SHALL BE HELD TO A MINIMUM AND TRAFFIC SHALL BE MAINTAINED AT ALL OTHER TIMES. DURING THE CLOSING PERIOD LOCAL ACCESS TO W. 84TH STREET WILL BE VIA BRINSMADE AVENUE. PEDESTRIAN TRAFFIC ON W. 84TH STREET AT CLARK AVENUE SHALL BE MAINTAINED AT ALL TIMES.

## W. 83RD STREET

W. 83RD STREET MAY BE CLOSED TO VEHICULAR TRAFFIC ON NORTH SIDE OF LORAIN AVENUE FOR A SHORT PERIOD OF TIME DURING THE SEWER, UTILITY AND PAVEMENT CONSTRUCTION ON LORAIN AVENUE AT W. 83RD STREET. THIS TIME SHALL BE HELD TO A MINIMUM AND TRAFFIC SHALL BE MAINTAINED AT ALL OTHER TIMES. DURING THE CLOSING PERIOD LOCAL ACCESS TO W. 83RD WILL BE VIA MADISON AVENUE. PEDESTRIAN TRAFFIC ON W. 83RD AT LORAIN AVENUE SHALL BE MAINTAINED AT ALL TIMES.

W. 83RD STREET FROM CLARK AVENUE TO LORAIN AVENUE SHALL REMAIN OPEN TO TWO WAY VEHICULAR AND PEDESTRIAN TRAFFIC UNTIL W. 84TH - W. 85TH STREET CONNECTOR IS COMPLETED AND OPENED TO TRAFFIC.

## W. 82ND STREET

W. 82ND STREET FROM EMILY COURT TO CLARK AVENUE MAY BE CLOSED TO TRAFFIC. LOCAL ACCESS TO W. 82ND STREET WILL BE VIA HALLE AVENUE UNTIL RELOCATED EMILY COURT IS COMPLETED AND OPENED TO TRAFFIC.

REVISED BY BCK DATE 2/75  
 CHECKED BY J.S. DATE 4/75

CALCULATED BY D.K.S. DATE 11/73  
 CHECKED BY J.L.S. DATE 4-75

# MAINTENANCE OF TRAFFIC

FED. RD.	STATE	PROJECT	
2	OHIO		

31  
838

CUYAHOGA COUNTY  
CUY 90-11.64  
PART 1

## CLARK AVENUE (LORAIN AVENUE TO W. 85TH STREET)

TWO WAY VEHICULAR TRAFFIC (ONE LANE EACH DIRECTION) SHALL BE MAINTAINED ON CLARK EXCEPT THRU TRAFFIC MAY BE DETOURED OVER LORAIN AVENUE TO W. 85TH STREET DURING THE SEWER, UTILITY AND PAVEMENT CONSTRUCTION ON LORAIN AVENUE AT CLARK AVENUE AND THE WATER LINE RELOCATION ON CLARK AVENUE AT W. 88TH STREET PEDESTRIAN TRAFFIC AND LOCAL VEHICULAR ACCESS SHALL BE MAINTAINED AT ALL TIMES. ALSO SEE W. 88TH AND 86TH STREETS AND SEQUENCE OF CONSTRUCTION FOR LORAIN AVENUE AND W. 84-W. 85 CONNECTOR.

## CLARK AVENUE (W. 85TH TO W. 73RD STREET)

TWO WAY TRAFFIC (ONE LANE EACH DIRECTION) SHALL BE MAINTAINED AT ALL TIMES ON CLARK AVENUE VIA THE EXISTING PAVEMENT, TEMPORARY ROAD AS SHOWN ON SHEET NO. 332/334 OR THE PROPOSED PAVEMENT AND BRIDGE. PART WIDTH CONSTRUCTION SHALL BE USED FOR WIDENING AND RESURFACING OF CLARK AVENUE BEYOND THE LIMITS OF THE TEMPORARY ROAD.

PAYMENT FOR THE TEMPORARY ROAD IS AS FOLLOWS:  
ITEM 615 TEMPORARY ROADS LUMP SUM  
ITEM 615 TEMPORARY PAVEMENT, CLASS A 3,294 SQ. YDS.

## W. 81ST STREET

W. 81ST STREET MAY BE CLOSED TO VEHICULAR TRAFFIC AT LORAIN AVENUE FOR A SHORT PERIOD OF TIME DURING THE SEWER, UTILITY AND PAVEMENT CONSTRUCTION ON LORAIN AT W. 81ST STREET. THIS TIME SHALL BE HELD TO A MINIMUM AND TRAFFIC SHALL BE MAINTAINED AT ALL OTHER TIMES. DURING THE CLOSING PERIOD LOCAL ACCESS TO W. 81ST STREET WILL BE VIA LAWN AVENUE. PEDESTRIAN TRAFFIC ON W. 81ST STREET AT LORAIN AVENUE SHALL BE MAINTAINED AT ALL TIMES.

## W. 80TH STREET AND NORDICA AVENUE

W. 80TH STREET SHALL BE CLOSED AT LORAIN AVENUE AND NORDICA AVENUE CLOSED JUST EAST OF W. 80TH STREET DURING THE WATER LINE RELOCATIONS AND CONSTRUCTION OF W. 80TH - NORDICA CONNECTOR. LOCAL ACCESS DURING CONSTRUCTION TO NORDICA AVENUE WILL BE VIA W. 79TH AND W. 73RD STREETS. W. 80TH STREET NORTH OF LORAIN AVENUE SHALL REMAIN OPEN TO PEDESTRIAN AND VEHICULAR TRAFFIC AT ALL TIMES.

## W. 79TH STREET AND GRACE AVENUE

W. 79TH STREET SHALL BE CLOSED AT NORDICA AVENUE AND GRACE AVENUE CLOSED JUST WEST OF 79TH STREET DURING THE CONSTRUCTION OF THE GRACE AVENUE-W. 79TH CONNECTOR AND CUL-DE-SAC. LOCAL ACCESS TO GRACE AVENUE SHALL BE VIA W. 73RD STREET. THE INTERSECTION OF GRACE AVENUE AND W. 79TH STREET SHALL BE OPENED TO TRAFFIC WHILE GRACE AVENUE IS CLOSED AT W. 73RD STREET.

## GRACE AVENUE AT W. 73RD STREET

TWO WAY TRAFFIC (ONE LANE IN EACH DIRECTION) SHALL BE MAINTAINED ON GRACE AVENUE AT W. 73RD EXCEPT DURING THE PROPOSED SEWER CONSTRUCTION GRACE MAY BE CLOSED. DURING THIS CLOSING LOCAL ACCESS TO GRACE AVENUE WILL BE MAINTAINED BY W. 79TH AND W. 74TH STREET. GRACE AVENUE AT W. 73RD STREET SHALL BE OPEN TO TRAFFIC WHILE THE INTERSECTION OF GRACE AVENUE AND W. 79TH STREET IS CLOSED.

## W. 73RD STREET

TWO WAY TRAFFIC (ONE LANE EACH DIRECTION) SHALL BE MAINTAINED AT ALL TIMES ON W. 73RD STREET VIA THE EXISTING PAVEMENT, TEMPORARY ROAD AS SHOWN ON SHEET NO. 340/341 OR THE PROPOSED BRIDGE. PART WIDTH CONSTRUCTION SHALL BE USED FOR SEWER CONSTRUCTION ON W. 73RD STREET AT GRACE TO ENABLE TWO WAY TRAFFIC TO BE MAINTAINED.

PAYMENT FOR THE TEMPORARY ROAD IS AS FOLLOWS:  
ITEM 615 TEMPORARY ROADS LUMP SUM  
ITEM 615 TEMPORARY PAVEMENT, CLASS A 2,091 SQ. YDS.

## ANDOVER COURT

ANDOVER COURT FROM W. 73RD PLACE TO W. 68TH STREET MAY BE CLOSED TO TRAFFIC DURING THE SEWER RELOCATION CONSTRUCTION. ANDOVER COURT SHALL BE REOPENED TO TRAFFIC UPON COMPLETION OF THIS CONSTRUCTION.

## W. 67TH STREET

W. 67TH STREET WILL REMAIN OPEN TO TWO WAY TRAFFIC FROM LORAIN AVENUE SOUTH TO THE PROPOSED DEAD END. LOCAL ACCESS TO GORDAN SCHOOL SHALL BE MAINTAINED AT ALL TIMES.

## HOPE AVENUE AND W. 67TH STREET

THE INTERSECTION OF HOPE AVENUE AND W. 67TH STREET MAY BE CLOSED TO TRAFFIC DURING THE RECONSTRUCTION OF THE PAVEMENT. LOCAL ACCESS TO W. 67TH STREET WILL BE VIA CLARK AVENUE. LOCAL ACCESS TO HOPE AVENUE WILL BE VIA W. 73RD STREET. HOPE AVENUE FROM W. 73RD TO W. 67TH STREET SHALL REMAIN OPEN TO TWO WAY TRAFFIC UNTIL W. 67TH AND HOPE AVENUE INTERSECTION IS COMPLETED AND OPENED TO TRAFFIC.

## W. 65TH STREET (CLARK AVENUE TO FANWELL COURT)

DURING THE CONSTRUCTION OF THE E.B., W.B. LANES, THE TRAFFIC MAY BE STOPPED FOR SHORT PERIODS OF TIME, DURING OFF PEAK HOURS, FOR THE ERECTION OF STEEL. DURING THE ERECTION OF STEEL, THE CONTRACTOR WILL BE PERMITTED TO TEMPORARILY CLOSE W. 65TH STREET FOR THE PLACING OF 1 BEAM IN THE INITIAL POSITION OF THE PIERS. W. 65TH STREET SHALL BE RE-OPENED TO CLEAR THE TRAFFIC BEFORE PLACING THE SECOND BEAM.

TWO WAY TRAFFIC (ONE LANE EACH DIRECTION) SHALL BE MAINTAINED AT ALL OTHER TIMES ON W. 65TH STREET VIA THE EXISTING PAVEMENT, TEMPORARY ROAD AS SHOWN ON SHEET NO. 345 & 346 OR PROPOSED BRIDGE.

PAYMENT FOR THE TEMPORARY ROAD IS AS FOLLOWS:  
ITEM 615 TEMPORARY ROADS LUMP SUM  
ITEM 615 TEMPORARY PAVEMENT, CLASS A 2,900 SQ. YDS.

## W. 55TH WALWORTH CONNECTOR

W. 59TH STREET SHALL REMAIN OPEN TO TRAFFIC FROM WALWORTH AVENUE TO LORAIN AVENUE UNTIL W. 55TH-WALWORTH CONNECTOR IS COMPLETED AND OPENED TO TRAFFIC. THE CONTRACTOR SHALL ALSO MAINTAIN LOCAL ACCESS AT ALL TIMES TO YODER COMPANY ON BOTH SIDES OF W. 55TH STREET. (SEE SHEET NO. 70).

## W. 53RD STREET

TWO WAY TRAFFIC (ONE LANE EACH DIRECTION) SHALL BE MAINTAINED ON W. 53RD STREET AT ALL TIMES. PART WIDTH CONSTRUCTION SHALL BE USED FOR THE WIDENING AND RESURFACING OF W. 53RD STREET.

DURING THE CONSTRUCTION OF THE E.B., W.B. LANES, THE TRAFFIC MAY BE STOPPED FOR SHORT PERIODS OF TIME, DURING OFF PEAK HOURS, FOR THE ERECTION OF STEEL. DURING THE ERECTION OF STEEL, THE CONTRACTOR WILL BE PERMITTED TO TEMPORARILY CLOSE W. 53RD STREET FOR THE PLACING OF 1 BEAM IN THE INITIAL POSITION ON THE PIERS. W. 53RD STREET SHALL BE RE-OPENED TO CLEAR THE TRAFFIC BEFORE PLACING THE SECOND BEAM.

TWO WAY TRAFFIC SHALL BE MAINTAINED ON W. 53RD STREET DURING THE SEWER AND UTILITY CONSTRUCTION AT WALWORTH AVENUE VIA TEMPORARY ROAD AS SHOWN ON SHEET NO. 353. PAYMENT FOR THE TEMPORARY ROAD IS AS FOLLOWS:  
ITEM 615 TEMPORARY ROADS LUMP SUM  
ITEM 615 TEMPORARY PAVEMENT, CLASS A 1,140 SQ. YDS.

## TURN AVENUE

THE INTERSECTIONS OF TURN AVENUE WITH W. 48TH AND W. 45TH STREETS MAY BE CLOSED TO TRAFFIC DURING PAVEMENT CONSTRUCTION. LOCAL ACCESS TO TURN AVENUE SHALL BE VIA W. 47TH STREET.

## SIGNING SEQUENCE IN CONJUNCTION WITH SEQUENCE OF CONSTRUCTION

FOLLOWING APPROVAL OF STREET CLOSING THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614, ERECT AND MAINTAIN THE FOLLOWING SIGNS AS INDICATED BELOW:

- STANDARD W-120-30 "ROAD CLOSED AHEAD" 30 X 30 AT THE FOLLOWING LOCATIONS:
  - W. 93RD STREET JUST SOUTH OF WILLARD AVENUE AND JUST NORTH OF LORAIN AVENUE.
  - W. 92ND AND W. 90TH STREETS JUST NORTH OF DENISON AVENUE
  - W. 91TH AND N. 89TH STREETS JUST SOUTH OF WILLARD AVENUE
  - W. 85TH AND W. 83RD STREETS JUST SOUTH OF MADISON AVENUE
  - W. 84TH AND W. 83RD STREETS JUST NORTH OF BRINSMEADE AVENUE
  - W. 82ND STREET JUST NORTH OF HALLE AVENUE.
  - W. 81ST STREET JUST SOUTH OF LAWN AVENUE.
  - NORDICA COURT JUST WEST OF W. 79TH STREET.

J. GRACE AVENUE JUST EAST OF W. 74TH STREET AND JUST WEST OF W. 73RD STREET.

K. HOPE AVENUE BOTH JUST EAST AND WEST OF W. 70TH STREET.

L. W. 67TH STREET JUST NORTH OF CLARK AVENUE AND JUST SOUTH OF HAGUE AVENUE.

M. WALWORTH AVENUE JUST EAST OF W. 58TH STREET AND JUST WEST OF W. 59TH STREET.

N. W. 58TH STREET JUST NORTH OF WALWORTH AVENUE

O. FENWICK AVENUE JUST NORTHWEST OF JUNCTION ROAD.

P. W. 48TH STREET JUST SOUTH OF LORAIN AVENUE

Q. W. 45TH STREET JUST SOUTH OF LORAIN AVENUE AND BOTH W. 45TH AND W. 47TH STREETS JUST NORTH OF FENWICK AVENUE.

II. "ROAD CLOSED AHEAD" SHALL BE REMOVED AT THE FOLLOWING LOCATIONS UPON COMPLETION OF THE SEWERS, UTILITY, PAVEMENT AND ROAD CONSTRUCTION.

A. W. 93RD STREET JUST SOUTH OF WILLARD AVENUE.

B. W. 91ST AND W. 89TH STREETS JUST SOUTH OF WILLARD AVENUE.

C. W. 92ND AND W. 90TH STREETS JUST NORTH OF DENISON AVENUE

D. W. 85TH AND W. 83RD STREETS JUST SOUTH OF MADISON AVENUE

E. W. 84TH AND W. 83RD STREETS JUST NORTH OF BRINSMADE AVENUE

F. W. 81ST STREET JUST SOUTH OF LAWN AVENUE

G. GRACE AVENUE BOTH JUST EAST AND WEST OF W. 74TH STREET

H. HOPE AVENUE JUST EAST OF W. 70TH STREET.

J. WALWORTH AVENUE JUST EAST OF W. 58TH STREET.

III. STANDARD W-128-36 "ROAD CONSTRUCTION AHEAD" 36 X 36 SIGNS SHALL BE INSTALLED PRIOR TO STARTING ANY CONSTRUCTION AT THE FOLLOWING LOCATIONS:

A. LORAIN AVENUE E. B. JUST EAST OF W. 85TH STREET AND LORAIN AVENUE W. B. JUST WEST OF W. 79TH STREET.

B. CLARK AVENUE E. B. JUST EAST OF W. 90TH STREET AND CLARK AVENUE W. B. JUST WEST OF W. 74TH STREET.

C. W. 73RD STREET JUST NORTH OF CLARK AVENUE AND JUST NORTH OF HAGUE AVENUE.

D. W. 65TH STREET JUST SOUTH OF CLARK AVENUE AND JUST SOUTH OF LORAIN AVENUE.

E. W. 53RD STREET BOTH JUST SOUTH OF LORAIN AVENUE AND JUST NORTH OF TRAIN AVENUE

SIGN SUPPORTS FOR THE ABOVE SIGNS SHALL BE AS OUTLINED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", CURRENT SECTION - LATEST EDITION.

## SAFE PEDESTRIAN TRAFFIC

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NEED FOR PROVIDING ADEQUATE PROTECTION TO SCHOOL CHILDREN AND OTHER PEDESTRIAN TRAFFIC IN THE VICINITY OF THIS PROJECT. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SUCH TEMPORARY PROTECTION FACILITIES AS THE ENGINEER DEEMS NECESSARY TO ACCOMMODATE IN A REASONABLE AND SAFE MANNER, ALL PEDESTRIAN TRAFFIC. PAYMENT FOR THE ABOVE, EXCEPT TEMPORARY WALKS AND SNOW FENCE SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR TEMPORARY WALKS AND SNOW FENCE AND SHALL BE USED AS DIRECTED BY THE ENGINEER.

ITEM 615 TEMPORARY BITUMINOUS WALK, AC20 7,000 SQ. FT.  
ITEM 615 TEMPORARY FENCE, TYPE-SNOW, 5,000 L. F.

THIS BITUMINOUS WALK WILL BE A MINIMUM DEPTH OF 2" OF ITEM 404 ASPHALT CONCRETE. NO BASE WILL BE REQUIRED.

## MAINTAINING TRAFFIC AND DUST CONTROL

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR DUST CONTROL AND MAINTAINING TRAFFIC AND SHALL BE USED AS DIRECTED BY THE ENGINEER:

ITEM 404 ASPHALT CONCRETE OR AN APPROVED BITUMINOUS PREMIXED SURFACE COURSE FOR MAINTAINING TRAFFIC 500 CY. YDS.  
ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE A OR B 500 CU. YDS.  
ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE C 500 CU. YDS.  
ITEM 616 CALCIUM CHLORIDE 100 TONS  
ITEM 616 WATER 5,000 M-GALS.

## USE OF TEMPORARY ROADS AND PAVEMENT FOR MAINTAINING LOCAL TRAFFIC

THE LIMITS AND DURATION OF USE OF TEMPORARY ROADS AND PAVEMENT SHALL BE HELD TO AN ABSOLUTE MINIMUM, AND IN ALL CASES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

## ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

## ITEM 615 TEMPORARY FENCE - (SNOW)

TEMPORARY FENCE SHALL BE PROVIDED BY THE CONTRACTOR AT THE LOCATIONS SPECIFIED AND ONLY WITH THE WRITTEN AUTHORIZATION OF THE ENGINEER. TEMPORARY FENCE SHALL BE OF THE "SNOW TYPE" MEETING THE FOLLOWING SPECIFICATIONS IN ADDITION TO SECTION 607.

- WOOD PICKETS SHALL BE OF SPRUCE, POPLAR OR JACK PINE AND SHALL HAVE ONE SHOP COAT OF RED PAINT.
- WOOD PICKETS SHALL HAVE A MINIMUM THICKNESS OF ONE-HALF (1/2") INCH, A MINIMUM WIDTH ONE AND ONE-HALF (1-1/2") INCHES AND MINIMUM LENGTH OF FOUR (4') FEET.
- WOOD PICKETS SHALL BE WOVEN INTO PLACE WITH FIVE (5) DOUBLE STRANDS OF 12-1/2 GAUGE LOW CARBON GALVANIZED WIRE. SPACING BETWEEN PICKETS SHALL BE A MAXIMUM OF TWO (2") INCHES.
- THE FENCE SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 607 USING STEEL LINE POSTS PER SECTION 710.11

PAYMENT FOR FURNISHING, INSTALLATION, MAINTENANCE, REMOVAL AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE PAID FOR IN THE UNIT PRICE BID FOR LINEAL FEET OF ITEM 615 TEMPORARY FENCE, TYPE-SNOW.

REVISED BY BCK DATE 8/75  
CHECKED BY J.L.S. DATE 4/75

CALCULATED BY D.H.S. DATE 11/73  
CHECKED BY J.L.S. DATE 4-75



# GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

32  
838

CUYAHOGA COUNTY  
CUY-90-11.64

## FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 800 SQ. FT. OF FLOOR SPACE AND IN ADDITION TO THE REQUIREMENTS OF ITEM 619, HE SHALL PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. ALL THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619 FIELD OFFICE.

## ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS, EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

## UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

## UTILITIES

FOLLOWING IS A LIST OF THE UTILITIES WITHIN THE LIMITS OF THIS PROJECT:

DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF LIGHT AND POWER,  
1825 LAKESIDE AVENUE, CLEVELAND, OHIO 44114.

DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF WATER AND HEAT,  
1825 LAKESIDE AVENUE, CLEVELAND, OHIO 44114.

CLEVELAND ELECTRIC ILLUMINATING CO., 55 PUBLIC SQUARE, CLEVELAND, OHIO 44113.

OHIO BELL TELEPHONE COMPANY, 100 ERIEVIEW PLAZA, CLEVELAND, OHIO 44114.

EAST OHIO GAS COMPANY, 1201 EAST 55TH STREET, CLEVELAND, OHIO 44114.

DEPARTMENT OF PUBLIC SAFETY, POLICE AND FIRE COMMUNICATION SYSTEM, 310  
CARNEGIE AVENUE, CLEVELAND, OHIO 44115.

DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF UTILITIES ENGINEERING, 1825 LAKESIDE  
AVENUE, CLEVELAND, OHIO 44114.

DEPARTMENT OF PUBLIC SERVICE, ROOM 227 CITY HALL, 601 LAKESIDE AVENUE,  
CLEVELAND, OHIO 44114.

DEPARTMENT OF PUBLIC SAFETY, DIVISION OF TRAFFIC ENGINEERING AND PARKING, 4160  
SOUTH MARGINAL ROAD, CLEVELAND, OHIO 44114.

CLEVELAND TRANSIT SYSTEM, 1404 EAST 9TH STREET, CLEVELAND, OHIO 44114.

DEPARTMENT OF PUBLIC UTILITIES, BUREAU OF WASTE WATER COLLECTION 1825 LAKESIDE  
AVENUE, CLEVELAND, OHIO 44114.

## ESTIMATED QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. ESTIMATED QUANTITIES OF MATERIAL SHALL NOT BE ORDERED FOR DELIVERY TO THE PROJECT UNLESS AUTHORIZED BY THE ENGINEER.

## ELEVATION DATUM

ALL ELEVATIONS SHOWN ON THESE PLANS ARE IN FEET ABOVE THE CLEVELAND REGIONAL GEODETIC SURVEY DATUM PLANE.

## COORDINATES

ALL COORDINATES SHOWN ON THESE PLANS ARE BASED ON THE CLEVELAND REGIONAL GEODETIC SURVEY SYSTEM.

## REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE DRAINS WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

## REMOVAL OF TREES AND STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS
18"	502	14
30"	214	1
48"	44	0
60"	0	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING.

## RESTORATION OF AREAS OUTSIDE NORMAL CONSTRUCTION LIMITS

THE EXISTING PAVEMENT AND PUBLIC UTILITIES AS INDICATED ON THE PLANS SHALL BE REMOVED AND DISPOSED OF, THE OLD ROADWAY GRADED AND THE AREAS SLOPED TO DRAIN AND LEFT IN A NEAT CONDITION READY FOR SEEDING. SEEDING SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM 659. SEEDING AND MULCHING. PAYMENT FOR THE ABOVE WORK, EXCEPT SEEDING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 OR THE APPLICABLE UTILITY REMOVAL ITEM NUMBER.

THE ABOVE SHALL INCLUDE ALL AREAS BETWEEN THE NORMAL CONSTRUCTION LIMITS AND THE L/A LINE AS GENERALLY OUTLINED ON THE SCHEMATIC PLANS AND THE APPLICABLE REMOVAL PLANS.

## MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN ON STANDARD DRAWING MC-1, AND SHEET NO. 80 FOR LOCATIONS, AND TYPE OF MONUMENTS SEE SHEET NO. 35.

## SPECIAL TREATMENT OF THE EMBANKMENT FOUNDATIONS

FOR ALL FILLS ON THIS PROJECT OVER 20' IN HEIGHT, THE FOLLOWING RATE OF LOADING SHALL BE USED:

HEIGHT OF FILL MEASURED FROM LOWEST POINT ON CROSS SECTION	MAXIMUM RATE OF FILL LOADING
0 - 12'	6' PER WEEK
12 - 20'	4' PER WEEK
ABOVE 20'	3' PER WEEK

## LOCATIONS OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS AS SHOWN IN THESE PLANS ARE SUBJECT TO ADJUSTMENT TO ASSURE THAT THE PLANNED INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

## BARRICADE GUARD RAIL TYPE 5

WHEN TYPE 5 GUARD RAIL USED AS BARRICADES IS CALLED OUT ON THE PLANS, IT SHALL BE CONSTRUCTION ACCORDING TO STANDARD CONSTRUCTION DRAWING GR-2B AS DESCRIBED IN BARRICADE GUARD RAIL NOTE. THE ABOVE SHALL BE PAID FOR UNDER ITEM 606 GUARD RAIL TYPE 5.

## SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE RIGHT-OF-WAY FENCE LINES, BETWEEN THE RIGHT-OF-WAY LINES IN UNFENCED AREAS, AND WITHIN THE WORK LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT.

## ITEM 203 PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE IN PROOF ROLLING OF SUBGRADE FOR THE MAINLINE AND RAMP PAVEMENTS, AND FOR PAVED SHOULDERS.

PROOF ROLLING IS NOT REQUIRED IN AREAS OF EXTRA DEPTH SUBBASE.

## EROSION CONTROL

Items 601 & 660 are provided in the plans for erosion control. Rock or turf of a stable nature will not be removed in order to place any of these items. The Engineer shall check and non-perform quantities or adjust locations and quantities for these items where indicated by field conditions during construction.

## REINFORCED CONCRETE CATCH BASINS

Catch basins over 12 feet in depth shall be built of Class C Concrete reinforced by placing 1/2" diameter bars 12" center to center both vertically and horizontally with a 2" clearance from the inside face of the wall. Payment for furnishing and placing the reinforcing steel shall be included in the unit price bid for Item 604, Reinforced Concrete Catch Basin.

## COATED DOWEL BARS

Dowel bars required on Std. Dwg. BP-4 shall be coated in accordance with Sup. Spec. 948.

## TEMPORARY WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY CONTROL MEASURES:

ITEM 207, TEMPORARY SEEDING AND MULCHING	87,000 SQ. YDS.
ITEM 659, COMMERCIAL FERTILIZER (12-12-12)	20 TONS
ITEM 207, WATER	190 M GALS.
ITEM 207, TEMPORARY SLOPE DRAINS	440 LIN. FT.
ITEM 207, TEMPORARY BENCHES, DIKES, DAMS AND SEDIMENT BASINS	720 CU. YDS.
ITEM 659, REPAIR SEEDING AND MULCHING	22,000 SQ. YDS.
ITEM 207, MOWING	1,000 M. SQ. FT.

## SURFACE TEXTURING OF CONCRETE PAVEMENT

The pavement surface shall be textured by use of a burlap drag in the longitudinal direction followed by an approved device that will produce a relatively uniform pattern of grooves in the transverse direction. The grooves shall be spaced at approximately 1/2" between centers and shall be 0.10" to 0.20" deep and 0.08" to 0.12" wide.

The above requirements for surface texture applies to the mainline pavement. However, if the Contractor so elects he may also use the same method for finishing the ramp pavement.

REVISED BY B.E.K. DATE 2/75  
CHECKED BY J.L.S. DATE 4/75

CALCULATED BY D.H.S. DATE 11/73  
CHECKED BY B.E.K. DATE 8/74

Rev. 8-14-75

GENERAL NOTES

# GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

33  
838

CUYAHOGA COUNTY  
CUY - 90 11.64

## ADJACENT CONTRACTS

CONTRACTS FOR CONSTRUCTION OF ADJACENT PROJECTS MAY BE LET PRIOR TO OR WHILE CONSTRUCTION OF THIS CONTRACT IS IN PROGRESS. THE CONTRACTOR FOR THIS PROJECT SHALL COORDINATE HIS OPERATIONS WITH THAT OF THE CONTRACTOR FOR ANY ADJACENT PROJECTS SO AS TO COMPLETE ALL PROJECTS WITHOUT UNDUE DELAY OR INTERFERENCE TO THE OTHER CONTRACTORS.

## CONTRACTION AND EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN EXPANSION AND CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL IN ALL CASES BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWINGS AND THE SPECIFICATIONS.

## 4" CONCRETE SLAB

THE 4" CAST-IN-PLACE CONCRETE SLAB SHALL BE CONSTRUCTED UNDER THE SPECIFICATIONS AND PROVISIONS OF ITEM 608 WALKS AND STEPS, AND PAID FOR UNDER ITEM 608 4" CONCRETE WALK.

## ITEM 310 SUBBASE, GRADING A AS PER PLAN

MATERIAL FOR THIS ITEM SHALL MEET THE REQUIREMENTS OF GRADING A OF 310.02 AFTER ALL OPERATIONS OF PLACING AND COMPACTING HAVE BEEN COMPLETED.

## ITEM 310 UNDER APPROACH SLABS

THE AREA BETWEEN THE SUBGRADE AND THE APPROACH SLAB SHALL BE FILLED WITH 6" OF ITEM 310 SUBBASE, GRADING "A", AS PER PLAN.

## DRIVEWAYS AND DRIVE APPROACHES

ALL DRIVE APPROACHES SHALL BE CONCRETE. EXISTING DRIVES SHALL BE REPLACED IN-KIND. SEE SHEET NO. 61 FOR DRIVEWAY TYPICAL AND DRIVE APPROACH TYPICAL.

## REGIONAL GEODETIC MONUMENTS

THE CONTRACTOR SHALL SALVAGE ANY REGIONAL GEODETIC MONUMENT CASTINGS AND BRONZE MARKERS SCHEDULED FOR REMOVAL.

THE CONTRACTOR SHALL NOTIFY THE CLEVELAND REGIONAL GEODETIC SURVEY. PHONE 861-5211, EXT. 267 BEFORE THE SALVAGED CASTINGS AND MARKERS ARE REMOVED.

THE COST OF REMOVING AND SALVAGING SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 202 - REGIONAL GEODETIC MONUMENT REMOVED.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 202	REGIONAL GEODETIC MONUMENT REMOVED	1 EACH
----------	------------------------------------	--------

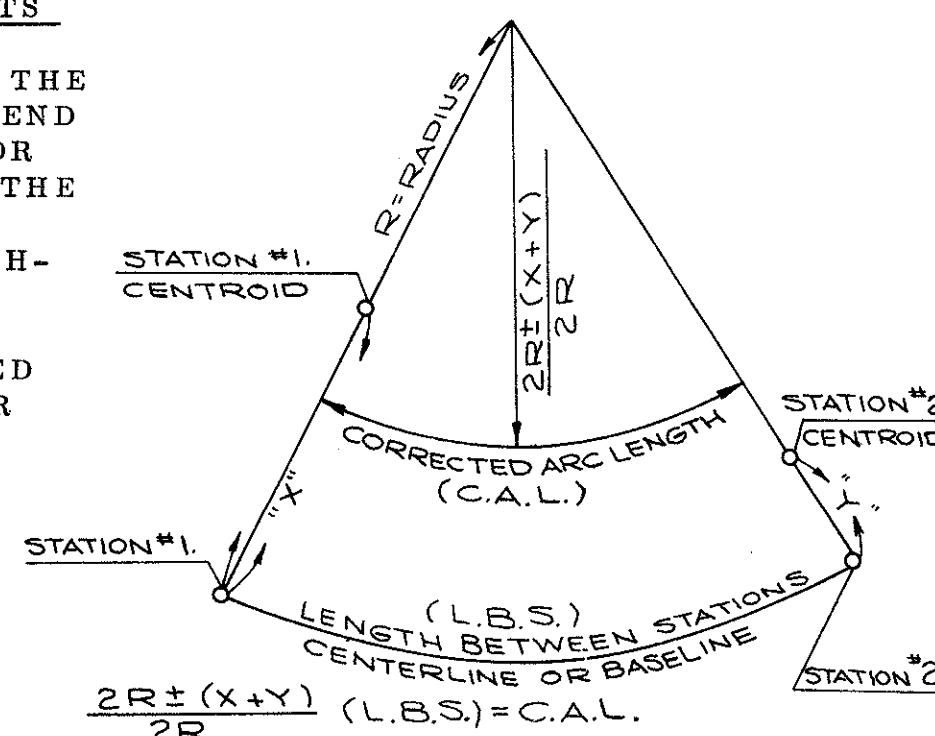
## EARTHWORK COMPUTATIONS - CURVED ALIGNMENTS

WHEN THE ROADWAY IS ON A CURVED ALIGNMENT THE CENTER OF GRAVITY OR THE CENTROID FOR THE END AREA, MAY NOT BE ON OR NEAR THE BASE LINE OR CENTER LINE. THEREFORE, A CORRECTION FOR THE TRUE ARC LENGTH BETWEEN STATIONS HAS BEEN MADE TO OBTAIN A TRUE MEASUREMENT OF EARTHWORK.

THE DIAGRAM SHOWN INDICATES THE METHOD USED TO DETERMINE THE CORRECTED ARC LENGTH FOR COMPUTING THE TRUE MEASUREMENT OF EARTHWORK.

THE CORRECTED ARC LENGTHS & EARTHWORK TABULATIONS APPEAR ON THE AFFECTED CROSS SECTION SHEETS.

THE C. A. L. HAS BEEN APPLIED TO "ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION" AND "ITEM 203 EMBANKMENT".



## SANITARY FLOW INTO HIGHWAY DRAINAGE SYSTEMS

THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY EXISTING OR NEW DRAINAGE INTO THE HIGHWAY STORM DRAINAGE SYSTEM WHEN SUCH DRAINS CARRY FLOW FROM ANY PLUMBING FIXTURES INCLUDING FLOOR DRAINS, SINK DRAINS OR POLLUTED WATER OF ANY KIND.

EXISTING PIPE CARRYING FLOW WHICH COMES WITHIN THE CATEGORY OUTLINED ABOVE SHALL BE CONNECTED TO AN EXISTING SANITARY OR COMBINATION SEWER, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE, AS DIRECTED BY THE ENGINEER, IN MAKING THE ABOVE DESCRIBED CONNECTIONS.

ITEM 603 - 6" CONDUIT TYPE B 706.08 WITH	200 LIN. FT.
706.12 JOINTS	

NECESSARY PIPE BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL REQUESTED BY THE ENGINEER.

## PLUGGING AND BULKHEADING OF EXISTING PIPE

ALL SEWER HOUSE CONNECTIONS SHALL BE BULKHEADED AT THE CURB LINE WHERE HOUSE CONNECTIONS ARE TO BE ABANDONED AND THE TRUNK SEWER OF LESS THAN 4 FEET IN DIAMETER WILL REMAIN IN SERVICE. VITRIFIED PIPE STOPPERS BACKED WITH 6 INCHES OF CLASS C CONCRETE MAY BE USED TO BULKHEAD EXISTING PIPES 12 INCHES OR LESS IN DIAMETER.

ALL ABANDONED HOUSE CONNECTIONS CONNECTED TO SEWERS 4 FEET AND OVER IN DIAMETER THAT WILL REMAIN IN SERVICE SHALL BE BULKHEADED WITH BRICK HEADED COURSES FROM THE INSIDE OF THE SEWER.

ALL BULKHEADING OF PIPES SHALL BE IN ACCORDANCE WITH DETAILS SHOWN ON SHEET NO. 141.

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 ROADWAY EXCAVATION.

## EXISTING UNDERDRAINS

ALL EXISTING UNDERDRAINS ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS INTO THE EXISTING OR PROPOSED DRAINAGE SYSTEM UNDER THE DIRECTION OF THE ENGINEER.

WHENEVER POSSIBLE, UNDERDRAINS ENCOUNTERED SHALL BE CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET AT AN EXISTING OR PROPOSED DRAINAGE STRUCTURE, USING ITEM 605 UNCLASSIFIED UNDERDRAINS. THE LAST TEN (10) FEET OF THE PROPOSED OUTLET INTO A DRAINAGE STRUCTURE SHALL BE ITEM 603 TYPE F CONDUIT.

IF IT BECOMES NECESSARY TO CROSS UNDER THE ROADWAY TO PROVIDE AN ADEQUATE OUTLET AT AN EXISTING OR PROPOSED DRAINAGE STRUCTURE THE CONDUIT LOCATED WITHIN THE LIMITS OF THE ROADWAY SHALL BE ITEM 603 CONDUIT, TYPE B.

THE LOCATION, TYPE, SIZE, AND GRADE OF REQUIRED OUTLETS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 6" CONDUIT, TYPE B	200 LIN. FT.
ITEM 603 6" CONDUIT, TYPE F	100 LIN. FT.
ITEM 605 4" UNCLASSIFIED PIPE UNDERDRAINS As Per Plan	200 LIN. FT.
ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAINS As Per Plan	200 LIN. FT.

NECESSARY BENDS & BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL REQUESTED BY THE ENGINEER.

## 202 PIPE REMOVED, AS PER PLAN

EXISTING SEWERS OVER 24 INCHES IN DIAMETER AND HAVING A COVER OF MORE THAN THREE FEET, WHICH DUE TO THEIR SIZE OR CONDITION HAVE BEEN INDICATED TO BE REMOVED, SHALL BE REMOVED OR, AT THE CONTRACTOR'S OPTION, SHALL BE FILLED HYDRAULICALLY WITH SAND OR SAND AND GRAVEL SIMILAR TO STRIPPINGS FROM A GRAVEL PIT AND LEFT IN PLACE.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 24 INCHES.

IF THE SEWER IS FILLED RATHER THAN REMOVED, THE FILL MATERIAL SHALL, AFTER SOLIDIFICATION, OCCUPY AT LEAST 90% OF THE CROSS SECTIONAL AREA OF THE SEWER FOR THE ENTIRE LENGTH INDICATED TO BE REMOVED. IN ORDER TO MEET THIS REQUIREMENT, THE CONTRACTOR WILL DIG PIT HOLES AS APPROVED BY THE ENGINEER TO IMPLEMENT THE FILLING OF THE SEWER AND/OR TO CHECK THE CROSS SECTIONAL AREA OF THE SEWER WHEN FILLED. THE FOOTAGE OF FILLED AND PLUGGED SEWER TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF LINEAR FEET (MEASURED ALONG THE CENTERLINE OF THE SEWER FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

THE FOOTAGE, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR "202 PIPE REMOVED, AS PER PLAN". WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING, HAULING AND PLACING ALL THE NECESSARY MATERIALS, AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

## 202 PIPE REMOVED

WHERE SEGMENTAL BLOCK OR BRICK SEWERS ARE ENCOUNTERED, IN LIEU OF TOTAL REMOVAL SET FORTH UNDER 202, THE UPPER PORTION MAY BE BROKEN AND PROPER BACKFILLING PERFORMED AS REQUIRED IN ACCORDANCE WITH ITEM 203.07 OF THE SPECIFICATIONS.

## PROPOSED SEWERS AND EXISTING SEWER REMOVALS UNDER EXISTING PAVEMENTS

NO SPECIFIC OR SEPARATE PAYMENT WILL BE MADE FOR PAVEMENT, REMOVALS AND REPLACEMENT, BUT THE COST THEREOF SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE VARIOUS ITEMS OF SEWER WORK TO BE DONE UNDER THIS CONTRACT.

PAVEMENT REPLACEMENT AS STATED ABOVE SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET NO. 141, AND WILL ONLY BE REQUIRED IN AREAS WHERE THE PLANS DO NOT OTHERWISE PROPOSE NEW CONSTRUCTION OF PAVEMENT.

## CONNECTIONS TO EXISTING PIPE

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

## CONNECTIONS TO EXISTING SEWERS, MANHOLES AND CATCH BASINS

WHERE NEW PIPE IS SHOWN ON THE PLANS CONNECTING INTO AN EXISTING SEWER, MANHOLE OR CATCH BASIN, THE COST OF MAKING THE CONNECTION AND PLUGGING AN EXISTING CONNECTION TO BE ABANDONED SHALL BE INCLUDED IN THE COST OF THE PERTINENT NEW CONDUIT ITEM.

## PIPE CUT-OFFS

WHEN BELL AND SPIGOT PIPE IS USED, ANY NECESSARY PIPE CUT-OFFS WILL BE MADE AT THE SPIGOT END OF THE LENGTH OF PIPE ADJACENT TO THE END LENGTH. WHEN TONGUE AND GROOVE PIPE IS USED, THE LENGTH OF PIPE NEXT TO THE END LENGTH SHALL BE CUT AND BUTT JOINT FORMED WITH A CONCRETE COLLAR AS DETAILED IN STANDARD DRAWING NO. MC-4.

REVISED BY B.E.K. DATE 2/75  
CHECKED BY J.S. DATE 4/75

CALCULATED BY DHS DATE 11/73  
CHECKED BY B.E.K. DATE 8/74

GENERAL NOTES

# GENERAL NOTES

FED. RD.	STATE	PROJECT
2	OHIO	

34  
838

CUYAHOGA COUNTY  
CUY - 90 -11.64  
PART 1

EXISTING FRAMES, GRATES AND COVERS FROM ABANDONED STRUCTURES  
WHERE EXISTING MANHOLES, CATCH BASINS OR INLETS ARE TO BE REMOVED OR ABANDONED, THE EXISTING FRAMES, GRATES, COVERS AND OTHER APPURTENANCES WILL BECOME THE PROPERTY OF THE CONTRACTOR AND ARE TO BE DISPOSED OF OUTSIDE THE LIMITS OF THE WORK AT THE CONTRACTOR'S EXPENSE.

## LINE DATA CALCULATIONS

### MAINLINE

BEGIN WORK STATION 791 + 11		
BEGIN PROJECT STATION 792 + 00	89	LIN. FT.
END PROJECT STATION 880 + 00 (AHEAD)		
END WORK STATION 882 + 00	200	LIN. FT.

### RELOC. LORAIN AVENUE

BEGIN WORK STATION 39 + 40		
END WORK STATION 63 + 25	2,385	LIN. FT.

### W. 84TH - W. 85TH STREET CONNECTOR

BEGIN WORK STATION 48+30		
STA. EQUA. STA 50+00 (W. 84TH ST.) =	170	LIN. FT.
STA 46+71 (84TH-85TH CONN.)		
END WORK STATION 53+32	661	LIN. FT.

### W. 83RD STREET

BEGIN WORK STATION 50 + 00		
END WORK STATION 55 + 60	560	LIN. FT.

### W. 73RD STREET

BEGIN WORK STATION 40 + 57		
END WORK STATION 48 + 57	800	LIN. FT.

### W. 65TH STREET

BEGIN WORK STATION 41 + 79		
END WORK STATION 58 + 76	1697	LIN. FT.

### W. 53RD STREET

BEGIN WORK STATION 37 + 79		
END WORK STATION 45 + 50	771	LIN. FT.

TOTAL APPROACH LENGTHS	7,333	LIN. FT.
------------------------	-------	----------

### CROWN VETCH SEEDING

THE AREAS OUTLINED ON SHEETS 153-159 SHALL BE SEEDDED WITH PENNGIFT CROWN VETCH (CORONILLA VARIA). IN ADDITION TO THE SEED MIXTURE LISTED IN 659.09 FOR THESE OUTLINED AREAS, ONE (1) POUND OF PENNGIFT CROWN VETCH SHALL BE THOROUGHLY MIXED WITH EACH, THREE (3) POUNDS OF THE SEED MIXTURE LISTED IN 659.09 AND THEN EVENLY SOWN OVER THE PREPARED AREA AT THE RATE OF THREE (3) POUNDS PER 1,000 SQUARE FEET, IN LIEU OF THE RATE OF APPLICATION LISTED IN 659.09. PAYMENT FOR CROWN VETCH SEED, MIXING, AND SOWING SHALL BE INCLUDED IN ITEM 659, AS PER PLAN.

THE ESTIMATED QUANTITY FOR ITEM 659 SEEDING AND MULCHING, AS PER PLAN, LISTED IN THE GENERAL SUMMARY INCLUDES THE AREAS TO BE SEEDDED WITH CROWN VETCH. THE ESTIMATED AREA TO BE SEEDDED WITH CROWN VETCH IS 113,098 SQUARE YARDS.

REVISED BY BEK DATE 2/75  
CHECKED BY JLS DATE 4/75

CALCULATED BY DHS DATE 11/73  
CHECKED BY BEK DATE 8/74

### MANHOLES MODIFIED

ALL MANHOLES NOTED AS MODIFIED ON THIS PROJECT, SHALL HAVE CITY OF CLEVELAND STANDARD MANHOLE FRAME AND COVER AS DETAILED ON SHEETS 147 & 148, IN LIEU OF STATE STANDARDS. ALL OTHER DETAILS AND NOTES SHALL CONFORM TO THE RESPECTIVE STANDARD CONSTRUCTION DRAWING.

### CITY OF CLEVELAND CURB INLET N<sup>o</sup> 1 & 2

THESE INLETS SHOULD BE BUILT AT THE LOCATION CALLED FOR IN THE PLANS IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEETS 143 & 144. ALL WORK AND MATERIAL REQUIRED SHALL BE PAID FOR UNDER ITEM 604-CITY OF CLEVELAND NO. 1 OR 2 INLET.

### NO. 6 CATCH BASIN, MODIFIED AS PER PLAN

MODIFICATION SHALL CONSIST OF DEPRESSING THE GRATE AN ADDITIONAL 2 INCHES. WARP SHOULDER PAVEMENT FOR A DISTANCE OF 5 FEET AROUND THE BASIN.

### STATIONING AND OFFSETS FOR MANHOLES, INLETS AND CATCH BASINS

ALL MANHOLES, INLETS AND CATCH BASINS ARE STATIONED AS FOLLOWS:

MANHOLES - CENTERLINE OF COVER

INLETS AND CATCH BASINS - LOCATED ON CURBED SECTIONS - OFFSETS TO FACE OF CURB. STATION TO CENTERLINE OF CURB OPENING.

CATCH BASINS IN DITCH - OFFSET AND STATIONING TO CENTER OF GRATE.

### MANHOLES, INLETS AND CATCH BASINS ADJUSTED TO GRADE

ANY CASTINGS THAT ARE DAMAGED DURING REMOVAL SHALL BE REPLACED BY THE CONTRACTOR IN ACCORDANCE WITH CITY OF CLEVELAND STANDARDS AND AT THE CONTRACTOR'S EXPENSE.

ANY CASTING FOUND UNACCEPTABLE FOR ADJUSTMENT SHALL BE REPLACED. PAYMENT FOR REPLACEMENT SHALL BE MADE UNDER ITEM-604

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY:

ITEM 604 CITY OF CLEVELAND STANDARD MANHOLE FRAME AND COVER 2 EACH

ITEM 604 CITY OF CLEVELAND STANDARD CATCH BASIN FRAME, BOX AND COVER 2 EACH

THE CONTRACTOR SHOULD NOT ORDER ANY OF THE ABOVE MATERIALS UNTIL DIRECTED BY THE ENGINEER.

### PREFABRICATED "T" CONNECTION AND PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

A PREFABRICATED "T" CONNECTION SHALL BE USED WHERE TEES ARE CALLED FOR ON THE PLANS FOR REINFORCED CONCRETE PIPE. THESE TEES SHALL CONFORM TO THE DETAIL SHOWN ON SHEET NO. 141.

CONNECTIONS OF PROPOSED LATERAL DRAINAGE TO A PROPOSED CORRUGATED METAL STRUCTURE SHALL BE BY MEANS OF A FABRICATED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND WILL HAVE A MINIMUM LENGTH OF TWO (2) FEET.

LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID ANY JOINTS IN THE STRUCTURE.

A CONCRETE COLLAR AS PER STANDARD DRAWING MC-4 WILL BE REQUIRED FOR CONNECTION TO THE STUB WHEN PIPE, OTHER THAN CORRUGATED METAL IS PROPOSED.

PAYMENT FOR THE ABOVE CONNECTIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT PIPE ITEM.

### SHEET PILING 603 LEFT IN PLACE, AS PER PLAN

SHEET PILING SHALL BE FURNISHED, INSTALLED & REMOVED, AS NECESSARY, AS PER 603.01, EXCEPT SHEET PILING SHALL BE LEFT IN PLACE, IN AREAS WHERE SOIL CONDITIONS INDICATE THAT LATERAL DISPLACEMENT WILL TAKE PLACE AS DETERMINED BY THE ENGINEER. PAYMENT FOR DRIVING OF SHEET PILE SHALL BE INCLUDED IN ITEM 603.

THE CONTRACTOR SHALL LEAVE IN PLACE SEWER TRENCH SHEETING NOT TO EXCEED ONE (1) FOOT BELOW THE SUBGRADE, OR NATURAL GROUND.

THE ACTUAL LOCATIONS OF SHEET PILING LEFT IN PLACE WILL BE DETERMINED BY THE ENGINEER, AND PAYMENT WILL BE MADE ON FINAL MEASUREMENT. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE PLANS FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 504 SHEET PILING LEFT IN PLACE, AS PER PLAN 16,000 SQUARE FEET.

### INTERCEPTOR DRAIN

REFERENCE IS MADE TO THE DETAILED DRAWING ON SHEET NO. 144 SHOWING THE METHOD TO BE USED FOR INTERCEPTING CUT SLOPE SEEPAGE WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION. THE LOCATIONS AND LIMITS SHALL BE AS DETERMINED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 603 6" CONDUIT, TYPE F, AS PER PLAN 100 LIN. FT.

ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAIN 707.01 TYPE III OR 707.12, AS PER PLAN 1000 LIN. FT.

THE CONTRACTOR SHALL NOT ORDER ANY OF THE ABOVE MATERIAL UNTIL REQUESTED BY THE ENGINEER.

### GUARD RAIL BEHIND CURBS

WHERE A CURB IS PROVIDED AT THE OUTER EDGE OF THE PAVED SHOULDER, ANY NECESSARY GUARD RAIL SHALL BE POSITIONED SO THAT THE FACE OF THE GUARD RAIL IS LOCATED 9 INCHES BACK OF THE FACE OF THE CURB AND THE TOP OF THE RAIL SHALL BE 27 INCHES ABOVE THE GUTTER LINE.

### GUARD RAIL TERMINAL SECTION

WHERE INDICATED ON THE PLAN, GUARD RAIL SHALL BE TERMINATED BY USING A TERMINAL SECTION. THIS SHALL CONSIST OF BOLTING A STANDARD TERMINAL AS DETAILED ON STANDARD DRAWING GR-2A TO THE RAIL ELEMENT AT THE LAST POST. ALSO, THE THREE END POSTS OF EACH TERMINAL SECTION SHALL BE ENCASED IN A MINIMUM 4 INCH THICKNESS OF CLASS "C" CONCRETE FOR THE FULL DEPTH OF THE POST BELOW THE GROUND LINE. PAYMENT FOR THE TERMINAL SECTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 606 GUARD RAIL TYPE 5.

### REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT, AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE EXISTING STORM SEWERS WITHIN THE WORK LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS WHICH CAN BE MADE WITHOUT THE AID OF TELEVISION EQUIPMENT. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEMS OF THE CONTRACT.

### CONDUIT, TYPE "F" COUPLING BANDS

THE SECTIONS OF ALL CORRUGATED METAL PIPE USED FOR TYPE "F" CONDUITS SHALL BE JOINTED WITH COUPLING BANDS. BAND COUPLERS SHALL HAVE CORRUGATIONS THAT MESH WITH THE CORRUGATIONS OF THE PIPE. BANDS WITH PROJECTIONS (DIMPLE BANDS) WILL NOT BE PERMITTED.





SEEDING AND SODDING ITEMS					
SHEET NO.	LOCATION	ITEM 659	ITEM 659	ITEM 660	ITEM 660
		SEEDING AND MULCHING SQ. YDS.	SEEDING AND MULCHING A.P.P. SQ. YDS.	SODDING SQ. YDS.	SODDING FOR SPEC. BERM AND SLOPE PROTECTION A.P.P. SQ.YDS.
61	AREA 1 TO AREA 14			1,566	
62	AREA 15 TO AREA 20			890	
63	AREA 21 TO AREA 32			1,350	
64	AREA 33 TO AREA 43			734	
65	AREA 44 TO AREA 51			389	
66	AREA 52 TO AREA 68			1,249	
67	AREA 69 TO AREA 79			953	
68	AREA 81 TO AREA 88			172	
69	AREA 89 TO AREA 101			2,472	
70	AREA 103 TO AREA 112			473	
71	AREA 113 TO AREA 115			36	
72	AREA 116 TO AREA 137			1,980	
73	AREA 138 TO AREA 141			289	
74	AREA 142 TO AREA 144			202	
75	AREA 145			485	
84				100	
86				394	
89				100	
92				600	
95				800	
98				300	
153		15,664	9,652		
154		35,197	16,384		
155		23,788	26,092		
156		138,845	31,401	1,729	152
157		81,425	23,215	646	119
158		23,209	6,179		
159		3,112	175		
TOTAL		321,240	113,098	17,909	271

MISCELLANEOUS SIDEROADS					
LOCATION	ITEM 404	ITEM 601	ITEM 606	ITEM 608	ITEM 609
	ASPH. CONC. (DRIVEWAYS) AC-20	CONCRETE SLOPE PROTECTION	BARRICADE GUARDRAIL TYPE 5	4 INCH CONCRETE WALK	SANDSTONE CURB
	CU. YDS.	SQ. YDS.	LIN. FT.	SQ. FT.	LIN. FT.
W. 93 ST.			25.00	955.48	32.00
W. 94 ST.			12.50		14.00
W. MARGINAL RD. 4		550.00			
KEITH ST.			12.50		
RELOC. LORAIN AVE.	0.99				
W. 73 PL.			12.50		14.00
W. 68 ST.			25.00		27.00
W. 73 ST.					323.00
GRACE AVE.					65.00
HOPE AVE.					48.00
W. 74 ST.			12.50		13.00
W. 67 ST.			25.00		28.00
LORAIN AVE.					317.00
FENWICK AVE.					177.00
W. 58 ST.			25.00		39.00
W. 59 ST.			25.00		93.00
WALWORTH AVE.					380.00
FANWELL CT.			12.50		14.00
S. FRONTAGE RD. 5	2.57				
TOTAL	3.56	550.00	187.50*	955.48*	1584.00

\* QUANTITIES CARRIED FORWARD TO PLAN SHEET NO. 36

100% CITY OF CLEVELAND ITEMS					
LOCATION	ITEM 203	ITEM 304	ITEM 310	ITEM 451	ITEM 452
	SUBGRADE COMPACTION	AGGREGATE BASE	SUBBASE GRADING A	9" REINF PORT. CEMENT CONC. PAV'T.	6" PLAIN PORT. CEMENT CONC. PAV'T.
	SQ. YDS.	CU. YDS.	CU. YDS.	SQ. YDS.	SQ. YDS.
W. 84-85 CONNECTOR	183.52	0.00	30.59	183.52	0.00
TETLER COURT	0.00	42.86	0.00	0.00	33.33
TOTAL	183.52	42.86	30.59	183.52	33.33

ITEM 203 PROOF ROLLING	
SUBGRADE COMPACTION	159,536 S.Y. / 3000 S.Y./ HR = 53 HRS.
TOTAL	53 HRS.

FERTILIZER AND LIMING		
TOTAL SEEDING AND SODDING	ITEM 659	ITEM 659
321,240	COMMERCIAL FERTILIZER	AGRICULTURAL LIMING
113,098		
18,180		
452,518 S.Y.	TONS	TONS
RATE (TONS/S.Y.)	0.00009	0.00045
TOTAL	40.73	203.63

REVISED BY B.E.K. DATE 11-75  
CHECKED BY J.E.S. DATE 4-75

CALCULATED BY D.H.S. DATE 11-73  
CHECKED BY B.E.K. DATE 3-75



# QUANTITY SUMMARY

## BUILDING REMOVAL

CALCULATED BY R.E.D. 6/71  
 CHECKED BY \_\_\_\_\_

FED. RD.	STATE	PROJECT
2	OHIO	

39  
538

REVISED BY B.E.K. DATE 11/73  
 CHECKED BY E.H.C. DATE 7/74

CUYAHOGA COUNTY  
 CUY - 90 - 11.64  
 PART 1

TYPE CODE 7221 (UNLESS OTHERWISE SHOWN)

SHEET No	ITEM	QUANTITY	PARCEL No	DESCRIPTION
<del>793</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6370-WL</del>	<del>1-STORY BRICK AND CONCRETE BLOCK COMMERCIAL BUILDING</del>
<del>793</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6381-WL</del>	<del>2-STORY BRICK COMMERCIAL BUILDING</del>
<del>795</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6510-WD</del>	<del>3-STORY BRICK COMMERCIAL BUILDING</del>
<del>795</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6512-WD</del>	<del>1-STORY BRICK COMMERCIAL BUILDING</del>
<del>795</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6514-WD</del>	<del>2-STORY BRICK COMMERCIAL AND APARTMENT BUILDING</del>
<del>795</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6516-WD</del>	<del>2 1/2 STORY FRAME COMMERCIAL AND APARTMENT BUILDING</del>
<del>796</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6553-WL</del>	<del>2-STORY FRAME RESIDENCE AND RESTAURANT 1-CAR FRAME GARAGE</del>
<del>798</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6609-WD</del>	<del>2-STORY FRAME RESIDENCE</del>
<del>798</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6761-WL</del>	<del>2 1/2 STORY FRAME RESIDENCE 2-CAR FRAME GARAGE</del>
<del>799</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6775-WL</del>	<del>2 1/2 STORY FRAME RESIDENCE</del>
<del>804</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6840 WL</del>	<del>2-STORY BRICK BUILDING 2 1/2 STORY FRAME RESIDENCE</del>
<del>804</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6861 WL</del>	<del>2-STORY FRAME RESIDENCE 3-CAR BRICK GARAGE</del>
<del>805</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6872-WL</del>	<del>2-STORY FRAME RESIDENCE 2-STORY 1-CAR FRAME GARAGE AND STORAGE</del>
<del>805</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7032-WL</del>	<del>2-STORY FRAME RESIDENCE 2-CAR FRAME GARAGE</del>
<del>805</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7033-WL</del>	<del>2-STORY FRAME RESIDENCE</del>
<del>807</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6933-WD</del>	<del>2-STORY FRAME RESIDENCE</del>
<del>807</del>	<del>202</del>	<del>LUMP SUM</del>	<del>6934-WL</del>	<del>1 1/2 STORY FRAME RESIDENCE 2-CAR CONCRETE BLOCK GARAGE</del>
<del>809</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7055-WD</del>	<del>1 1/2 STORY FRAME RESIDENCE</del>
<del>812</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7022-WL</del>	<del>1 1/2 STORY FRAME RESIDENCE 1-CAR FRAME GARAGE AND STORAGE</del>
<del>812</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7361-WL</del>	<del>2-STORY FRAME RESIDENCE</del>
<del>812, 817</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7376-WL</del>	<del>1 1/2 STORY BRICK, TWO 1-STORY CORRUGATED METAL, 2-STORY BRICK, 2-STORY CONCRETE BLOCK AND SHEET METAL, 2-STORY SHEET METAL, 1-STORY CONCRETE BLOCK, 2-STORY BRICK AND CONCRETE BLOCK &amp; 1-STORY BRICK FACTORY BUILDINGS</del>
<del>813</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7441-WL</del>	<del>1-STORY BRICK COMMERCIAL BUILDING</del>
<del>814</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7152-WL</del>	<del>2-STORY FRAME RESIDENCE 2-CAR FRAME GARAGE</del>
<del>817</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7358-WL</del>	<del>2-STORY FRAME RESIDENCE 2-CAR CONCRETE BLOCK AND FRAME GARAGE</del>
<del>819</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7434-WL</del>	<del>1-STORY CONCRETE BLOCK COMMERCIAL BUILDING 1 1/2 STORY FRAME CHURCH TWO FRAME SHEDS</del>
<del>819</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7435-WL</del>	<del>2-STORY FRAME RESIDENCE 2-CAR FRAME GARAGE</del>
<del>822</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7464-WL</del>	<del>2-STORY FRAME RESIDENCE 2-CAR BRICK GARAGE</del>
<del>824</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7517-WL</del>	<del>2 1/2 STORY FRAME RESIDENCE AND APARTMENT 3-CAR FRAME GARAGE</del>
<del>826</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7509-WL</del>	<del>1 1/2 STORY FRAME RESIDENCE 2-STORY 2-CAR FRAME GARAGE 1 1/2 STORY FRAME SHED</del>
<del>827</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7560-WL</del>	<del>TWO 1-STORY BRICK COMMERCIAL BUILDINGS</del>
<del>827</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7588-WL</del>	<del>2-STORY FRAME RESIDENCE 1 1/2 STORY FRAME RESIDENCE 1-STORY BRICK CHURCH BUILDING</del>
<del>827/828</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7574-WL</del>	<del>1-STORY SHEET METAL COMMERCIAL BUILDING WITH BRICK FRONT</del>
<del>830</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7631-WL</del>	<del>1-STORY CONCRETE BLOCK AND BRICK COMMERCIAL BUILDING</del>
<del>830</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7633-T</del>	<del>1 1/2 STORY FRAME RESIDENCE FRAME SHED</del>
<del>830</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7634-T</del>	<del>TWO 1 1/2 STORY FRAME RESIDENCES</del>
<del>830</del>	<del>202</del>	<del>LUMP SUM</del>	<del>7635-T</del>	<del>1 1/2 STORY FRAME RESIDENCE</del>

SHEET No	ITEM	QUANTITY	DESCRIPTION
<del>793</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 6290-WL, one 2-story frame residence, 3-car frame garage</del>
<del>793</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 6381-WL, one 2-story brick commercial building</del>
<del>793</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 6510-WL-WD-T, one 3-story brick commercial &amp; apartment building</del>
<del>793</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 6512-WD-T, one 2-story brick commercial building</del>
<del>793</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 6514-WD-T, one 2-story brick commercial &amp; apartment building</del>
<del>793</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 6840-WL, one 2-story frame residence, one 2-story brick building</del>
<del>793</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 6915-WL, one 2-story frame residence, 2-car frame garage</del>
<del>793</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 7055-WD, one 1 1/2-story frame residence, frame shed</del>
<del>814</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 7152-WL, one 2-story frame residence, 2-car frame garage</del>
<del>817</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 7358-WL, one 2-story frame residence, 2-car brick &amp; frame garage</del>
<del>817</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 7376-WL, one 1-story brick &amp; frame building, part 1-story &amp; part 2-story brick &amp; frame building, two metal clad with steel frame apartment type buildings, high rise metal clad with steel frame building</del>
<del>817</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 7434-WL, one 1-story block service station building, underground tanks, pump island</del>
<del>822</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 7464-WL, one 2-story frame residence, 2-car brick garage</del>
<del>824</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 7517-WL, one 2 1/2-story frame residence &amp; apartment building, 3-car frame garage</del>
<del>824</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 7574-WL-T, one 1-story metal &amp; brick commercial building, one 1-story frame, brick &amp; concrete machine shop, 7 car garage</del>
<del>830</del>	<del>202</del>	<del>Lump</del>	<del>Parcel No. 7631-WL, one 1-story concrete block &amp; brick commercial building</del>



# QUANTITY SUMMARY

## DRAINAGE

CALCULATED BY B.E.K. DATE 12/73  
 CHECKED BY J.L.S. DATE 3/75

FED. RD.	STATE	PROJECT	
	OHIO		

(40  
838)

CUYAHOGA COUNTY  
 CUY-90-11.64

TYPE CODE 7221 (UNLESS OTHERWISE SHOWN)

SHEET NUMBERS														GID			DESCRIPTION					
ITEM				33	34		84	86	87	89	92	95	98			131		132	ITEM	QUANTITY	UNIT	
202							1		5	3	3	1	3					202	16	EACH	MANHOLE REMOVED	
202							5		1		14	16	14					202	50	EACH	MANHOLE ABANDONED	
202							1		5	4	3							202	17	EACH	CATCH BASIN OR INLET REMOVED	
202							7		16	1	27	31	16					202	98	EACH	CATCH BASIN OR INLET ABANDONED	
202							909		940	1,462	295	363	552					202	4,521	LIN. FT.	PIPE REMOVED, OVER 24"	
202							372		619	279	1,146	1,974	1,269					202	5,659	LIN. FT.	PIPE REMOVED, AS PER PLAN	
202							1											202	1	EACH	JUNCTION CHAMBER REMOVED	
504					16,000													504	16,000	SQ. FT.	SHEET PILING LEFT IN PLACE, AS PER PLAN	
602											0.5	0.3						602	0.8	CU. YD.	CONCRETE MASONRY	
603					200											65	28	603	293	LIN. FT.	6" CONDUIT, TYPE B	
603					200													603	200	LIN. FT.	6" CONDUIT, TYPE B, 706.08 WITH 706.12 JOINTS	
603								52		260								603	3/2	LIN. FT.	8" CONDUIT, TYPE B	
603							498		1,315	99	285	275	244					603	2,712	LIN. FT.	12" CONDUIT, TYPE B, 706.01, 706.02 OR 706.08	
603									321		84							603	405	LIN. FT.	15" CONDUIT, TYPE B, 706.01, 706.02 OR 706.08	
603							774		502	1,052	860	377	1,132					603	4,697	LIN. FT.	15" CONDUIT, TYPE B	
603							1		30	15								603	49	LIN. FT.	15" CONDUIT, TYPE B, 707.13	
603							259		198	50								603	507	LIN. FT.	18" CONDUIT, TYPE B	
603							13											603	13	LIN. FT.	18" CONDUIT, TYPE B, 707.13	
603							81		70	182								603	333	LIN. FT.	21" CONDUIT, TYPE B	
603									132	50								603	182	LIN. FT.	24" CONDUIT, TYPE B	
603														460				603	460	LIN. FT.	24" CONDUIT, TYPE B, 706.02 Class IV OR 707.13	
603										77								603	77	LIN. FT.	27" CONDUIT, TYPE B	
603							855											603	855	LIN. FT.	60" CONDUIT, TYPE B	
603							58											603	58	LIN. FT.	CONDUIT, TYPE B, RADIUS	
603										417								603	417	LIN. FT.	72" CONDUIT, TYPE B	
603										34								603	34	LIN. FT.	72" CONDUIT, TYPE B, RADIUS	
603												200						603	200	LIN. FT.	78" CONDUIT, TYPE B, 706.03 Class V OR 707.14 (0.168)	
603												77						603	77	LIN. FT.	78" CONDUIT, TYPE B, 706.03 Class V OR 707.14 (0.168), RADIUS	
603												404						603	404	LIN. FT.	78" CONDUIT, TYPE B, 706.03 Class V WITH CLASS A BEDDING	
603							286		72		60		62					603	480	LIN. FT.	12" CONDUIT, TYPE C, 706.01 CLASS 3, 706.02, 706.08 E. S. OR 707.13	
603												32						603	32	LIN. FT.	12" CONDUIT, TYPE C	
603							36		80		26	90	290	265				603	787	LIN. FT.	15" CONDUIT, TYPE C	
603									469				64					603	533	LIN. FT.	15" CONDUIT, TYPE C, 706.01 Class 3, 706.02, 706.08 E. S. OR 707.13	
603														357				603	357	LIN. FT.	18" CONDUIT, TYPE C, 706.02 Class IV OR 707.13	
603									24									603	24	LIN. FT.	21" CONDUIT, TYPE C, 706.01 Class 3, 706.02, 706.08 E. S. OR 707.13	
603							272											603	272	LIN. FT.	60" CONDUIT, TYPE C	
603							402											603	402	LIN. FT.	60" CONDUIT, TYPE C, 706.02 Class IV OR 707.13	
603									1,445		98							603	1,543	LIN. FT.	66" CONDUIT, TYPE C	
603										923		676						603	1,599	LIN. FT.	72" CONDUIT, TYPE C	
603												14						603	14	LIN. FT.	72" CONDUIT, TYPE C, RADIUS	
603												400						603	400	LIN. FT.	72" CONDUIT, TYPE C, 706.02 Class V OR 707.13	
603																		603	407	LIN. FT.	72" CONDUIT, TYPE C, 706.02 Class V or 707.14 (0.078")	
603														427				603	427	LIN. FT.	78" CONDUIT, TYPE C, 706.03 Class V or 707.14 (0.109")	
603					100		260		350		142	130	238	100			780	200	603	2,300	LIN. FT.	6" CONDUIT, TYPE F
603					100														603	100	LIN. FT.	6" CONDUIT, TYPE F, AS PER PLAN
603																			603	284	LIN. FT.	15" CONDUIT, TYPE F
603										105									603	339	LIN. FT.	15" CONDUIT, TYPE F, 707.05
603																			603	71	LIN. FT.	30" CONDUIT, TYPE F, 707.05
604																			604	1	EACH	STANDARD NO. 2-2-A CATCH BASIN
604																			604	8	EACH	STANDARD NO. 3 CATCH BASIN
604							6		3		1	2		2				604	11	EACH	STANDARD NO. 3 CATCH BASIN MODIFIED WITH TRAP, AS PER PLAN	
604									2									604	2	EACH	STANDARD NO. 3-A CATCH BASIN	
604									3									604	3	EACH	STANDARD NO. 3-A CATCH BASIN MODIFIED WITH TRAP, AS PER PLAN	
604									1									604	5	EACH	STANDARD NO. 5 CATCH BASIN	
604											1	2		1				604	10	EACH	STANDARD NO. 5 CATCH BASIN MODIFIED WITH TRAP, AS PER PLAN	
604											4	6						604	2	EACH	STANDARD NO. 5 REINFORCED CONCRETE CATCH BASIN MODIFIED WITH TRAP, AS PER PLAN	
604											2							604	5	EACH	STANDARD NO. 5-A REINFORCED CONCRETE CATCH BASIN	
604											3							604	1	EACH	STANDARD NO. 6 CATCH BASIN	
604							2		1		1							604	3	EACH	STANDARD NO. 6 CATCH BASIN, MODIFIED AS PER PLAN	
604																		604	1	EACH	STANDARD NO. 6 CATCH BASIN, MODIFIED WITH TRAP, AS PER PLAN	
604							2		1		2							604	6	EACH	STANDARD NO. 8 CATCH BASIN	
604																			604	2	EACH	SPECIAL 2-A-6 PAVED SHOULDER INLET MANHOLE
604																			604	1	EACH	SPECIAL 2-A-8 PAVED SHOULDER INLET MANHOLE
604																			604	4	EACH	SPECIAL 2-A-10 PAVED SHOULDER INLET MANHOLE
604							2		2		2								604	4	EACH	SPECIAL 2-A-12 PAVED SHOULDER INLET MANHOLE
604														2					604	2	EACH	SPECIAL 2-A-14 PAVED SHOULDER INLET MANHOLE

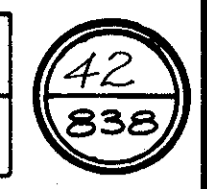


# QUANTITY SUMMARY PAVEMENT

CALCULATED BY D.H.S. DATE 12/73  
 CHECKED BY J.L.S. DATE 3/75  
 REVISED BY B.E.K. DATE 2/75  
 CHECKED BY J.Z.S. DATE 4/75

FED. RD.	STATE	PROJECT	
	OHIO		

CUYAHOGA COUNTY  
 CUY-90-11.64



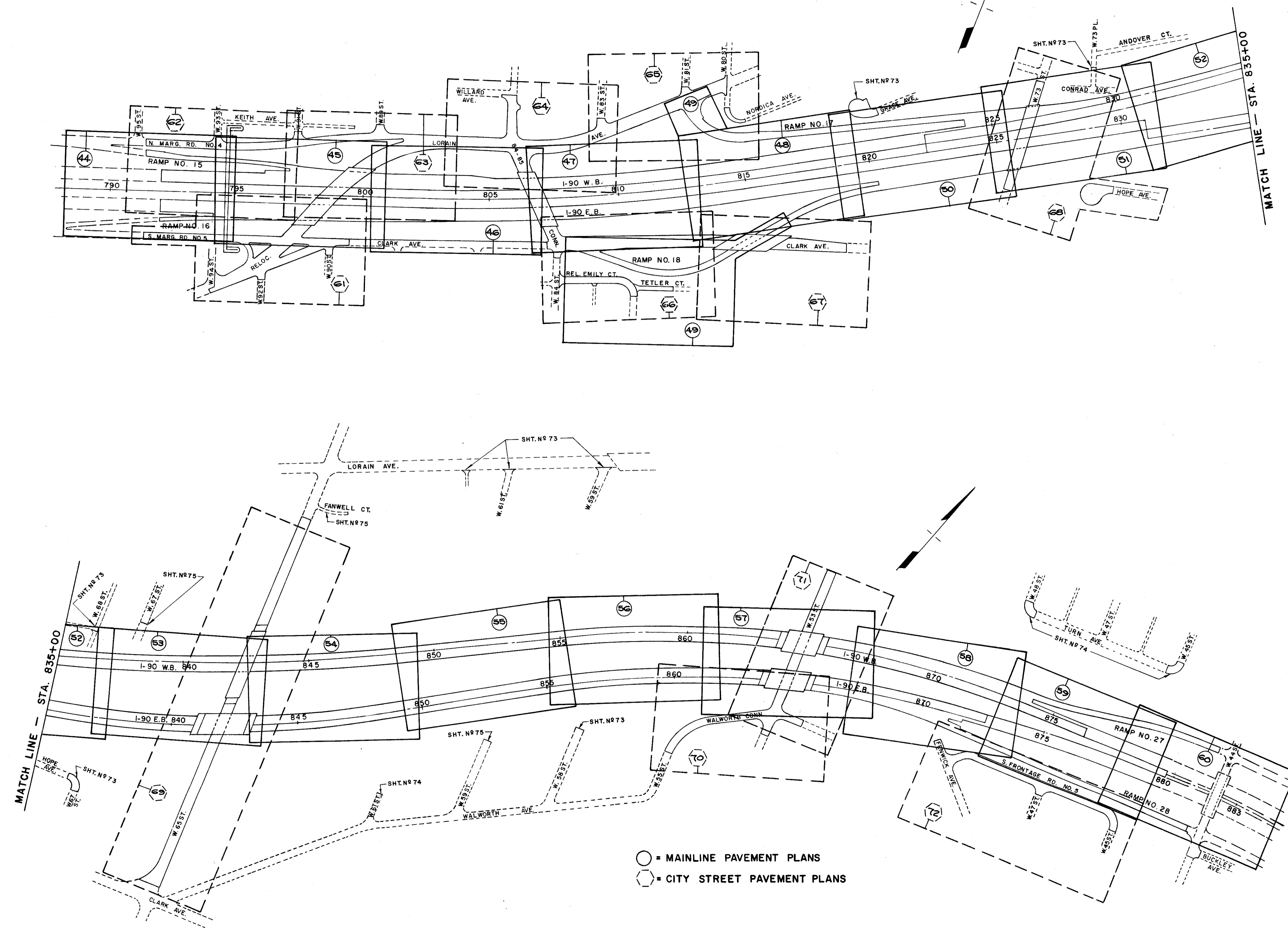
TYPE CODE 7221 (UNLESS OTHERWISE SHOWN)

SHEET NUMBERS										100% CITY ITEMS		BID		DESCRIPTION		
ITEM	30	32	36	37						TOTAL	37	TOTAL	ITEM		QUANTITY	UNIT
301			3521							3521			301	3521	CU. YDS.	BITUMINOUS AGGREGATE BASE: 702.01, AC20; or 702-09, RT-11 or RT-12
304			7675							7675	43	43	304	7718	CU. YDS.	AGGREGATE BASE
305			4087							4087			305	4087	SQ. YDS.	8" PORTLAND CEMENT CONCRETE BASE
310			33807							33807	31	31	310	33838	CU. YDS.	SUBBASE, GRADING A, AS PER PLAN
310			16138							16138			310	16138	CU. YDS.	SUBBASE
402			138							138			402	138	CU. YDS.	ASPHALT CONCRETE, AC-20
403			450							450			403	450	CU. YDS.	ASPHALT CONCRETE, AC-20
404			647							647			404	647	CU. YDS.	ASPHALT CONCRETE, AC-20
407			1527							1527			407	1527	GAL.	TACK COAT: 702, 04, 55-1, 55-14, MS-2 or RS-1; or 702.02, RC-250
407			53							53			407	53	TONS	COVER AGGREGATE
408			26							26			408	26	GAL.	BITUMINOUS PRIME COAT: 702.09, RT-2 or RT-3; 702.02, MC-30 or MC-70; DR
451			112150							112150			451	112150	SQ. YDS.	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT 702.03, PRIMER 20
451			40295							40295	184	184	451	40479	SQ. YDS.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
452			364							364	33	33	452	397	SQ. YDS.	6" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT
404				4						4			404	4	CU. YDS.	ASPHALT CONCRETE, AC-20 (DRIVEWAYS)
609			11709							11709			609	11709	LIN. FT.	CONCRETE CURB, STANDARD TYPE 2-A
609			1892							1892			609	1892	LIN. FT.	CONCRETE CURB, STANDARD TYPE 2-B
609			32392							32392			609	32392	LIN. FT.	CONCRETE CURB, STANDARD TYPE 6
609			496							496			609	496	LIN. FT.	CONCRETE CURB, STANDARD TYPE 7
609			263							263			609	263	LIN. FT.	CONCRETE CURB, STANDARD TYPE B, MODIFIED AS PER PLAN
609				1584						1584			609	1584	LIN. FT.	SANDSTONE CURB
611			1904							1904			611	1904	SQ. YDS.	REINFORCED CONCRETE APPROACH SLABS (T=15")
611			864							864			611	864	SQ. YDS.	REINFORCED CONCRETE APPROACH SLABS (T=17")
612			789							789			612	789	SQ. YDS.	9" CONCRETE TRAFFIC ISLAND
612			205							205			612	205	SQ. YDS.	CONCRETE MEDIAN
622			6979							6979			622	6979	LIN. FT.	CONCRETE BARRIER, TYPE B, MODIFIED AS PER PLAN
SPECIAL			1264							1264			SPECIAL	1264	CU. YDS.	DRAINAGE CONNECTION USING NO. 9 AGGREGATE
SPECIAL			379							379			SPECIAL	379	LIN. FT.	PRESSURE RELIEF JOINT
WATER WORK PLANS (SEE SHEET NO. 366, 367 FOR ESTIMATED QUANTITIES)																
TRAFFIC CONTROL PLANS (SEE SHEET NO. 491, 492 FOR ESTIMATED QUANTITIES)																
M. E. L. P. RELOCATION PLANS (SEE SHEET NO. 426 FOR ESTIMATED QUANTITIES)																
LIGHTING PLANS (SEE SHEET NO. 567, 570 FOR ESTIMATED QUANTITIES)																
STRUCTURES																
CUY-90-1173 - SEE SHEET NO. 614 FOR ESTIMATED QUANTITIES																
CUY-90-1181 - SEE SHEET NO. 623 FOR ESTIMATED QUANTITIES																
CUY-90-1196 - SEE SHEET NO. 640 FOR ESTIMATED QUANTITIES																
CUY-90-1210 - SEE SHEET NO. 654 FOR ESTIMATED QUANTITIES																
CUY-90-1233 - SEE SHEET NO. 668 FOR ESTIMATED QUANTITIES																
CUY-90-1261 - SEE SHEET NO. 681 FOR ESTIMATED QUANTITIES																
CUY-90-1264 - SEE SHEET NO. 692 FOR ESTIMATED QUANTITIES																
CUY-90-1304 RT. - SEE SHEET NO. 702 FOR ESTIMATED QUANTITIES																
CUY-90-1304 LT. - SEE SHEET NO. 714 FOR ESTIMATED QUANTITIES																
LORAIN AVE. OVER N&W R.R. AND CTS. RECONSTRUCTION - SEE SHEET NO. 735 FOR ESTIMATED QUANTITIES																
RETAINING WALLS																
RETAINING WALL NO. 3 - SEE SHEET NO. 727 FOR ESTIMATED QUANTITIES																
CRIB WALL ----- SEE SHEET NO. 728 FOR ESTIMATED QUANTITIES																
623													623	LUMP	LUMP SUM	CONSTRUCTION LAYOUT STAKES
614													614	LUMP	LUMP SUM	MAINTAINING TRAFFIC
619		LUMP								LUMP			619	LUMP	LUMP SUM	FIELD OFFICE

FED. RD.	STATE	PROJECT
2	OHIO	

43  
838

CUYAHOGA COUNTY  
CUY-90-11.64



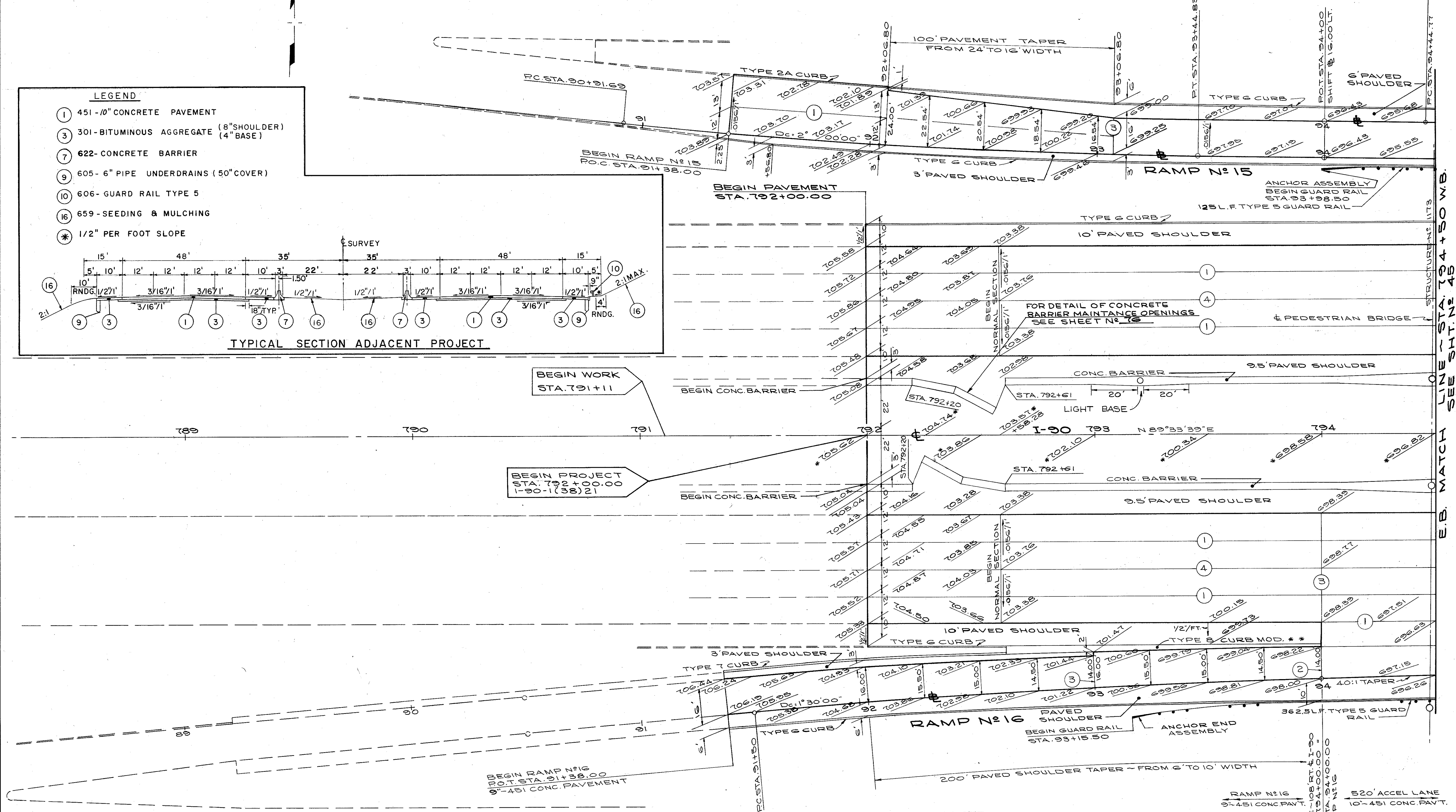
KEY MAP  
PAVEMENT PLANS

**JOINT LEGEND**  
 ① STANDARD LONGITUDINAL JOINT  
 ② STANDARD EXPANSION JOINT  
 ③ STANDARD CONTRACTION JOINT  
 ④ KEY JOINT WITHOUT TIEBARS

**LEGEND**

- ① 451-10" CONCRETE PAVEMENT
- ③ 301-BITUMINOUS AGGREGATE (8" SHOULDER)  
(4" BASE)
- ⑦ 622- CONCRETE BARRIER
- ⑨ 605- 6" PIPE UNDERDRAINS (50" COVER)
- ⑩ 606- GUARD RAIL TYPE 5
- ⑬ 659- SEEDING & MULCHING
- \* 1/2" PER FOOT SLOPE

**TYPICAL SECTION ADJACENT PROJECT**



BEGIN WORK  
STA. 791+11

BEGIN PROJECT  
STA. 792+00.00  
1-90-1(38)21

CALCULATED BY *JK* DATE 8/73  
 CHECKED BY *ZS* DATE 5/74

\*\* NOTE:  
 FOR TYPE 8 CURB MOD. \*\*  
 DETAILS, SEE SH.T. NO. 77  
 \* PROFILE GRADE ONLY.

E.B. MATCH LINE - STA. 794+50 W.B. SEE SH.T. NO. 45

FED. RD.	STATE	PROJECT
2	OHIO	

45  
838

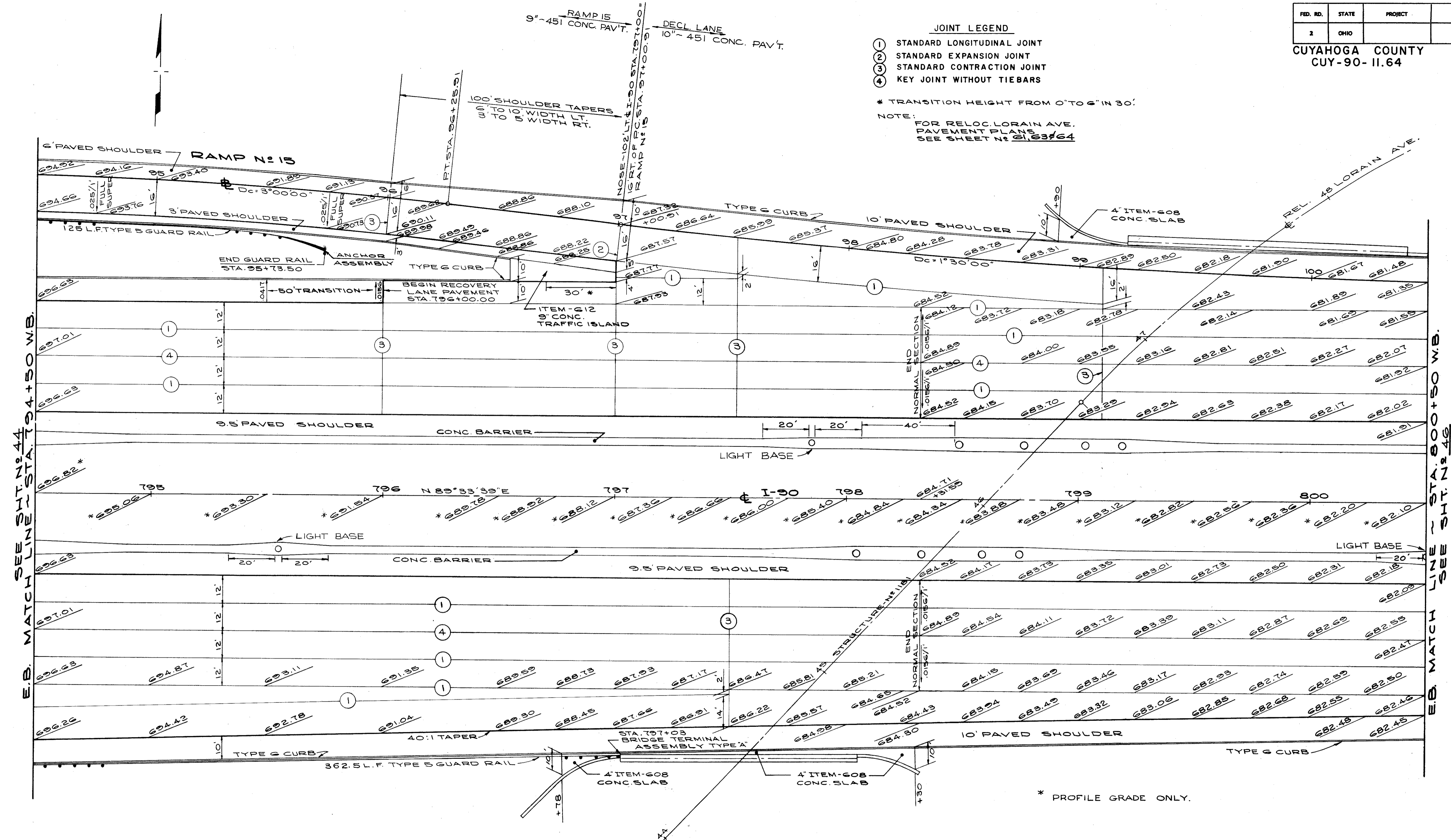
CUYAHOGA COUNTY  
CUY-90-11.64

**JOINT LEGEND**

- ① STANDARD LONGITUDINAL JOINT
- ② STANDARD EXPANSION JOINT
- ③ STANDARD CONTRACTION JOINT
- ④ KEY JOINT WITHOUT TIEBARS

\* TRANSITION HEIGHT FROM 0" TO 6" IN 30'

NOTE:  
FOR RELOC. LORAIN AVE.  
PAVEMENT PLANS  
SEE SHEET N<sup>o</sup> 21, 63 & 64



E.B. MATCH LINE - STA. 794+50 W.B. SEE SH. N<sup>o</sup> 44

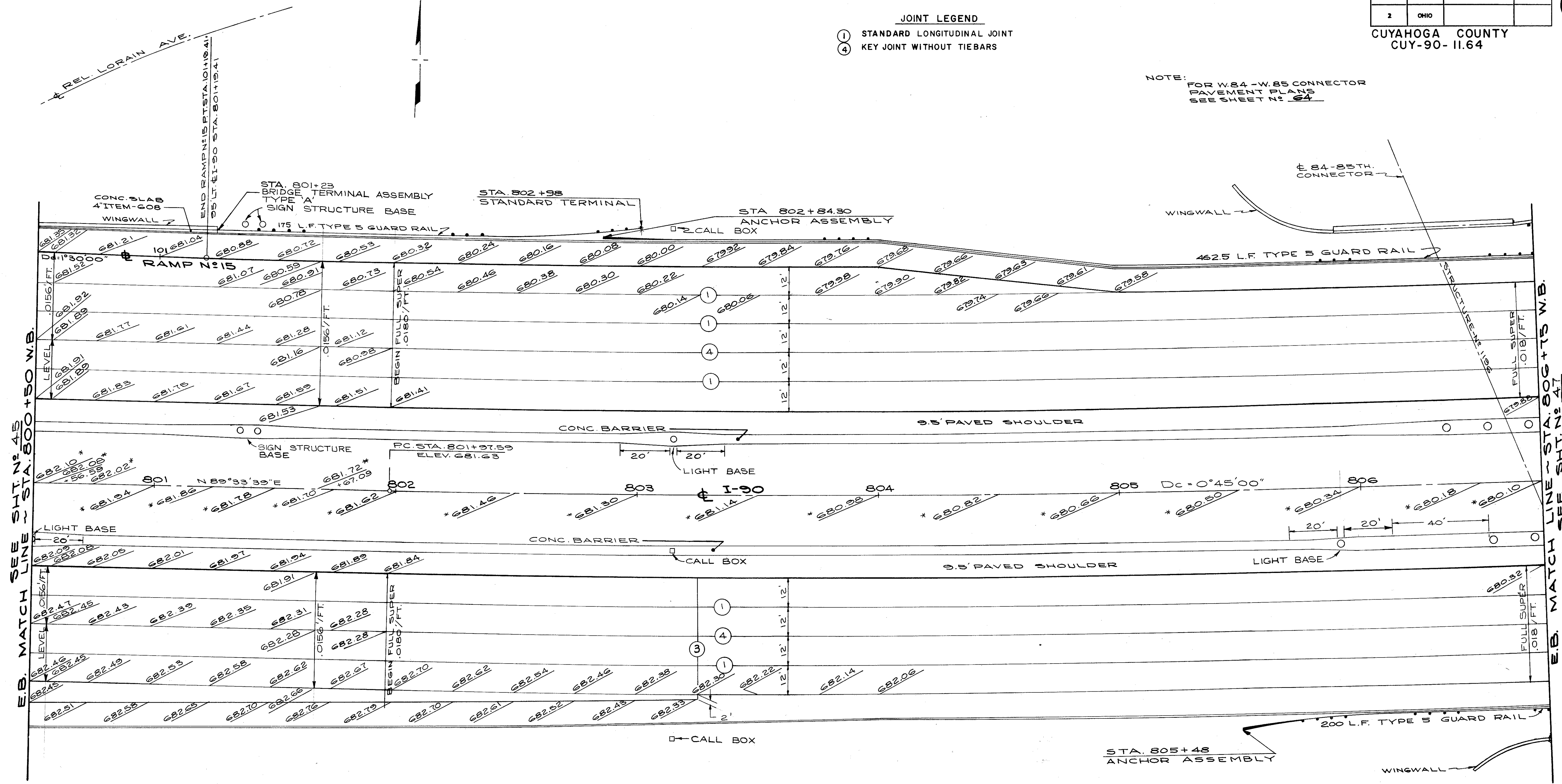
E.B. MATCH LINE - STA. 800+50 W.B. SEE SH. N<sup>o</sup> 46

\* PROFILE GRADE ONLY.

CALCULATED BY BCK DATE 8/73  
CHECKED BY J.S. DATE 5/74

**JOINT LEGEND**  
 (1) STANDARD LONGITUDINAL JOINT  
 (4) KEY JOINT WITHOUT TIEBARS

NOTE: FOR W.84-W.85 CONNECTOR  
 PAVEMENT PLANS  
 SEE SHEET NO. 64



E.B. MATCH LINE - STA. 800+50 W.B.

E.B. MATCH LINE - STA. 806+75 W.B.

\* PROFILE GRADE ONLY.

CALCULATED BY BSK DATE 8/73  
 CHECKED BY JCS DATE 9/74

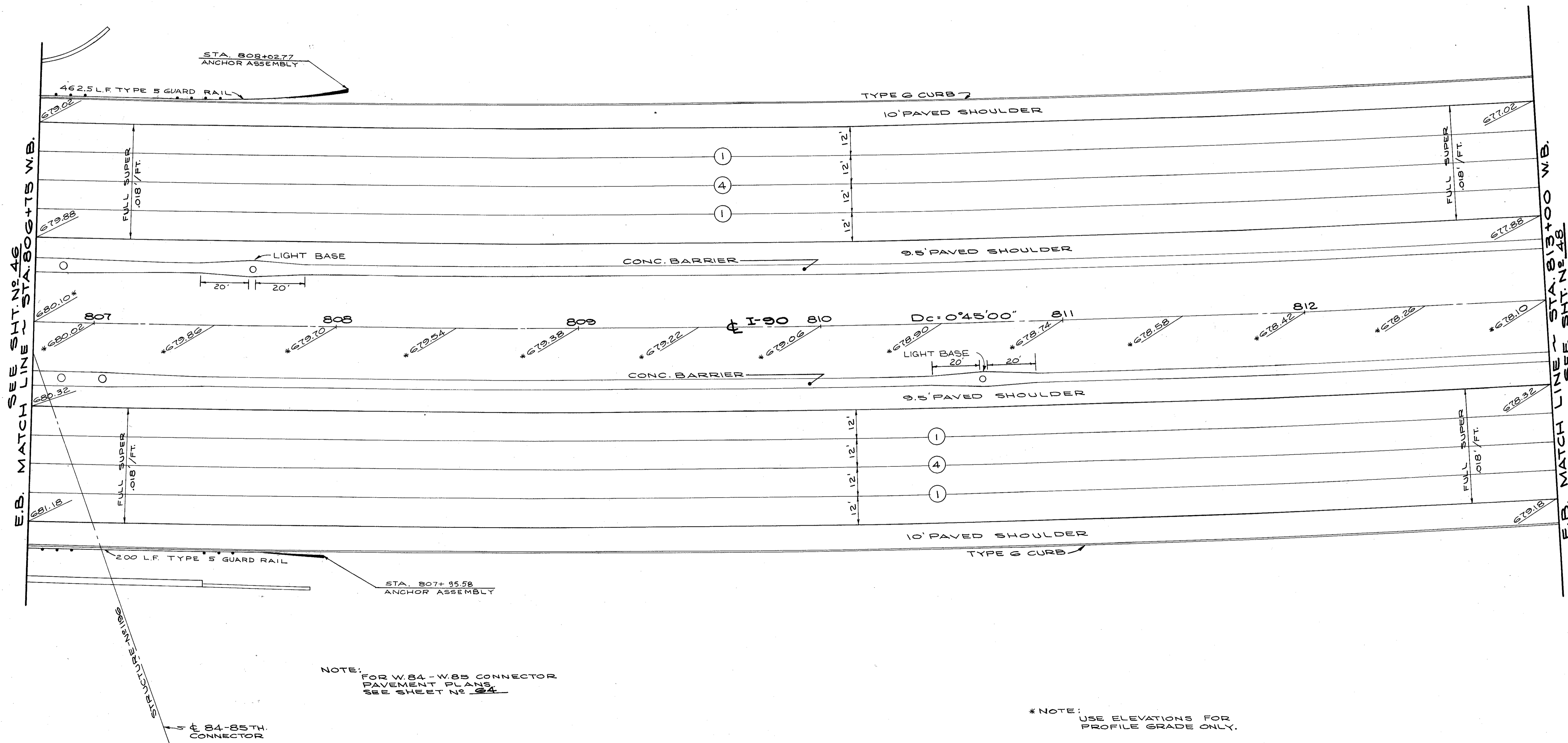
FED. RD.	STATE	PROJECT	
2	OHIO		

47  
538

CUYAHOGA COUNTY  
CUY - 90 - 11.64

JOINT LEGEND

- ① STANDARD LONGITUDINAL JOINT
- ④ KEY JOINT WITHOUT TIEBARS



NOTE:  
FOR W.84 - W.85 CONNECTOR  
PAVEMENT PLANS  
SEE SHEET NO. 24

\*NOTE:  
USE ELEVATIONS FOR  
PROFILE GRADE ONLY.

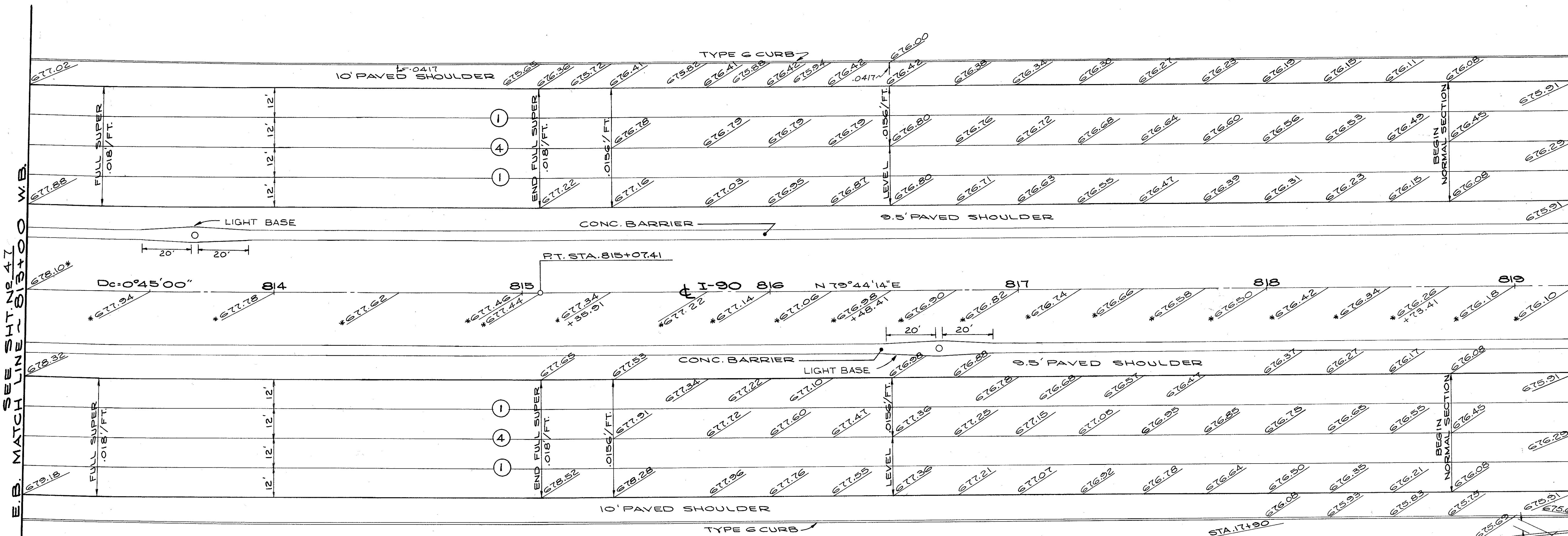
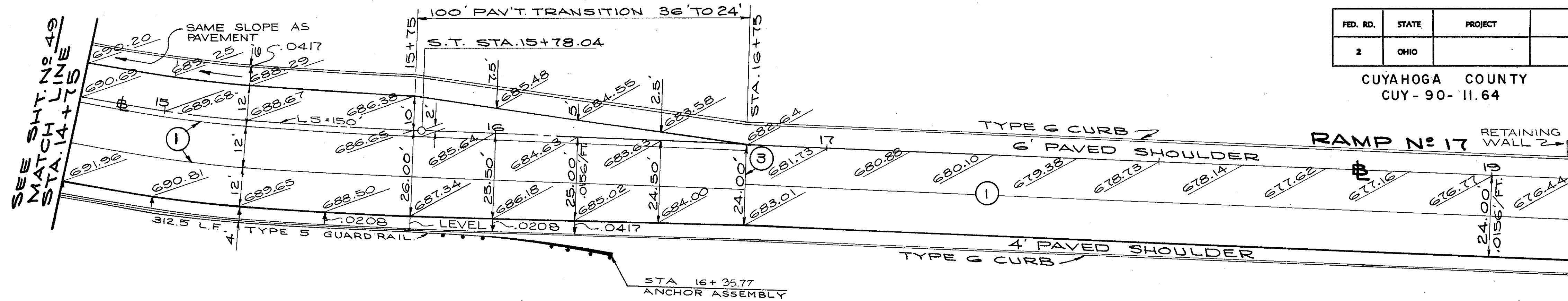
CALCULATED BY B.C.K. DATE 8/73  
CHECKED BY J.Z.S. DATE 5/74

PAVEMENT PLANS

E.B. MATCH LINE - STA. 806+75 W.B.

E.B. MATCH LINE - STA. 813+00 W.B.



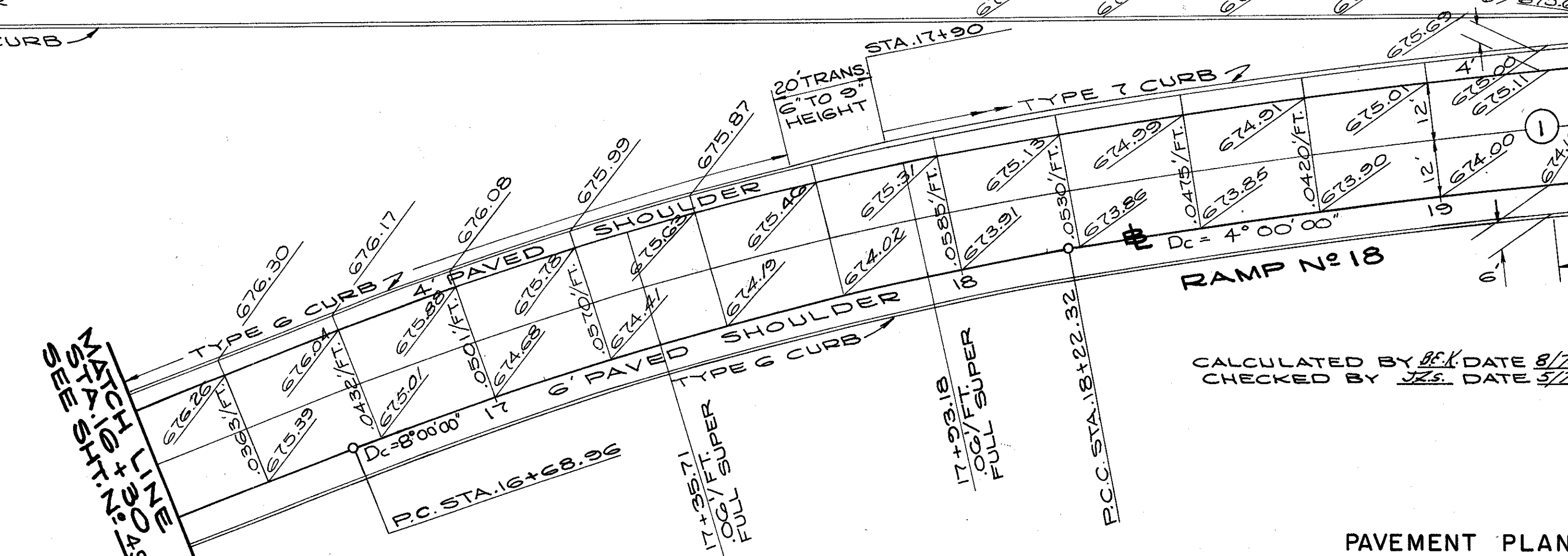


E.B. MATCH LINE - STA. 810+00 W.B.

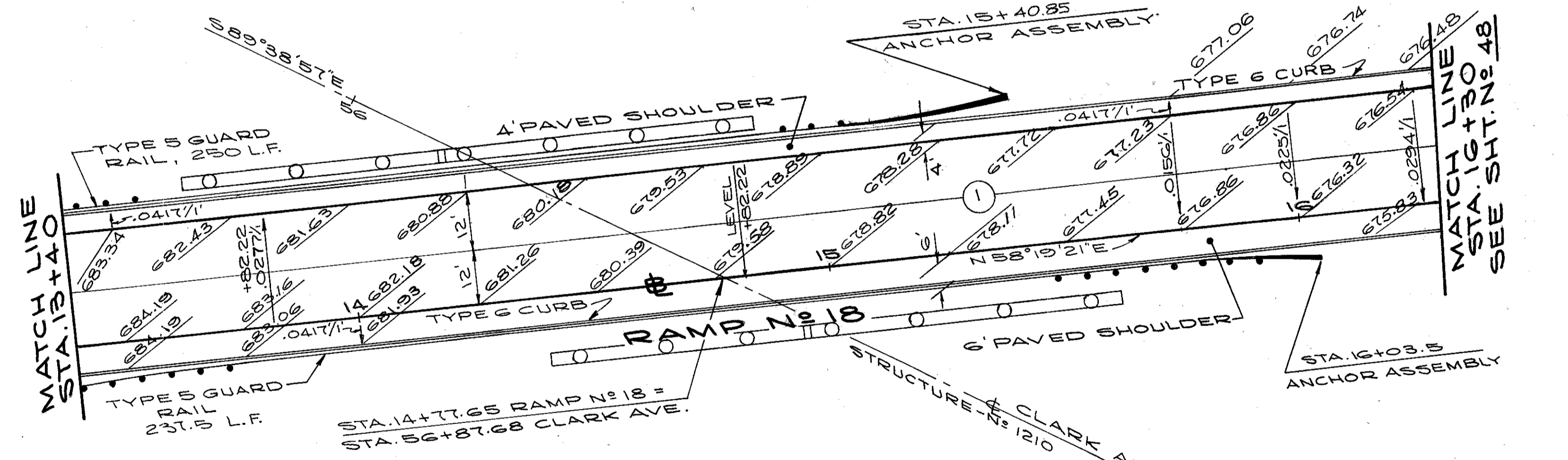
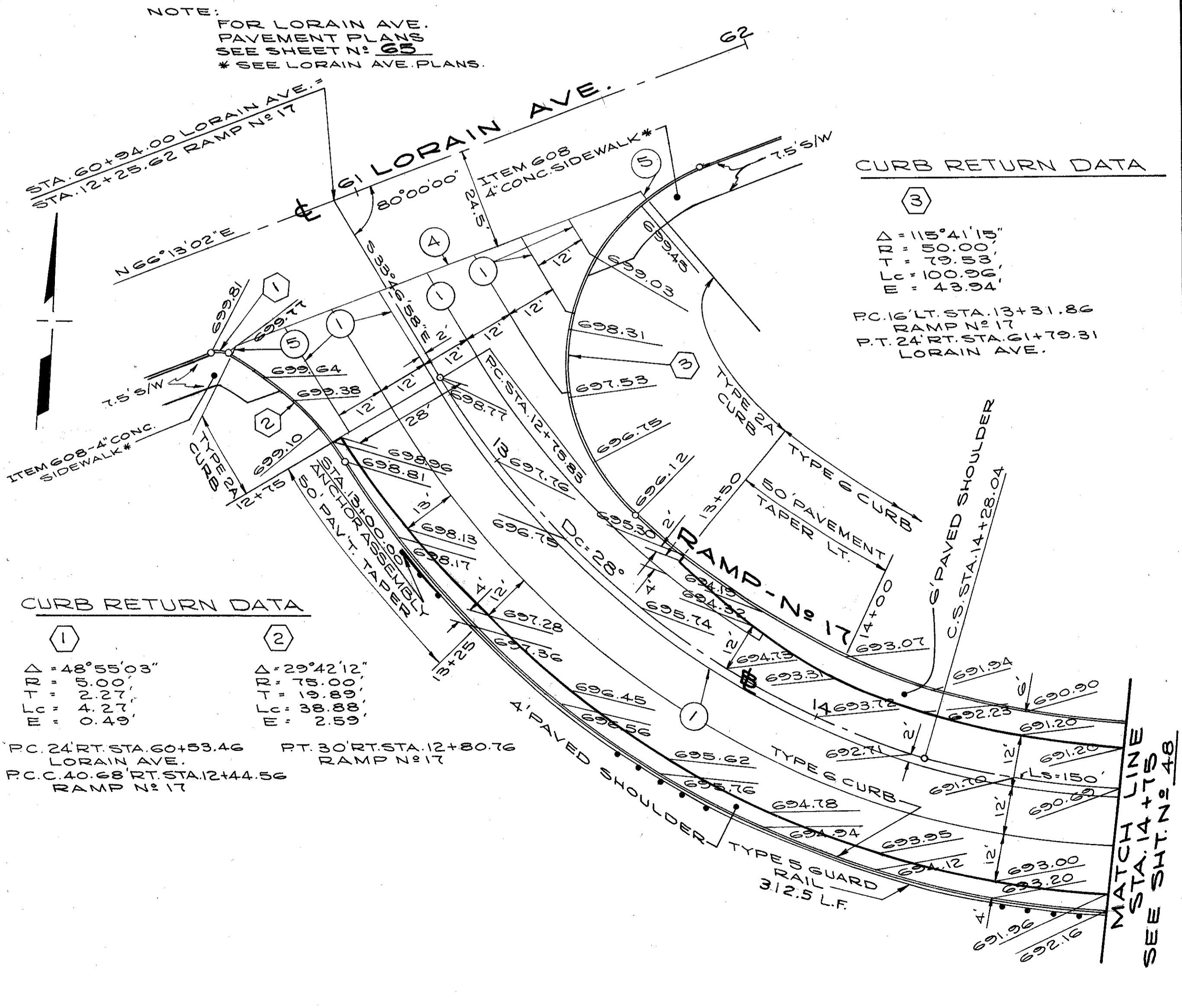
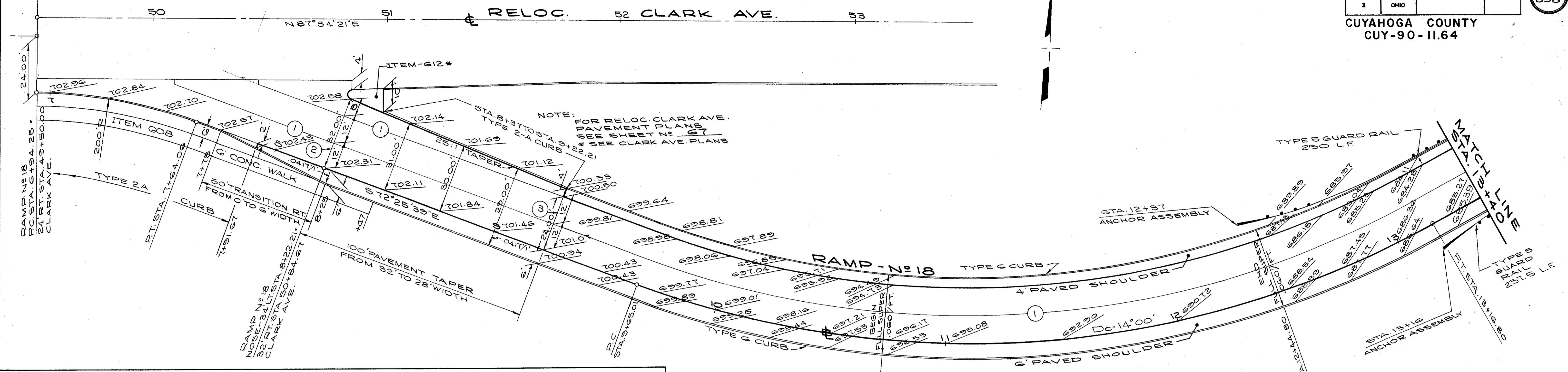
E.B. MATCH LINE - STA. 819+25 W.B. SEE SHT. NO. 50

\*NOTE: USE ELEVATIONS FOR PROFILE GRADE ONLY.

- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ③ STANDARD CONTRACTION JOINT
  - ④ KEY JOINT WITHOUT TIEBARS

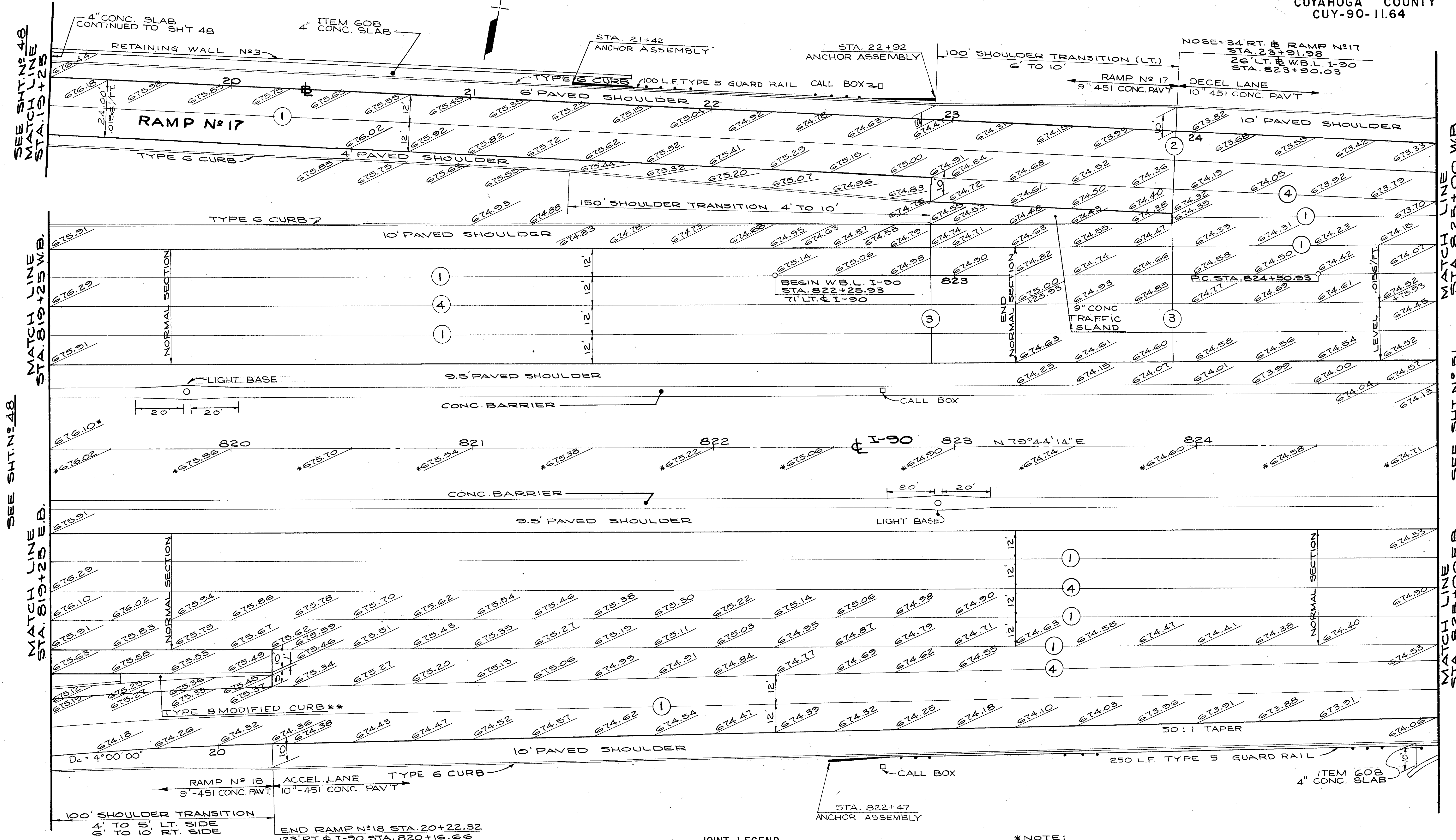


CALCULATED BY *RFK* DATE 8/73  
CHECKED BY *JES* DATE 3/74



- JOINT LEGEND
- ① STANDARD LONGITUDINAL JOINT
  - ② STANDARD EXPANSION JOINT
  - ③ STANDARD CONTRACTION JOINT

CALCULATED BY *BEK* DATE *8/73*  
CHECKED BY *J.F.* DATE *5/74*



SEE SHT. N° 48  
MATCH LINE  
STA. 819+25

MATCH LINE  
STA. 819+25 W.B.

SEE SHT. N° 48

MATCH LINE  
STA. 819+25 E.B.

MATCH LINE  
STA. 825+00 W.B.

SEE SHT. N° 51

MATCH LINE  
STA. 825+00 E.B.

\*\* NOTE: FOR TYPE 8 CURB MOD. DETAILS. SEE SHEET N° 77

- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ② STANDARD EXPANSION JOINT
  - ③ STANDARD CONTRACTION JOINT
  - ④ KEY JOINT WITHOUT TIEBARS

\* NOTE: USE ELEVATIONS FOR PROFILE GRADE ONLY.

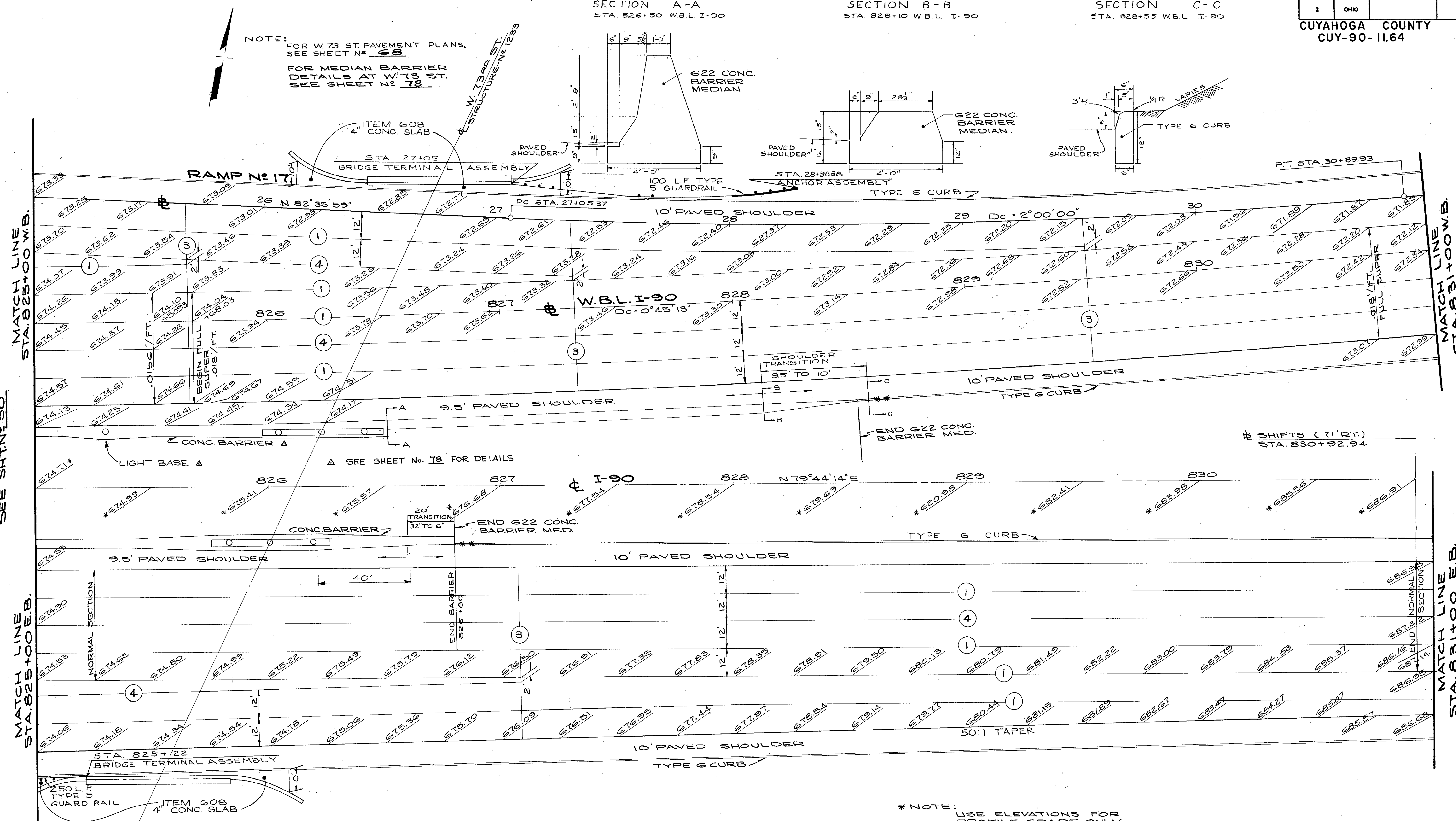
CALCULATED BY B.C.K. DATE 8/73  
CHECKED BY J.C.S. DATE 5/74

SECTION A-A  
STA. 826+50 W.B.L. I-90

SECTION B-B  
STA. 828+10 W.B.L. I-90

SECTION C-C  
STA. 828+55 W.B.L. I-90

NOTE:  
FOR W. 73 ST. PAVEMENT PLANS,  
SEE SHEET N<sup>o</sup> 68  
FOR MEDIAN BARRIER  
DETAILS AT W. 73 ST.  
SEE SHEET N<sup>o</sup> 78



- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ③ STANDARD CONTRACTION JOINT
  - ④ KEY JOINT WITHOUT TIEBARS

\* NOTE:  
USE ELEVATIONS FOR  
PROFILE GRADE ONLY.  
\* \* 20.00 FT. SECTION OF DROP CURB WILL  
BE PLACED NEAR THE END OF THE CONC.  
BARRIER MEDIAN TO PROVIDE A MEDIAN  
MAINTENANCE OPENING. TRANSITION  
FROM STANDARD 6" CURB SECTION TO  
2" DROP CURB SECTION TO BE MADE IN  
18', AS PER ST'D. CONST. DWGS. B.U.D. 1-6.  
PAYMENT FOR THE 20.00 FT. WILL BE  
INCLUDED UNDER 609 ST'D. TYPE 6  
CURB.

CALCULATED BY SKK DATE 8/73  
CHECKED BY ZZS DATE 9/74

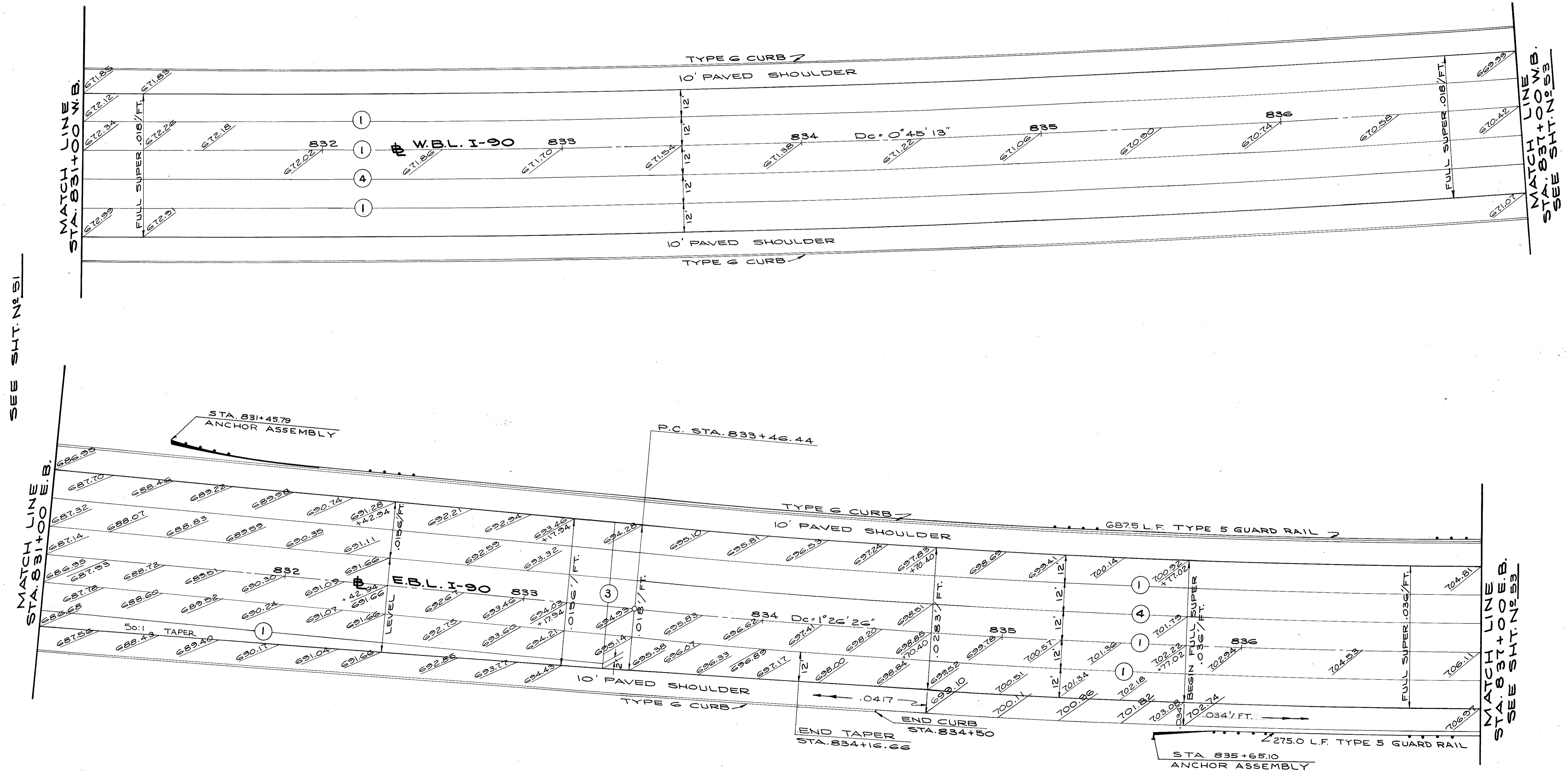
FED. RD.	STATE	PROJECT
2	OHIO	

52  
838

CUYAHOGA COUNTY  
CUY-90-11.64

JOINT LEGEND

- ① STANDARD LONGITUDINAL JOINT
- ③ STANDARD CONTRACTION JOINT
- ④ KEY JOINT WITHOUT TIEBARS



SEE SHT. NO. 51

MATCH LINE  
STA. 837+00 W.B.  
SEE SHT. NO. 53

MATCH LINE  
STA. 831+00 E.B.

MATCH LINE  
STA. 837+00 E.B.  
SEE SHT. NO. 53

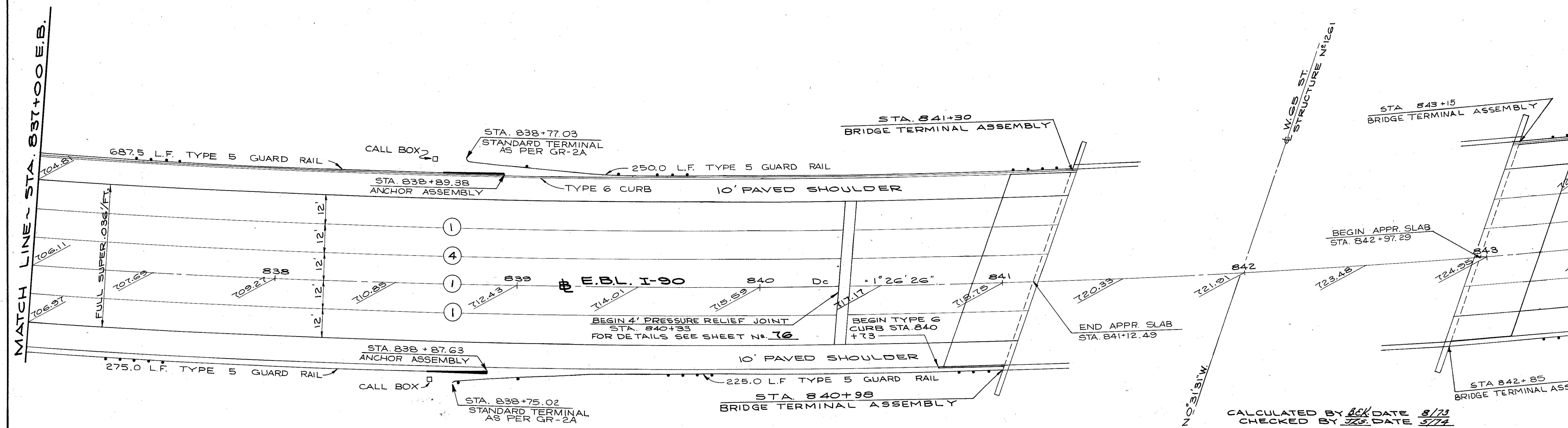
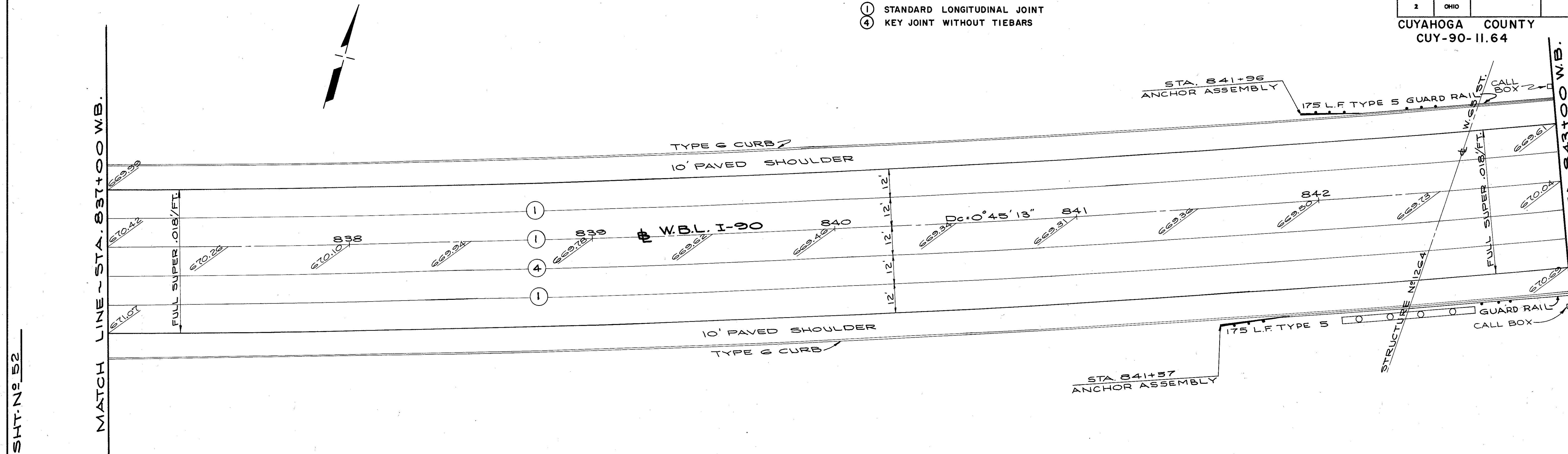
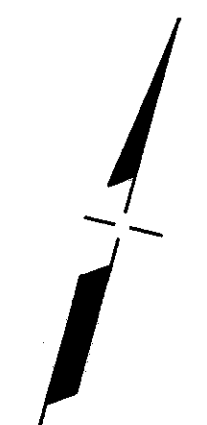
CALCULATED BY B.C.K. DATE 9/73  
CHECKED BY J.S. DATE 9/74

FED. RD.	STATE	PROJECT
2	OHIO	

53  
838

CUYAHOGA COUNTY  
CUY-90-11.64

**JOINT LEGEND**  
 (1) STANDARD LONGITUDINAL JOINT  
 (4) KEY JOINT WITHOUT TIEBARS



CALCULATED BY *BC* DATE 8/73  
 CHECKED BY *JZ* DATE 5/74

PAVEMENT PLANS

SEE SHT. N# 52

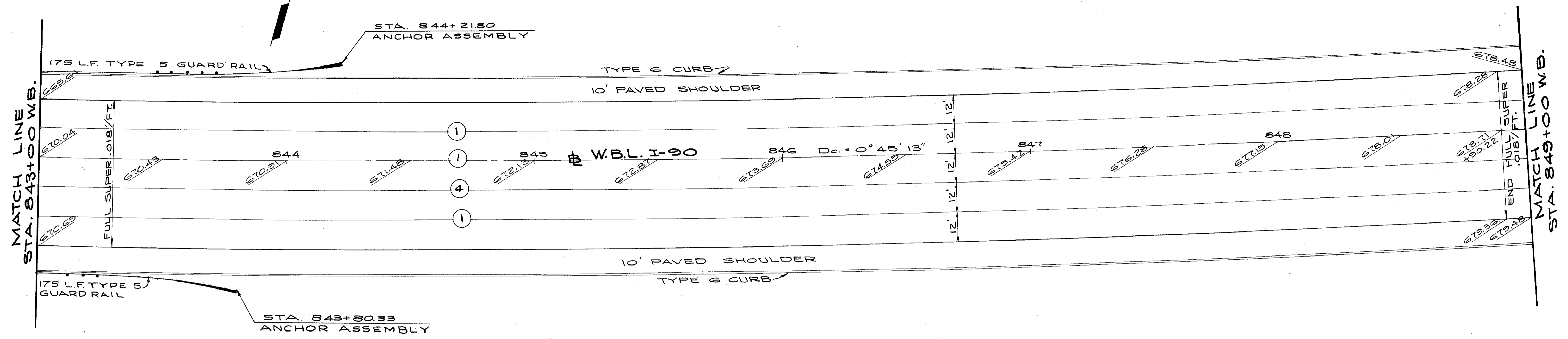
SEE SHT. N# 54

FED. RD.	STATE	PROJECT
2	OHIO	

54  
838

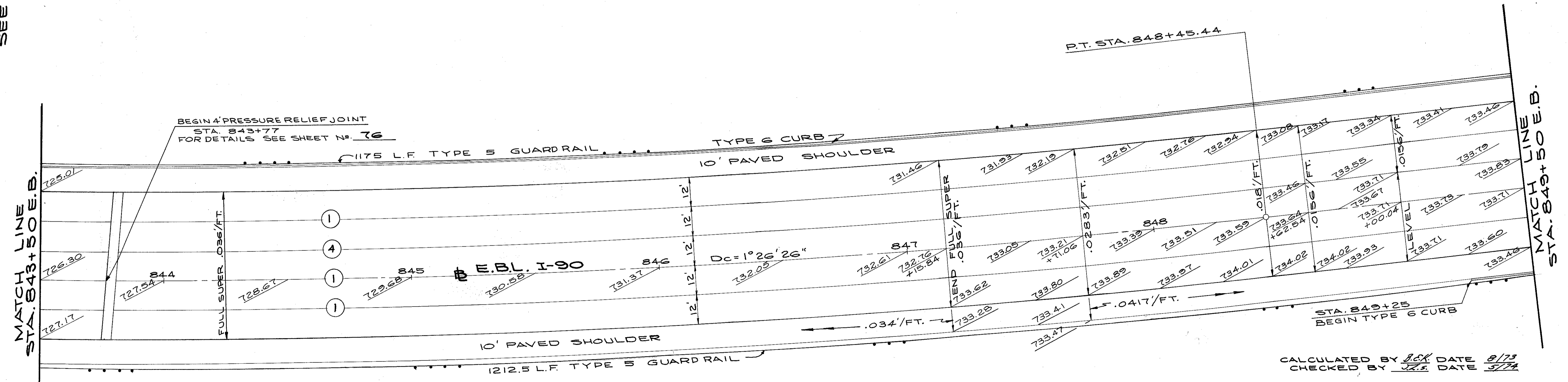
CUYAHOGA COUNTY  
CUY-90-11.64

- JOINT LEGEND
- ① STANDARD LONGITUDINAL JOINT
  - ④ KEY JOINT WITHOUT TIEBARS



SEE SHT. NO. 53

SEE SHT. NO. 55



CALCULATED BY J.C.K. DATE 8/73  
CHECKED BY J.R.S. DATE 5/74

PAVEMENT PLANS

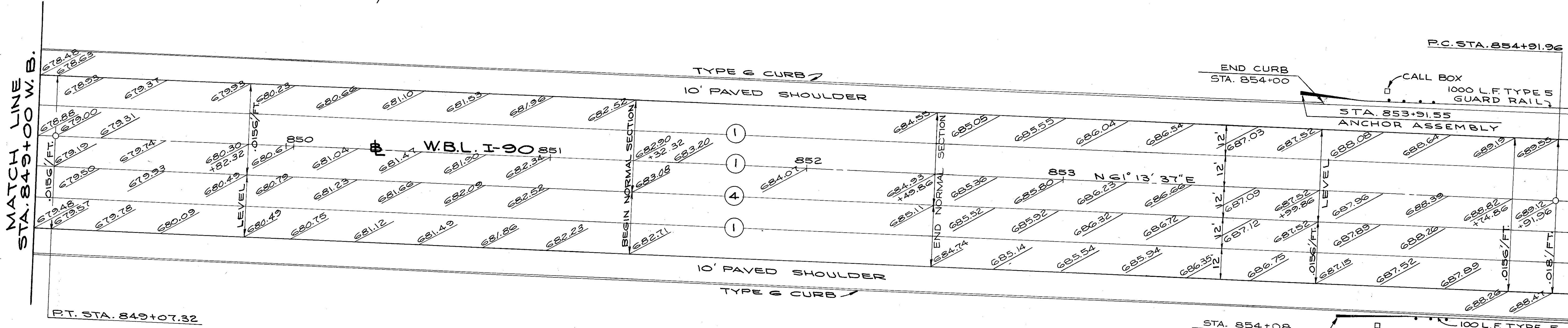
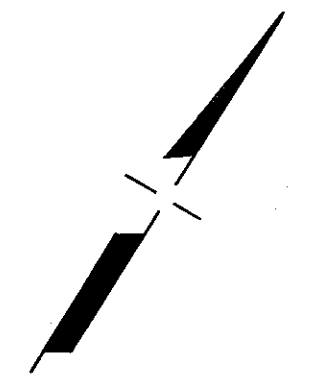
FED. RD.	STATE	PROJECT
2	OHIO	

55  
838

CUYAHOGA COUNTY  
CUY-90-11.64

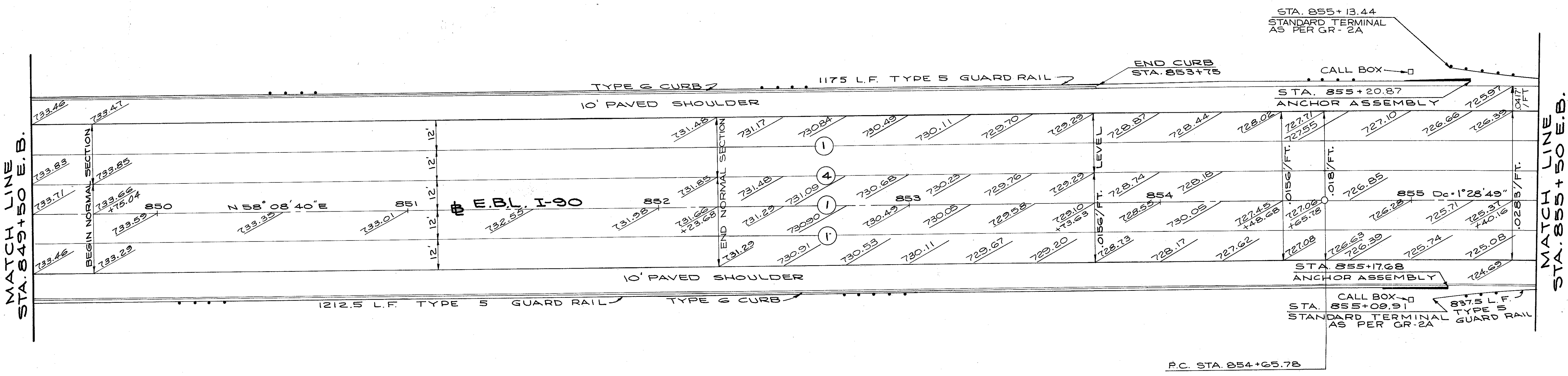
JOINT LEGEND

- ① STANDARD LONGITUDINAL JOINT
- ④ KEY JOINT WITHOUT TIEBARS



SEE SHT. N° 54

SEE SHT. N° 56



SEE SHT. N° 54

SEE SHT. N° 56

CALCULATED BY *AK* DATE *8/77*  
CHECKED BY *JS* DATE *5/78*

PAVEMENT PLANS

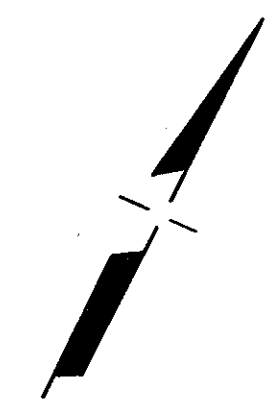


FED. RD.	STATE	PROJECT
2	OHIO	

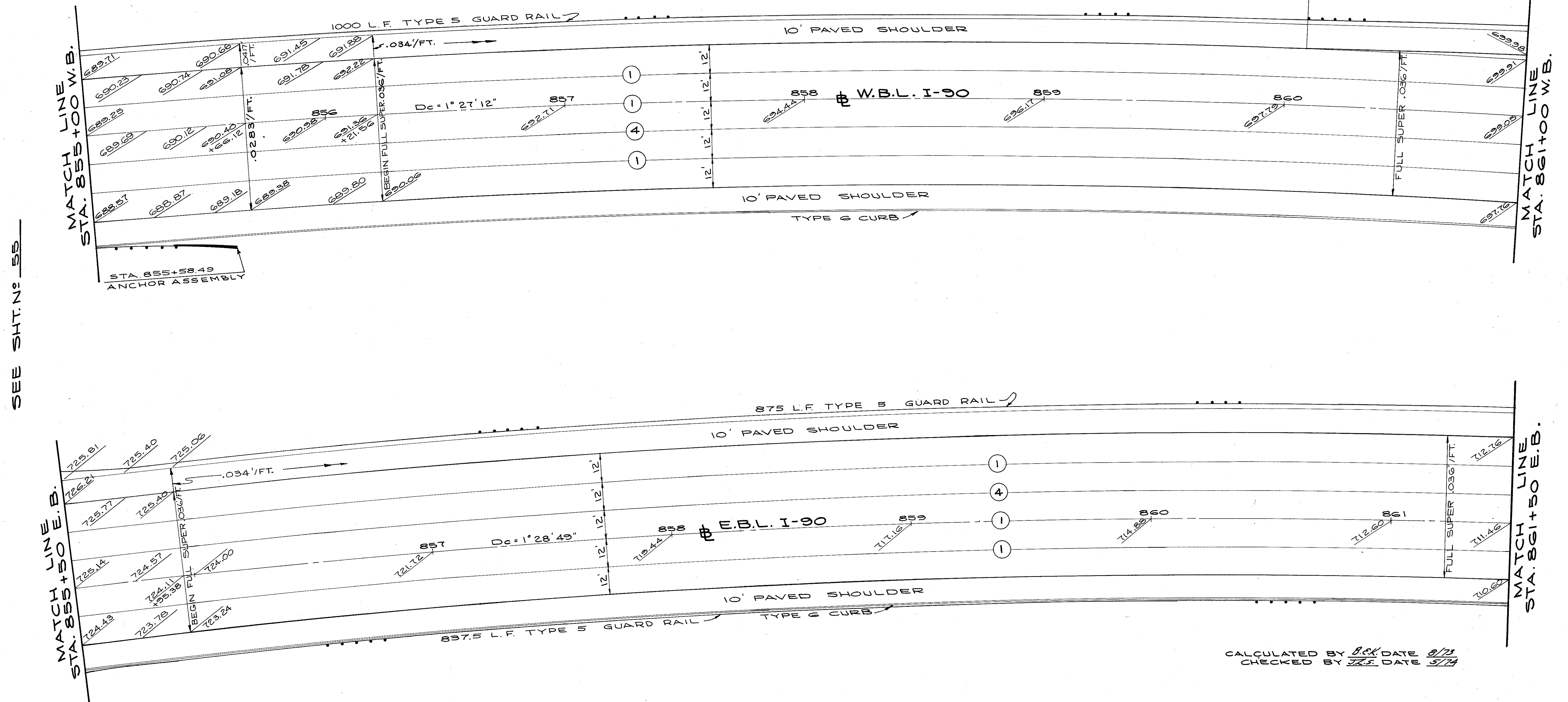
56  
838

CUYAHOGA COUNTY  
CUY-90-11.64

JOINT LEGEND  
 (1) STANDARD LONGITUDINAL JOINT  
 (4) KEY JOINT WITHOUT TIEBARS



BEGIN 50:1 TAPER  
24' LT. @ W.B. STA. 860+08.68



SEE SHT. NO. 55

SEE SHT. NO. 57

STA. 855+58.49  
ANCHOR ASSEMBLY

CALCULATED BY B.C.K. DATE 8/73  
CHECKED BY J.L.S. DATE 5/74

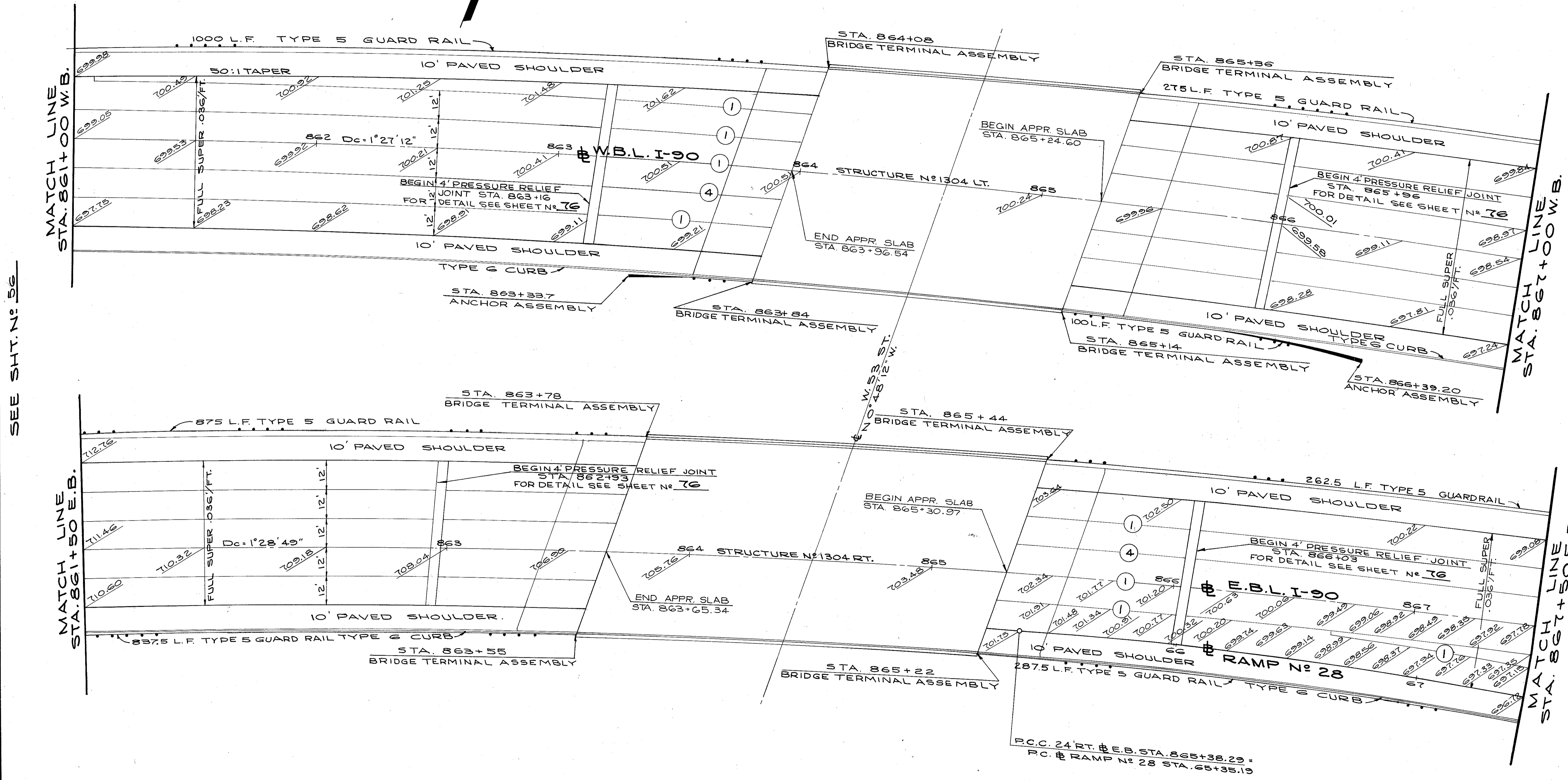
PAVEMENT PLANS

FED. RD.	STATE	PROJECT	
2	OHIO		

57  
838

CUYAHOGA COUNTY  
CUY-90-11.64

- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ④ KEY JOINT WITHOUT TIEBARS



SEE SHT. N° 56

SEE SHT. N° 58

CALCULATED BY BSK DATE 8/73  
CHECKED BY JTS DATE 5/74

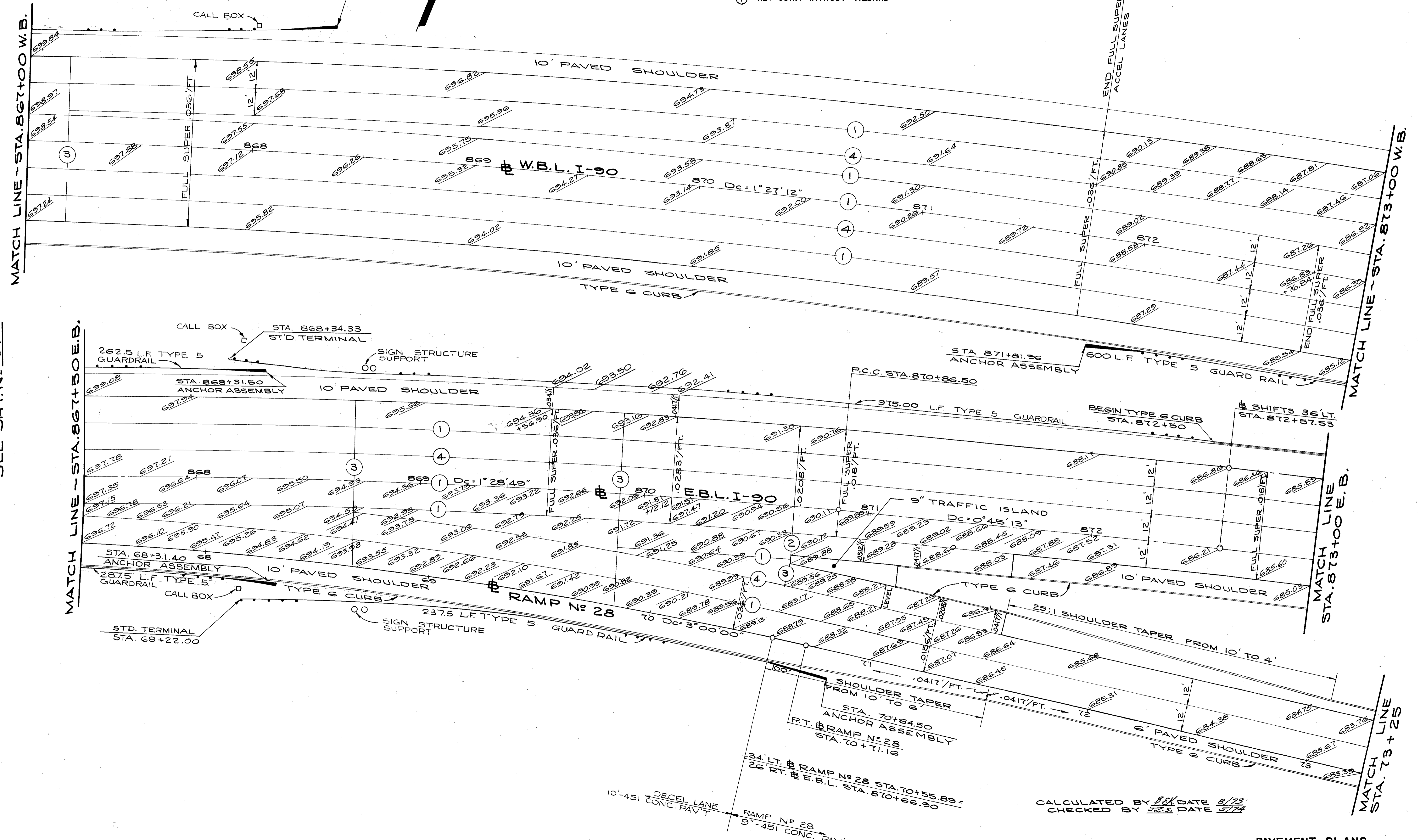
PAVEMENT PLANS

FED. RD.	STATE	PROJECT
2	OHIO	

58  
838

CUYAHOGA COUNTY  
CUY-90-11.64

- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ② STANDARD EXPANSION JOINT
  - ③ STANDARD CONTRACTION JOINT
  - ④ KEY JOINT WITHOUT TIEBARS



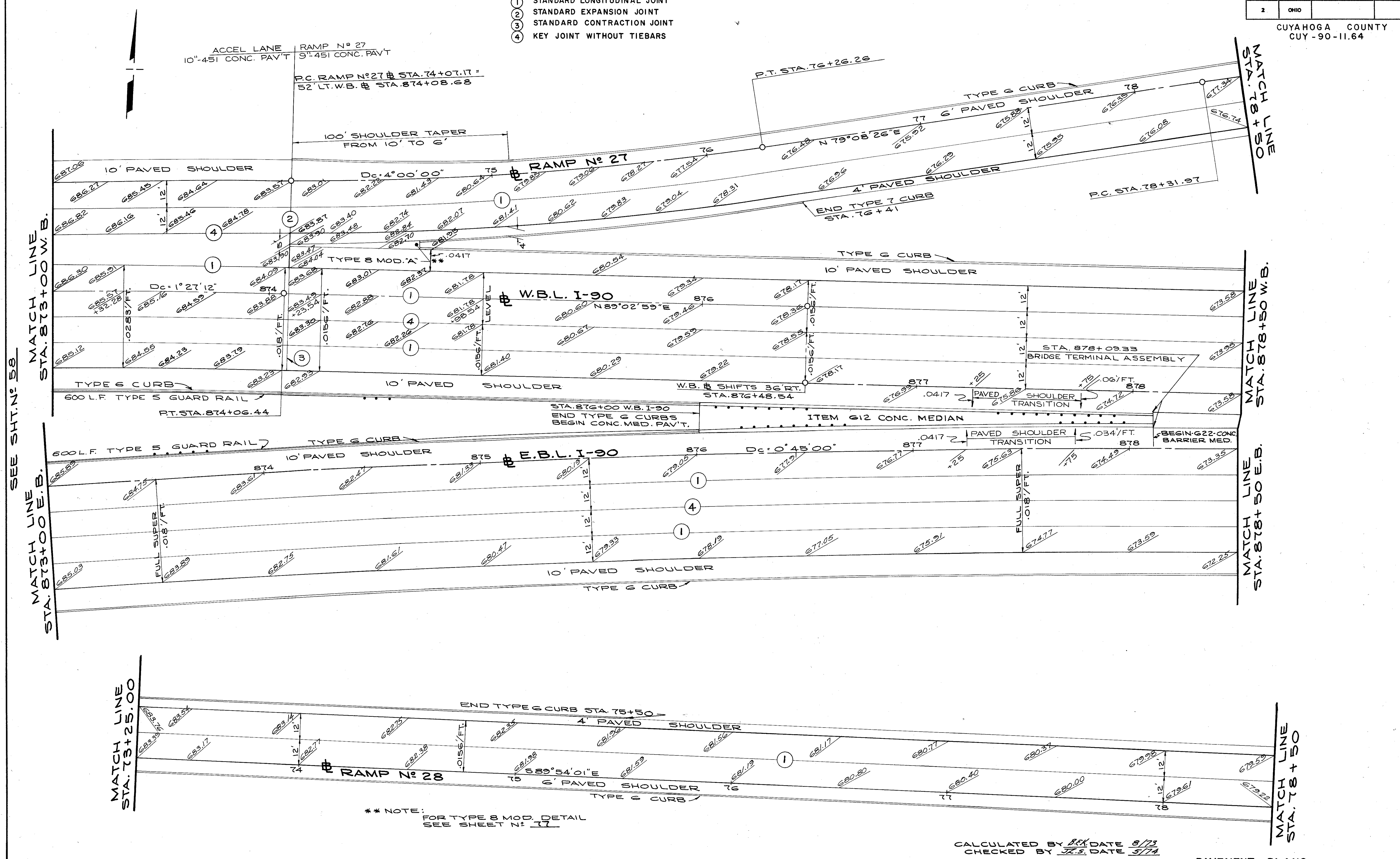
SEE SHT. N° 57

SEE SHT. N° 59

CALCULATED BY *[Signature]* DATE 8/73  
CHECKED BY *[Signature]* DATE 3/74

PAVEMENT PLANS

- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ② STANDARD EXPANSION JOINT
  - ③ STANDARD CONTRACTION JOINT
  - ④ KEY JOINT WITHOUT TIEBARS



SEE SHT. N° 58

MATCH LINE STA. 873+00 W.B.

MATCH LINE STA. 873+00 E.B.

MATCH LINE STA. 878+50 W.B.

MATCH LINE STA. 878+50 E.B.

SEE SHT. N° 60

\*\* NOTE:  
FOR TYPE 8 MOD. DETAIL  
SEE SHEET N° 17

CALCULATED BY REK DATE 8/73  
CHECKED BY J.S. DATE 9/74

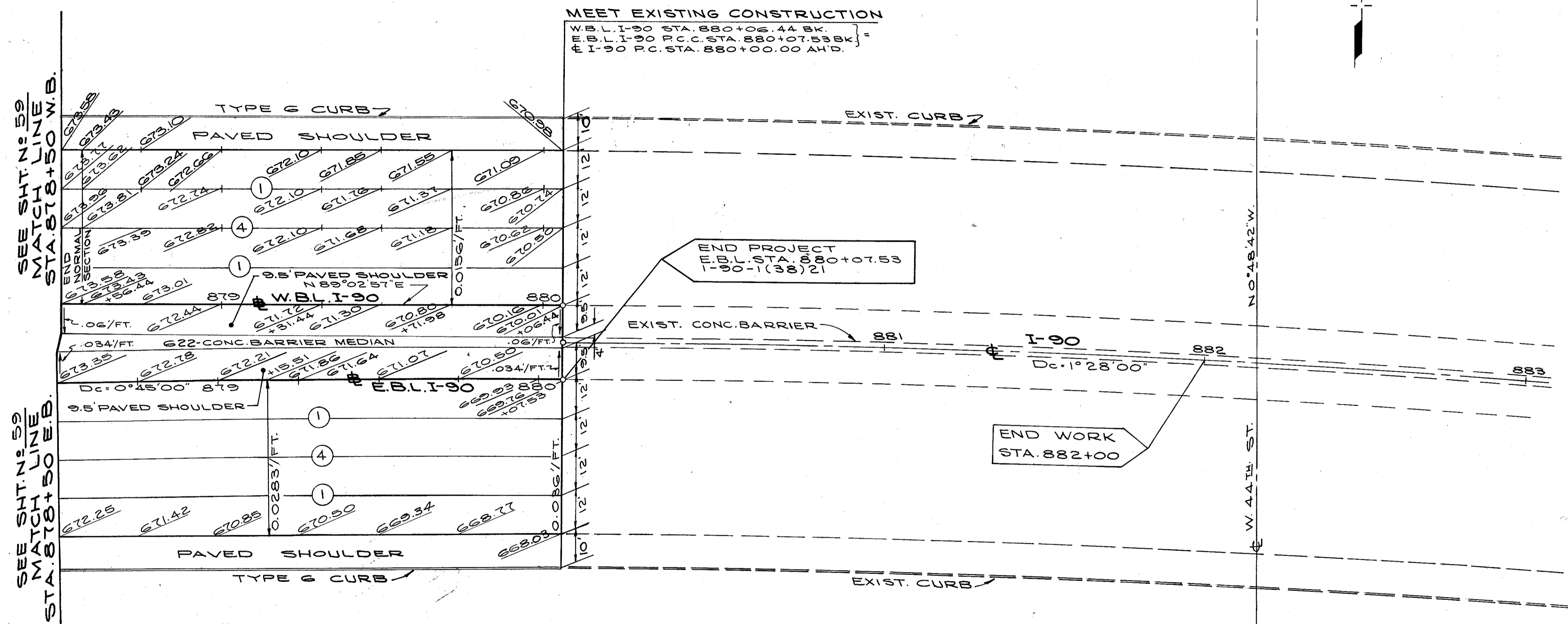
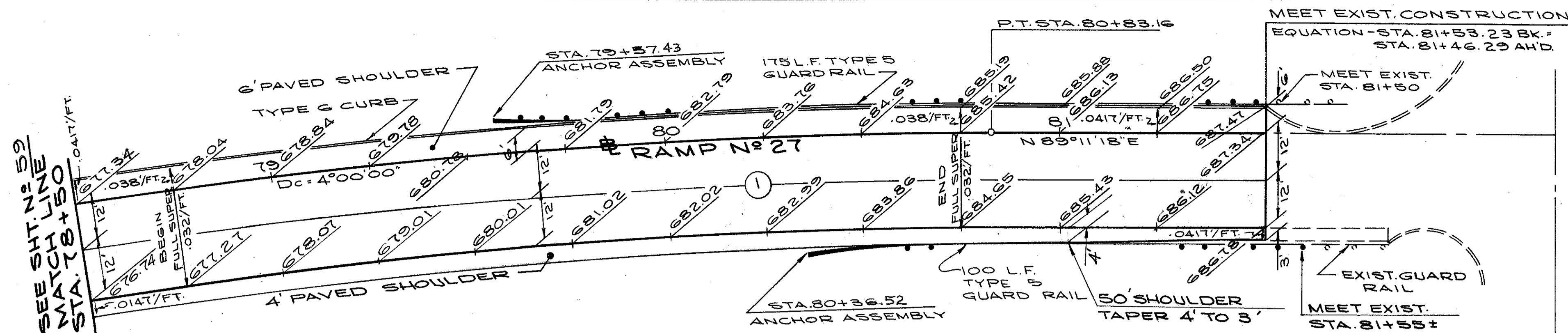
PAVEMENT PLANS

FED. RD.	STATE	PROJECT
2	OHIO	

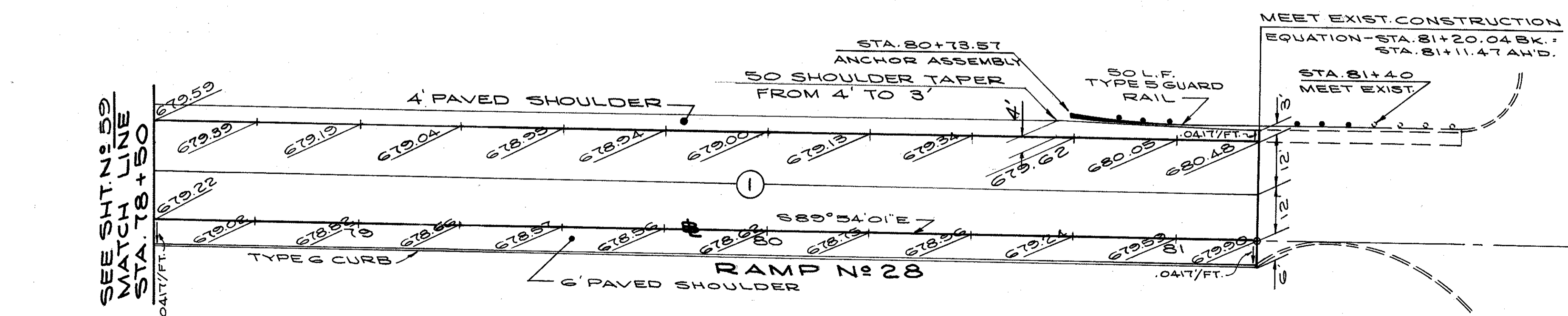
60  
838

CUYAHOGA COUNTY  
CUY-90-11.64

- JOINT LEGEND
- ① STANDARD LONGITUDINAL JOINT
  - ④ KEY JOINT WITHOUT TIEBARS



FOR DETAIL OF MEDIAN AREA  
FROM STA. 876+00 TO STA. 880+06.44 W.B.  
SEE SHEET No. 79



CALCULATED BY *SGH* DATE 8/73  
CHECKED BY *J.F.S.* DATE 3/74

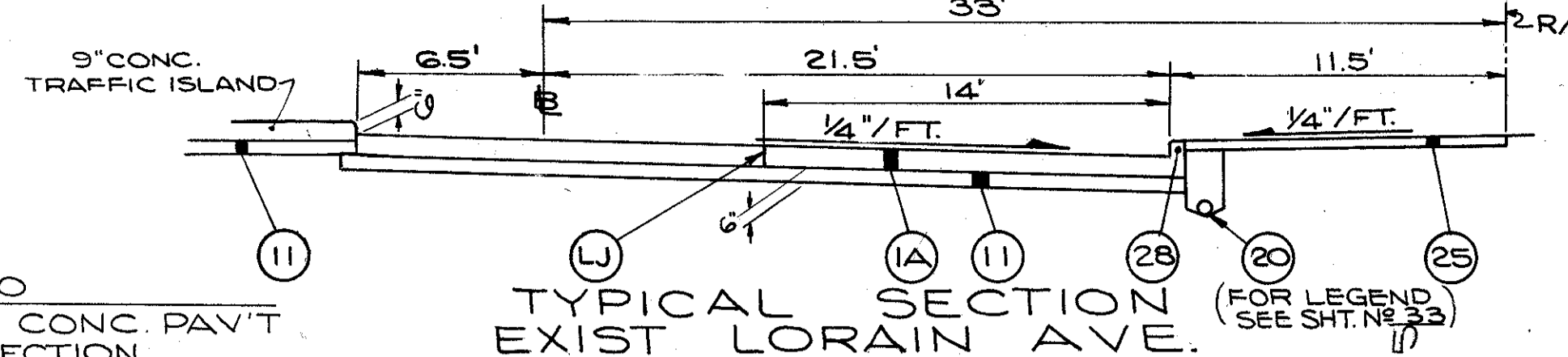
**CURB RETURN DATA**

**CURVE No 2**

$\Delta = 147^{\circ}27'30''$   
 $R = 50.00'$   
 $T = 171.33'$   
 $L = 128.68'$   
 $E = 128.46'$   
 PC STA. 60+79.89 MARGINAL  
 PT STA. 41+51.56 REL. LORAIN

**JOINT LEGEND**

- ① STANDARD LONGITUDINAL JOINT
- ② STANDARD EXPANSION JOINT
- ③ STANDARD CONTRACTION JOINT
- ④ KEY JOINT WITHOUT TIE BARS
- ⑤ EXPANSION JOINT WITHOUT DOWELS



**CURB RETURN DATA**

**RELOC LORAIN AT MARGINAL RD # 5**

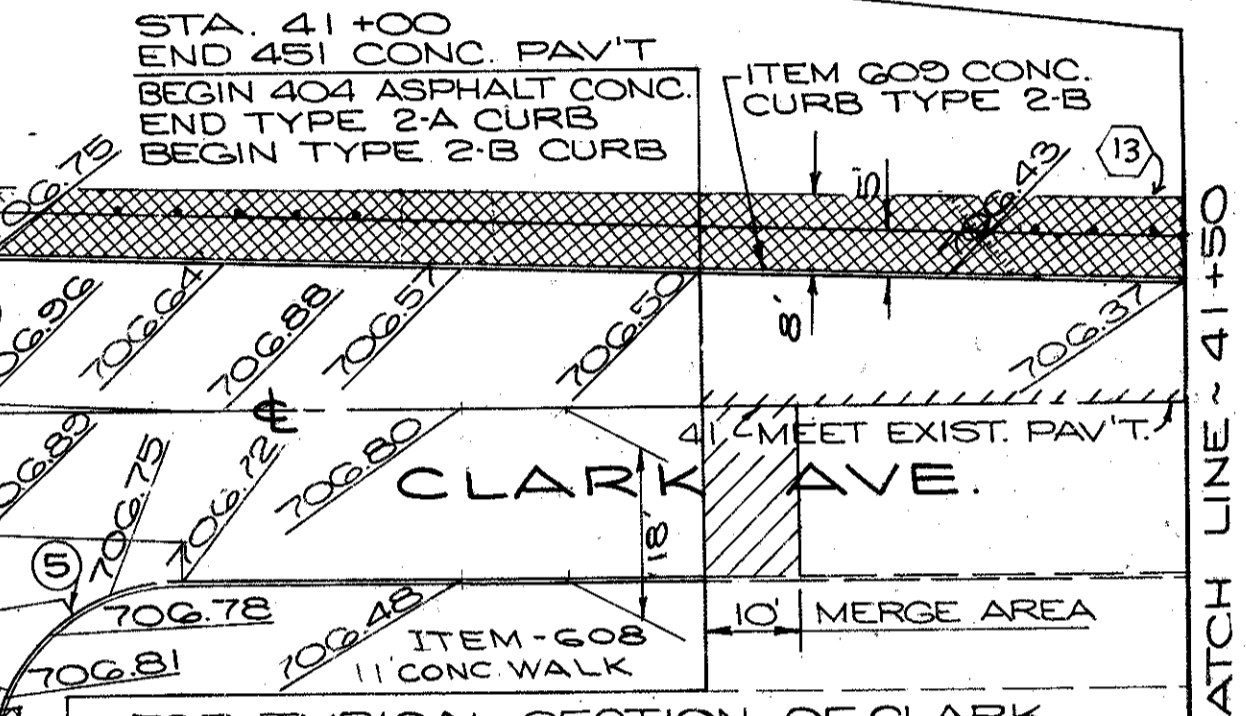
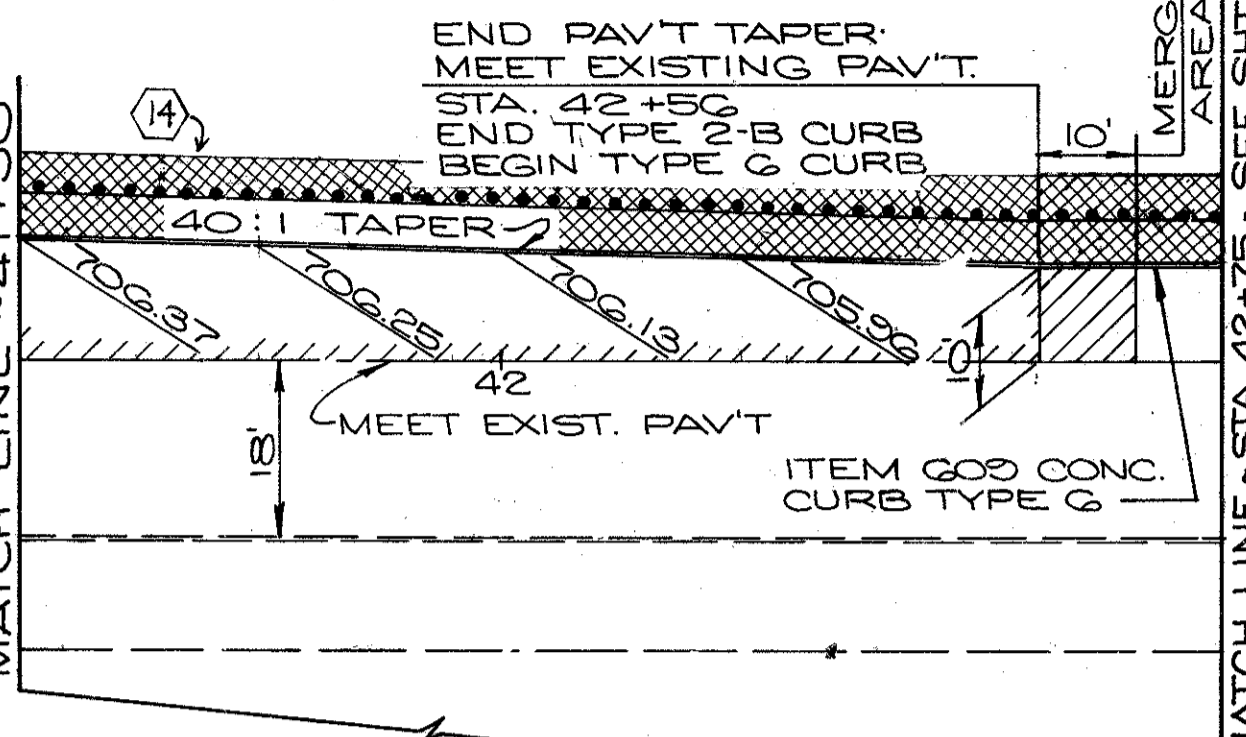
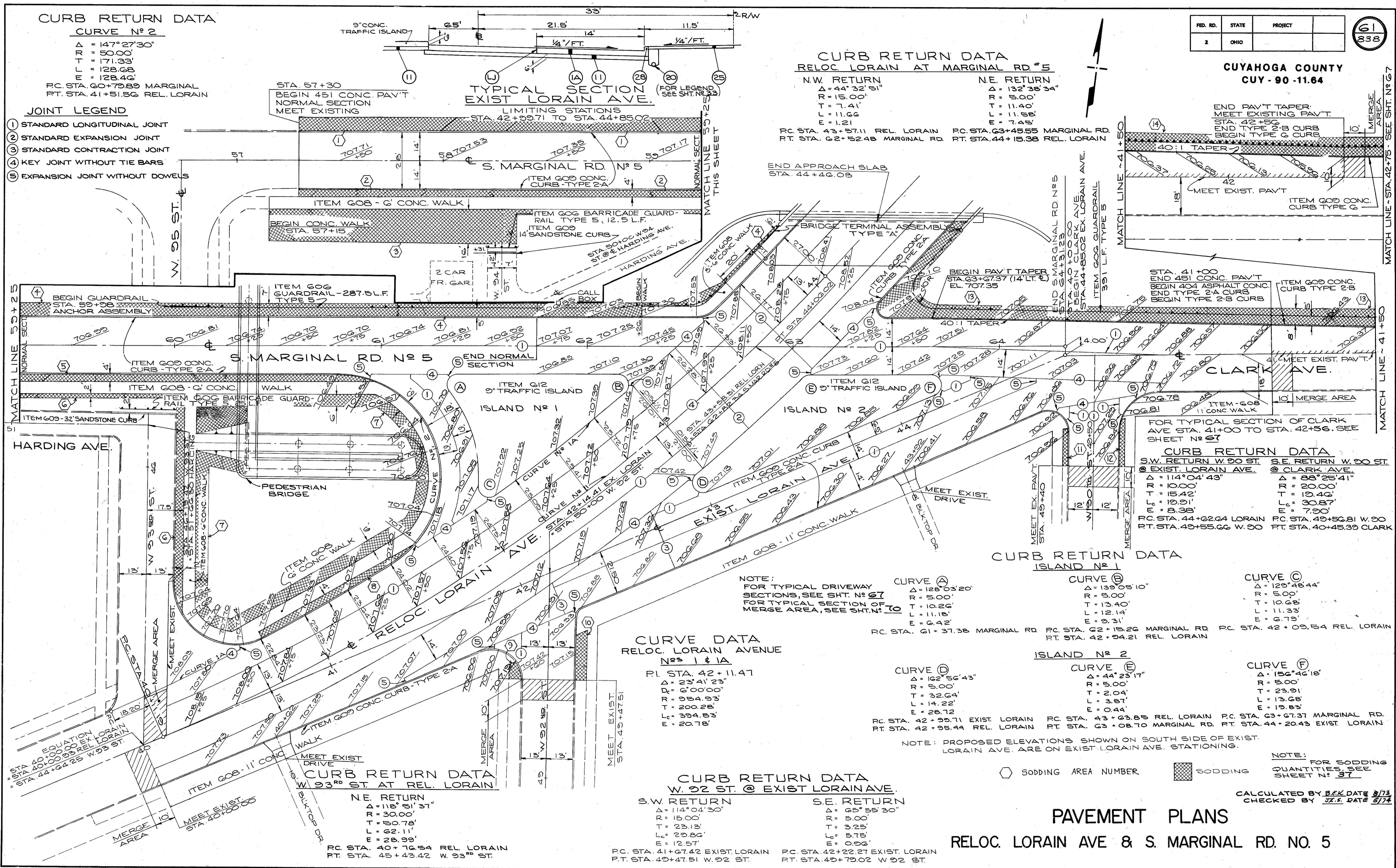
**N.W. RETURN**  
 $\Delta = 44^{\circ}32'51''$   
 $R = 15.00'$   
 $T = 7.41'$   
 $L = 11.66'$   
 $E = 1.21'$   
 PC STA. 43+57.11 REL. LORAIN  
 RT STA. 62+52.48 MARGINAL RD.

**N.E. RETURN**  
 $\Delta = 132^{\circ}38'34''$   
 $R = 5.00'$   
 $T = 11.40'$   
 $L = 11.58'$   
 $E = 7.45'$   
 PC STA. 63+45.55 MARGINAL RD.  
 RT STA. 44+15.38 REL. LORAIN

FED. RD.	STATE	PROJECT
2	OHIO	

61  
338

**CUYAHOGA COUNTY**  
CUY - 90 - 11.64



**CURB RETURN DATA ISLAND No 1**

**CURVE A**  
 $\Delta = 128^{\circ}03'20''$   
 $R = 5.00'$   
 $T = 10.26'$   
 $L = 11.18'$   
 $E = 6.42'$   
 PC STA. 61+37.38 MARGINAL RD.

**CURVE B**  
 $\Delta = 139^{\circ}05'10''$   
 $R = 5.00'$   
 $T = 13.40'$   
 $L = 12.14'$   
 $E = 9.31'$   
 PC STA. 62+15.26 MARGINAL RD.

**CURVE C**  
 $\Delta = 129^{\circ}46'44''$   
 $R = 5.00'$   
 $T = 10.68'$   
 $L = 11.33'$   
 $E = 6.75'$   
 PC STA. 42+03.54 REL. LORAIN

**CURVE DATA RELOC LORAIN AVENUE Nos 1 & 1A**

P.I. STA. 42+11.47  
 $\Delta = 23^{\circ}41'23''$   
 $R = 6^{\circ}00'00''$   
 $T = 98.44'93''$   
 $L = 200.28'$   
 $E = 20.78'$

**ISLAND No 2**

**CURVE D**  
 $\Delta = 162^{\circ}56'43''$   
 $R = 5.00'$   
 $T = 32.64'$   
 $L = 14.22'$   
 $E = 28.72'$   
 PC STA. 42+99.71 EXIST. LORAIN  
 RT STA. 42+95.44 REL. LORAIN

**CURVE E**  
 $\Delta = 44^{\circ}23'17''$   
 $R = 5.00'$   
 $T = 2.04'$   
 $L = 3.87'$   
 $E = 0.44'$   
 PC STA. 43+63.85 REL. LORAIN  
 RT STA. 63+08.70 MARGINAL RD.

**CURVE F**  
 $\Delta = 156^{\circ}46'18''$   
 $R = 5.00'$   
 $T = 23.91'$   
 $L = 13.68'$   
 $E = 19.83'$   
 PC STA. 63+67.37 MARGINAL RD.  
 RT STA. 44+20.43 EXIST. LORAIN

**CURB RETURN DATA W 93rd ST AT REL. LORAIN**

**N.E. RETURN**  
 $\Delta = 118^{\circ}51'37''$   
 $R = 30.00'$   
 $T = 50.78'$   
 $L = 62.11'$   
 $E = 28.99'$   
 PC STA. 40+76.54 REL. LORAIN  
 RT STA. 45+43.42 W. 93rd ST.

**CURB RETURN DATA W 92 ST @ EXIST LORAIN AVE.**

**S.W. RETURN**  
 $\Delta = 114^{\circ}04'30''$   
 $R = 15.00'$   
 $T = 23.13'$   
 $L = 29.86'$   
 $E = 12.57'$   
 PC STA. 41+67.42 EXIST. LORAIN  
 RT STA. 49+47.51 W. 92 ST.

**S.E. RETURN**  
 $\Delta = 65^{\circ}55'30''$   
 $R = 5.00'$   
 $T = 3.25'$   
 $L = 5.75'$   
 $E = 0.66'$   
 PC STA. 42+22.27 EXIST. LORAIN  
 RT STA. 49+79.02 W 92 ST.

**PAVEMENT PLANS**  
RELOC. LORAIN AVE & S. MARGINAL RD. NO. 5

NOTE: FOR SODDING QUANTITIES, SEE SHEET No 37.  
 SODDING AREA NUMBER  
 SODDING

NOTE: PROPOSED ELEVATIONS SHOWN ON SOUTH SIDE OF EXIST. LORAIN AVE. ARE ON EXIST LORAIN AVE. STATIONING.

CALCULATED BY B.E.K. DATE 8/73  
CHECKED BY J.Z.S. DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	

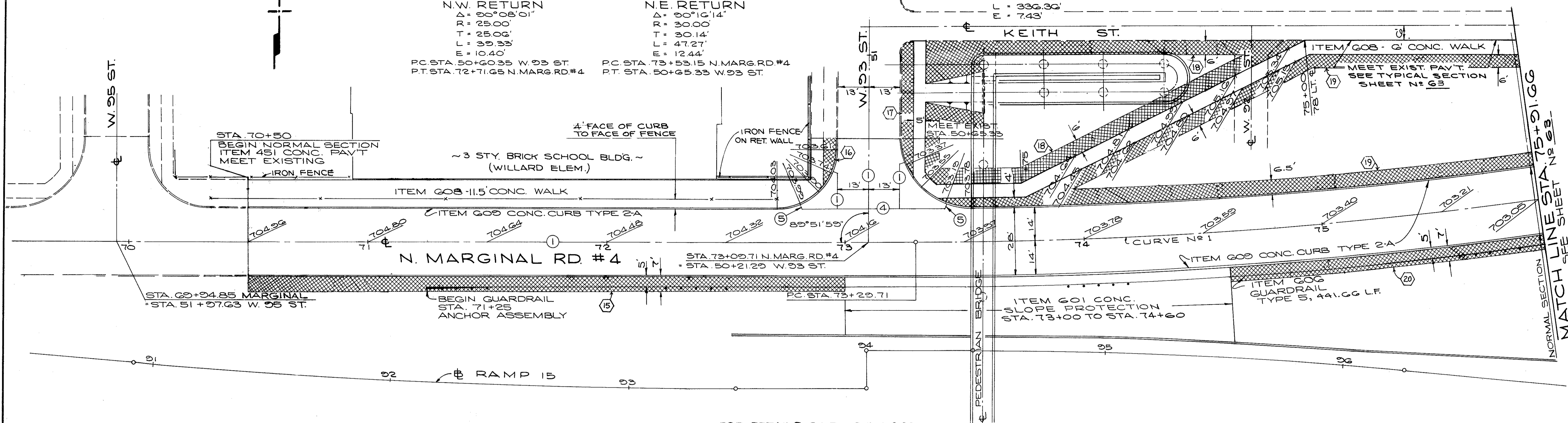
62  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

☉ CURVE DATA  
N. MARGINAL RD. N<sup>o</sup> 4  
N<sup>o</sup> 1  
P.I. STA. 74+08.33  
Δ = 10°08'27"  
D<sub>c</sub> = 3°00'00"  
R = 1909.86'  
T = 168.62'  
L = 336.36'  
E = 7.43'

**CURB RETURN DATA**  
**W. 93 ST. AT N. MARGINAL RD. #4**

<b>N.W. RETURN</b> Δ = 90°08'01" R = 25.00' T = 25.06' L = 39.33' E = 10.40'	<b>N.E. RETURN</b> Δ = 90°16'14" R = 30.00' T = 30.14' L = 47.27' E = 12.44'
P.C. STA. 50+60.35 W. 93 ST. P.T. STA. 72+71.65 N. MARG. RD. #4	P.C. STA. 73+53.15 N. MARG. RD. #4 P.T. STA. 50+65.33 W. 93 ST.



FOR DETAILS OF RAMP 15 & I-90  
SEE SHEET N<sup>o</sup> 44#45

NOTE: FOR SODDING QUANTITIES  
SEE SHEET N<sup>o</sup> 37

FOR FENCE LOCATION  
SEE SH'T. N<sup>o</sup> 149

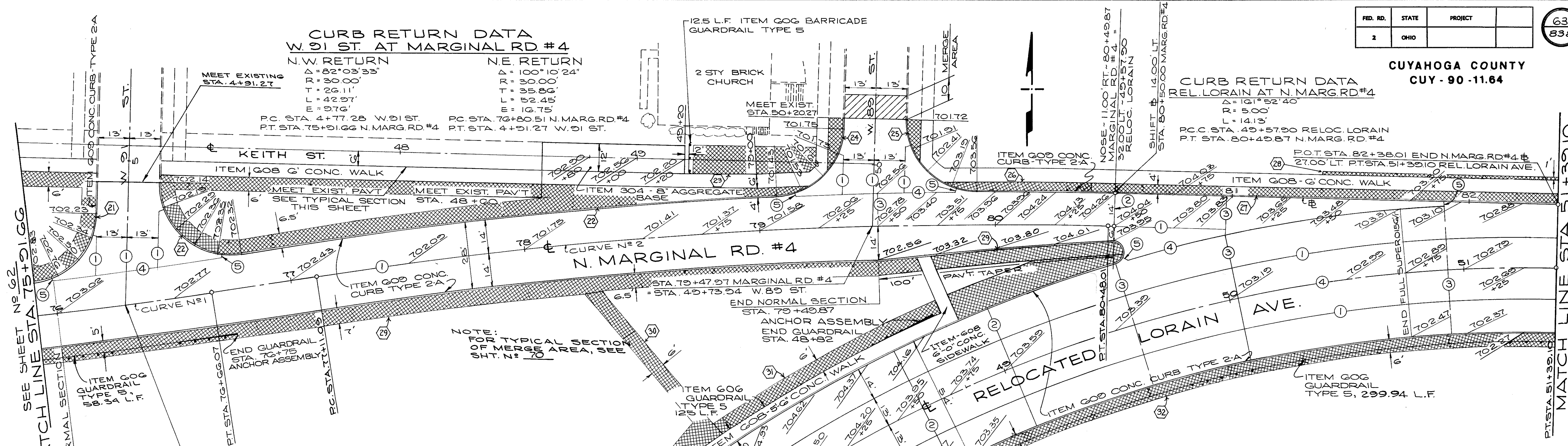
- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ④ KEY JOINT WITHOUT TIE BARS
  - ⑤ EXPANSION JOINT WITHOUT DOWELS

CALCULATED BY BEK DATE 8/73  
CHECKED BY JZS DATE 3/74

⬡ SODDING AREA NUMBER      ▨ SODDING

**PAVEMENT PLANS**  
**N. MARGINAL RD. NO. 4**

CUYAHOGA COUNTY  
CUY - 90 - 11.64



**CURB RETURN DATA  
W 91 ST. AT MARGINAL RD #4**

<b>N.W. RETURN</b>	<b>N.E. RETURN</b>
$\Delta = 82^{\circ}03'33''$	$\Delta = 100^{\circ}10'24''$
$R = 30.00'$	$R = 30.00'$
$T = 26.11'$	$T = 35.86'$
$L = 42.97'$	$L = 52.45'$
$E = 9.76'$	$E = 16.75'$
P.C. STA. 4+77.28 W 91 ST.	P.C. STA. 76+80.51 N. MARG. RD #4
P.T. STA. 75+91.66 N. MARG. RD #4	P.T. STA. 4+91.27 W 91 ST.

**CURB RETURN DATA  
REL. LORAIN AT N. MARG. RD #4**

$\Delta = 161^{\circ}52'40''$
$R = 5.00'$
$L = 14.13'$
P.C. STA. 49+57.90 RELOC. LORAIN
P.T. STA. 80+49.87 N. MARG. RD #4

**CURB RETURN DATA  
W 89 ST. AT N. MARGINAL RD #4**

<b>N.W. RETURN</b>	<b>N.E. RETURN</b>
$\Delta = 85^{\circ}45'08''$	$\Delta = 88^{\circ}16'43''$
$R = 30.00'$	$R = 30.00'$
$T = 27.85'$	$T = 29.11'$
$L = 44.90'$	$L = 46.22'$
$E = 10.94'$	$E = 10.32'$
P.C. STA. 50+15.28 W 89 ST.	P.C. STA. 79+92.36 MARG. RD #4
P.T. STA. 79+08.15 N. MARG. RD #4	P.T. STA. 50+20.27 W 89 ST.

**CURVE DATA  
N. MARGINAL RD #4**

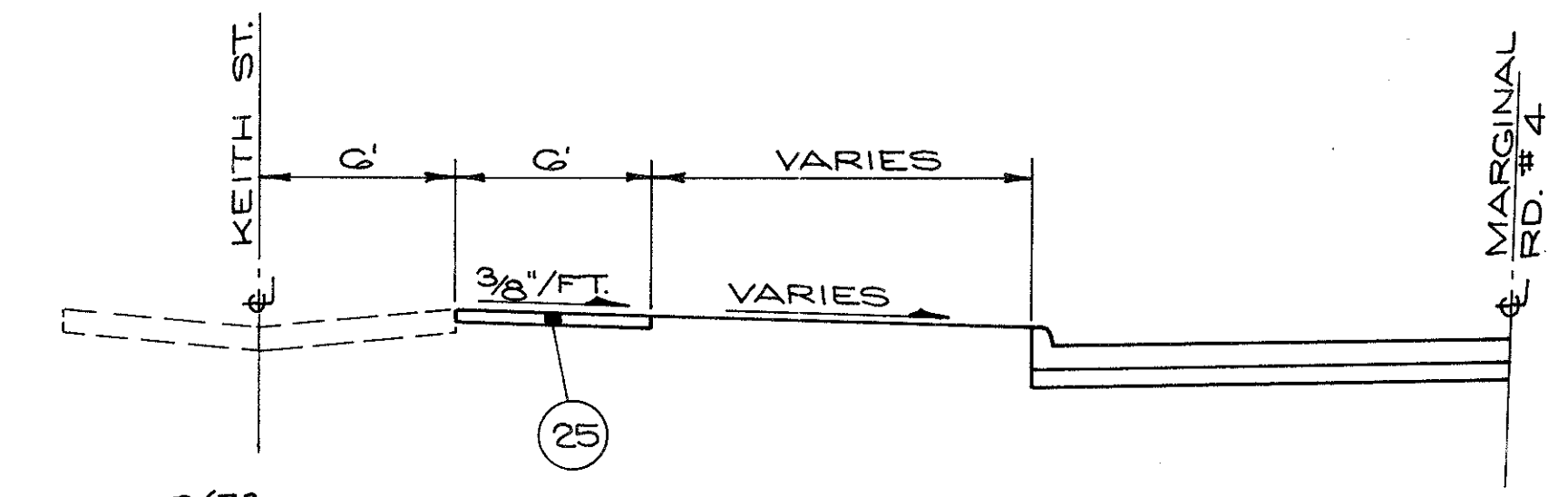
<b>No 1</b>	<b>No 2</b>
P.I. STA. 74+98.33	P.I. STA. 78+79.99
$\Delta = 10^{\circ}05'27''$	$\Delta = 10^{\circ}06'28''$
$D_c = 3^{\circ}00'00''$	$D_c = 3^{\circ}00'00''$
$R = 1909.86'$	$R = 1909.86'$
$T = 168.62'$	$T = 168.90'$
$L = 336.36'$	$L = 336.92'$
$E = 7.43'$	$E = 7.45'$

**CURVE DATA  
& RELOC. LORAIN AVE.**

P.I. STA. 49+15.09
$\Delta = 17^{\circ}46'42''$
$D_c = 10^{\circ}00'00''$
$R = 572.96'$
$T = 253.77'$
$L = 477.78'$
$E = 53.68'$

**JOINT LEGEND**

- ① STANDARD LONGITUDINAL JOINT
- ② STANDARD EXPANSION JOINT
- ③ STANDARD CONTRACTION JOINT
- ④ KEY JOINT WITHOUT TIE BARS
- ⑤ EXPANSION JOINT WITHOUT DOWELS



TYPICAL SECTION  
PROP. WALK ALONG KEITH ST.

○ SODDING AREA NUMBER      ▨ SODDING

**PAVEMENT PLANS  
RELOC. LORAIN AVE. & N. MARGINAL RD. NO. 4**

FOR DETAILS OF I-90 SEE SHEET NO 45

NOTE: FOR SODDING QUANTITIES  
SEE SHEET NO 37

CALCULATED BY B.G.K. DATE 8/73  
CHECKED BY J.Z.S. DATE 5/74

SEE SHEET No 62  
MATCH LINE STA. 75+91.66

MATCH LINE STA. 51+39.10  
SEE SHEET No 64



CUYAHOGA COUNTY  
CUY - 90 - 11.64

**CURB RETURN DATA  
W. 84 - W. 85 CONN'T'R AT WILLARD**

**S.W. RETURN**  
 $\Delta = 89^{\circ}50'56''$   
 $R = 25.00'$   
 $T = 24.93'$   
 $L = 39.20'$   
 $E = 10.31'$   
 PC STA. 49+52.01 WILLARD AVE.  
 PT. STA. 52+58.25 W.84-W.85 ST. CONN'T'R

**CURVE DATA  
W. 84 - W. 85 ST. CONN'T'R**

P.I. STA. 51+37.32  
 $\Delta = 24^{\circ}51'18''$   
 $D_c = 10^{\circ}00'00''$   
 $R = 572.96'$   
 $T = 126.26'$   
 $L_c = 248.55'$   
 $E = 13.75'$

\* NOTE:  
 THE EXTRA 10' OF PAV'T  
 ADDED TO THE LEFT LANE  
 OF W. 84 - 85 CONN. BETWEEN  
 RELOC. LORAIN AVE. & WILLARD  
 AVE. IS 100% CITY PARTICIPATION.

**CURB RETURN DATA  
WOLCOTT AVE. AT W. 84 - W. 85 CONN'T'R**

**N.E. RETURN**  
 $\Delta = 90^{\circ}02'54''$   
 $R = 15.00'$   
 $T = 15.01'$   
 $L = 23.57'$   
 $E = 6.22'$   
 PC STA. 50+28.02 WOLCOTT AVE.  
 PT. STA. 52+66.90 W.84-W.85 CONN.

**S.E. RETURN**  
 $\Delta = 93^{\circ}05'50''$   
 $R = 15.00'$   
 $T = 15.83'$   
 $L = 24.37'$   
 $E = 6.81'$   
 PC STA. 52+20.96 W.84-W.85 CONN.  
 PT. STA. 50+29.22 WOLCOTT AVE.

**CURB RETURN DATA  
W. 84 - W. 85 ST. CONNECTOR AT RELOC. LORAIN AVE.**

**N.W. RETURN**  
 $\Delta = 99^{\circ}58'20''$   
 $R = 30.00'$   
 $T = 35.74'$   
 $L = 52.34'$   
 $E = 16.66'$   
 PC STA. 51+60.05 W.84-W.85 CONN.  
 PT. STA. 53+28.77 RELOC. LORAIN

**N.E. RETURN**  
 $\Delta = 78^{\circ}11'50''$   
 $R = 30.00'$   
 $T = 24.31'$   
 $L = 40.94'$   
 $E = 8.66'$   
 PC STA. 54+26.52 RELOC. LORAIN  
 PT. STA. 51+41.74 W.84-W.85 CONN.

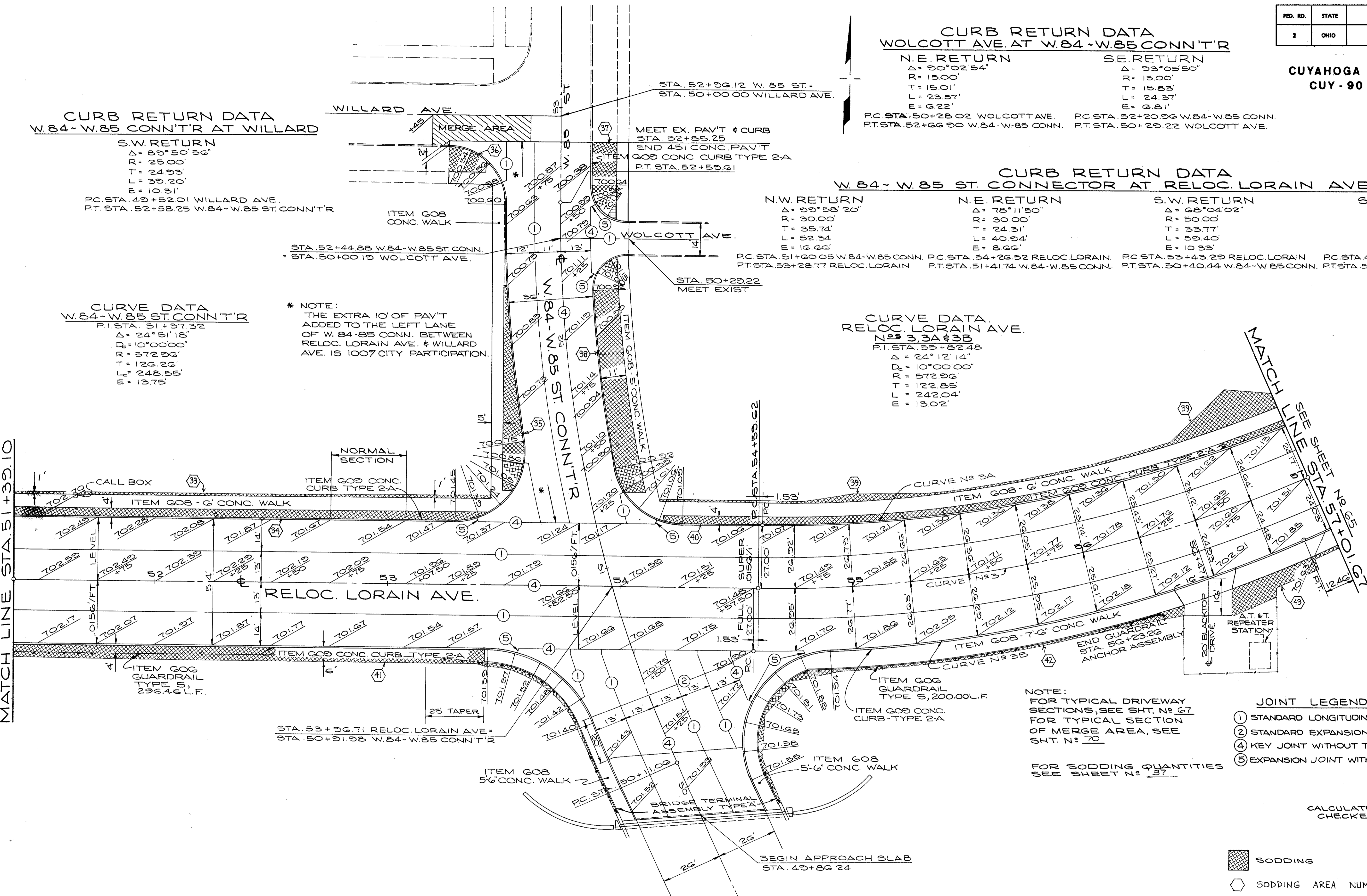
**S.W. RETURN**  
 $\Delta = 68^{\circ}04'02''$   
 $R = 40.00'$   
 $T = 33.77'$   
 $L = 59.40'$   
 $E = 10.33'$   
 PC STA. 53+43.29 RELOC. LORAIN  
 PT. STA. 50+40.44 W.84-W.85 CONN.

**S.E. RETURN**  
 $\Delta = 111^{\circ}32'13''$   
 $R = 40.00'$   
 $T = 58.79'$   
 $L = 77.87'$   
 $E = 31.11'$   
 PC STA. 49+91.06 W.84-W.85 CONN.  
 PT. STA. 54+90.01 RELOC. LORAIN

**CURVE DATA  
RELOC. LORAIN AVE.**

N<sub>29</sub> 3.3A & 3B  
 P.I. STA. 55+82.48  
 $\Delta = 24^{\circ}12'14''$   
 $D_c = 10^{\circ}00'00''$   
 $R = 572.96'$   
 $T = 122.85'$   
 $L = 242.04'$   
 $E = 13.02'$

SEE SHEET NO. 63  
MATCH LINE STA. 51+39.10



NOTE:  
 FOR TYPICAL DRIVEWAY  
 SECTIONS, SEE SHT. NO. 67  
 FOR TYPICAL SECTION  
 OF MERGE AREA, SEE  
 SHT. NO. 70

FOR SODDING QUANTITIES  
 SEE SHEET NO. 37

- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ② STANDARD EXPANSION JOINT
  - ④ KEY JOINT WITHOUT TIE BARS
  - ⑤ EXPANSION JOINT WITHOUT DOWELS

- SODDING
- SODDING AREA NUMBER

CALCULATED BY *BC* DATE 8/73  
 CHECKED BY *JZ* DATE 5/74

FOR DETAILS OF I-90 SEE SHEET NO. 47 & 46

**PAVEMENT PLANS  
RELOC. LORAIN AVE. & W. 84<sup>TH</sup> - W. 85<sup>TH</sup> ST. CONNECTOR**

**CURB RETURN DATA  
W. 80 ST. AT LORAIN AVE.**

<b>S.W. RETURN</b> Δ = 113°47'56" R = 15.00' T = 23.01' L = 20.70' E = 12.47'	<b>N.W. RETURN</b> Δ = 66°20'04" R = 15.00' T = 0.80' L = 17.37' E = 2.92'
--	---

PC STA. 62+31.57 LORAIN AVE. PC STA. 6+70.62 W.80 ST.  
PT. STA. 5+84.25 W.80 ST. PT. STA. 62+68.61 LORAIN AVE.

**CURB RETURN DATA  
W. 83 ST. AT LORAIN AVE.**

<b>N.W. RETURN</b> Δ = 66°46'11" R = 20.00' T = 13.18' L = 23.31' E = 3.95'	<b>N.E. RETURN</b> Δ = 114°11'22" R = 20.00' T = 20.91' L = 39.86' E = 16.82'
--	--

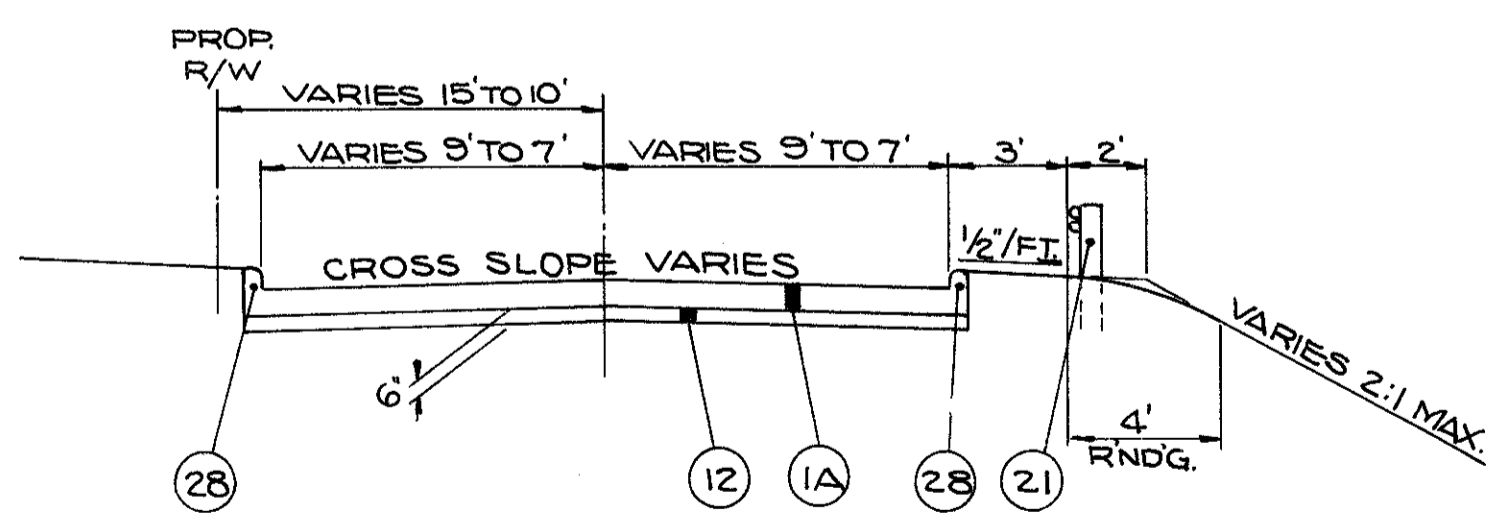
PC STA. 50+32.56 W.83 ST. PC STA. 57+87.27 LORAIN AVE.  
PT. STA. 57+12.67 LORAIN AVE. PT. STA. 50+63.51 W.83 ST.

**CURB RETURN DATA  
W. 81 ST. AT LORAIN AVE.**

<b>N.W. RETURN</b> Δ = 66°15'53" R = 20.00' T = 13.05' L = 23.13' E = 3.88'	<b>N.E. RETURN</b> Δ = 113°44'07" R = 15.00' T = 22.98' L = 29.78' E = 12.44'
--	--

PC STA. 50+33.56 W.81 ST. PC STA. 61+41.75 LORAIN AVE.  
PT. STA. 60+77.30 LORAIN AVE. PT. STA. 50+54.92 W.81 ST.

NOTE:  
FOR TYPICAL DRIVEWAY SECTIONS, SEE SHT. N<sup>o</sup> 67  
FOR TYPICAL SECTION OF MERGE AREA, SEE SHT. N<sup>o</sup> 70



**W. 80TH ST. - NORDICA AVE. CONN.**

**TYPICAL SECTION**

LIMITING STATIONS  
STA. 49 + 75.12 TO STA. 50 + 84.35

**LEGEND**

- (1A) ITEM 451 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- (12) ITEM 310 SUBBASE
- (21) ITEM 606 GUARDRAIL STANDARD TYPE 5
- (28) ITEM 609 CONCRETE CURB STANDARD TYPE 2-A

FOR DETAILS OF RAMP 17 SEE SHEET N<sup>o</sup> 49  
NOTE: FOR SODDING QUANTITIES SEE SHEET N<sup>o</sup> 37

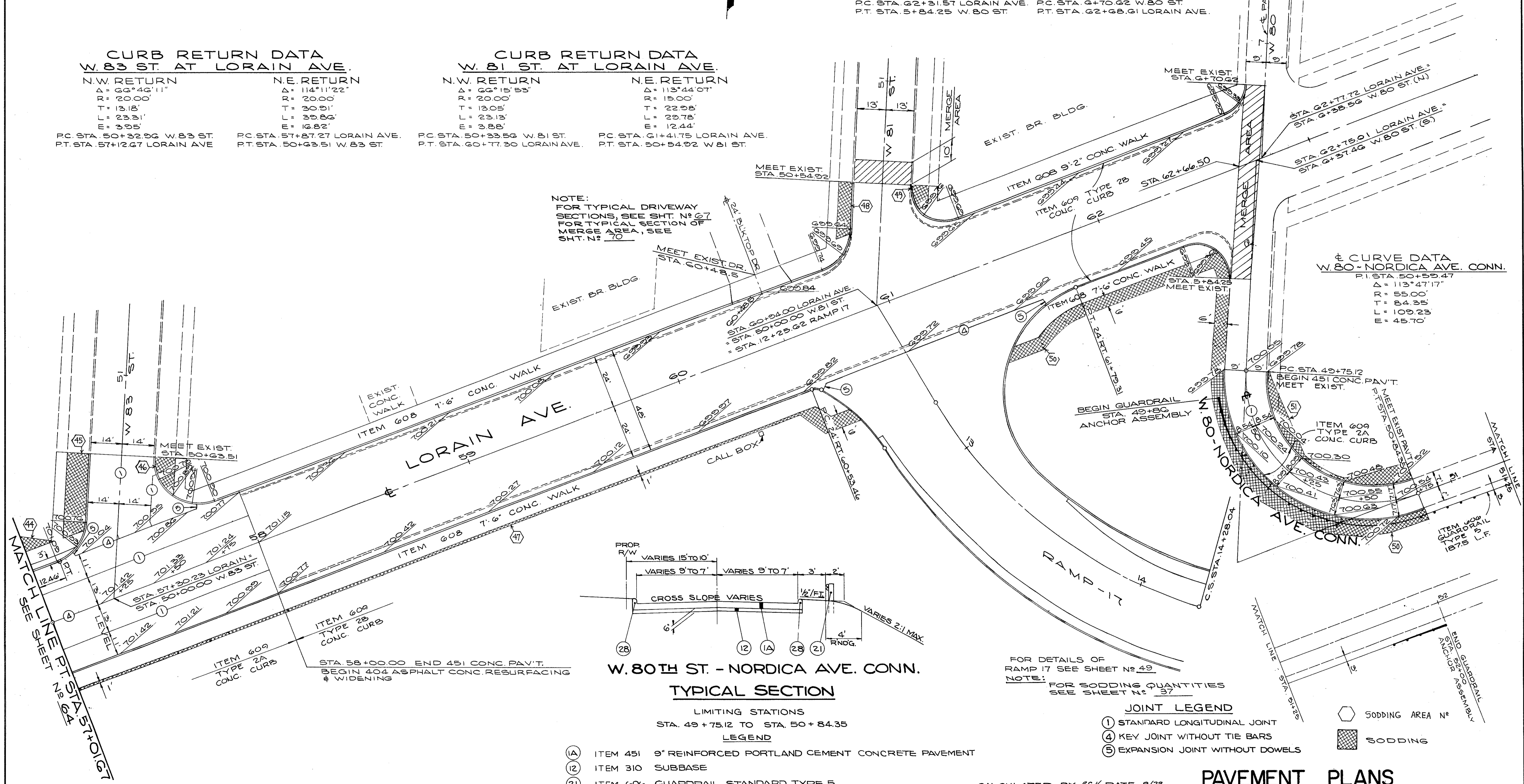
**JOINT LEGEND**

- (1) STANDARD LONGITUDINAL JOINT
- (4) KEY JOINT WITHOUT TIE BARS
- (5) EXPANSION JOINT WITHOUT DOWELS

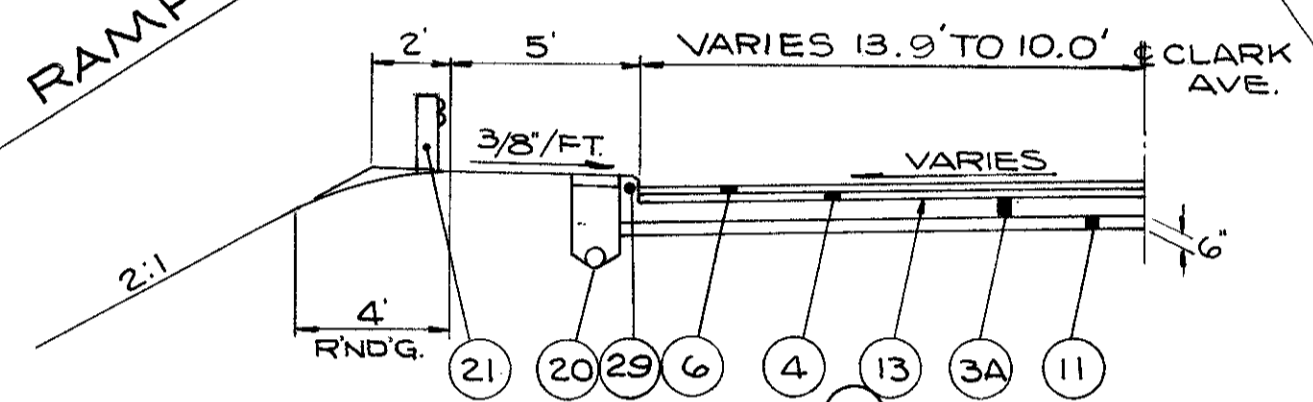
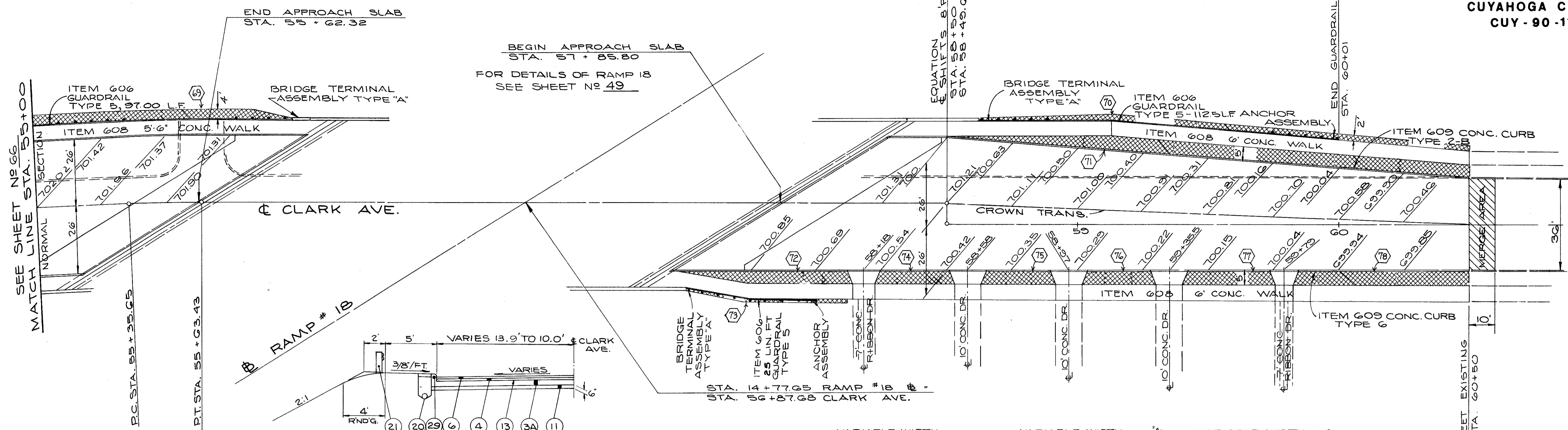
- (SODDING AREA N<sup>o</sup>)
- (SODDING)

CALCULATED BY AK DATE 8/73  
CHECKED BY JZS DATE 5/74

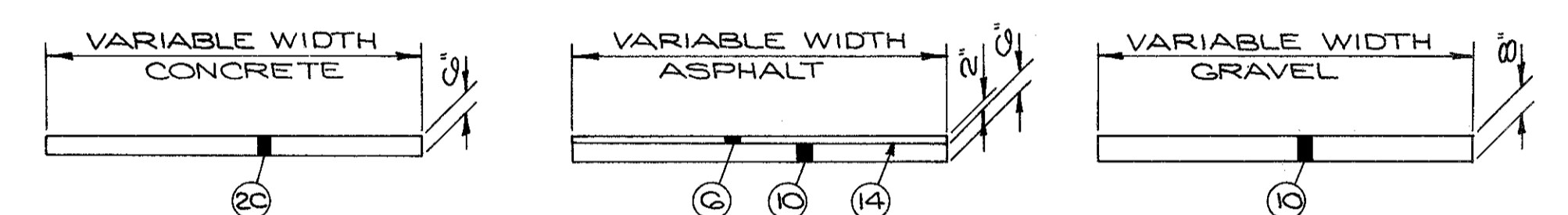
**PAVEMENT PLANS  
LORAIN AVE.**







**CLARK AVE.  
TYPICAL SECTION**



**TYPICAL DRIVEWAY SECTIONS**

**CURVE DATA  
CLARK AVE.**

P.I. STA. 55+49.54  
 $\Delta = 2^\circ 46' 42''$   
 $R = 572.96'$   
 $T = 13.89'$   
 $L = 27.78'$   
 $D = 10^\circ 00' 00''$

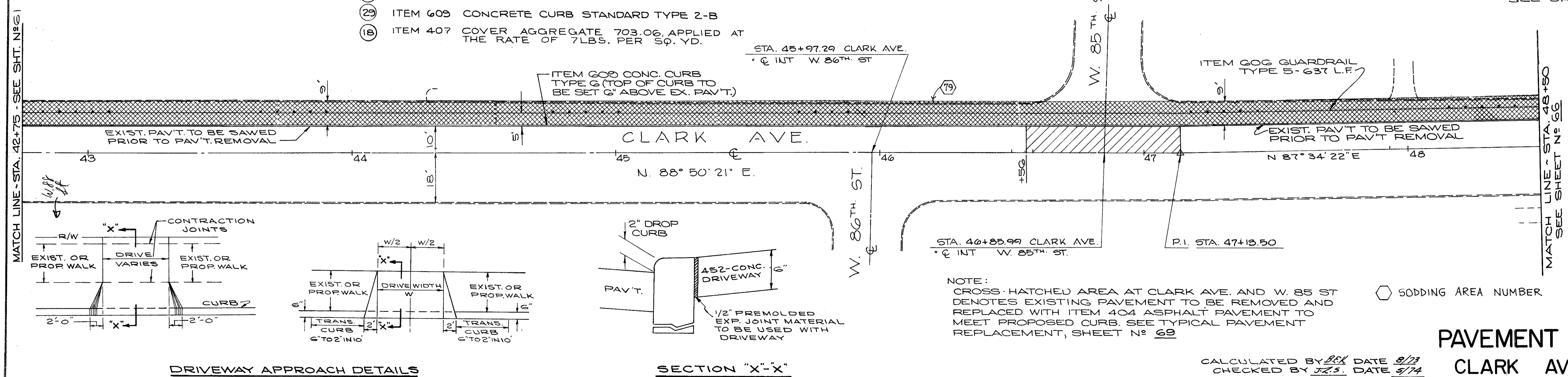
**LIMITING STATIONS**  
STA. 41+00 TO STA. 42+56

- (3A) ITEM 305 8' PORTLAND CEMENT CONCRETE BASE
- (4) ITEM 402 1 1/4" ASPHALT CONCRETE (70-85 OR AC 20)
- (6) ITEM 404 1 1/4" ASPHALT CONCRETE (70-85 OR AC 20)
- (11) ITEM 310 SUBBASE GRADING A
- (13) ITEM 407 TACK COAT, 702.04 MS-2 OR RS-1, OR 702.02 RC-70, OR RC-250 APPLIED AT THE RATE OF 0.1 GAL. PER SQ. YD.
- (20) ITEM 605 6" SHALLOW, DEEP OR UNCLASSIFIED UNDERDRAIN
- (21) ITEM 606 GUARDRAIL STANDARD TYPE 5
- (29) ITEM 609 CONCRETE CURB STANDARD TYPE 2-B
- (18) ITEM 407 COVER AGGREGATE 703.06, APPLIED AT THE RATE OF 7 LBS. PER SQ. YD.

- (20) ITEM 452 6" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT
- (6) ITEM 404 2" ASPHALT CONCRETE (70-85 OR AC 20)
- (10) ITEM 304 AGGREGATE BASE
- (14) ITEM 408 BITUMINOUS PRIME COAT 702.09, RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL. PER SQ. YD.

**NOTE:**  
DRIVEWAY APPROACHES SHALL BE ITEM-452 6" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT, FROM CURB LINE TO BACK OF SIDEWALK OR R/W LINE. BEYOND THE R/W LINE THE DRIVEWAY WILL BE REPLACED IN KIND WITH ONE OF THE THREE TYPICAL SECTIONS SHOWN ON THIS SHEET.

**NOTE:**  
FOR SODDING QUANTITIES SEE SHEET N<sup>o</sup> 37



**DRIVEWAY APPROACH DETAILS**

**SECTION "X-X"**

**NOTE:**  
CROSS-HATCHED AREA AT CLARK AVE. AND W. 85 ST DENOTES EXISTING PAVEMENT TO BE REMOVED AND REPLACED WITH ITEM 404 ASPHALT PAVEMENT TO MEET PROPOSED CURB. SEE TYPICAL PAVEMENT REPLACEMENT, SHEET N<sup>o</sup> 69

○ SODDING AREA NUMBER      ▨ SODDING

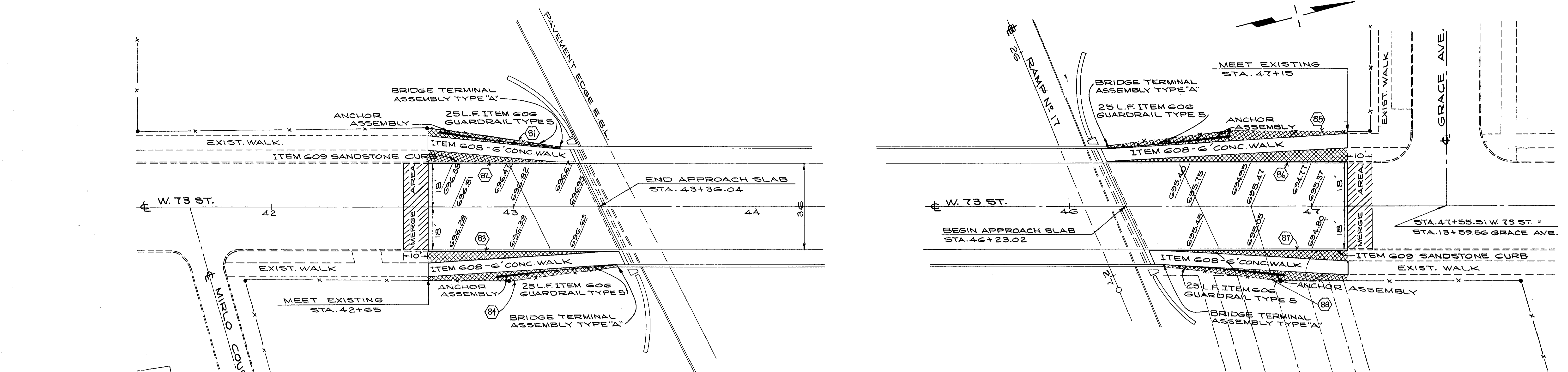
CALCULATED BY *JK* DATE 8/73  
CHECKED BY *JLS* DATE 9/74

**PAVEMENT PLANS  
CLARK AVENUE**

FED. RD.	STATE	PROJECT
2	OHIO	

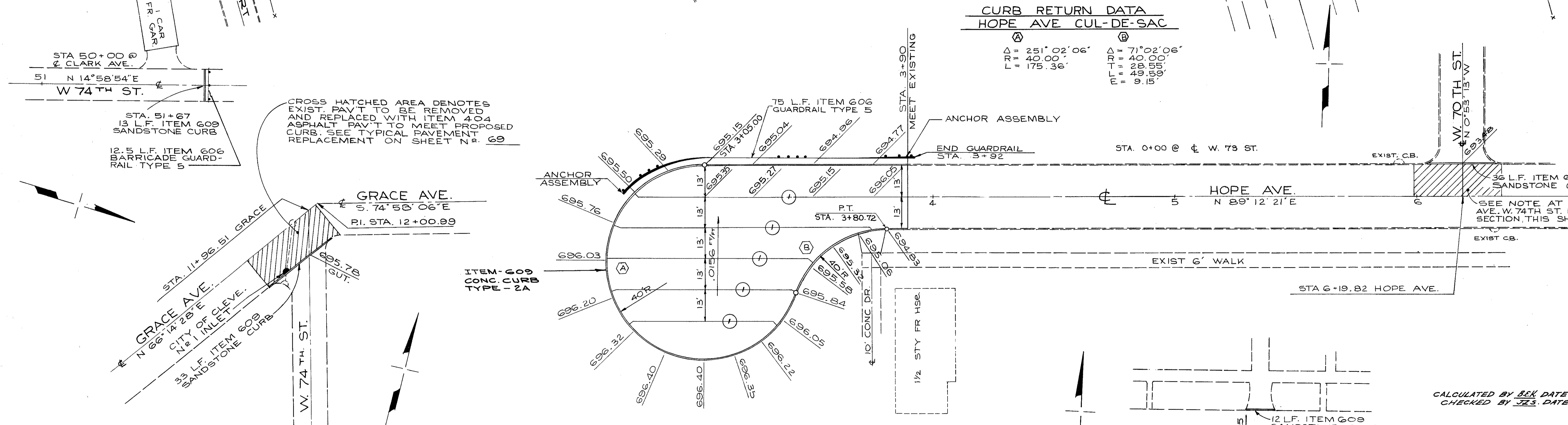
68  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



**CURB RETURN DATA  
HOPE AVE CUL-DE-SAC**

<b>A</b>	<b>B</b>
$\Delta = 251^{\circ}02'06"$	$\Delta = 71^{\circ}02'06"$
$R = 40.00'$	$R = 40.00'$
$L = 175.36'$	$T = 28.55'$
	$L = 49.59'$
	$E = 9.15'$



NOTE:  
FOR TYPICAL DRIVEWAY SECTIONS SEE SHIT N: 67  
FOR TYPICAL SECTION OF MERGE AREA, SEE SHIT N: 70

NOTE:  
FOR SODDING QUANTITIES SEE SHEET N: 37

JOINT LEGEND  
① STANDARD LONGITUDINAL JOINT

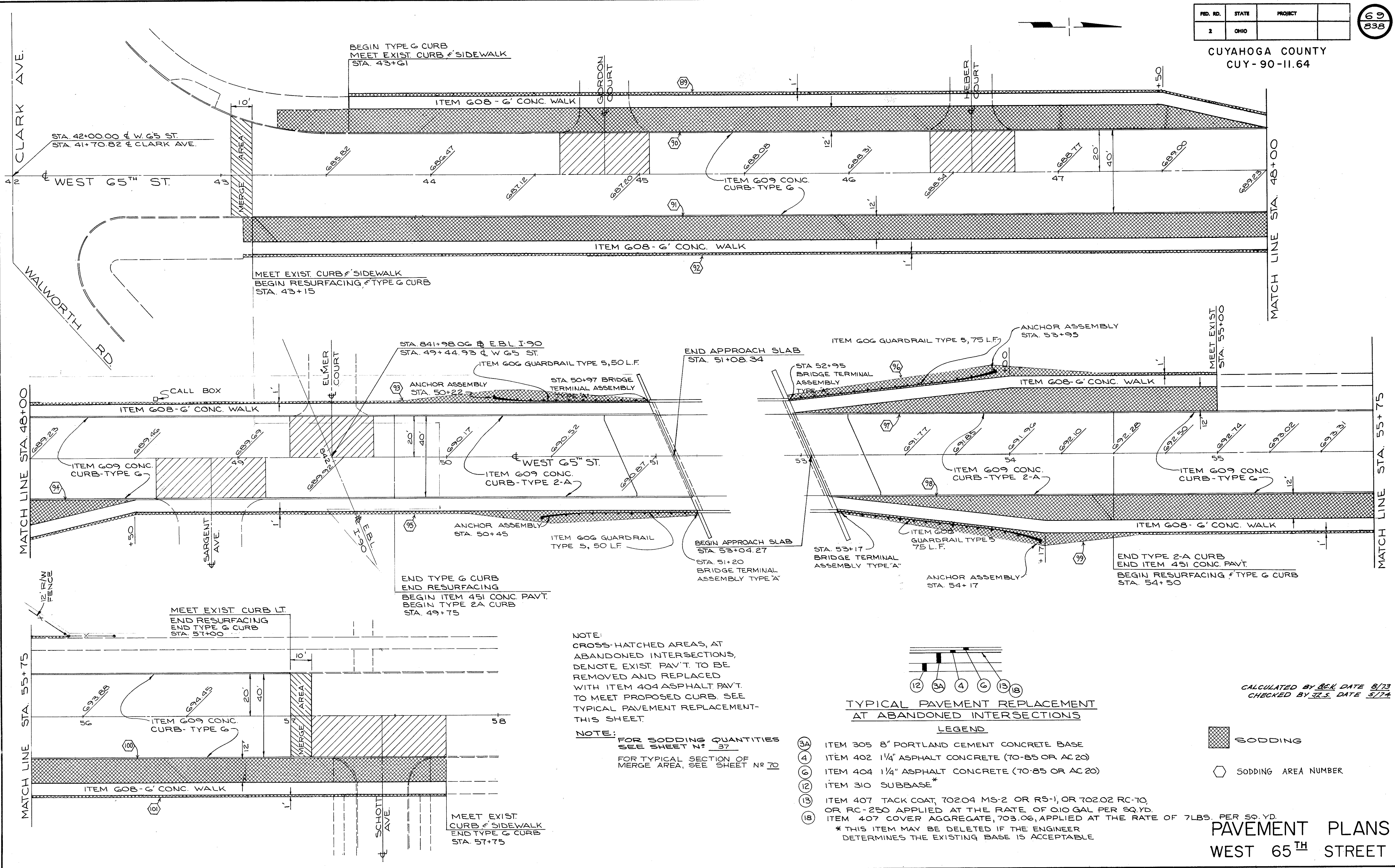
CALCULATED BY BSK DATE 9/73  
CHECKED BY JCS DATE 5/74

**PAVEMENT PLANS  
WEST 73RD STREET  
W. 74TH ST. & HOPE AVE CUL-DE-SAC**

FED. RD.	STATE	PROJECT
2	OHIO	

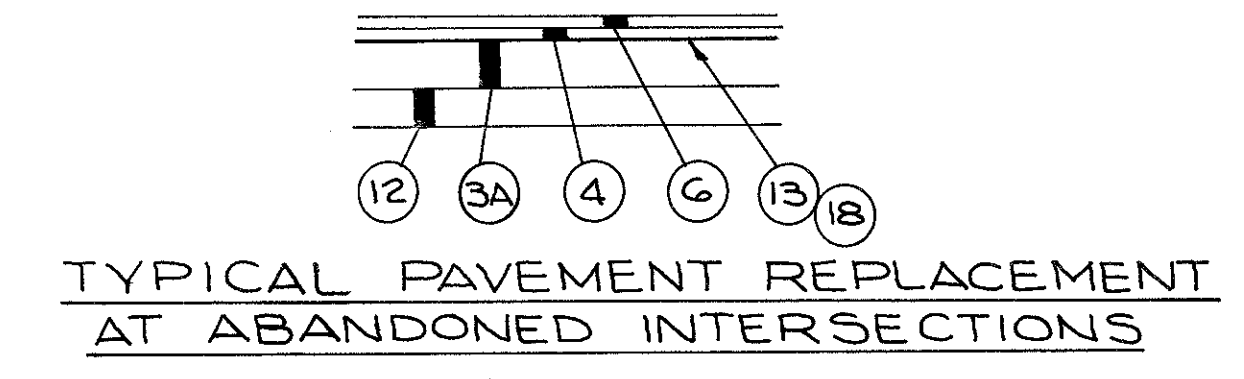
69  
838

CUYAHOGA COUNTY  
CUY-90-11.64

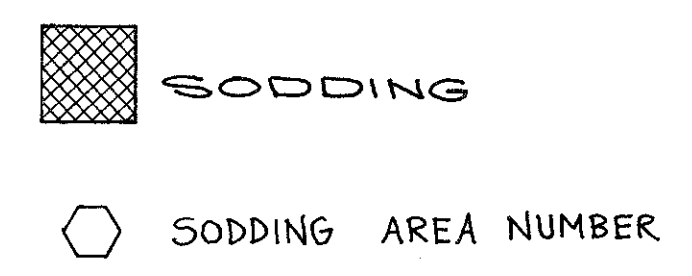


NOTE:  
CROSS-HATCHED AREAS, AT  
ABANDONED INTERSECTIONS,  
DENOTE EXIST. PAV'T. TO BE  
REMOVED AND REPLACED  
WITH ITEM 404 ASPHALT PAVT.  
TO MEET PROPOSED CURB. SEE  
TYPICAL PAVEMENT REPLACEMENT-  
THIS SHEET.

NOTE:  
FOR SODDING QUANTITIES  
SEE SHEET N<sup>o</sup> 37  
FOR TYPICAL SECTION OF  
MERGE AREA, SEE SHEET N<sup>o</sup> 70



- (3A) ITEM 305 8" PORTLAND CEMENT CONCRETE BASE
  - (4) ITEM 402 1 1/4" ASPHALT CONCRETE (70-85 OR AC 20)
  - (6) ITEM 404 1 1/4" ASPHALT CONCRETE (70-85 OR AC 20)
  - (12) ITEM 310 SUBBASE\*
  - (13) ITEM 407 TACK COAT, 702.04 MS-2 OR RS-1, OR 702.02 RC-70, OR RC-250 APPLIED AT THE RATE OF 0.10 GAL PER SQ. YD.
  - (18) ITEM 407 COVER AGGREGATE, 703.06, APPLIED AT THE RATE OF 7 LBS. PER SQ. YD.
- \* THIS ITEM MAY BE DELETED IF THE ENGINEER DETERMINES THE EXISTING BASE IS ACCEPTABLE.



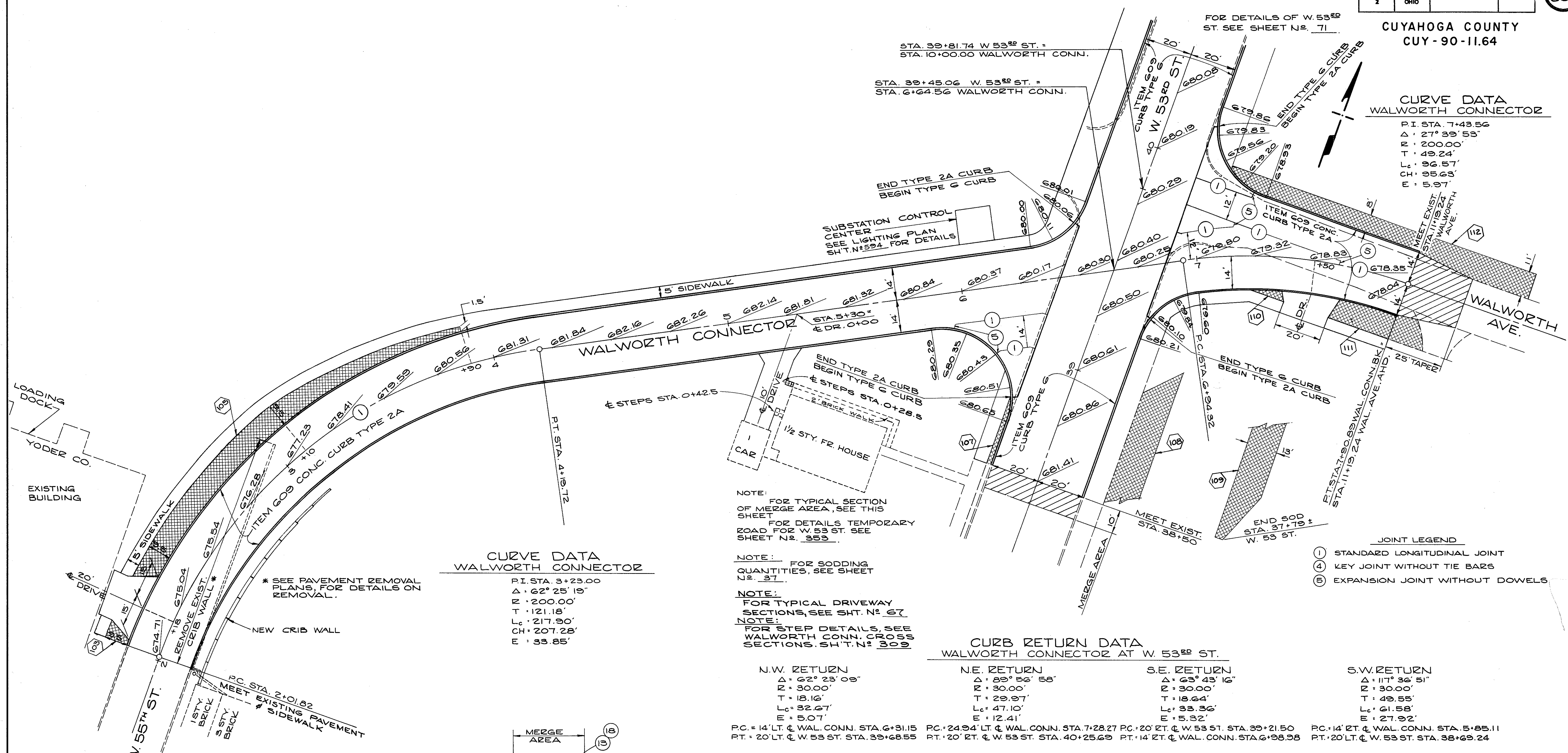
CALCULATED BY B&K DATE 8/73  
CHECKED BY J.E.S. DATE 5/74

PAVEMENT PLANS  
WEST 65<sup>TH</sup> STREET

CUYAHOGA COUNTY  
CUY-90-11.64

**CURVE DATA**  
WALWORTH CONNECTOR

P.I. STA. 7+43.56  
Δ: 27° 39' 53"  
R: 200.00'  
T: 49.24'  
Lc: 96.57'  
CH: 95.63'  
E: 5.97'



**CURVE DATA**  
WALWORTH CONNECTOR

P.I. STA. 3+23.00  
Δ: 62° 25' 19"  
R: 200.00'  
T: 121.18'  
Lc: 217.90'  
CH: 207.28'  
E: 33.85'

NOTE: FOR TYPICAL SECTION OF MERGE AREA, SEE THIS SHEET  
FOR DETAILS TEMPORARY ROAD FOR W. 53 ST. SEE SHEET N<sup>o</sup>. 353

NOTE: FOR SODDING QUANTITIES, SEE SHEET N<sup>o</sup>. 37

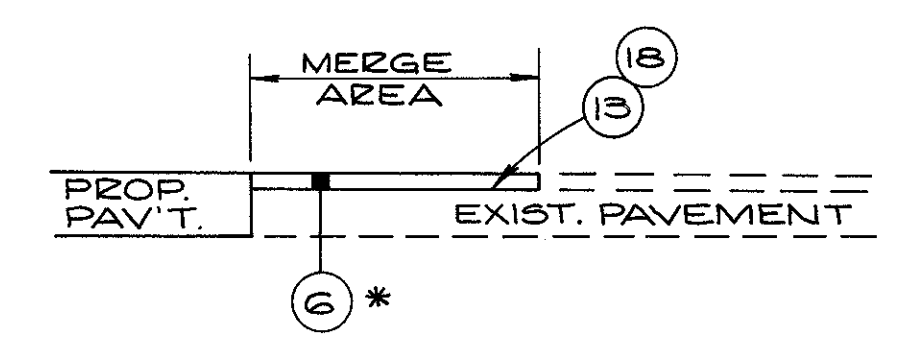
NOTE: FOR TYPICAL DRIVEWAY SECTIONS, SEE SHT. N<sup>o</sup>. 67

NOTE: FOR STEP DETAILS, SEE WALWORTH CONN. CROSS SECTIONS, SHT. N<sup>o</sup>. 309

**CURB RETURN DATA**  
WALWORTH CONNECTOR AT W. 53<sup>RD</sup> ST.

N.W. RETURN	N.E. RETURN	S.E. RETURN	S.W. RETURN
Δ: 62° 23' 09"	Δ: 89° 56' 58"	Δ: 63° 43' 16"	Δ: 117° 36' 51"
R: 30.00'	R: 30.00'	R: 30.00'	R: 30.00'
T: 18.16'	T: 29.97'	T: 18.64'	T: 49.55'
Lc: 32.67'	Lc: 47.10'	Lc: 33.36'	Lc: 61.58'
E: 5.07'	E: 12.41'	E: 5.32'	E: 27.92'
PC: 14' LT. & WAL. CONN. STA. 6+31.15	PC: 24.94' LT. & WAL. CONN. STA. 7+28.27	PC: 20' RT. & W. 53 ST. STA. 39+21.50	PC: 14' RT. & WAL. CONN. STA. 5+85.11
PT: 20' LT. & W. 53 ST. STA. 39+68.55	PT: 20' RT. & W. 53 ST. STA. 40+25.69	PT: 14' RT. & WAL. CONN. STA. 6+98.98	PT: 20' LT. & W. 53 ST. STA. 38+69.24

- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ④ KEY JOINT WITHOUT TIE BARS
  - ⑤ EXPANSION JOINT WITHOUT DOWELS



**TYPICAL SECTION OF MERGE AREA**

- ⑥ ITEM-404 ASPHALT CONCRETE (70-85 OR AC 20)
- ⑬ ITEM-407 TACK COAT, 702.04 MS-2 OR RS-1, OR 702.02 RC-70 OR RC-250 APPLIED AT THE RATE OF 0.10 GAL. PER SQ. YD.
- \* 1/4" DEPTH USED FOR ESTIMATING QUANTITIES FOR ITEM-404 ASPHALT CONCRETE.
- ⑱ ITEM-407 COVER AGGREGATE, 703.06, APPLIED AT THE RATE OF 7LBS. PER SQ. YD.

NOTE: CROSS-HATCHED AREAS AT MERGE AREAS DENOTE EXIST. PAV'T. TO BE REMOVED AND REPLACED WITH ITEM 404 ASPHALT PAV'T. TO MEET EXISTING PAVEMENT.

NOTE: CROSS-HATCHED AREA AT WALWORTH AVE. STA. 11+19.24 TO STA. 11+44.24 DENOTES EXIST. PAV'T. TO BE REMOVED AND REPLACED WITH ITEM 404 ASPHALT PAV'T. SEE TYPICAL PAV'T. REPLACEMENT, SHT. N<sup>o</sup>. 29

⑩ SODDING AREA NUMBER      [Hatched Box] SODDING

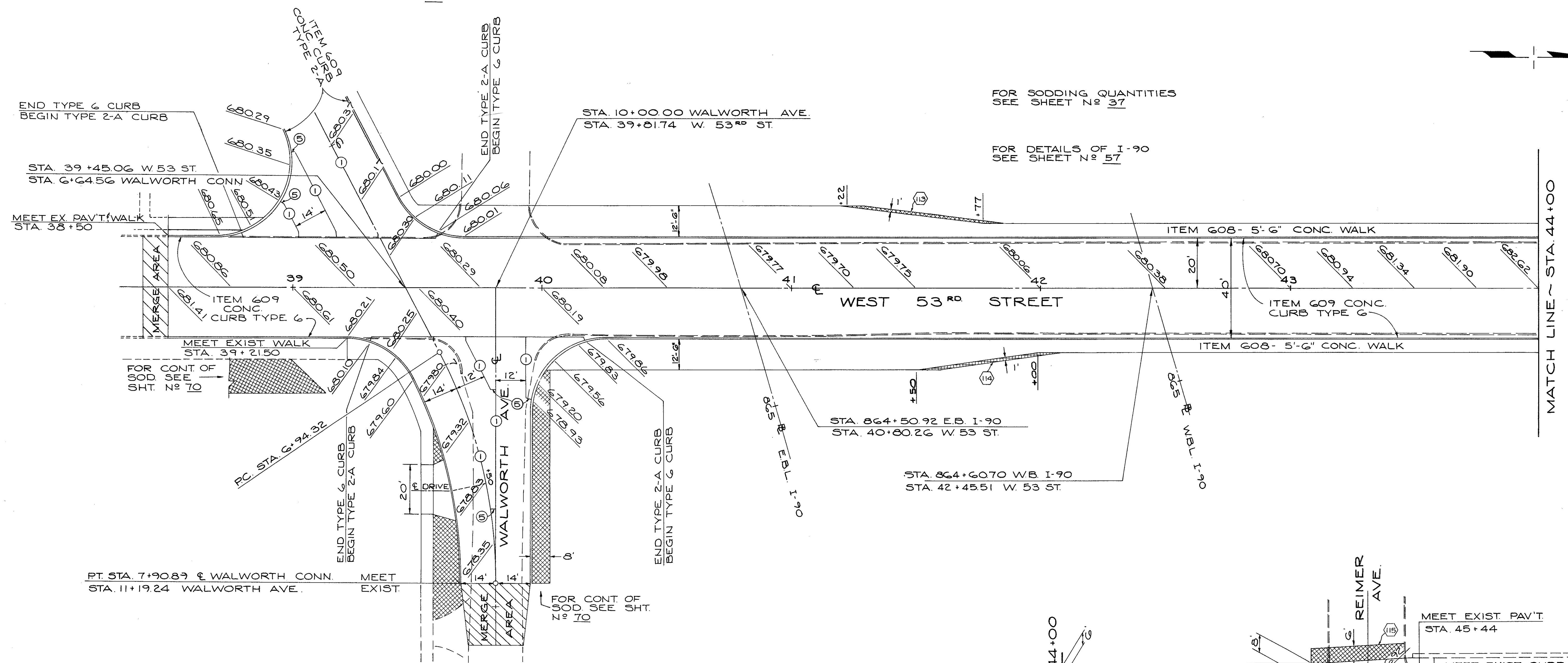
**PAVEMENT PLANS**  
WALWORTH CONNECTOR

CALCULATED BY BEK DATE 1/75  
CHECKED BY J.L.S. DATE 3/75

FOR DETAILS OF WALWORTH CONNECTOR  
SEE SHEET N<sup>o</sup> 70  
FOR TYPICAL SECTION OF MERGE AREA  
SEE SHEET N<sup>o</sup> 70

FOR SODDING QUANTITIES  
SEE SHEET N<sup>o</sup> 37

FOR DETAILS OF I-90  
SEE SHEET N<sup>o</sup> 57



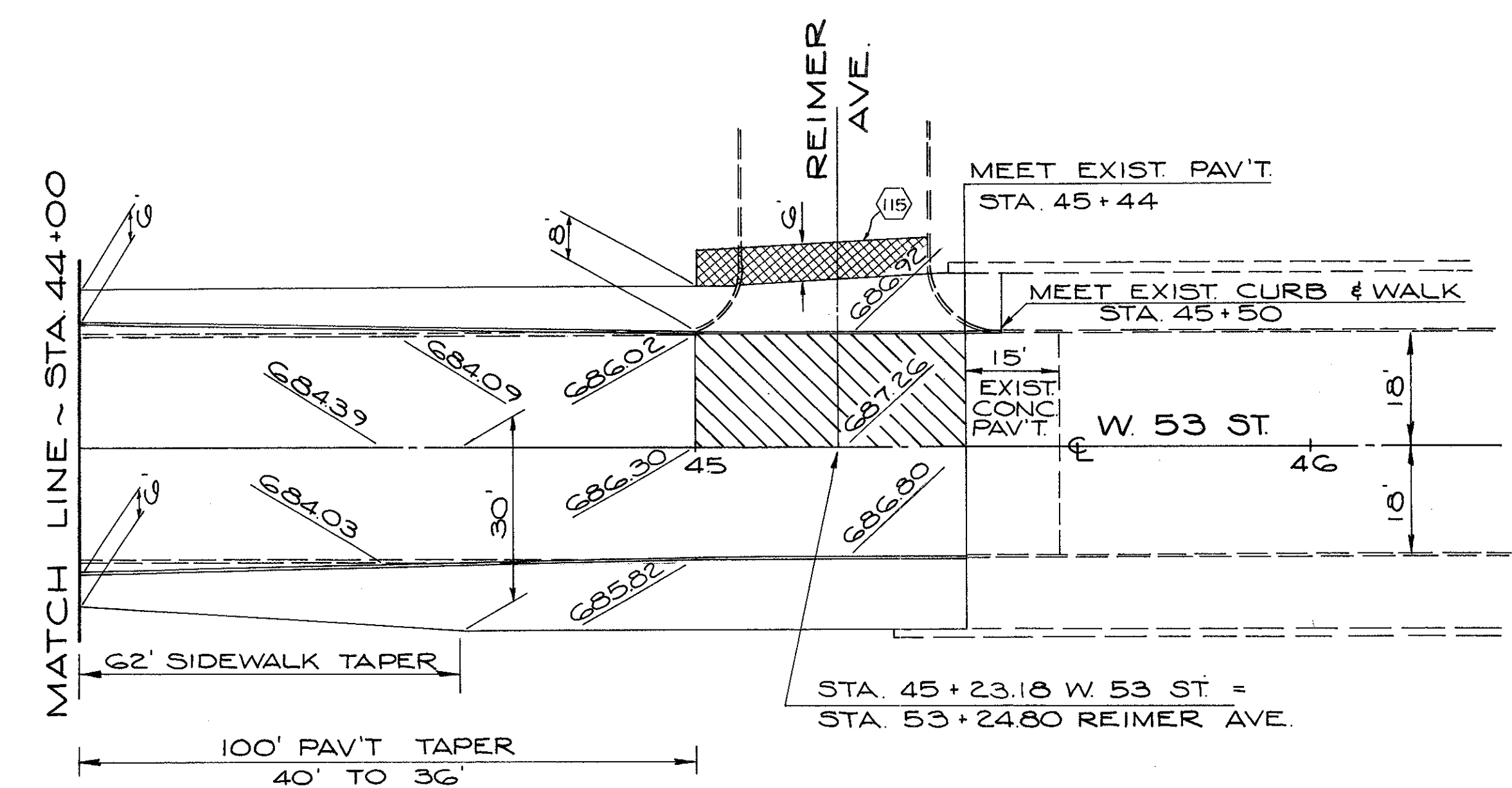
**CURB RETURN DATA**

**N.W. RETURN**  
 $\Delta = 62^\circ 23' 09''$   
 $R = 30.00'$   
 $T = 18.16'$   
 $L = 32.67'$   
 $E = 5.07'$   
 $PC = 14' LT. \& WALWORTH$   
 $CONN. STA. 6+31.15$   
 $PT. = 20' LT. \& W. 53 ST.$   
 $STA. 39+68.55$

**N.E. RETURN**  
 $\Delta = 89^\circ 56' 58''$   
 $R = 30.00'$   
 $T = 29.97'$   
 $L = 47.10'$   
 $E = 12.41'$   
 $PC = 24.94' LT. \& WALWORTH$   
 $CONN. STA. 7+28.27$   
 $PT. = 20' RT. \& W. 53 ST.$   
 $STA. 40+25.69$

**SE. RETURN**  
 $\Delta = 63^\circ 43' 16''$   
 $R = 30.00'$   
 $T = 18.64'$   
 $L = 33.36'$   
 $E = 5.32'$   
 $PC = 20' RT. \& W. 53 ST.$   
 $STA. 39+21.50$   
 $PT. = 14' RT. \& WALWORTH$   
 $CONN. STA. 6+98.98$

**SW. RETURN**  
 $\Delta = 117^\circ 36' 51''$   
 $R = 30.00'$   
 $T = 49.55'$   
 $L = 61.58'$   
 $E = 27.92'$   
 $PC = 14' RT. \& WALWORTH$   
 $CONN. STA. 5+85.11$   
 $PT. = 20' LT. \& W. 53 ST.$   
 $STA. 38+69.24$



NOTE:  
 CROSS-HATCHED AREA AT W. 53 ST.  
 AND REIMER AVE. DENOTES EXIST.  
 PAV'T. TO BE REMOVED AND REPLACED  
 WITH ITEM 404 ASPHALT PAV'T. TO  
 MEET PROPOSED CURB. SEE TYPICAL  
 PAV'T REPLACEMENT, SHT. NO 69

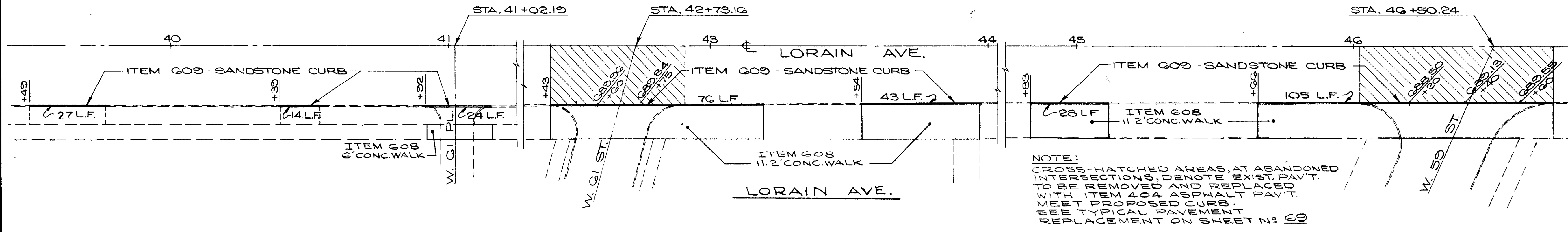
**PAVEMENT PLANS  
WEST 53<sup>RD</sup> STREET**

- SODDING
- SODDING AREA NUMBER
- JOINT LEGEND**
- ① STANDARD LONGITUDINAL JOINT
  - ④ KEY JOINT WITHOUT TIE BARS
  - ⑤ EXPANSION JOINT WITHOUT DOWELS

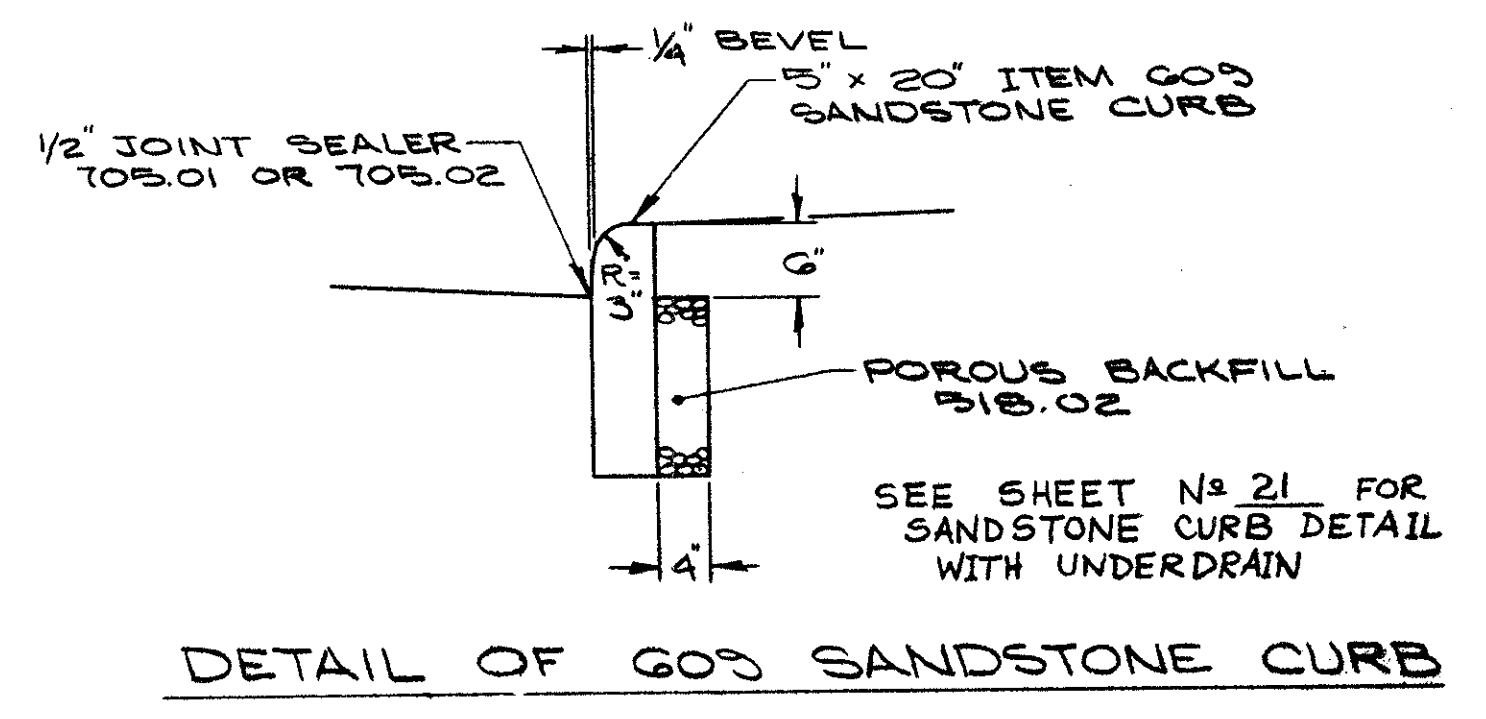
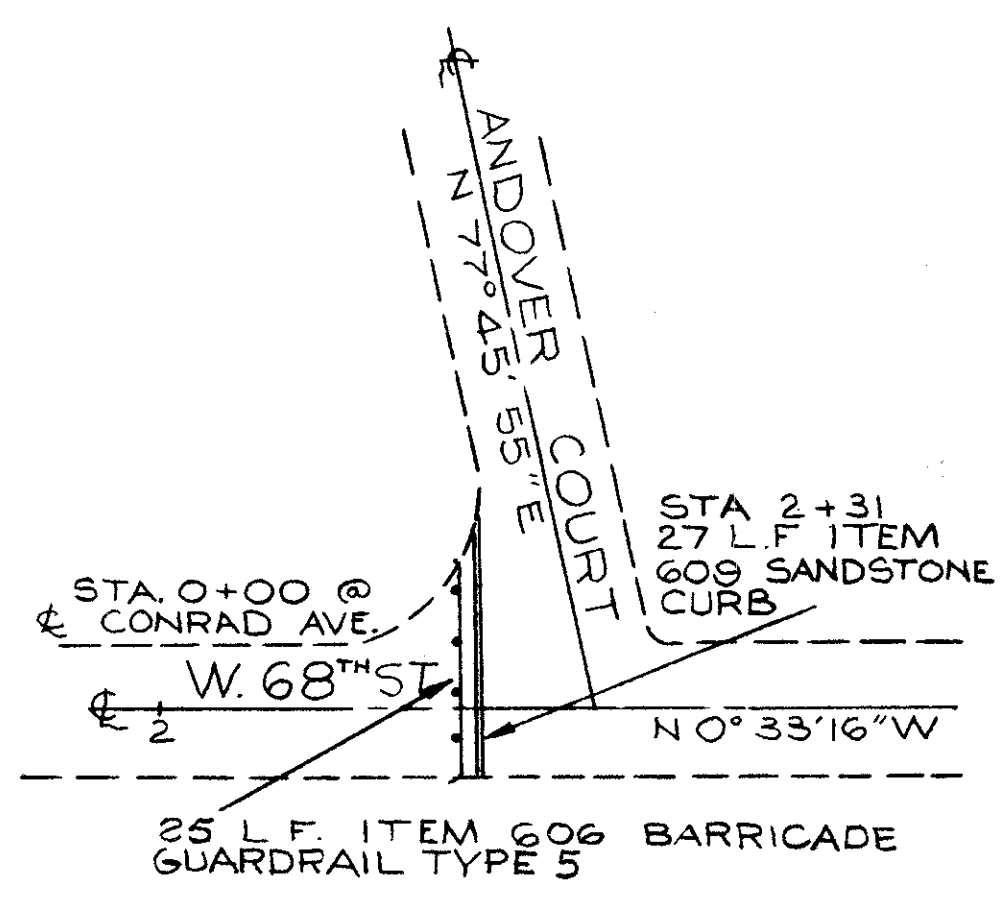
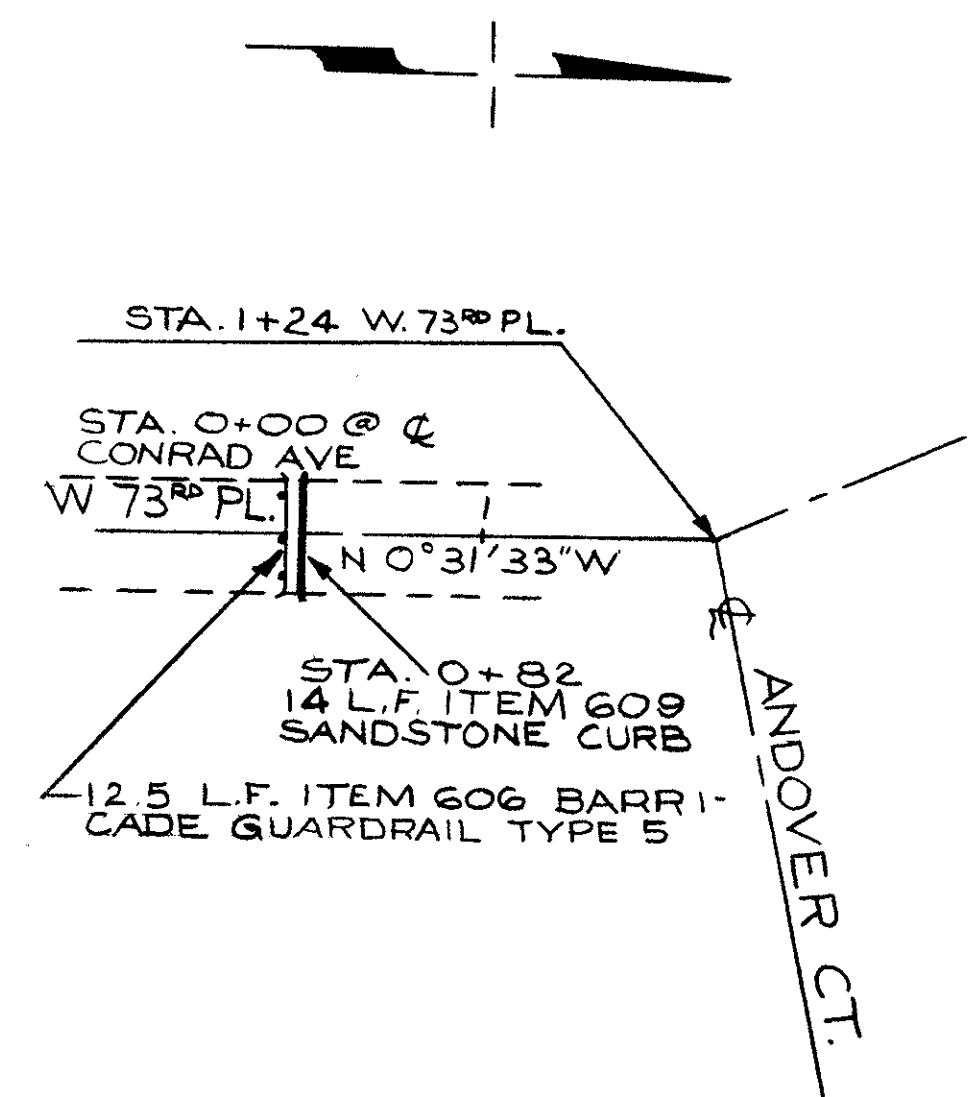
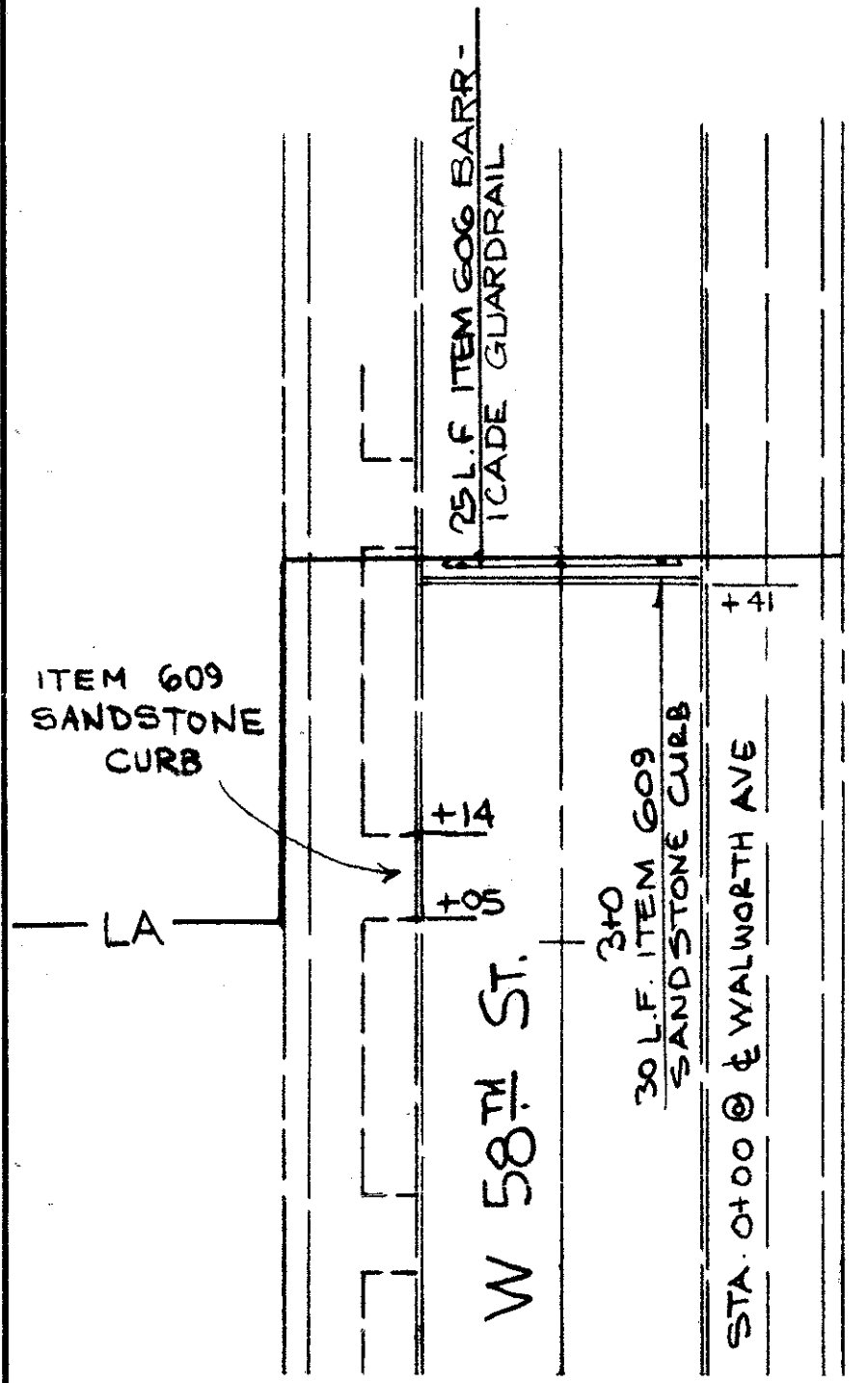
CALCULATED BY BEK DATE 1/75  
 CHECKED BY J.S. DATE 4/75







NOTE:  
CROSS-HATCHED AREAS, AT ABANDONED INTERSECTIONS, DENOTE EXIST. PAV'T. TO BE REMOVED AND REPLACED WITH ITEM 404 ASPHALT PAV'T. MEET PROPOSED CURB. SEE TYPICAL PAVEMENT REPLACEMENT ON SHEET N: 69



NOTE:  
FOR SODDING QUANTITIES SEE SHEET N: 37

**CURVE DATA**  
GRACE AVE. CUL-DE-SAC

1 Δ = 35°00'00" R = 150.00' T = 47.29' L = 91.63' P.T. STA. 6+58.40 (14' RT. & GRACE)	2 Δ = 89°59'14" R = 20.00' T = 19.99' L = 31.41' P.T. STA. 50+33.99 W. 79 ST. P.C. STA. 6+58.40 GRACE	3 Δ = 196°30'03" R = 35.00' T = 120.04' L = 120.04'
4 Δ = 64°43'18" R = 72.95' T = 46.22' L = 82.40' P.C. STA. 5+76.00 R.T. STA. 6+58.40	5 Δ = 141°30'49" R = 2.00' T = 4.94' L = 4.94' P.C. STA. 50+64.83 (9.5' LT. & W. 79 ST.)	

**JOINT LEGEND**

- ① STANDARD LONGITUDINAL JOINT.
- ② KEY JOINT WITHOUT TIE BARS.
- ③ EXPANSION JOINT WITHOUT DOWELS.

**ⓑ CURVE DATA**

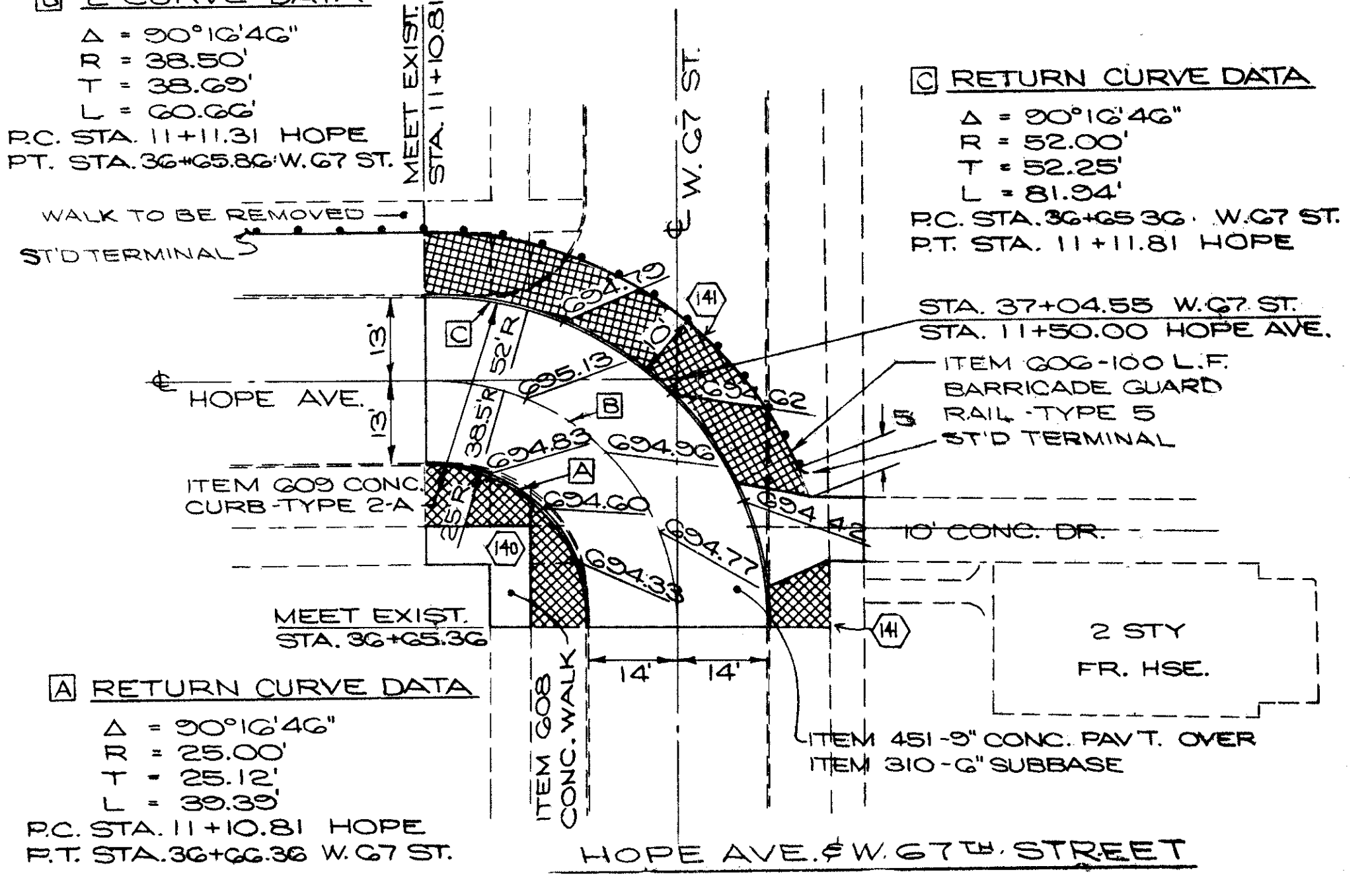
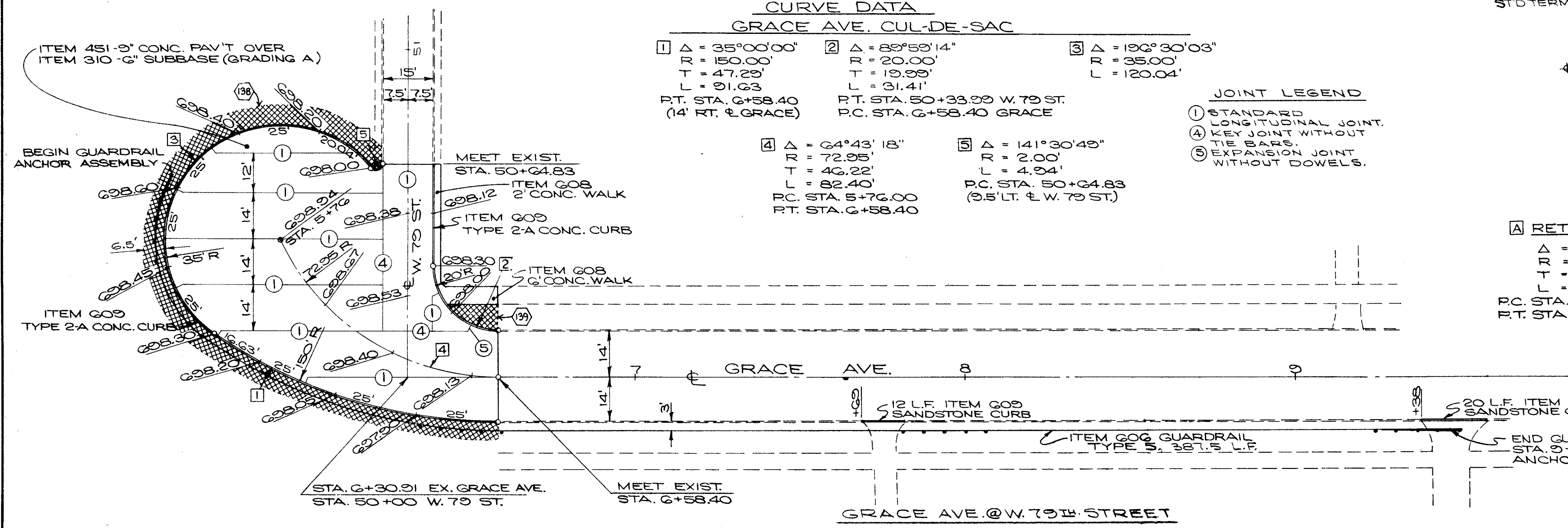
Δ = 90°16'46"  
R = 38.50'  
T = 38.69'  
L = 60.66'  
P.C. STA. 11+11.31 HOPE  
P.T. STA. 36+65.86 W. 67 ST.

**ⓒ RETURN CURVE DATA**

Δ = 90°16'46"  
R = 52.00'  
T = 52.25'  
L = 81.94'  
P.C. STA. 36+65.86 W. 67 ST.  
P.T. STA. 11+11.81 HOPE

**Ⓐ RETURN CURVE DATA**

Δ = 90°16'46"  
R = 25.00'  
T = 25.12'  
L = 39.39'  
P.C. STA. 11+10.81 HOPE  
P.T. STA. 36+66.36 W. 67 ST.



NOTE:  
FOR TYPICAL DRIVEWAY SECTIONS, SEE SHT. N: 67

⬡ SODDING AREA NUMBER    ▨ SODDING

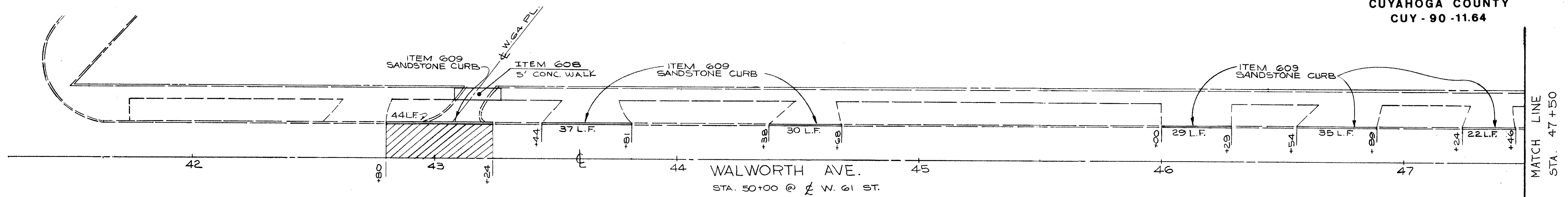
CALCULATED BY B.C.L. DATE 9/13  
CHECKED BY J.S.S. DATE 5/14

**PAVEMENT PLANS  
MISC. DETAILS**

FED. RD.	STATE	PROJECT
2	OHIO	

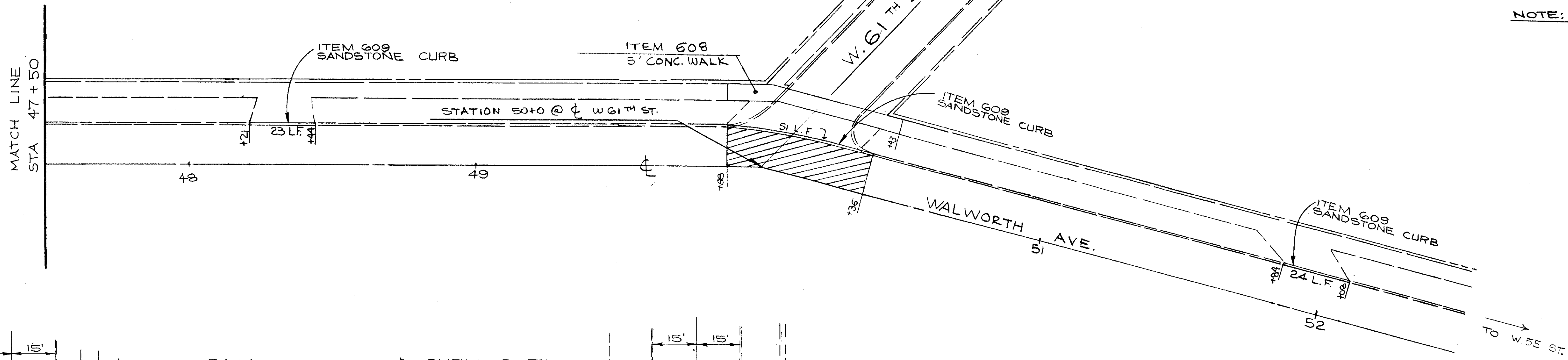
74  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



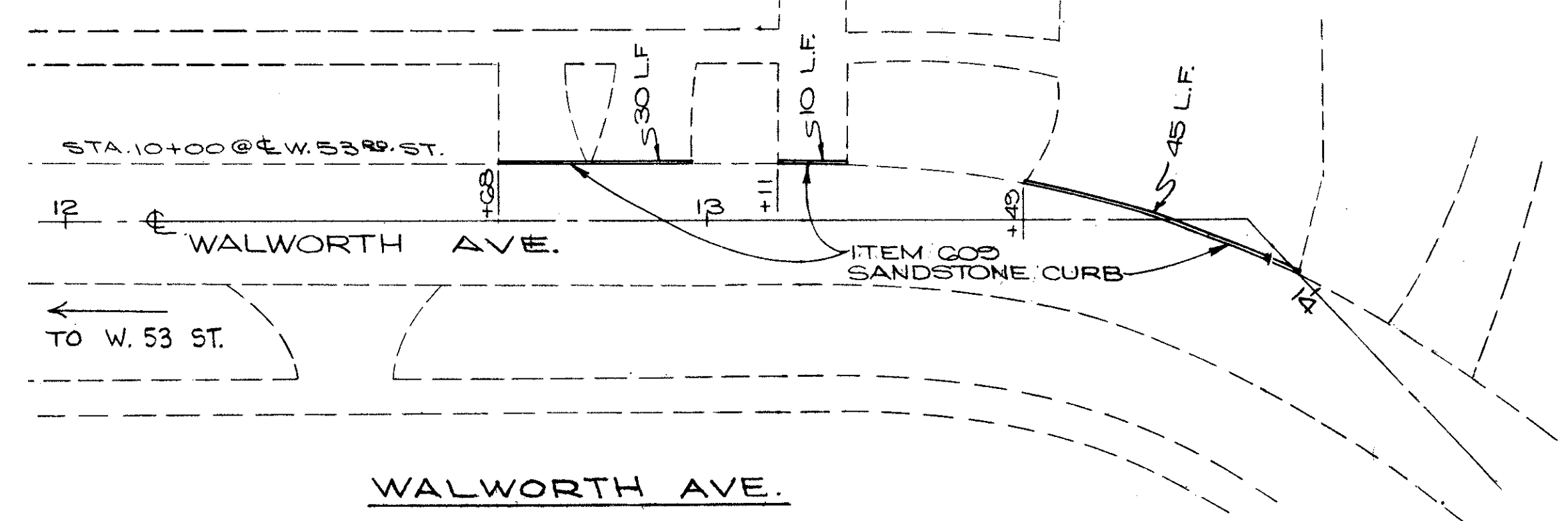
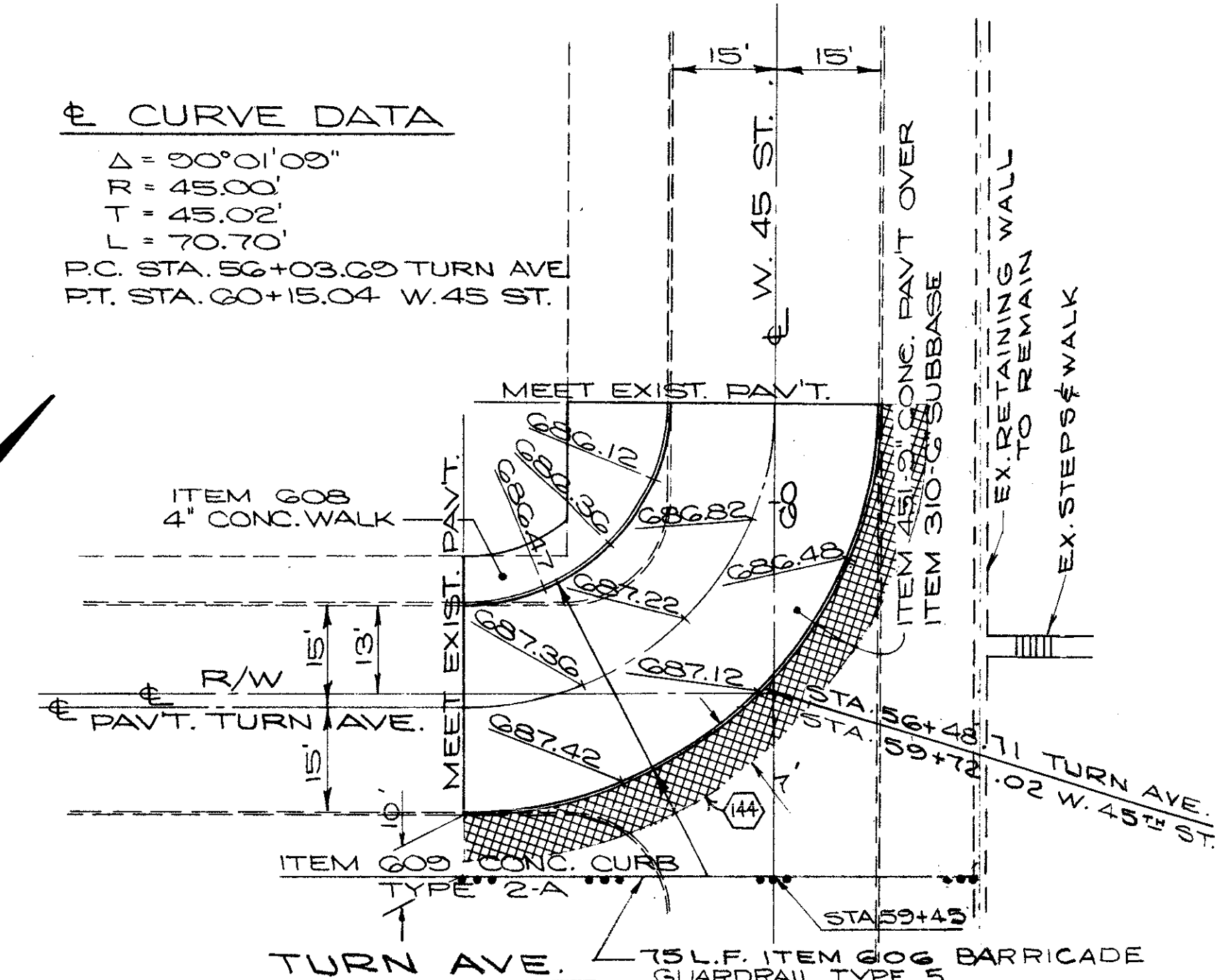
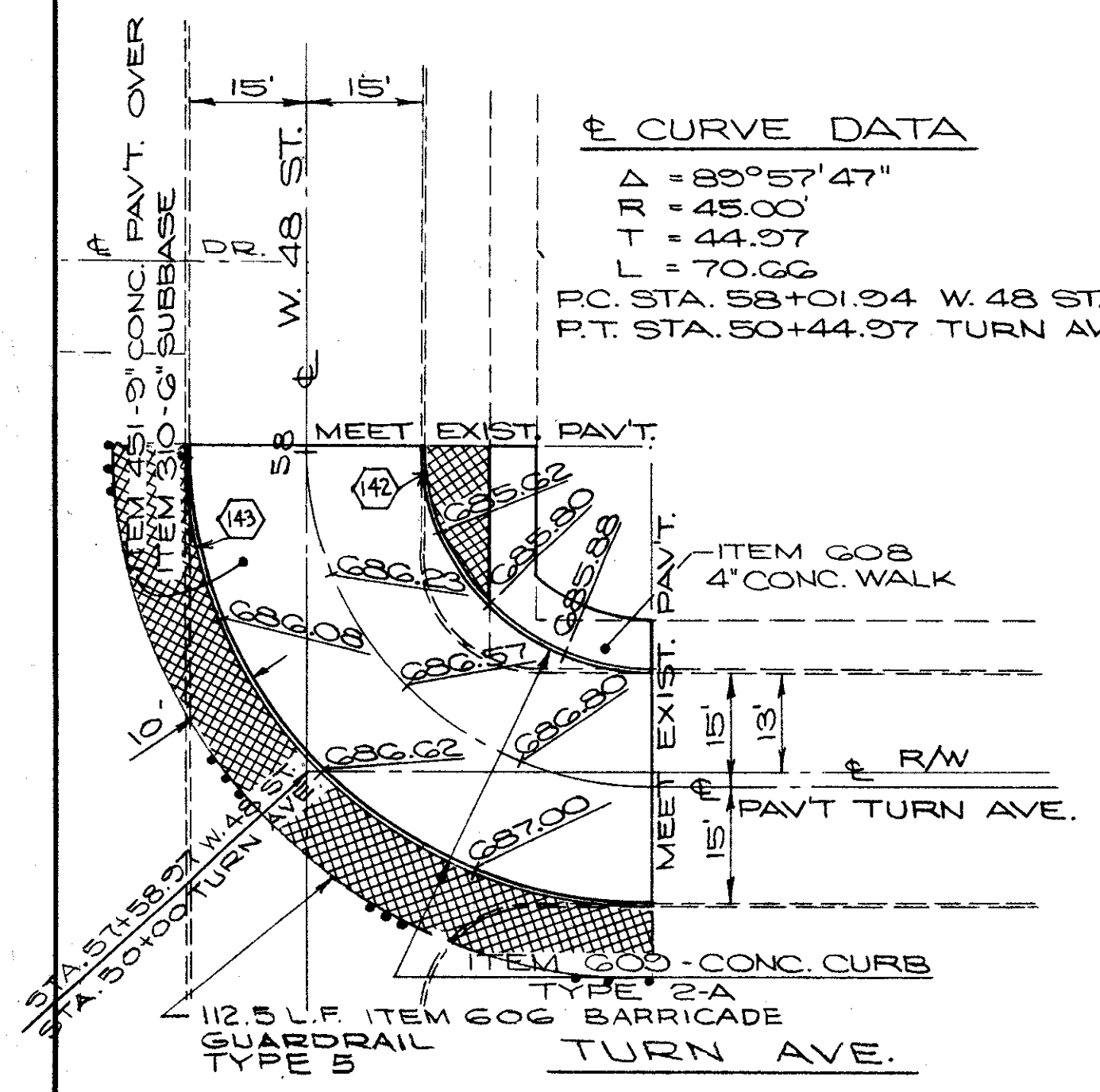
NOTE:  
CROSS-HATCHED AREAS, AT ABANDONED INTERSECTIONS, DENOTE EXIST. PAVT. TO BE REMOVED AND REPLACED WITH ITEM 604 ASPHALT PAVT. MEET PROPOSED CURB. SEE TYPICAL PAVEMENT REPLACEMENT ON SHEET No 69

NOTE:  
FOR SODDING QUANTITIES SEE SHEET No 37



☉ CURVE DATA  
 $\Delta = 89^{\circ}57'47''$   
 $R = 45.00'$   
 $T = 44.97'$   
 $L = 70.66'$   
 P.C. STA. 58+01.94 W. 48 ST.  
 P.T. STA. 50+44.97 TURN AVE.

☉ CURVE DATA  
 $\Delta = 90^{\circ}01'09''$   
 $R = 45.00'$   
 $T = 45.02'$   
 $L = 70.70'$   
 P.C. STA. 56+03.09 TURN AVE  
 P.T. STA. 60+15.04 W. 45 ST.



☉ SODDING AREA NUMBER

▨ SODDING

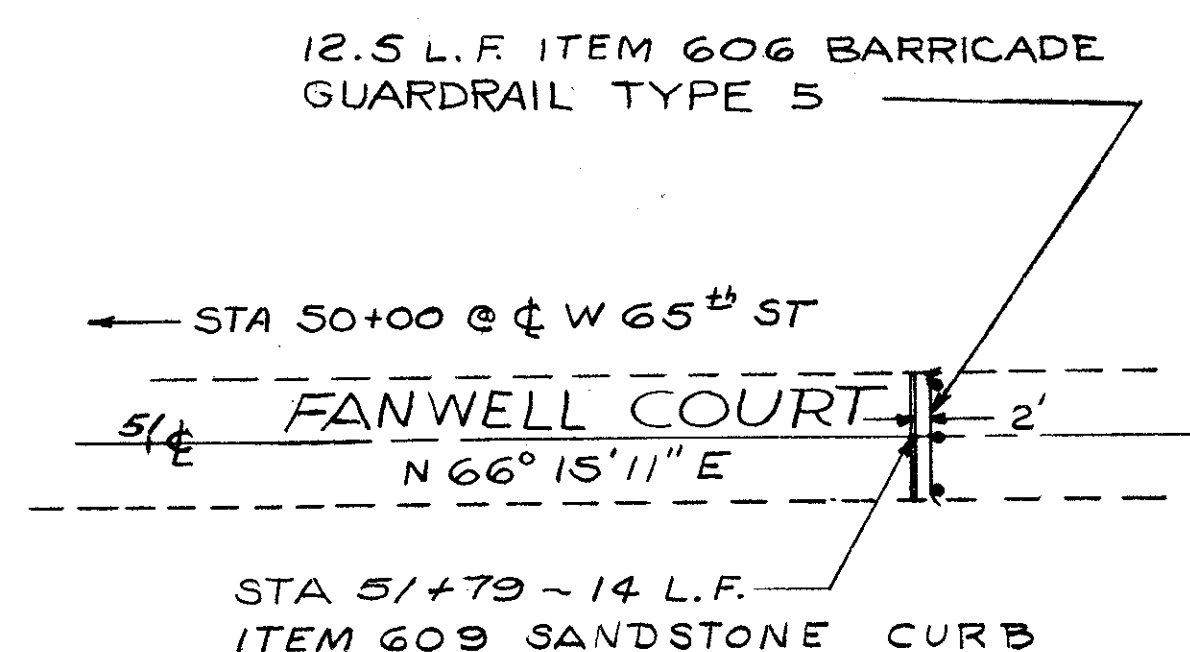
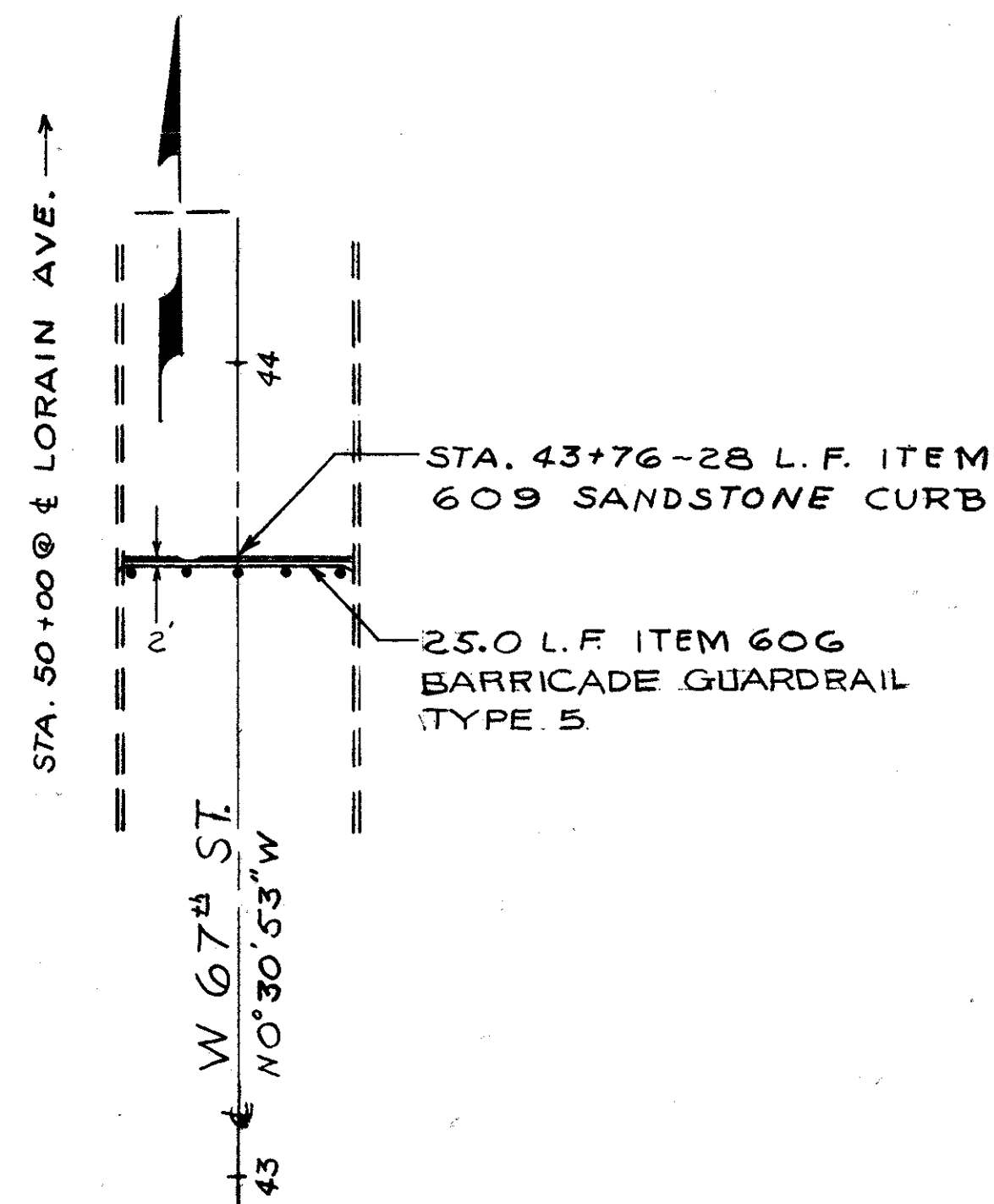
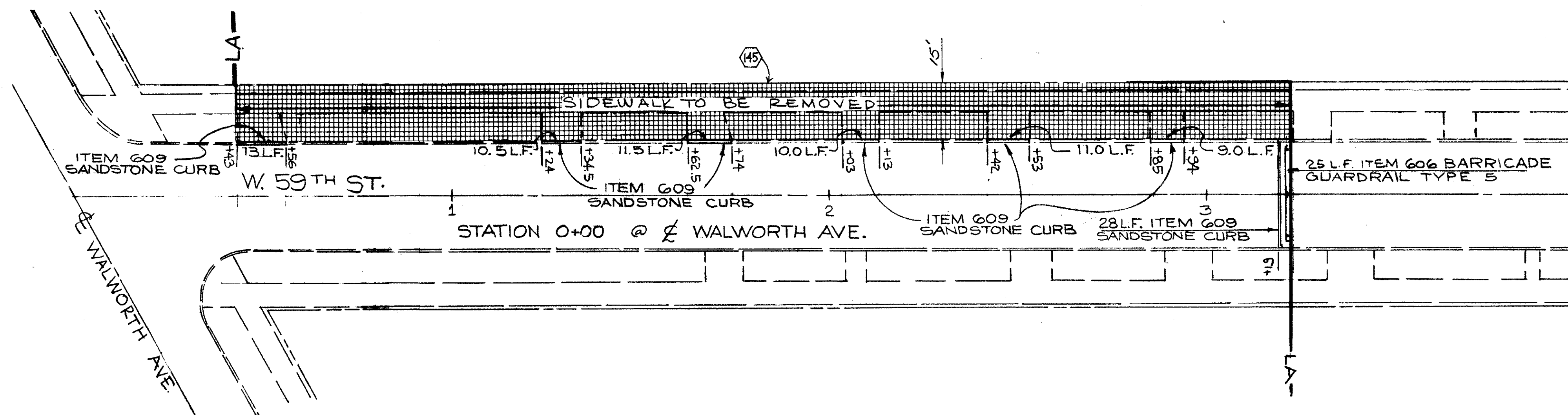
CALCULATED BY B.S.K. DATE 6/73  
 CHECKED BY J.L.S. DATE 5/74

PAVEMENT PLANS  
 MISC. DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO		

75  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



NOTE: FOR SODDING QUANTITIES  
SEE SHEET No. 87

CALCULATED BY B.C.A. DATE 9/73  
CHECKED BY J.E.S. DATE 3/74

SODDING

SODDING AREA NUMBER

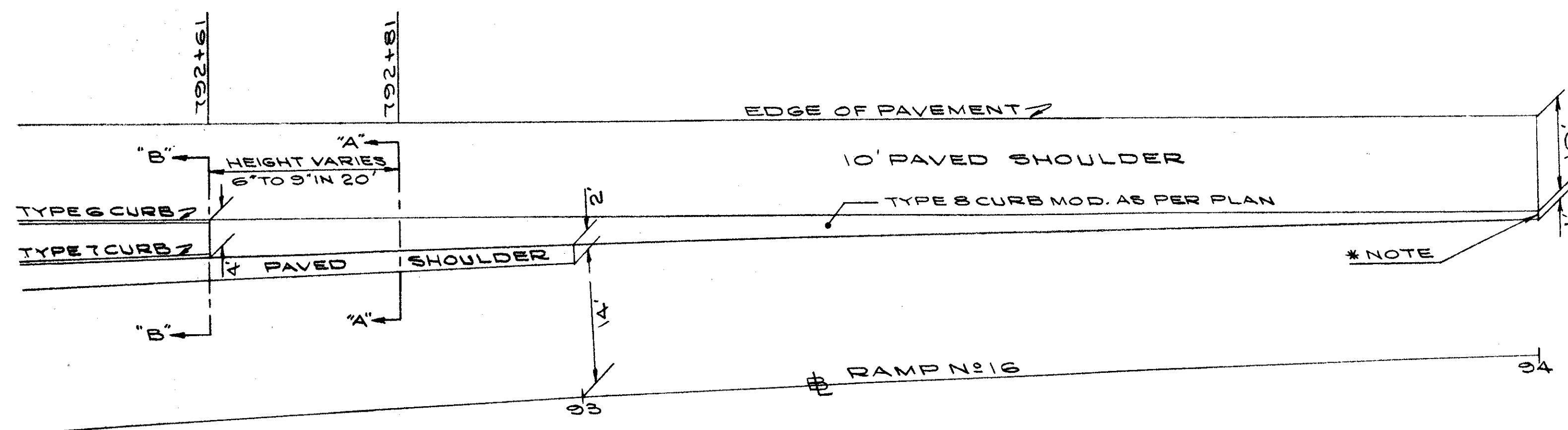
PAVEMENT PLANS  
MISC. DETAILS



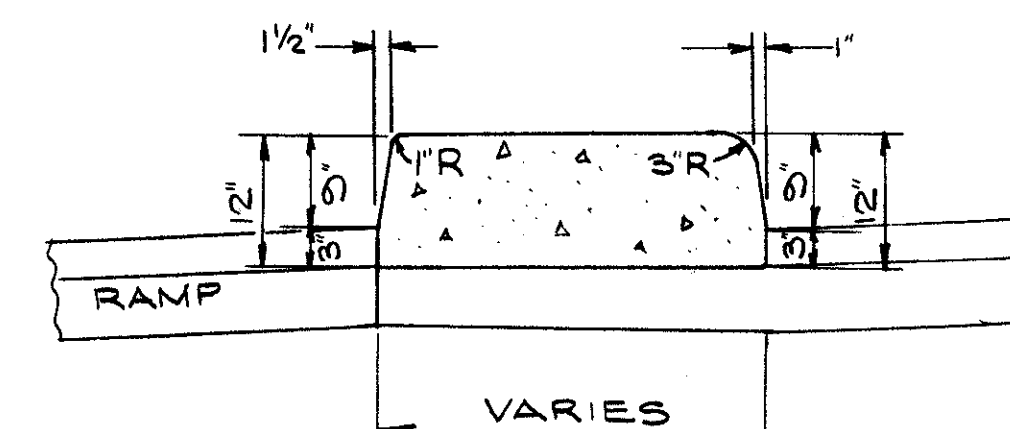
FED. RD.	STATE	PROJECT
2	OHIO	

77  
838

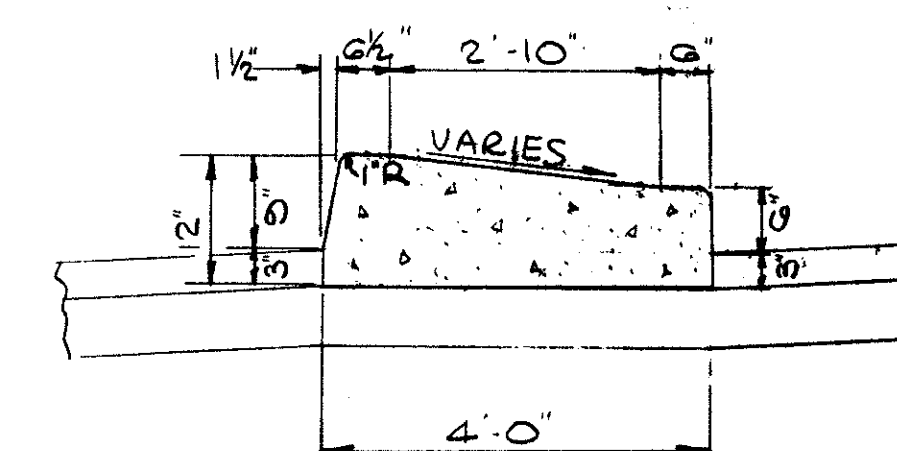
CUYAHOGA COUNTY  
CUY - 90 - 11.64  
PART 1



NOSE-RAMP N<sup>o</sup> 16 @ E.B. LANES I-90

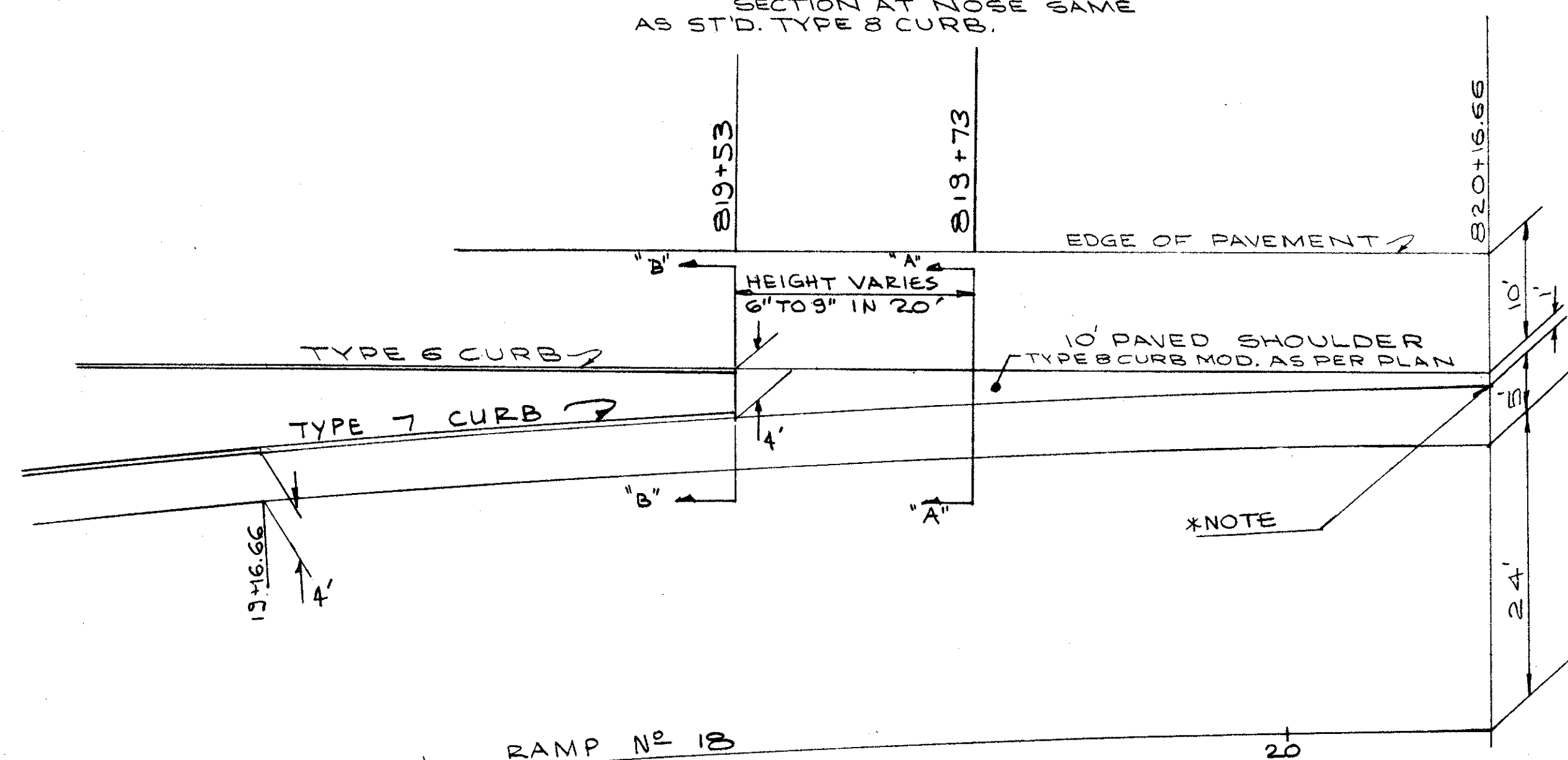


SECTION "A-A"

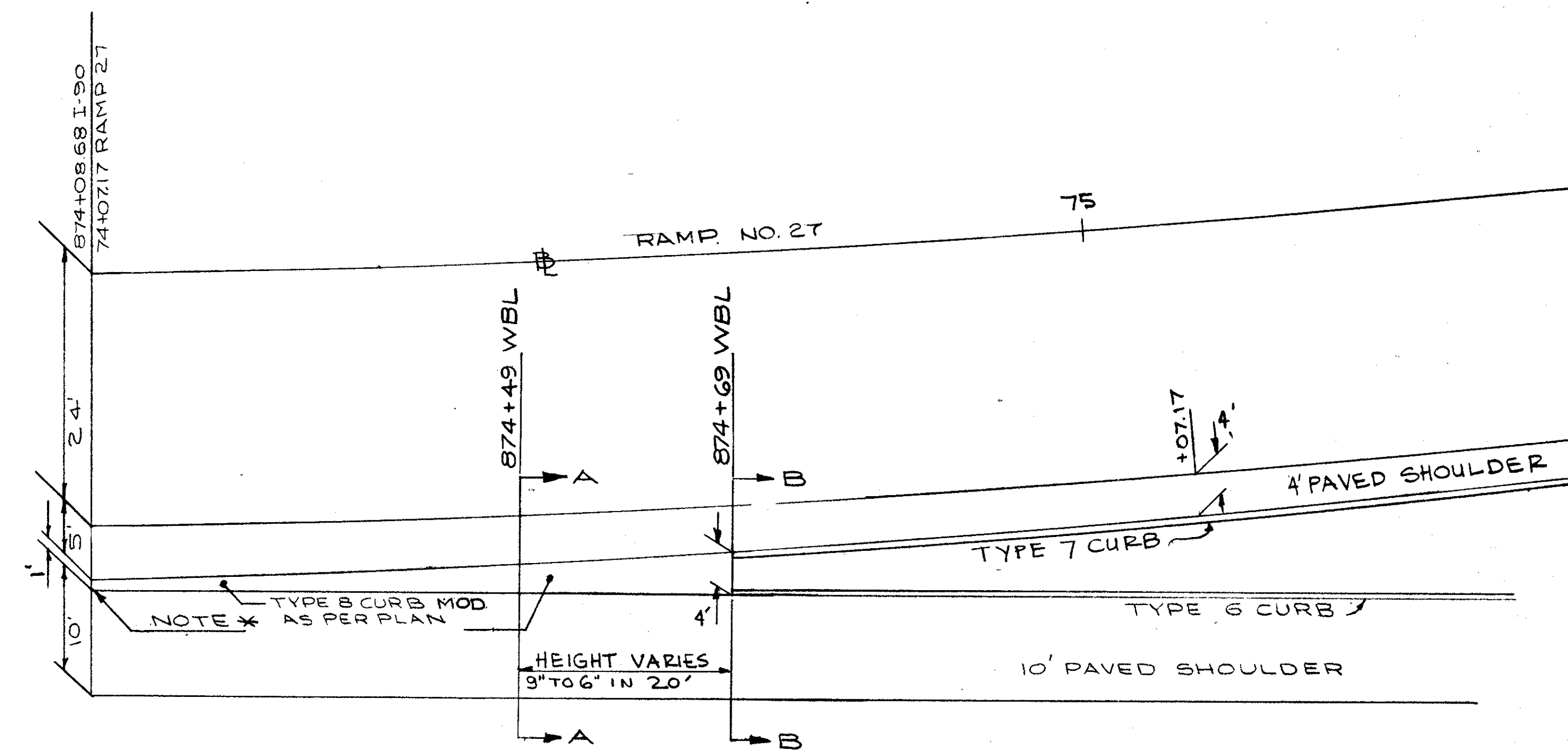


SECTION "B-B"

\* NOTE: SECTION AT NOSE SAME AS ST'D. TYPE 8 CURB.



NOSE-RAMP N<sup>o</sup> 18 @ E.B. LANES I-90

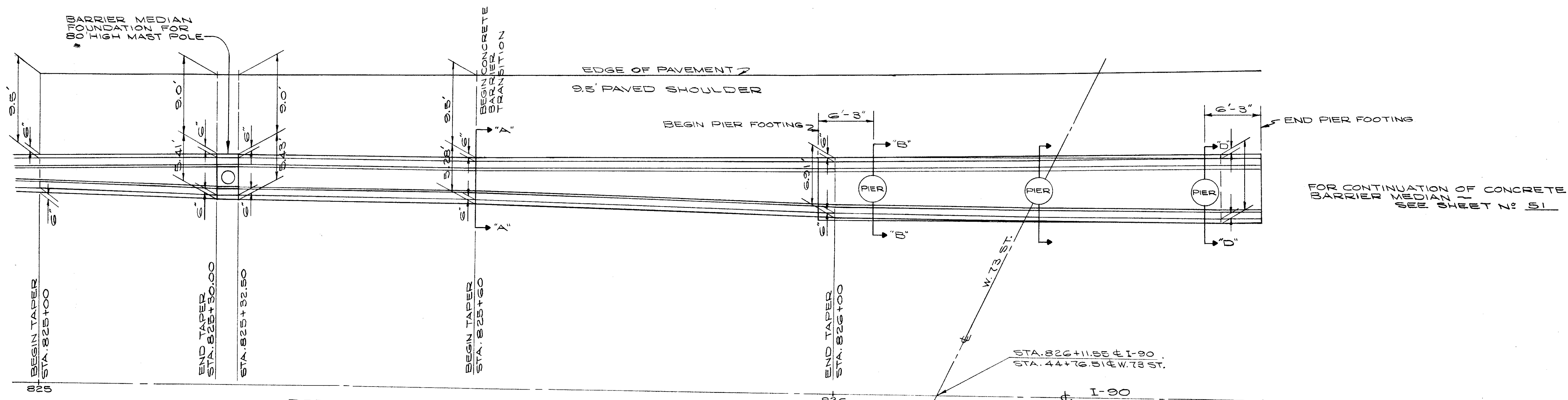


NOSE-RAMP N<sup>o</sup> 27 @ W.B. LANES I-90

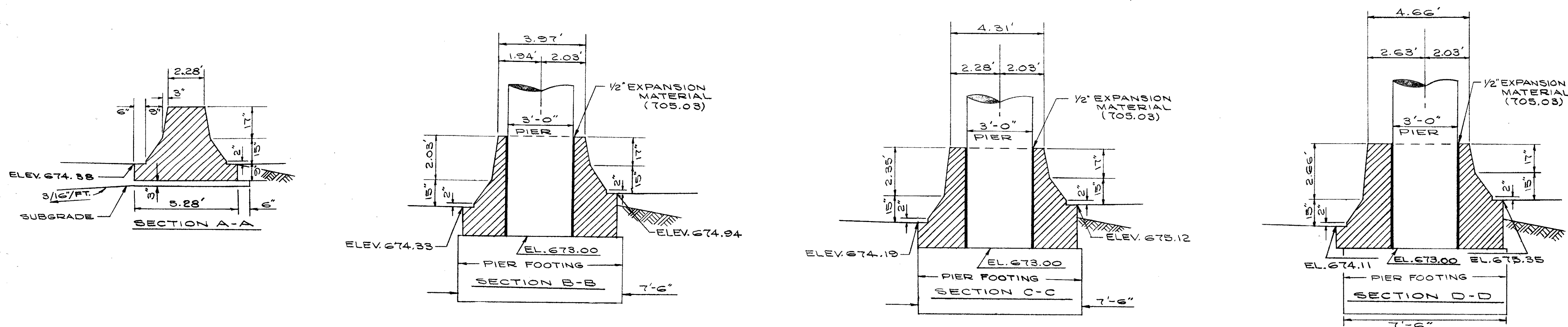
FED. RD.	STATE	PROJECT	
2	OHIO		

78  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64  
PART 1



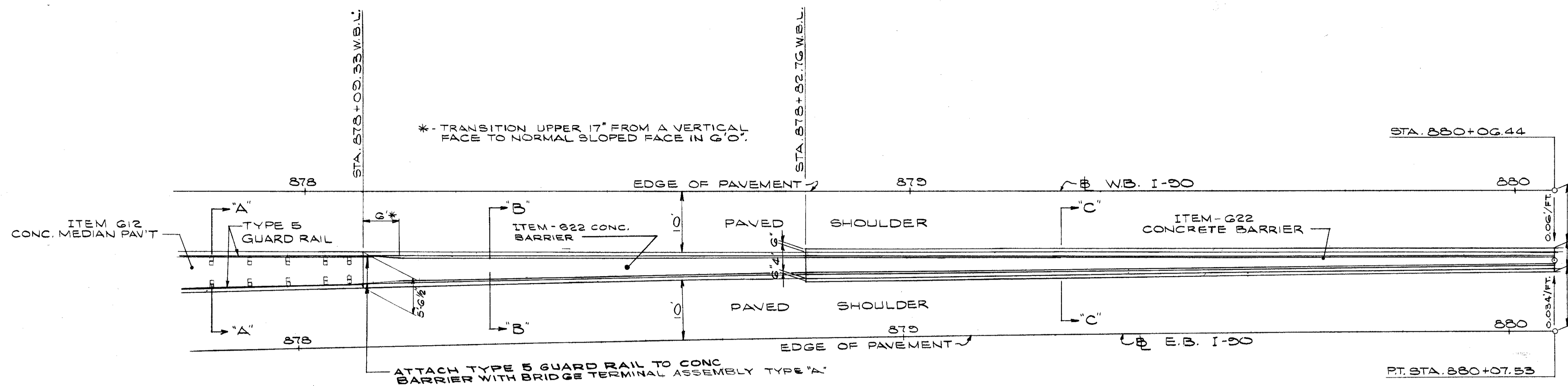
DETAIL - PIER PROTECTION W. 73 ST. - MEDIAN AREA - WEST BOUND LANE I-90  
THE PIER PROTECTION SHOWN ON THIS SHEET, SHALL BE PAID FOR UNDER ITEM - 622 CONCRETE BARRIER. (EXCEPT THE 2.5 FT. FOR THE BARRIER MEDIAN FOUNDATION FOR 80' HIGH MAST POLE, STA. 825+30.00 TO STA. 825+32.50)



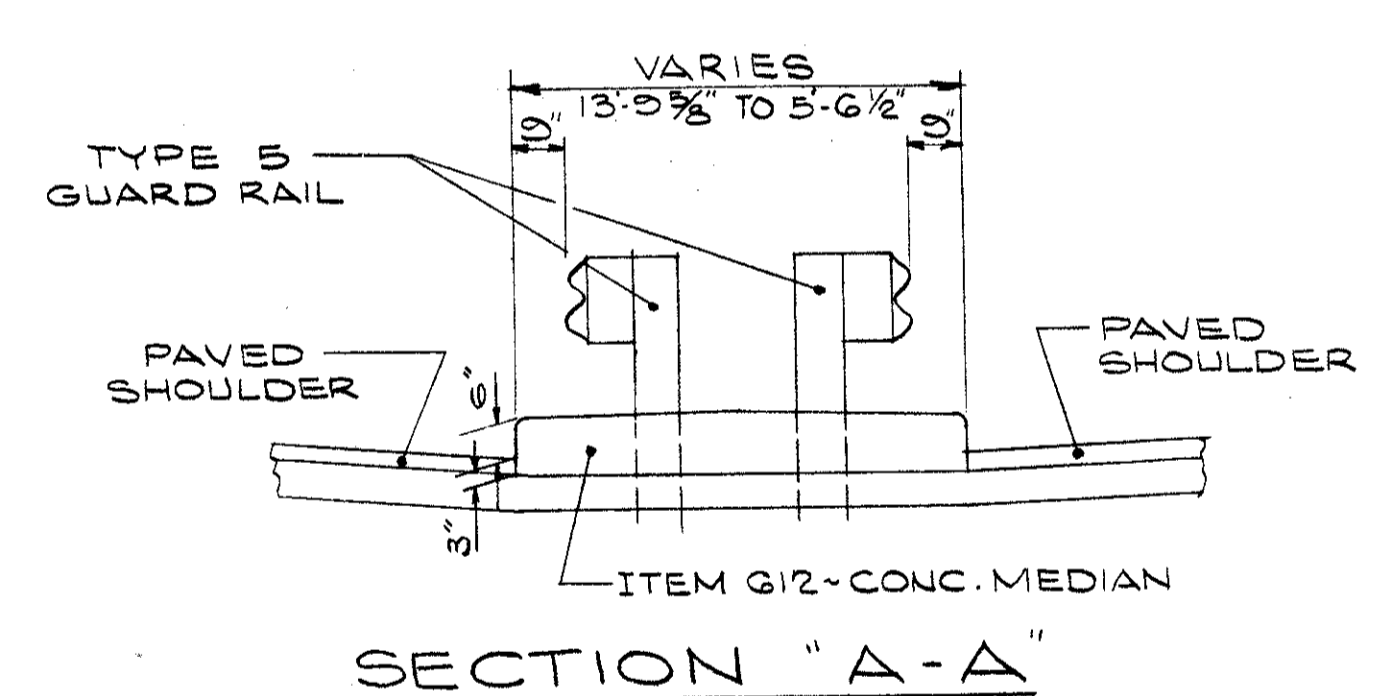
FED. RD.	STATE	PROJECT	
2	OHIO		

79  
838

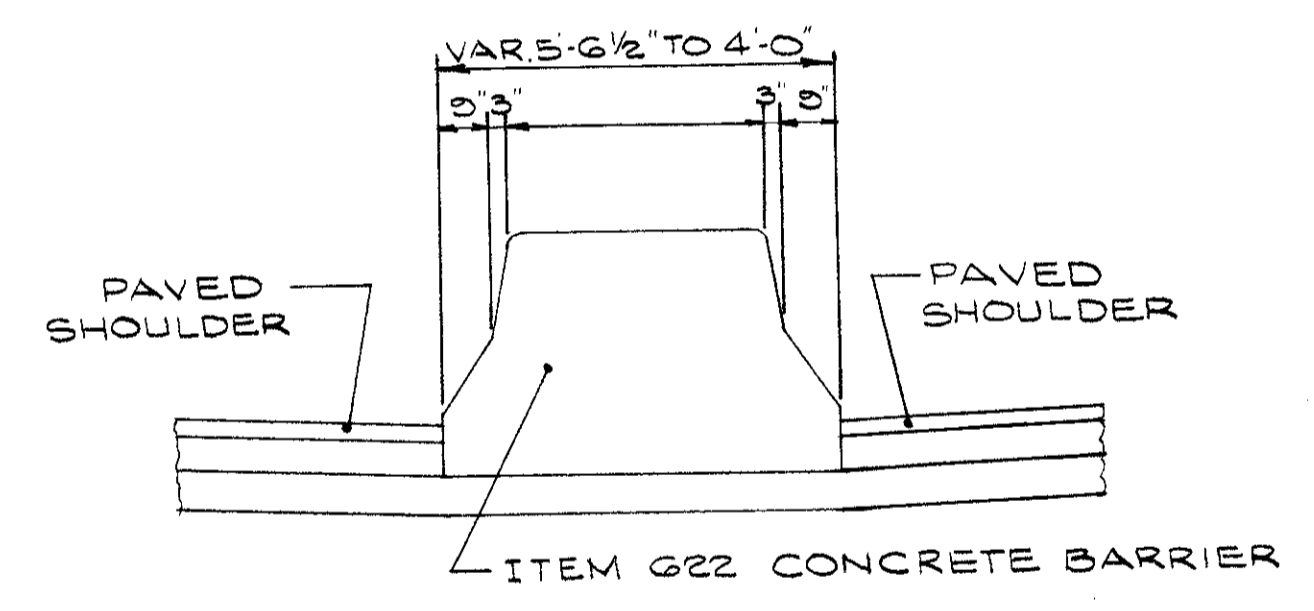
CUYAHOGA COUNTY  
CUY - 90 - 11.64



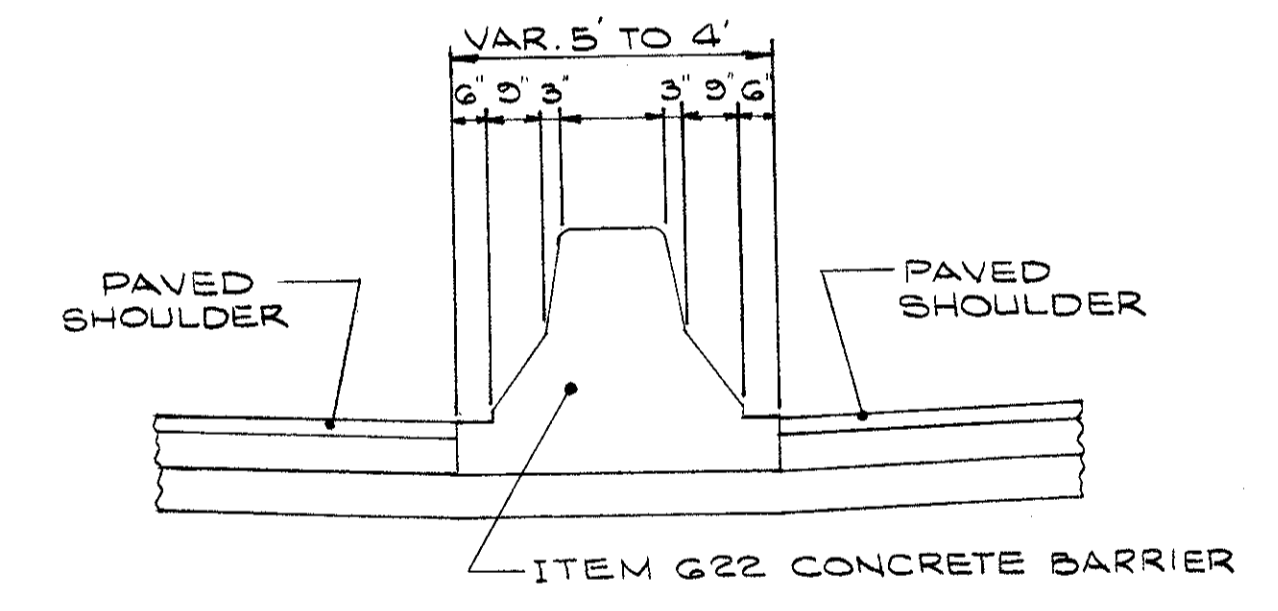
DETAIL - MEDIAN AREA BETWEEN W.B. & E.B. LANES  
STA. 878+00 W.B. TO STA. 880+06.44 W.B.



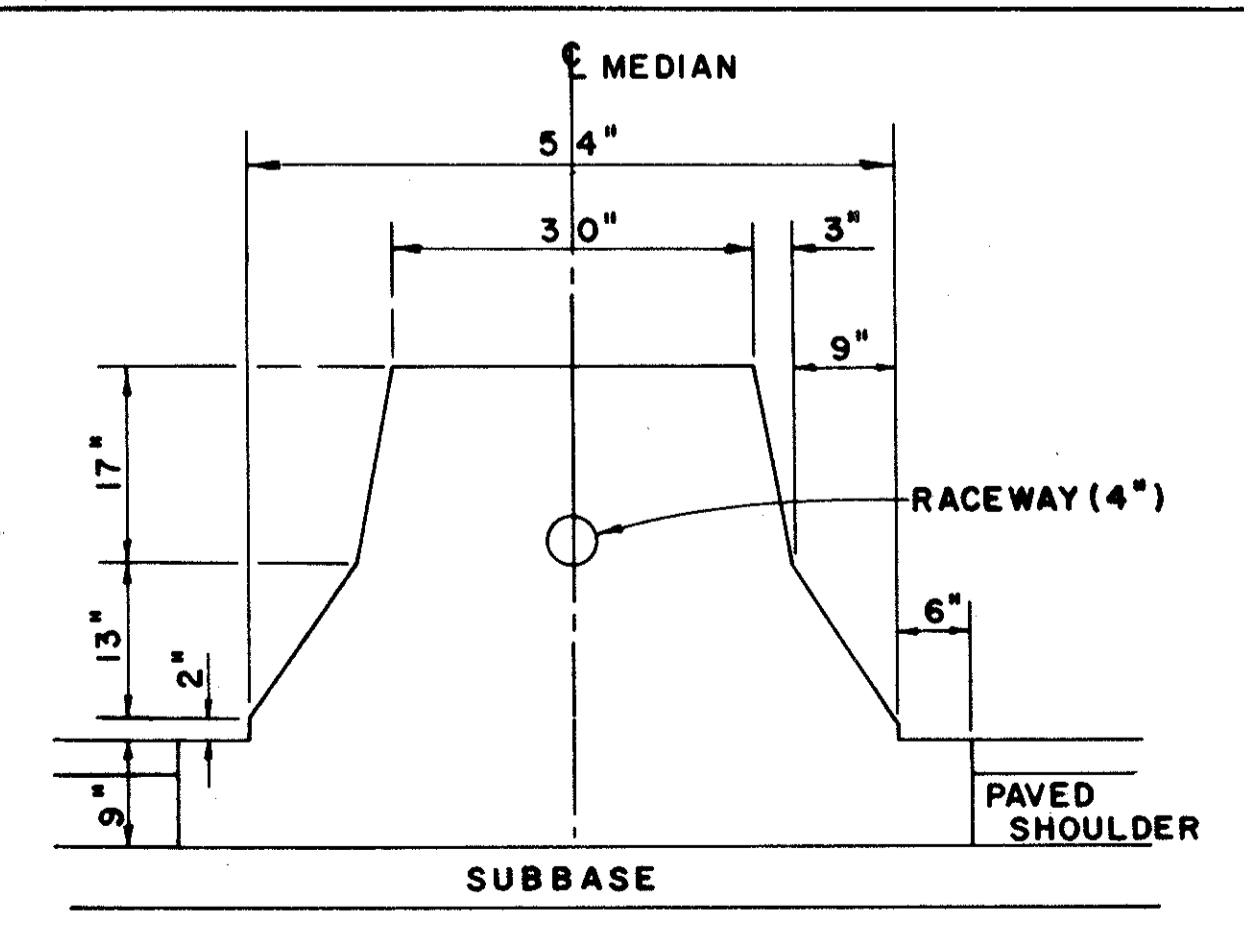
SECTION "A-A"



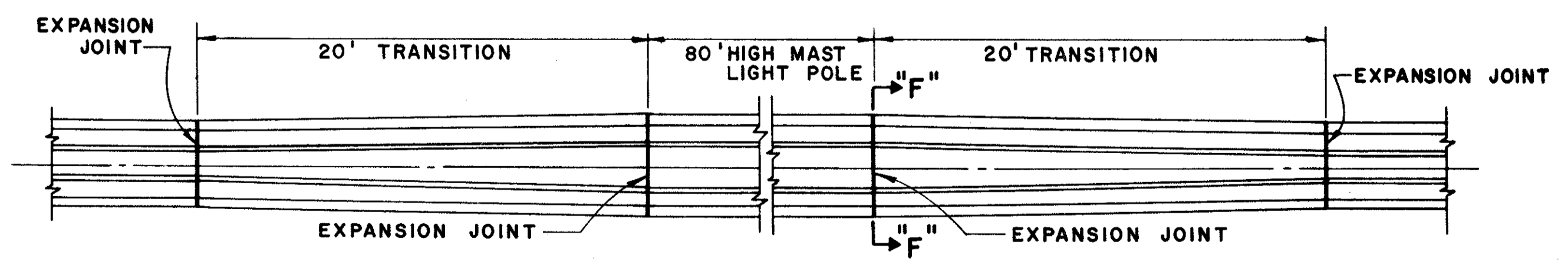
SECTION "B-B"



SECTION "C-C"



SECTION "F-F"



DEDUCT 2.50 LINEAR FEET FROM CONCRETE BARRIER FOR 80' HIGH MAST LIGHT POLES.

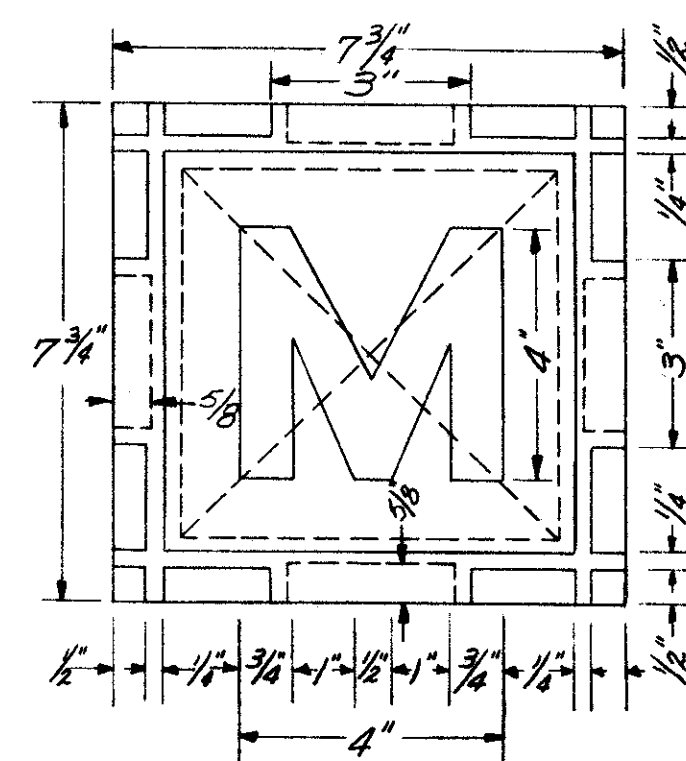
TYPICAL CONCRETE MEDIAN AT SIGN STRUCTURES  
AND HIGH MAST LIGHT POLES



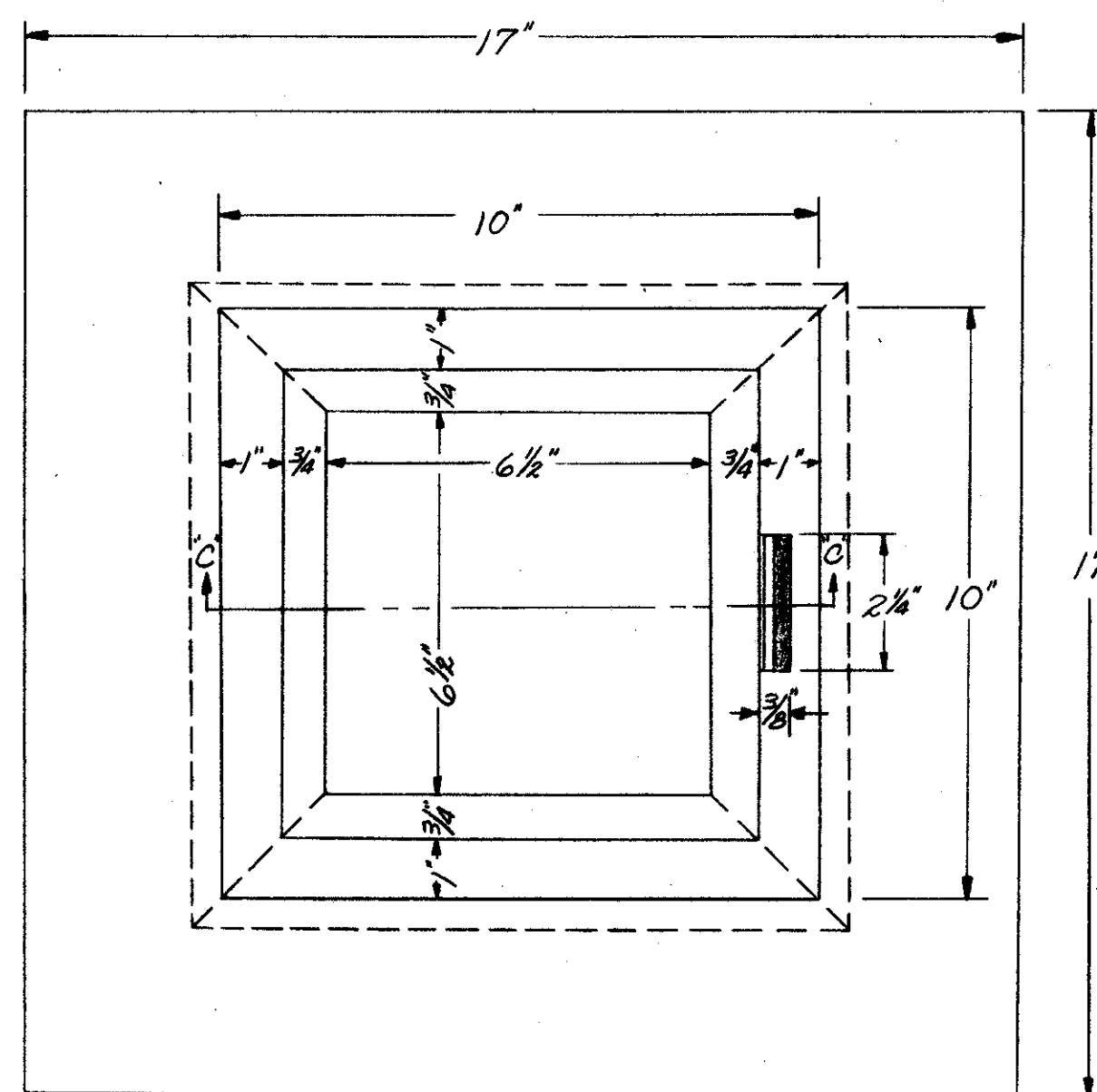
FED. RD.	STATE	PROJECT	
2	OHIO		

80  
838

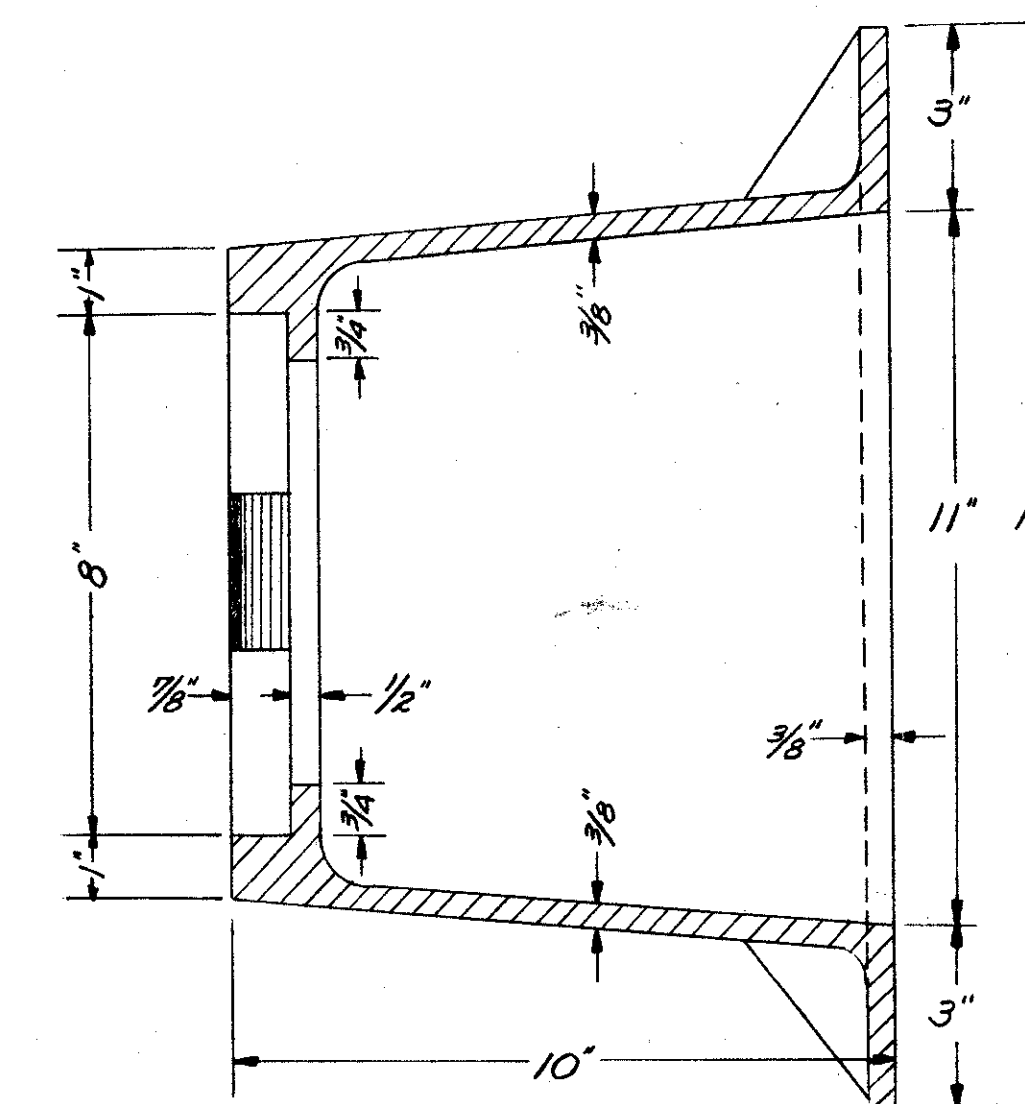
CUYAHOGA COUNTY  
CUY - 90 - 11.64



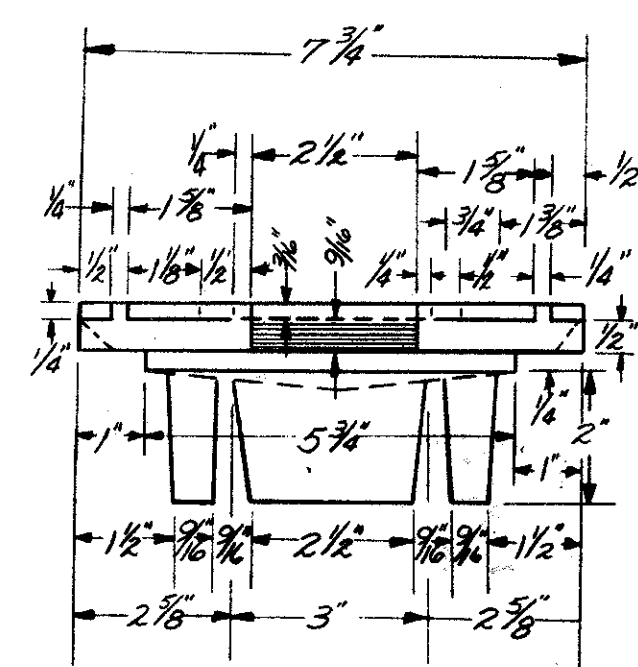
PLAN OF COVER



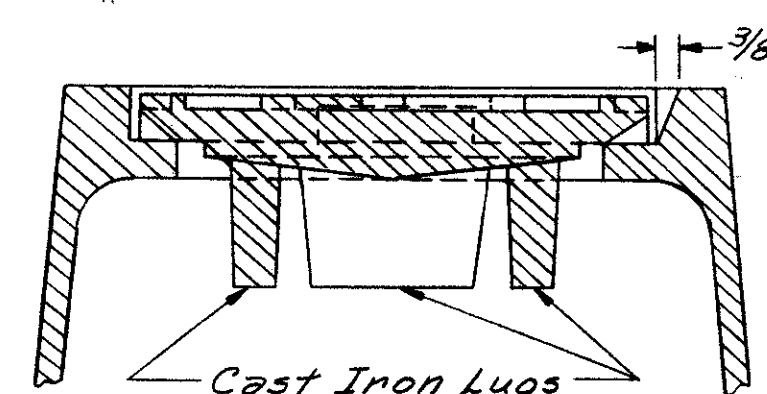
PLAN OF FRAME



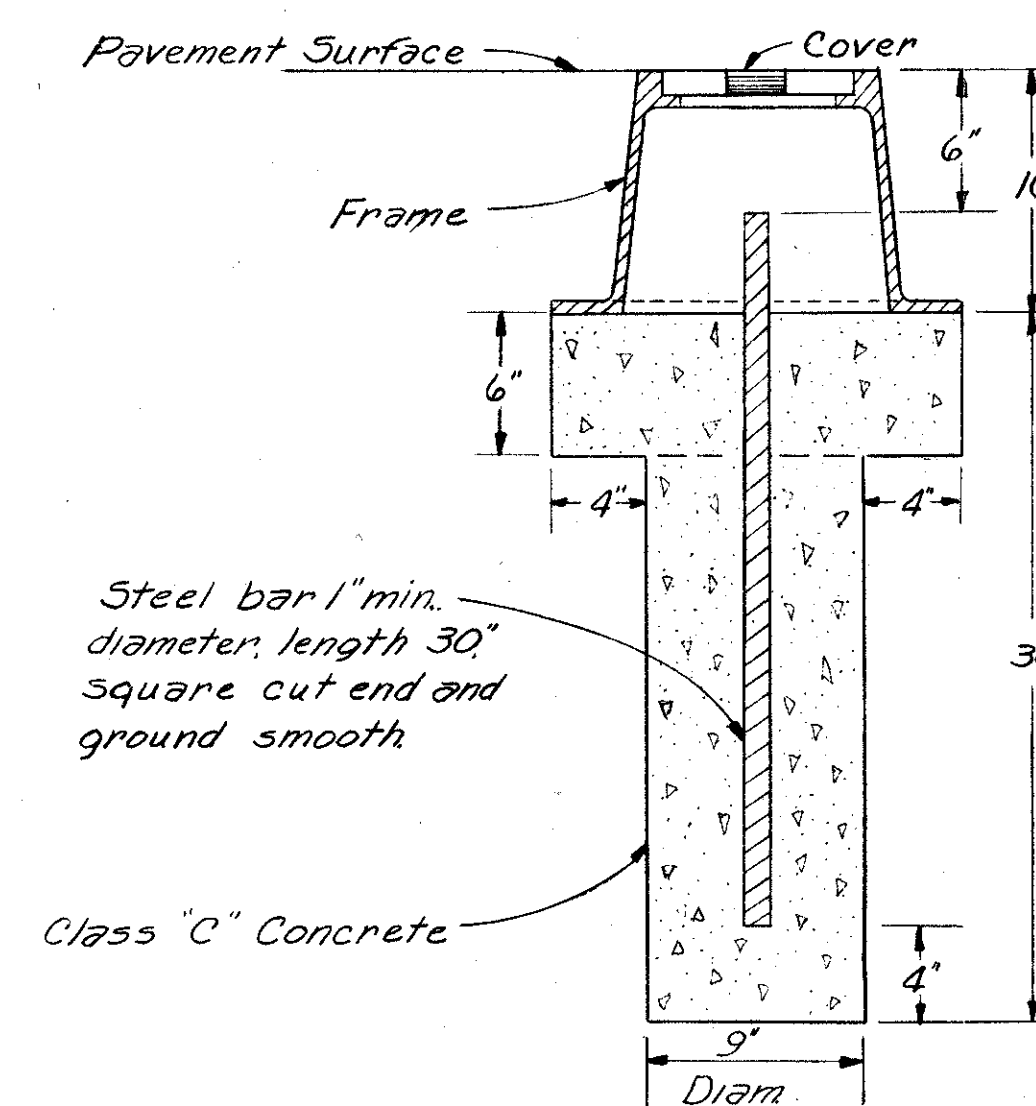
SECTION OF FRAME



SIDE VIEW OF COVER



SECTION 'C-C'  
SIDE VIEW OF COVER  
LID IN PLACE



MONUMENT ASSEMBLY

Cost of furnishing and placing monument box, steel bar and class "C" concrete included in price bid for 604 Monument Assembly, as per plan.

Minimum Weight of Cover - 15 Pounds  
Minimum Weight of Frame - 70 Pounds

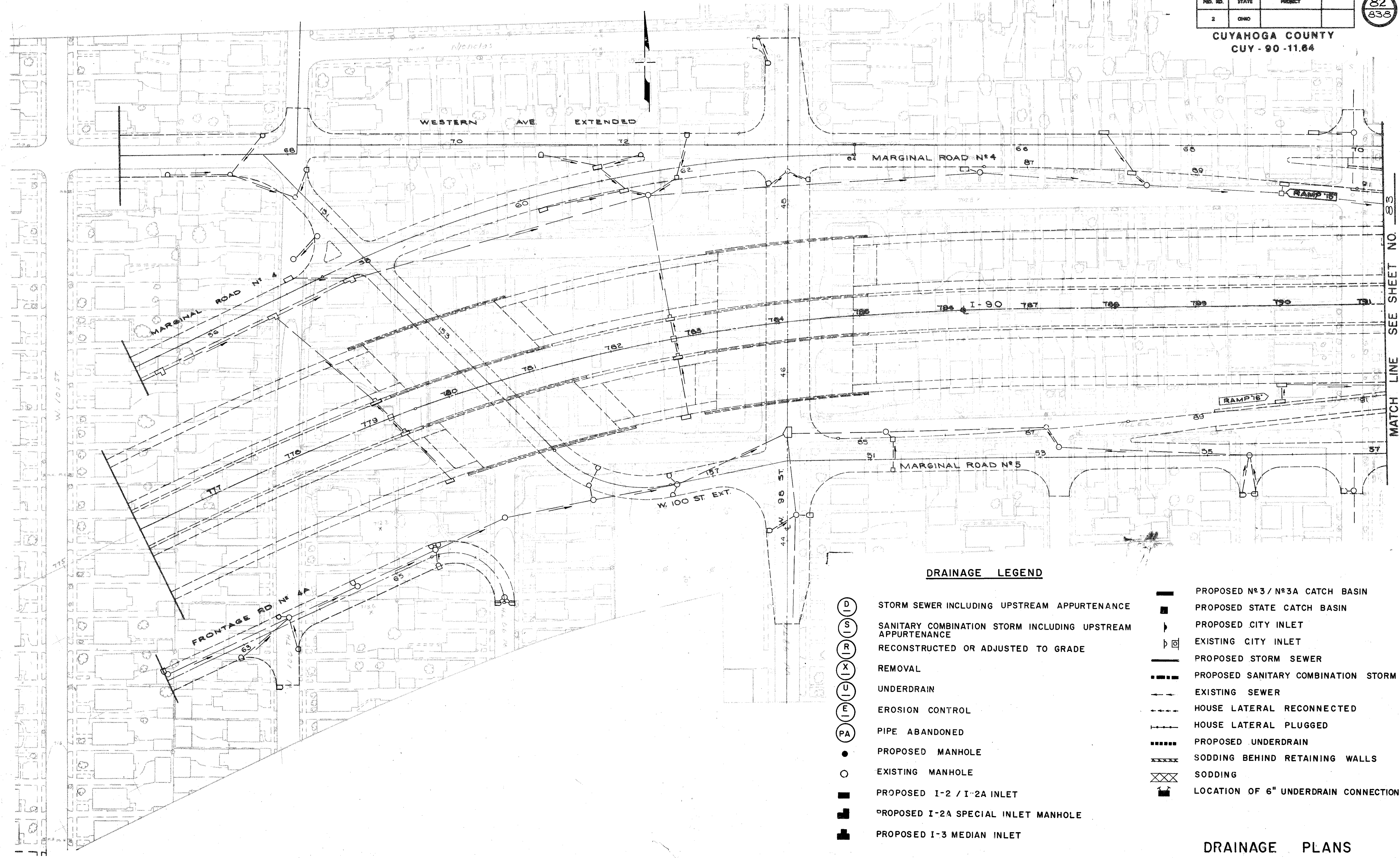
P19

Q5

FEA. NO.	STATE	PROJECT	
2	OHIO		

82  
838

CUYAHOGA COUNTY  
CUY-90-11.64

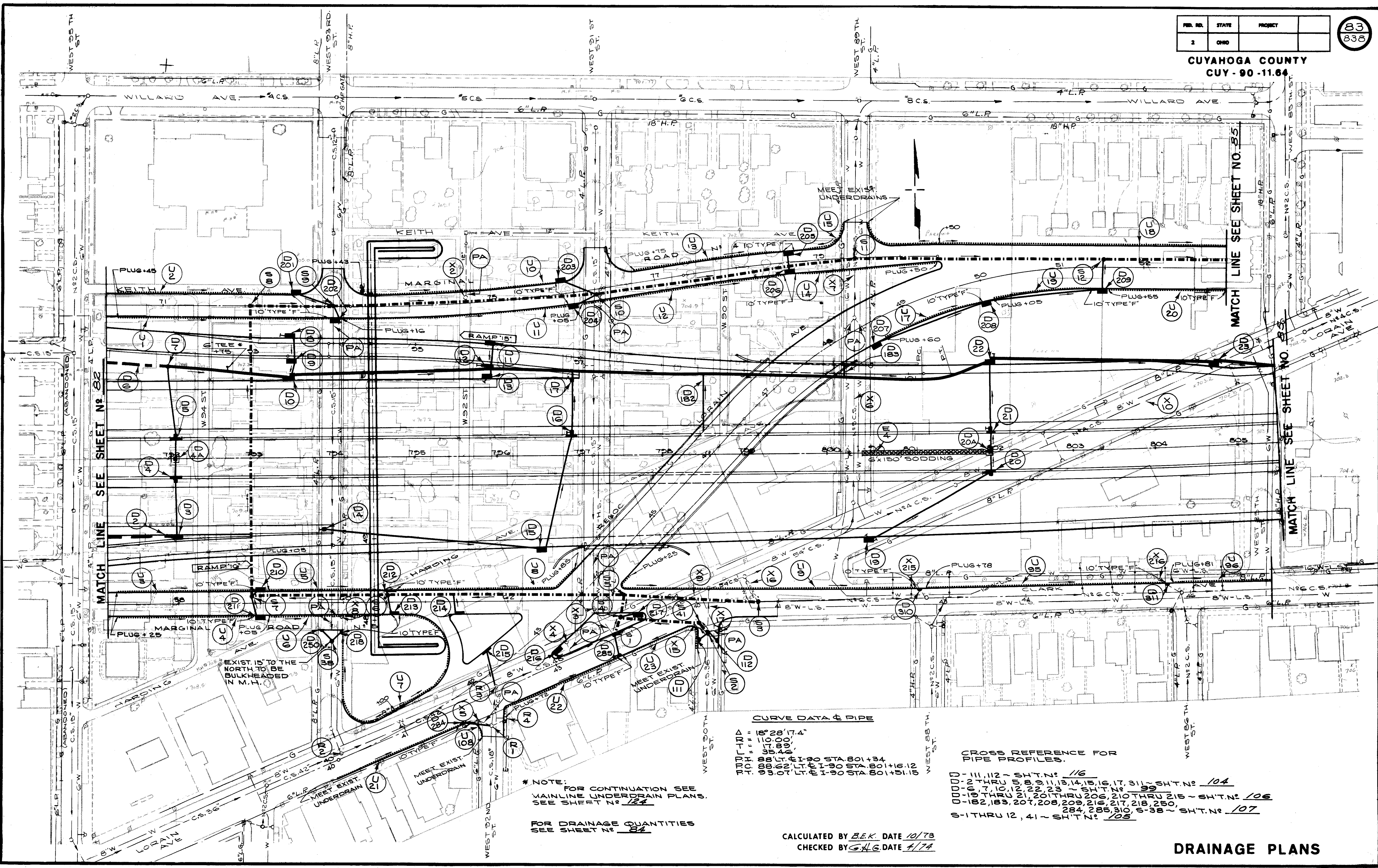


**DRAINAGE LEGEND**

- |      |  |           |                                       |
|------|--|-----------|---------------------------------------|
| (D)  | STORM SEWER INCLUDING UPSTREAM APPURTENANCE                | ■         | PROPOSED N#3 / N#3A CATCH BASIN       |
| (S)  | SANITARY COMBINATION STORM INCLUDING UPSTREAM APPURTENANCE | ■         | PROPOSED STATE CATCH BASIN            |
| (R)  | RECONSTRUCTED OR ADJUSTED TO GRADE                         | ▶         | PROPOSED CITY INLET                   |
| (X)  | REMOVAL  | □         | EXISTING CITY INLET                   |
| (U)  | UNDERDRAIN   | —         | PROPOSED STORM SEWER                  |
| (E)  | EROSION CONTROL  | - - -     | PROPOSED SANITARY COMBINATION STORM   |
| (PA) | PIPE ABANDONED   | - · - · - | EXISTING SEWER                        |
| ●    | PROPOSED MANHOLE   | - - - - - | HOUSE LATERAL RECONNECTED             |
| ○    | EXISTING MANHOLE   | - · - · - | HOUSE LATERAL PLUGGED                 |
| ■    | PROPOSED I-2 / I-2A INLET                                  | · · · · · | PROPOSED UNDERDRAIN                   |
| ■    | PROPOSED I-2A SPECIAL INLET MANHOLE                        | × × × × × | SODDING BEHIND RETAINING WALLS        |
| ■    | PROPOSED I-3 MEDIAN INLET                                  | × × × × × | SODDING                               |
|      |  | ■         | LOCATION OF 6" UNDERDRAIN CONNECTIONS |

**DRAINAGE PLANS**

MATCH LINE SEE SHEET NO. 83



**CURVE DATA & PIPE**

110' LT. = 18° 28' 17.4"  
 110' RT. = 10° 00'  
 110' RT. = 17° 00'  
 110' RT. = 39° 40'  
 110' RT. = 88° LT. & I-90 STA 801+34  
 110' RT. = 98° 52' LT. & I-90 STA 801+15.12  
 110' RT. = 93° 07' LT. & I-90 STA 801+31.15

**CROSS REFERENCE FOR PIPE PROFILES.**

00-111, 112 - SH'T.N. 116  
 00-12 THRU 5, 8, 9, 11, 13, 14, 15, 16, 17, 31 - SH'T.N. 104  
 00-18, 19, 21, 22, 23 - SH'T.N. 99  
 00-19, 21 THRU 21, 20 THRU 206, 210 THRU 215 - SH'T.N. 106  
 00-182, 183, 207, 208, 209, 216, 217, 218, 250, 284, 285, 310, 338 - SH'T.N. 107  
 6-1 THRU 12, 41 - SH'T.N. 105

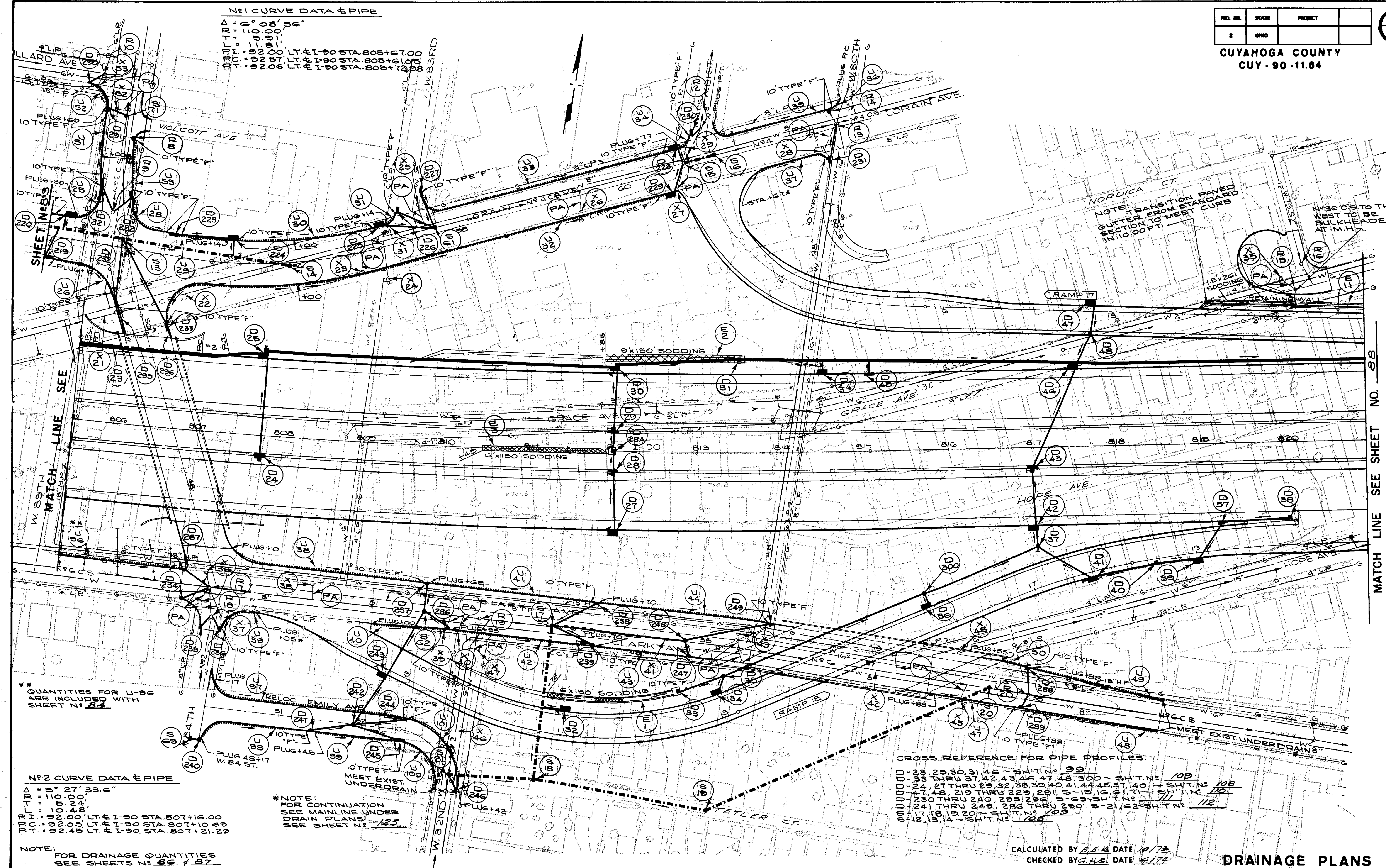
\* NOTE: FOR CONTINUATION SEE MAINLINE UNDERDRAIN PLANS. SEE SHEET NO. 124

FOR DRAINAGE QUANTITIES SEE SHEET NO. 84

CALCULATED BY B.E.K. DATE 10/73  
 CHECKED BY G.A.G. DATE 4/74



**N#1 CURVE DATA & PIPE**  
 $\Delta = 6^{\circ} 08' 56''$   
 $TR = 110.00'$   
 $PT = 92.00'$  LT & I-90 STA. 805+67.00  
 $PI = 92.00'$  LT & I-90 STA. 805+61.00  
 $TI = 92.00'$  LT & I-90 STA. 805+72.00



NOTE: TRANSITION PAVED GUTTER FROM STANDARD SECTION TO MEET CURB IN 10.00 FT.

NOTE: CURB TO THE WEST TO BE BULKHEADED AT M.H.

\* QUANTITIES FOR U-96 ARE INCLUDED WITH SHEET N# 84

**N#2 CURVE DATA & PIPE**  
 $\Delta = 5^{\circ} 27' 33.6''$   
 $TR = 110.00'$   
 $PT = 92.00'$  LT & I-90 STA. 807+16.00  
 $PI = 92.00'$  LT & I-90 STA. 807+10.69  
 $TI = 92.40'$  LT & I-90 STA. 807+21.29

\* NOTE: FOR CONTINUATION SEE MAINLINE UNDER DRAIN PLANS. SEE SHEET N# 125

NOTE: FOR DRAINAGE QUANTITIES SEE SHEETS N# 86 & 87

CROSS REFERENCE FOR PIPE PROFILES:  
 D-23, 25, 30, 31, 46 ~ SH.T. N# 99  
 D-33 THRU 37, 42, 43, 46, 47, 48, 300 ~ SH.T. N# 109  
 D-24, 27 THRU 29, 32, 38, 39, 40, 41, 44, 45, 57, 140 ~ SH.T. N# 108  
 D-47, 48, 219 THRU 229, 231, 5-15, 16, 51, 71 ~ SH.T. N# 110  
 D-230 THRU 240, 285, 296, 5-29 ~ SH.T. N# 111  
 D-241 THRU 249, 286 THRU 290, 5-21, 62 ~ SH.T. N# 112  
 D-17, 18, 19, 20 ~ SH.T. N# 109  
 D-12, 13, 14 ~ SH.T. N# 125

CALCULATED BY B.F.A. DATE 10/78  
 CHECKED BY G.H.S. DATE 4/79

MATCH LINE SEE SHEET NO. 88



FED. RD.	STATE	PROJECT	
2	OHIO		

87  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64  
PART 1

REFERENCE No	202							
	LOCATION		MANHOLE OR INLET		PIPE REMOVED OVER 24"	PIPE REMOVED 24" AND UNDER	PIPE REMOVED AS PER PLAN	
	STATION/OFFSET	STATION/OFFSET	REMOVED EACH	ABAND EACH	LIN. FT.	LIN. FT.	LIN. FT.	
X-21	M.L. 805+50/118' LT. ~ 805+91/133' LT.				45		215	
X-22	M.L. 805+91/133' LT. ~ 807+95/205' LT.	/						
X-23	REL. LORAIN 56+76/22' RT.		/					
X-24	REL. LORAIN 57+02/40' RT.		/					
X-25	REL. LORAIN 57+58/37' LT.		/					
X-26	REL. LORAIN 59+45/20' RT.		/					
X-27	REL. LORAIN 60+61/20' RT.		/					
X-28	REL. LORAIN 62+45/23' RT.		/					
X-29	REL. LORAIN 60+86/25' LT.		/					
X-31	REL. LORAIN 57+19/22' LT. &		/					
X-35	M.L. 814+49/48' LT. ~ 820+18/184' LT.			2	578			
X-36	REL. CLARK 48+95/17' LT. & RT			2				
X-37	REL. CLARK 49+20/33' RT.		/					
X-38	REL. CLARK 50+24/7' LT.		/					
X-39	REL. CLARK 51+87/26' RT.	/						
X-40	REL. CLARK 52+03/29' RT.		/					
X-41	REL. CLARK 53+11/8' RT. ~ 55+21/8' RT.						211	
X-42	REL. CLARK 55+21/8' RT. ~ 58+40/8' RT.	/			319			
X-43	REL. CLARK 55+39/LT. & RT.		/	/				
X-45	REL. CLARK 58+12/27' RT.		/					
X-46	REL. CLARK 52+12/200' RT. ~ 52+39/8' RT.	/	/				193	
X-47	REL. CLARK 52+31/45' RT.		/					
X-48	REL. CLARK 58+00/28' LT.	/						
X-52	W. 84-85 CONN. 52+58/16' LT.		/					
X-53	W. 84-85 CON N. 52+81/41' LT.		/					
TOTALS			5	1	5	16	940	619

REFERENCE No	203				204
	TYPE "B" CONDUIT 706.02 W/706.11 JTS. OR 706.08 W/706.12 JTS. 27"	TYPE "B" COND. 706.02 CL. III W/706.11 JTS. OR 706.08 W/706.12 JTS. 24"	TYPE "B" COND. W/706.11 JTS. 48' 706.02 CL. III	STD. No 1-A MANHOLE MOD. W/706.11 JOINTS	
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH
S-13					1
S-14			203		1
S-15	38				1
S-16					1
S-17			185		1
S-18			210		1
S-19			368		1
S-20					1
S-21		101			1
S-61					1
S-62					1
S-69					1
S-71					1
TOTALS	38	101	203	763	12

REFERENCE No	204				
	LOCATION	MANHOLES ADJUSTED TO GRADE	MANHOLES RECONST. TO GRADE	CATCH BASINS ADJUSTED TO GRADE	CATCH BASINS RECONST. TO GRADE
	STATION TO STATION	EACH	EACH	EACH	EACH
R-8	W. 84-85 CONN. 52+26/10' RT.			1	
R-9	W. 84-85 CONN. 51+36/13' LT.		1		
R-10	W. 84-85 CONN. 52+96/36' LT.		1		
R-12	REL. LORAIN 61+09/41' LT.	1			
R-13	REL. LORAIN 62+66/5' LT.		1		
R-14	REL. LORAIN 62+62/22' LT.			1	
R-15	M.L. 820+20/184' LT.	1			
R-16	M.L. 820+28/215' LT.	1			
R-17	REL. CLARK 49+00/ &		1		
R-18	REL. CLARK 49+08/36' RT.		1		
R-19	REL. CLARK 52+27/8' RT.	1			
R-20	REL. CLARK 58+20/ &		1		
TOTALS		4	6	2	

CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.A.G. DATE 4/74

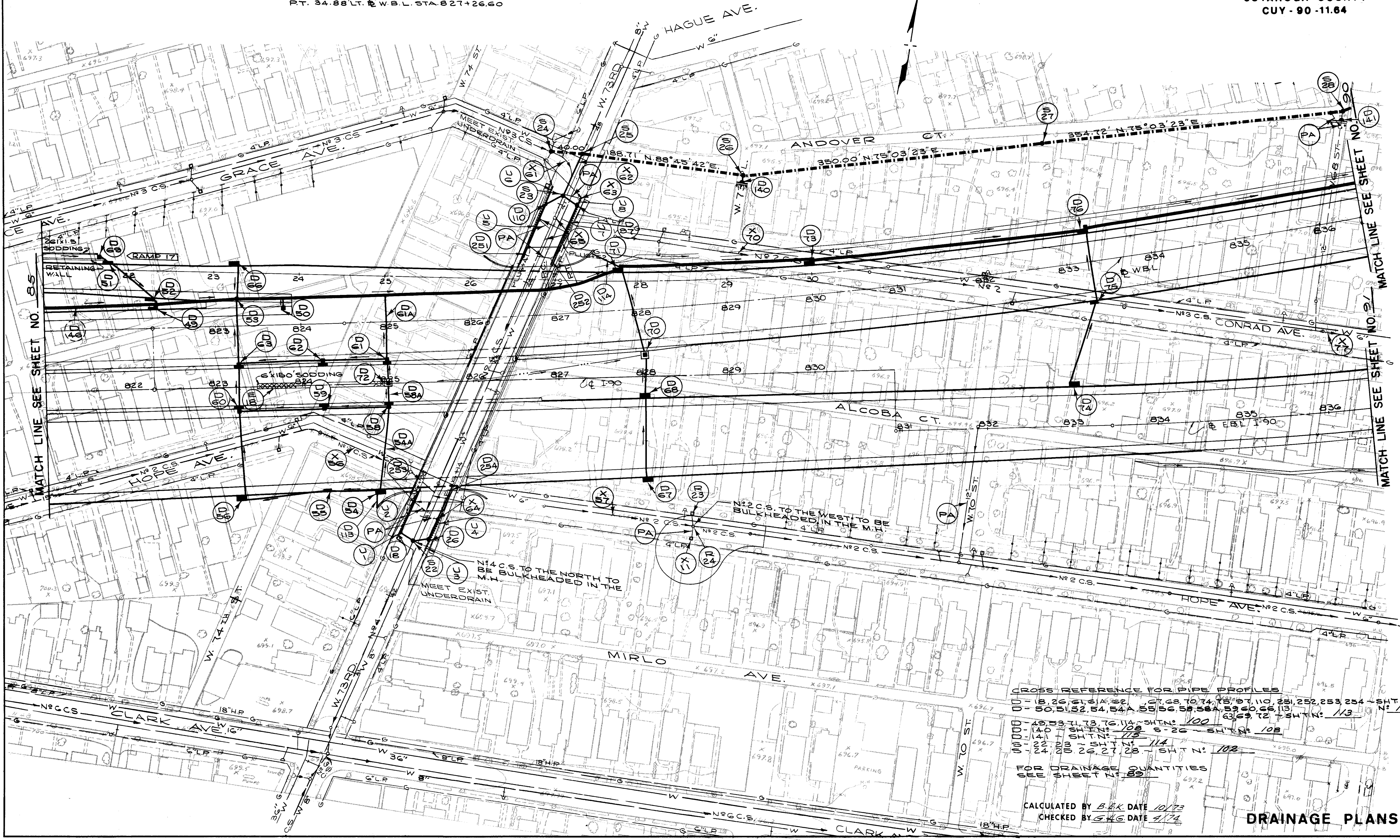
DRAINAGE QUANTITIES

CURVE DATA & PIPE  
 T10D = 17° 48' 33"  
 T11 = 170' 00"  
 T12 = 170' 00"  
 T13 = 170' 00"  
 T14 = 170' 00"  
 T15 = 170' 00"  
 T16 = 170' 00"  
 T17 = 170' 00"  
 T18 = 170' 00"  
 T19 = 170' 00"  
 T20 = 170' 00"  
 T21 = 170' 00"  
 T22 = 170' 00"  
 T23 = 170' 00"  
 T24 = 170' 00"  
 T25 = 170' 00"  
 T26 = 170' 00"  
 T27 = 170' 00"  
 T28 = 170' 00"  
 T29 = 170' 00"  
 T30 = 170' 00"  
 T31 = 170' 00"  
 T32 = 170' 00"  
 T33 = 170' 00"  
 T34 = 170' 00"  
 T35 = 170' 00"  
 T36 = 170' 00"  
 T37 = 170' 00"  
 T38 = 170' 00"  
 T39 = 170' 00"  
 T40 = 170' 00"  
 T41 = 170' 00"  
 T42 = 170' 00"  
 T43 = 170' 00"  
 T44 = 170' 00"  
 T45 = 170' 00"  
 T46 = 170' 00"  
 T47 = 170' 00"  
 T48 = 170' 00"  
 T49 = 170' 00"  
 T50 = 170' 00"  
 T51 = 170' 00"  
 T52 = 170' 00"  
 T53 = 170' 00"  
 T54 = 170' 00"  
 T55 = 170' 00"  
 T56 = 170' 00"  
 T57 = 170' 00"  
 T58 = 170' 00"  
 T59 = 170' 00"  
 T60 = 170' 00"  
 T61 = 170' 00"  
 T62 = 170' 00"  
 T63 = 170' 00"  
 T64 = 170' 00"  
 T65 = 170' 00"  
 T66 = 170' 00"  
 T67 = 170' 00"  
 T68 = 170' 00"  
 T69 = 170' 00"  
 T70 = 170' 00"  
 T71 = 170' 00"  
 T72 = 170' 00"  
 T73 = 170' 00"  
 T74 = 170' 00"  
 T75 = 170' 00"  
 T76 = 170' 00"  
 T77 = 170' 00"  
 T78 = 170' 00"  
 T79 = 170' 00"  
 T80 = 170' 00"  
 T81 = 170' 00"  
 T82 = 170' 00"  
 T83 = 170' 00"  
 T84 = 170' 00"  
 T85 = 170' 00"  
 T86 = 170' 00"  
 T87 = 170' 00"  
 T88 = 170' 00"  
 T89 = 170' 00"  
 T90 = 170' 00"  
 T91 = 170' 00"  
 T92 = 170' 00"  
 T93 = 170' 00"  
 T94 = 170' 00"  
 T95 = 170' 00"  
 T96 = 170' 00"  
 T97 = 170' 00"  
 T98 = 170' 00"  
 T99 = 170' 00"  
 T100 = 170' 00"

FED. RD.	STATE	PROJECT
2	OHIO	

88  
838

CUYAHOGA COUNTY  
 CUY - 90 - 11.64



CROSS REFERENCE FOR PIPE PROFILES  
 D-18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 - SHT. N: 114  
 D-141 + SHT. N: 108 S-26 - SHT. N: 108  
 D-22, 23 - SHT. N: 114  
 D-24, 25, 26, 27, 28 - SHT. N: 108

FOR DRAINAGE QUANTITIES  
 SEE SHEET N: 89  
 CALCULATED BY B.E.K. DATE 10/73  
 CHECKED BY G.H.G. DATE 4/74

DRAINAGE PLANS



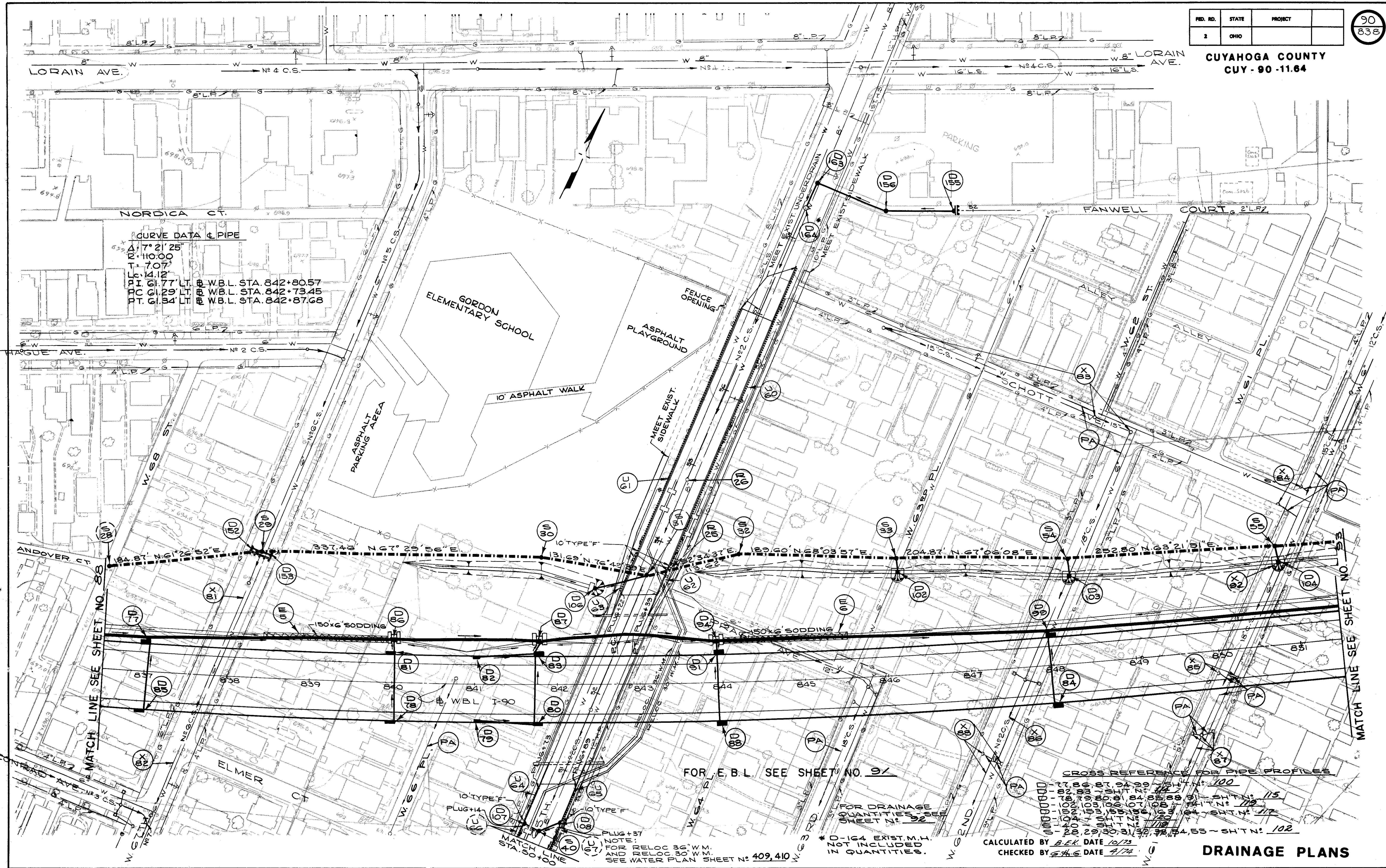


FED. RD.	STATE	PROJECT
2	OHIO	

90  
838

CUYAHOGA COUNTY  
CUY-90-11.64

**CURVE DATA & PIPE**  
 $\Delta = 7^{\circ} 21' 25"$   
 $R = 110.00$   
 $T = 7.07$   
 $L = 14.12'$   
 P.I. 61.77' LT. @ W.B.L. STA. 842+80.57  
 P.C. 61.29' LT. @ W.B.L. STA. 842+73.45  
 P.T. 61.34' LT. @ W.B.L. STA. 842+87.68



MATCH LINE SEE SHEET NO. 88

MATCH LINE SEE SHEET NO. 91

FOR E.B.L. SEE SHEET NO. 91

**CROSS REFERENCE FOR PIPE PROFILES**

840	100
841	100
842	100
843	100
844	100
845	100
846	100
847	100
848	100
849	100
850	100
851	100
852	100
853	100
854	100
855	100

\* 20'-164' EXIST. M.H. NOT INCLUDED IN QUANTITIES.  
 SEE WATER PLAN SHEET N: 409, 410

CALCULATED BY B.E.R. DATE 10/13  
 CHECKED BY W.H.G. DATE 4/74

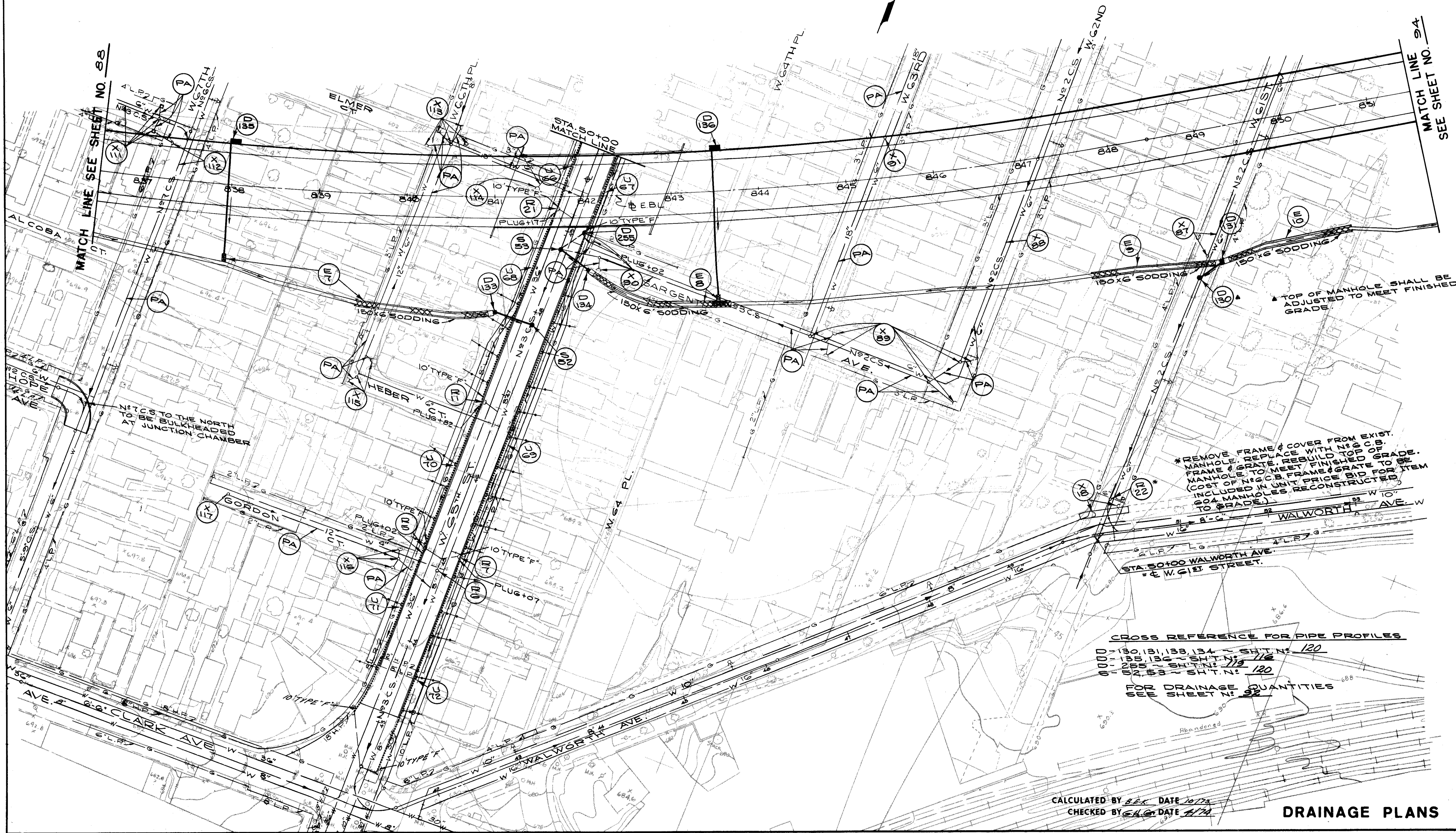
**DRAINAGE PLANS**

FED. NO.	STATE	PROJECT
2	OHIO	

91  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

FOR W.B.L. SEE SHEET NO. 90



MATCH LINE SEE SHEET NO. 88

MATCH LINE NO. 94  
SEE SHEET NO. 94

N<sup>o</sup> 7 C.S. TO THE NORTH  
TO BE BULKHEADED  
AT JUNCTION CHAMBER

▲ TOP OF MANHOLE SHALL BE  
ADJUSTED TO MEET FINISHED  
GRADE.

\* REMOVE FRAME & COVER FROM EXIST.  
MANHOLE. REPLACE WITH N<sup>o</sup> 2 C.B.  
MANHOLE. REBUILD TOP OF  
FRAME & GRATE TO MEET FINISHED GRADE.  
FRAME & GRATE TO BE REBUILT TO BE  
(COST OF N<sup>o</sup> 2 C.B. FRAME & GRATE TO BE  
INCLUDED IN UNIT PRICE BID FOR ITEM  
604 MANHOLES RECONSTRUCTED  
TO GRADE.)

CROSS REFERENCE FOR PIPE PROFILES

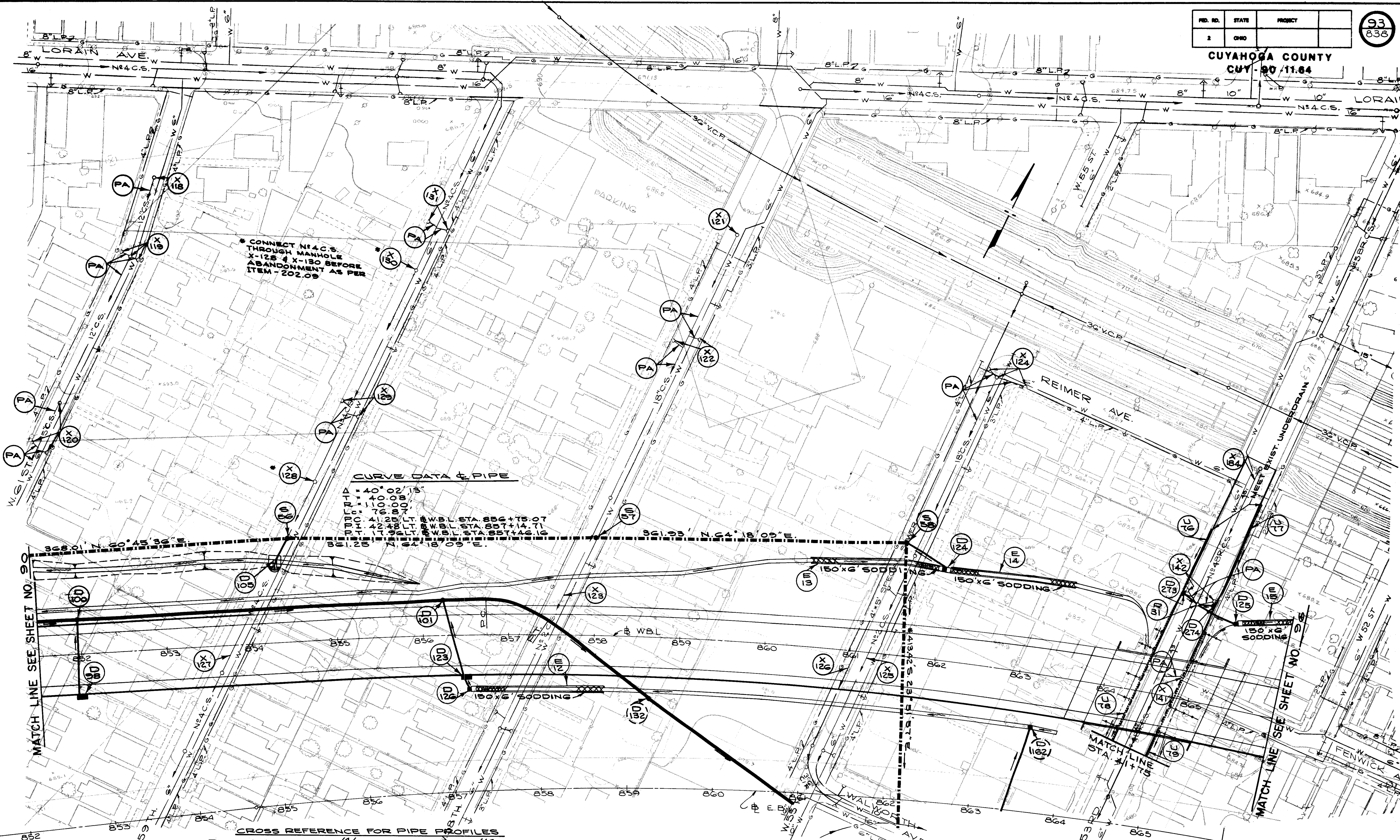
- 00 - 130, 131, 133, 134 - SHIT. N: 120
- 01 - 135, 136 - SHIT. N: 116
- 02 - 137, 138 - SHIT. N: 119
- 03 - 139, 140 - SHIT. N: 120

FOR DRAINAGE QUANTITIES  
SEE SHEET N: 92

CALCULATED BY B.E.K. DATE 10/75  
CHECKED BY G.H.G. DATE 1/74

DRAINAGE PLANS





\* CONNECT N4.C.S. THROUGH MANHOLE X-128 & X-130 BEFORE ABANDONMENT AS PER ITEM-202.09

**CURVE DATA & PIPE**

ΔP = 40° 00' 13"  
 DELTA = 140.00' 13"  
 RHO = 76.809'  
 PCH = 4.228' LT. # WBL STA. 856+15.07  
 PCH = 17.92' LT. # WBL STA. 857+14.71  
 PCH = 17.92' LT. # WBL STA. 857+14.616

MATCH LINE SEE SHEET NO. 90

MATCH LINE SEE SHEET NO. 94

**CROSS REFERENCE FOR PIPE PROFILES**

0000	101	151	101	D-98 - SHT. N: 116
0000	120	151	118	
0000	273	151	120	
0000	273	151	119	
0000	273	151	102	
0000	273	151	103	

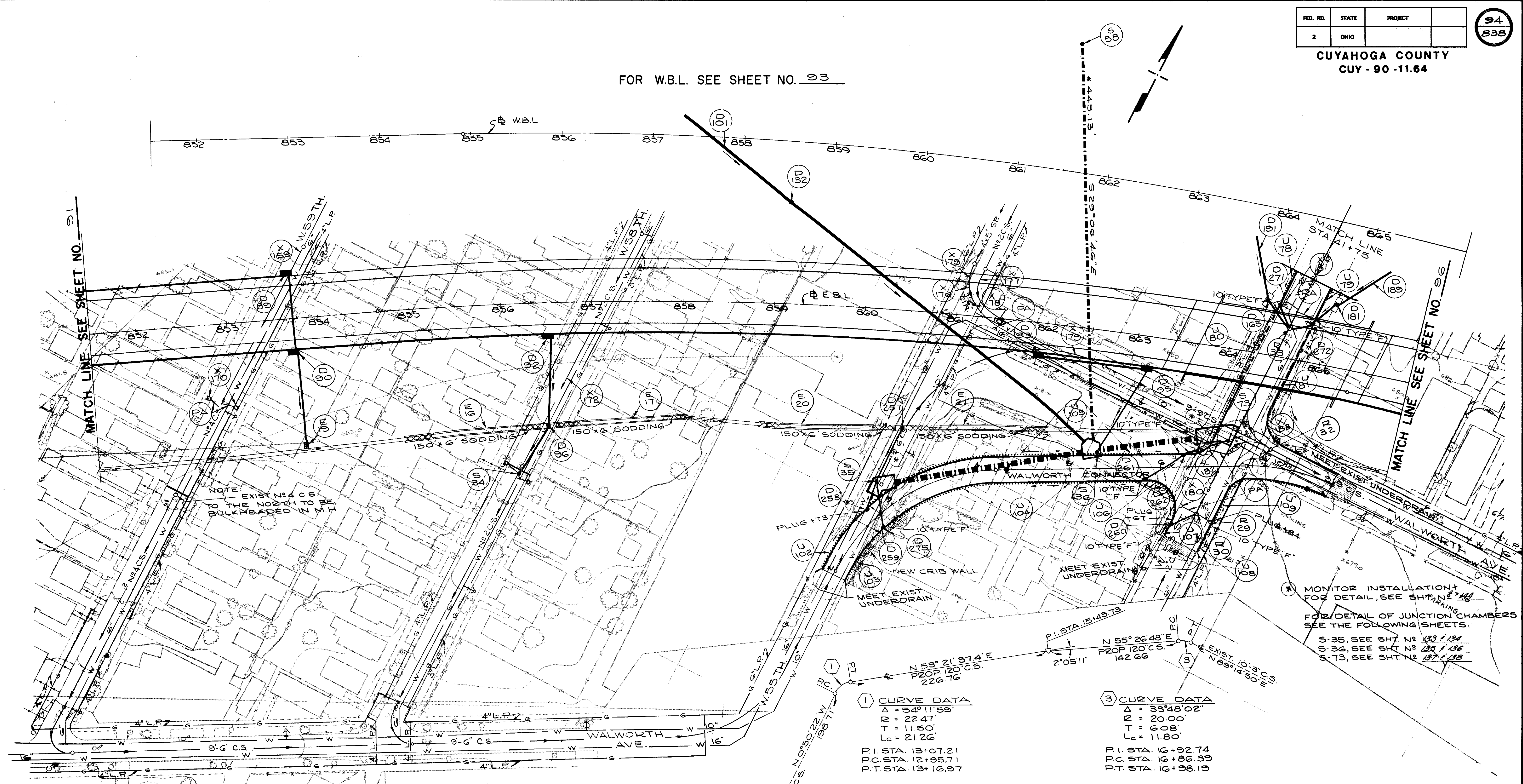
FOR E.B.L. SEE SHEET NO. 94  
FOR DRAINAGE QUANTITIES SEE SHEET NO. 93

\* DISTANCE & M.H. S. 50 TO INTERSECTION & OF PIPES AT JUNCTION CHAMBER & 30

CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY S.H.G. DATE 4/74

CUYAHOGA COUNTY  
CUY - 90 - 11.64

FOR W.B.L. SEE SHEET NO. 93



MATCH LINE SEE SHEET NO. 91

MATCH LINE SEE SHEET NO. 96

NOTE  
EXISTING NO. 4 C.S.  
TO THE NORTH TO BE  
BULKHEADED IN M.H.

1 CURVE DATA  
 $\Delta = 54^{\circ}11'59"$   
 $R = 22.47'$   
 $T = 11.50'$   
 $L_c = 21.26'$   
 P.I. STA. 13+07.21  
 P.C. STA. 12+95.71  
 P.T. STA. 13+16.97

3 CURVE DATA  
 $\Delta = 33^{\circ}48'02"$   
 $R = 20.00'$   
 $T = 6.08'$   
 $L_c = 11.80'$   
 P.I. STA. 16+92.74  
 P.C. STA. 16+86.39  
 P.T. STA. 16+98.19

ALIGNMENT OF PROP. 120" C.S. BETWEEN  
W. 55 ST. AND W. 53 ST.

CROSS REFERENCE FOR PIPE PROFILES

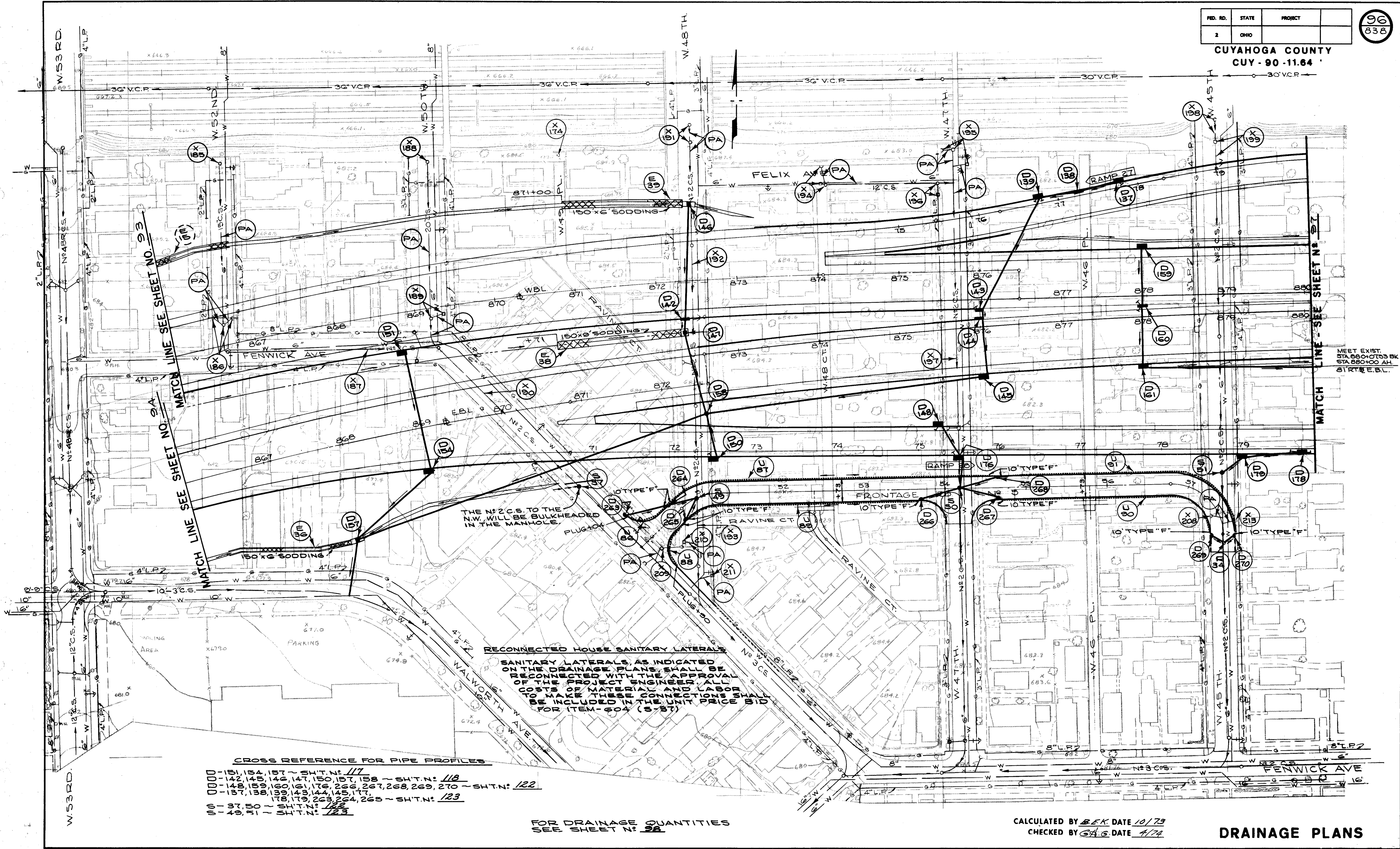
0000	0000	116	D-257,258-SHT. NO. 120
0001	0000	117	
0002	0000	118	
0003	0000	119	
0004	0000	120	
0005	0000	121	
0006	0000	122	
0007	0000	123	
0008	0000	124	
0009	0000	125	
0010	0000	126	
0011	0000	127	
0012	0000	128	
0013	0000	129	
0014	0000	130	
0015	0000	131	
0016	0000	132	
0017	0000	133	
0018	0000	134	
0019	0000	135	
0020	0000	136	
0021	0000	137	
0022	0000	138	
0023	0000	139	
0024	0000	140	
0025	0000	141	
0026	0000	142	
0027	0000	143	
0028	0000	144	
0029	0000	145	
0030	0000	146	
0031	0000	147	
0032	0000	148	
0033	0000	149	
0034	0000	150	
0035	0000	151	
0036	0000	152	
0037	0000	153	
0038	0000	154	
0039	0000	155	
0040	0000	156	
0041	0000	157	
0042	0000	158	
0043	0000	159	
0044	0000	160	
0045	0000	161	
0046	0000	162	
0047	0000	163	
0048	0000	164	
0049	0000	165	
0050	0000	166	
0051	0000	167	
0052	0000	168	
0053	0000	169	
0054	0000	170	
0055	0000	171	
0056	0000	172	
0057	0000	173	
0058	0000	174	
0059	0000	175	
0060	0000	176	
0061	0000	177	
0062	0000	178	
0063	0000	179	
0064	0000	180	
0065	0000	181	
0066	0000	182	
0067	0000	183	
0068	0000	184	
0069	0000	185	
0070	0000	186	
0071	0000	187	
0072	0000	188	
0073	0000	189	
0074	0000	190	
0075	0000	191	
0076	0000	192	
0077	0000	193	
0078	0000	194	
0079	0000	195	
0080	0000	196	
0081	0000	197	
0082	0000	198	
0083	0000	199	
0084	0000	200	

FOR DRAINAGE QUANTITIES  
SEE SHEET NO. 95

\* DISTANCE @ M.H. S 58  
TO INTERSECTION @  
OF PIPES AT JUNCTION  
CHAMBER S 36

REVISED BY J.M.L. DATE 1/75  
CHECKED BY B.C.K. DATE 2/75





THE N#2 C.S. TO THE N.W. WILL BE BULKHEADED IN THE MANHOLE.

**RECONNECTED HOUSE SANITARY LATERALS**  
SANITARY LATERALS, AS INDICATED ON THE DRAINAGE PLANS, SHALL BE RECONNECTED WITH THE APPROVAL OF THE PROJECT ENGINEER. ALL COSTS OF MATERIAL AND LABOR TO MAKE THESE CONNECTIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM-604 (S-87).

**CROSS REFERENCE FOR PIPE PROFILES**

0000	151, 154, 157	SH.T.N. 117
0000	142, 148, 149, 147, 150, 157, 158	SH.T.N. 118
0000	137, 139, 130, 121, 176, 266, 267, 268, 269, 270	SH.T.N. 122
0000	139, 143, 144, 145, 177, 178, 179, 263, 264, 265	SH.T.N. 123
00	137, 138	SH.T.N. 122
00	140, 141	SH.T.N. 123

FOR DRAINAGE QUANTITIES SEE SHEET N# 122

CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.A.G. DATE 4/74

**DRAINAGE PLANS**



FED. RD.	STATE	PROJECT
2	CRSD	

97  
838

CUYAHOGA COUNTY  
CUY - 90 11.64



CROSS REFERENCE FOR PIPE PROFILES  
D-177-SHT. NO. 123

FOR DRAINAGE QUANTITIES  
SEE SHEET NO. 98

CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74

DRAINAGE PLANS

REFERENCE N°	603						604											* BENDS				
	TYPE B' COND.		TYPE C' COND.		TYPE "F" CONDUIT 707.05	STD. N° 3 CATCH BASIN	STD. N° 5 CATCH BASIN	N° 5-A REIN. CONC. CATCH BASIN	STD. N° 8 CATCH BASIN	STD. 2-A-6 PAVED SHLD. INLET	STD. 2-A-8 PAVED SHLD. INLET	STD. 2-A-10 PAVED SHLD. INLET	STD. 2-A-12 PAVED SHLD. INLET	STD. 2-A-14 PAVED SHLD. INLET	STD. 2-A-16 PAVED SHLD. INLET	STD. N° 1-A MAN- HOLE	CITY OF CLEVE. N° 1 INLET		CITY OF CLEVE. N° 2 INLET			
	12"	15"	24"	12"																15"	7 1/2"	15"
D-137	48																					
D-138	48																					
D-139	155																					
D-142				15																		
D-143				15																		
D-144	72																					
D-145				357																		
D-146	144																					
D-147	106																					
D-148	45																					
D-150	57																					
D-151	150																					
D-154					130																	
D-157						71																
D-158		460																				
D-159	72																					
D-160	74																					
D-161				200																		
D-176	40																		2			
D-177	48																					
D-178	73																					
D-179				35															2			
D-263				62																		
D-264	31																		2			
D-265	28																		2			
D-266	49																		2			
D-267	50																		2			
D-268	50																		2			
D-269	18																		2			
D-270	18																		2			
TOTALS	244	132	460	62	265	357	130	71	2	1	1	1	5	2	2	1	1	3	2	1	7	1

\* \* 706.01 Class 3, 706.02,  
706.08 E.S. of 707.13

\* FOR TRAP DETAILS  
SEE SHEET N° 141

REFERENCE N°	604				
	LOCATION	MANHOLES ADJUSTED TO GRADE	MANHOLES RECONSTR. TO GRADE	CATCH BASINS ADJUSTED TO GRADE	CATCH BASINS RECONSTR. TO GRADE
		EACH	EACH	EACH	EACH
R-34	FRONTAGE RD. 5-57+86/E		1		
STATION TO STATION					
TOTALS			1		

REFERENCE N°	604
	STD. N° 1-A MANHOLE (MOD) W/706.11 JOINTS
S-37	1
S-45	1
S-50	1
S-51	1
TOTALS	4

REFERENCE N°	EROSION CONTROL		
	LOCATION	SIDE	660
			5000/ING
STATION TO STATION			SQ. YDS.
E-36	866+45 ~ 867+95 E.B.L. RT.		100
E-38	870+75 ~ 872+25 W.B.L. RT.		100
E-39	871+00 ~ 872+50 W.B.L. LT.		100
TOTALS			300*

\* CARRIED TO SHEET N° 37

REFERENCE N°	202							
	LOCATION	MANHOLE		CATCH BASIN OR INLET	PIPE REMOVED OVER 24"	PIPE REMOVED 24" AND UNDER	PIPE REMOVED AS PER PLAN	
		REMD	ABAND					REMD
X-185	867+00/221' LT. W.B.L.		1					
X-186	866+55/36' LT. W.B. ~ 866+80/30' LT. W.B.L.		1	2				
X-187	866+66/25' LT. W.B. ~ 869+22/50' RT. W.B.L.		1	2			235	
X-188	869+40/179' LT. W.B.L.		1					
X-189	869+18/13' RT. W.B. ~ 869+35/10' RT. W.B.L.		1	1				
X-190	869+22/50' RT. W.B. ~ 870+80/101' RT. E.B.L.		1				242	
X-191	872+53/193' LT. & 171' LT. W.B.L.		2					
X-192	872+50/100' LT. W.B. ~ 72+25/55' RT. RAMP N° 28		2	1			370	
X-193	72+25/57' RT. & 170' RT. RAMP N° 28				114			
X-194	874+06/133' LT. W.B. ~ 874+13/112' LT. W.B.L.		1	2				
X-195	875+57/150' LT. W.B. ~ 875+88/132' LT. W.B.L.		1	2				
X-196	875+50/110' LT. & 97' LT. W.B.L.		1	1				
X-197	875+69/93' LT. W.B. ~ 875+58/196' RT. E.B.L.		1	2			362	
X-198	878+93/216' LT. W.B. ~ 878+93/187' LT. W.B.L.		1		28			
X-199	878+93/187' LT. W.B. ~ 878+93/195' RT. E.B.L.		2	2	410			
X-208	57+50/11' RT. & FRONTAGE RD. N° 5			1				
X-209	50+16/18' RT. & FRONTAGE RD. N° 5			1				
X-210	50+42/33' RT. & FRONTAGE RD. N° 5			1				
X-211	50+37/87' RT. & FRONTAGE RD. N° 5			1				
X-213	57+66/15' LT. & FRONTAGE RD. N° 5			1				
TOTALS			3	14	4	16	552	1269

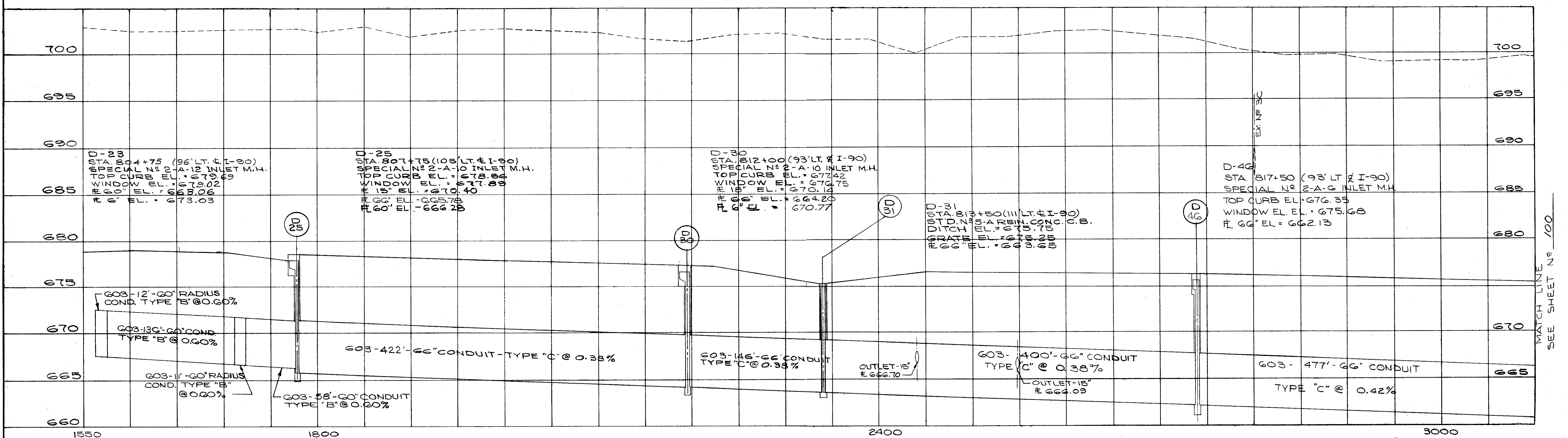
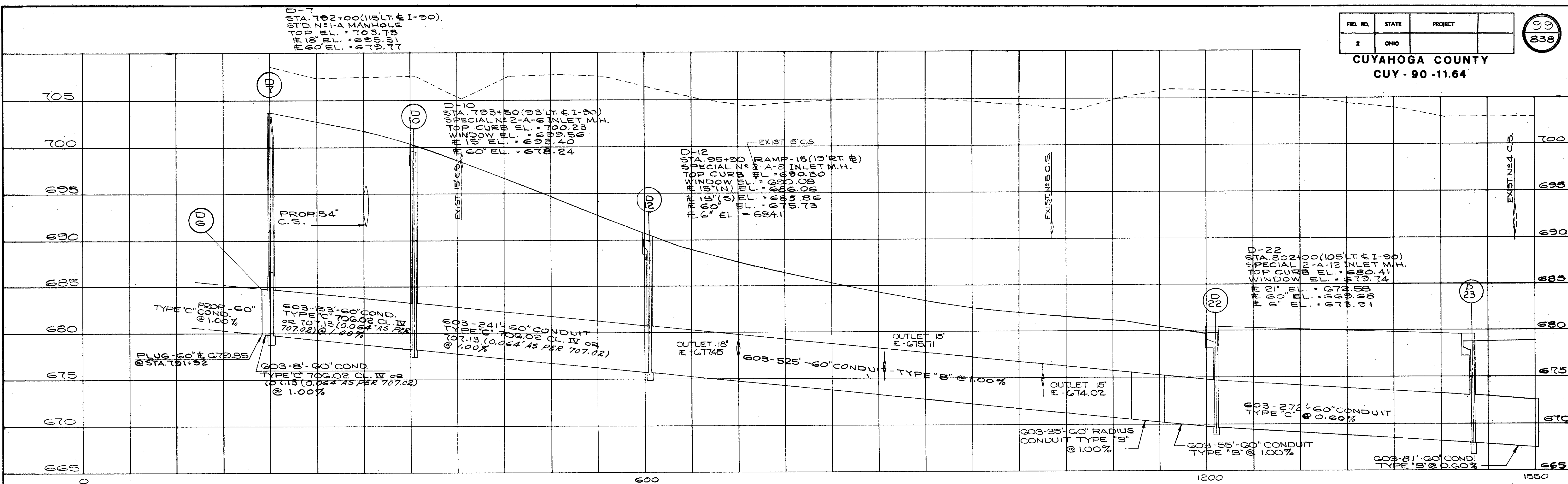
REFERENCE N°	605			603
	G' PIPE UNDERDRAINS			G' COND TYPE "F"
	DEEP	SHALLOW AS PER PLAN	UNCLASS- IFIED	"F"
U-86		55		10
U-87		390		20
U-88		57		10
U-89		272		20
U-90		267		20
U-91		315		20
TOTALS		1356		100

CALCULATED BY BEK. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74

FED. RD.	STATE	PROJECT
2	OHIO	

99  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

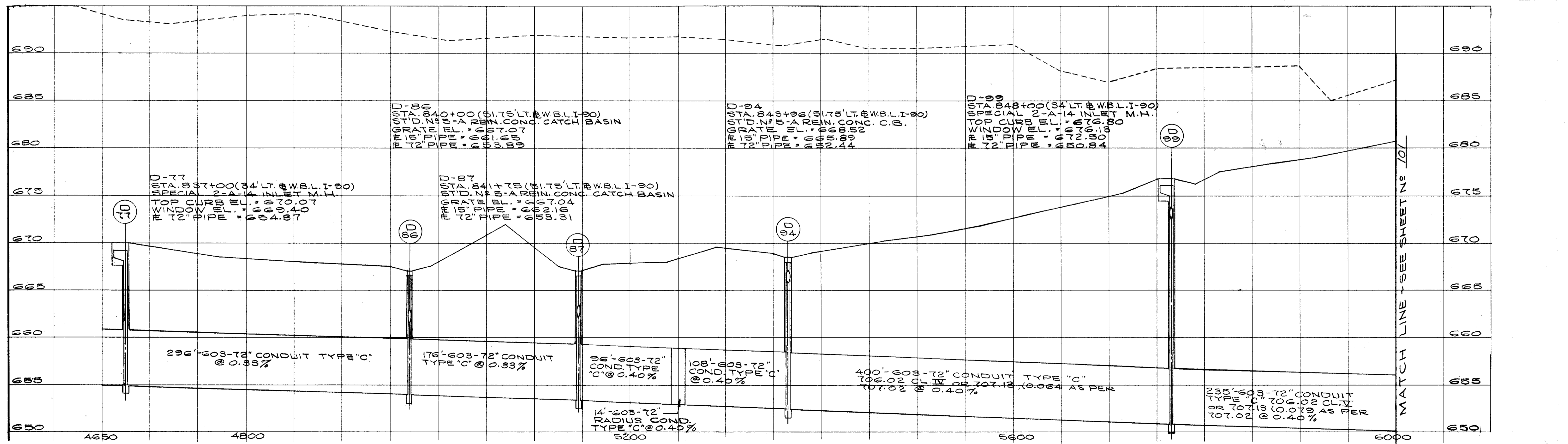
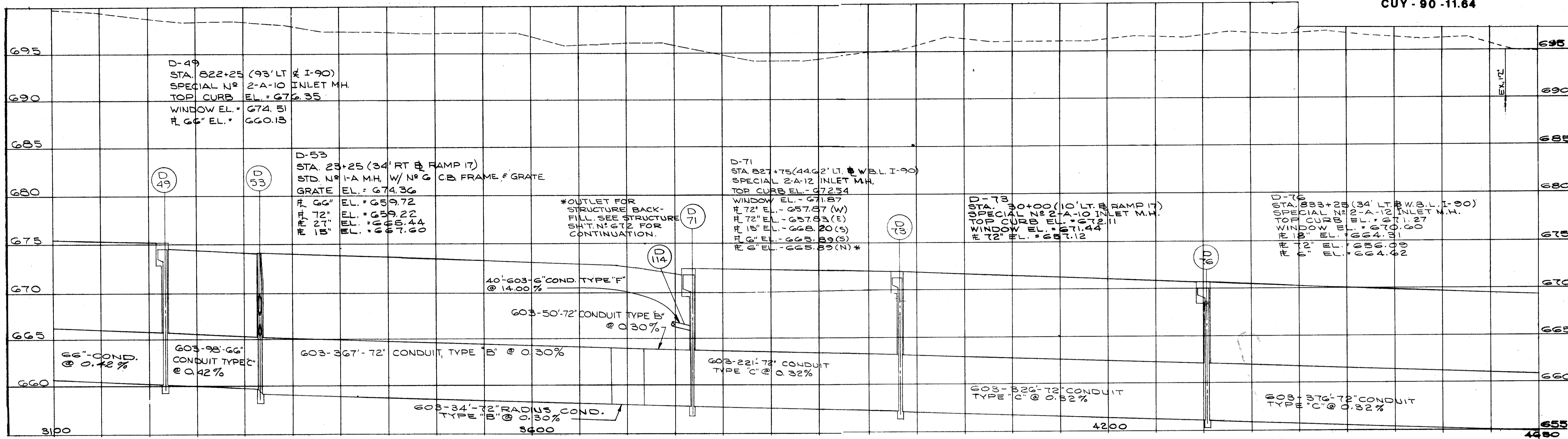


CALCULATED BY BEK DATE 10/73  
CHECKED BY G.H.G. DATE 4/74  
SEWER PROFILES

MATCH LINE  
SEE SHEET NO. 100

CUYAHOGA COUNTY  
CUY - 90 - 11.64

MATCH LINE - SEE SHEET NO. 92

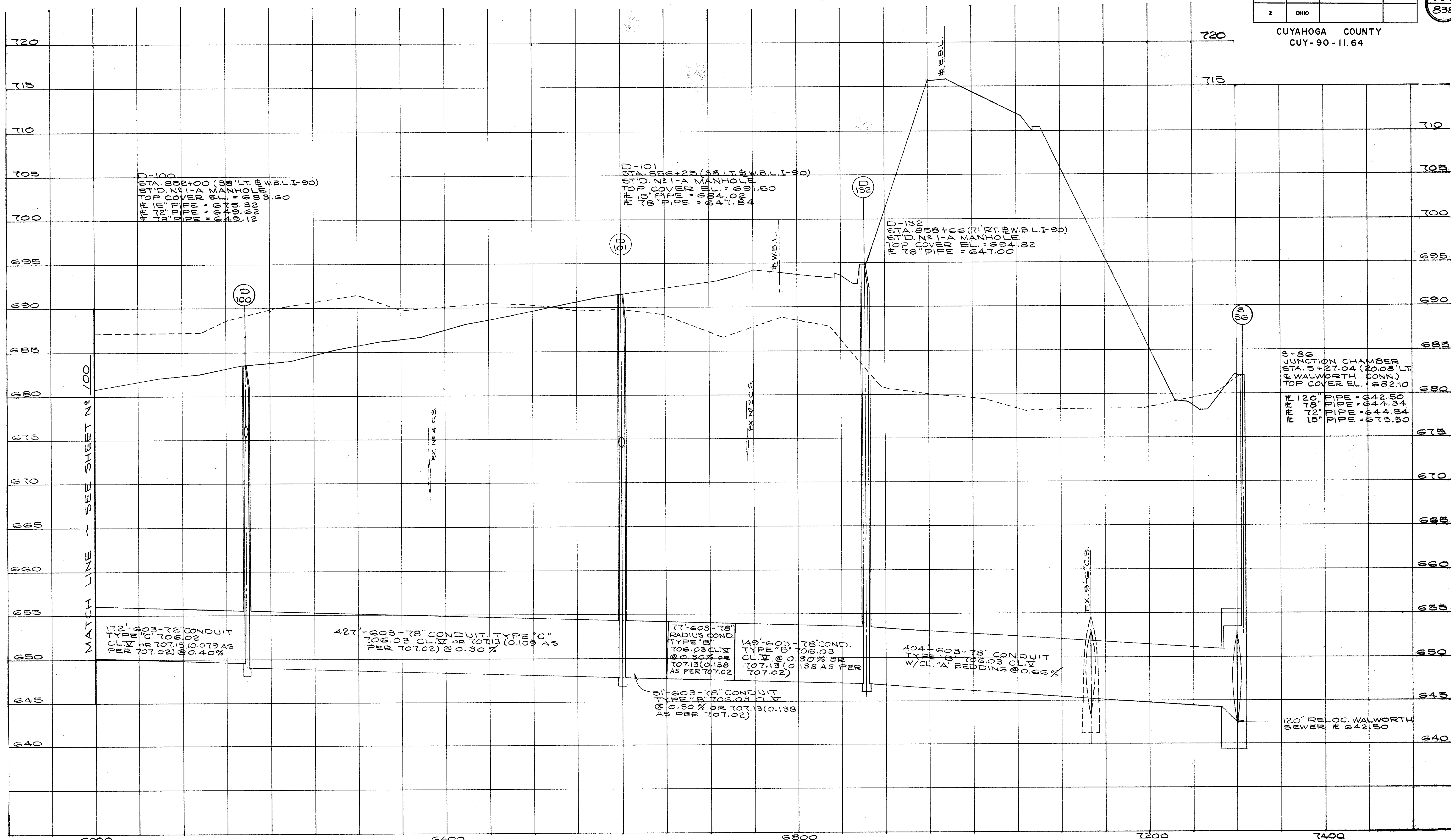


FORM DD A-8  
 CALCULATED BY B.E.K. DATE 10/73  
 CHECKED BY G.H.G. DATE 4/74  
 D-49, 53, 71, 73, 76, 77, 86, 87, 94, 99  
**SEWER PROFILES**

FED. RD.	STATE	PROJECT
2	OHIO	

101  
838

CUYAHOGA COUNTY  
CUY-90-11.64



D-100  
STA. 832+00 (38' LT. # W.B.L.I-90)  
TOP D. COVER EL. = 703.60  
15" COVER MANHOLE  
12" PIPE = 644.00  
15" PIPE = 647.00

D-101  
STA. 836+25 (38' LT. # W.B.L.I-90)  
TOP D. COVER EL. = 691.80  
15" COVER MANHOLE  
12" PIPE = 644.00  
15" PIPE = 647.00

D-132  
STA. 838+00 (71' RT. # W.B.L.I-90)  
TOP D. COVER EL. = 694.82  
15" COVER MANHOLE  
12" PIPE = 644.00  
15" PIPE = 647.00

S-36  
JUNCTION CHAMBER  
STA. 5+27.04 (20.08' LT. # WALWORTH CONN.)  
TOP COVER EL. = 682.10  
# 120" PIPE = 642.50  
# 78" PIPE = 644.34  
# 15" PIPE = 647.50

MATCH LINE - SEE SHEET NO. 100

172'-603-72" CONDUIT  
TYPE "C" 706.02  
CL. "V" @ 707.13 (0.079 AS  
PER 707.02) @ 0.40%

427'-603-78" CONDUIT TYPE "C"  
706.03 CL. "V" @ 707.15 (0.109 AS  
PER 707.02) @ 0.30%

77'-603-78" RADIUS COND.  
TYPE "B" 706.03  
CL. "V" @ 707.13 (0.138 AS  
PER 707.02) @ 0.30%

149'-603-78" COND.  
TYPE "B" 706.03  
CL. "V" @ 707.13 (0.138 AS  
PER 707.02) @ 0.30%

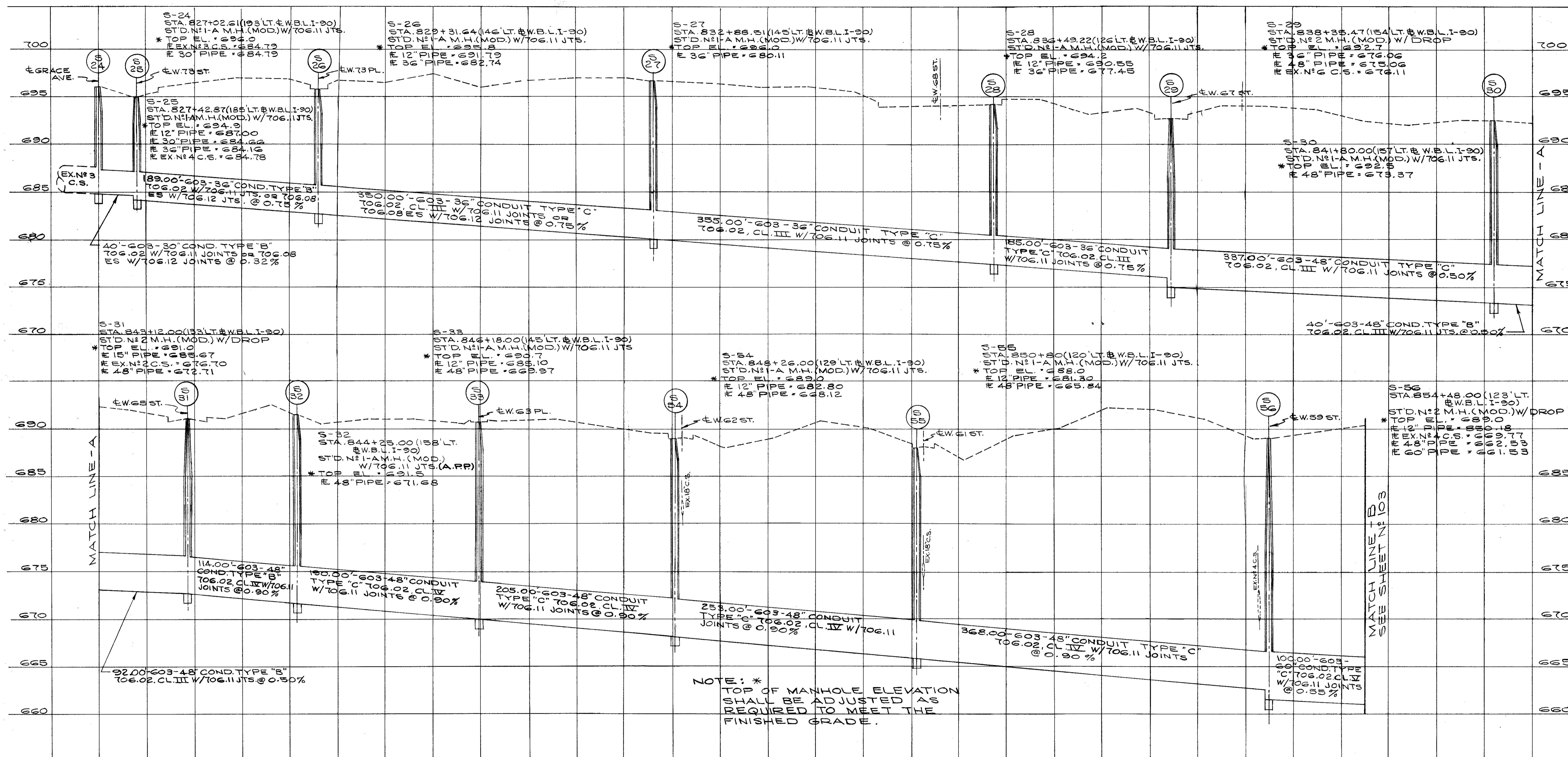
404'-603-78" CONDUIT  
TYPE "B" 706.03 CL. "V"  
W/CL. "A" BEDDING @ 0.66%

51'-603-78" CONDUIT  
TYPE "B" 706.03 CL. "V"  
@ 0.30% OR 707.13 (0.138  
AS PER 707.02)

120" RE-LOC. WALWORTH  
SEWER # 642.50

REVISED BY B.E.K. DATE 1-75  
CHECKED BY J.M.L. DATE 2-75  
CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74  
D-100, 101, 132.  
S-36.  
SEWER PROFILES

CUYAHOGA COUNTY  
CUY - 90 - 11.64



S - 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 56.

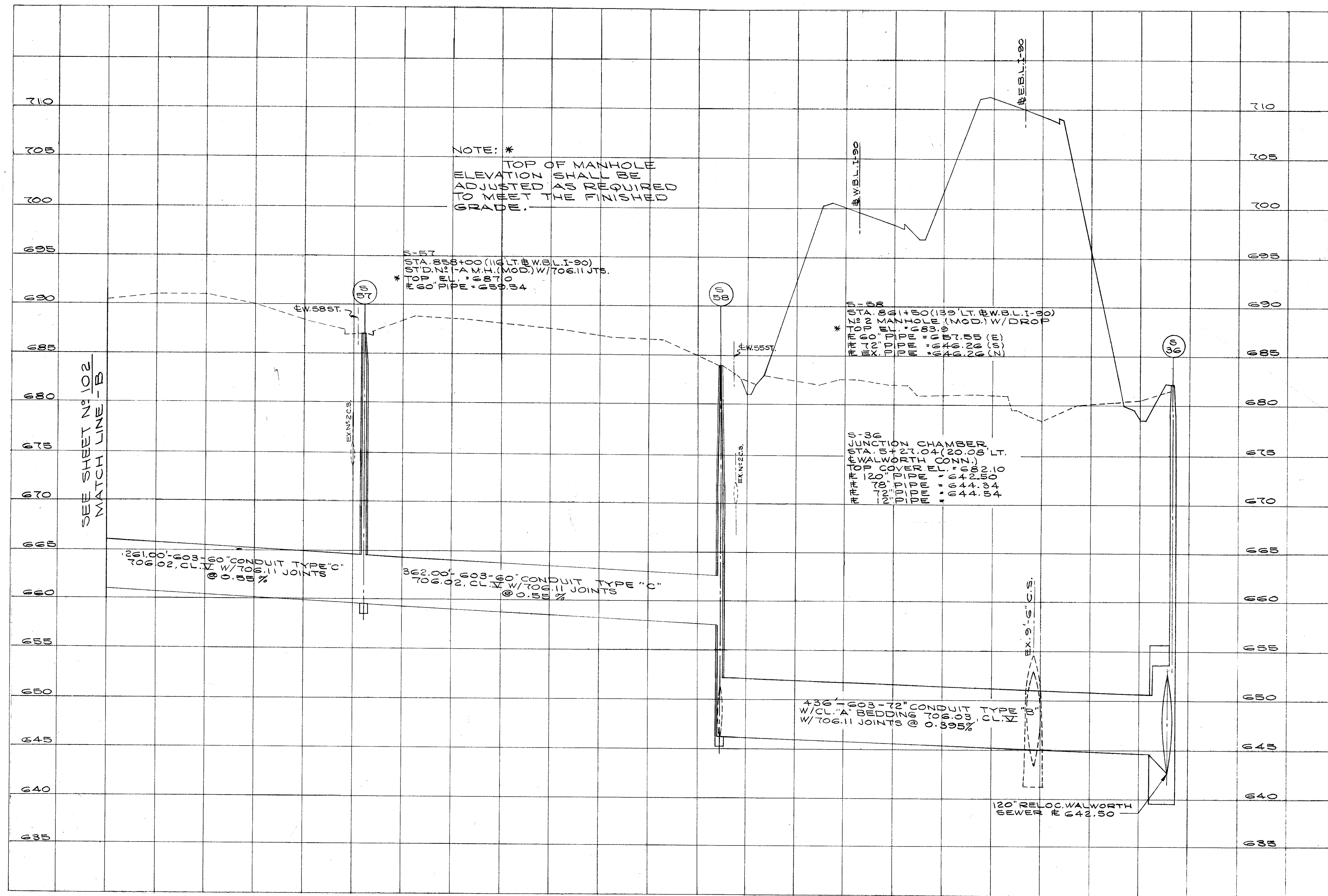
CALCULATED BY BEK. DATE 10/73  
CHECKED BY G.A.G. DATE 4/74

SEWER PROFILES

FED. RD.	STATE	PROJECT
2	OHIO	

103  
838

CUYAHOGA COUNTY  
CUY-90-11.64



S-36, 57, 58.

REVISED BY B.E.K. DATE 1-75  
CHECKED BY J.M.L. DATE 2-75  
CALCULATED BY BEK. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74 SEWER PROFILES

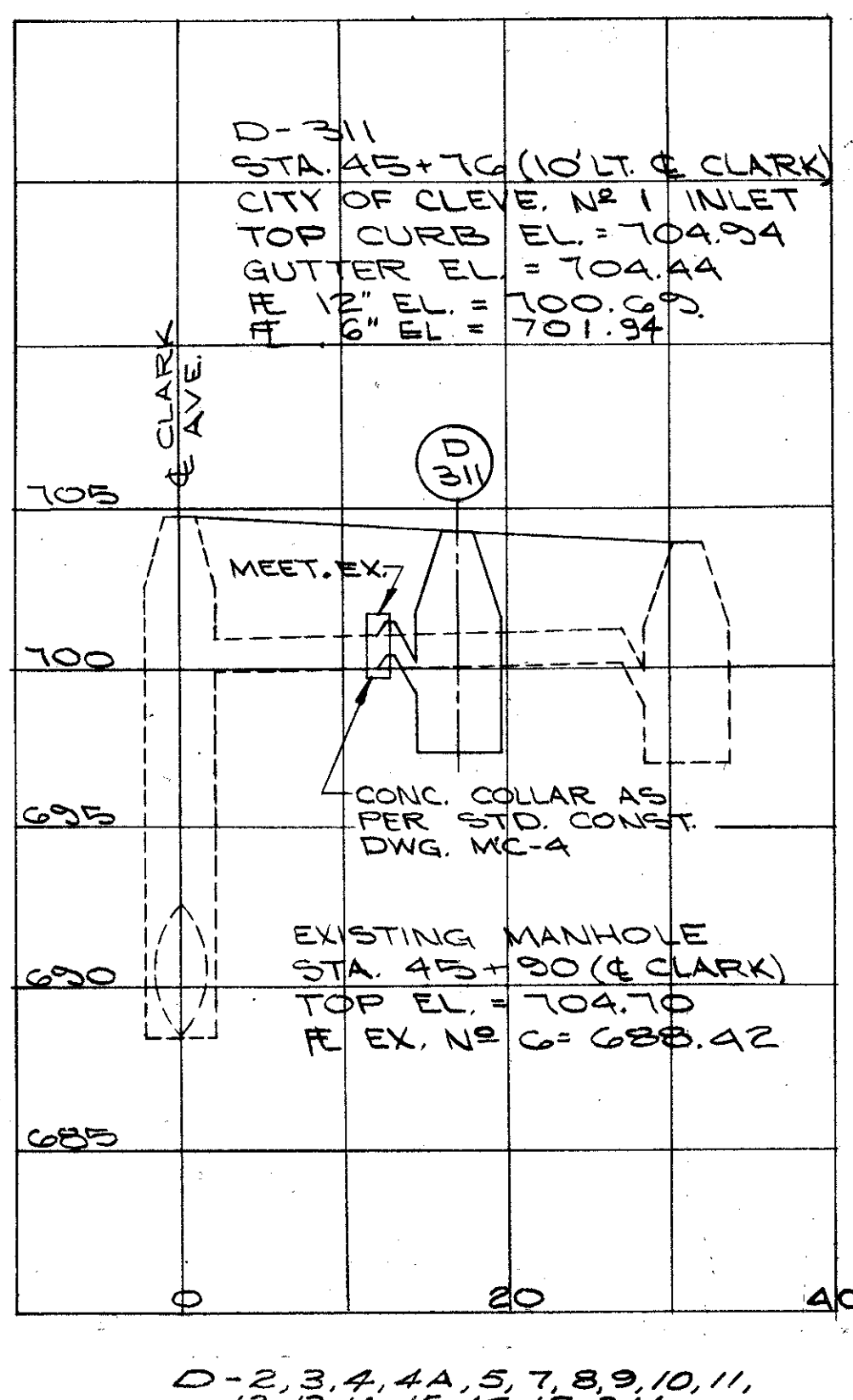
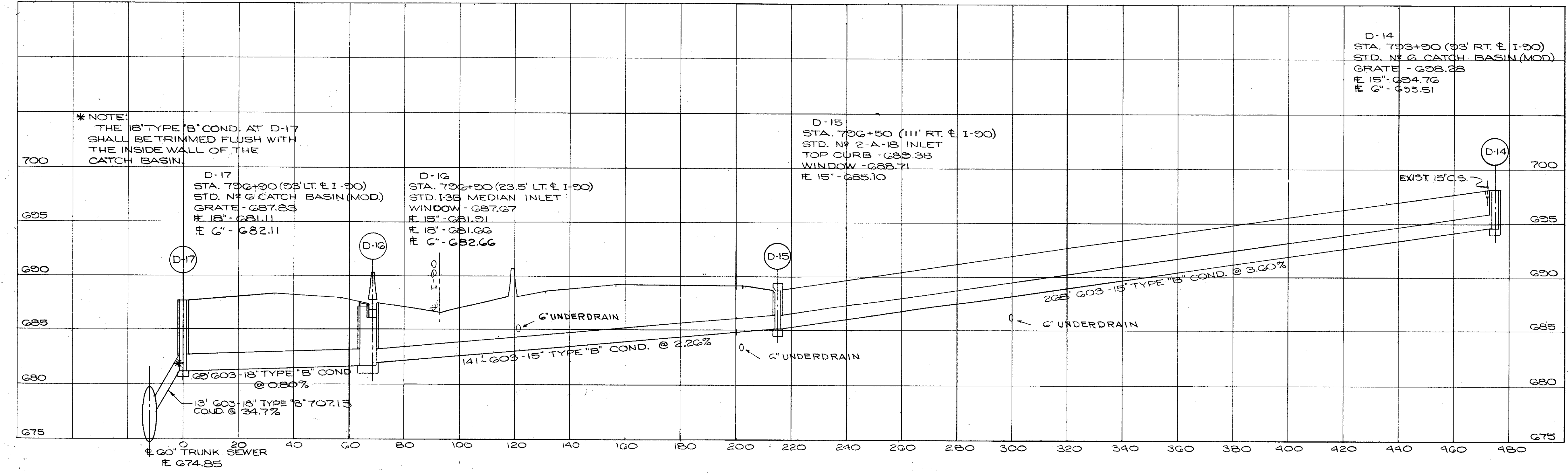
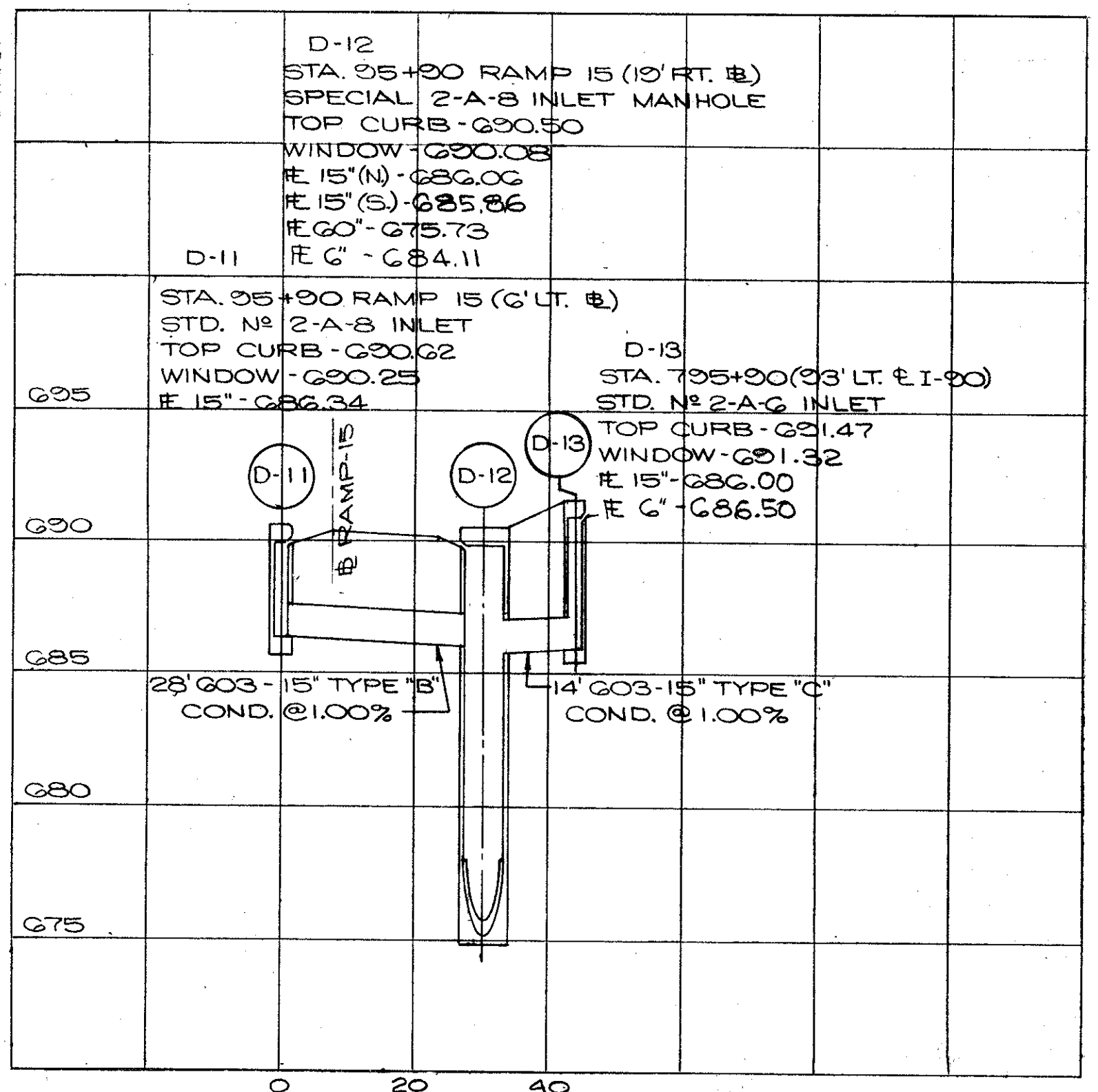
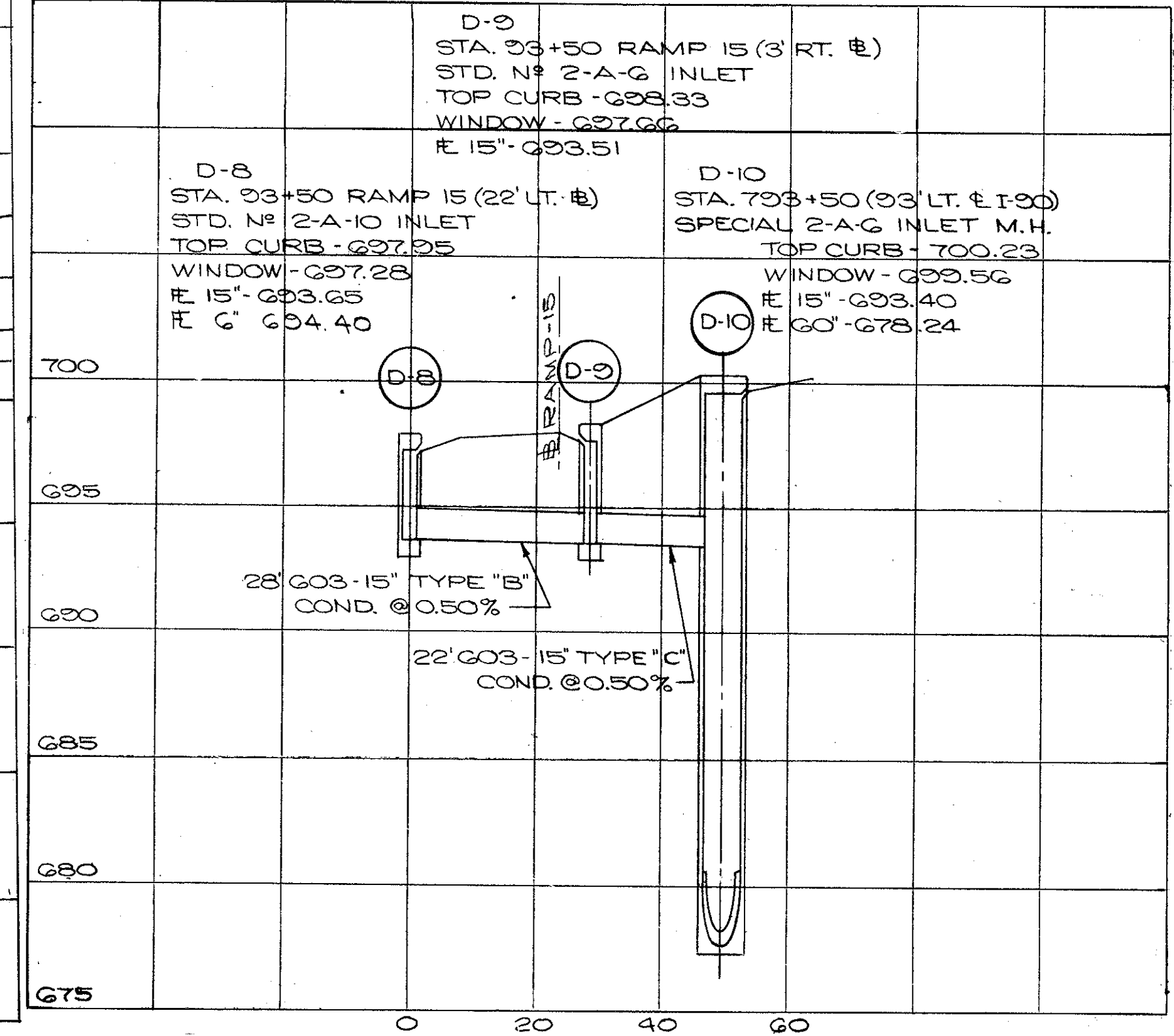
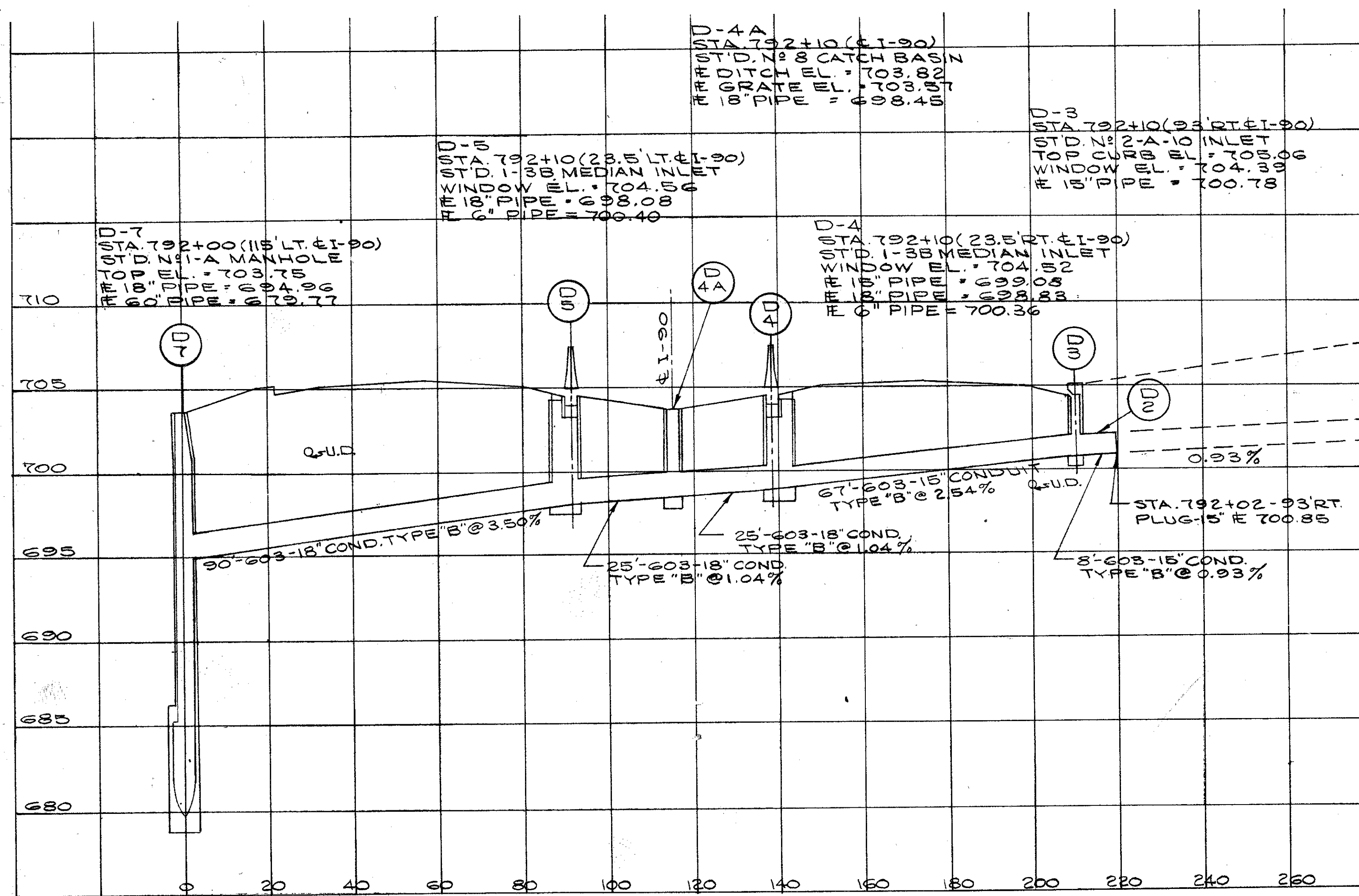
b/p

Q-5

FED. RD.	STATE	PROJECT
2	OHIO	

104  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



D-2, 3, 4, 4A, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 311.

CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY S.H.G. DATE 4/74

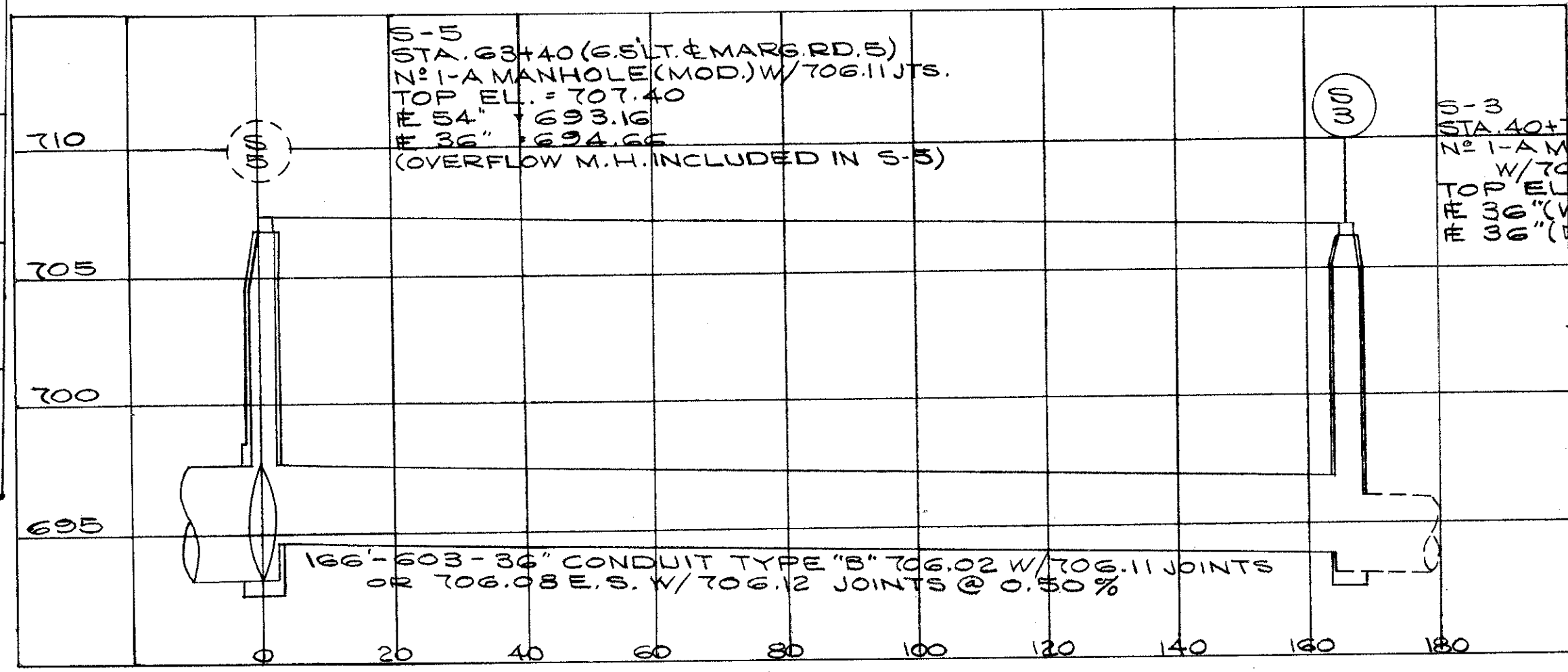
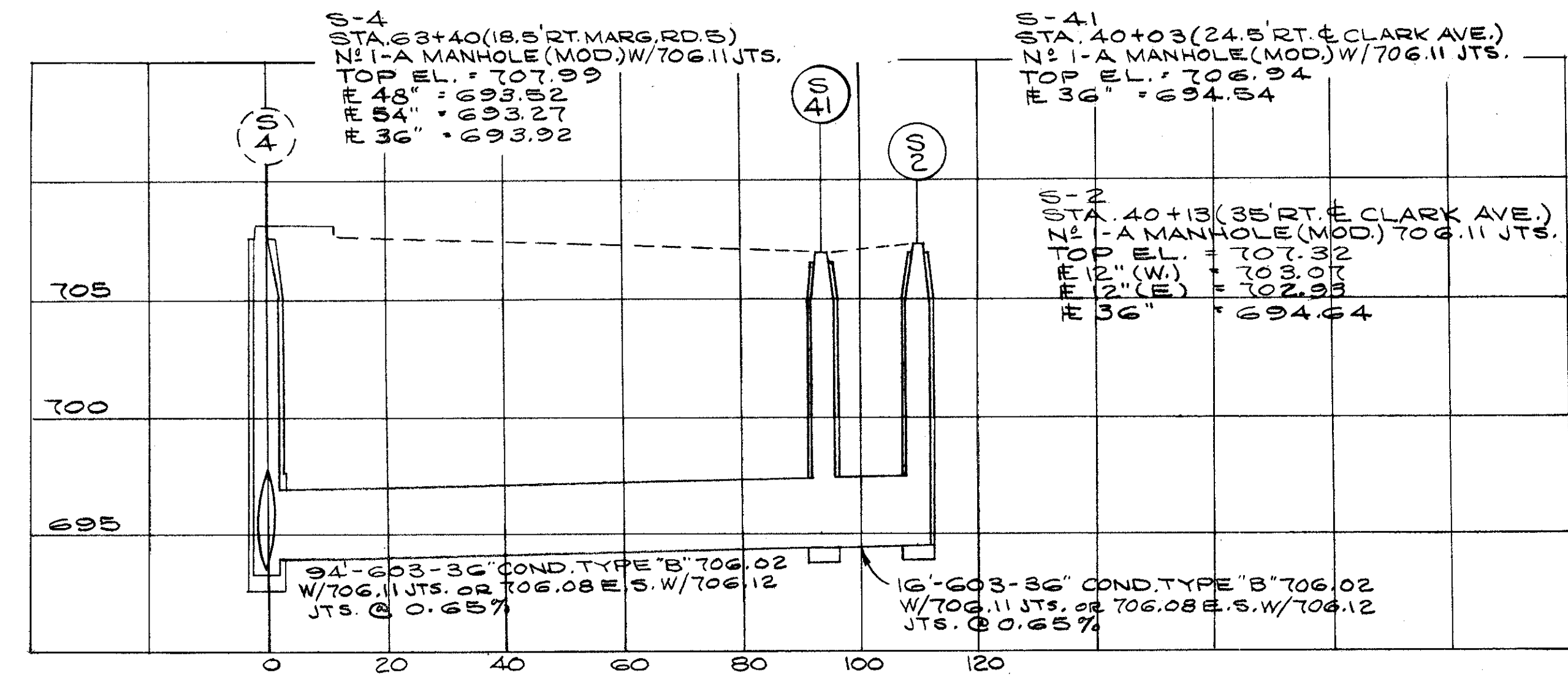
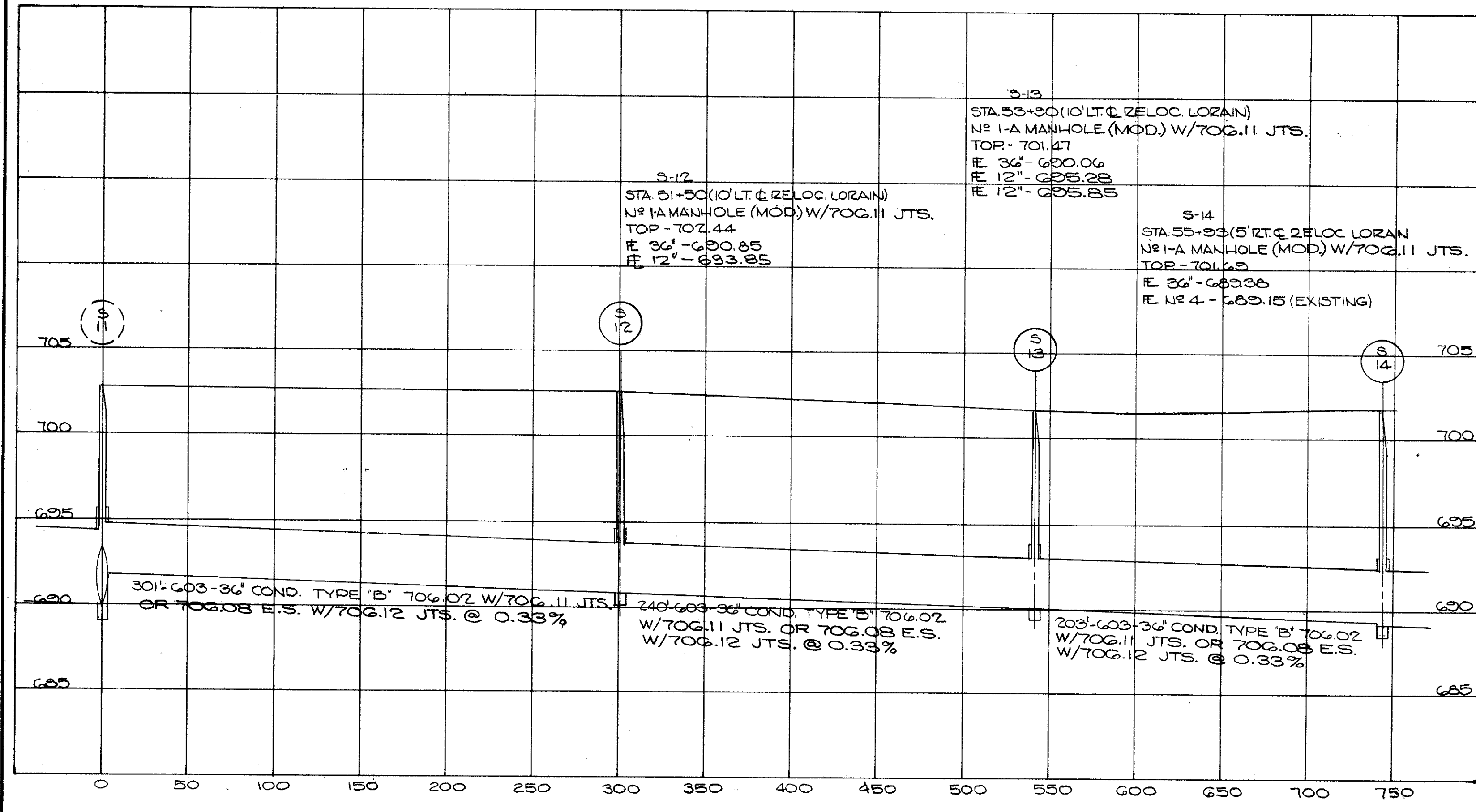
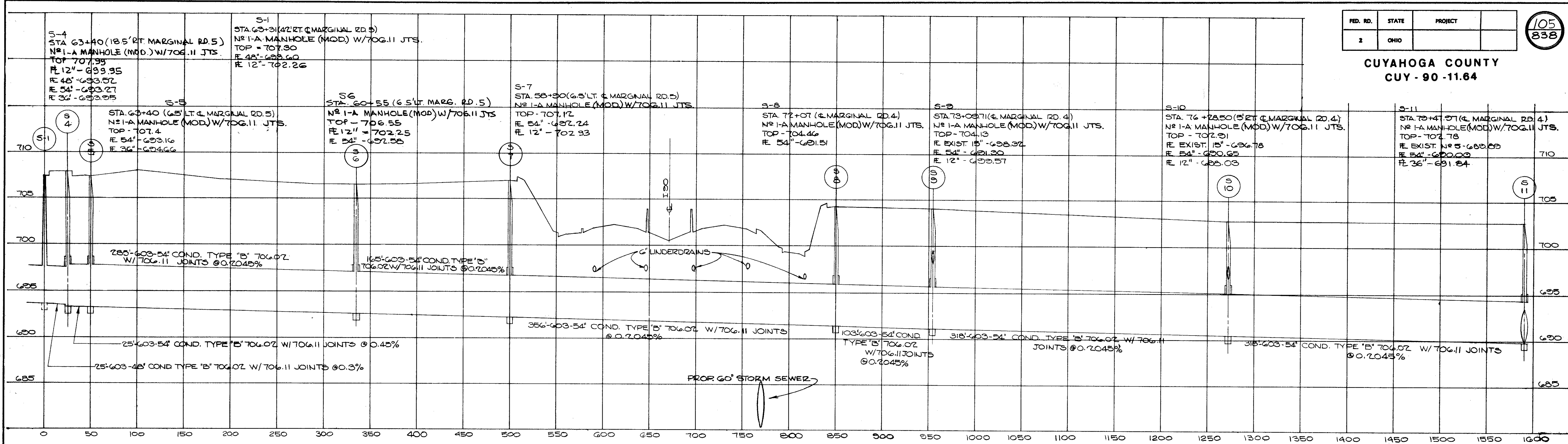
SEWER PROFILES



FED. RD.	STATE	PROJECT
2	OHIO	

105  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



NOTE: (S-3)  
UPSTREAM CONDUIT  
INCLUDED FOR QUANTITY  
S-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,  
13, 14, 41.

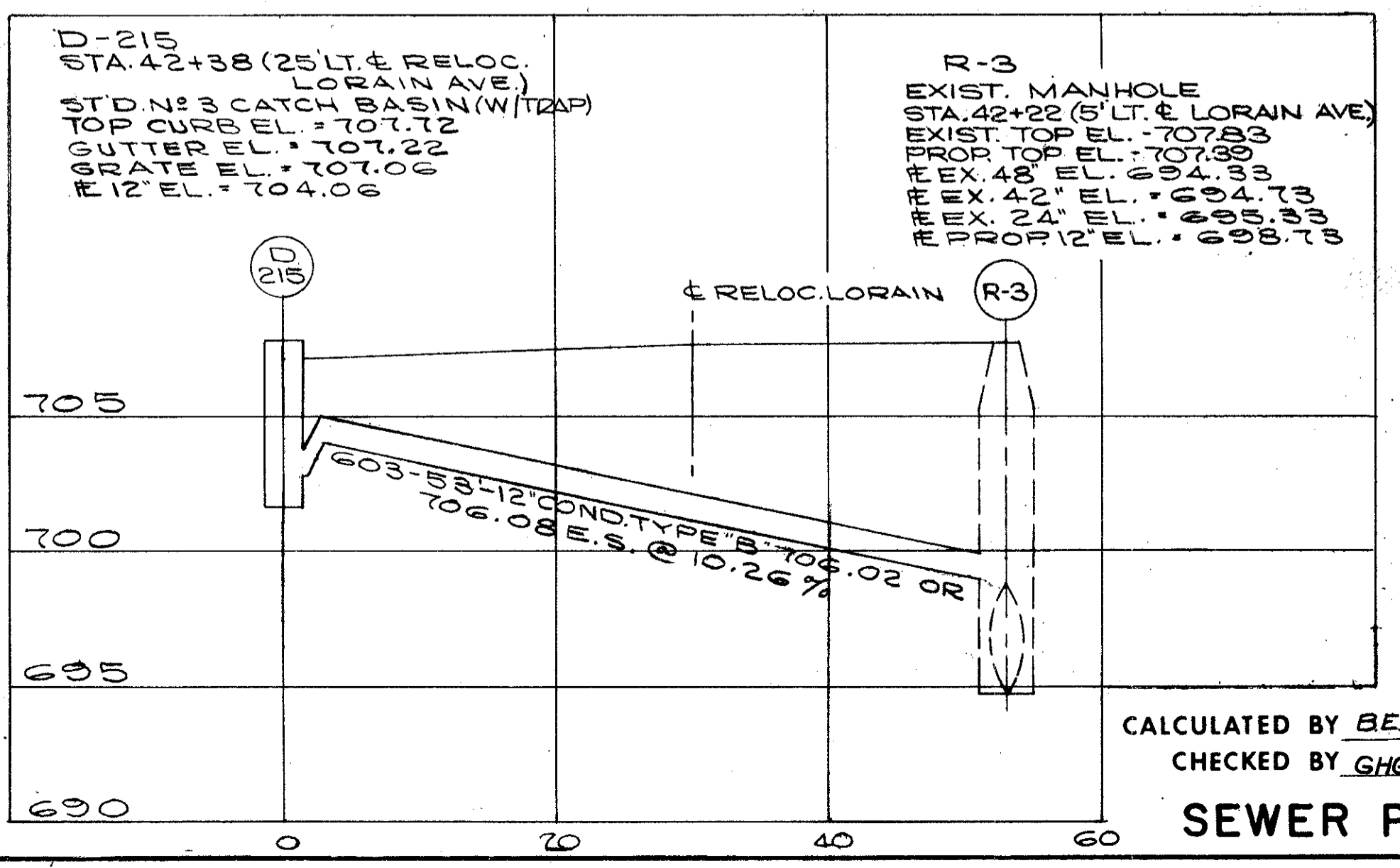
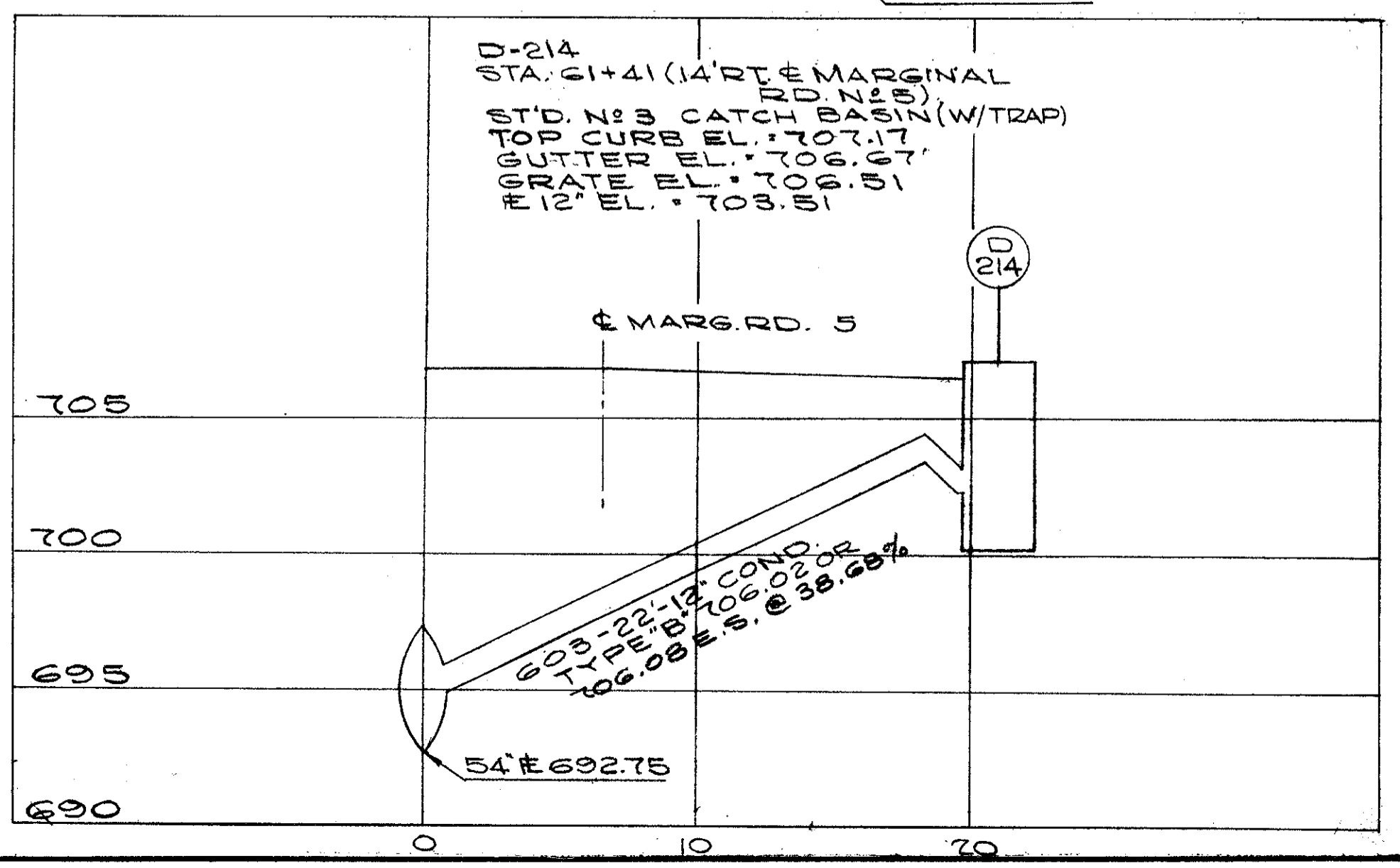
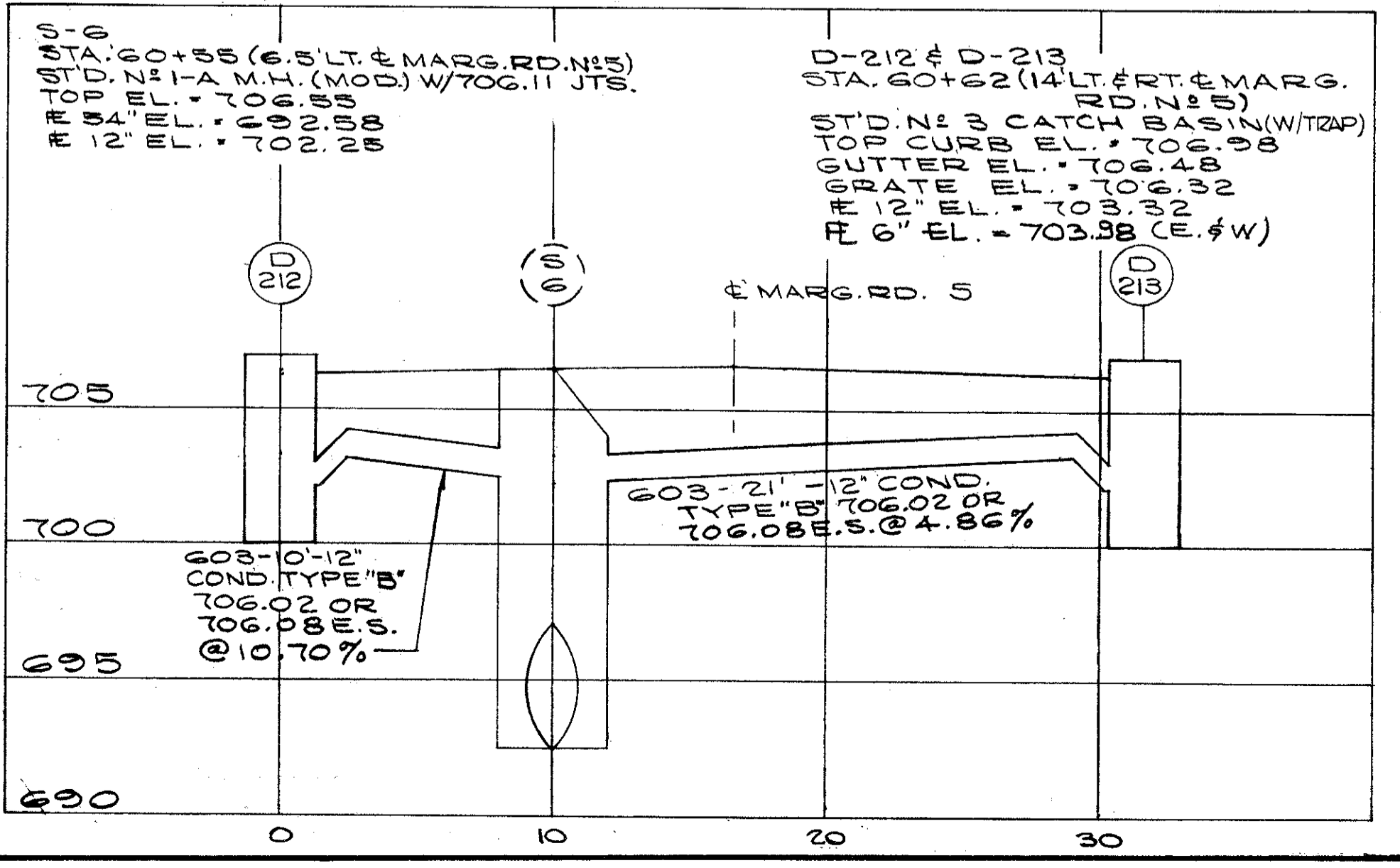
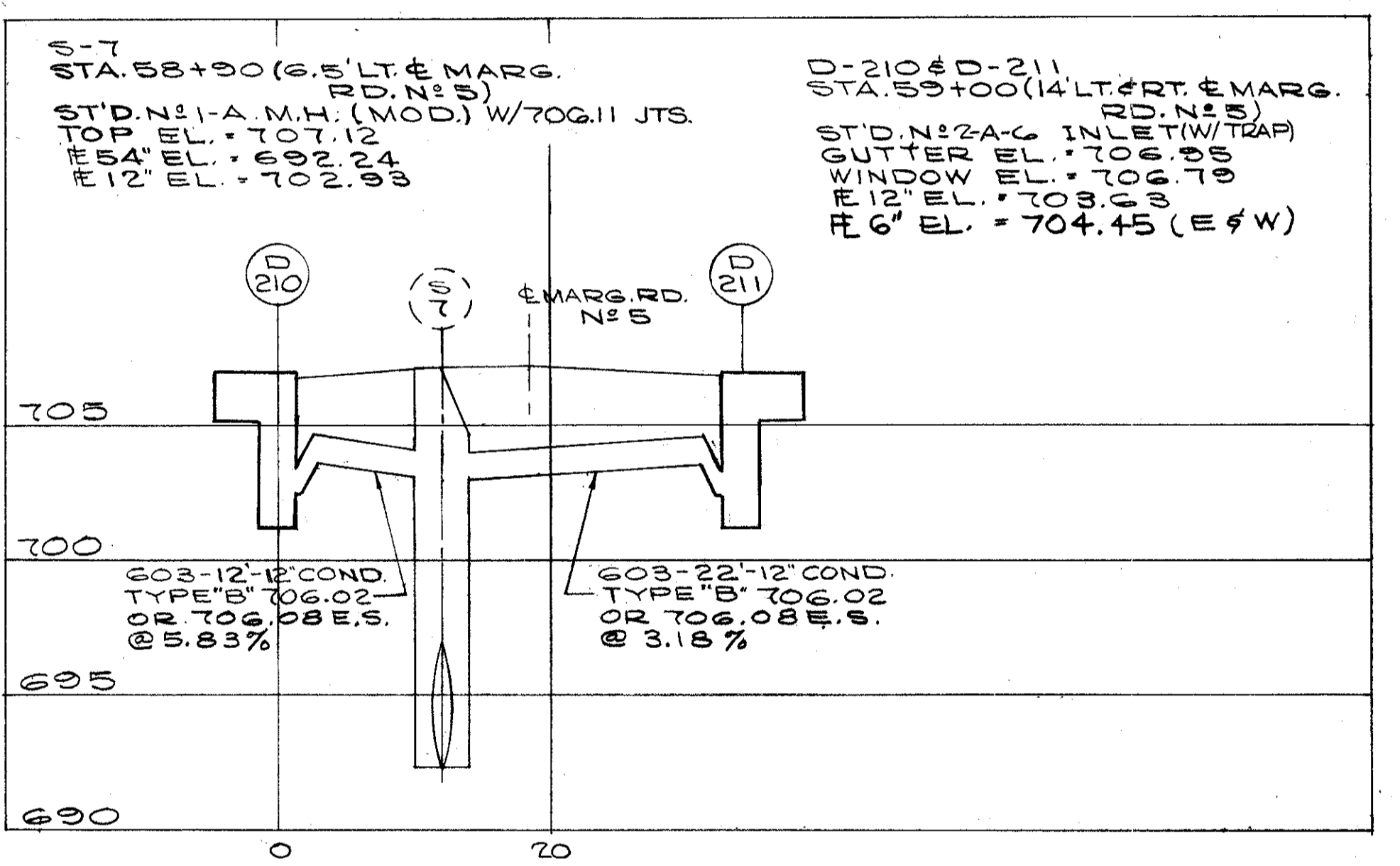
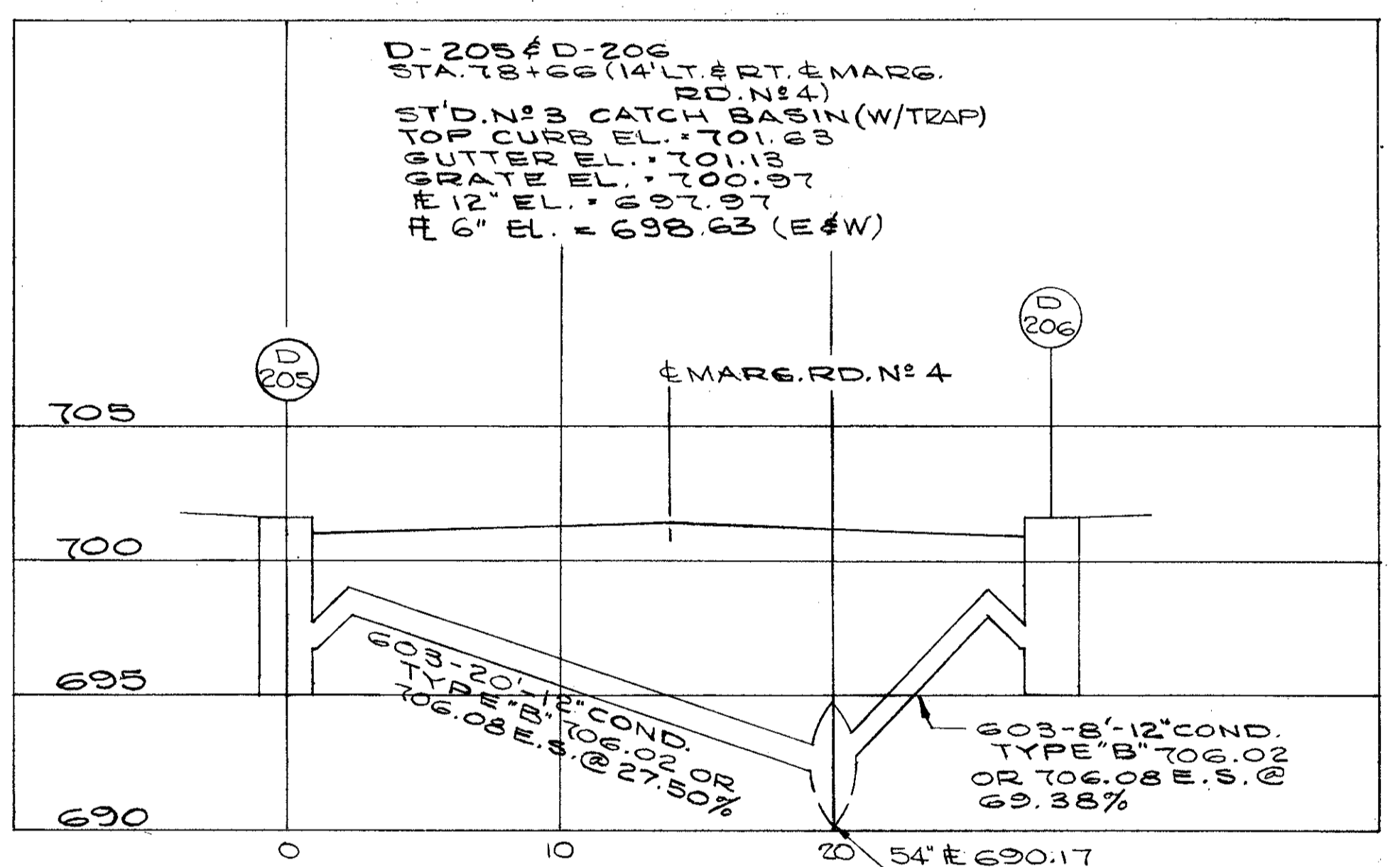
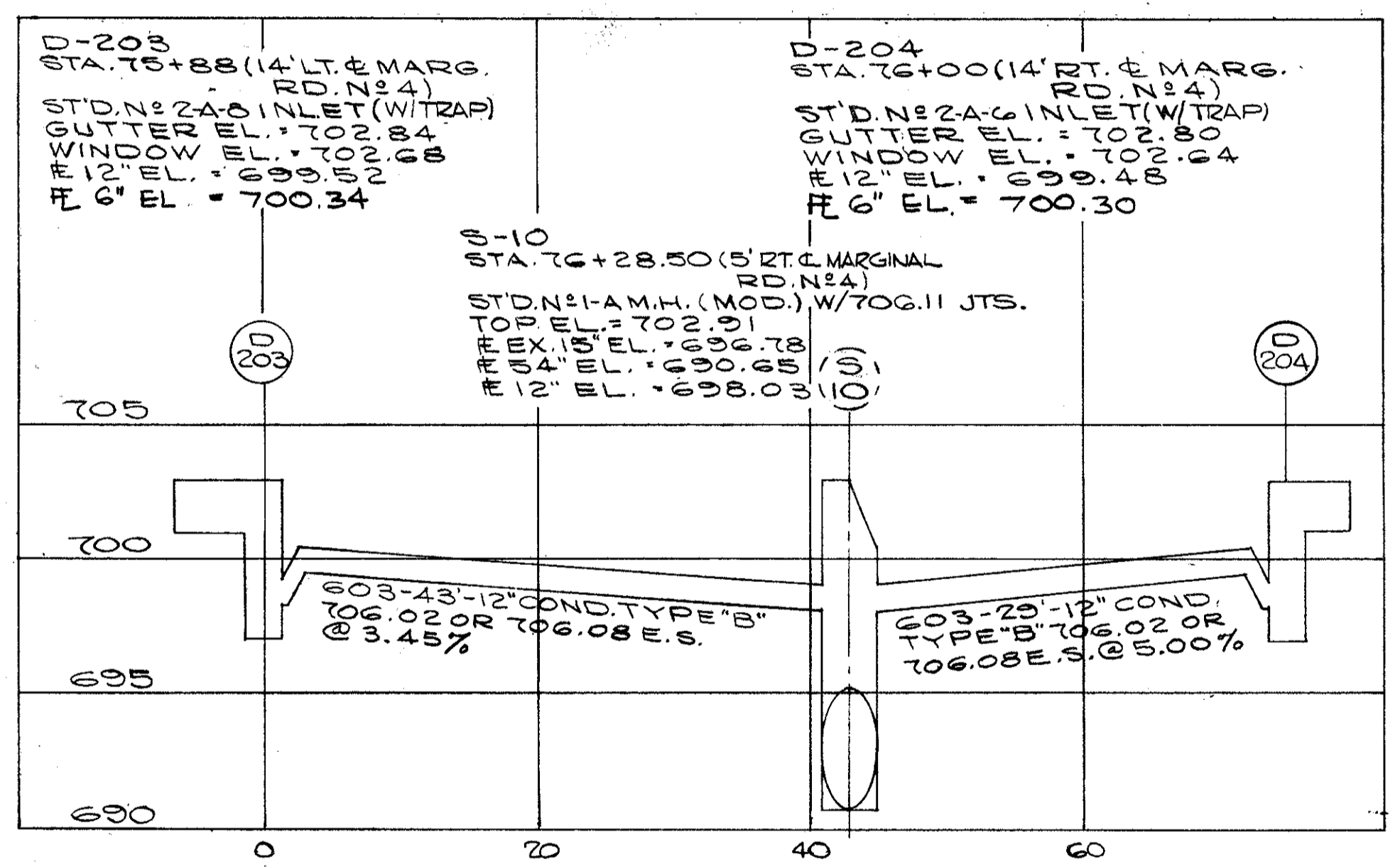
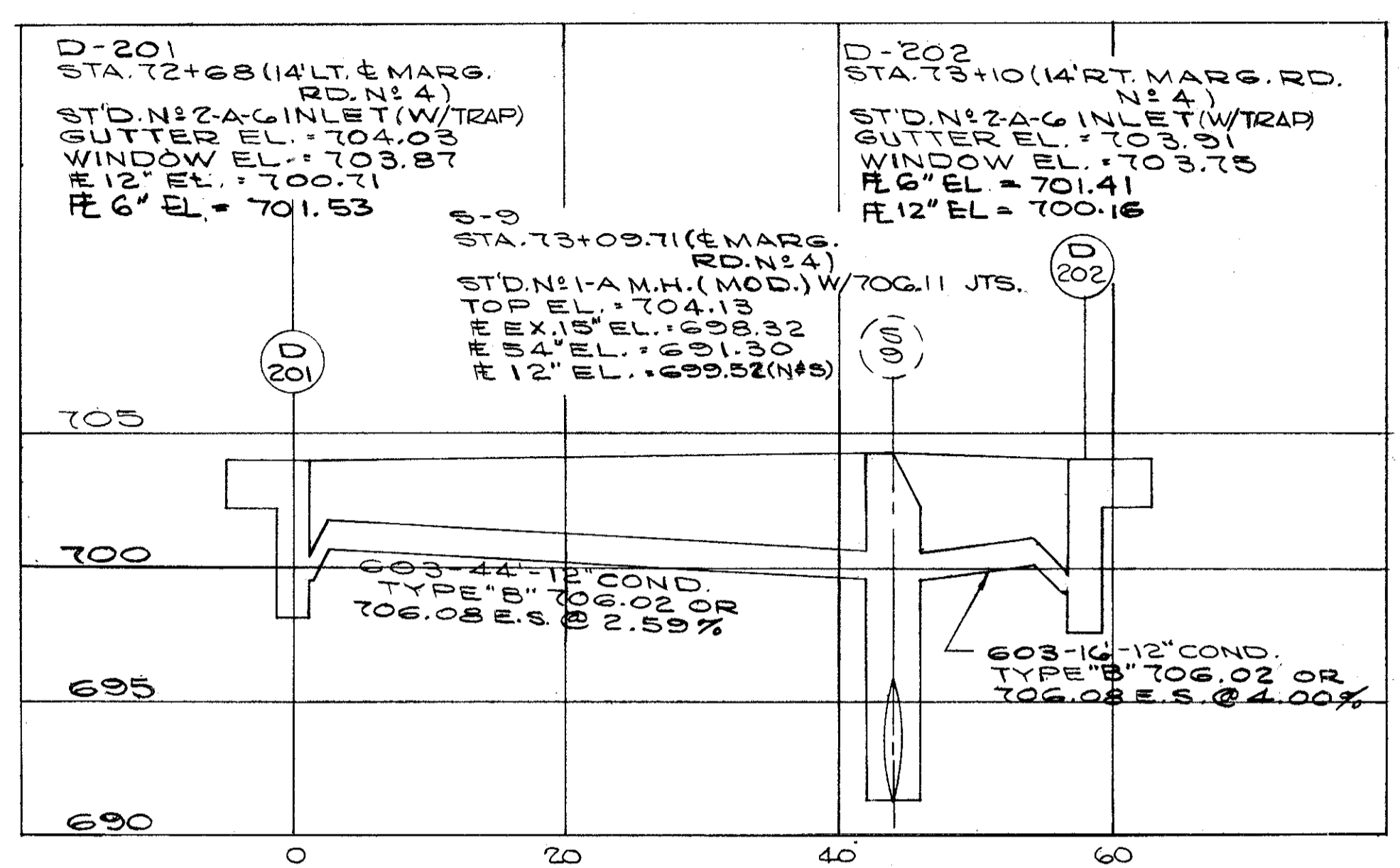
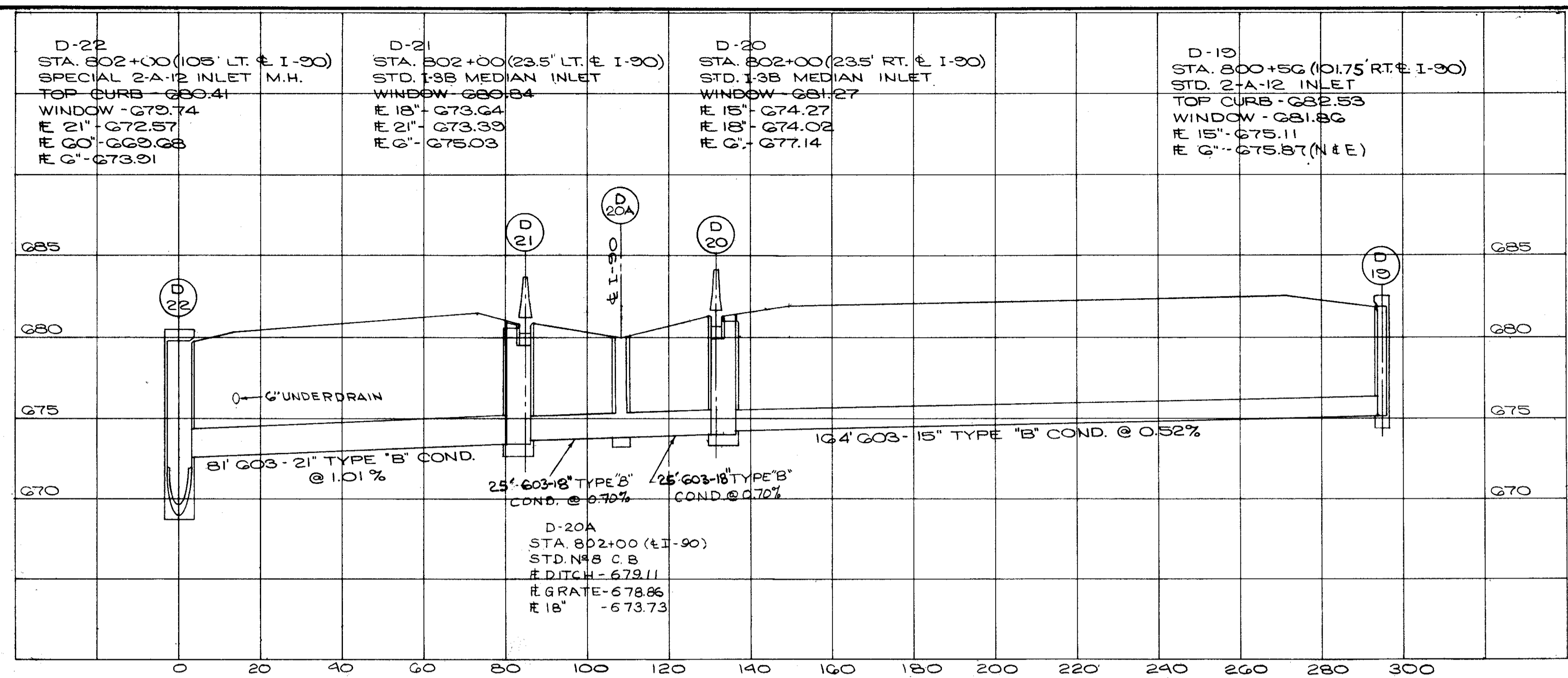
CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.V.G. DATE 4/74

SEWER PROFILES

FED. RD.	STATE	PROJECT
2	OHIO	

106  
838

**CUYAHOGA COUNTY**  
CUY - 90 - 11.64



D-19, 20, 21, 22, 201, 202, 203, 204, 205, 206, 210, 211, 212, 213, 214, 215, 20A.  
S-6, 7, 9, 10.

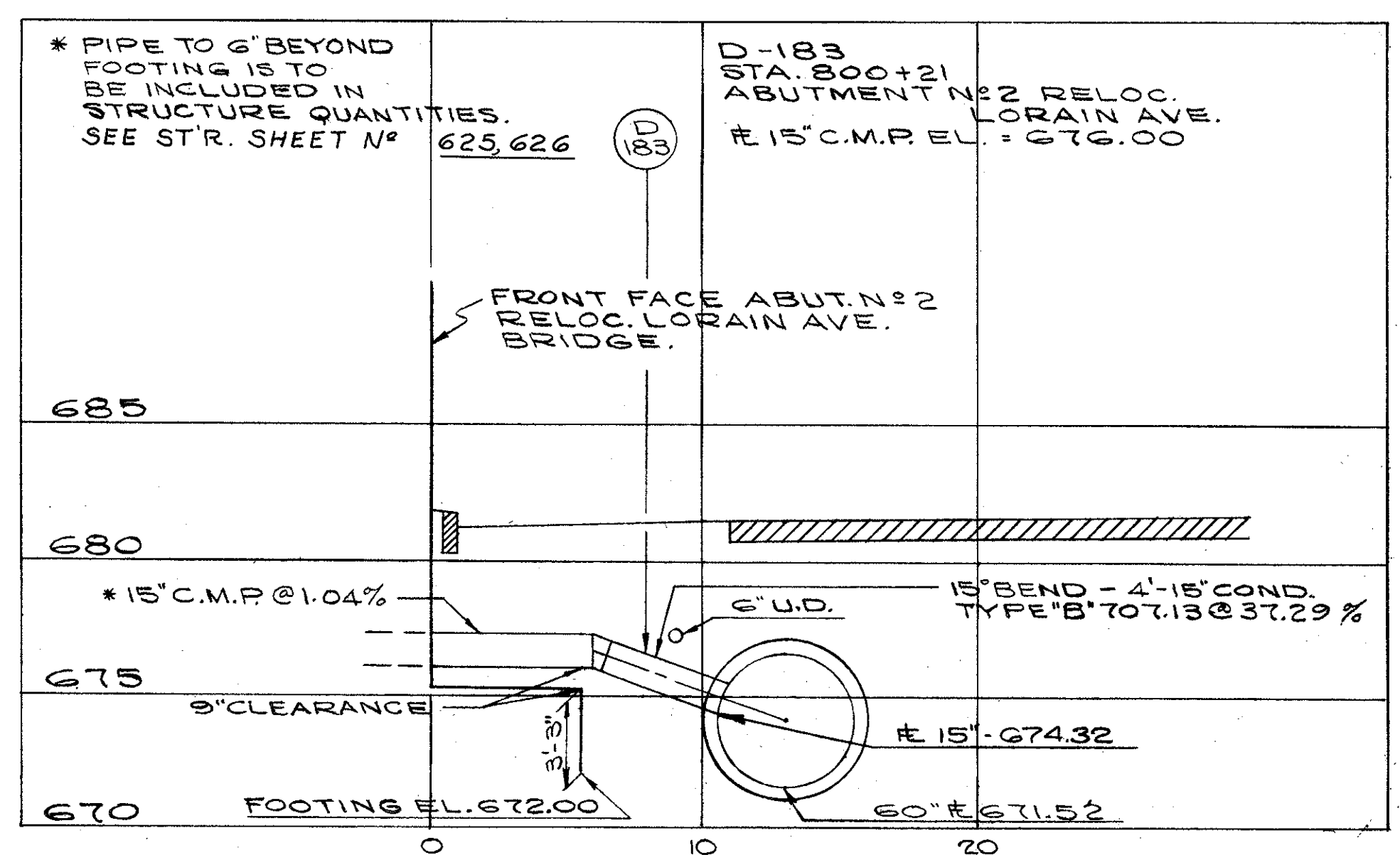
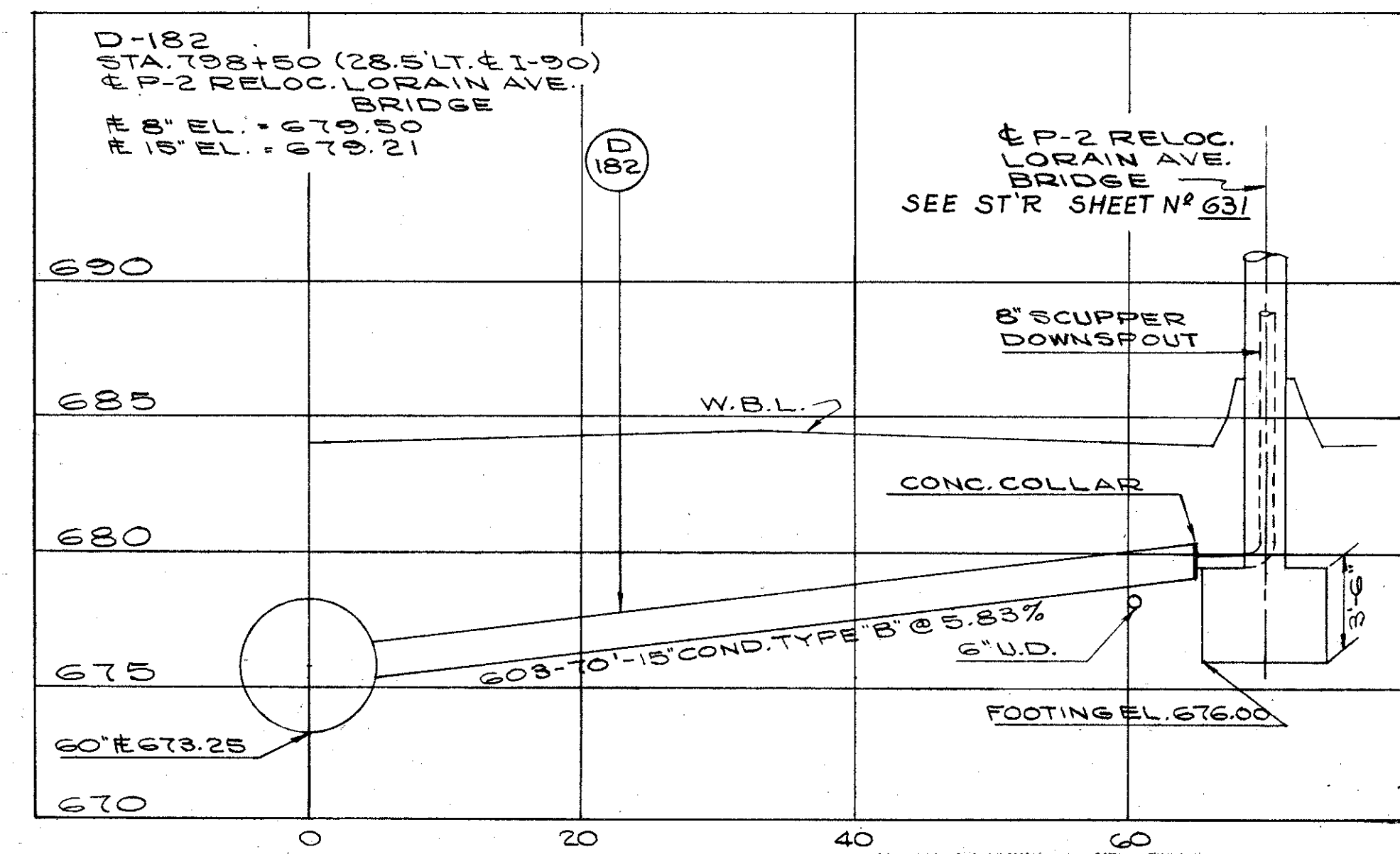
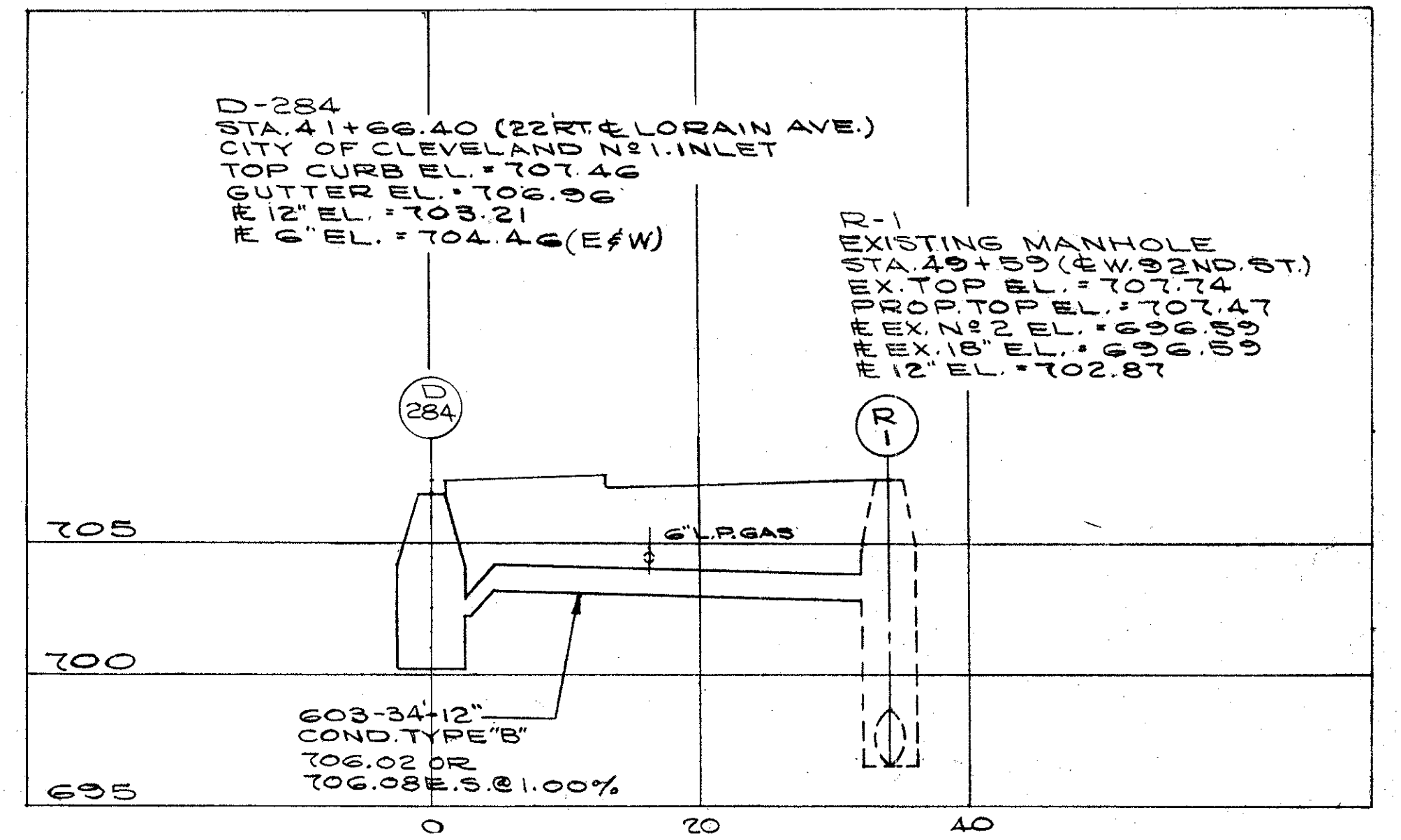
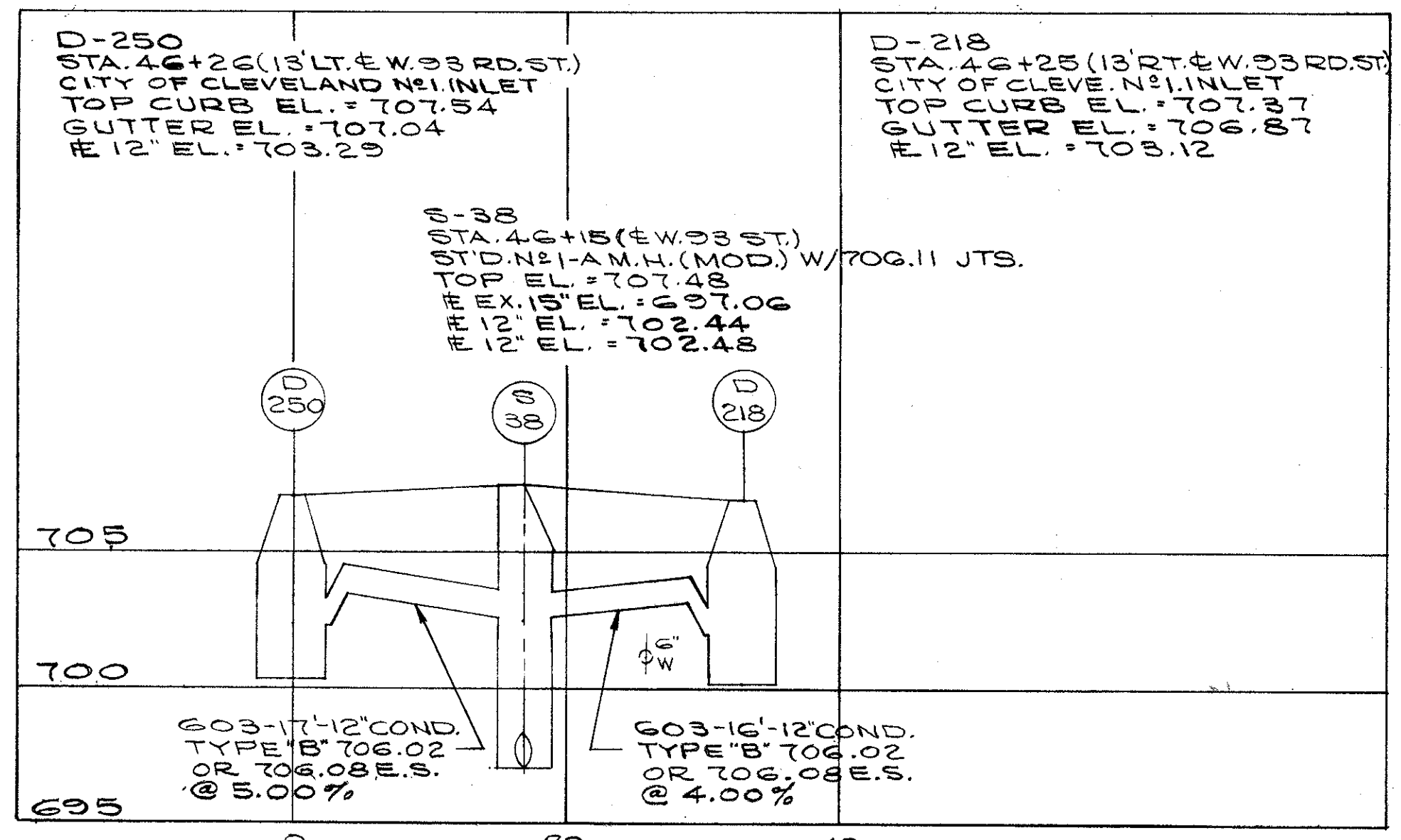
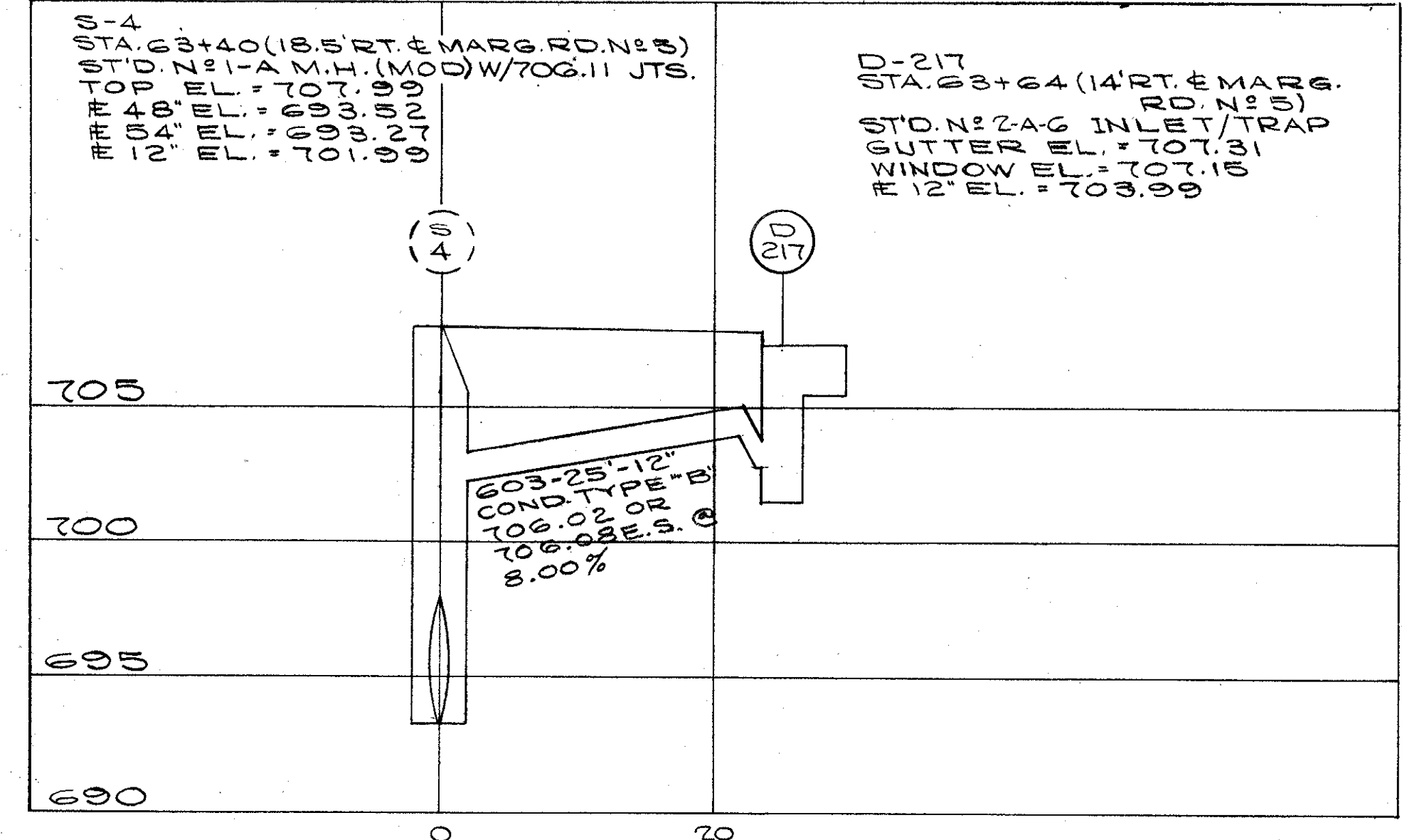
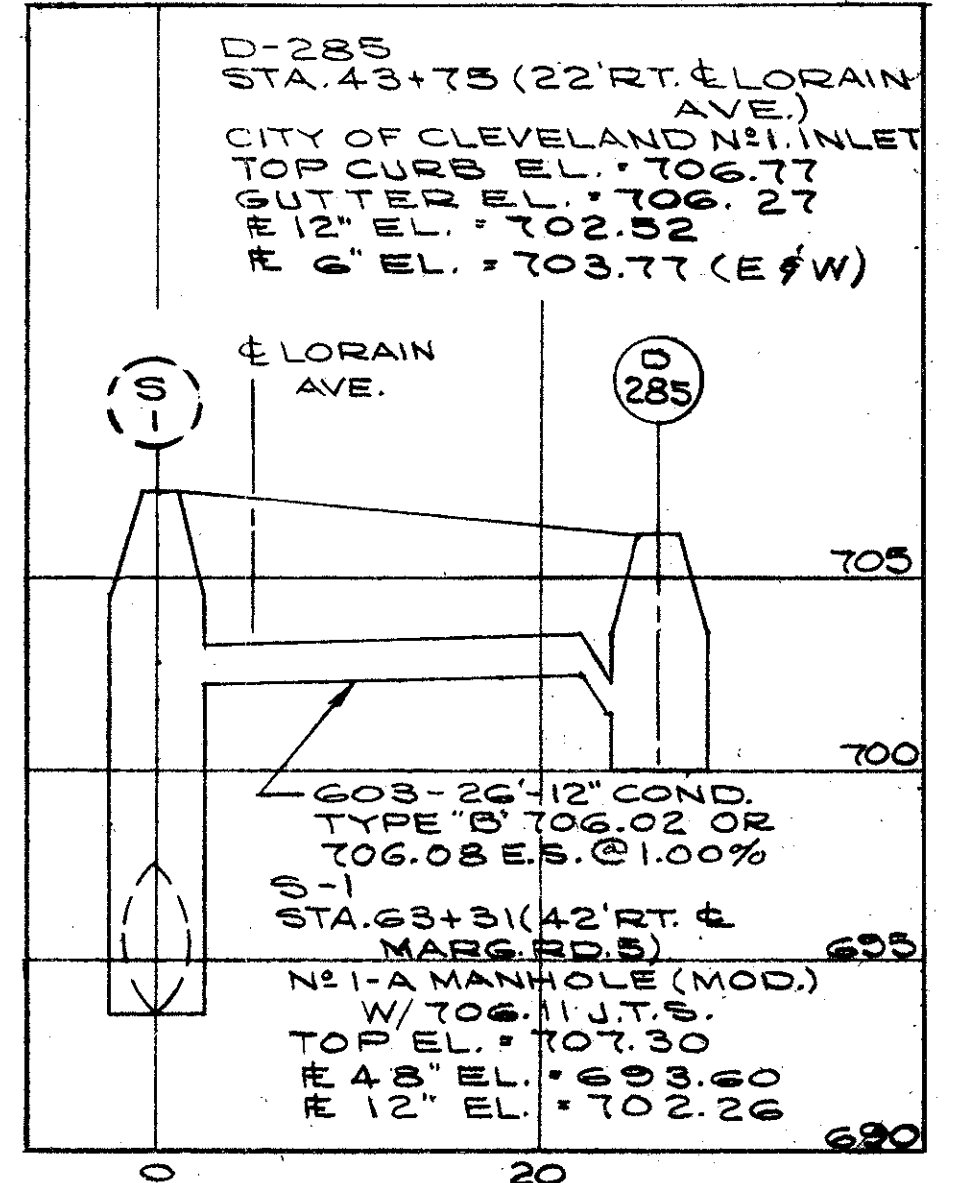
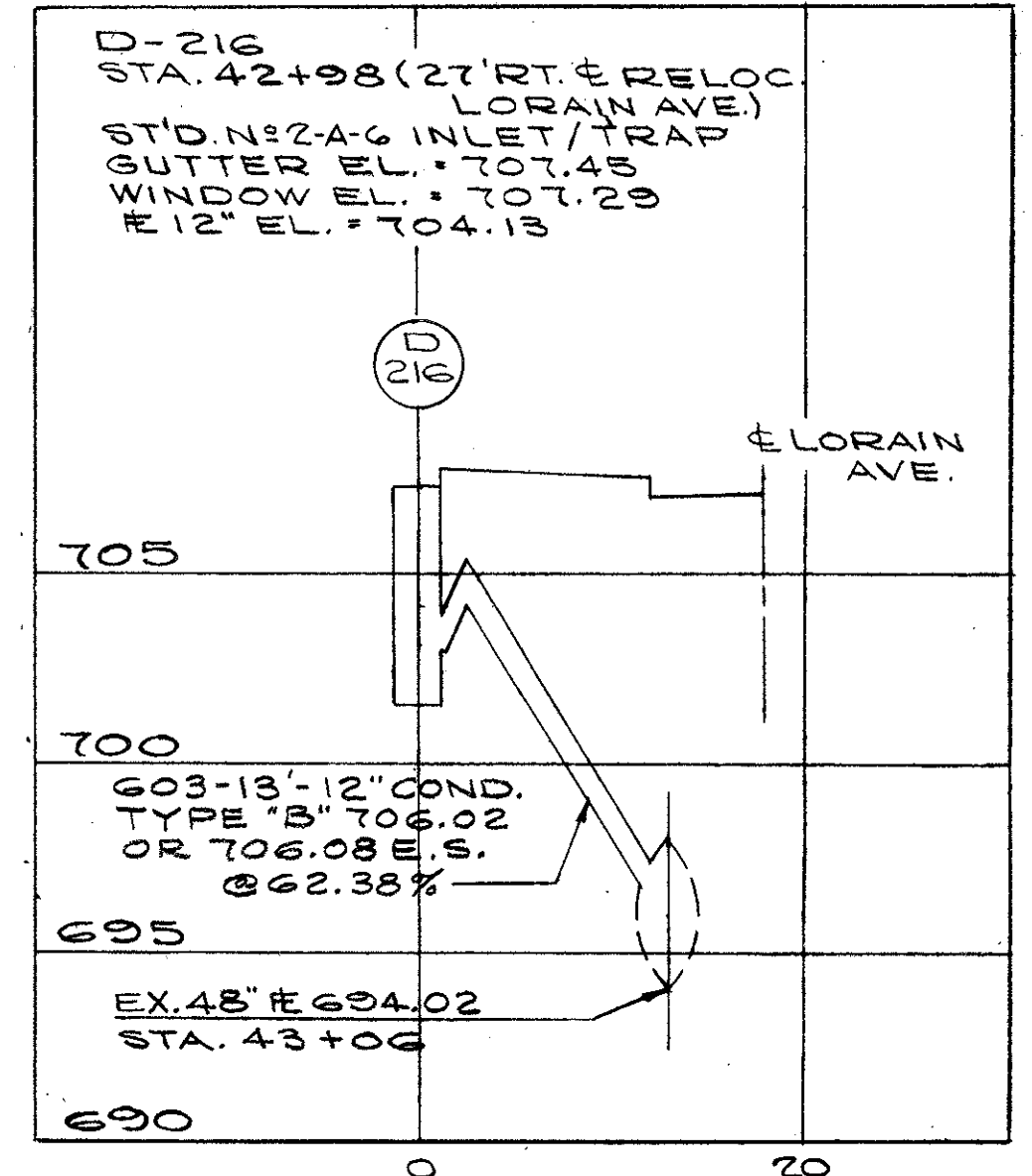
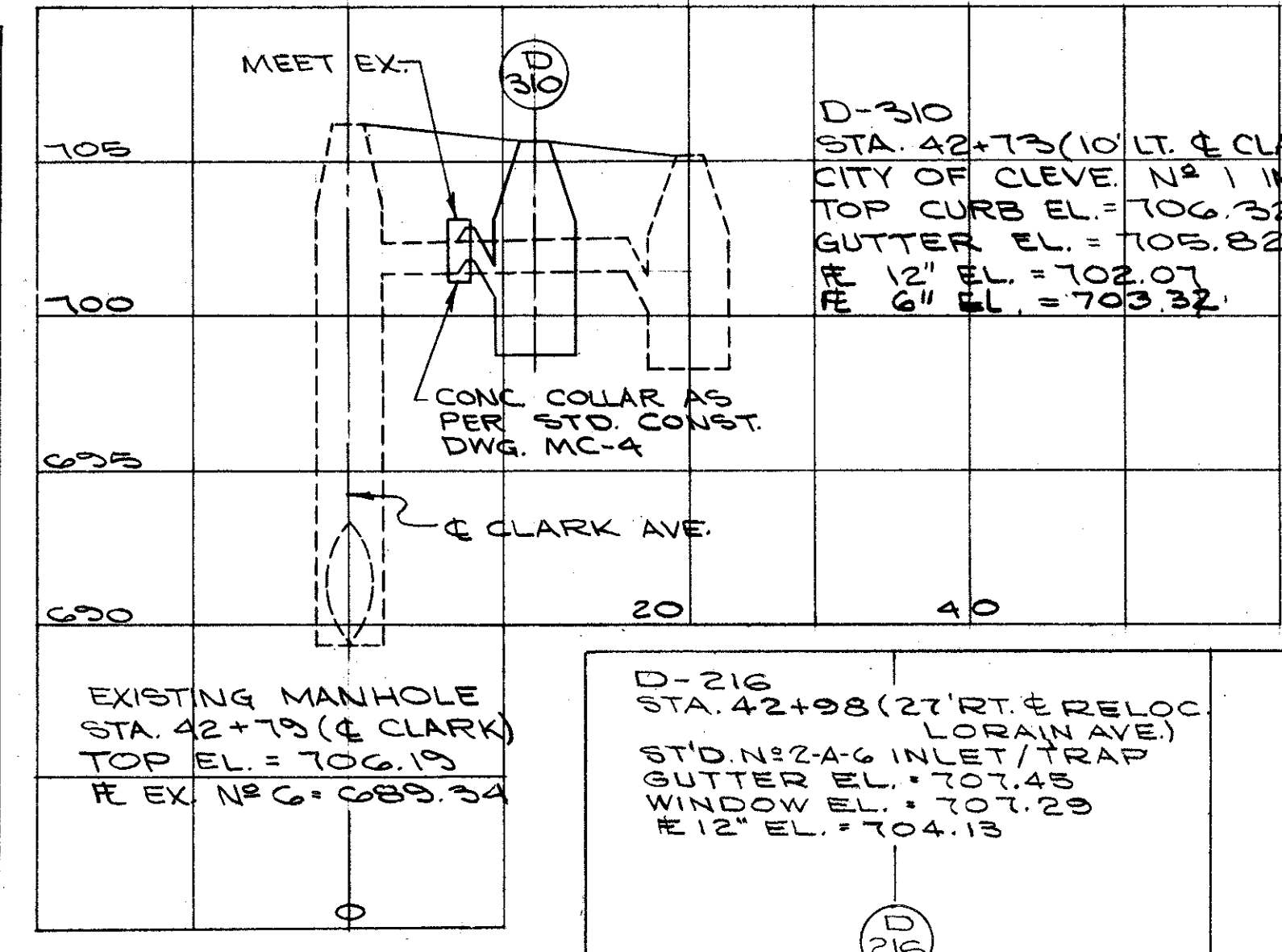
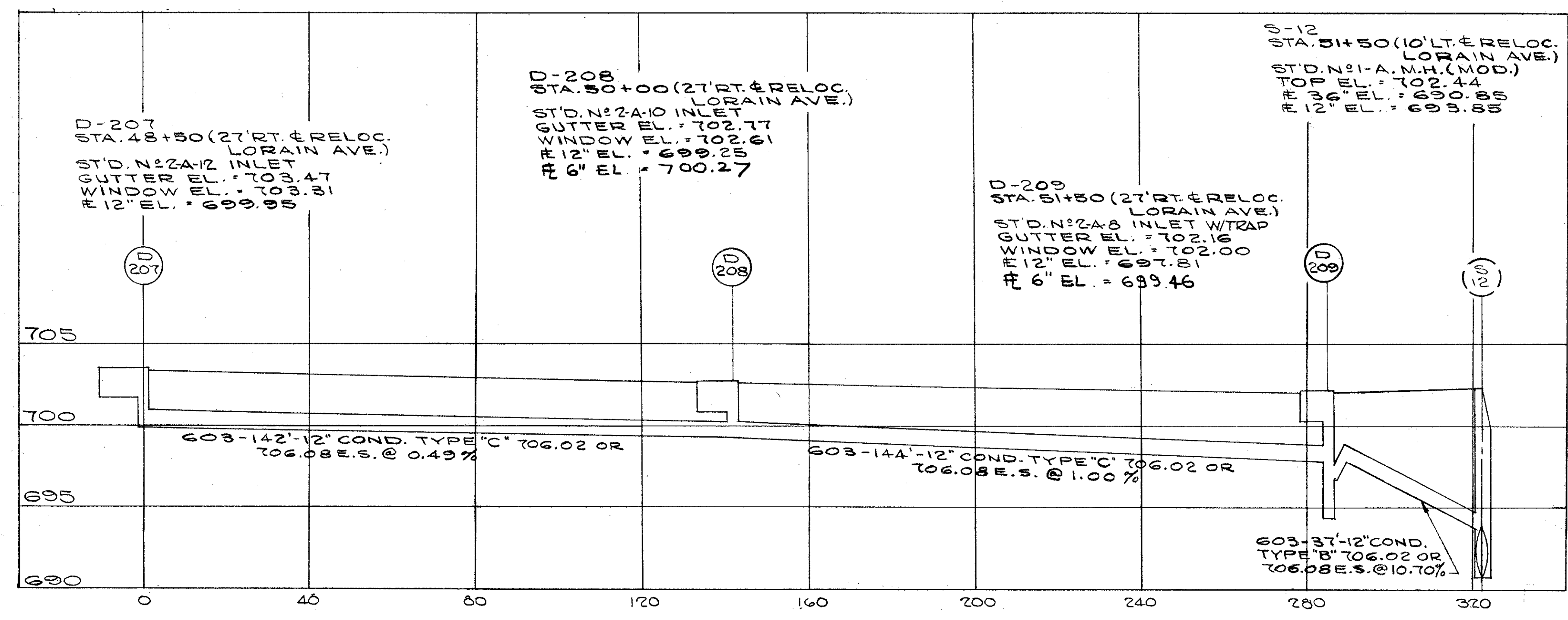
CALCULATED BY BEK. DATE 10-73  
CHECKED BY GHG. DATE 4-74

**SEWER PROFILES**

FED. RD.	STATE	PROJECT
2	OHIO	

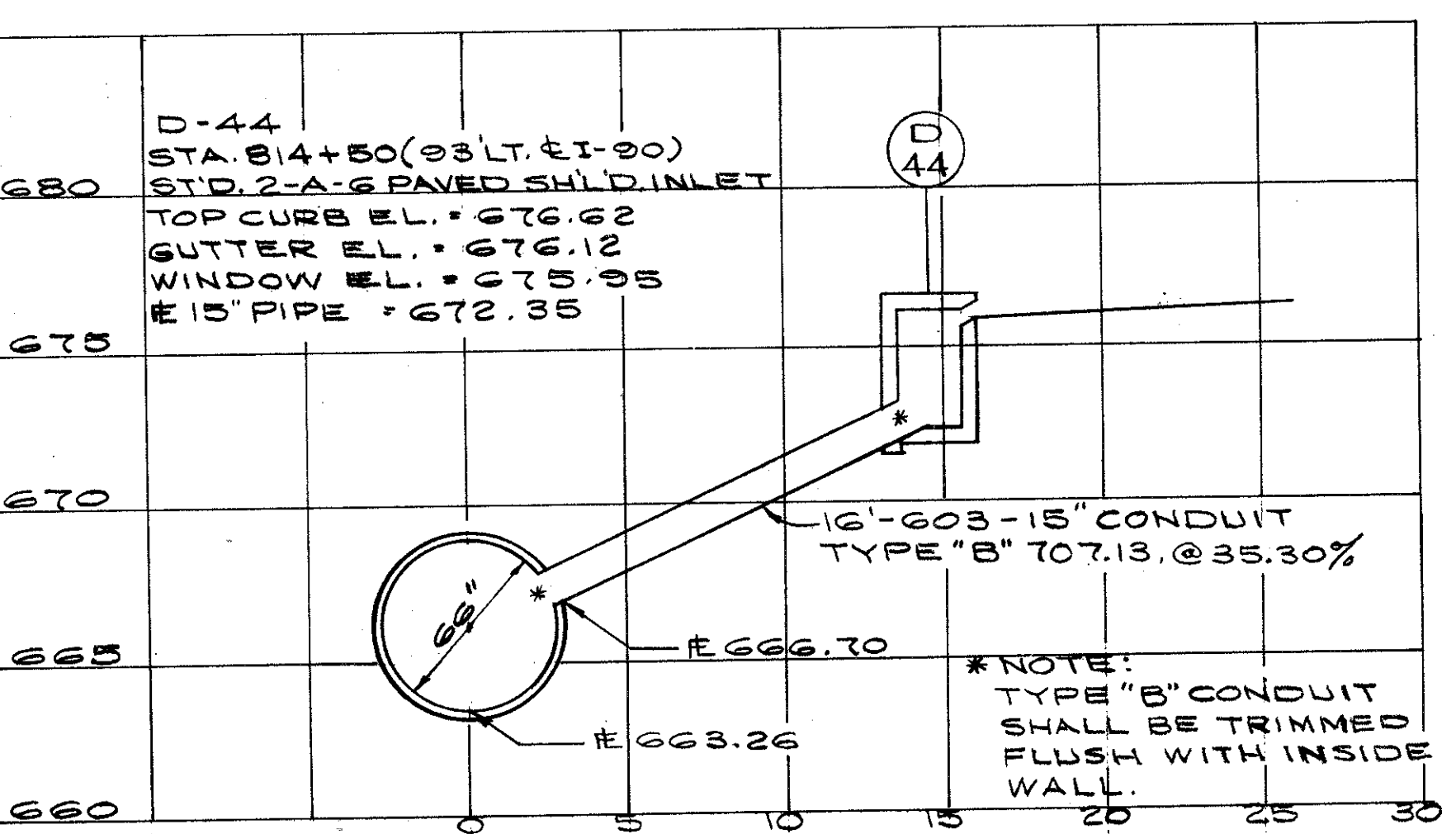
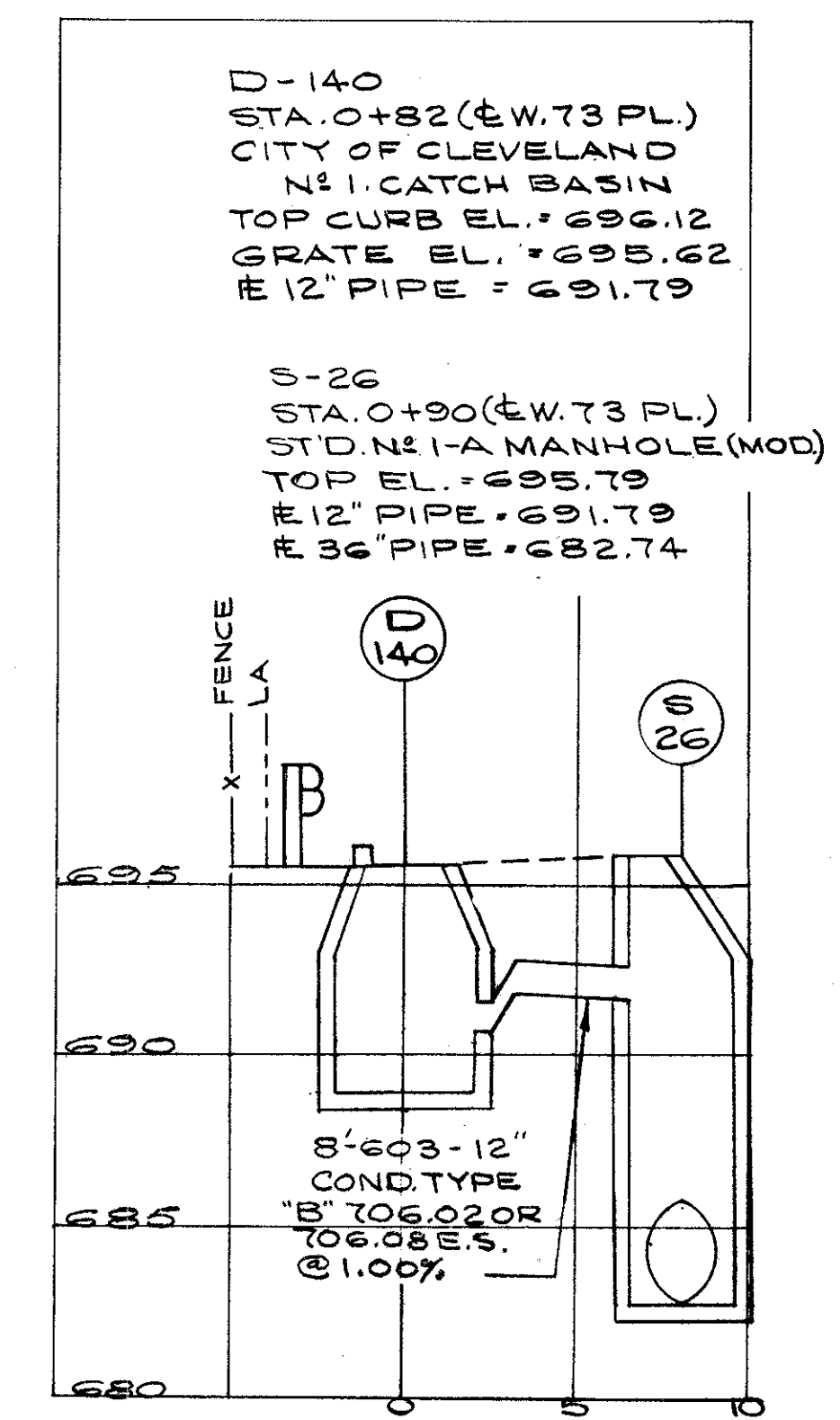
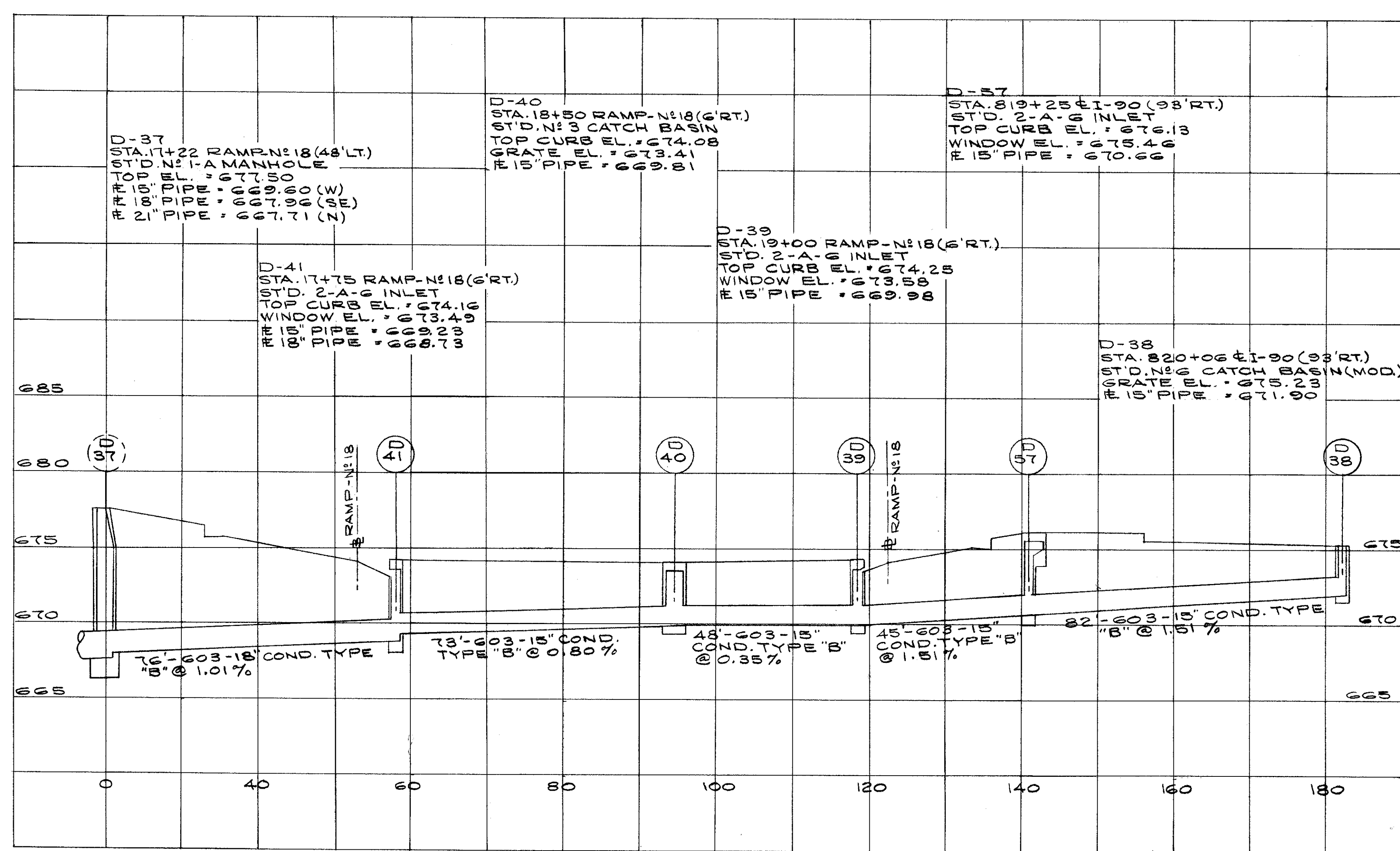
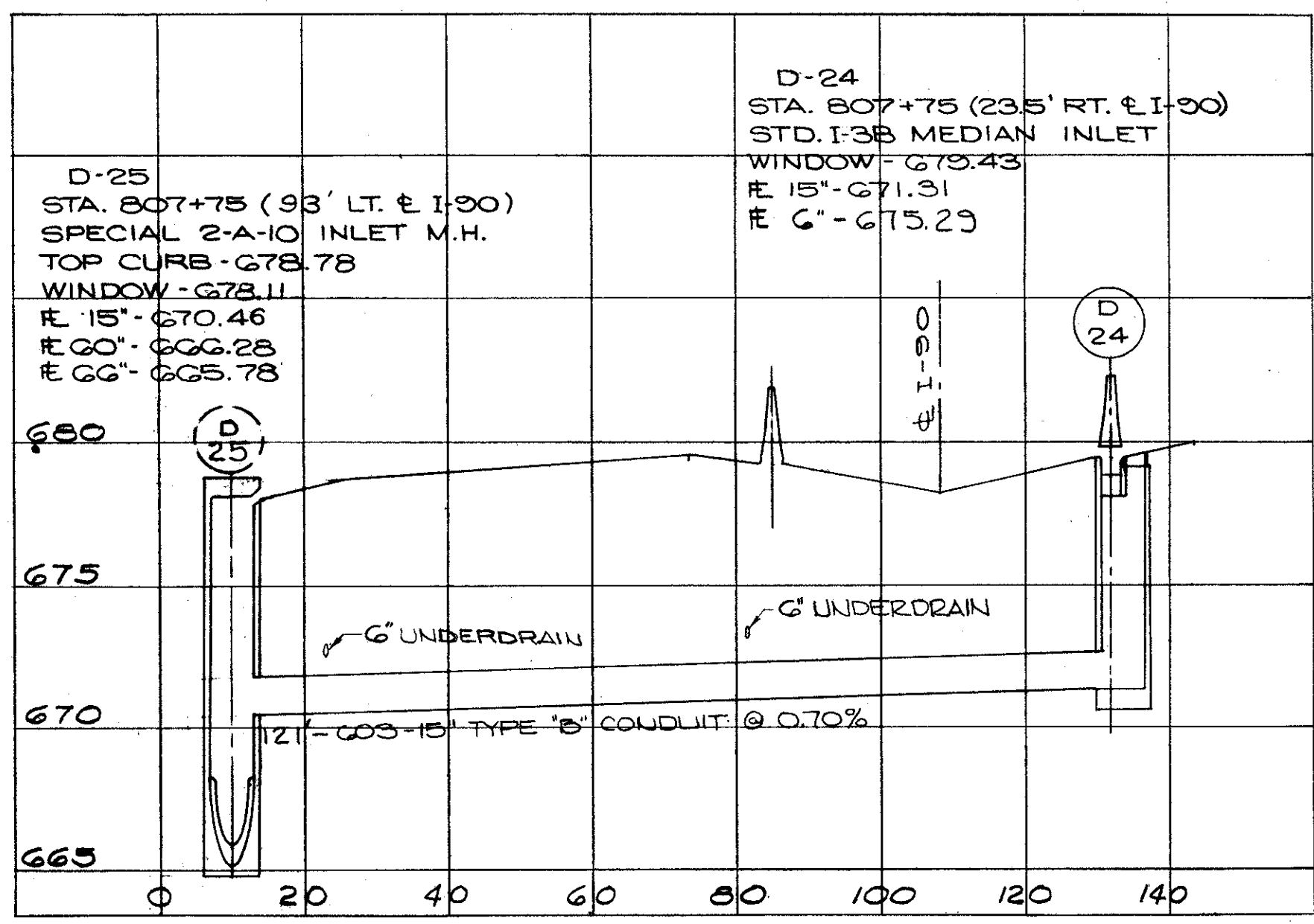
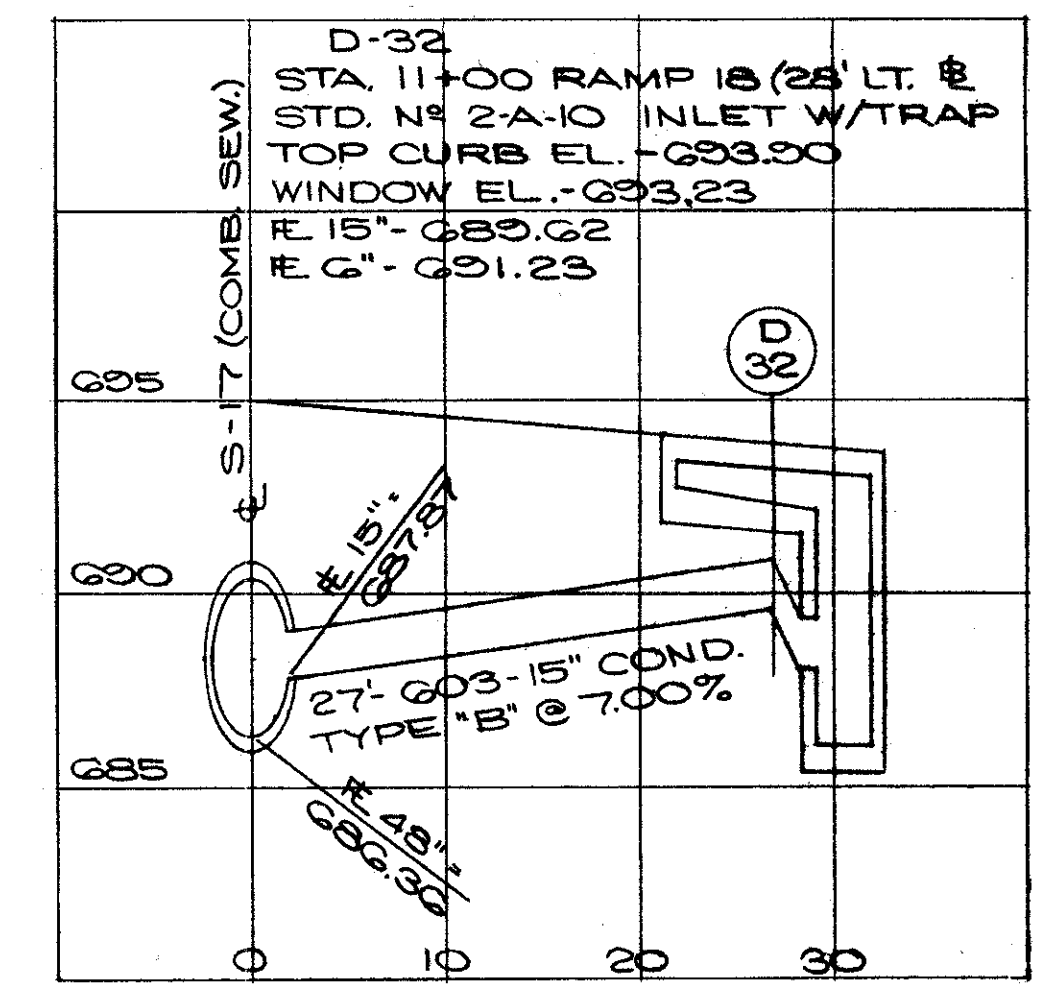
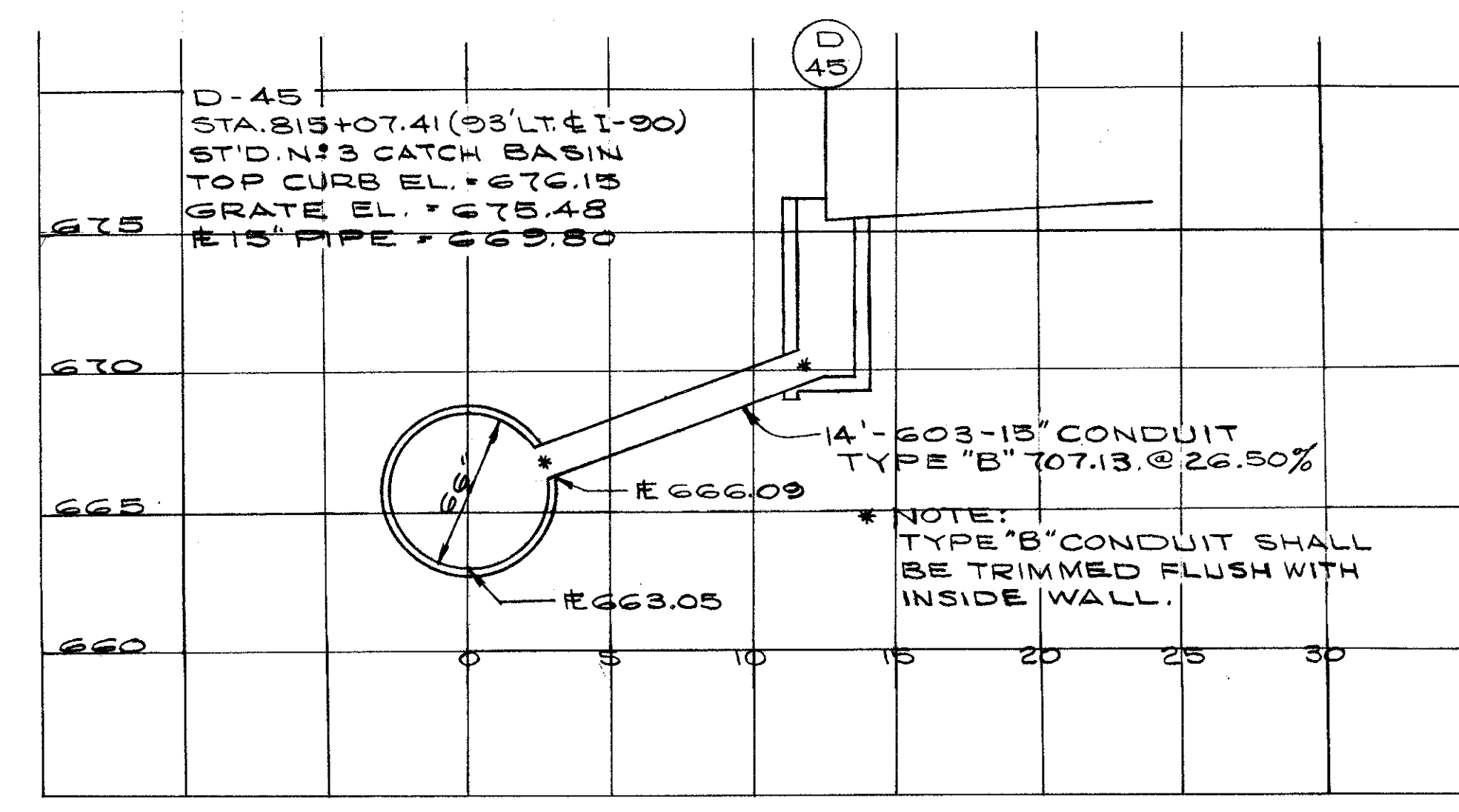
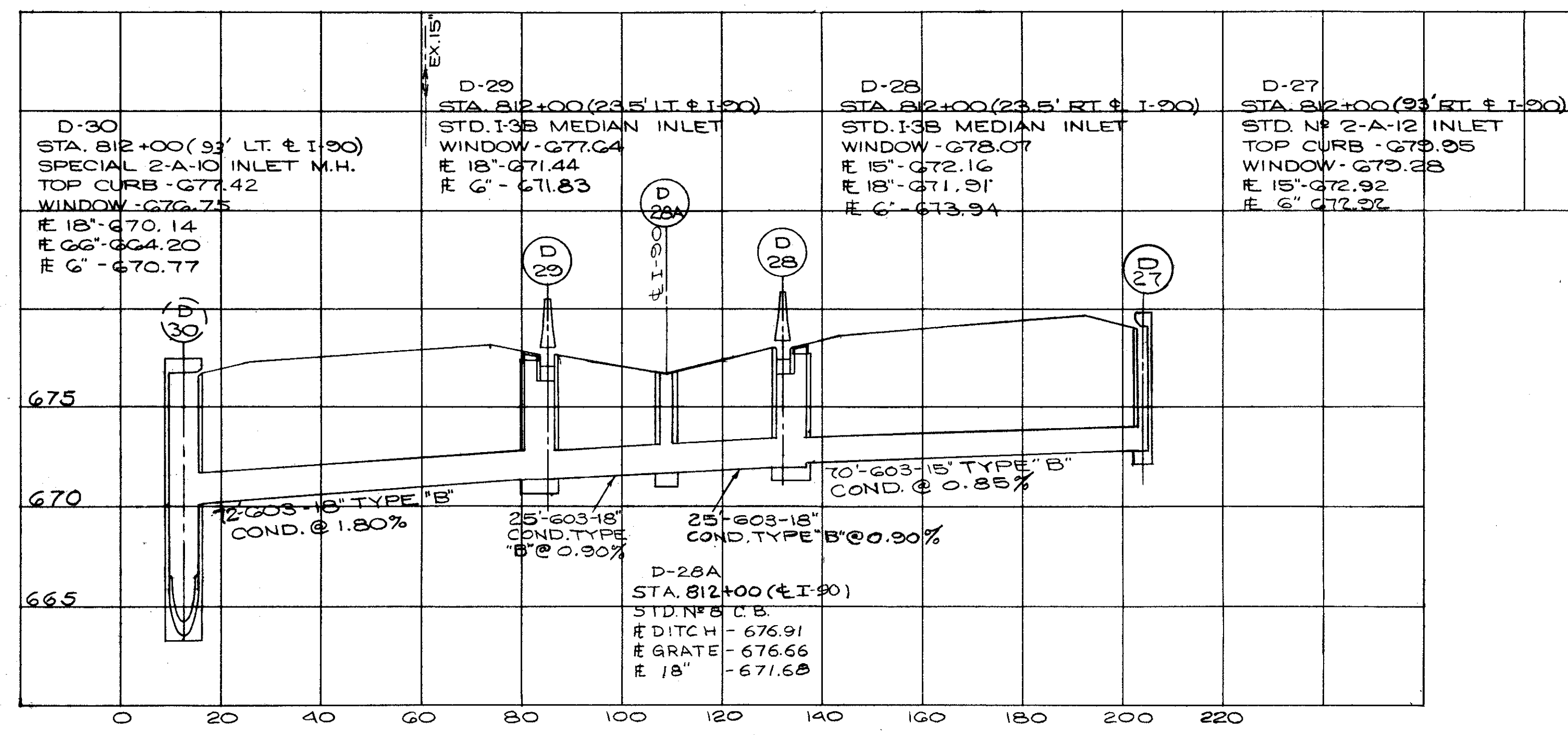
107  
838

**CUYAHOGA COUNTY**  
**CUY-90-11.64**



D-182, 183, 207, 208, 209, 216, 217, 218, 250, 284, 285, 310, S-1, 4, 12, 38.

CUYAHOGA COUNTY  
CUY-90-11.64

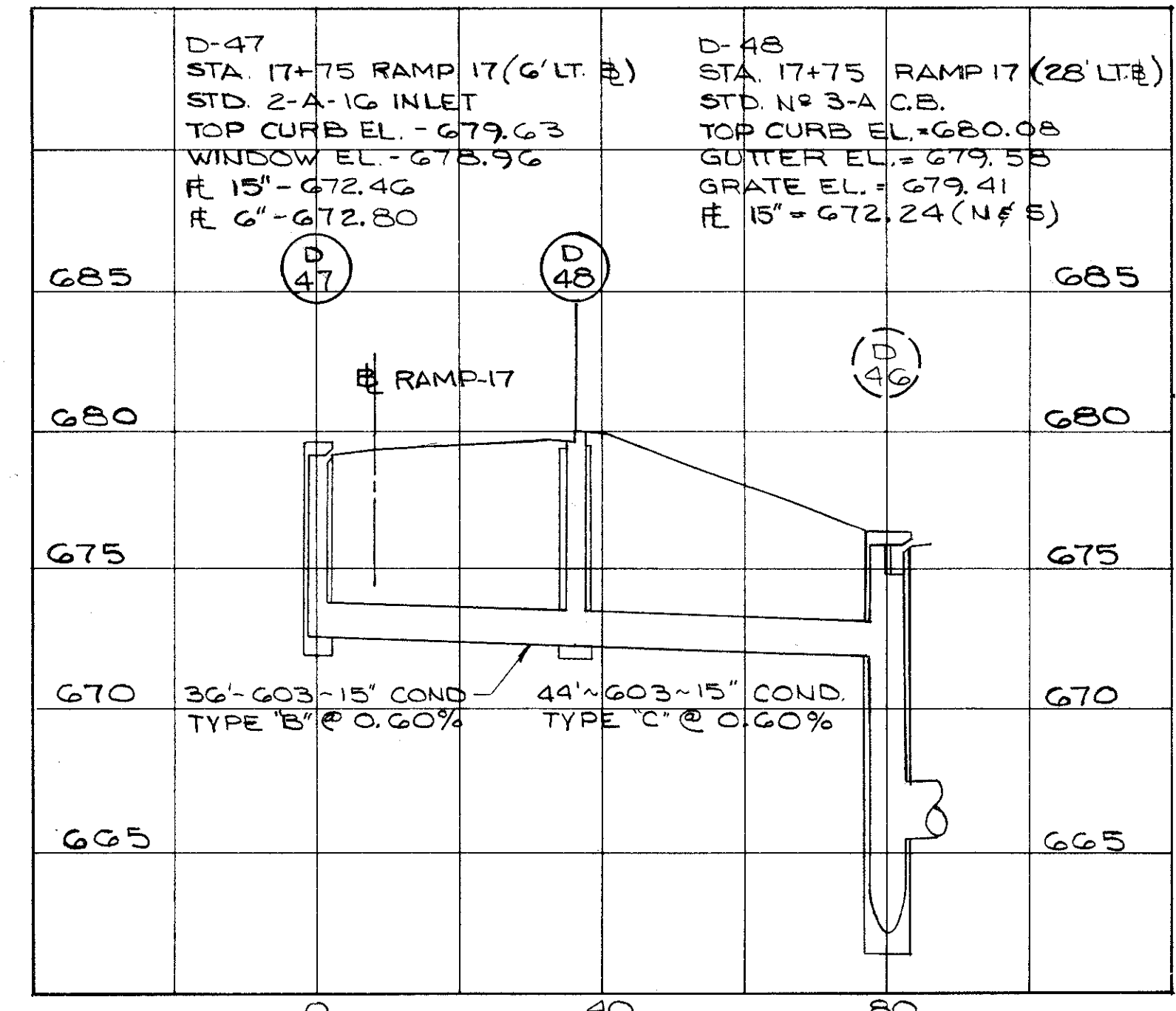
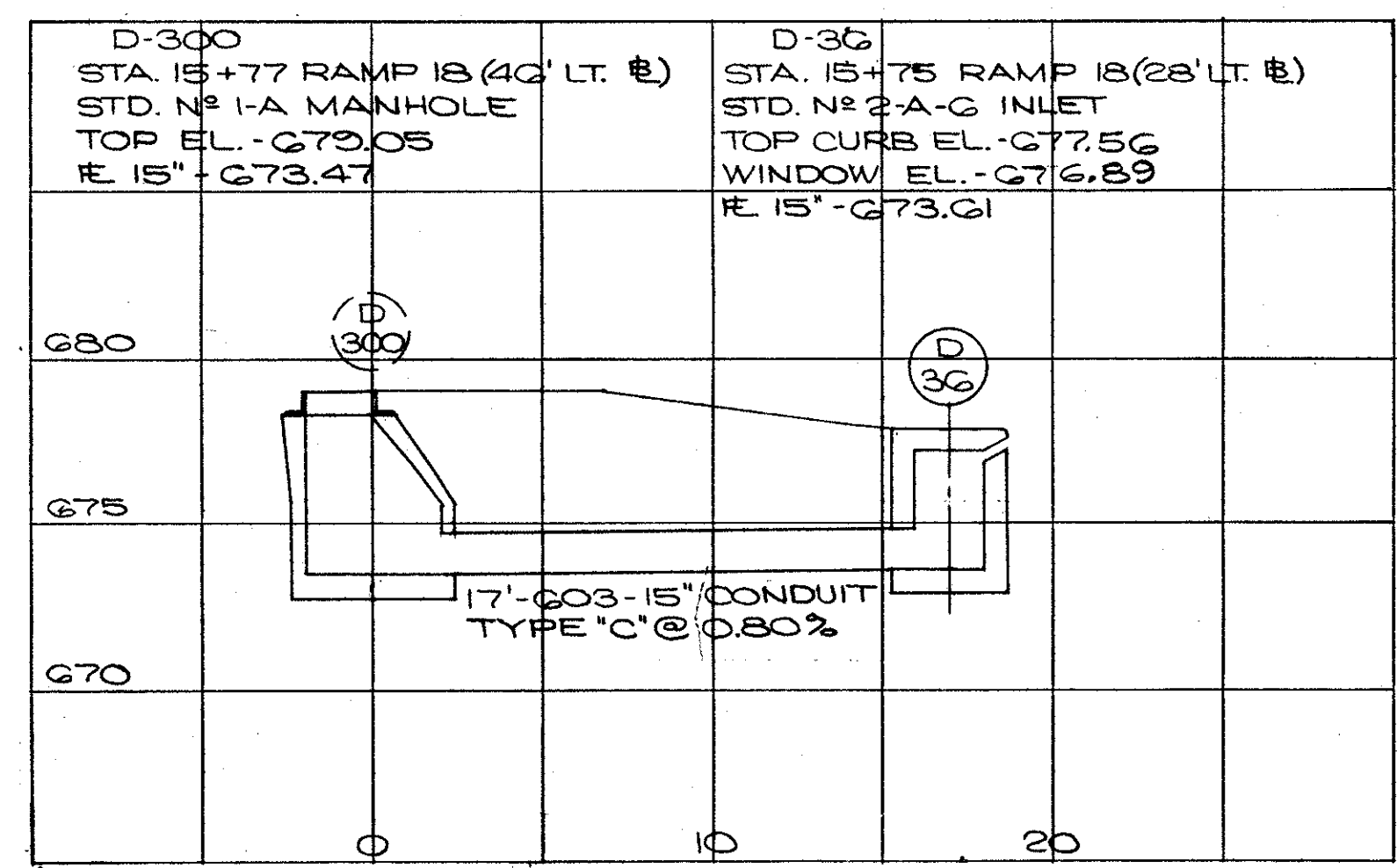
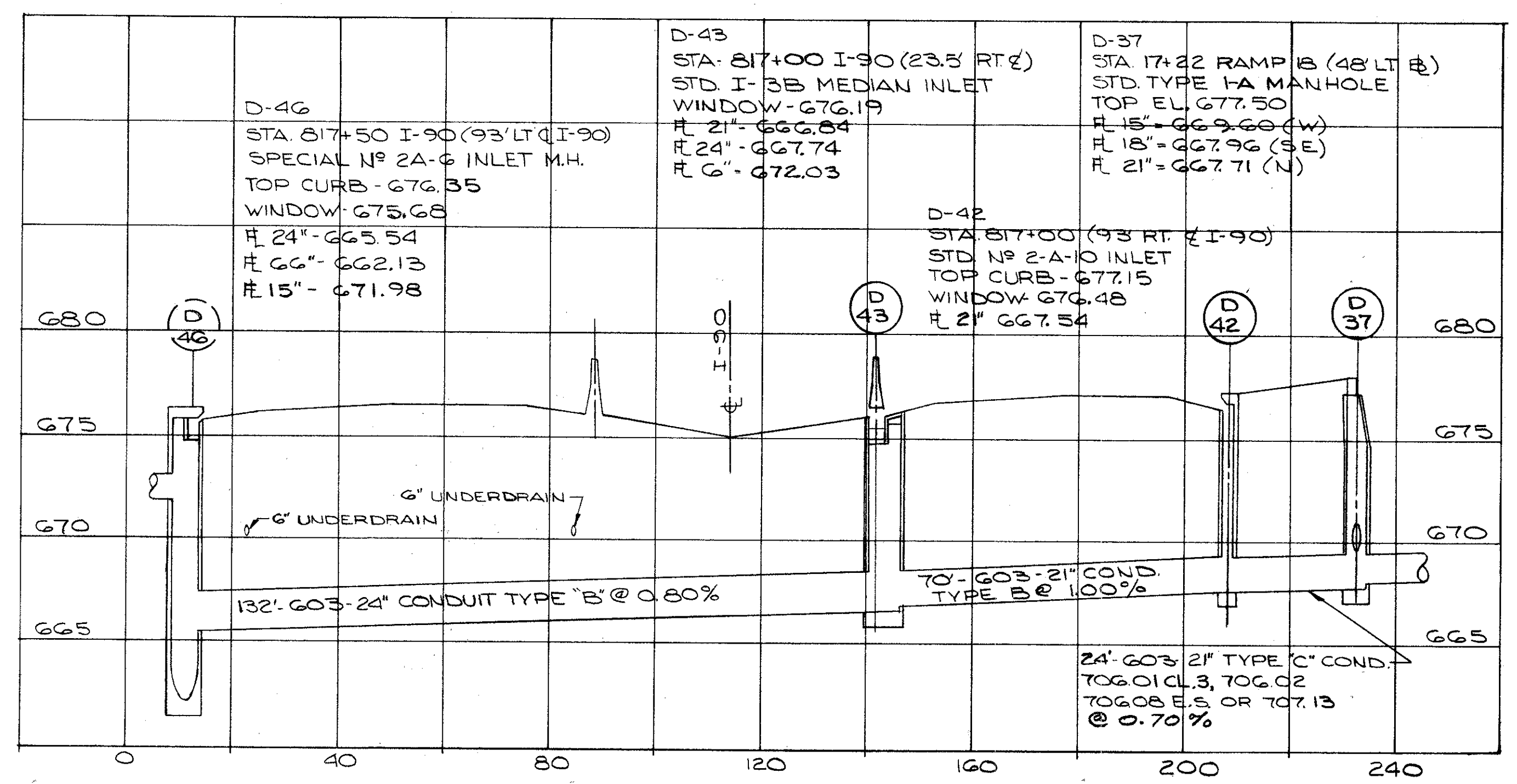
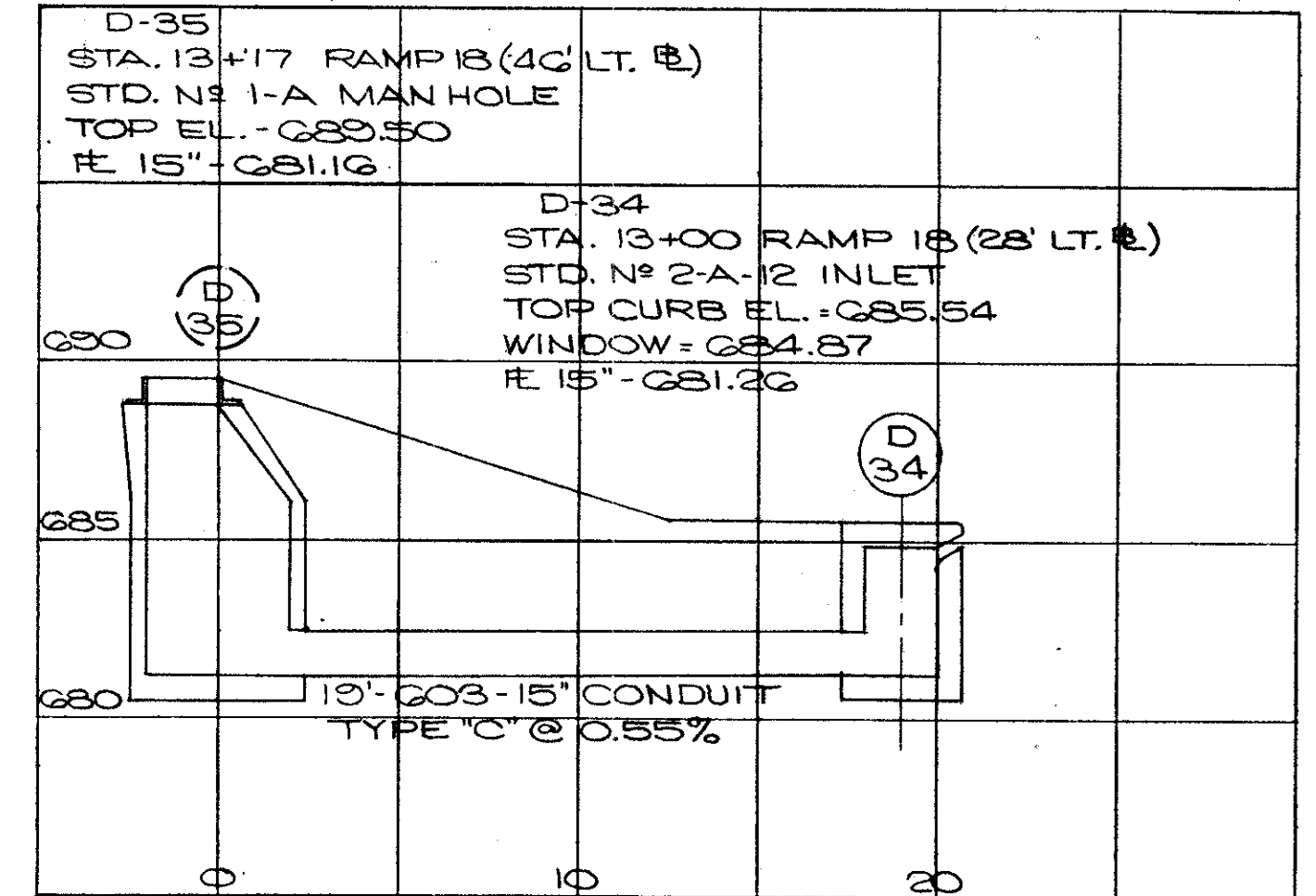
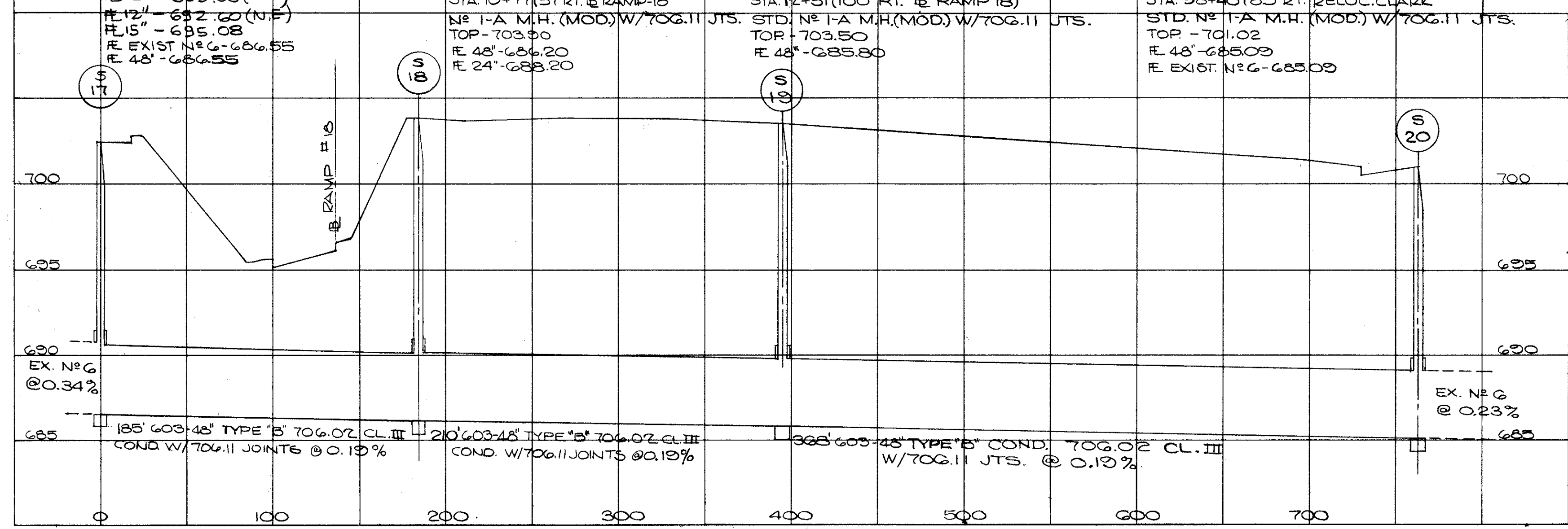
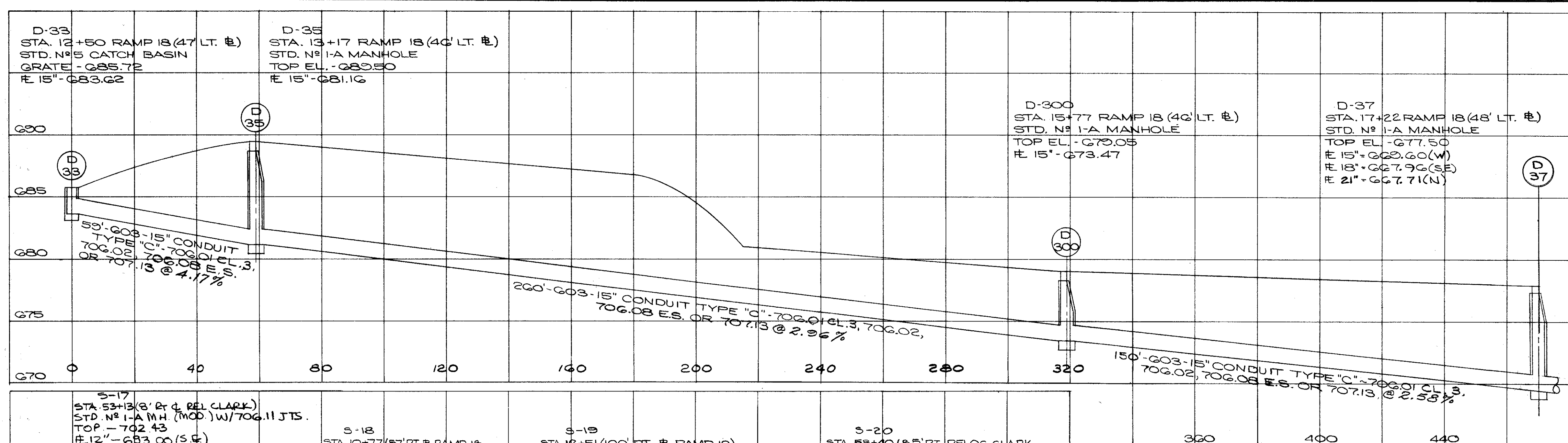


D-24, 25, 27, 28, 28A, 29, 30, 32, 38, 39, 40, 41, 44, 45, 57, 140, S-26.

CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74

SEWER PROFILES

CUYAHOGA COUNTY  
CUY-90-11.64

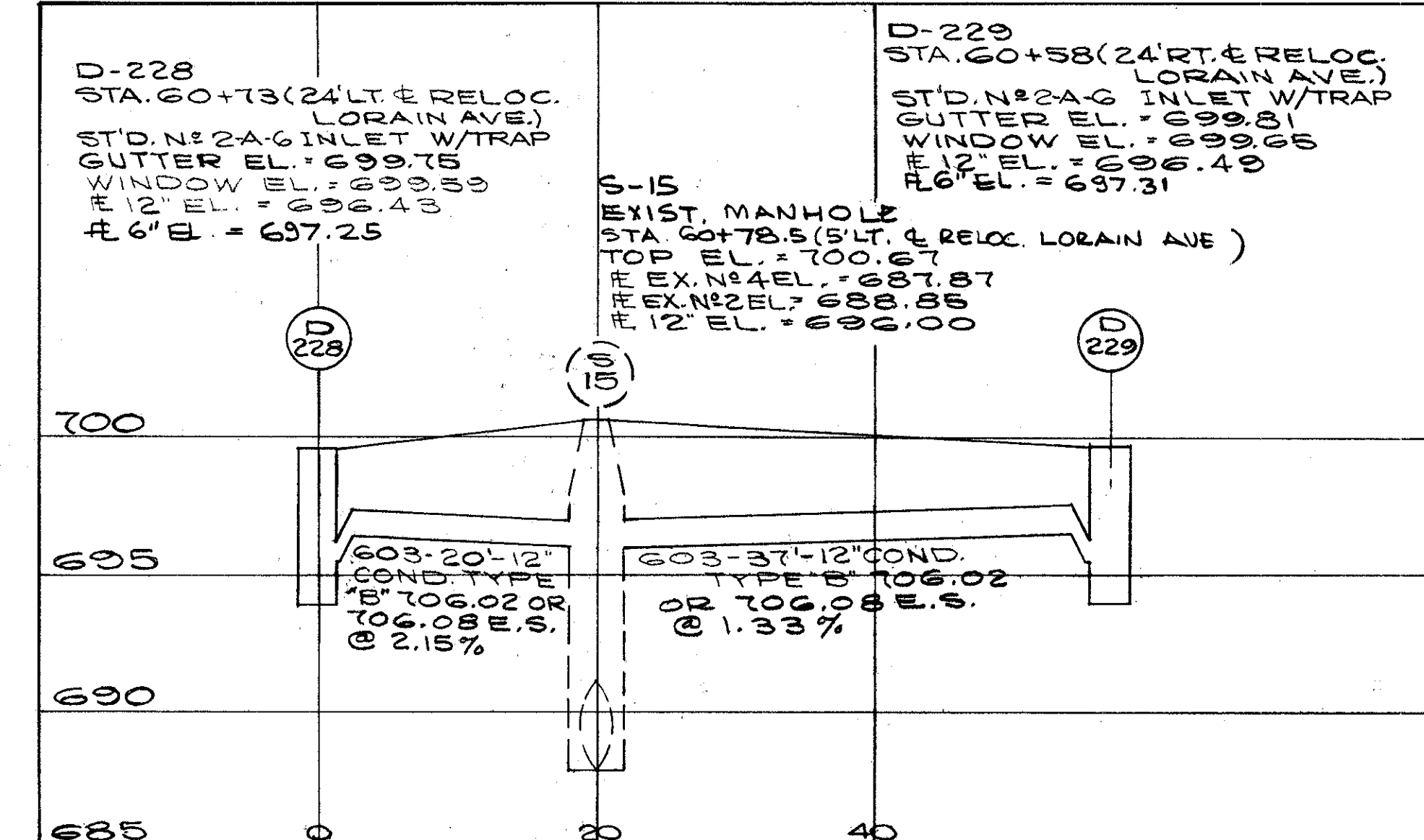
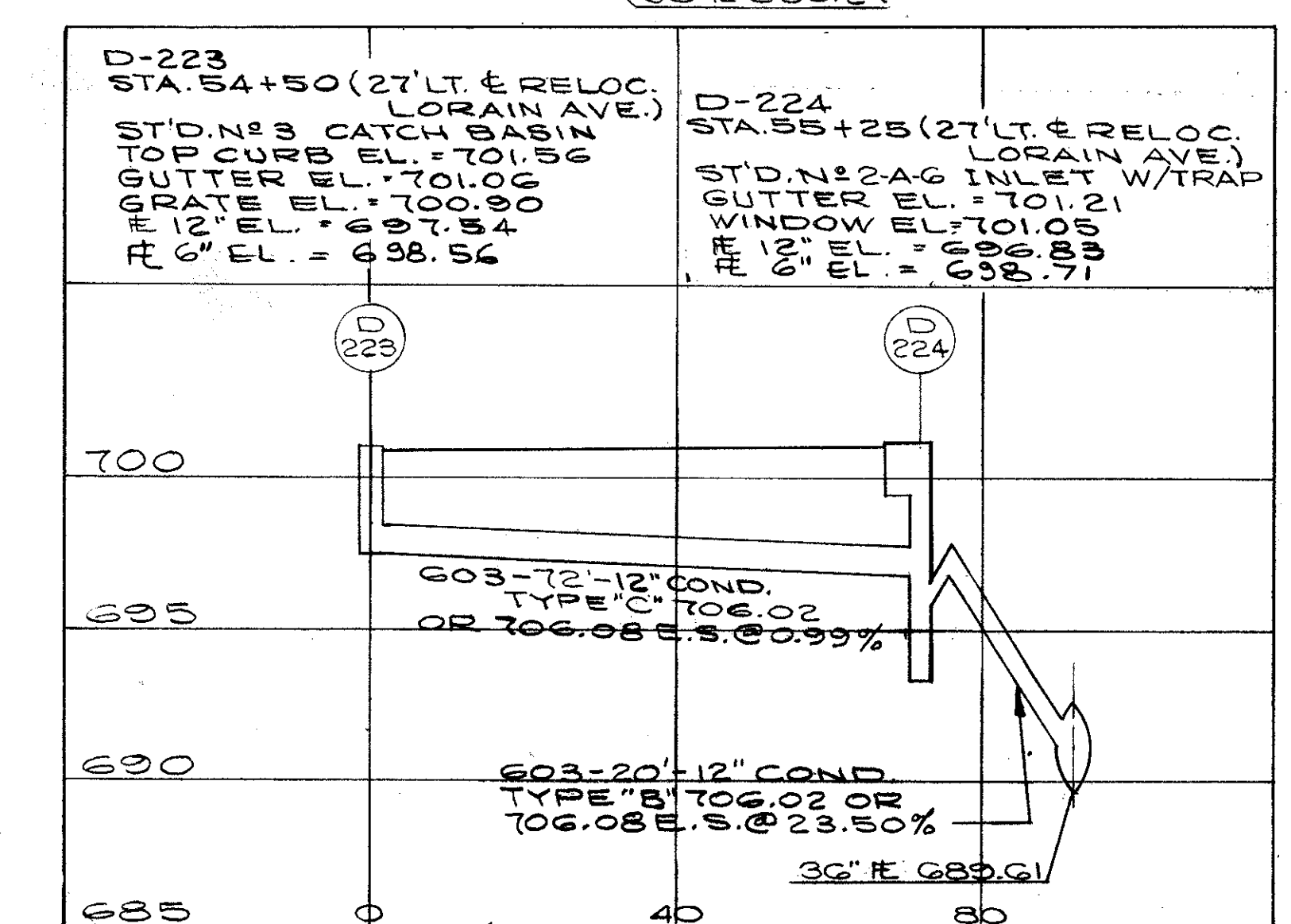
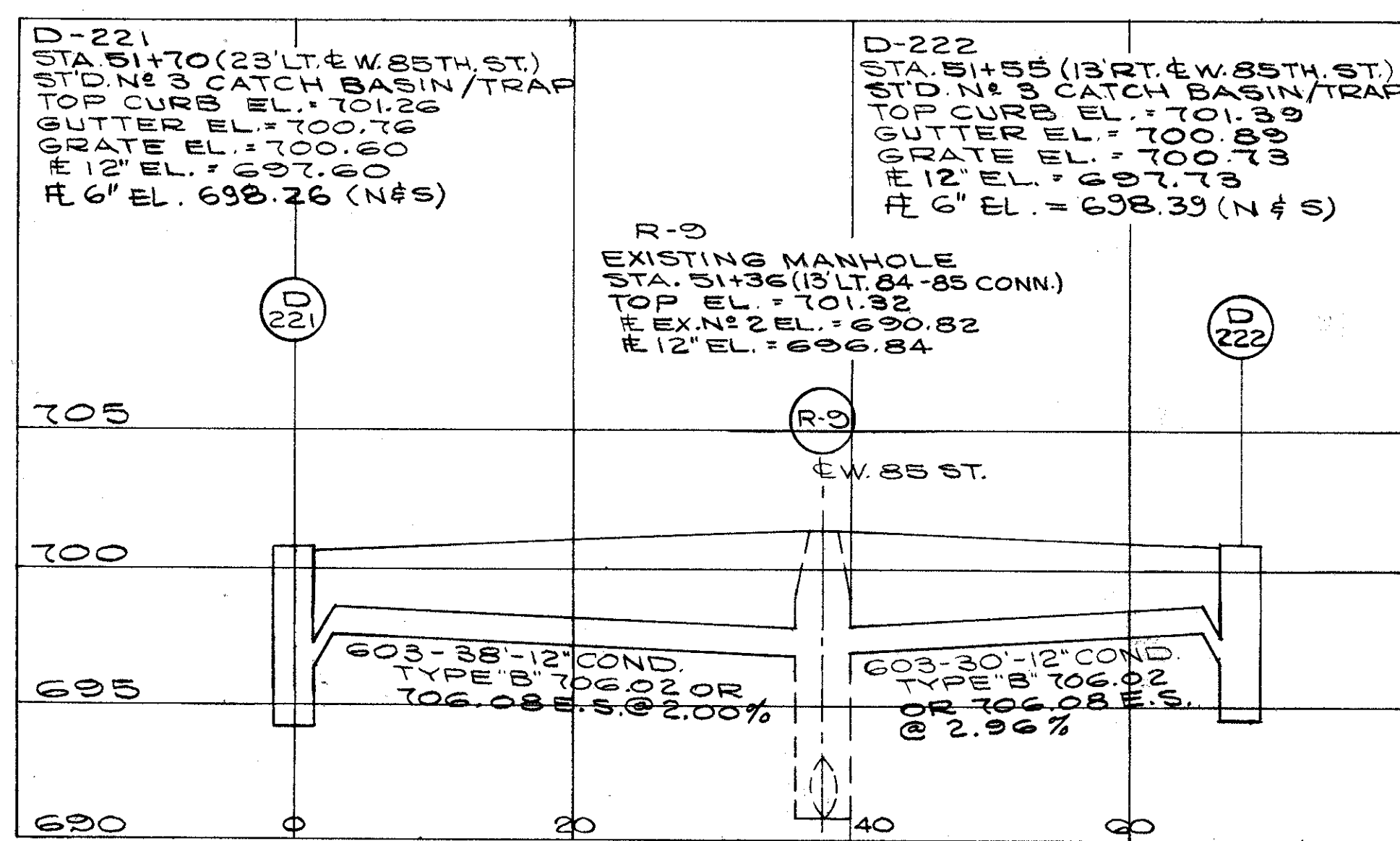
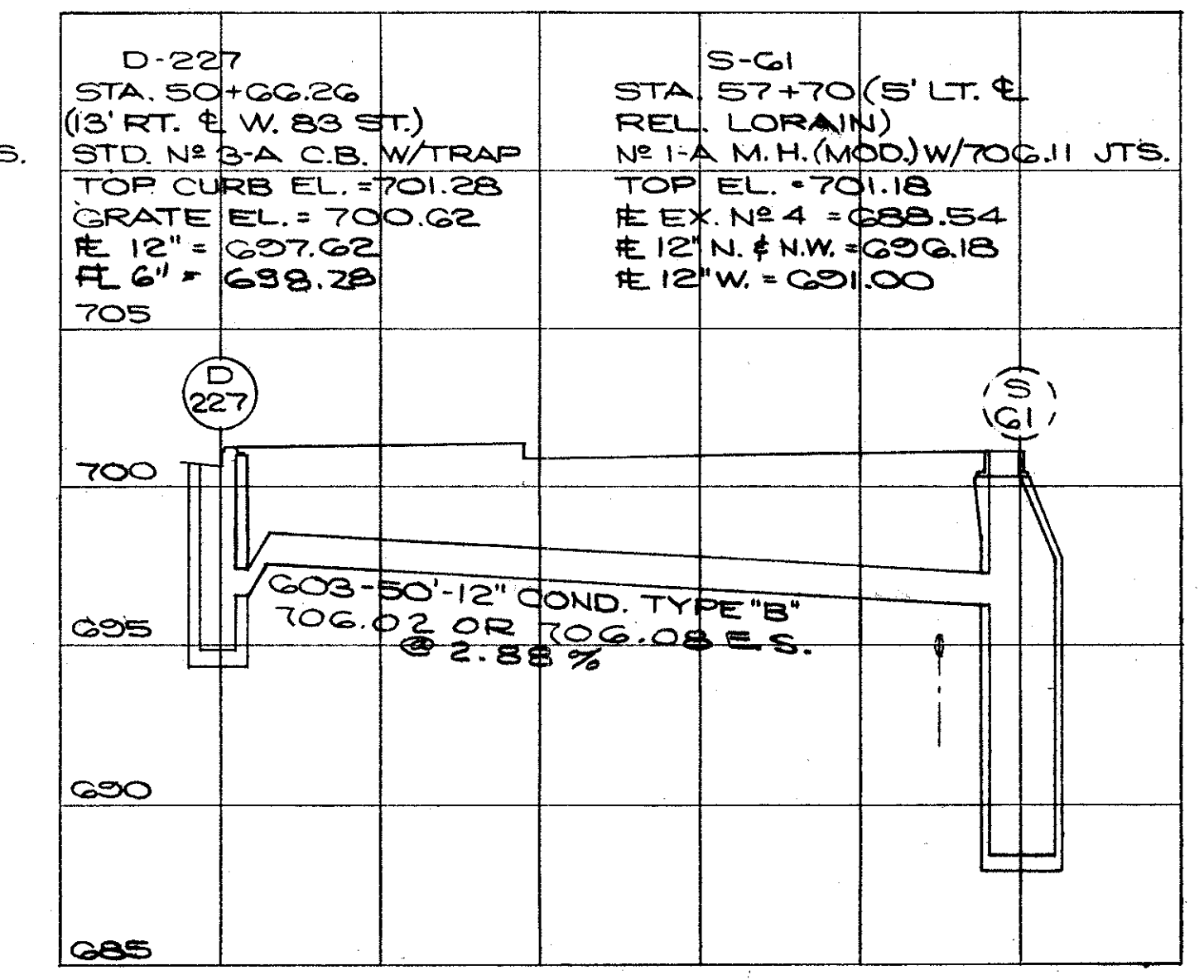
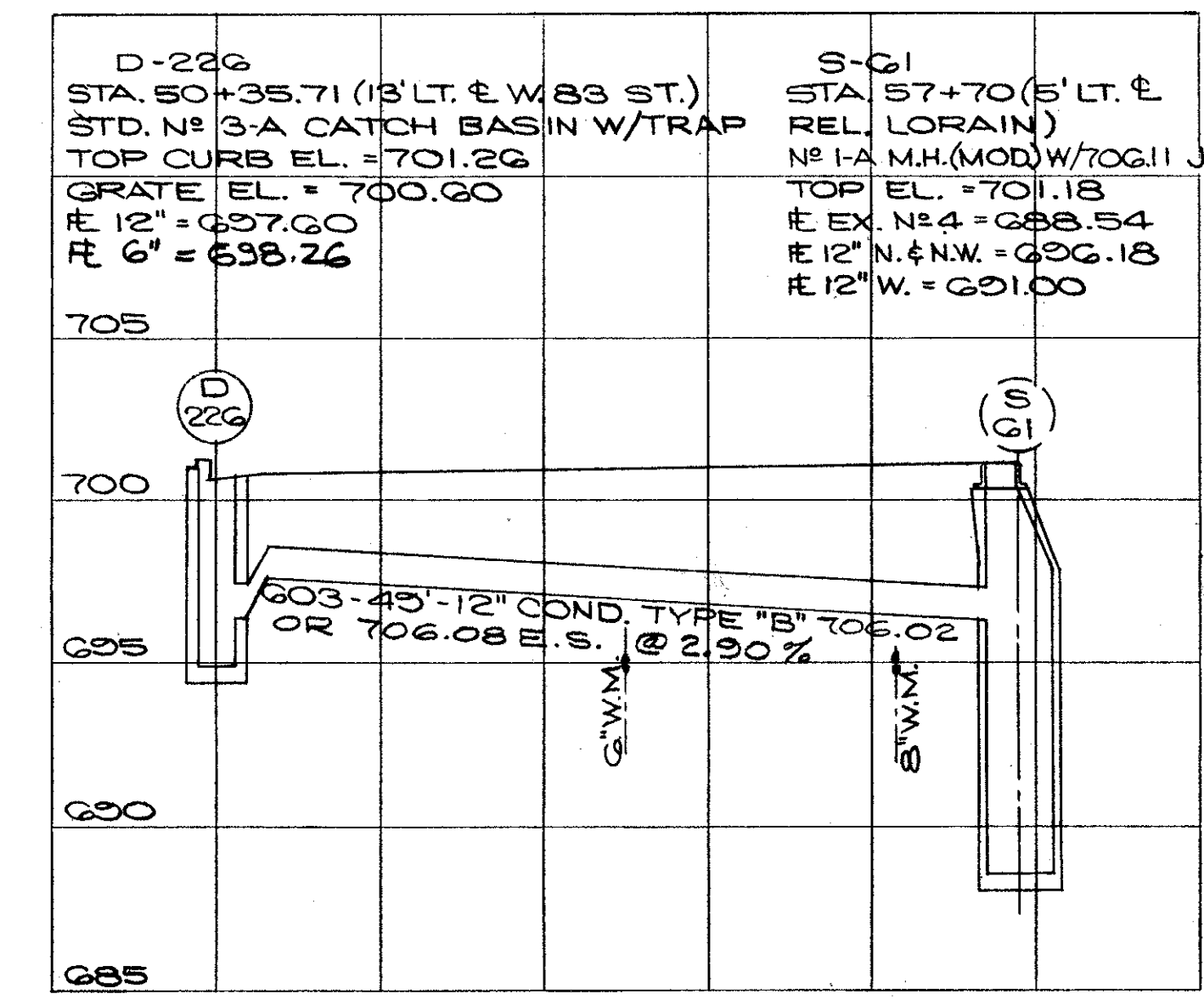
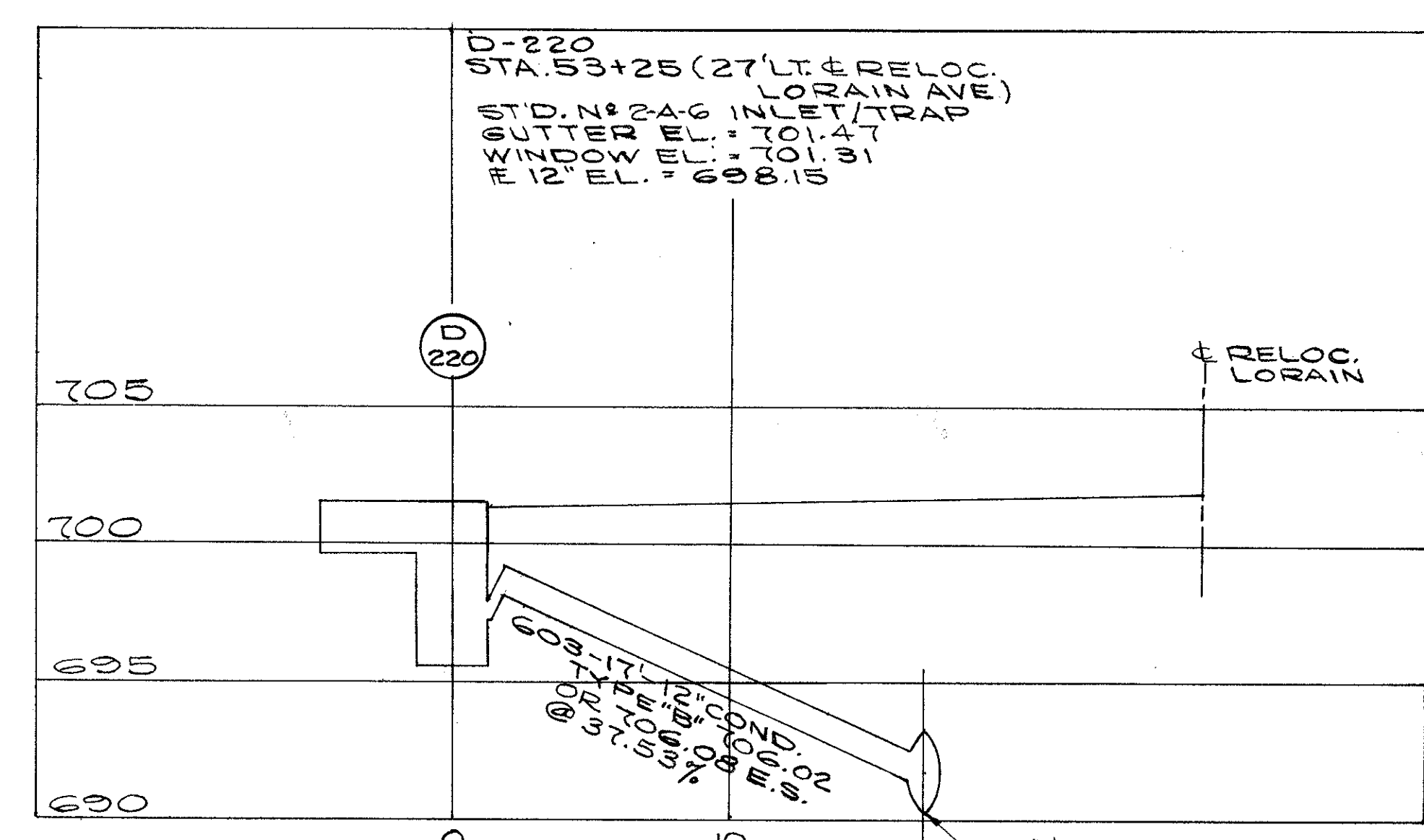
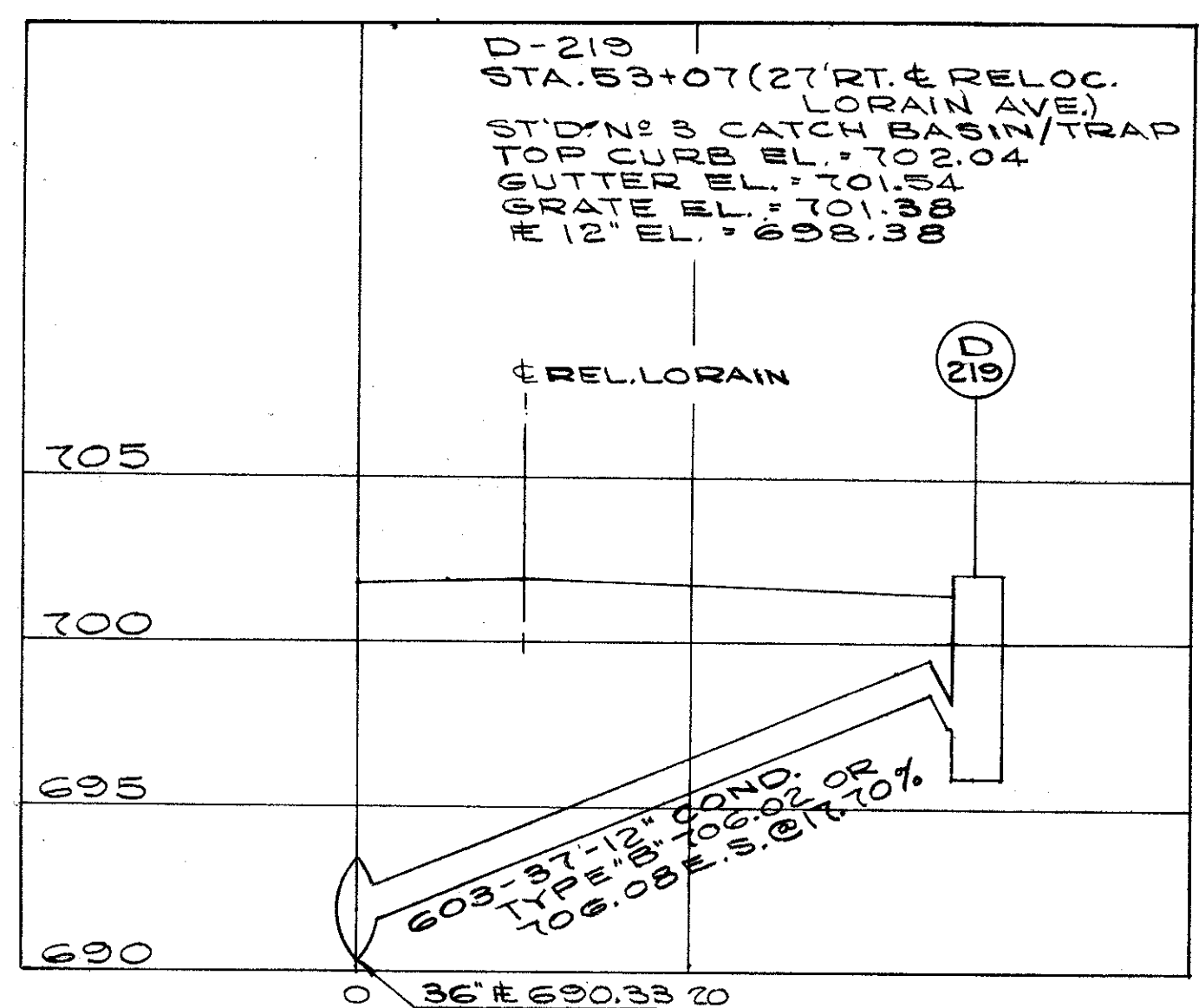
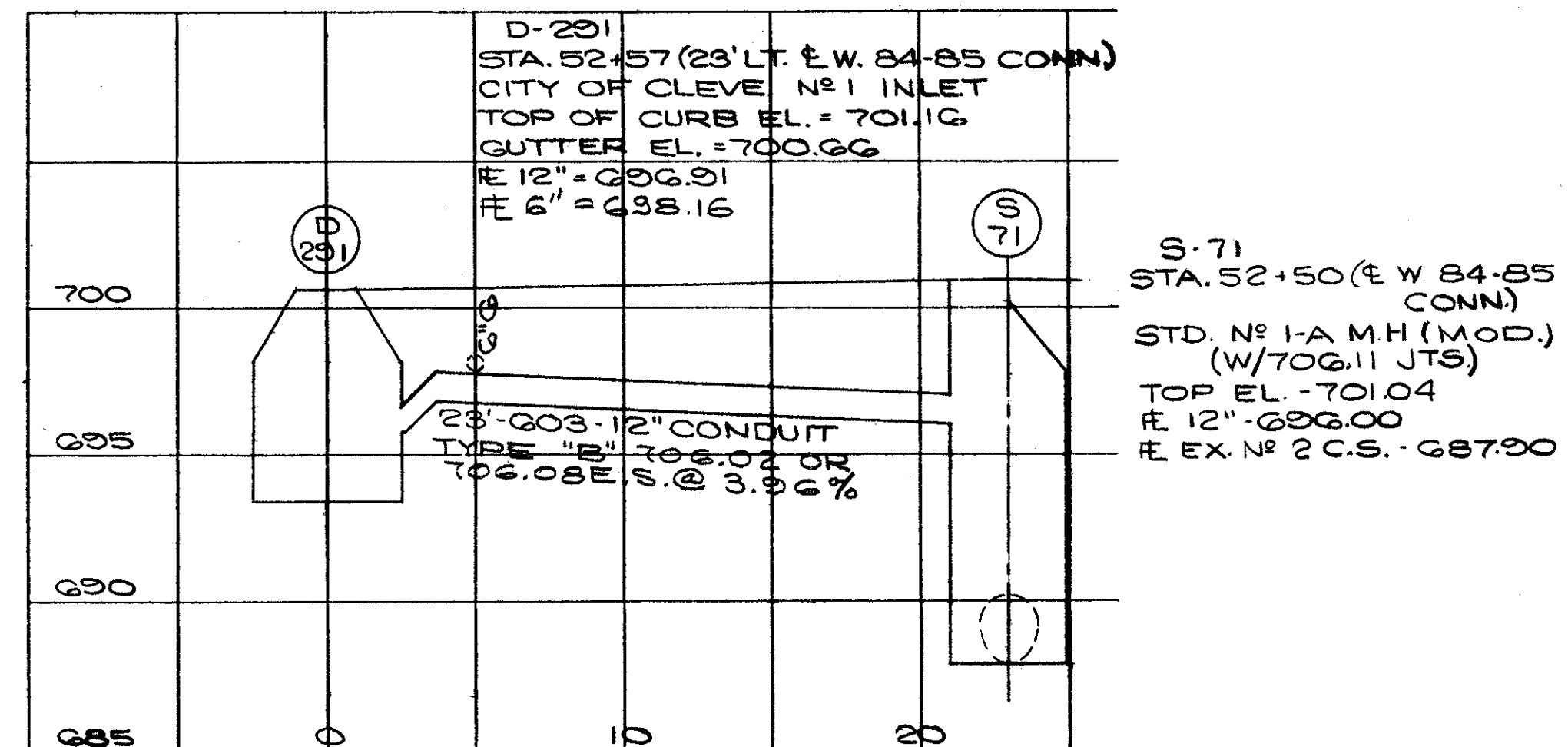
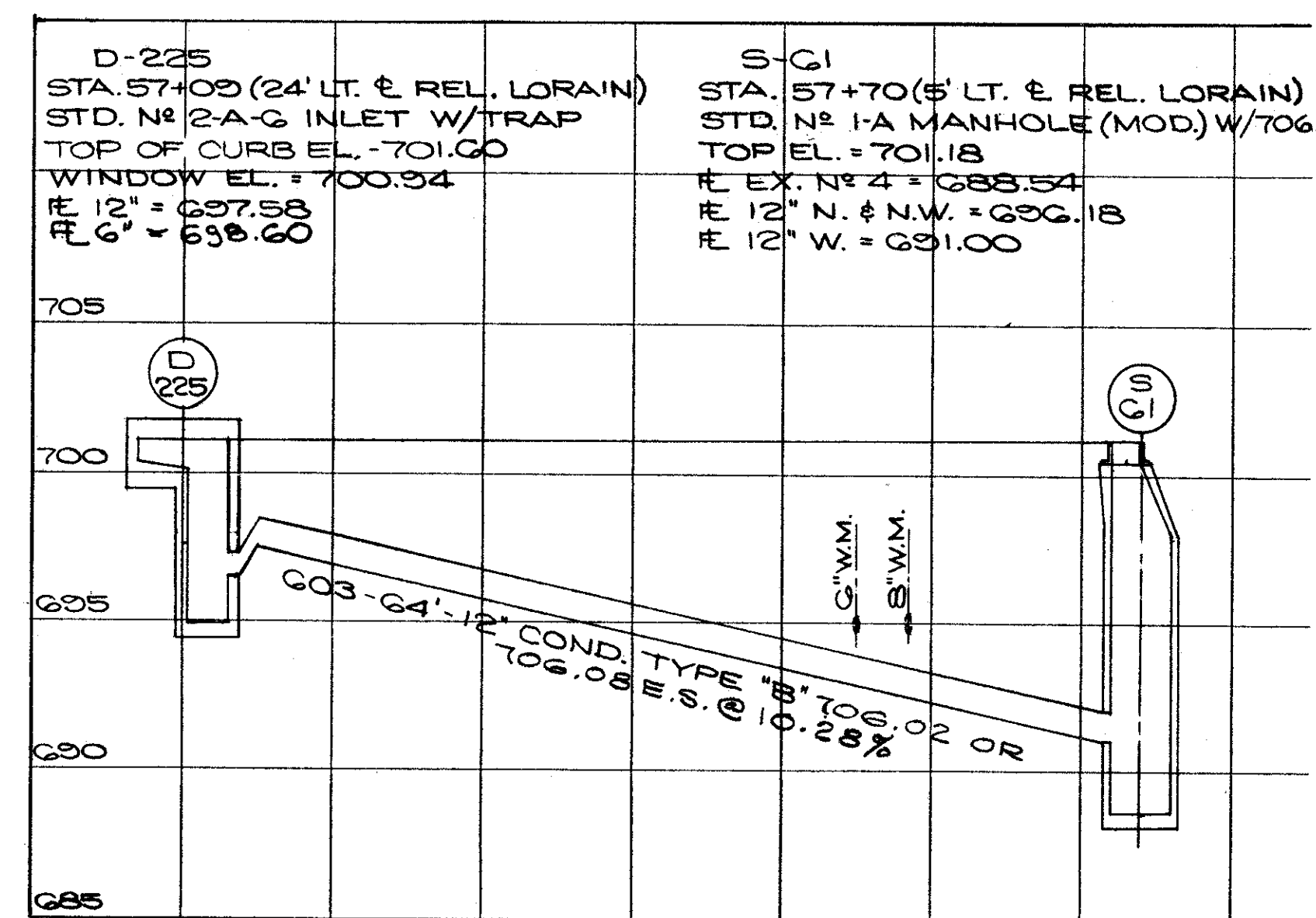
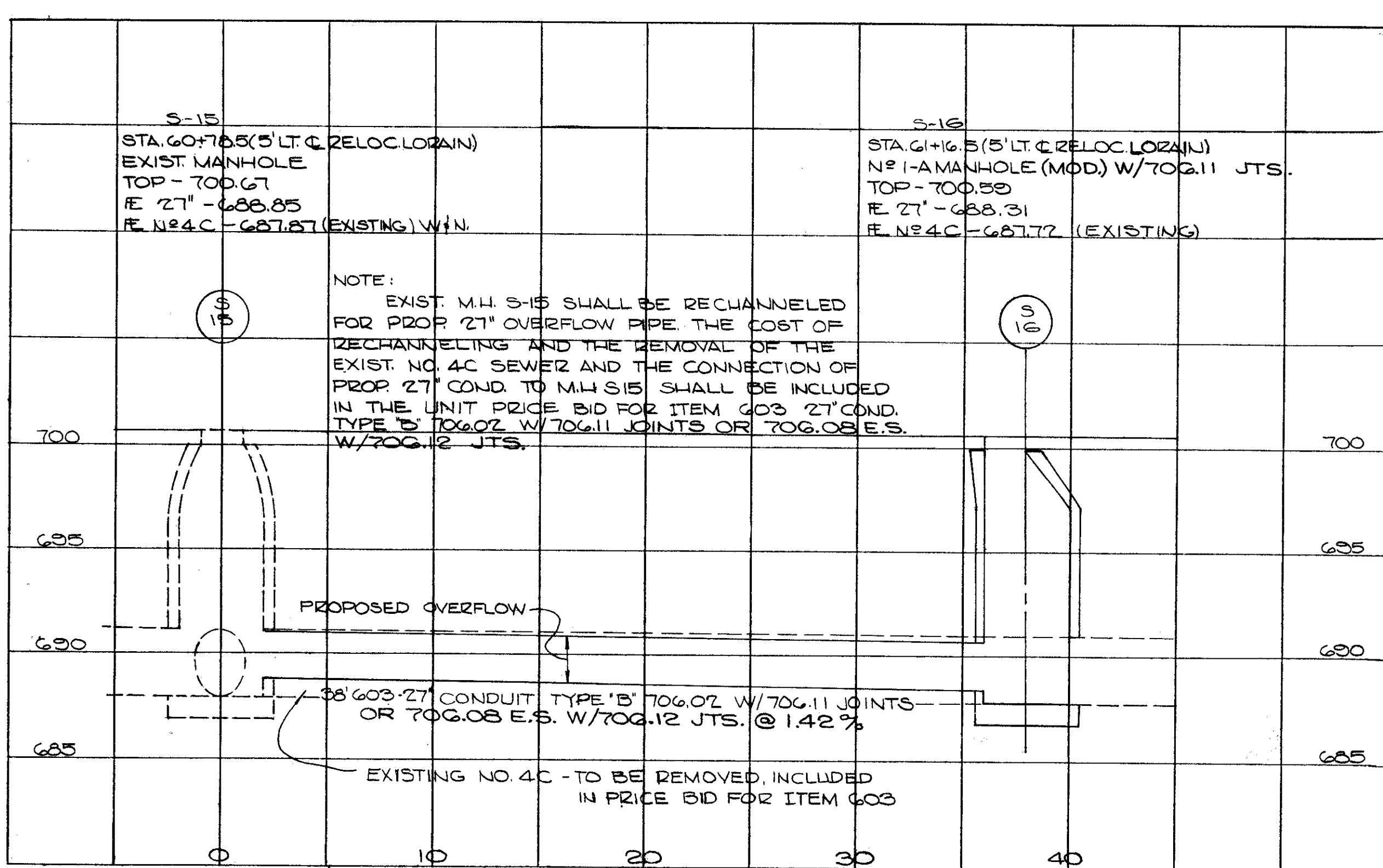


D-33, 34, 35, 36, 37, 42, 43,  
46, 47, 48, 300,  
S-17, 18, 19, 20.

CALCULATED BY BEK. DATE 10/73  
CHECKED BY S.H.G. DATE 4/74

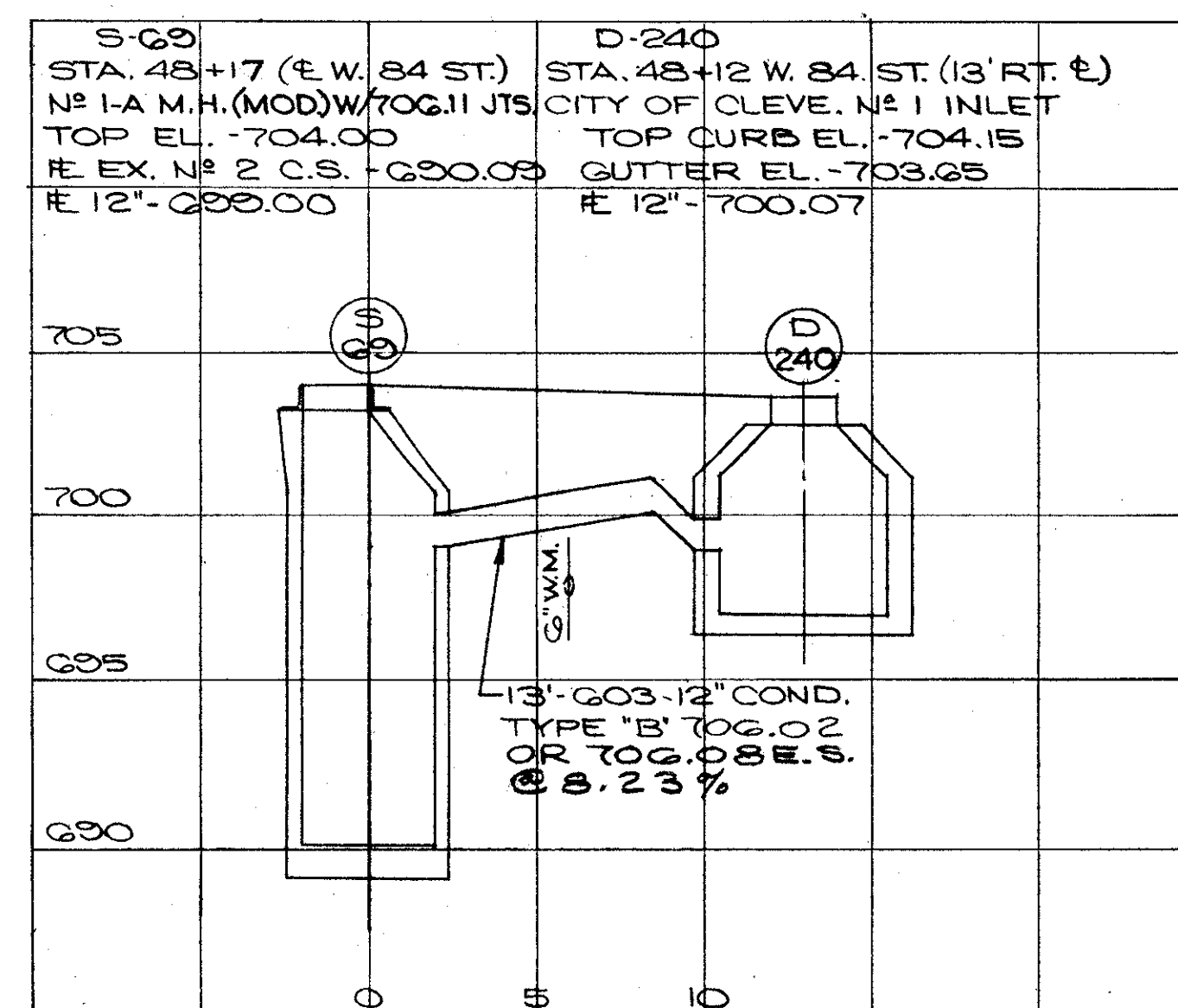
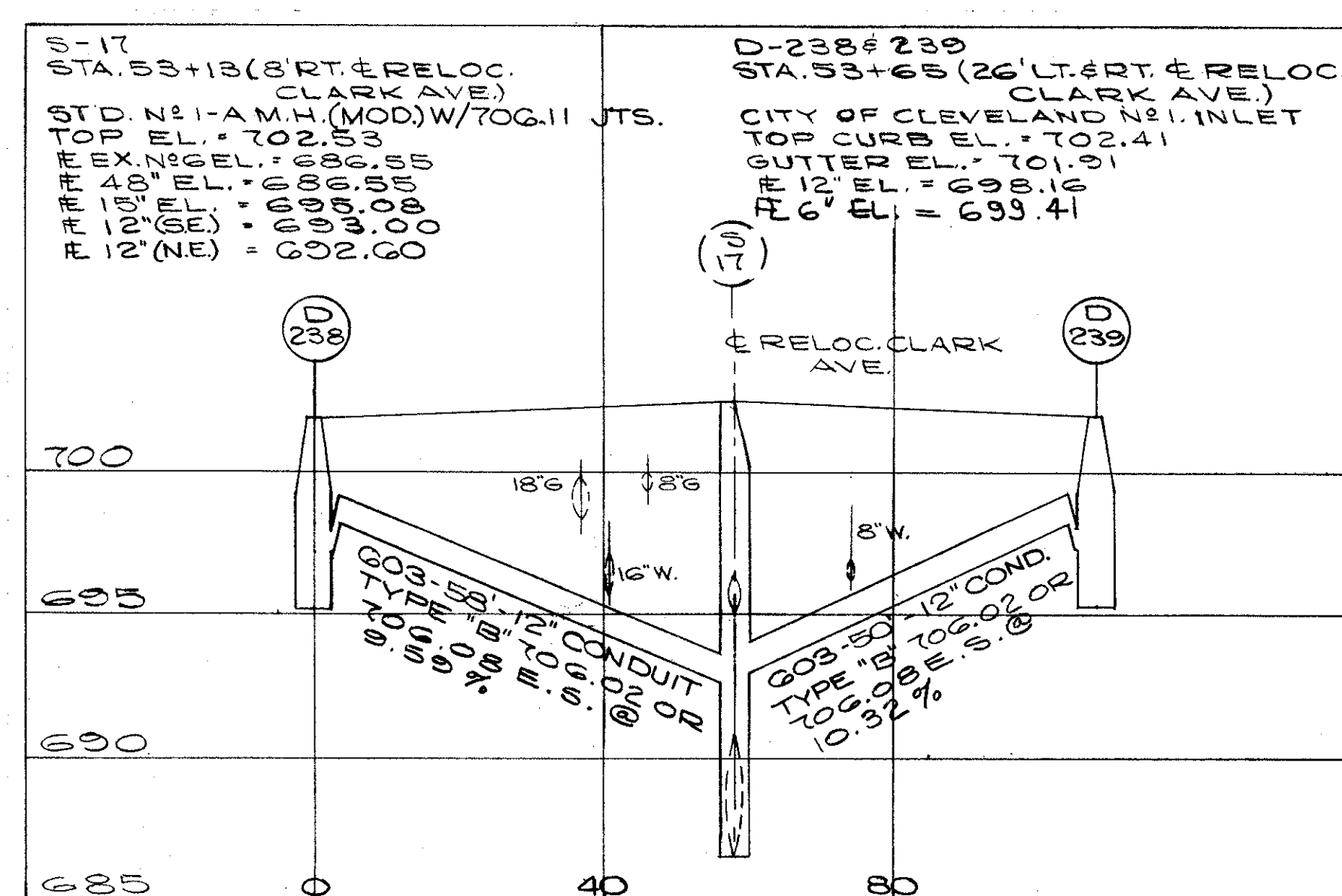
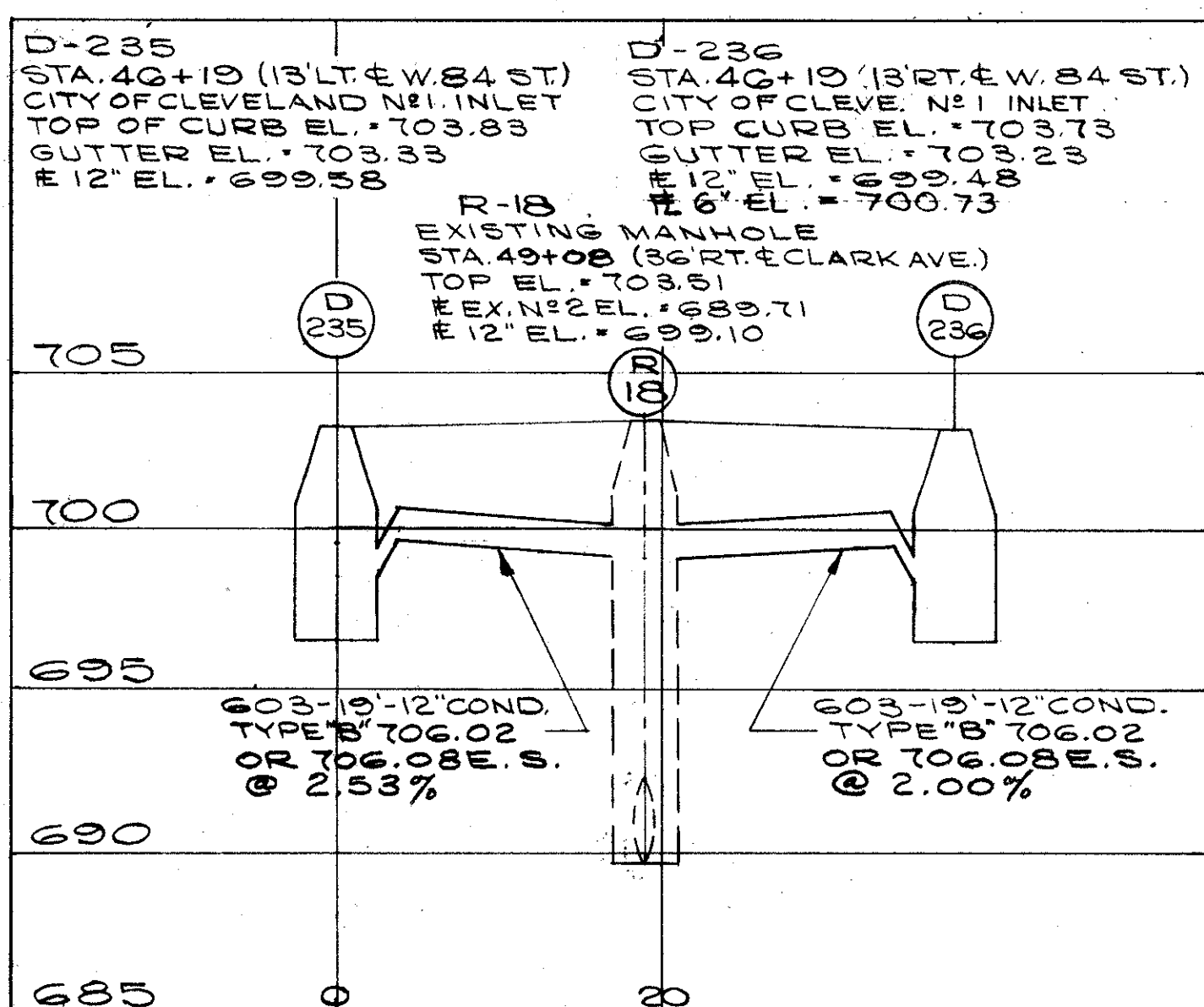
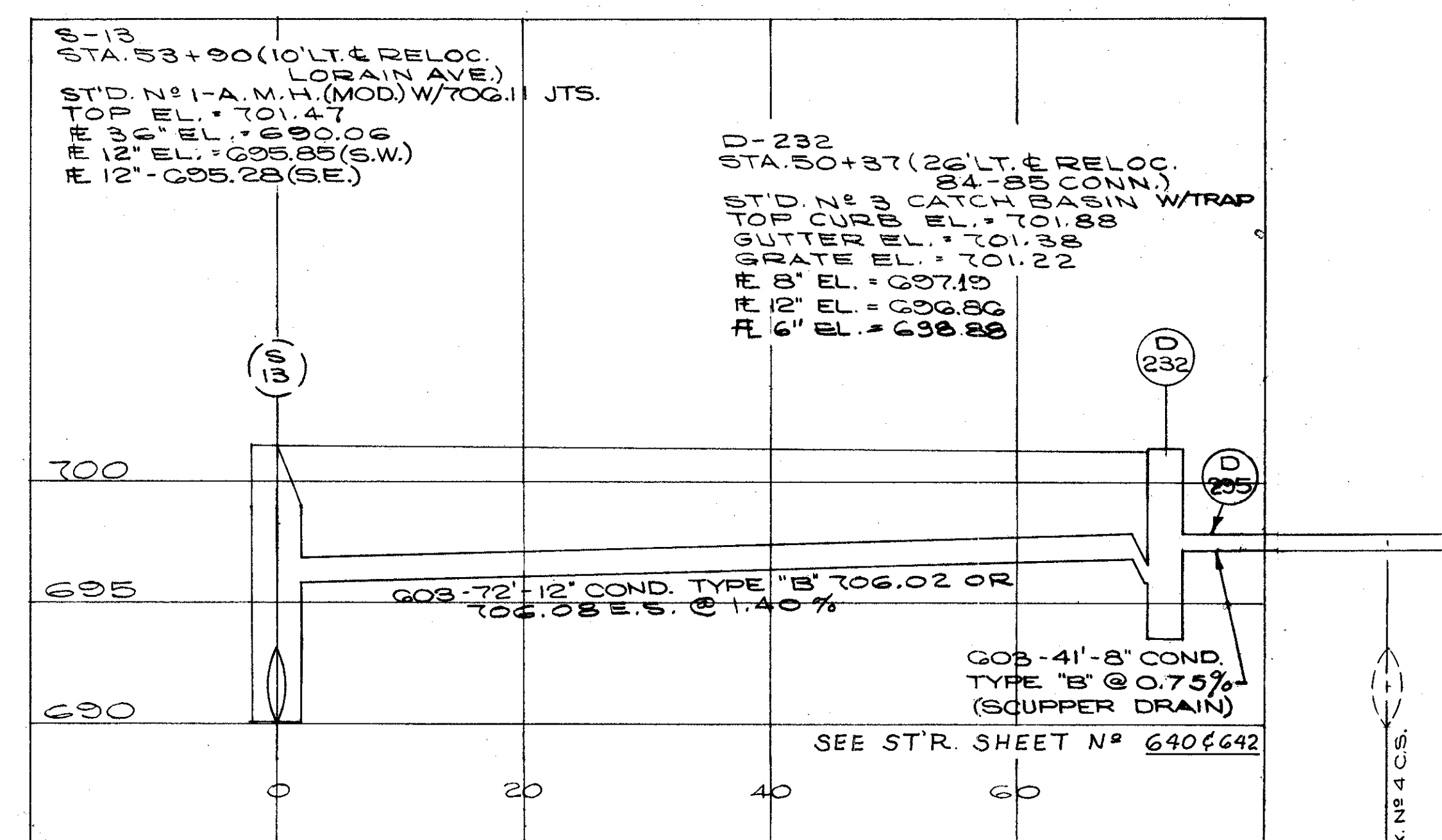
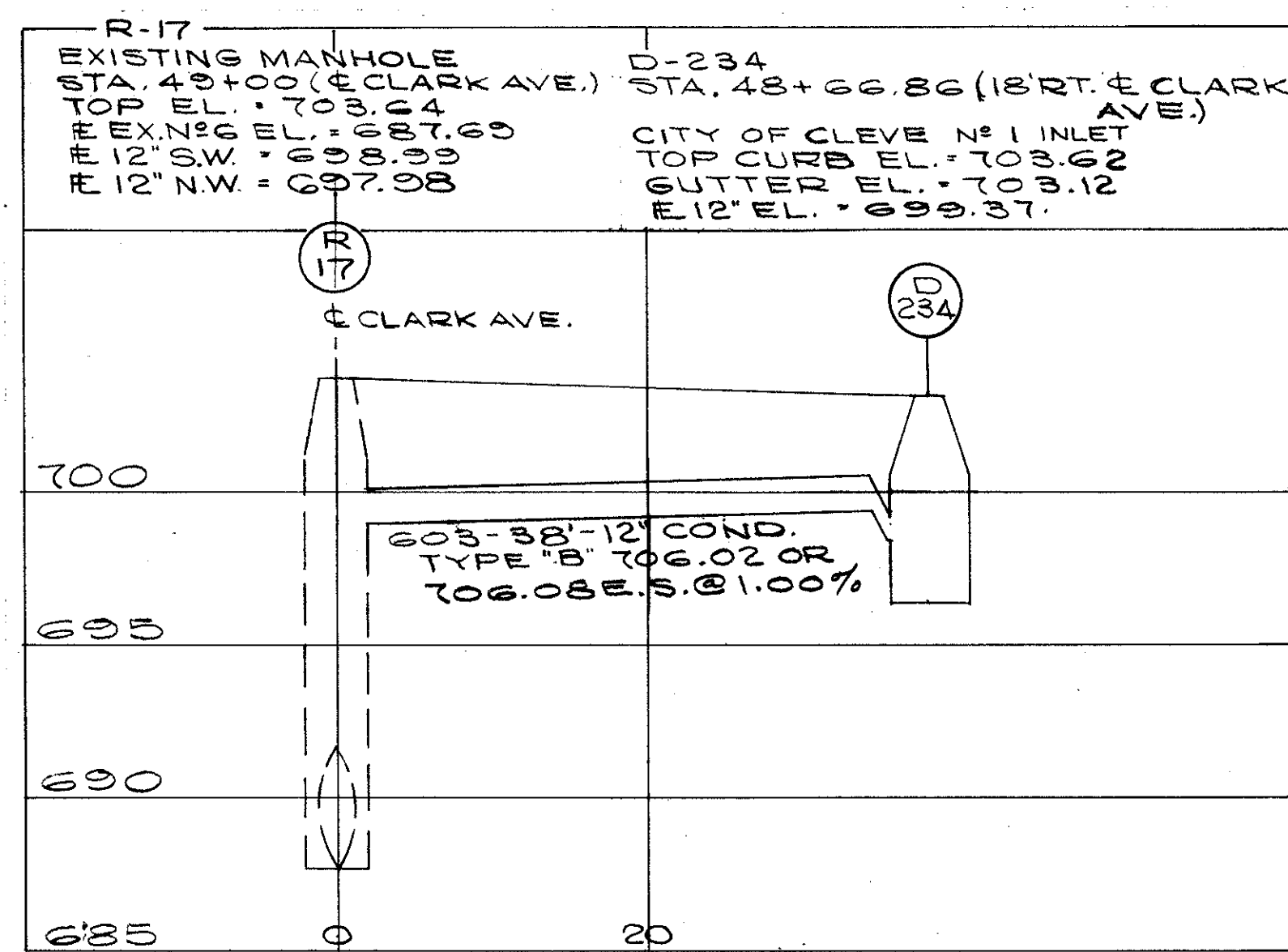
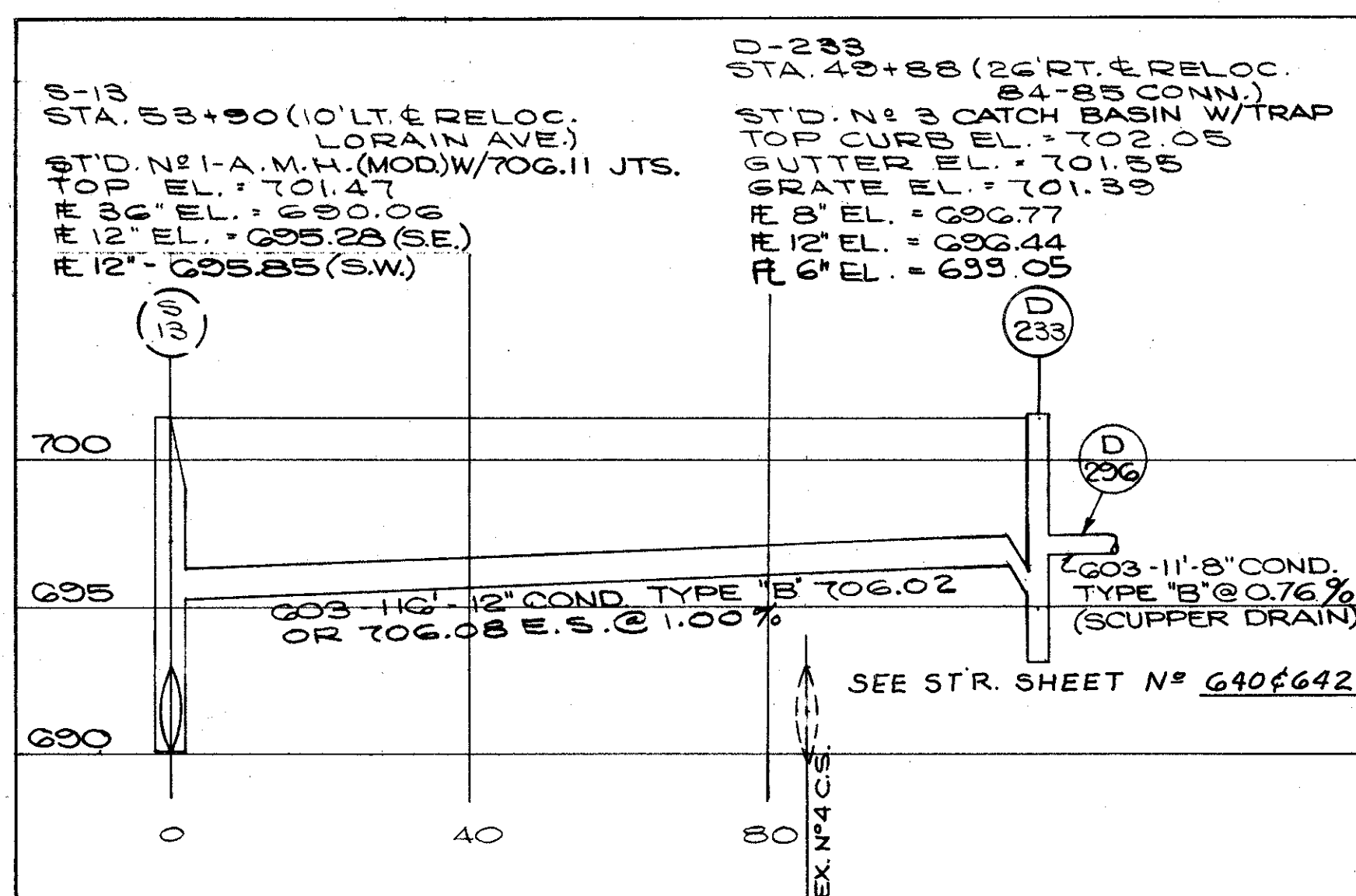
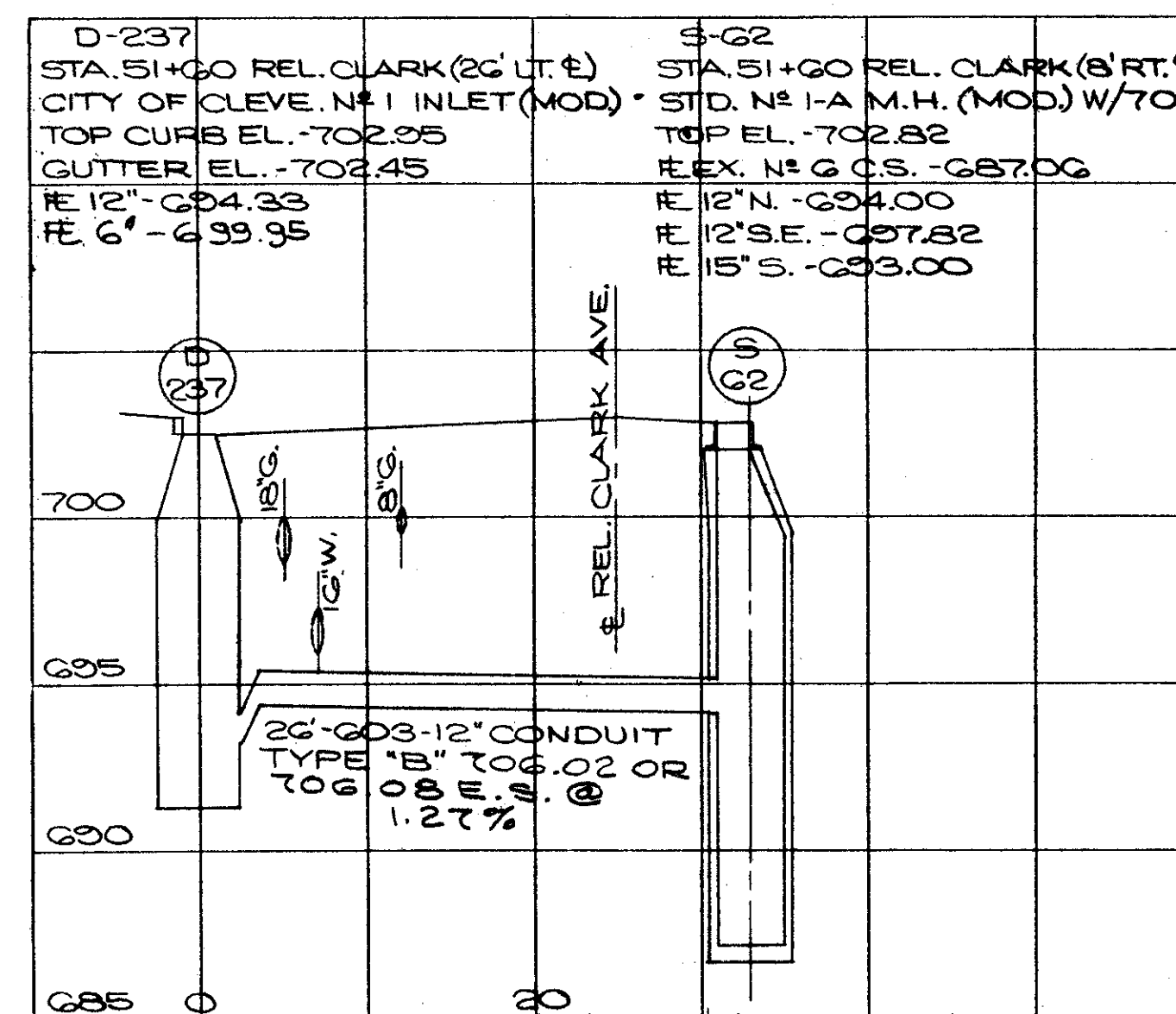
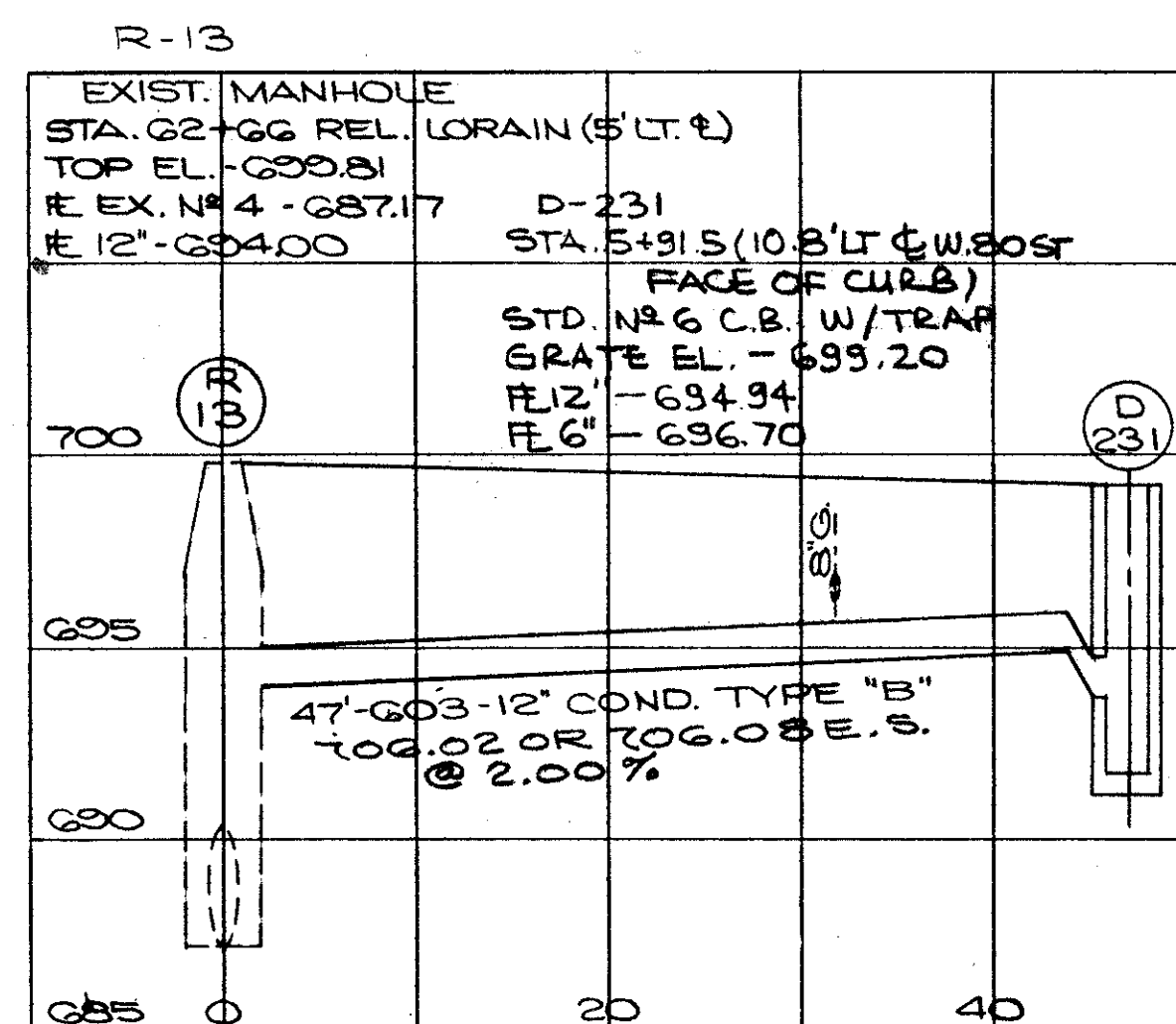
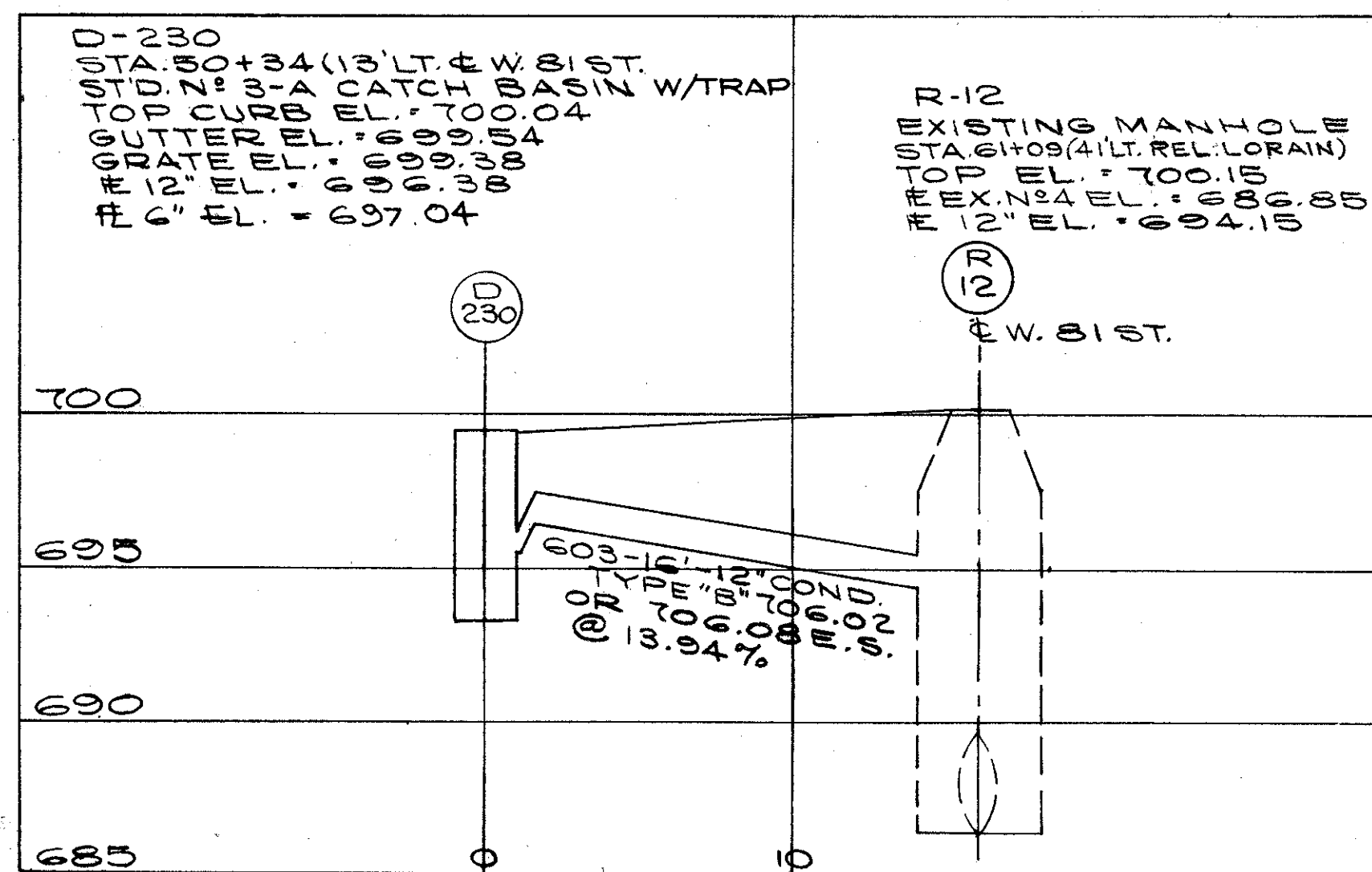
SEWER PROFILES

CUYAHOGA COUNTY  
CUY - 90 - 11.64



CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.A.G. DATE 4/74  
D-219, 220, 221, 222, 223,  
224, 225, 226, 227, 228,  
229, 291,  
S-15, 16, 61, 71.

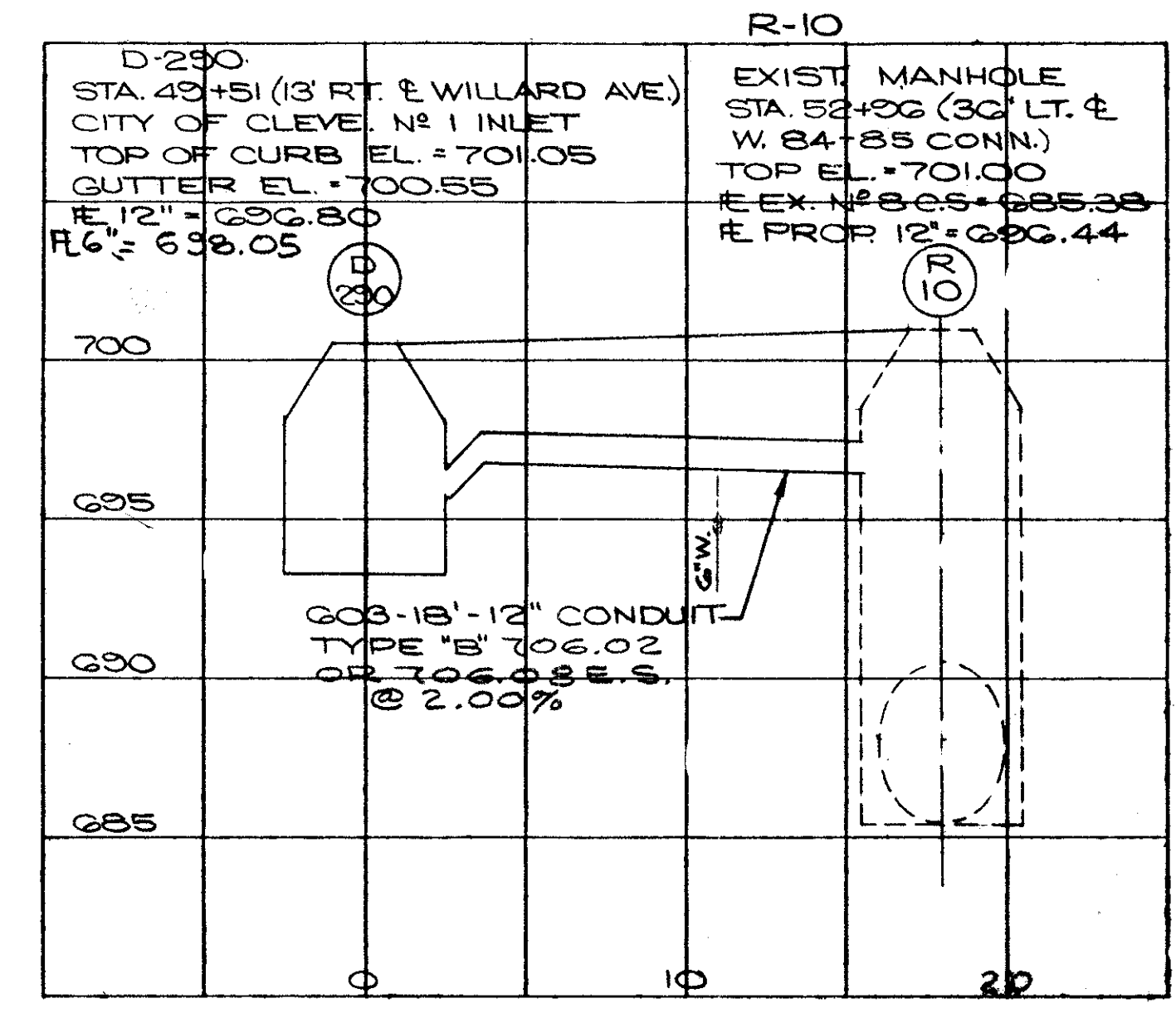
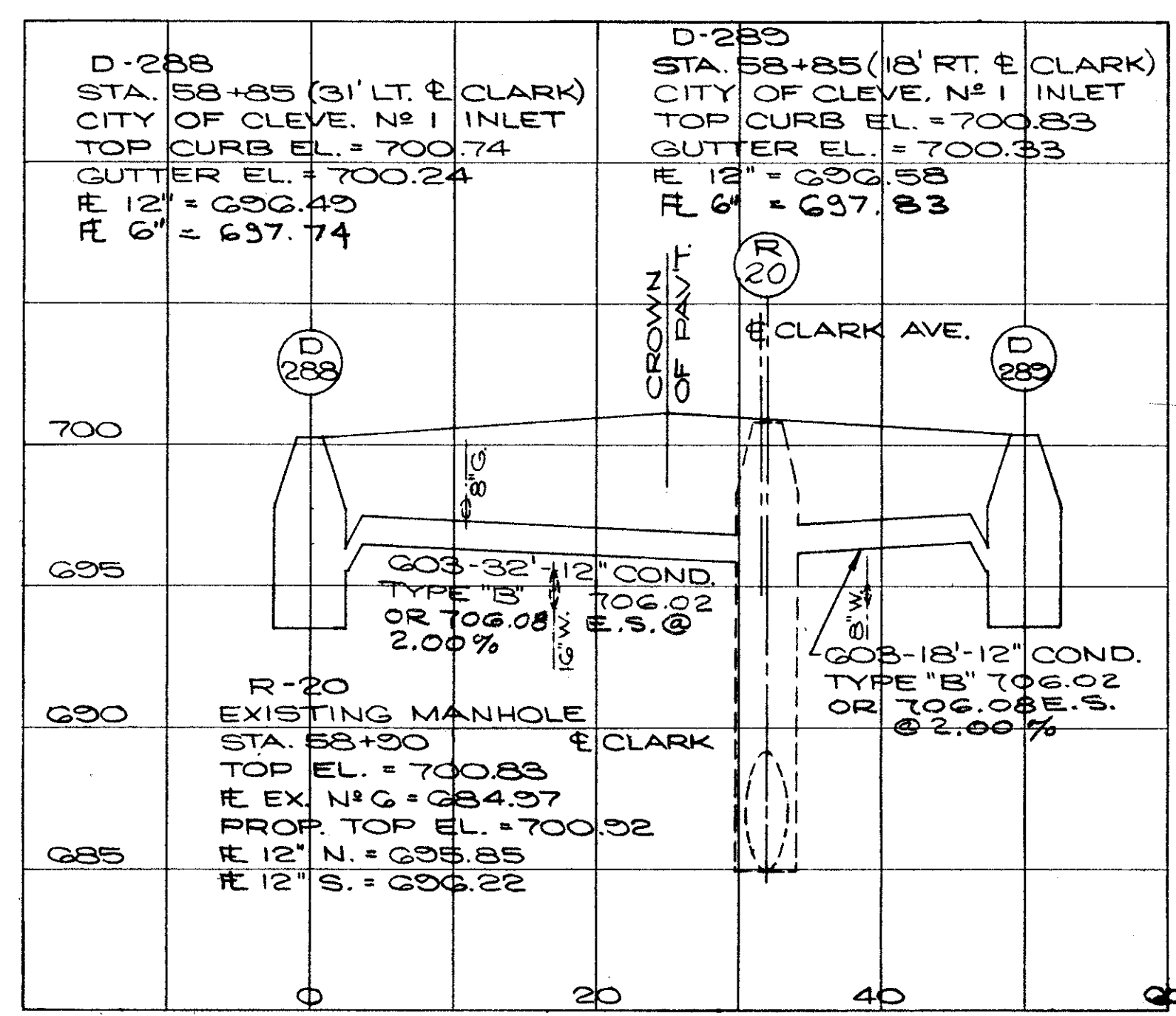
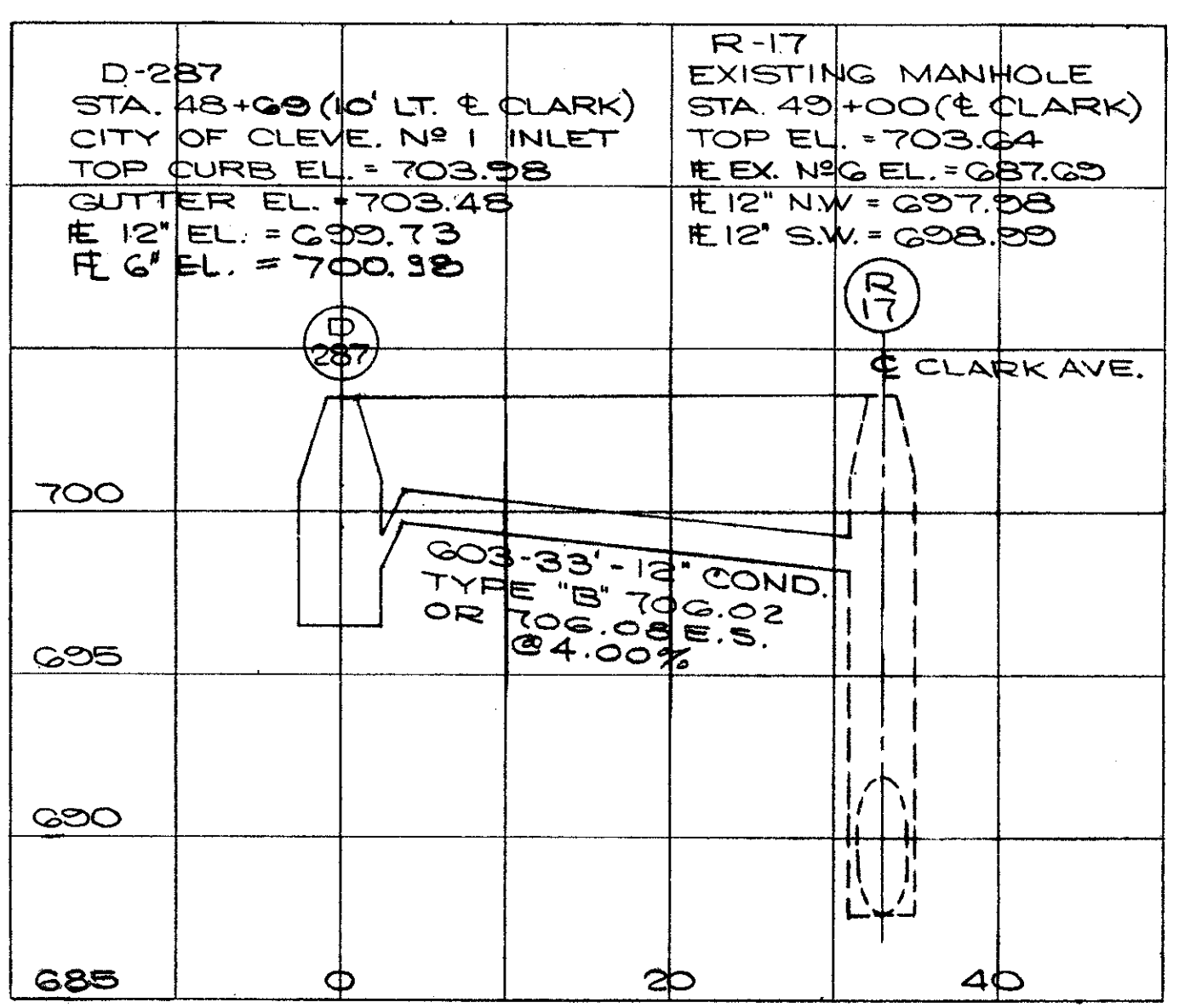
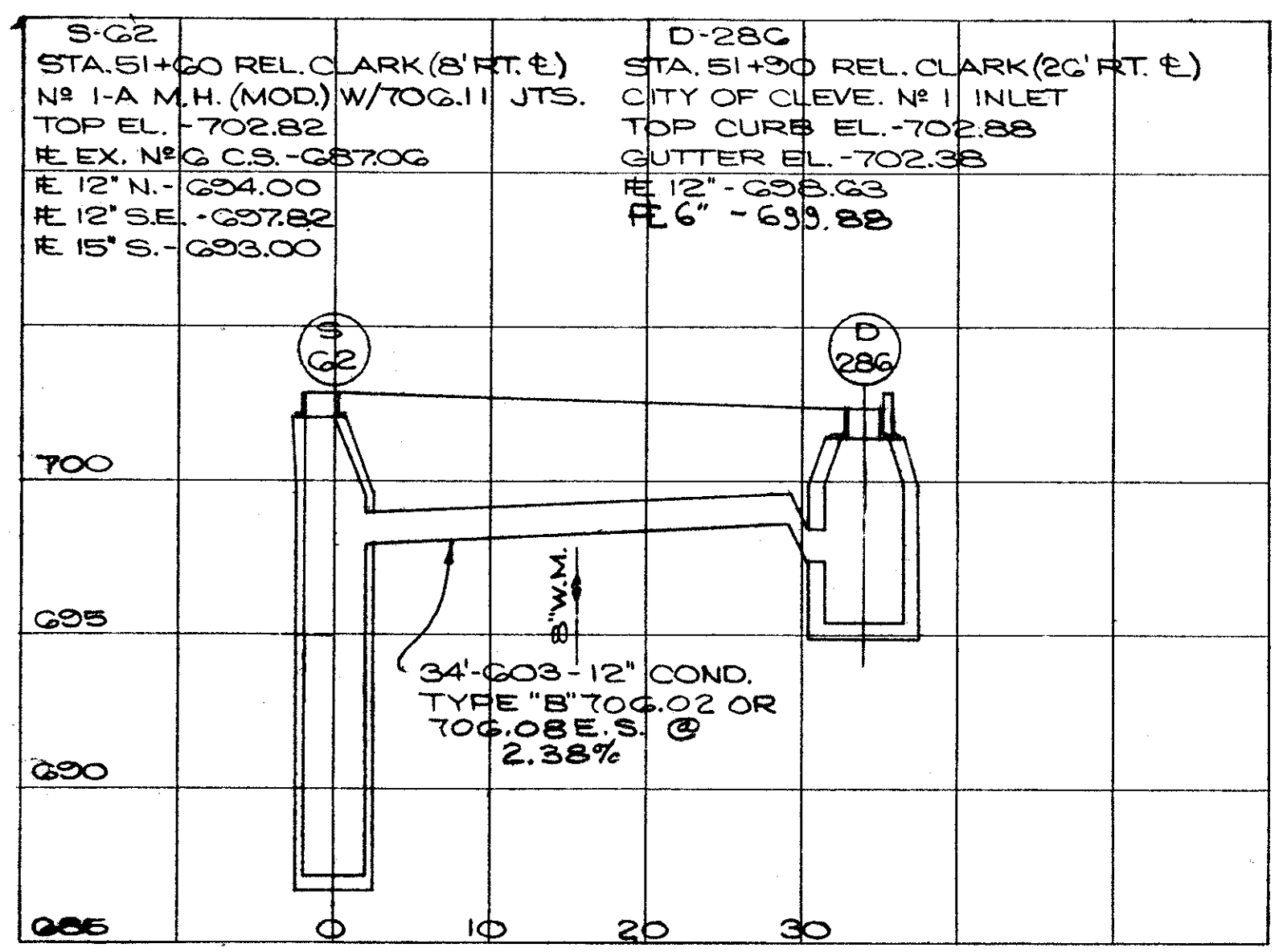
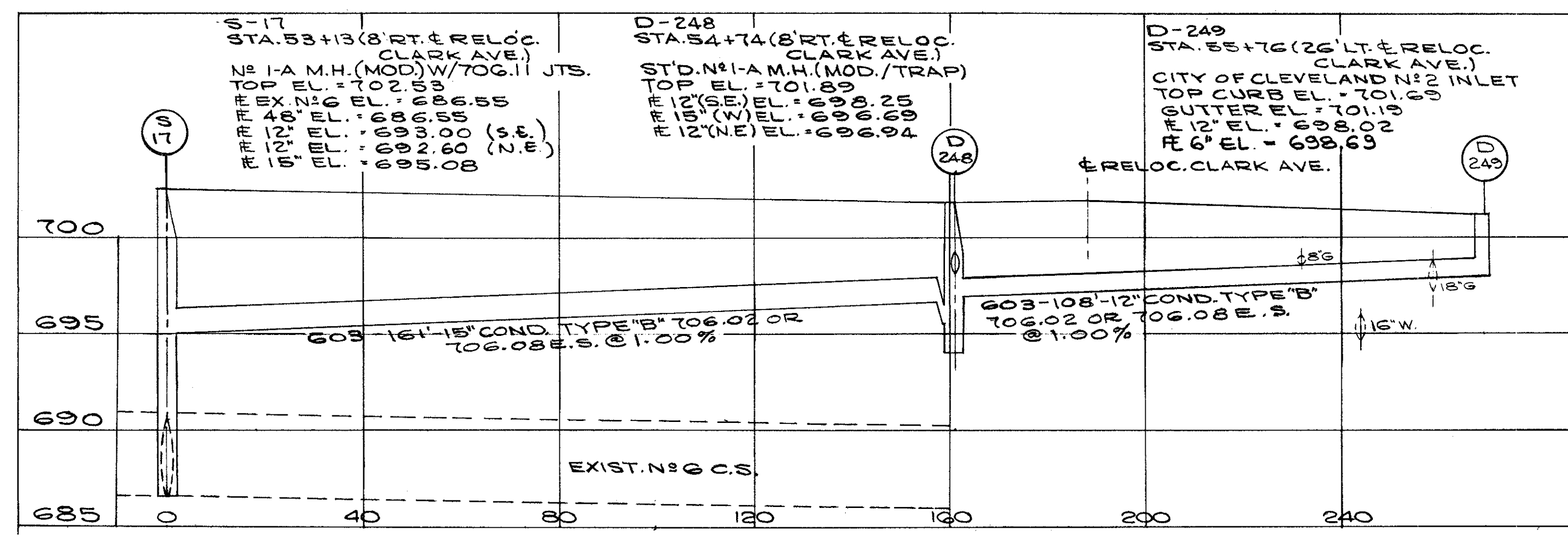
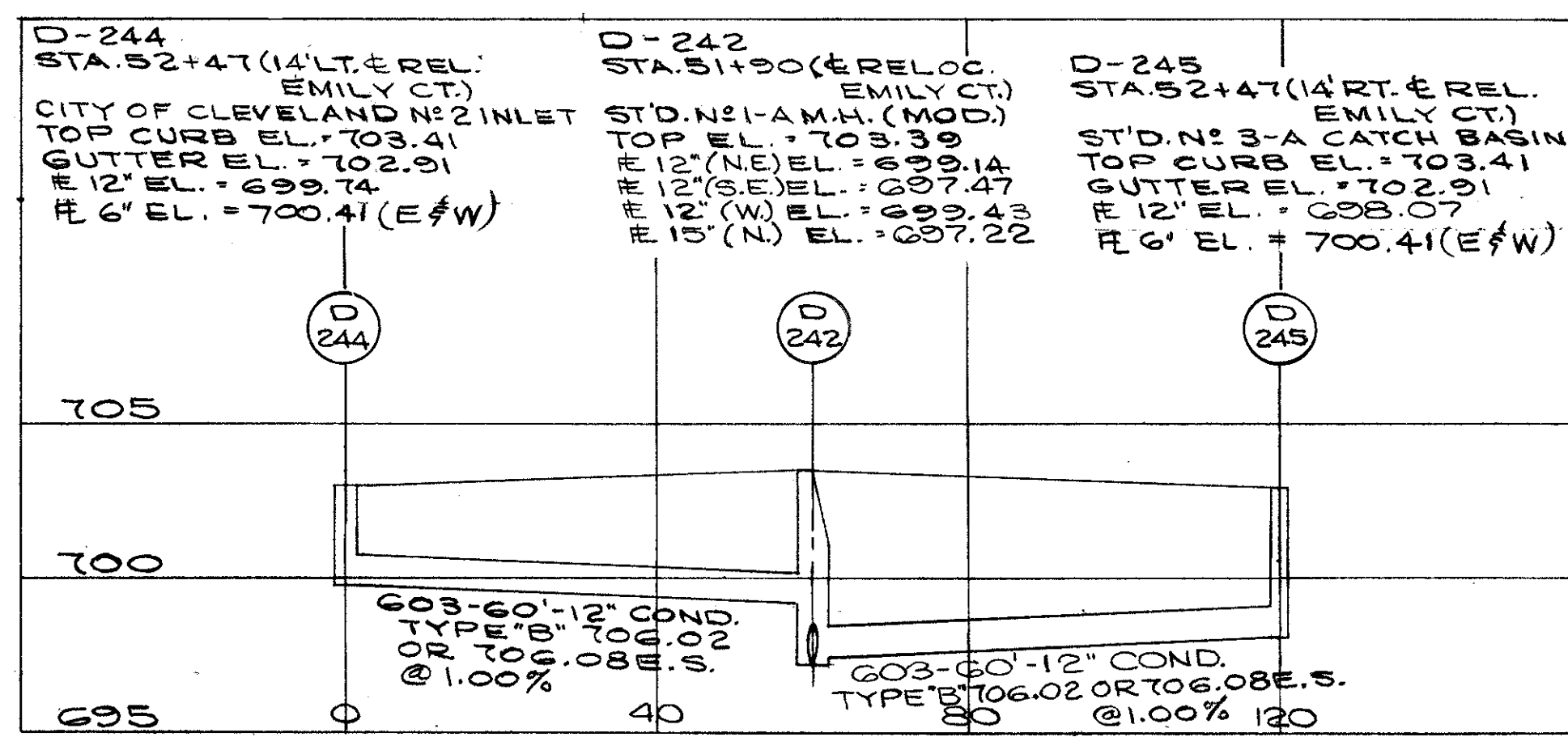
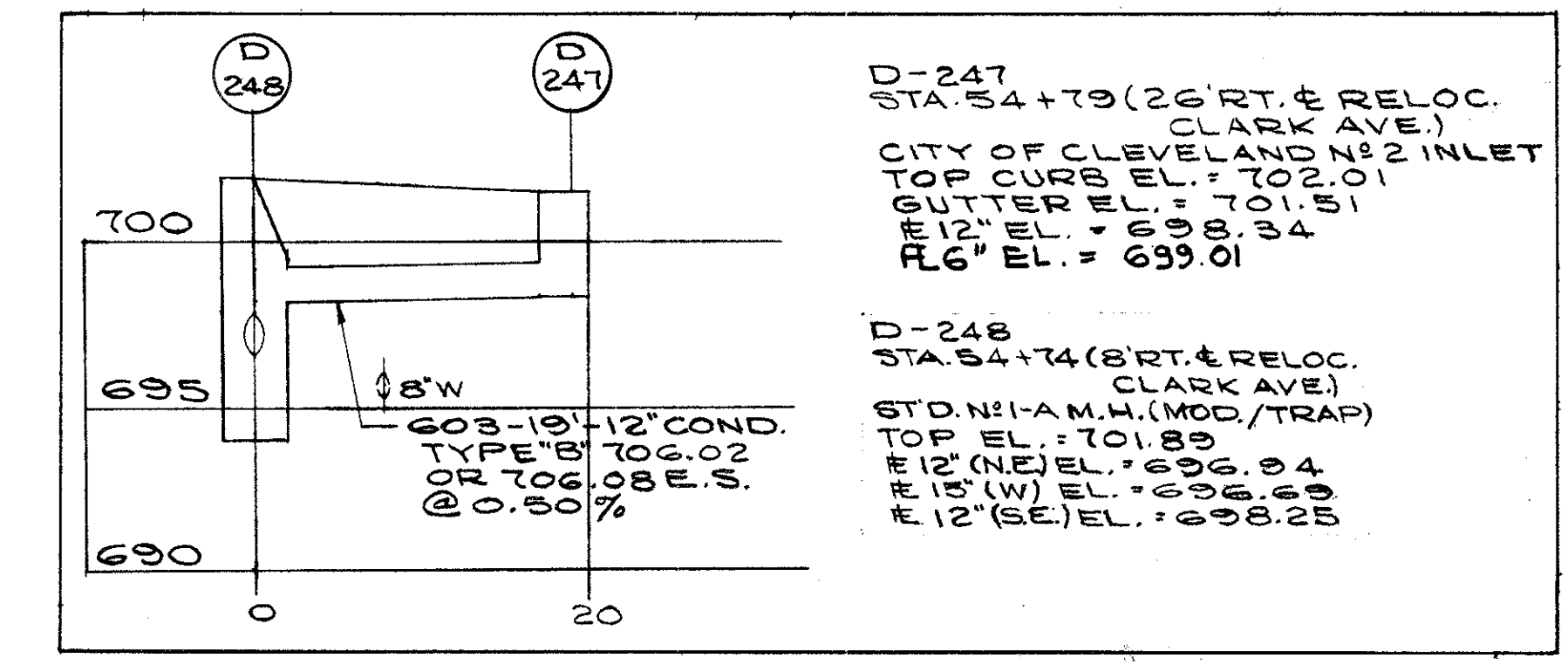
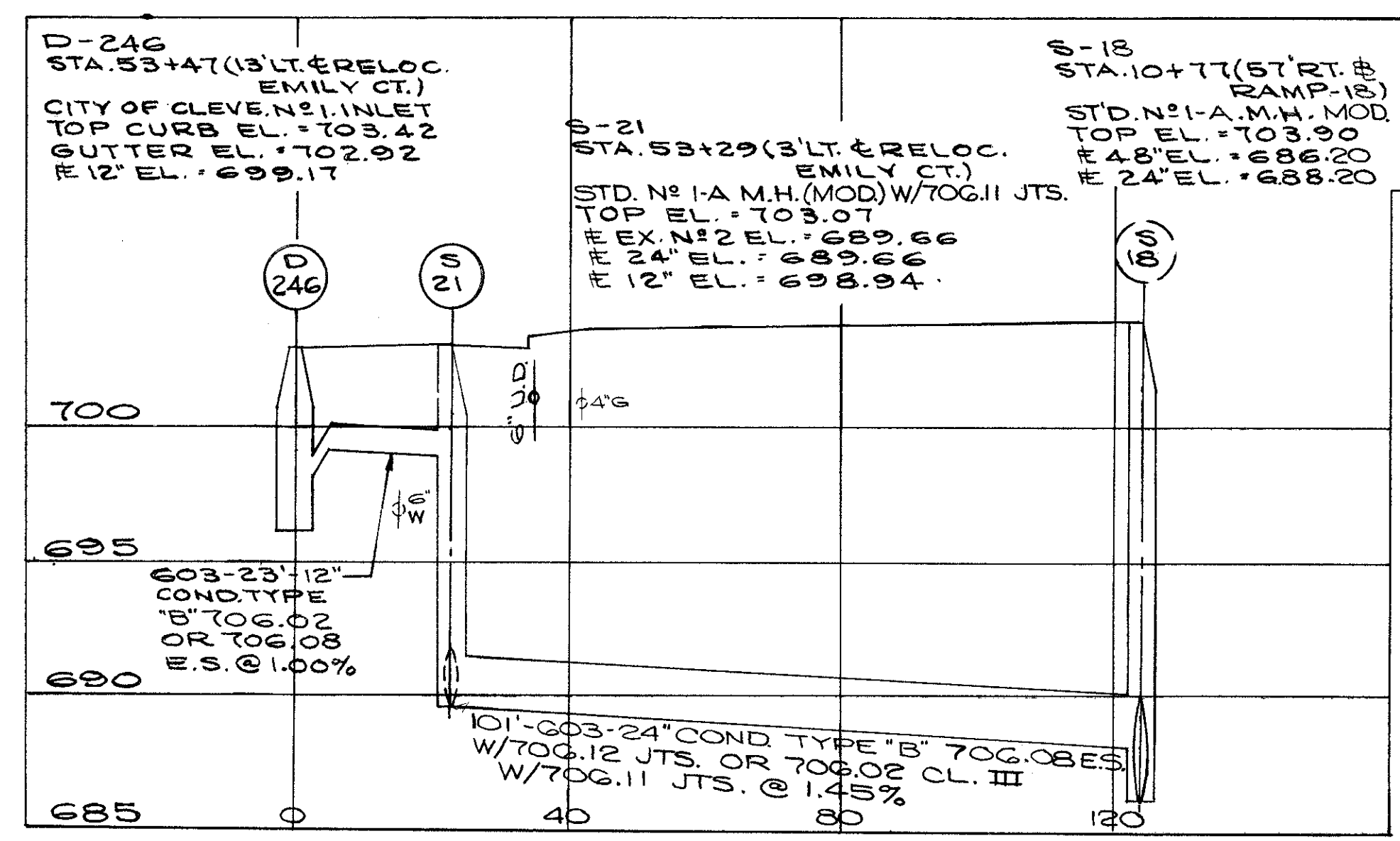
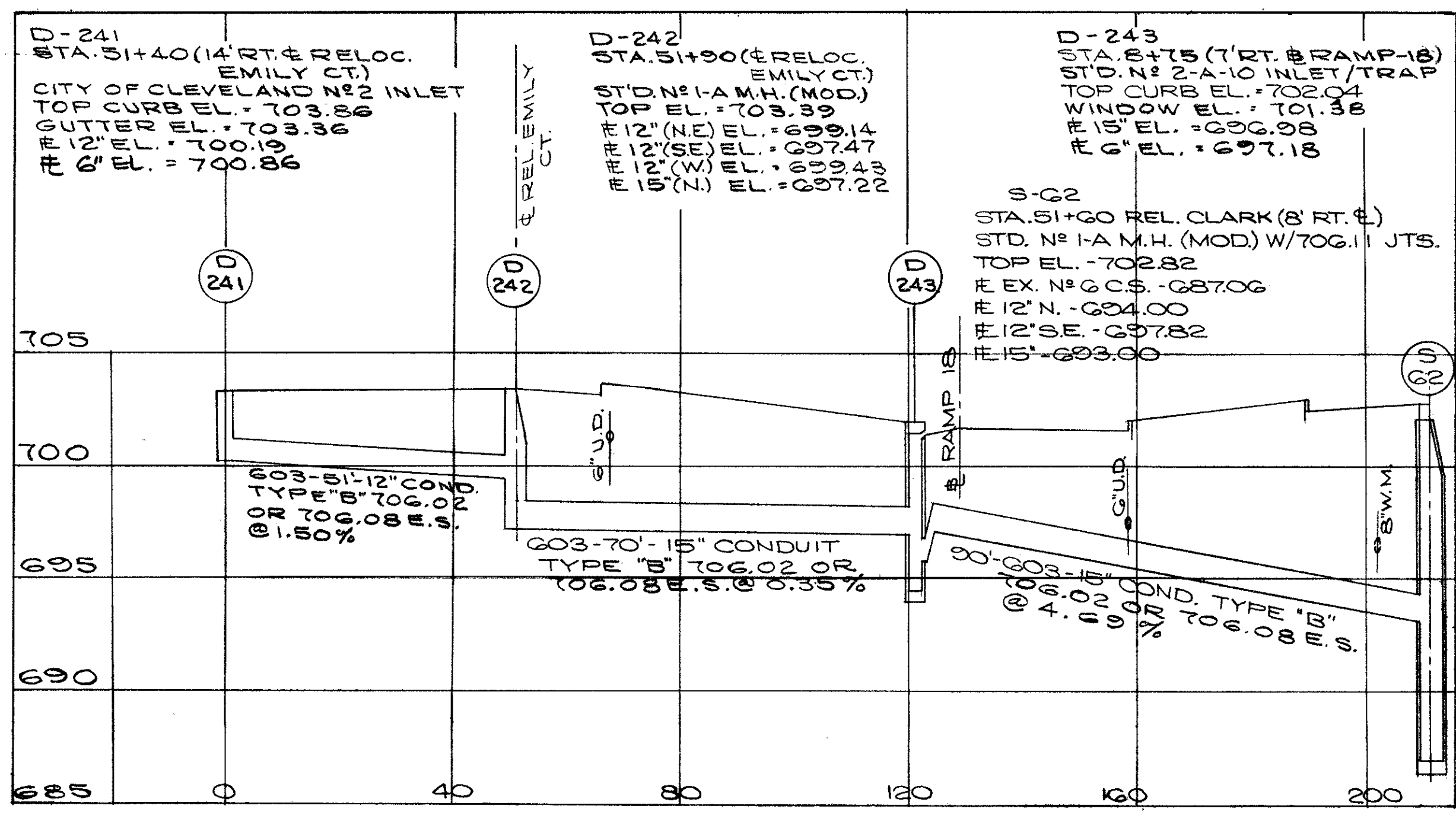
SEWER PROFILES



D-230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 235, 236, 239.  
S-13, 17, 62, 69.

CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY S.H.G. DATE 7/74

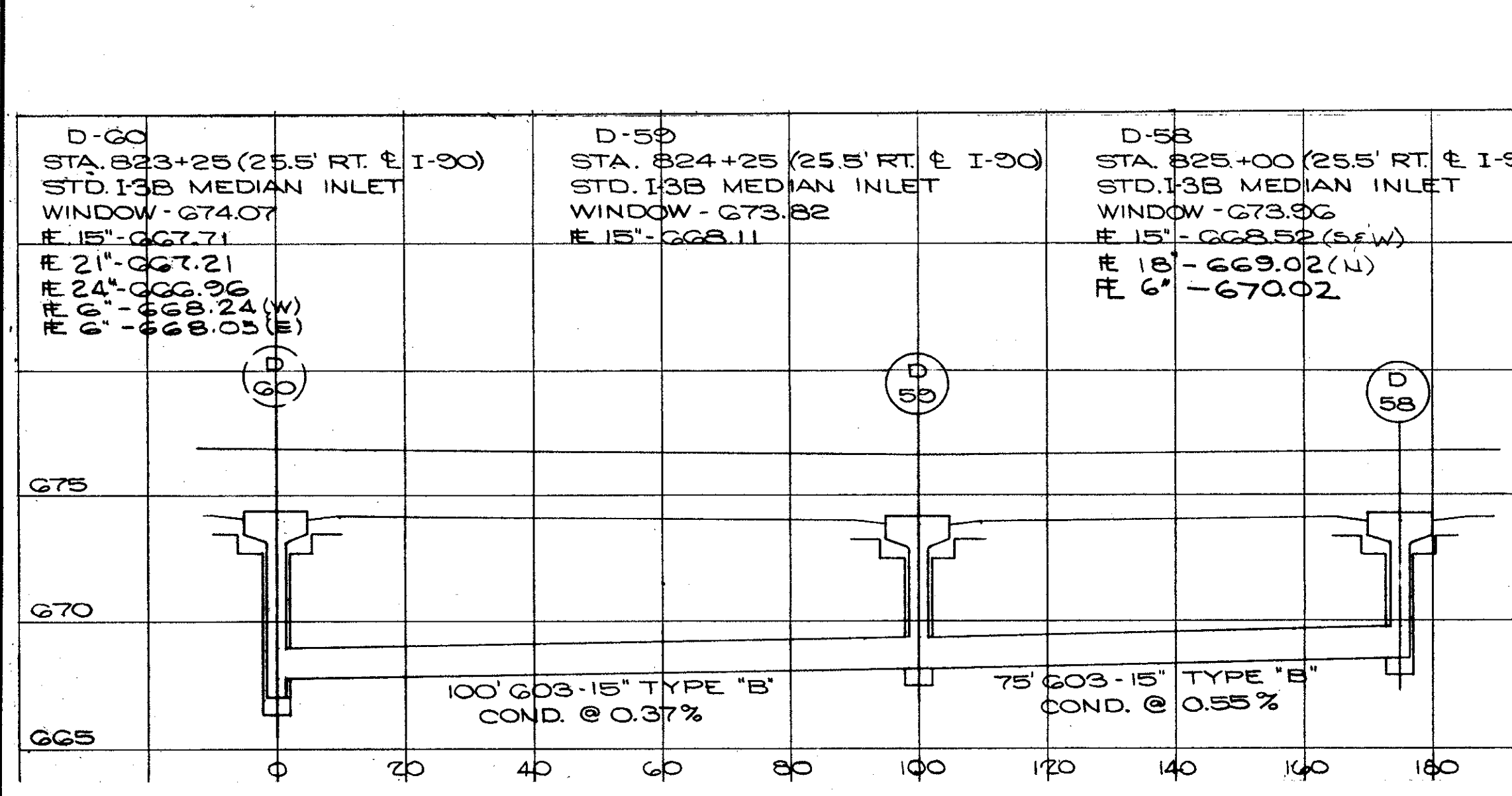
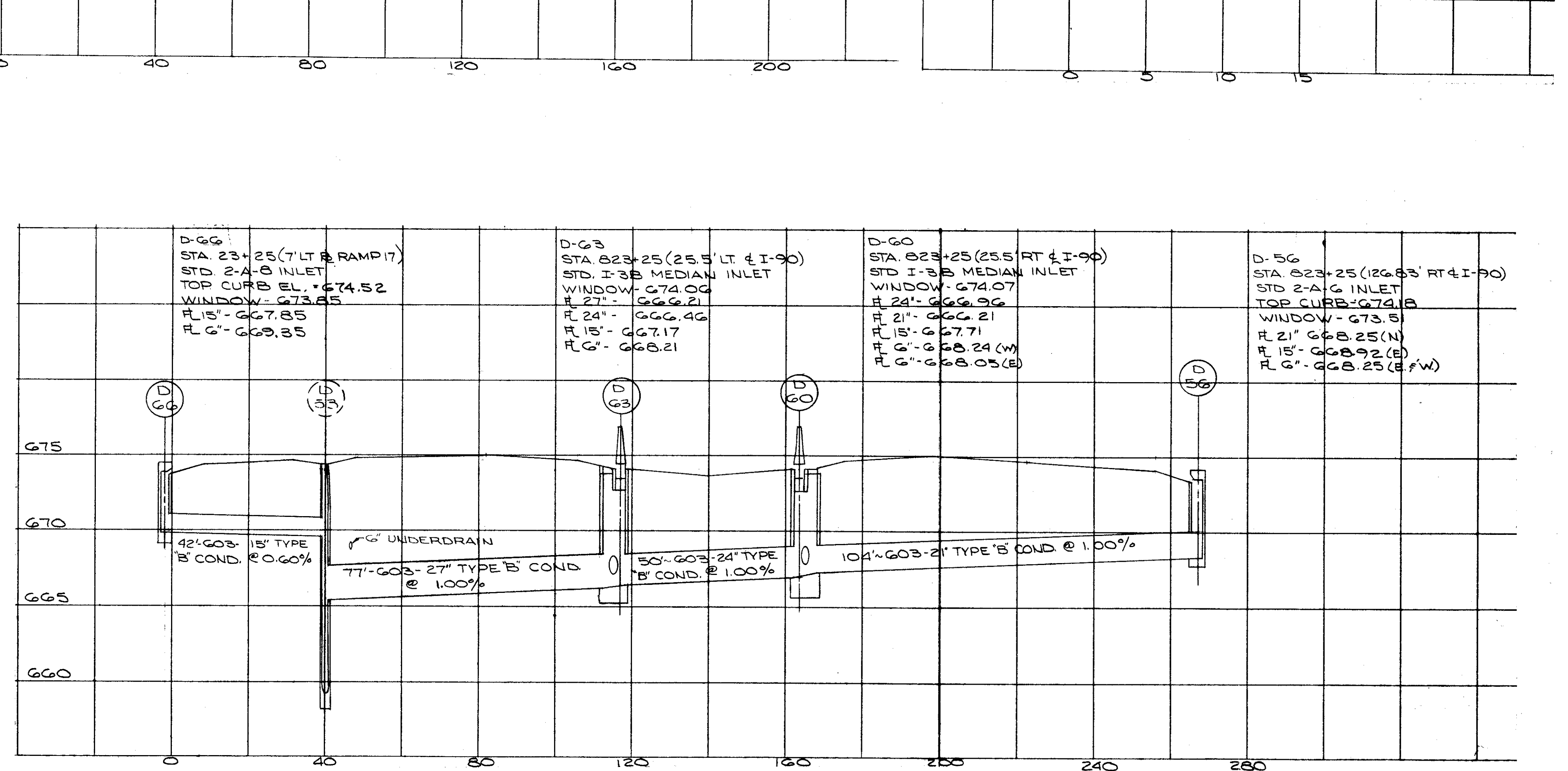
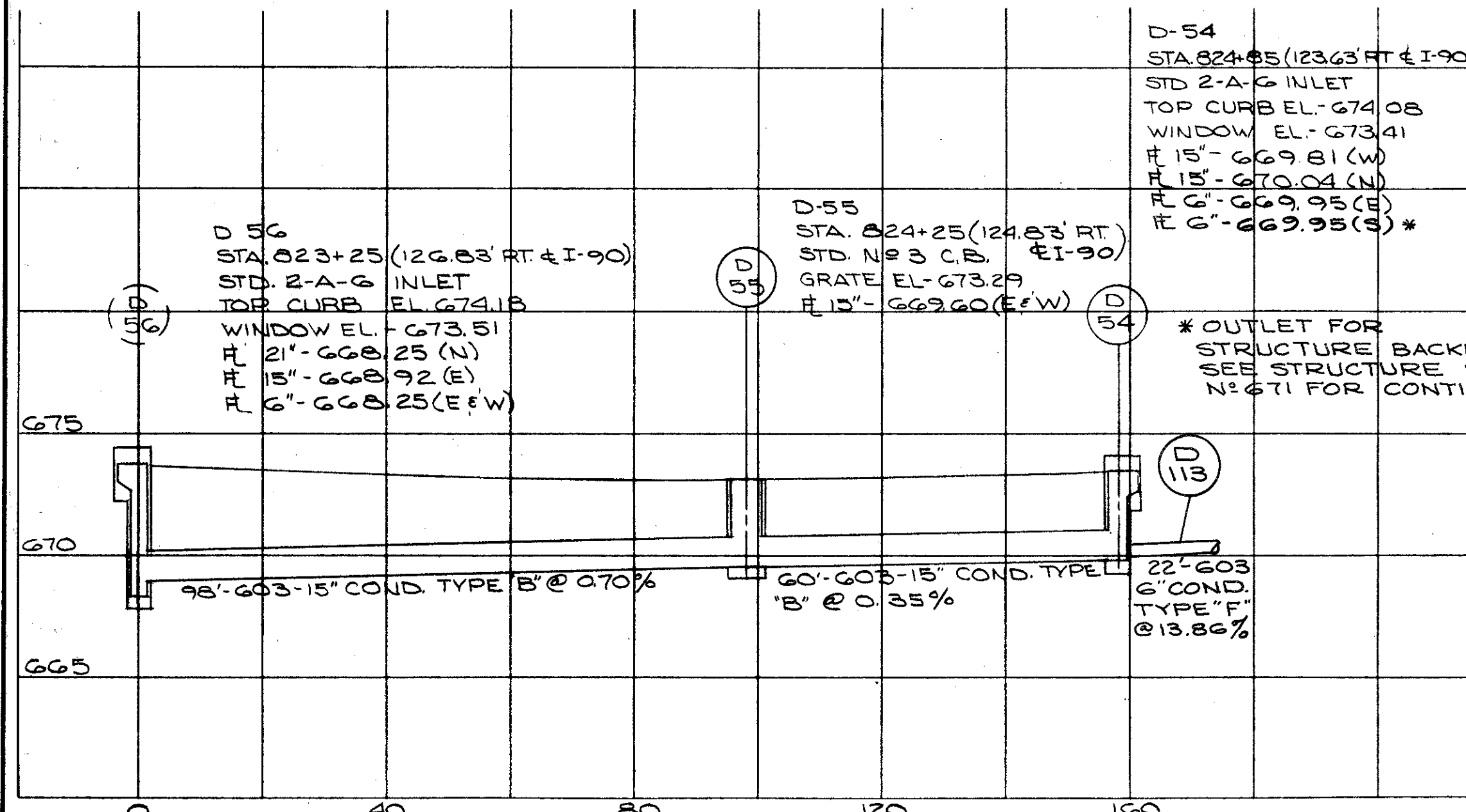
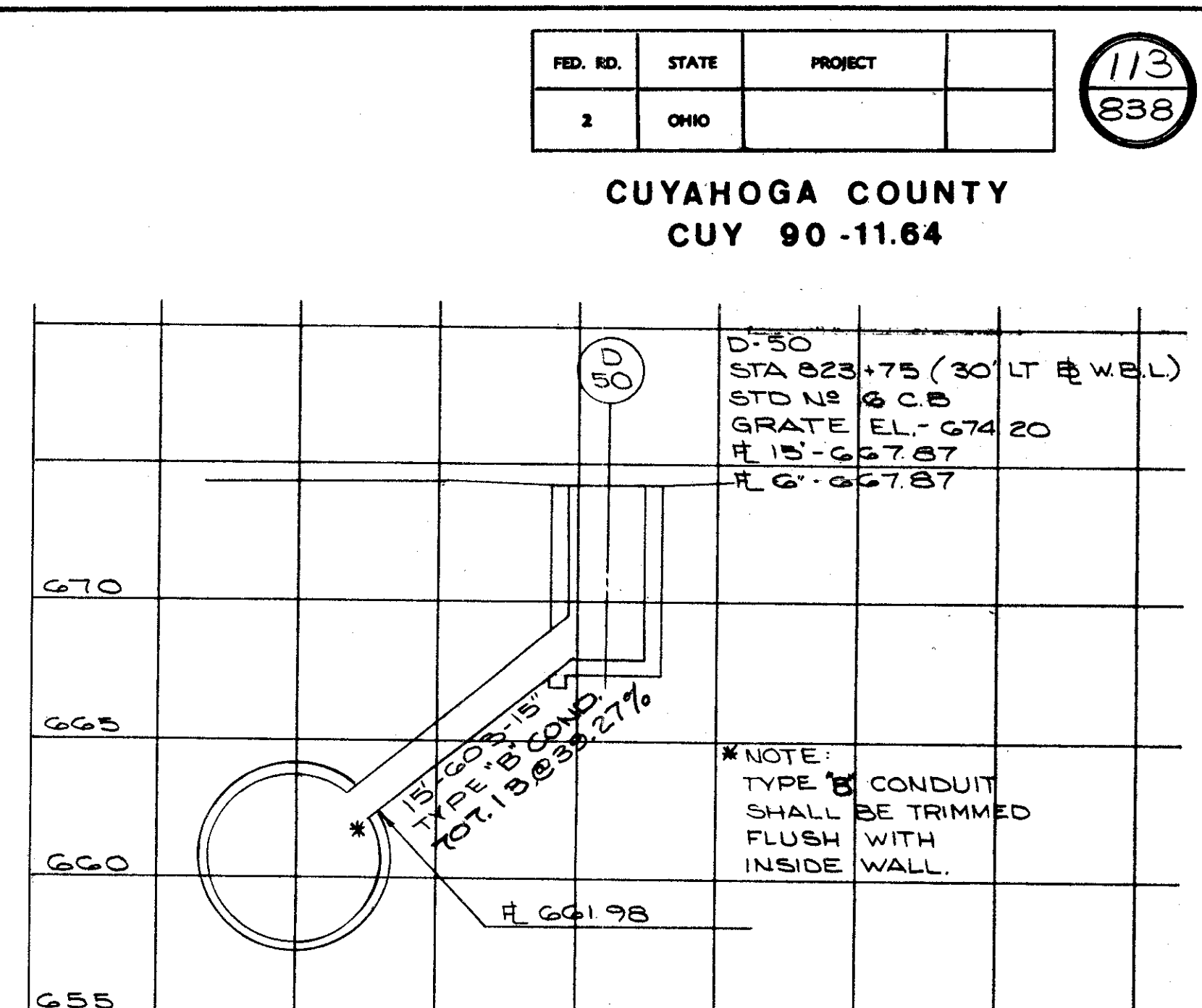
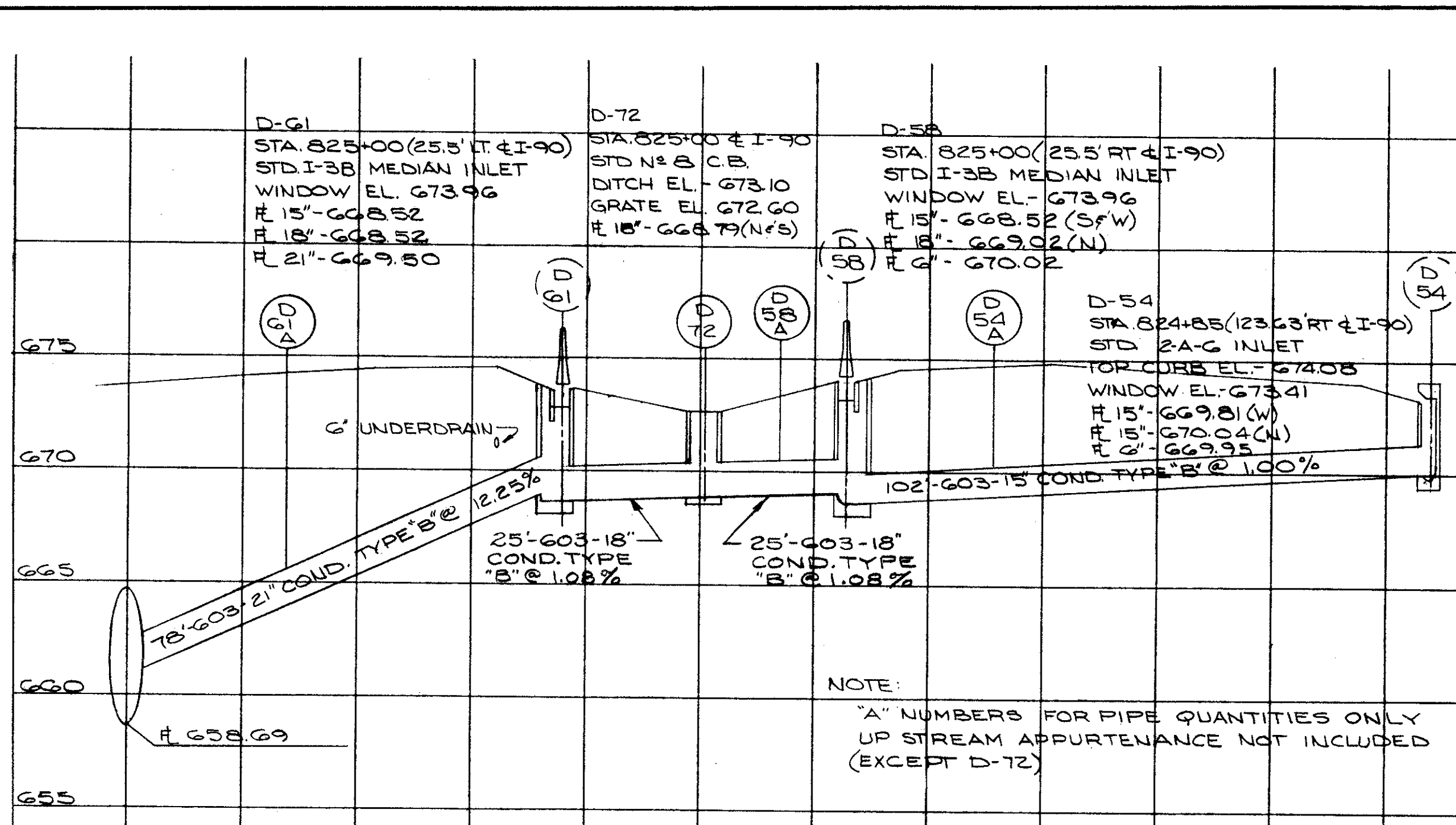
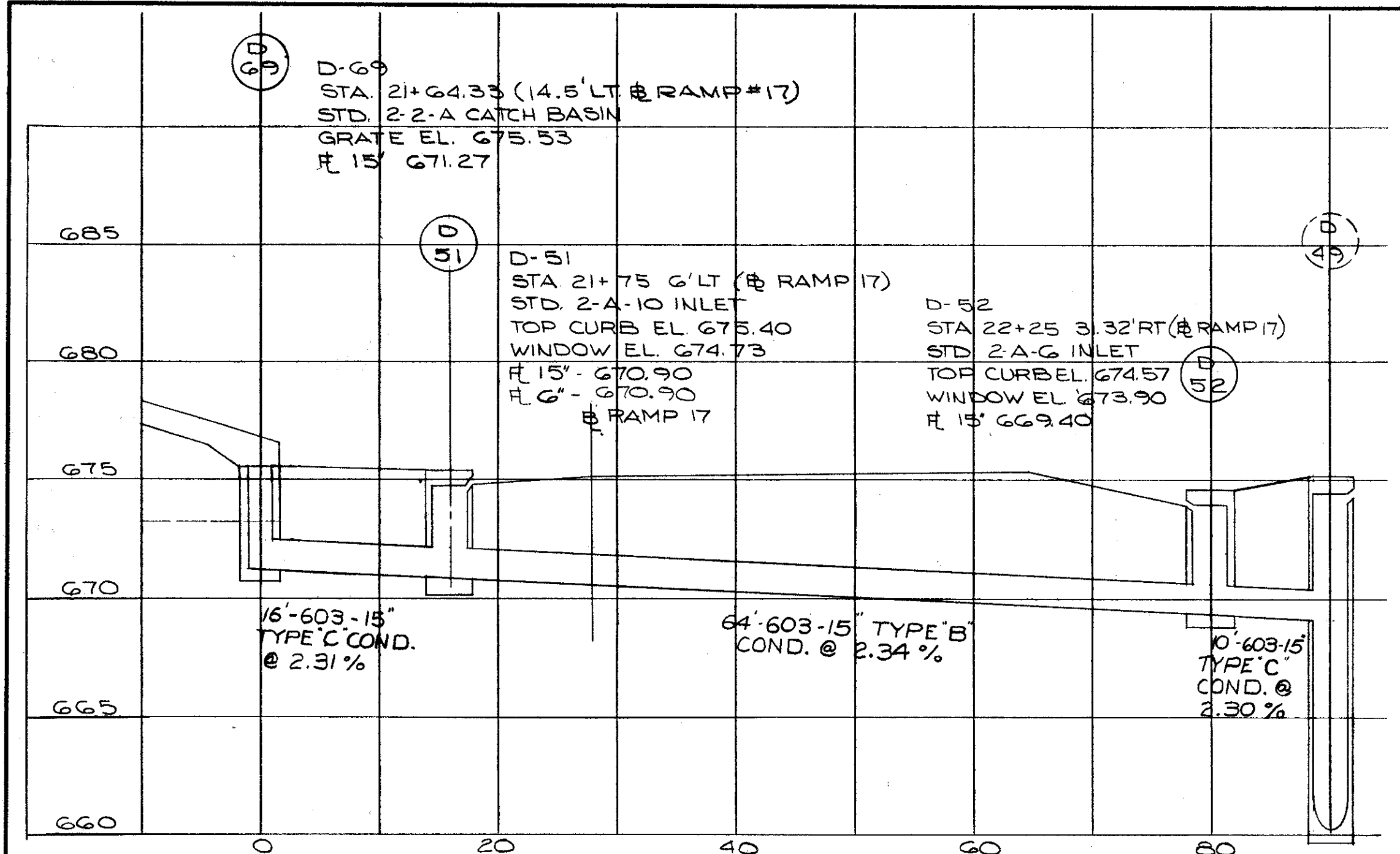
CUYAHOGA COUNTY  
CUY-90-11.64



CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74  
D-241, 242, 243, 244, 245, 246, 247, 248, 249, 286, 287, 288, 289, 290, S-17, 21, 62.

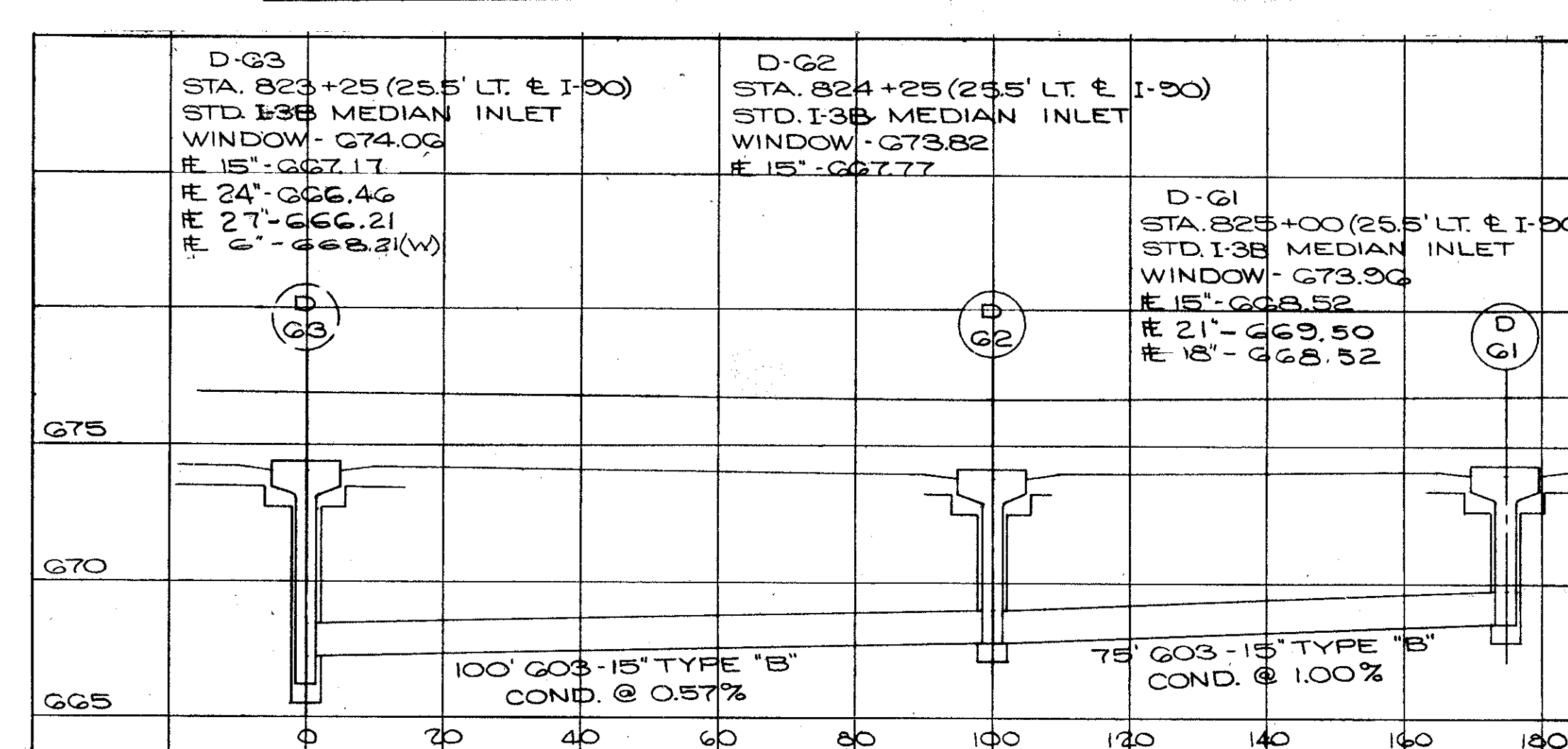
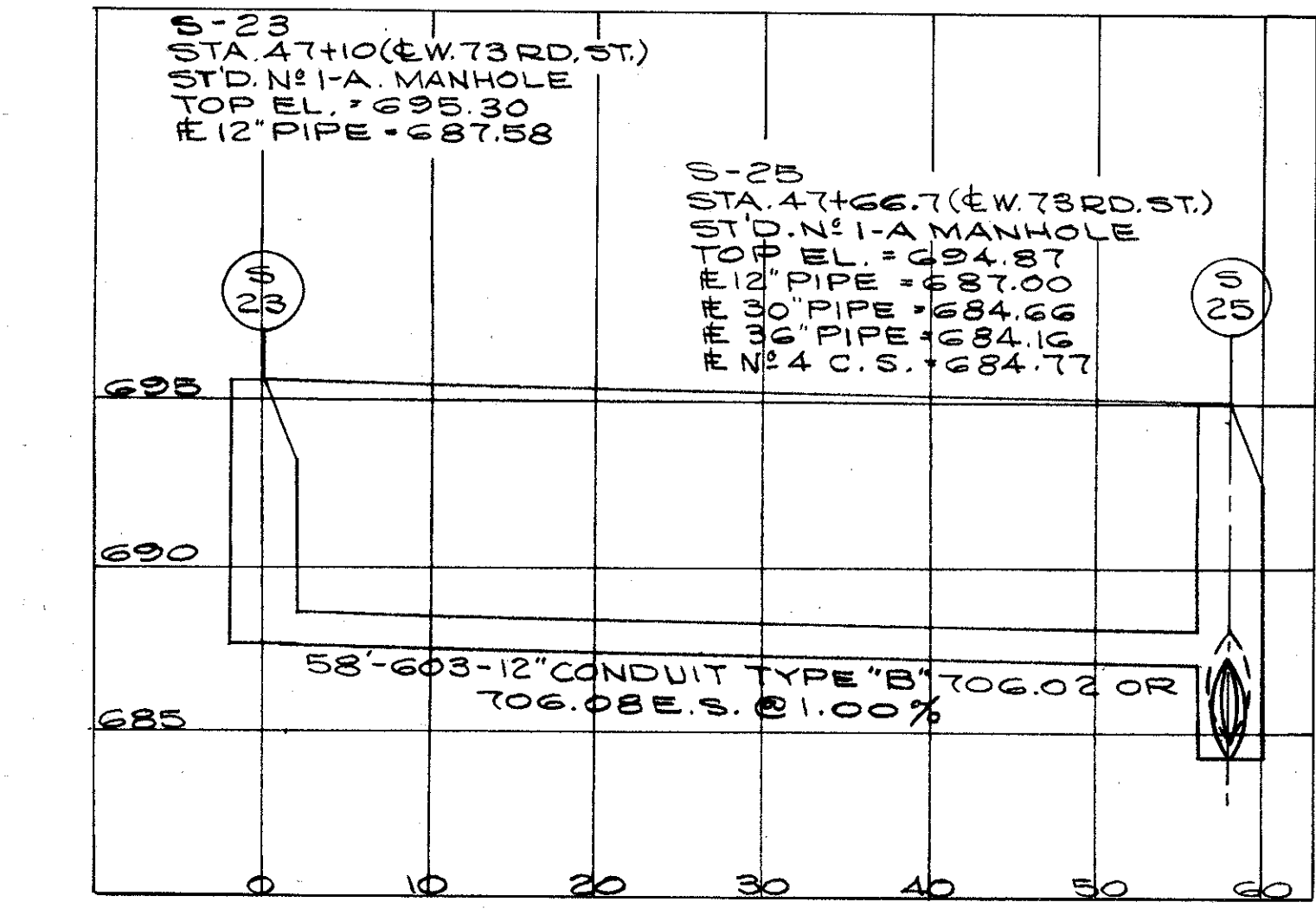
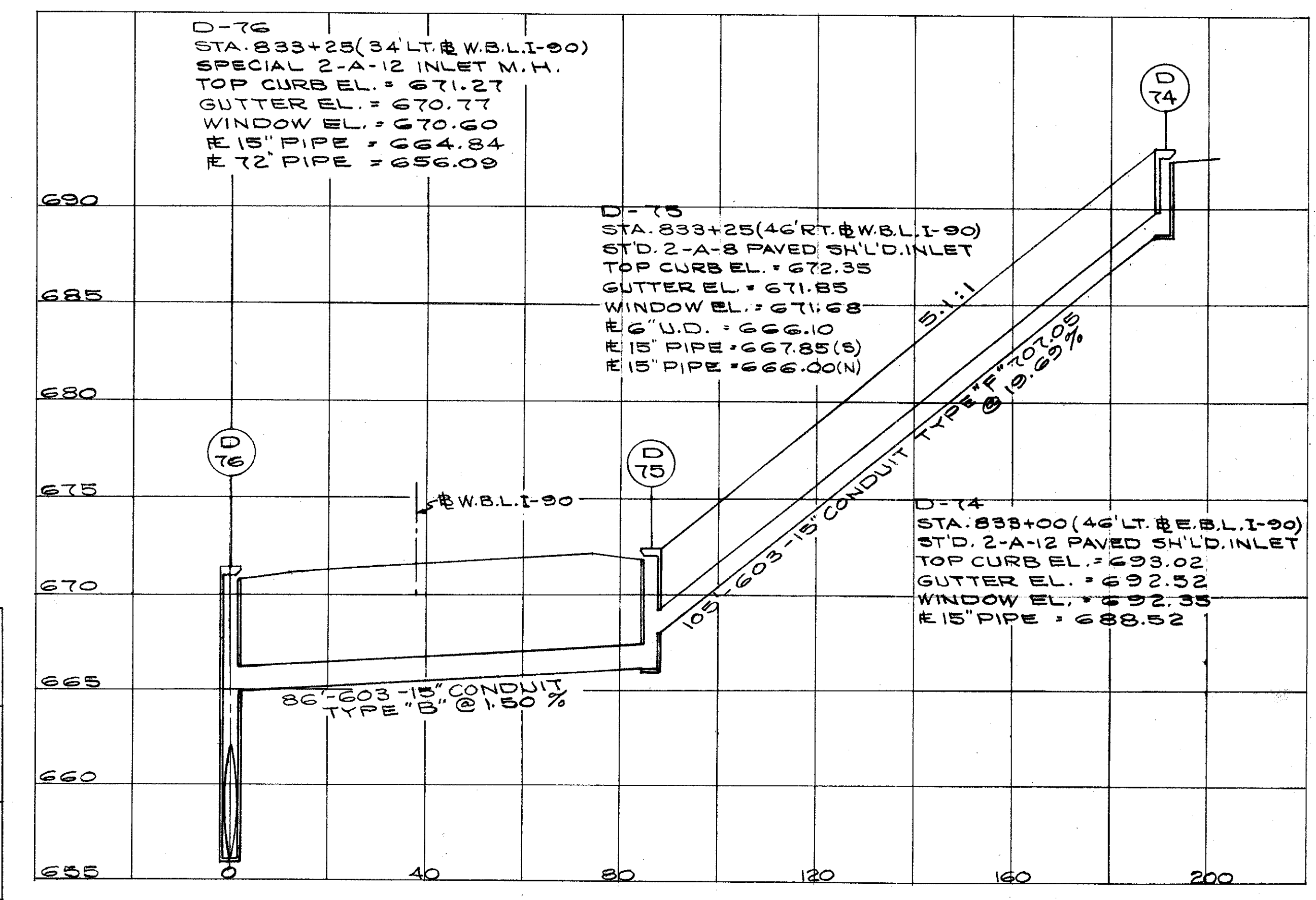
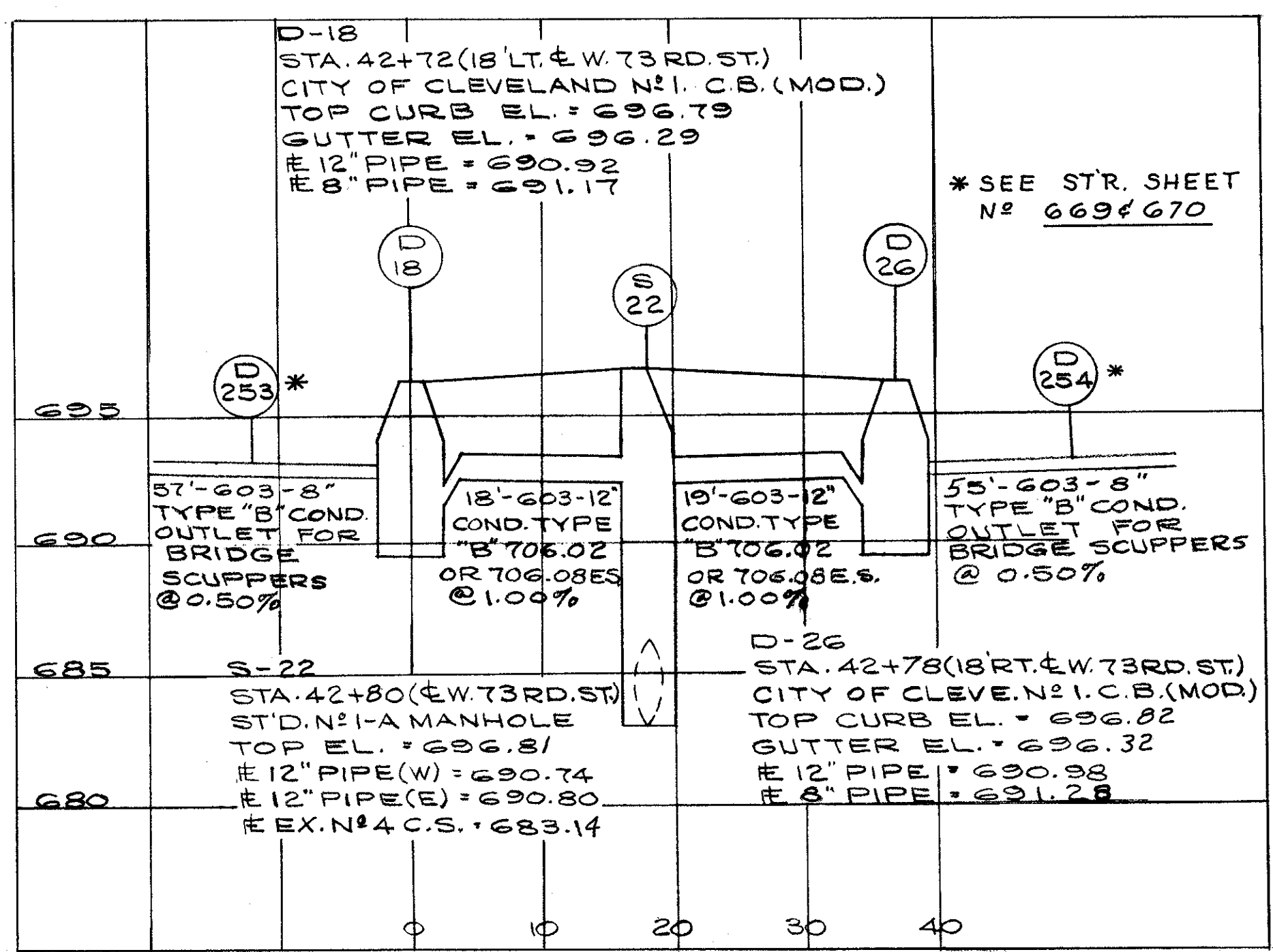
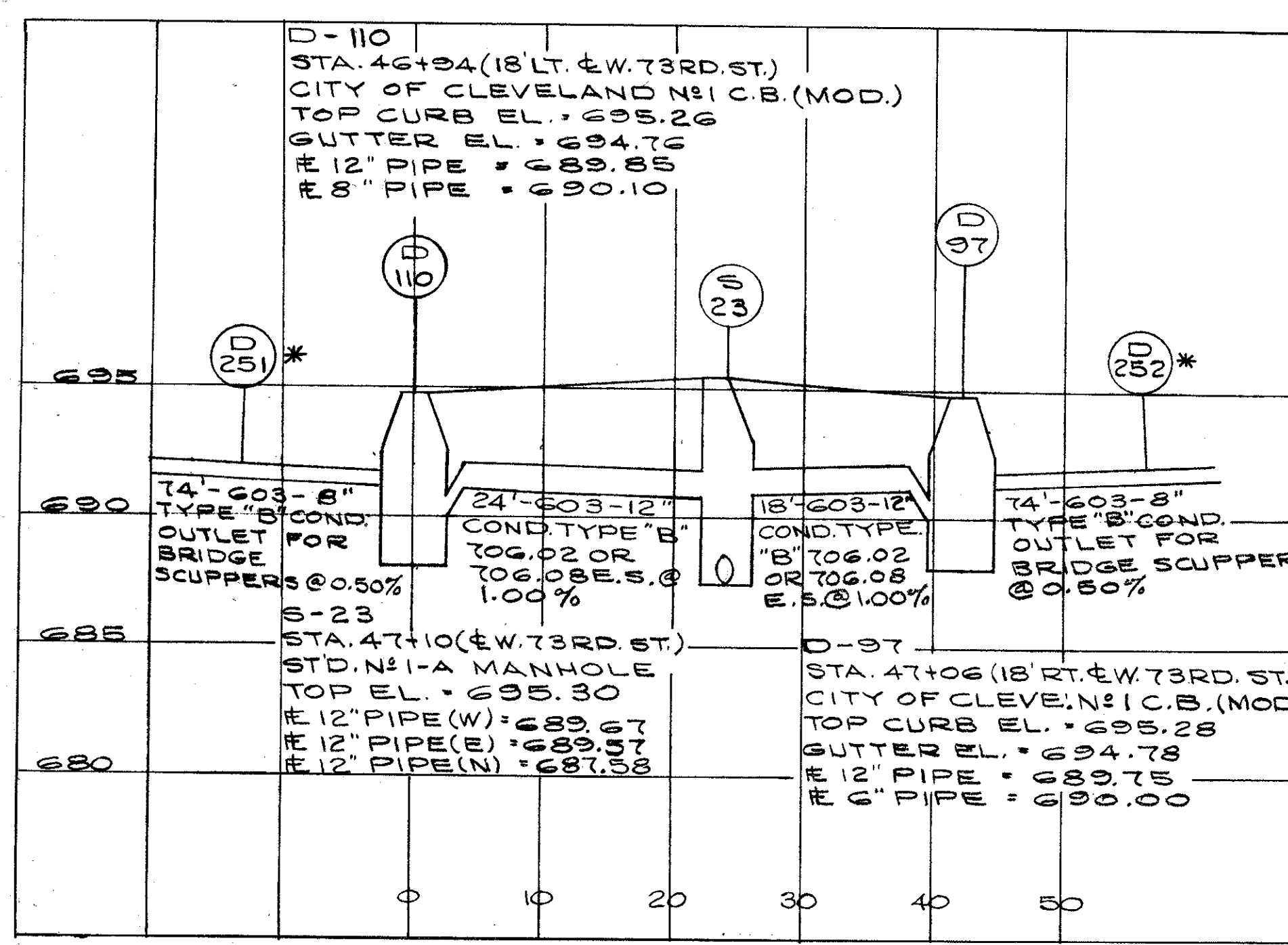
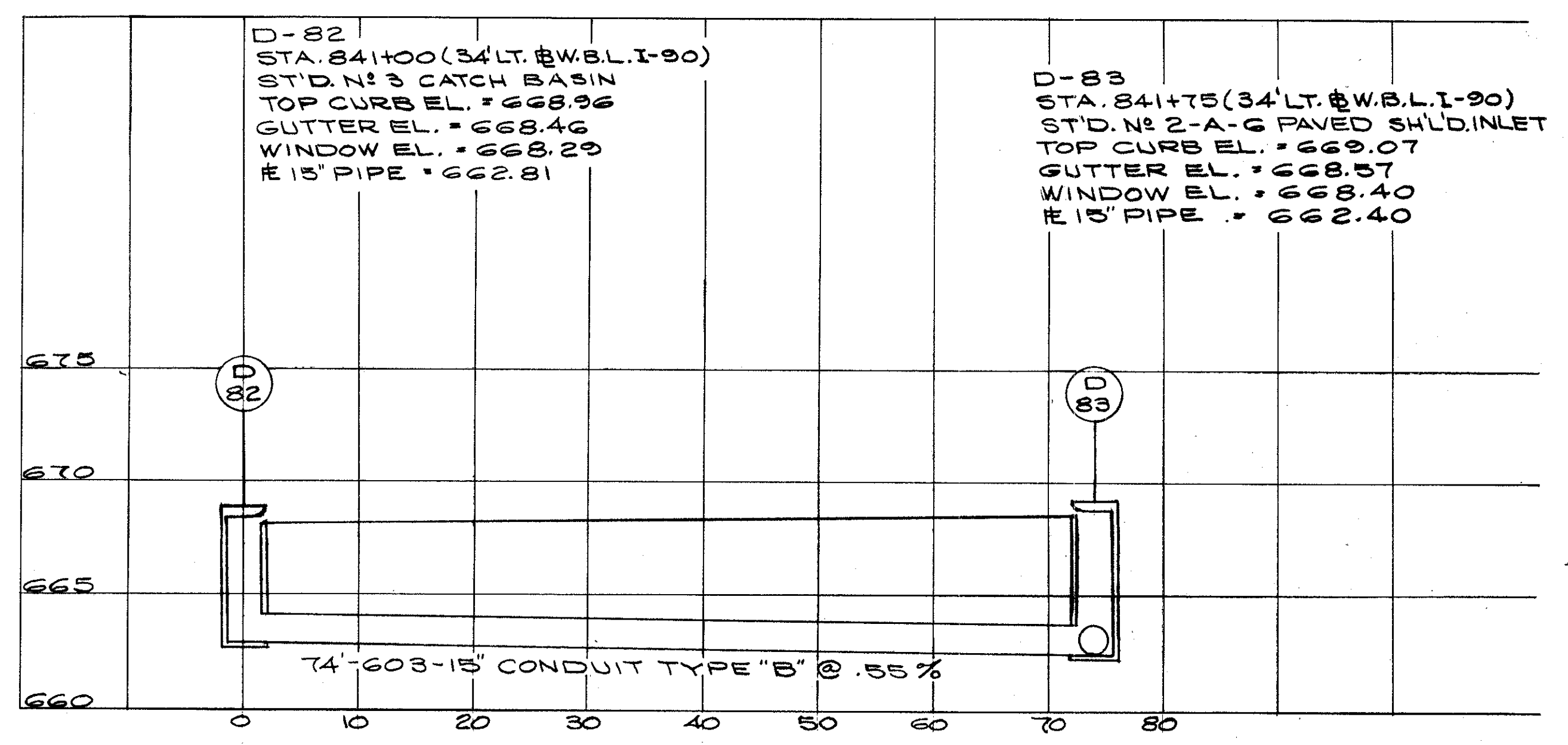
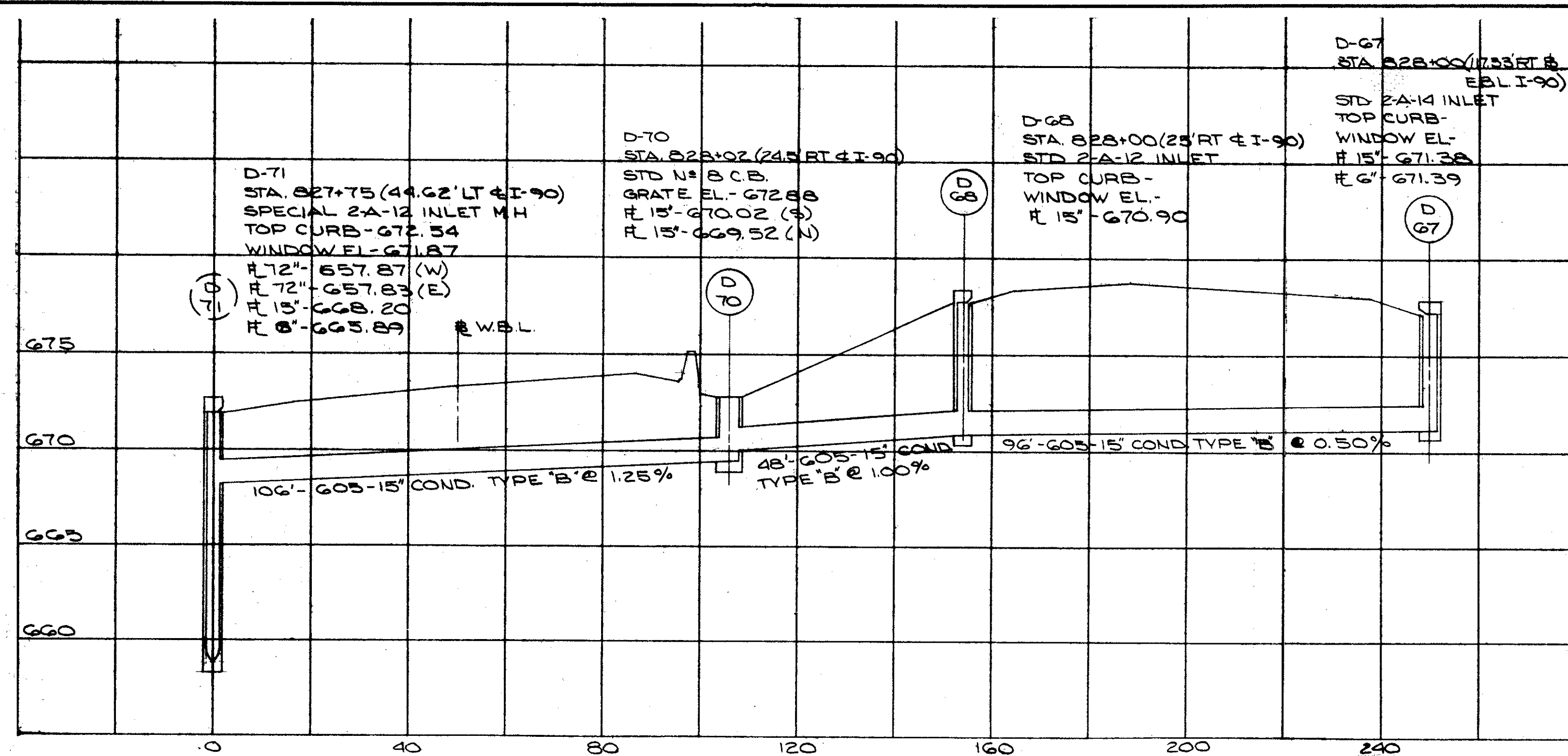


CUYAHOGA COUNTY  
CUY 90-11.64



D-50-51-52-54-54A-55-56-58-58A  
D-60-61-63-66-69-72.

CUYAHOGA COUNTY  
CUY - 90 - 11.64

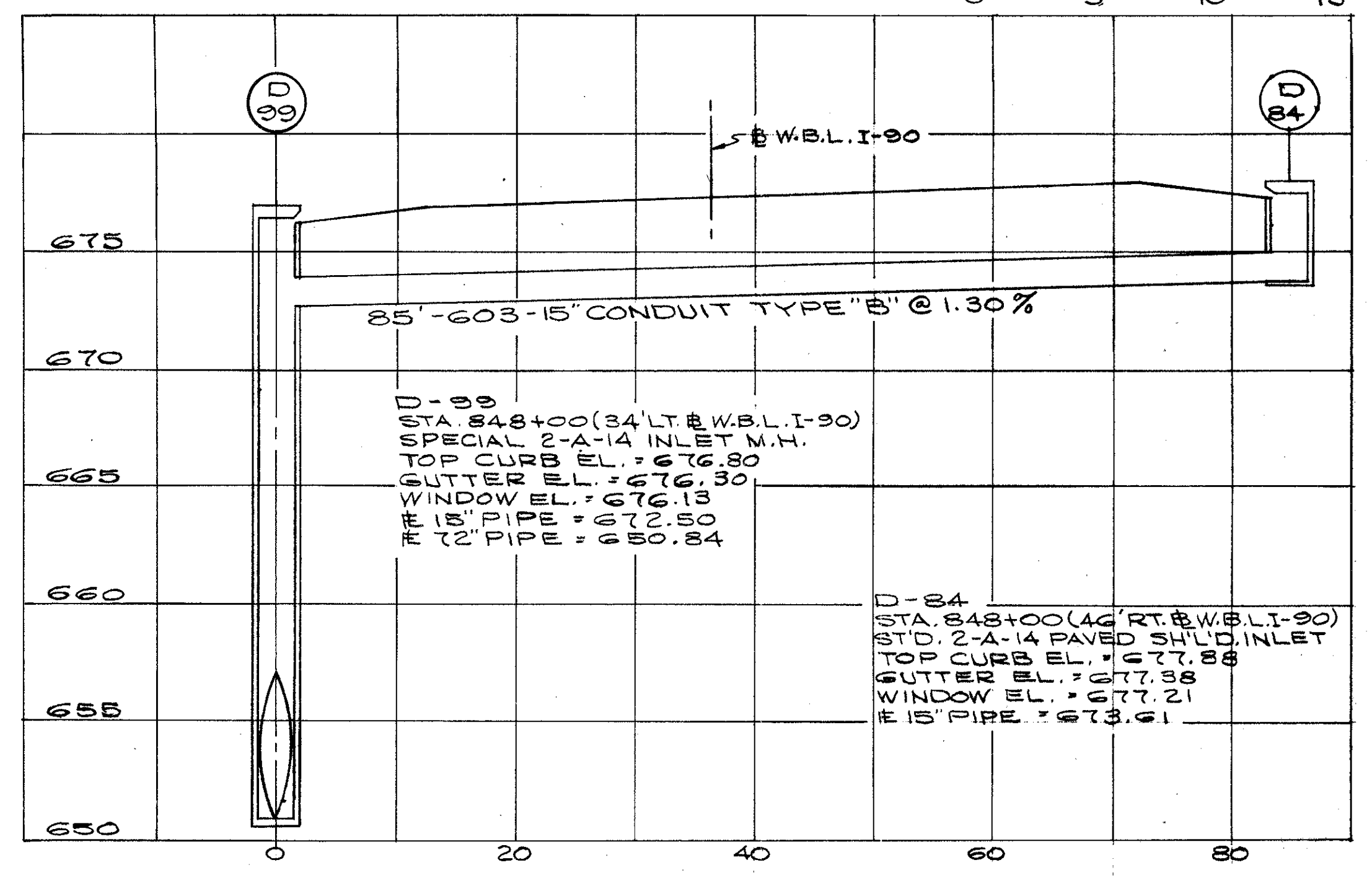
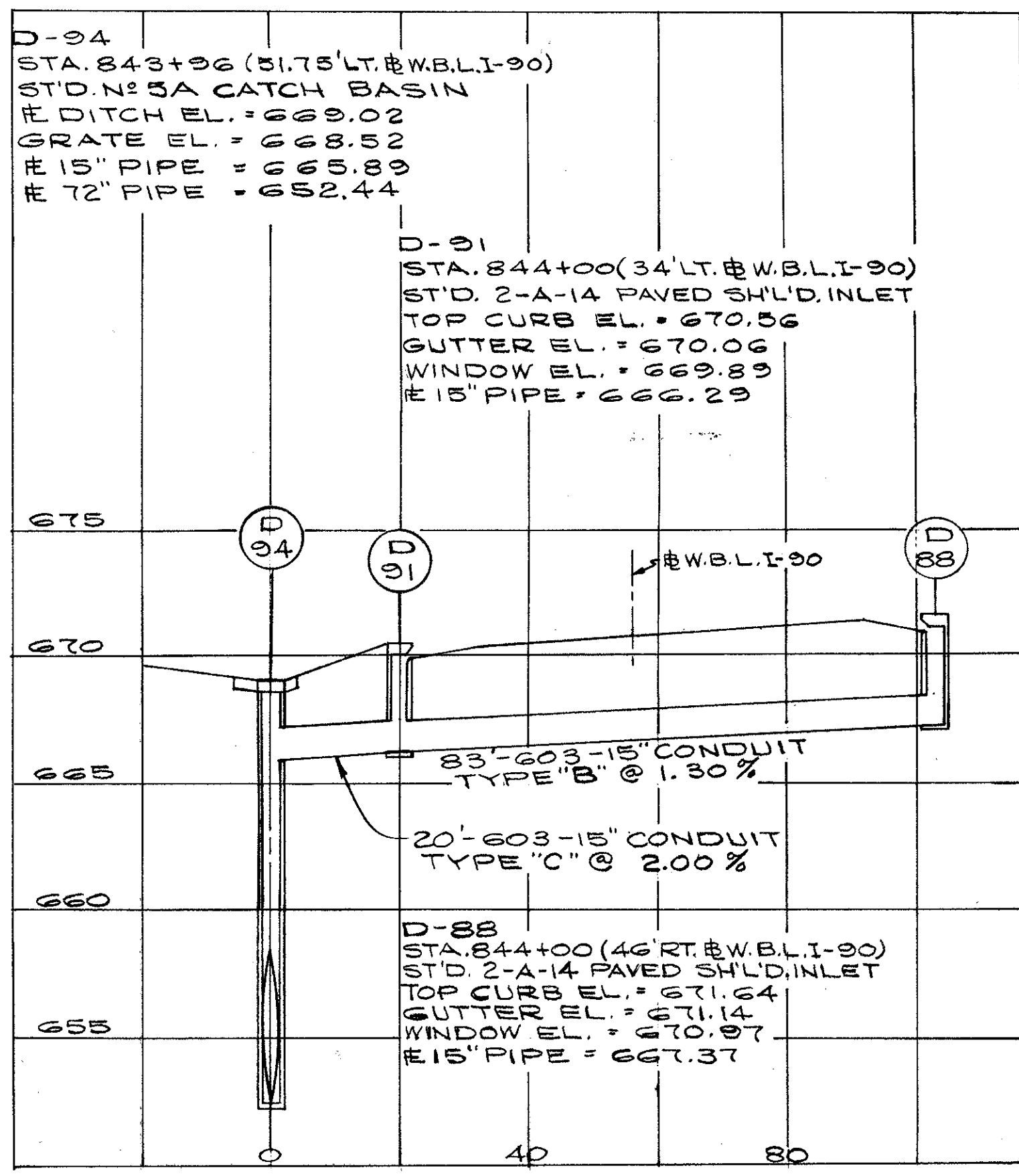
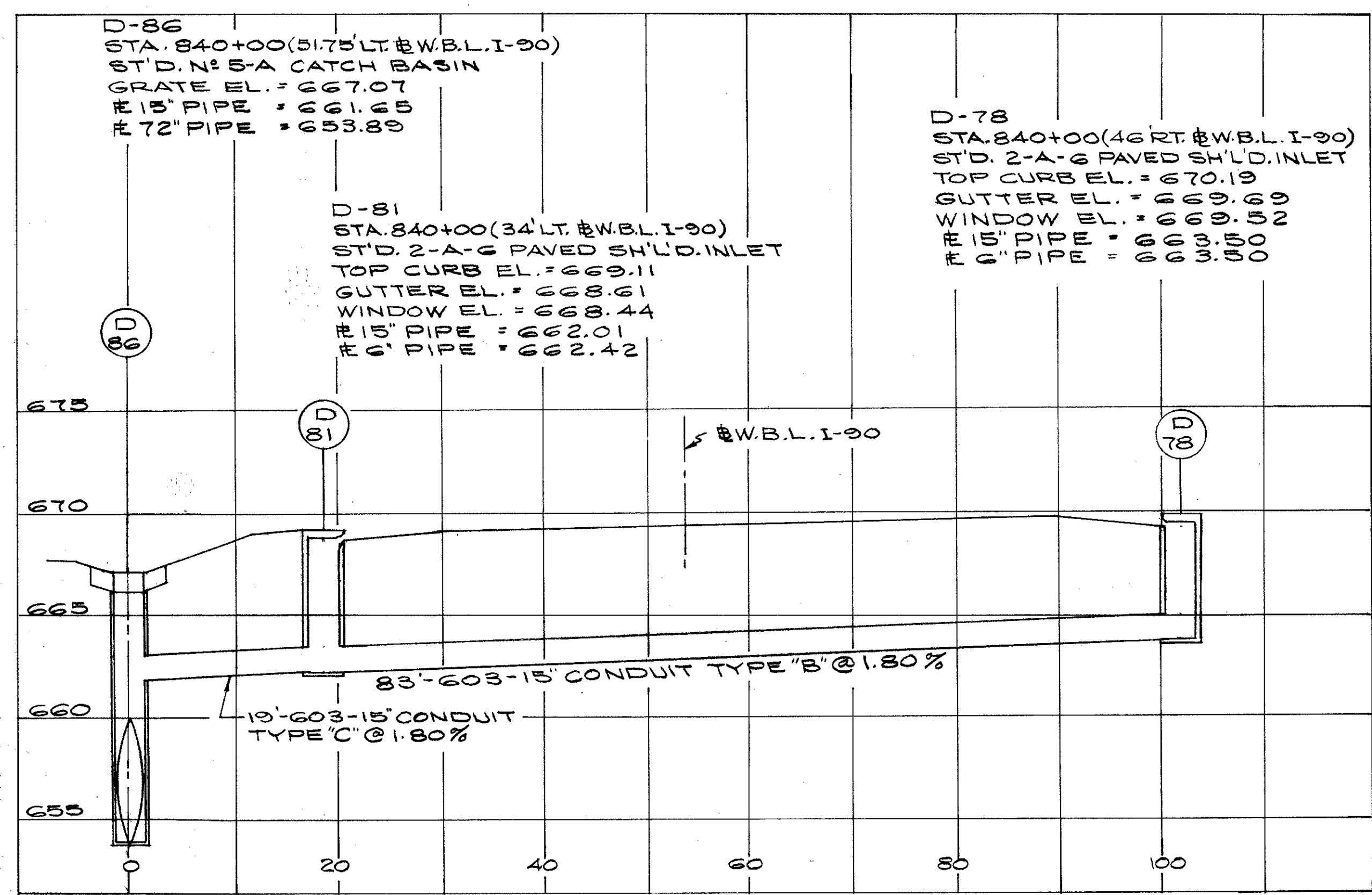
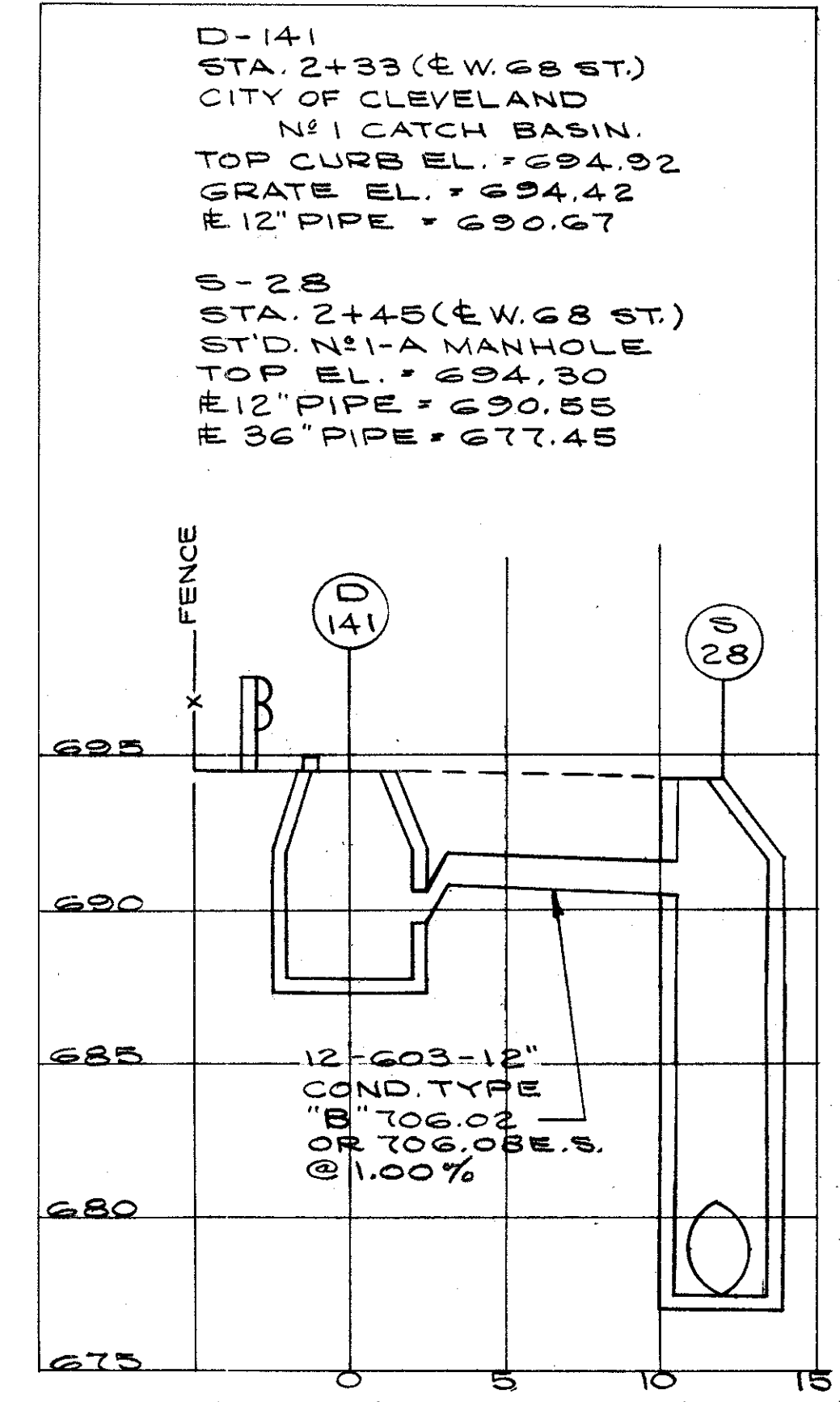
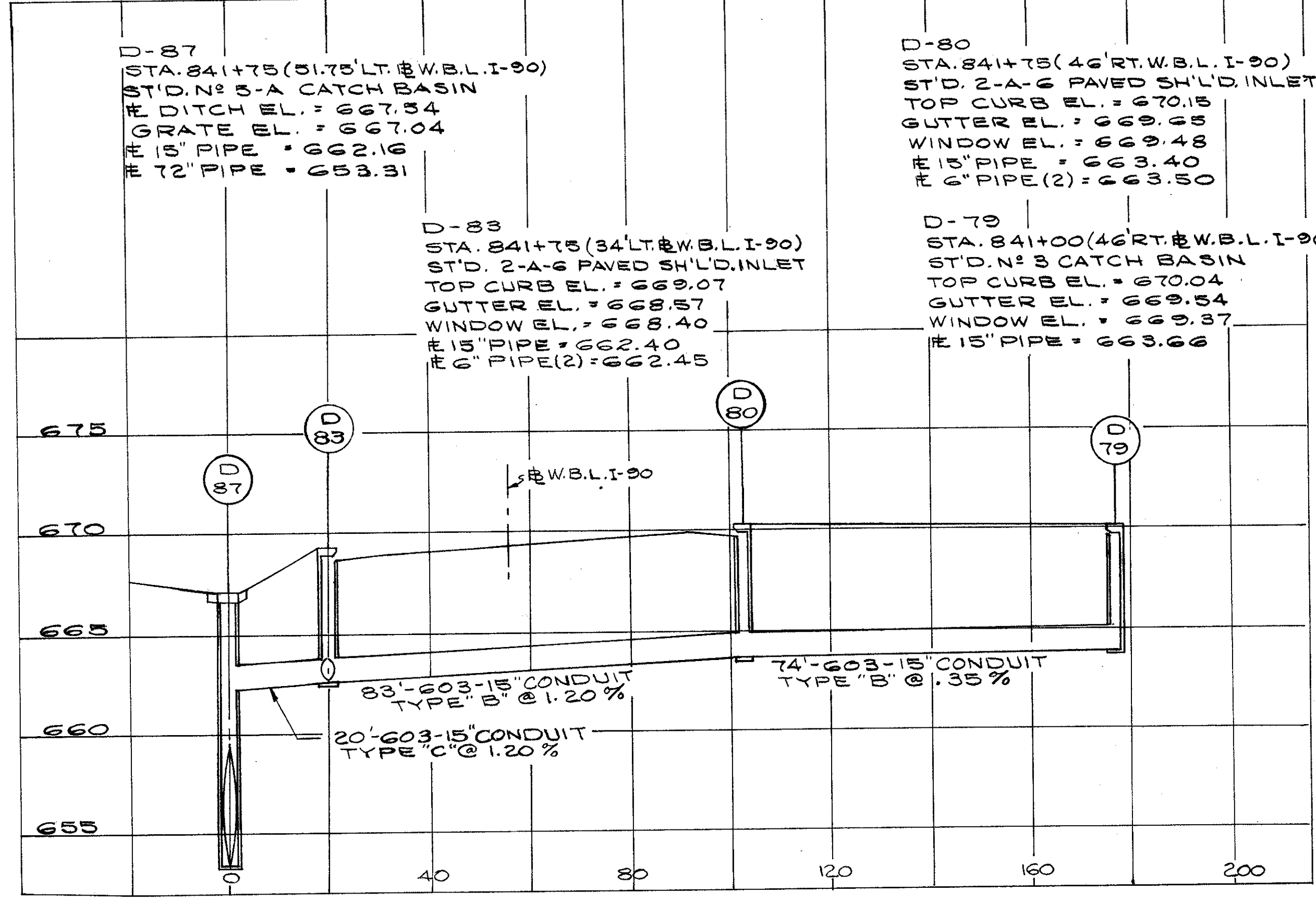
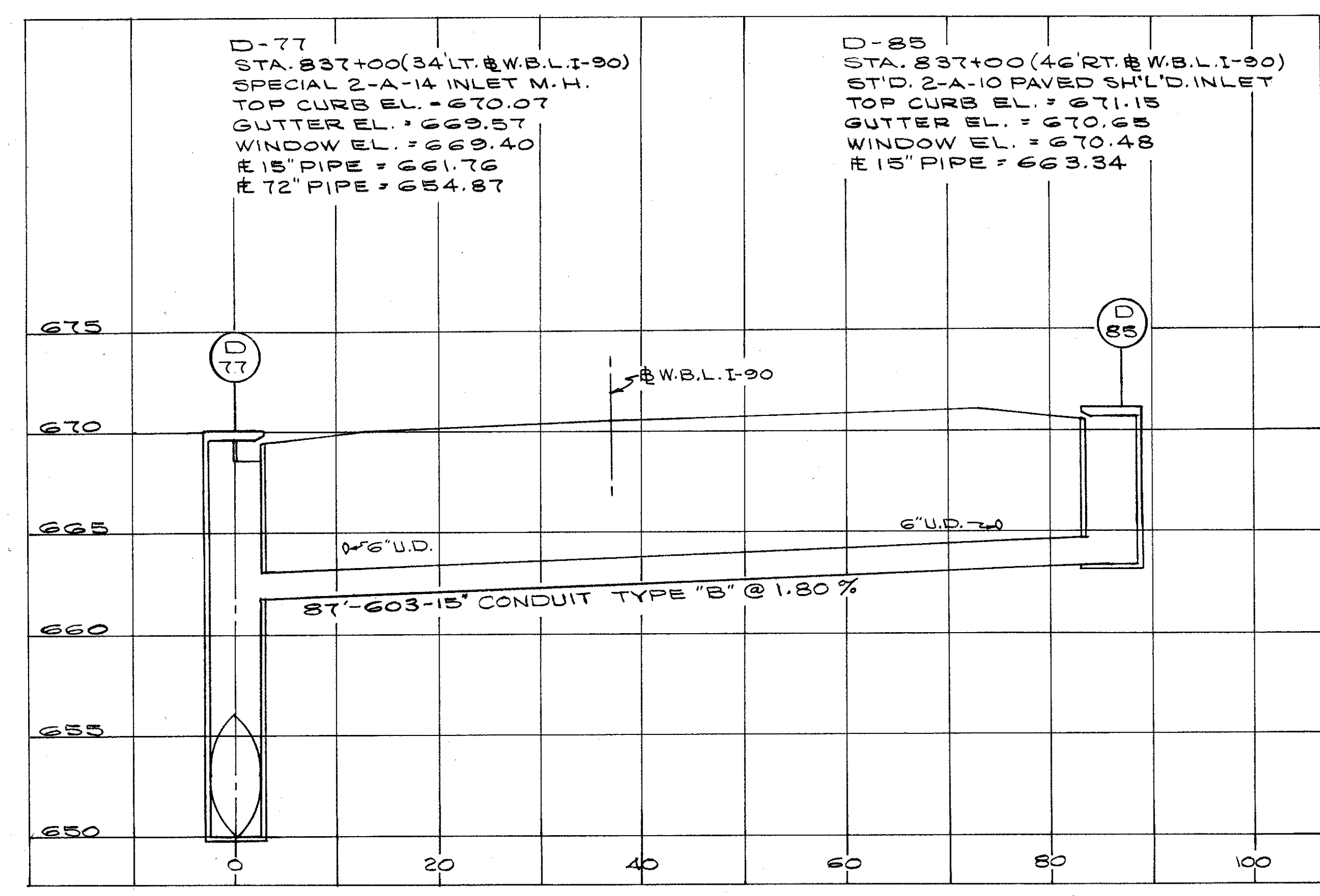


D-18, 26, 61, 62, 63, 67, 68,  
70, 71, 74, 75, 76, 82, 83, 97,  
110, 251, 252, 253, 254,  
S-22, 23, 25.

CALCULATED BY BEK. DATE 10/73  
CHECKED BY S.H.G. DATE 4/74

SEWER PROFILES

CUYAHOGA COUNTY  
CUY - 90 - 11.64

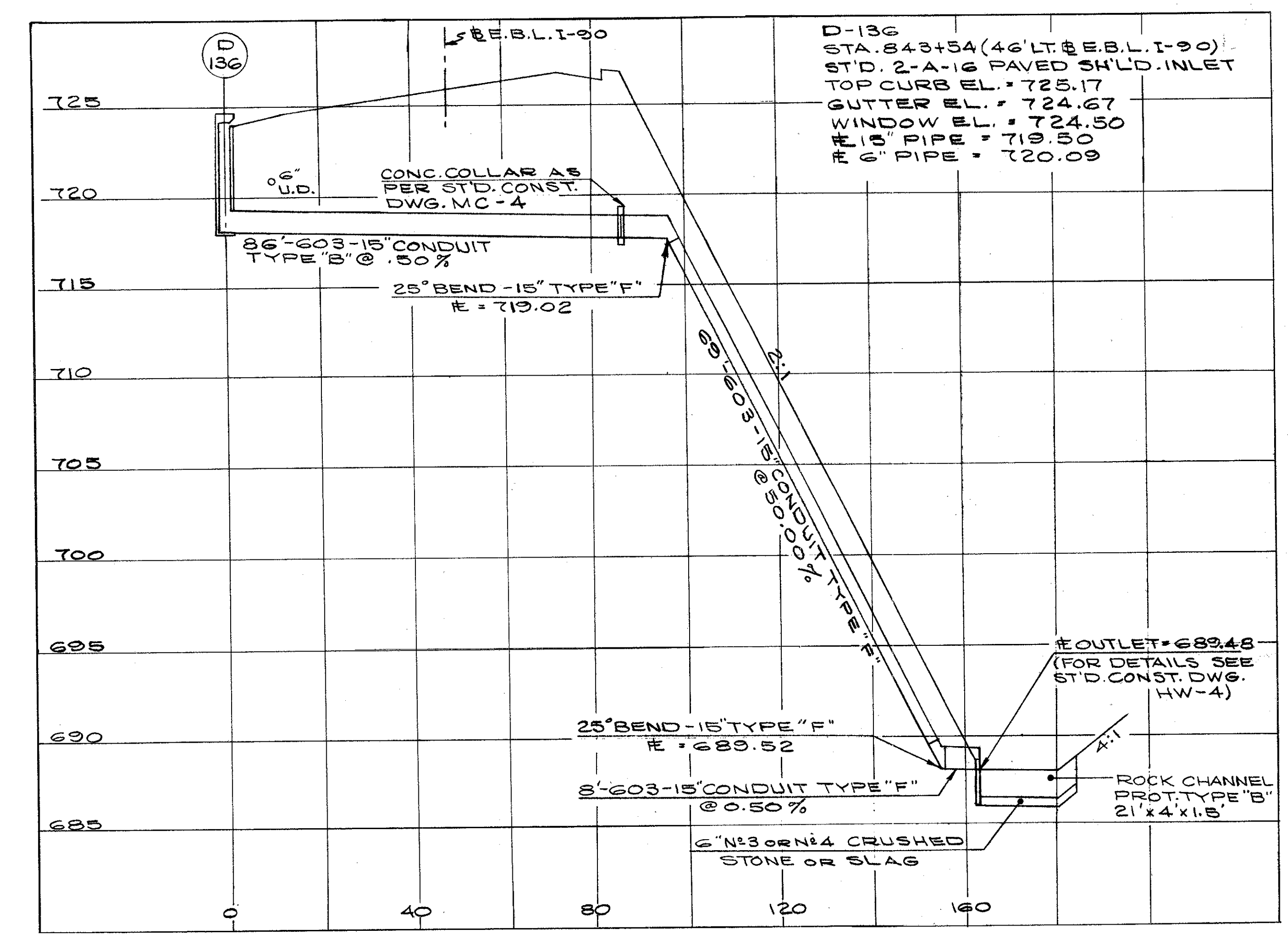
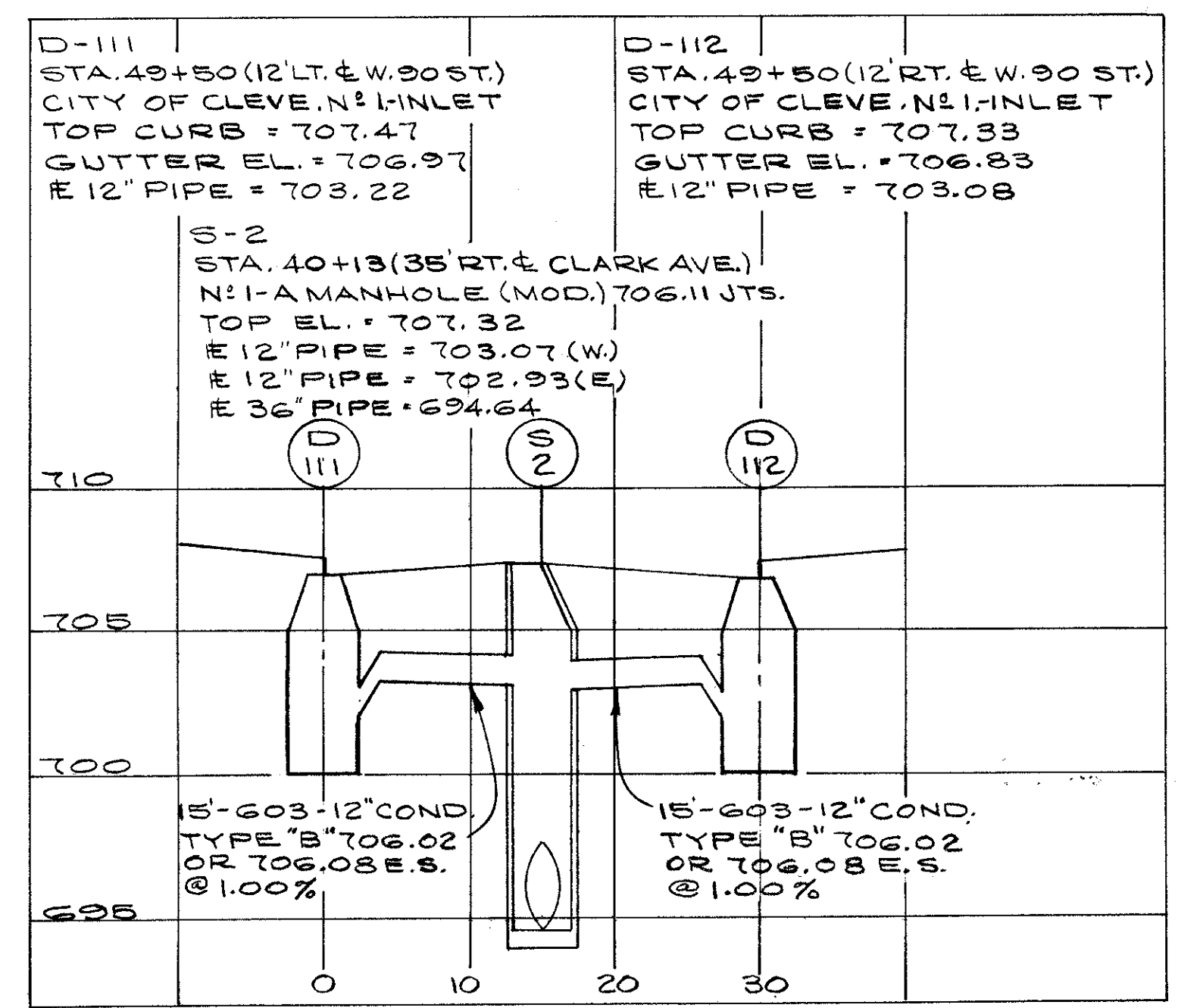
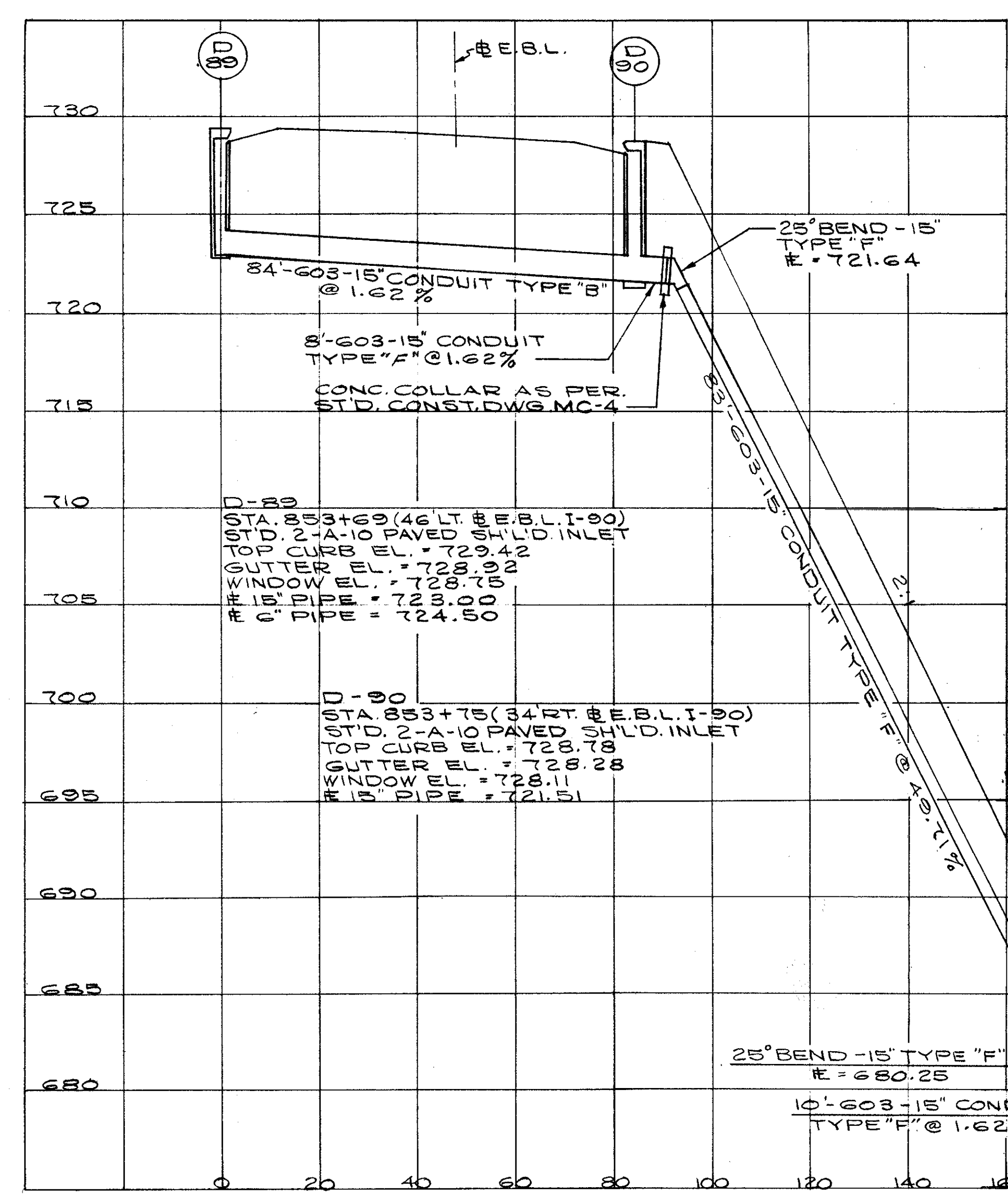
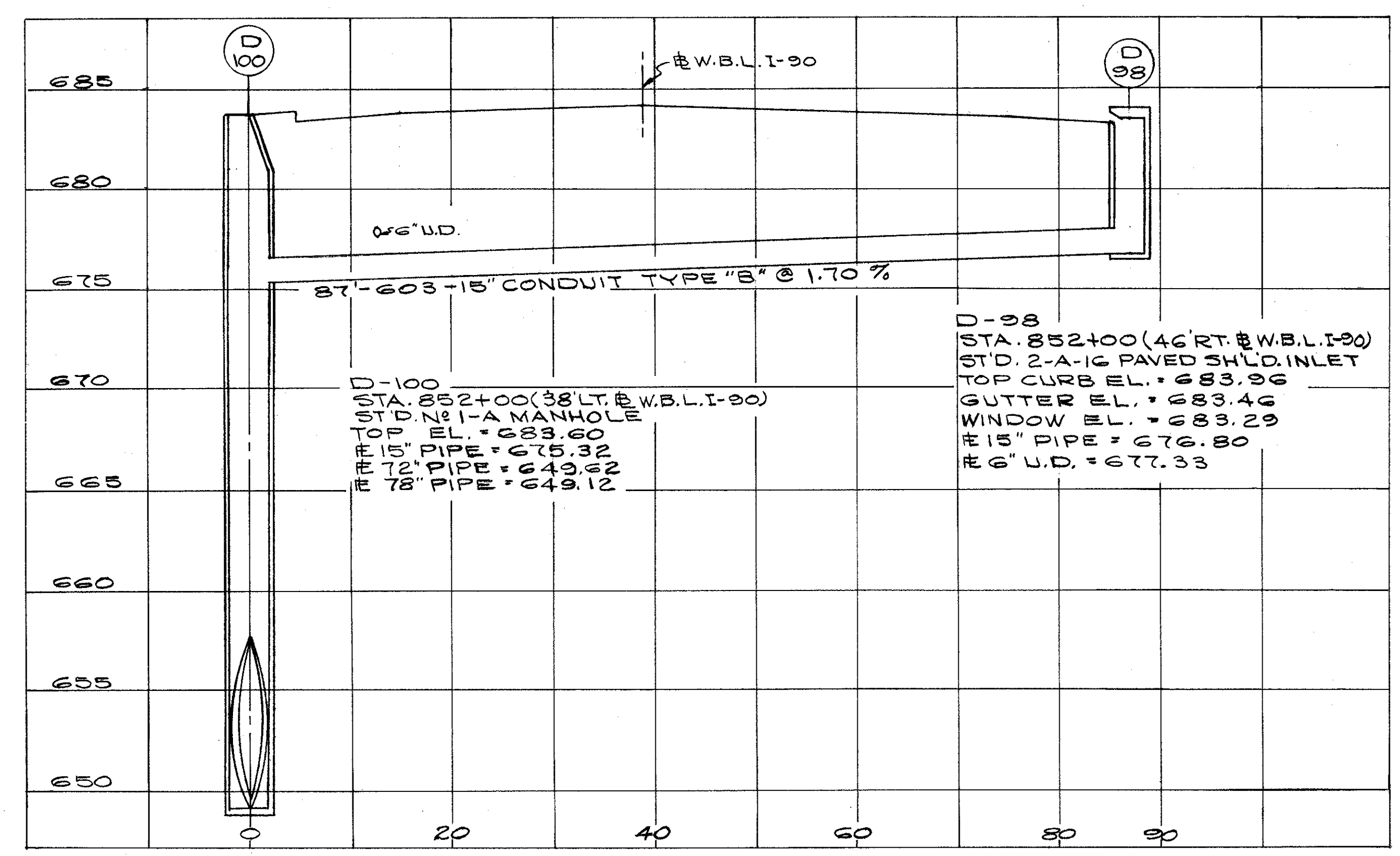
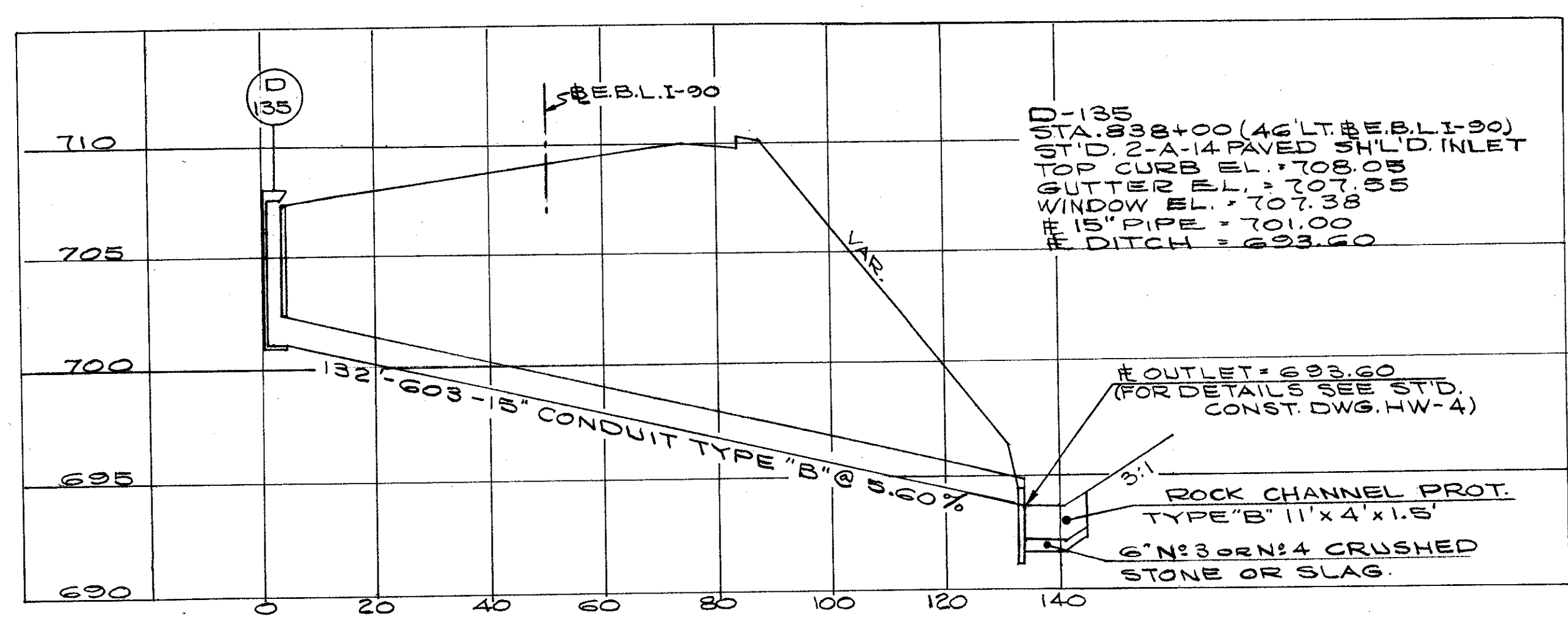


D - 77, 78, 79, 80, 81, 83,  
84, 85, 86, 87, 88, 91,  
94, 99, 141,  
S - 28.

FED. RD.	STATE	PROJECT
2	OHIO	

116  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

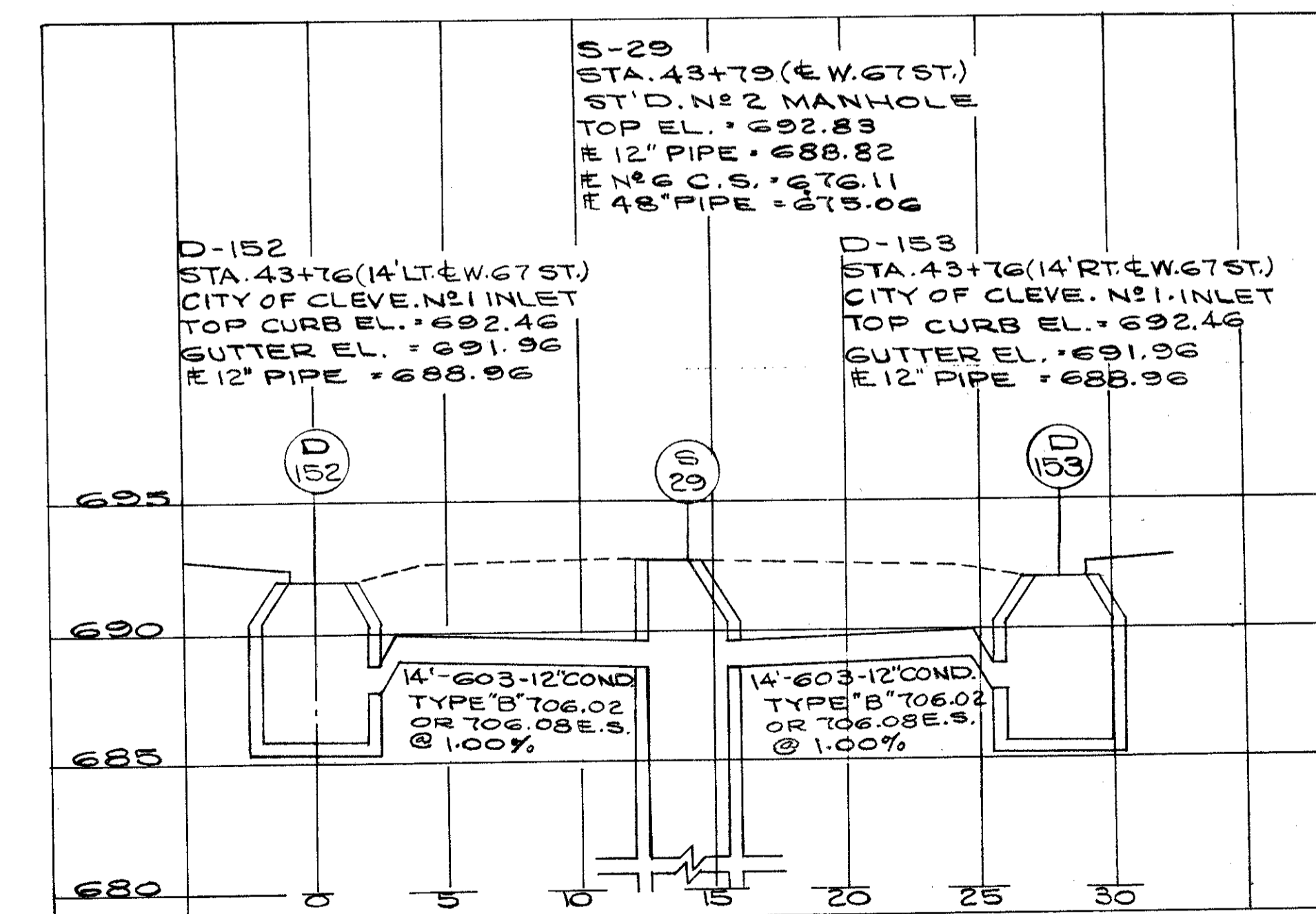
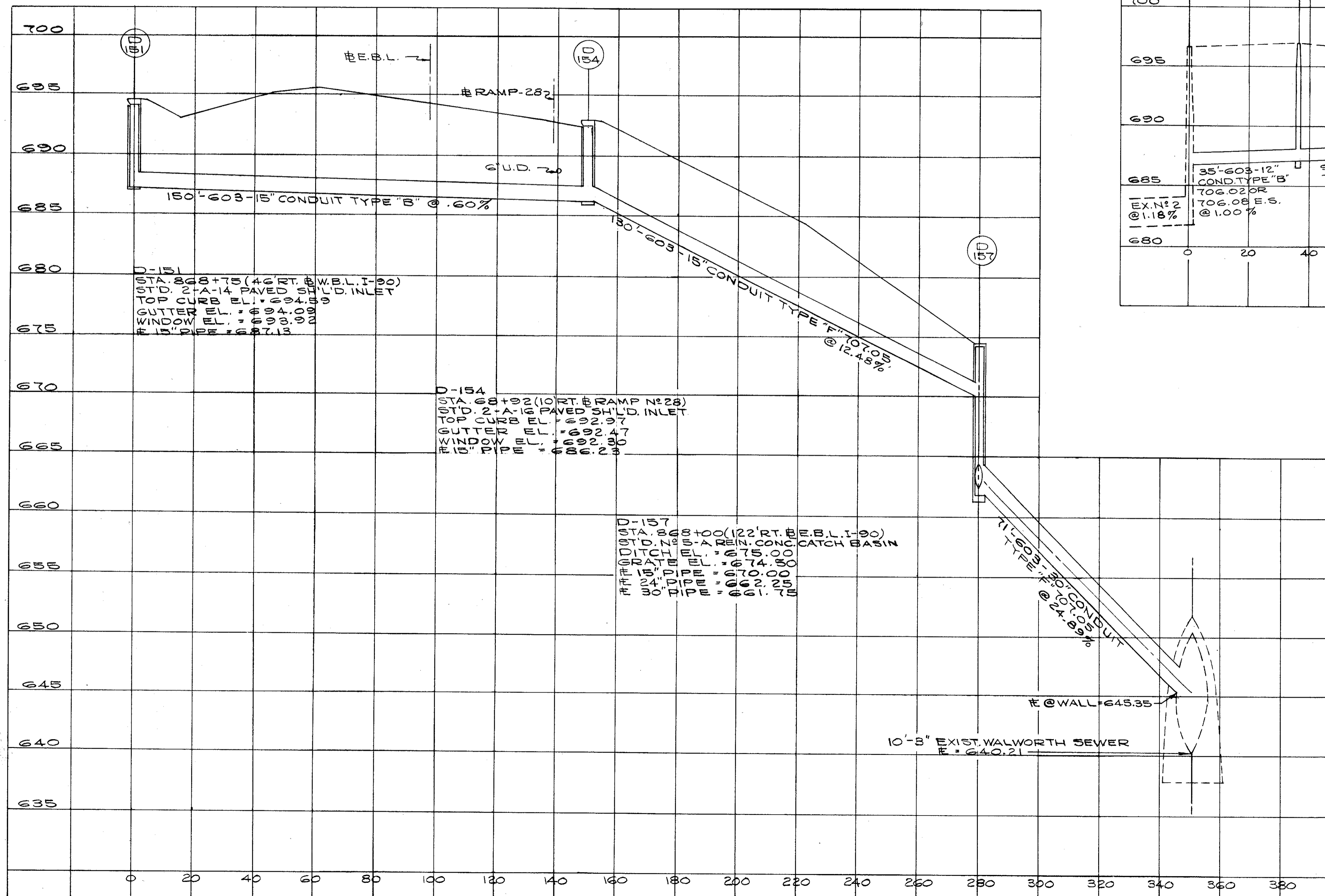
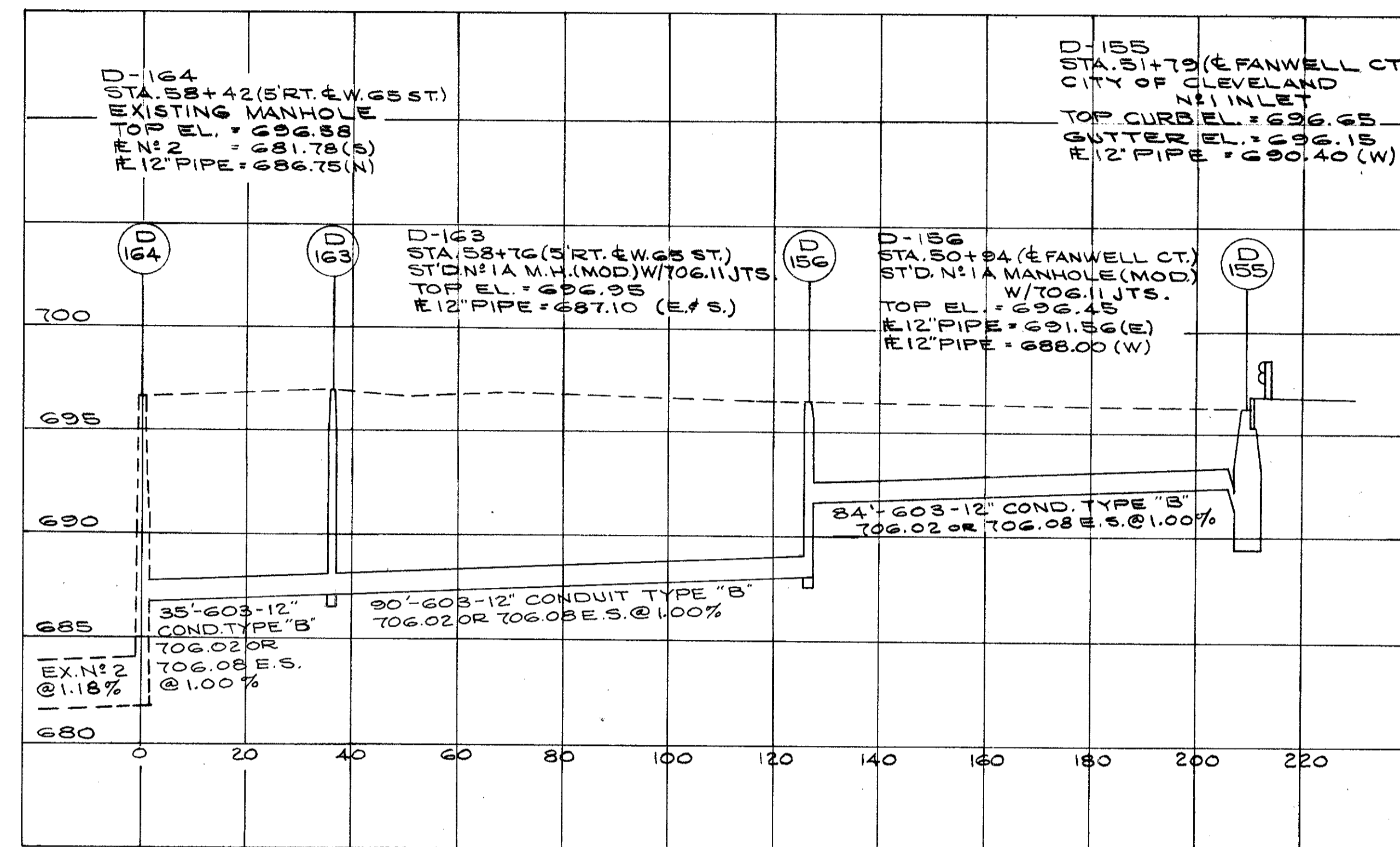
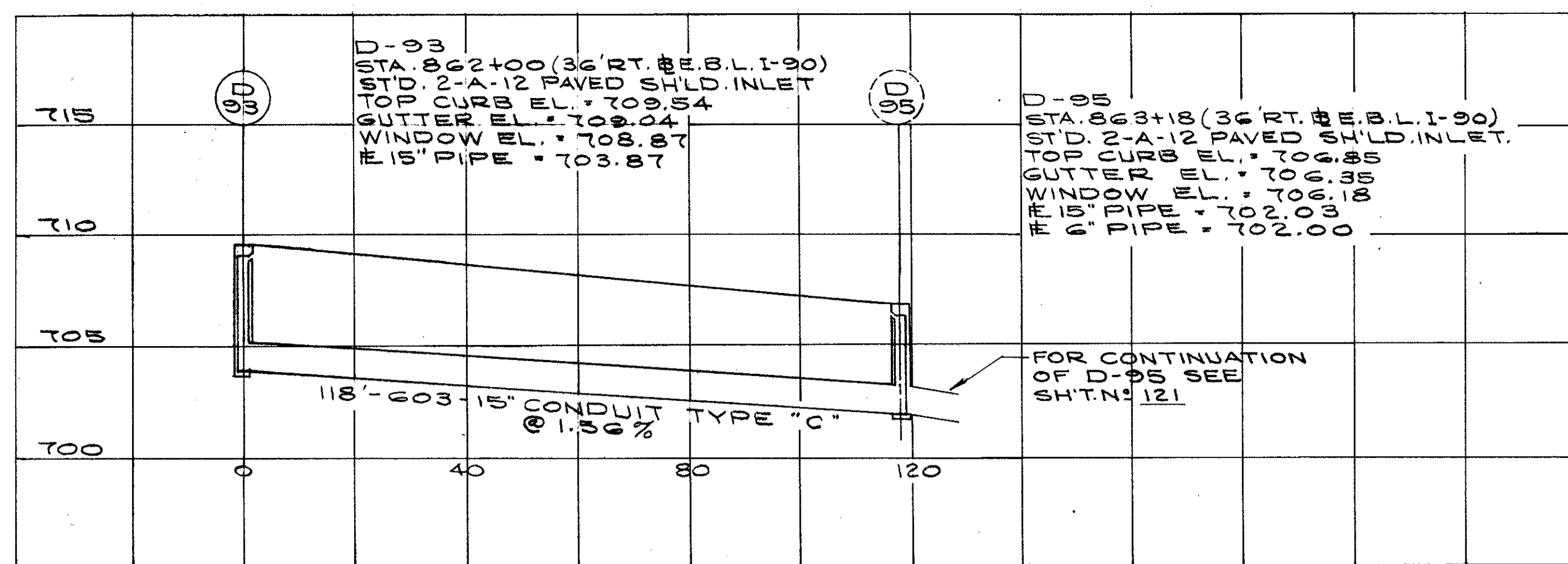


D-89, 90, 98, 100,  
111, 112, 135, 136.  
S-2.

CALCULATED BY BEK. DATE 10/73  
CHECKED BY G.H.G. DATE 1/74

SEWER PROFILES

CUYAHOGA COUNTY  
CUY - 90 - 11.64



D-93, 95, 151, 152, 153, 154, 155, 156, 157, 163, S-29.

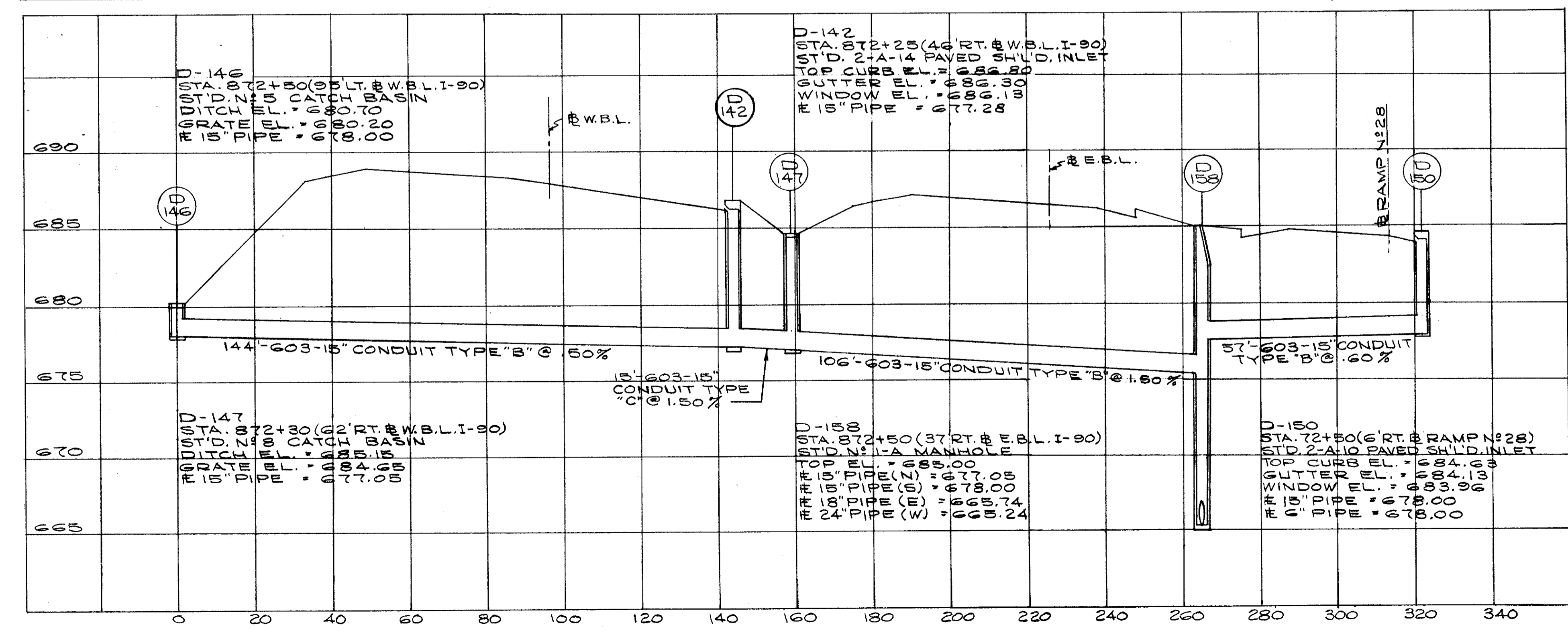
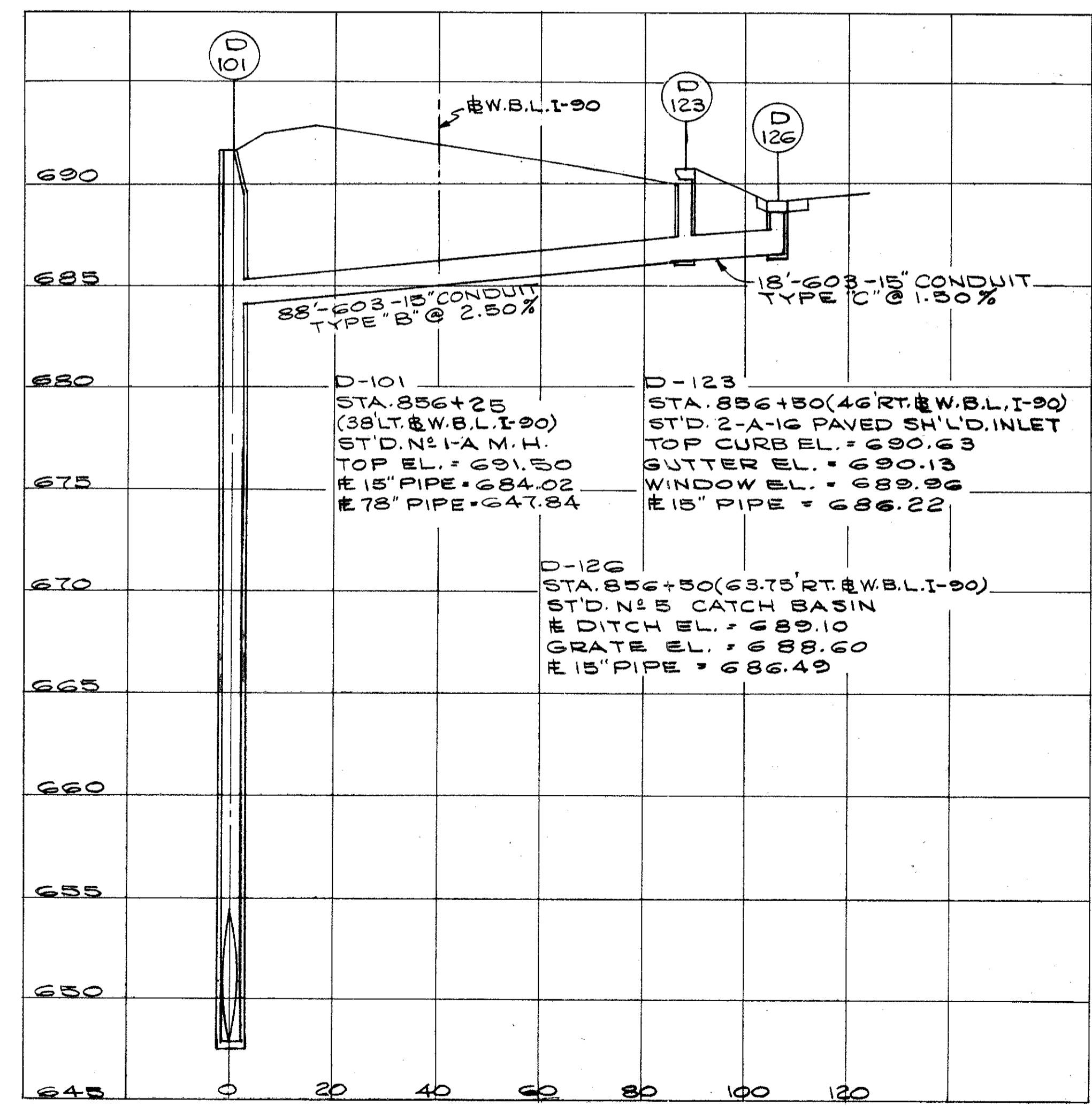
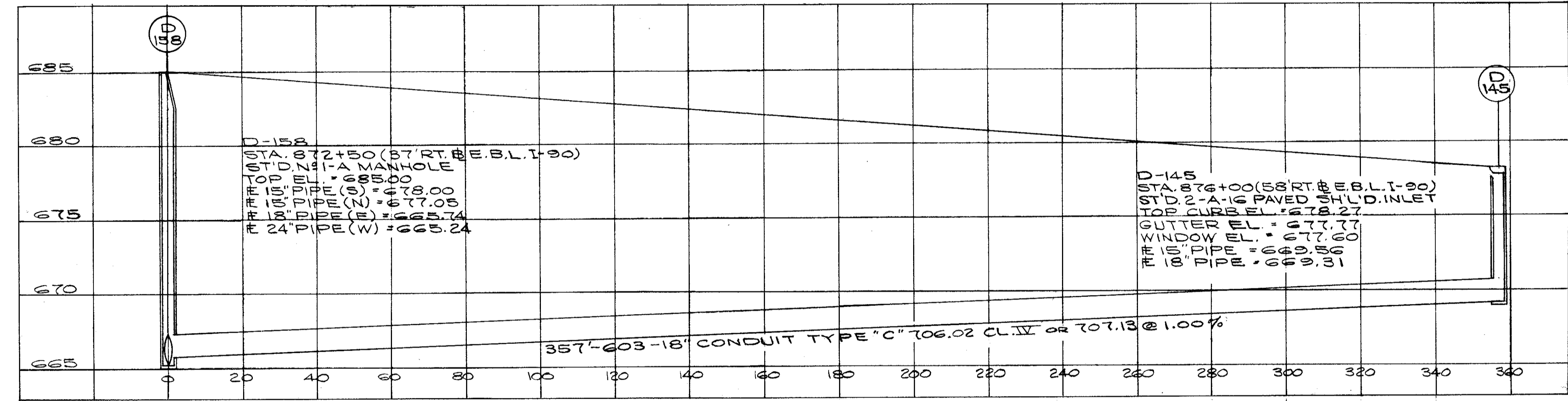
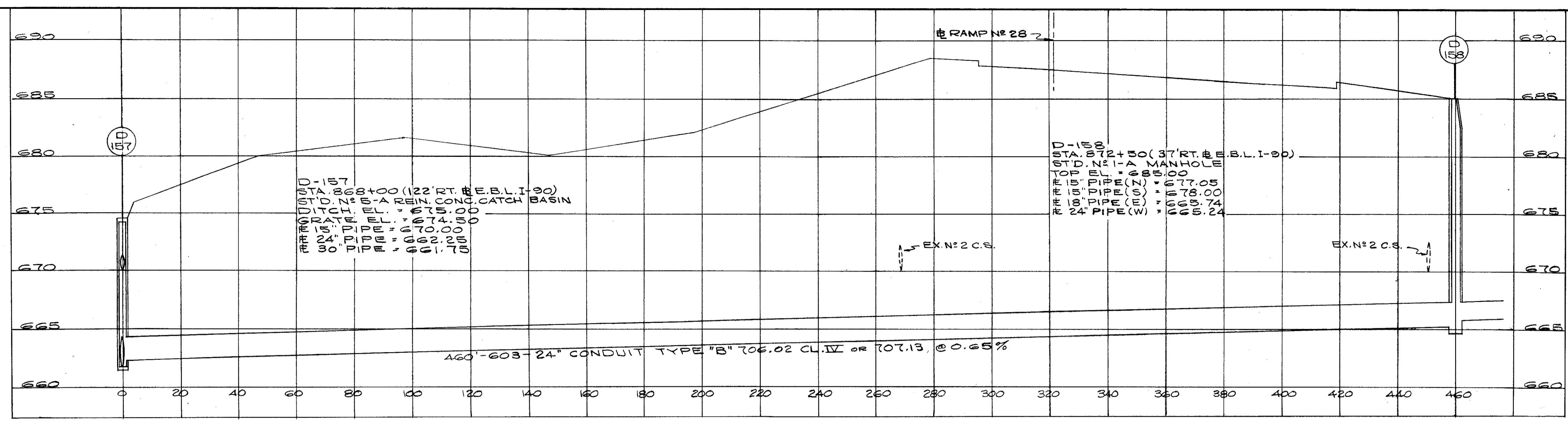
CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74

SEWER PROFILES

FED. RD.	STATE	PROJECT
2	OHIO	

118  
838

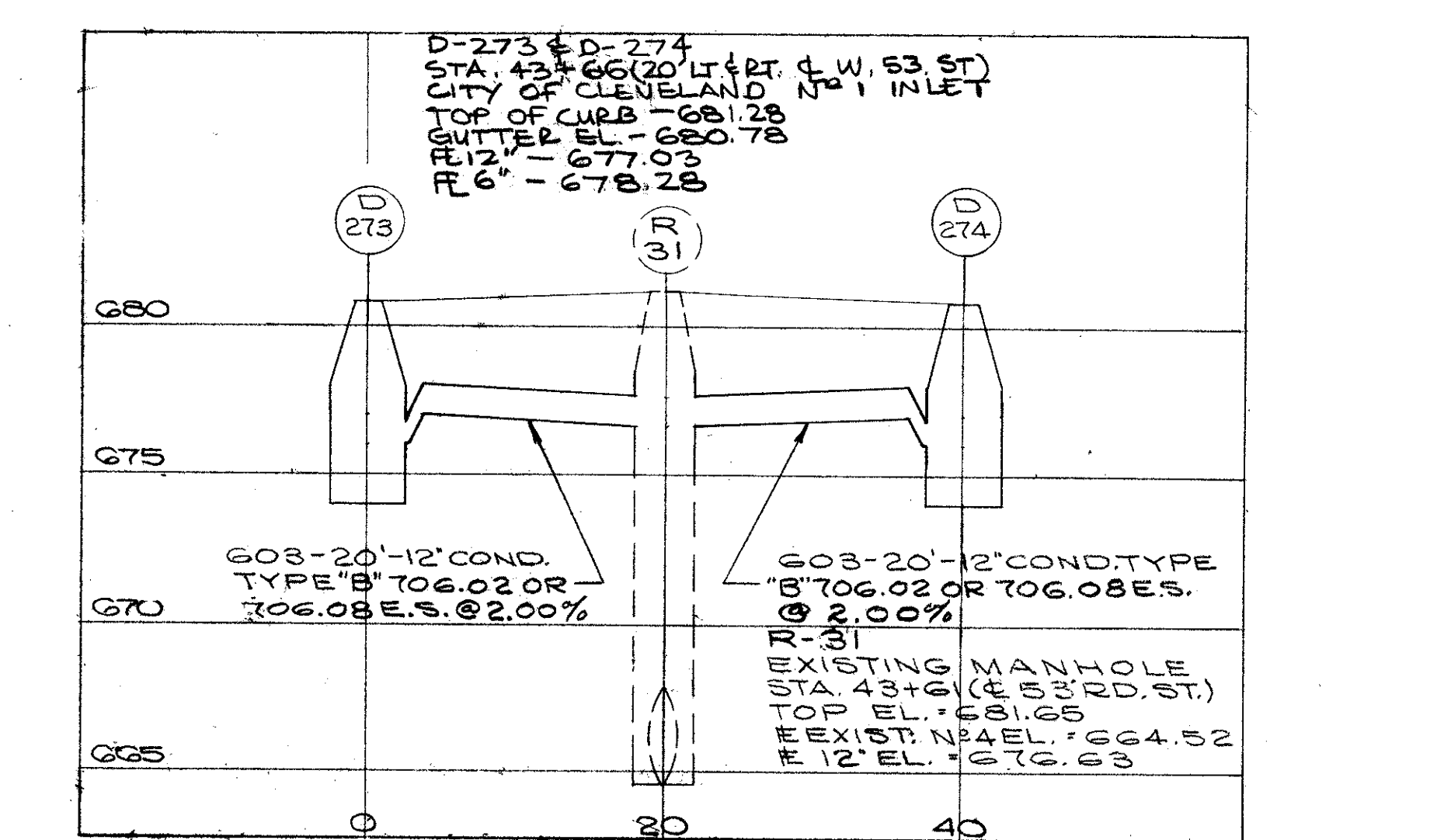
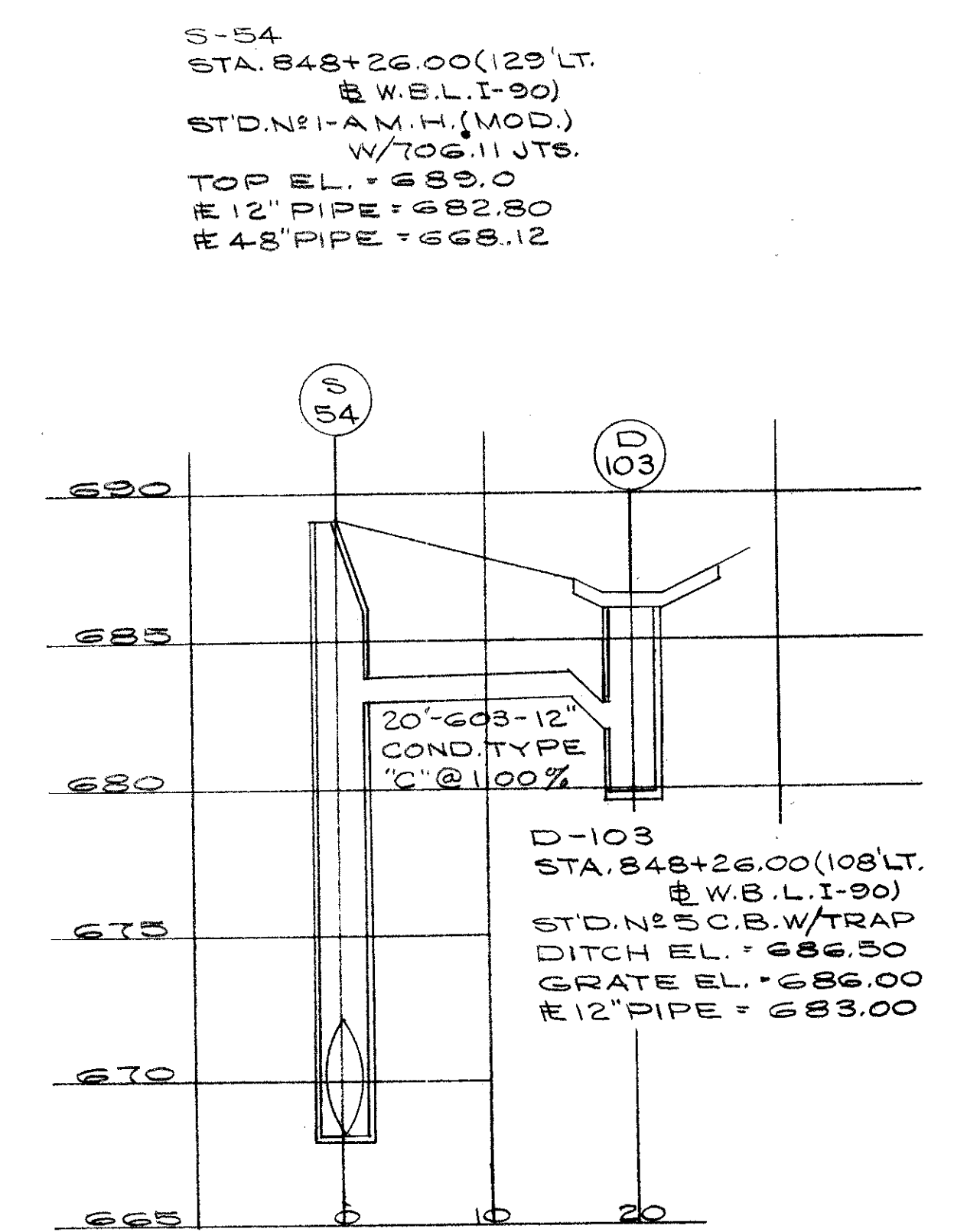
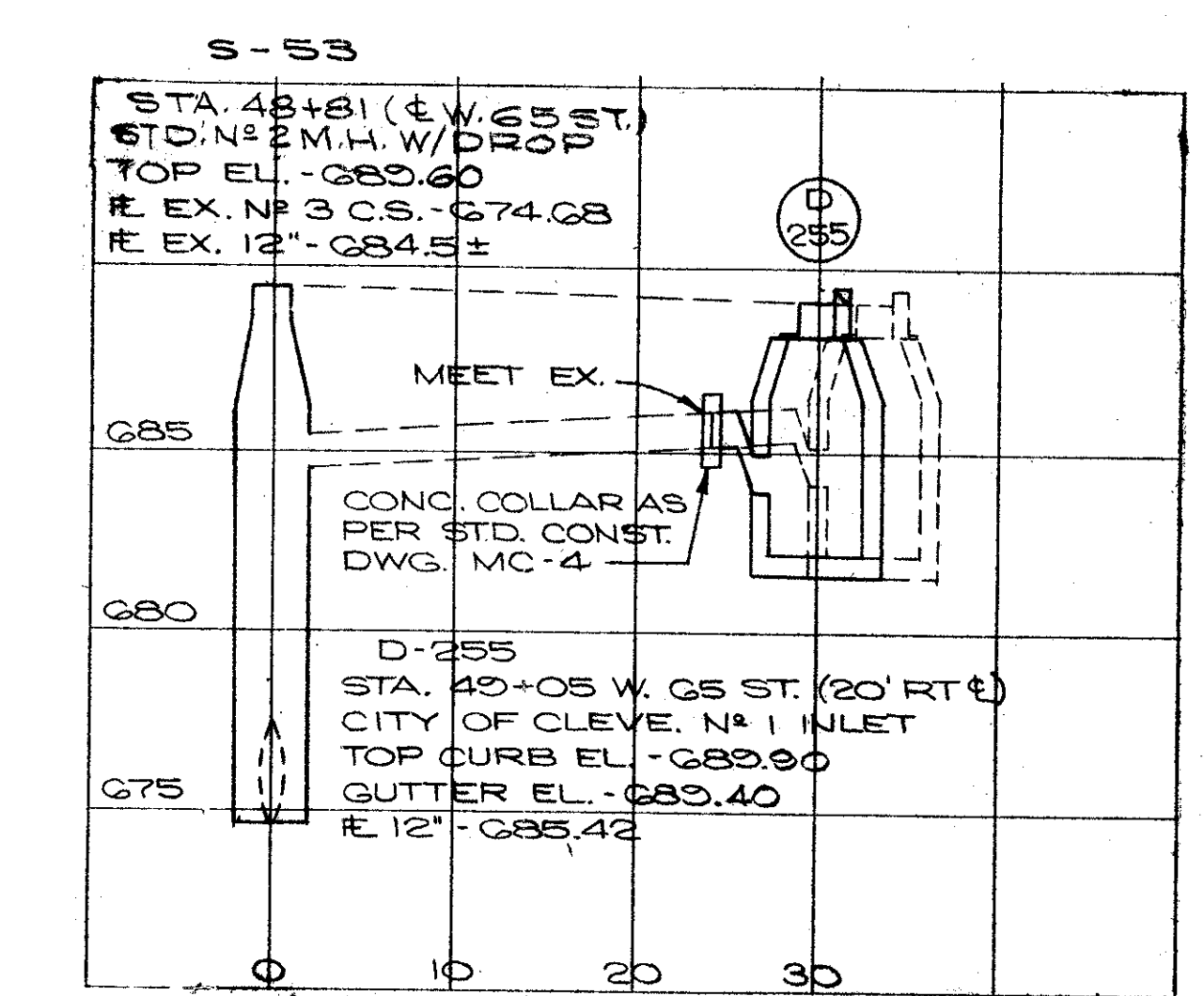
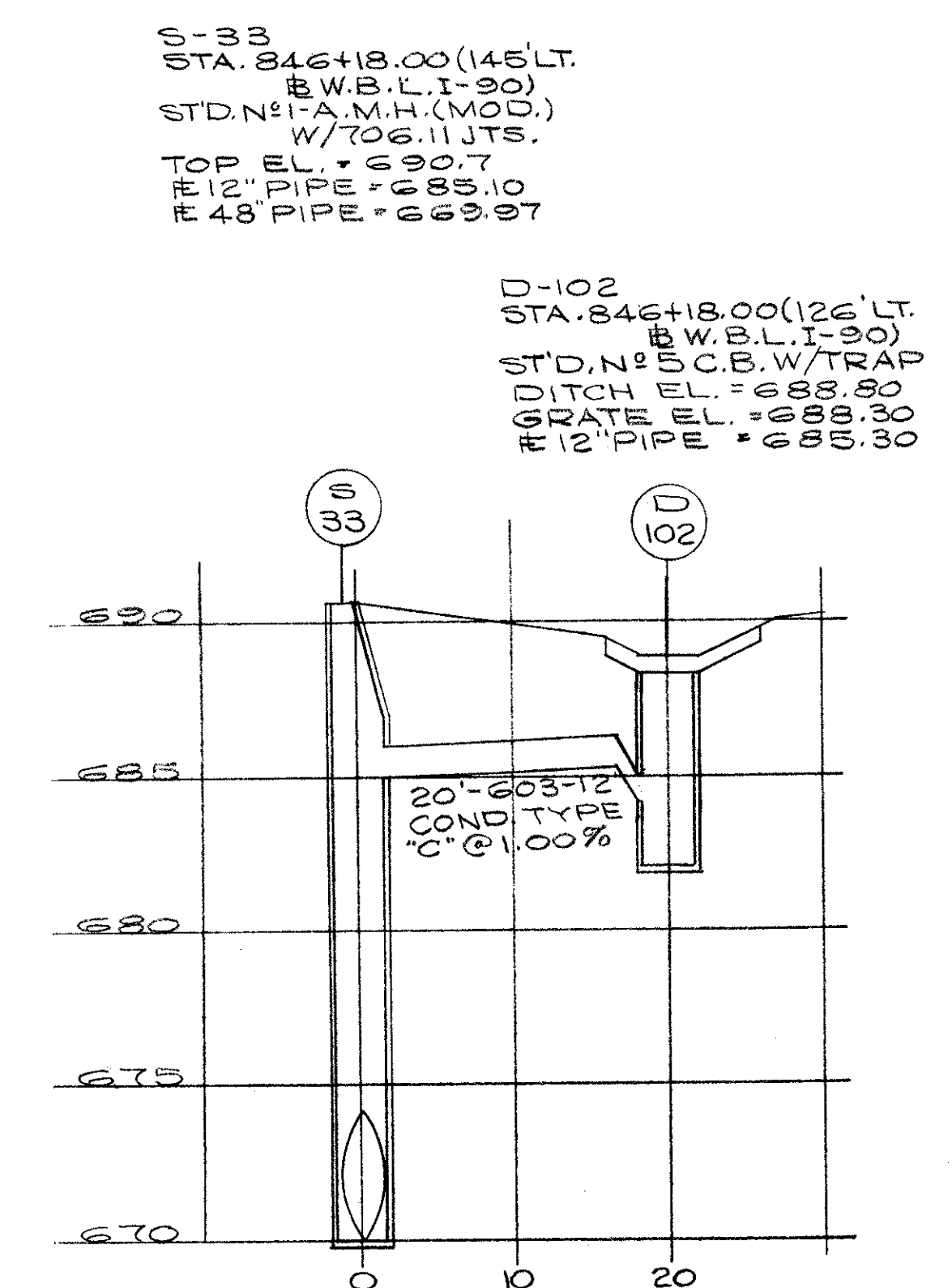
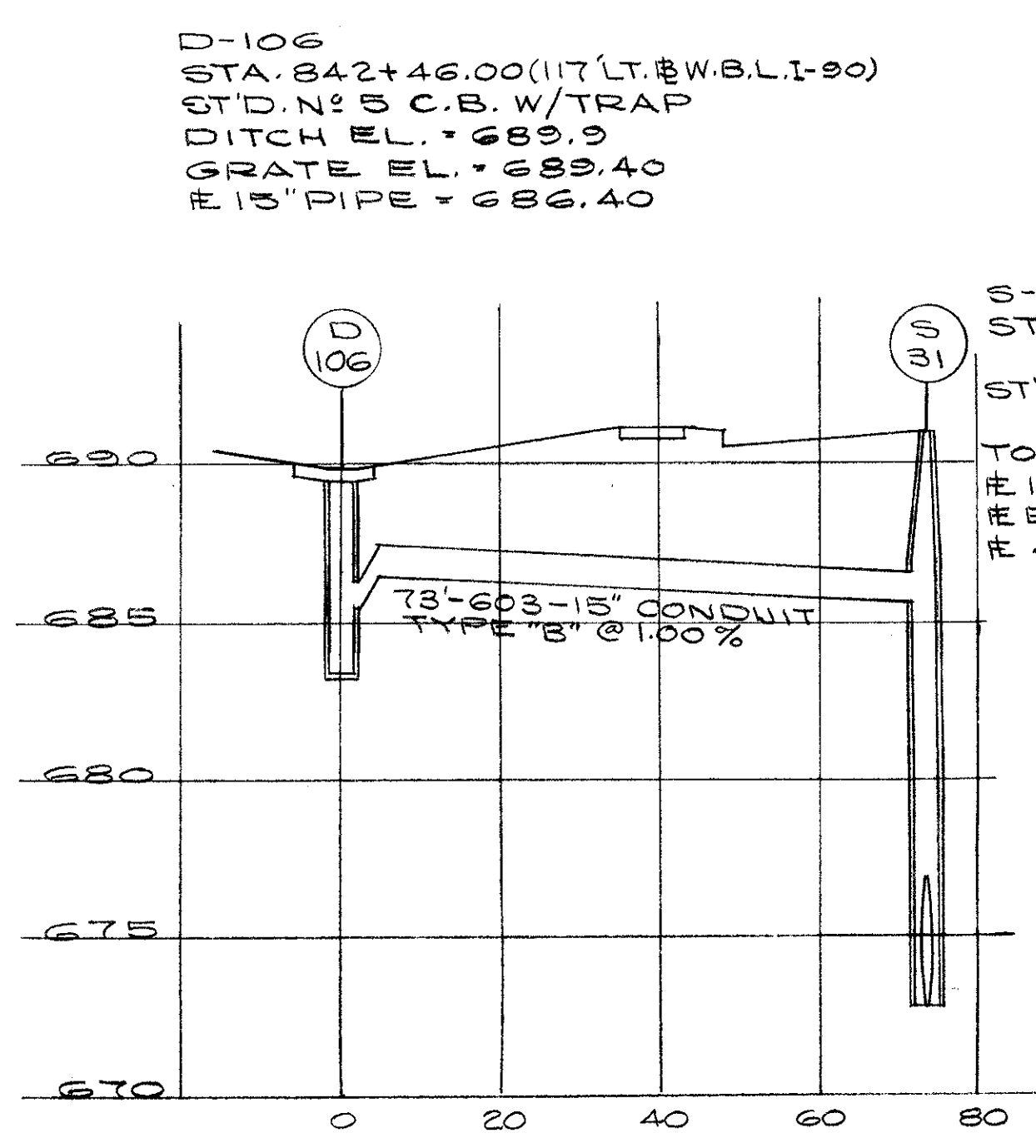
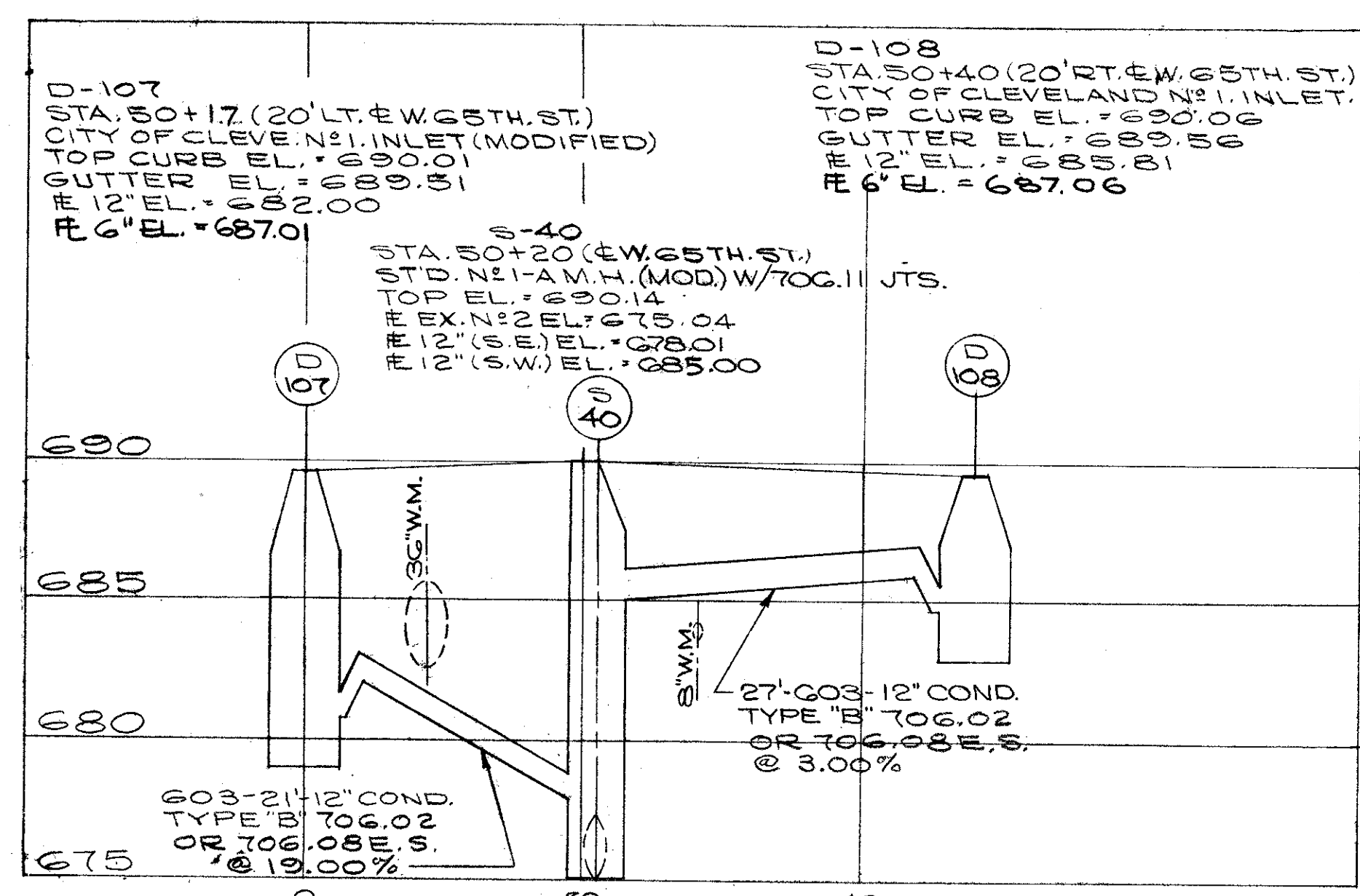
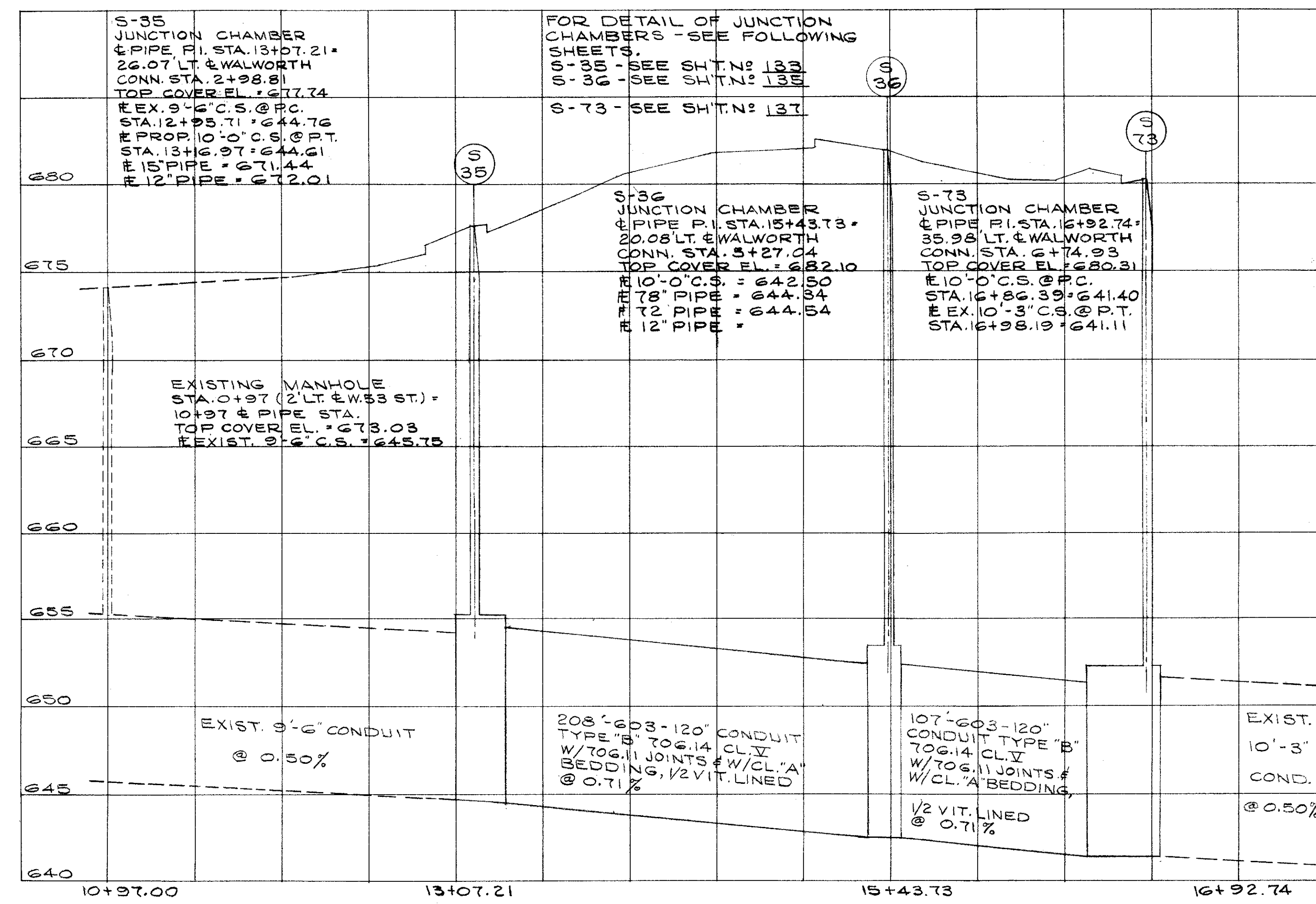
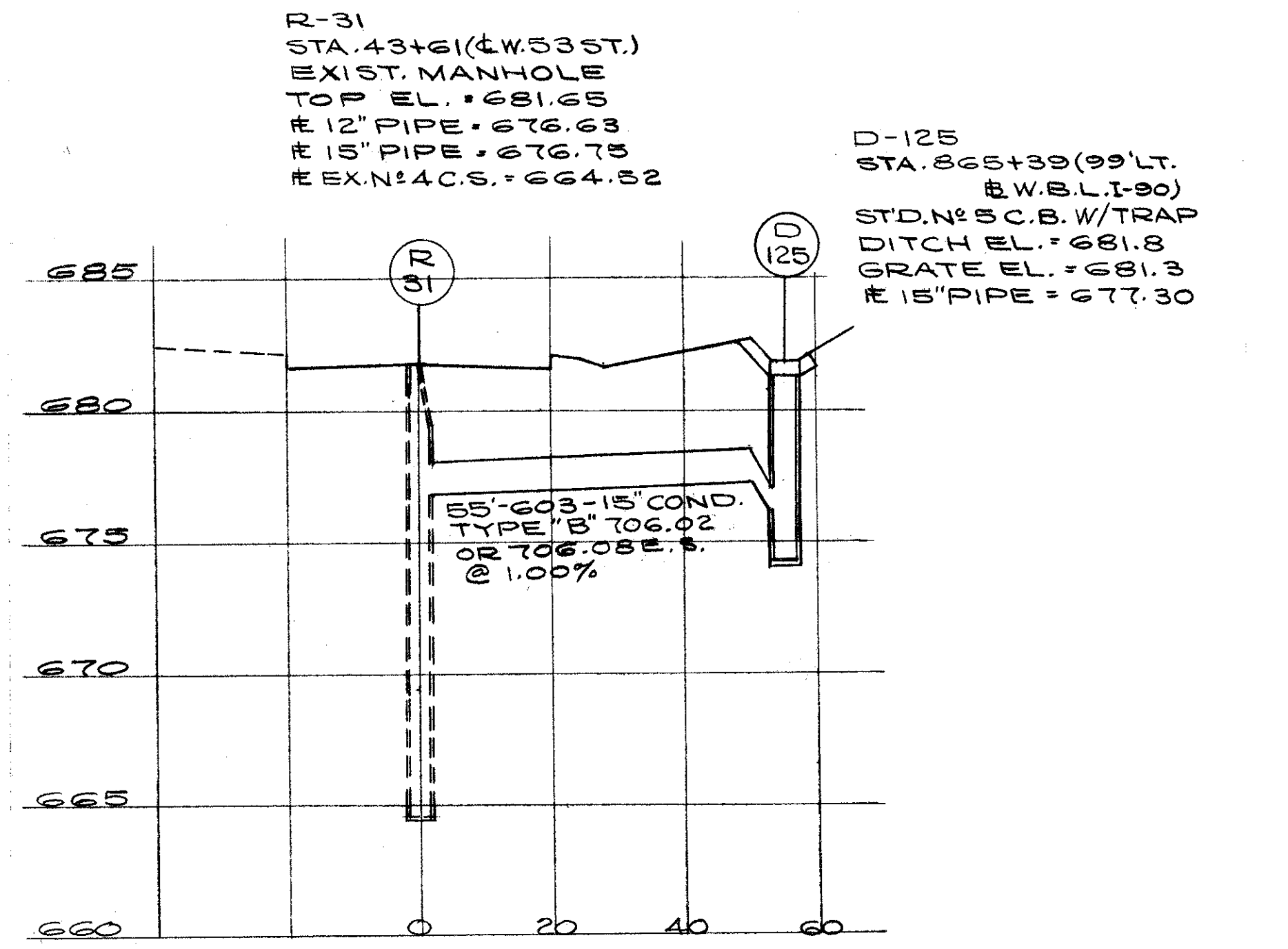
CUYAHOGA COUNTY  
CUI-90-11.64



D-101, 123, 126, 142, 145, 146, 147, 150, 157, 158.

CALCULATED BY BEK. DATE 10/73  
CHECKED BY G.A.G. DATE 4/74

SEWER PROFILES



D-102, 103, 106, 107, 108, 125, 255, 273, 274, S-31, 33, 35, 36, 40, 54, 73, R-31.

CALCULATED BY BEK. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74

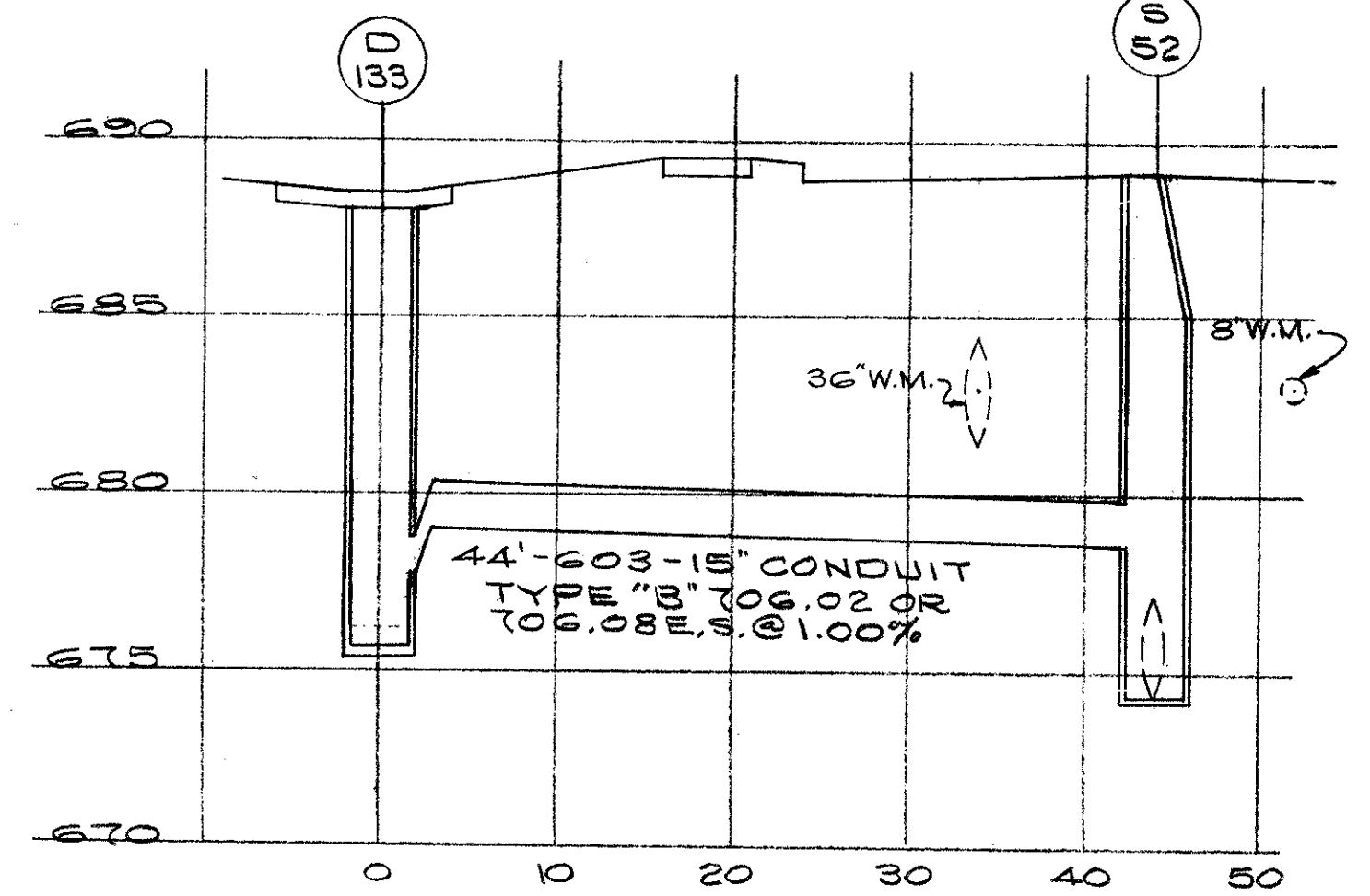
FED. RD.	STATE	PROJECT
2	OHIO	

120  
838

CUYAHOGA COUNTY  
CUY-90-11.64

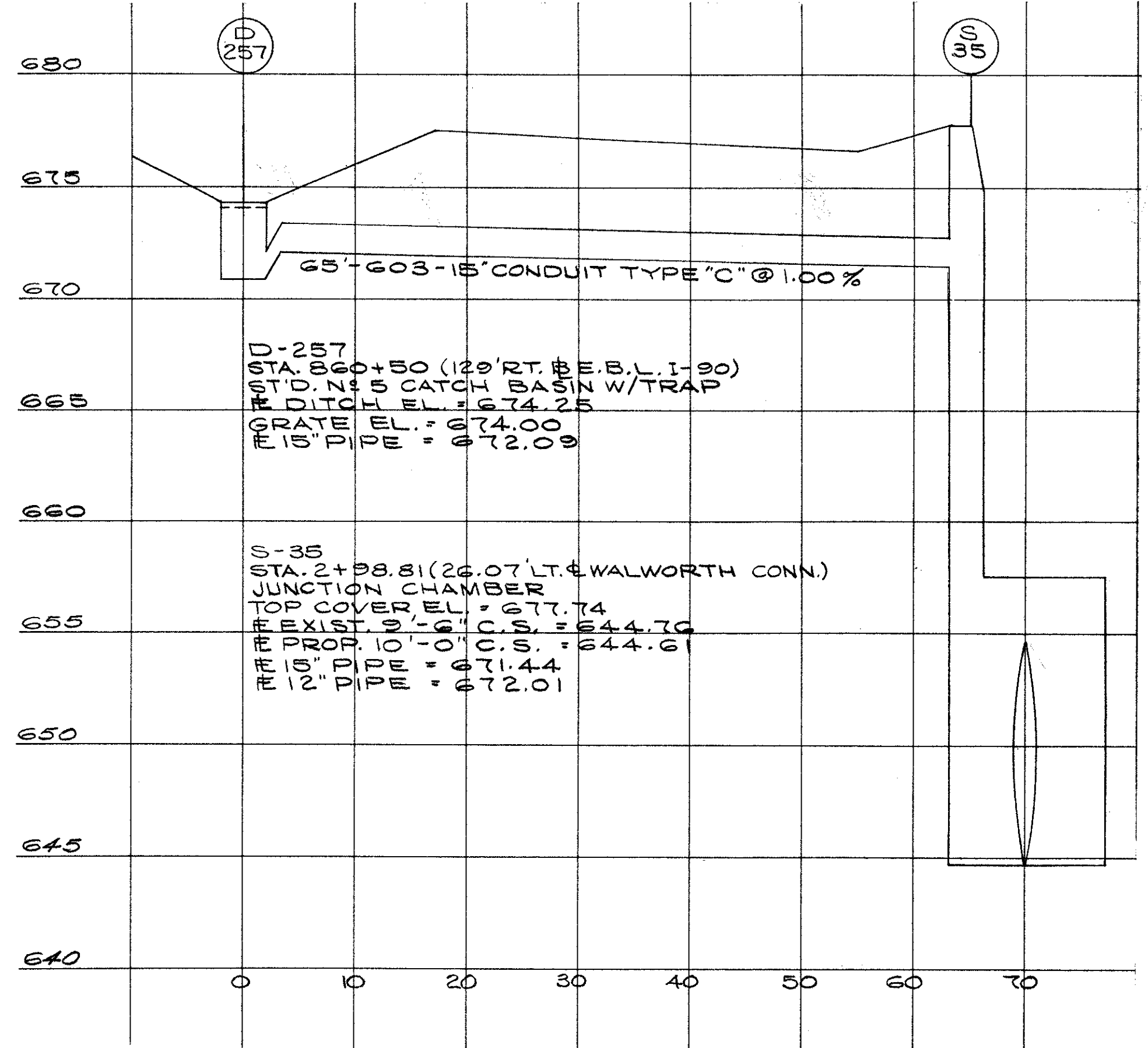
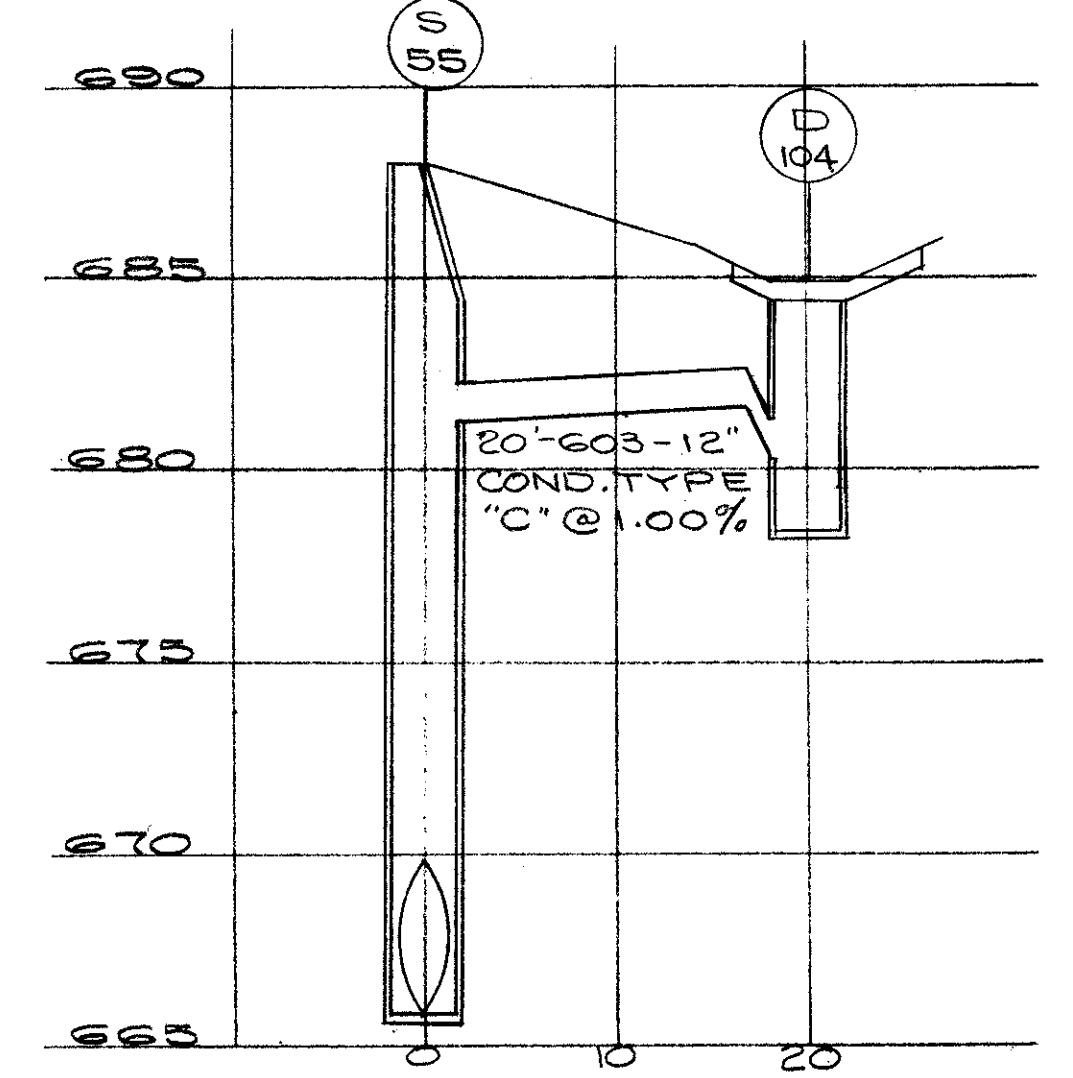
D-133  
STA. 47+86.00 (44' LT. & W. 65 ST.)  
STD. N° 5 REIN. CONC. C.B. W/TRAP  
DITCH EL. = 688.50  
GRATE EL. = 688.00  
# 15" PIPE = 679.00

S-52  
STA. 47+86.00 (& W. 65 ST.)  
STD. N° 1-A M.H. (MOD.) W/706.11 JTS.  
TOP EL. = 689.17  
# 12" PIPE = 678.56  
# EX. N° 3 C.S. = 674.23



S-55  
STA. 850+80.00 (120' LT.)  
# W.B.L. I-90  
STD. N° 1-A M.H. (MOD.)  
W/706.11 JTS.  
TOP EL. = 688.0  
# 12" PIPE = 681.30  
# 48" PIPE = 665.84

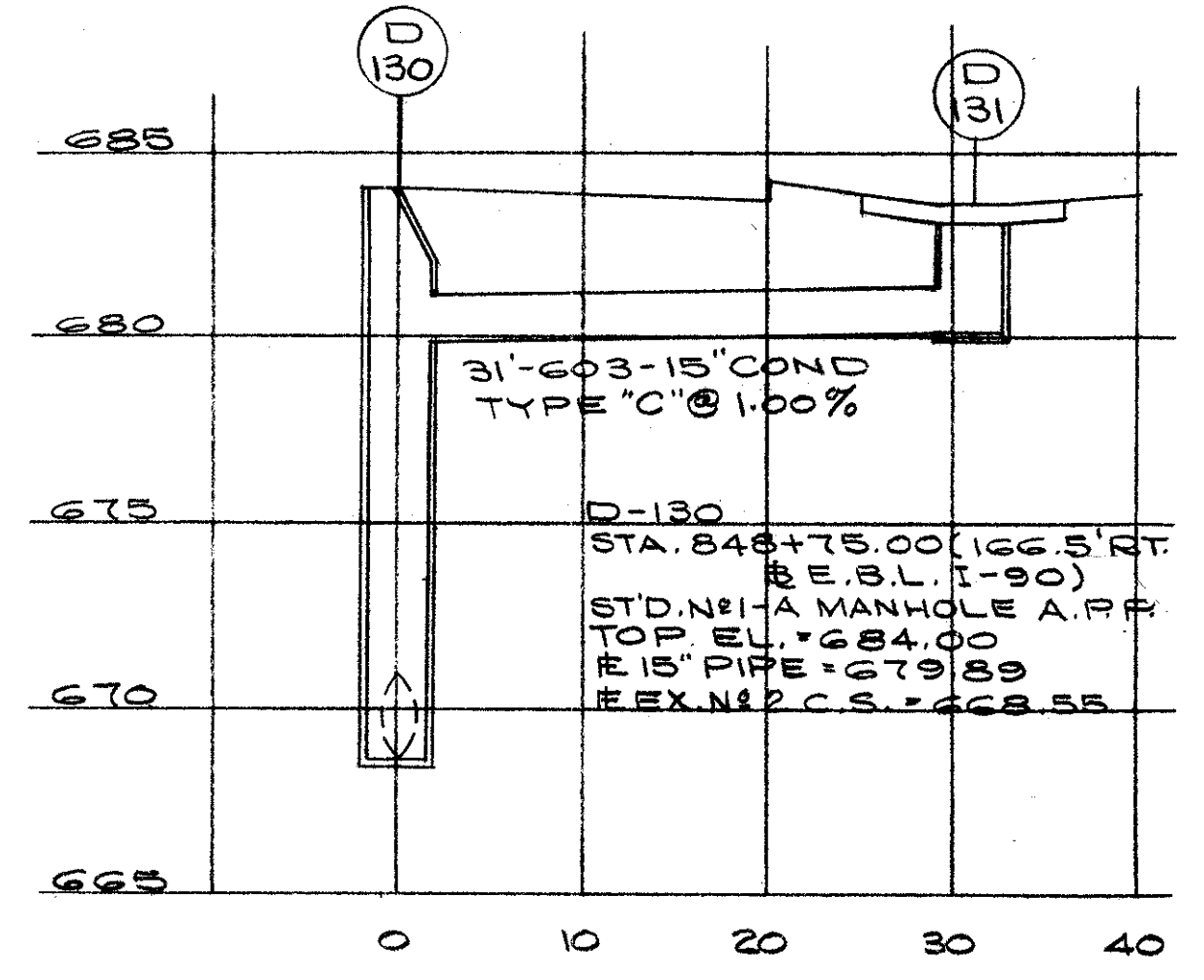
D-104  
STA. 850+80.00 (101' LT.)  
# W.B.L. I-90  
STD. N° 5 C.B. W/TRAP  
DITCH EL. = 685.00  
GRATE EL. = 684.50  
# 12" PIPE = 681.50



D-257  
STA. 860+50 (129' RT. & E.B.L. I-90)  
STD. N° 5 CATCH BASIN W/TRAP  
# DITCH EL. = 674.25  
GRATE EL. = 674.00  
# 15" PIPE = 672.09

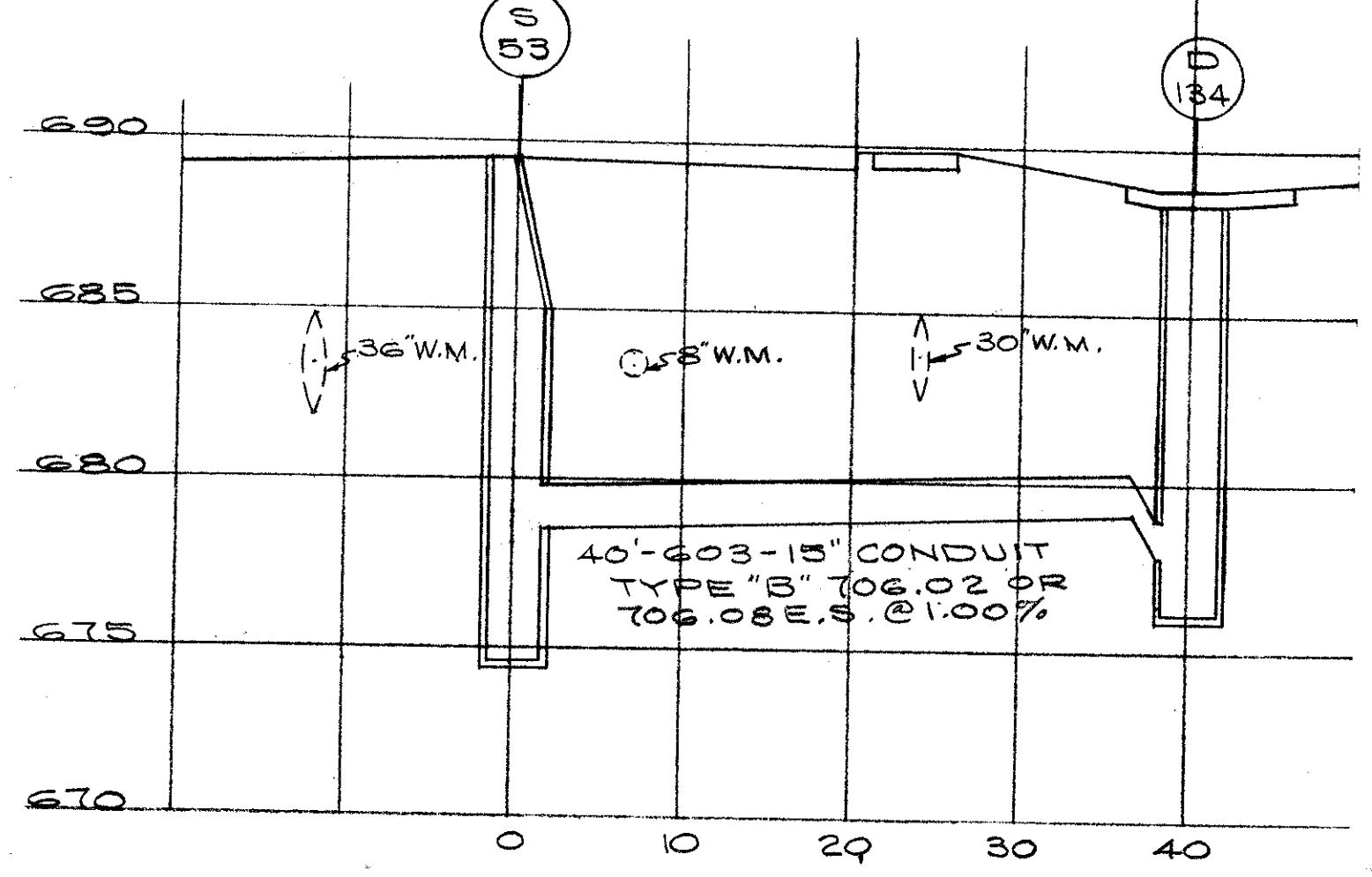
S-35  
STA. 2+98.81 (26.07' LT. & WALWORTH CONN.)  
JUNCTION CHAMBER  
TOP COVER EL. = 677.74  
# EXIST. 9" C.S. = 644.76  
# PROP. 10" C.S. = 644.61  
# 15" PIPE = 671.44  
# 12" PIPE = 672.01

D-131  
STA. 849+05.00 (153' RT. & E.B.L. I-90)  
STD. N° 5 CATCH BASIN  
DITCH EL. = 683.70  
GRATE EL. = 683.20  
# 15" PIPE = 680.20

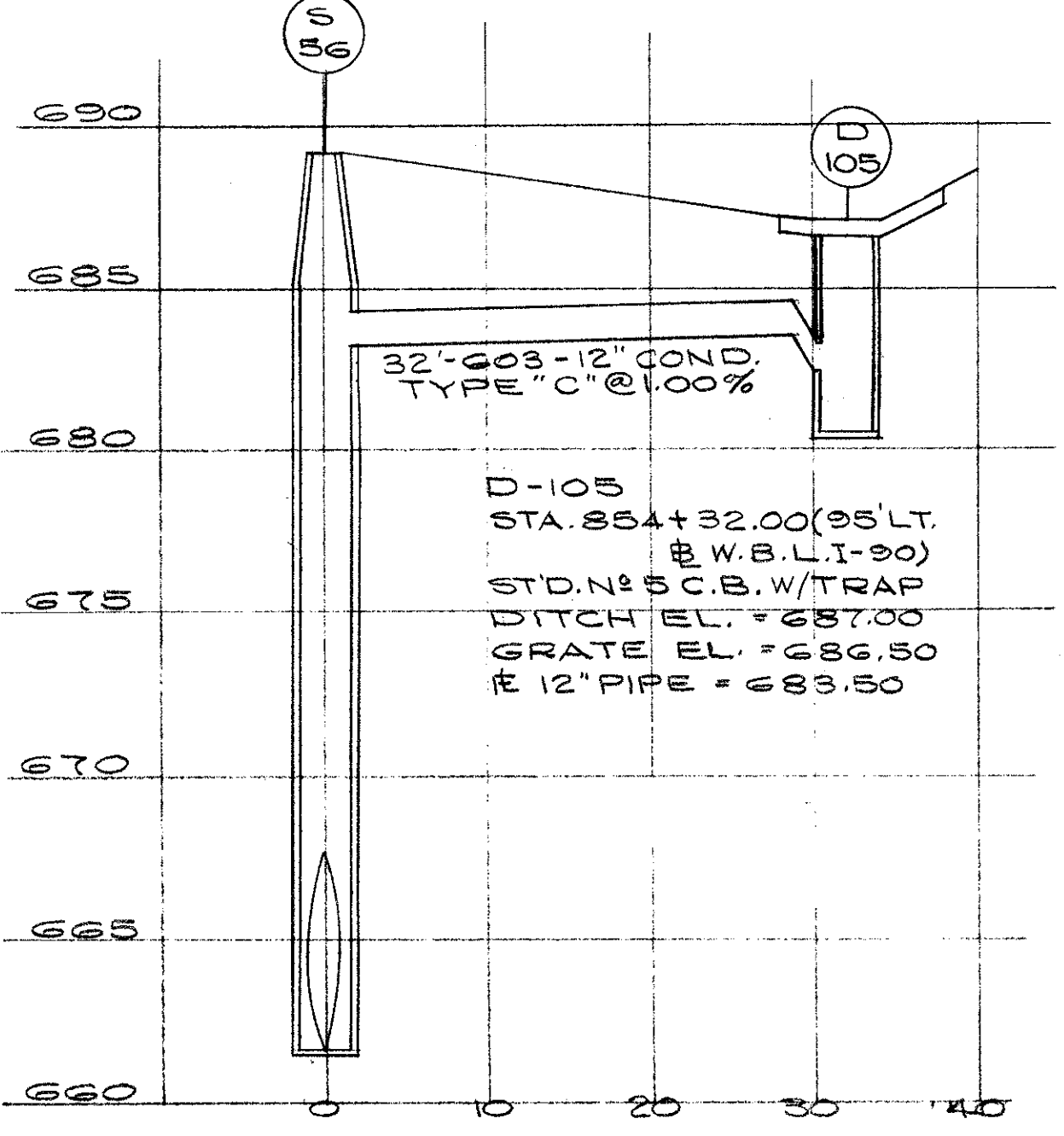


S-53  
STA. 48+81.00 (& W. 65 ST.)  
STD. N° 1-A M.H. (MOD.) W/706.11 JTS.  
TOP EL. = 689.60  
# 12" PIPE = 684.50  
# 15" PIPE = 678.56  
# EX. N° 3 C.S. = 674.68

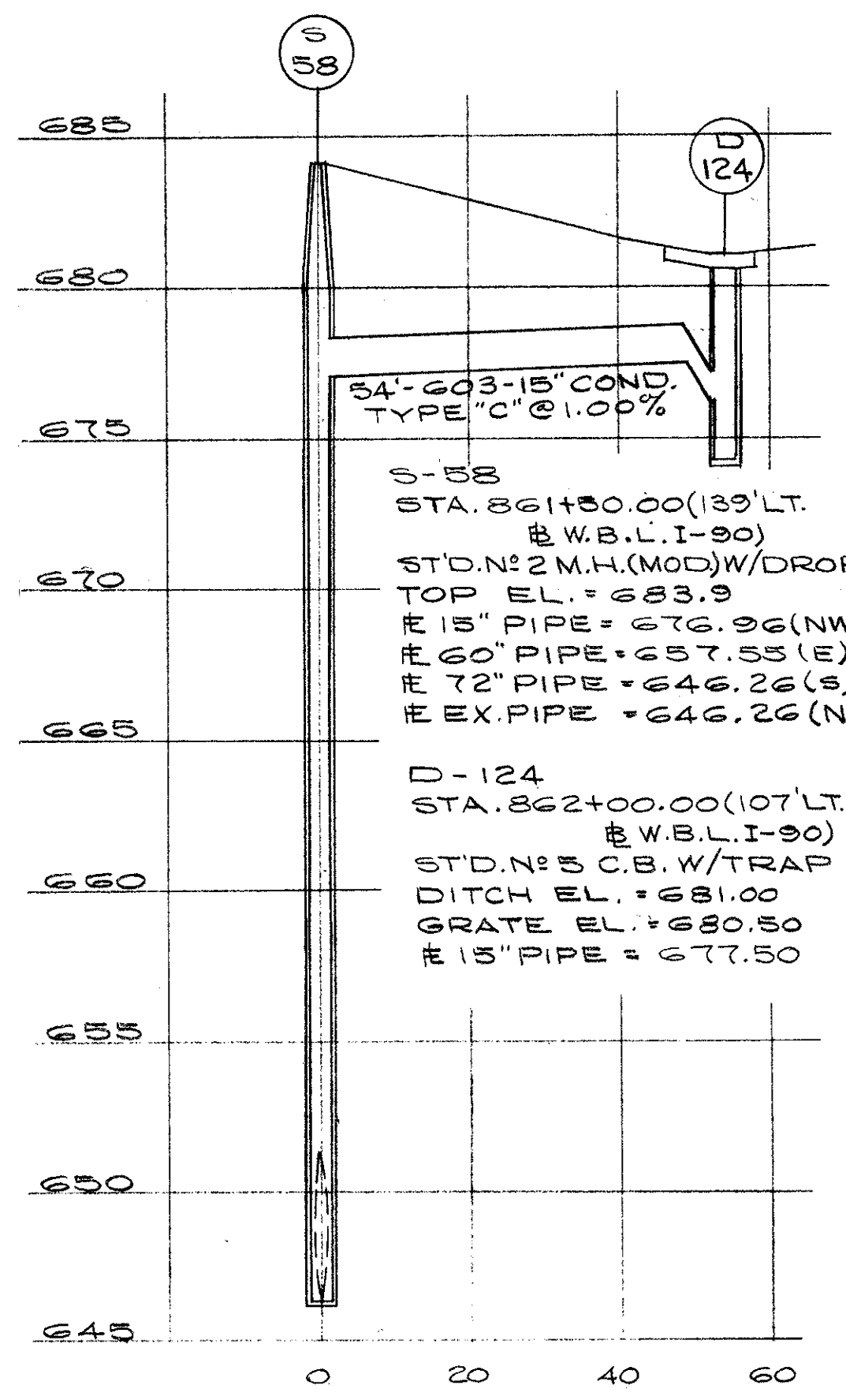
D-134  
STA. 48+70.00 (39' RT. & W. 65 ST.)  
STD. N° 5 REIN. CONC. C.B. W/TRAP  
DITCH EL. = 688.25  
GRATE EL. = 687.75  
# 15" PIPE = 679.00



S-56  
STA. 854+48.00 (123' LT.)  
# W.B.L. I-90  
STD. N° 2 M.H. (MOD.) W/DROP  
TOP EL. = 689.0  
# 12" PIPE = 683.18  
# 48" PIPE = 662.53  
# 60" PIPE = 661.53  
# EX. N° 4 C.S. = 669.77

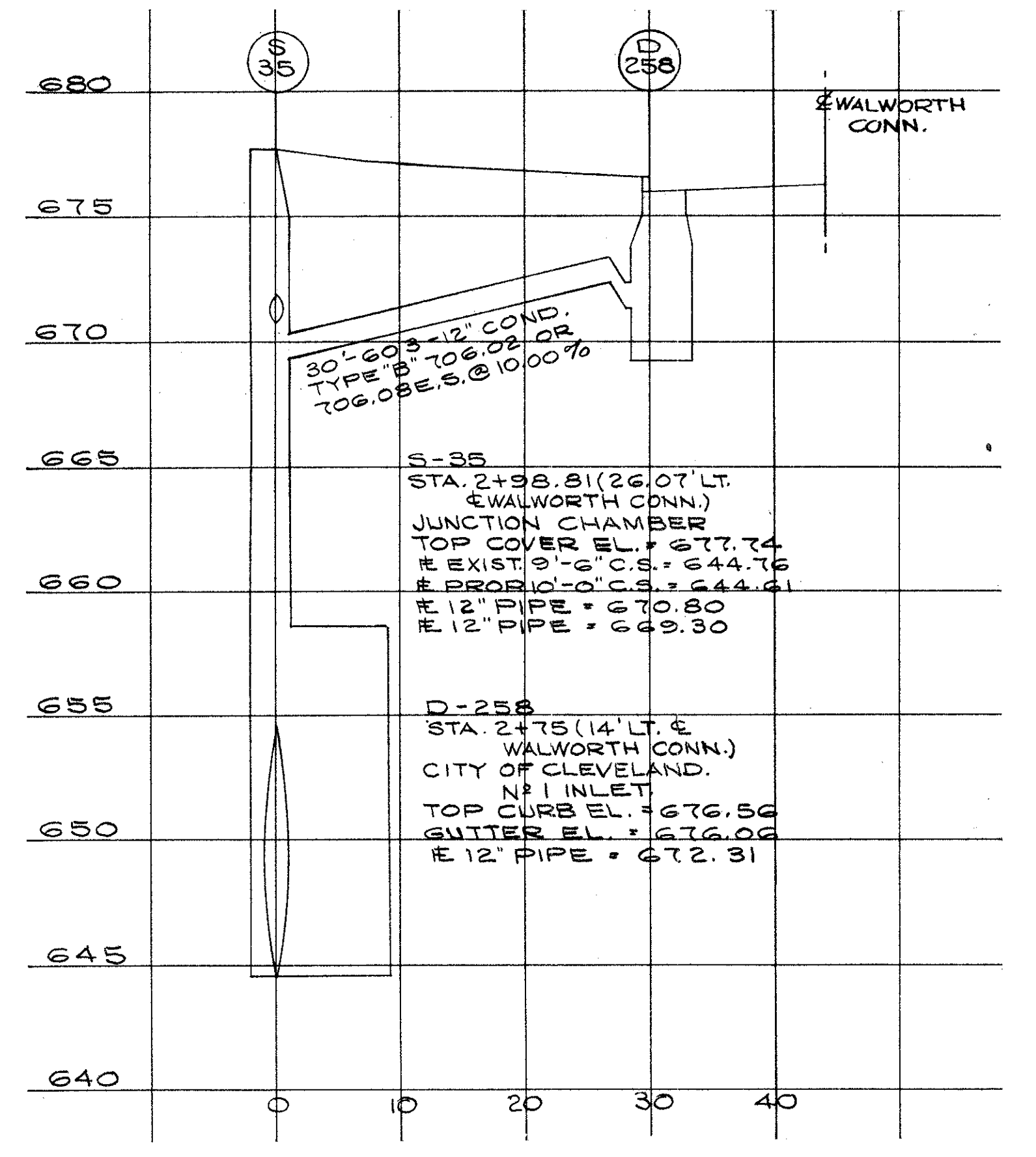


D-105  
STA. 854+32.00 (95' LT.)  
# W.B.L. I-90  
STD. N° 5 C.B. W/TRAP  
DITCH EL. = 687.00  
GRATE EL. = 686.50  
# 12" PIPE = 683.50



S-58  
STA. 861+50.00 (139' LT.)  
# W.B.L. I-90  
STD. N° 2 M.H. (MOD.) W/DROP  
TOP EL. = 683.9  
# 15" PIPE = 676.96 (NW)  
# 60" PIPE = 657.55 (E)  
# 72" PIPE = 646.26 (S)  
# EX. PIPE = 646.26 (N)

D-124  
STA. 862+00.00 (107' LT.)  
# W.B.L. I-90  
STD. N° 5 C.B. W/TRAP  
DITCH EL. = 681.00  
GRATE EL. = 680.50  
# 15" PIPE = 677.50



S-35  
STA. 2+98.81 (26.07' LT. & WALWORTH CONN.)  
JUNCTION CHAMBER  
TOP COVER EL. = 677.74  
# EXIST. 9" C.S. = 644.76  
# PROP. 10" C.S. = 644.61  
# 12" PIPE = 670.80  
# 12" PIPE = 669.30

D-258  
STA. 2+75 (14' LT. & WALWORTH CONN.)  
CITY OF CLEVELAND  
N° 1 INLET  
TOP CURB EL. = 676.56  
GUTTER EL. = 676.06  
# 12" PIPE = 672.31

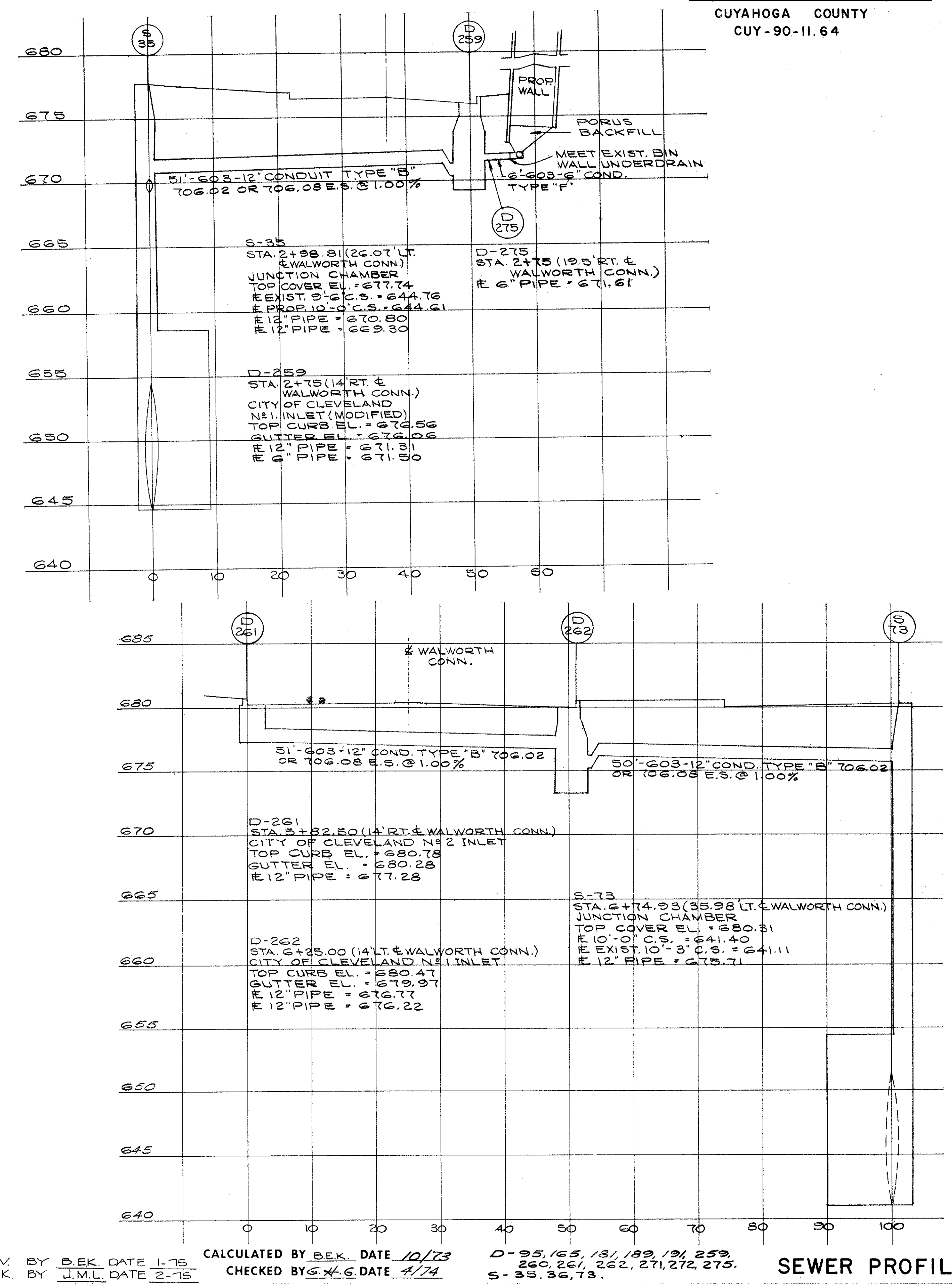
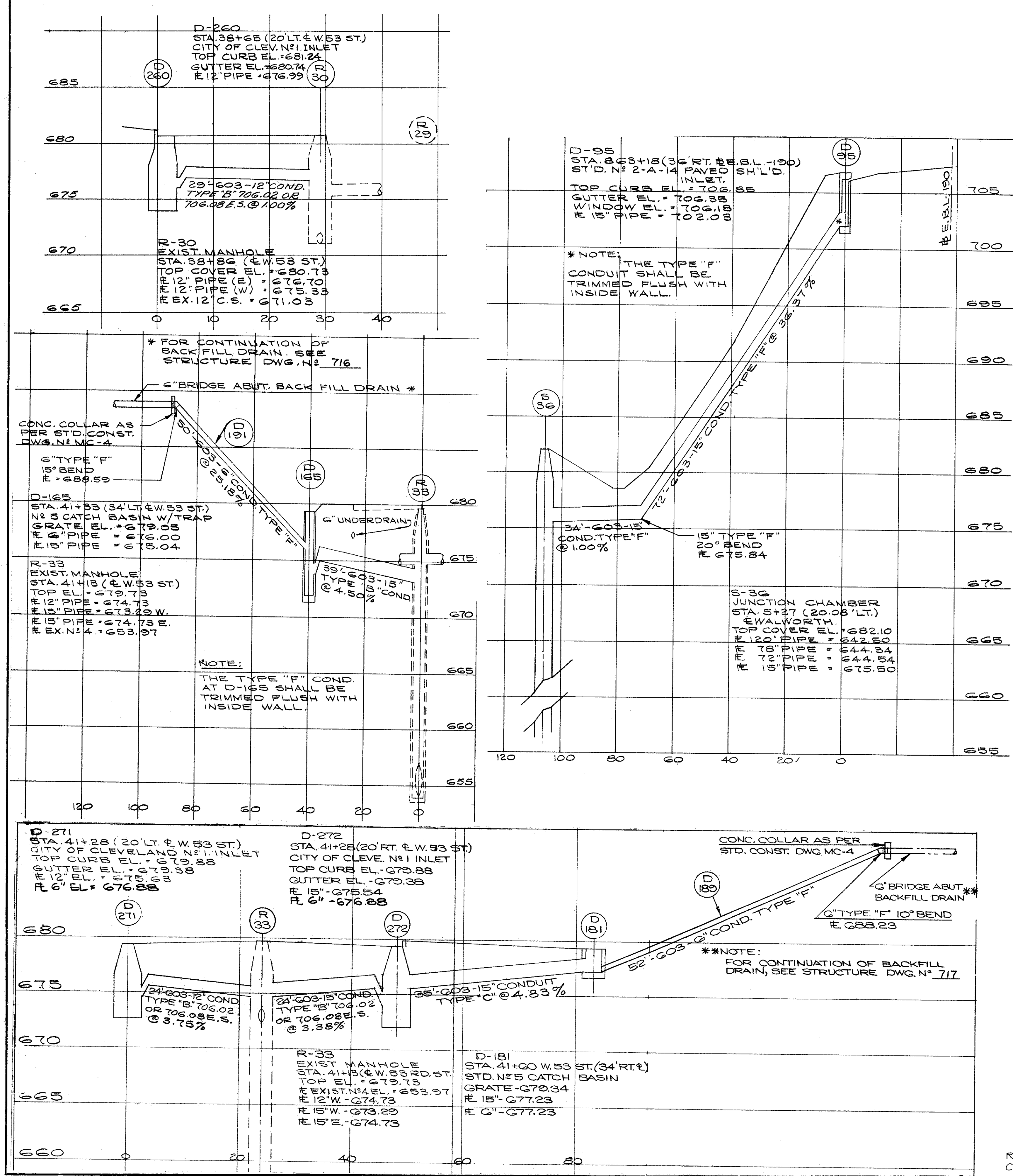
REVISED BY B.E.K. DATE 1-75  
CHECKED BY J.M.L. DATE 2-75  
CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY S.A.G. DATE 4/74

D-104, 105, 124, 130, 131, 133,  
134, 257, 258.  
S-35, 52, 53, 55, 56, 58.

SEWER PROFILES



CUYAHOGA COUNTY  
CUY-90-11.64

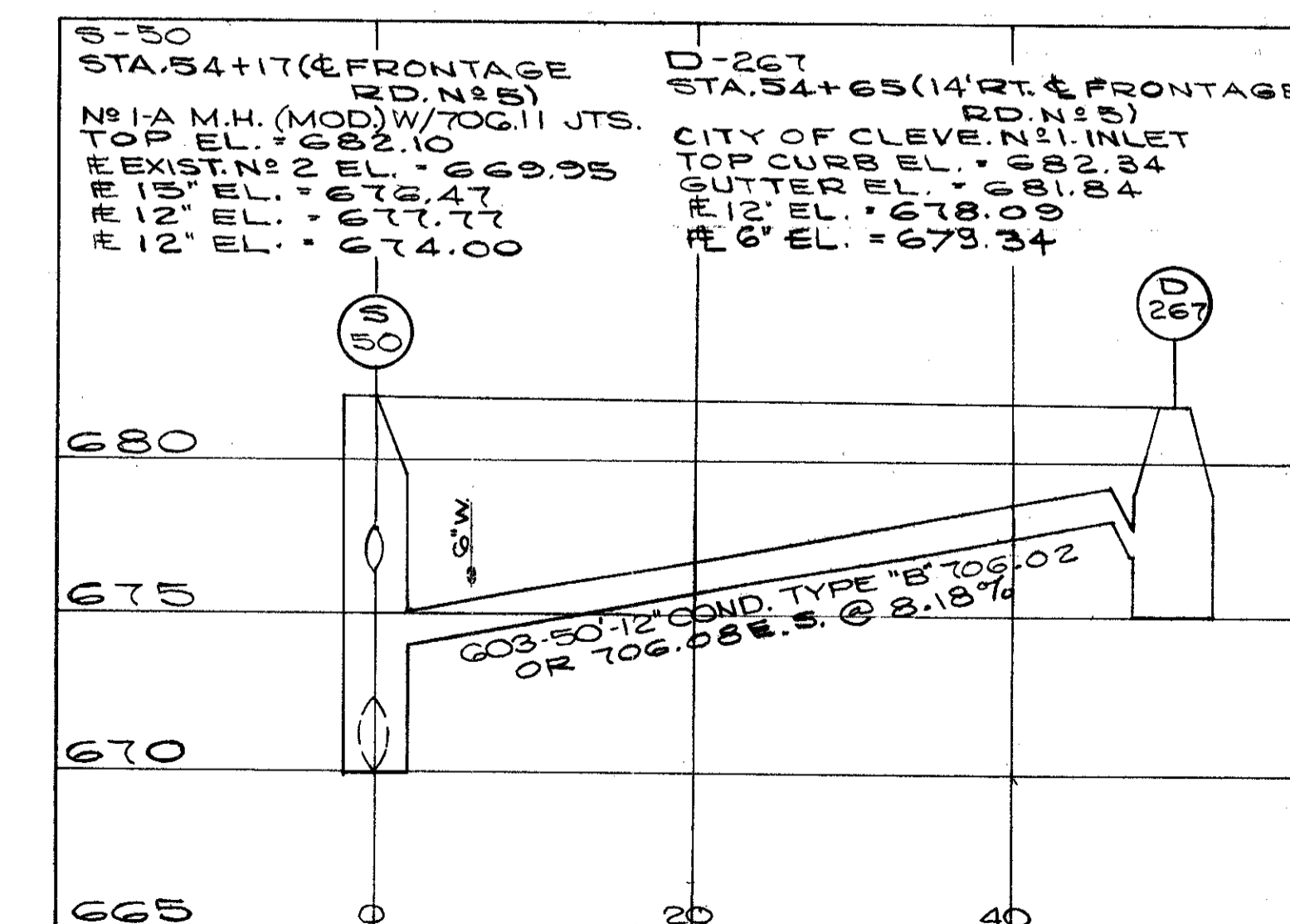
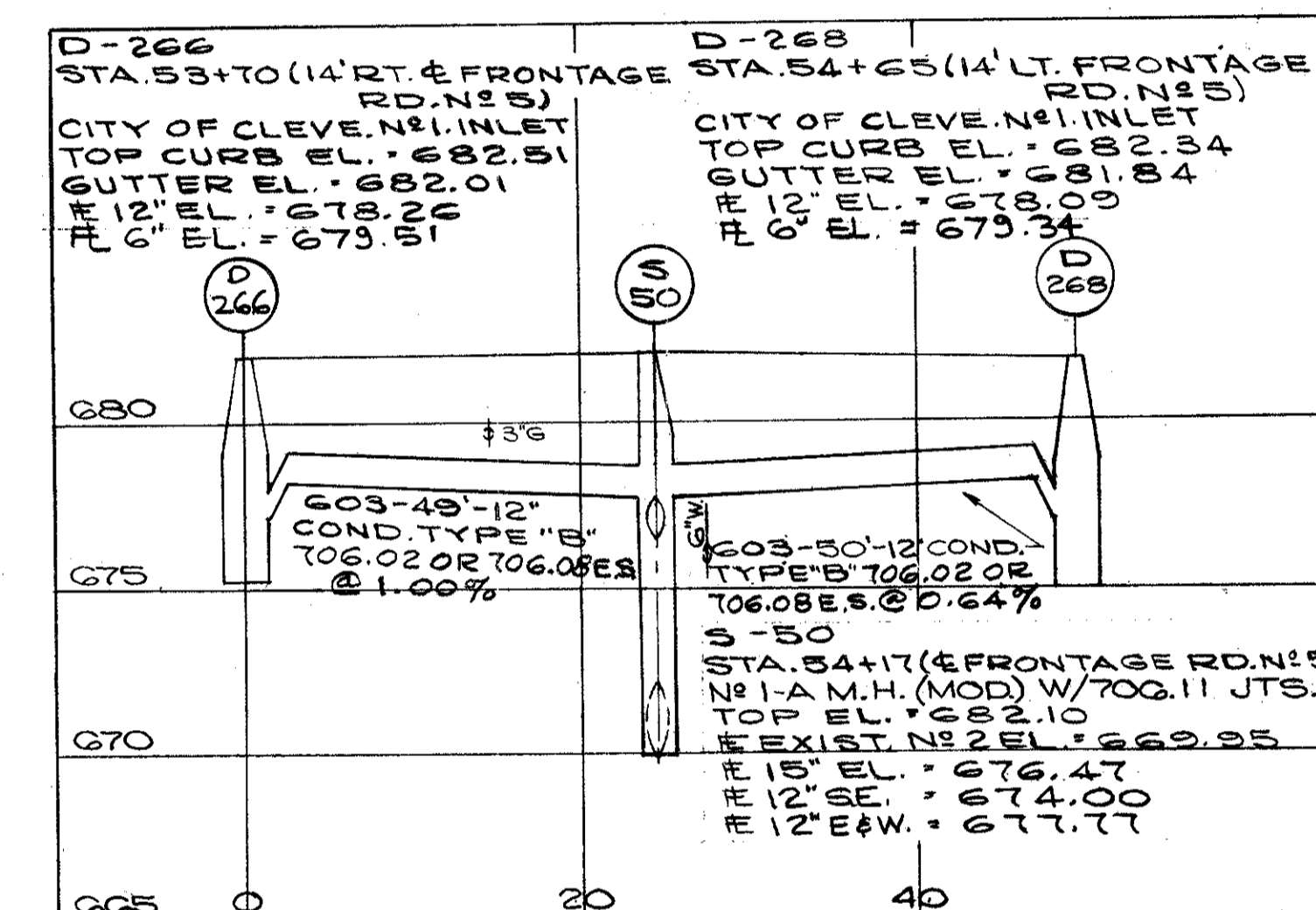
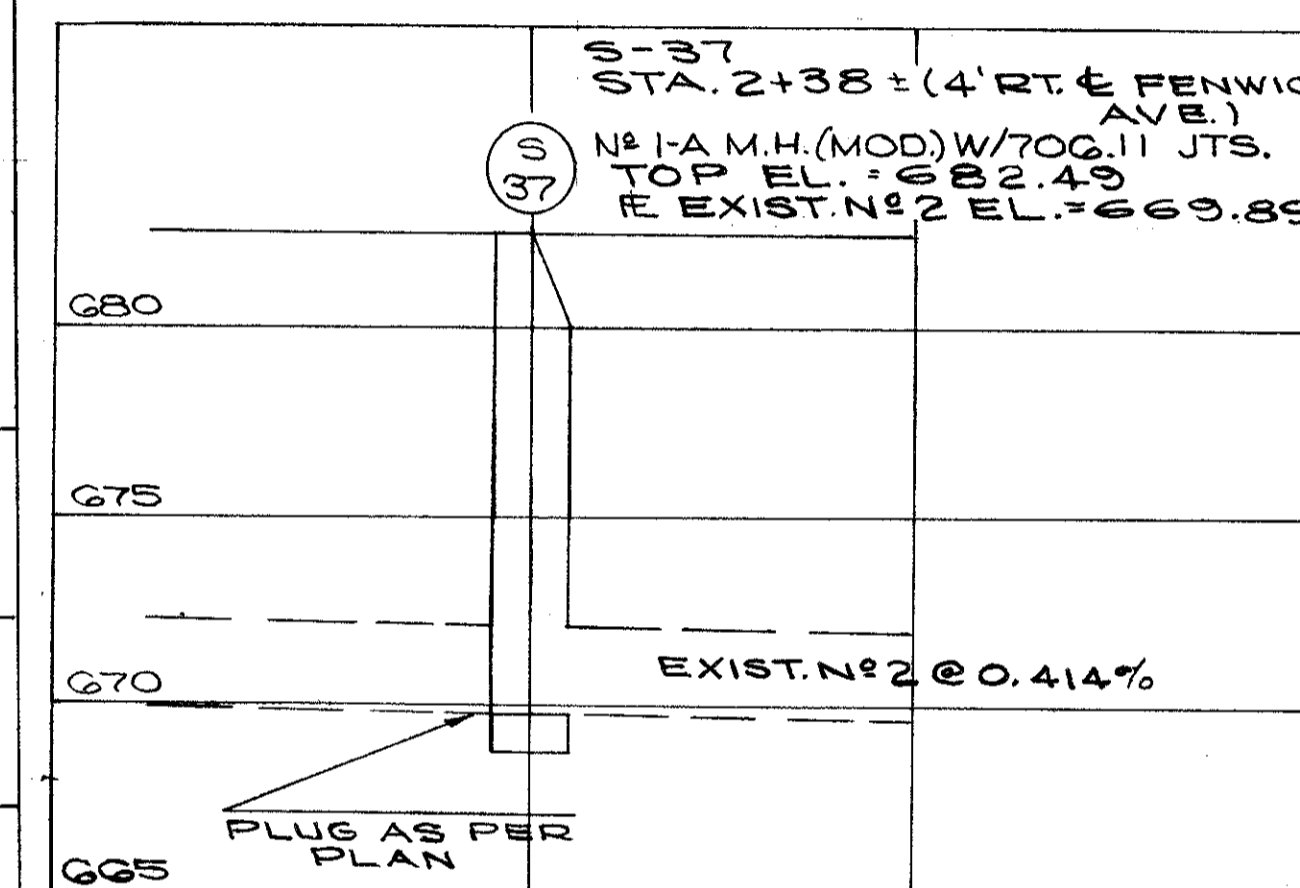
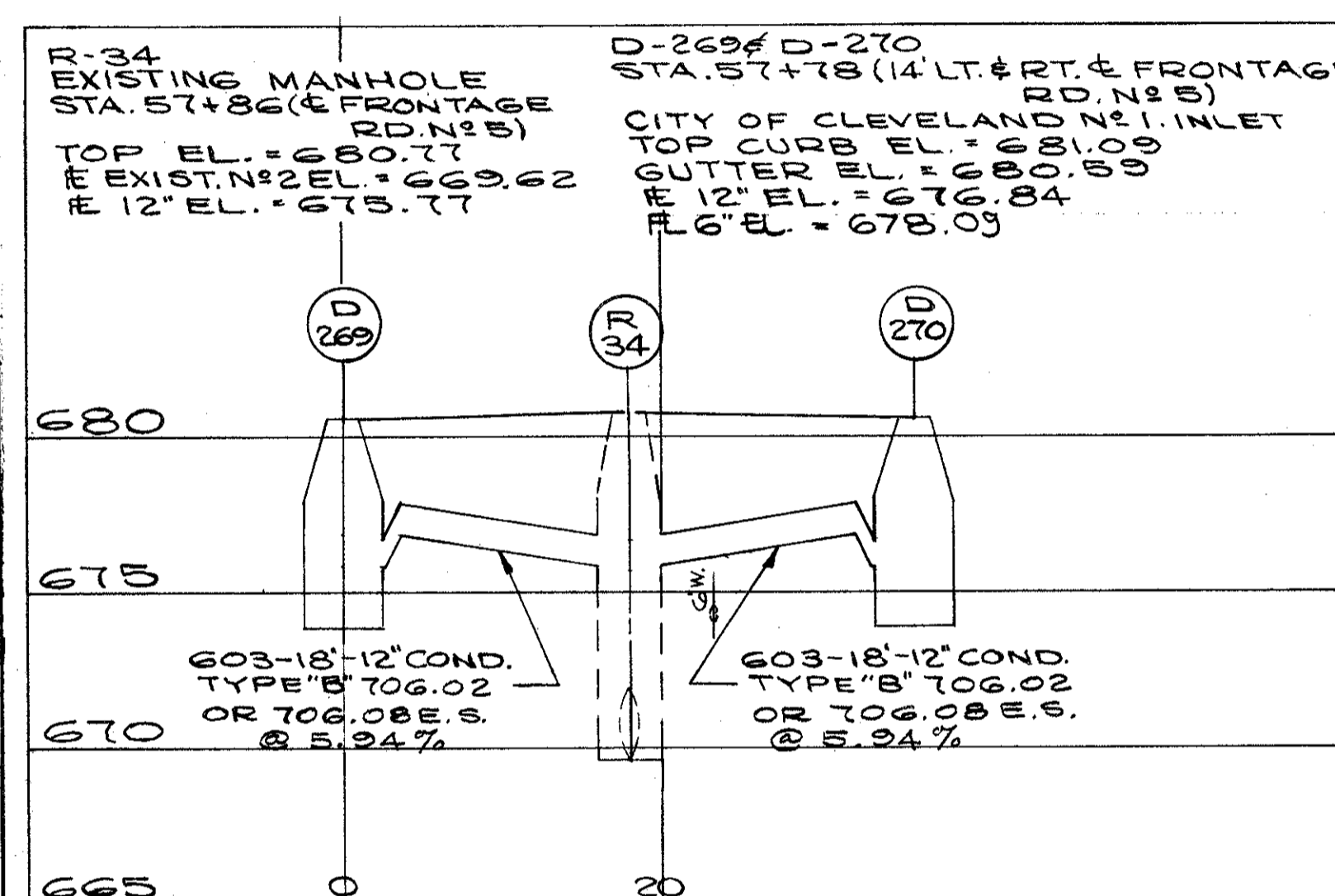
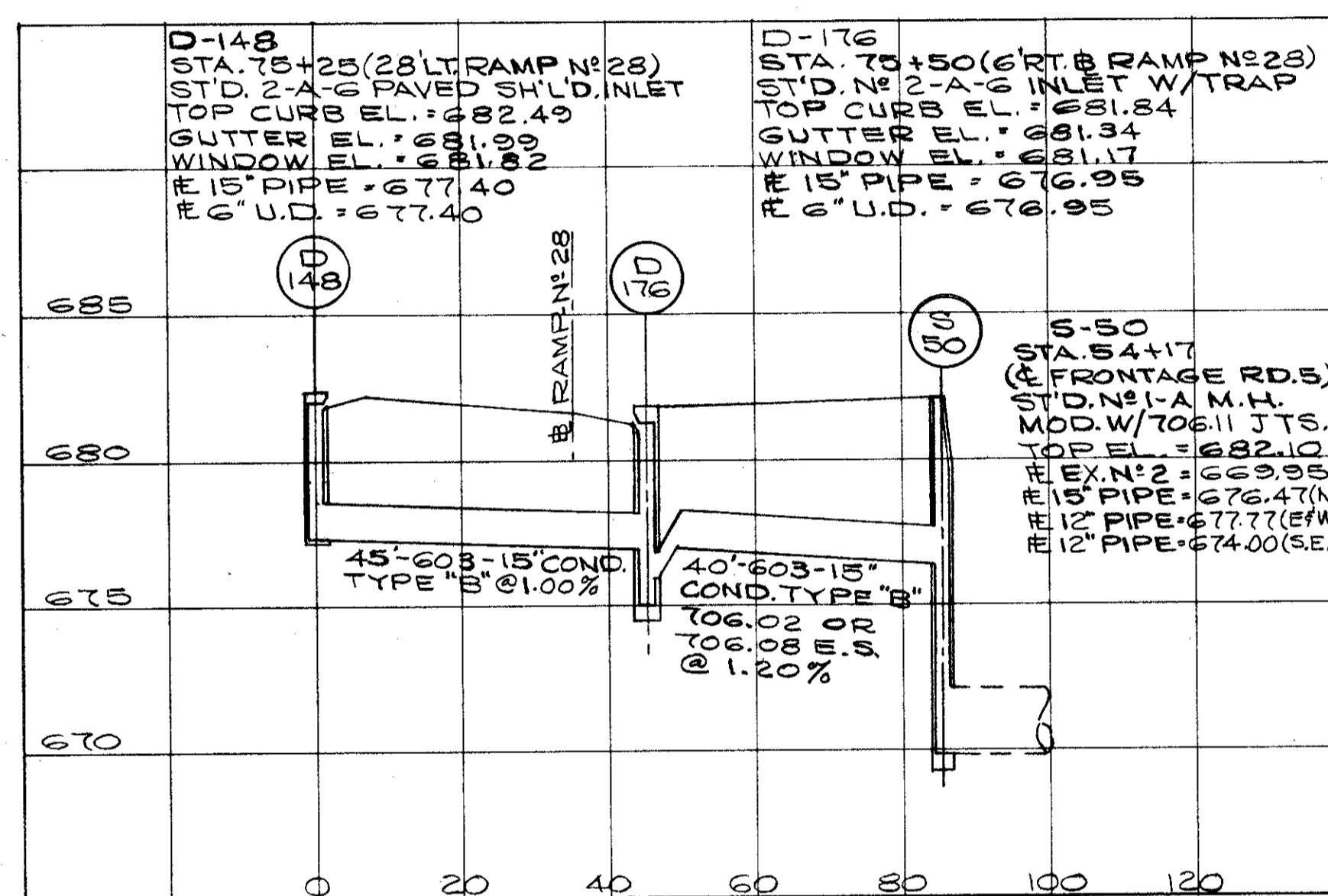
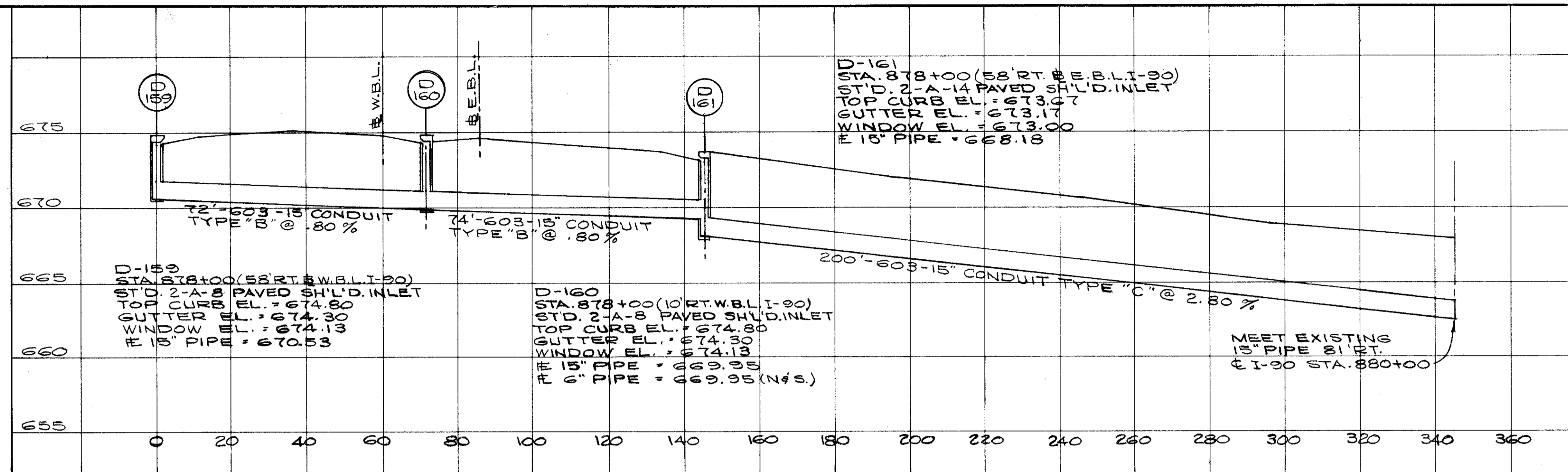


REV. BY B.E.K. DATE 1-75  
CHK. BY J.M.L. DATE 2-75  
CALCULATED BY B.E.K. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74  
D-95, 165, 181, 189, 191, 259, 260, 261, 262, 271, 272, 275, S-35, 36, 73.  
**SEWER PROFILES**

FED. RD.	STATE	PROJECT
2	OHIO	

122  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



D-148, 159, 160, 161, 176,  
266, 267, 268,  
269, 270,  
S-37, 50.

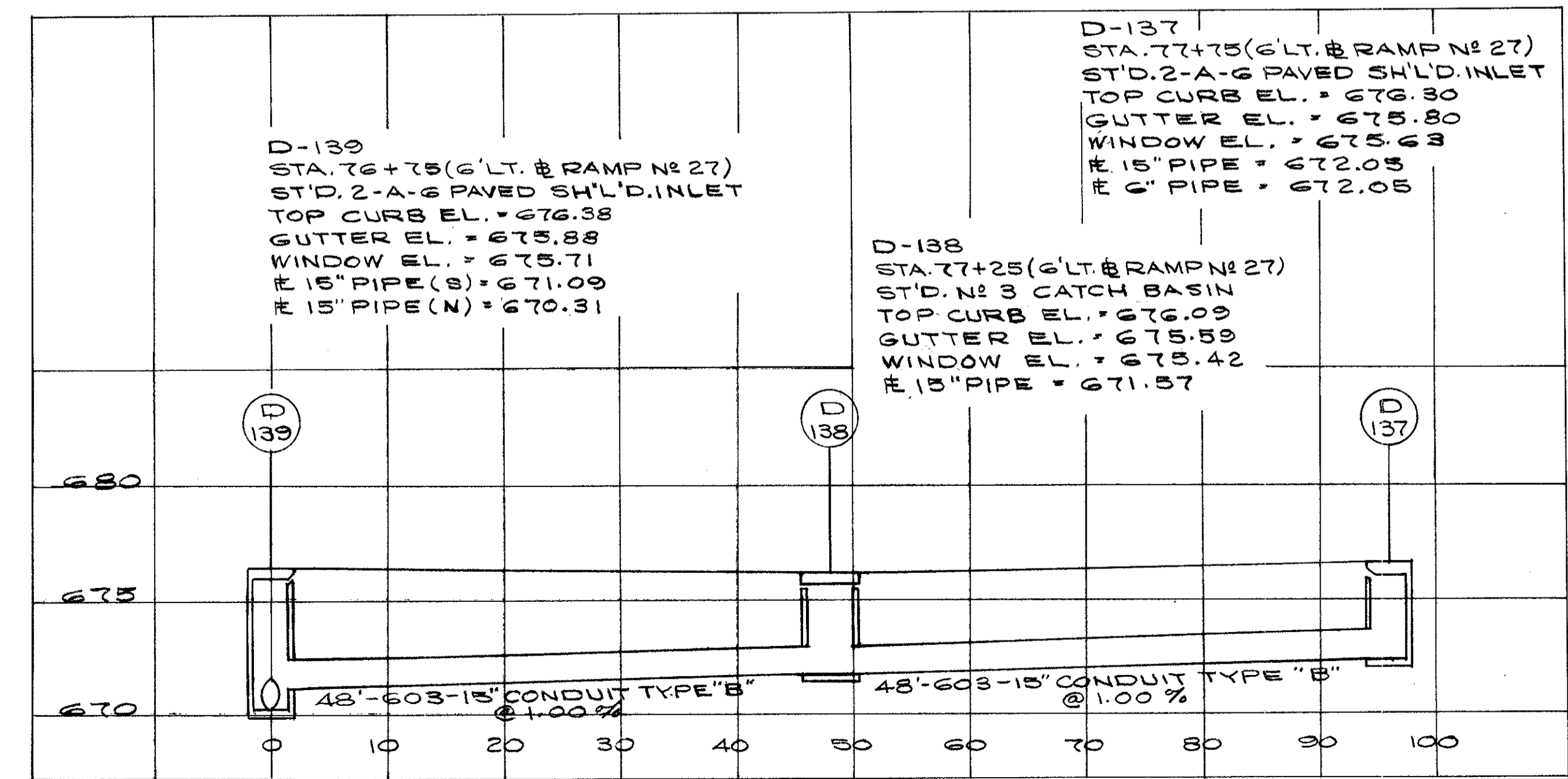
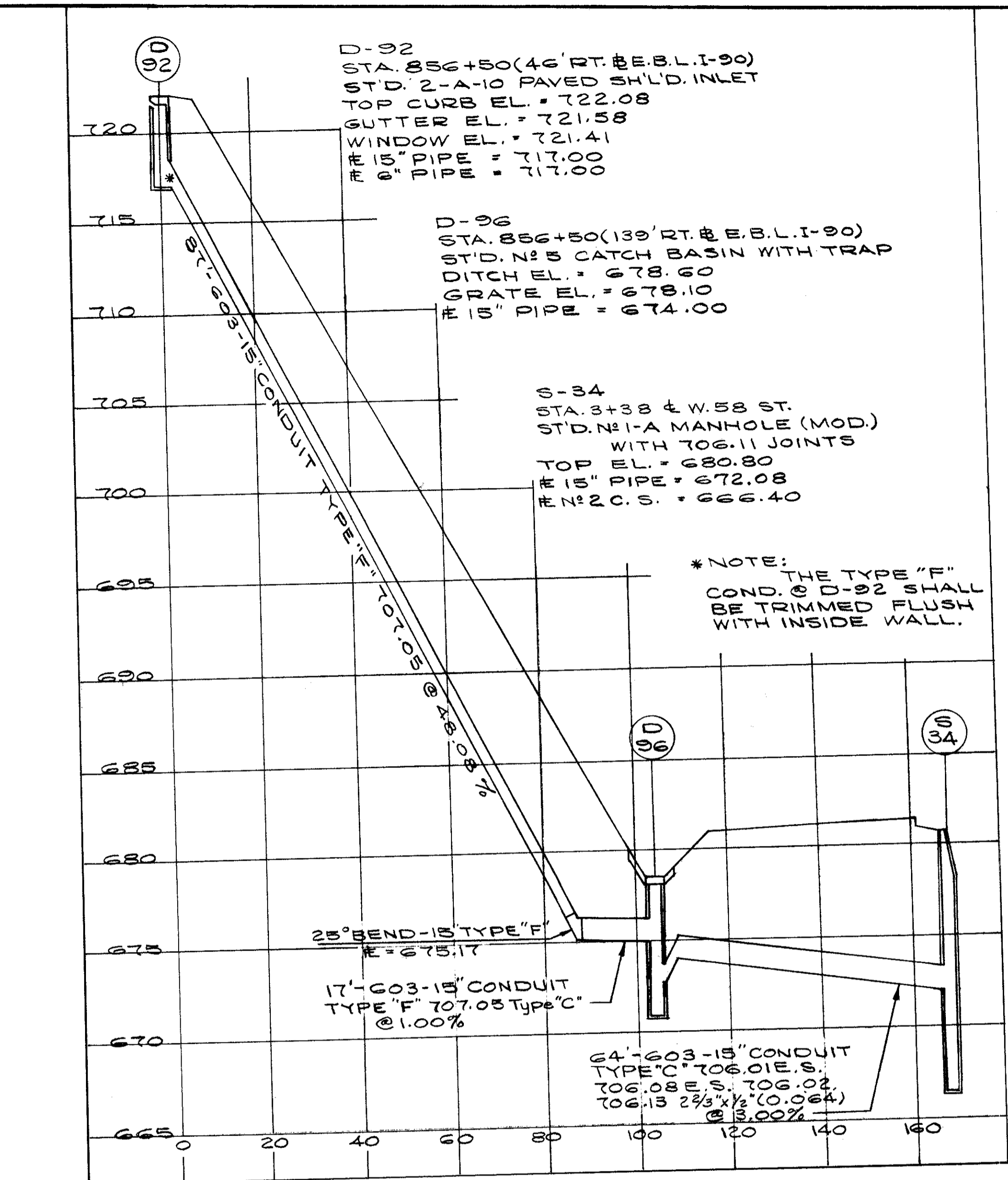
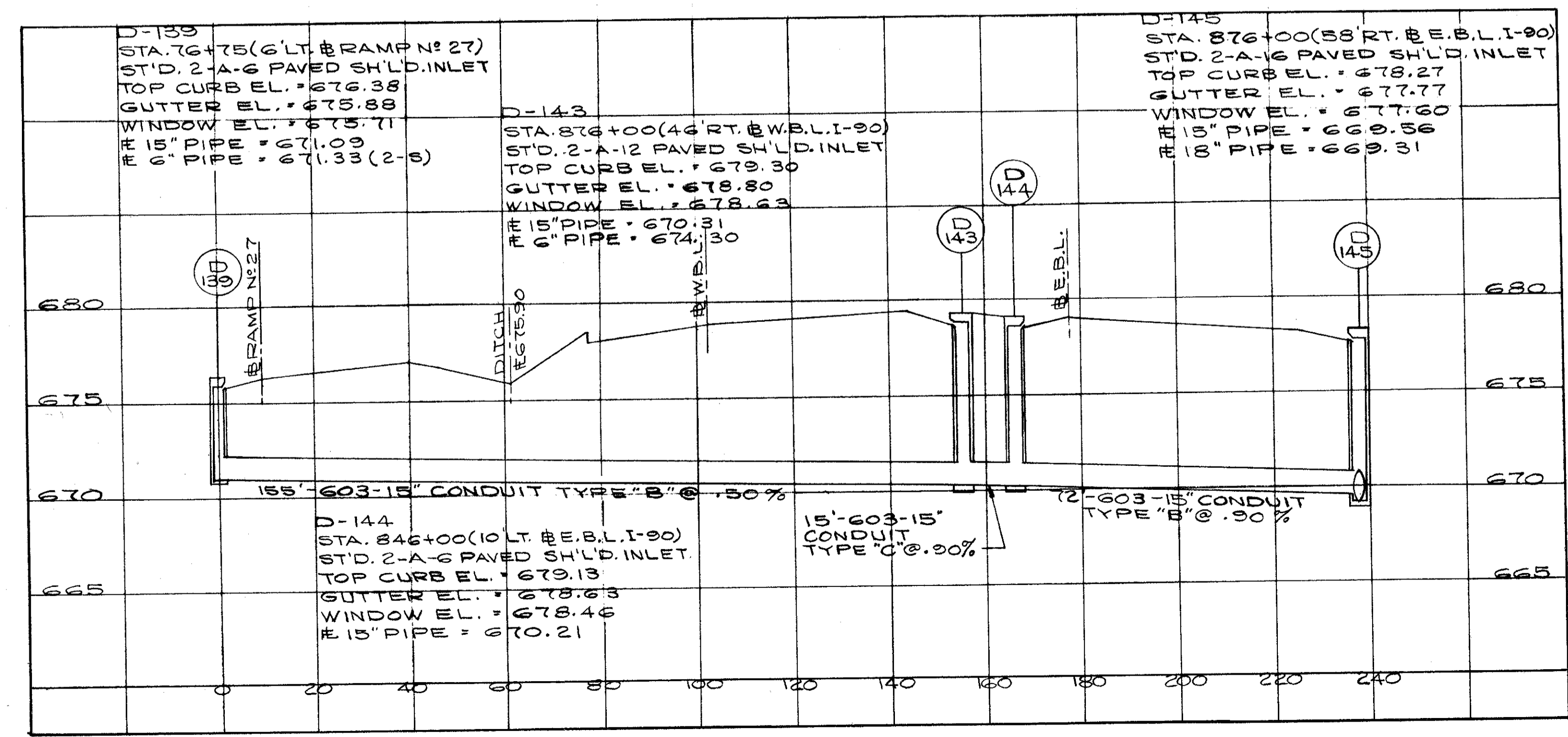
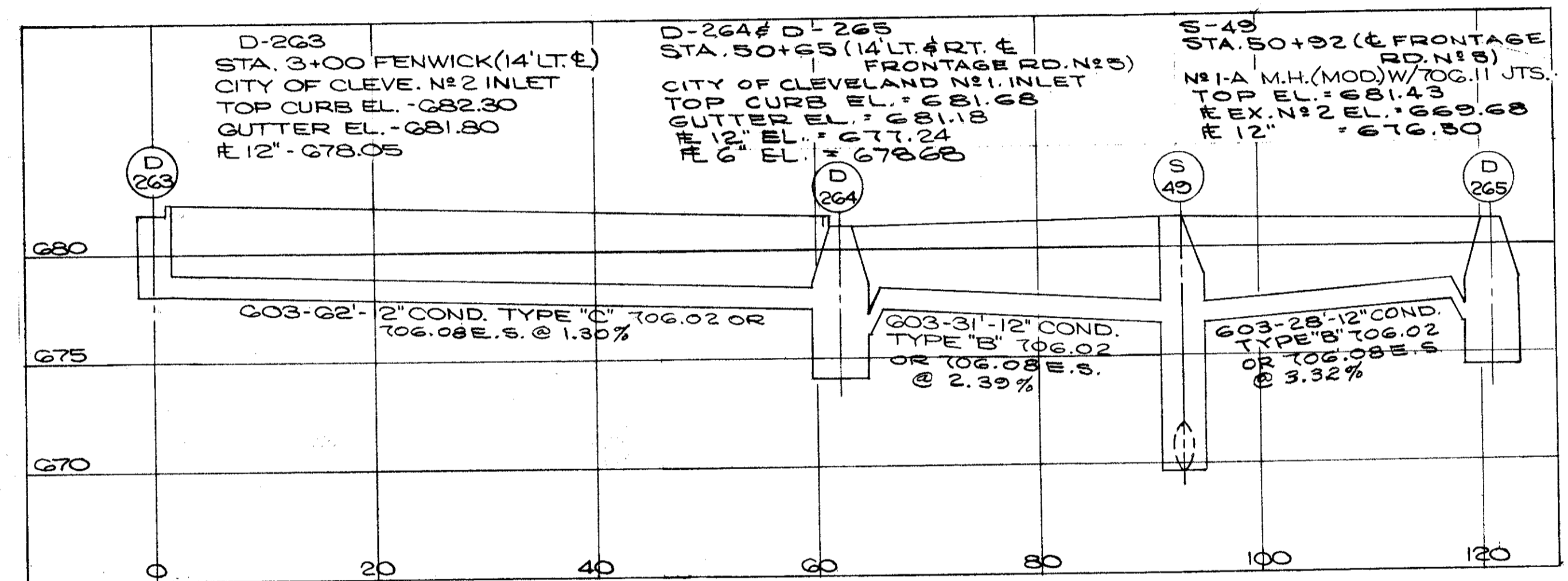
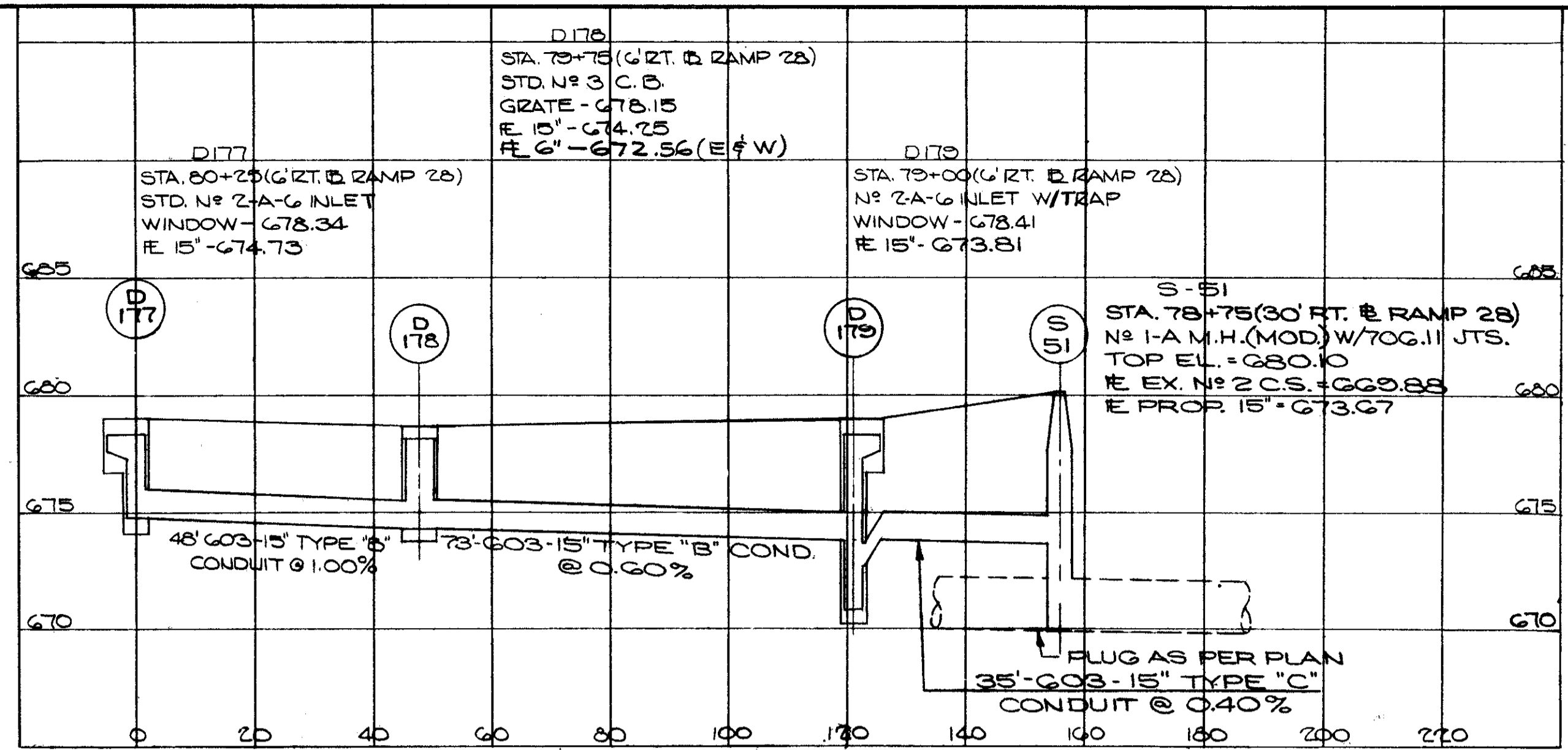
CALCULATED BY BEK. DATE 10/73  
CHECKED BY G.A.G. DATE 4/74

SEWER PROFILES

FED. RD.	STATE	PROJECT
2	OHIO	

123  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

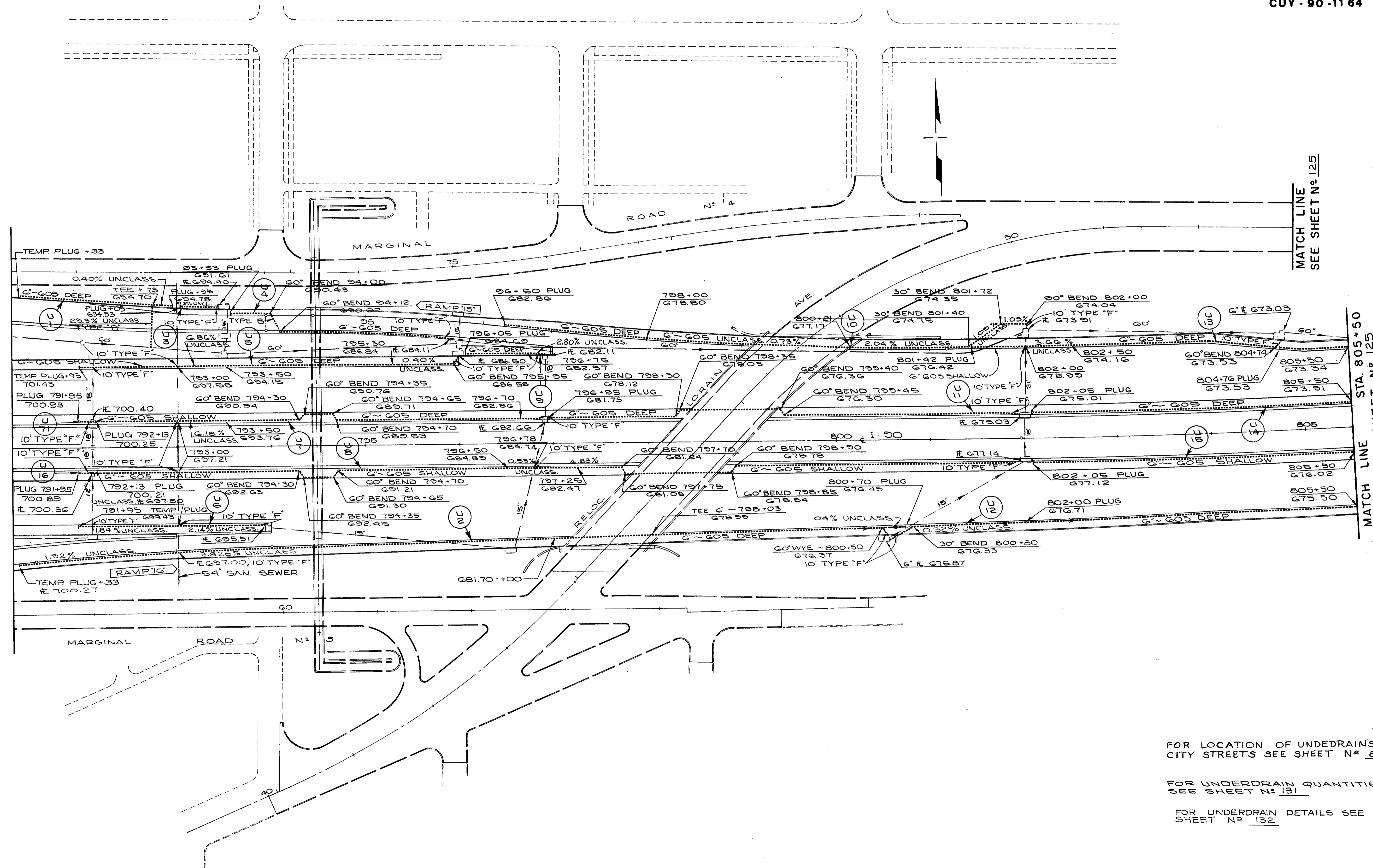


D-92, 96, 137, 138, 139, 143, 144, 145, 177, 178, 179, 263, 264, 265, S-34, 49, 51.

FED. RD.	STATE	PROJECT	
2	OHIO		

124  
838

CUYAHOGA COUNTY  
CUY-90-1164



MATCH LINE  
SEE SHEET N° 125

MATCH LINE  
SEE SHEET N° 125  
STA. 805+50

FOR LOCATION OF UNDEDRAINS ON  
CITY STREETS SEE SHEET N° 83

FOR UNDERDRAIN QUANTITIES  
SEE SHEET N° 131

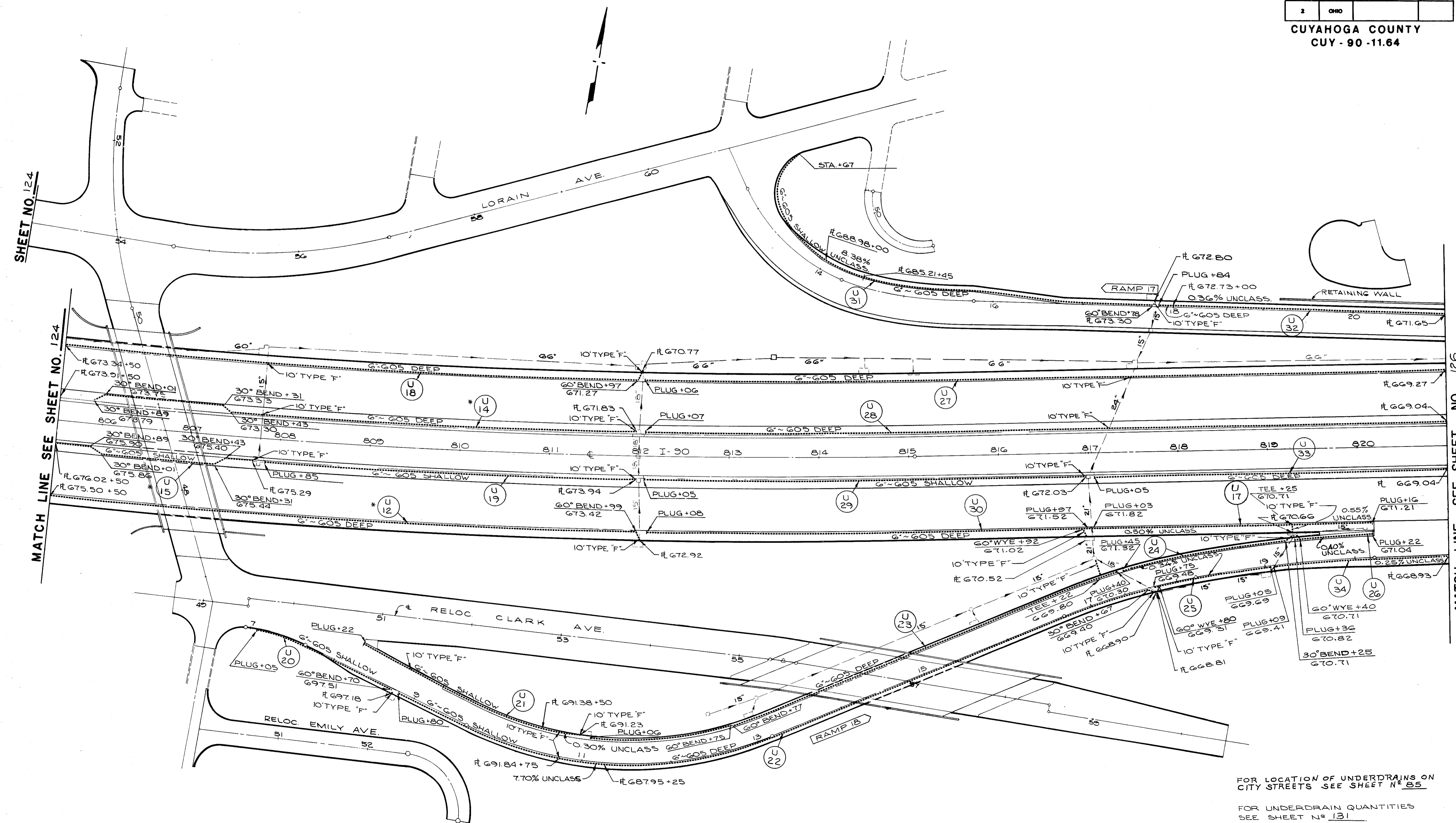
FOR UNDERDRAIN DETAILS SEE  
SHEET N° 132

UNDERDRAIN PLANS

FED. RD.	STATE	PROJECT
2	OHIO	

125  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



SHEET NO. 124

MATCH LINE SEE SHEET NO. 124

MATCH LINE SEE SHEET NO. 126

FOR LOCATION OF UNDERDRAINS ON CITY STREETS SEE SHEET NO. 85

FOR UNDERDRAIN QUANTITIES SEE SHEET NO. 131

\*QUANTITIES FOR U-12, 14, & 15 ARE INCLUDED WITH SHEET NO. 124

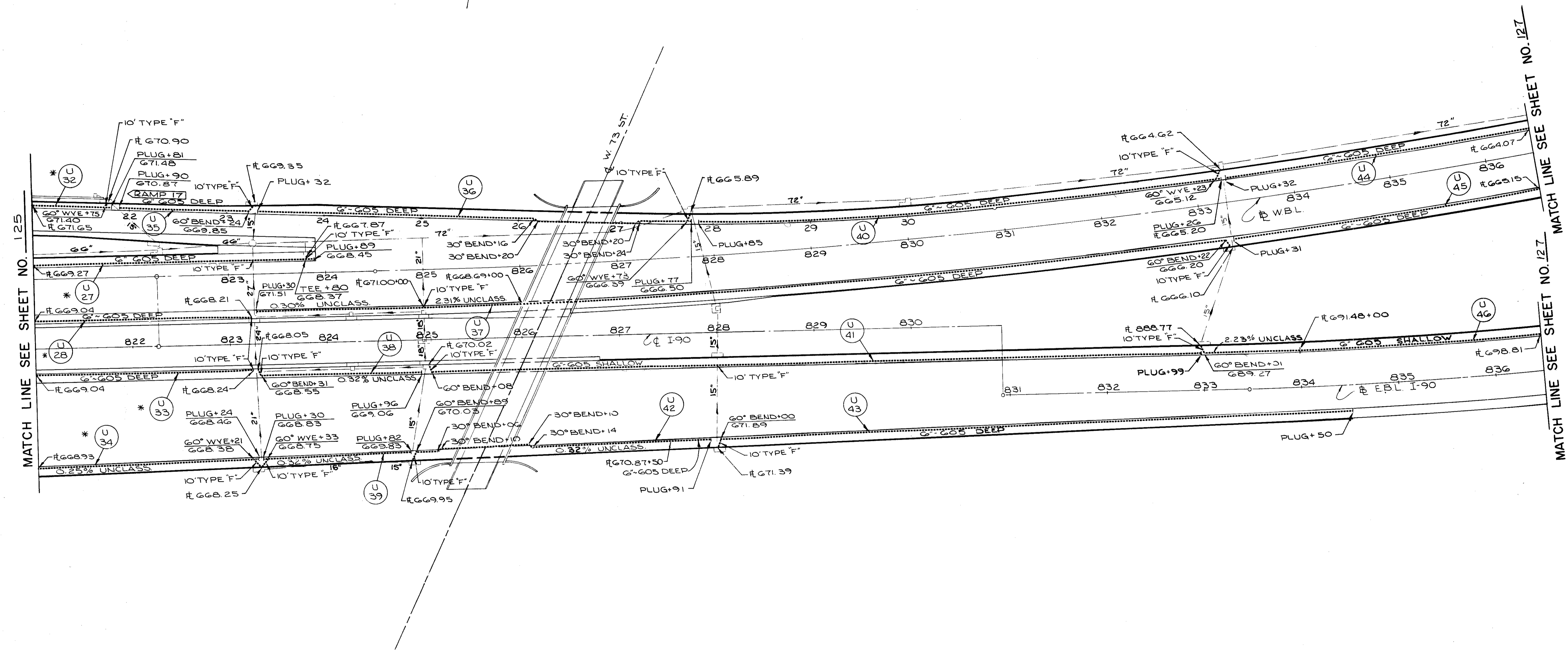
FOR UNDERDRAIN DETAILS SEE SHEET NO. 132

UNDERDRAIN PLANS

FED. RD.	STATE	PROJECT
2	OHIO	

126  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



FOR LOCATION OF UNDERDRAINS ON CITY STREETS SEE SHEET N<sup>o</sup> 86

FOR UNDERDRAIN QUANTITIES SEE SHEET N<sup>o</sup> 131

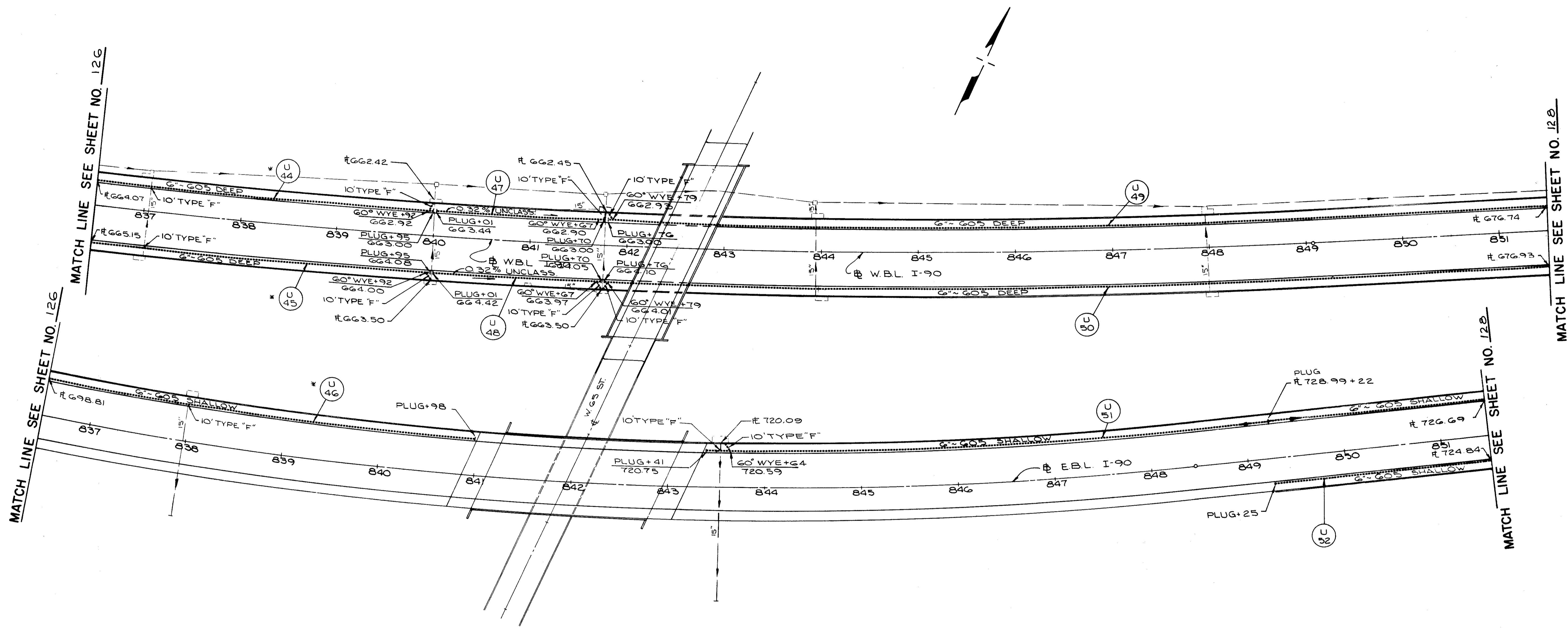
\* QUANTITIES FOR U-27, 28, 32, 33, 34 ARE INCLUDED WITH SHT. N<sup>o</sup> 125

FOR UNDERDRAIN DETAILS SEE SHEET N<sup>o</sup> 132

FED. RD.	STATE	PROJECT	
2	OHIO		

127  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



FOR LOCATION OF UNDERDRAINS ON CITY STREETS SEE SHEET N<sup>o</sup> 90f91

FOR UNDERDRAIN QUANTITIES SEE SHEET N<sup>o</sup> 131

\* QUANTITIES FOR U-44, 45, & 46 ARE INCLUDED WITH SHT. N<sup>o</sup> 126

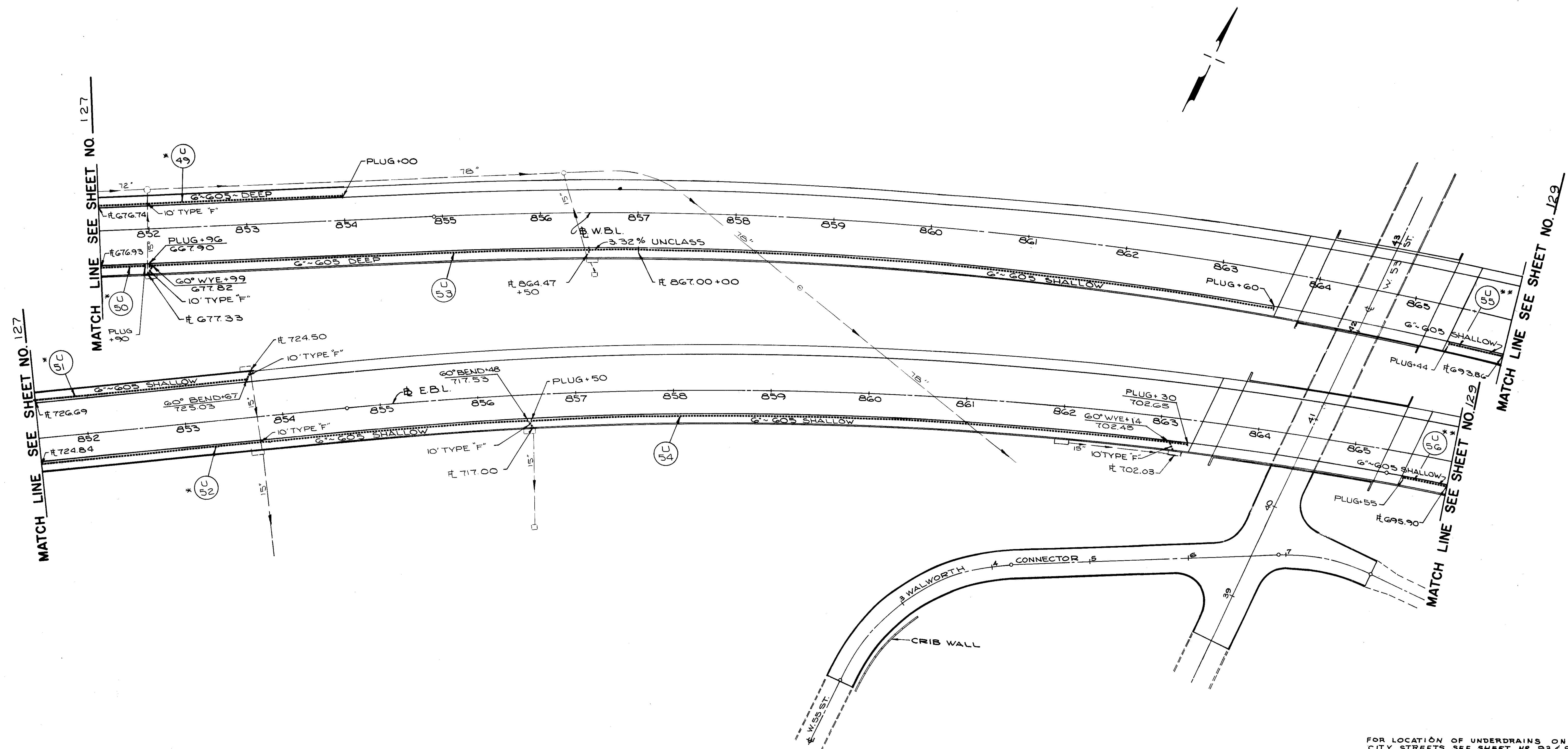
FOR UNDERDRAIN DETAILS SEE SHEET N<sup>o</sup> 132

UNDERDRAIN PLANS

FIG. NO.	STATE	PROJECT
2	OHIO	

128  
838

CUYAHOGA COUNTY  
CUY - 90 -11.64



FOR LOCATION OF UNDERDRAINS ON CITY STREETS SEE SHEET NO. 93 & 94

FOR UNDERDRAIN QUANTITIES SEE SHEET NO. 132

\* QUANTITIES FOR U-49, 50, 51 & 52 ARE INCLUDED WITH SHT. 127

\*\* QUANTITIES FOR U-55 & U-56 ARE INCLUDED WITH SHT. 129

FOR UNDERDRAIN DETAILS SEE SHEET NO. 132

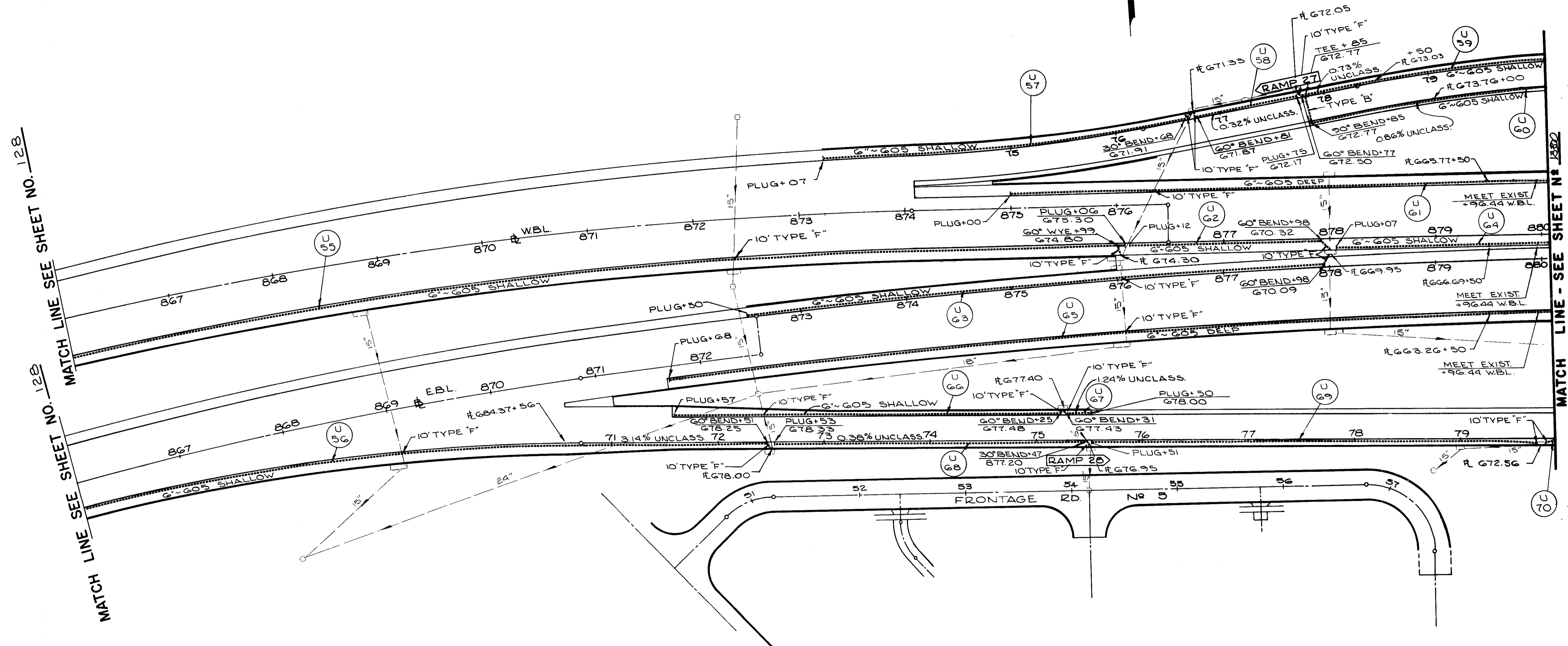
UNDERDRAIN PLANS



FED. RD.	STATE	PROJECT
2	OHIO	

129  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



MATCH LINE SEE SHEET NO. 128

MATCH LINE SEE SHEET NO. 129

MATCH LINE - SEE SHEET NO. 132

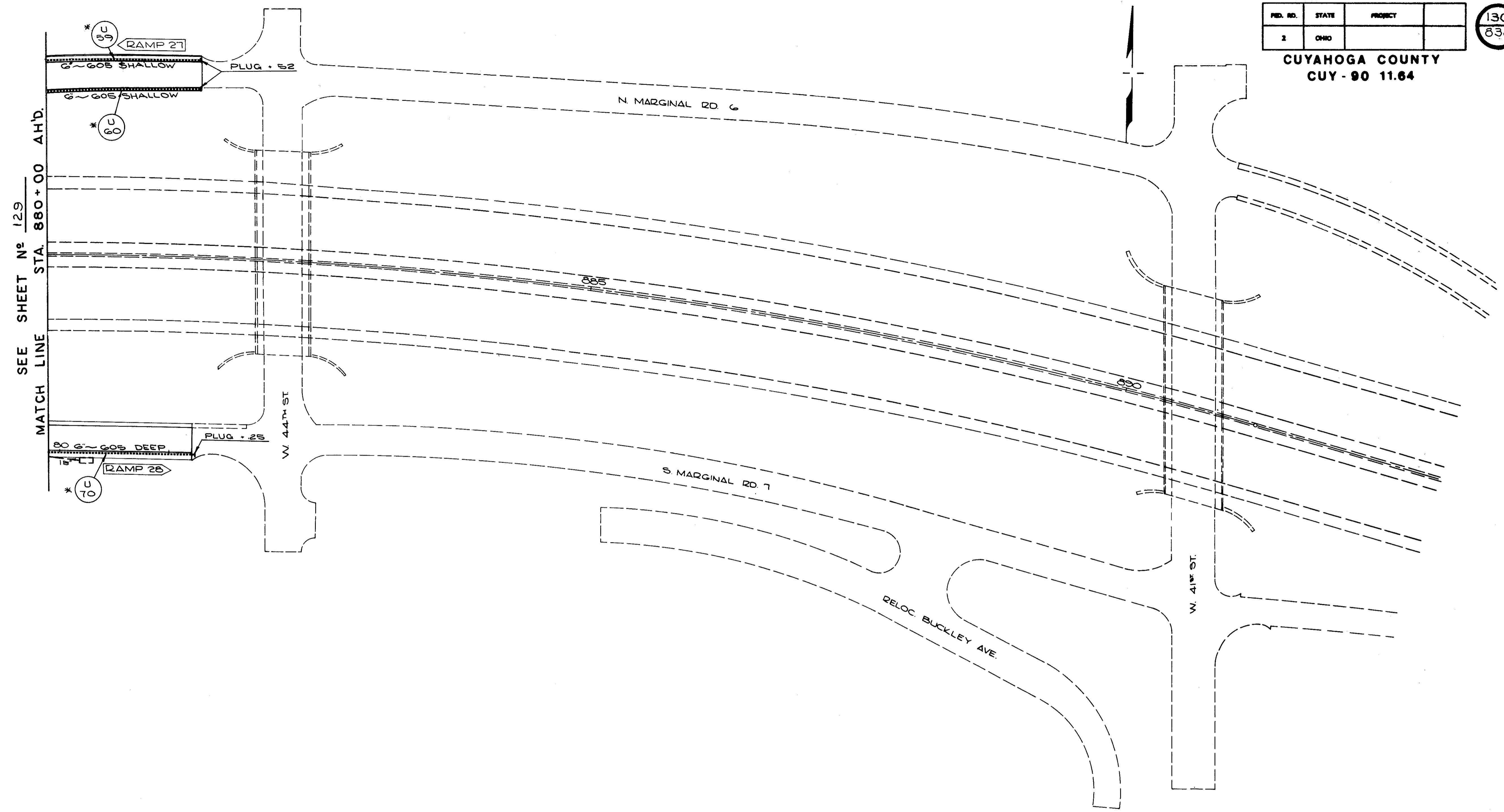
FOR LOCATION OF UNDERDRAINS ON CITY STREETS SEE SHEET NO. 96  
 FOR UNDERDRAIN QUANTITIES SEE SHEET NO. 132  
 FOR UNDERDRAIN DETAILS SEE SHEET NO. 132

UNDERDRAIN PLANS

FED. RD.	STATE	PROJECT
2	OHIO	

130  
838

CUYAHOGA COUNTY  
CUY-90 11.64



\* QUANTITIES FOR U-59, 60, 70  
ARE INCLUDED WITH SH'T. N° 129  
FOR UNDERDRAIN DETAILS SEE  
SHEET N° 132

**UNDERDRAIN PLANS**

CUYAHOGA COUNTY  
CUY - 90 - 11.64

REFERENCE No.	605			603		SHT.124				
	6" PIPE UNDERDRAINS			6" CONDUIT		6" BENDS & BRANCHES				
	DEEP	SHALLOW	UNCLASSIFIED	TYPE F	TYPE B	WYE	TEE	30° BEND	60° BEND	90° BEND
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.					
U-1	142		20		45		1			
U-2	350		590	20		1	1			
U-3			30	10						
U-4	221			10	20				2	
U-5	180	90	110	30					1	
U-6			164	30						
U-7	345	72	45	20					4	
U-8		892	65	30					8	
U-9	70		15	10						
U-10	150		408	10				2		1
U-11	502			10					4	
U-12	999		140	20				1	1	
U-13	224	53	45	20					1	
U-14	980			20				4		
U-15		565		10				4		
U-16		5		10						
U-71		5		10						
SUB TOTALS	4,163	1,682	1,632	270	65					

REFERENCE No.	605			603		SHT.126				
	6" PIPE UNDERDRAINS			6" CONDUIT		6" BENDS & BRANCHES				
	DEEP	SHALLOW	UNCLASSIFIED	TYPE F	TYPE B	WYE	TEE	30° BEND	60° BEND	90° BEND
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.					
U-35	134			10					1	
U-36	441		4	10		1		4		
U-37	722		260	20					1	
U-38			165	10					1	
U-39			152	10		1				
U-40	538		3	10		1				
U-41		781		20					1	
U-42	41		261	10				4	1	
U-43	650			10					1	
U-44	650		3	20		1				
U-45	651		3	20		1				
U-46		688	99	20					1	
SUB TOTALS	3,827	1,469	950	170						

REFERENCE No.	605			603		SHT.125				
	6" PIPE UNDERDRAINS			6" CONDUIT		6" BENDS & BRANCHES				
	DEEP	SHALLOW	UNCLASSIFIED	TYPE F	TYPE B	WYE	TEE	30° BEND	60° BEND	90° BEND
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.					
U-18	711			20						
U-19		405		10						
U-20		165		10					1	
U-21		218	20	30						
U-22	642	190	45	20				1		
U-23	644			10			1		2	
U-24			195	10				1		
U-25			120	10		1				
U-26			92	10		1				
U-27	1154		9	30			1			
U-28	1098			20						
U-29		485		10						
U-30	503			10		1				
U-31	333	133	45	10					1	
U-32	16		381	10		1				
U-33	610			10						
U-34			417	10						
U-17			320	10			1			
SUB TOTALS	5,711	1,696	1,644	250						

REFERENCE No.	605			603		SHT.127				
	6" PIPE UNDERDRAINS			6" CONDUIT		6" BENDS & BRANCHES				
	DEEP	SHALLOW	UNCLASSIFIED	TYPE F	TYPE B	WYE	TEE	30° BEND	60° BEND	90° BEND
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.					
U-47			169	10		1				
U-48			169	10		1				
U-49	1211		3	20		1				
U-50	1011		3	10		1				
U-51		1017	23	30			1		1	
U-52		713		20					1	
SUB TOTALS	2222	1730	367	100						

REFERENCE No.	605			603	
	6" PIPE UNDERDRAINS			6" CONDUIT	
	DEEP AS PER PLAN	SHALLOW AS PER PLAN	UNCLASSIFIED AS PER PLAN	TYPE F	TYPE B
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
124	4,163	1,682	1,632	270	65
125	5,711	1,596	1,644	250	
126	3,827	1,469	950	170	
127	2,222	1,730	367	90	
TOTALS	15,923	6,477	4,593	780	65

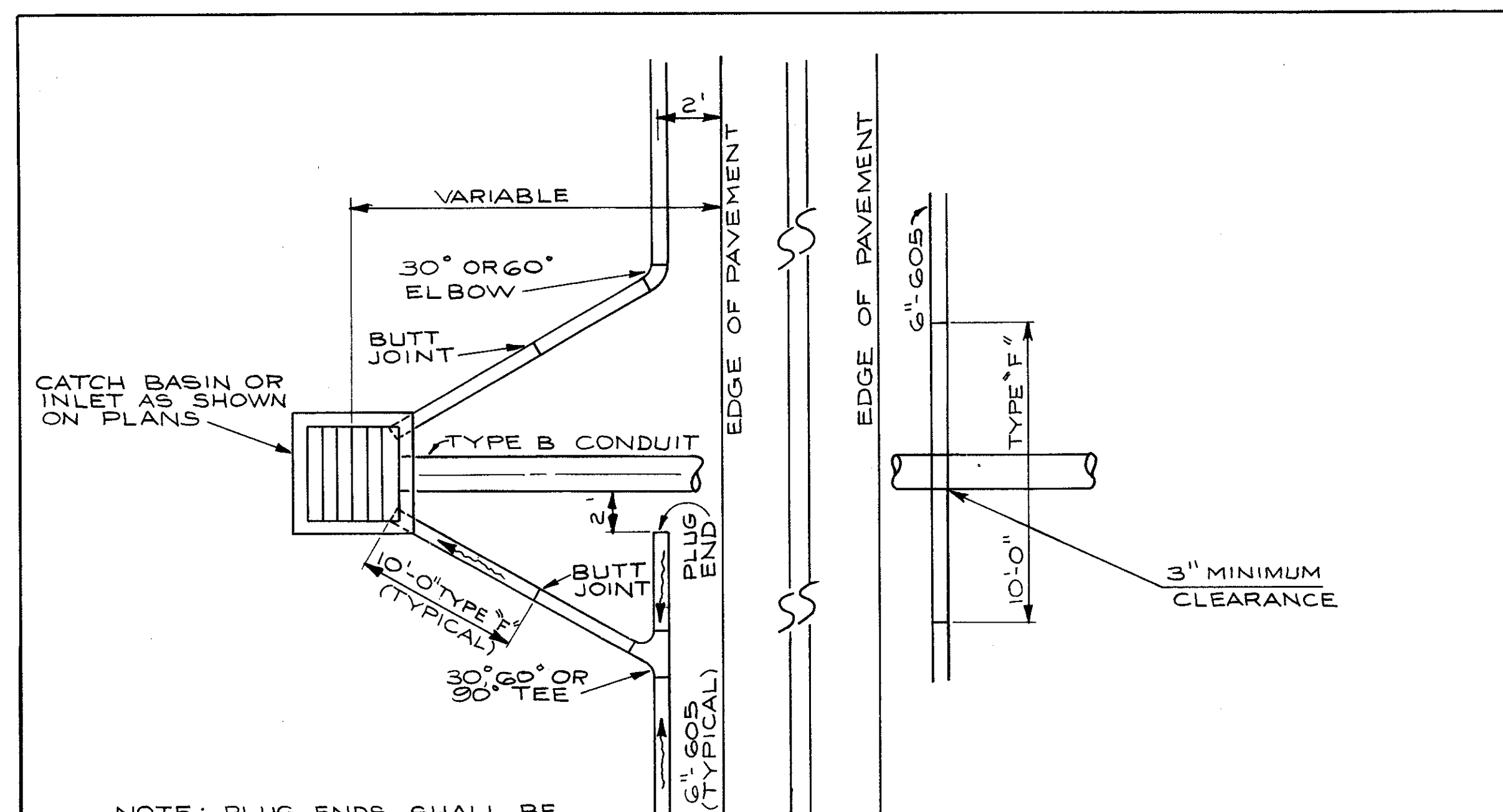
CALCULATED BY N.S. DATE 10/73  
CHECKED BY G.H.G. DATE 4/74

DRAINAGE QUANTITIES

REFERENCE No.	605			603		SHT. 128				
	6" PIPE UNDERDRAINS			6" CONDUIT		6" BENDS & BRANCHES				
	DEEP	SHALLOW	UNCLASS- IFIED	TYPE F	TYPE B	WYE	TEE	30° BEND	60° BEND	90° BEND
	LIN. FT.	LIN. FT.	LIN. FT.							
U-53	451	660	53	10						1
U-54		675	5	10		1				
<b>SUB TOTALS</b>	<b>451</b>	<b>1335</b>	<b>58</b>	<b>20</b>						

REFERENCE No.	605			603		SHT. 129				
	6" PIPE UNDERDRAINS			6" CONDUIT		6" BENDS & BRANCHES				
	DEEP	SHALLOW	UNCLASS- IFIED	TYPE F	TYPE B	WYE	TEE	30° BEND	60° BEND	90° BEND
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.					
U-55		1045	7	20		1				
U-56		502	195	20						
U-57		361		10					1	
U-58			94	10						
U-59		302	73	10			1			
U-60		252	115		28					1
U-61	440		46	10						
U-62		186		10						1
U-63	538			20						1
U-64		143	46							
U-65	772		46	10						
U-66		358		20						1
U-67			19	10						1
U-68			294	10					1	
U-69	411			10						
U-70	137			10						
<b>SUB TOTALS</b>	<b>2,298</b>	<b>3,149</b>	<b>935</b>	<b>180</b>	<b>28</b>					

REFERENCE No.	605			603	
	6" PIPE UNDERDRAINS			6" CONDUIT	
	DEEP, AS PER PLAN	SHALLOW AS PER PLAN	UNCLASS- IFIED, AS PER PLAN	TYPE F	TYPE B
	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
SHT 128	451	1,335	58	20	
SHT 129	2,298	3,149	935	180	28
<b>TOTAL</b>	<b>2,749</b>	<b>4,484</b>	<b>993</b>	<b>200</b>	<b>28</b>

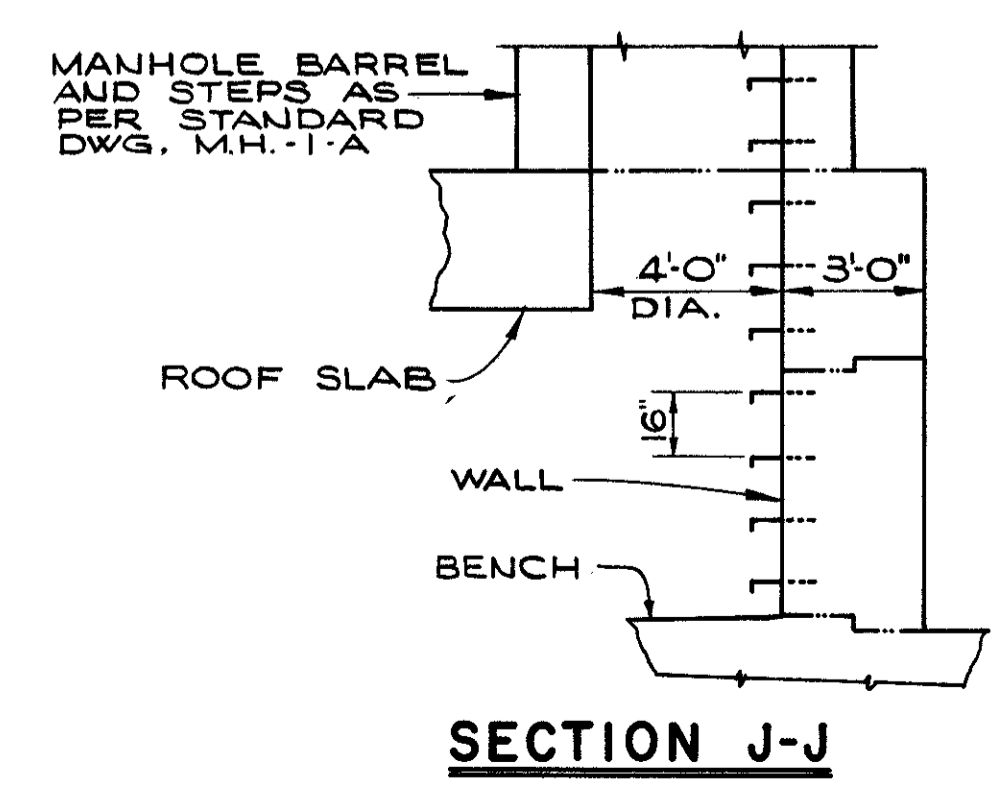
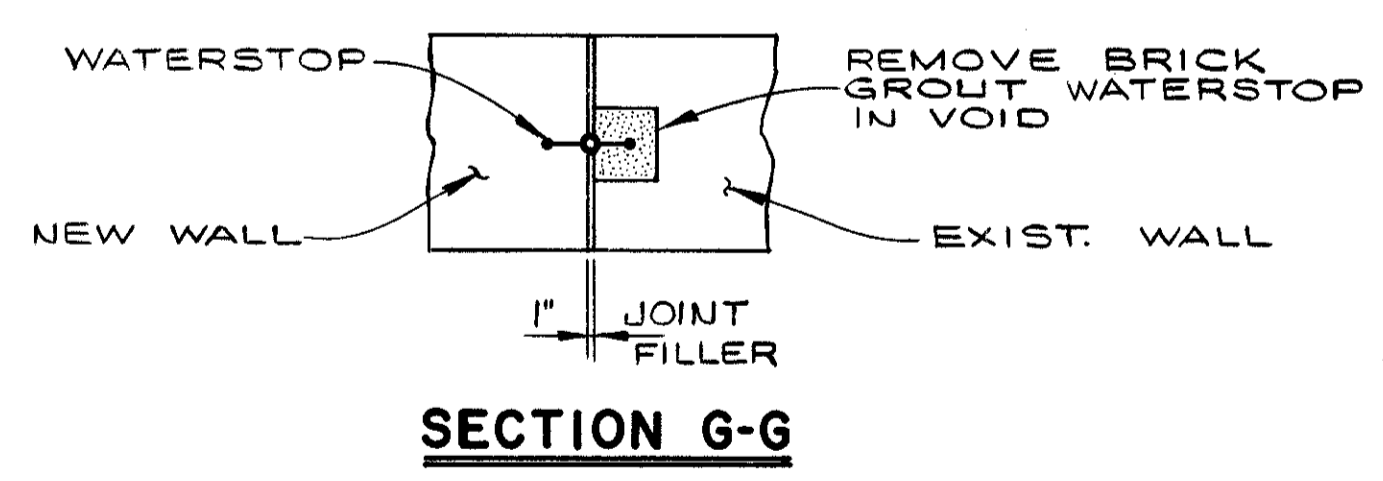
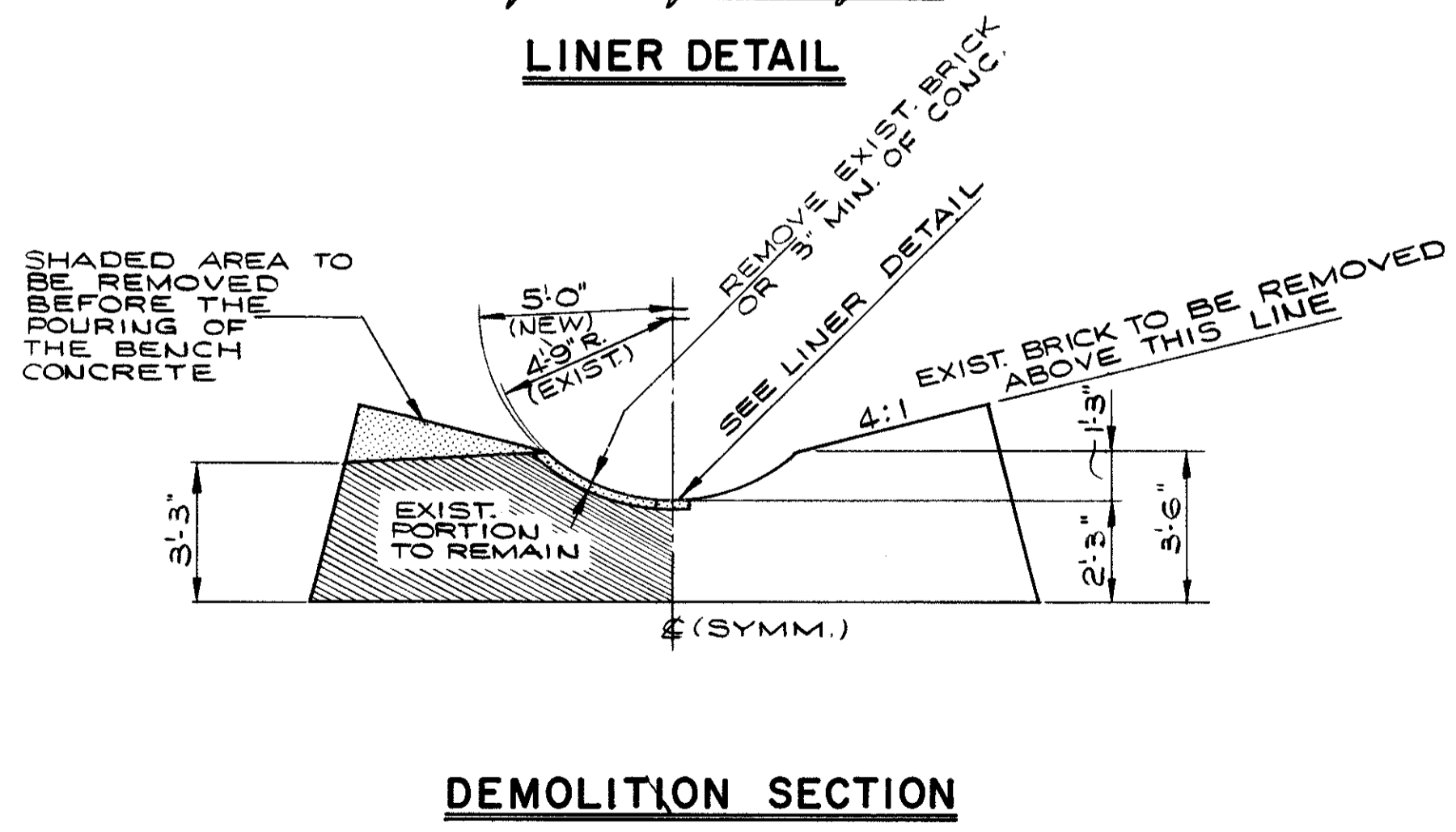
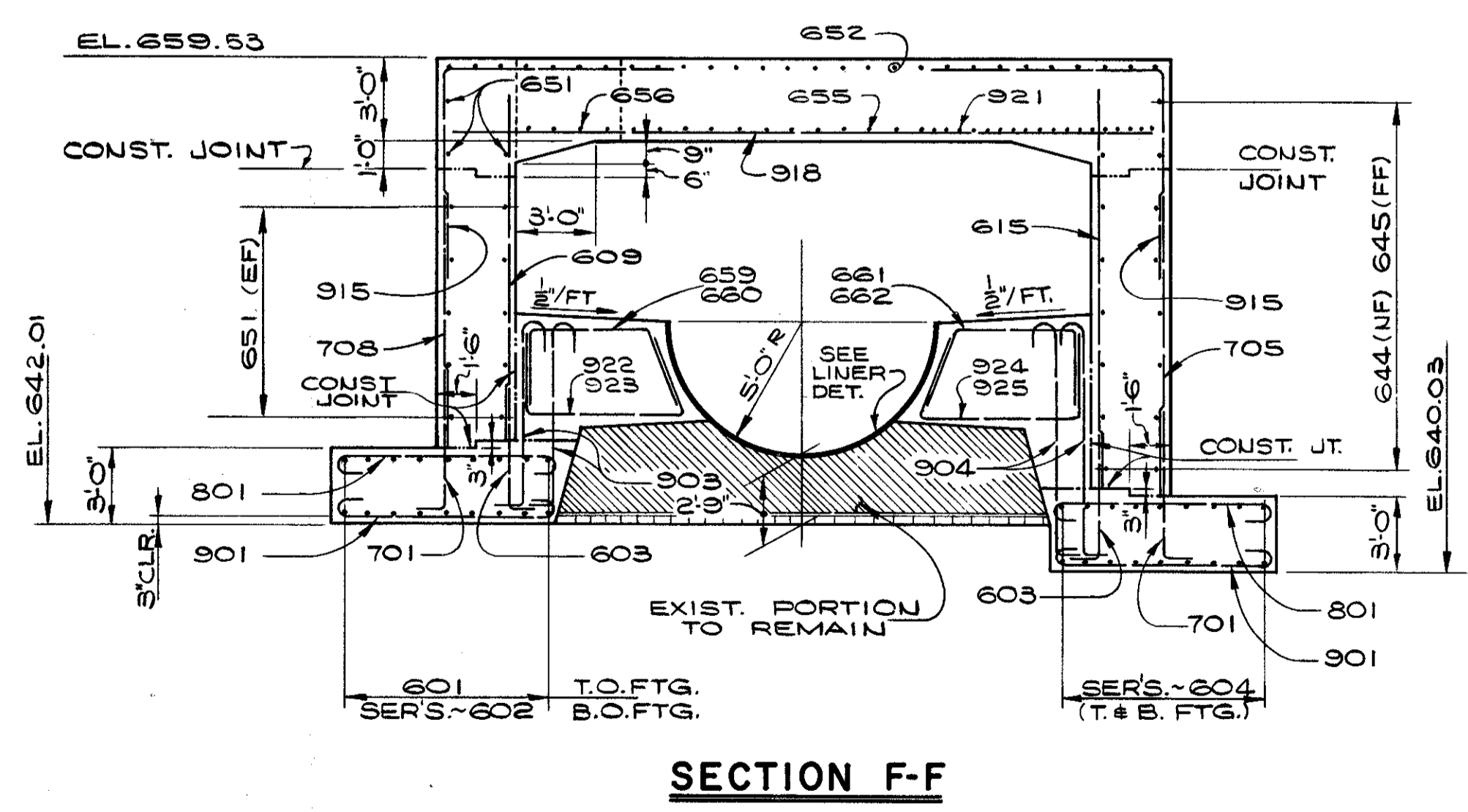
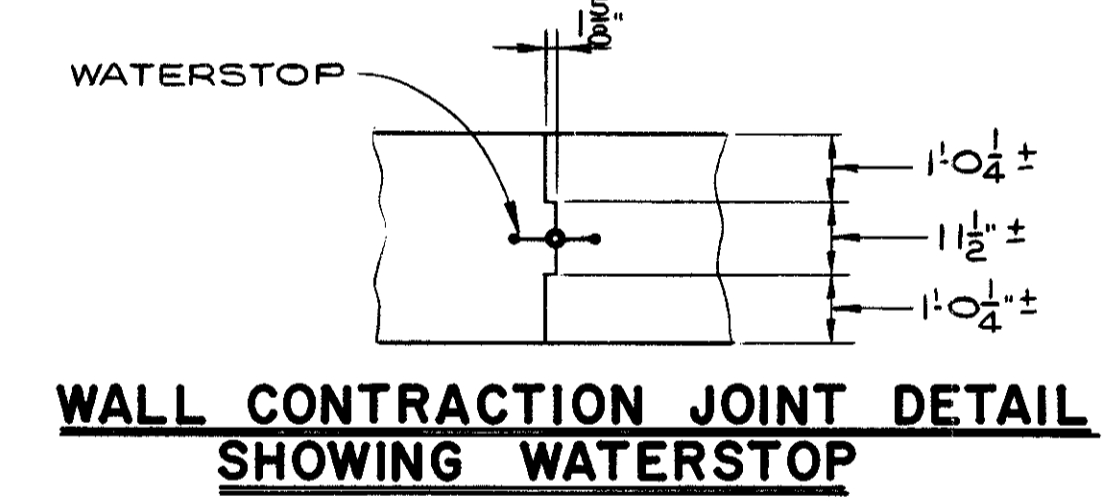
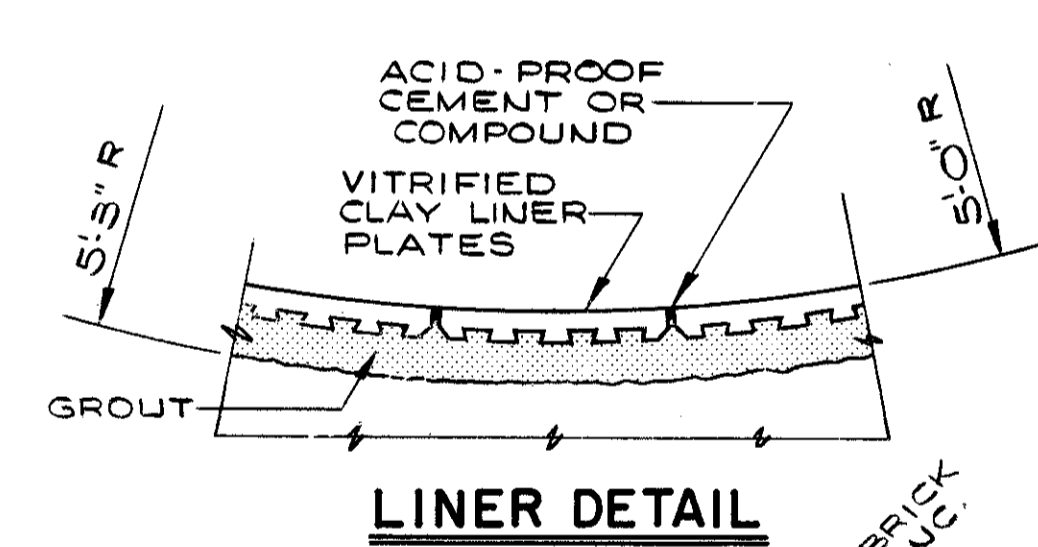
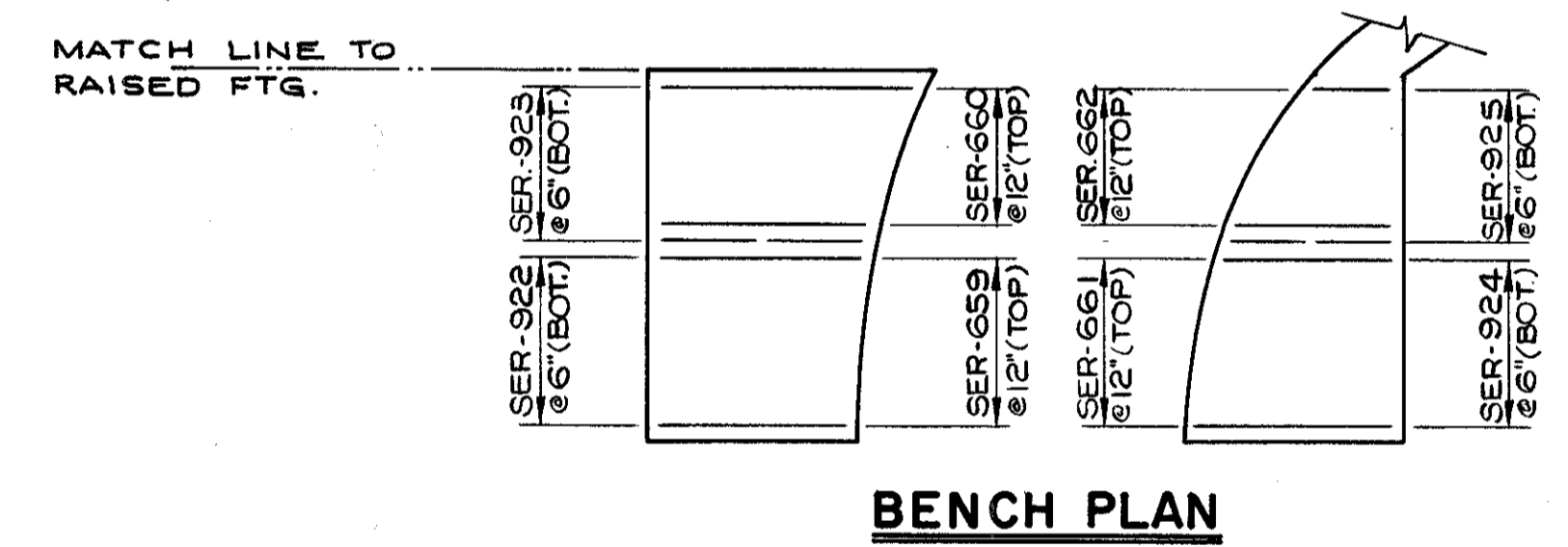
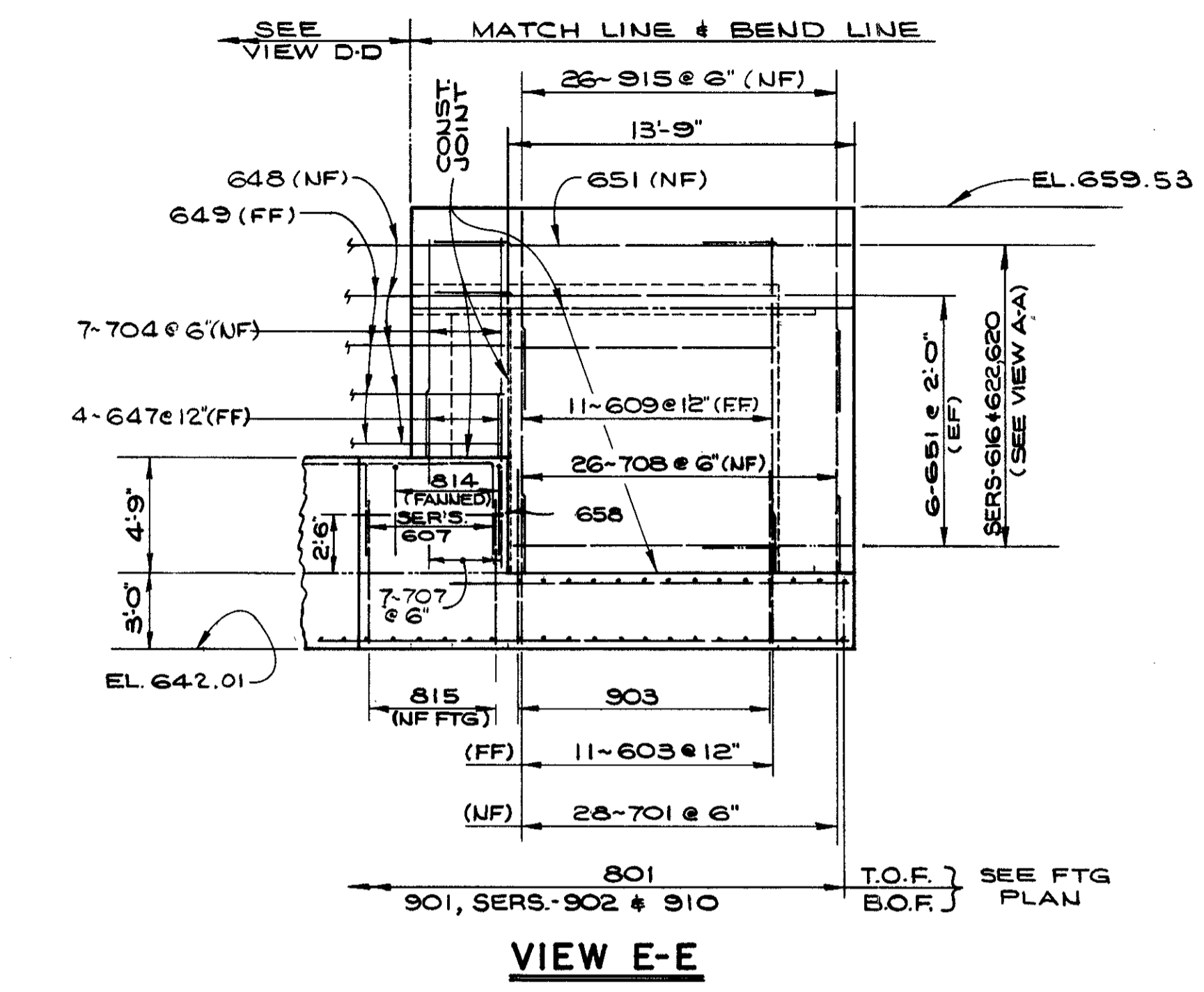
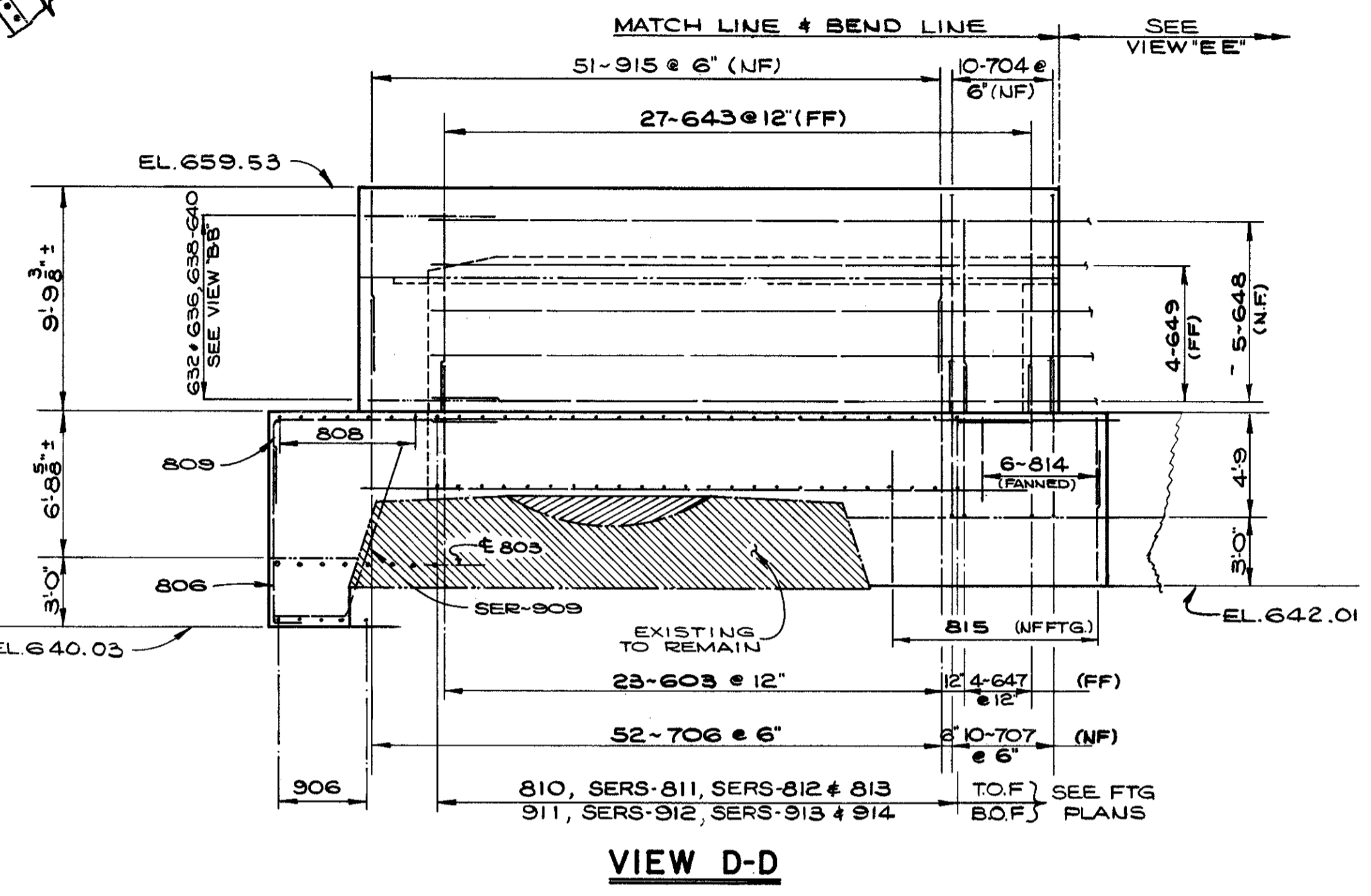
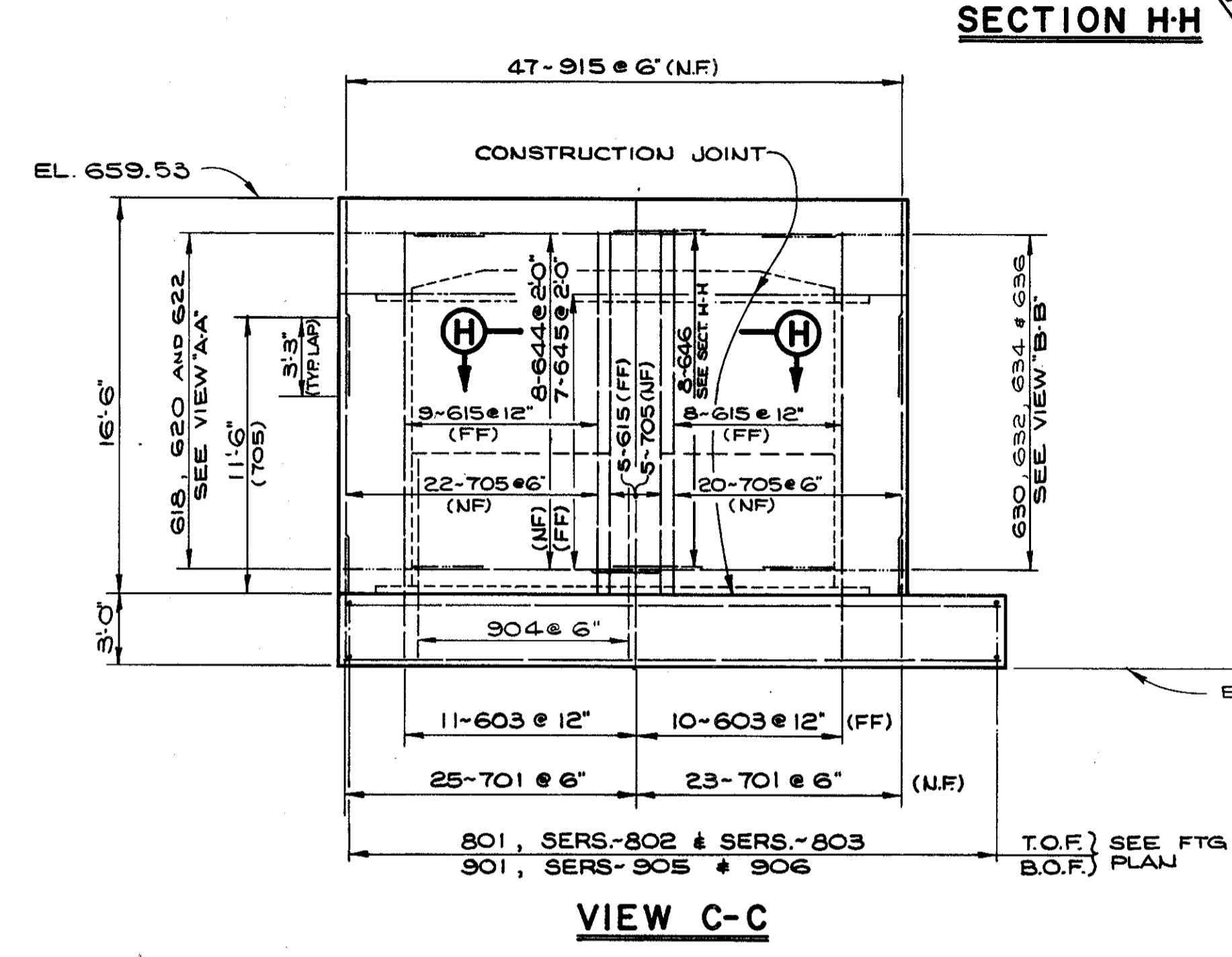
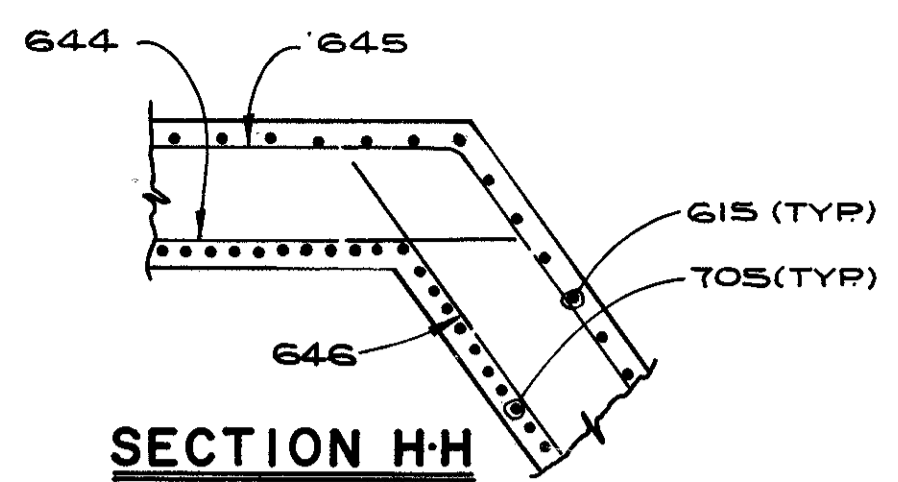


NOTE: PLUG ENDS SHALL BE 6" HIGHER THAN PE OF WYE OR TEE OR AS SHOWN ON PLANS.

**UNDERDRAIN DETAIL**

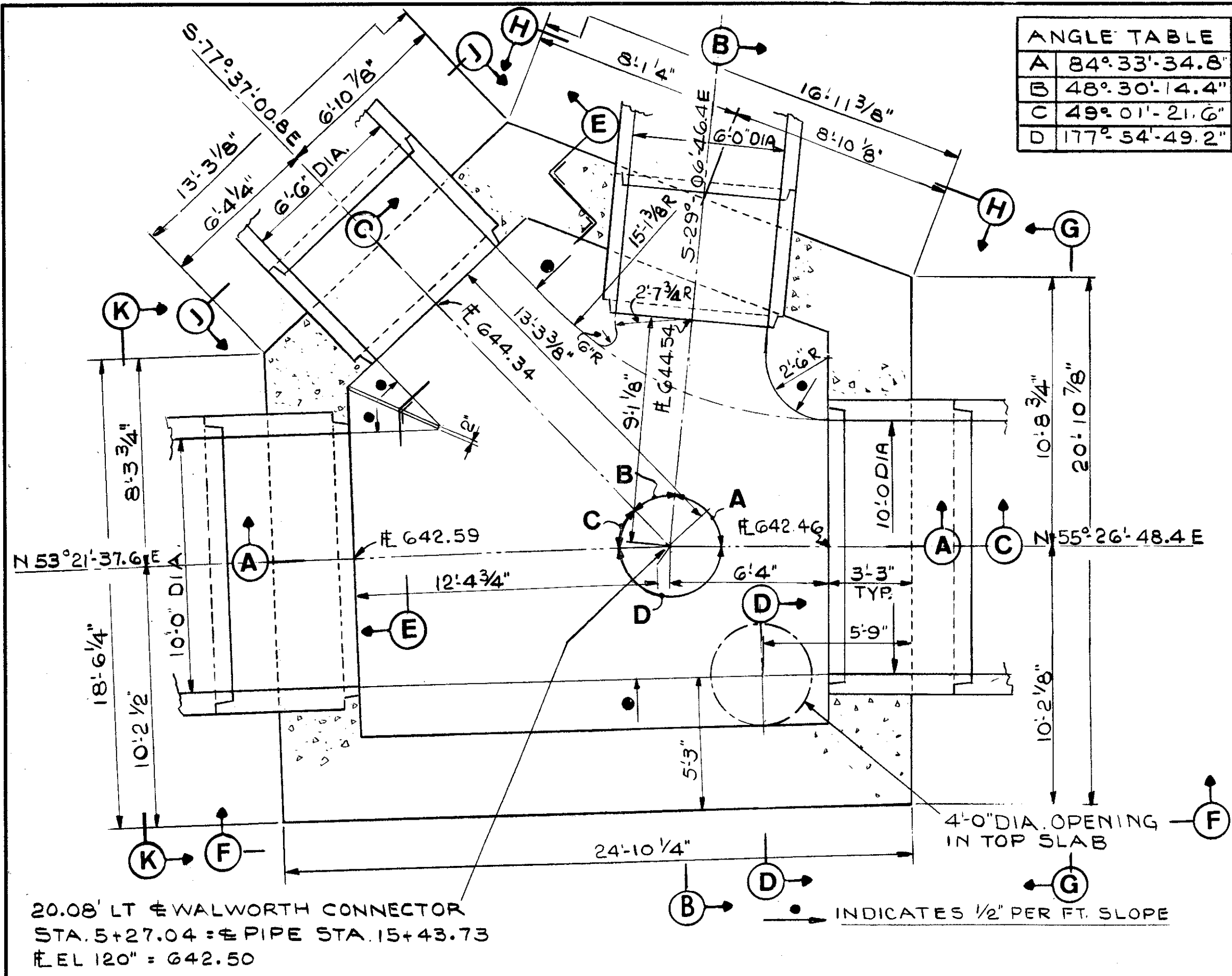
CALCULATED BY N.S. DATE 10/73  
CHECKED BY G.H.G. DATE 4-74



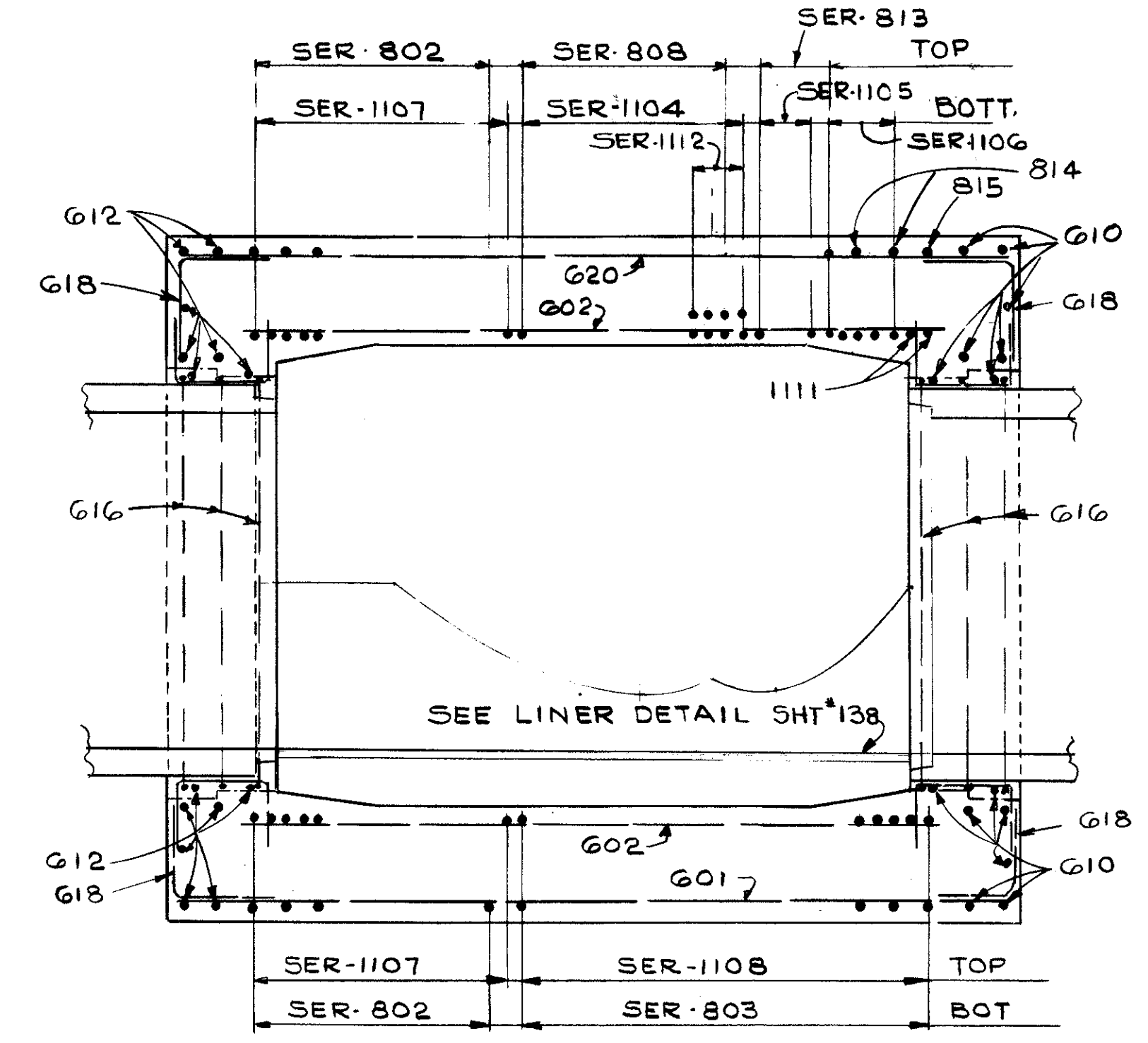


THE PREFIX S-35 SHALL BE ADDED TO ALL REINFORCING BAR MARKS

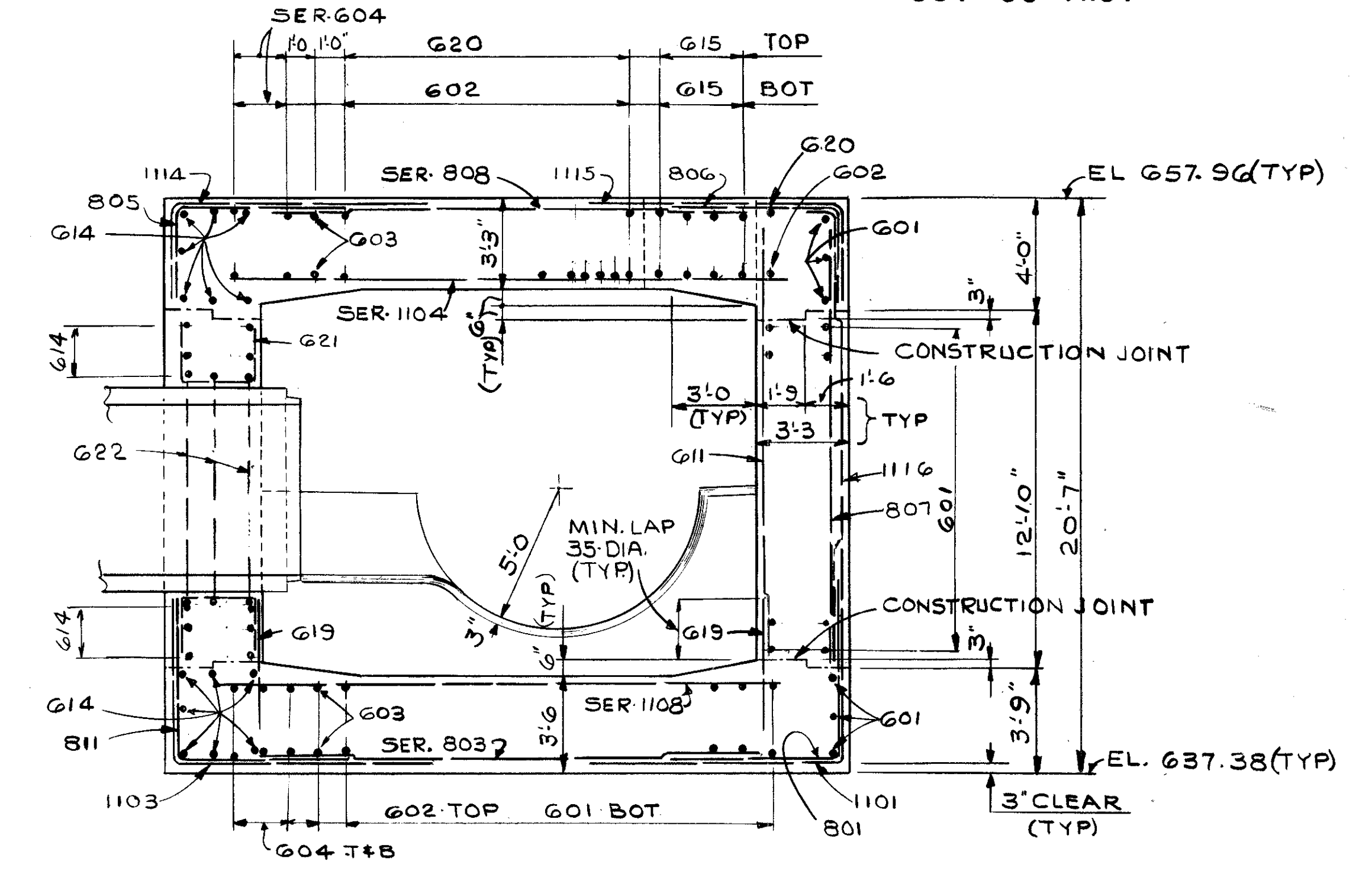
**CUYAHOGA COUNTY**  
CUY - 90 - 11.64



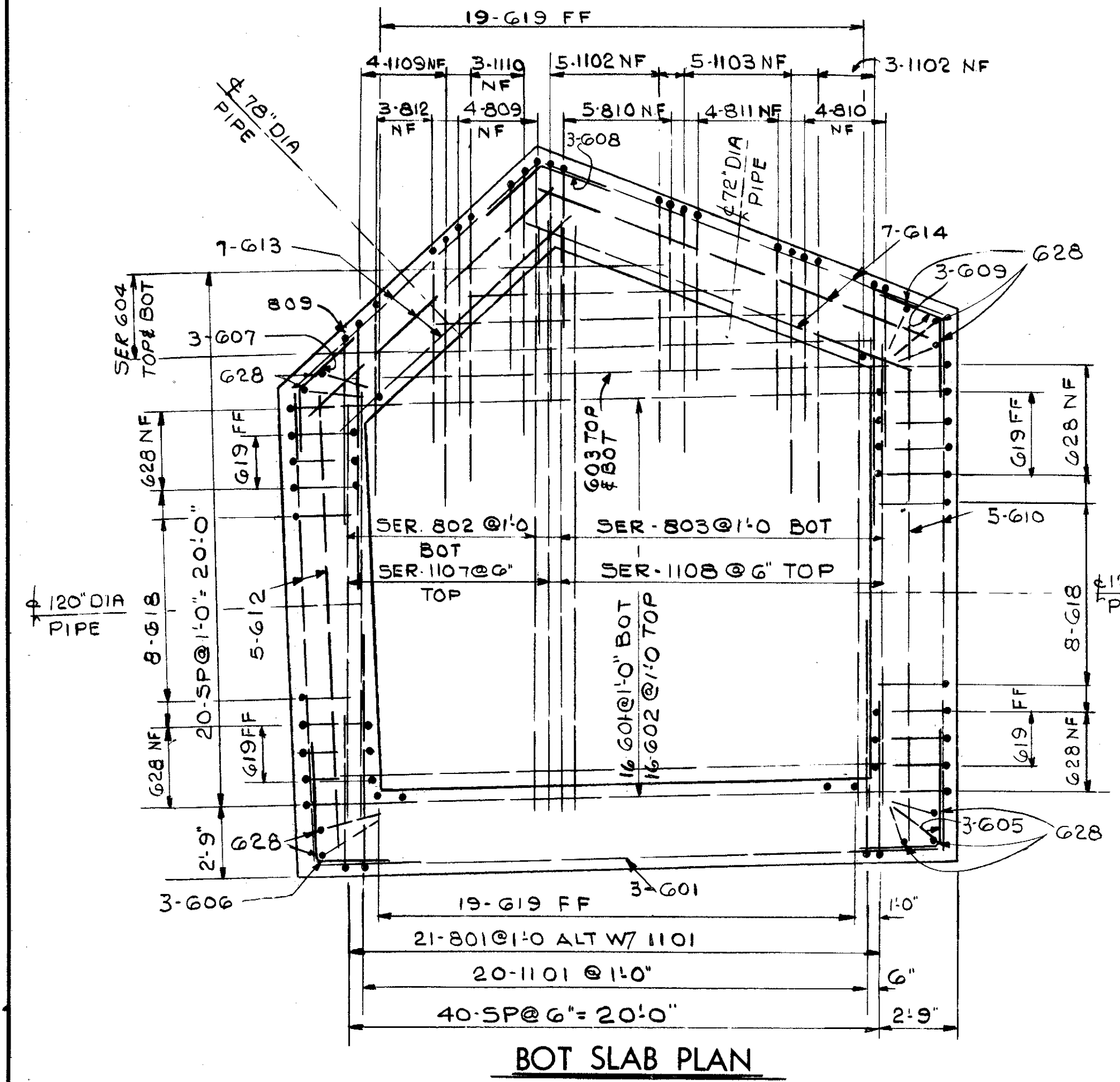
PLAN SECTION



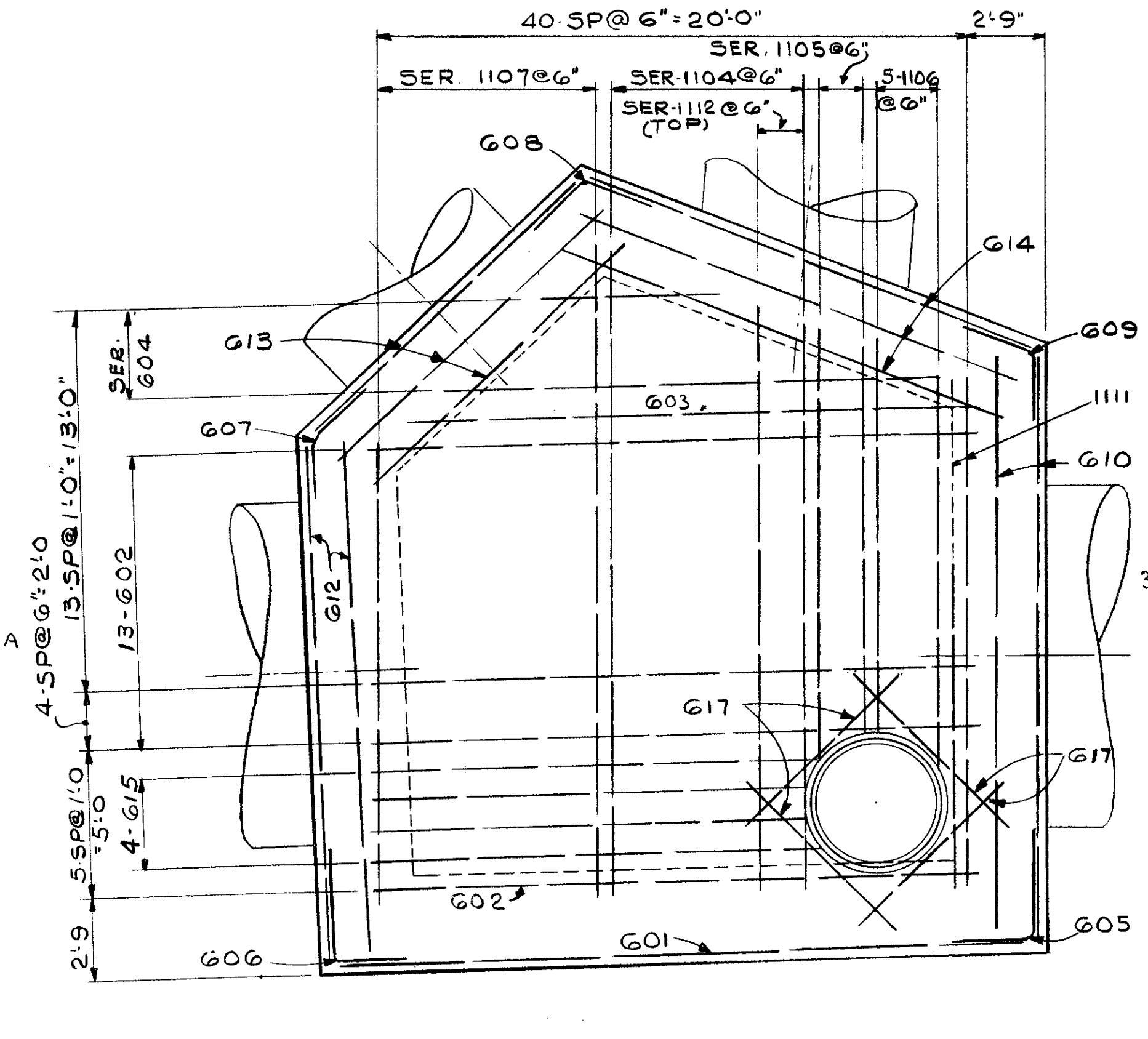
SECTION A-A



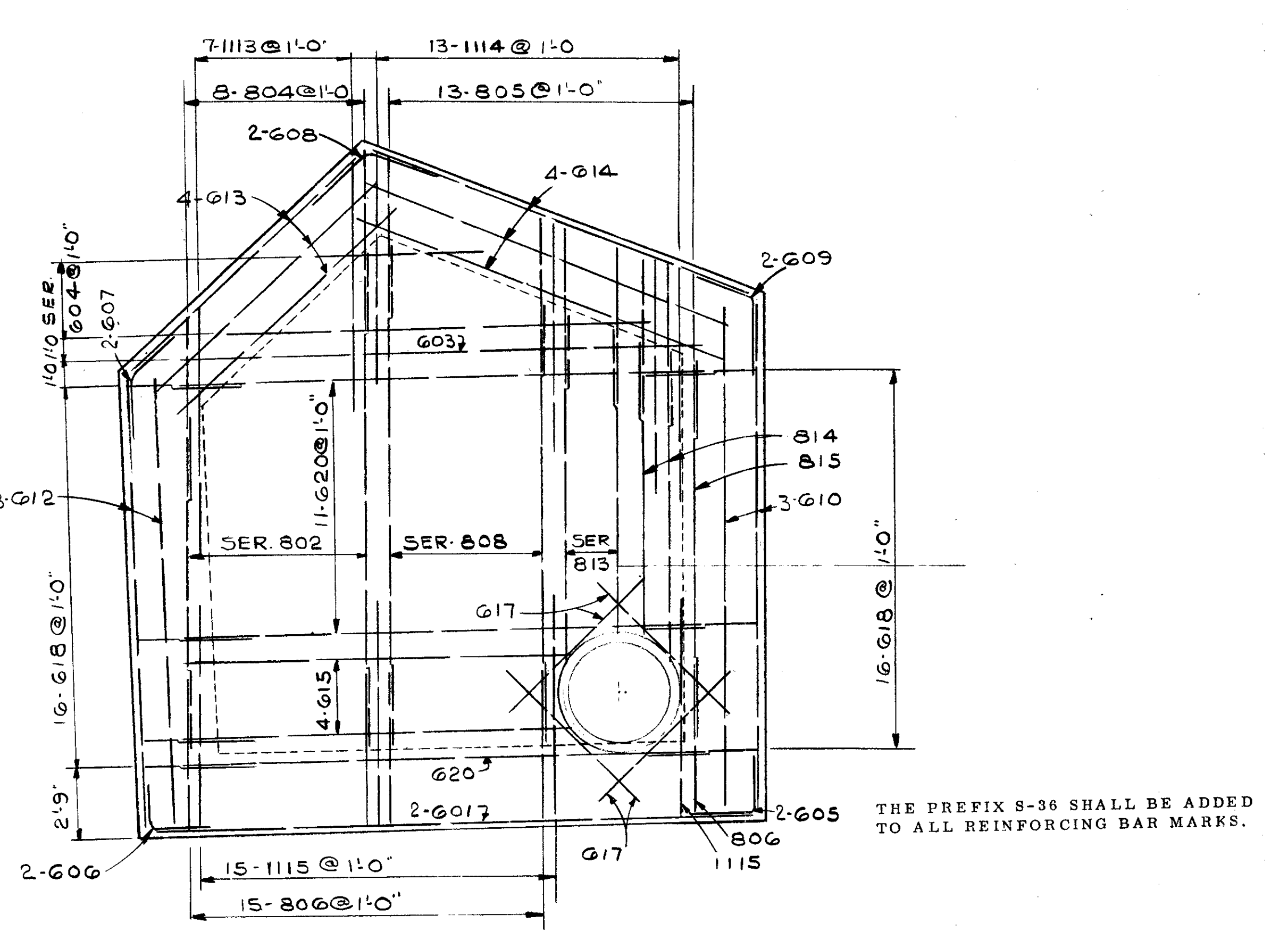
SECTION B-B



BOT SLAB PLAN



TOP SLAB PLAN  
SHOWING BOT. REIN. BARS



TOP SLAB PLAN  
SHOWING TOP REIN. BARS

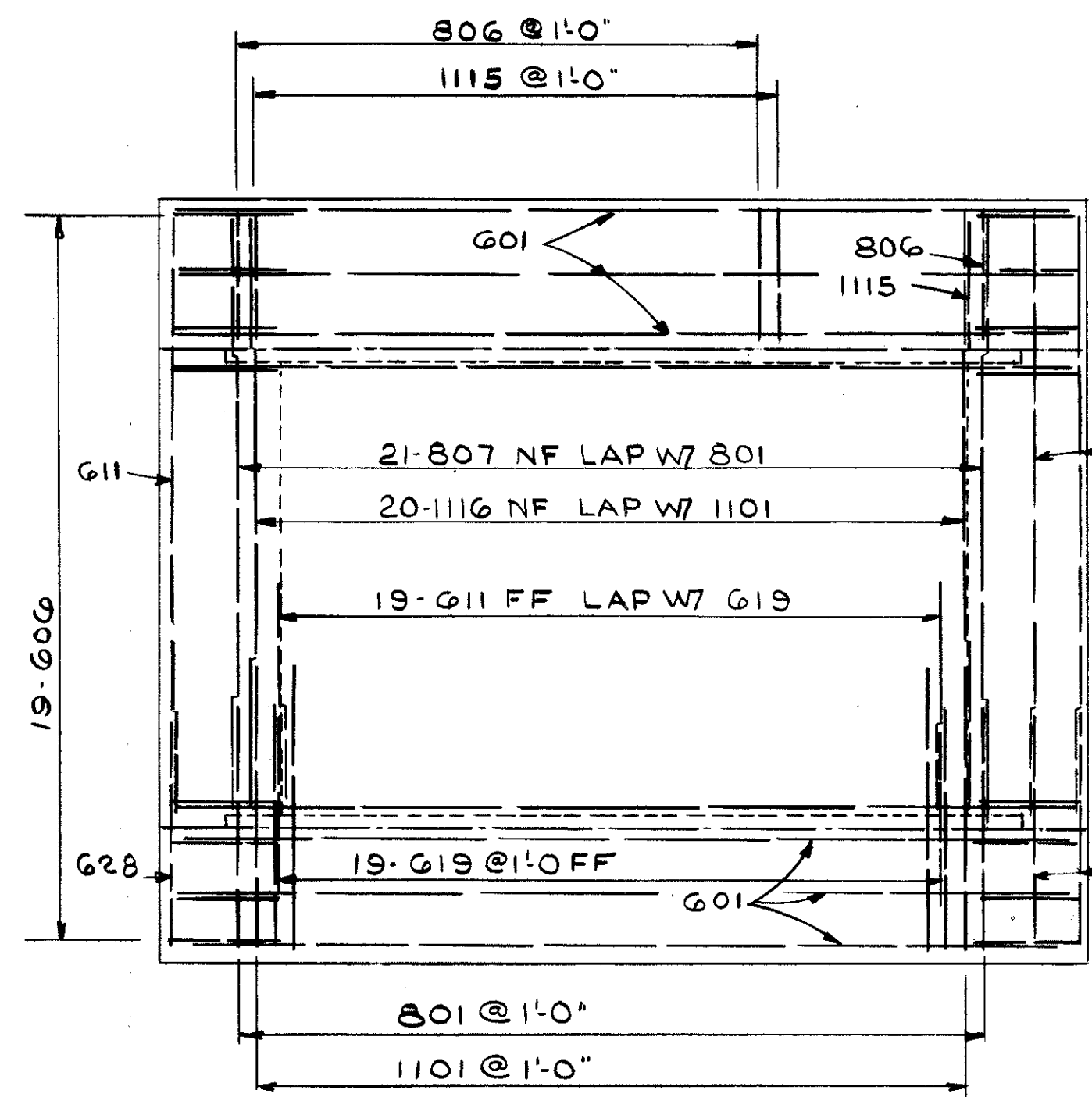
THE PREFIX S-36 SHALL BE ADDED TO ALL REINFORCING BAR MARKS.

**WALWORTH CONNECTOR  
JUNCTION CHAMBER DETAILS**  
S-36

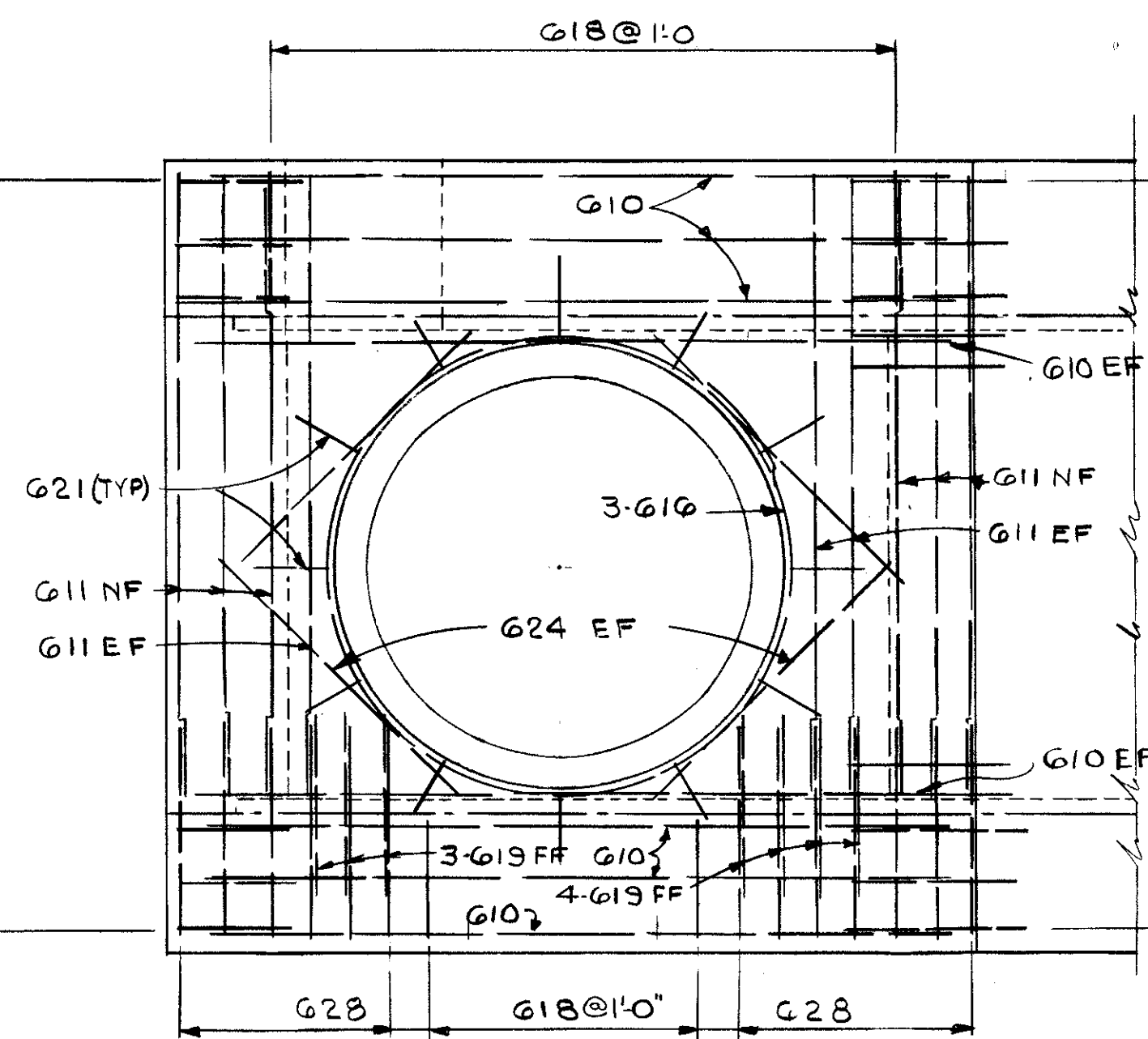
FED. RD.	STATE	PROJECT
2	OHIO	

136  
838

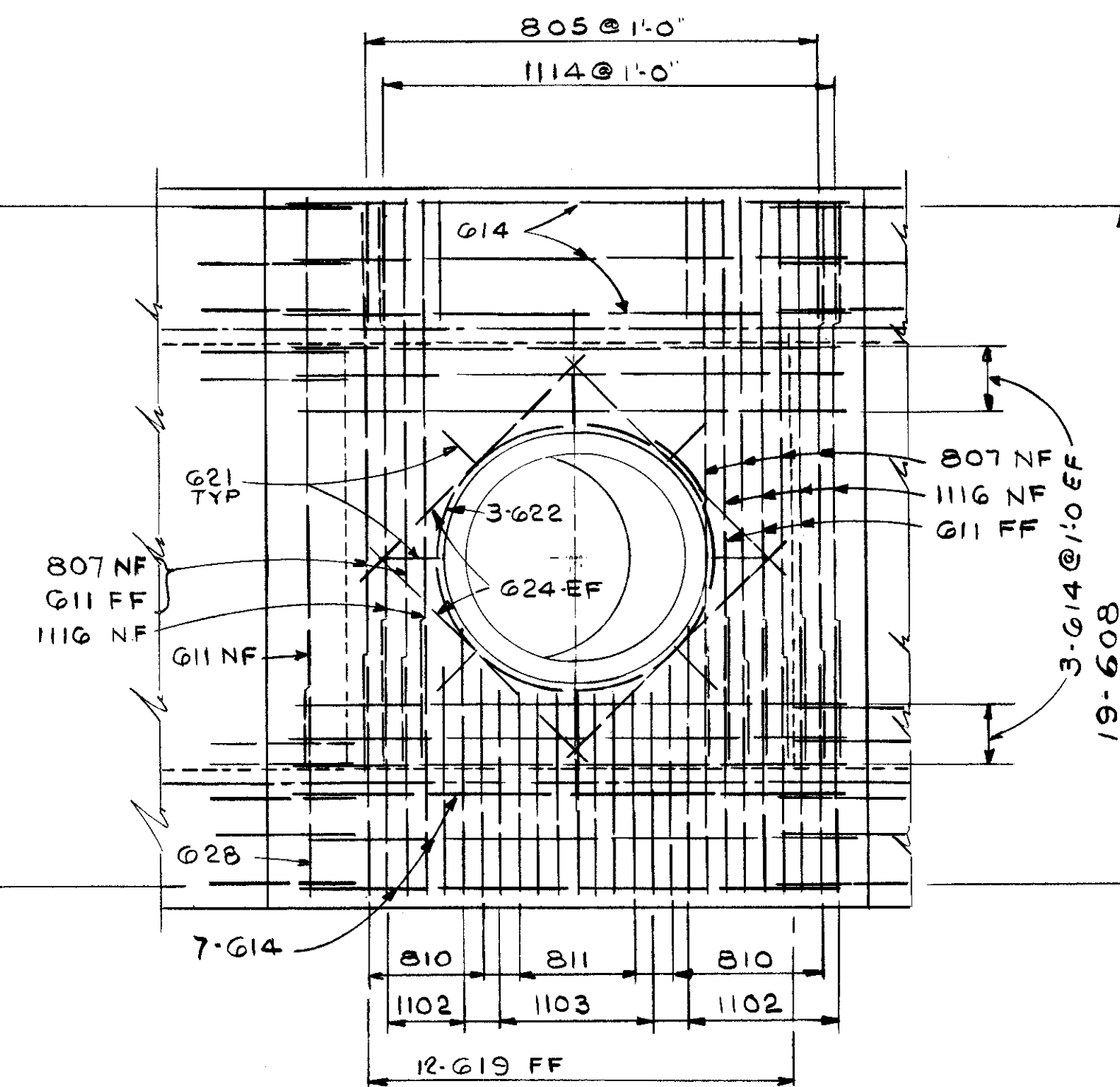
CUYAHOGA COUNTY  
CUY - 90 - 11.64



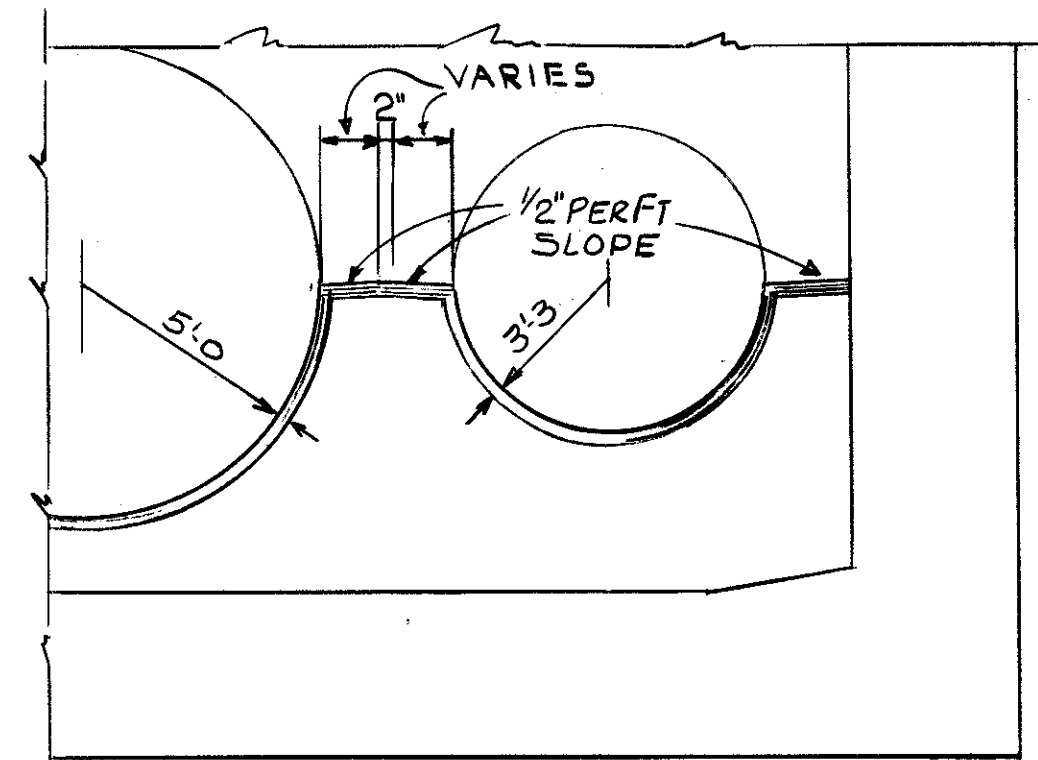
ELEVATION F-F



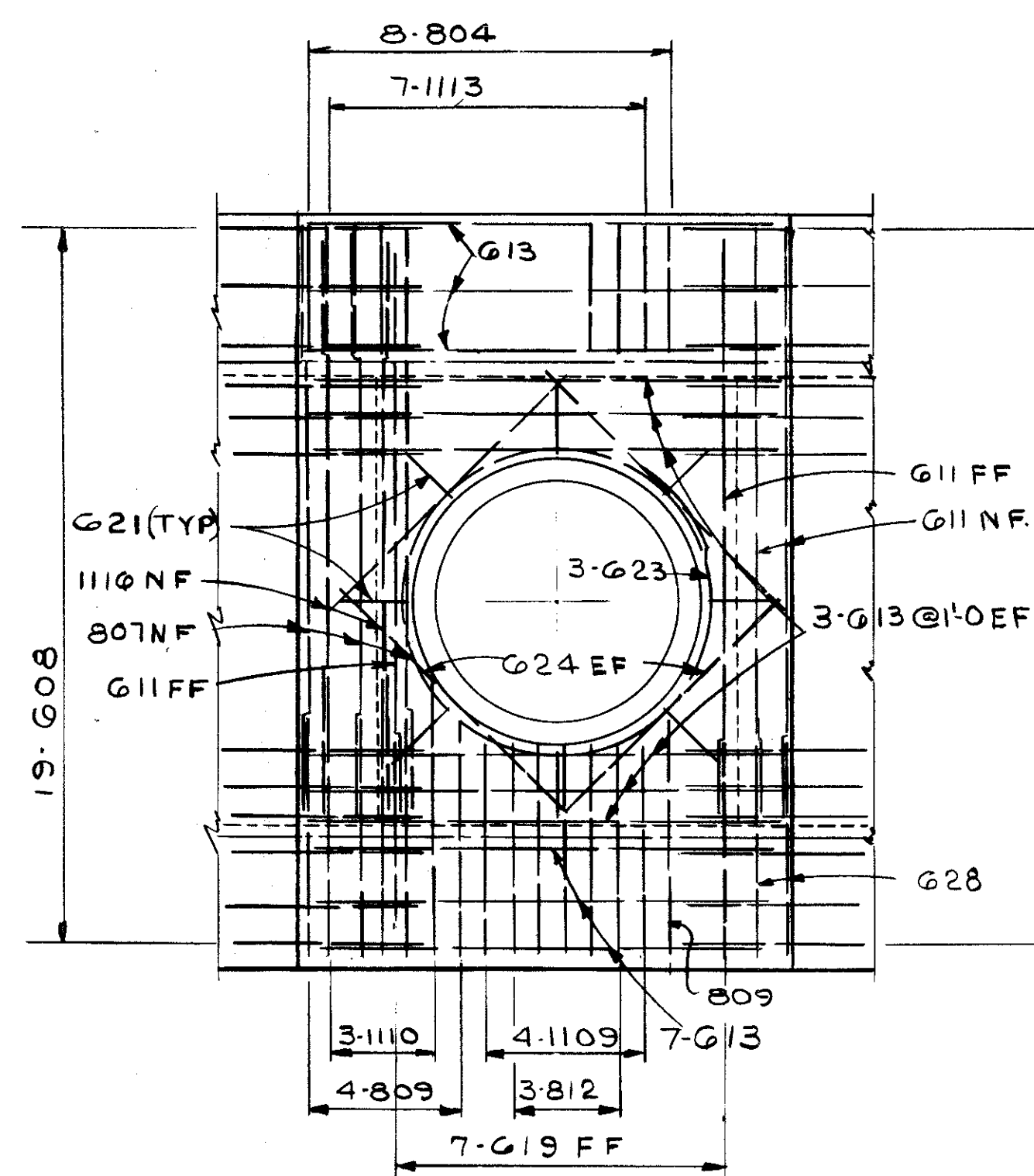
ELEVATION G-G



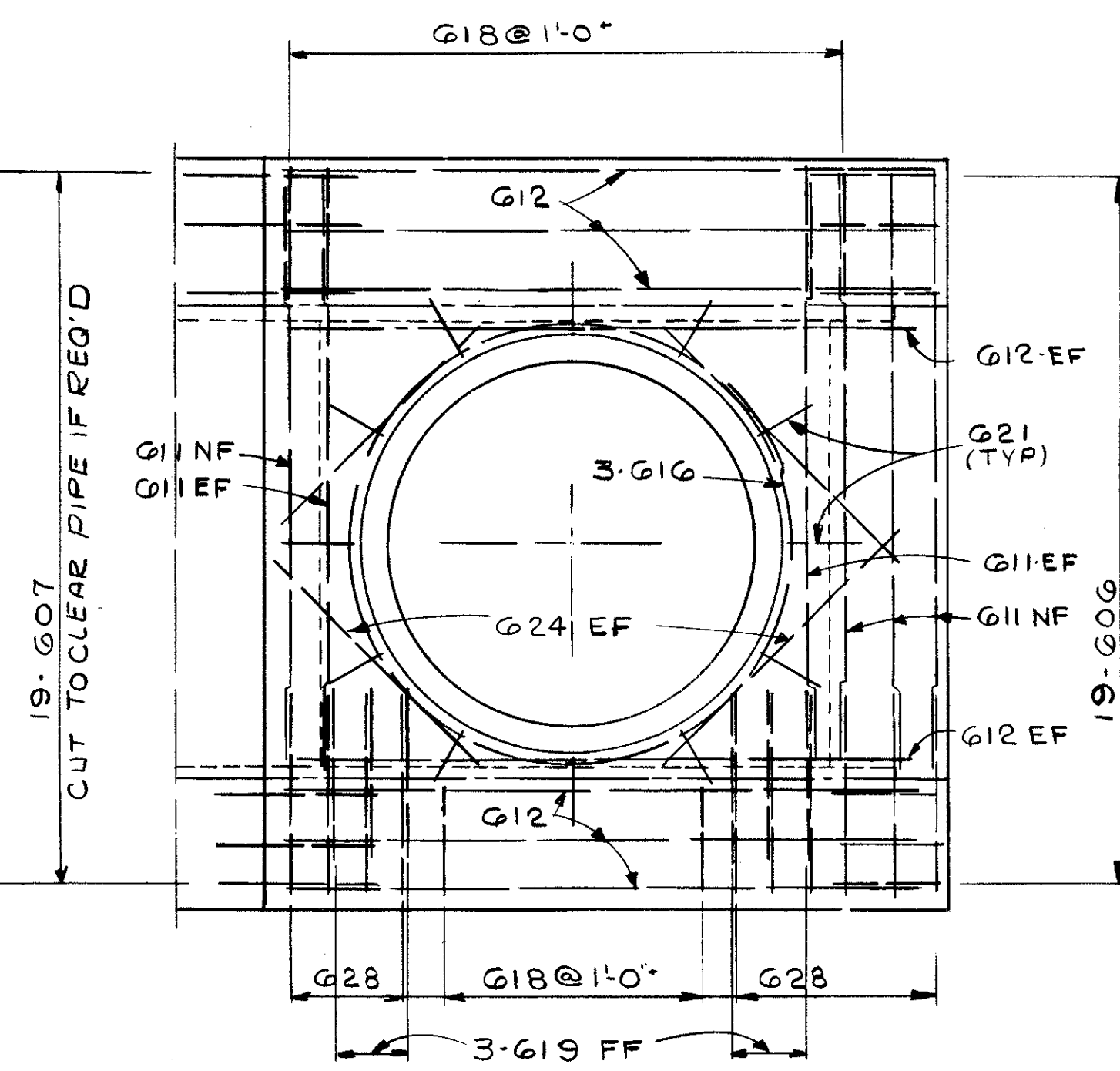
ELEVATION H-H



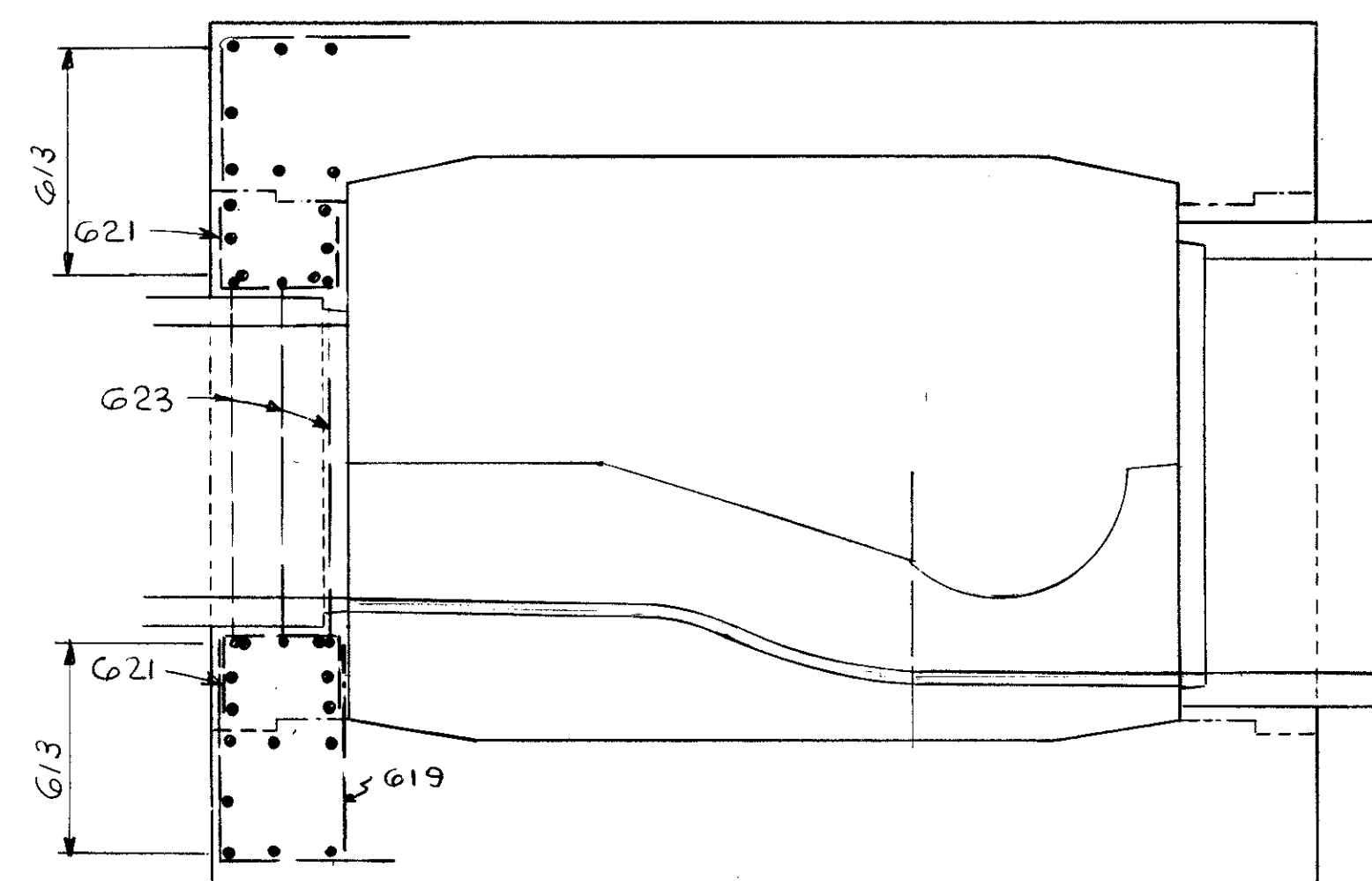
SECTION E-E



ELEVATION J-J

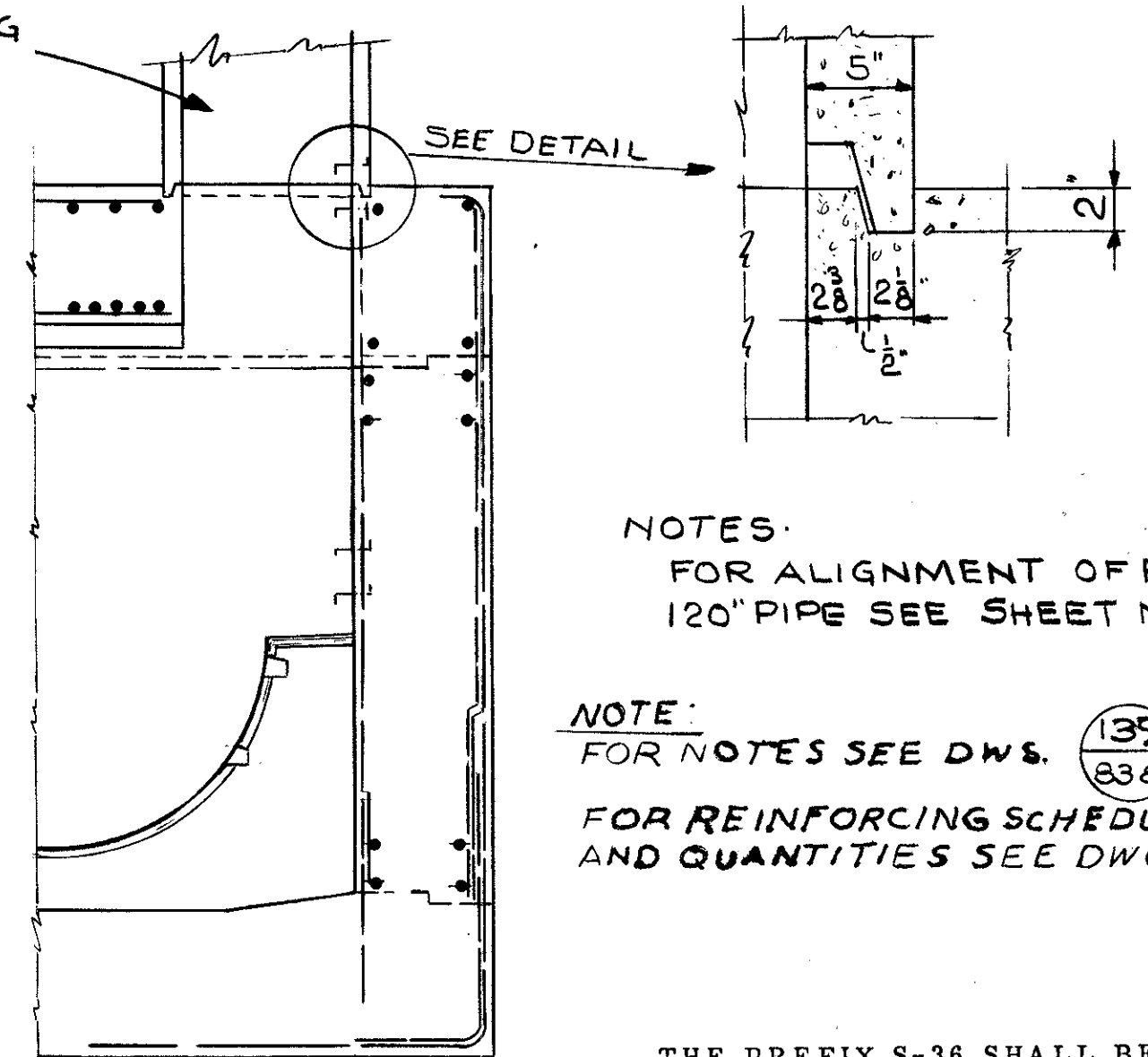


ELEVATION K-K



SECTION C-C  
(FOR BARS NOT SHOWN, SEE SEC. AA SHT. 135)

MANHOLE BARREL,  
STEPS, & TOE HOLES  
AS PER STD DWG  
M.H.1-A



SECTION D-D  
(FOR BAR MARKS AND BARS NOT SHOWN SEE SEC. B-B SHT. 135)

NOTES:  
FOR ALIGNMENT OF PROPOSED  
120" PIPE SEE SHEET NR 119

NOTE:  
FOR NOTES SEE DWG. 139  
838

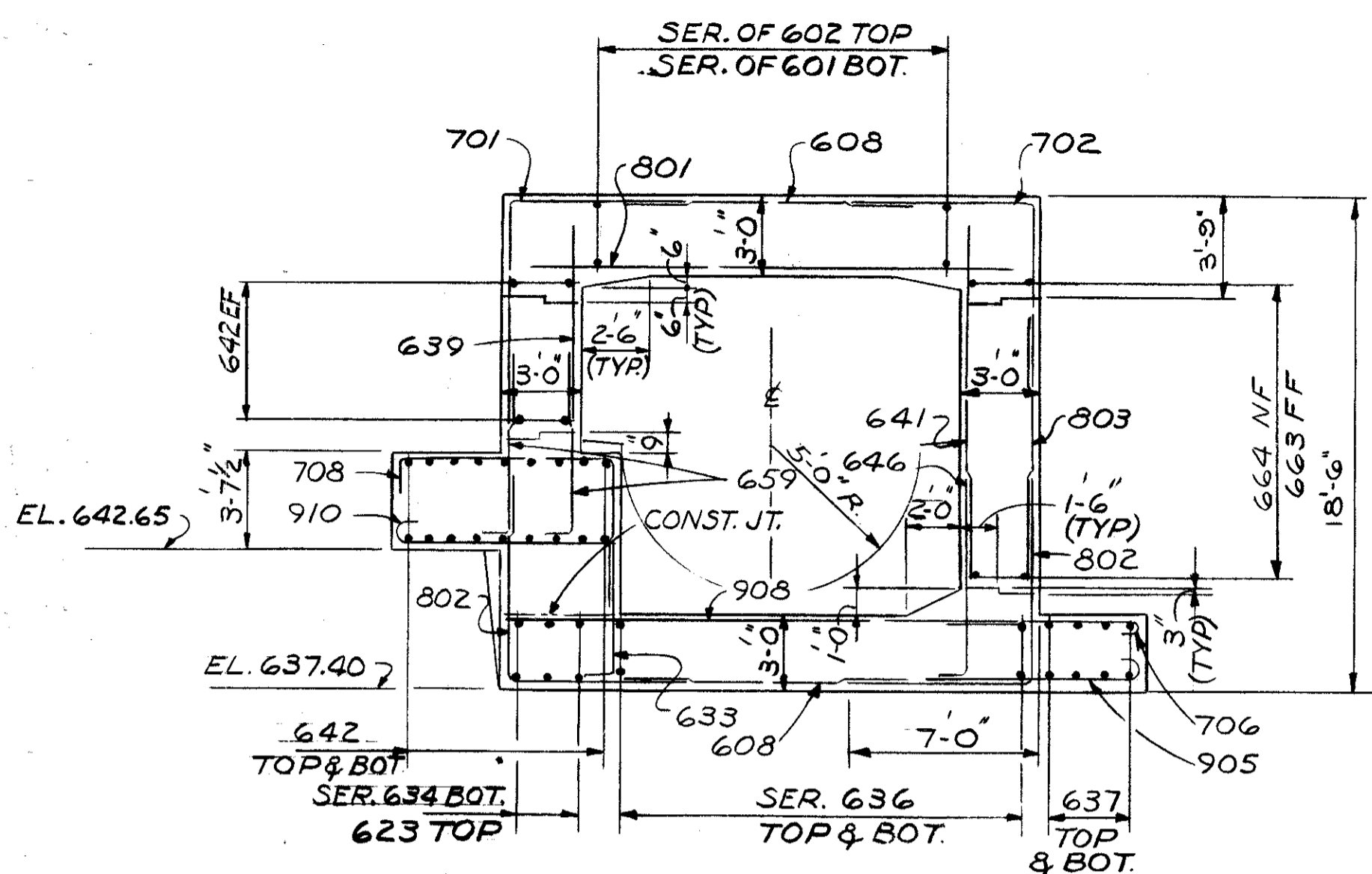
FOR REINFORCING SCHEDULE  
AND QUANTITIES SEE DWG. 139  
838

THE PREFIX S-36 SHALL BE ADDED  
TO ALL REINFORCING BAR MARKS.

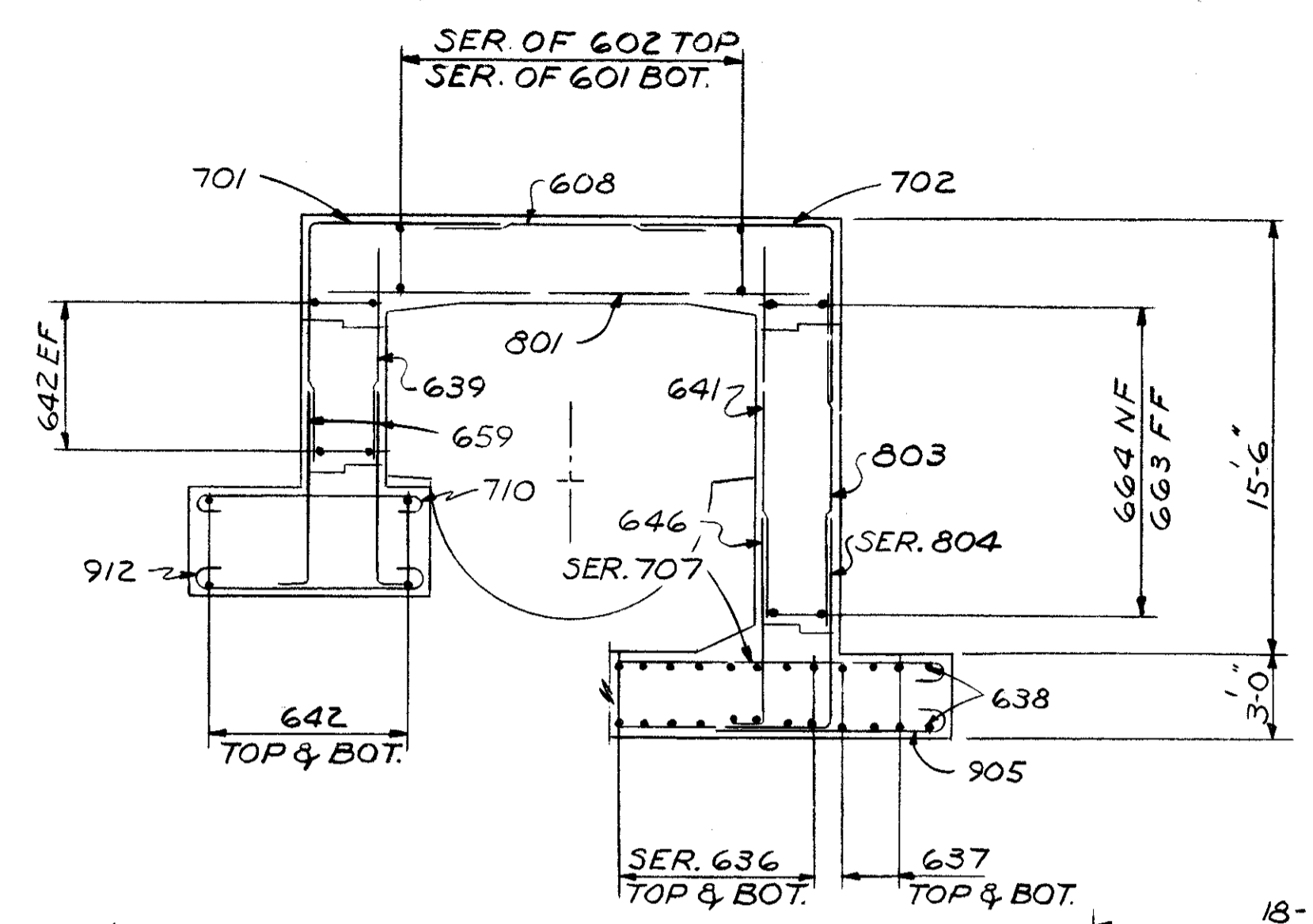
WALWORTH CONNECTOR  
JUNCTION CHAMBER DETAILS  
S-36



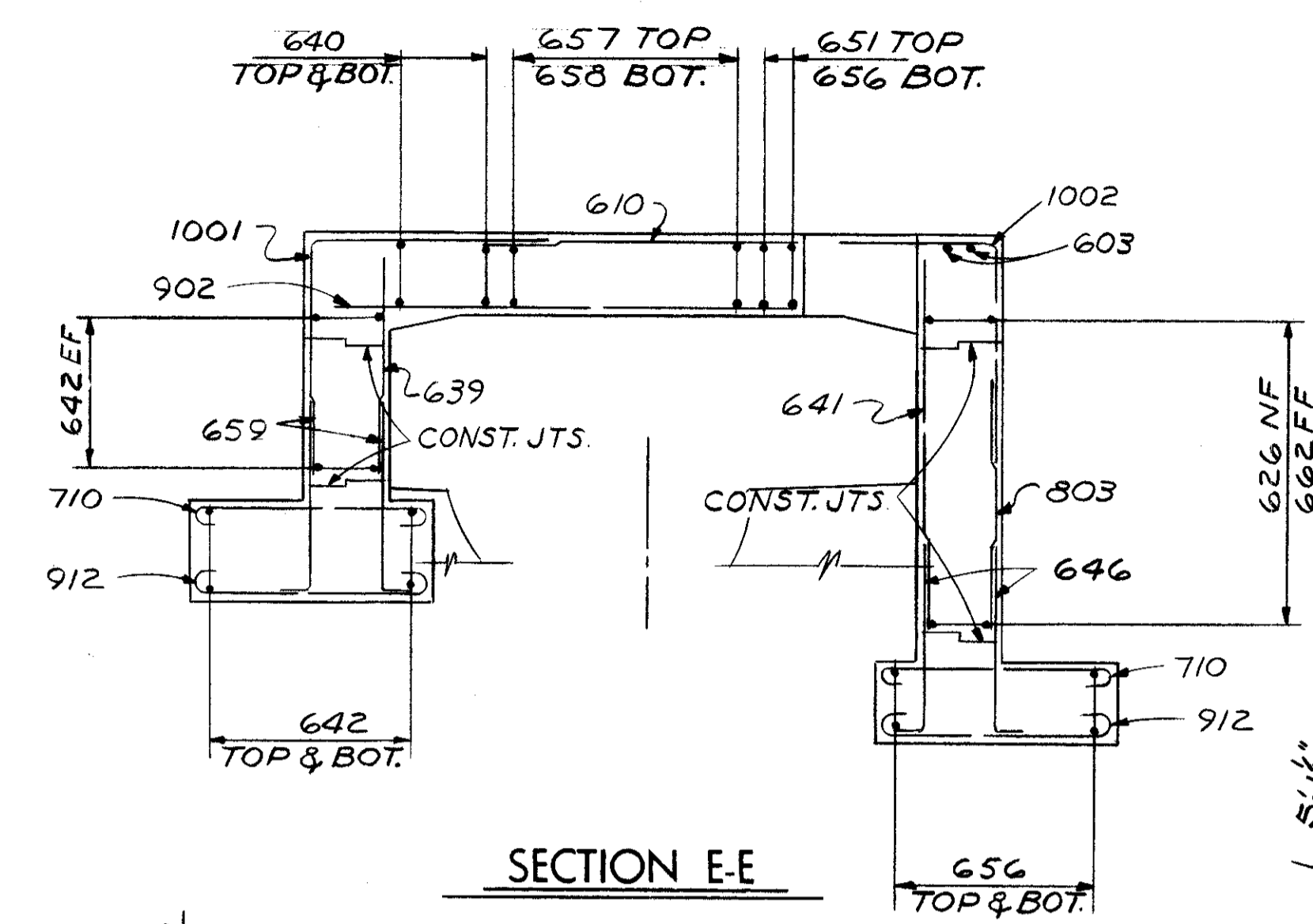




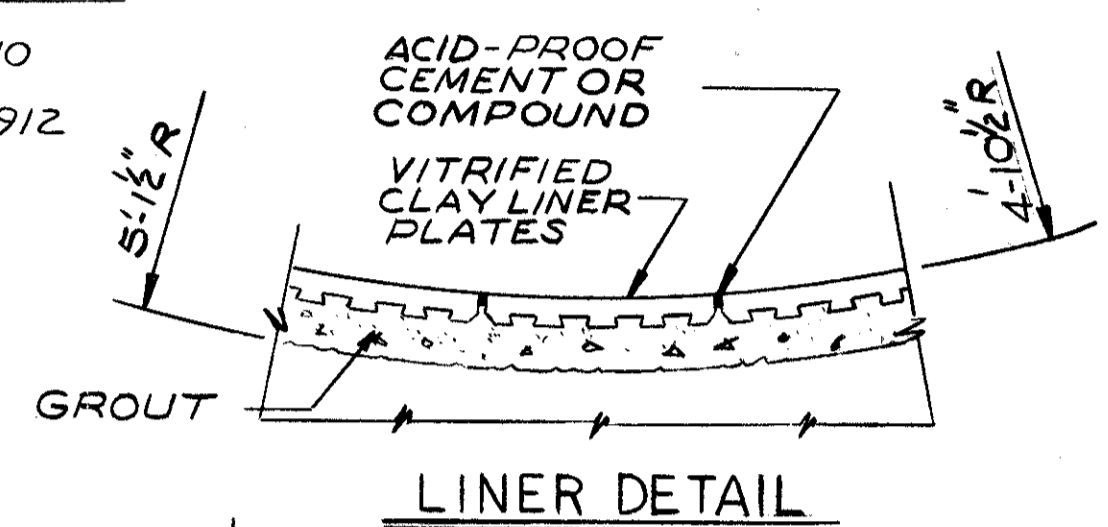
SECTION C-C



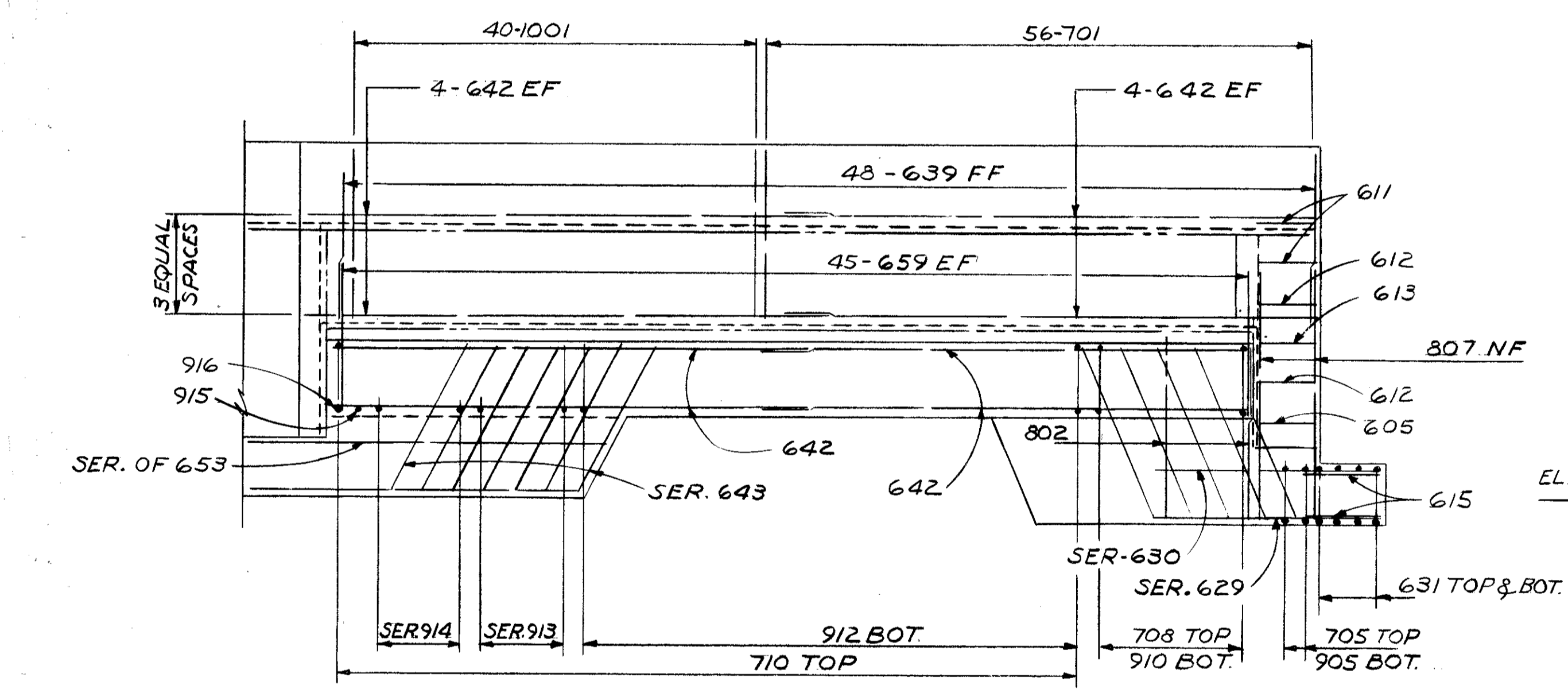
SECTION D-D



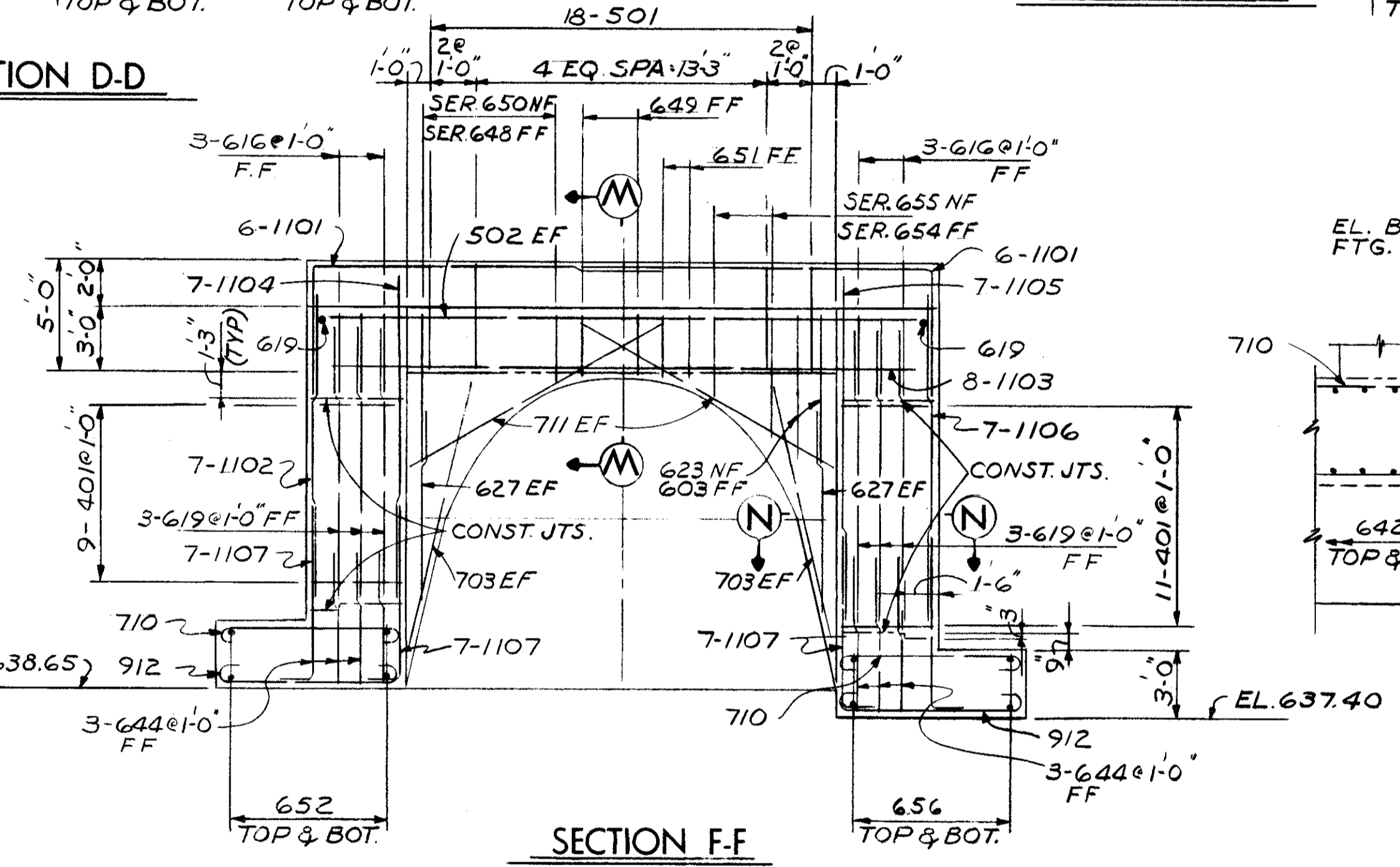
SECTION E-E



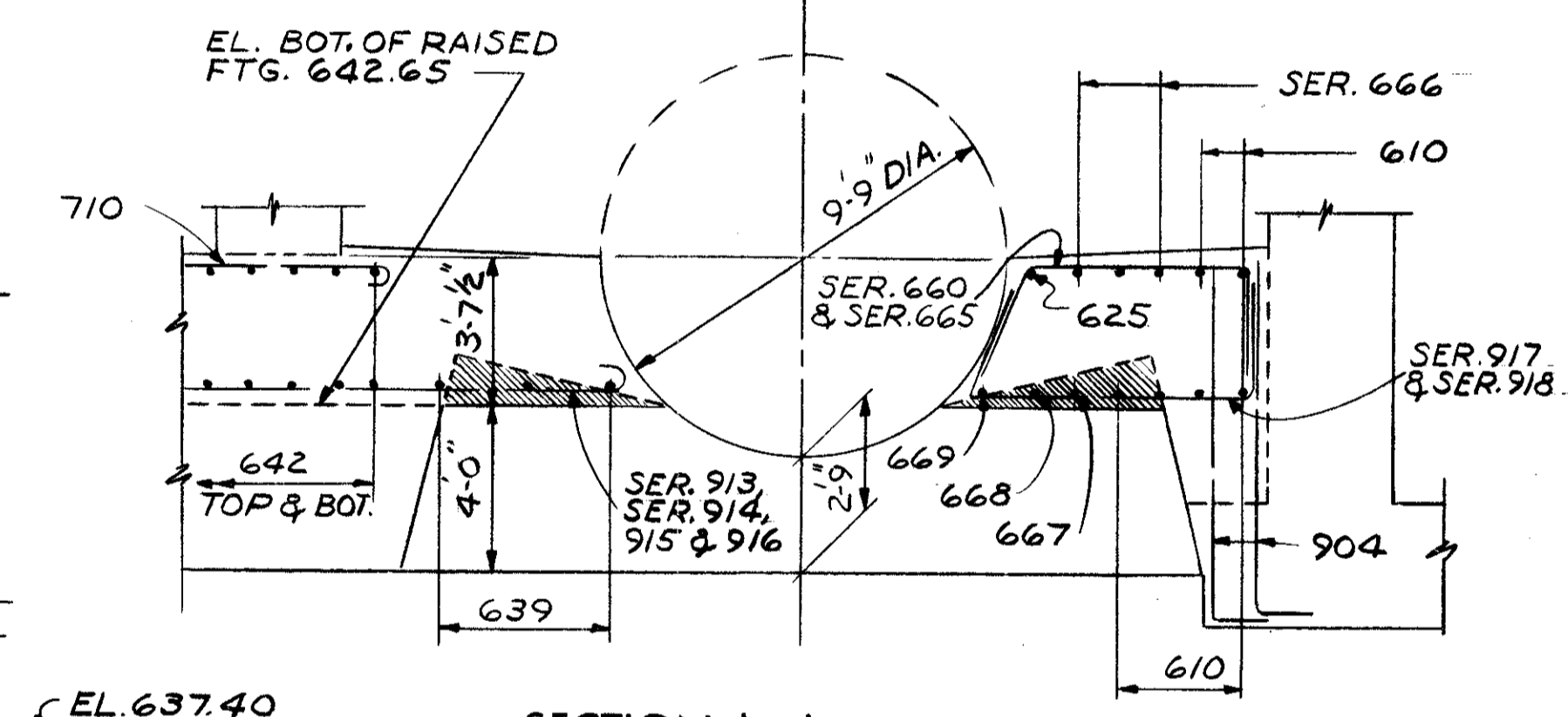
LINER DETAIL



VIEW G-G

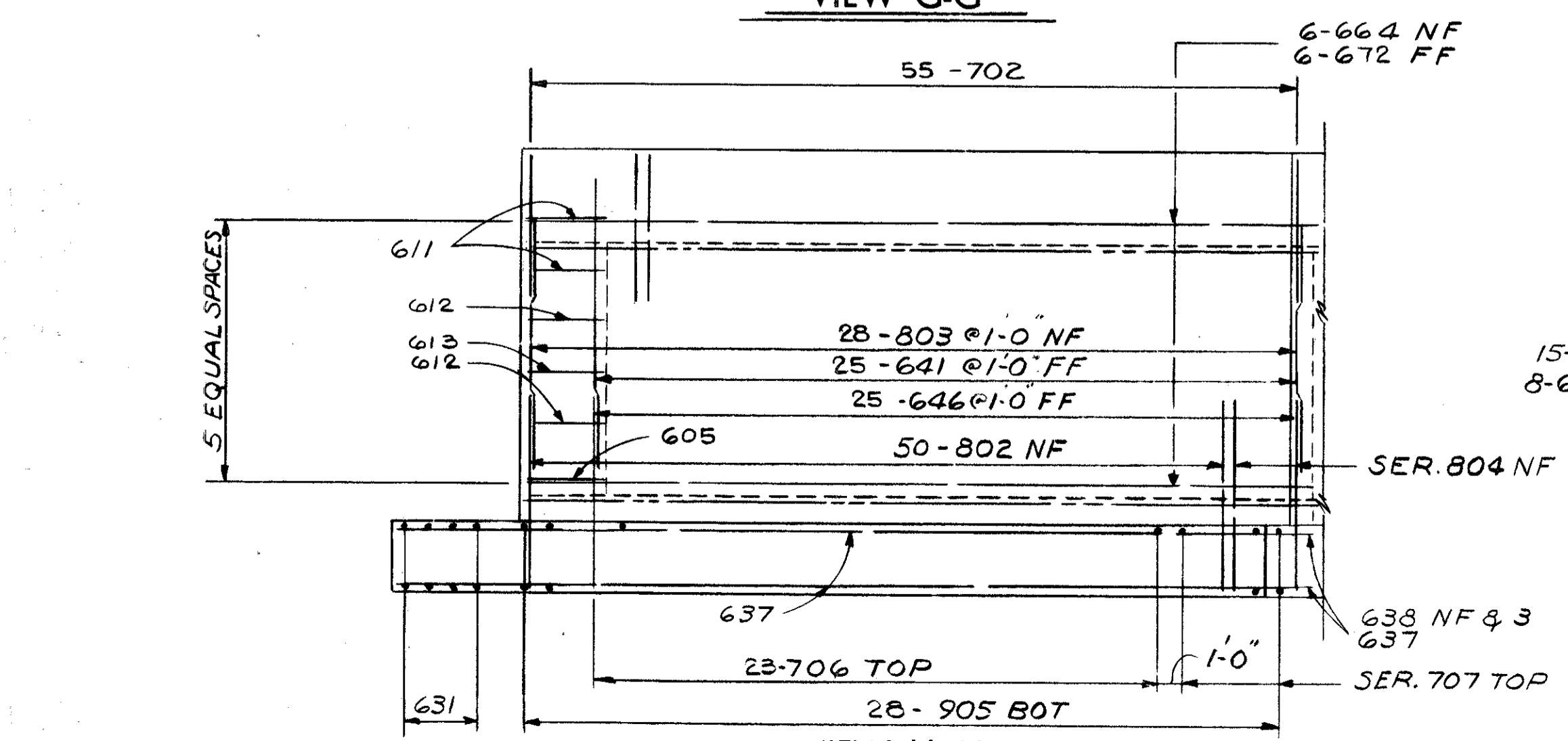


SECTION F-F

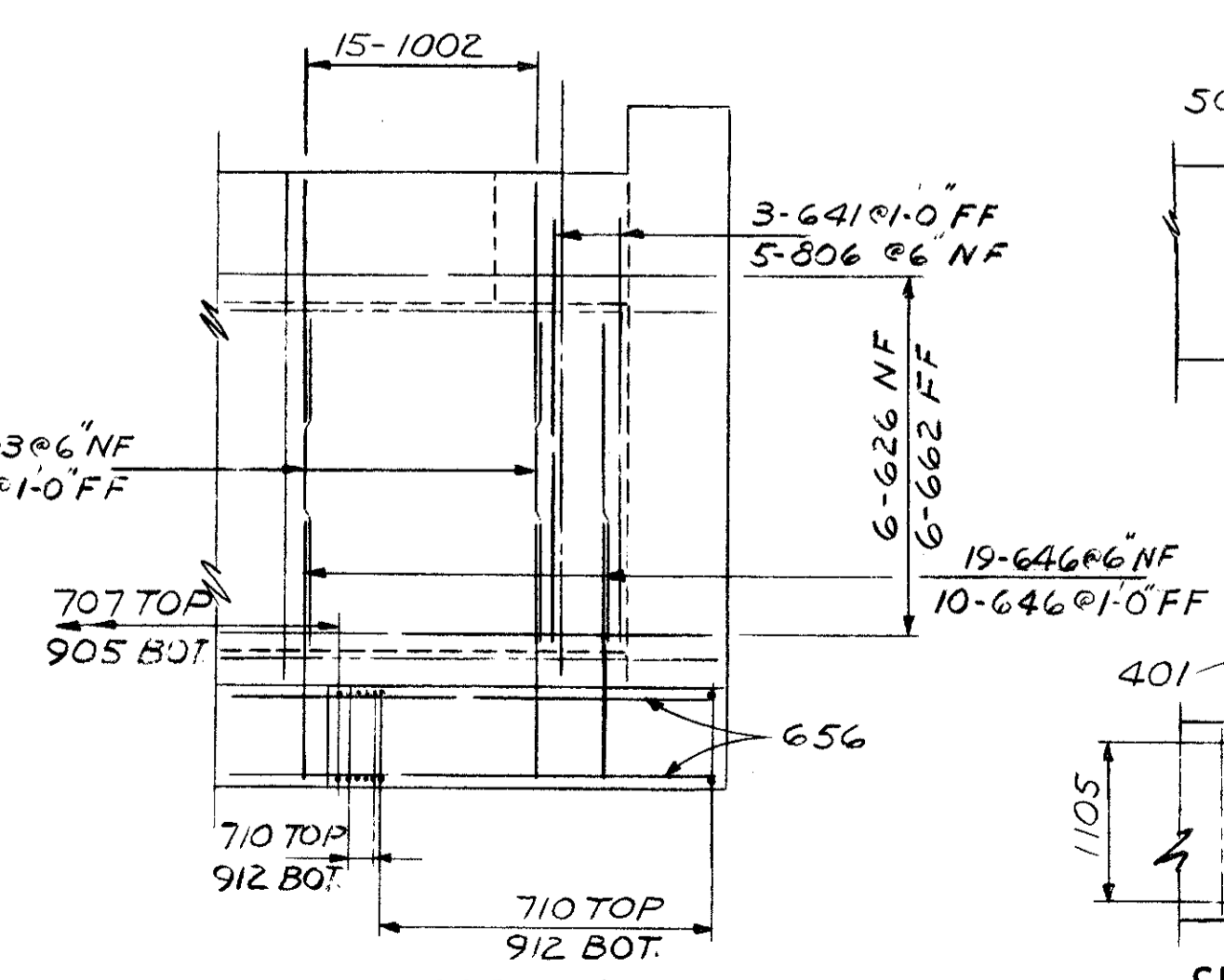


SECTION L-L

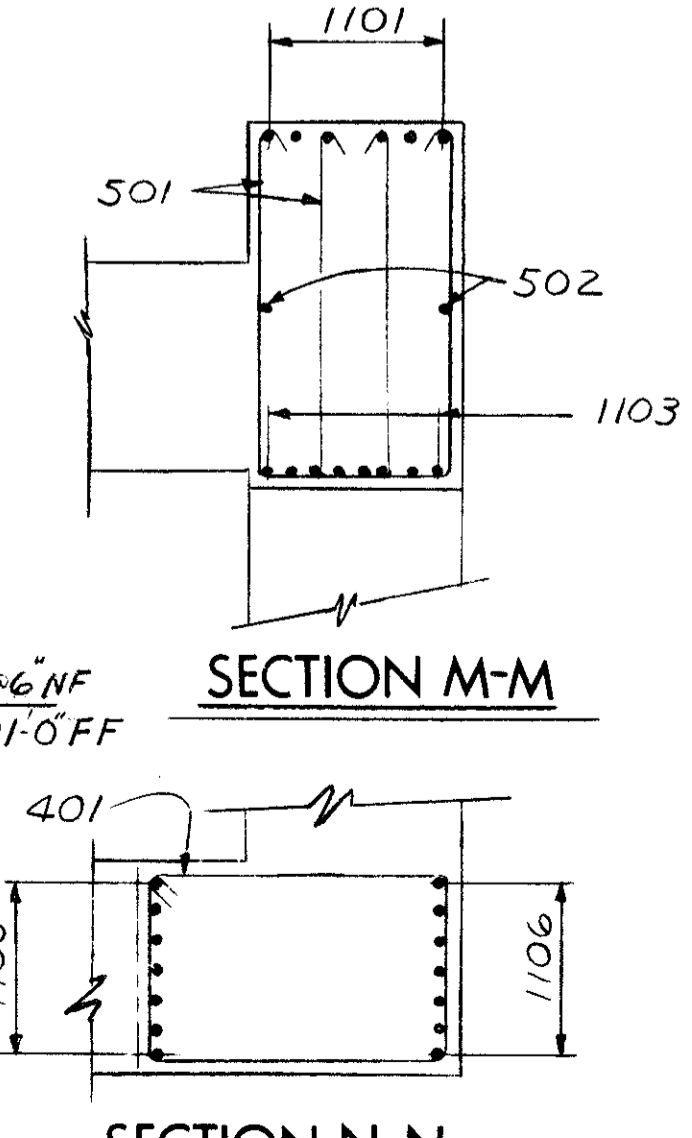
NOTE: EXISTING CONCRETE OF OLD SEWER SHOWN AS SHADED AREA SHALL BE REMOVED IN THE ENTIRE LENGTH OF THE PROPOSED JUNCTION CHAMBER. ADDITIONALLY, A CURVED PART OF OLD CONCRETE WILL BE REMOVED TO FORM NEW CHANNEL.



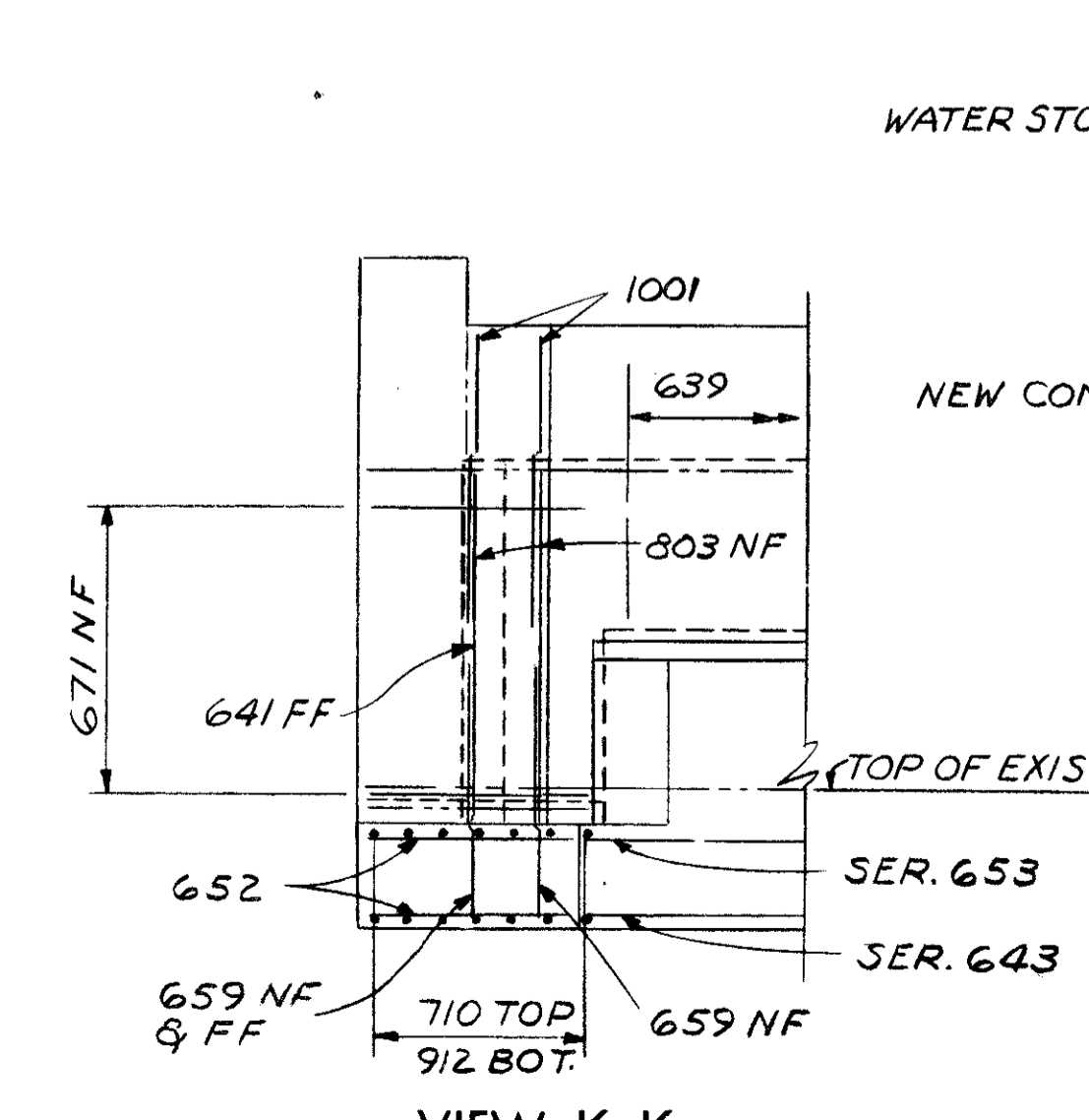
VIEW H-H



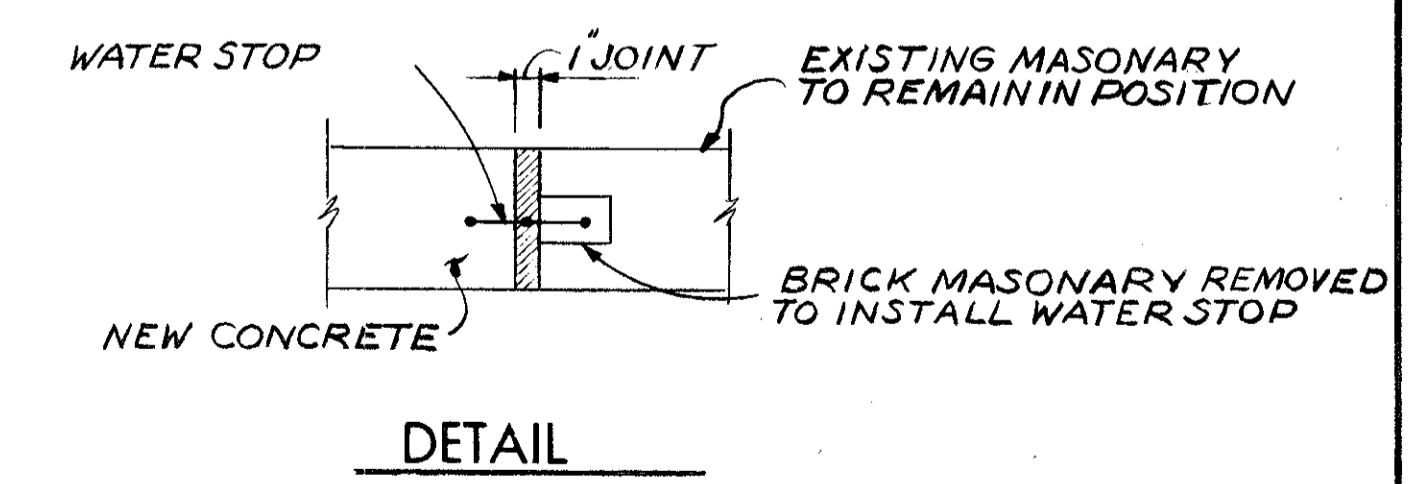
VIEW J-J



SECTION M-M



VIEW K-K



DETAIL

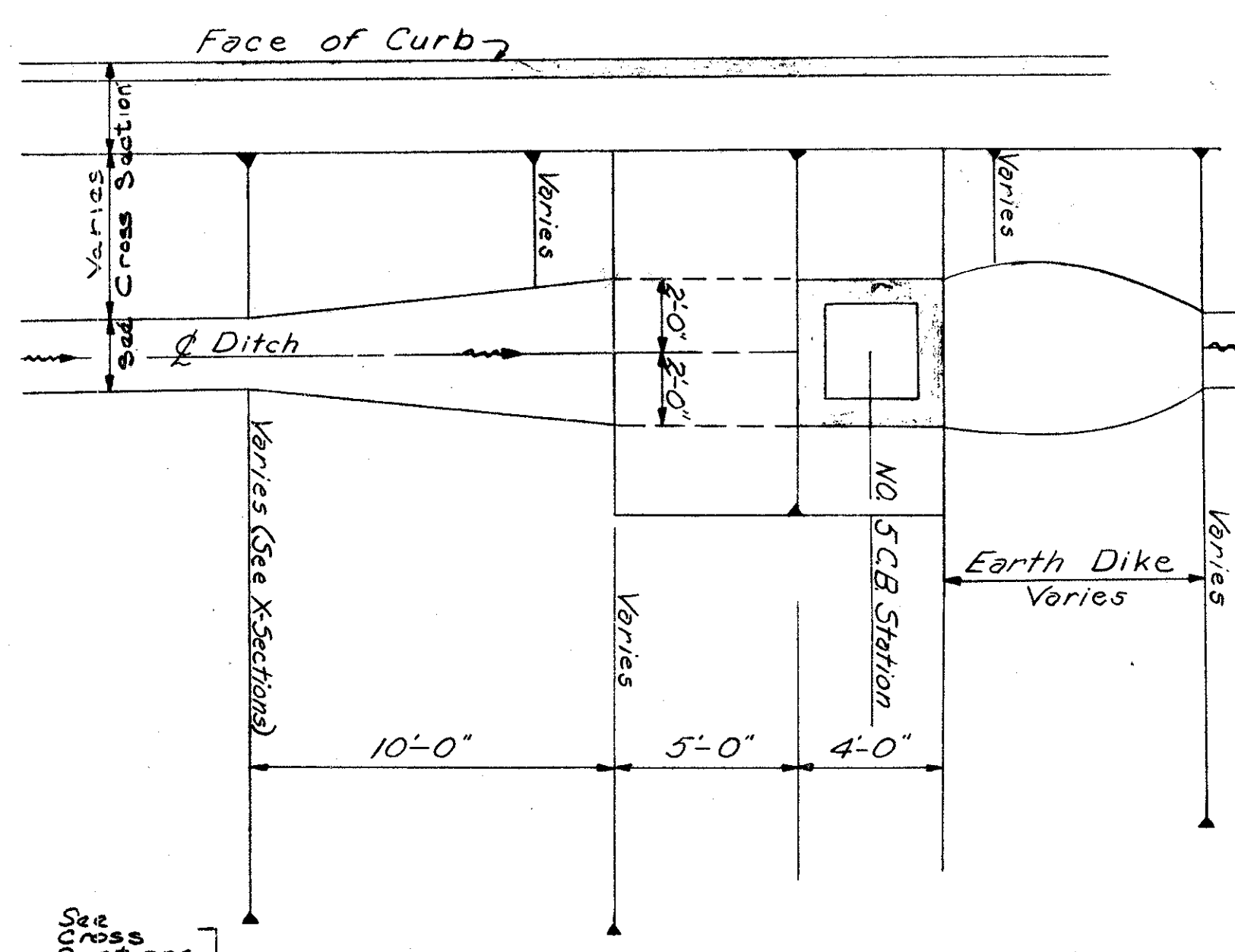
THE PREFIX S-73 SHALL BE ADDED TO ALL REINFORCING BAR MARKS.



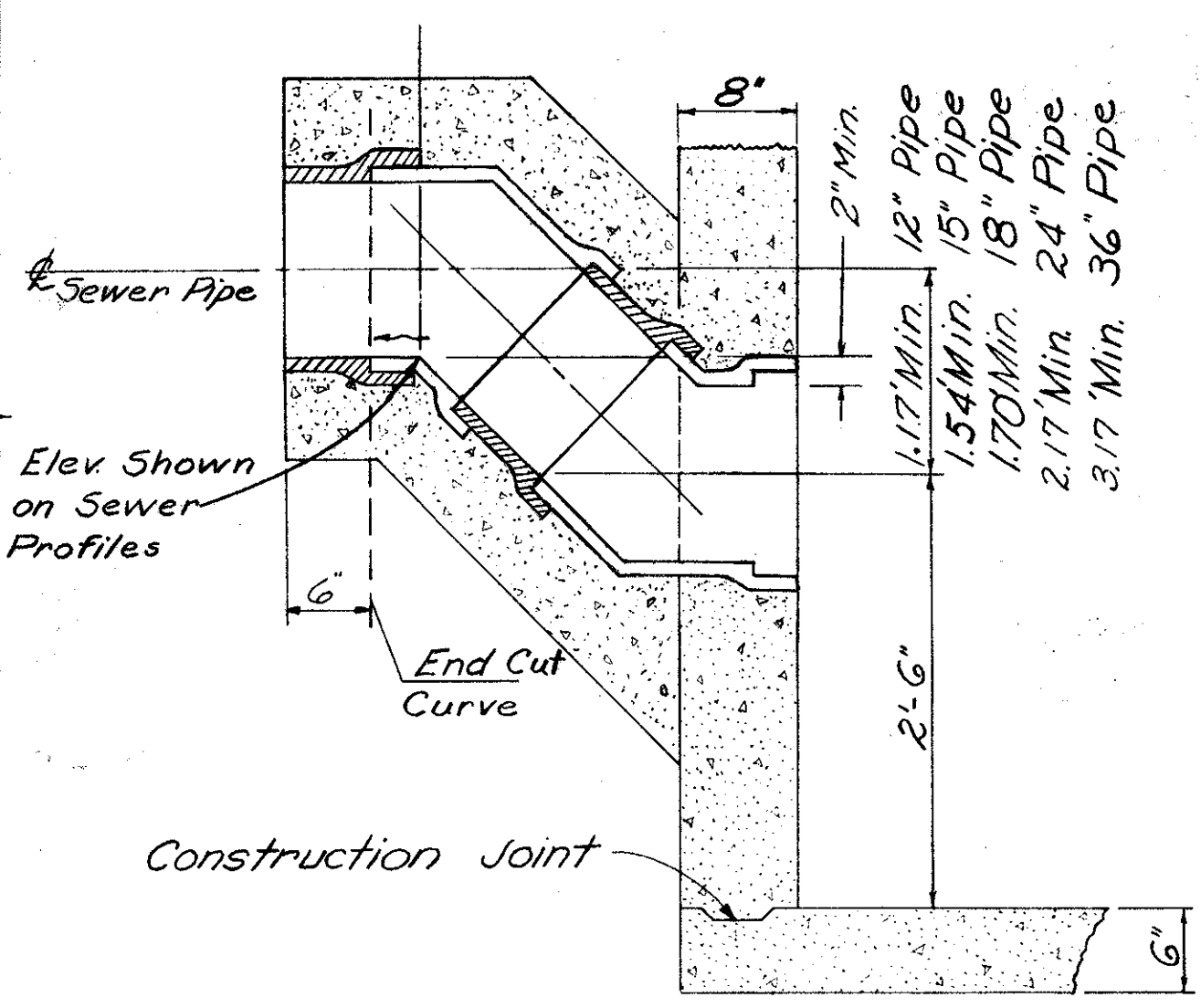
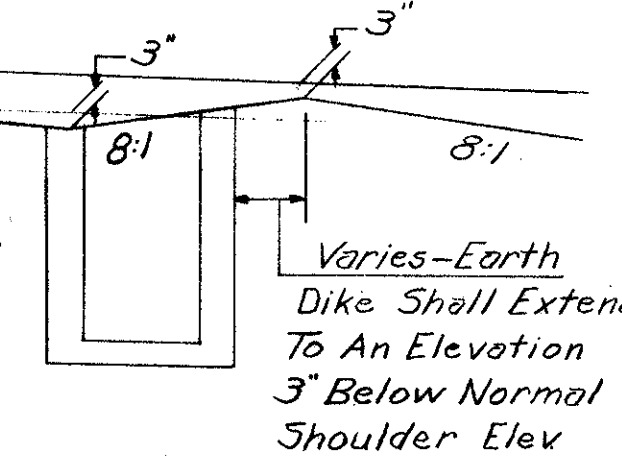


618

Q-5

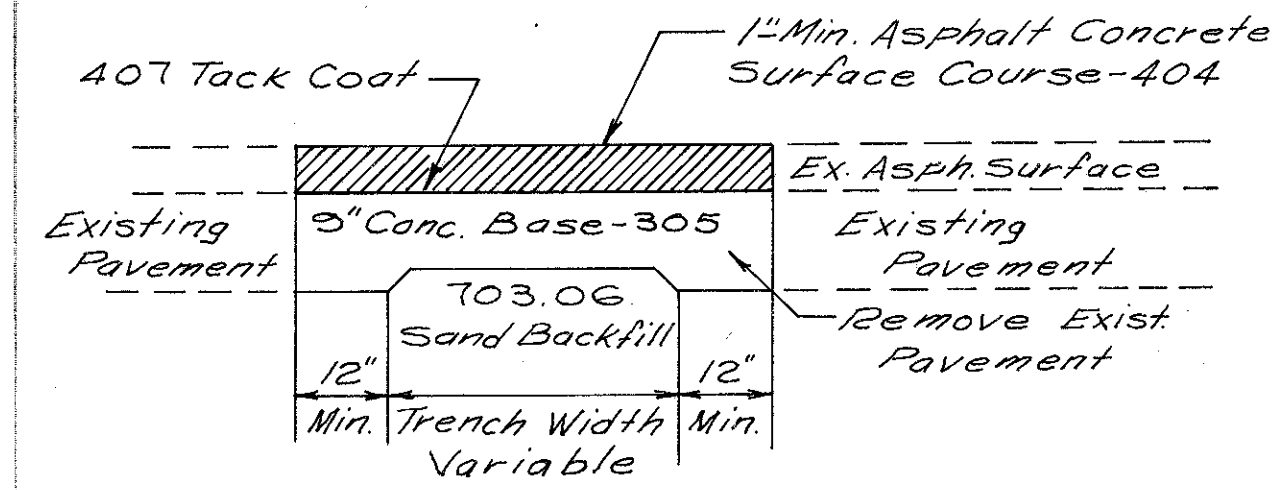


**DETAIL FOR ALTERING APPROACH DITCH AND DIKE FOR NO. 5 C.B. BEHIND CURB**

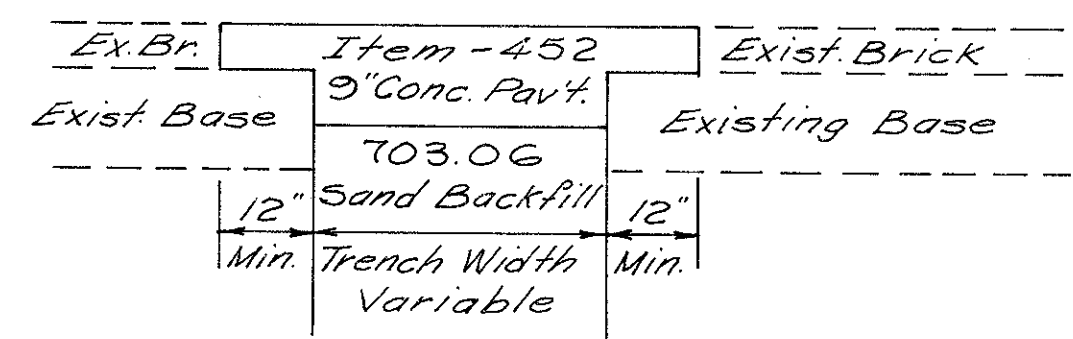


**CATCH BASIN, INLET, OR MANHOLE WITH TRAP**

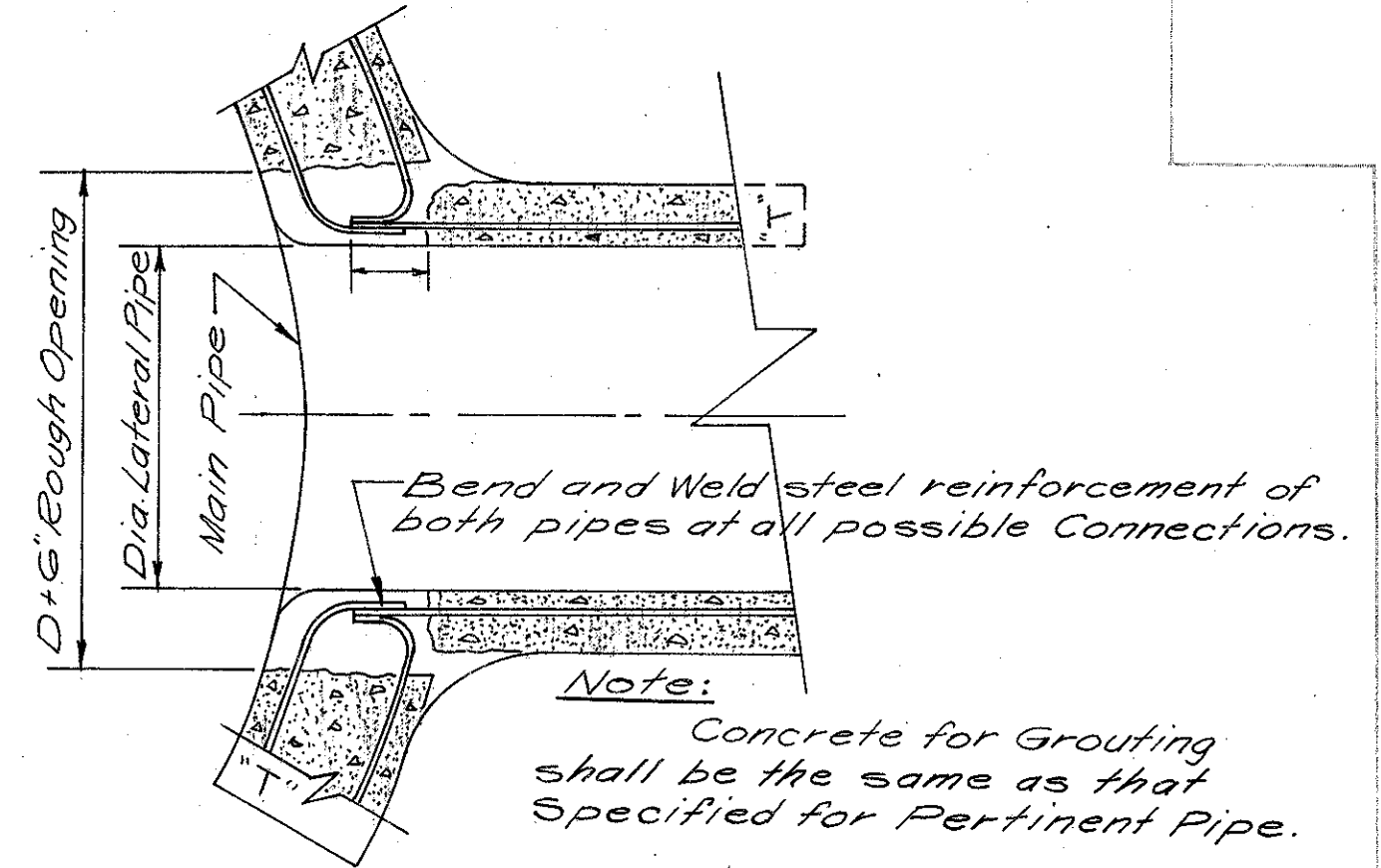
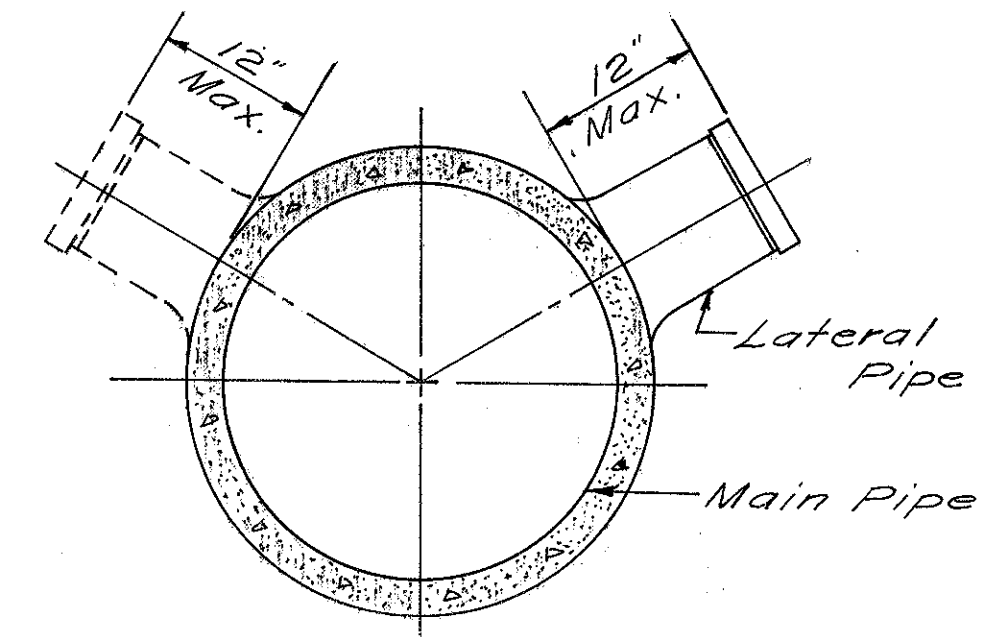
**Notes:**  
The Trap and Sump Details shown on this drawing are applicable to all catch basins or inlets, or manholes noted in these plans as being "modified with trap." Catch Basin or Inlet or Manhole Details other than those shown shall conform to the appropriate standard drawing.  
The requirements of Item 604 of the construction and material specification shall apply to this work. Traps exceeding 12" shall be constructed of two 45° cut curves of a minimum length of conduit of the same size as the outlet pipe, encased with a minimum of 6" of class "C" concrete.  
The unit price bid for each Catch Basin or Inlet or Manhole noted as being "Modified with Trap," shall constitute full compensation for all labor, materials, tools, equipment, and incidentals necessary for the proper completion of the work as herein set forth.



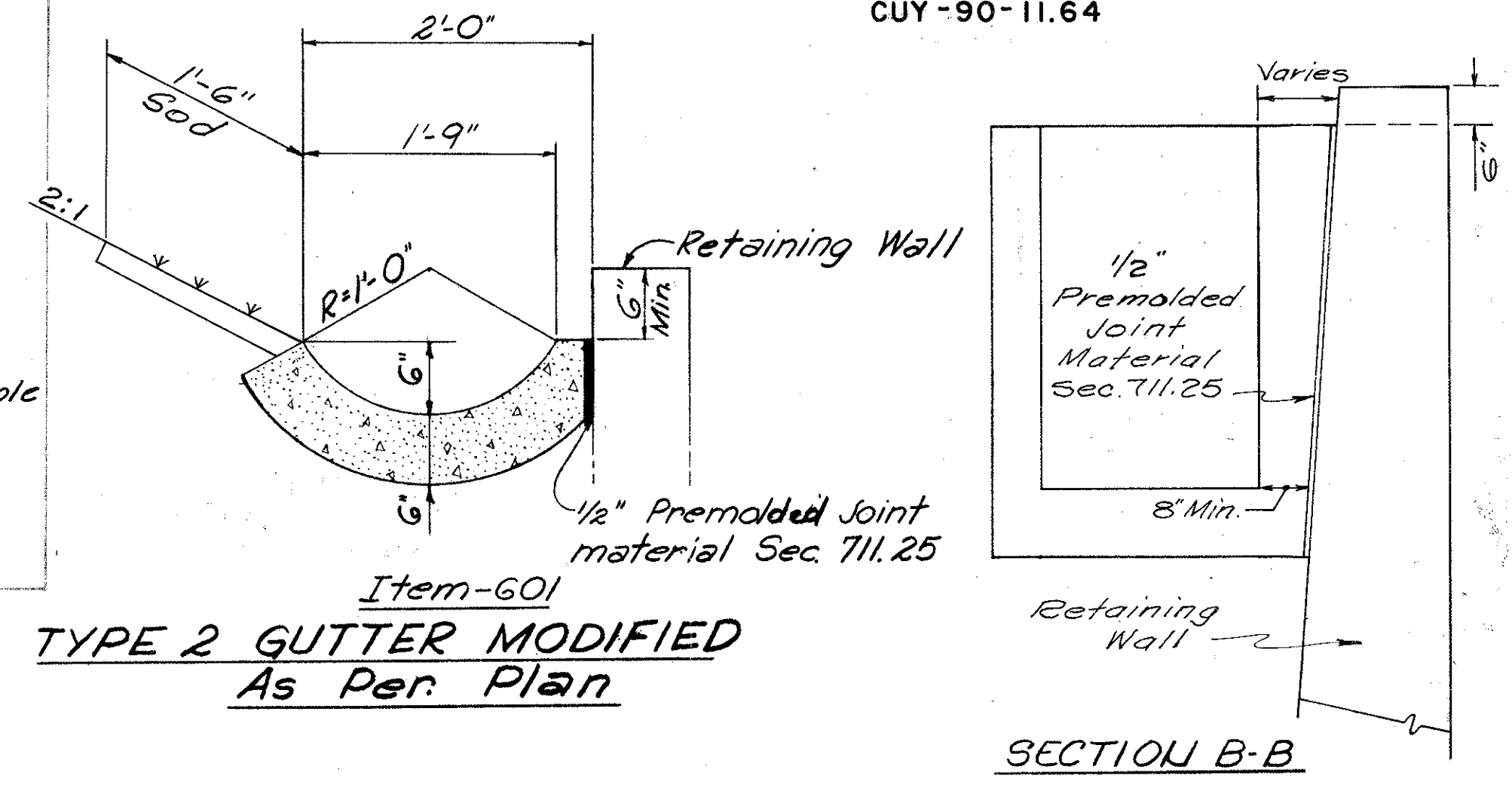
**TYPICAL SECTION REPAVING OVER SEWER OR UTILITY TRENCH IN ASPHALT PAVEMENT**



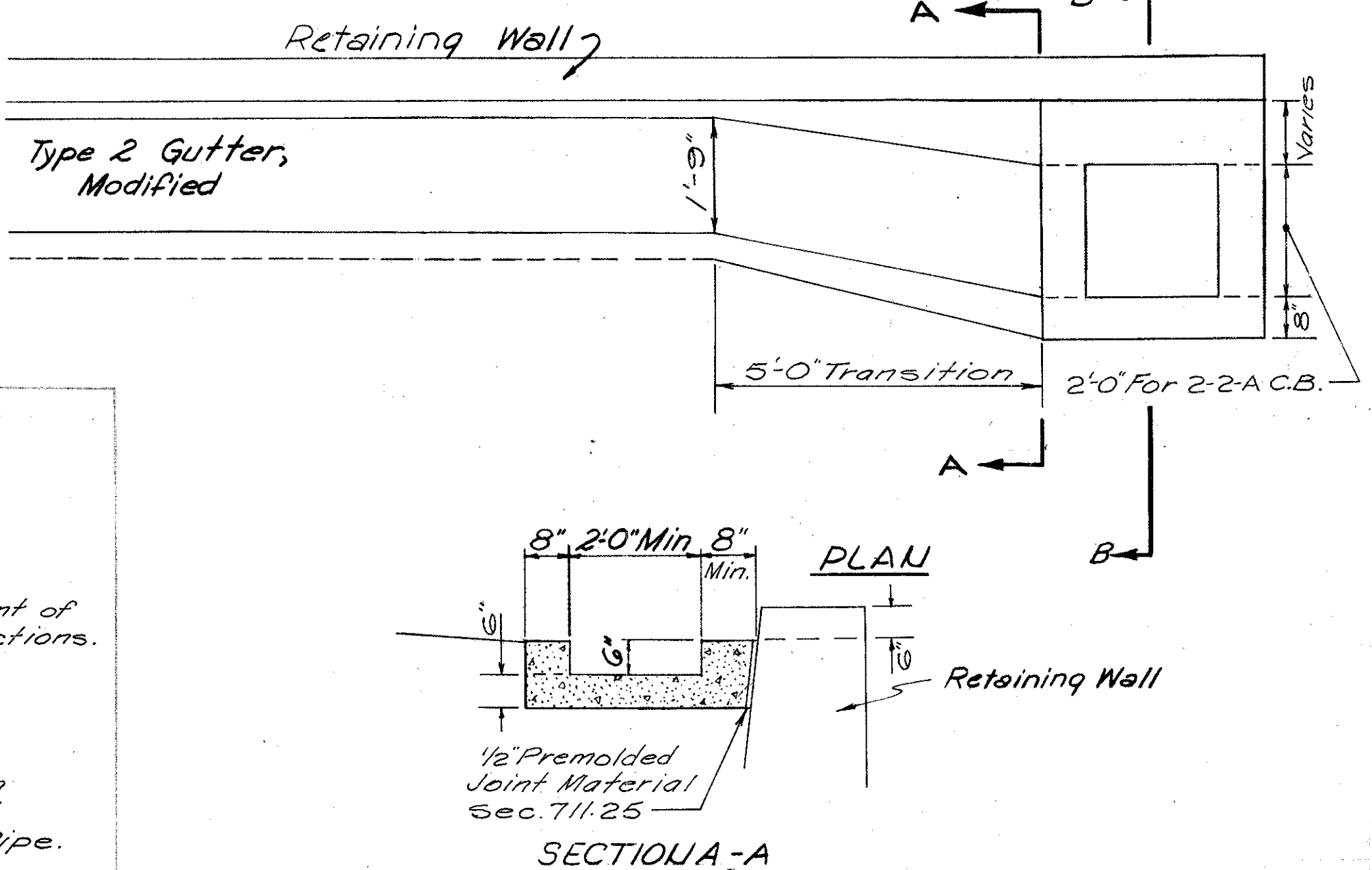
**TYPICAL SECTION REPAVING OVER SEWER OR UTILITY TRENCH IN BRICK PAVEMENT**



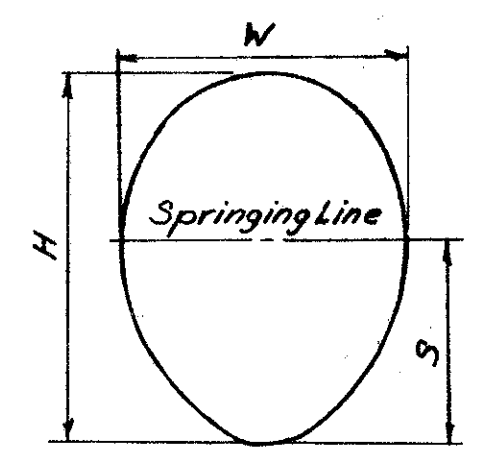
**PRE-FABRICATED "T" CONNECTION (NO SCALE)**



**Item-601 TYPE 2 GUTTER MODIFIED As Per Plan**



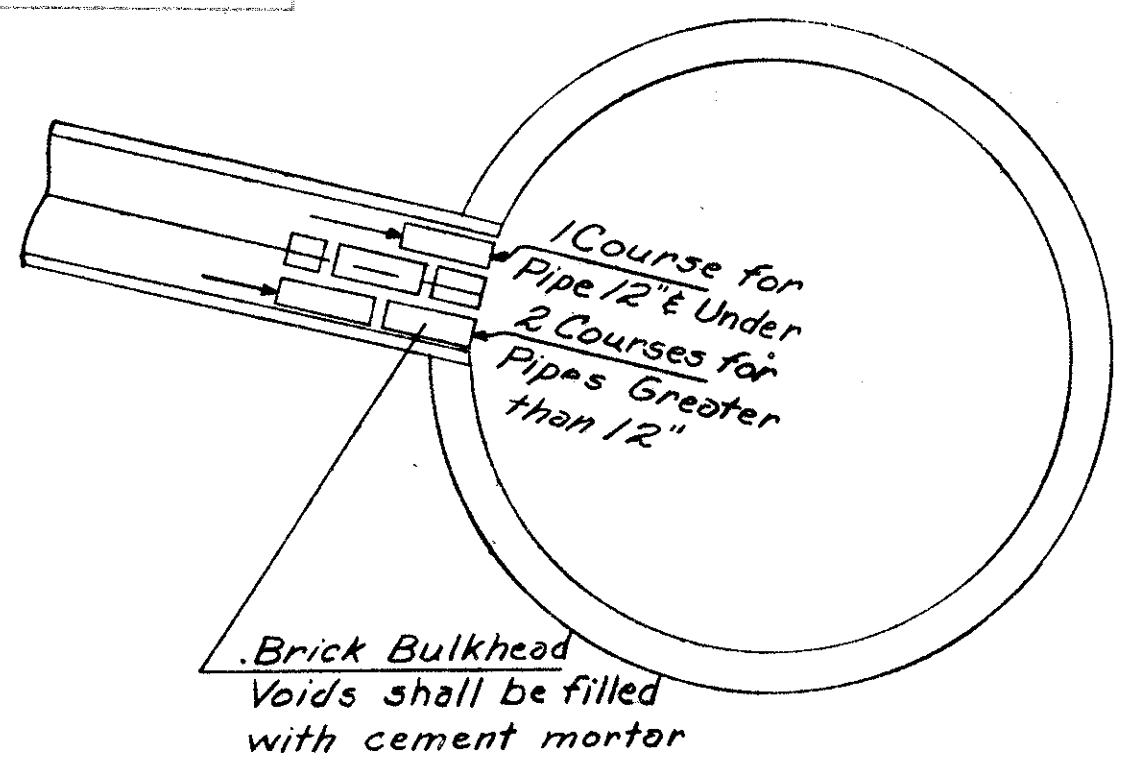
**Item 601 type 2 Paved Gutter Modified, As Per Plan GUTTER TRANSITION**



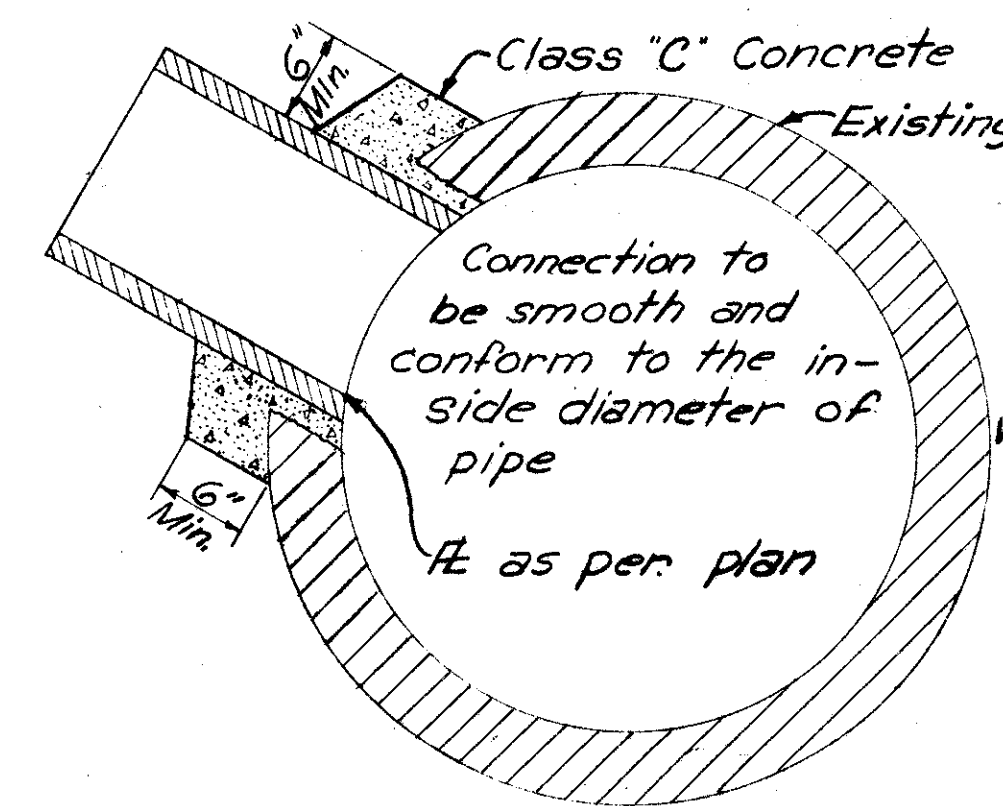
EGG SHAPE SEWERS				
NO.	H FEET	W FEET	S FEET	AREA SQ. FT.
2	2.25	1.94	1.28	3.41
3	2.75	2.23	1.64	4.75
4	3.23	2.54	1.70	6.35
6	4.23	3.34	2.23	10.90
7	4.69	3.70	2.48	13.39
8	5.12	4.04	2.71	16.00
9	5.54	4.37	2.93	18.72

**TYPES OF EGG SHAPED SEWERS**  
"B" - 1 Ring of Brick all around & 1 Ring Extra on Arch  
"C" - 2 Rings of Brick all around & 1 Ring Extra on Arch

**DETAIL EXISTING SEWER SIZES**

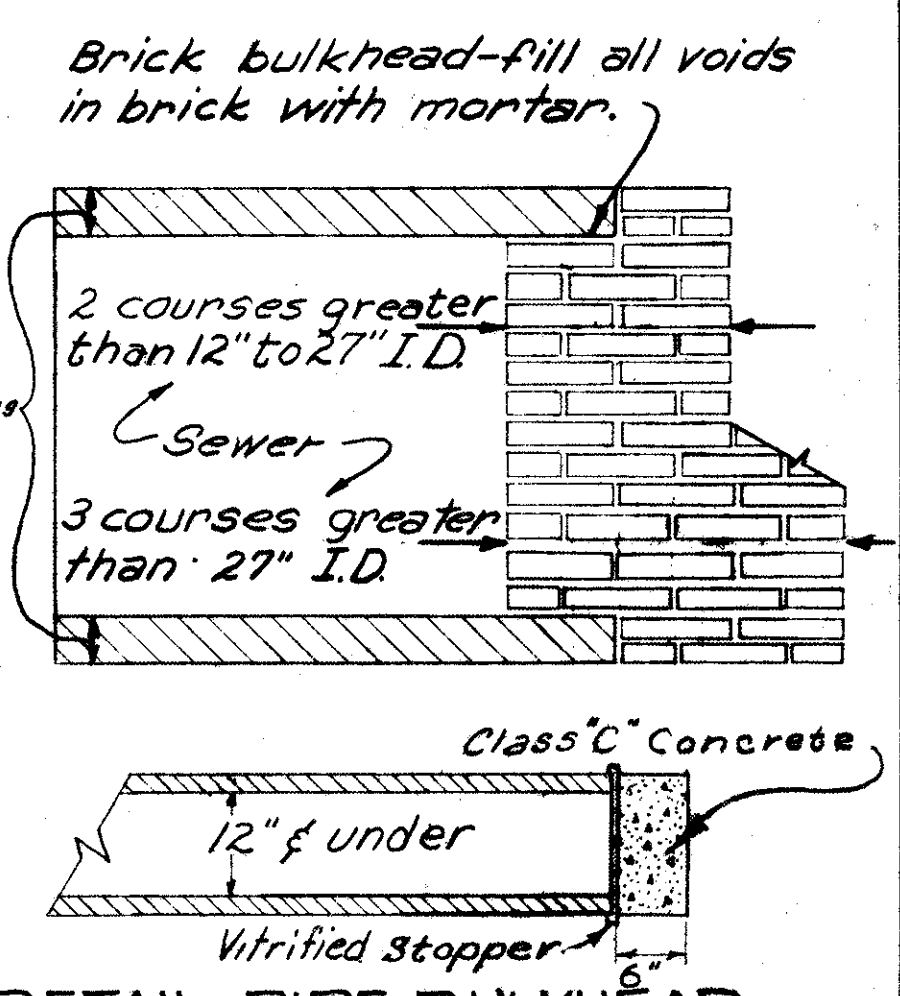


**DETAIL FOR BULKHEADING PIPE CONNECTIONS FROM WITHIN PIPES 4'-0" OR GREATER IN DIAMETER**



Cost of connection to be included in the unit price bid per lin. ft. of storm sewer.

**DETAIL FOR CONNECTIONS TO EXISTING SEWERS**



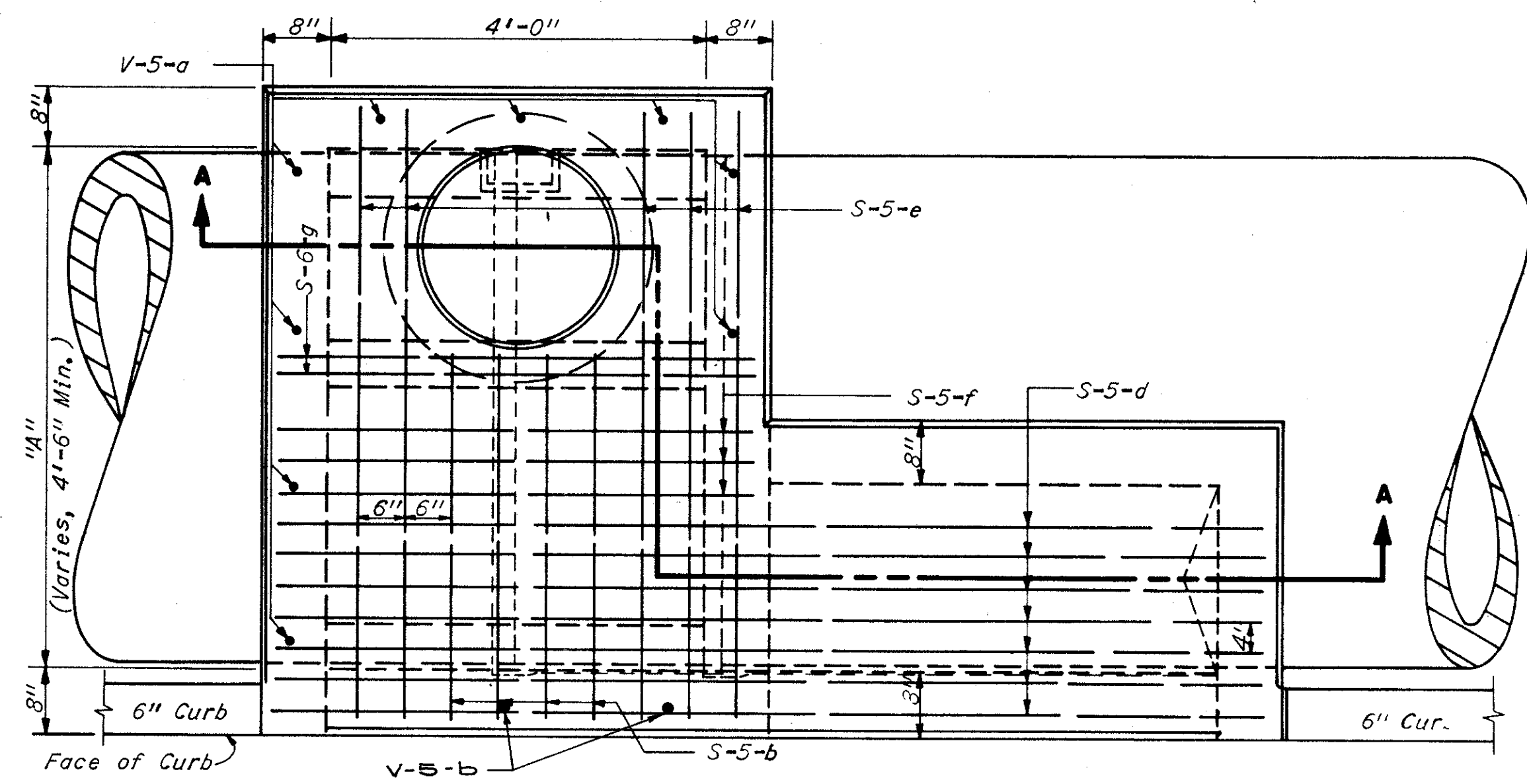
**DETAIL PIPE BULKHEAD DRAINAGE DETAILS**

# SPECIAL NO 2-A-6 TO 2-A-20 PAVED SHOULDER INLET MANHOLE

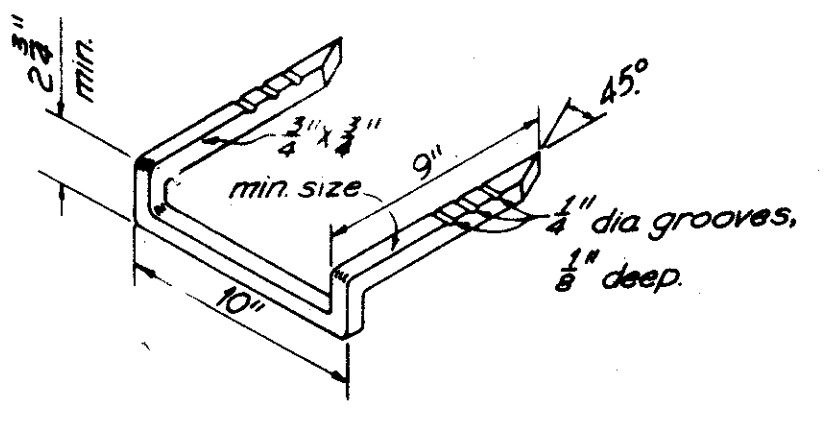
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

142  
838

CUYAHOGA COUNTY  
CUY-90-11.64



PLAN



STEP DETAIL

REINFORCING STEEL	REINFORCING STEEL													
	Length	S-6-a		S-5-d		S-5-f		S-6-g		H-5-a		V-5-b		
	Ft.	No.	Lin. Ft.	No.	Lin. Ft.	No.	Lin. Ft.	No.	Lin. Ft.	No.	Lin. Ft.	No.	Lin. Ft.	
REINFORCING BARS COMMON TO ALL PIPE DIAMETERS	6	5	8'-10"	9	7'-0"	3	5'-0"	2	5'-0"	4	2'-4"	2	1'-0"	
	8	7	8'-10"	9	9'-0"	3	5'-0"	2	5'-0"	4	4'-4"	2	1'-0"	
	10	11	8'-10"	9	11'-0"	3	5'-0"	2	5'-0"	4	6'-4"	2	1'-0"	
	12	15	8'-10"	9	13'-0"	3	5'-0"	2	5'-0"	4	8'-4"	2	1'-0"	
	14	19	8'-10"	9	15'-0"	3	5'-0"	2	5'-0"	4	10'-4"	2	1'-0"	
	16	23	8'-10"	9	17'-0"	3	5'-0"	2	5'-0"	4	12'-4"	2	1'-0"	
	18	27	8'-10"	9	19'-0"	3	5'-0"	2	5'-0"	4	14'-4"	2	1'-0"	
	20	31	8'-10"	9	21'-0"	3	5'-0"	2	5'-0"	4	16'-4"	2	1'-0"	
<b>REINFORCING STEEL</b>														
Pipe Diameter	A	S-5-b		S-5-e		V-5-g								
Ft.	No.	Lin. Ft.	No.	Lin. Ft.	No.	Lin. Ft.	No.	Lin. Ft.						
Under 48"	4	4'-6"	4	2'-11"	5	5'-6"	9	2'-6"						
48"	4	4'-10"	4	3'-3"	5	5'-10"	9	2'-6"						
54"	4	5'-5"	4	3'-10"	5	6'-5"	11	2'-6"						
60"	4	6'-0"	4	4'-5"	5	7'-0"	11	2'-6"						
66"	4	6'-7"	4	5'-0"	5	7'-7"	13	2'-6"						
72"	4	7'-2"	4	5'-7"	5	8'-2"	13	2'-6"						

**NOTES**

**GENERAL** -- The design shown hereon shall not be used for inlets having a depth (top of manhole cover to top of floor) greater than 20 feet. If split pipe is used to form the inlet bottom it shall be split concrete pipe only. Otherwise, the inlet bottom shall be formed in Class "C" concrete.

Manholes over 12 feet in depth shall be built of reinforced Class "C" Concrete. Manholes for pipes under 48" in diameter shall be reinforced by placing  $\frac{1}{2}$ " diameter bars 12" center to center vertically and  $\frac{1}{2}$ " diameter bars 9" center to center horizontally. Manholes for pipes over 48" in diameter shall be reinforced by placing  $\frac{1}{2}$ " diameter bars 12" center to center vertically and  $\frac{3}{4}$ " diameter bars at 6" center to center horizontally. Bars shall be placed with a 2" clearance from the inside face of the wall. Payment for furnishing and placing the reinforcing steel shall be included in the price bid for Item 604, Special Paved Shoulder Inlet Manhole.

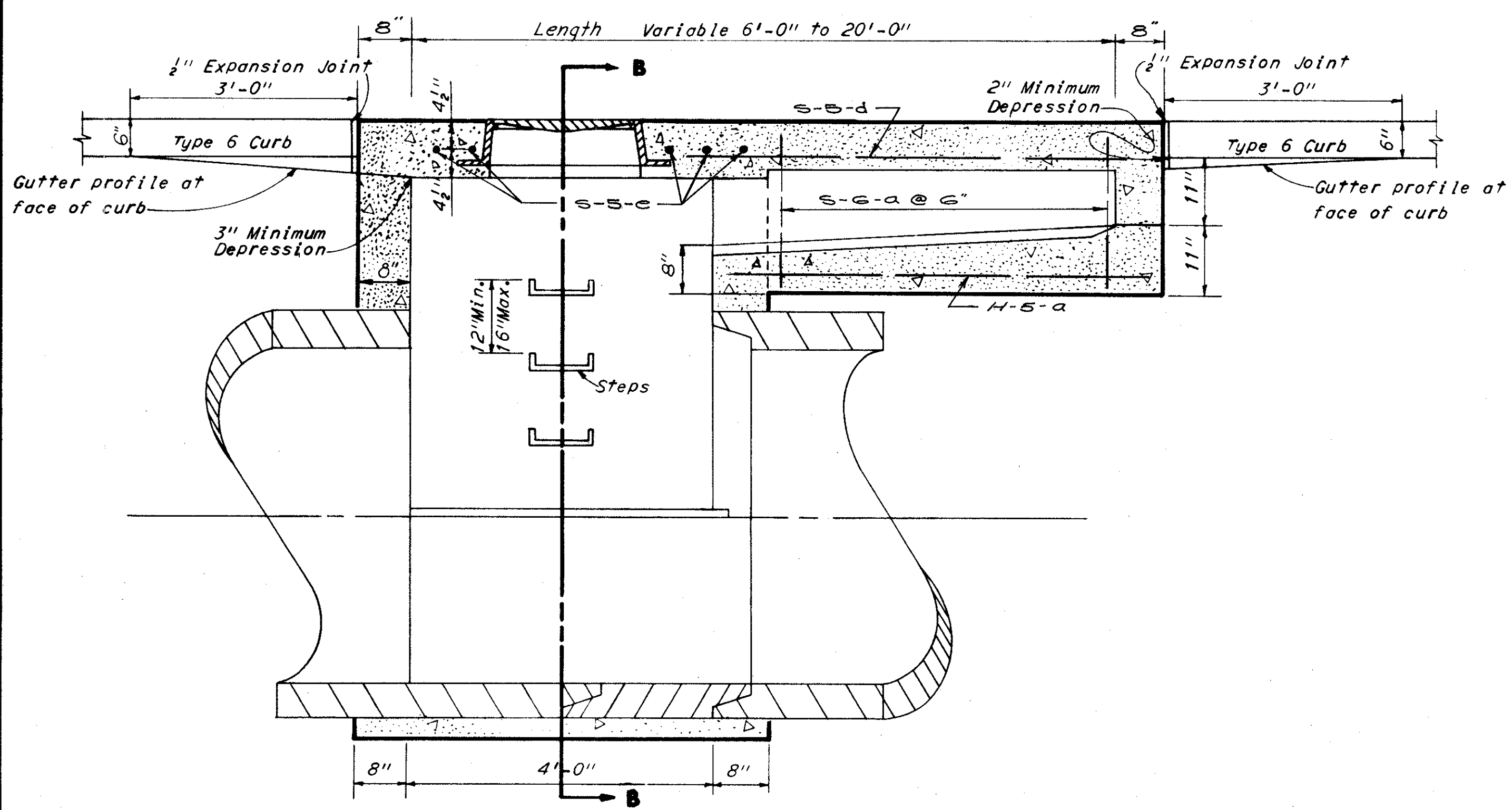
For Notes and Details not shown see Standard Construction Drawing I-2A.

**FRAME AND COVER** -- The frame and cover shall be the light frame and cover detailed on Standard Construction Drawing MH-1.

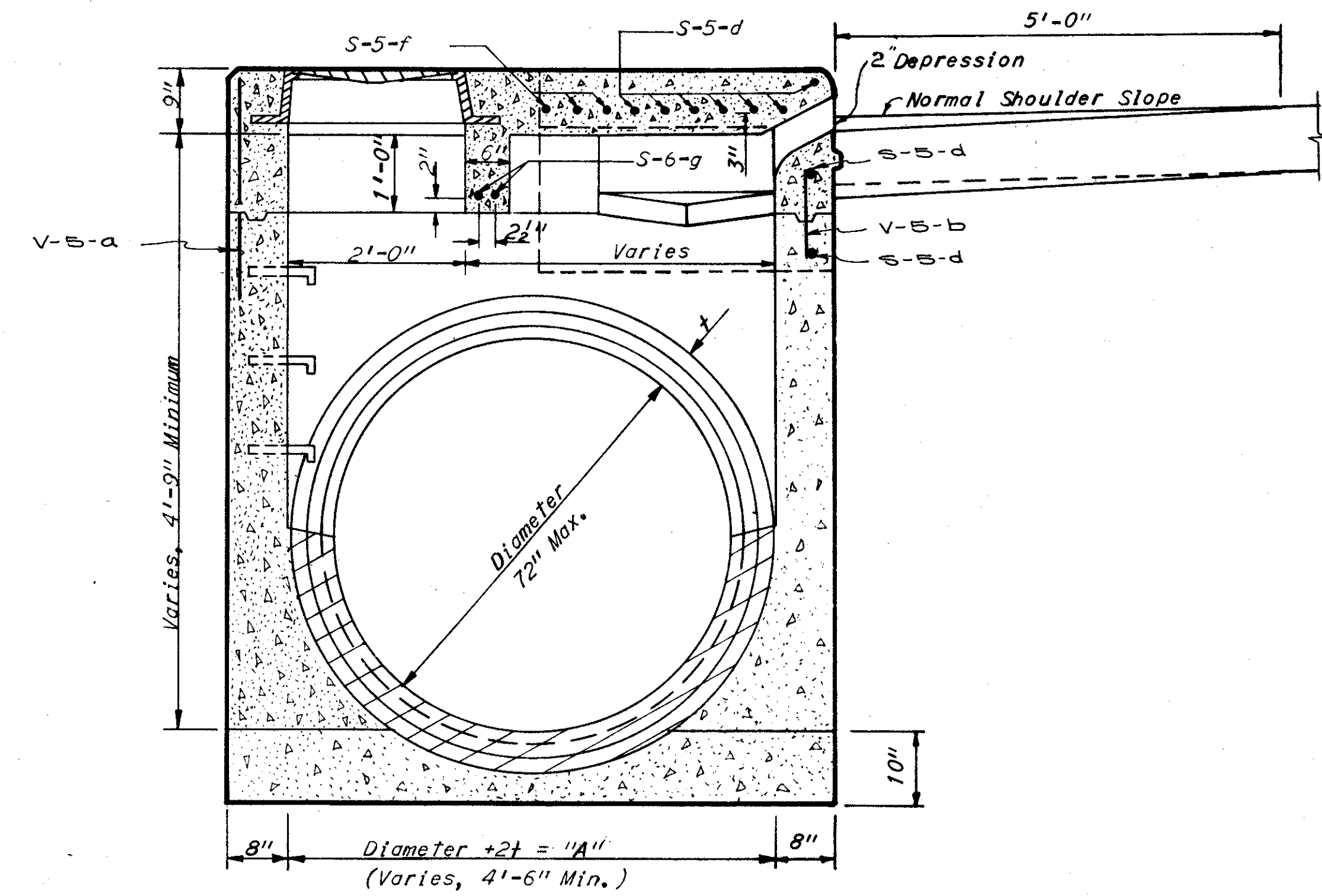
**STEPS** -- shall meet the requirements of 604.

**REINFORCING STEEL** -- Bars S-6-a and S-6-g shall be  $\frac{3}{4}$ " round. All other bars shall be  $\frac{1}{2}$ " round. For location of bars not shown on the drawing, see Standard Construction Drawing I-2A.

**SPECIAL 2-A-6 TO 2-A-20 PAVED SHOULDER INLET MANHOLE.**



SECTION A-A

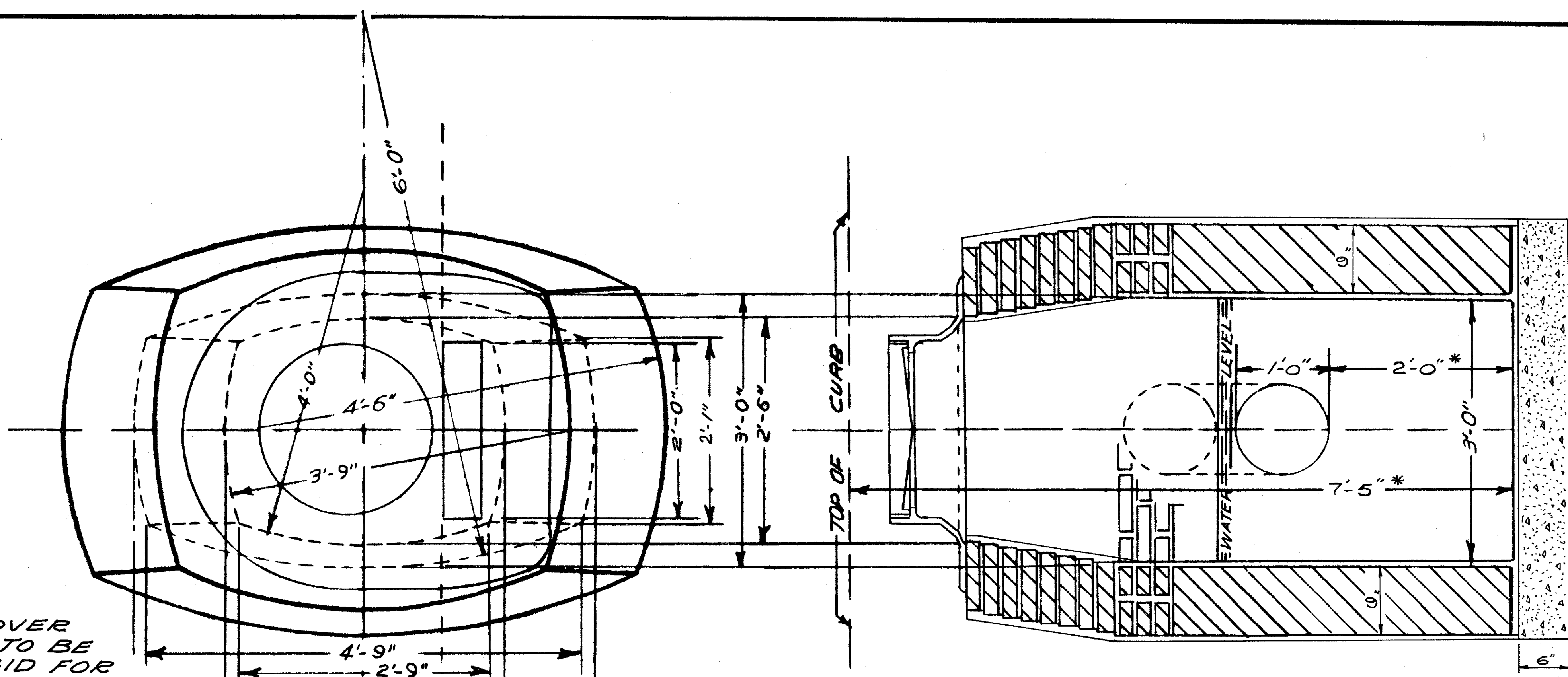


SECTION B-B

FED. RD.	STATE	PROJECT	
2	OHIO		

143  
838

CUYAHOGA COUNTY  
CUY-90-11.64

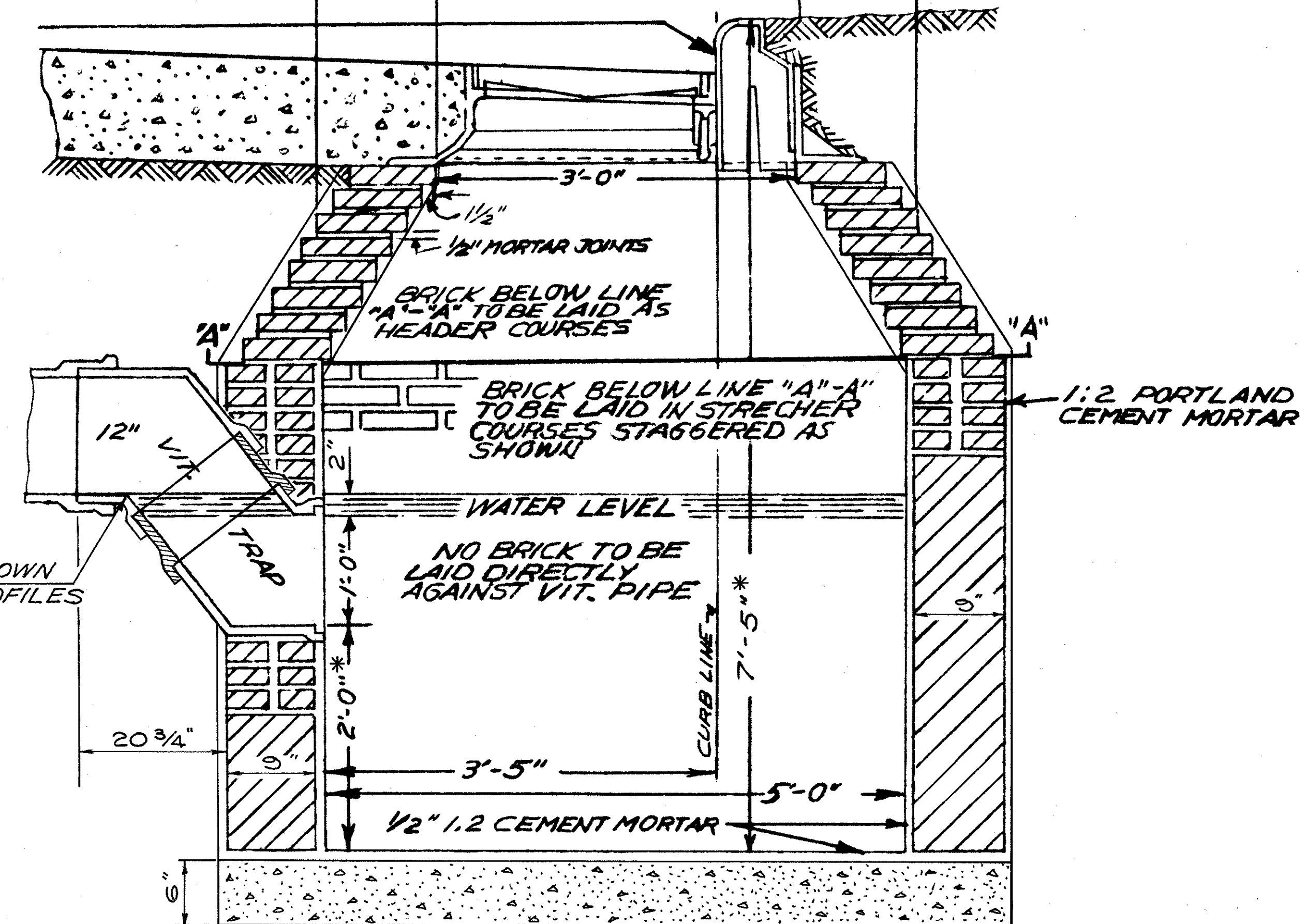


TRANSVERSE SECTION

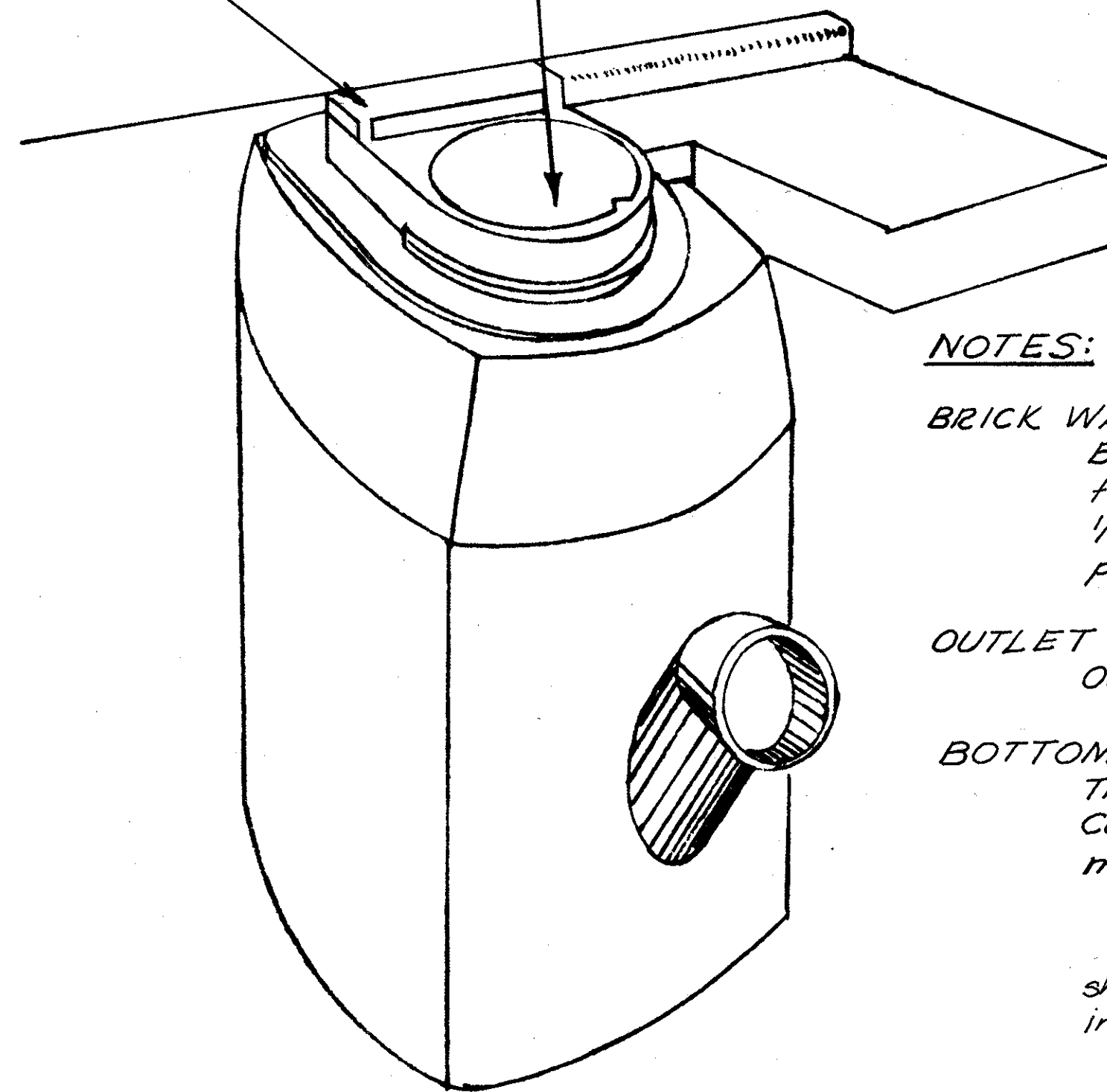
STANDARD INLET COVER AND FRAME IN PLACE TO BE INCLUDED IN PRICE BID FOR INLET.

FOR CAST IRON FRAME & CURB BOX, SEE SH'T. NO. 145

FOR IRON COVER, SEE SH'T. NO. 146



LONGITUDINAL SECTION



PERSPECTIVE  
NOT TO SCALE

**NOTES:**

**BRICK WALLS:**  
Brick walls shall be 8" thick & plastered on the inside and outside with 1:2 cement mortar 1/2" thick. Concrete sidewalls, where used, in place of brick, shall be 6" thick Class "C" Concrete.

**OUTLET PIPE:**  
Outlet pipe may be constructed on any side.

**BOTTOM:**  
The bottom shall be constructed of Class "C" Concrete, or of two courses of brick, set in mortar.

\* Inlet No 1 indicated as modified on the plans shall be built to the elevations shown on the plans in lieu of the dimensions on this detail.

ELEVATION SHOWN ON SEWER PROFILES

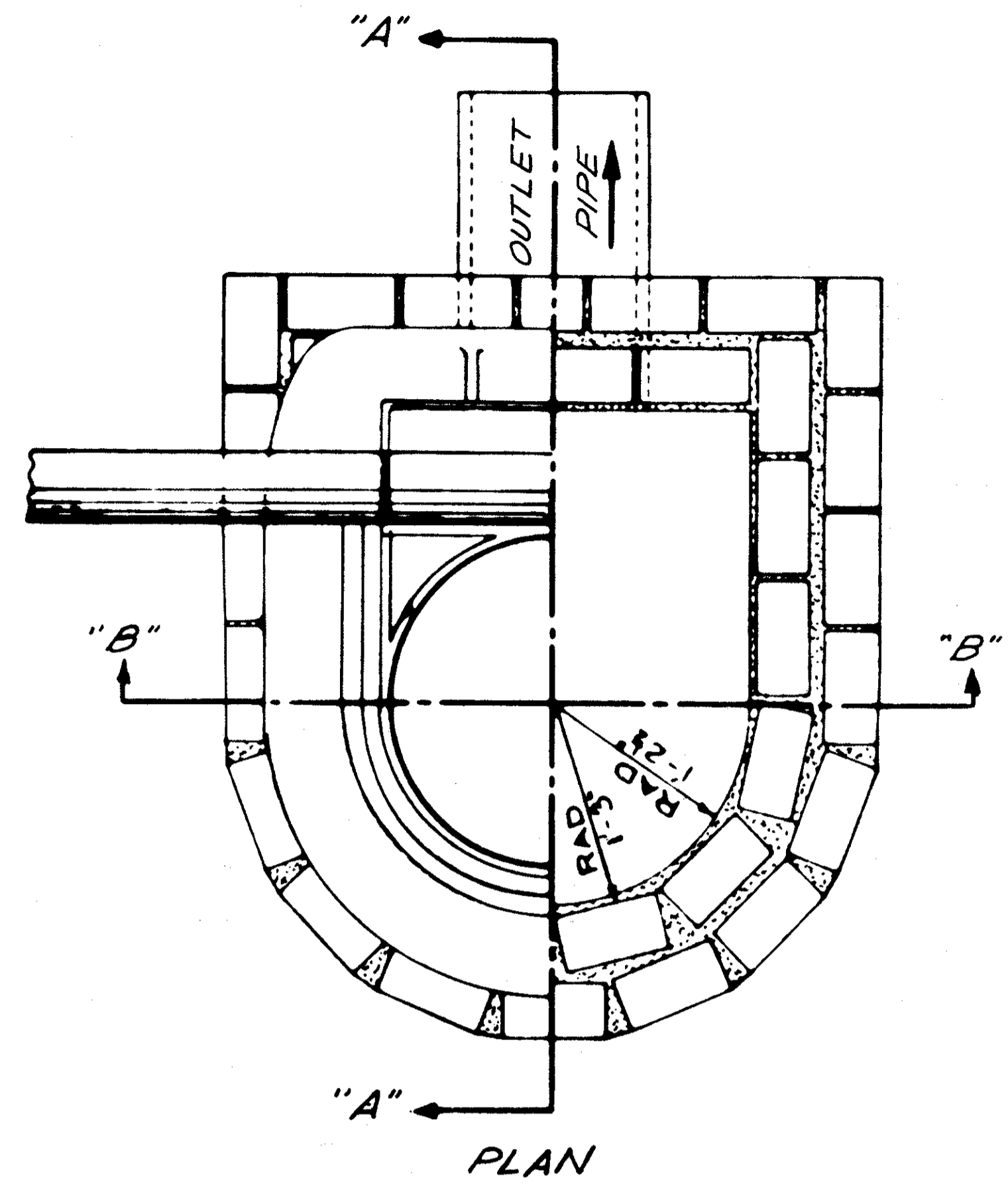
CITY OF CLEVELAND INLET NO 1

DRAINAGE DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO		

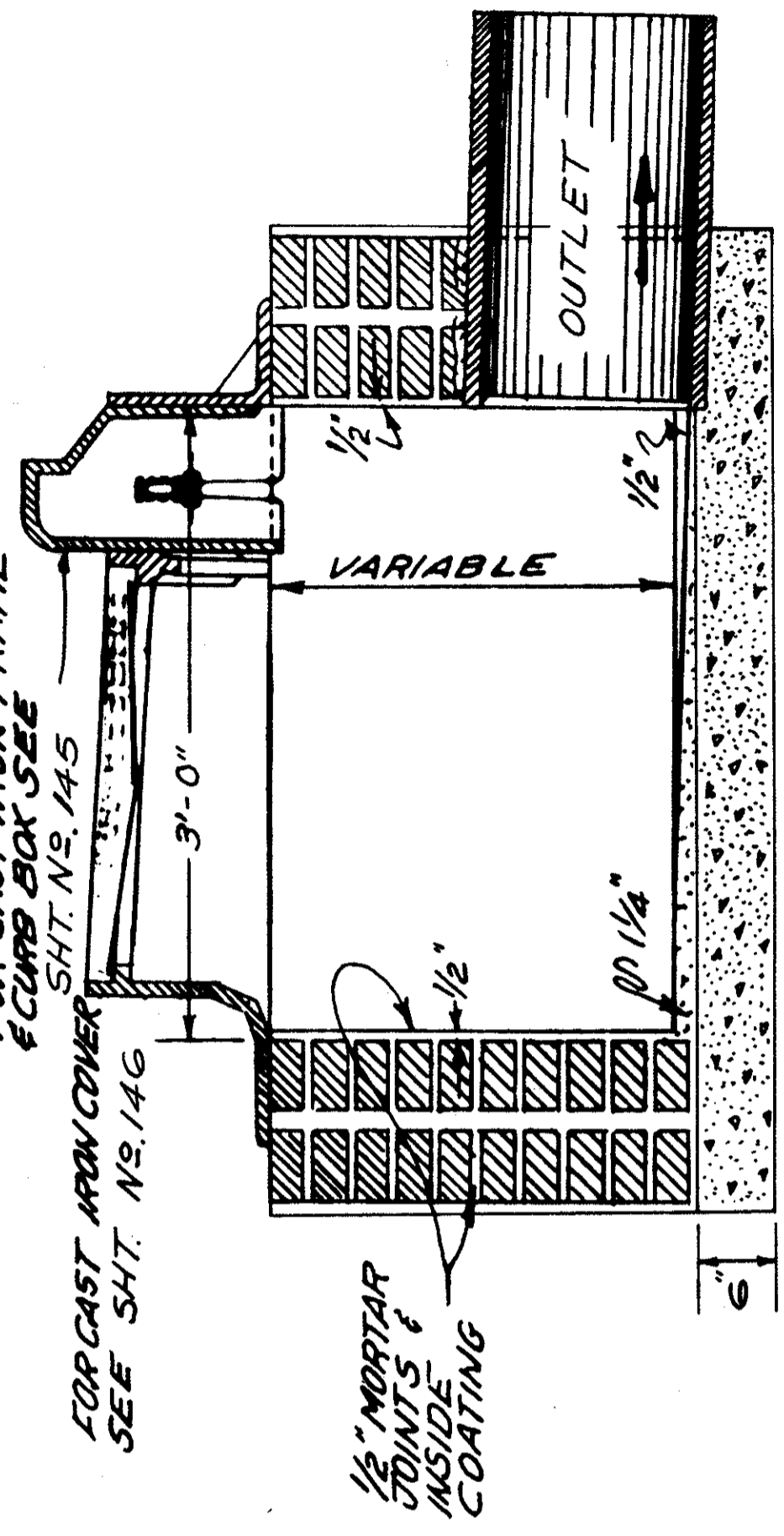
144  
838

CUYAHOGA COUNTY  
CUY-90-11.64



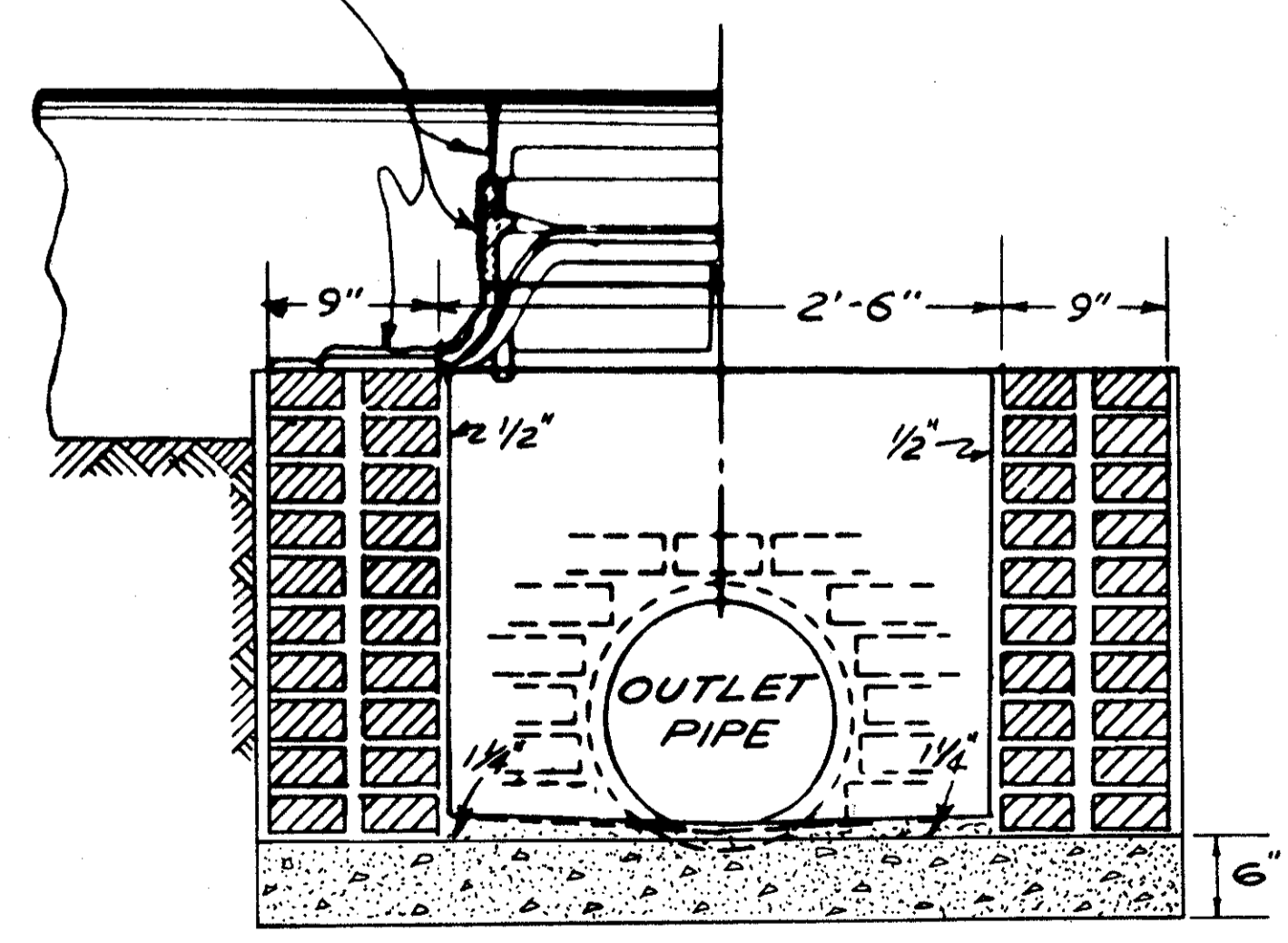
STANDARD INLET COVER AND FRAME IN PLACE TO BE INCLUDED IN PRICE BID FOR INLET.

FOR CAST IRON FRAME & CURB BOX SEE SHT. NO. 145  
FOR CAST IRON COVER SEE SHT. NO. 146



SECTION A-A

STONE CURB TO BE NOTCHED TO FIT CURB BOX SUPPORT AND CURB BOX SNUGLY.



SECTION B-B

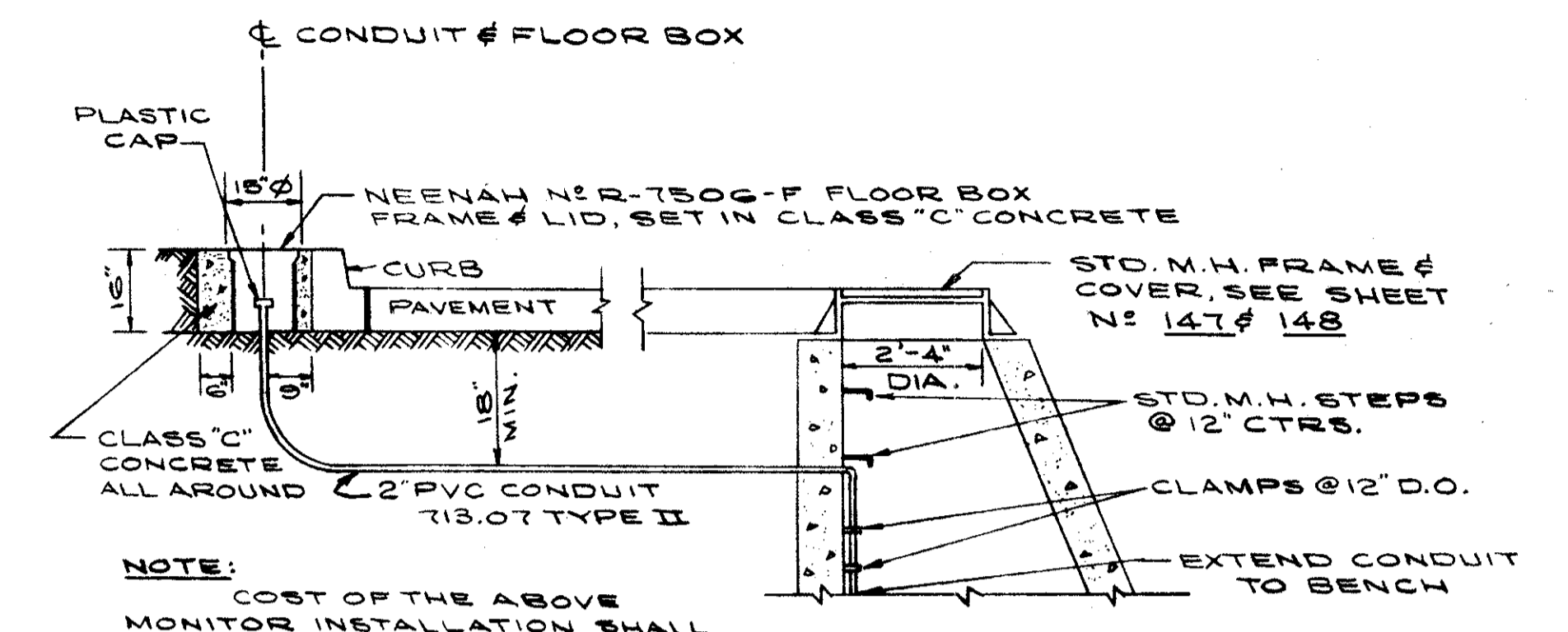
**NOTES:**

**BRICK WALLS:**  
Brick walls shall be 8" thick & plastered on the inside and outside with 1:2 cement mortar 1/2" thick. Concrete sidewalls, where used, in place of brick, shall be 6" thick Class "C" Concrete.

**OUTLET PIPE:**  
The outlet pipe shall be of the size shown on the plans and may be constructed on any side.

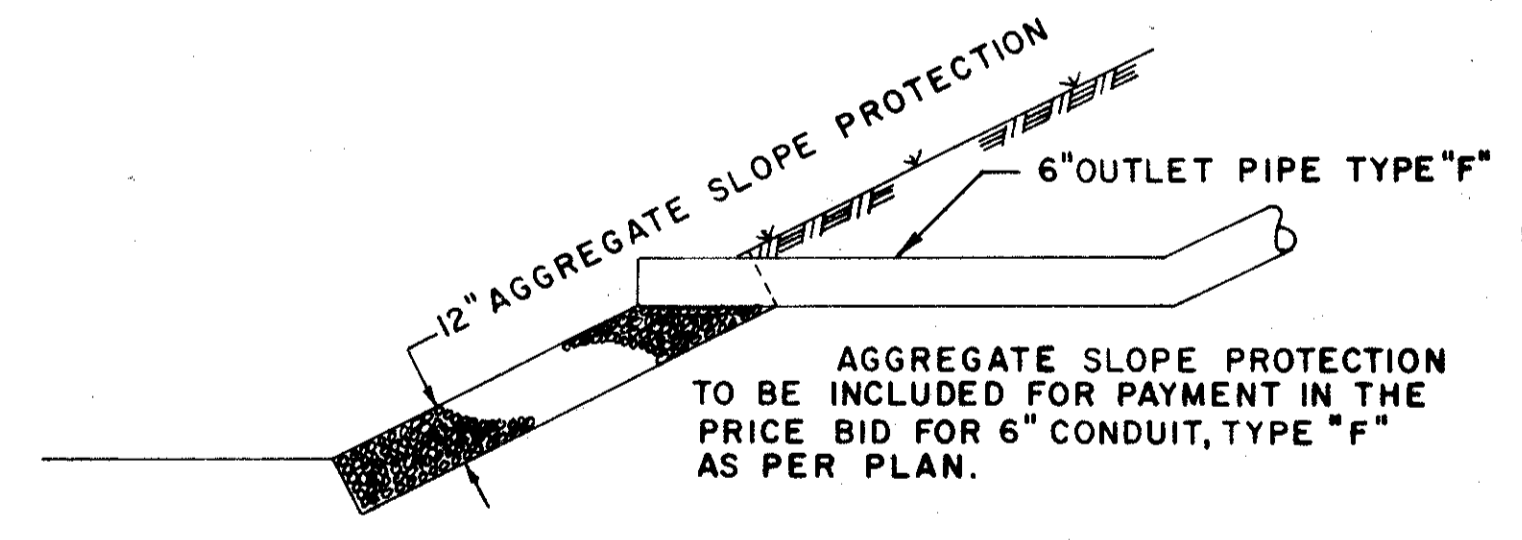
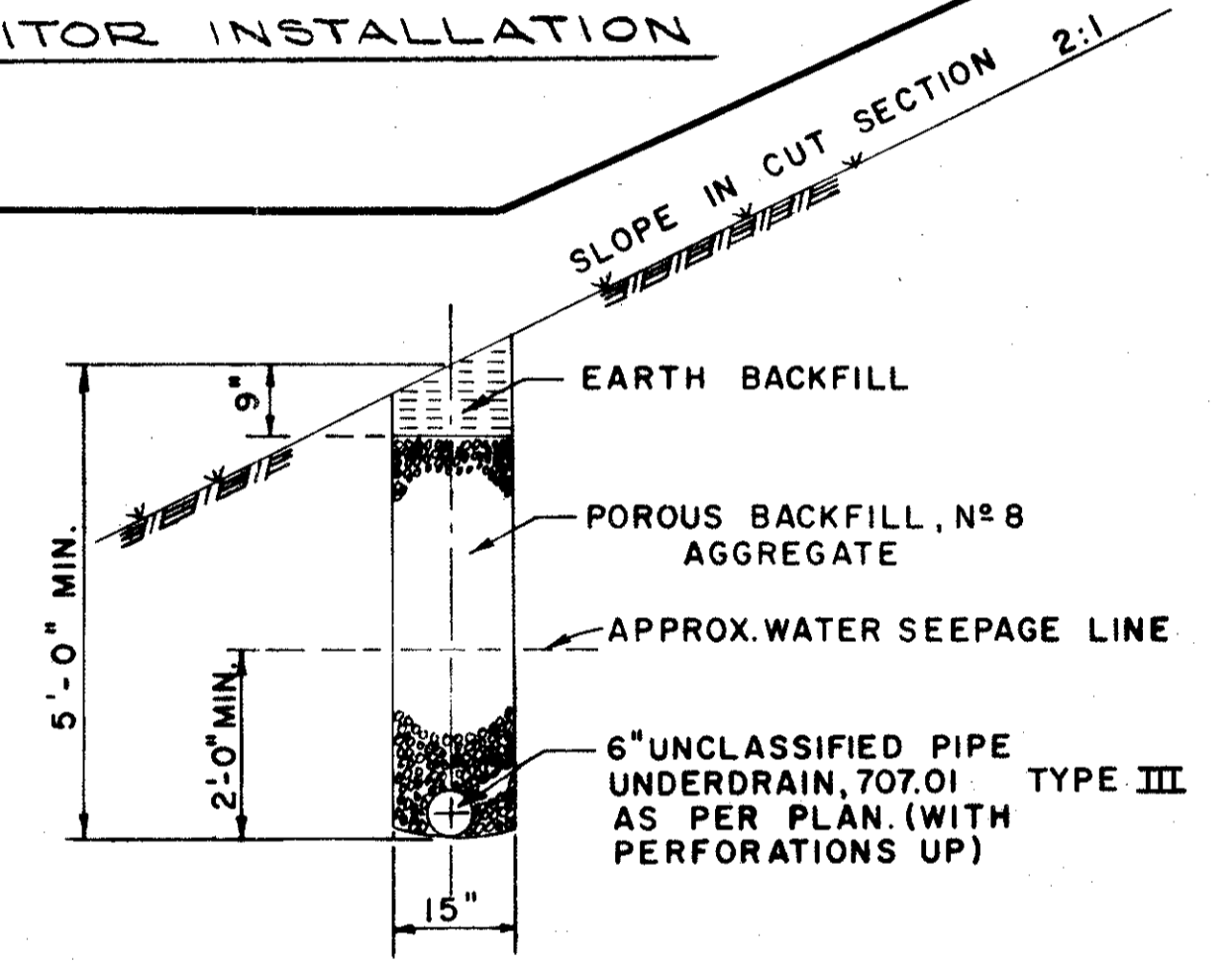
**BOTTOM:**  
The bottom shall be constructed of Class "C" Concrete, or of two courses of brick, set in mortar.

CITY OF CLEVELAND INLET NO 2

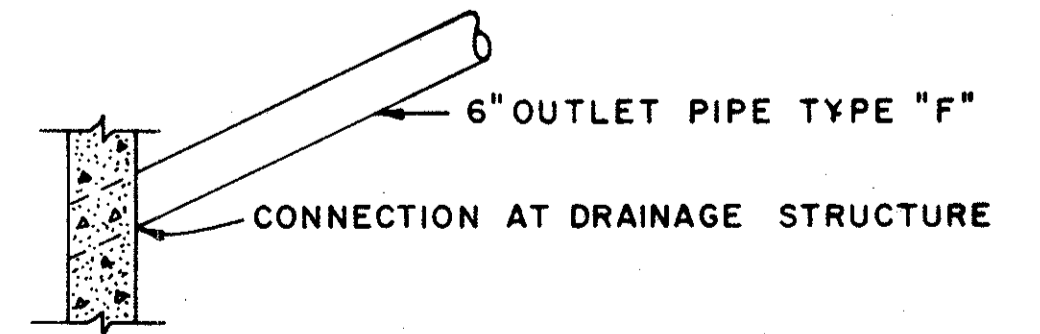


**NOTE:**  
COST OF THE ABOVE MONITOR INSTALLATION SHALL BE INCLUDED IN THE LUMP SUM PRICE BID PER JUNCTION CHAMBER

**DETAIL OF MONITOR INSTALLATION**



**NOTE:**  
OUTLET INTERCEPTOR DRAINS EITHER INTO DITCH DRAINAGE STRUCTURE OR ONTO AGGREGATE SLOPE PROTECTION AT ROADWAY DITCH LINE.  
SEE GENERAL NOTE, SHEET NO. 34



**DETAIL FOR INTERCEPTOR DRAIN**

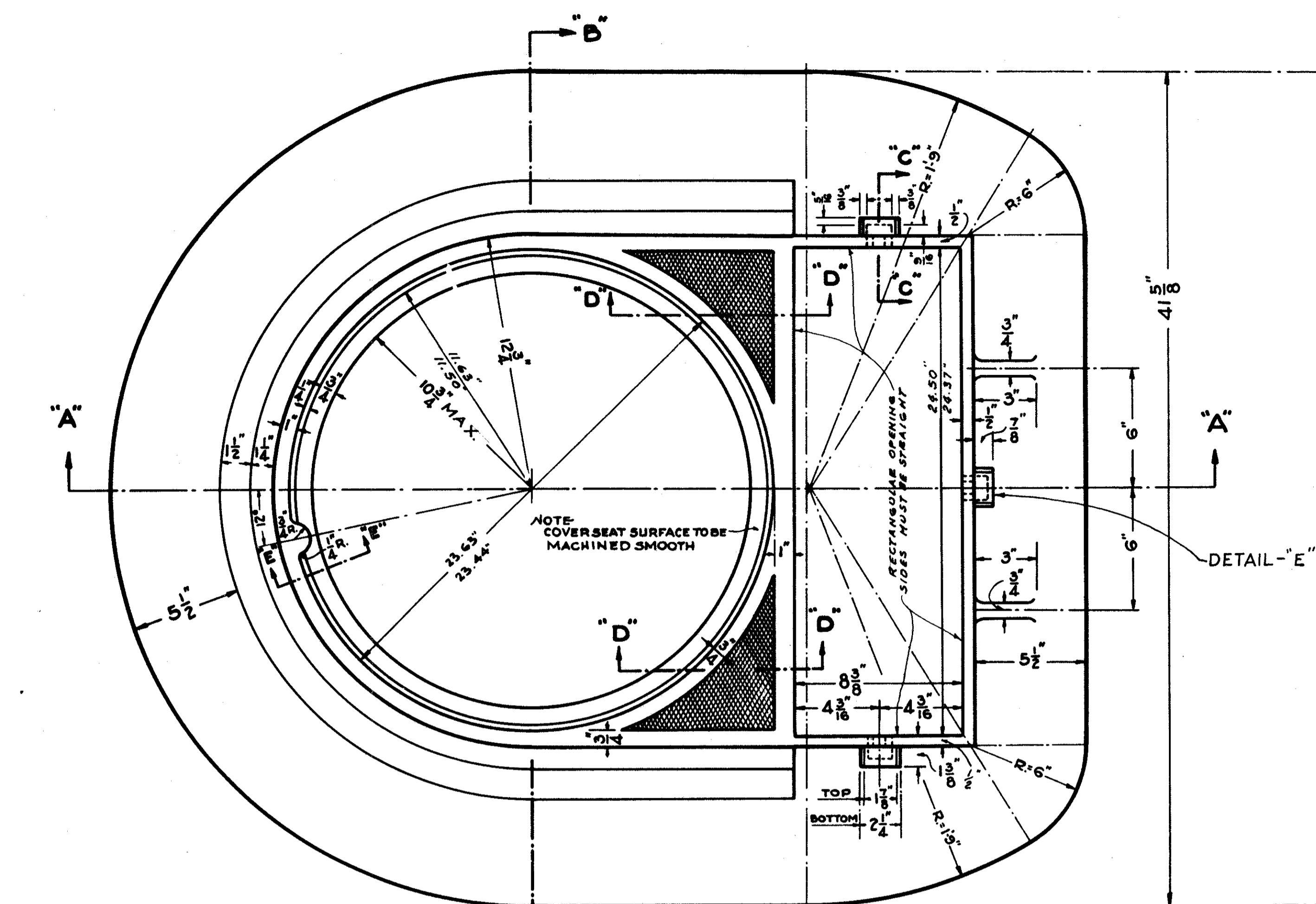
DRAINAGE DETAILS



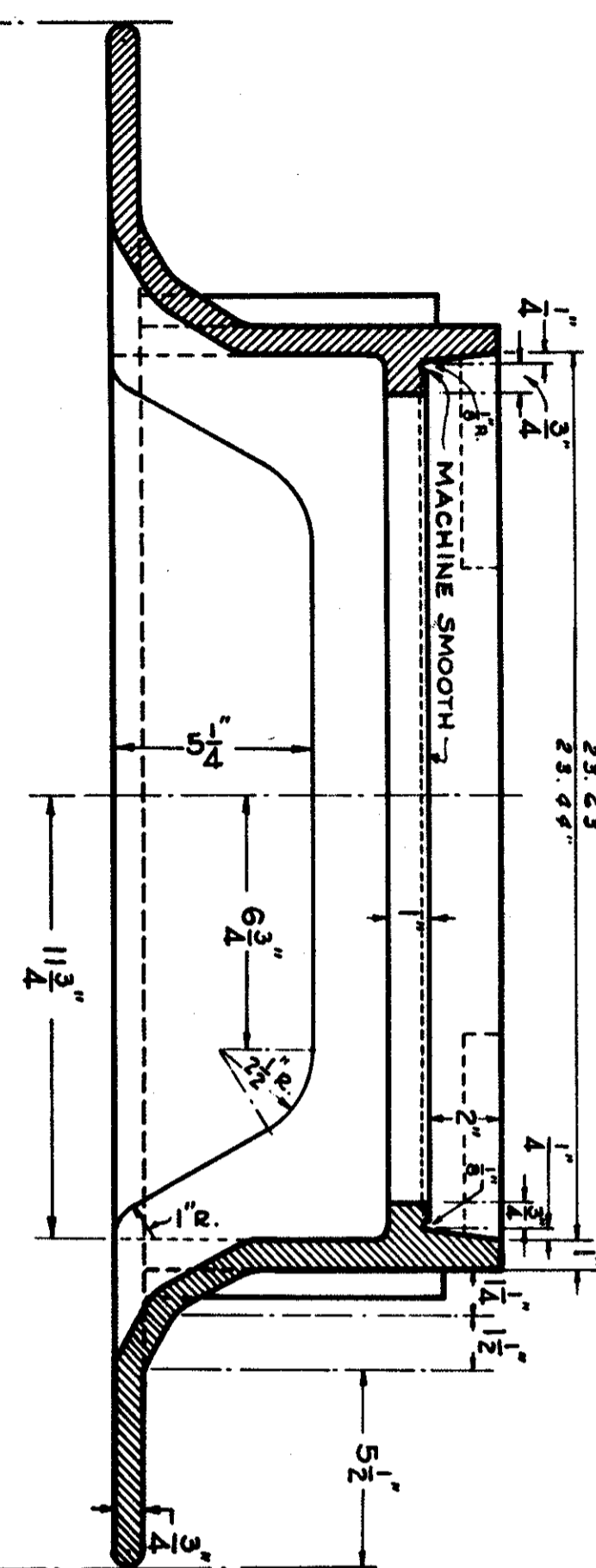
FED. RD.	STATE	PROJECT
2	OHIO	

145  
838

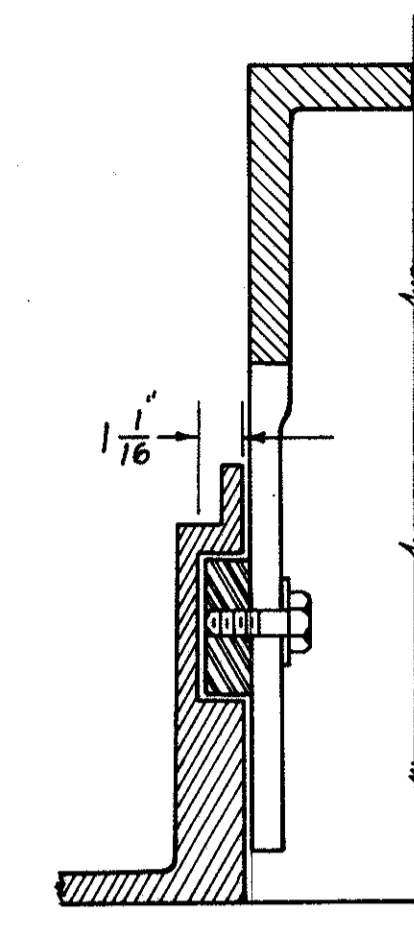
CUYAHOGA COUNTY  
CUY-90-11.64



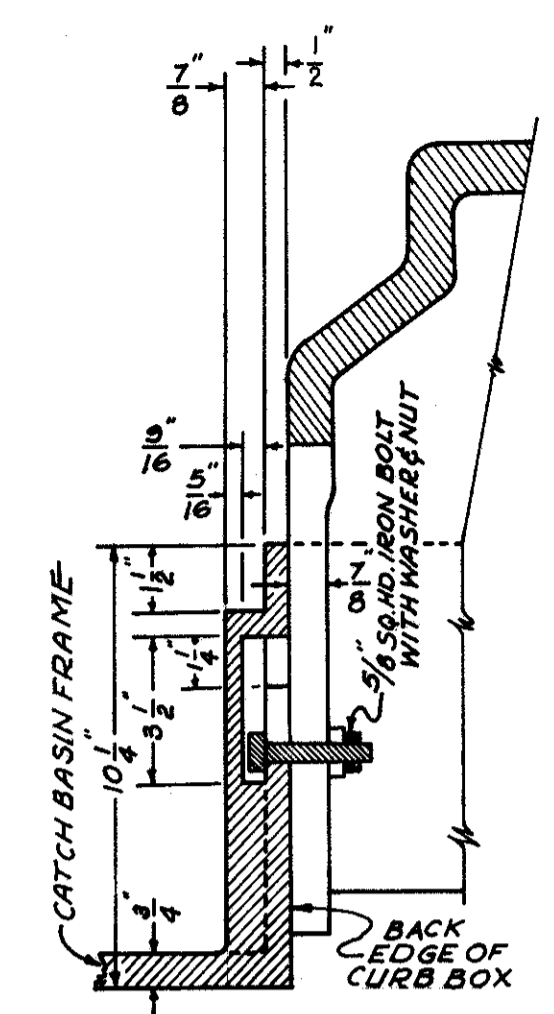
**DETAIL PLAN  
STANDARD CATCH BASIN FRAME**  
SCALE 3"=1'-0"



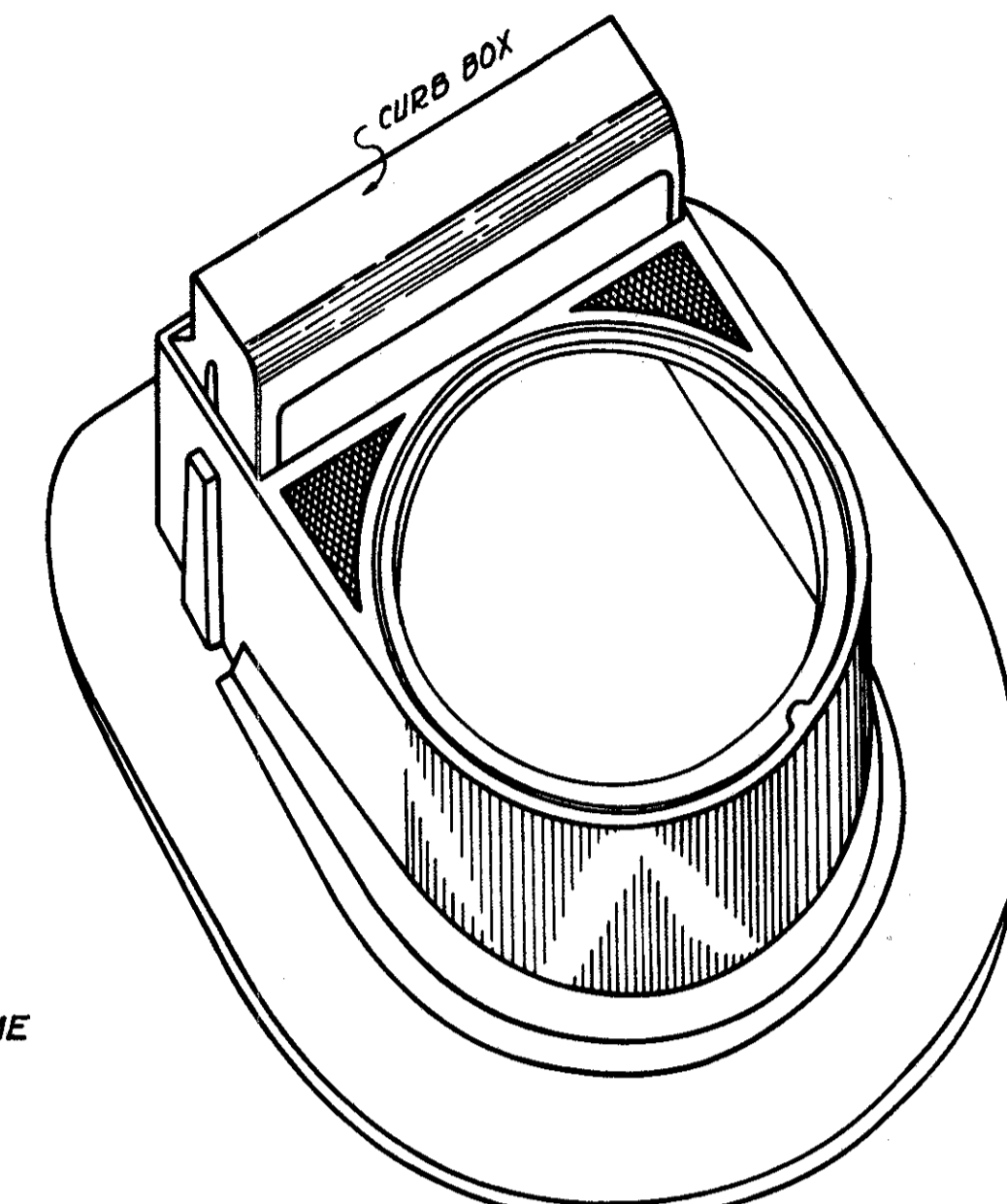
**SECTION THRU B-B**  
SCALE 3"=1'-0"



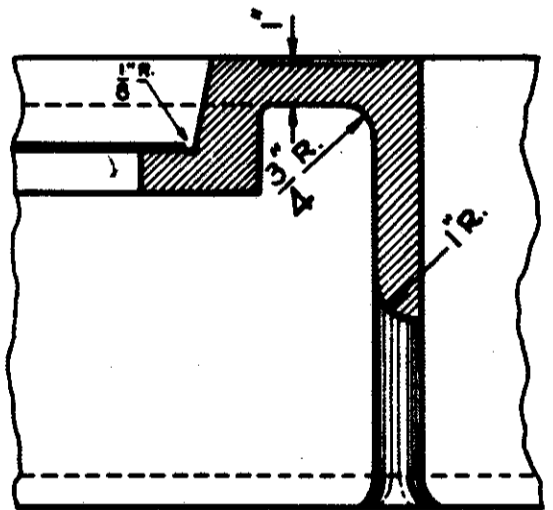
**SECTION C-C  
WITH CURB BOX, BOLT  
& BLOCK IN PLACE**



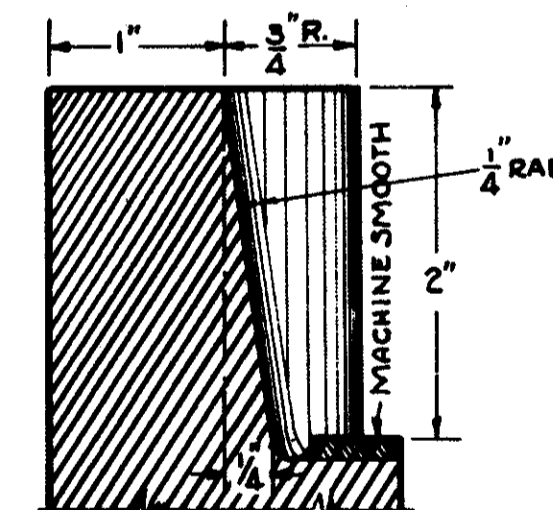
**DETAIL - E  
SHOWING CURB BOX &  
BOLT IN T-SLOT IN FRAME**



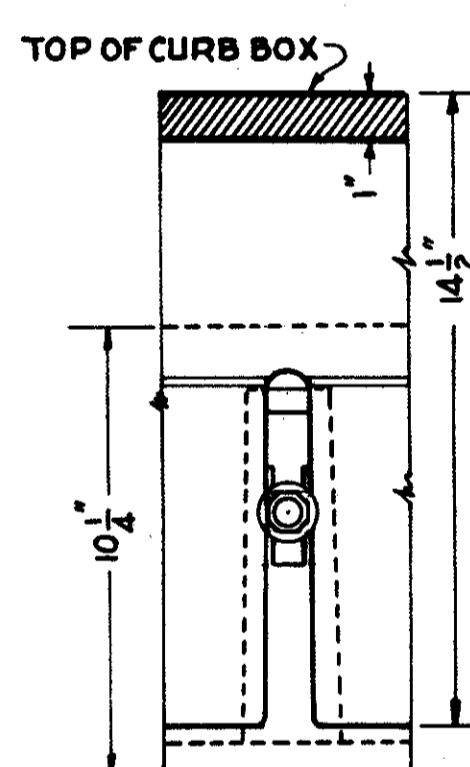
**SKETCH OF STD. CATCH BASIN FRAME  
SHOWING CURB BOX IN PLACE**



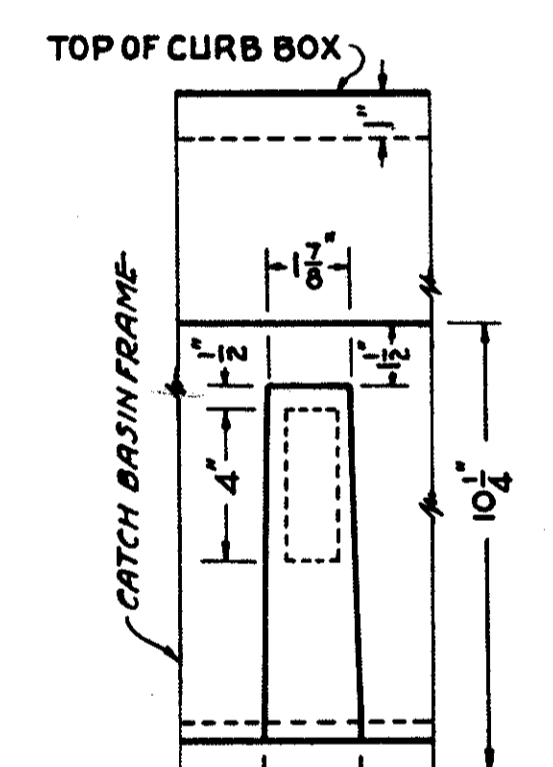
**SECTION THRU D-D**  
SCALE 3"=1'-0"



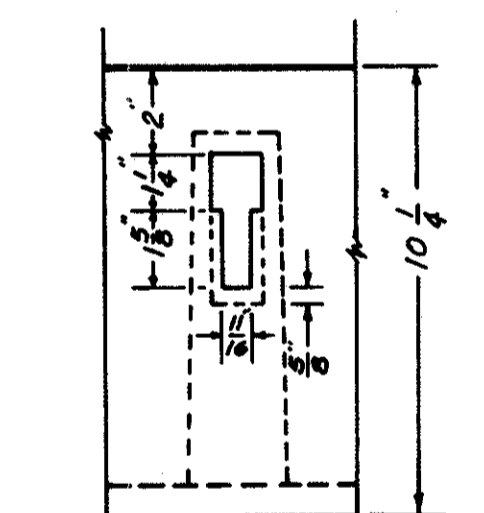
**SECTION THRU E-E**  
SCALE FULL SIZE



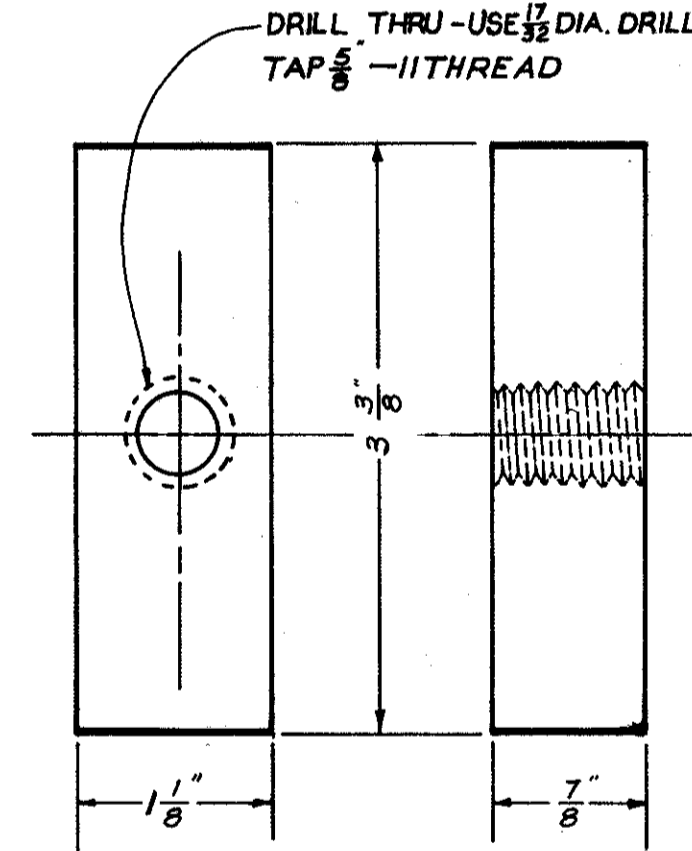
**INSIDE VIEW AT C-C  
SHOWING CURB BOX**  
SCALE 3"=1'-0"



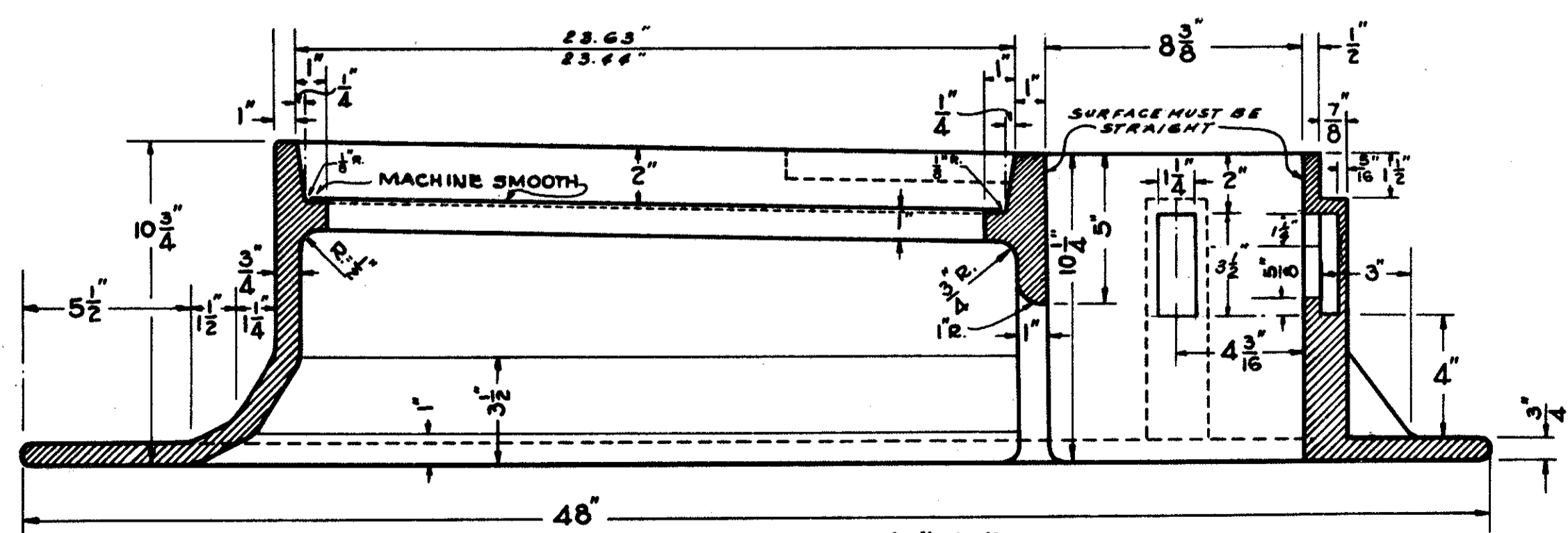
**OUTSIDE VIEW AT C-C**  
SCALE 3"=1'-0"



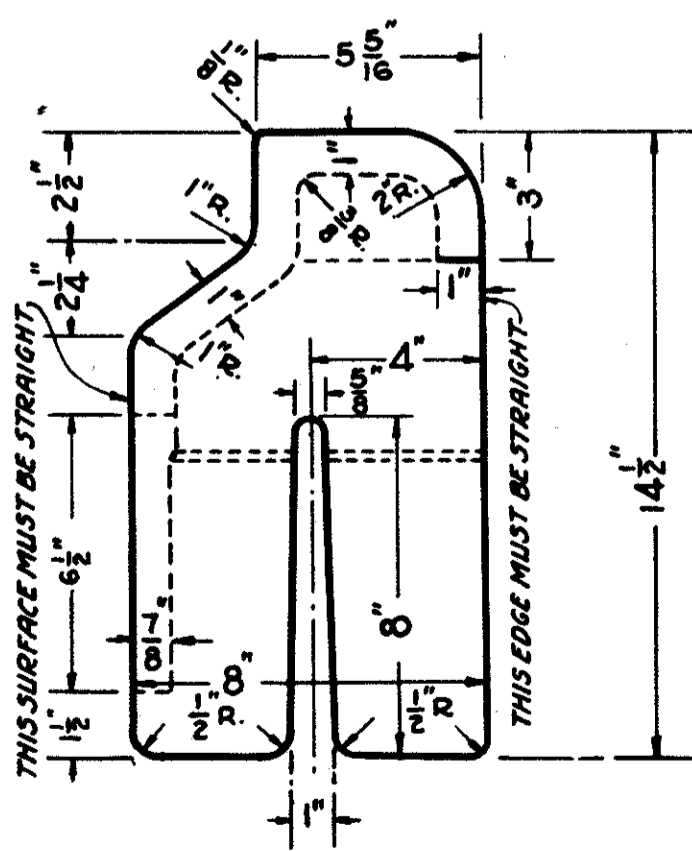
**INSIDE VIEW  
AT DETAIL - E  
SHOWING T-SLOT**



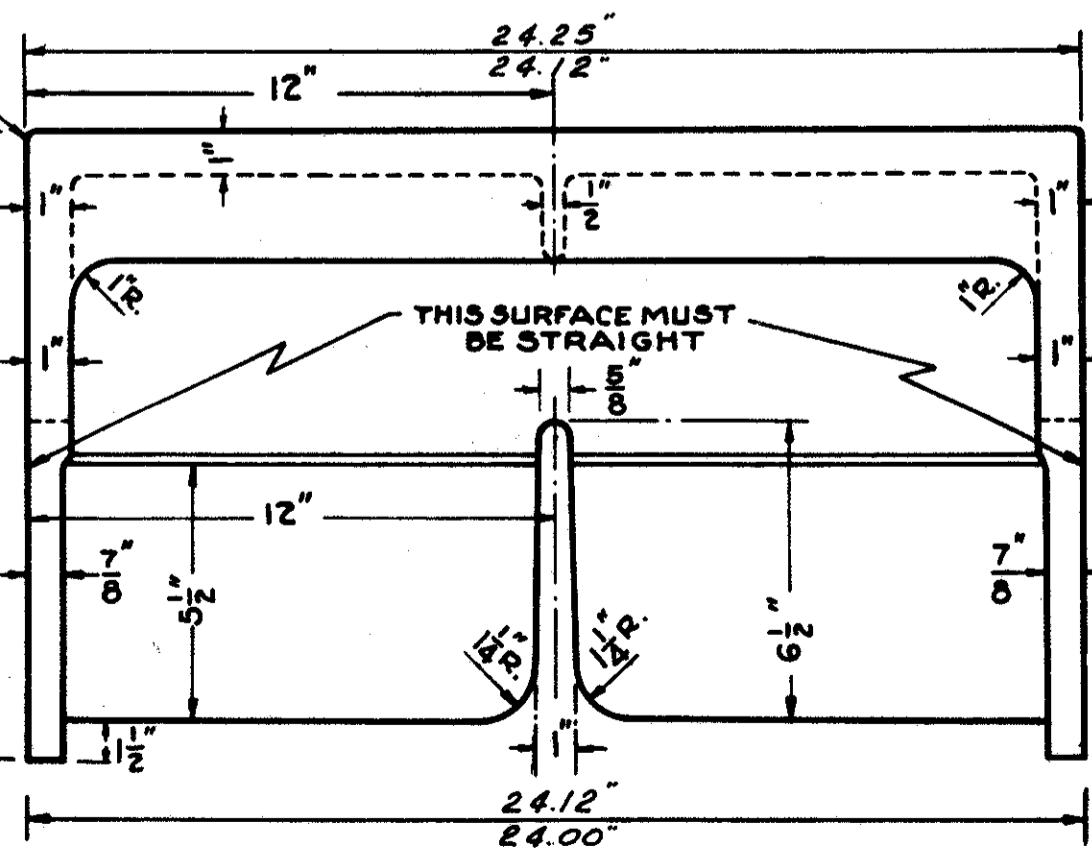
**CURB BOX SUPPORT**  
SCALE-FULL SIZE  
MATERIAL-STEEL



**SECTION THRU A-A**  
SCALE 3"=1'-0"



**END VIEW  
CURB BOX**  
SCALE 3"=1'-0"



**FRONT VIEW OF CURB BOX**  
SCALE 3"=1'-0"

**NOTE: MINIMUM WEIGHT - FRAME 445 POUNDS  
" CURB BOX 135 "**

Materials shall conform to Sec. 711.12  
of the State of Ohio Construction and  
Material Specifications.

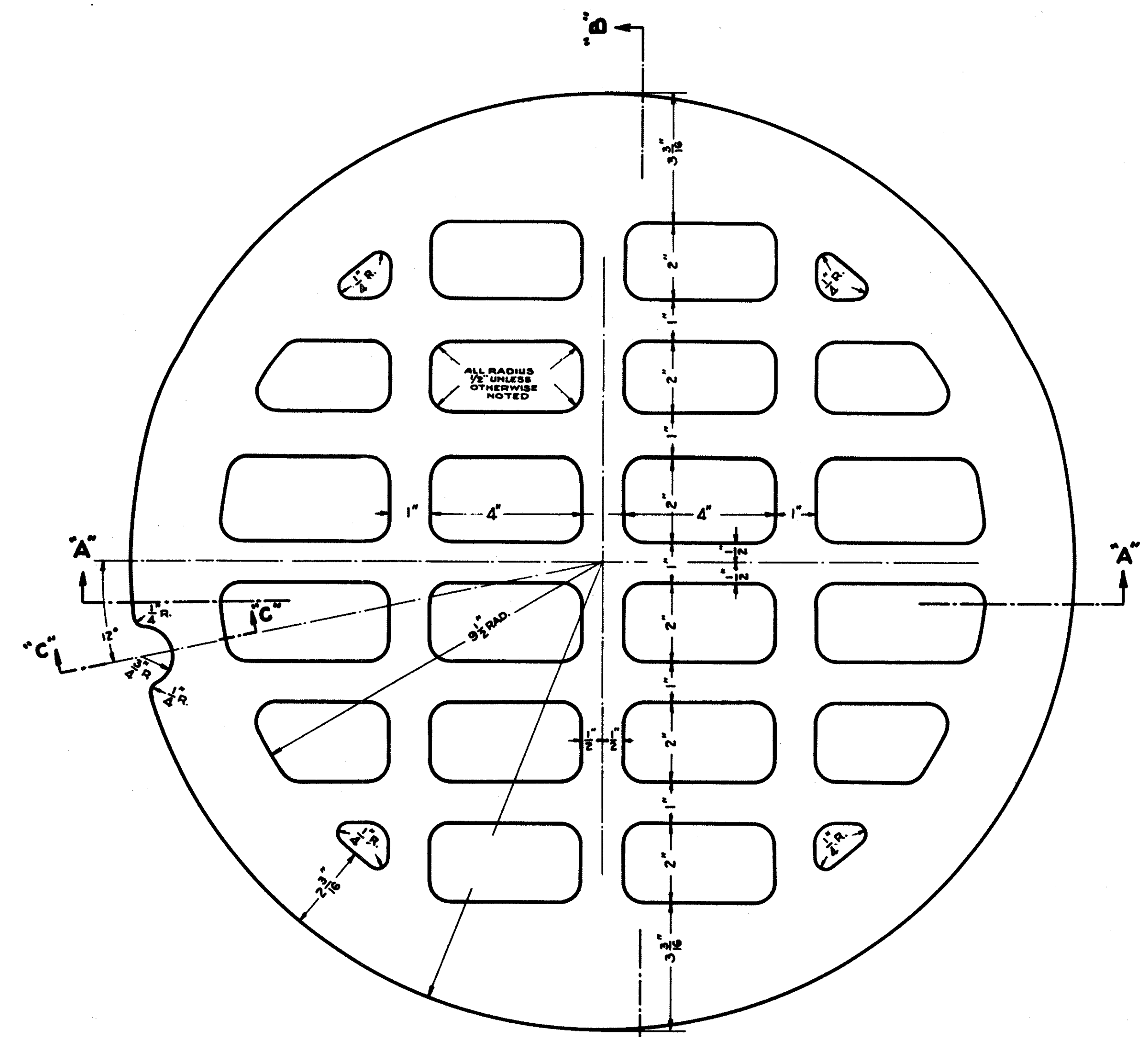
**CITY OF CLEVELAND NO. 1 & NO. 2  
STANDARD INLET FRAME & BOX**

EXCEPT WHERE LIMITS ARE NOTED - A CASTING VARIATION OF 1/16" PER FOOT PERMITTED

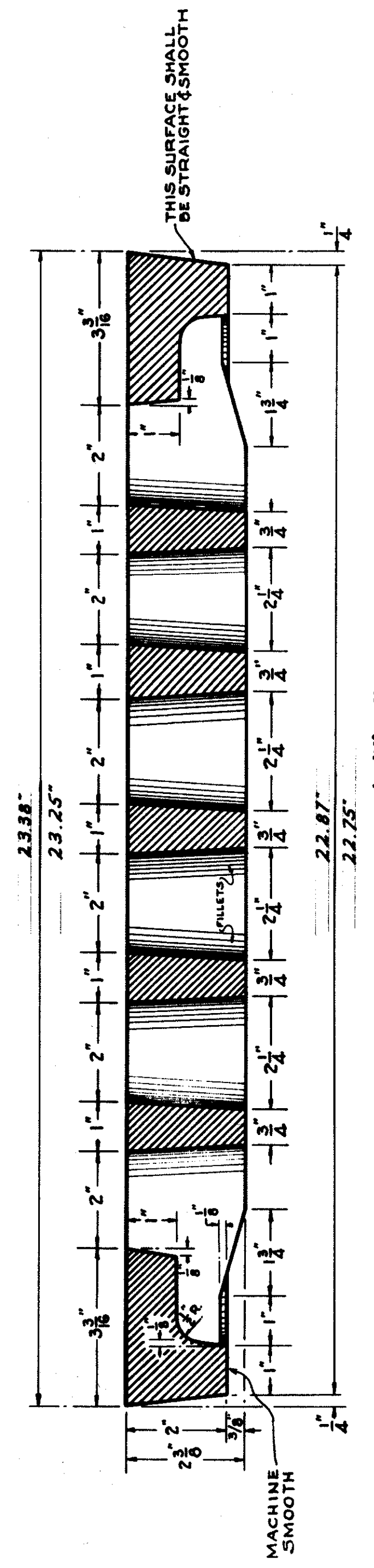
FED. RD.	STATE	PROJECT
2	OHIO	

146  
838

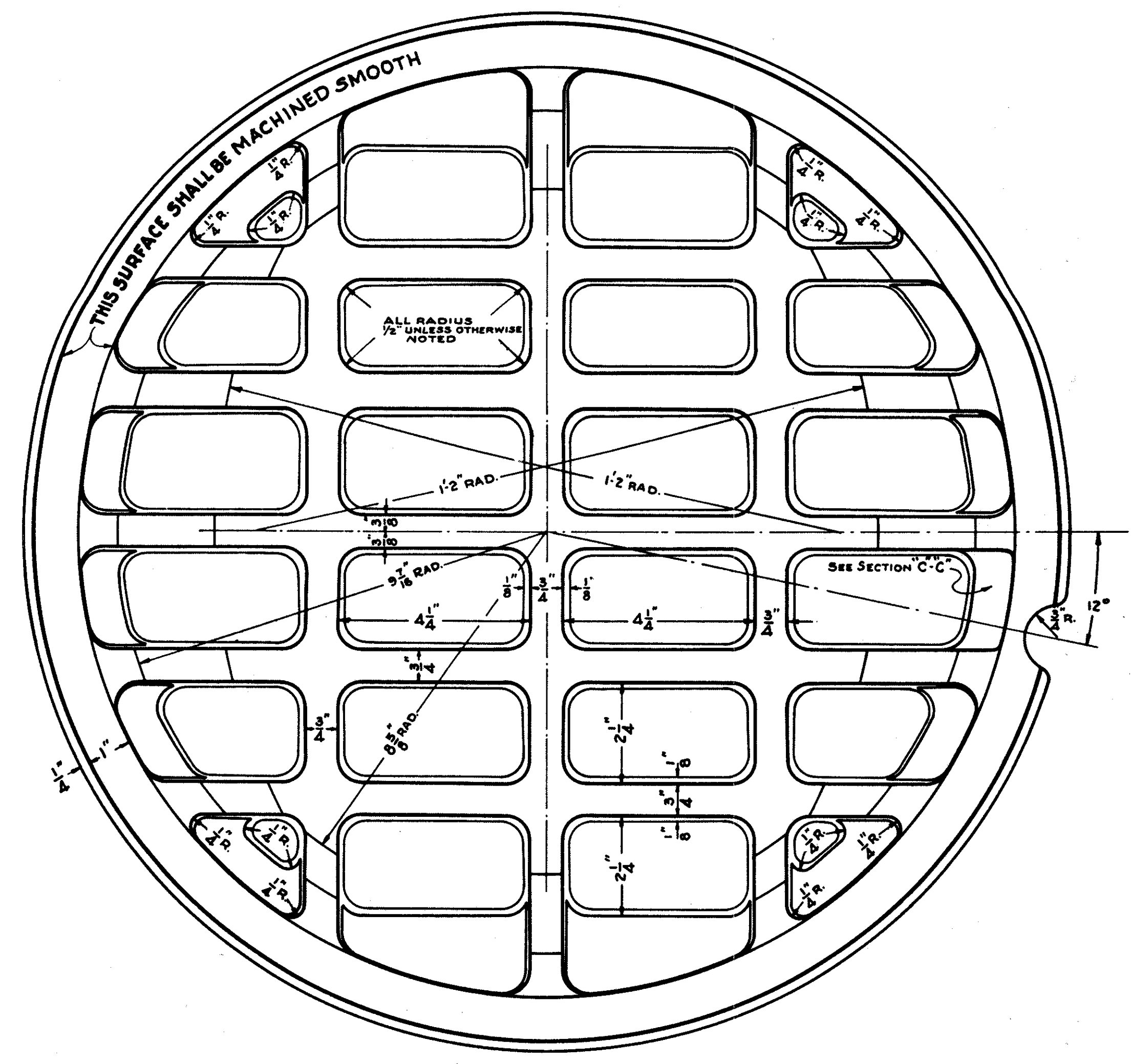
CUYAHOGA COUNTY  
CUY-90-11.64



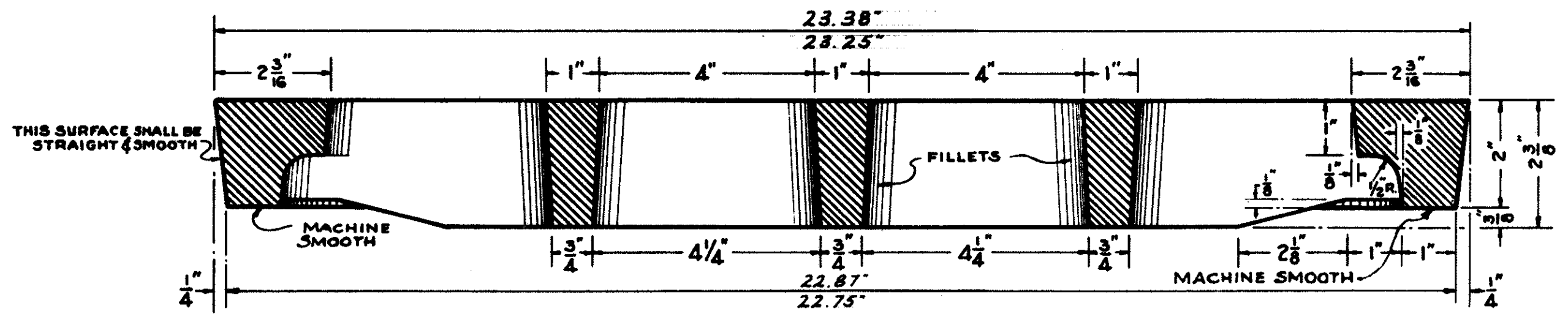
DETAIL PLAN OF TOP  
SCALE 1/2"=1"



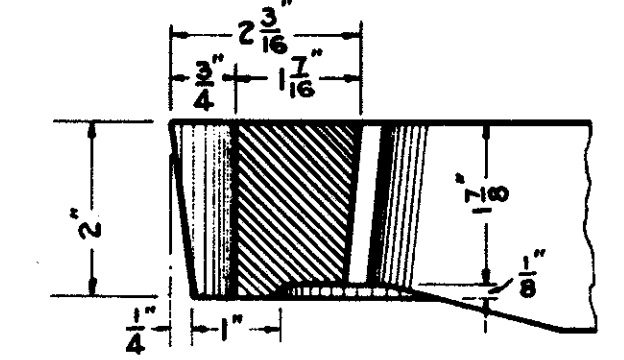
SECTION B-B  
SCALE 1/2"=1"



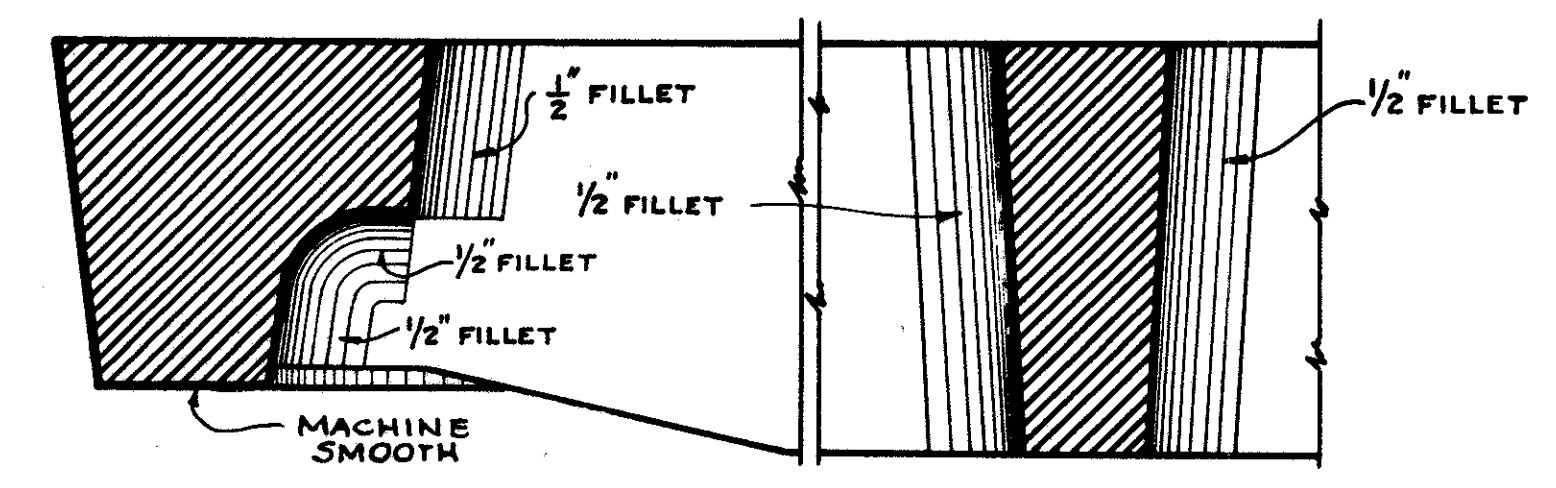
DETAIL PLAN OF BOTTOM  
SCALE 1/2"=1"



SECTION A-A  
SCALE 1/2"=1"



SECTION C-C  
SCALE 1/2"=1"



SKETCH SHOWING FILLETS  
FULL SIZE  
NOTE: ALL FILLETS 1/2" RADIUS UNLESS NOTED

NOTE: MINIMUM WEIGHT 125 POUNDS  
Materials shall conform to  
Sec. 111.12 of the State of Ohio  
Construction and Material  
Specifications.

EXCEPT WHERE LIMITS ARE NOTED - A CASTING VARIATION OF 1/16" PER FOOT PERMITTED

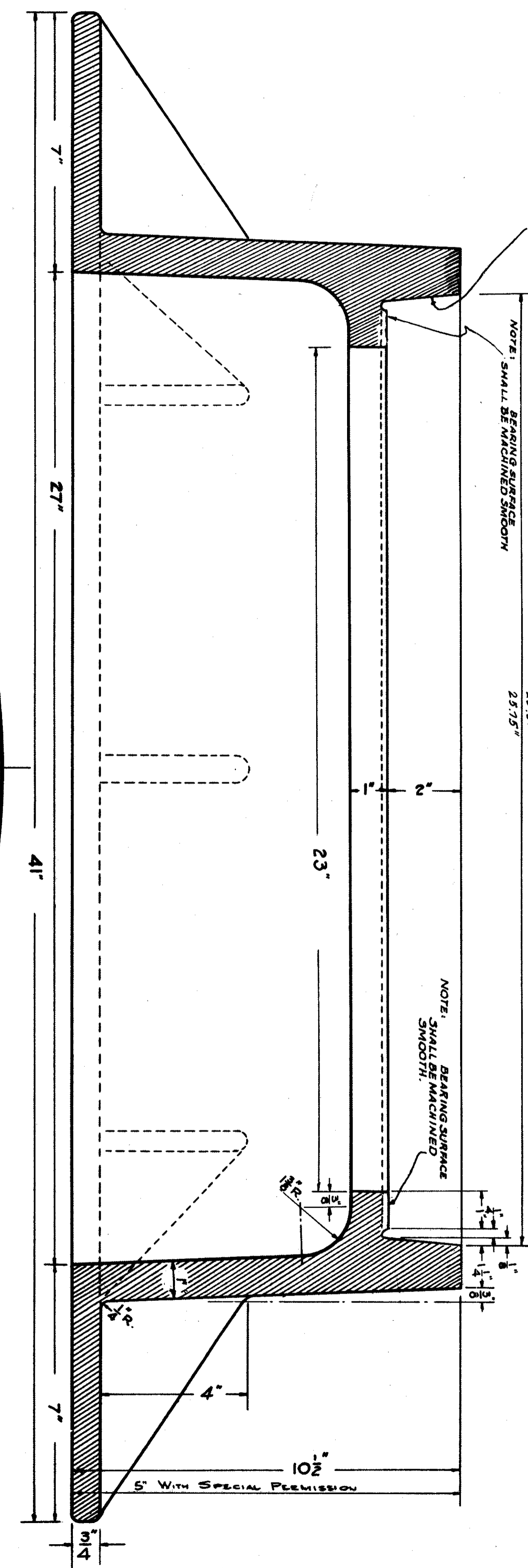
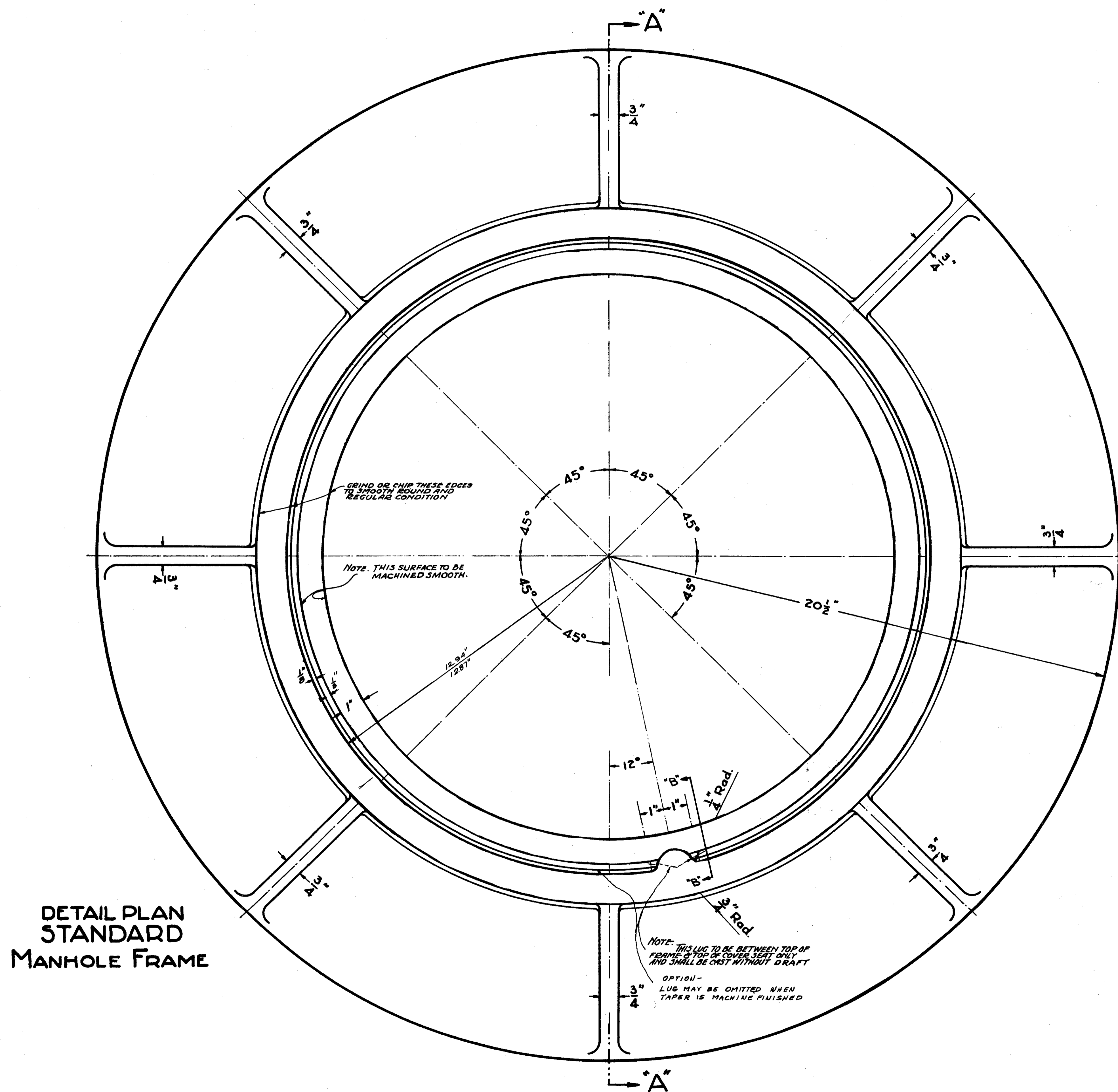
CITY OF CLEVELAND N<sup>o</sup> 1 & N<sup>o</sup> 2  
STANDARD INLET COVER

DRAINAGE DETAILS

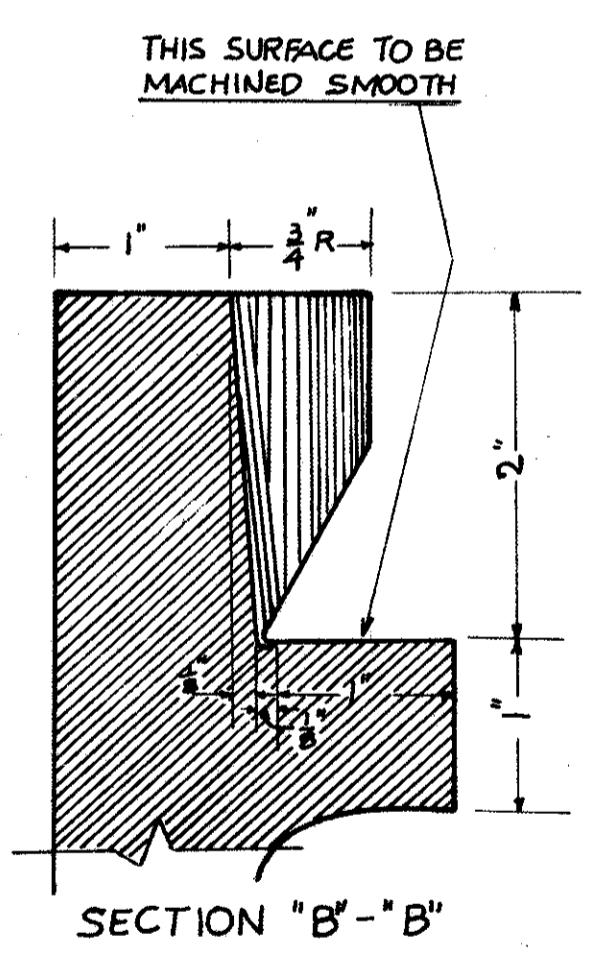
FED. RD.	STATE	PROJECT
2	OHIO	

147  
838

CUYAHOGA COUNTY  
CUY-90-11.64



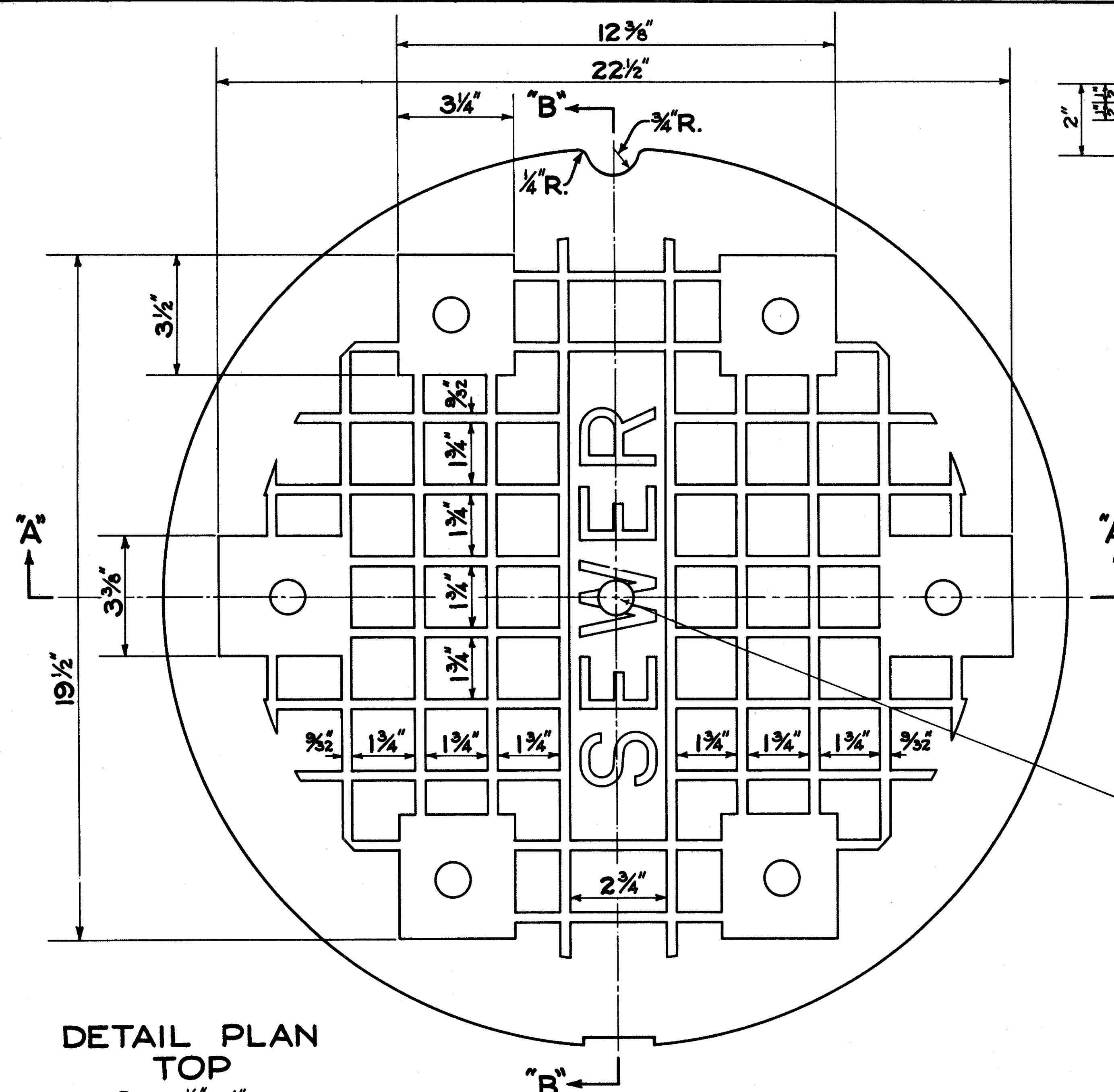
TAPERED SURFACE MUST BE STRAIGHT SMOOTH AND FREE FROM IRREGULARITIES.  
OPTION - TAPER MAY BE MACHINE FINISHED TO OR BELOW MACHINED SEAT.



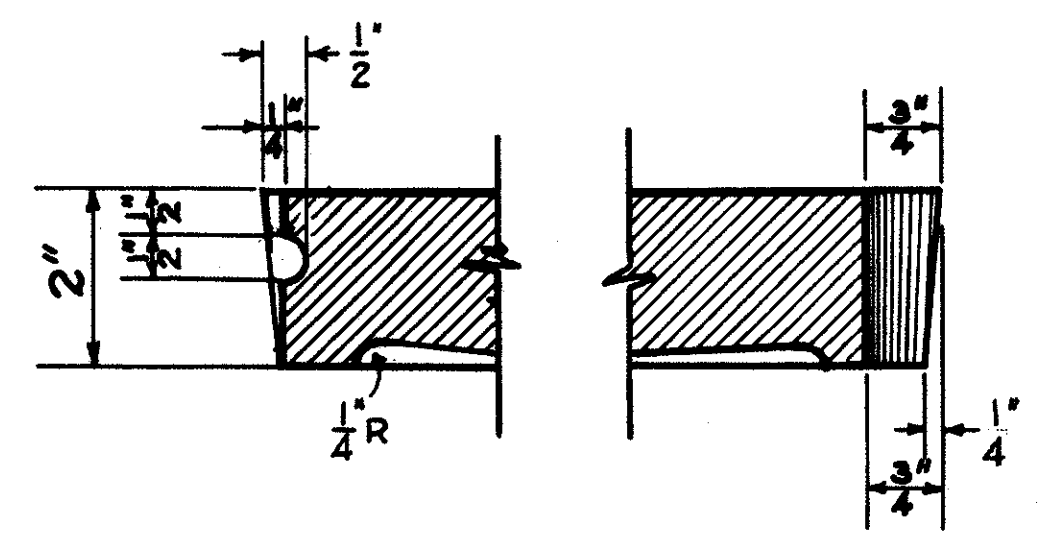
FED. RD.	STATE	PROJECT
2	OHIO	

148  
338

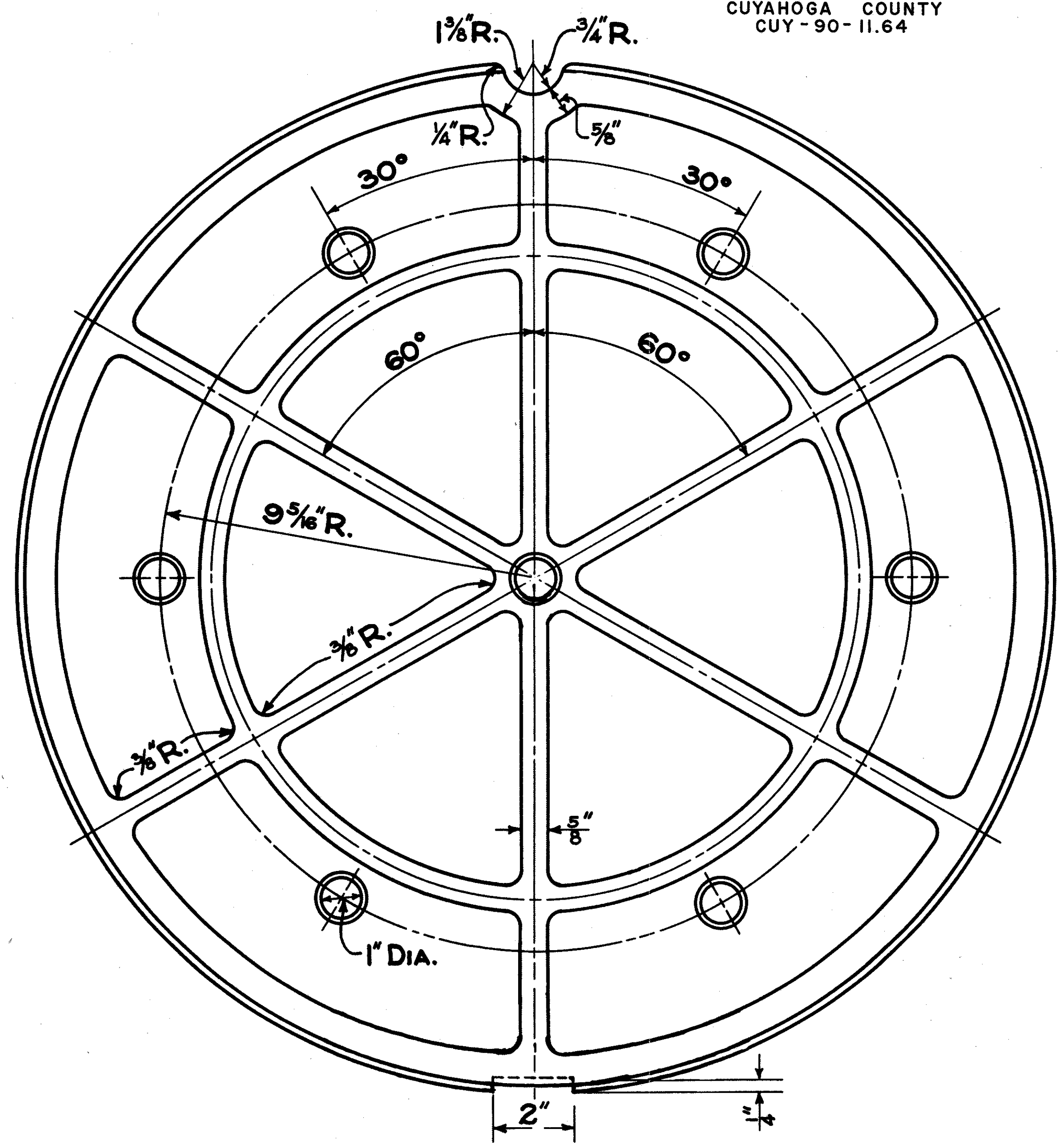
CUYAHOGA COUNTY  
CUY-90-11.64



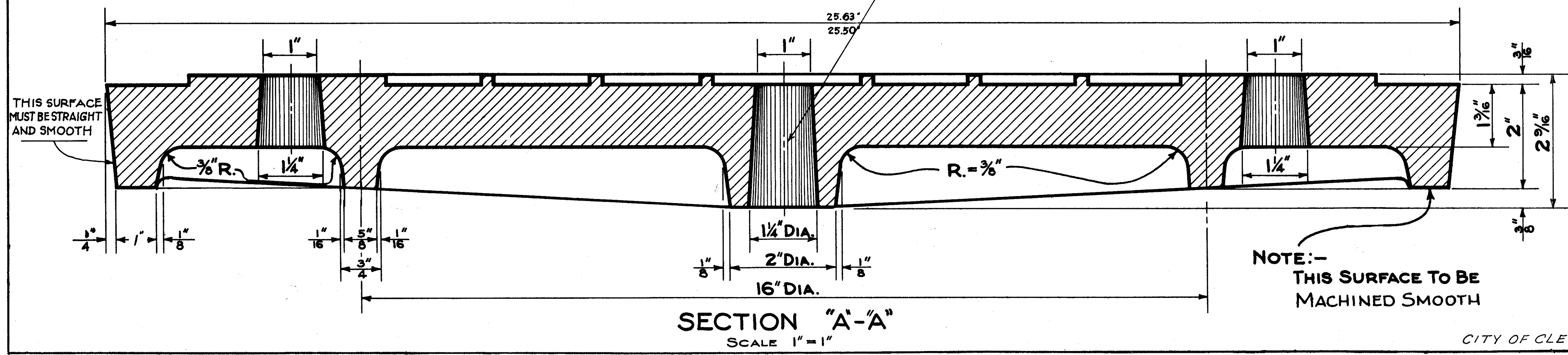
DETAIL PLAN TOP  
SCALE 1/2" = 1"



SECTION "B-B"  
SCALE 1/2" = 1"



DETAIL PLAN BOTTOM  
SCALE 1/2" = 1"

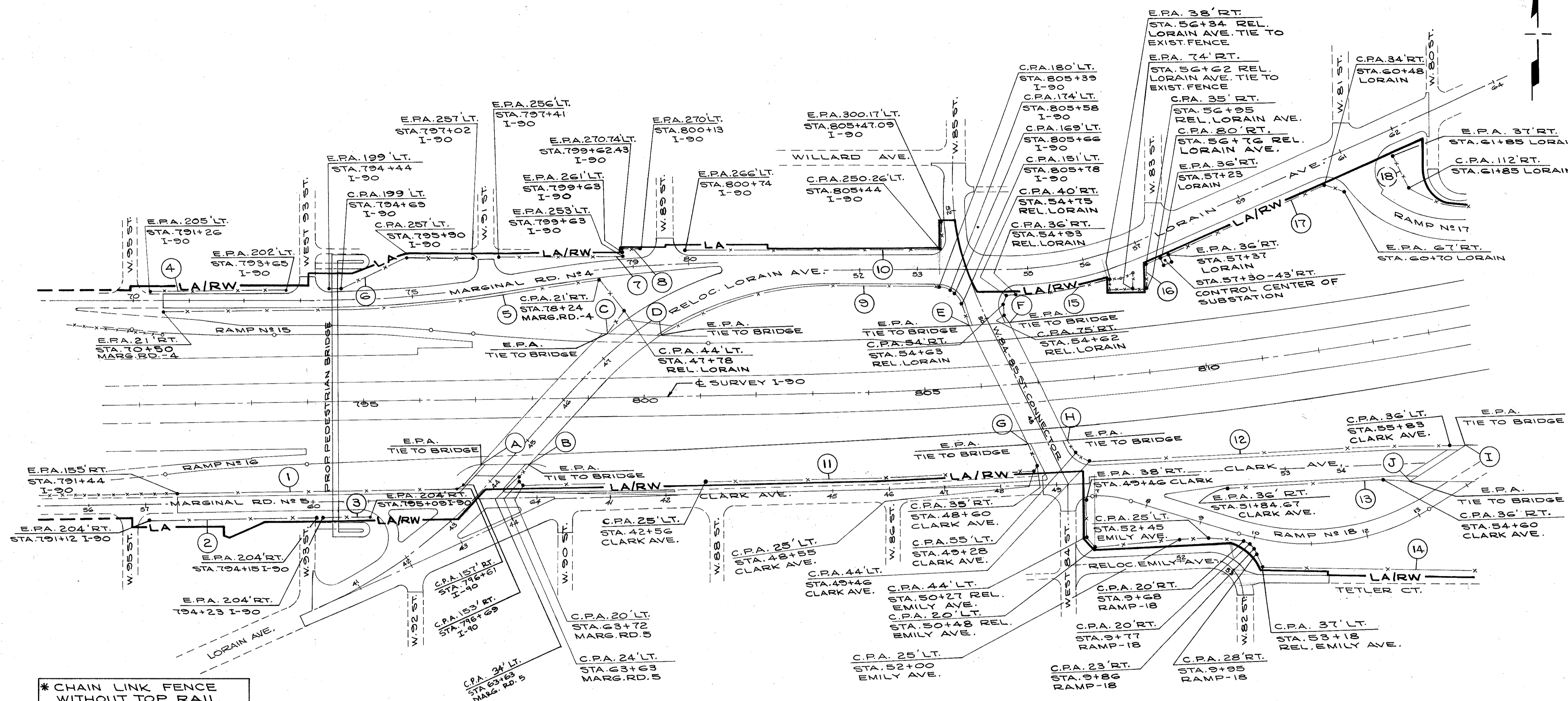


SECTION "A-A"  
SCALE 1" = 1"

OPTION -  
CENTER HOLE  
MAY BE OMITTED

NOTE:-  
THIS SURFACE TO BE  
MACHINED SMOOTH

NOTE: MINIMUM WEIGHT - 195 POUNDS  
Materials shall conform to  
Sec. 111.12 of the State of Ohio  
Construction and Material Specifications.



**\* CHAIN LINK FENCE WITHOUT TOP RAIL**

CODE	ROADWAY END POST	BRIDGE END POST
	STATION	STATION
A	RELOC. LORAIN STA. 44+10	RELOC. LORAIN STA. 44+16
B	RELOC. LORAIN STA. 44+71	RELOC. LORAIN STA. 44+74
C	RELOC. LORAIN STA. 47+33	RELOC. LORAIN STA. 47+27
D	RELOC. LORAIN STA. 48+20	RELOC. LORAIN STA. 48+17
E	84-85 TH. CONNECTOR STA. 50+02	84-85 TH. CONNECTOR STA. 49+97
F	84-85 TH. CONNECTOR STA. 49+76	84-85 TH. CONNECTOR STA. 49+72
G	84-85 TH. CONNECTOR STA. 47+62	84-85 TH. CONNECTOR STA. 47+65
H	84-85 TH. CONNECTOR STA. 47+36	84-85 TH. CONNECTOR STA. 47+41
I	CLARK AVE. STA. 56+14	CLARK AVE. STA. 56+16
J	CLARK AVE. STA. 55+02	CLARK AVE. STA. 55+10

**\* NOTE:**  
CHAIN LINK FENCE WITHOUT THE TOP RAIL SHALL BE USED BETWEEN THE ROADWAY END POST AND THE END POST ON THE STRUCTURE, AND IS INCLUDED UNDER BID ITEM 607 FENCE TYPE CL. SEE STRUCTURE PLANS FOR DETAILS

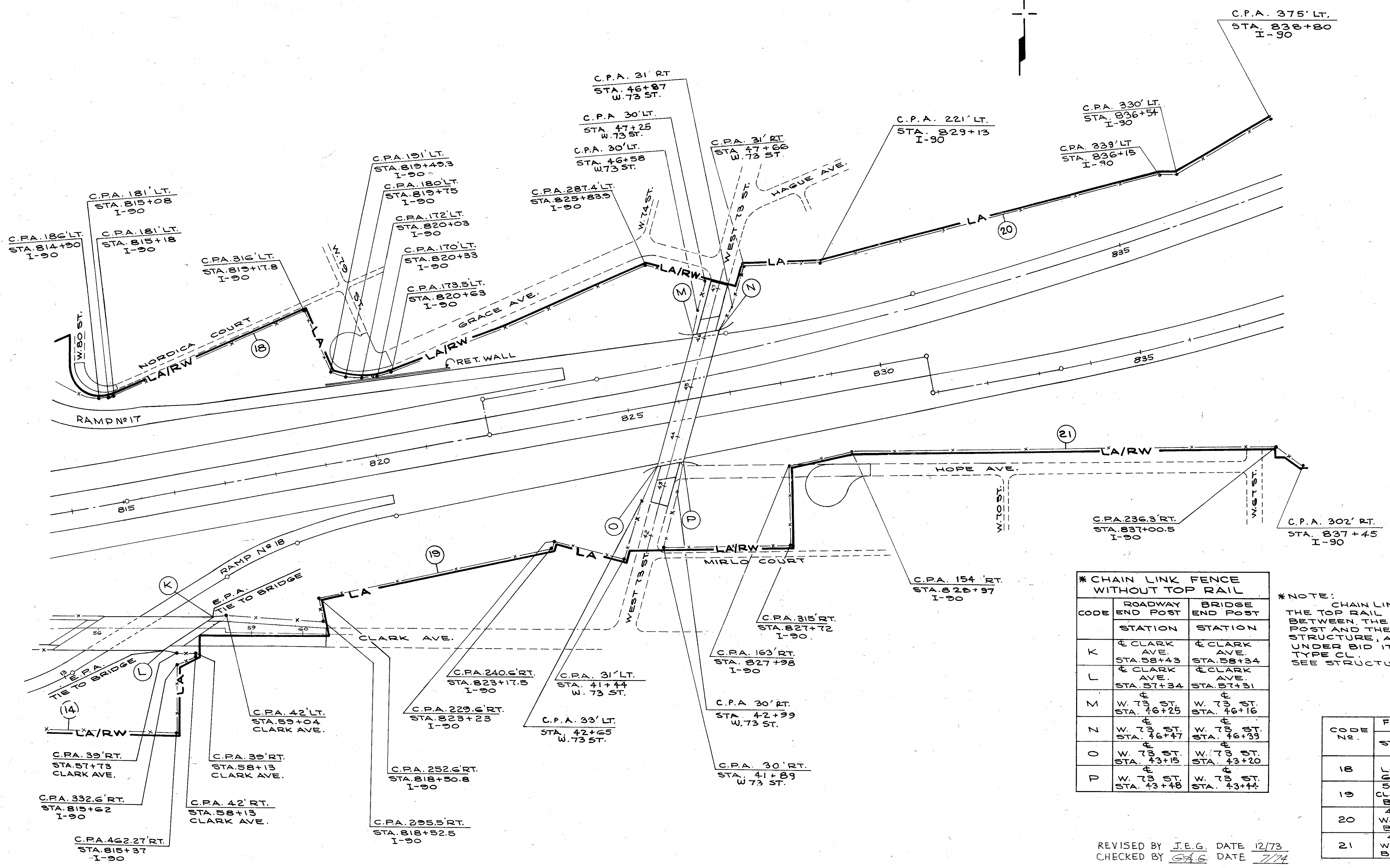
**8' HIGH FENCE & GATE 8' WIDE**  
TYPE CL MODIFIED AS PER PLAN FOR DETAILS  
SEE LIGHTING PLANS SHEET NO. 524

FROM STATION	TO STATION	FENCE LIN. FT.	GATE EACH
57+23	57+37	48	1
SHEET TOTAL		48	1

CODE No.	FROM STATION	TO STATION	FENCE TYPE CL. LIN. FT.	GATE TYPE CL. EACH	CODE No.	FROM STATION	TO STATION	FENCE TYPE CL. LIN. FT.	GATE TYPE CL. EACH
1	I-90 791+44	RELOC. LORAIN 44+16	579		10	I-90 800+74	I-90 805+47	520	
2	I-90 791+12	I-90 794+15	303		11	RELOC. LORAIN 44+74	84-85 TH. CONNECTOR 47+65	942	
3	I-90 794+23	I-90 795+09	86		12	84-85 TH. CONNECTOR 47+41	CLARK AVE 56+16	709	
4	I-90 791+26	I-90 793+65	239		13	CLARK AVE 51+84.67	CLARK AVE 59+10	325	
5	MARG. RD. 4 70+50	RELOC. LORAIN 47+27	897		14	CLARK AVE 49+46	CLARK AVE 57+31	1,140	
6	I-90 794+44	I-90 797+02	271		15	84-85 TH. CONNECTOR 49+72	CLARK AVE 56+34	216	
7	I-90 797+41	I-90 799+63	222		16	CLARK AVE 56+62	CLARK AVE 57+23	99	
8	I-90 799+63	I-90 800+13	60		17	CLARK AVE 57+37	CLARK AVE 60+70	351	
9	RELOC. LORAIN 48+17	84-85 TH. CONNECTOR 49+97	598		SHEET TOTAL			7,557	

REVISED BY J.E.G. DATE 12/73  
CHECKED BY G.H.G. DATE 7/74

CALCULATED BY R.L.K. DATE 2/71  
CHECKED BY J.E.G. DATE 4/72



**\* CHAIN LINK FENCE WITHOUT TOP RAIL**

CODE	ROADWAY END POST STATION	BRIDGE END POST STATION
K	CLARK AVE. STA. 58+43	CLARK AVE. STA. 58+34
L	CLARK AVE. STA. 57+34	CLARK AVE. STA. 57+31
M	W. 73 ST. STA. 46+25	W. 73 ST. STA. 46+16
N	W. 73 ST. STA. 46+47	W. 73 ST. STA. 46+39
O	W. 73 ST. STA. 43+15	W. 73 ST. STA. 43+20
P	W. 73 ST. STA. 43+48	W. 73 ST. STA. 43+44

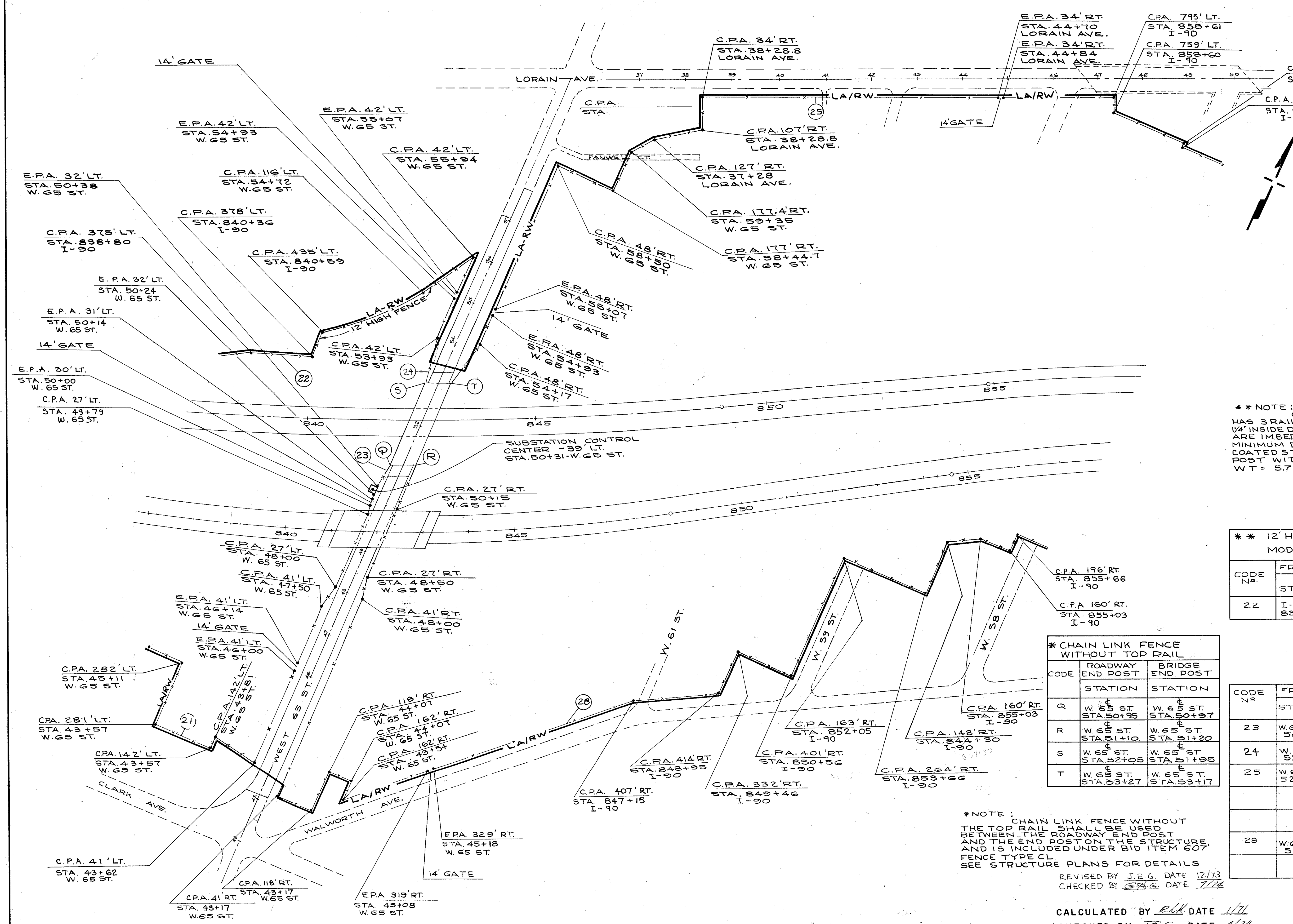
**\* NOTE:**  
CHAIN LINK FENCE WITHOUT THE TOP RAIL SHALL BE USED BETWEEN THE ROADWAY END POST AND THE END POST ON THE STRUCTURE, AND IS INCLUDED UNDER BID ITEM 607 FENCE TYPE CL. SEE STRUCTURE PLANS FOR DETAILS

CODE No.	FROM STATION	TO STATION	FENCE TYPE CL. LIN. FT.	GATE TYPE CL. EACH
18	CLARK AVE. STA. 58+43	W. 73 ST. STA. 41+16	1634	
19	CLARK AVE. STA. 58+34	W. 73 ST. STA. 43+20	1068	
20	W. 73 ST. STA. 46+39	W. 73 ST. STA. 838+80	1220	
21	W. 73 ST. STA. 43+43	W. 73 ST. STA. 50+24	2770	2
<b>SHEET TOTAL</b>			<b>6692</b>	<b>2</b>

REVISED BY J.E.G. DATE 12/73  
CHECKED BY G.A.G. DATE 7/74

CALCULATED BY R.L.K. DATE 1/71  
CHECKED BY J.E.G. DATE 4/72

CUYAHOGA COUNTY  
CUY-90-11.64



8' HIGH FENCE & GATE 8' WIDE  
TYPE CL MODIFIED AS PER PLAN  
FOR DETAILS  
SEE LIGHTING PLANS SHEET NO. 524

FROM STATION	TO STATION	FENCE LIN. FT.	GATE EACH
W. 65 ST. STA. 50+24	W. 65 ST. STA. 50+38	48	1
SHEET TOTAL		48	1

\*\* NOTE: CHAIN LINK FENCE 12' HIGH HAS 3 RAILS TOP MIDDLE AND BOTTOM, 1/4" INSIDE DIAMETER. ALL THE POSTS ARE IMBEDDED IN CONCRETE WITH MINIMUM DIMENSIONS 48" X 15". ZINC COATED STEEL POST IS USED FOR ALL POST WITH A 2 1/2" INSIDE DIAMETER. WT = 5.79#/FT.

\*\* 12' HIGH FENCE TYPE CL MODIFIED AS PER PLAN

CODE No.	FROM STATION	TO STATION	FENCE TYPE CL LIN. FT.	GATE TYPE CL EACH
22	I-90 STA. 838+80	W. 65 ST. STA. 55+94	584	
SHEET TOTAL			584	

\* CHAIN LINK FENCE WITHOUT TOP RAIL

CODE	ROADWAY END POST		BRIDGE END POST	
	STATION	STATION	STATION	STATION
Q	W. 65 ST. STA. 50+95	W. 65 ST. STA. 50+97		
R	W. 65 ST. STA. 51+10	W. 65 ST. STA. 51+20		
S	W. 65 ST. STA. 52+05	W. 65 ST. STA. 51+95		
T	W. 65 ST. STA. 53+27	W. 65 ST. STA. 53+17		

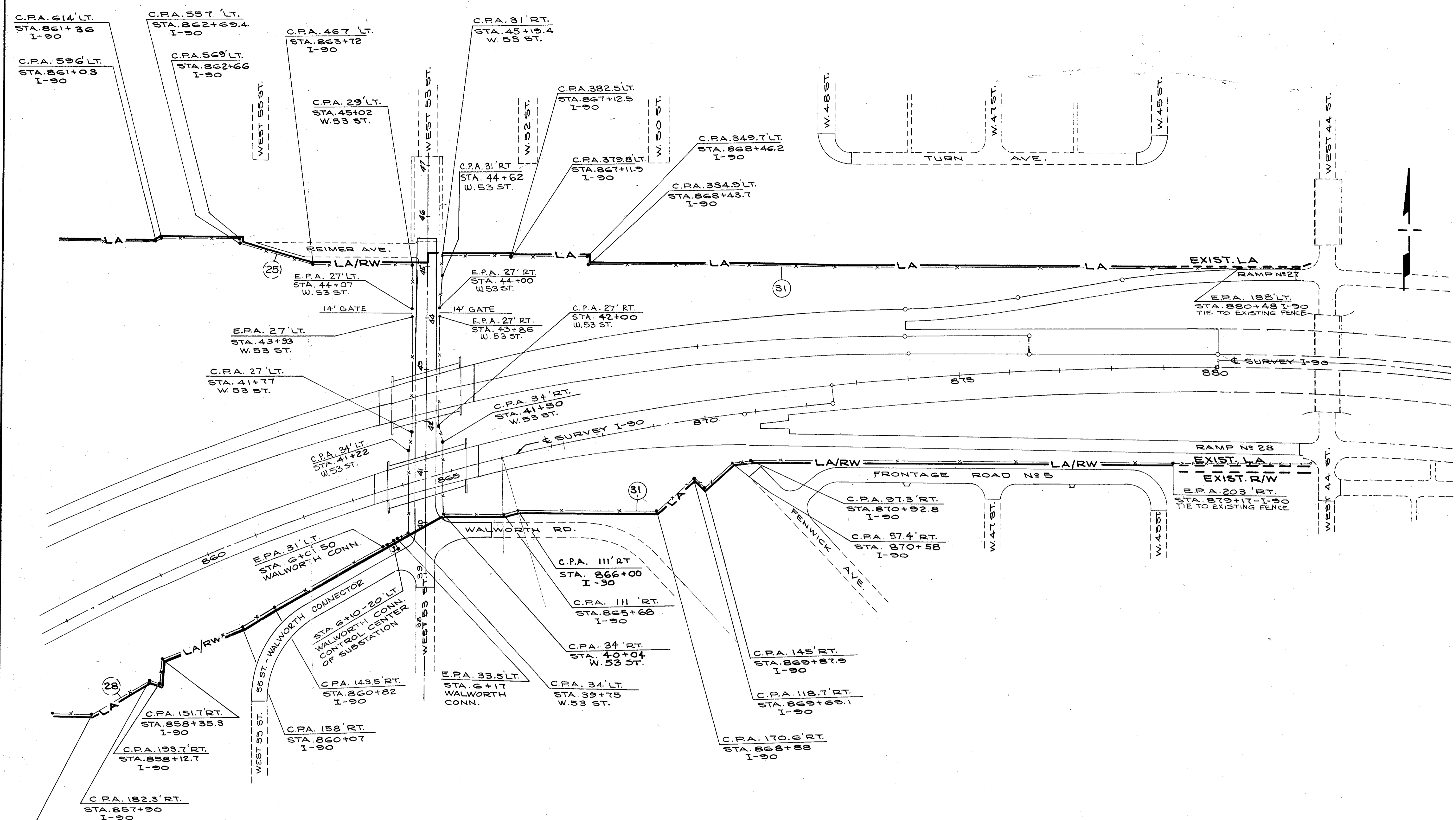
\* NOTE: CHAIN LINK FENCE WITHOUT THE TOP RAIL SHALL BE USED BETWEEN THE ROADWAY END POST AND THE END POST ON THE STRUCTURE, AND IS INCLUDED UNDER BID ITEM 607 FENCE TYPE CL. SEE STRUCTURE PLANS FOR DETAILS.

REVISED BY J.E.G. DATE 12/73  
CHECKED BY J.E.G. DATE 7/74

CALCULATED BY *elk* DATE 1/74  
CHECKED BY J.E.G. DATE 4/74

CODE No.	FROM STATION	TO STATION	FENCE TYPE CL LIN. FT.	GATE TYPE CL EACH
23	W. 65 ST. STA. 50+38	W. 65 ST. STA. 50+97	59	
24	W. 65 ST. STA. 52+95	W. 65 ST. STA. 55+94	300	1
25	W. 65 ST. STA. 52+05	W. 65 ST. STA. 39+75	3211	3
28	W. 65 ST. STA. 51+10	W. 53 ST. STA. 6+01.50	3604	1
SHEET TOTAL			7174	5

RIGHT-OF-WAY FENCE



8' HIGH FENCE & GATE 8' WIDE  
TYPE CL MODIFIED AS PER PLAN  
FOR DETAILS  
SEE LIGHTING PLANS SHEET #594

FROM STATION	TO STATION	FENCE LIN. FT.	GATE EACH
6+02-LT. & WALWORTH	6+16-LT. & WALWORTH	48	1
SHEET TOTAL		48	1

CODE NO.	FROM TO		FENCE TYPE CL. LIN. FT.	GATE TYPE CL. EACH
	STATION	STATION		
31	6+02-LT. & WALWORTH	6+16-LT. & WALWORTH	4,187	1
SHEET TOTAL			4,187	1

REVISED BY J.M.L. DATE 2/75  
CHECKED BY B.E.K. DATE 4/75

CALCULATED BY R.L.K. DATE 1/71  
CHECKED BY J.E.G. DATE 4/72



AREA Nº	ITEM 659 SEEDING & MULCHING	ITEM 659 SEEDING & MULCHING A.P.P.
	SQ. YDS.	SQ. YDS.
1		218
6		749
7		629
9		1,742
10		86
11		286
12		840
13		5,102
TOTAL	15,664	9,652

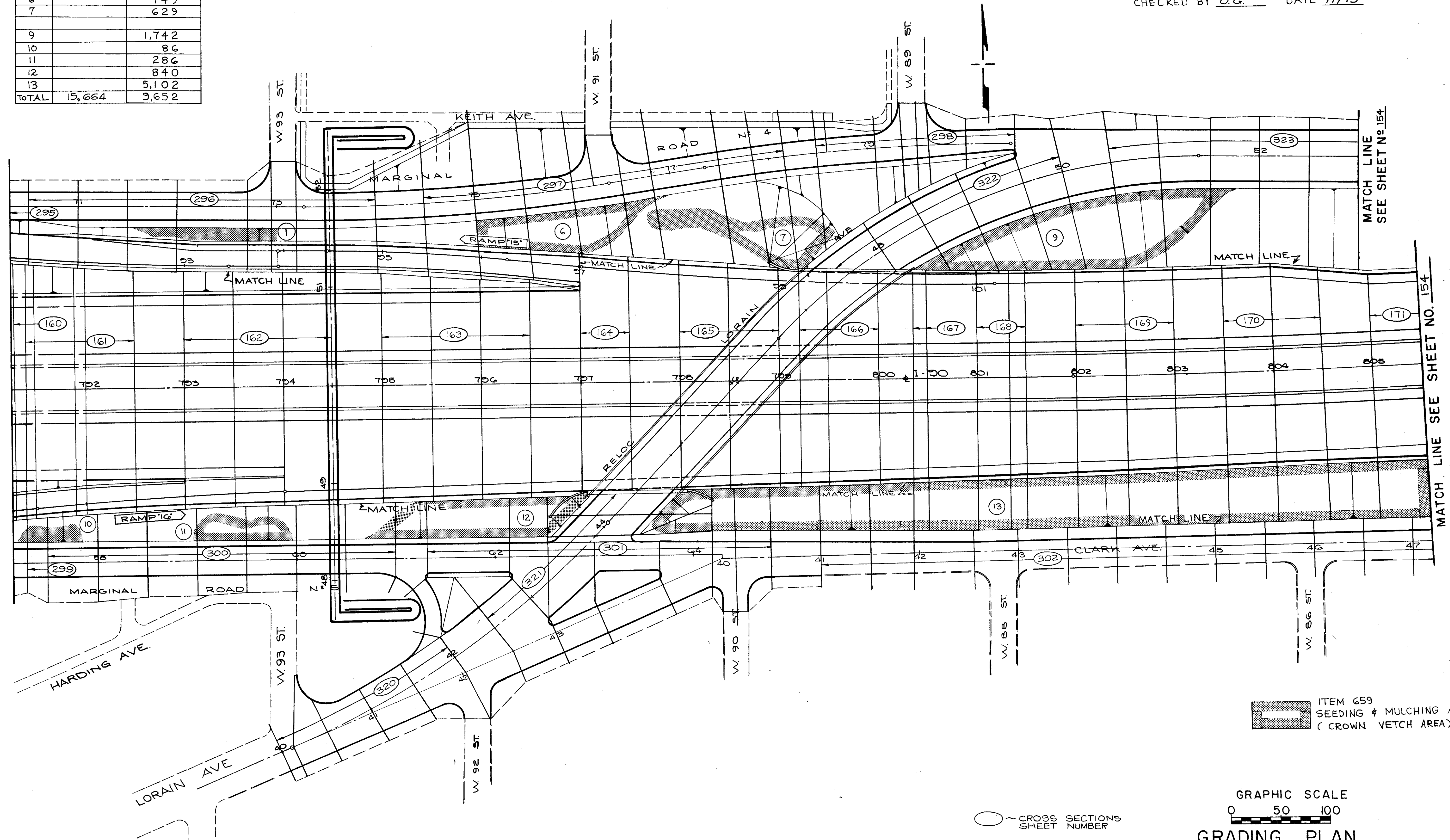
FED. RD.	STATE	PROJECT
2	OHIO	

153  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

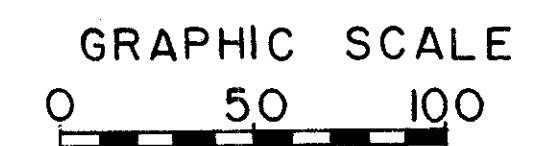
CALCULATED BY RLK. DATE 4/71  
CHECKED BY J.G. DATE 5/72

REVISED BY D.H.S. DATE 9/73  
CHECKED BY J.G. DATE 11/73



ITEM 659  
SEEDING & MULCHING A.P.P.  
(CROWN VETCH AREA)

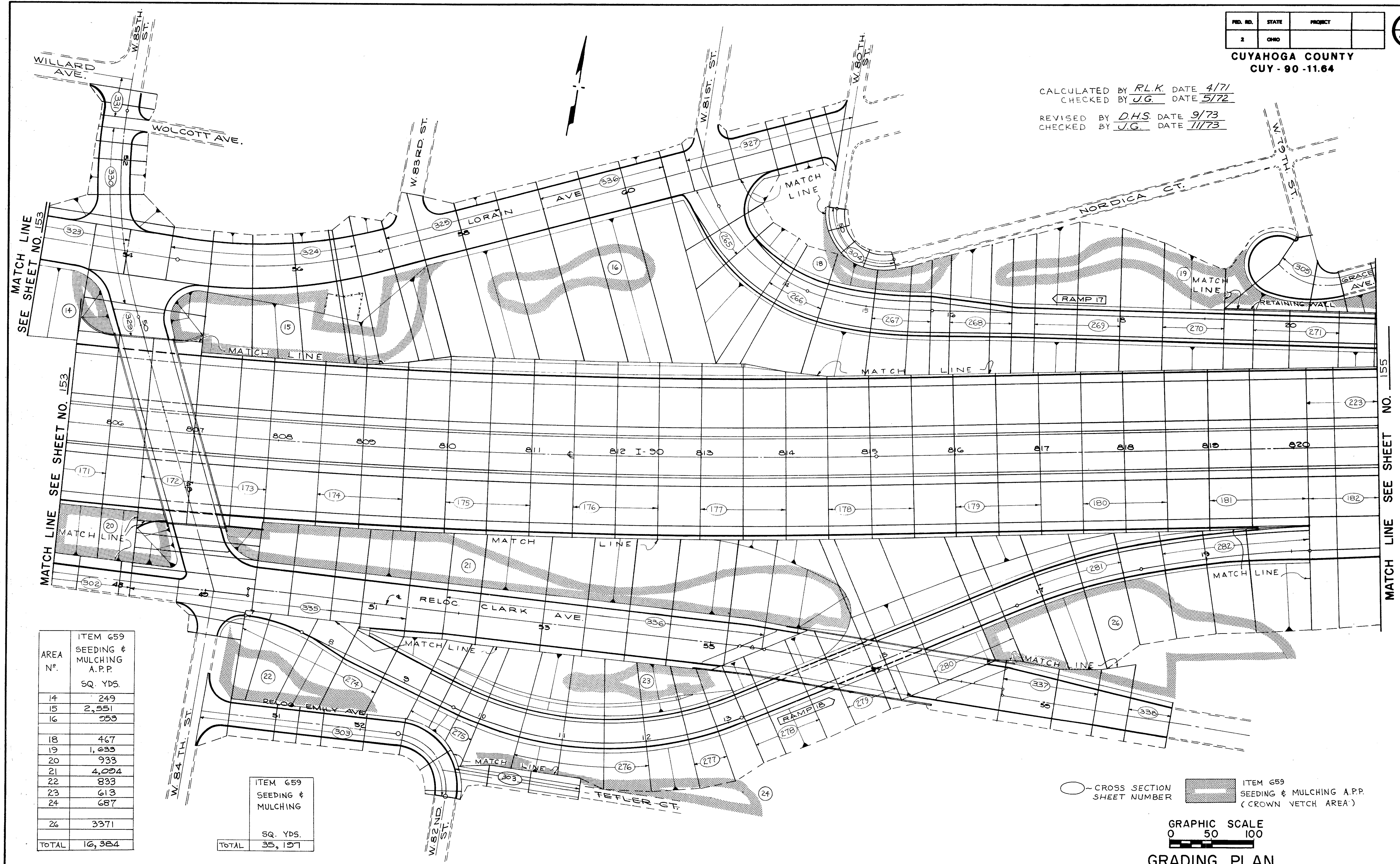
○ CROSS SECTIONS  
SHEET NUMBER



GRADING PLAN  
CROSS SECTION LAYOUT

CALCULATED BY R.L.K. DATE 4/71  
CHECKED BY J.G. DATE 5/72

REVISED BY D.H.S. DATE 9/73  
CHECKED BY J.G. DATE 11/73



MATCH LINE SEE SHEET NO. 153

MATCH LINE SEE SHEET NO. 153

MATCH LINE SEE SHEET NO. 155

AREA NO.	ITEM 659 SEEDING & MULCHING A.P.P. SQ. YDS.
14	249
15	2,551
16	253
18	467
19	1,633
20	933
21	4,094
22	833
23	613
24	687
TOTAL	16,384

ITEM 659 SEEDING & MULCHING SQ. YDS.
TOTAL 35,197

○ - CROSS SECTION SHEET NUMBER  
 ITEM 659 SEEDING & MULCHING A.P.P. (CROWN VETCH AREA)

GRAPHIC SCALE  
0 50 100

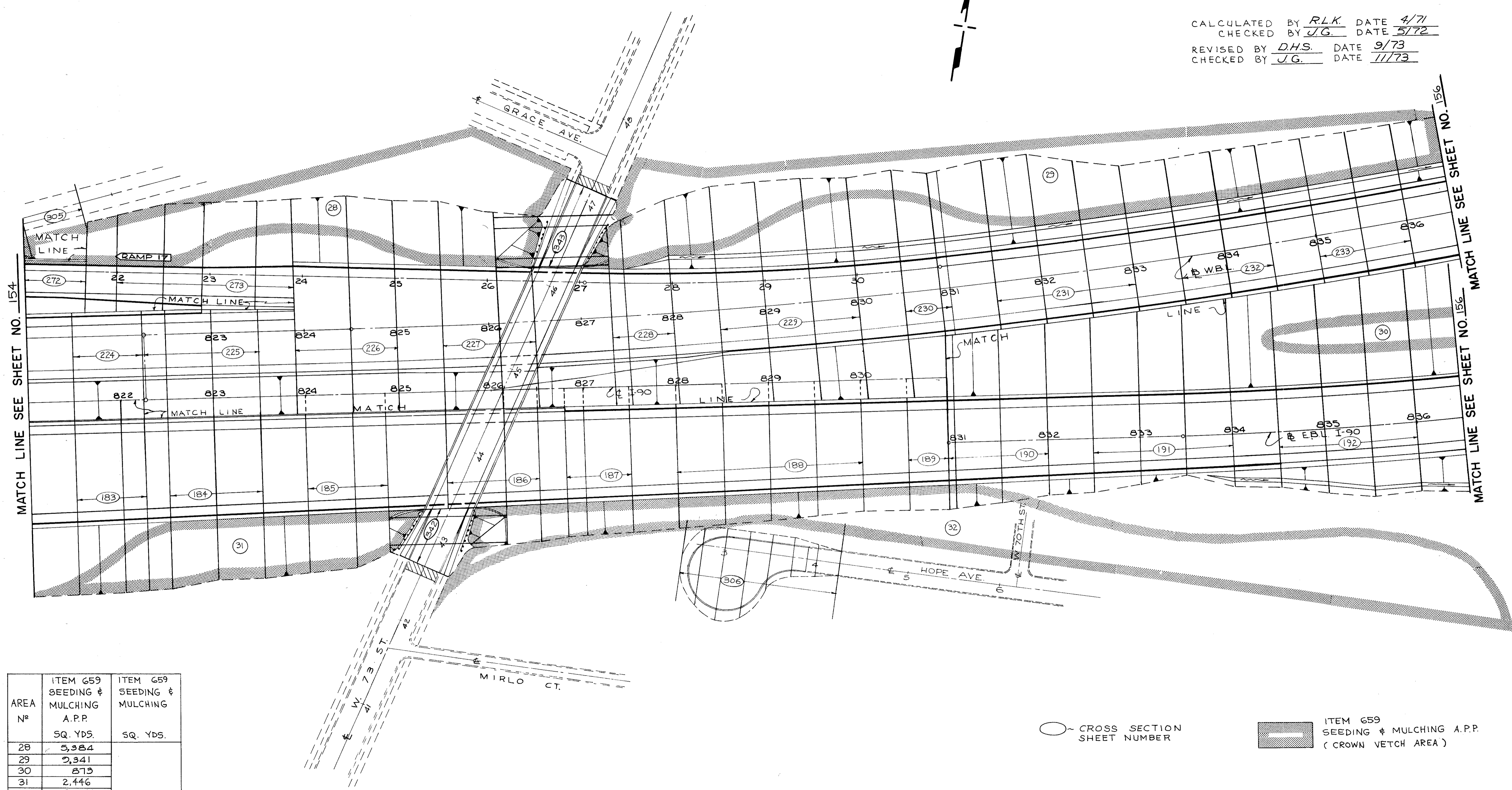
GRADING PLAN  
CROSS SECTION LAYOUT

FED. RD.	STATE	PROJECT
2	OHIO	

155  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

CALCULATED BY RLK. DATE 4/71  
 CHECKED BY J.G. DATE 5/72  
 REVISED BY D.H.S. DATE 9/73  
 CHECKED BY J.G. DATE 11/73



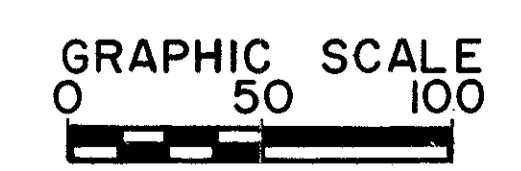
MATCH LINE SEE SHEET NO. 154

MATCH LINE SEE SHEET NO. 156

AREA N <sup>o</sup>	ITEM 659 SEEDING & MULCHING A.P.P. SQ. YDS.	ITEM 659 SEEDING & MULCHING SQ. YDS.
28	5,384	
29	2,341	
30	873	
31	2,446	
32	8,048	
TOTAL	26,092	23,788

○ - CROSS SECTION SHEET NUMBER

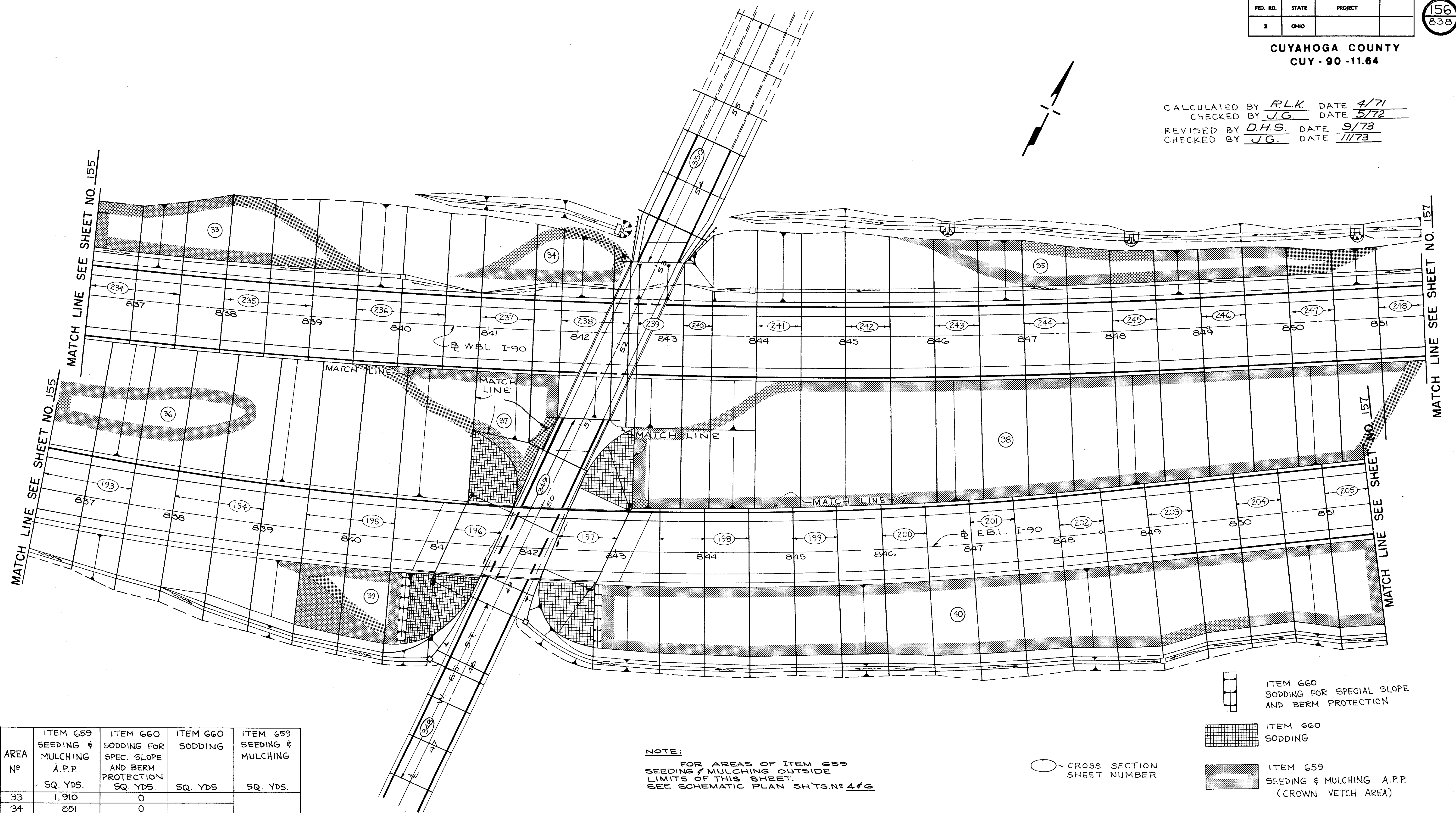
■ ITEM 659 SEEDING & MULCHING A.P.P. (CROWN VETCH AREA)



GRADING PLAN  
CROSS SECTION LAYOUT


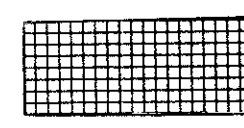
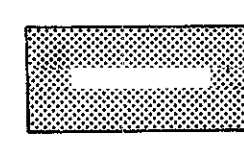

CUYAHOGA COUNTY  
CUY - 90 - 11.64

CALCULATED BY RLK DATE 4/71  
 CHECKED BY J.G. DATE 5/72  
 REVISED BY D.H.S. DATE 9/73  
 CHECKED BY J.G. DATE 11/73



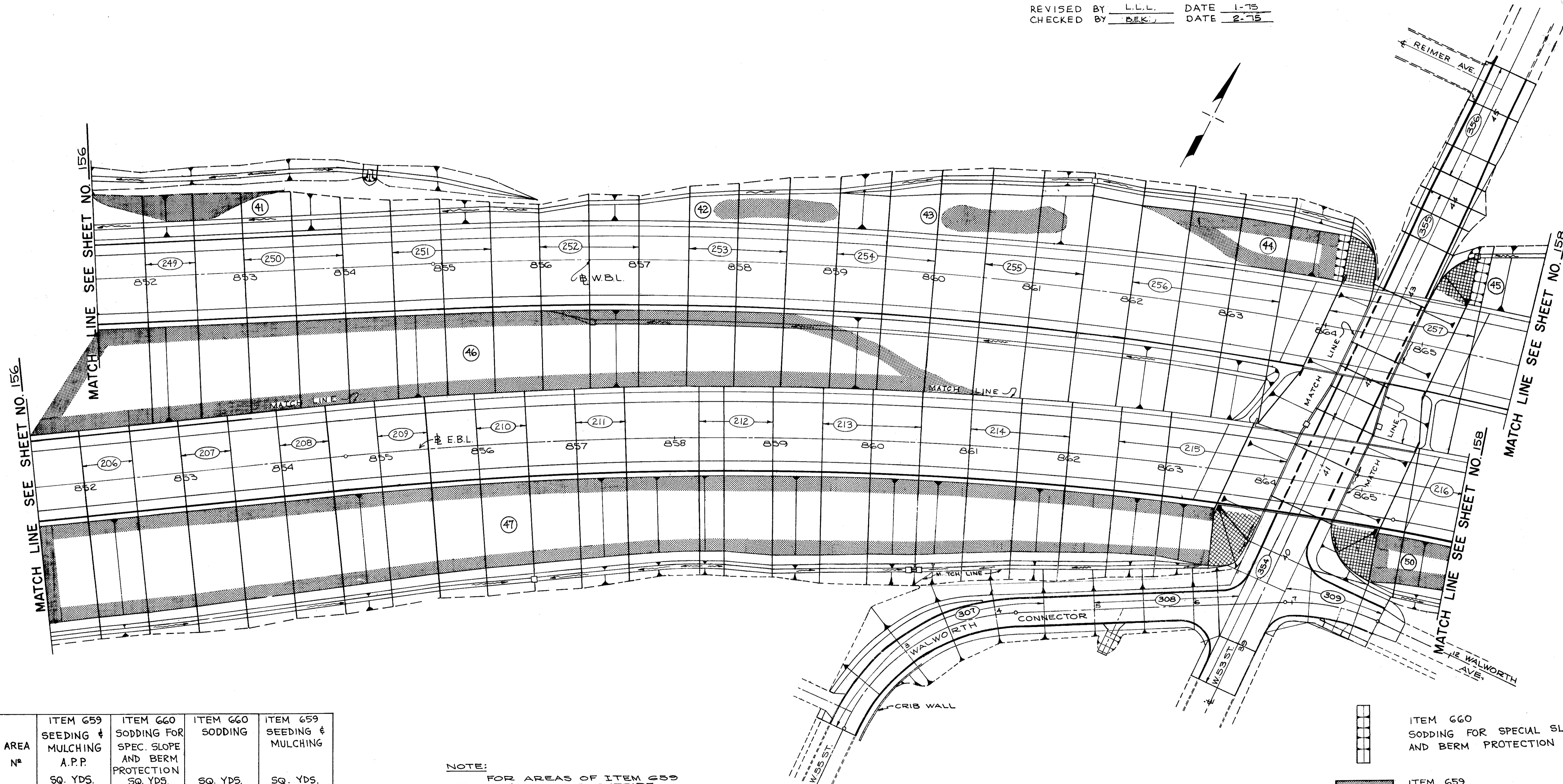
AREA No	ITEM 659 SEEDING & MULCHING A.P.P. SQ. YDS.	ITEM 660 SODDING FOR SPEC. SLOPE AND BERM PROTECTION SQ. YDS.	ITEM 660 SODDING SQ. YDS.	ITEM 659 SEEDING & MULCHING SQ. YDS.
33	1,910	0		
34	851	0		
35	1,954	0		
36	1,268	0		
37	1,575	0	436	
38	14,260	0	404	
39	1,020	80	500	
40	8,554	72	380	
TOTAL	31,401	152	1,720	138,845

NOTE:  
 FOR AREAS OF ITEM 659 SEEDING & MULCHING OUTSIDE LIMITS OF THIS SHEET, SEE SCHEMATIC PLAN SH'TS. NO. 4 & 6

-  ITEM 660 SODDING FOR SPECIAL SLOPE AND BERM PROTECTION
-  ITEM 660 SODDING
-  ITEM 659 SEEDING & MULCHING A.P.P. (CROWN VETCH AREA)
-  ~ CROSS SECTION SHEET NUMBER

GRAPHIC SCALE  
 0 50 100  
**GRADING PLAN**  
 CROSS SECTION LAYOUT

CALCULATED BY R.L.K. DATE 4/71  
 CHECKED BY J.G. DATE 5/72  
 REVISED BY L.L.L. DATE 1-75  
 CHECKED BY B.E.K. DATE 2-75



AREA N <sup>o</sup>	ITEM 659 SEEDING & MULCHING A.P.P. SQ. YDS.	ITEM 660 SODDING FOR SPEC. SLOPE AND BERM PROTECTION SQ. YDS.	ITEM 660 SODDING SQ. YDS.	ITEM 659 SEEDING & MULCHING SQ. YDS.
41	401	0	0	
42	262	0	0	
43	321	0	0	
44	705	52	155	
45	0	67	140	
46	8,960	0	0	
47	12,040	0	240	
50	436	0	202	
TOTAL	23,215	119	646	81,425

NOTE:  
 FOR AREAS OF ITEM 659  
 SEEDING & MULCHING OUTSIDE  
 LIMITS OF THIS SHEET.  
 SEE SCHEMATIC PLAN SHTS. N<sup>o</sup>s 4 & 6

~ CROSS SECTION SHEET NUMBER

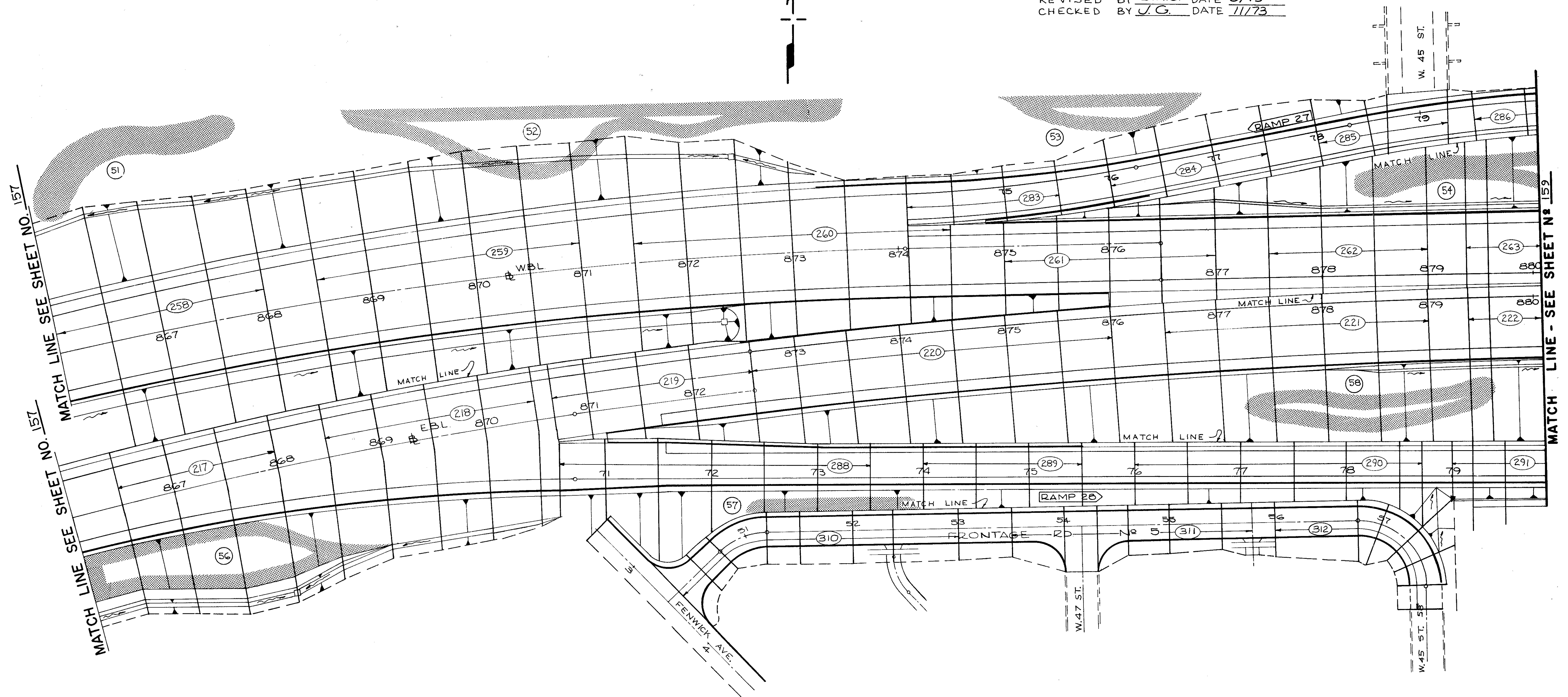
GRAPHIC SCALE  
 0 50 100  
**GRADING PLAN**  
 CROSS SECTION LAYOUT

FED. RD.	STATE	PROJECT
1	OHIO	

158  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

CALCULATED BY RLK DATE 4/71  
 CHECKED BY J.G. DATE 5/72  
 REVISED BY D.H.S. DATE 9/73  
 CHECKED BY J.G. DATE 11/73



AREA N°	ITEM 659 SEEDING & MULCHING A.P.P. SQ. YDS.	ITEM 659 SEEDING & MULCHING SQ. YDS.
51	680	
52	1,917	
53	500	
54	531	
56	1,431	
57	278	
58	833	
TOTAL	6,170	23,200

○ CROSS SECTION SHEET NUMBER

■ ITEM 659 SEEDING & MULCHING A.P.P. (CROWN VETCH AREA)

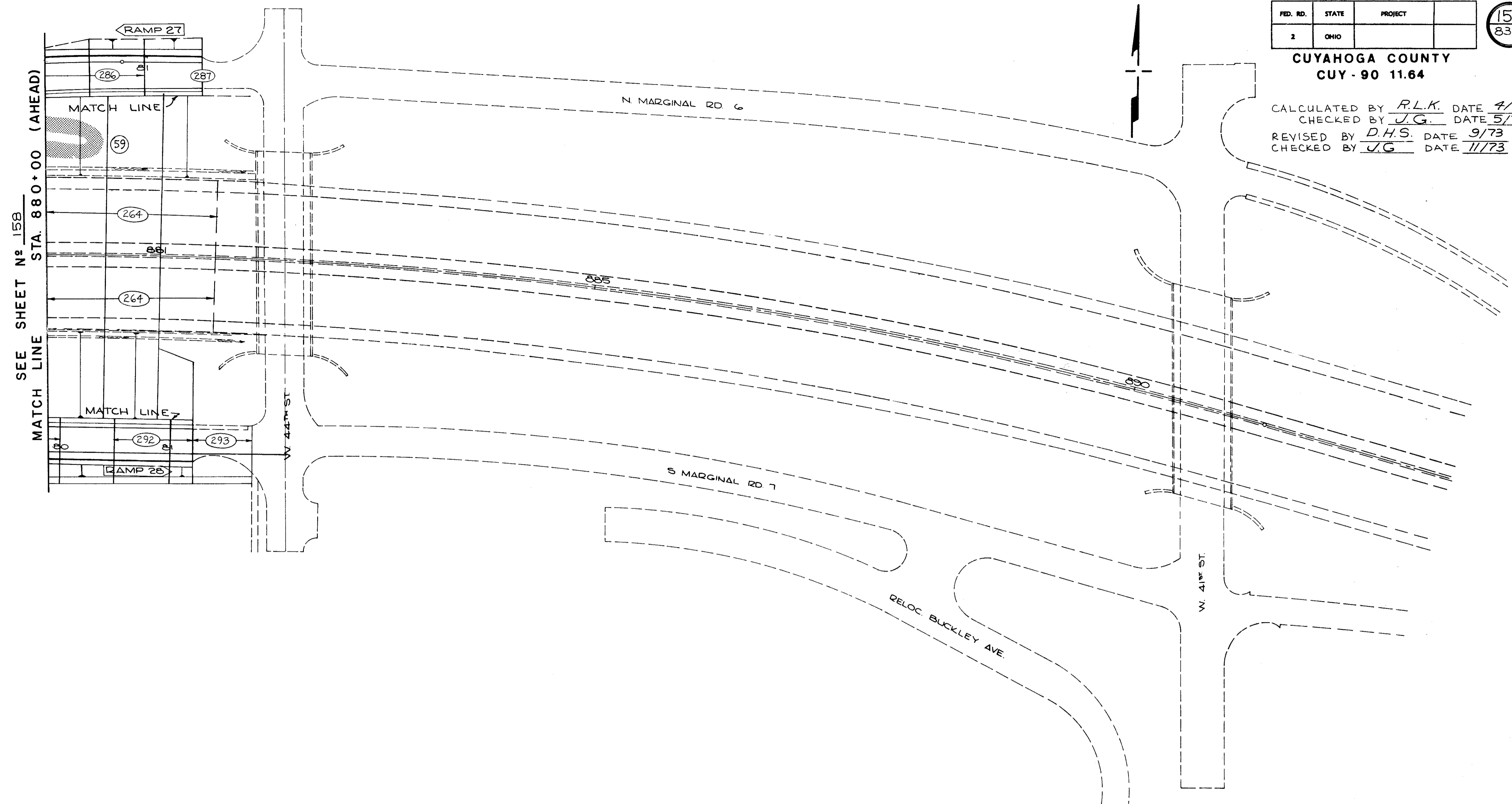
GRAPHIC SCALE  
 0 50 100  
**GRADING PLAN**  
 CROSS SECTION LAYOUT

FED. RD.	STATE	PROJECT
2	OHIO	

159  
838

CUYAHOGA COUNTY  
CUY - 90 11.64

CALCULATED BY R.L.K. DATE 4/71  
 CHECKED BY J.G. DATE 5/72  
 REVISED BY D.H.S. DATE 9/73  
 CHECKED BY J.G. DATE 11/73



SEE SHEET N<sup>o</sup> 158  
 STA. 880+00 (AHEAD)

ITEM 659  
 SEEDING & MULCHING A.P.P.  
 (CROWN VETCH AREA)

AREA N <sup>o</sup>	ITEM 659	ITEM 659
	SEEDING & MULCHING A.P.P.	SEEDING & MULCHING
	SQ. YDS.	SQ. YDS.
59	175	
TOTAL	175	3,112

○ CROSS SECTIONS SHEET NUMBER

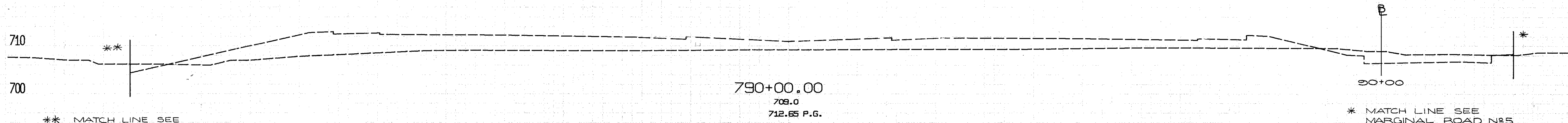
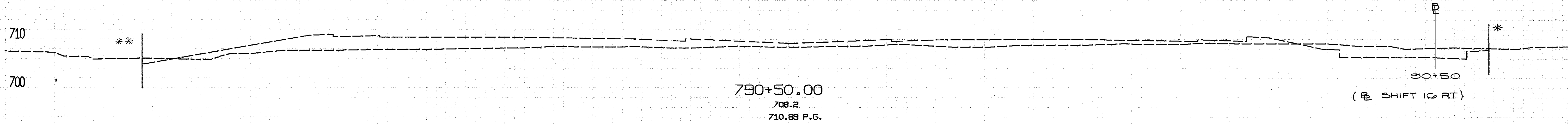
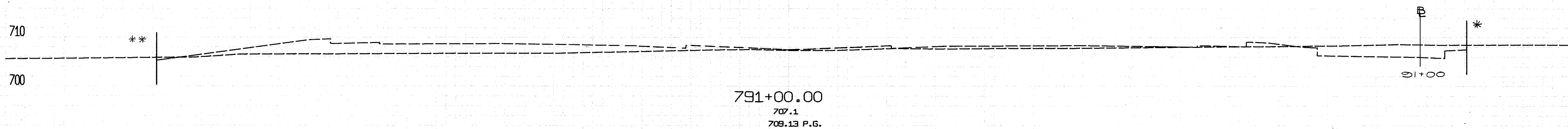
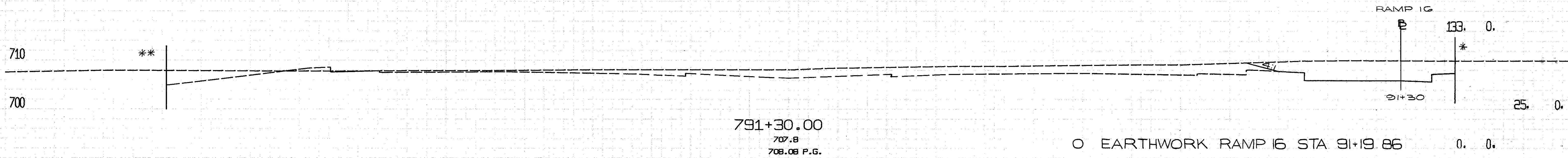


GRADING PLAN  
 CROSS SECTION LAYOUT

FED. RD. DIVISION	STATE	PROJECT	160 838
2	OHIO		

CUYAHOGA COUNTY  
CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



\*\* MATCH LINE SEE MARGINAL ROAD N#4 X-SECTIONS

\* MATCH LINE SEE MARGINAL ROAD N#5 X-SECTIONS

790+00.00 TO 791+30.00

CALCULATED BY WRS  
DATE SEPT 1969

CHECKED BY BEK  
DATE FEB 1972

REVISED BY GHG  
DATE MAY 1973

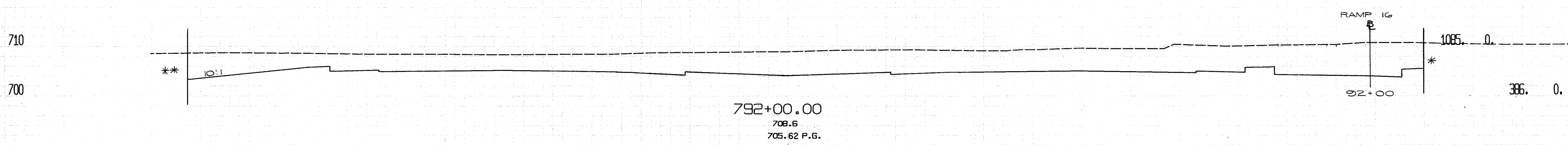
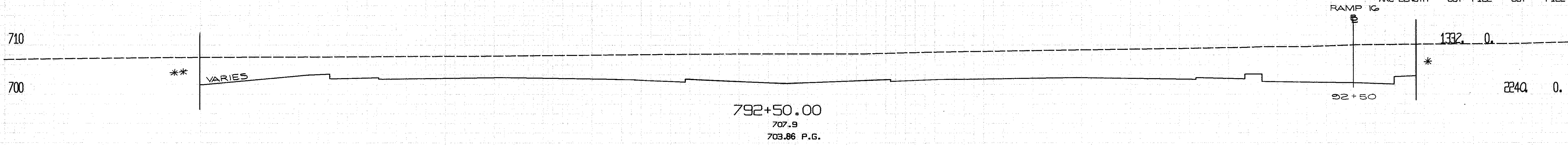
CHECKED BY D.H.S.  
DATE DEC 1973

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

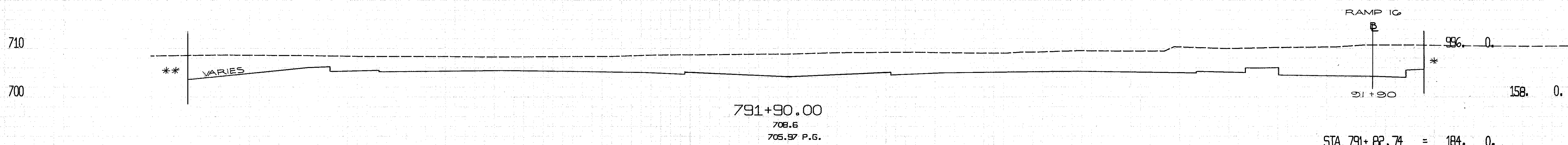


CUYAHOGA COUNTY  
CUY-90-11.64

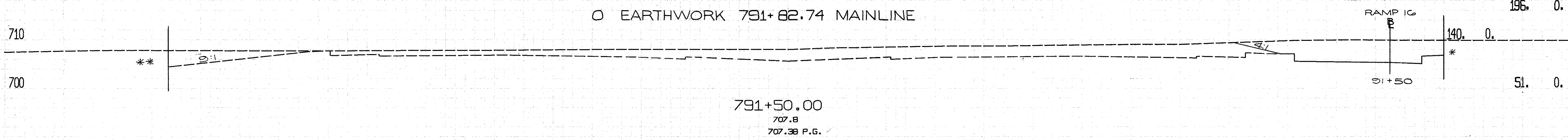
CENTROID ARC LENGTH	END CUT	AREA FILL	CJ. CUT	YDS. FILL
---------------------	---------	-----------	---------	-----------



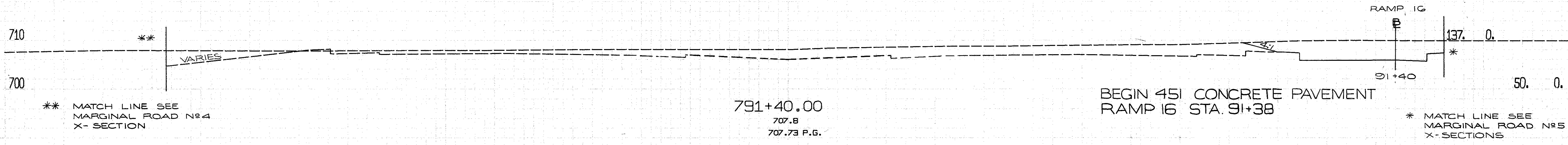
BEGIN 451 CONCRETE PAVEMENT 792+00.00



O EARTHWORK 791+82.74 MAINLINE



STA. 791+82.74 = 184.0



BEGIN 451 CONCRETE PAVEMENT  
RAMP 16 STA. 91+38

\* MATCH LINE SEE MARGINAL ROAD N#5 X-SECTIONS

\*\* MATCH LINE SEE MARGINAL ROAD N#4 X-SECTION

791+40.00 TO 792+50.00

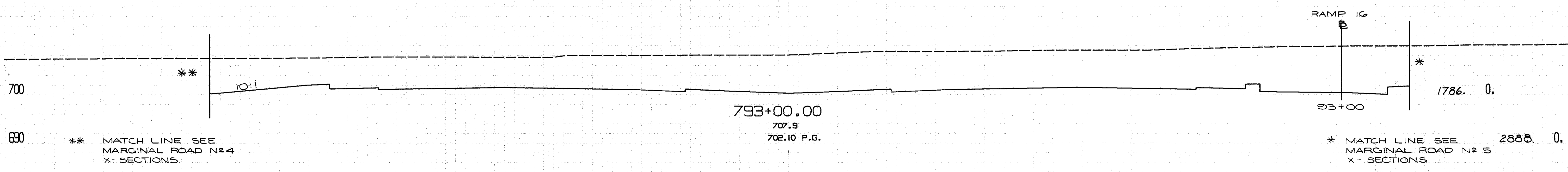
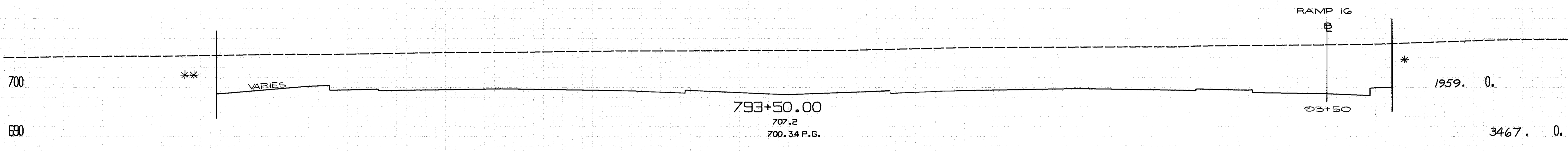
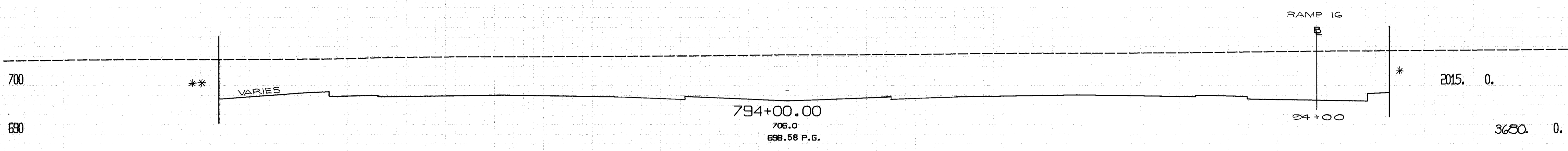
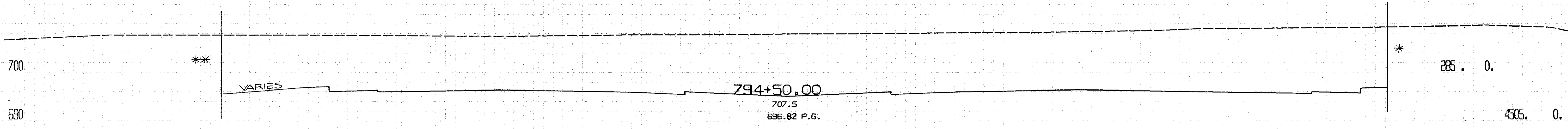
CALCULATED BY WRS  
DATE SEPT 1969

CHECKED BY BEK  
DATE FEB 1972

REVISED BY G.H.G.  
DATE MAY 1973

CHECKED BY D.H.S.  
DATE DEC 1973

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.



\*\* MATCH LINE SEE MARGINAL ROAD N#4 X-SECTIONS

\* MATCH LINE SEE MARGINAL ROAD N#5 X-SECTIONS

793+00.00 TO 794+50.00

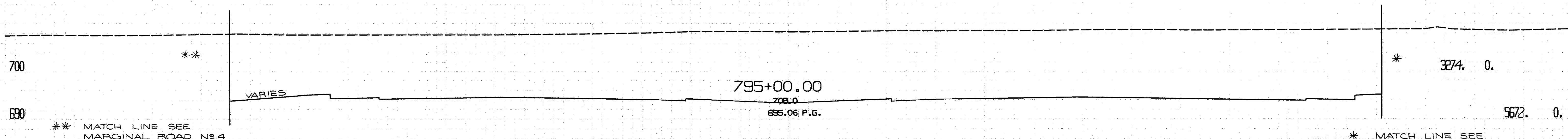
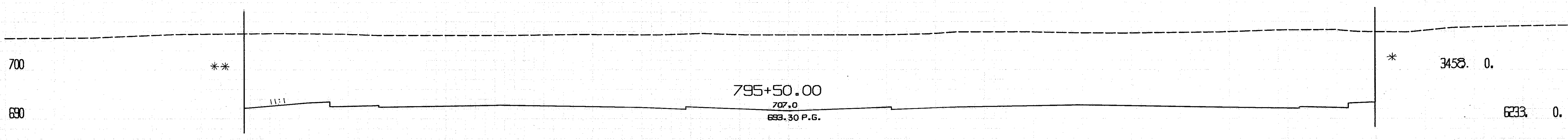
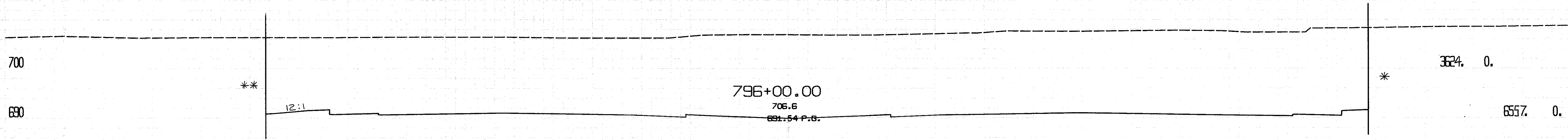
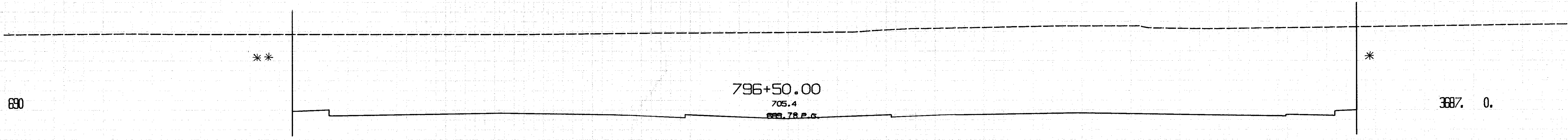
CALCULATED BY WRS  
DATE SEPT 1967

CHECKED BY BEK  
DATE FEB 1972

REVISED BY G.H.G.  
DATE MAY 1973

CHECKED BY D.H.S.  
DATE DEC. 1973

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.



\*\* MATCH LINE SEE MARGINAL ROAD N#4 X- SECTIONS

\* MATCH LINE SEE MARGINAL ROAD N#5 X- SECTIONS

795+00.00 TO 796+50.00

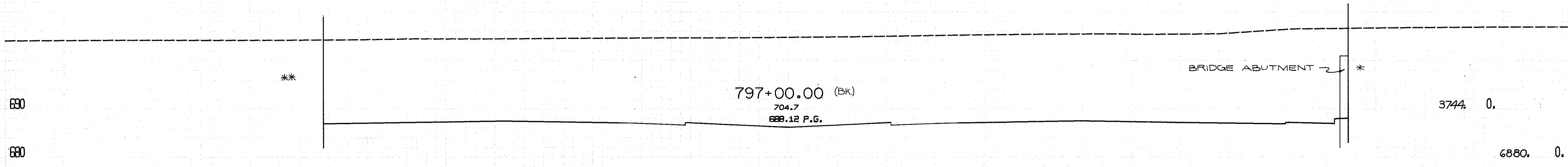
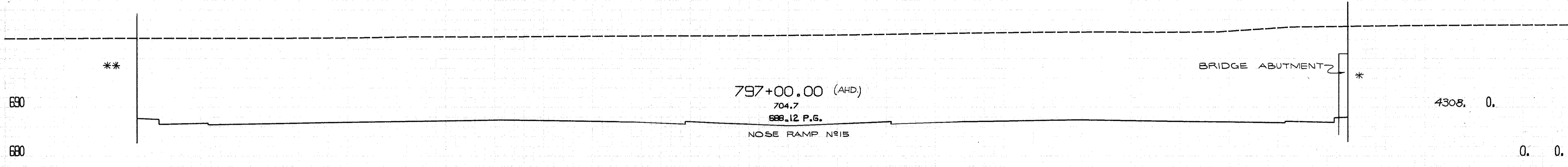
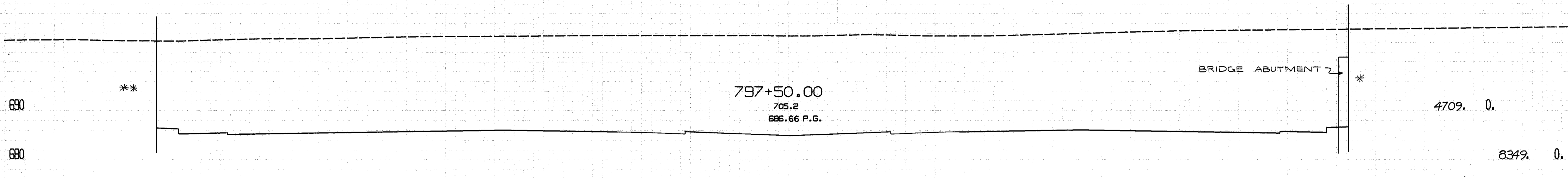
CALCULATED BY WRS  
DATE SEPT 1969

CHECKED BY BEK  
DATE FEB 1972

REVISED BY G.H.G.  
DATE MAY 1973

CHECKED BY D.H.S.  
DATE DEC. 1973

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.



\*\* MATCH LINE SEE MARGINAL ROAD N°4 X- SECTIONS

\* MATCH LINE SEE RELOCATED LORAIN AVE. X- SECTIONS

797+00.00 TO 797+50.00

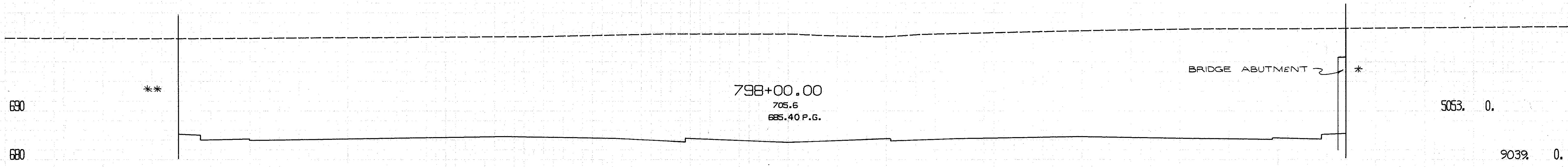
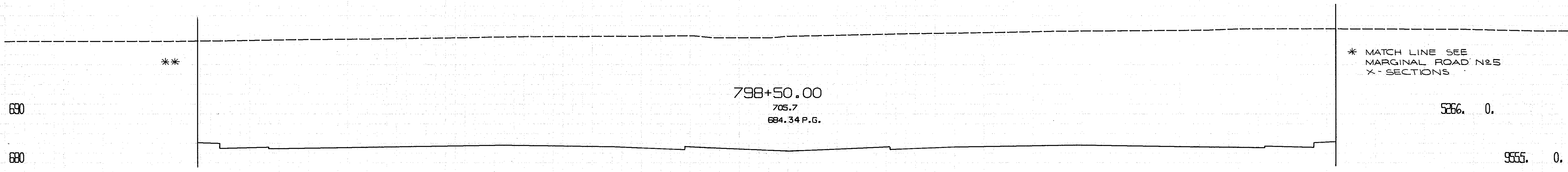
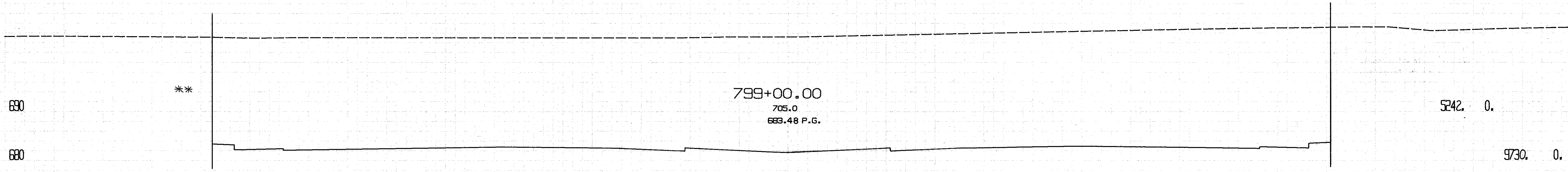
CALCULATED BY WRS  
DATE SEPT 1969

CHECKED BY BEK  
DATE FEB 1972

REVISED BY G.H.G.  
DATE MAY 1973

CHECKED BY D.H.S.  
DATE DEC. 1973

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.



\*\* MATCH LINE SEE MARGINAL ROAD N#4 X-SECTIONS

\* MATCH LINE SEE RELOCATED LORAIN AVE. X-SECTIONS

798+00.00 TO 799+00.00

CALCULATED BY WRS  
DATE SEPT 1969

CHECKED BY BEK  
DATE FEB 1972

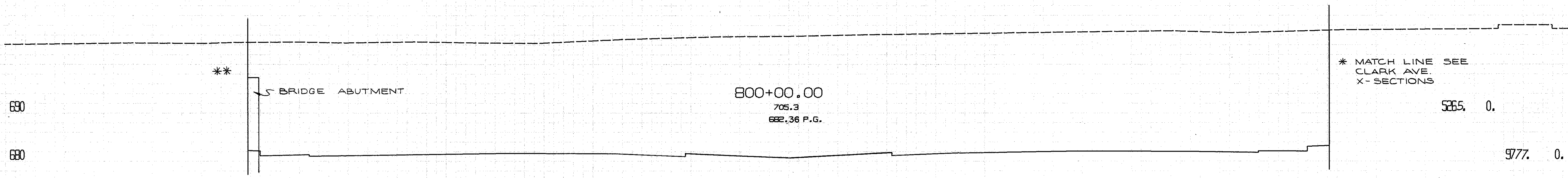
REVISED BY GHG  
DATE MAY 1973

CHECKED BY D.H.S.  
DATE DEC. 1973

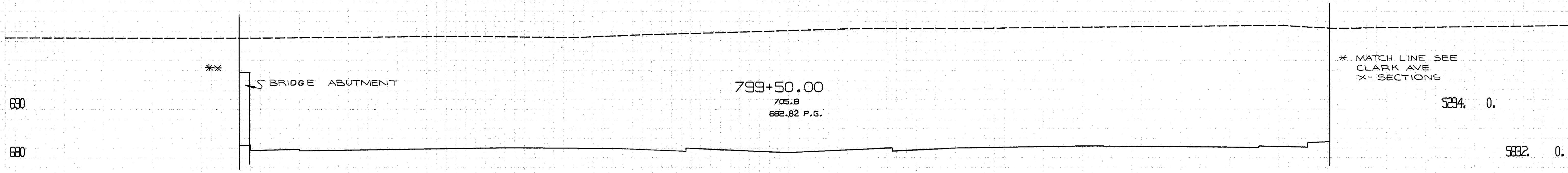
-140.   -120.   -100.   -80.   -60.   -40.   -20.   0.   20.   40.   60.   80.   100.   120.   140.

CUYAHOGA COUNTY  
CUY-90-11.64

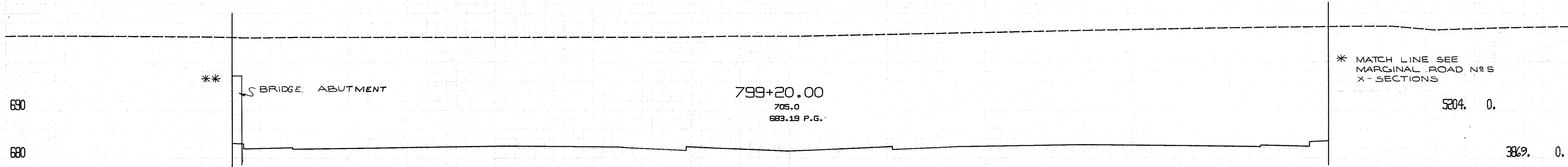
CENTROID ARC LENGTH	END CUT	AREA FILL	CUL. CUT	YDS. FILL
---------------------	---------	-----------	----------	-----------



\* MATCH LINE SEE CLARK AVE. X-SECTIONS



\* MATCH LINE SEE CLARK AVE. X-SECTIONS



\* MATCH LINE SEE MARGINAL ROAD N° 5 X-SECTIONS

\*\* MATCH LINE SEE RELOCATED LORAIN AVE. X-SECTIONS

799+20.00 TO 800+00.00

CALCULATED BY WRS  
DATE SEPT 1969

CHECKED BY BEK  
DATE FEB 1972

REVISED BY GHC  
DATE MAY 1973

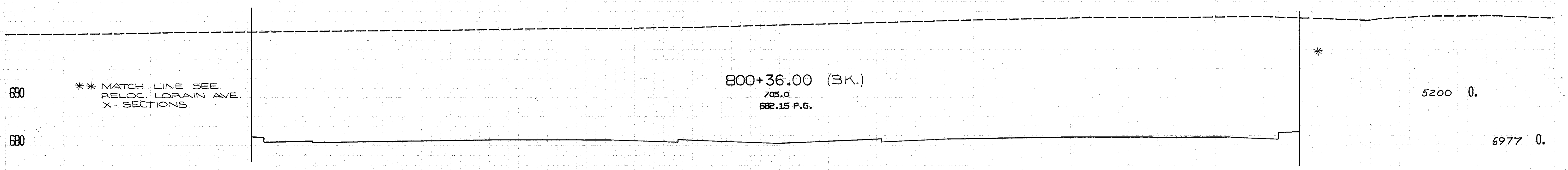
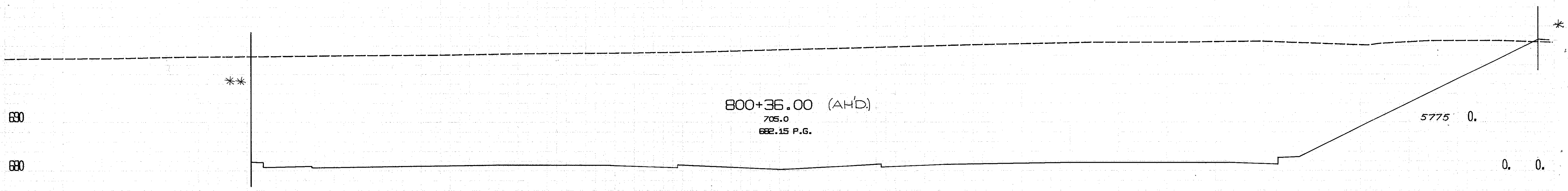
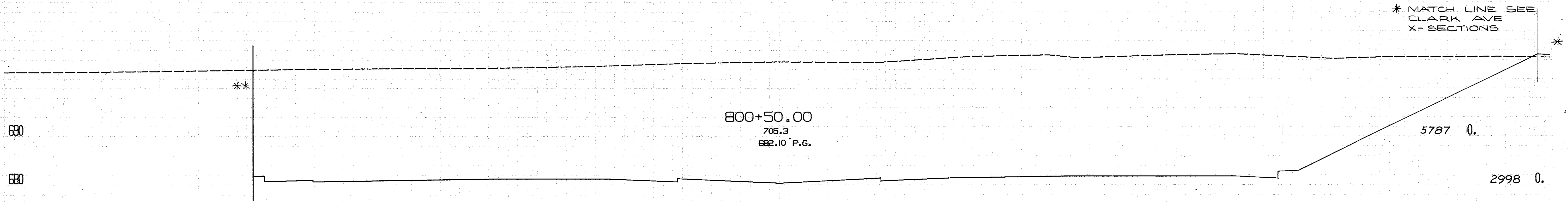
CHECKED BY D.H.S.  
DATE DEC. 1973

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

FED. RD. DIVISION	STATE	PROJECT	167 838
2	OHIO		

CUYAHOGA COUNTY  
CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CJ. CUT	YDS. FILL
---------------------	---------	-----------	---------	-----------



-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

CALCULATED BY RER  
DATE SEPT 1972

CHECKED BY BEK  
DATE FEB 1972

REVISED BY G.H.G.  
DATE MAY 1973

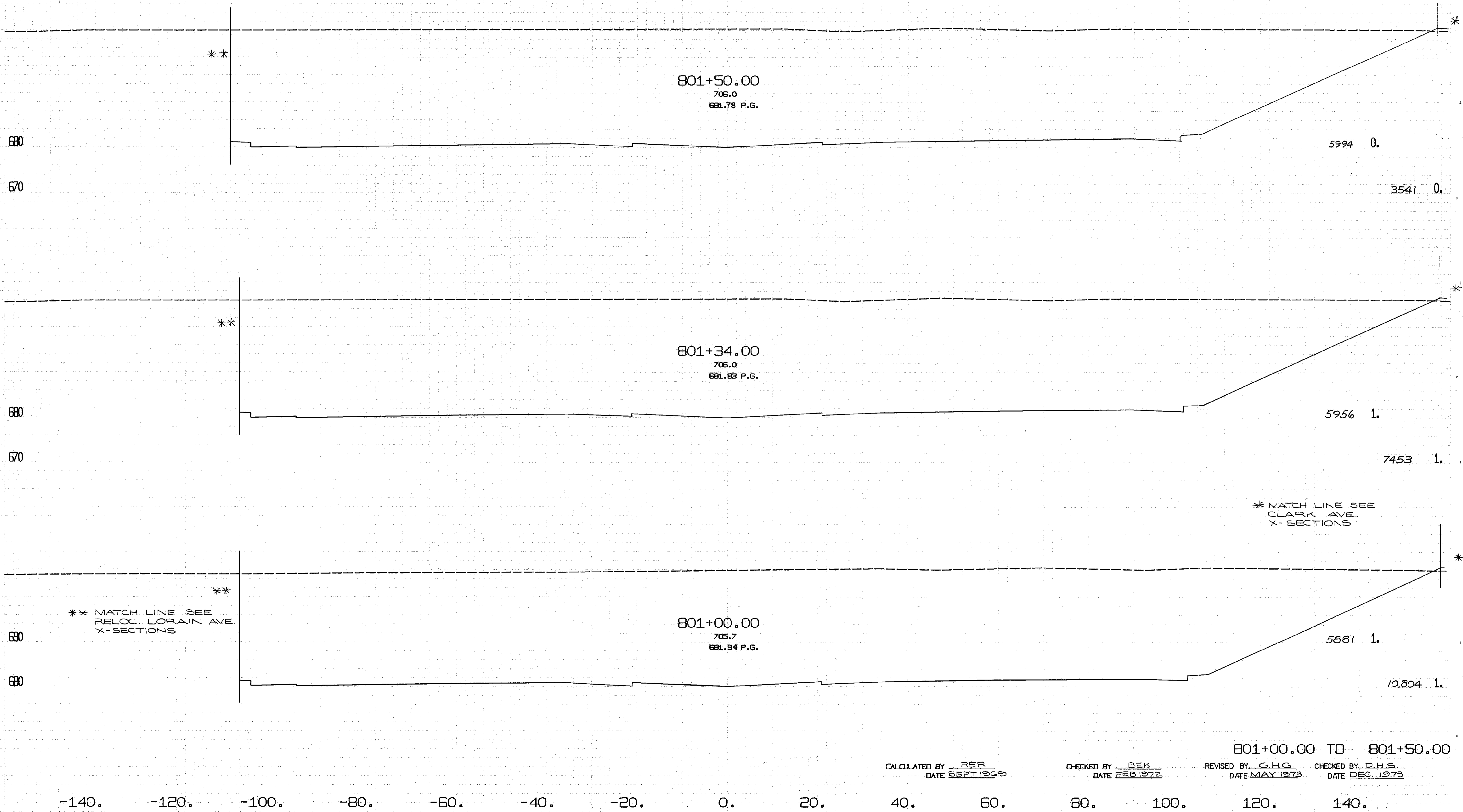
CHECKED BY D.H.S.  
DATE DEC. 1973

800+36.00 TO 800+50.00

FED. RD. DIVISION	STATE	PROJECT	168 838
2	OHIO		

CUYAHOGA COUNTY  
CUY-90-11.64

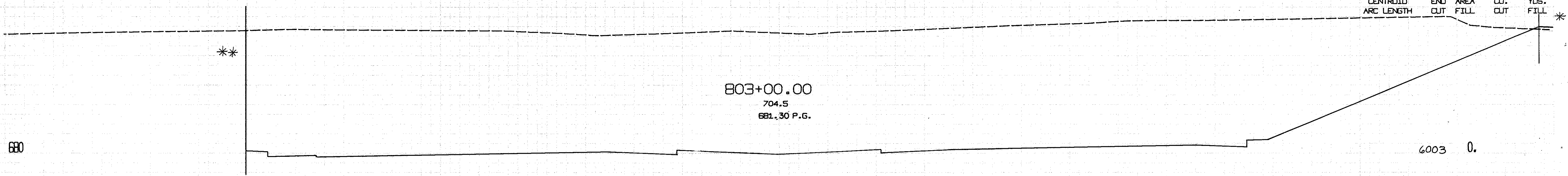
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL
---------------------	---------	-----------	---------	-----------





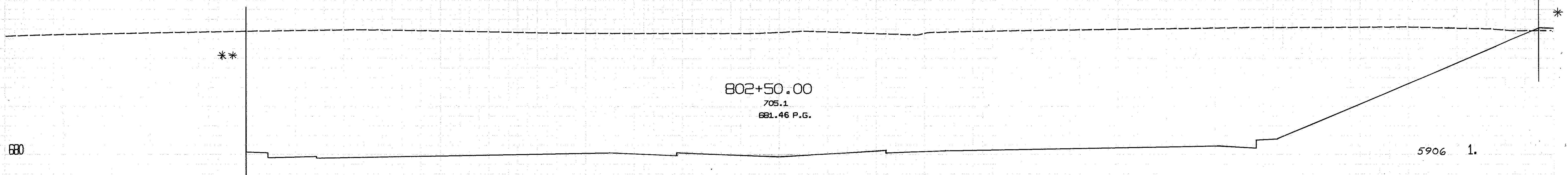
CUYAHOGA COUNTY  
CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CJ. CUT	YQS. FILL
------------------------	------------	--------------	------------	--------------



803+00.00  
704.5  
681.30 P.G.

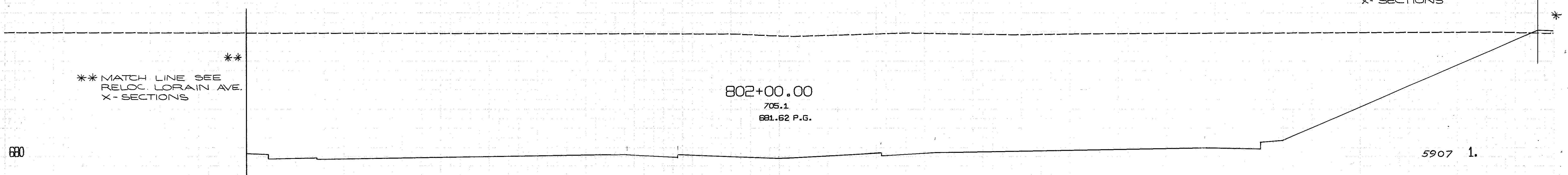
6003	0.			
50.07 C			11,042	1.
51.05 F				



802+50.00  
705.1  
681.46 P.G.

5906	1.			
50.06 C			10,952	2.
51.03 F				

\* MATCH LINE SEE  
CLARK AVE.  
X-SECTIONS



802+00.00  
705.1  
681.62 P.G.

\*\* MATCH LINE SEE  
RELOC. LORAIN AVE.  
X-SECTIONS

5907	1.			
50.06 C			11,033	1.
51.03 F				

802+00.00 TO 803+00.00

CALCULATED BY RER  
DATE SEPT 1969

CHECKED BY BEK  
DATE FEB 1972

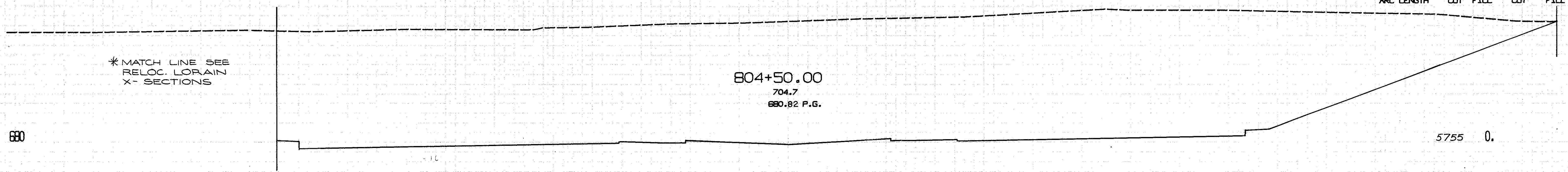
REVISED BY G.H.G.  
DATE MAY 1973

CHECKED BY D.H.S.  
DATE DEC 1973

-140.    -120.    -100.    -80.    -60.    -40.    -20.    0.    20.    40.    60.    80.    100.    120.    140.

CUYAHOGA COUNTY  
CUY-90-11.64

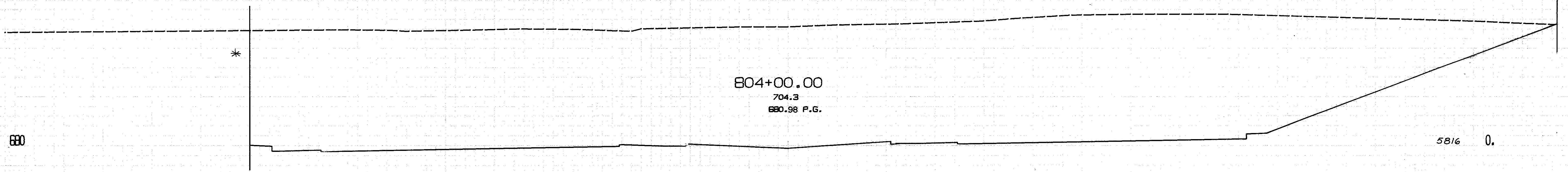
CENTROID ARC LENGTH	END CUT	AREA FILL	CJ. CUT	YDS. FILL
---------------------	---------	-----------	---------	-----------



804+50.00  
704.7  
680.82 P.G.

5755 0.

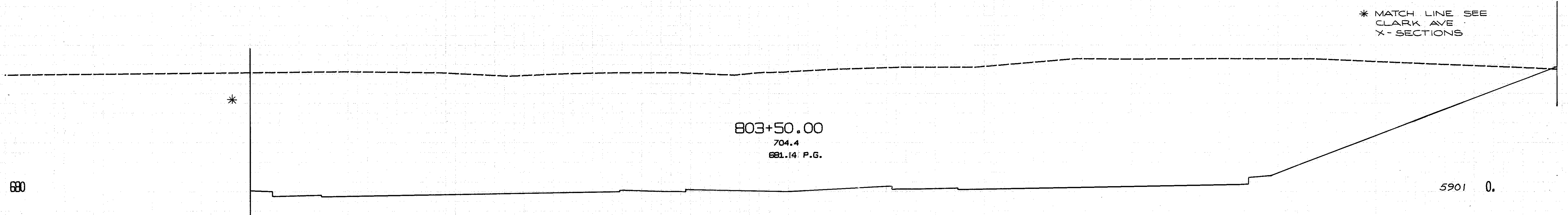
50.09 C  
50.99 F  
10733 0.



804+00.00  
704.3  
680.98 P.G.

5816 0.

50.08 C  
51.03 F  
10867 0.



803+50.00  
704.4  
681.14 P.G.

5901 0.

50.08 C  
51.05 F  
11040 0.

803+50.00 TO 804+50.00

CALCULATED BY RER  
DATE SEPT 1969

CHECKED BY BEK  
DATE FEB 1972

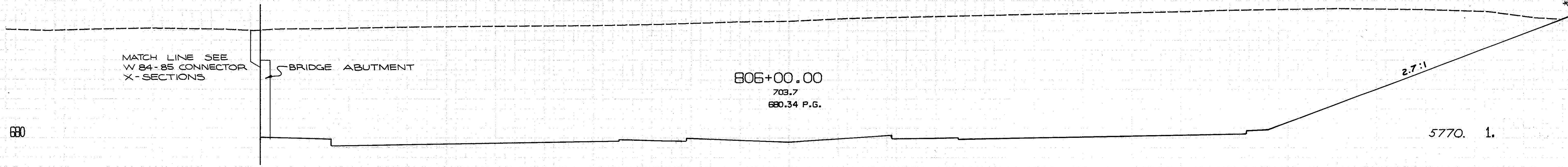
REVISED BY G.H.G.  
DATE MAY 1973

CHECKED BY D.H.S.  
DATE DEC 1973

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

CUYAHOGA COUNTY  
CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL *
---------------------	---------	-----------	---------	-------------



MATCH LINE SEE W 84-85 CONNECTOR X-SECTIONS

BRIDGE ABUTMENT

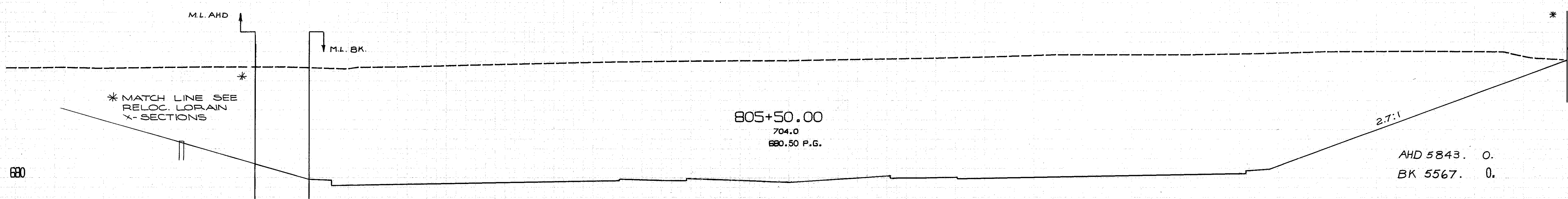
805+00.00  
703.7  
680.34 P.G.

5770. 1.

50.09 C  
51.05 F  
10772. 1.

670

680



\* MATCH LINE SEE RELOC. LORAIN X-SECTIONS

M.L. AHD

M.L. BK

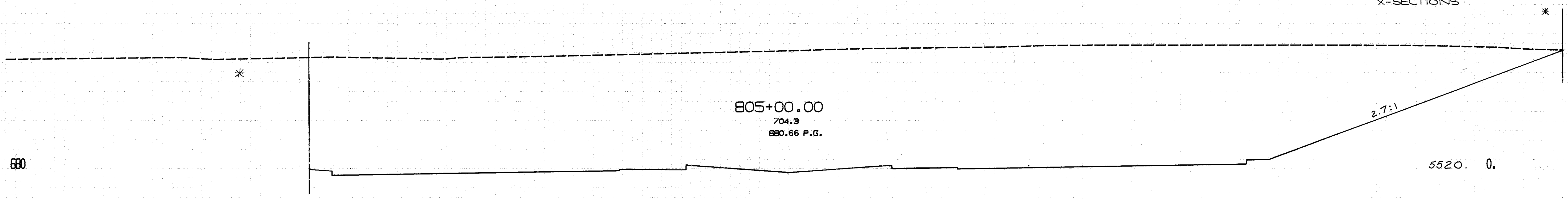
804+50.00  
704.0  
680.50 P.G.

AHD 5843. 0.  
BK 5567. 0.

50.09 C  
51.04 F  
10284. 0.

670

680



\* MATCH LINE SEE CLARK AVE. X-SECTIONS

804+00.00  
704.3  
680.66 P.G.

5520. 0.

50.09 C  
51.00 F  
10458. 0.

670

680

805+00.00 TO 806+00.00

CALCULATED BY RER  
DATE SEPT 1969

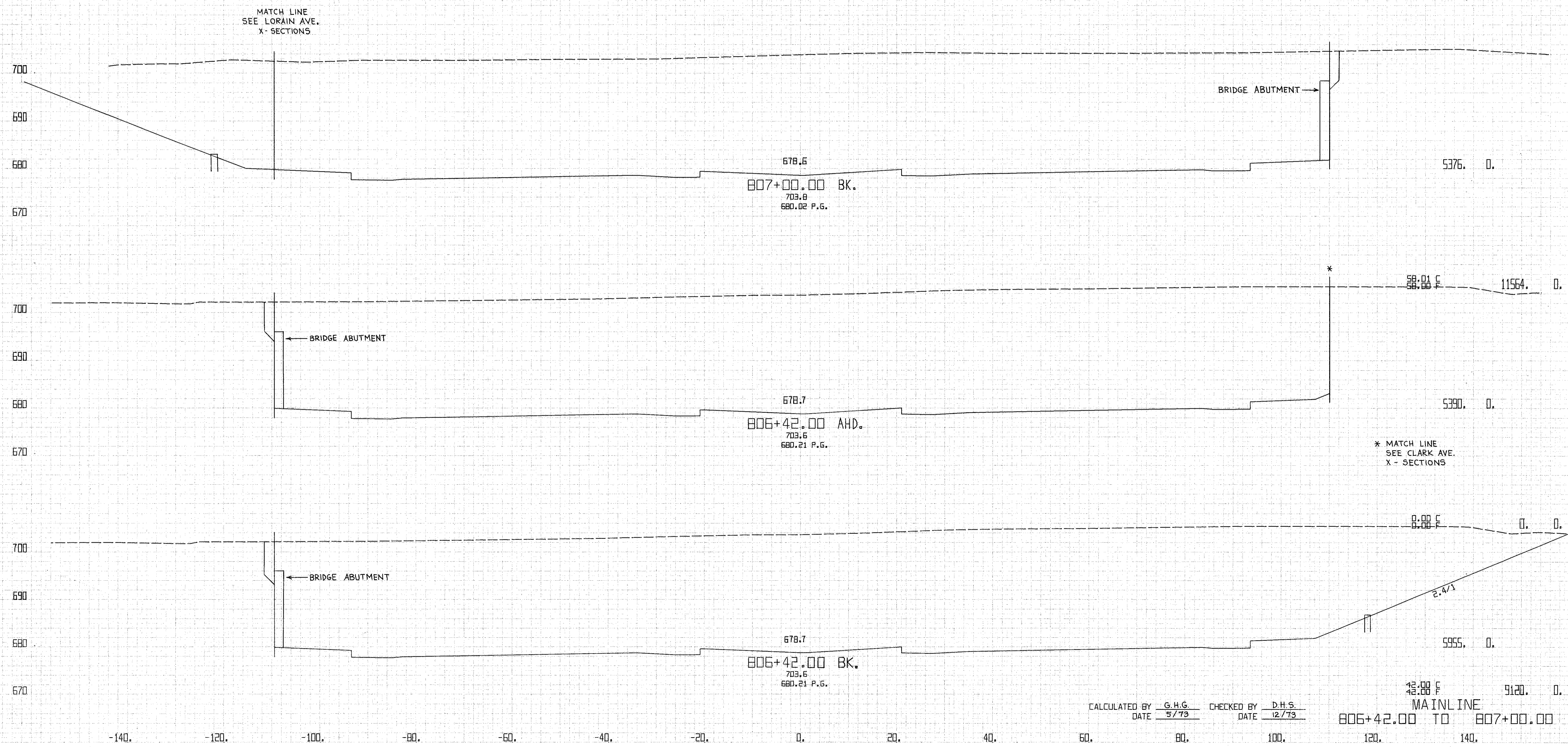
CHECKED BY BEK  
DATE FEB 1972

REVISED BY G.H.G.  
DATE MAY 1973

CHECKED BY D.H.S.  
DATE DEC. 1973

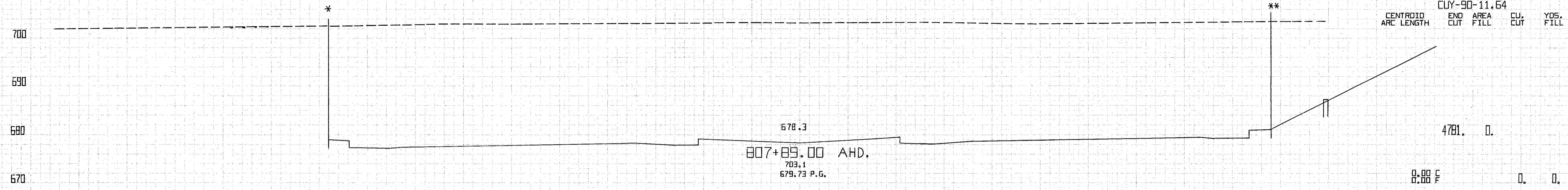
-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

FED. RD. DIVISION	STATE	PROJECT	172 838	
2	OHIO	CUYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YOS. FILL

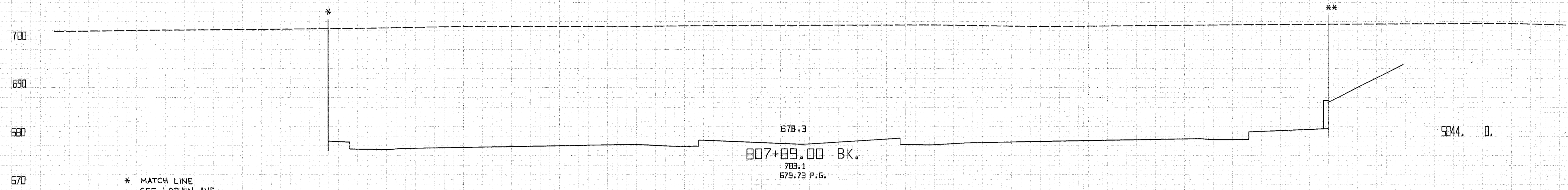


CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

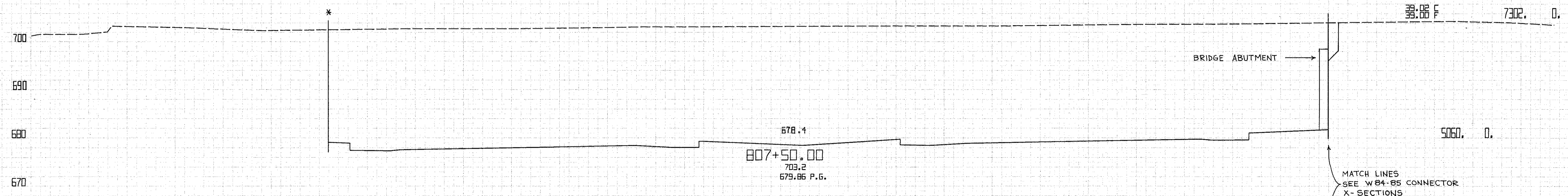
FED. RD. DIVISION	STATE	PROJECT	173 838	
2	OHIO	CUYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



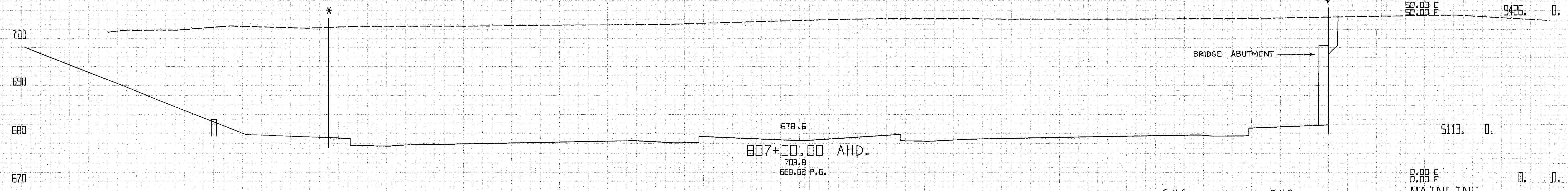
\*\* MATCH LINES  
SEE CLARK AVE.  
X-SECTIONS



\* MATCH LINE  
SEE LORAIN AVE.  
X-SECTIONS



MATCH LINES  
SEE W 84-85 CONNECTOR  
X-SECTIONS

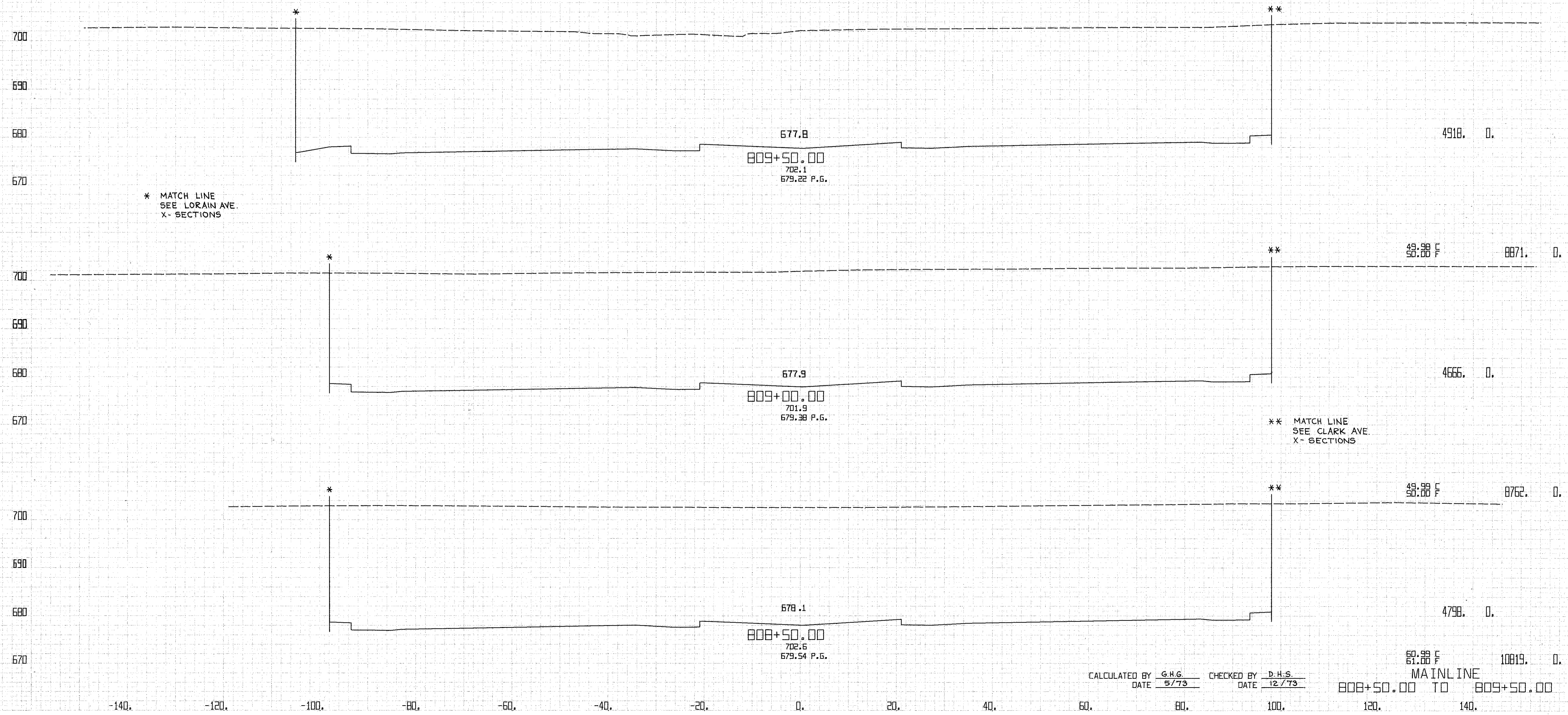


CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

8.88 F 0.0  
MAINLINE  
807+00.00 TO 807+89.00

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

FED. RD. DIVISION	STATE	PROJECT	174 838	
2	OHIO	CLYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL

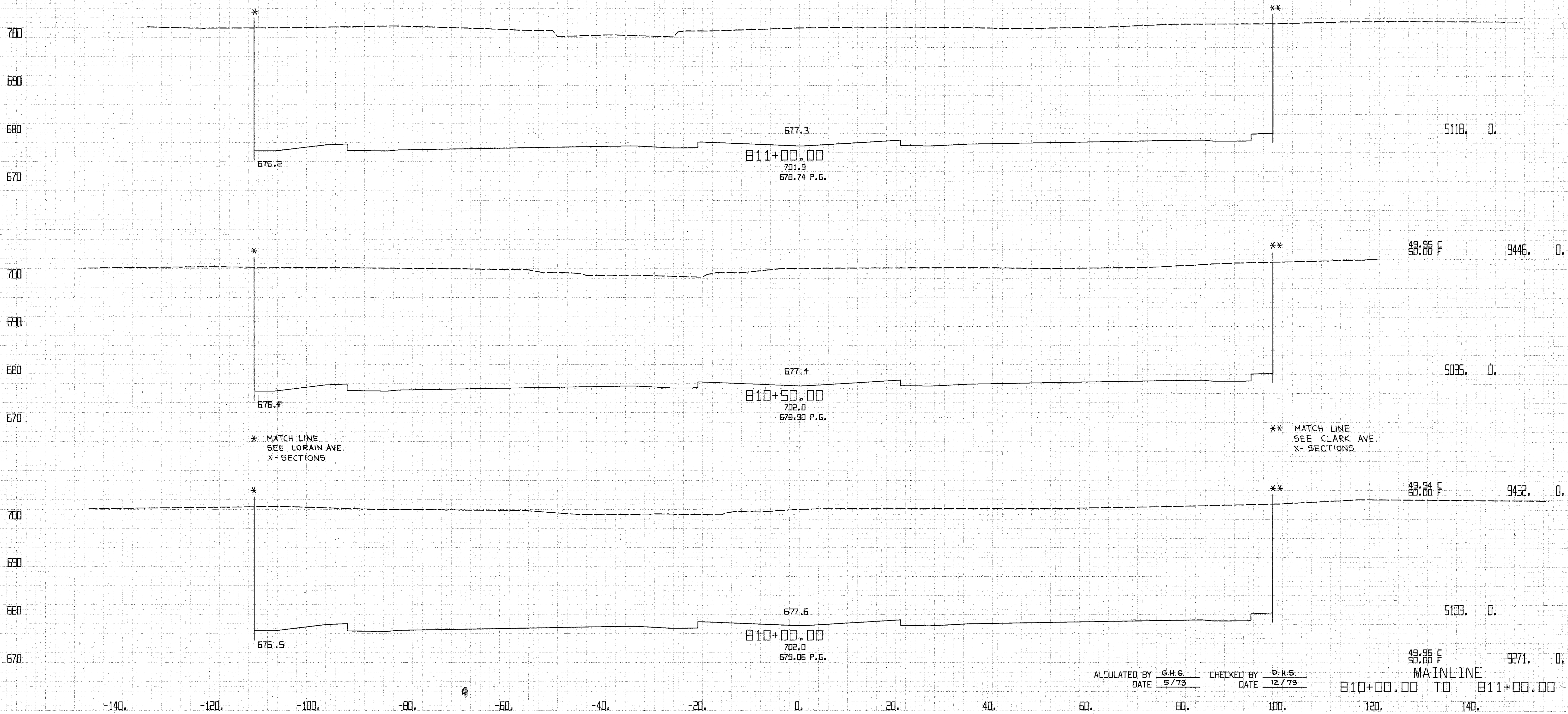


\* MATCH LINE  
SEE LORAIN AVE.  
X- SECTIONS

\*\* MATCH LINE  
SEE CLARK AVE.  
X- SECTIONS

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

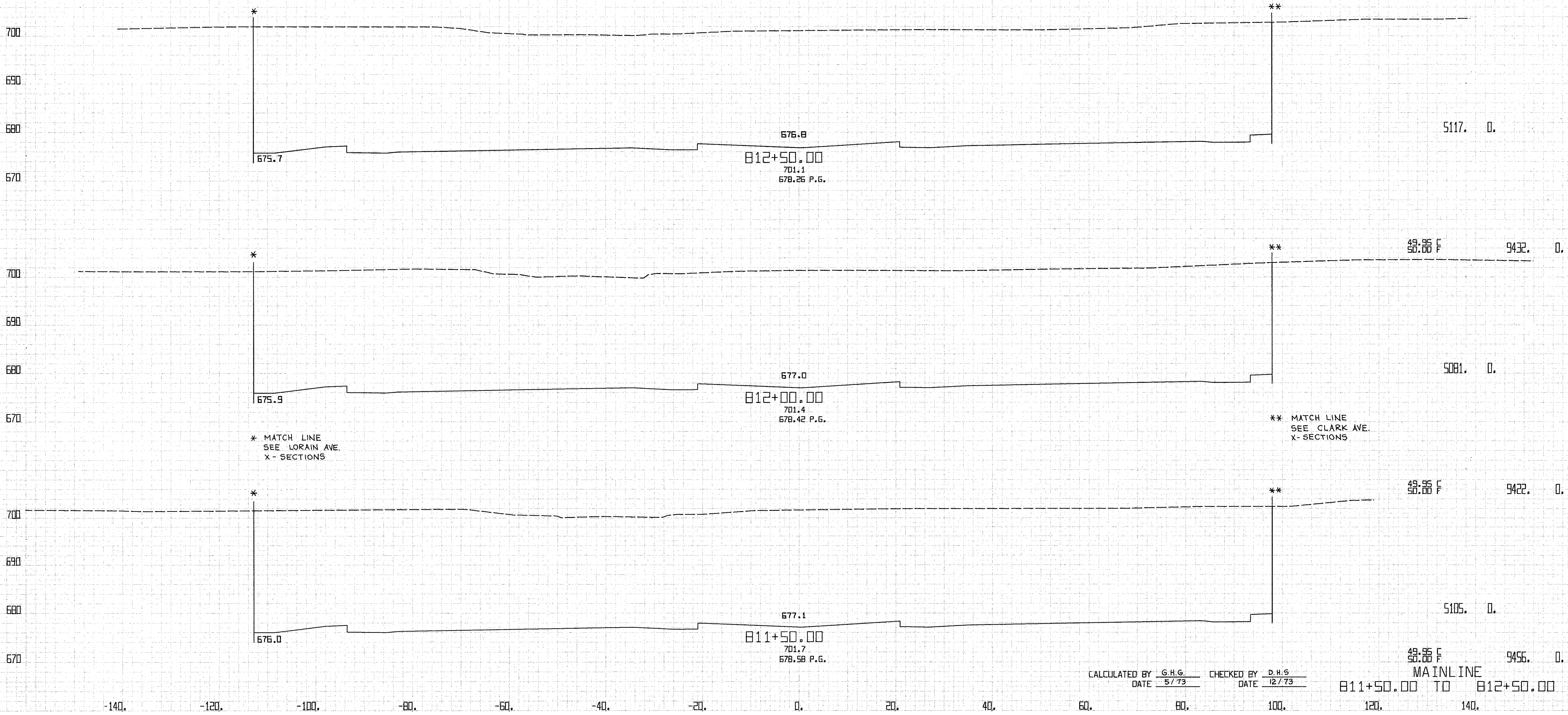
61.88 F 10819.0  
MAINLINE  
808+50.00 TO 809+50.00



ALCULATED BY G.H.G. CHECKED BY D.H.S.  
 DATE 5/73 DATE 12/79

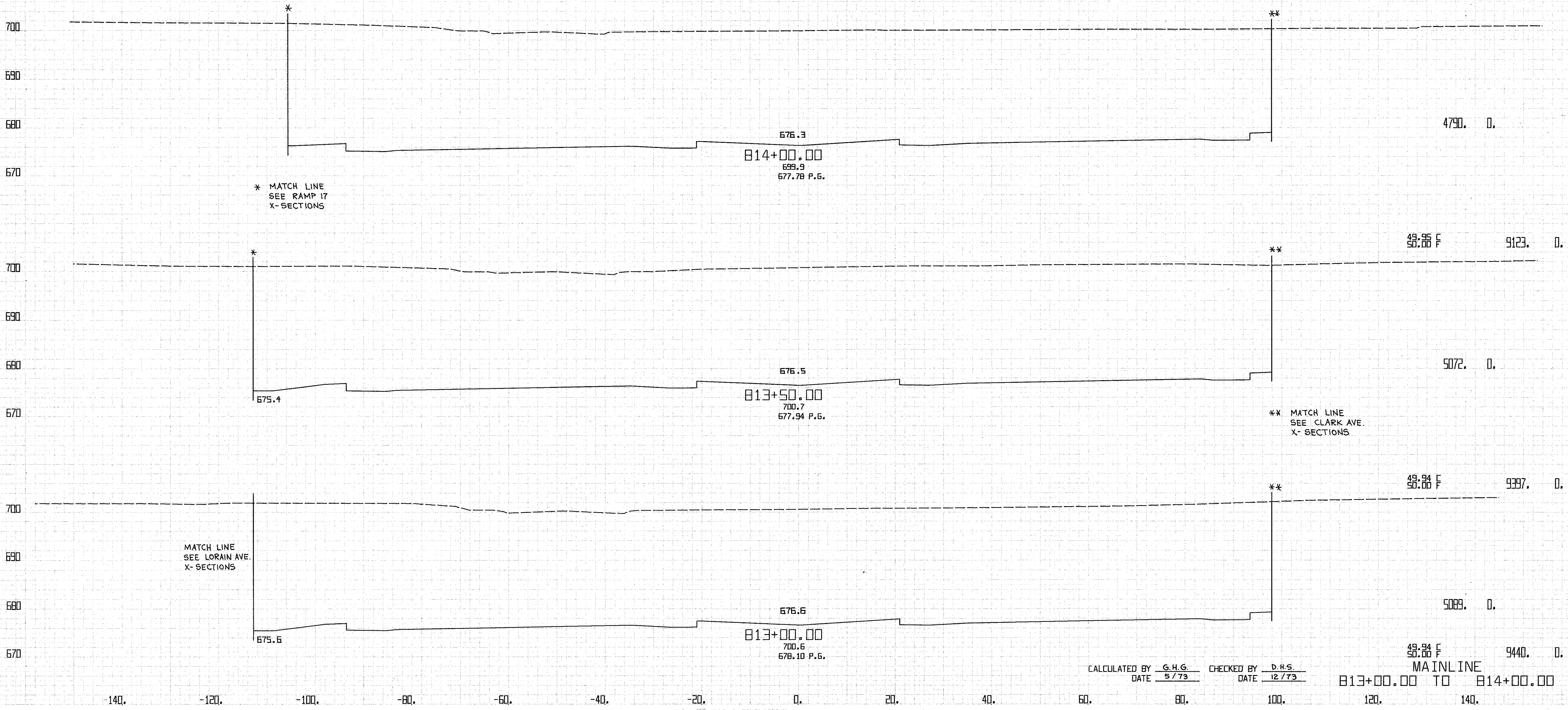
49.96 F 9271.0 D.  
 50.00 F  
 MAINLINE  
 810+00.00 TO 811+00.00

FED. RD. DIVISION	STATE	PROJECT	176 838	
2	OHIO	CLYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



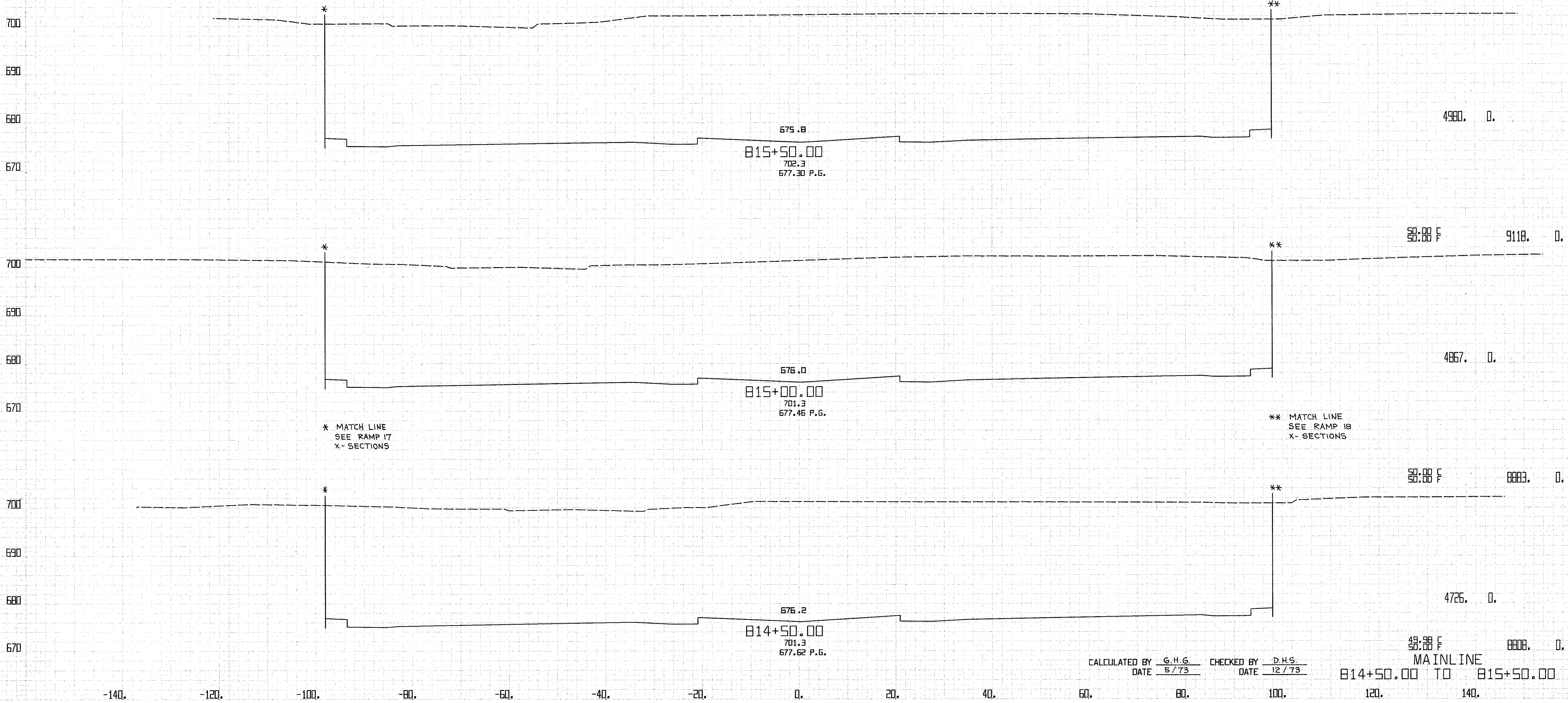
CALCULATED BY G.H.G. CHECKED BY D.H.S.  
 DATE 5/73 DATE 12/73





CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

MAINLINE  
813+00.00 TO 814+00.00

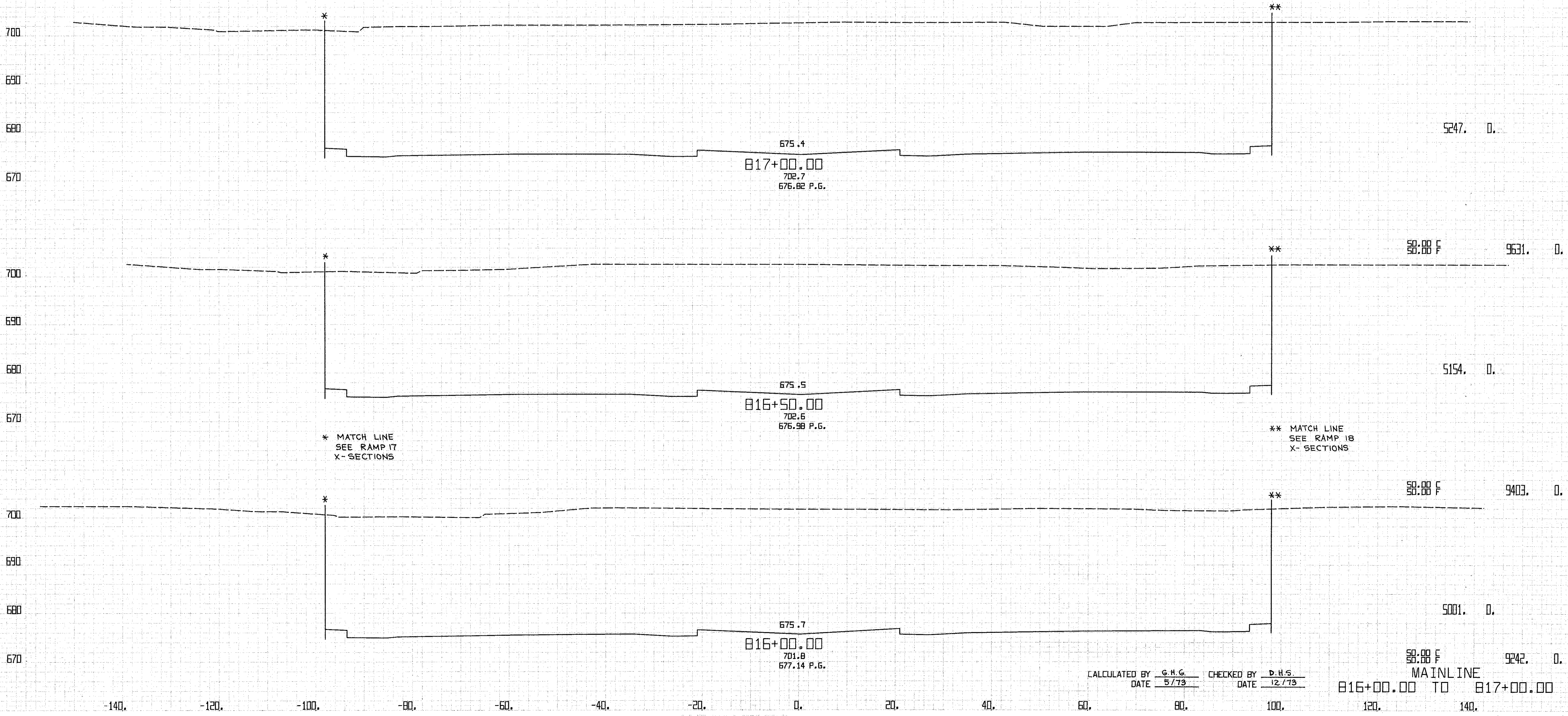


\* MATCH LINE  
SEE RAMP 17  
X- SECTIONS

\*\* MATCH LINE  
SEE RAMP 18  
X- SECTIONS

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

MAINLINE  
814+50.00 TO 815+50.00

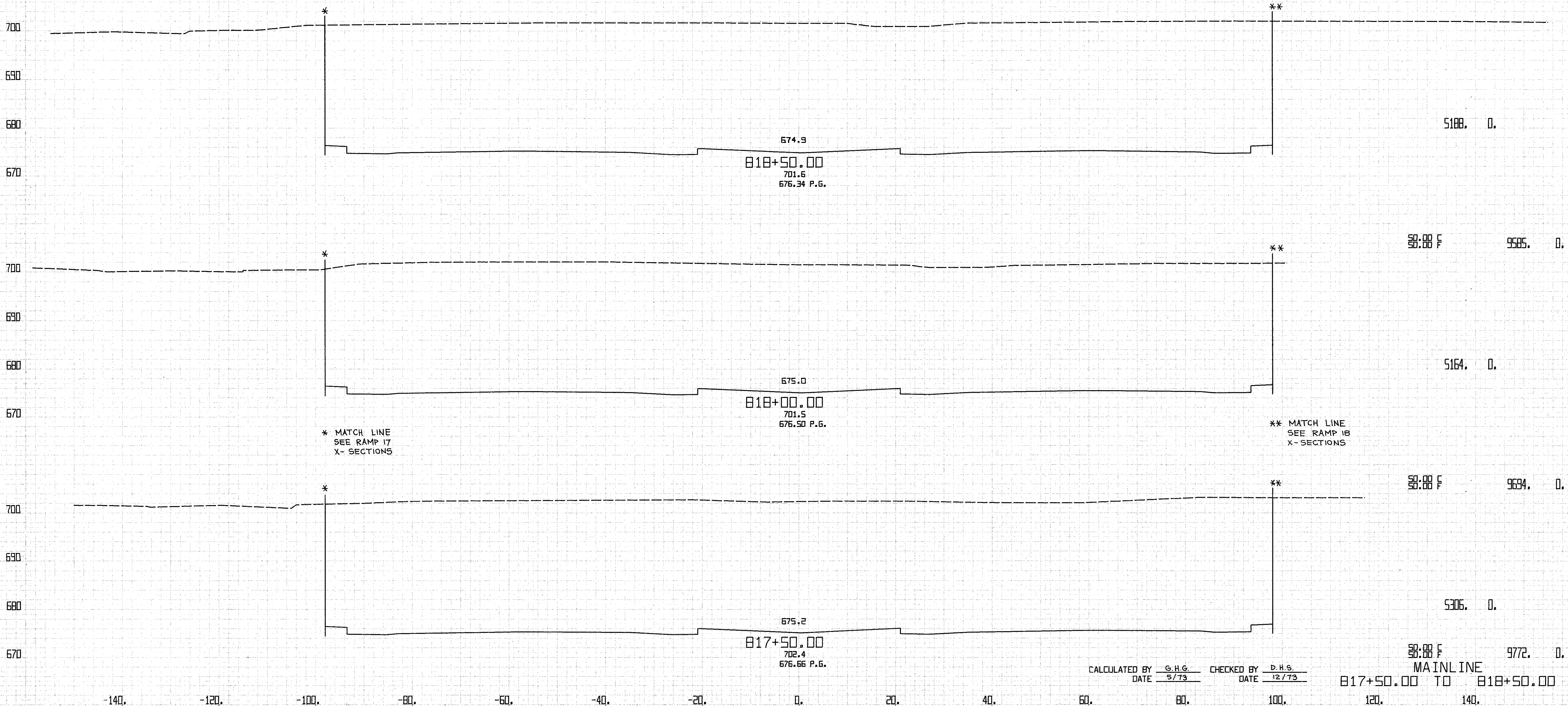


\* MATCH LINE  
SEE RAMP 17  
X-SECTIONS

\*\* MATCH LINE  
SEE RAMP 18  
X-SECTIONS

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

58.88 F 9242.0  
MAINLINE  
816+00.00 TO 817+00.00

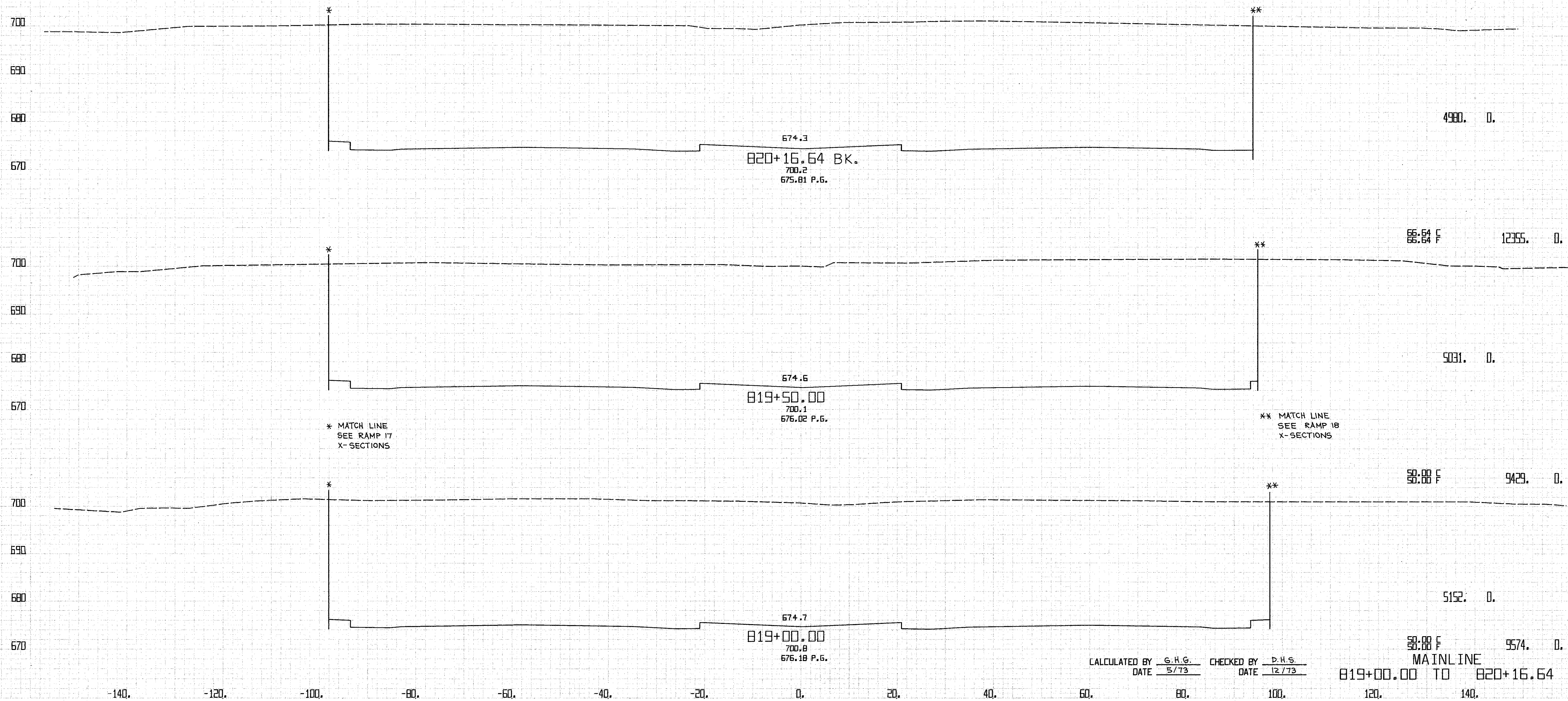


\* MATCH LINE  
SEE RAMP 17  
X- SECTIONS

\*\* MATCH LINE  
SEE RAMP 18  
X- SECTIONS

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

50.00 F 972.0  
MAINLINE  
817+50.00 TO 818+50.00



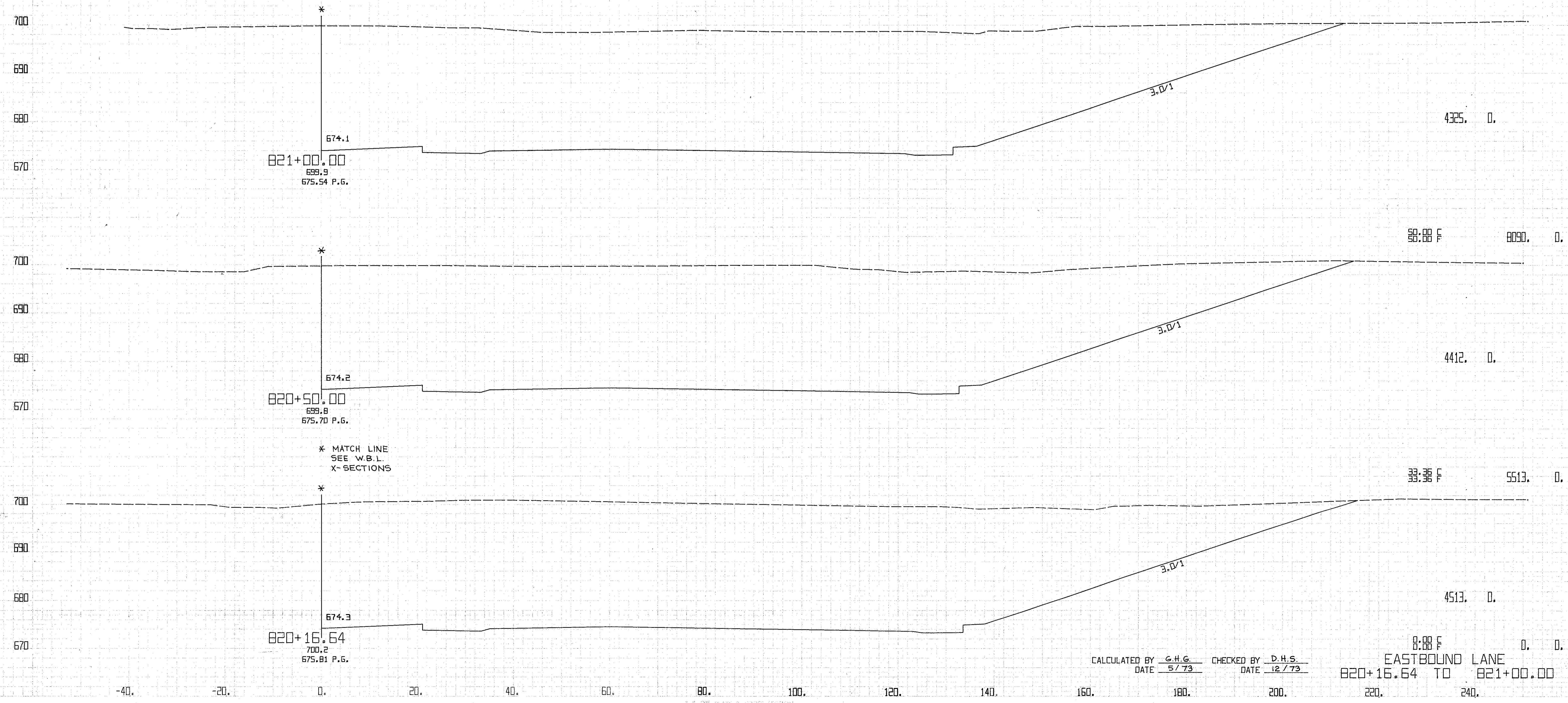
\* MATCH LINE  
SEE RAMP 17  
X-SECTIONS

\*\* MATCH LINE  
SEE RAMP 18  
X-SECTIONS

CALCULATED BY G.H.G. CHECKED BY P.H.S.  
DATE 5/73 DATE 12/73

88.88 F 9574.0  
MAINLINE  
819+00.00 TO 820+16.64

FED. RD. DIVISION	STATE	PROJECT	182 838	
2	OHIO			
CLYAHOGA COUNTY CLY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YOS. FILL



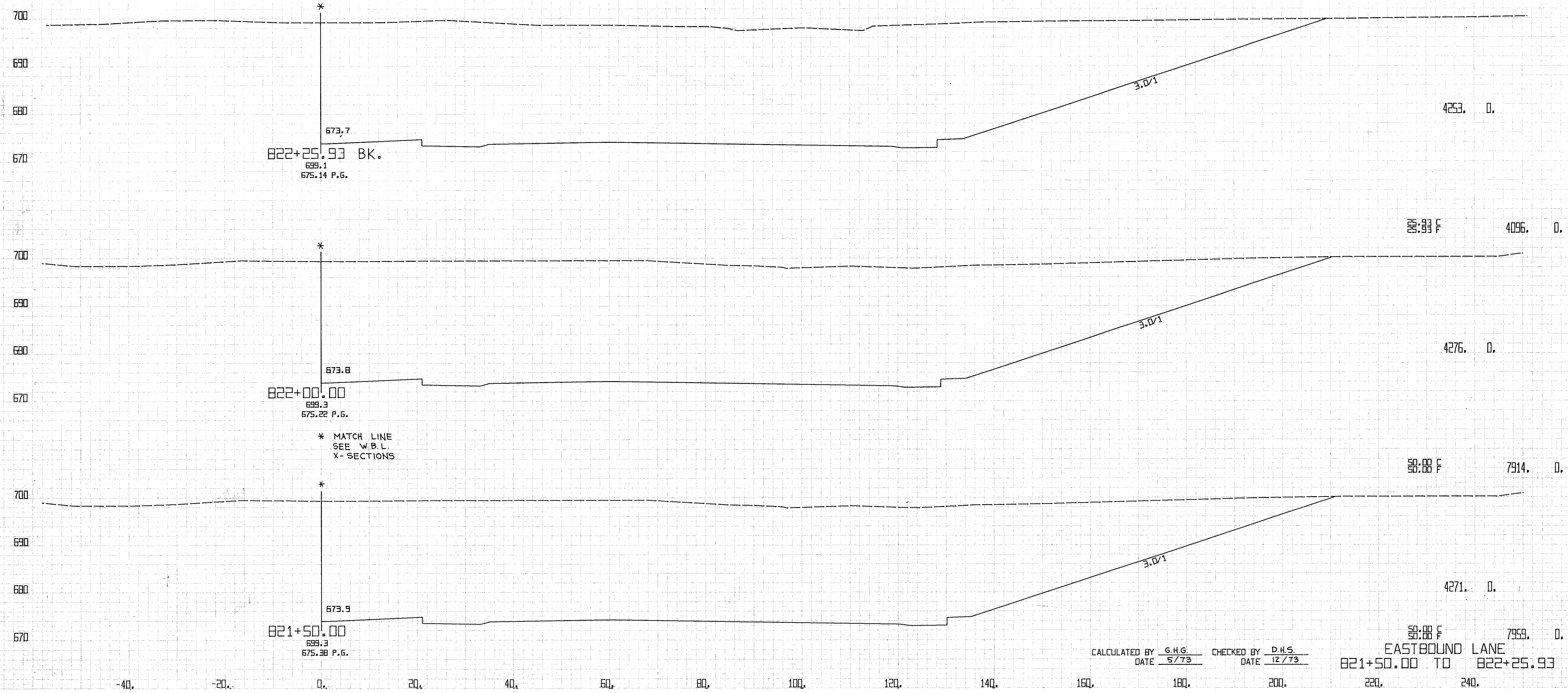
CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

8.88 F 0. 0.  
EASTBOUND LANE  
820+16.64 TO 821+00.00

P20

Q-6

FED. RD. DIVISION	STATE	PROJECT	183 838	
2	OHIO			
CLYAHOGA COUNTY CLY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



822+25.93 BK.  
699.1  
675.14 P.G.

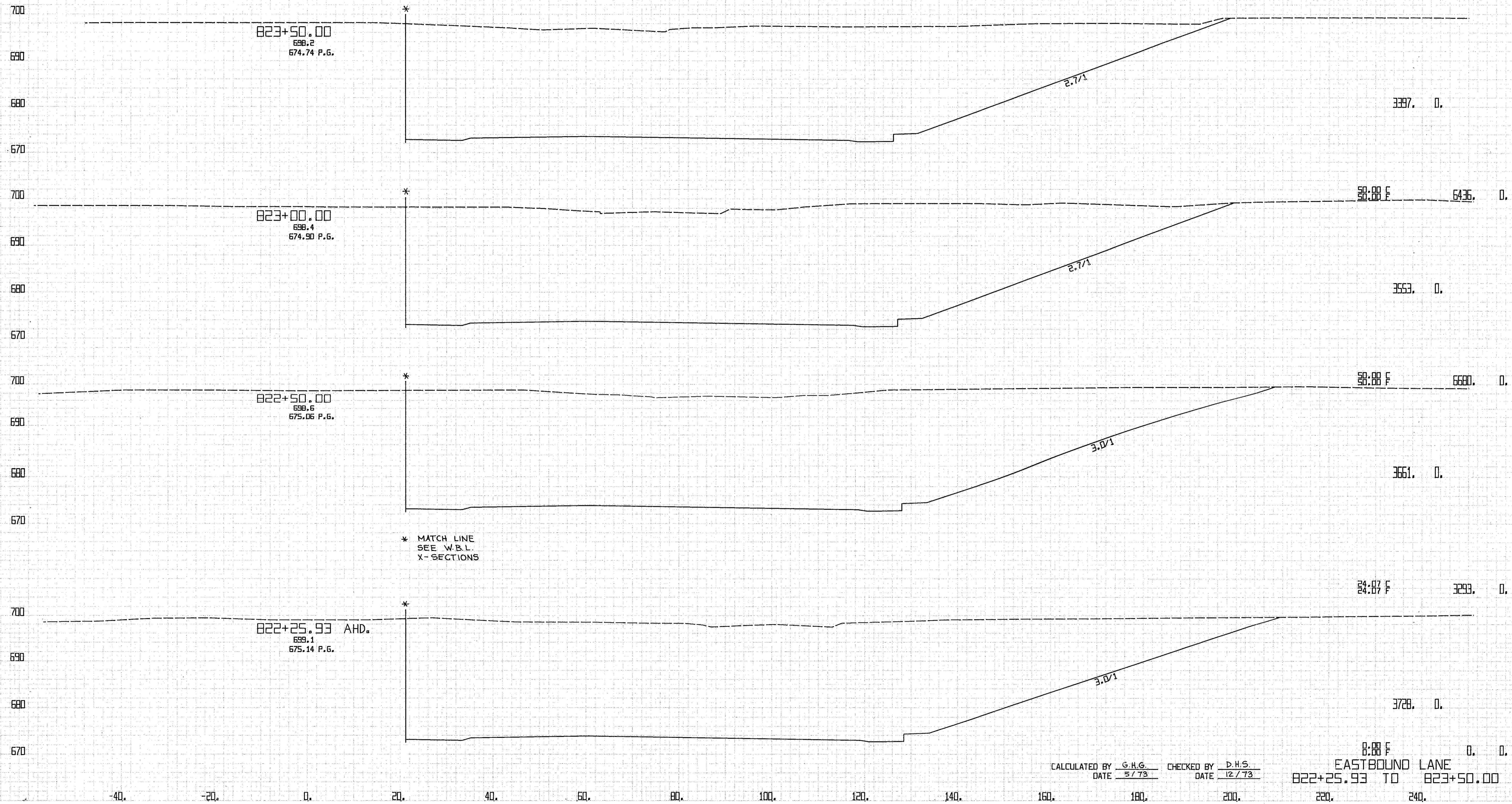
822+00.00  
699.3  
675.22 P.G.

821+50.00  
699.3  
675.38 P.G.

\* MATCH LINE  
SEE W.D.L.  
X-SECTIONS

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

821+50.00 TO 822+25.93  
EASTBOUND LANE



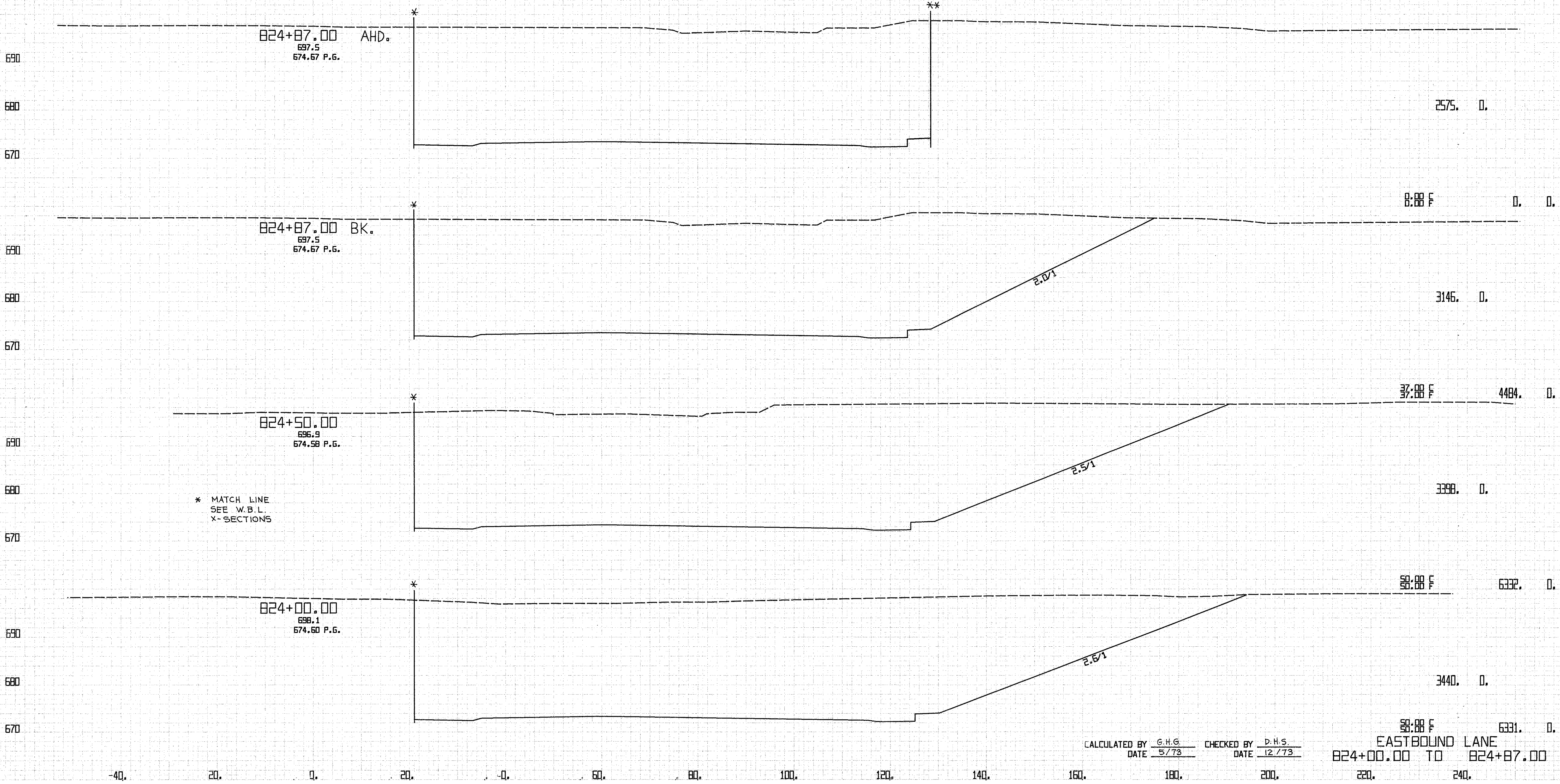
\* MATCH LINE  
SEE W.B.L.  
X-SECTIONS

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

8:00 F 0 0  
EASTBOUND LANE  
822+25.93 TO 823+50.00



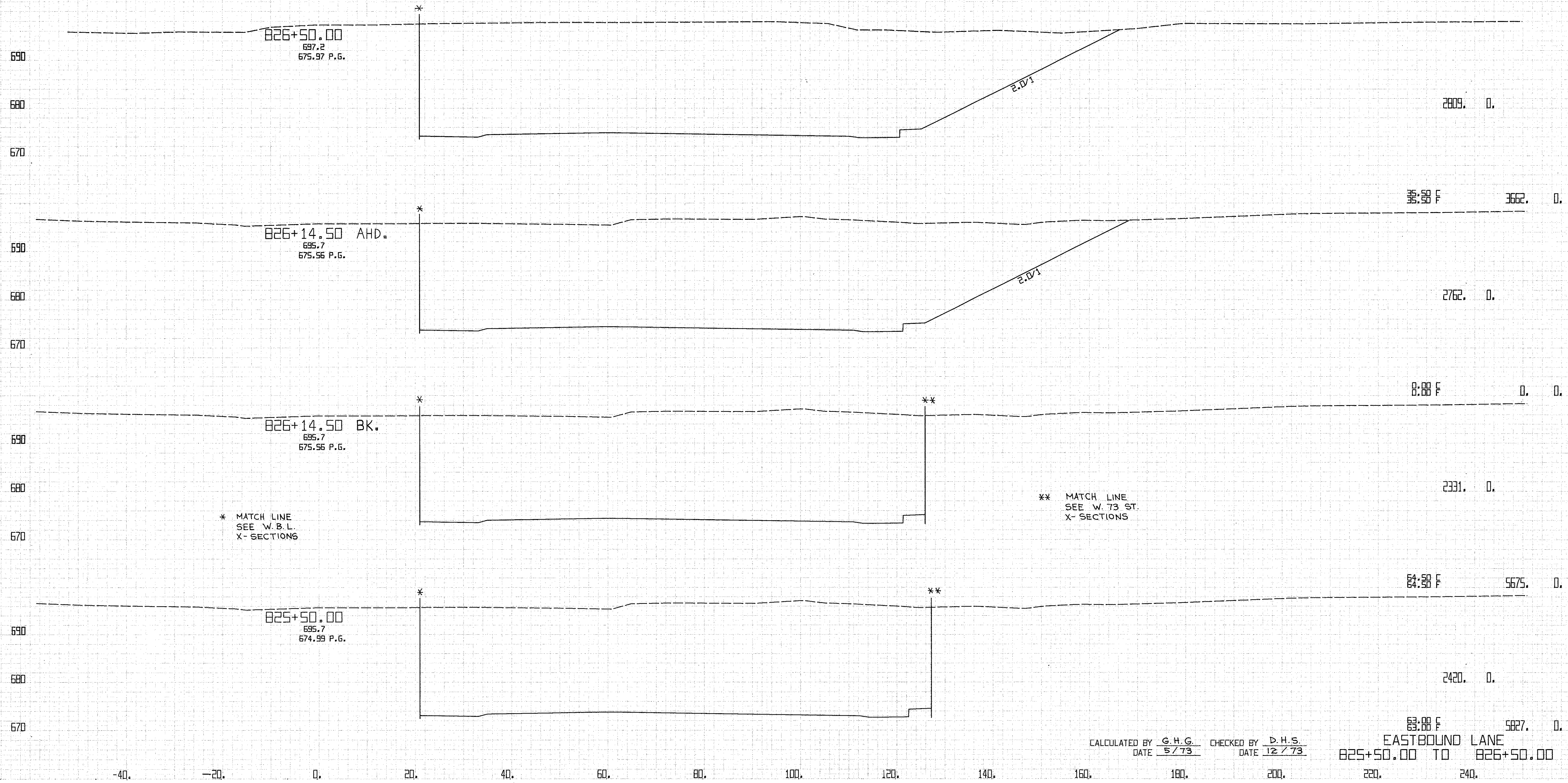
\*\* MATCH LINE  
SEE W. 73 ST.  
X- SECTIONS



\* MATCH LINE  
SEE W.B.L.  
X- SECTIONS

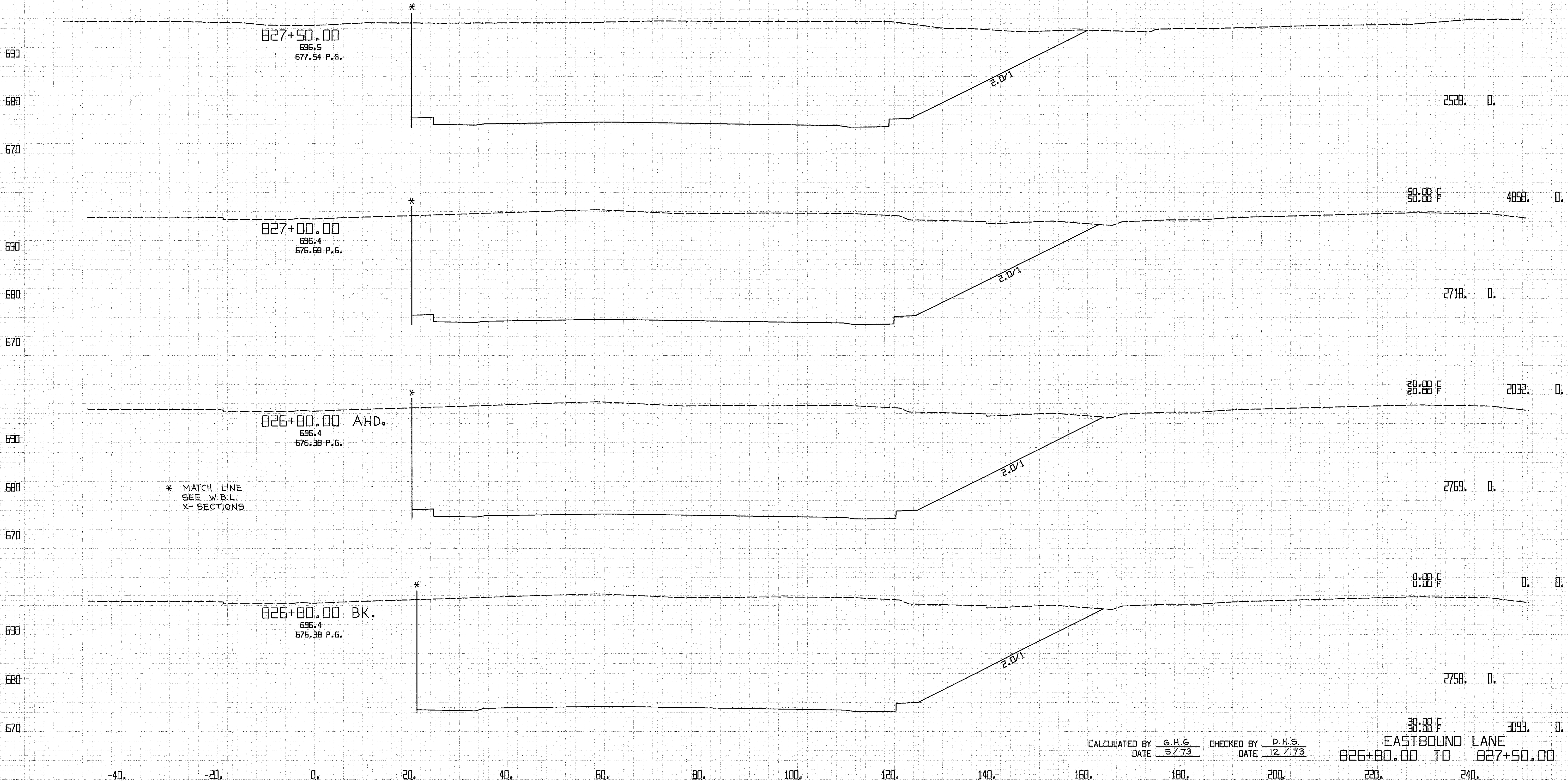
CALCULATED BY G.H.G.    CHECKED BY D.H.S.  
DATE 5/73    DATE 12/73

88.88 F    6331.0 D.  
EASTBOUND LANE  
824+00.00 TO 824+87.00

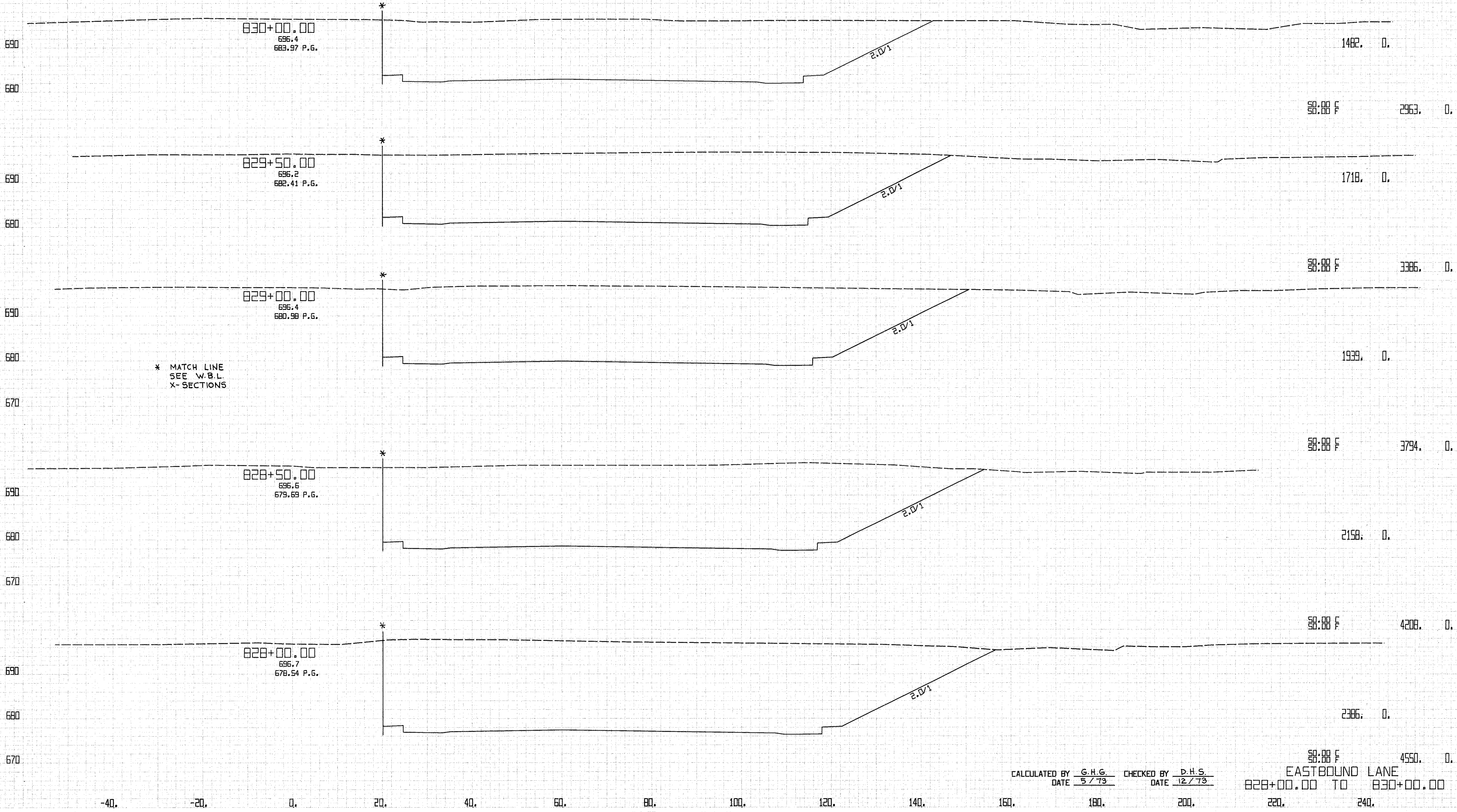


CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

EASTBOUND LANE  
825+50.00 TO 826+50.00



CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73



CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

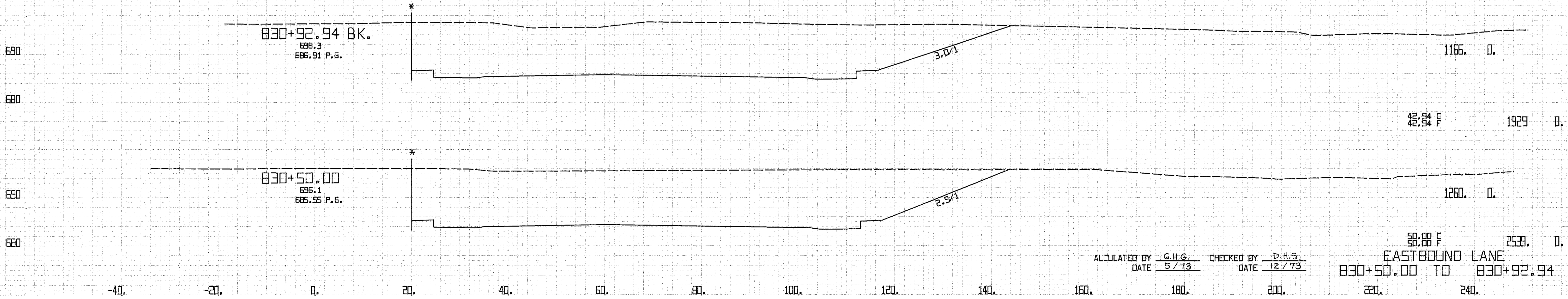
EASTBOUND LANE  
828+00.00 TO 830+00.00

FED. RD. DIVISION	STATE	PROJECT	189 838	
2	OHIO			
CLYAHOGA COUNTY CLY-90-11.64				
CENTROID ARC LENGTH	END CUT.	AREA FILL	CU. CUT	YDS. FILL

FINISH SURFACE  
 EXISTING SURFACE  
 PROPOSED SURFACE  
 GRADE  
 ELEVATION  
 1" = 10'

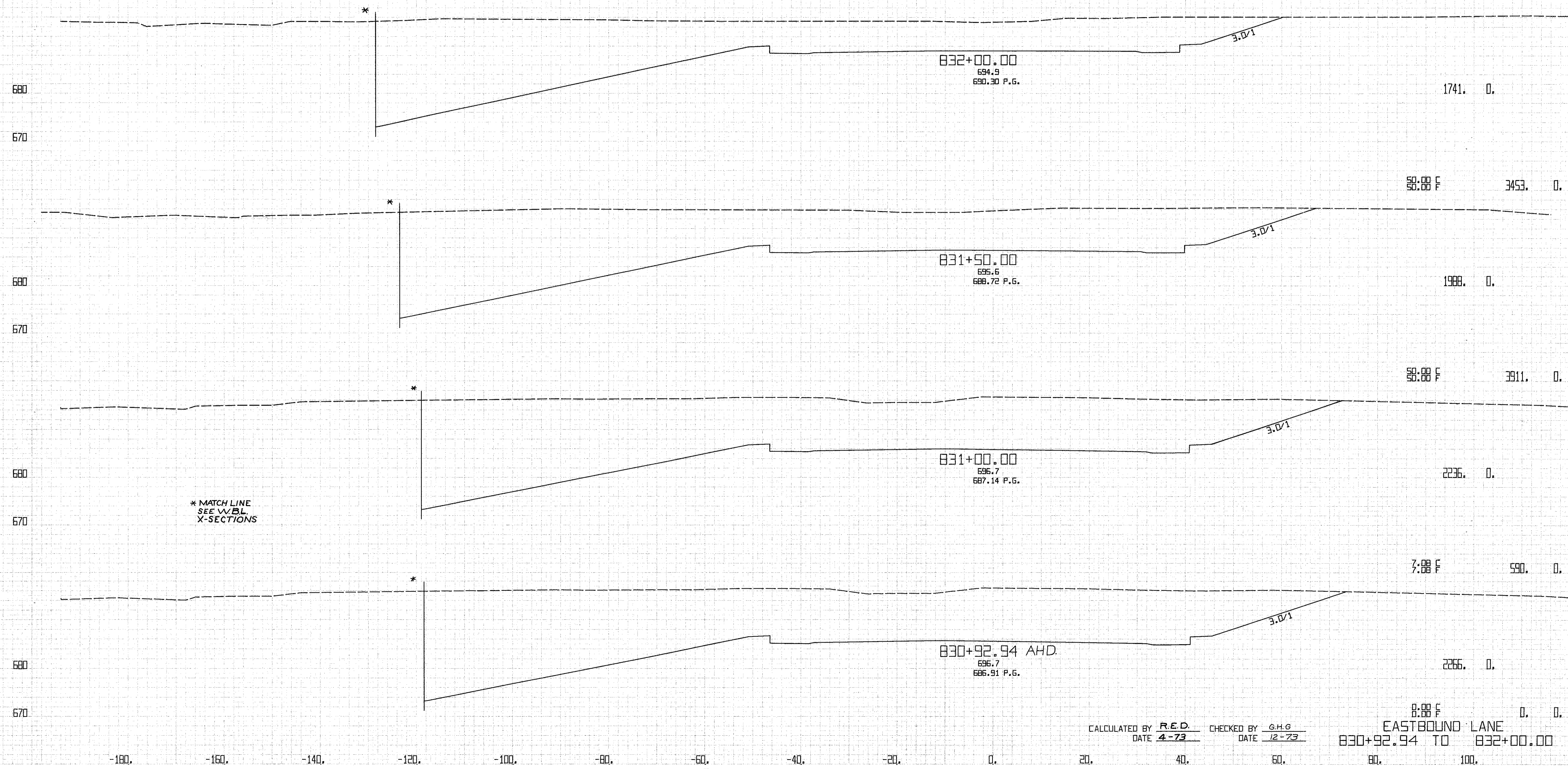
DRAWING NO. 189-838-1  
 SHEET NO. 1 OF 1  
 DATE 5/73

\* MATCH LINE  
SEE W.B.L.  
X-SECTIONS



CALCULATED BY G.H.G. CHECKED BY D.H.S.  
 DATE 5/73 DATE 12/73

EASTBOUND LANE  
 830+50.00 TO 830+92.94

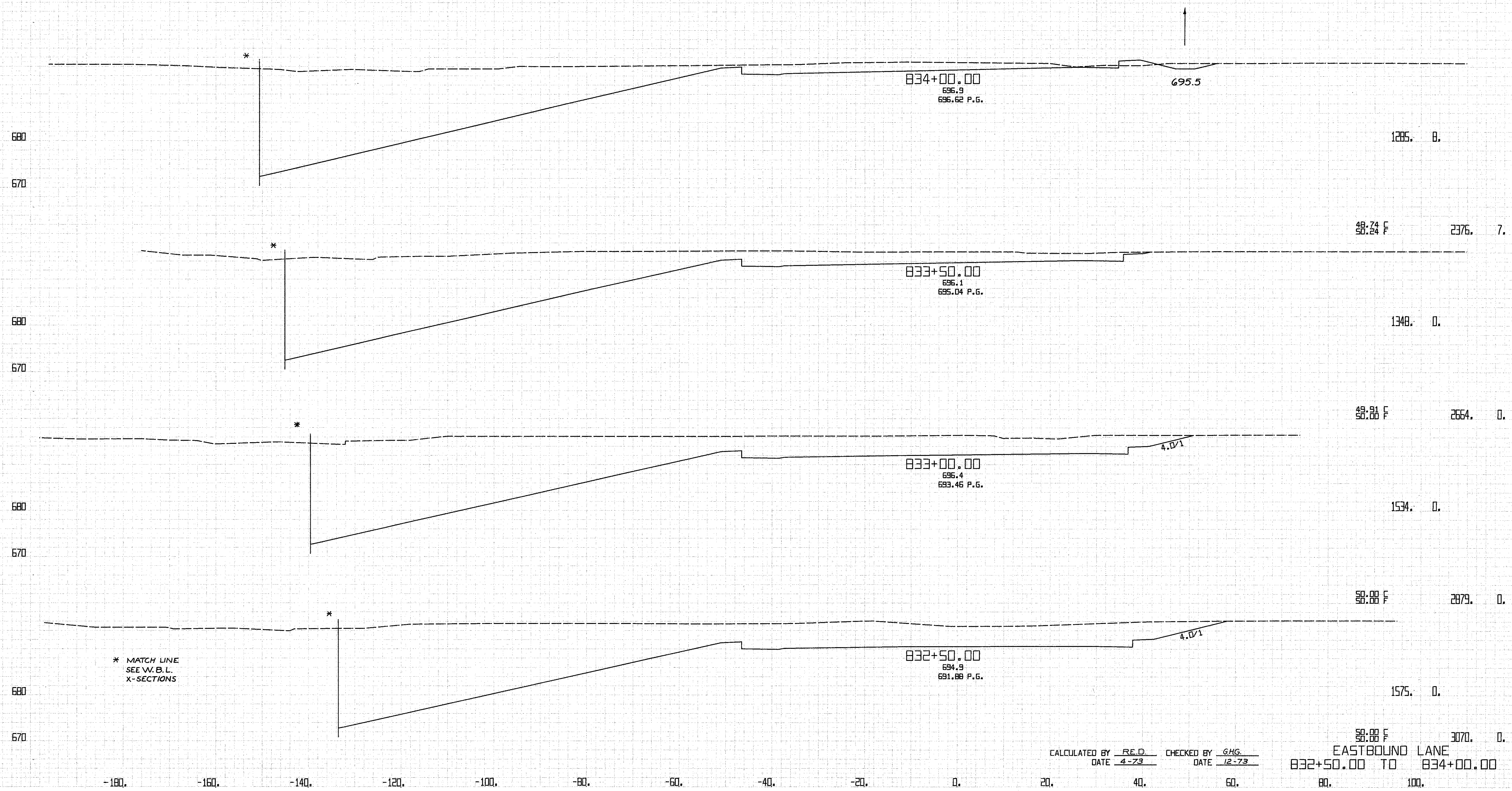


CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 4-73 DATE 12-73

8.08 F 0.0  
 EASTBOUND LANE  
 830+92.94 TO 832+00.00

FEDERAL ROAD DISTRICT NO. 2  
 COLUMBUS, OHIO  
 DISTRICT ENGINEER  
 DISTRICT OFFICE  
 1000 MARKET STREET  
 COLUMBUS, OHIO 43260

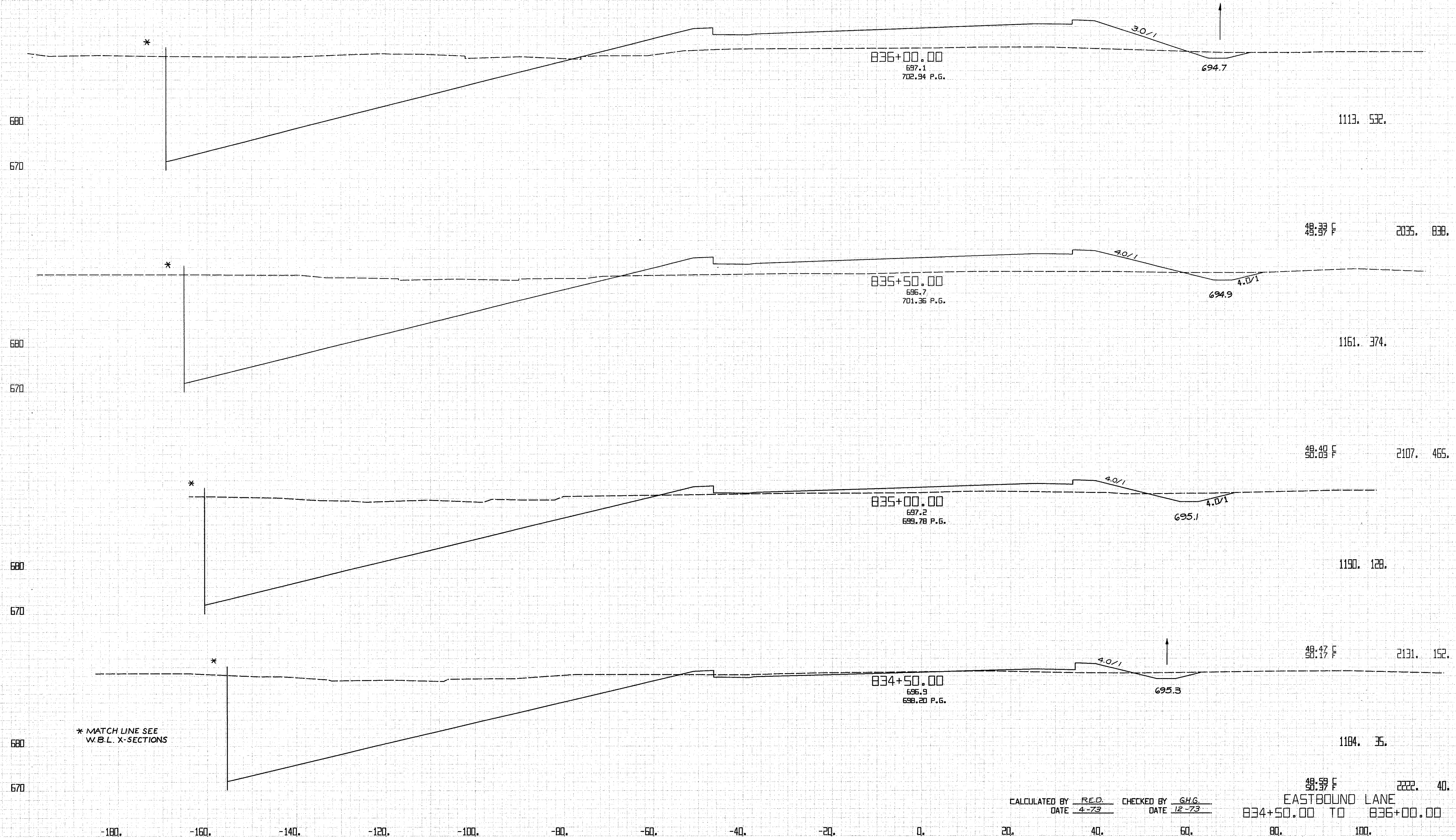
PROJECT NO. 191-838  
 SHEET NO. 10  
 DATE 12-73  
 DRAWN BY  
 CHECKED BY



CALCULATED BY RE.D CHECKED BY G.H.G.  
 DATE 4-73 DATE 12-73

EASTBOUND LANE  
 832+50.00 TO 834+00.00

FED. RD. DIVISION	STATE	PROJECT	192 838	
2	OHIO	CUYAHOGA COUNTY CUY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



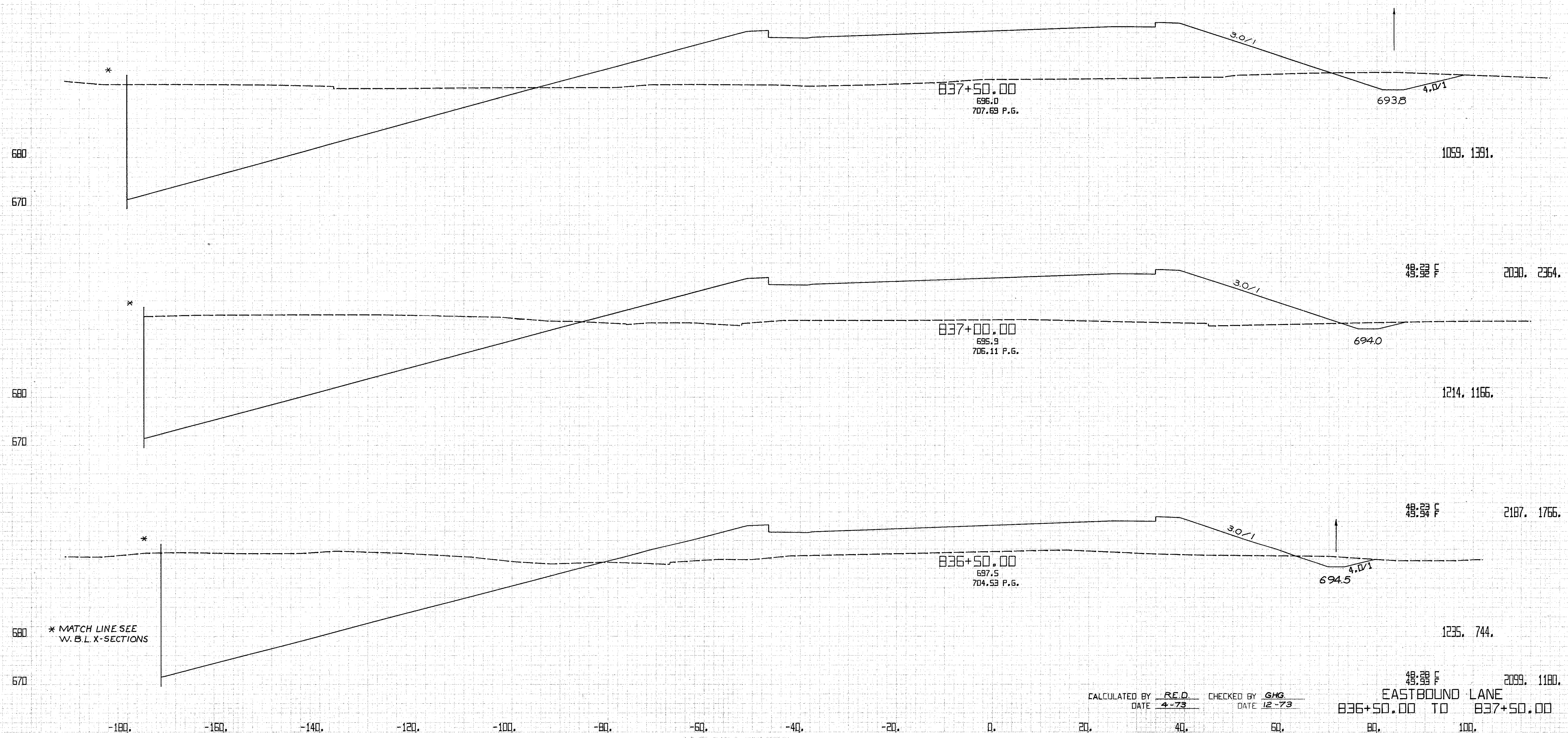
\* MATCH LINE SEE W.B.L. X-SECTIONS

CALCULATED BY RED CHECKED BY G.H.G.  
 DATE 4-73 DATE 12-73

48.59 F 2222.40  
 EASTBOUND LANE  
 834+50.00 TO 836+00.00



FED. RD. DIVISION	STATE	PROJECT	193 838	
2	OHIO	CLYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL

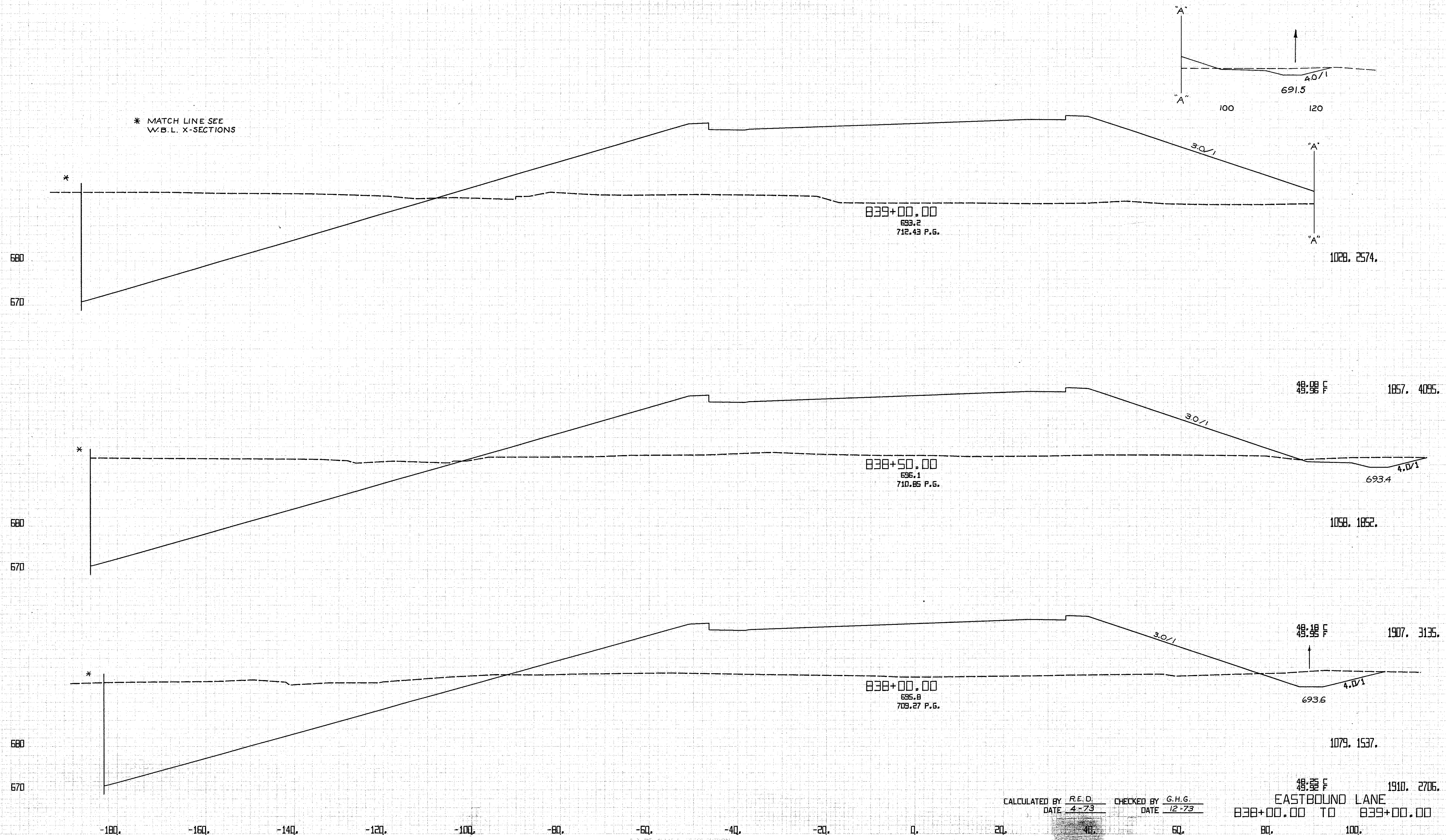


CALCULATED BY RE.D. CHECKED BY G.H.G.  
 DATE 4-73 DATE 12-73

48.23 F 2099. 1180.  
 EASTBOUND LANE  
 836+50.00 TO 837+50.00

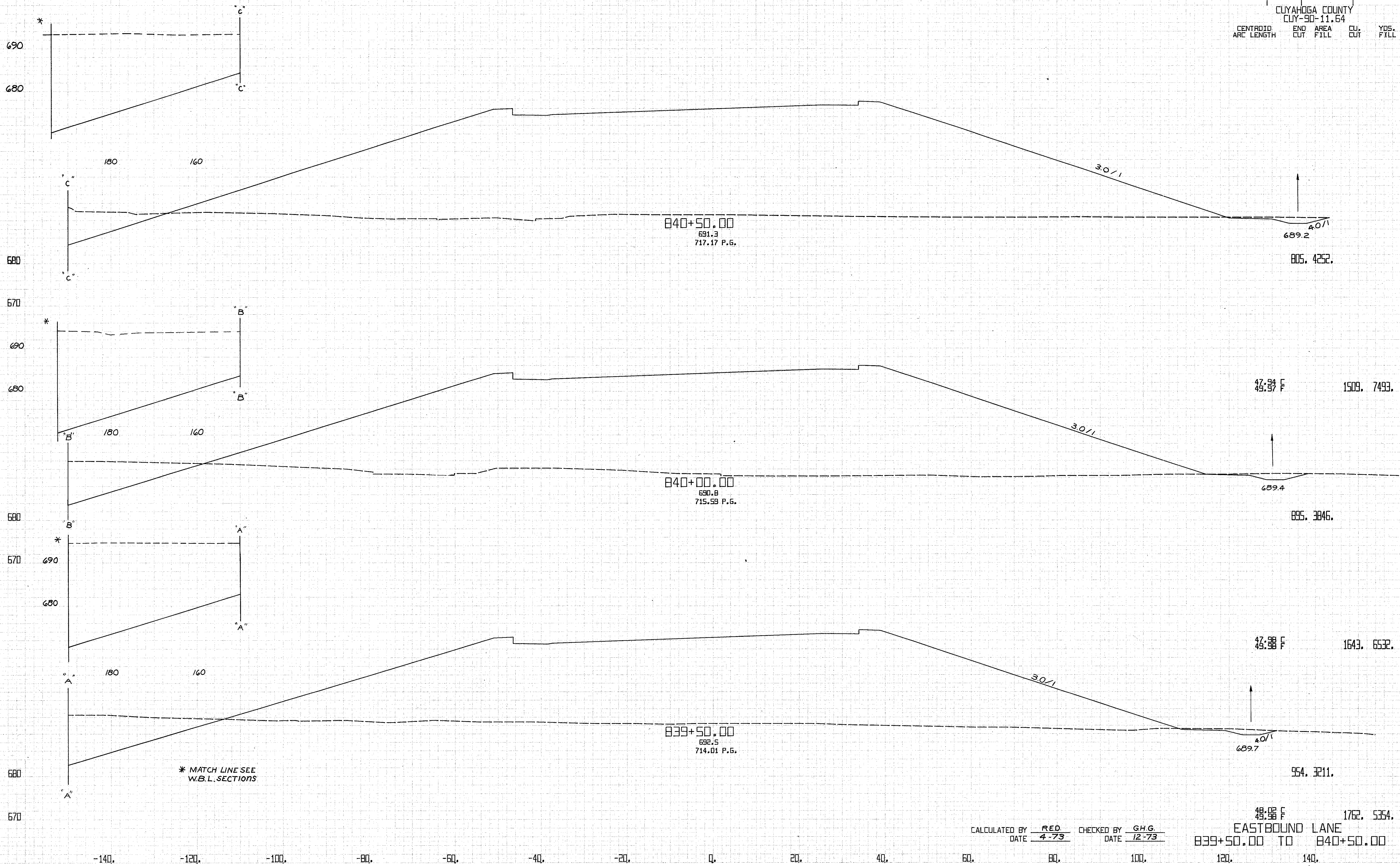
FED. RD. DIVISION	STATE	PROJECT	194 838	
2	OHIO			
CUYAHOGA COUNTY CUY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL

\* MATCH LINE SEE W.B.L. X-SECTIONS



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 4-73 DATE 12-73

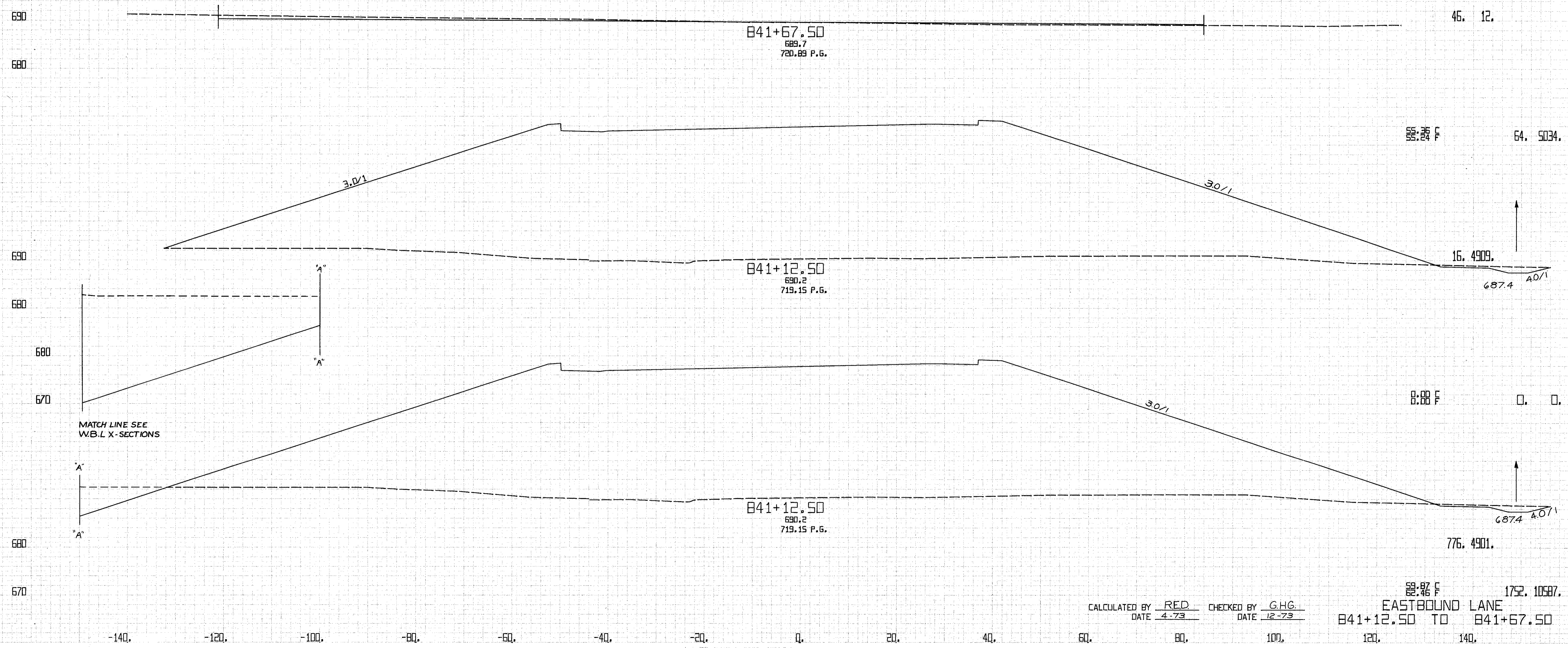
48.55 F 1910. 2706.  
EASTBOUND LANE  
838+00.00 TO 839+00.00



\* MATCH LINE SEE W.B.L. SECTIONS

CALCULATED BY RED CHECKED BY G.H.G.  
 DATE 4-73 DATE 12-73

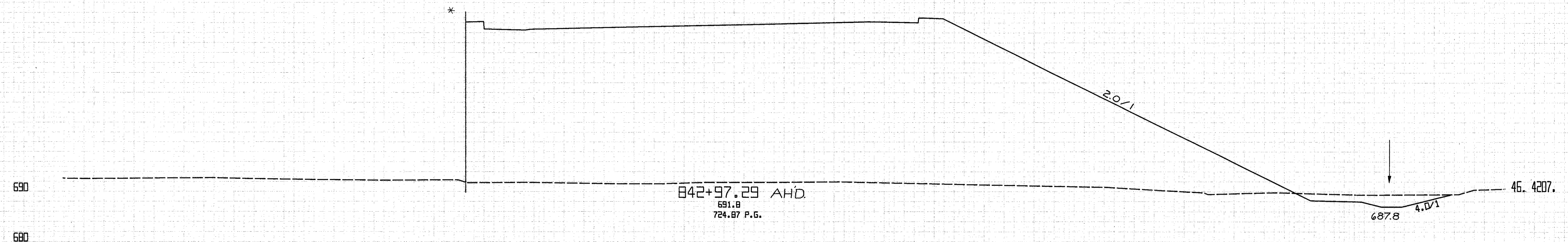
48.02 F 1762. 5354.  
 EASTBOUND LANE  
 839+50.00 TO 840+50.00



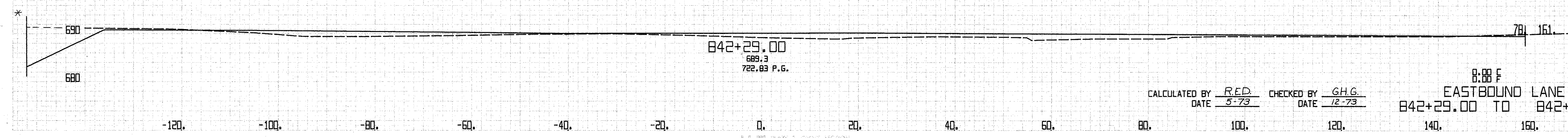
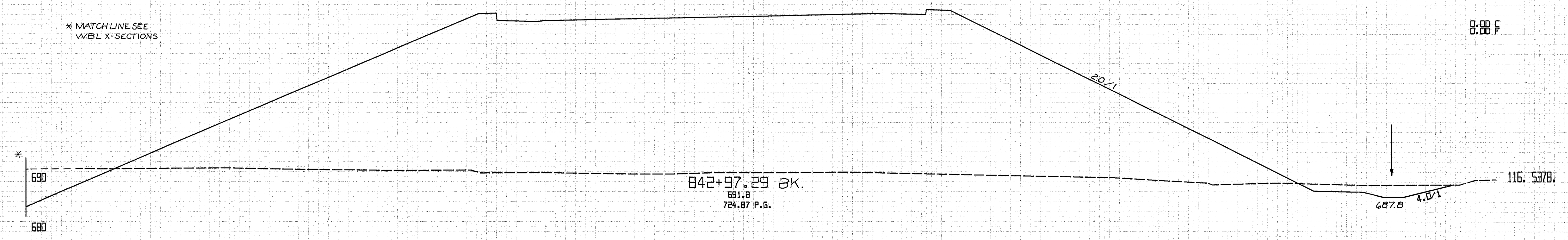
MATCH LINE SEE  
WB.L X-SECTIONS

CALCULATED BY RED CHECKED BY G.H.G.  
DATE 4-73 DATE 12-73

82.87 F 1752.10587  
EASTBOUND LANE  
841+12.50 TO 841+67.50



\* MATCH LINE SEE  
WBL X-SECTIONS



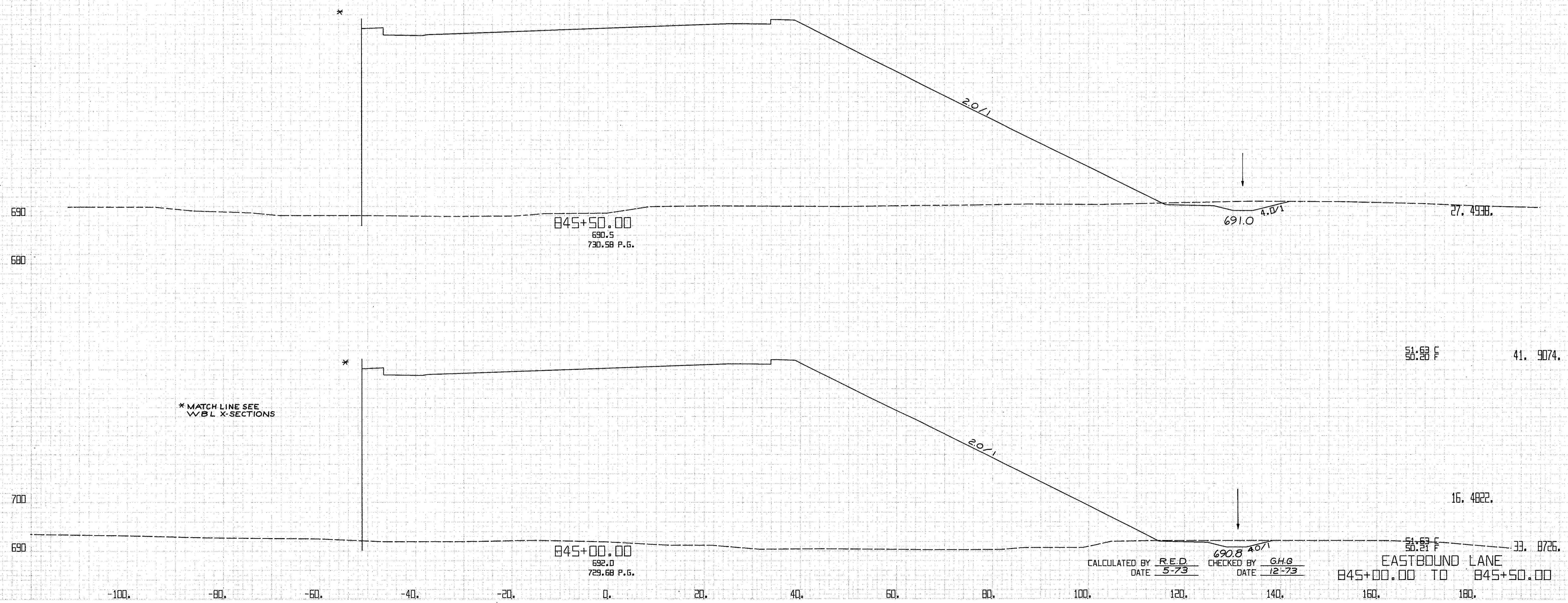
CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

EASTBOUND LANE  
842+29.00 TO 842+97.29

FED. RD. DIVISION	STATE	PROJECT	199 838	
2	OHIO			
CUYAHOGA COUNTY CUY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL

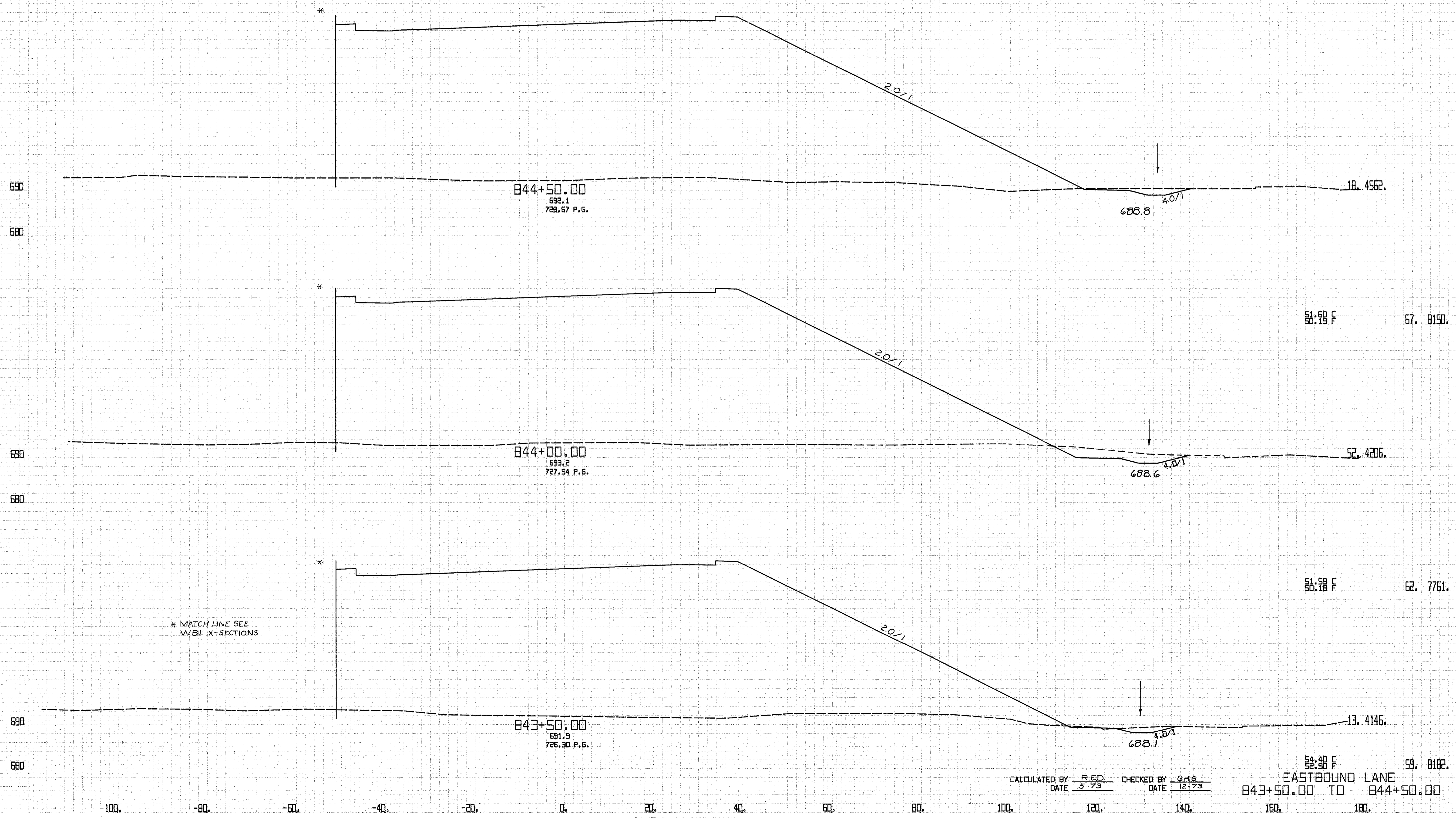
CIVIL ENGINEER  
 SURVEY PROJECT  
 LICENSE NO. 10110  
 DATE: 12-73

CIVIL ENGINEER  
 SURVEY PROJECT  
 LICENSE NO. 10110  
 DATE: 12-73



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

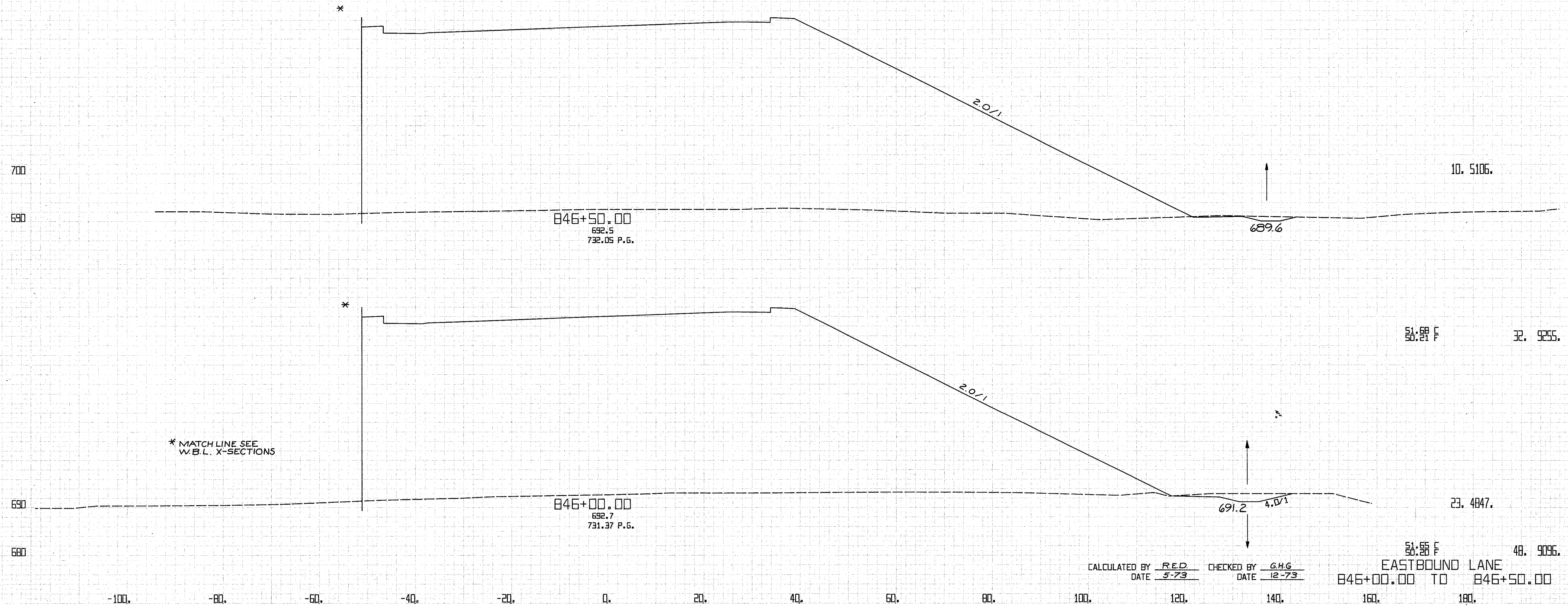
EASTBOUND LANE  
 845+00.00 TO 845+50.00



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

EASTBOUND LANE  
 843+50.00 TO 844+50.00

FED. RD. DIVISION	STATE	PROJECT	200 838	
2	OHIO	CUYAHOGA COUNTY CUY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL

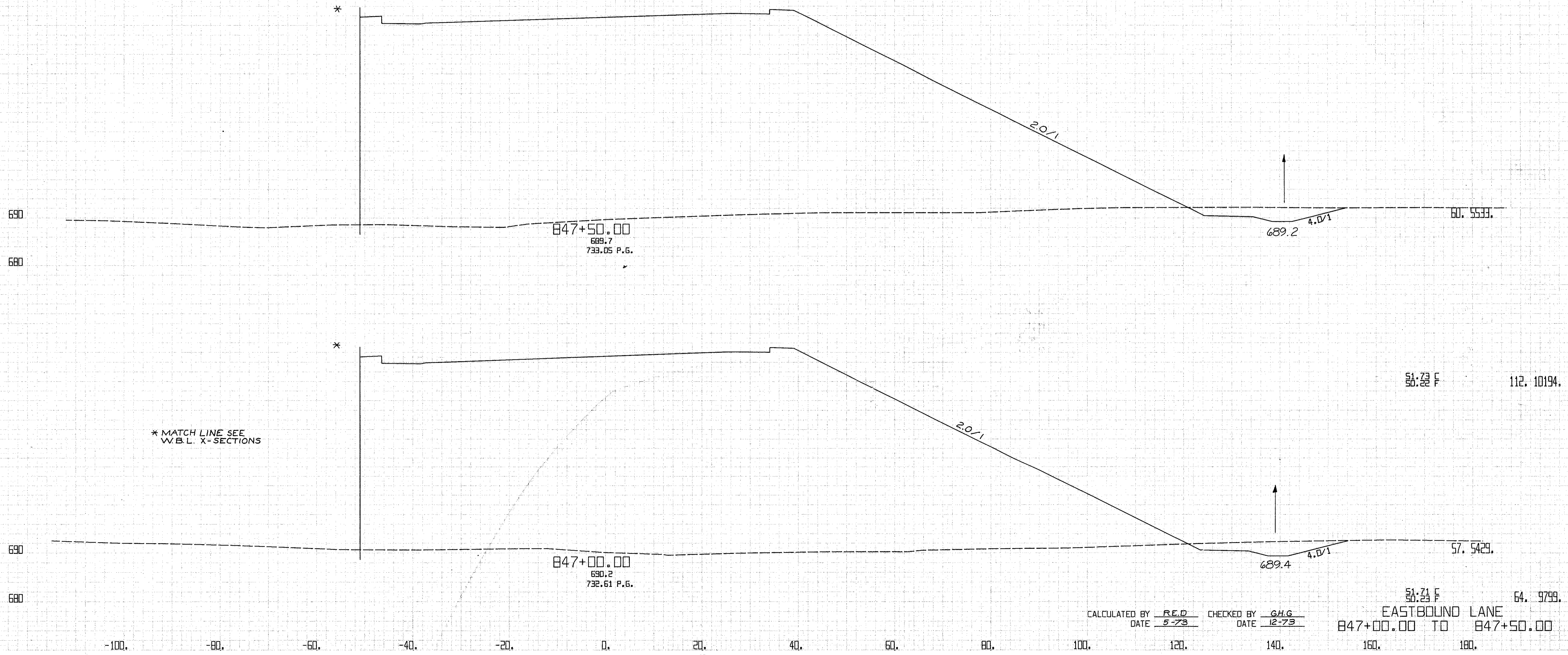


CALCULATED BY RED CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

EASTBOUND LANE  
846+00.00 TO 846+50.00

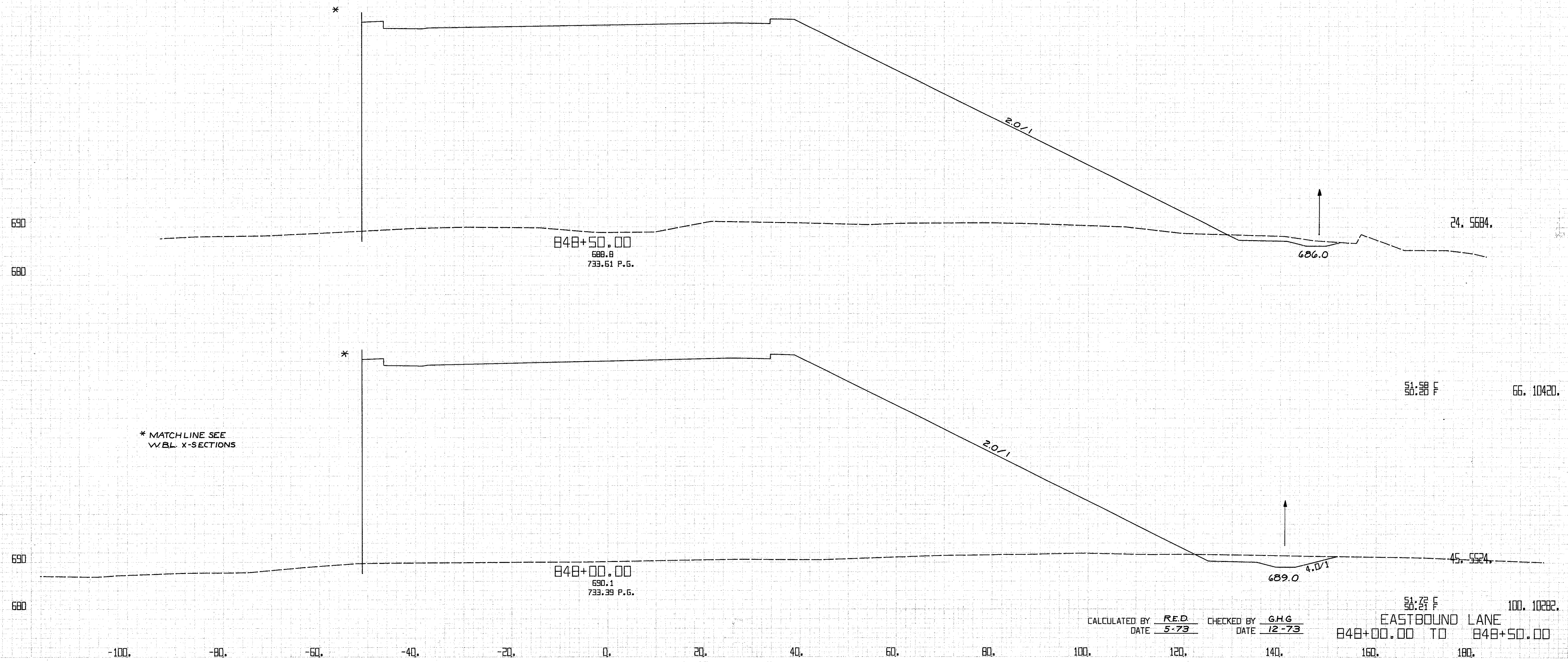


FED. RD. DIVISION	STATE	PROJECT	201 838	
2	OHIO			
CUYAHOGA COUNTY CUY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YOS. FILL



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

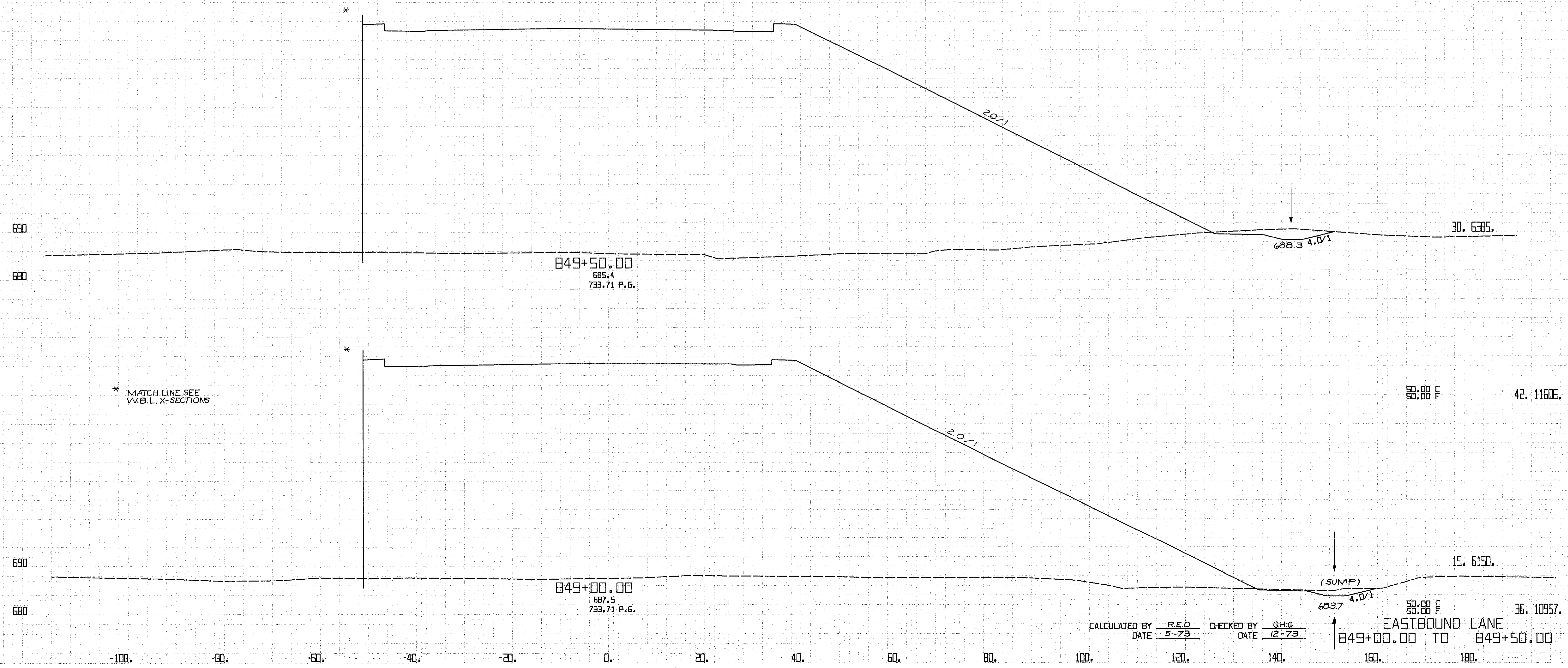
51.71 F 54.9799  
 EASTBOUND LANE  
 847+00.00 TO 847+50.00



\* MATCHLINE SEE  
W.B.L. X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

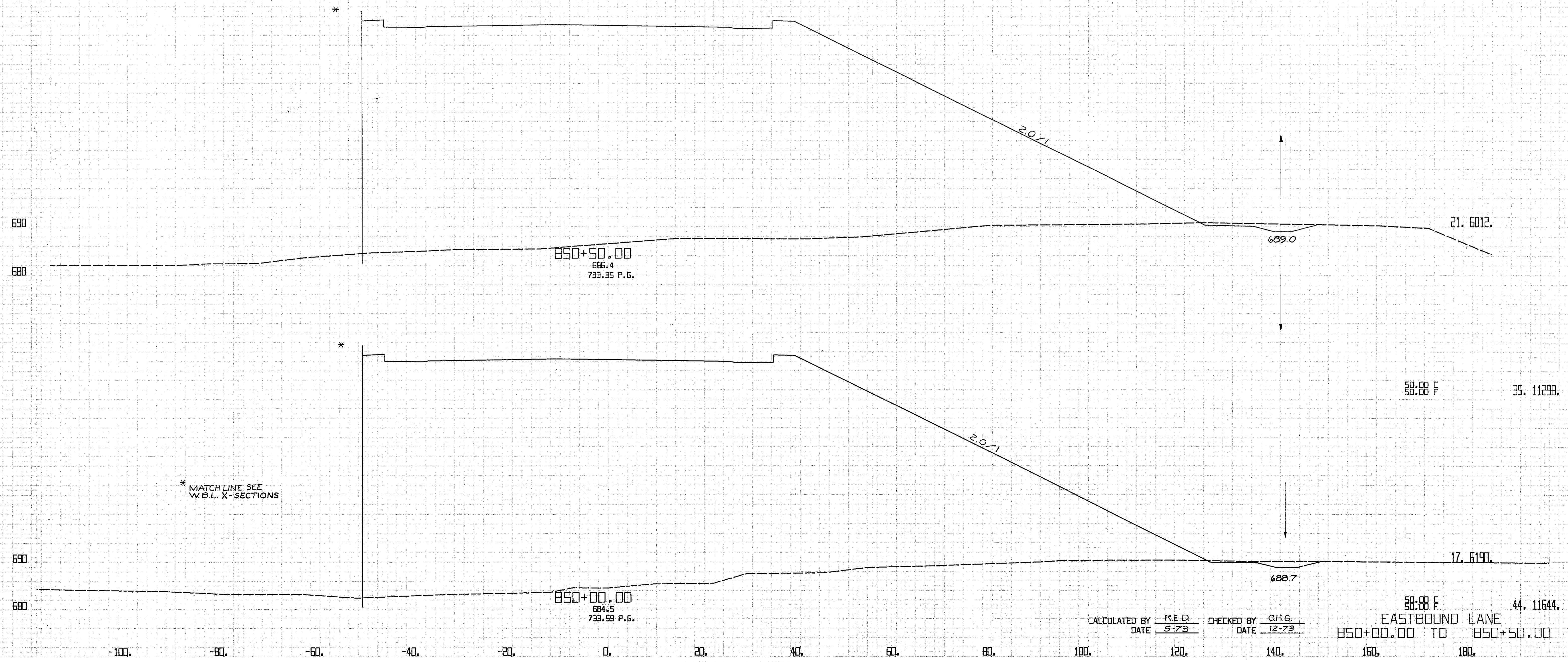
51.27 F 100. 10282.  
EASTBOUND LANE  
848+00.00 TO 848+50.00



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

EASTBOUND LANE  
 849+00.00 TO 849+50.00

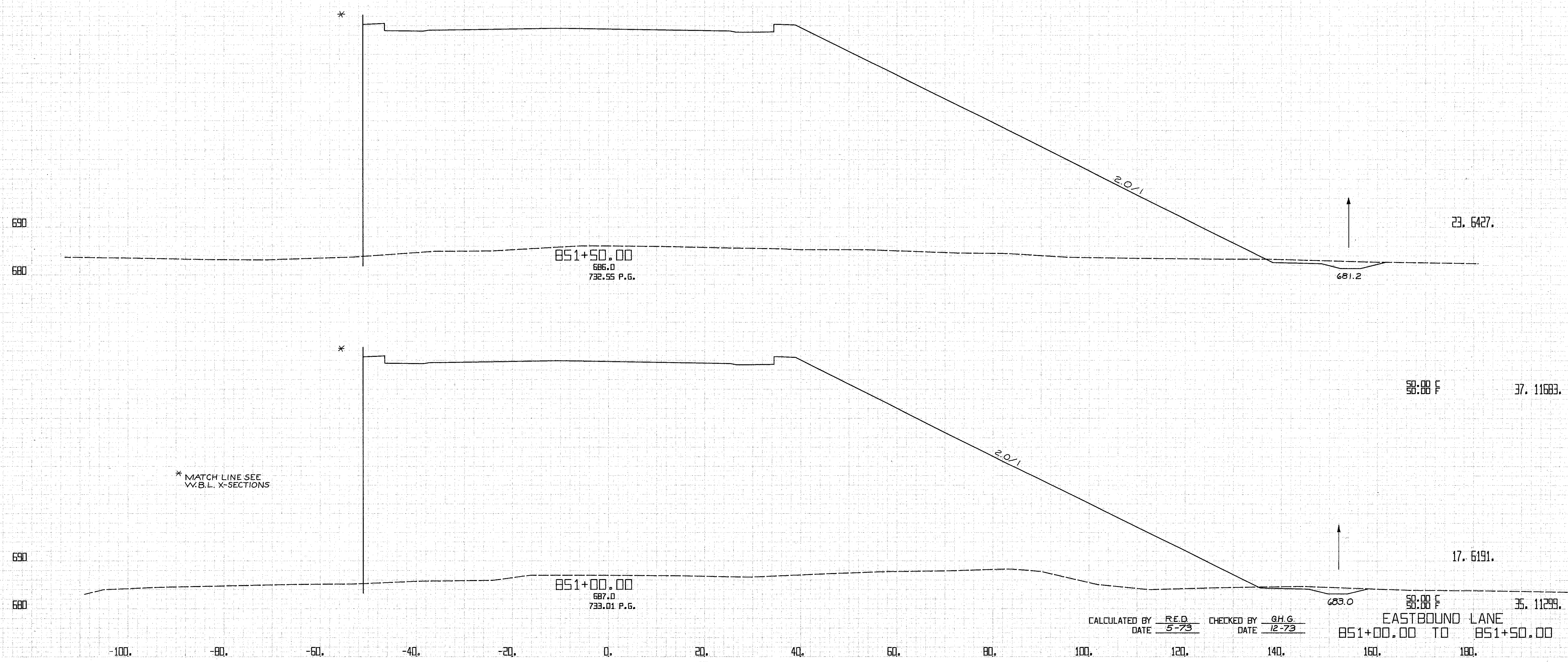
FED. RD. DIVISION	STATE	PROJECT	204 838	
2	OHIO			
CUYAHOGA COUNTY CUY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

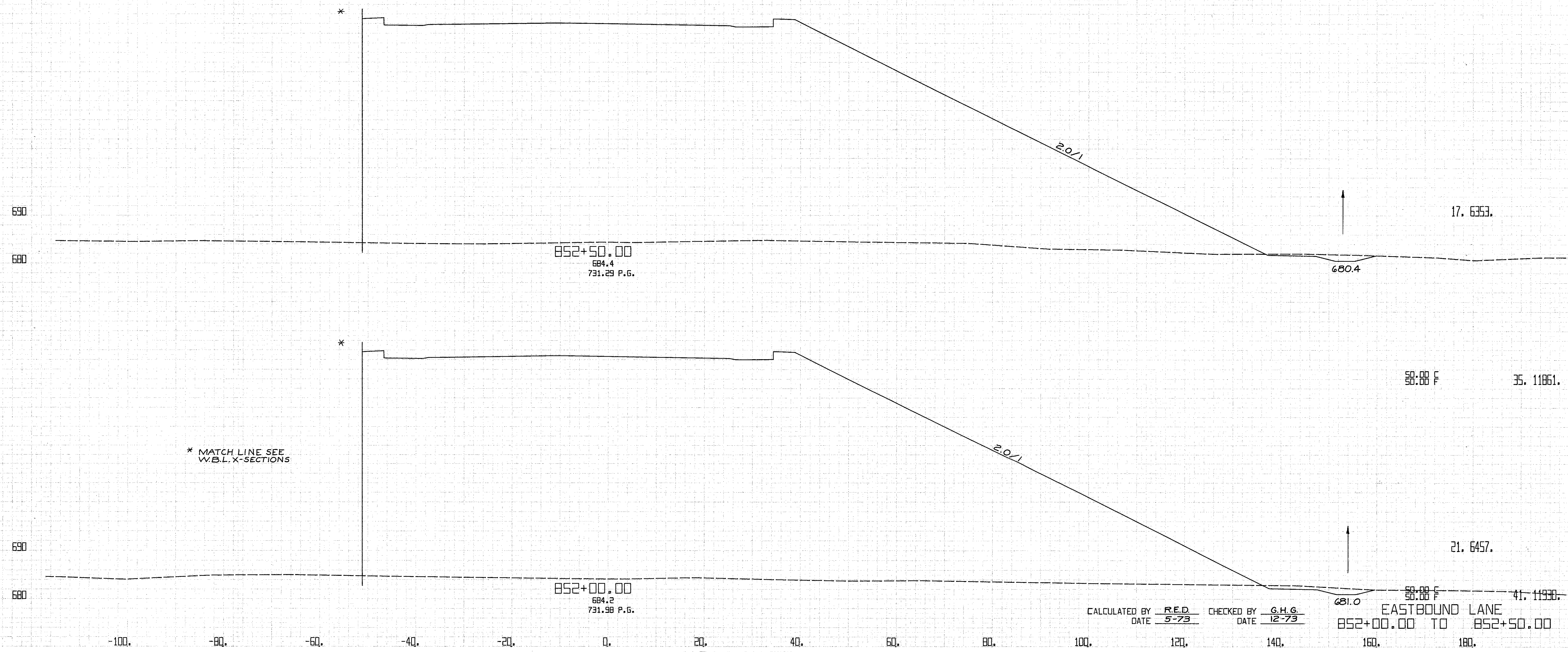
EASTBOUND LANE  
850+00.00 TO 850+50.00

FED. RD. DIVISION	STATE	PROJECT	205 838	
2	OHIO	CUYAHOGA COUNTY CUY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



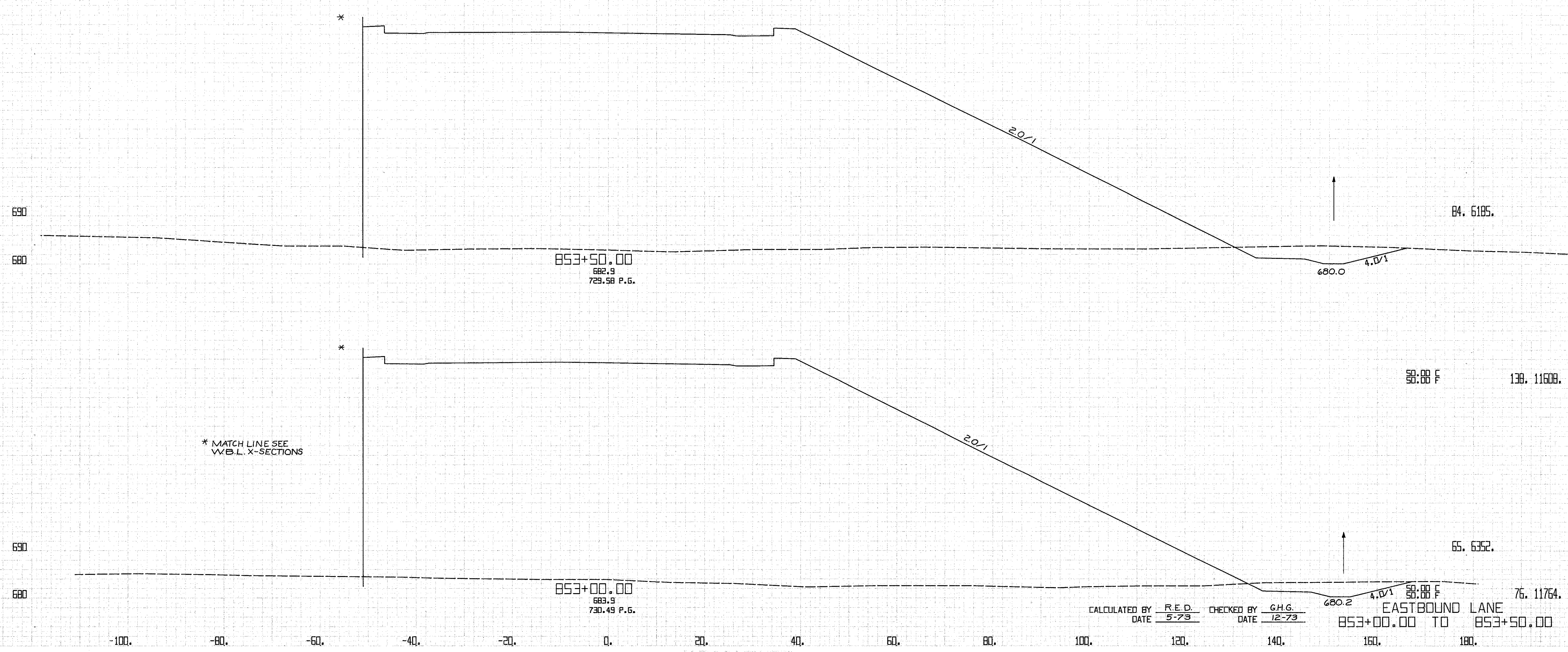
CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

17. 5191.  
 35. 11299.  
 EASTBOUND LANE  
 851+00.00 TO 851+50.00



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

FED. RD. DIVISION	STATE	PROJECT	207 838	
2	OHIO	CUYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL

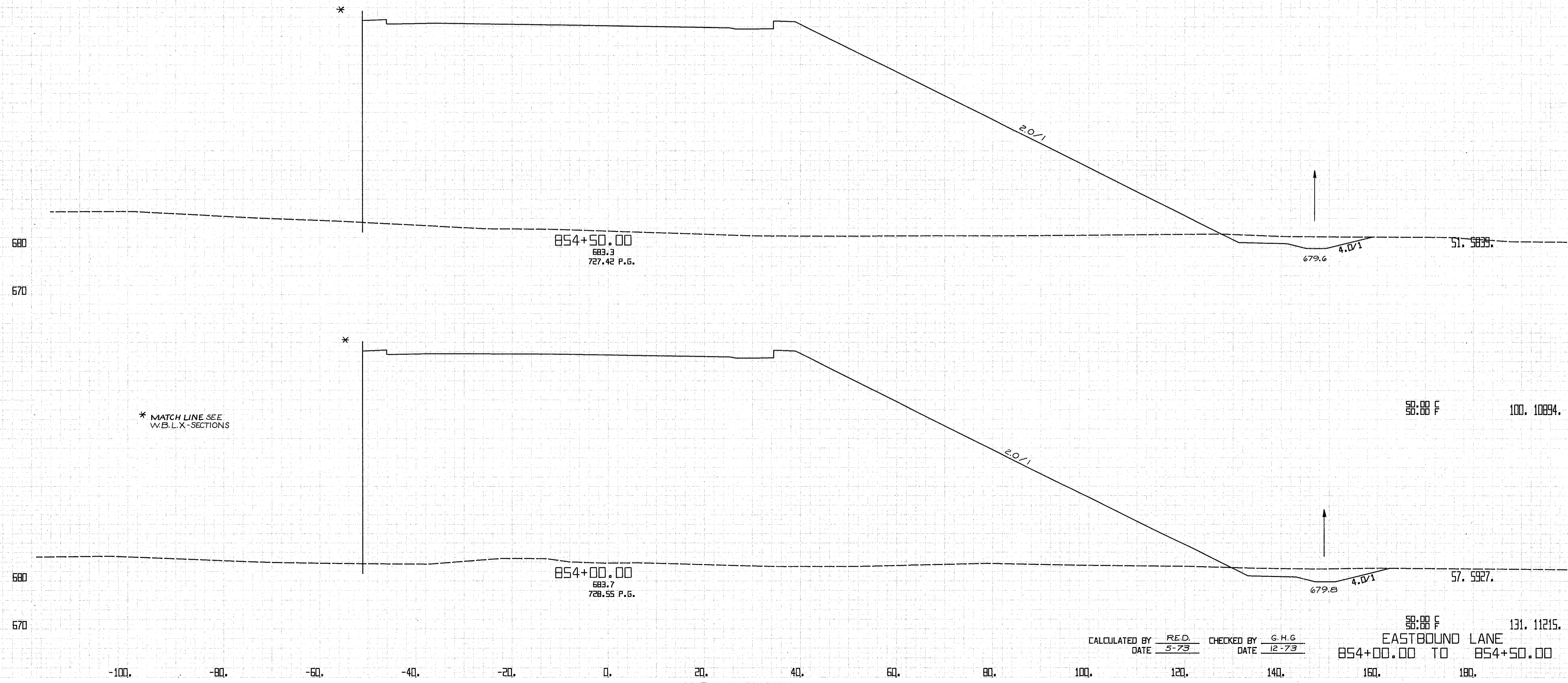


\* MATCH LINE SEE  
V.V.B.L. X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

680.2 4.0% 58.88 F 76.11764.  
EASTBOUND LANE  
853+00.00 TO 853+50.00

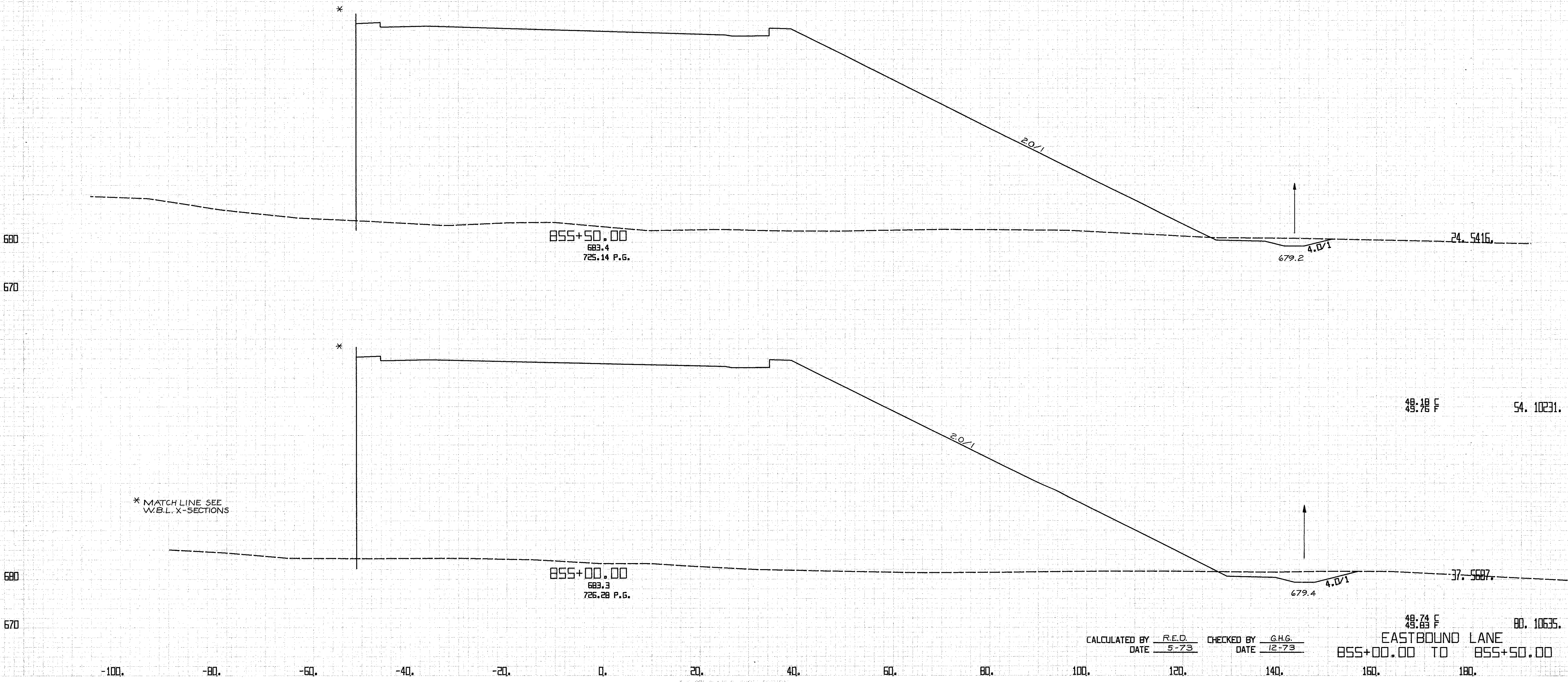
FED. RD. DIVISION	STATE	PROJECT	208 838	
2	OHIO	CUYAHOGA COUNTY CUY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



CALCULATED BY RED. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73



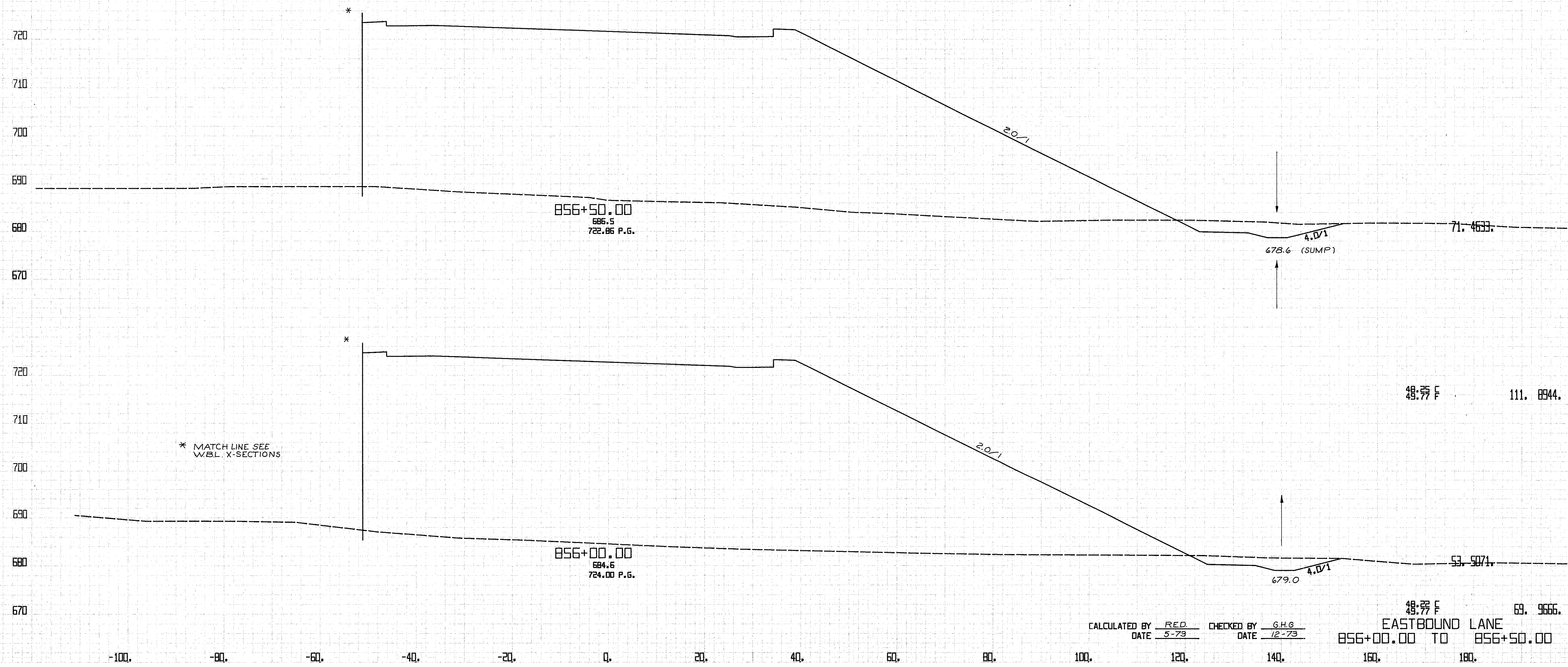
FED. RD. DIVISION	STATE	PROJECT	209 838	
2	OHIO	CUYAHOGA COUNTY CUY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

EASTBOUND LANE  
855+00.00 TO 855+50.00

FED. RD. DIVISION	STATE	PROJECT	210 838	
2	OHIO	CUYAHOGA COUNTY CUY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL

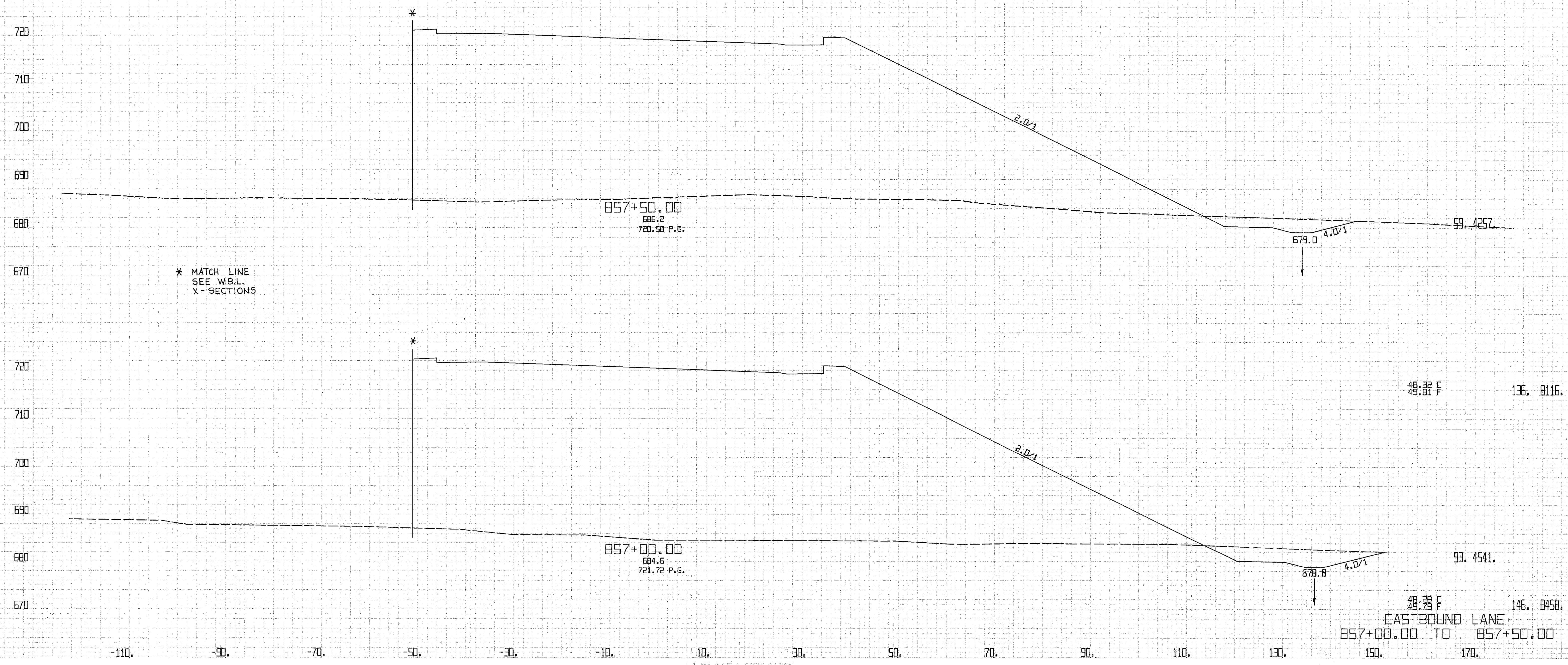


CALCULATED BY RED CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

48.77 F 69. 9666.  
EASTBOUND LANE  
856+00.00 TO 856+50.00

CALCULATED BY R.E.D. CHECKED BY D.H.S.  
 DATE 5/73 DATE 4/74  
 REVISED BY C.C.W. CHECKED BY B.E.K.  
 DATE 1/75 DATE 2/75

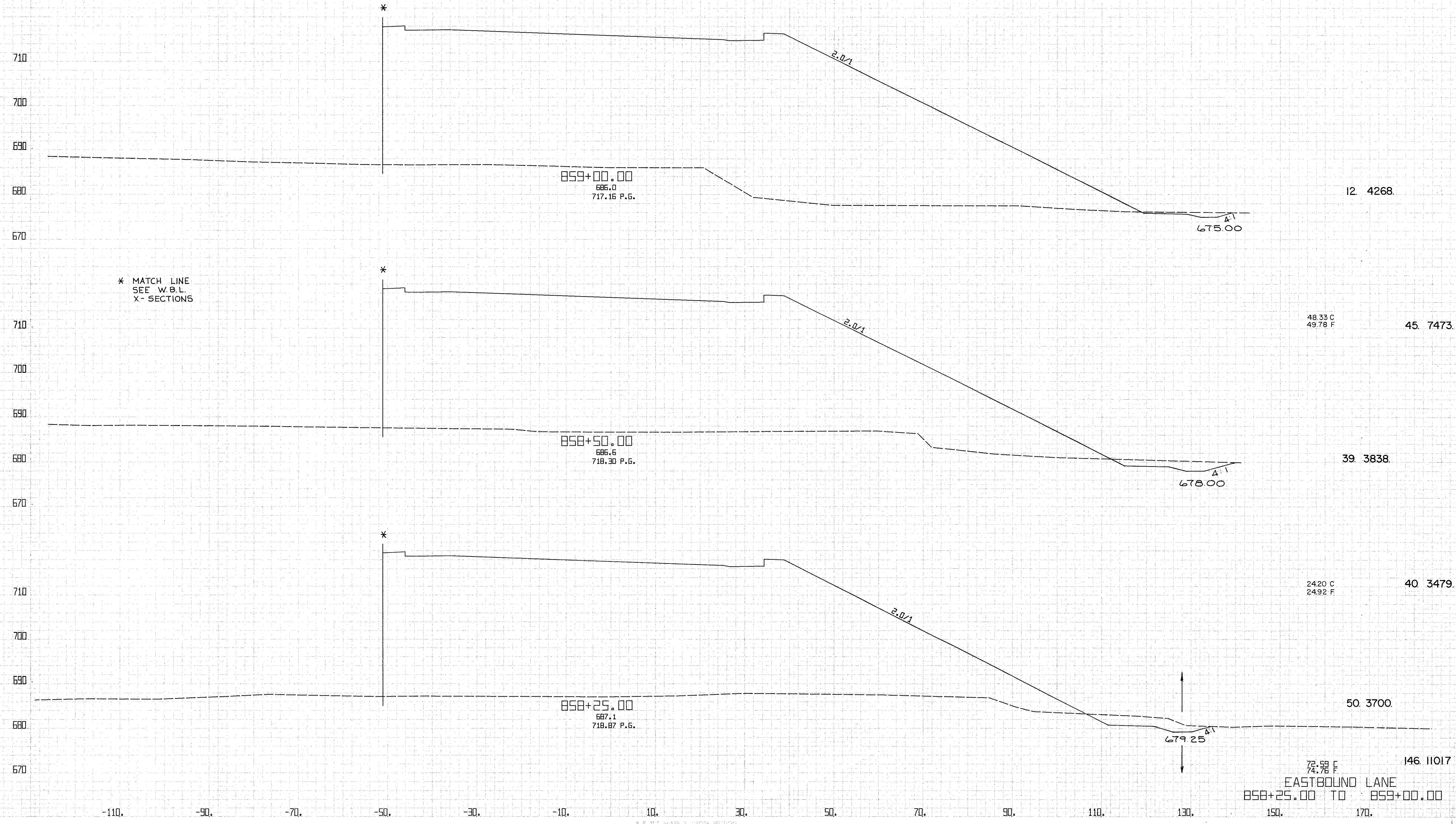
FED. RD. DIVISION	STATE	PROJECT	(211) 838	
5	OHIO	CLYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



CALCULATED BY R.E.D. CHECKED BY D.H.S.  
 DATE 5/73 DATE 4/74  
 REVISED BY C.C.W. CHECKED BY B.E.K.  
 DATE 1-75 DATE 2-75

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	CUYAHOGA COUNTY CLY-90-11.64
CENTROID ARC LENGTH	END CUT	AREA FILL
	CU. CUT	YOS. FILL

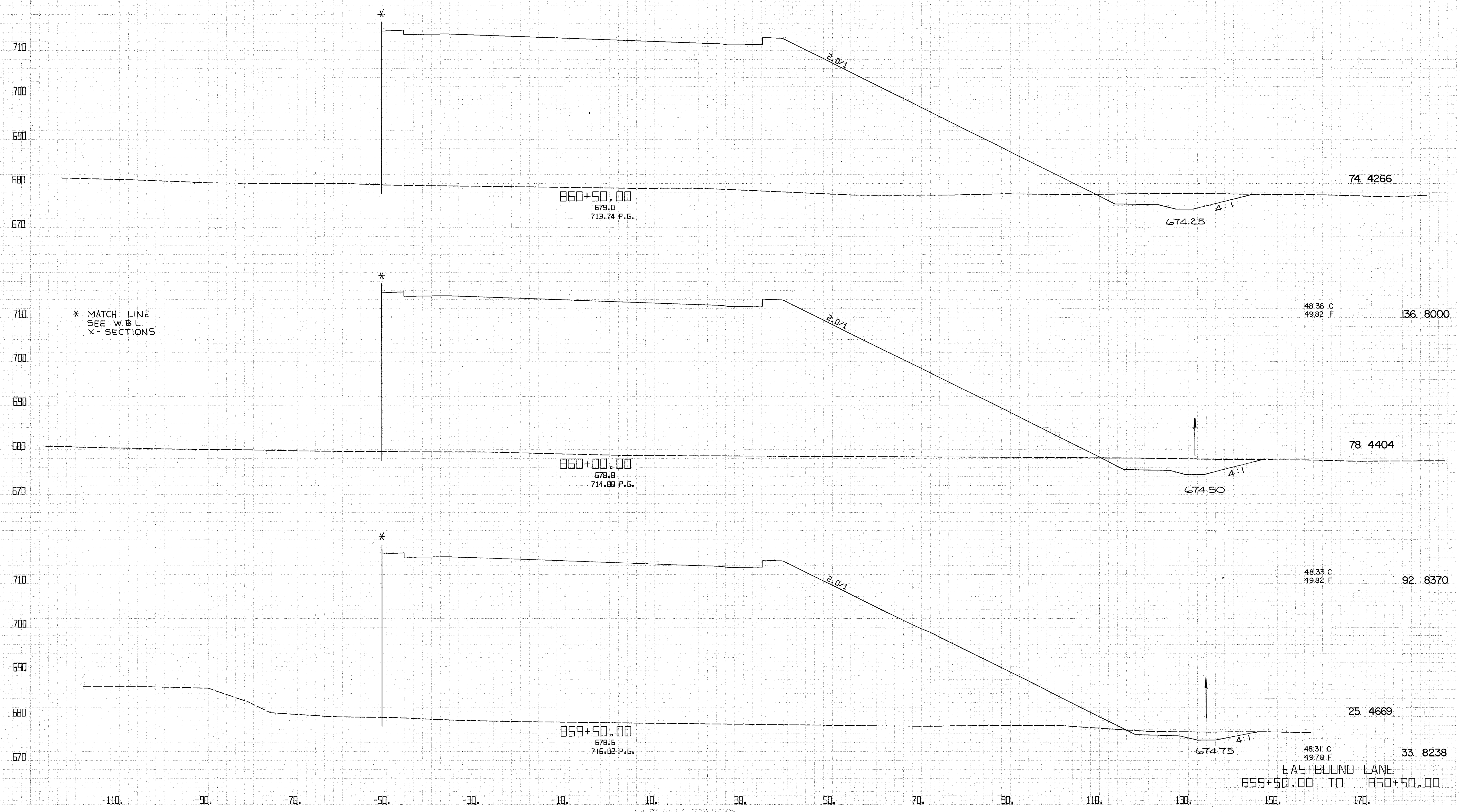
212  
838



\* MATCH LINE  
SEE W.B.L.  
X-SECTIONS

CALCULATED BY RED CHECKED BY D.H.S.  
 DATE 5/73 DATE 4/74  
 REVISED BY C.C.W. CHECKED BY B.E.K.  
 DATE 1-75 DATE 2-75

FED. RD. DIVISION	STATE	PROJECT	213 838	
5	OHIO	CLYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



\* MATCH LINE  
SEE W.B.L.  
X - SECTIONS

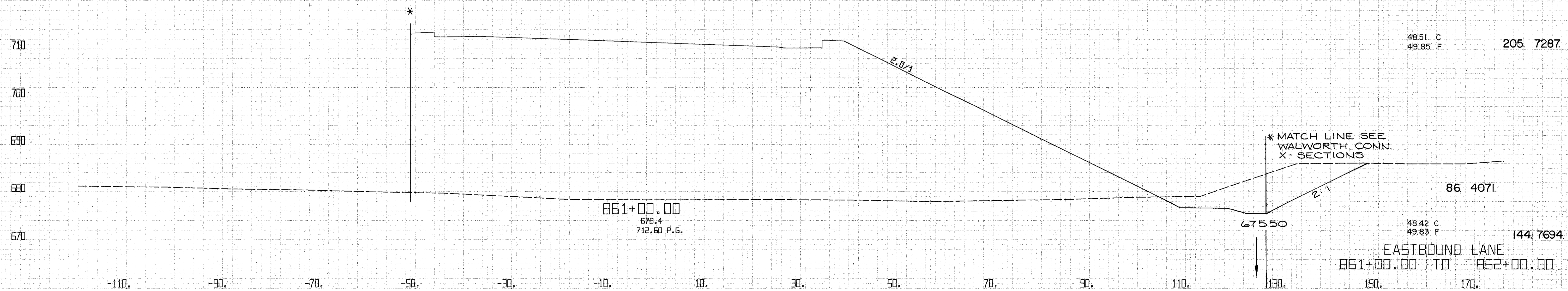
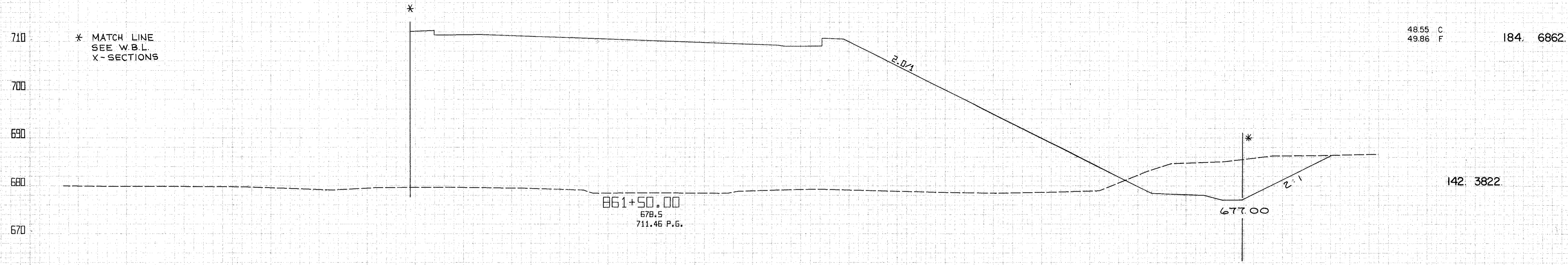
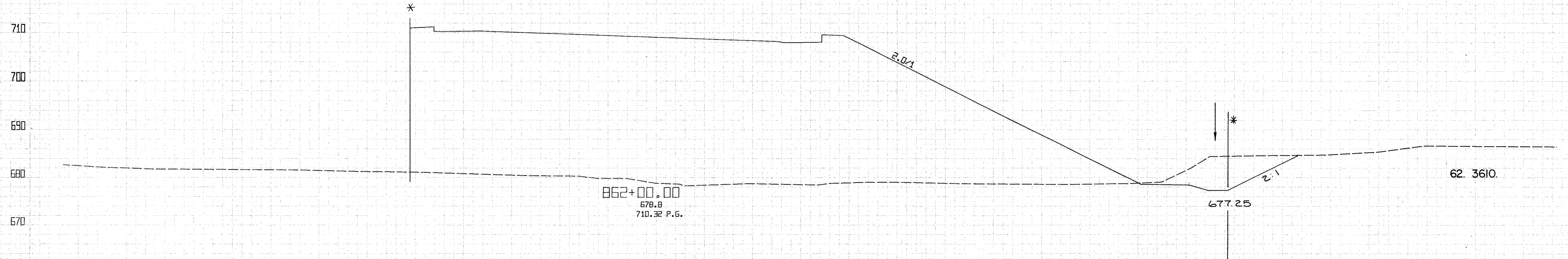
EASTBOUND LANE  
 859+50.00 TO 860+50.00

CALCULATED BY R.E.D. CHECKED BY D.H.S.  
 DATE 5/73 DATE 4/74  
 REVISED BY C.C.W. CHECKED BY B.E.K.  
 DATE 1/75 DATE 2/75

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	CLYAHOGA COUNTY CLY-90-11.64

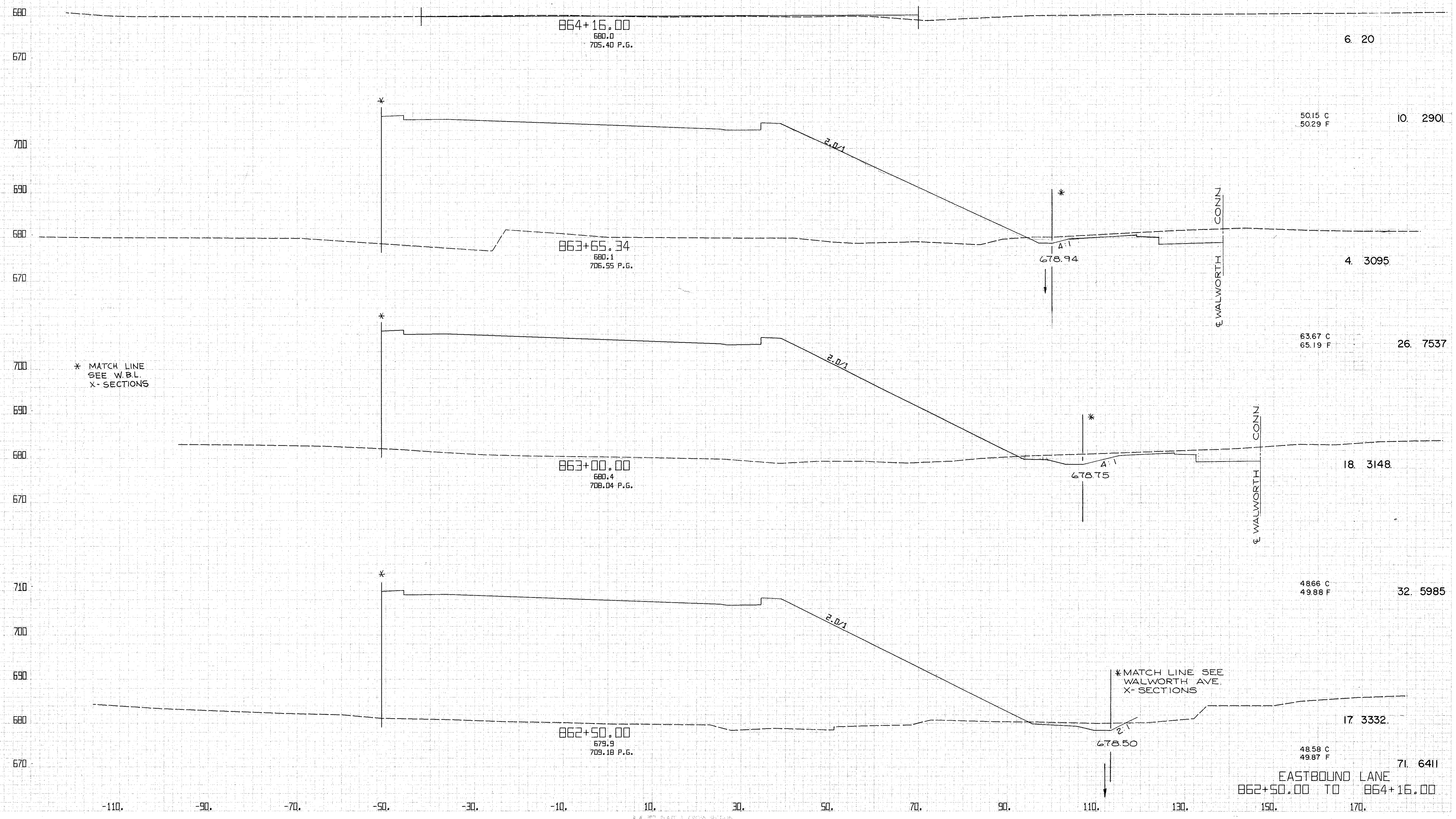
(214)  
838

CENTROID ARE LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



CALCULATED BY R.E.D. CHECKED BY D.H.S.  
 DATE 5/73 DATE 4/74  
 REVISED BY C.C.W. CHECKED BY B.E.K.  
 DATE 1-75 DATE 2-75

FED. RD. DIVISION	STATE	PROJECT	215 838	
5	OHIO	CUYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL

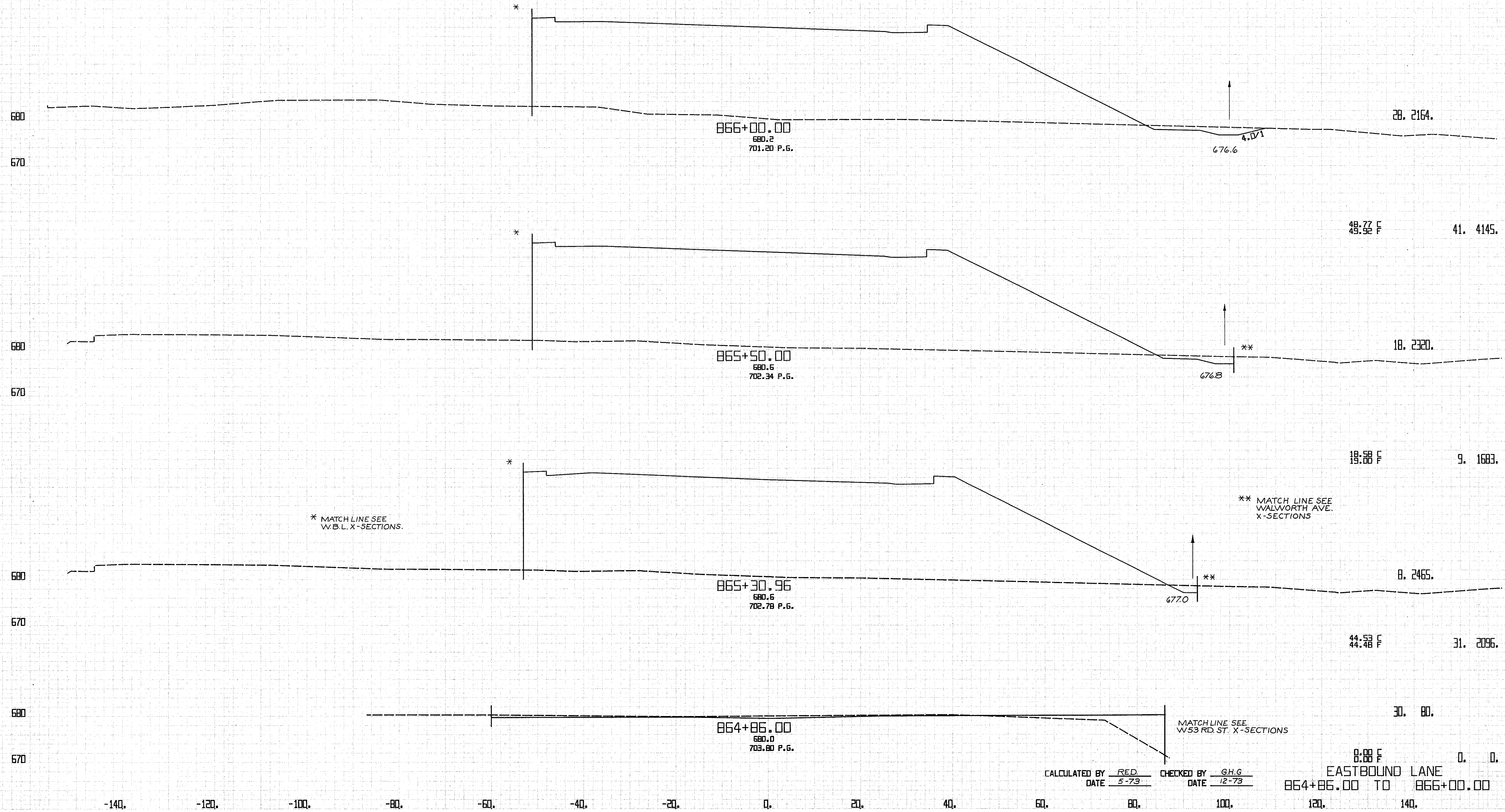


\* MATCH LINE  
 SEE W.B.L.  
 X-SECTIONS

\*MATCH LINE SEE  
 WALWORTH AVE.  
 X-SECTIONS

EASTBOUND LANE  
 862+50.00 TO 864+16.00

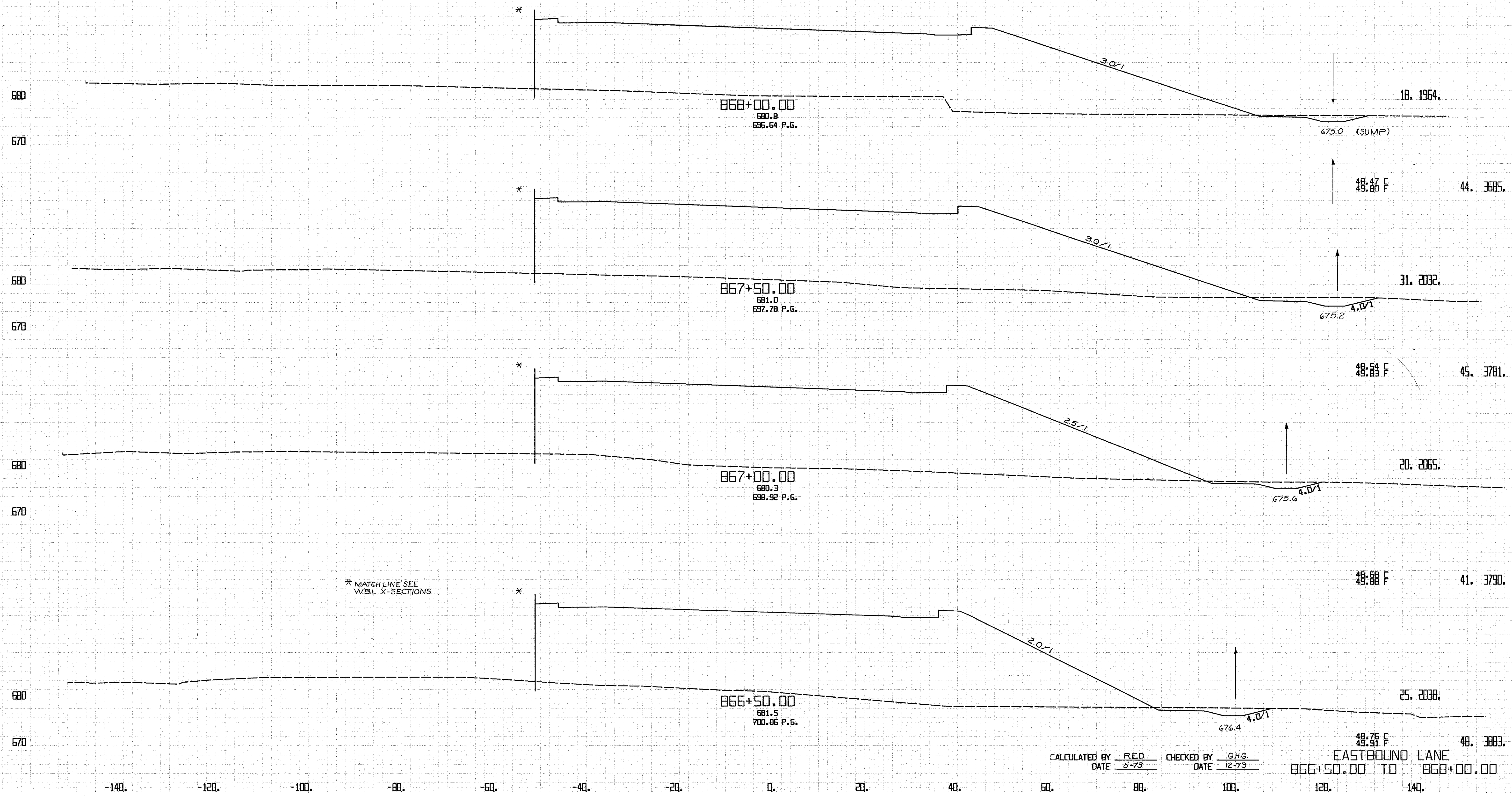
FED. RD. DIVISION	STATE	PROJECT	(216) 838	
2	OHIO			
CUYAHOGA COUNTY CLY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



CALCULATED BY RED CHECKED BY G.H.G  
 DATE 5-73 DATE 12-73

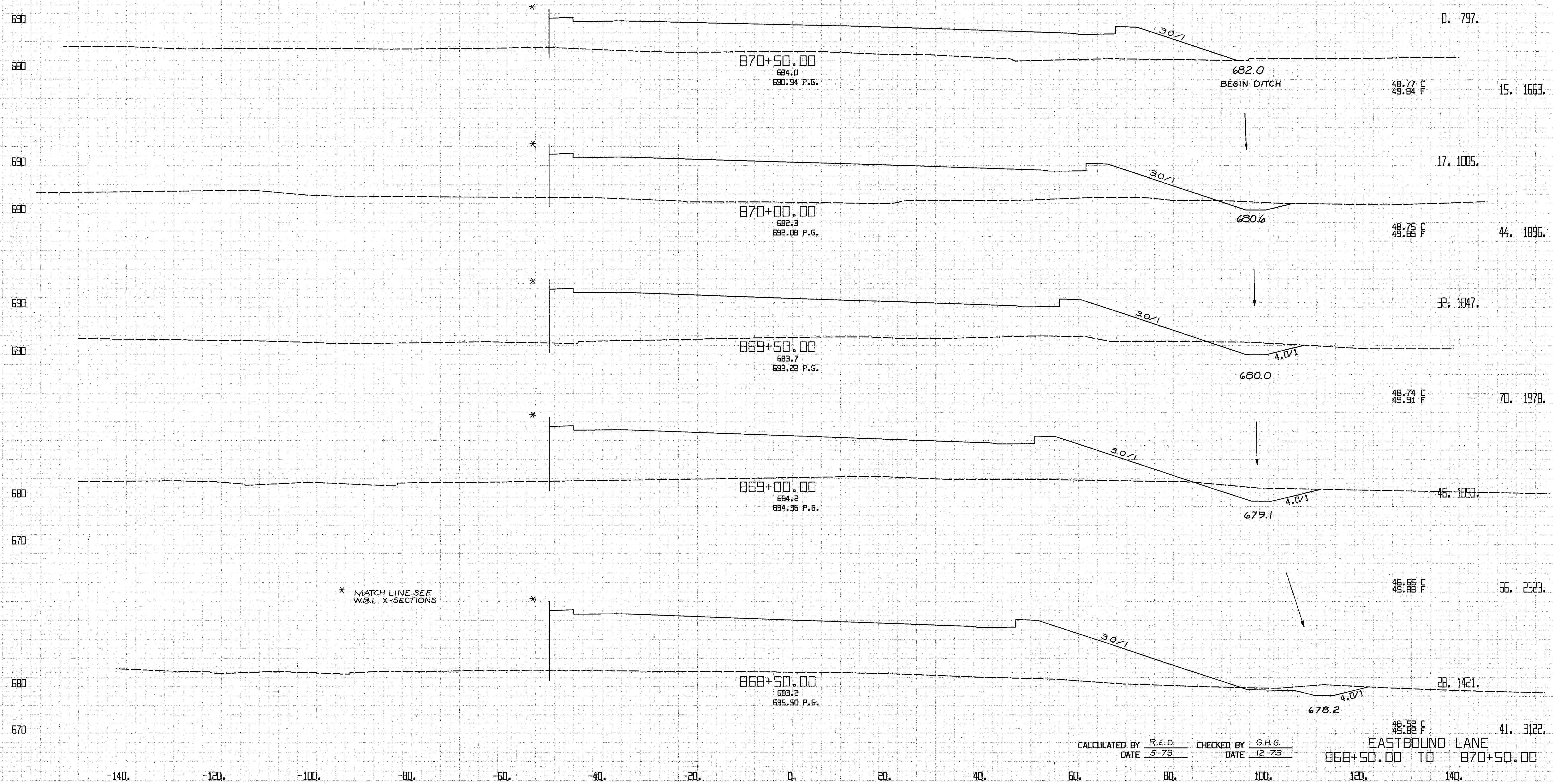
EASTBOUND LANE  
 864+86.00 TO 866+00.00





CALCULATED BY RED CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

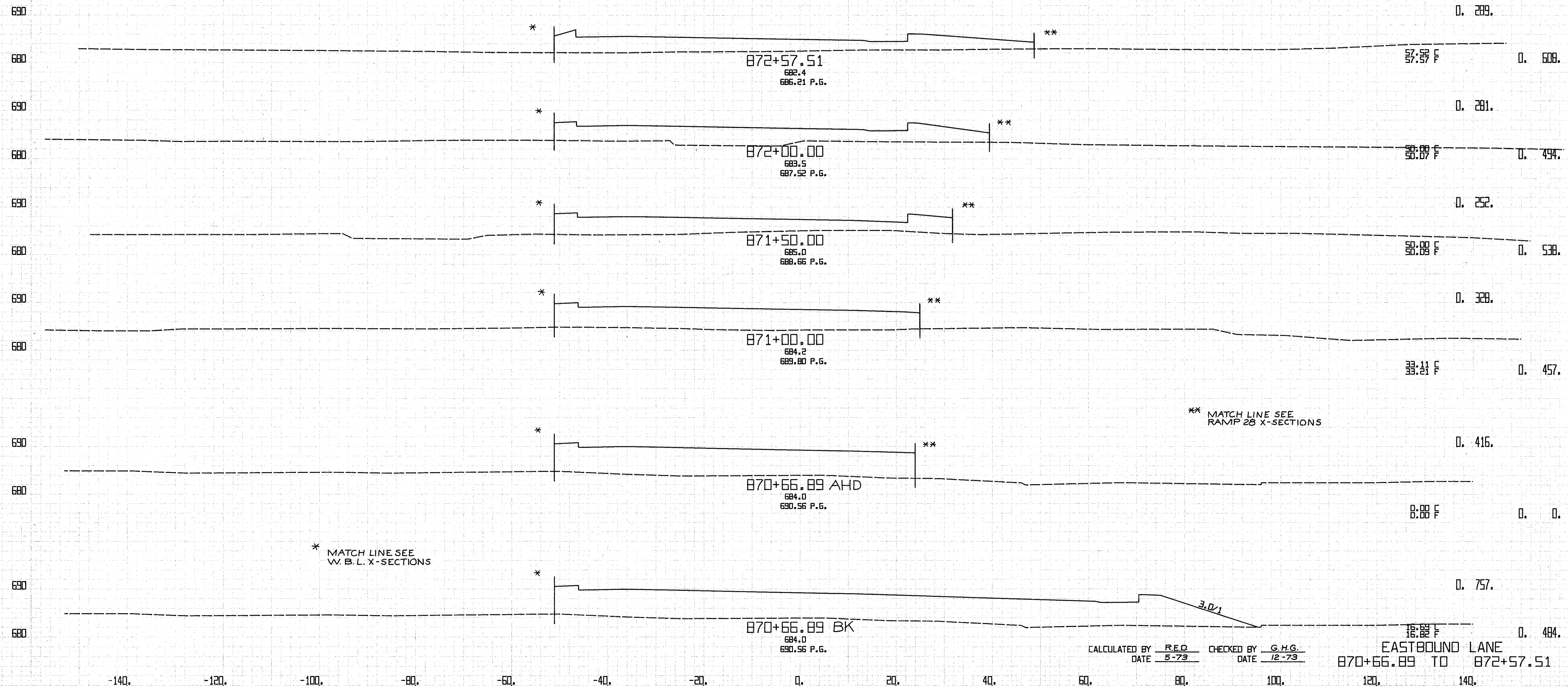
EASTBOUND LANE  
 866+50.00 TO 868+00.00



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

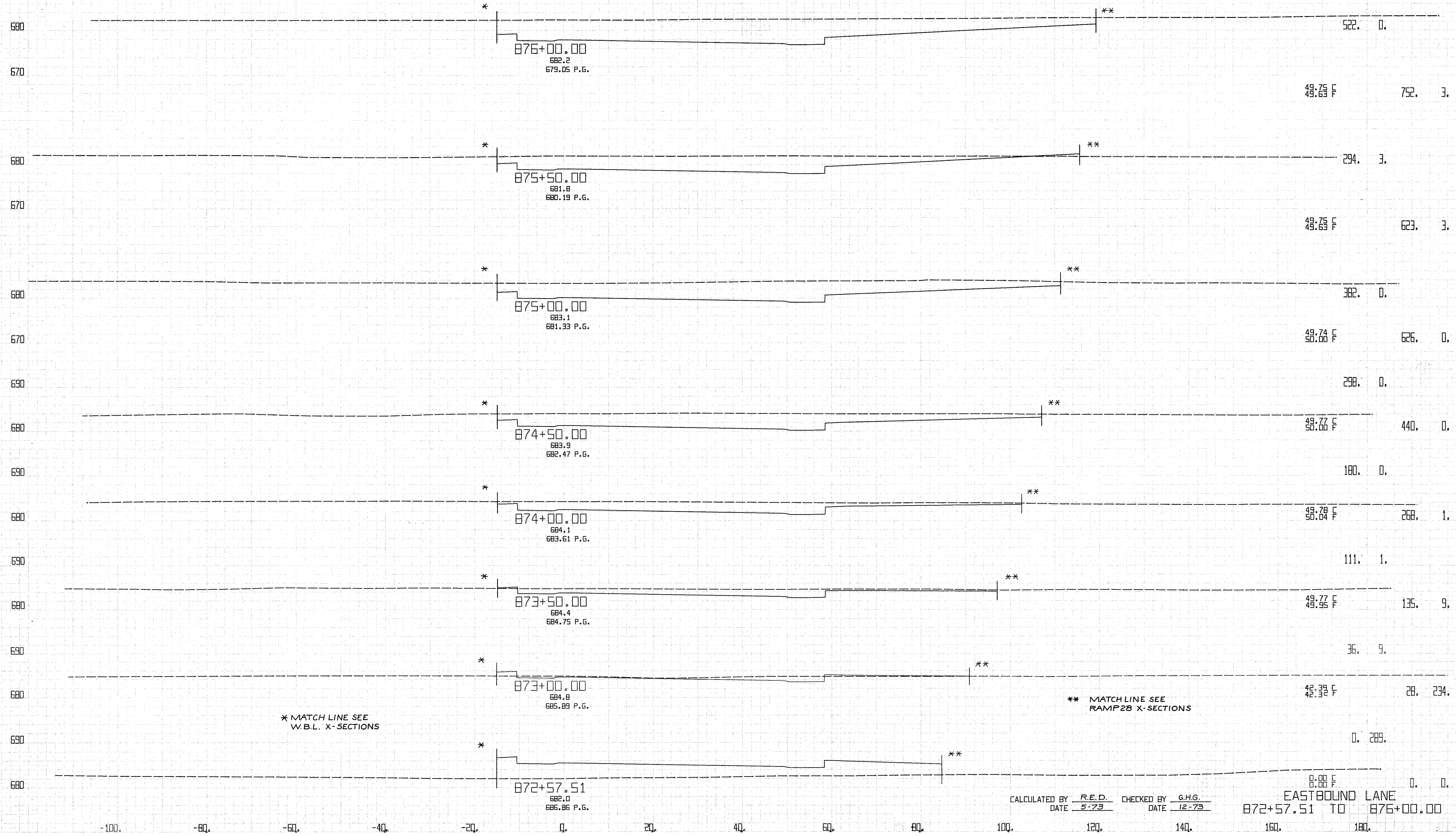
EASTBOUND LANE  
868+50.00 TO 870+50.00

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

EASTBOUND LANE  
 870+66.89 TO 872+57.51

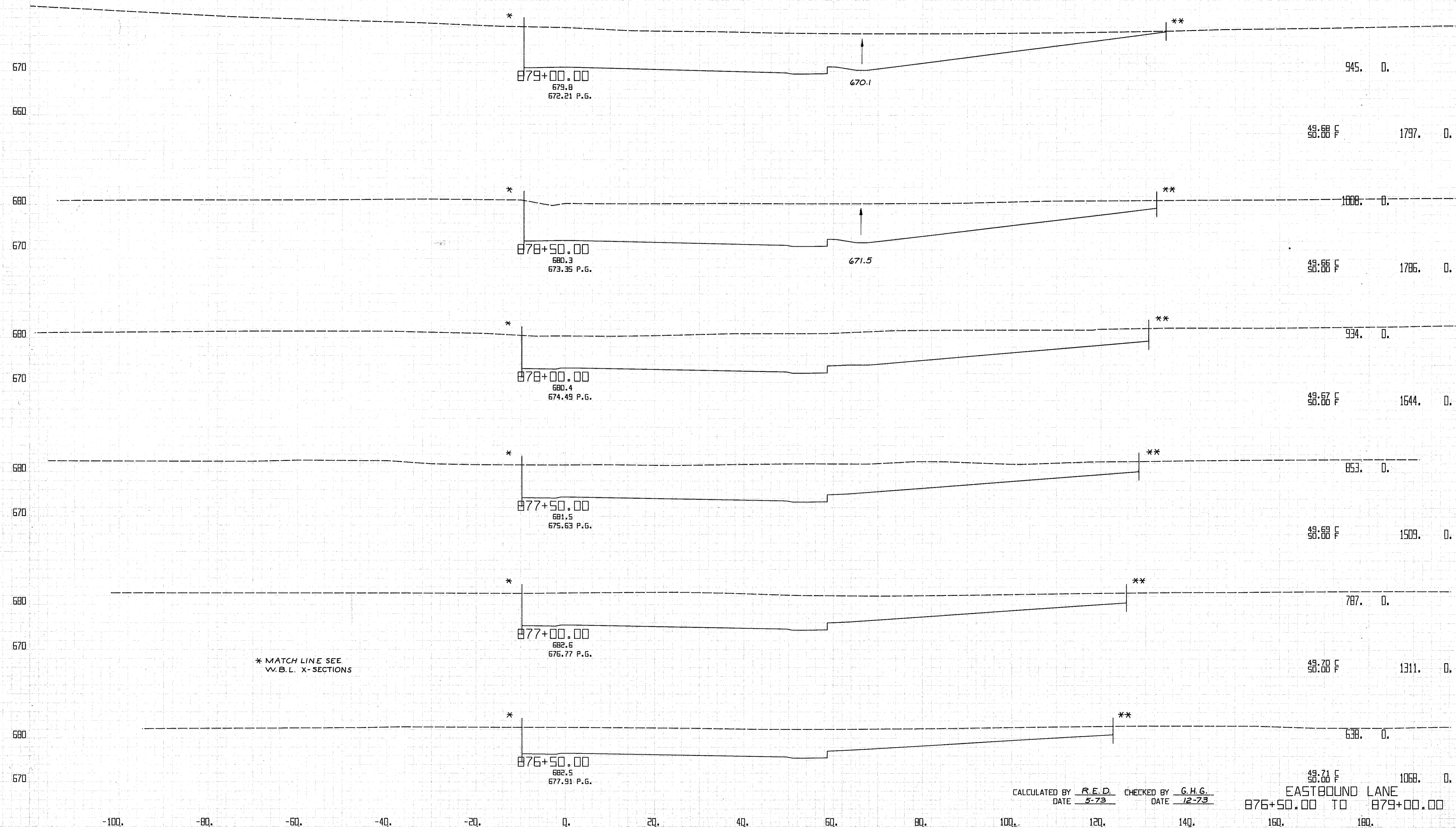


\* MATCH LINE SEE  
W.B.L. X-SECTIONS

\*\* MATCH LINE SEE  
RAMP 28 X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

EASTBOUND LANE  
872+57.51 TO 876+00.00



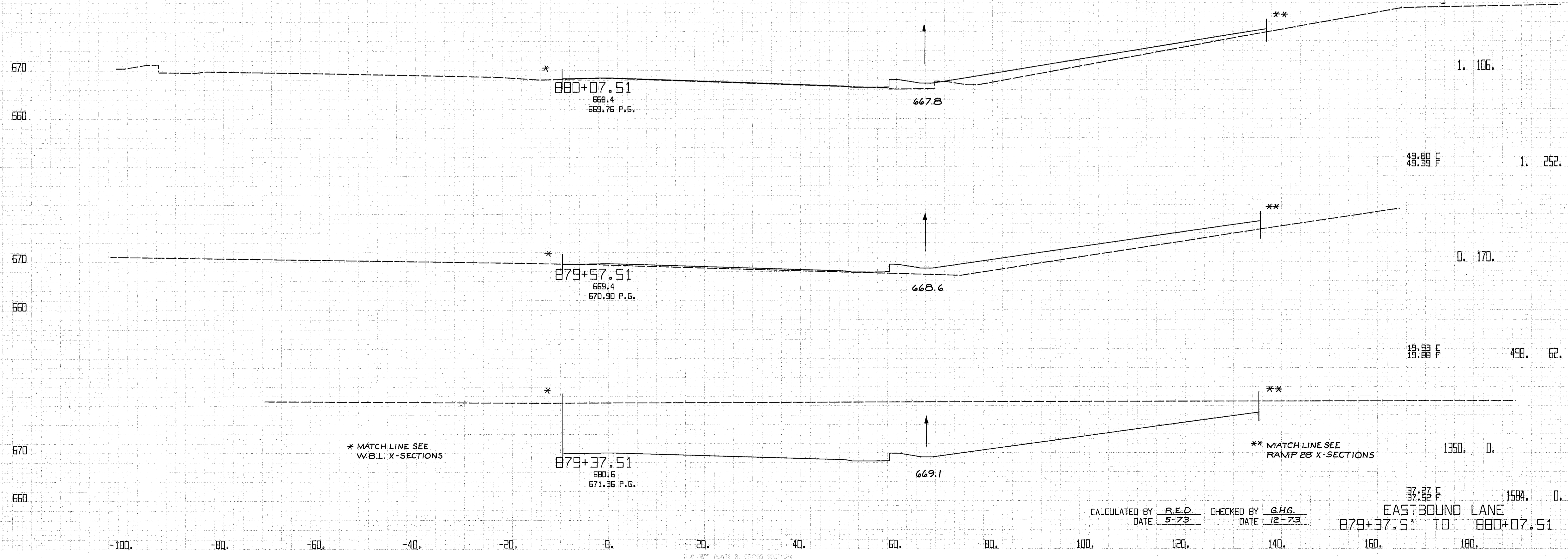
CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

EASTBOUND LANE  
876+50.00 TO 879+00.00

P.20

Q-6

FED. RD. DIVISION	STATE	PROJECT	222 838	
2	OHIO	CUYAHOGA COUNTY CUY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



\* MATCH LINE SEE W.B.L. X-SECTIONS

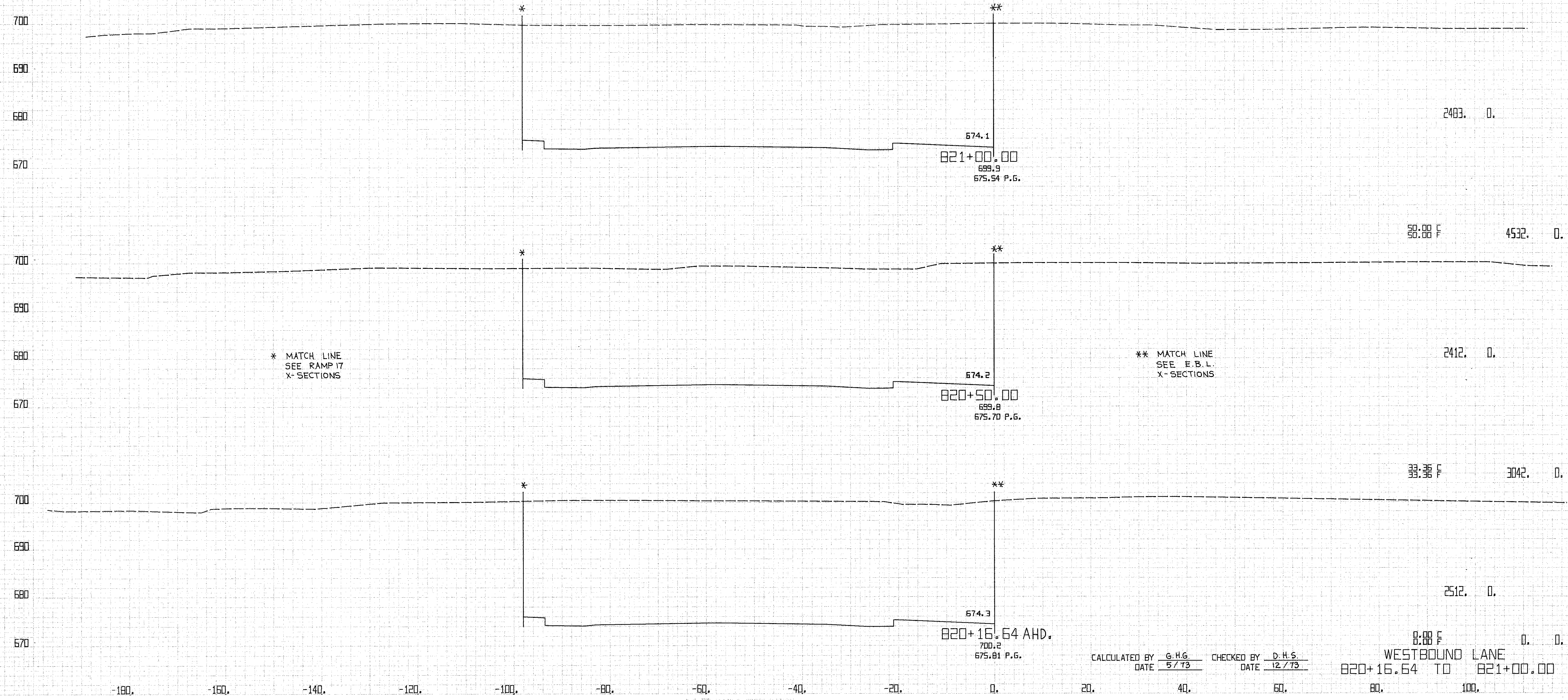
\*\* MATCH LINE SEE RAMP 28 X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

37.23 F 1584. 0.  
 EASTBOUND LANE  
 879+37.51 TO 880+07.51

FINAL EXHIBIT  
 SURVEY P.L.C.  
 DATE 12/73  
 BY G.H.G.

ORIGINAL SURVEY P.L.C.  
 DATE 5/73  
 BY G.H.G.



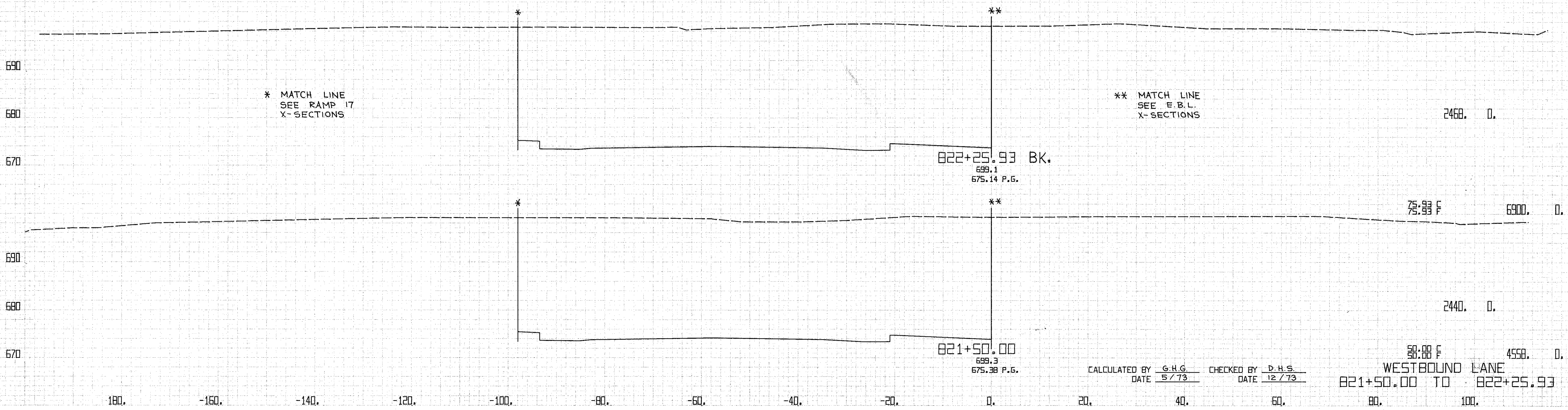
\* MATCH LINE  
SEE RAMP 17  
X- SECTIONS

\*\* MATCH LINE  
SEE E.B.L.  
X- SECTIONS

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

WESTBOUND LANE  
820+16.54 TO 821+00.00

FED. RD. DIVISION	STATE	PROJECT	224 838	
2	OHIO	CLYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



\* MATCH LINE  
SEE RAMP 17  
X-SECTIONS

\*\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS

822+25.93 BK.  
699.1  
675.14 P.G.

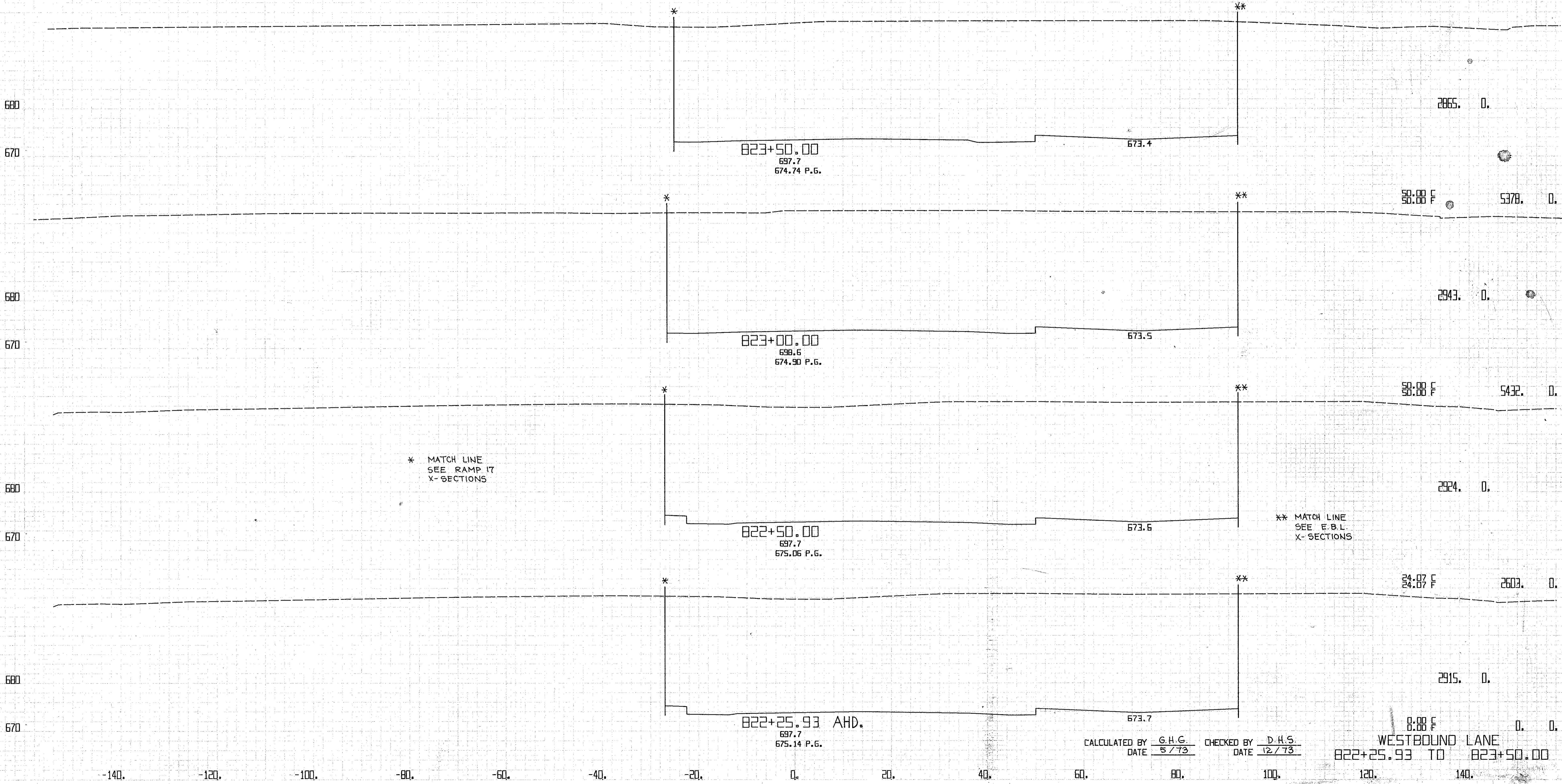
821+50.00  
699.3  
675.38 P.G.

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

88.88 F 4558.0 D.  
WESTBOUND LANE  
821+50.00 TO 822+25.93

K.S. PLATE 5, CROSS SECTION  
SCALE 1" = 20' HORIZ.  
1" = 4' VERT.

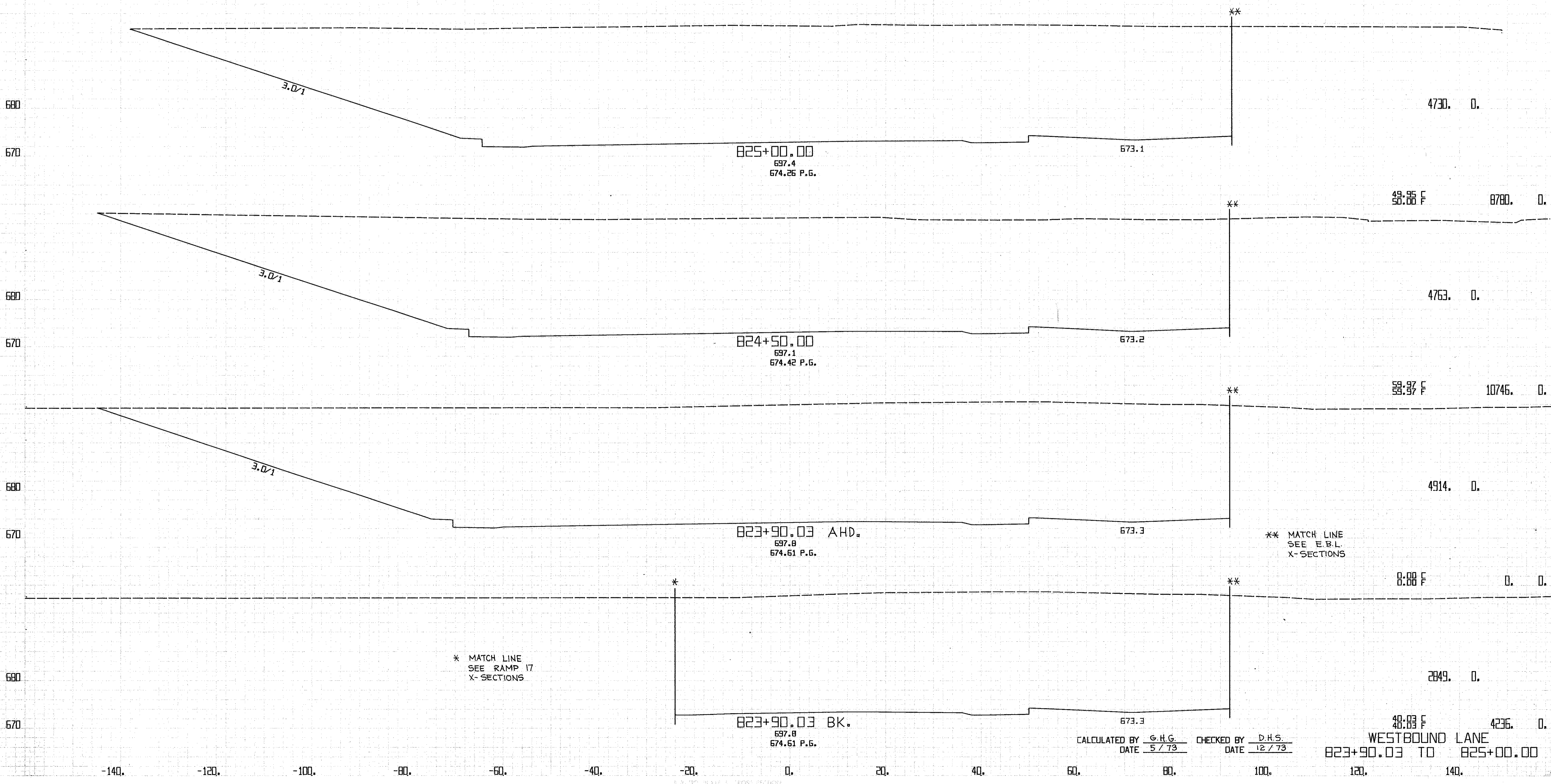




CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

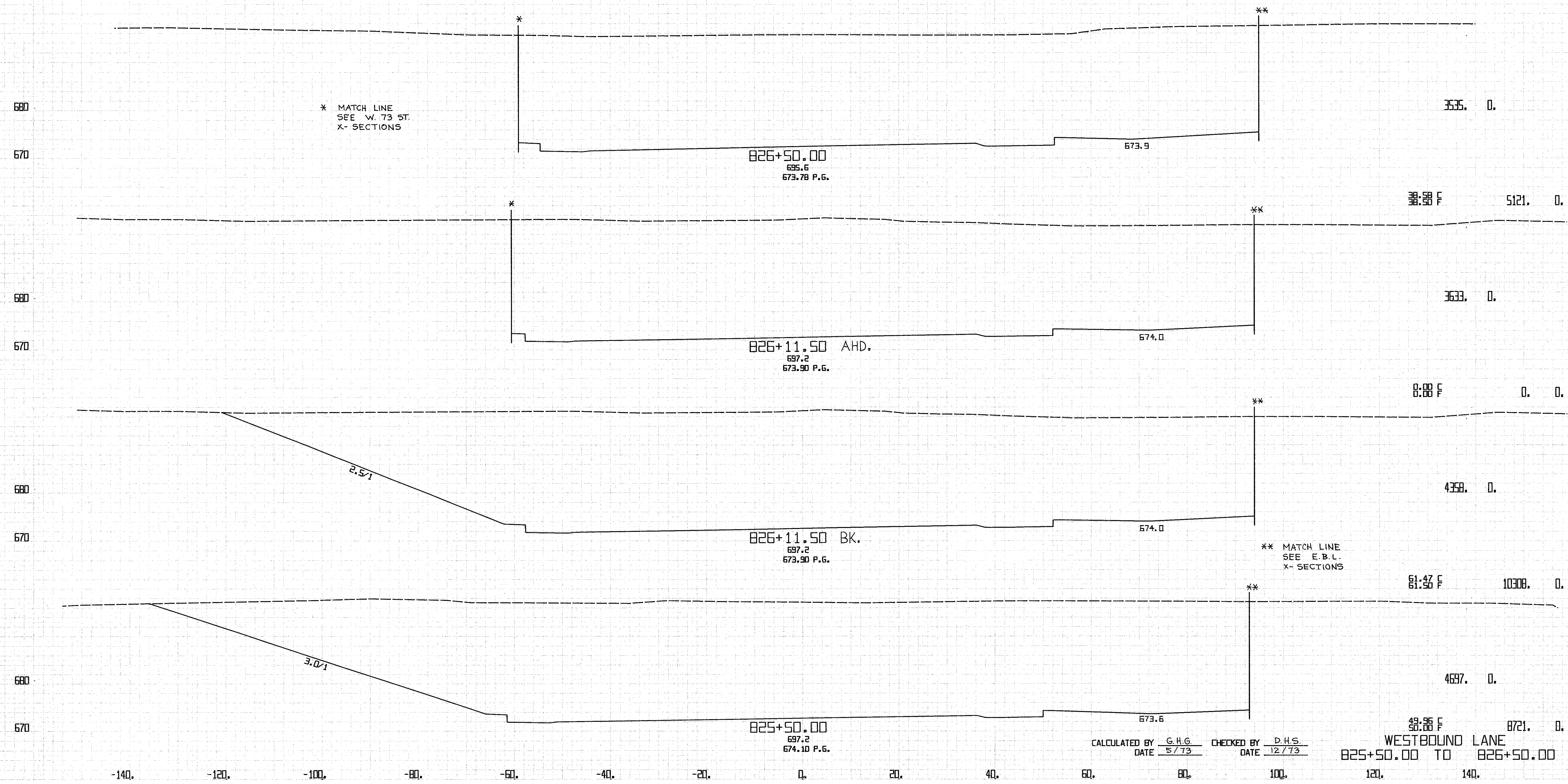
WEST BOUND LANE  
822+25.93 TO 823+50.00

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.



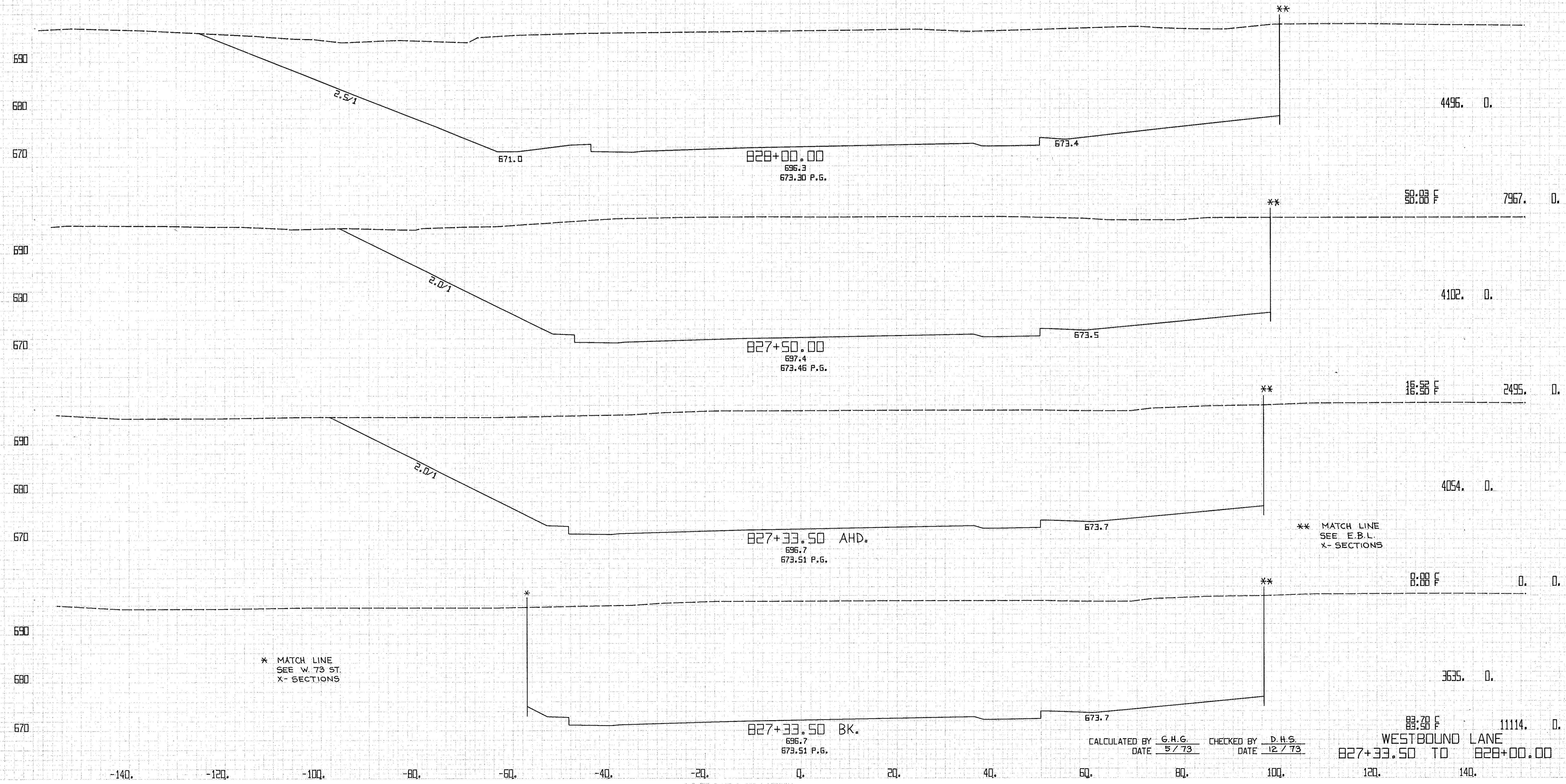
CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

WESTBOUND LANE  
823+90.03 TO 825+00.00



CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

WESTBOUND LANE  
825+50.00 TO 826+50.00

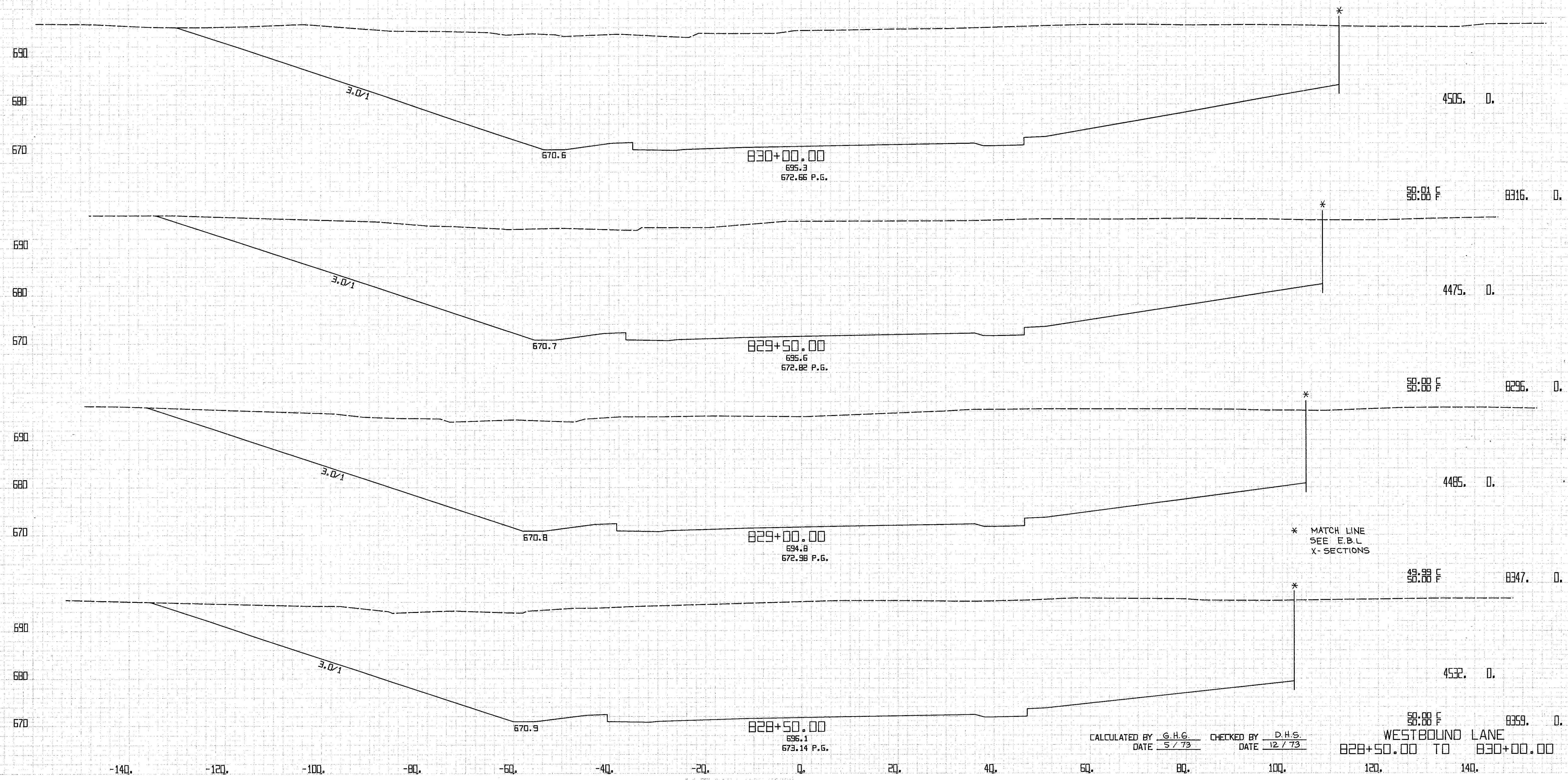


\* MATCH LINE  
SEE W. 73 ST.  
X- SECTIONS

\*\* MATCH LINE  
SEE E.B.L.  
X- SECTIONS

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

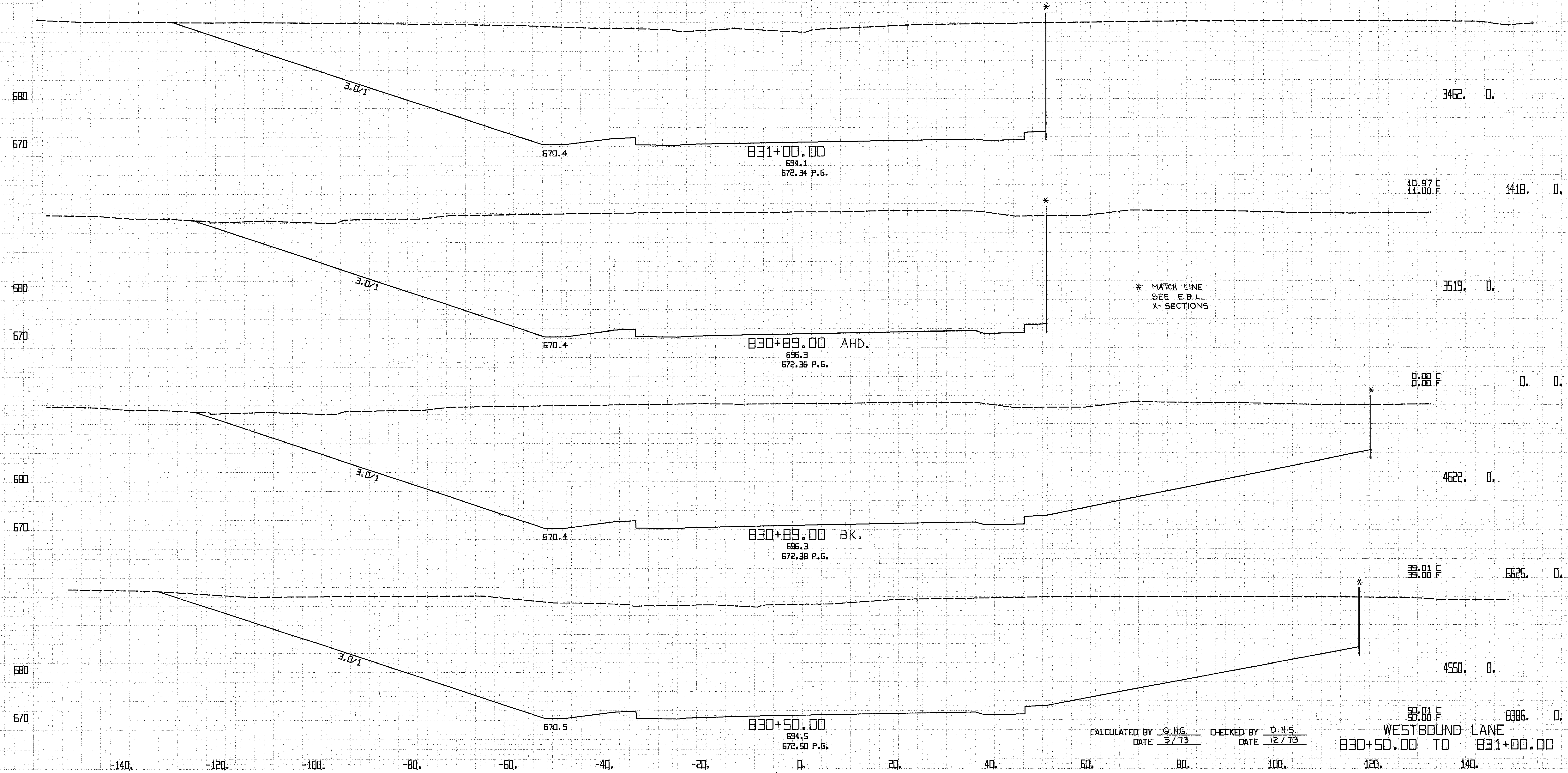
WESTBOUND LANE  
827+33.50 TO 828+00.00



\* MATCH LINE  
SEE E.B.L  
X-SECTIONS

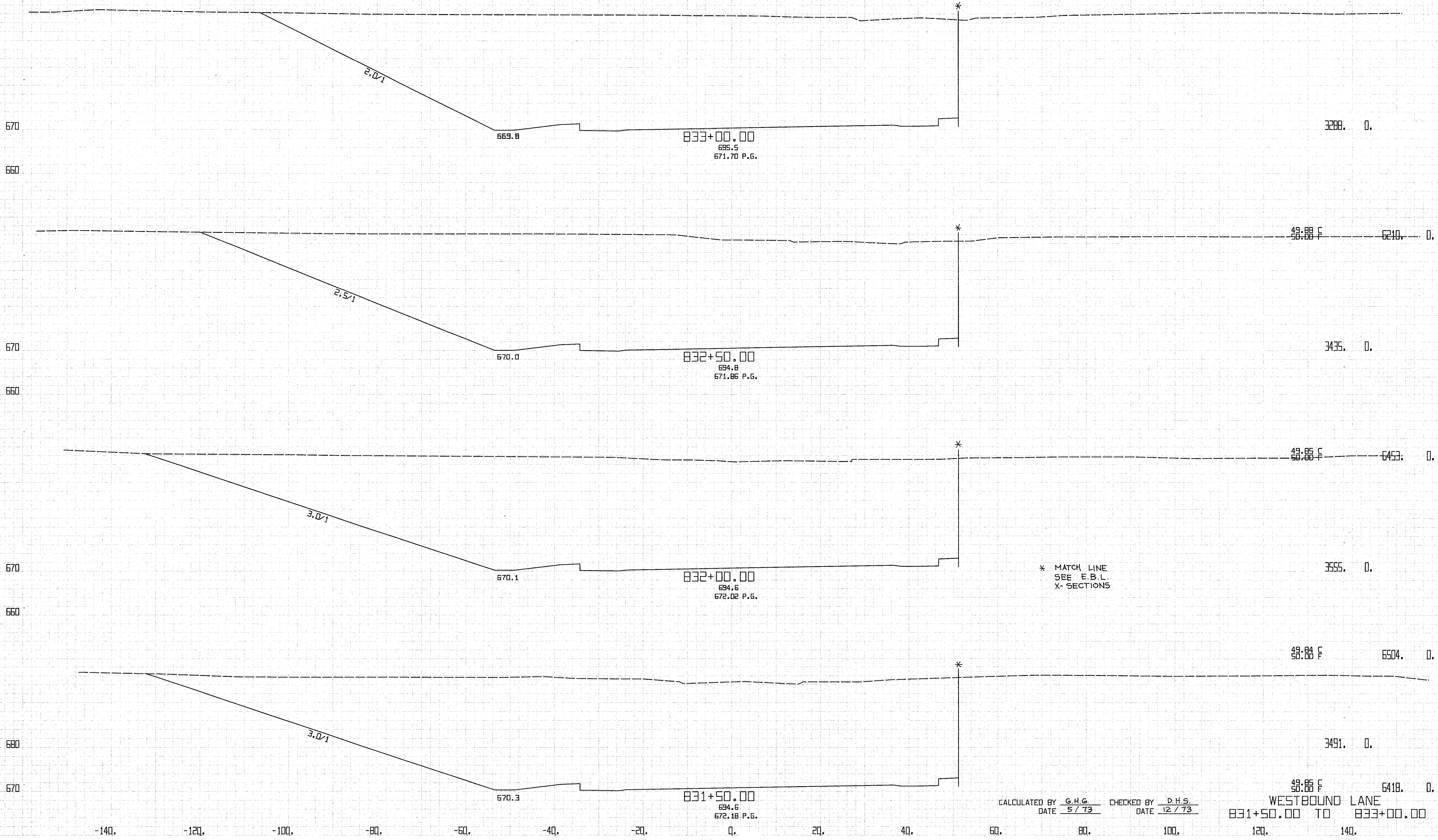
CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

WESTBOUND LANE  
828+50.00 TO 830+00.00



CALCULATED BY G.H.G. CHECKED BY D.H.S.  
 DATE 5/73 DATE 12/73

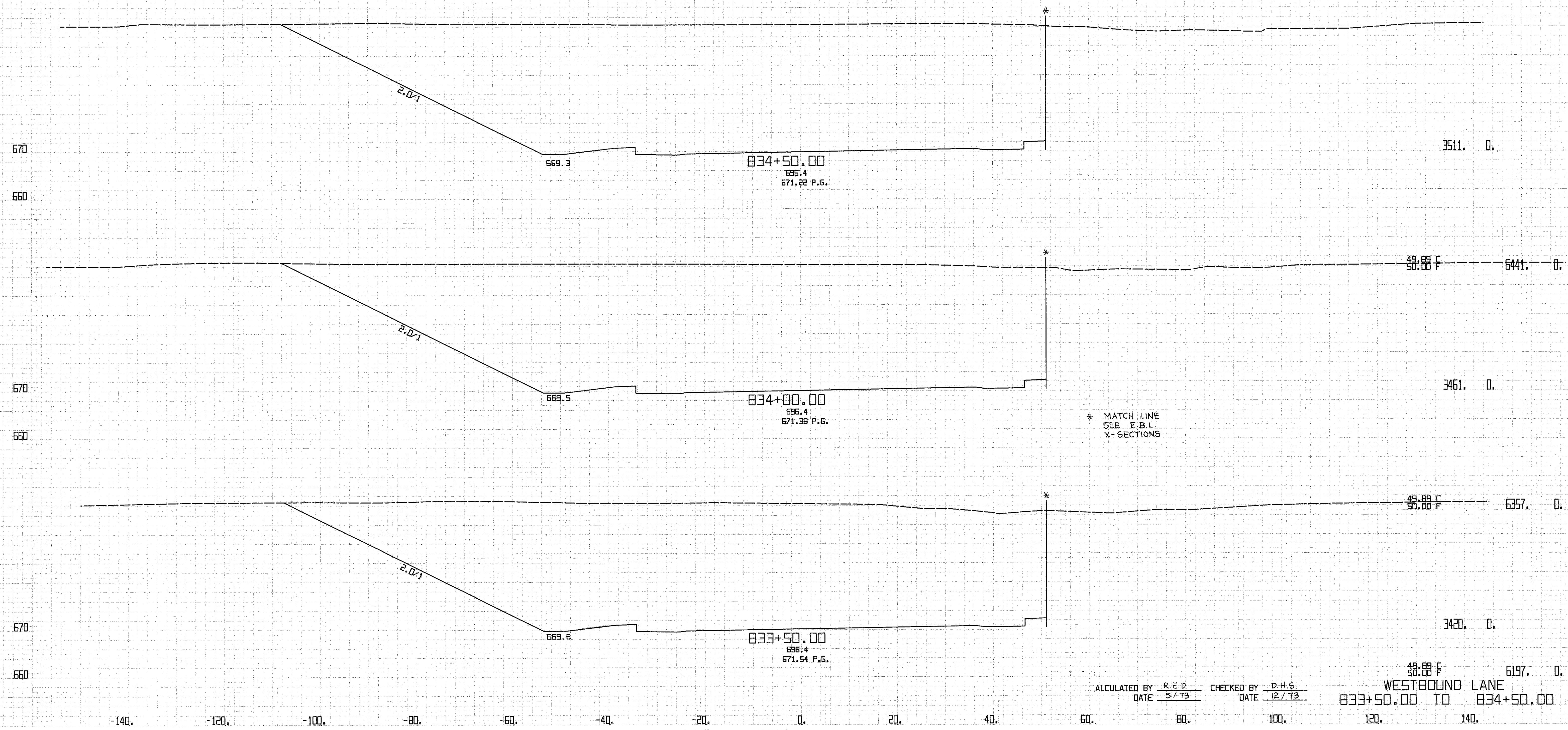
WESTBOUND LANE  
 830+50.00 TO 831+00.00



\* MATCH LINE  
SEE E.B.L.  
X- SECTIONS

CALCULATED BY G.H.G. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

WESTBOUND LANE  
831+50.00 TO 833+00.00

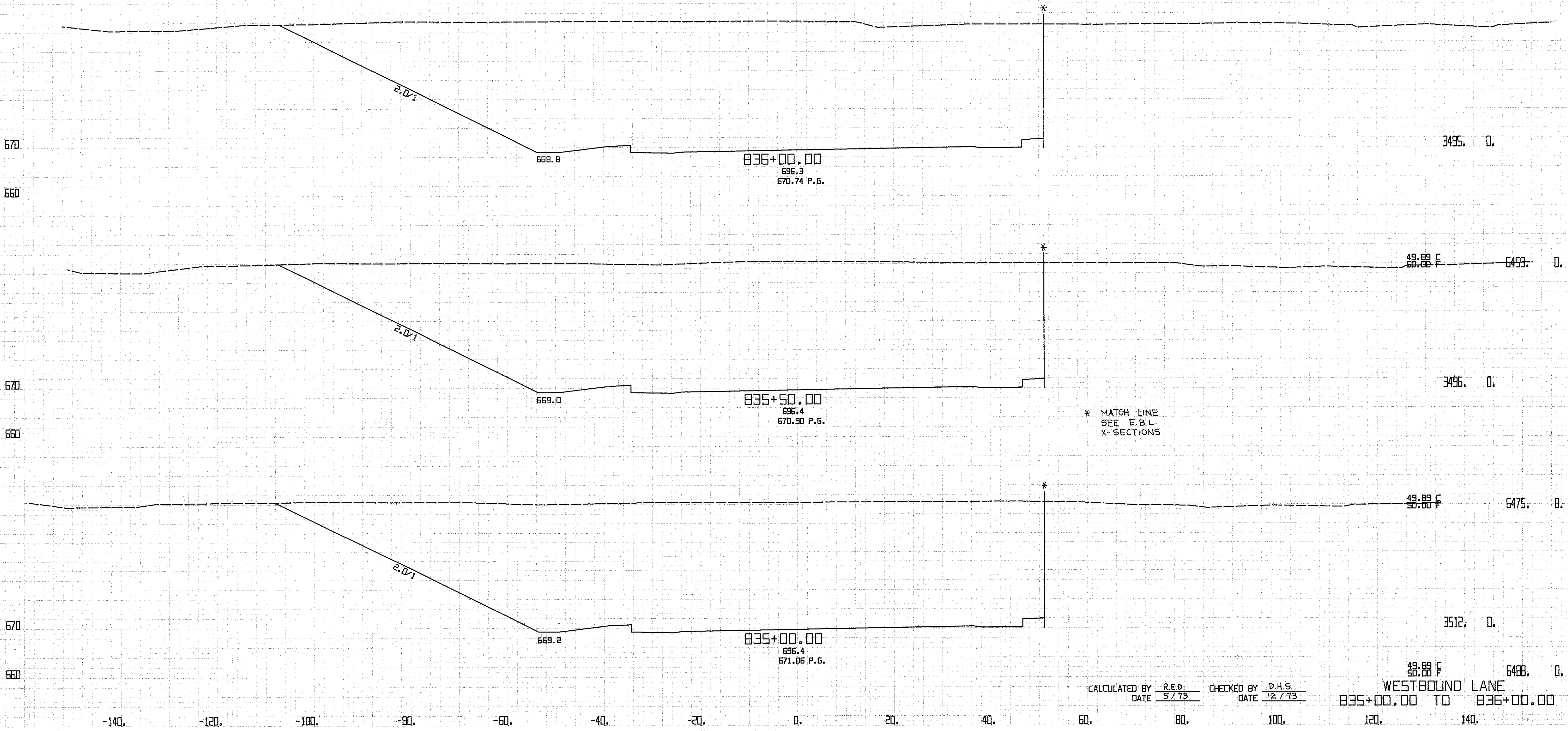


\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS

ALCALATED BY R.E.D. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

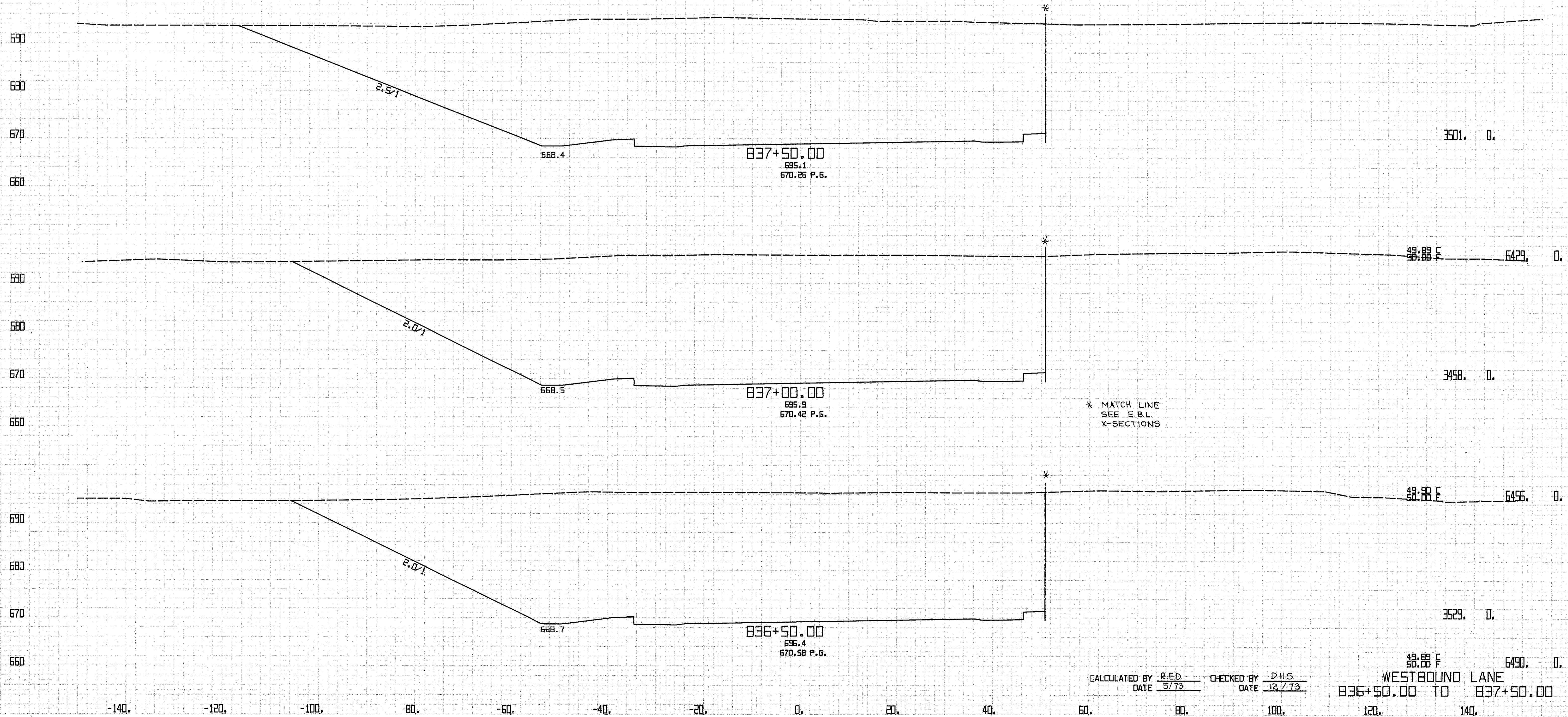
48.88 F 6197.0  
WESTBOUND LANE  
833+50.00 TO 834+50.00





CALCULATED BY R.E.D. CHECKED BY D.H.S.  
 DATE 5/73 DATE 12/73

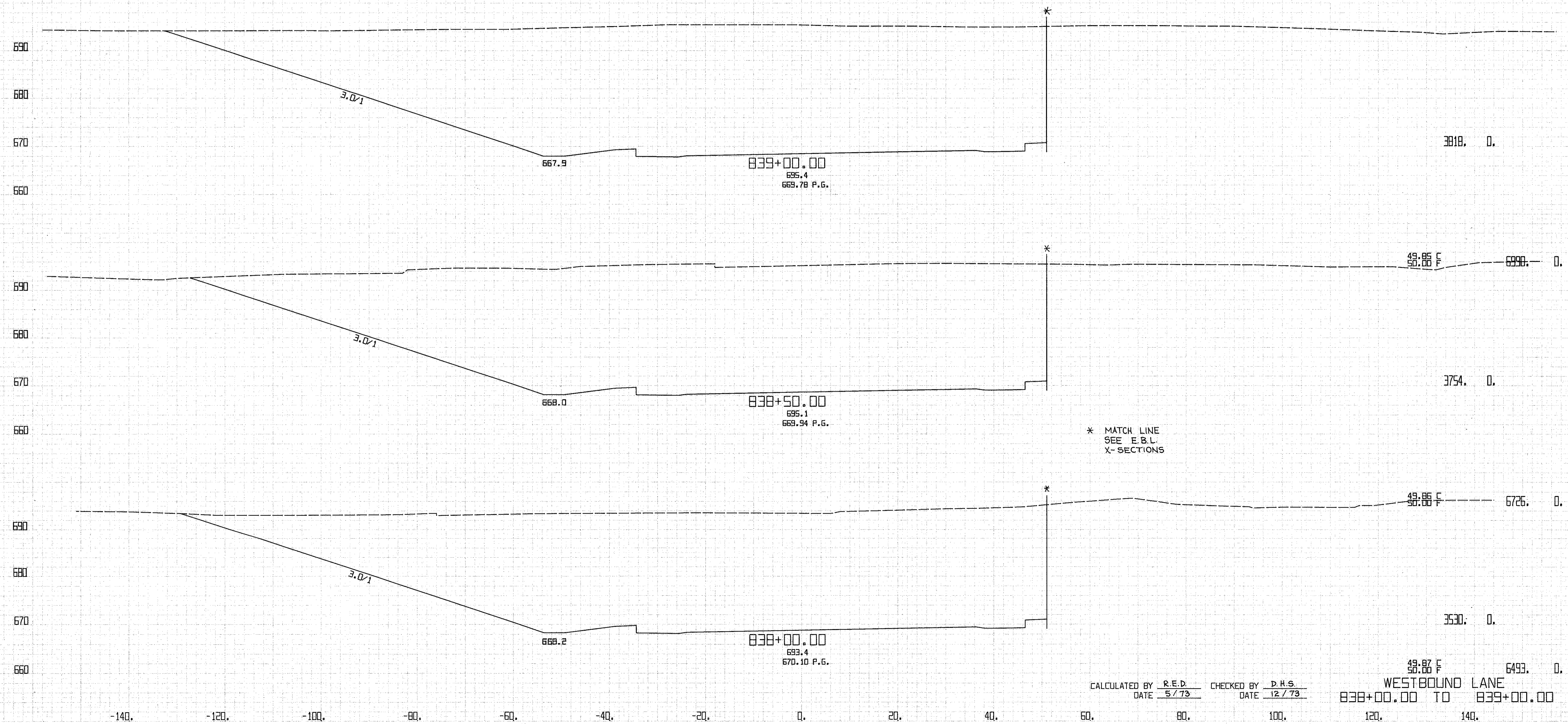
WESTBOUND LANE  
 835+00.00 TO 836+00.00



\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

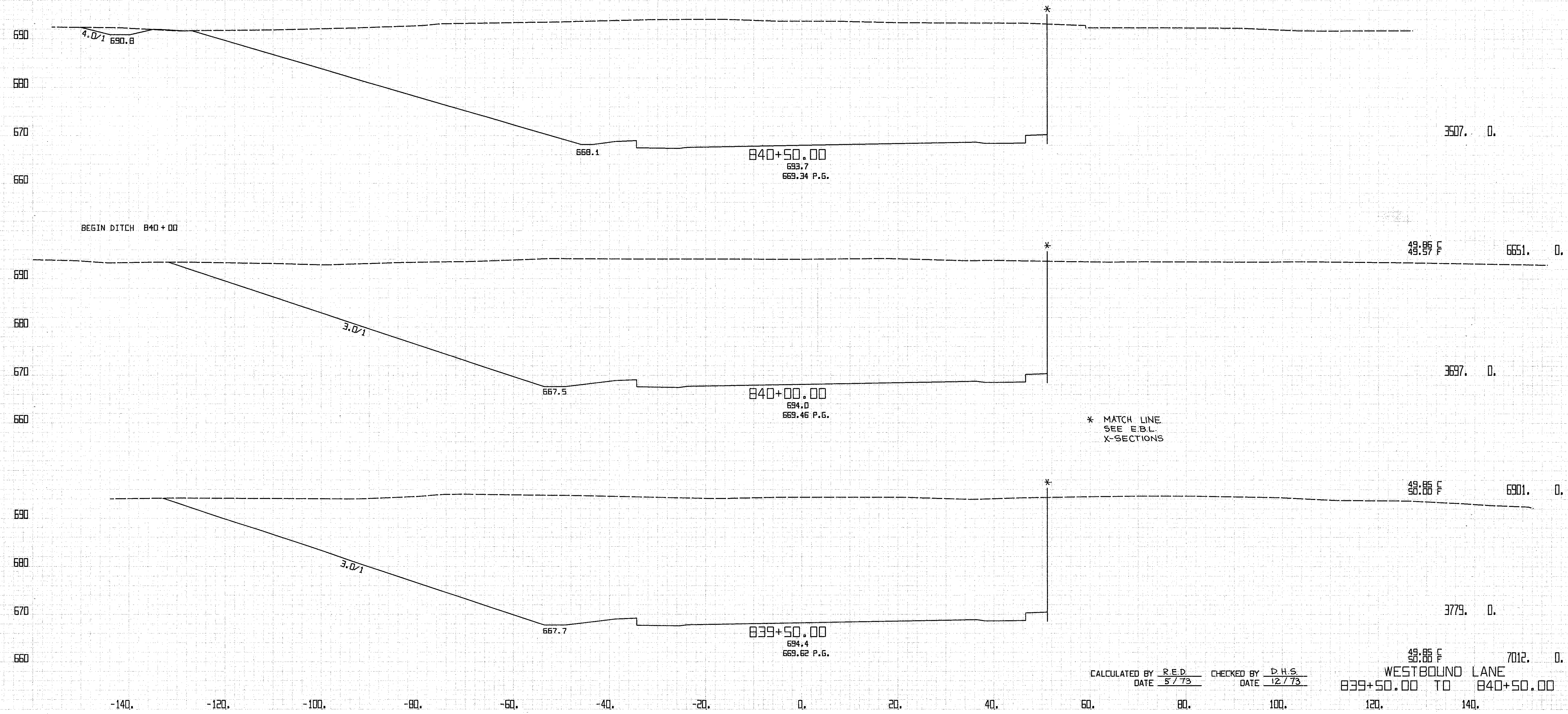
WESTBOUND LANE  
836+50.00 TO 837+50.00



\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS

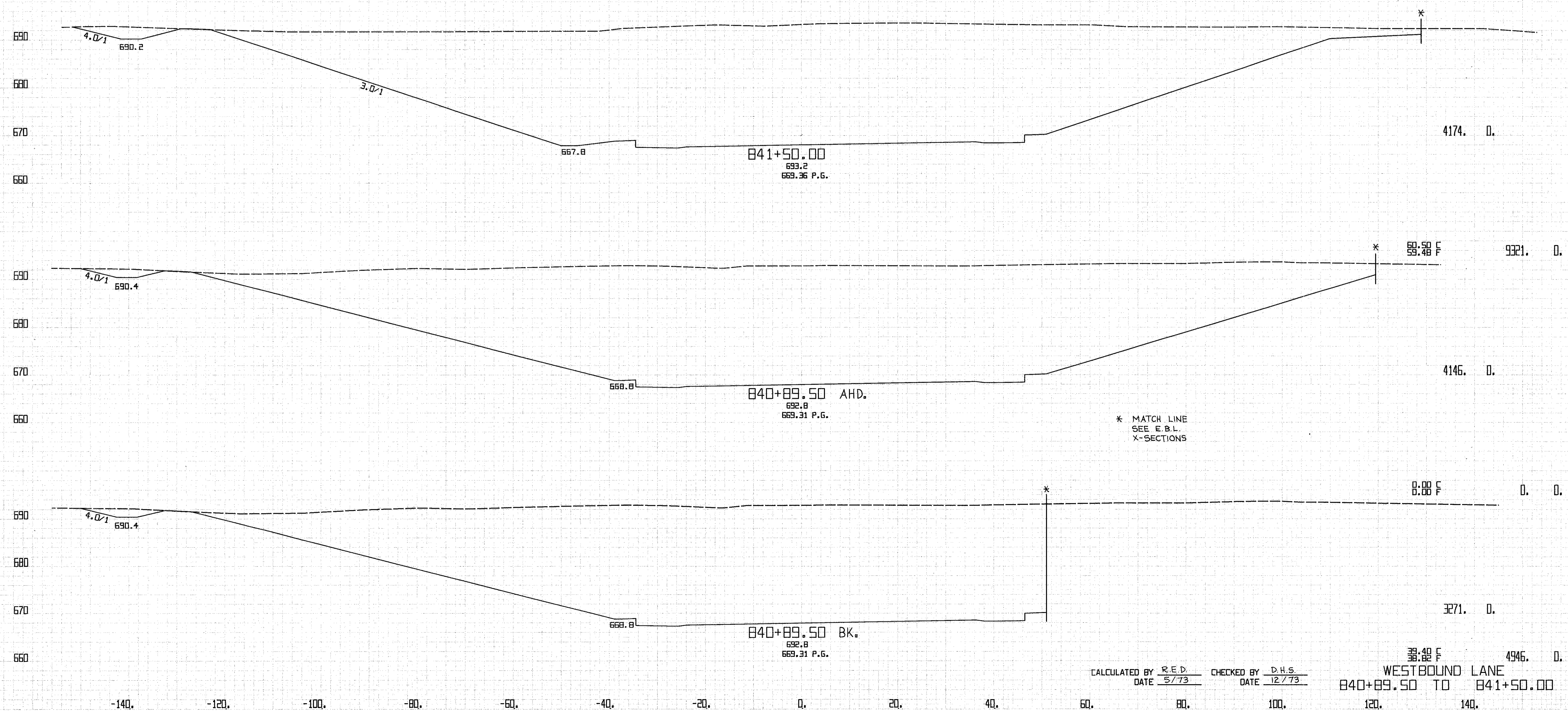
CALCULATED BY R.E.D. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

WESTBOUND LANE  
838+00.00 TO 839+00.00



CALCULATED BY R.E.D. CHECKED BY D.H.S.  
 DATE 5/73 DATE 12/73

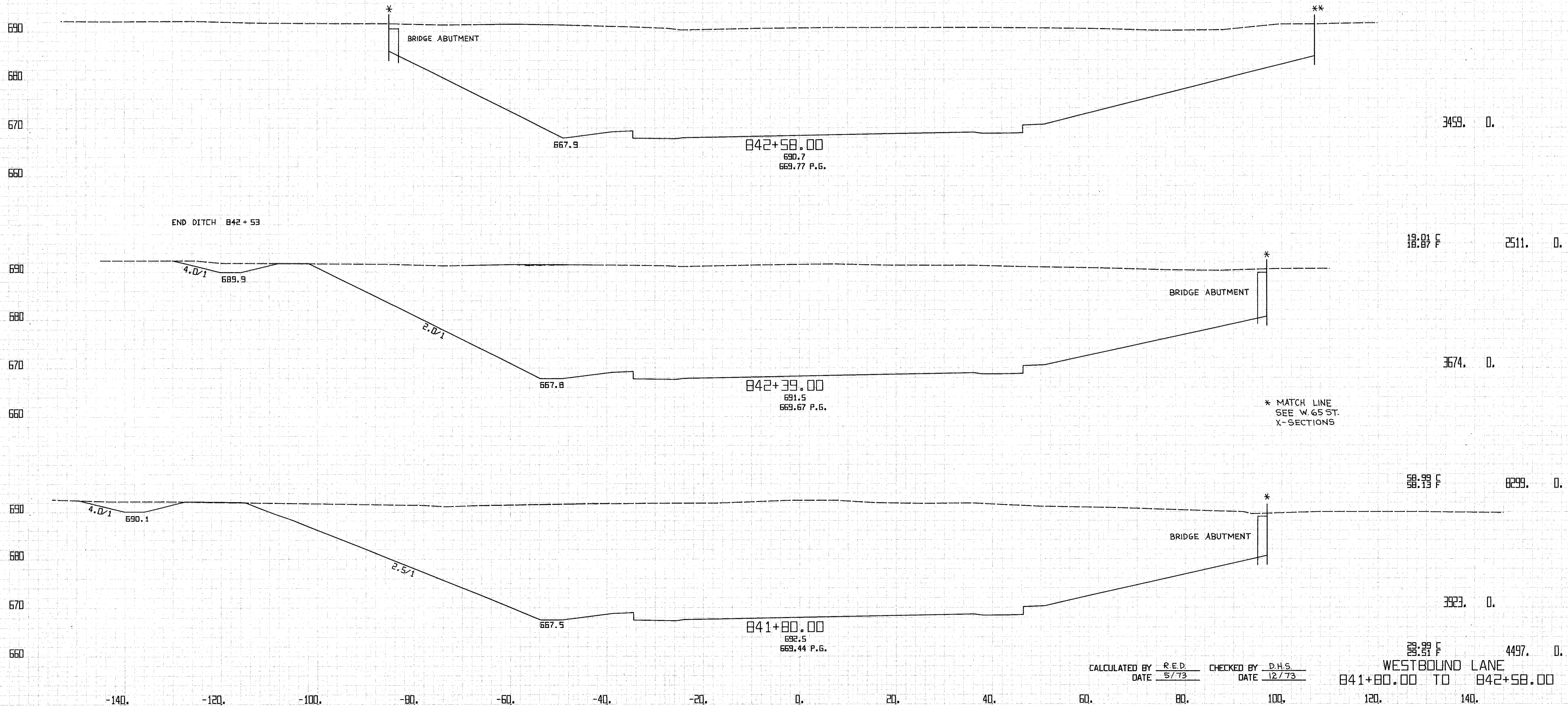
WESTBOUND LANE  
 839+50.00 TO 840+50.00



CALCULATED BY R.E.D. CHECKED BY D.H.S.  
 DATE 5/73 DATE 12/73

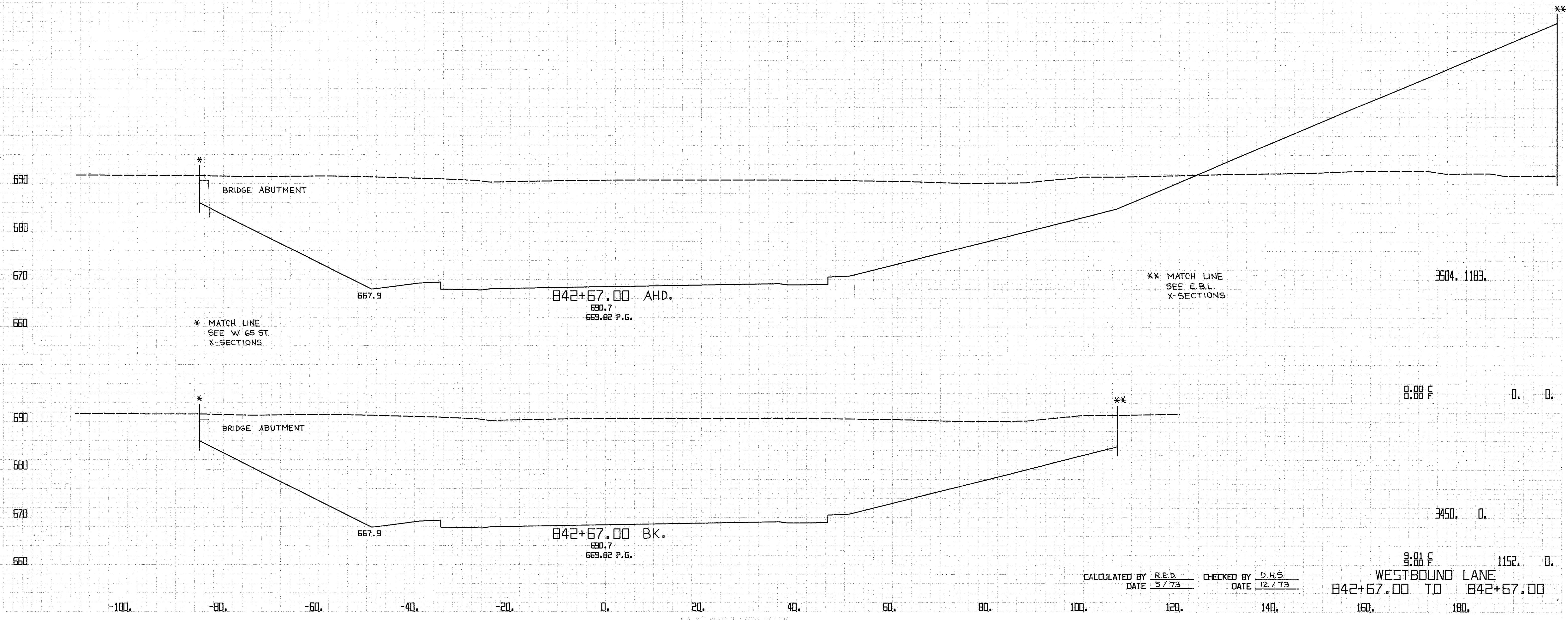
WESTBOUND LANE  
 840+89.50 TO 841+50.00  
 4946.0 D., 38.82 F.

\*\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS



CALCULATED BY R.E.D. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

WESTBOUND LANE  
841+80.00 TO 842+58.00

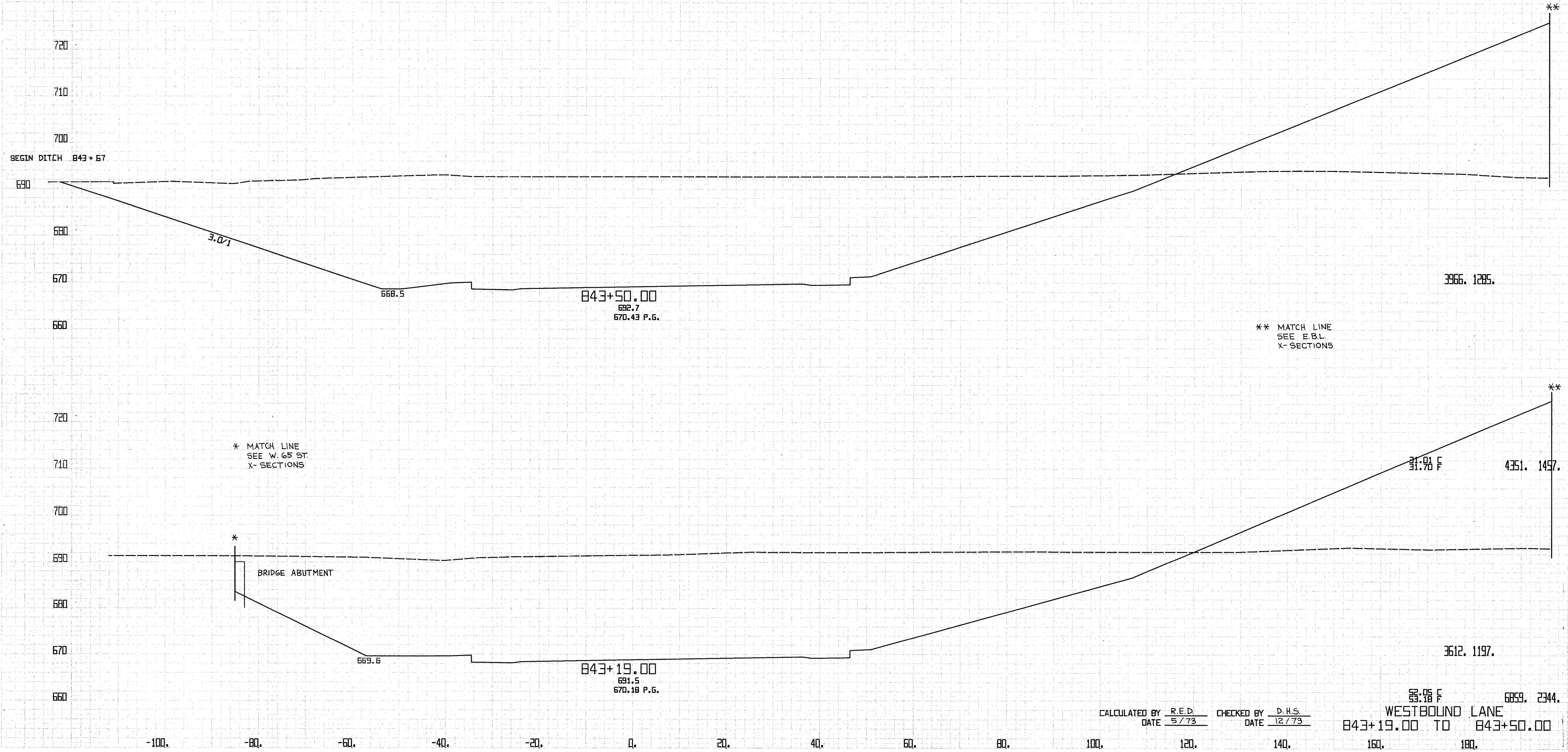


CALCULATED BY RED CHECKED BY DHS  
 DATE 5/73 DATE 12/73

WESTBOUND LANE  
 842+67.00 TO 842+67.00

DESIGNED BY: [illegible]  
 CHECKED BY: [illegible]  
 DATE: [illegible]

FED. RD. DIVISION	STATE	PROJECT	240 638
2	OHIO		
CUYAHOGA COUNTY CUY-90-11.64			
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT
			YOS. FILL



BEGIN DITCH 843+57

3.0/1

668.5

843+50.00  
692.7  
670.43 P.G.

3966. 1285.

\*\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS

\* MATCH LINE  
SEE W. 65 ST.  
X-SECTIONS

BRIDGE ABUTMENT

669.6

843+19.00  
691.5  
670.18 P.G.

31.0/1 F  
4351. 1497.

3612. 1197.

53.05 F  
6859. 2344.

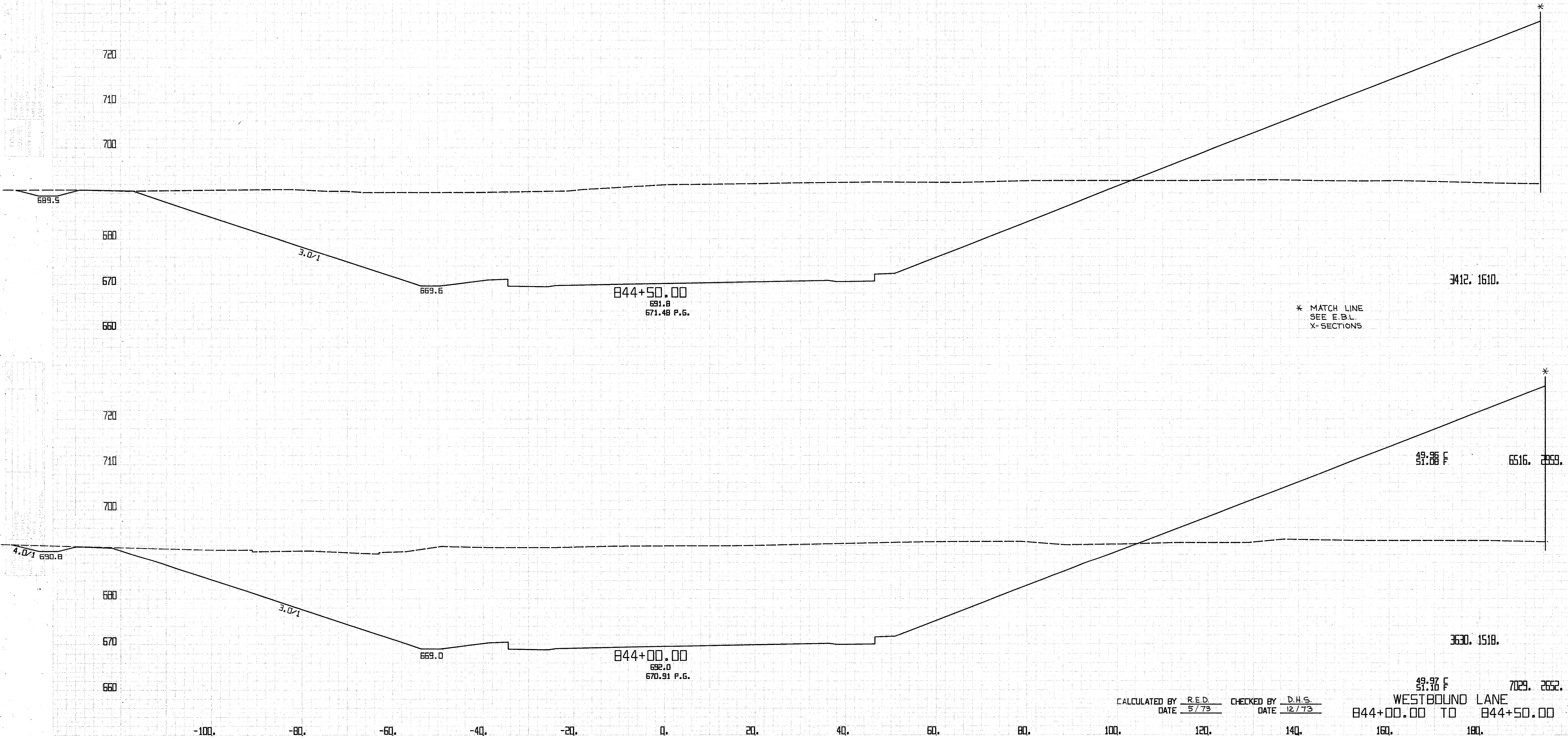
WESTBOUND LANE  
843+19.00 TO 843+50.00

CALCULATED BY R.E.D. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

-100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140. 160. 180.



PROJ. NO. 90-11.64  
 SHEET NO. 11 OF 15  
 COUNTY PROJECT NO. 90-11.64  
 DATE 5/73

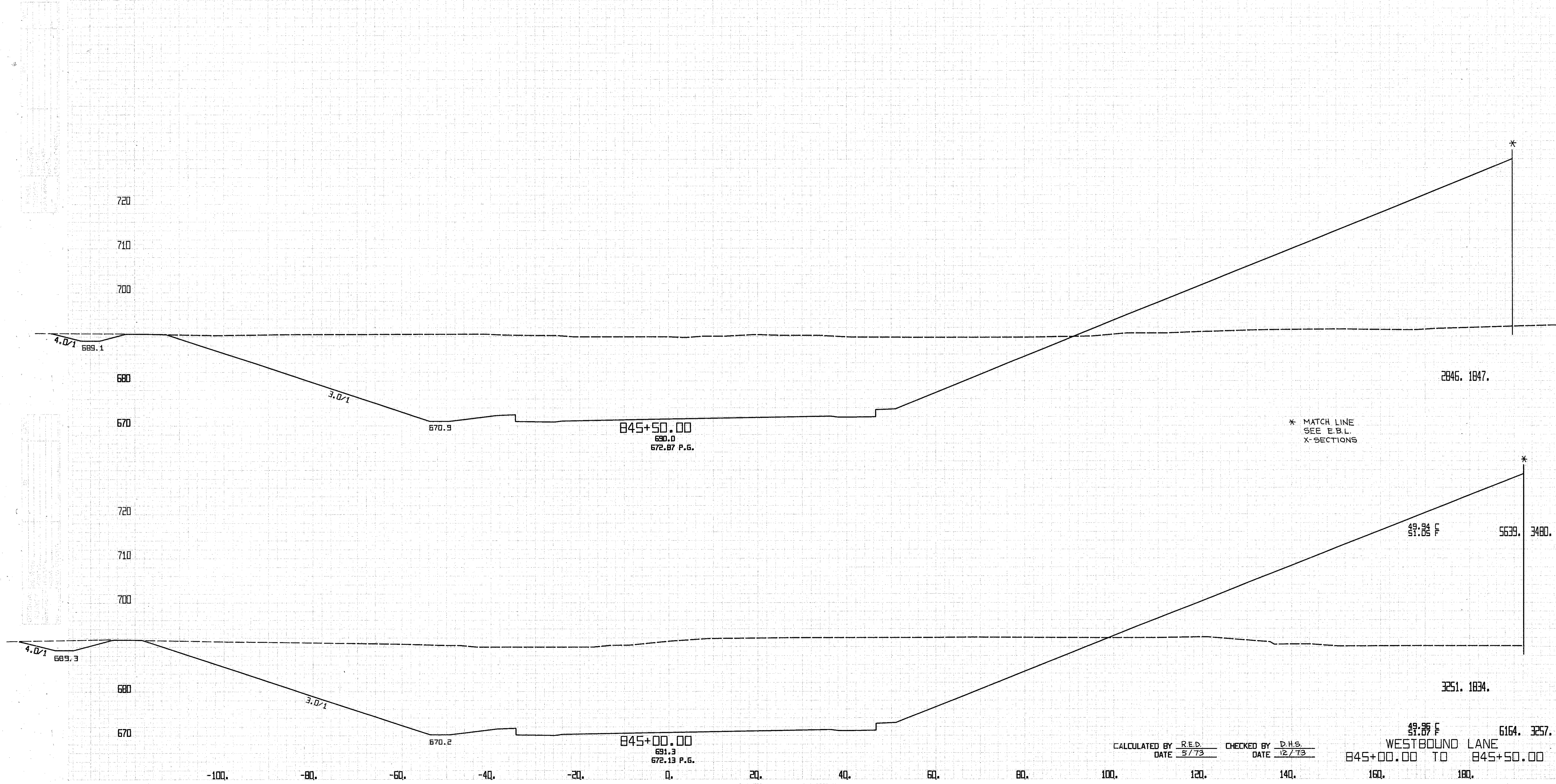


\* MATCH LINE  
 SEE E.B.L.  
 X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY D.H.S.  
 DATE 5/73 DATE 12/73

49.97 F 7029. 2652.  
 51.16 F  
 WESTBOUND LANE  
 844+00.00 TO 844+50.00

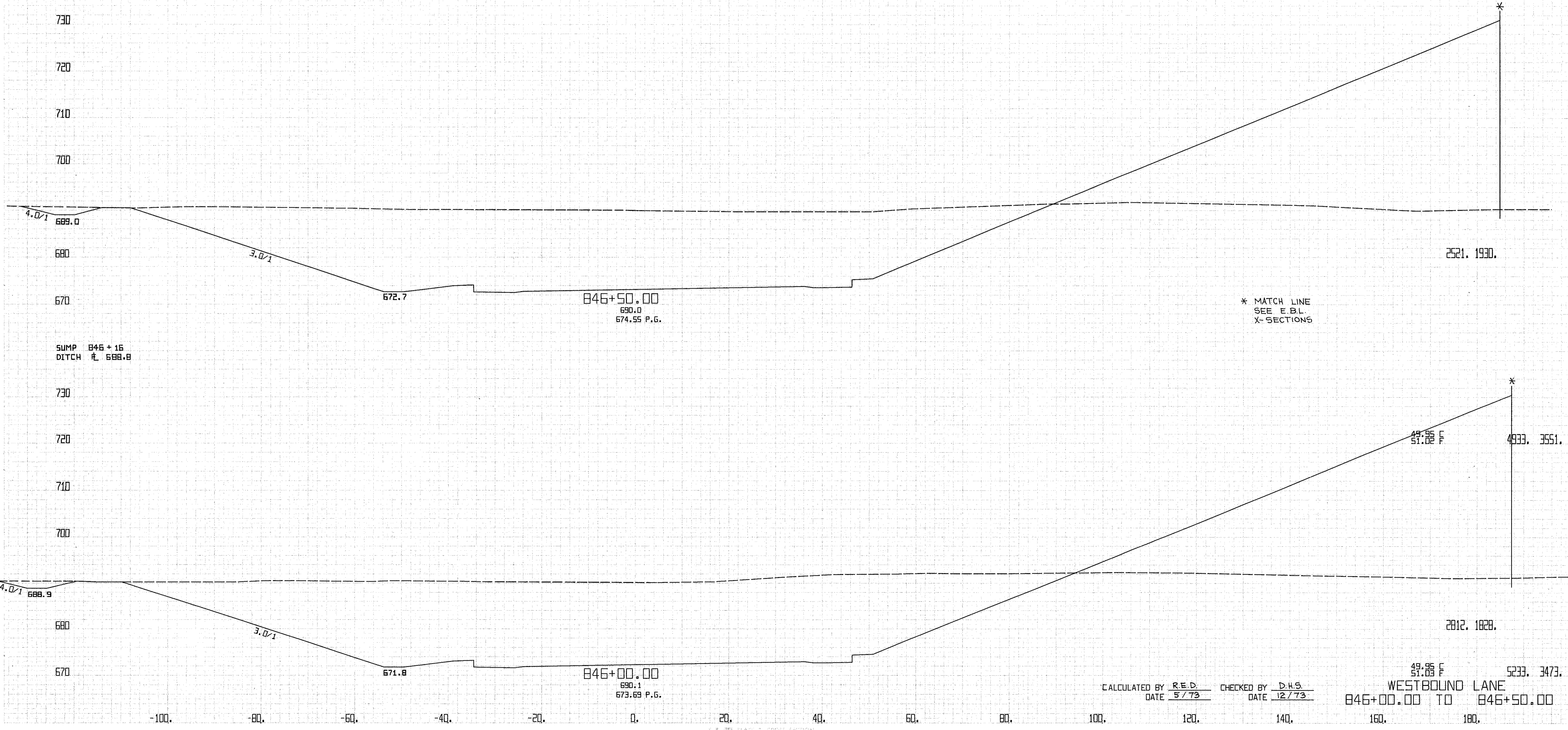
FED. RD. DIVISION	STATE	PROJECT	242 838	
2	OHIO	CUYAHOGA COUNTY CLY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YOS. FILL



\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS

CALCULATED BY RED CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

49.95 F 6164. 3257.  
WESTBOUND LANE  
845+00.00 TO 845+50.00

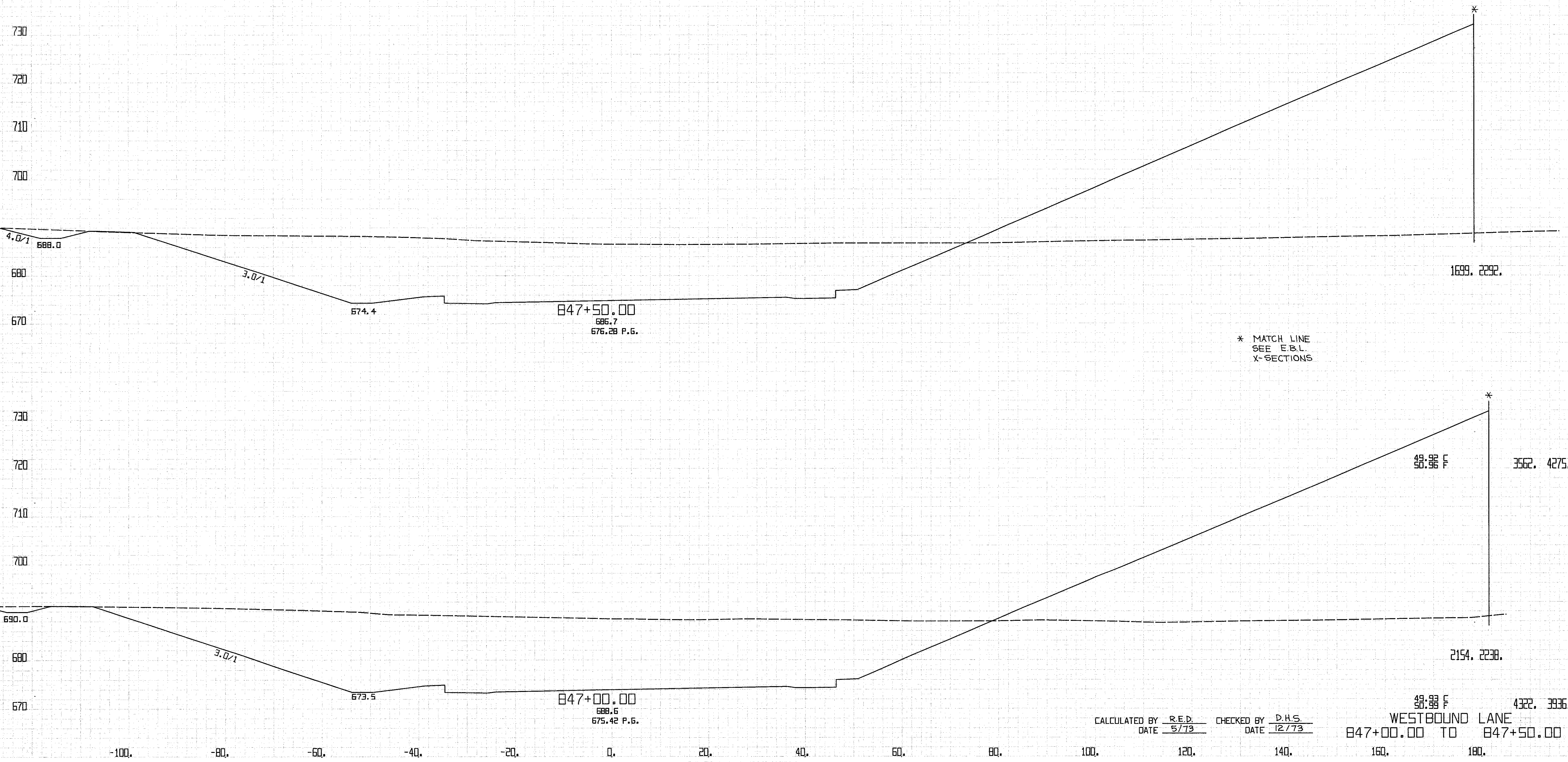


\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS

CALCULATED BY R.E.D.    CHECKED BY D.H.S.  
DATE 5/73                      DATE 12/73

WESTBOUND LANE  
846+00.00 TO 846+50.00

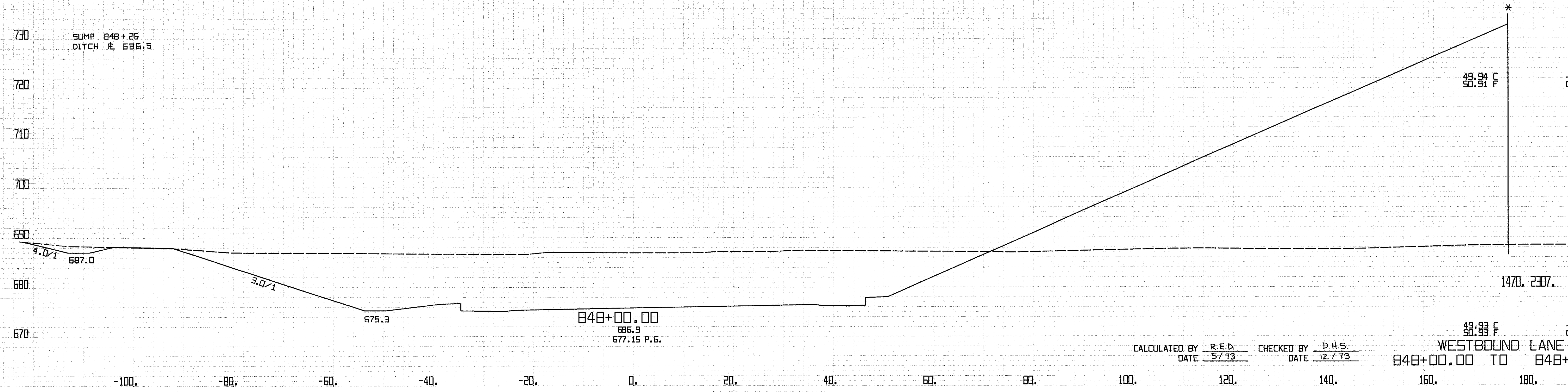
FED. RD. DIVISION	STATE	PROJECT	244 838	
2	OHIO	CUYAHOGA COUNTY CUY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY D.H.S.  
 DATE 5/73 DATE 12/73

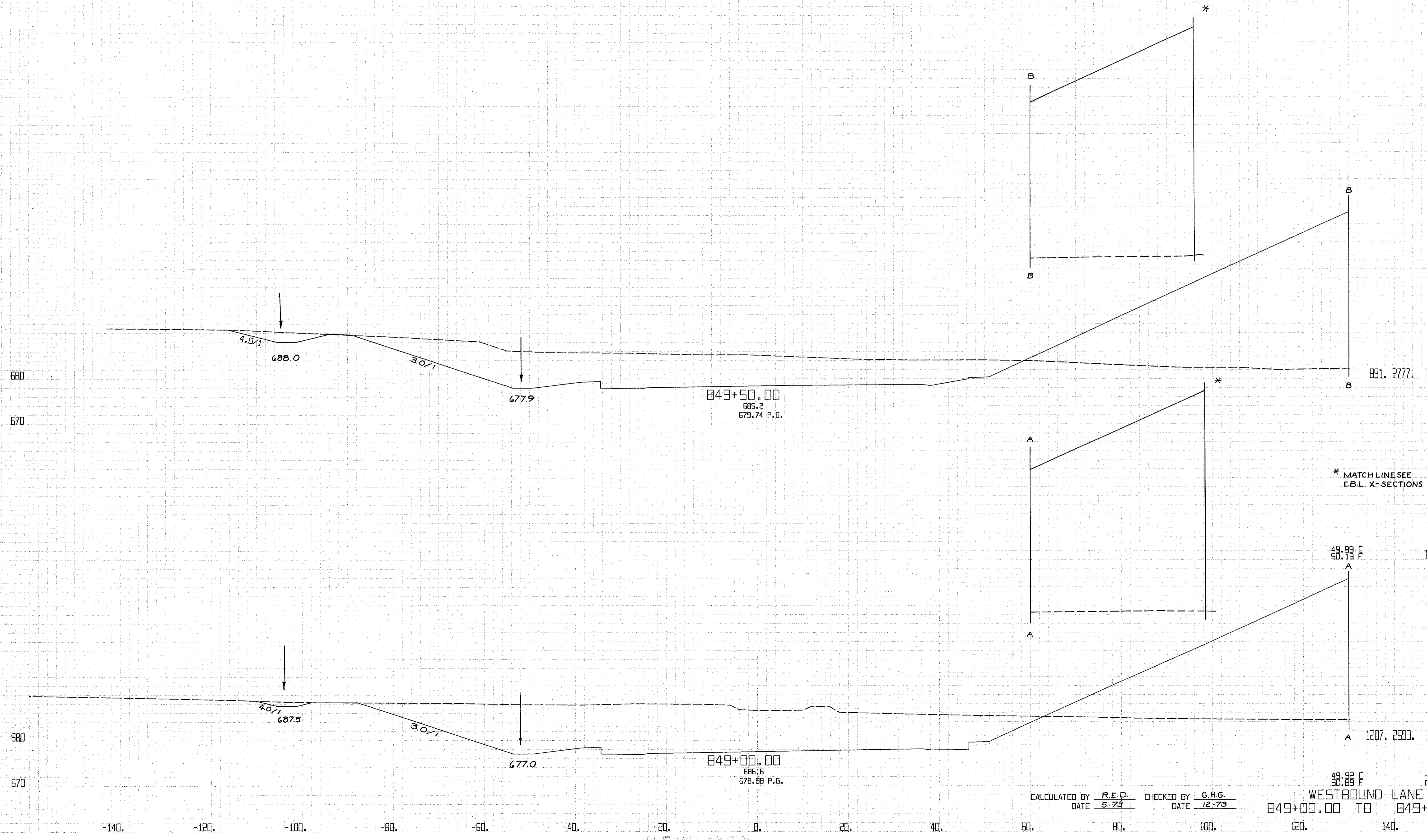
48.93 F 4322.3936  
 WESTBOUND LANE  
 847+00.00 TO 847+50.00



\* MATCH LINE  
SEE E.B.L.  
X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY D.H.S.  
DATE 5/73 DATE 12/73

48.93 F 2930. 4338.  
WESTBOUND LANE  
848+00.00 TO 848+50.00



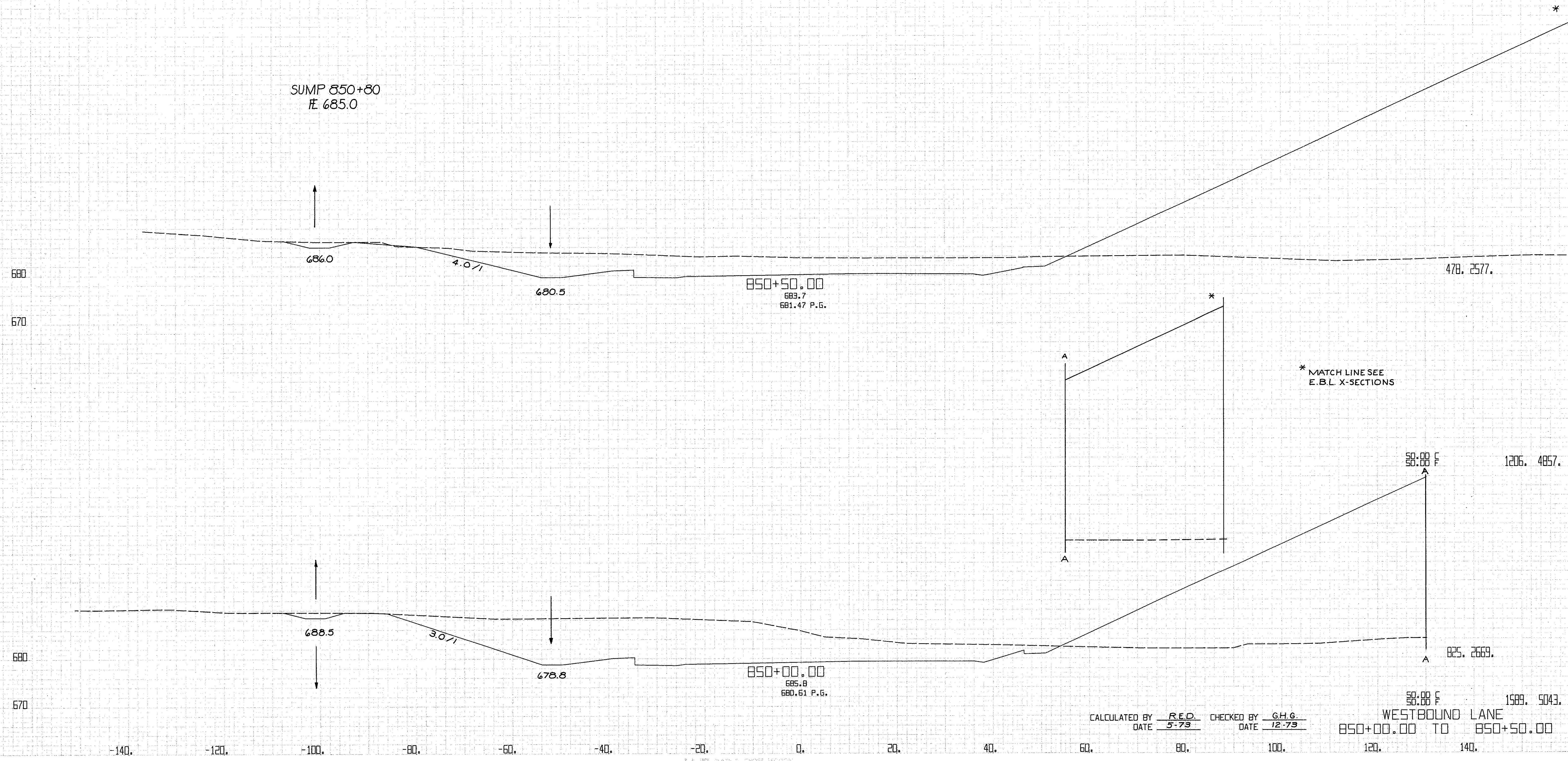
\* MATCH LINE SEE E.B.L. X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

48.93 F 2465. 4739.  
50.88 F  
WESTBOUND LANE  
849+00.00 TO 849+50.00

DESIGNER: [illegible]  
 CHECKER: [illegible]  
 DATE: [illegible]

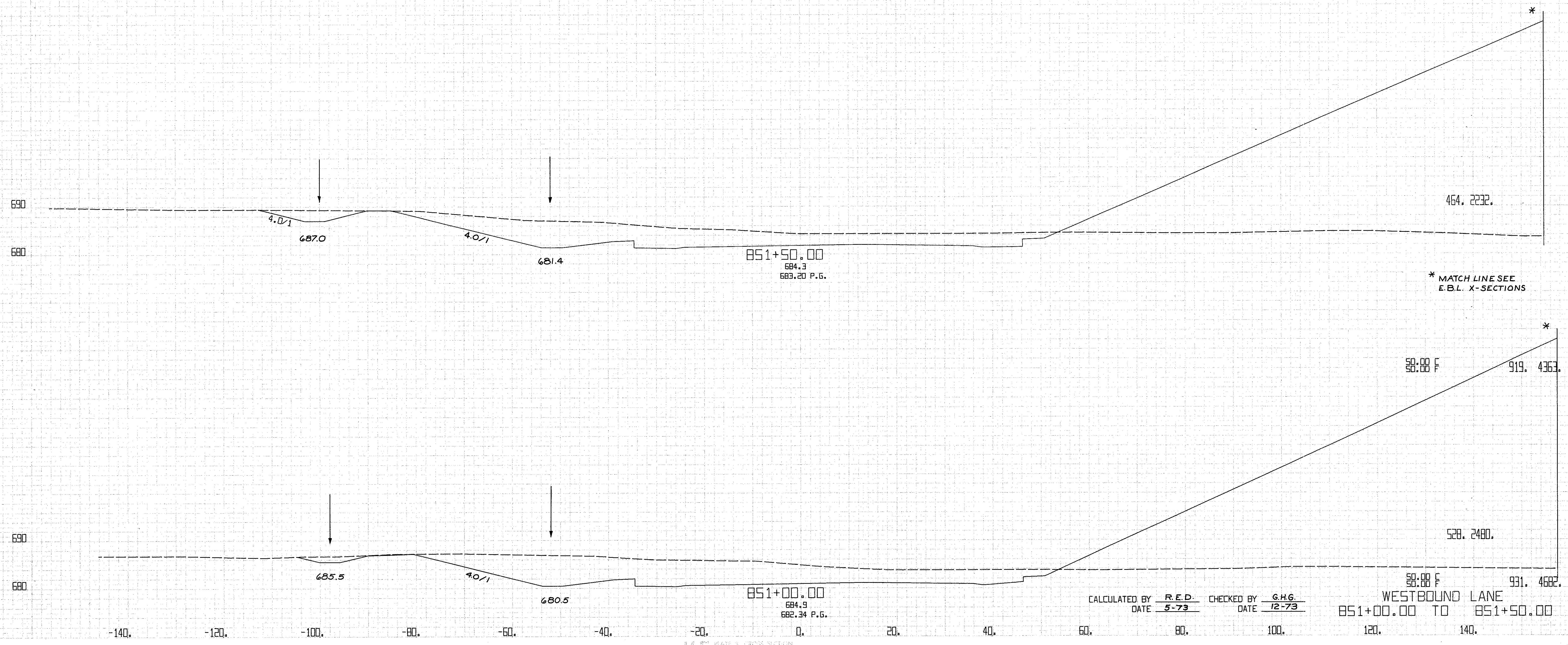
SURVEYOR: [illegible]  
 DATE: [illegible]



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

58.88' F 1589.5043  
 WESTBOUND LANE  
 850+00.00 TO 850+50.00

FED. RD. DIVISION	STATE	PROJECT	(248) 838	
5	OHIO	CUYAHOGA COUNTY CUY-90-11.64		
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YOS. FILL

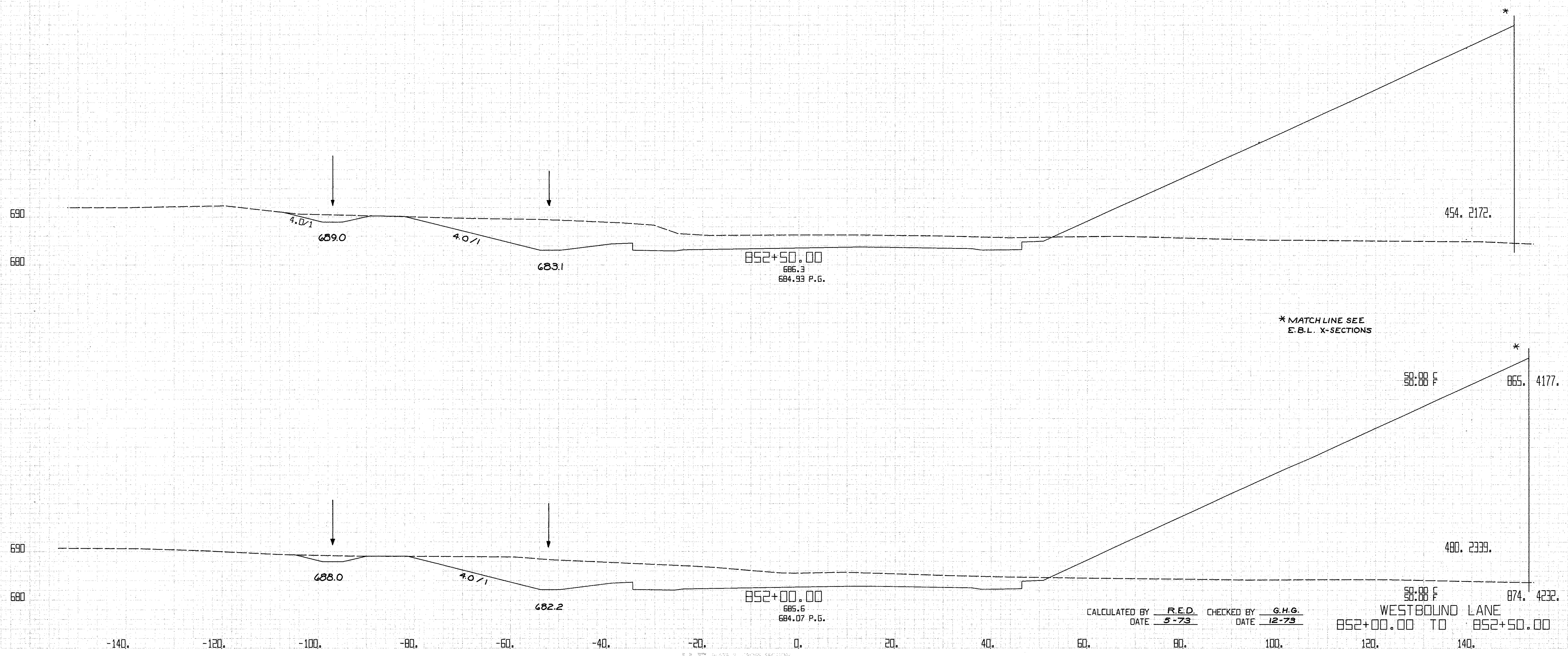


\* MATCH LINE SEE E.B.L. X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 12-73

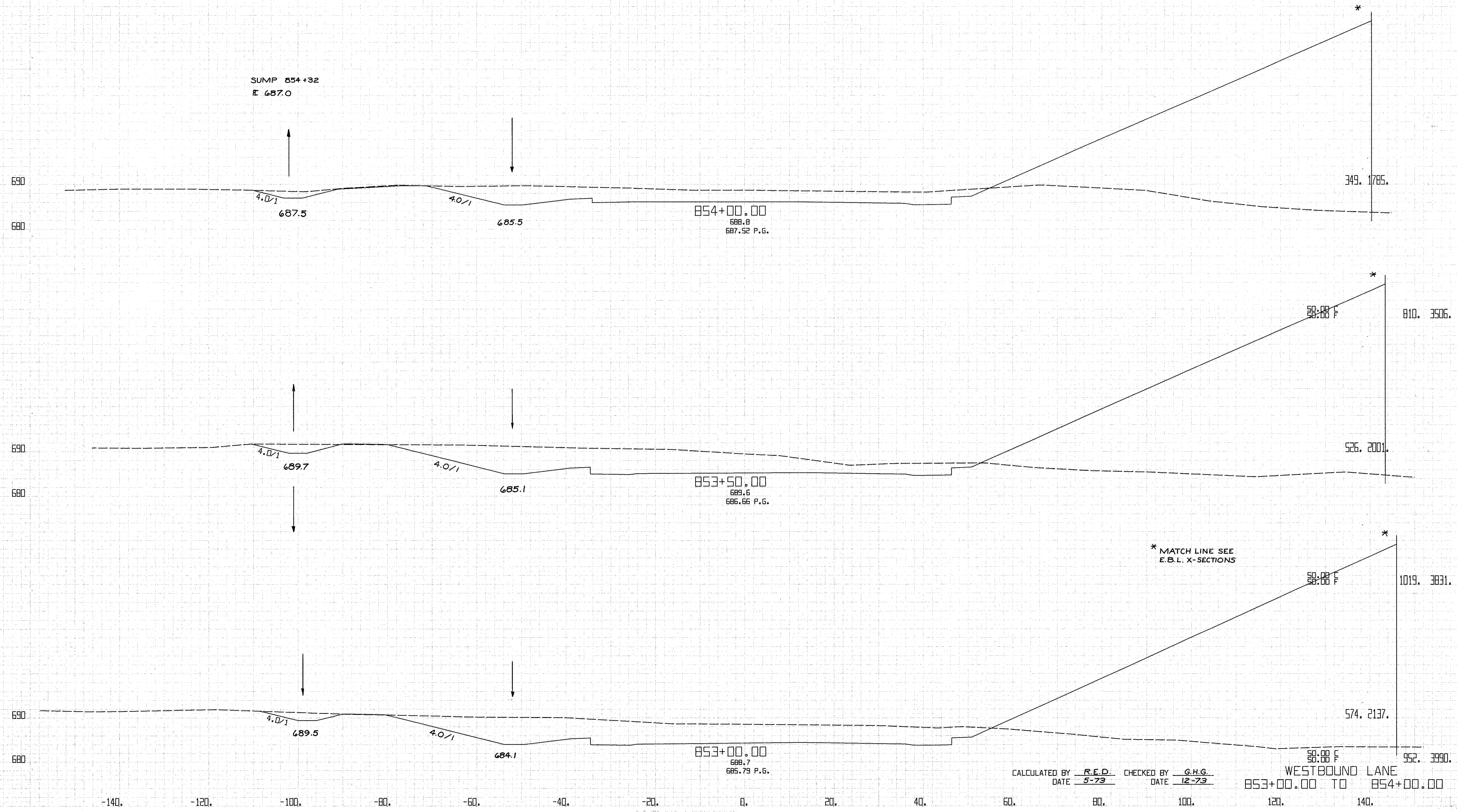
WESTBOUND LANE  
851+00.00 TO 851+50.00



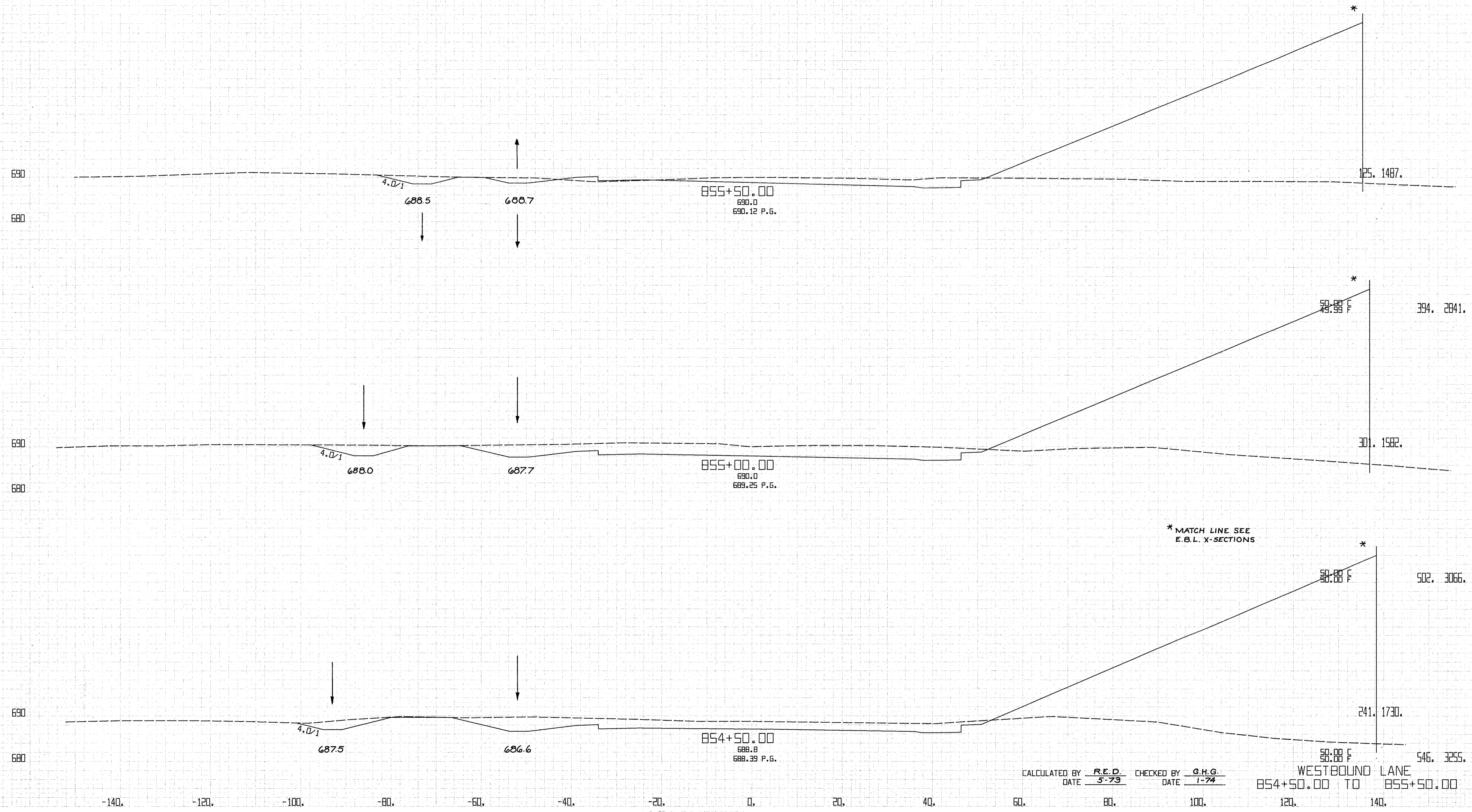


CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 12-73

WESTBOUND LANE  
 852+00.00 TO 852+50.00

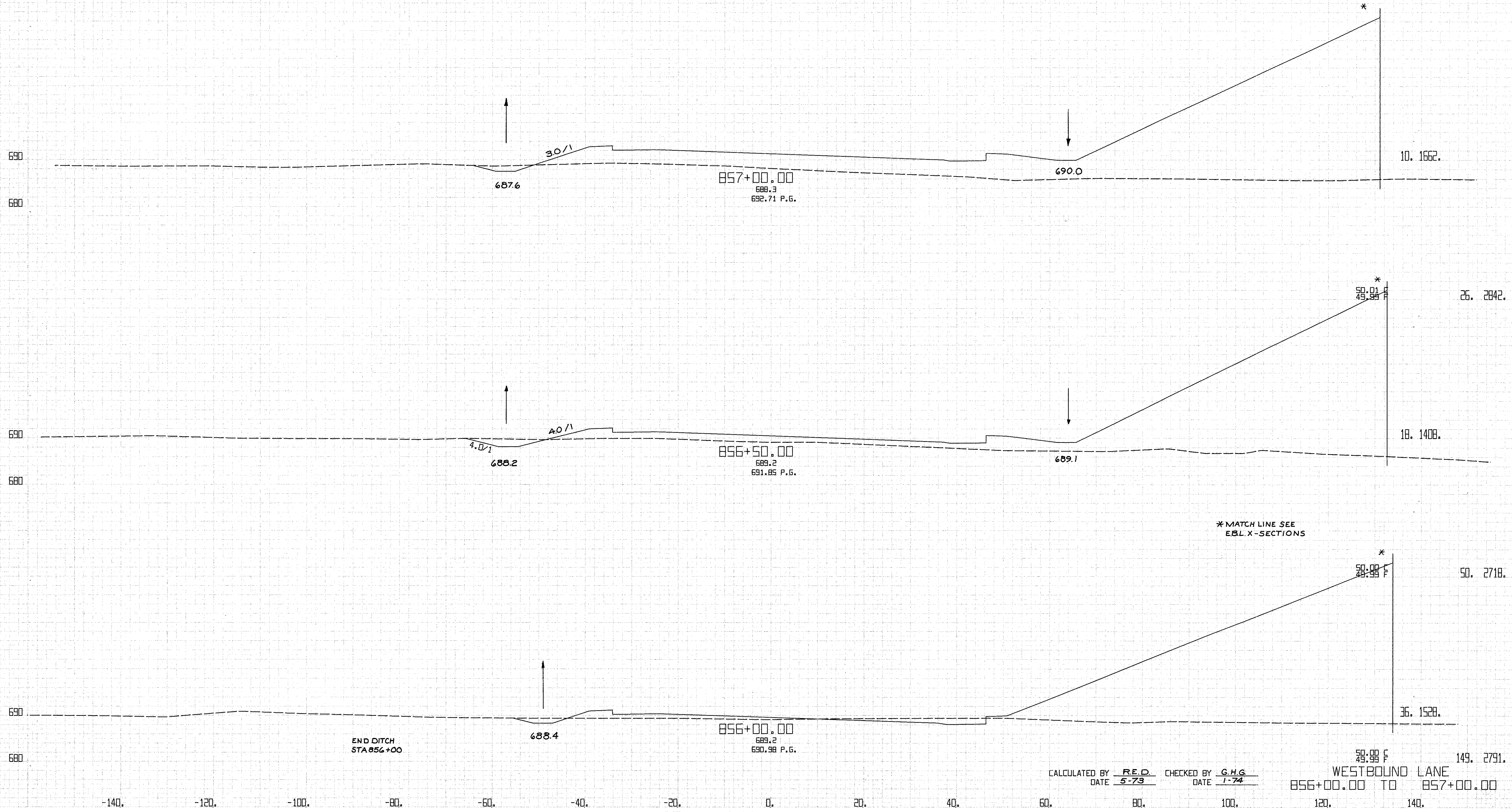


CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-79 DATE 12-79



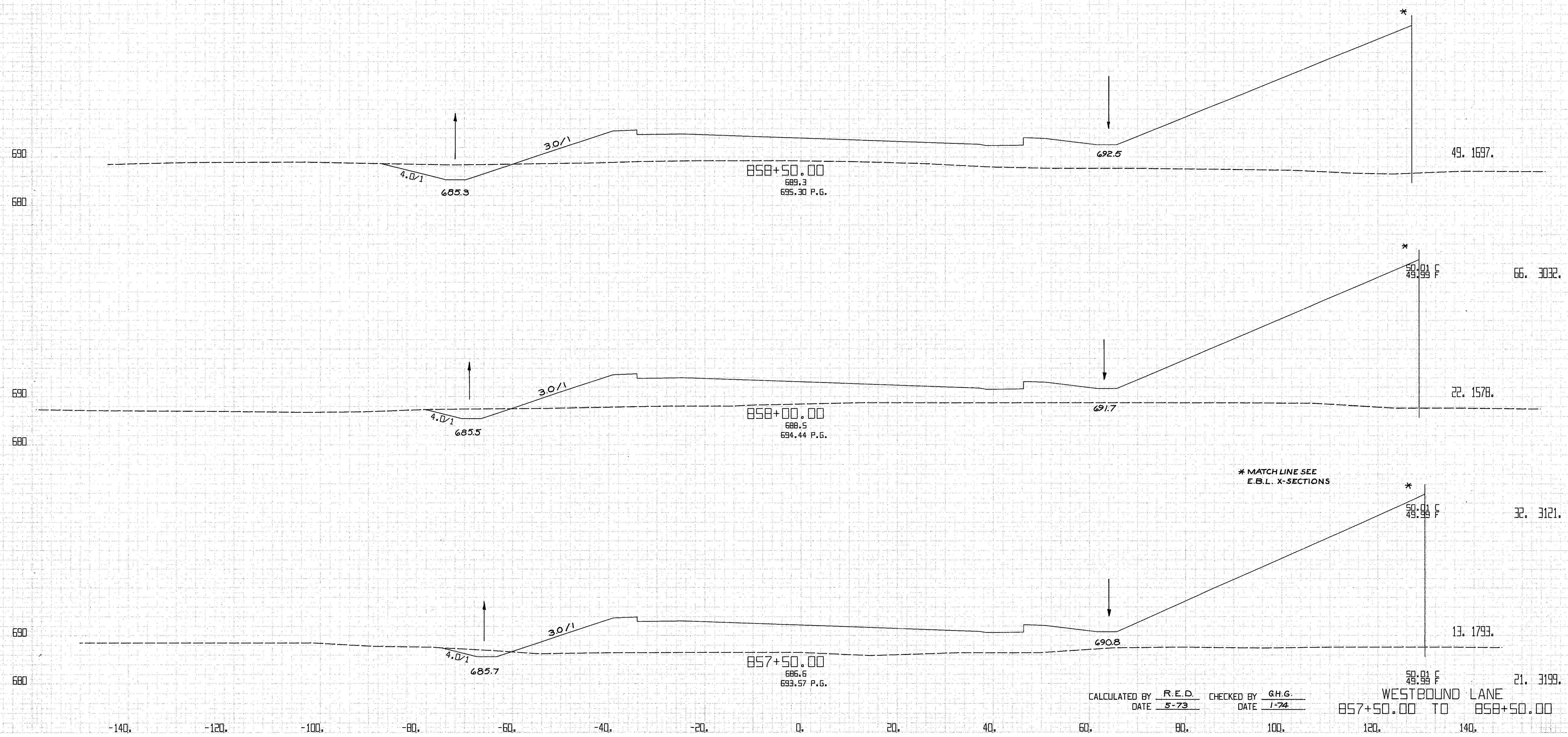
CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 1-74

WESTBOUND LANE  
 854+50.00 TO 855+50.00



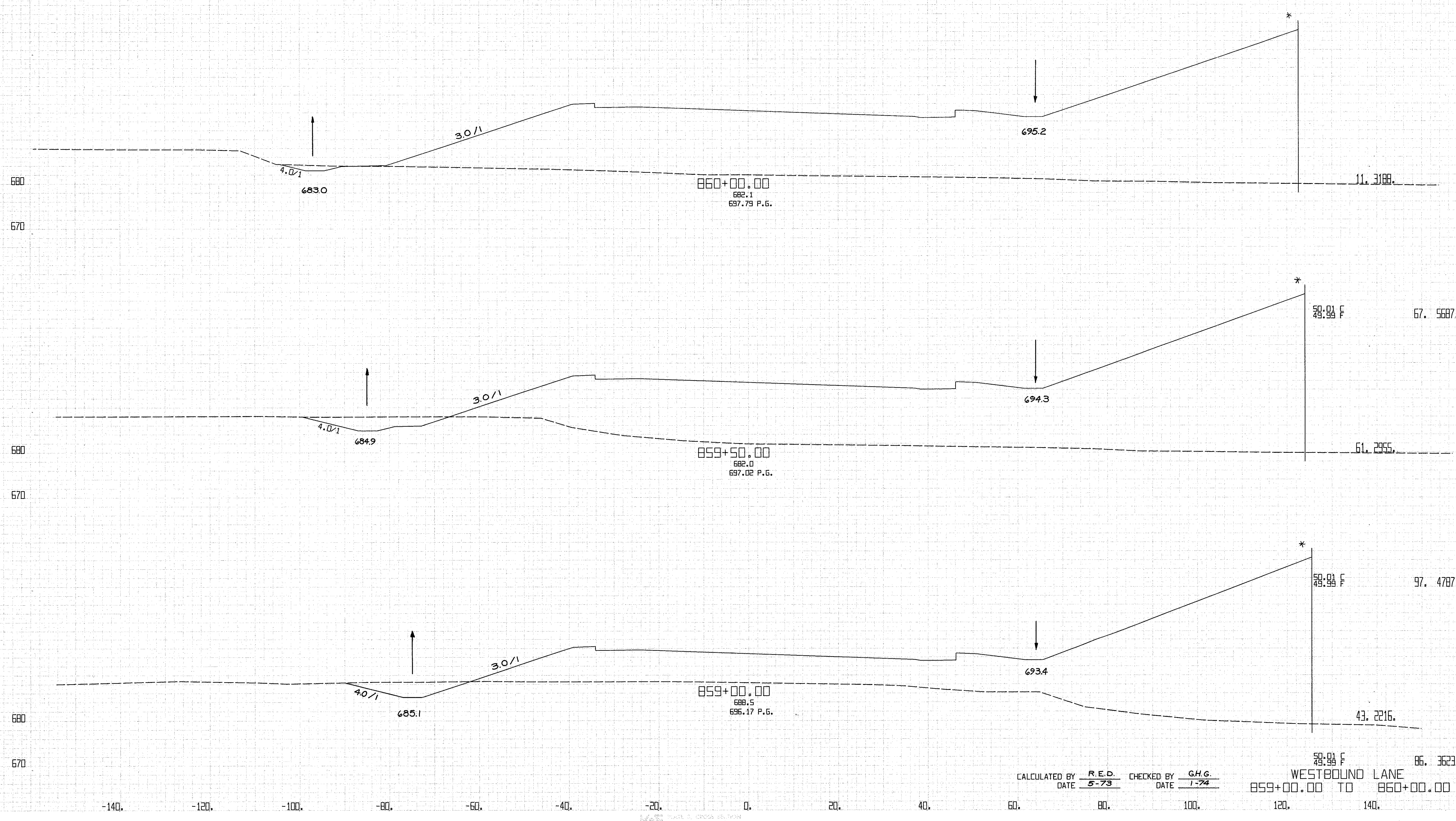
CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 1-74

58.99 F 149. 2791.  
 WESTBOUND LANE  
 856+00.00 TO 857+00.00



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 1-74

WESTBOUND LANE  
857+50.00 TO 858+50.00

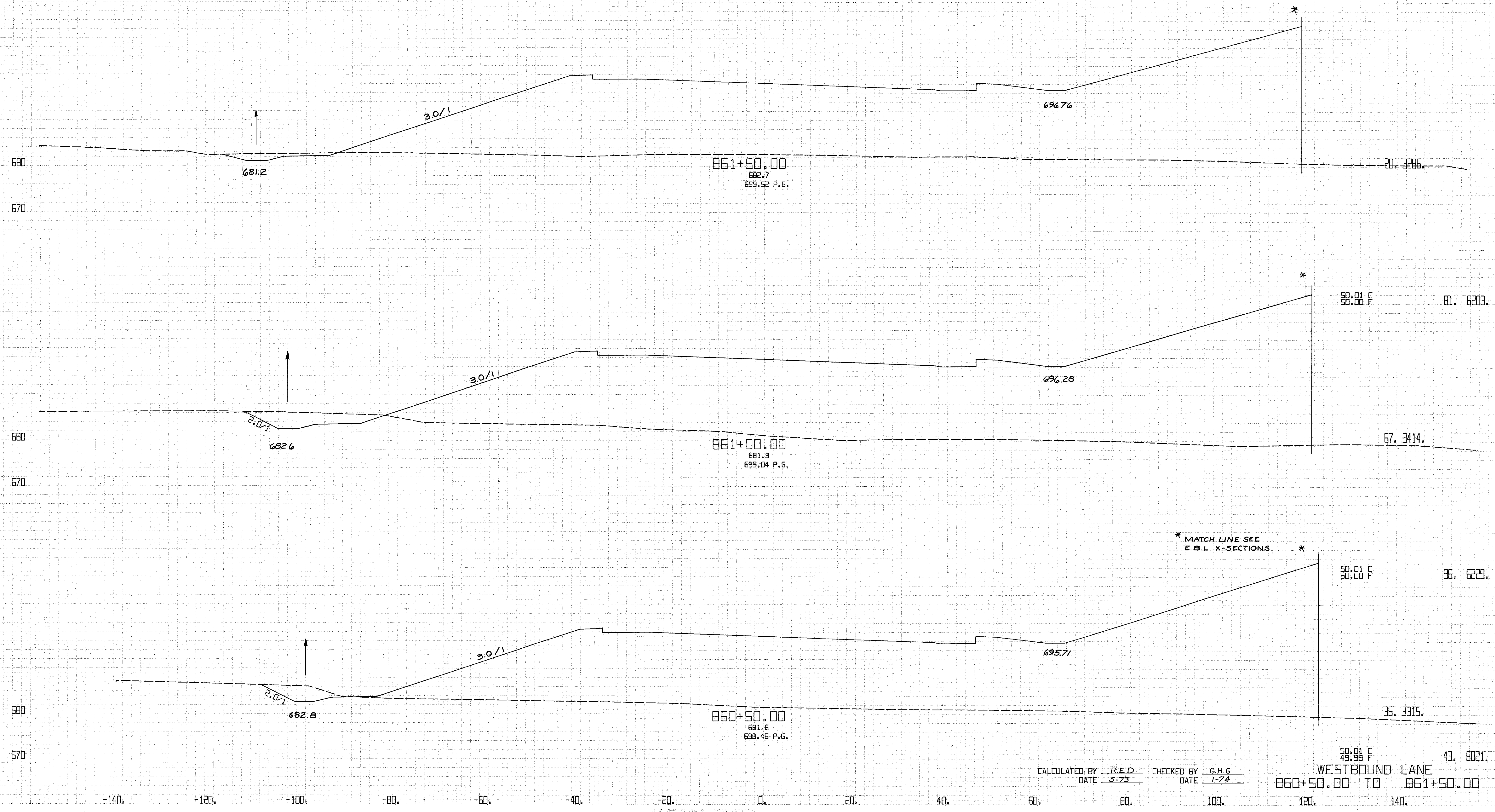


PROJECT NO. 254  
 SHEET NO. 838  
 DATE 1-74  
 DRAWN BY G.H.G.  
 CHECKED BY R.E.D.  
 CALCULATED BY R.E.D.

PROJECT NO. 254  
 SHEET NO. 838  
 DATE 1-74  
 DRAWN BY G.H.G.  
 CHECKED BY R.E.D.  
 CALCULATED BY R.E.D.

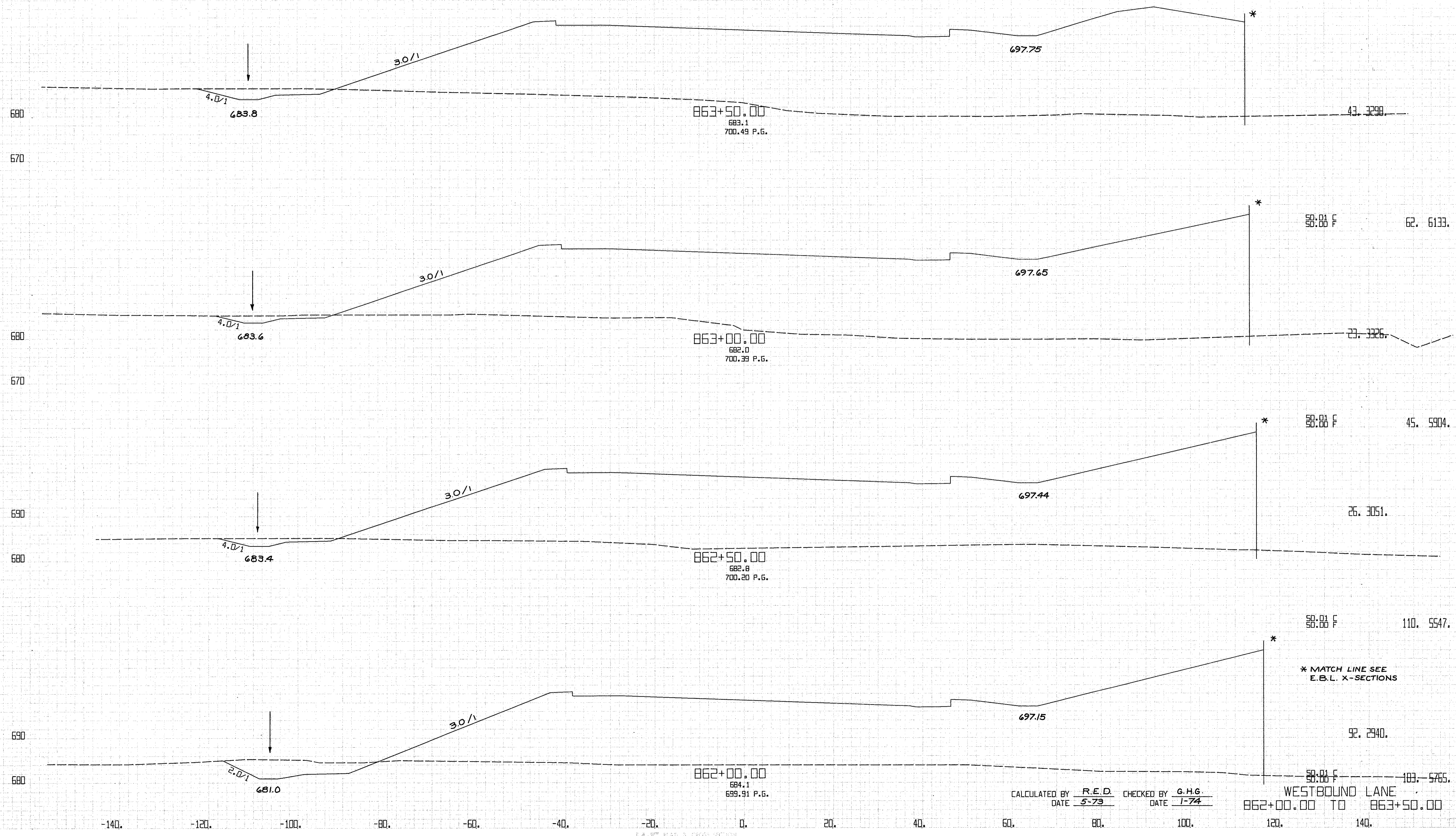
CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 1-74

WESTBOUND LANE  
 859+00.00 TO 860+00.00  
 43. 2216.      86. 3623.



CALCULATED BY RED CHECKED BY G.H.G.  
 DATE 5-73 DATE 1-74

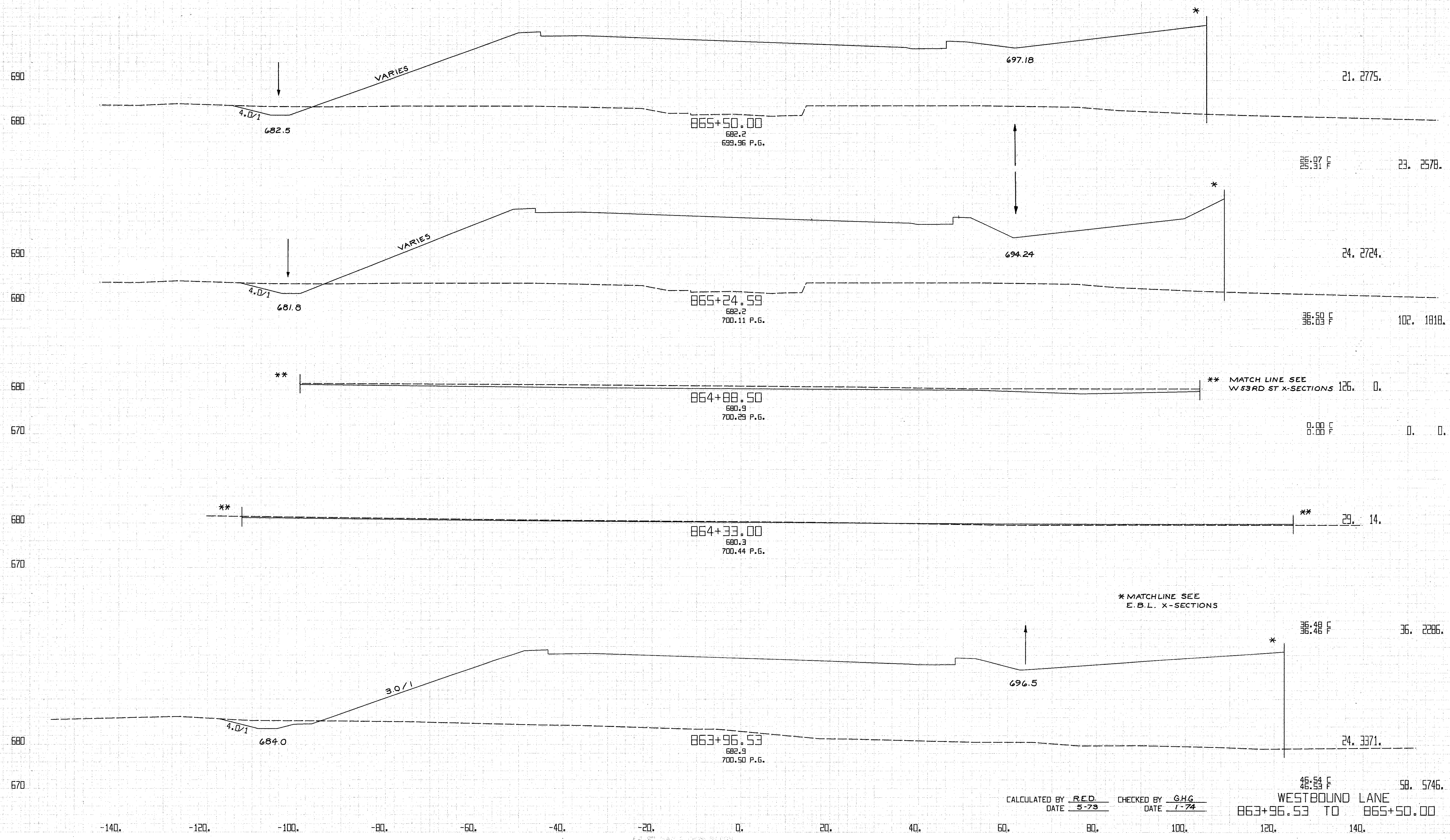
WESTBOUND LANE  
 860+50.00 TO 861+50.00



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 1-74

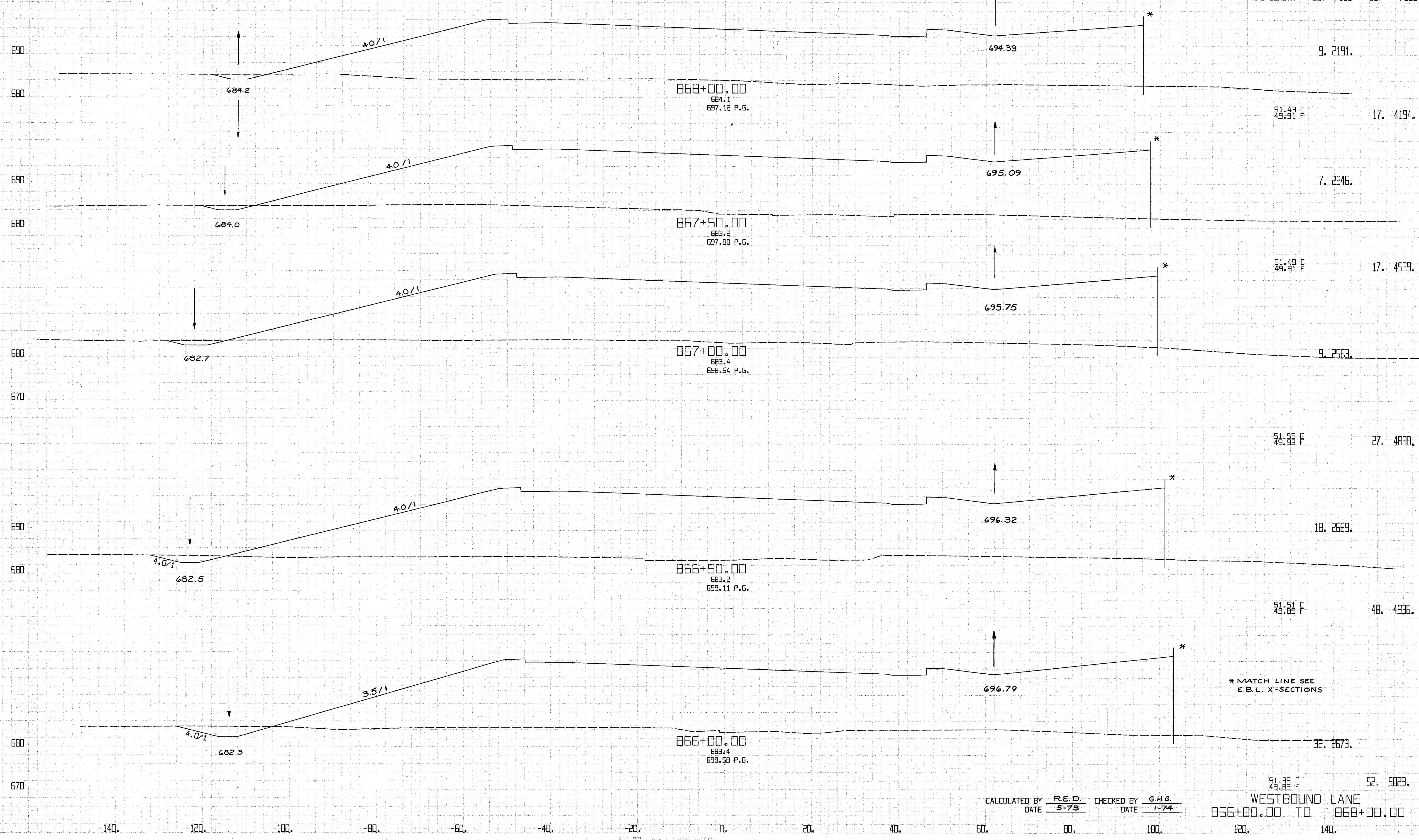
WESTBOUND LANE  
 862+00.00 TO 863+50.00





CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-79 DATE 1-74

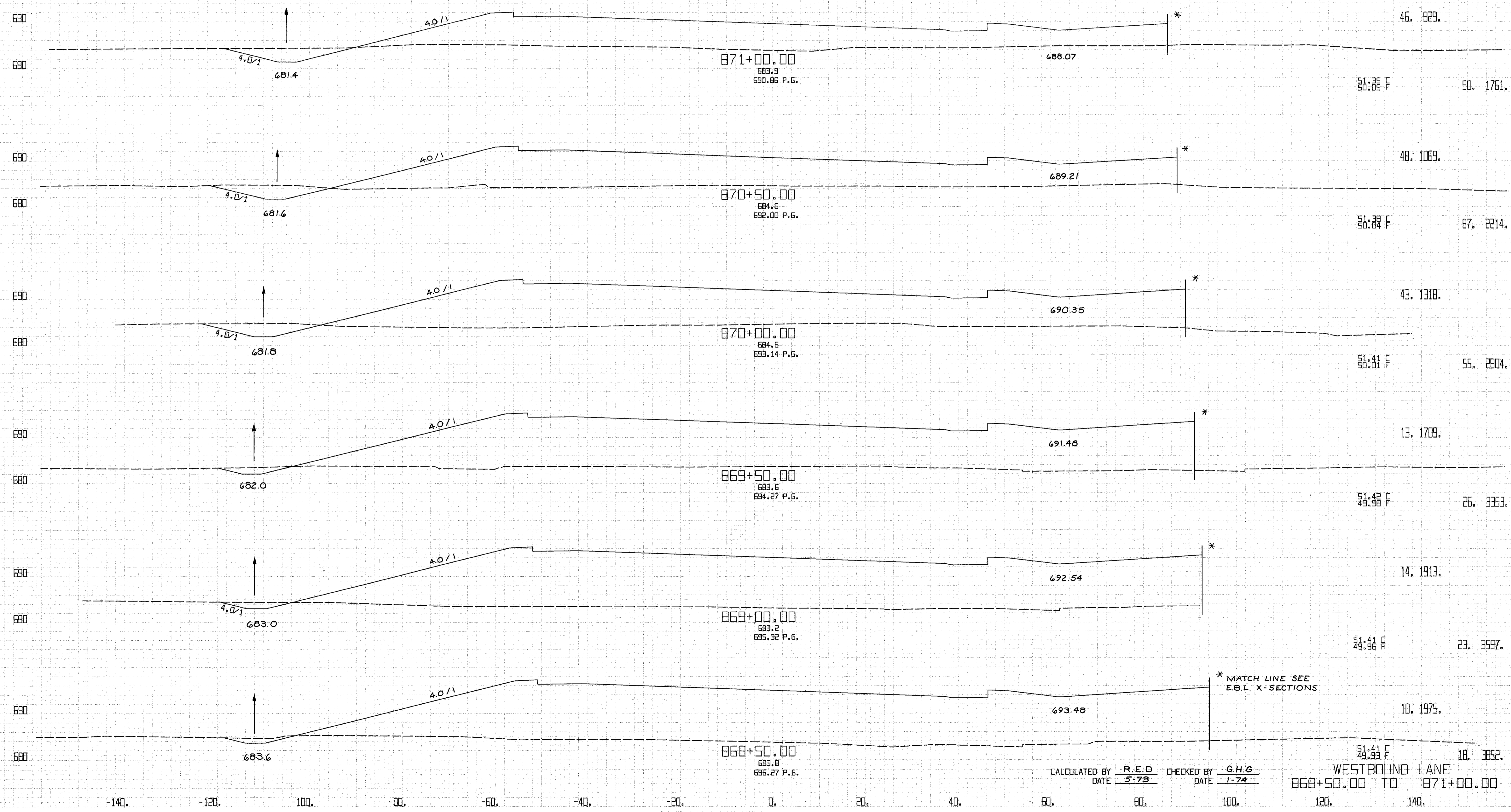
WESTBOUND LANE  
 863+96.53 TO 865+50.00



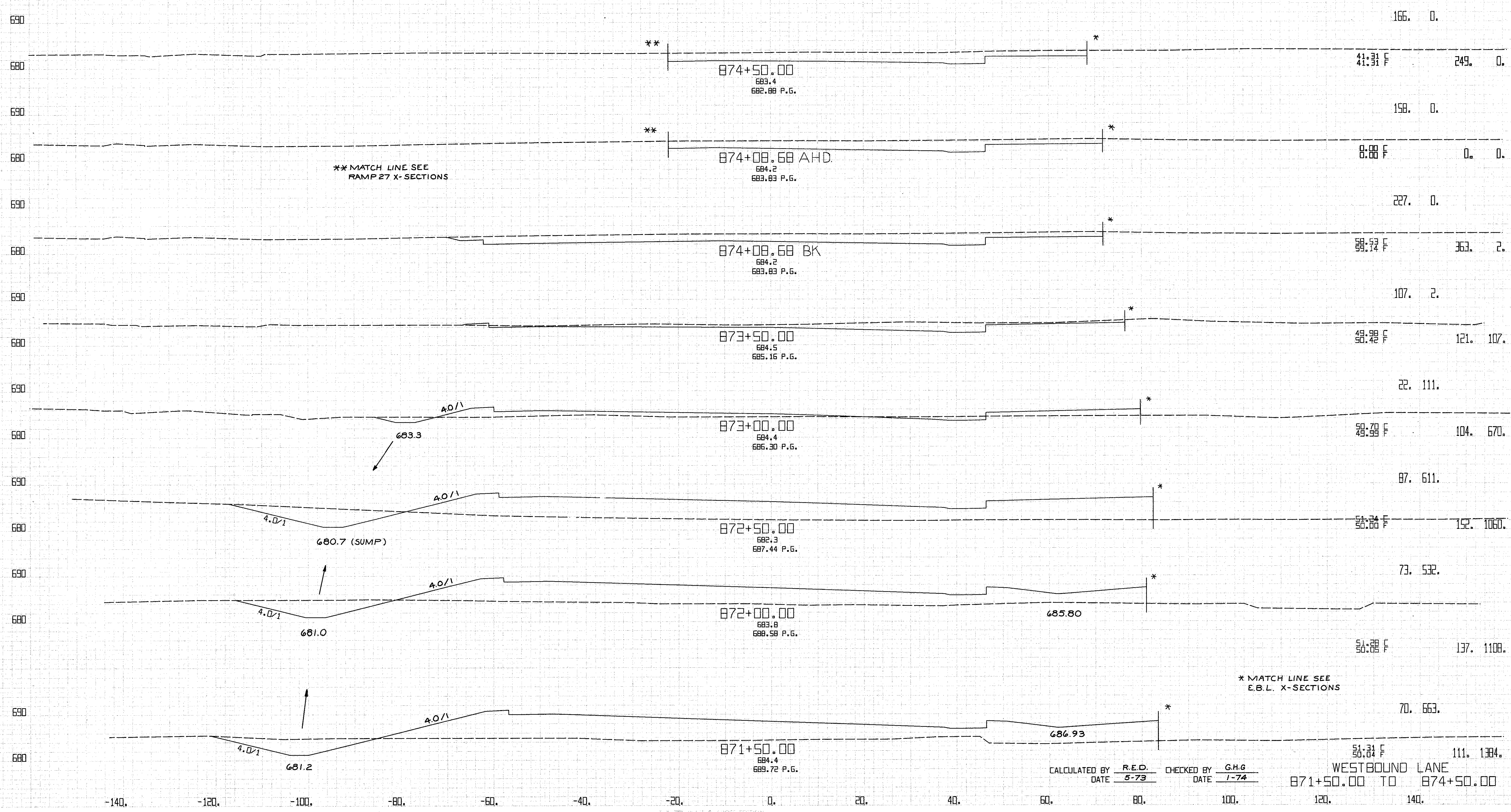
\* MATCH LINE SEE E.B.L. X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 1-74

WESTBOUND LANE  
866+00.00 TO 868+00.00



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 1-74

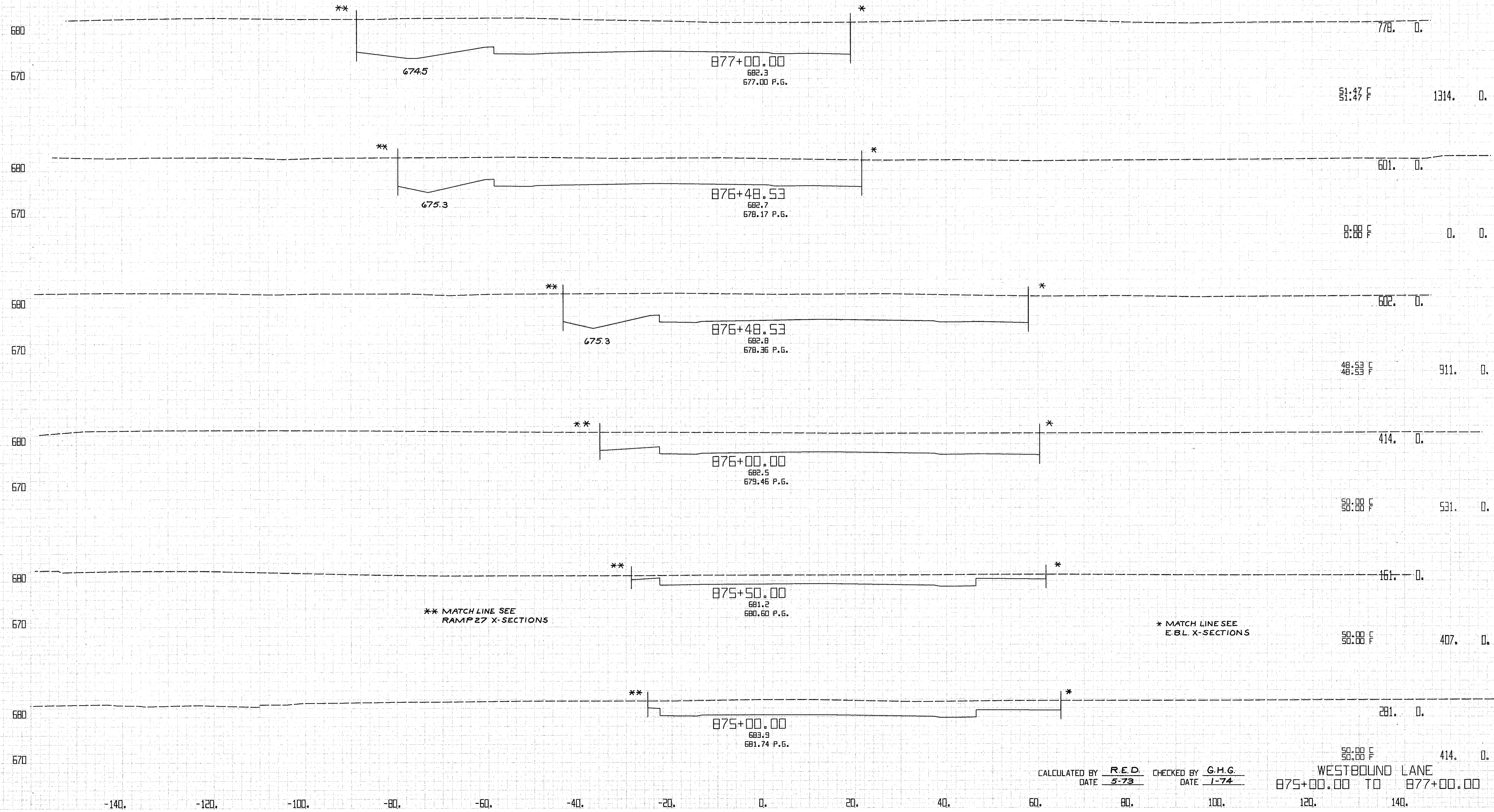


\*\* MATCH LINE SEE RAMP 27 X-SECTIONS

\* MATCH LINE SEE E.B.L. X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 5-73 DATE 1-74

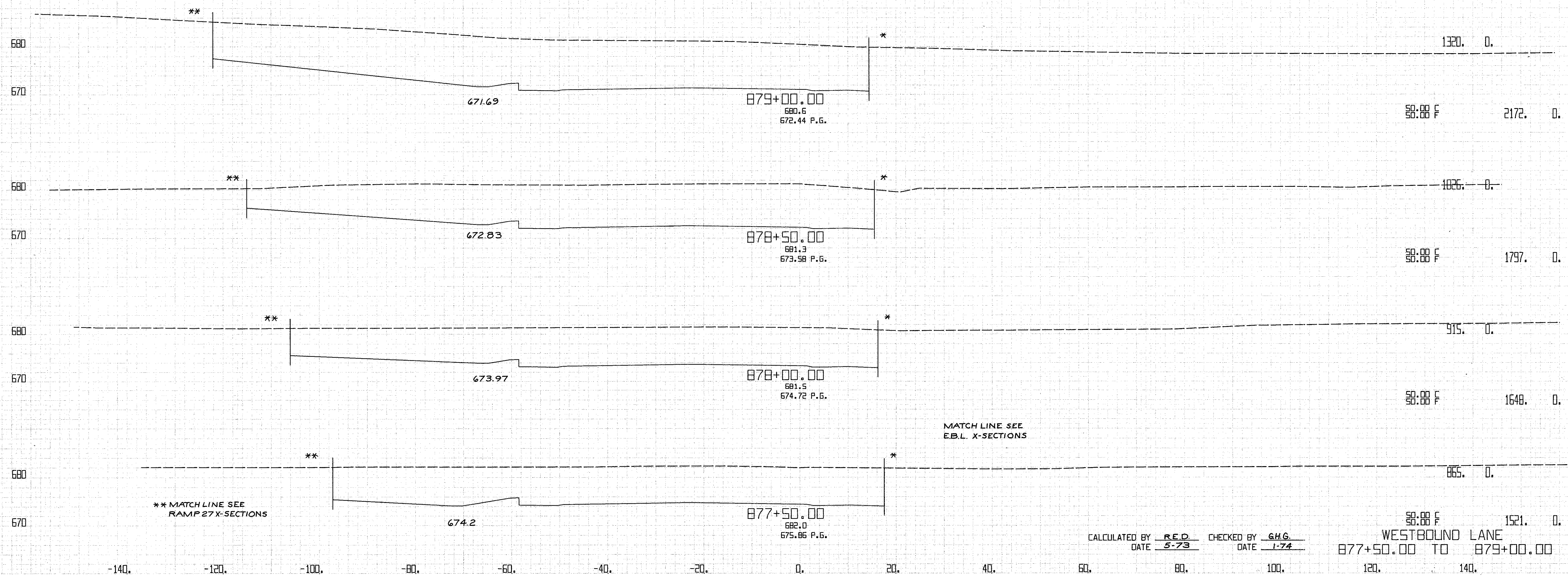
WESTBOUND LANE  
871+50.00 TO 874+50.00



CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 1-74

WESTBOUND LANE  
 875+00.00 TO 877+00.00

FED. RD. DIVISION	STATE	PROJECT	262 838	
5	OHIO			
CUYAHOGA COUNTY CUY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



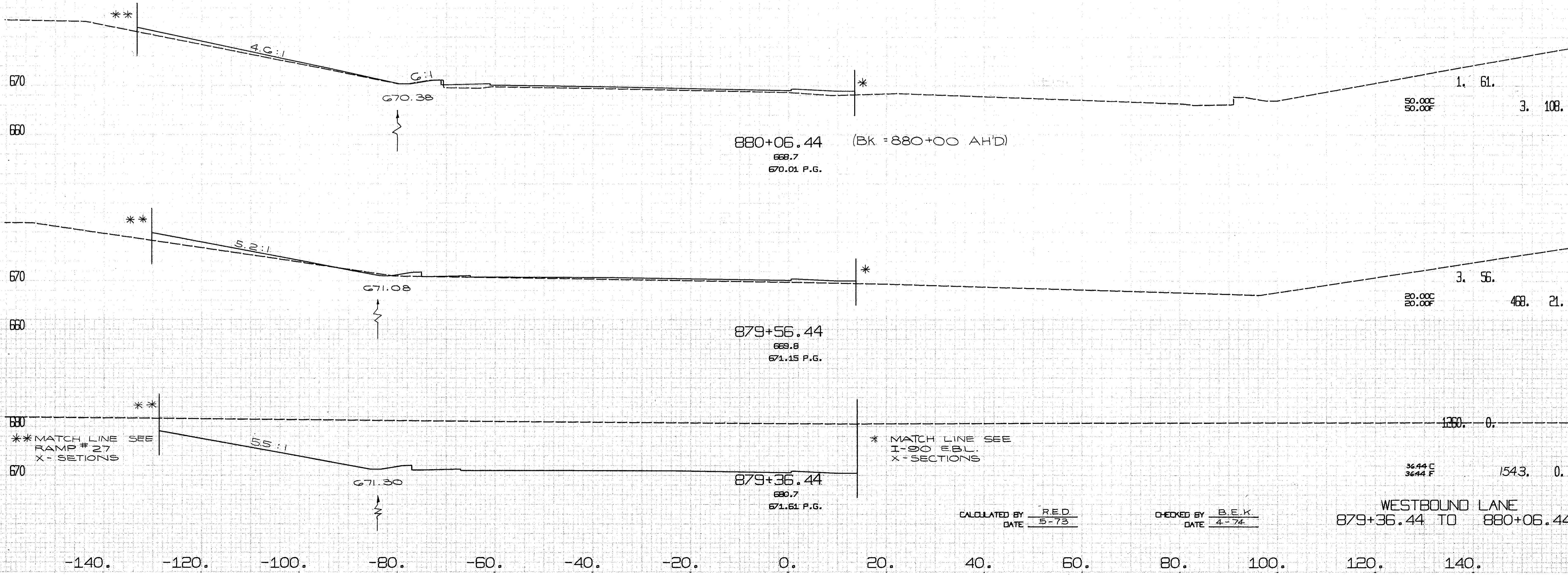
CALCULATED BY RED CHECKED BY GHG  
 DATE 5-73 DATE 1-74

WESTBOUND LANE  
 877+50.00 TO 879+00.00

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	263 838

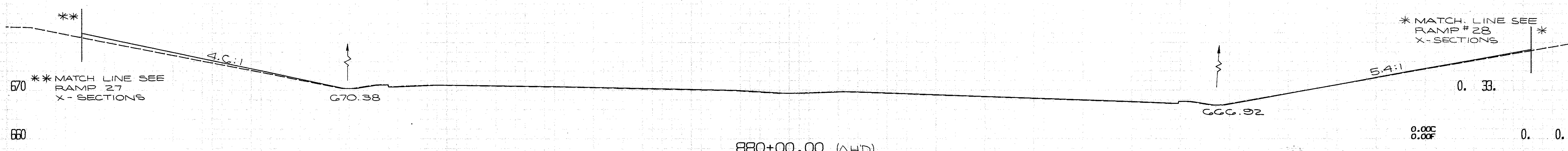
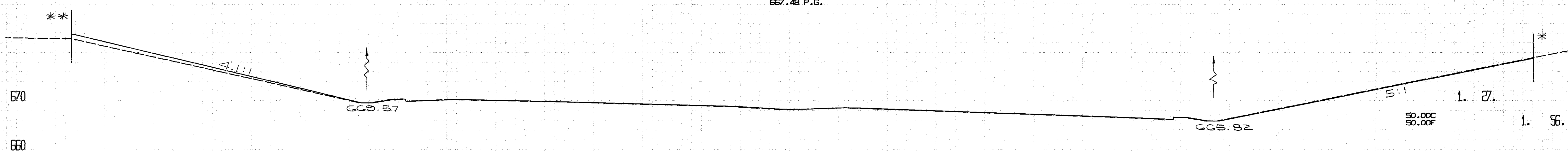
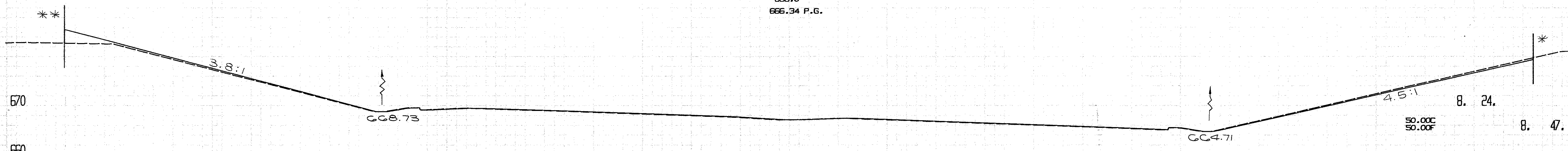
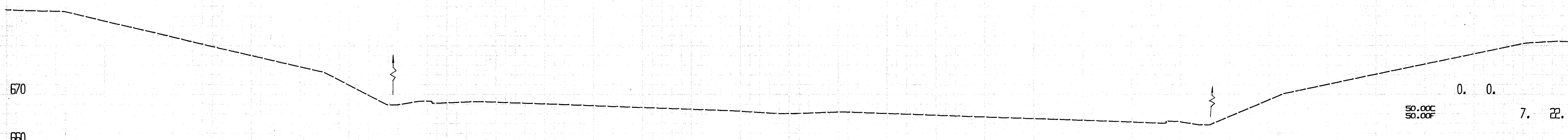
CUYAHOGA COUNTY  
 CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL



CALCULATED BY R.E.D. DATE 5-73  
 CHECKED BY B.E.K. DATE 4-74

WESTBOUND LANE  
 879+36.44 TO 880+06.44



\*\* MATCH LINE SEE RAMP 27 X-SECTIONS

\* MATCH LINE SEE RAMP # 28 X-SECTIONS

CALCULATED BY R.E.D.  
DATE 5-73

CHECKED BY B.E.K.  
DATE 4-74

EAST & WEST BOUND LANES  
880+00.00 TO 881+50.00

-140.   -120.   -100.   -80.   -60.   -40.   -20.   0.   20.   40.   60.   80.   100.   120.   140.



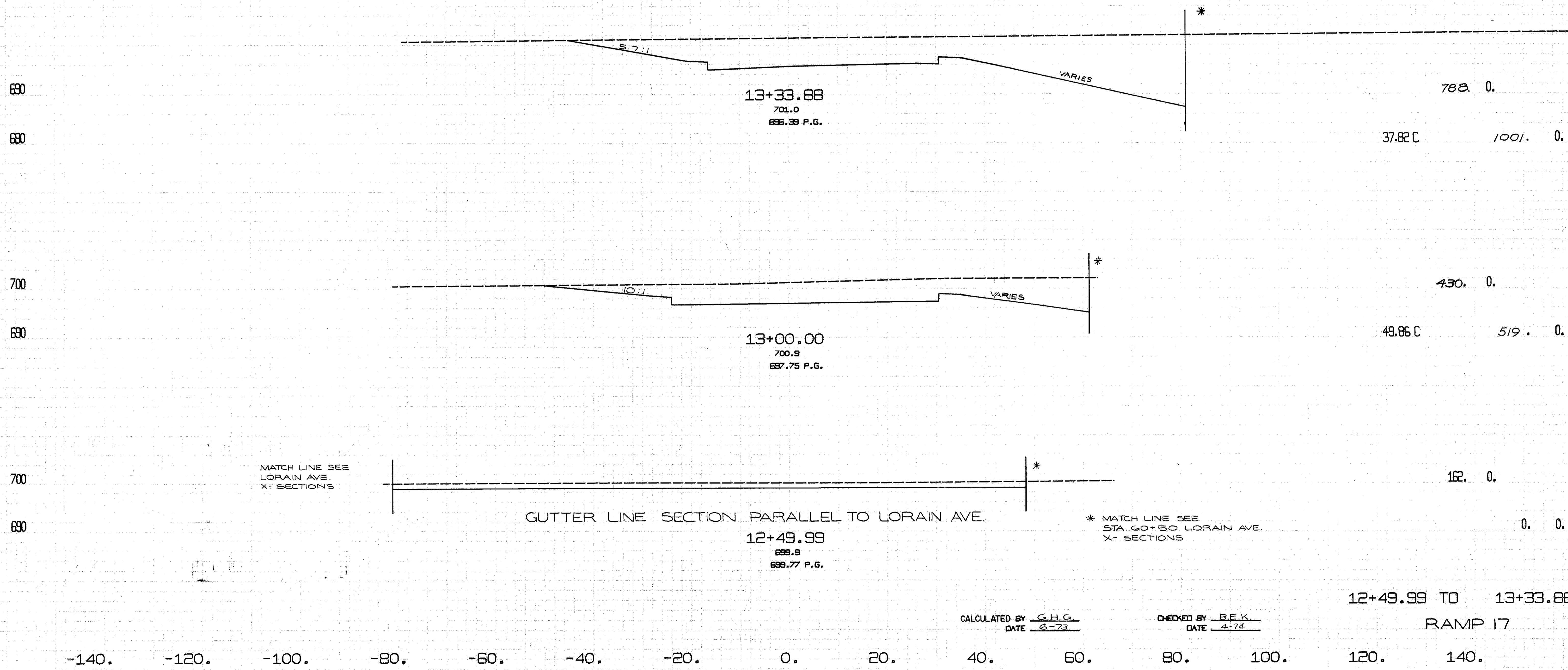
P20

Q-6

FED. RD. DIVISION	STATE	PROJECT	265 838
2	OHIO		

CUYAHOGA COUNTY  
CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CJ. CUT	YDS. FILL
---------------------	---------	-----------	---------	-----------



MATCH LINE SEE LORAIN AVE. X-SECTIONS

GUTTER LINE SECTION PARALLEL TO LORAIN AVE.

\* MATCH LINE SEE STA. 60+50 LORAIN AVE. X-SECTIONS

CALCULATED BY G.H.G.  
DATE 6-73

CHECKED BY B.E.K.  
DATE 4-74

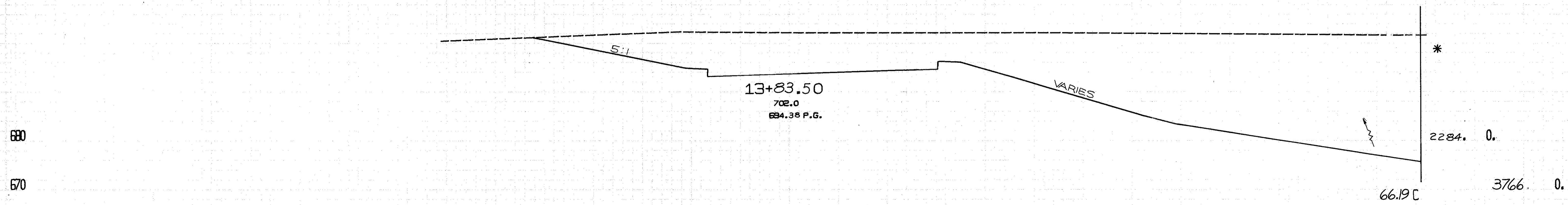
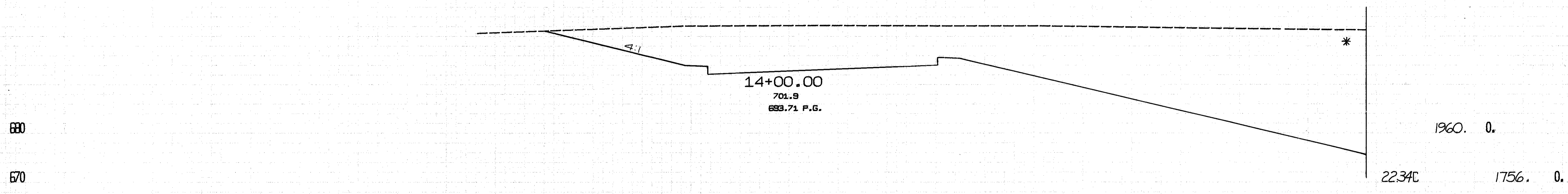
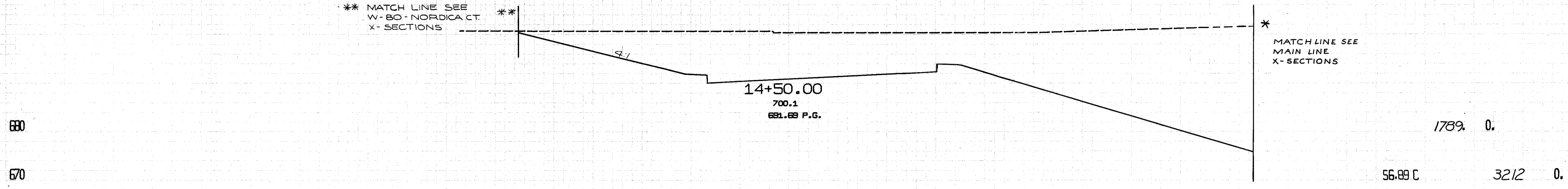
12+49.99 TO 13+33.88

RAMP 17

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

\*\* MATCH LINE SEE W-80-NORDICA CT X-SECTIONS \*\*

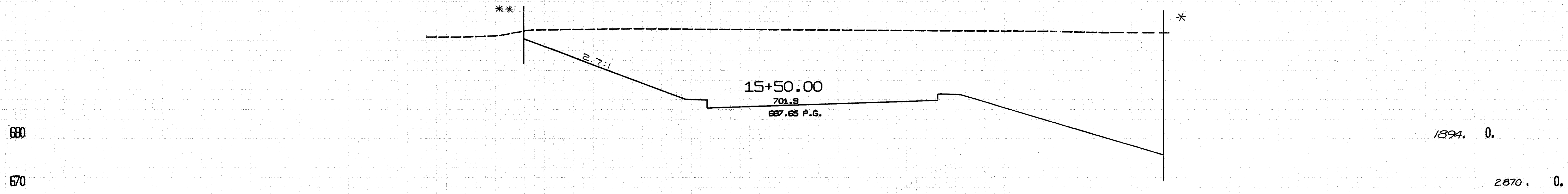
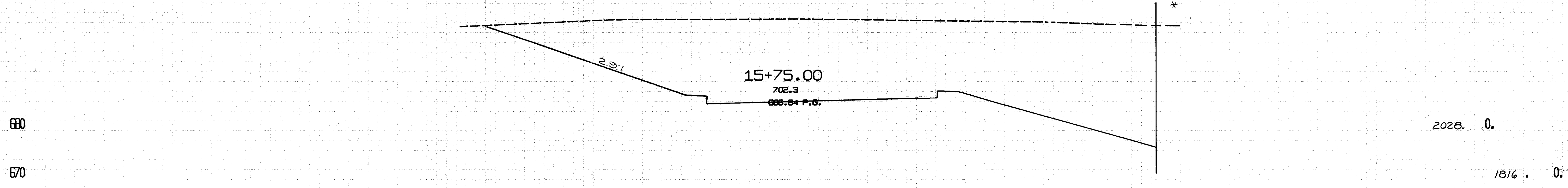
\* MATCHLINE SEE MAIN LINE X-SECTIONS



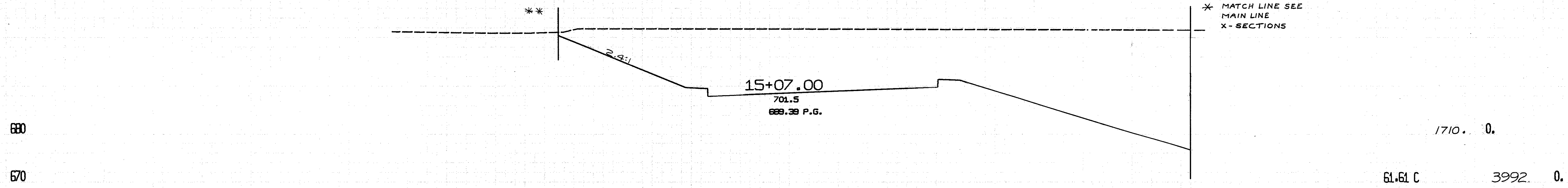
13+83.50 TO 14+50.00  
RAMP 17

CALCULATED BY G.H.G.  
DATE 6-73

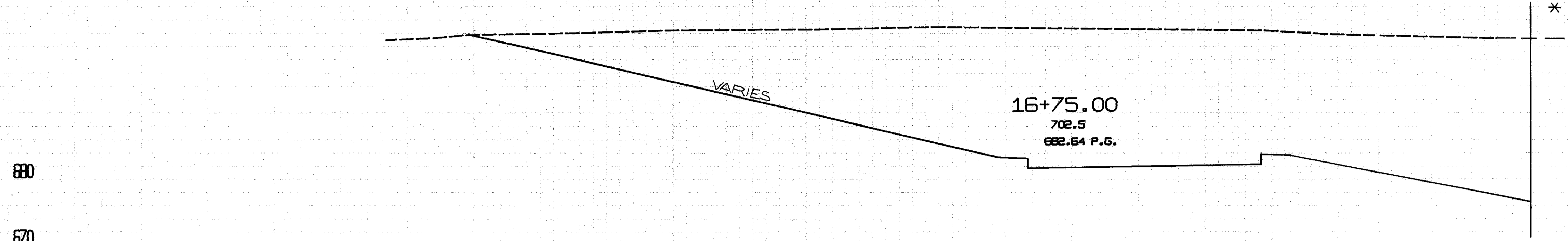
CHECKED BY B.E.K.  
DATE 4-74



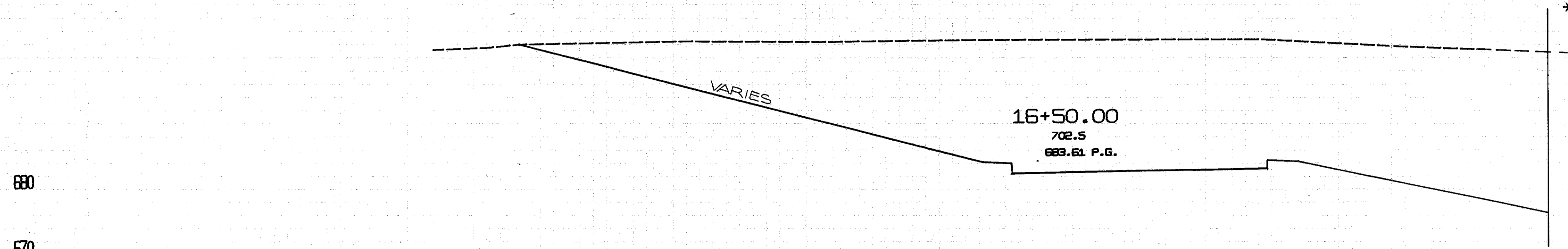
\*\* MATCH LINE SEE  
W-80-NORDICA CT.  
X-SECTIONS



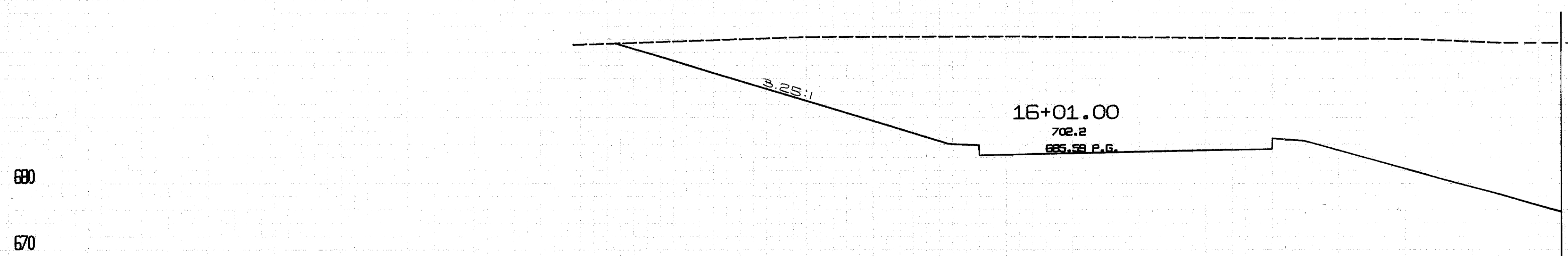
\* MATCH LINE SEE  
MAIN LINE  
X-SECTIONS



2454.	0.
2232.	0.



2368.	0.
4184.	0.



\* MATCH LINE SEE  
MAIN LINE  
X-SECTIONS

2151.	0.
2012.	0.

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

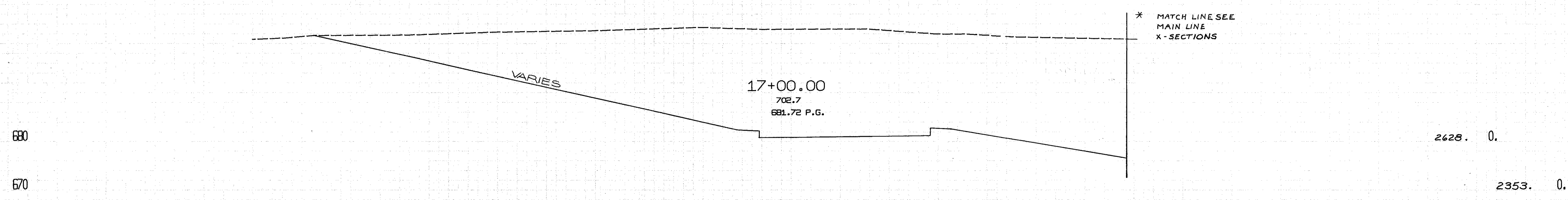
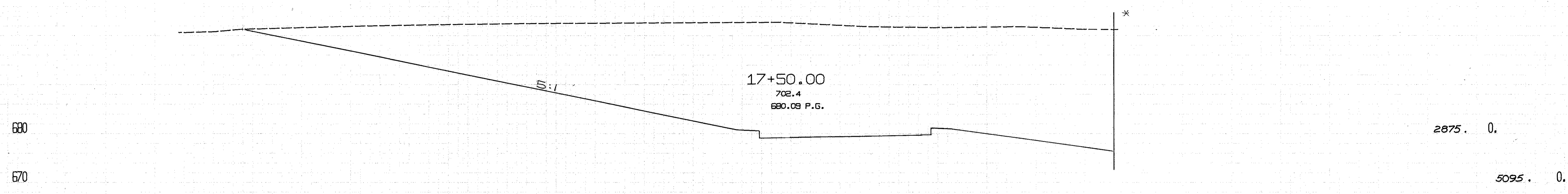
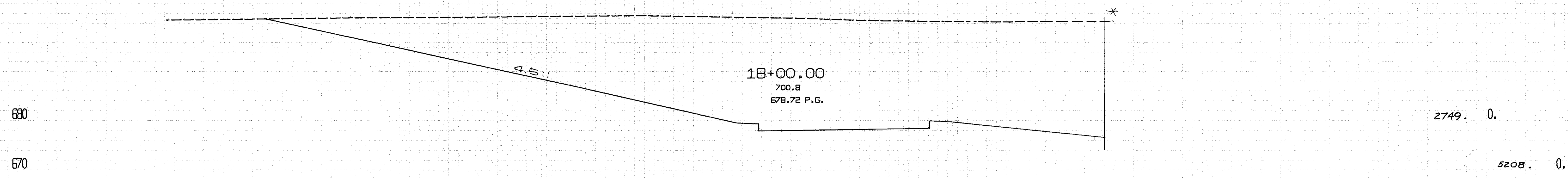
CALCULATED BY G.H.G.  
DATE 6-73

CHECKED BY B.E.K.  
DATE 4-74

16+01.00 TO 16+75.00  
RAMP 17

FED. RD. DIVISION	STATE	PROJECT	(269) 838
2	OHIO		

CUYAHOGA COUNTY  
 CUY-90-11.64  
 CENTROID ARC LENGTH    END AREA CUT    AREA CUT    CU. CUT    YDS. CUT    YDS. FILL



-140.    -120.    -100.    -80.    -60.    -40.    -20.    0.    20.    40.    60.    80.    100.    120.    140.

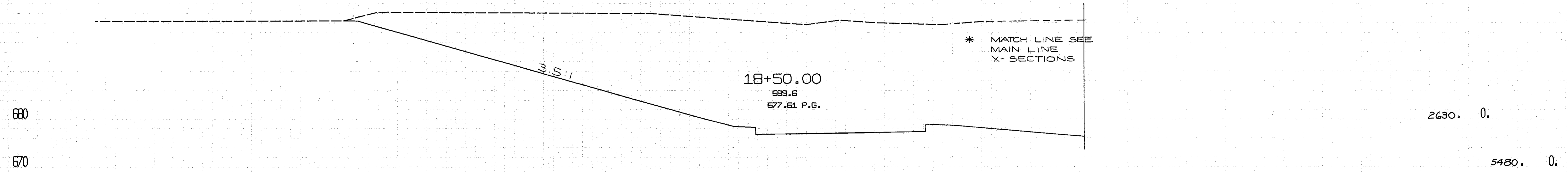
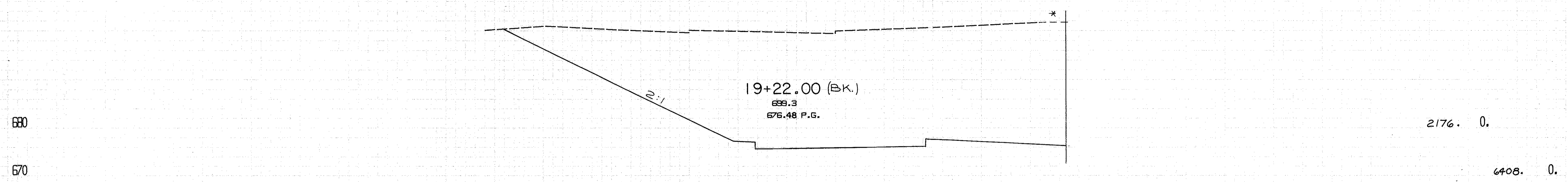
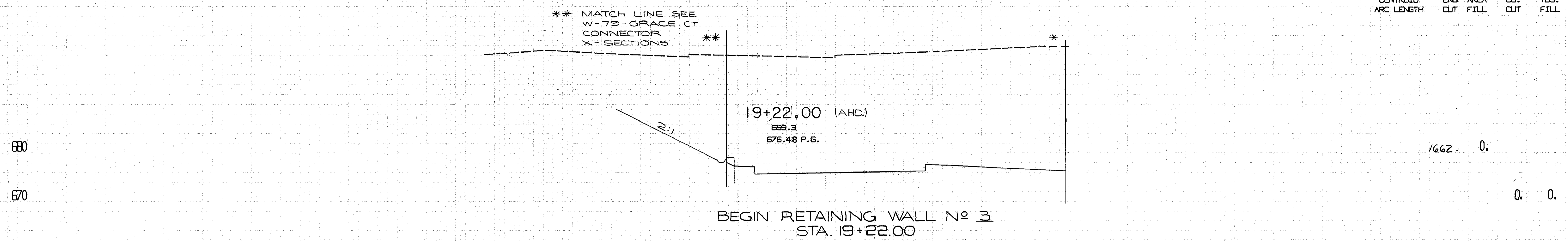
17+00.00 TO 18+00.00  
RAMP 17

CALCULATED BY G.H.G.  
DATE 6-73

CHECKED BY B.E.K.  
DATE 4-74

CUYAHOGA COUNTY  
CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CUL. CUT	YDS. FILL
---------------------	---------	-----------	----------	-----------



-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60.

CALCULATED BY G.H.G.  
DATE 6-73

CHECKED BY B.E.K.  
DATE 4-74

18+50.00 TO 19+22.00  
RAMP 17

120. 140.

CUYAHOGA COUNTY  
CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL
---------------------	---------	-----------	---------	-----------

1506. 0.

2857. 0.

1579. 0.

2969. 0.

1627. 0.

1705. 0.

680

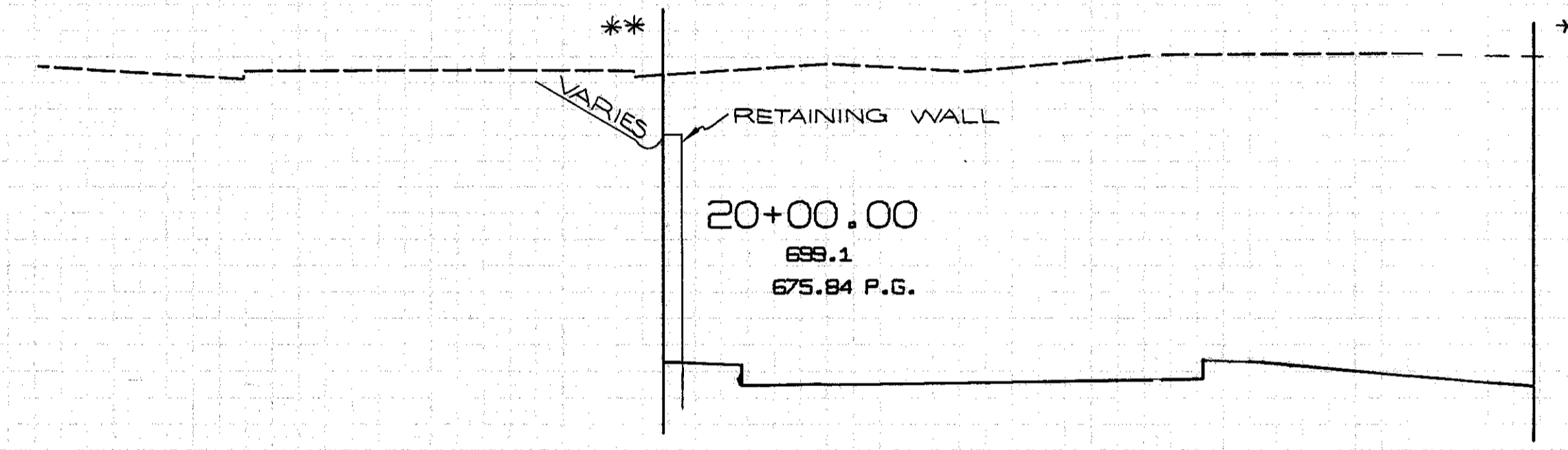
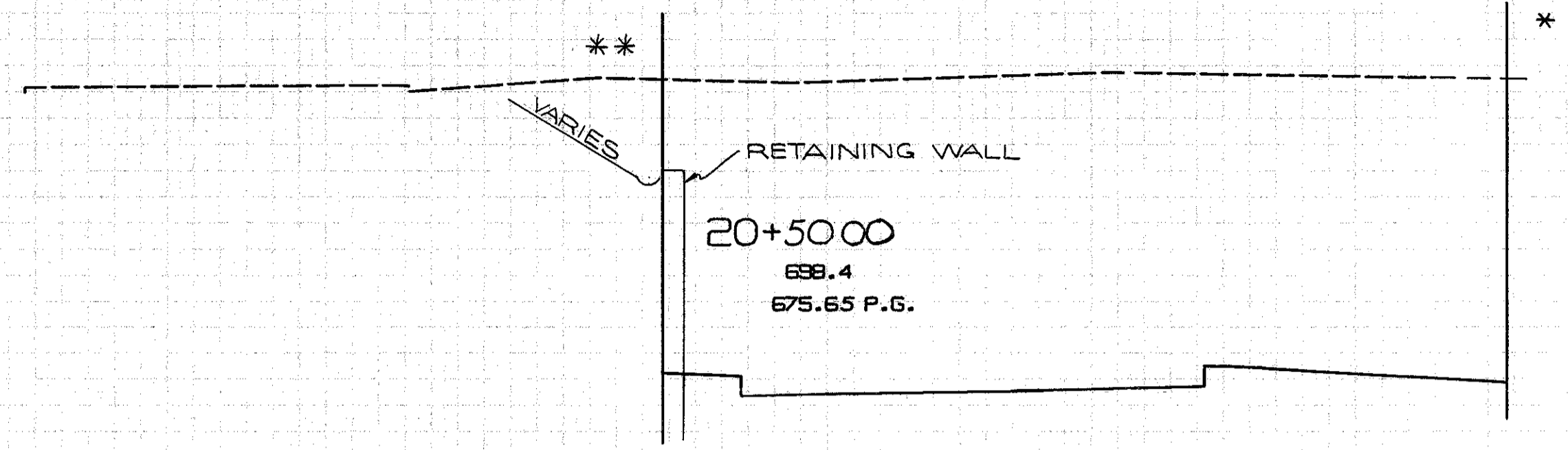
670

680

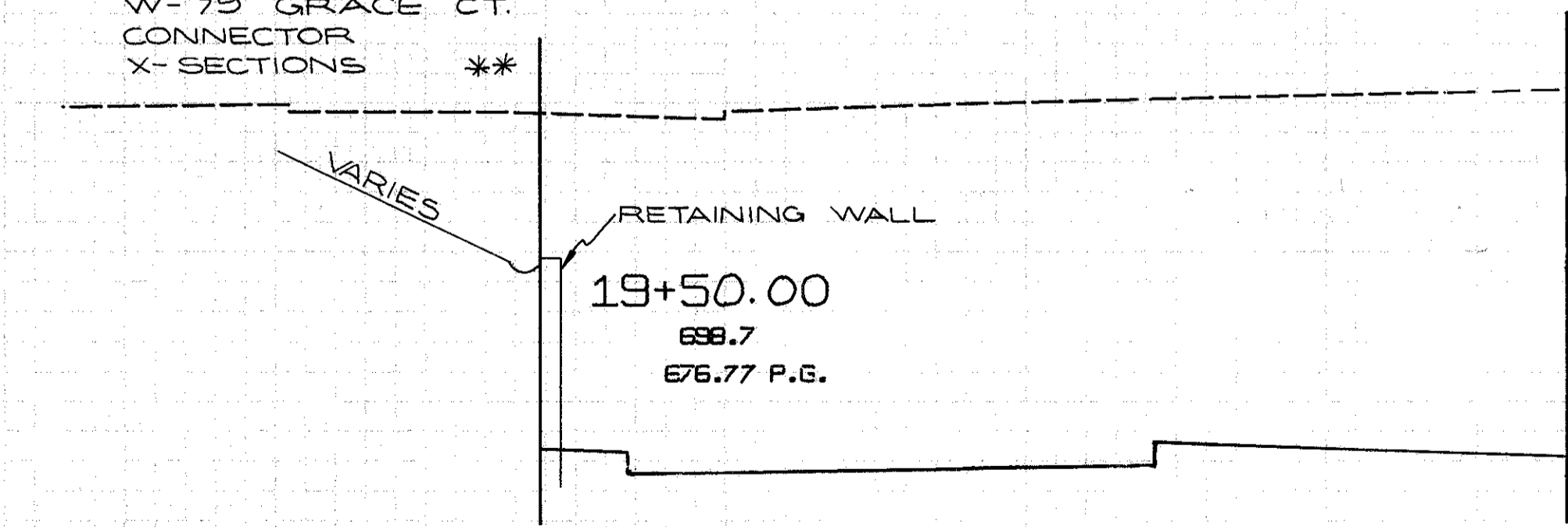
670

680

670



\*\* MATCH LINE SEE  
W-79 GRACE CT.  
CONNECTOR  
X-SECTIONS



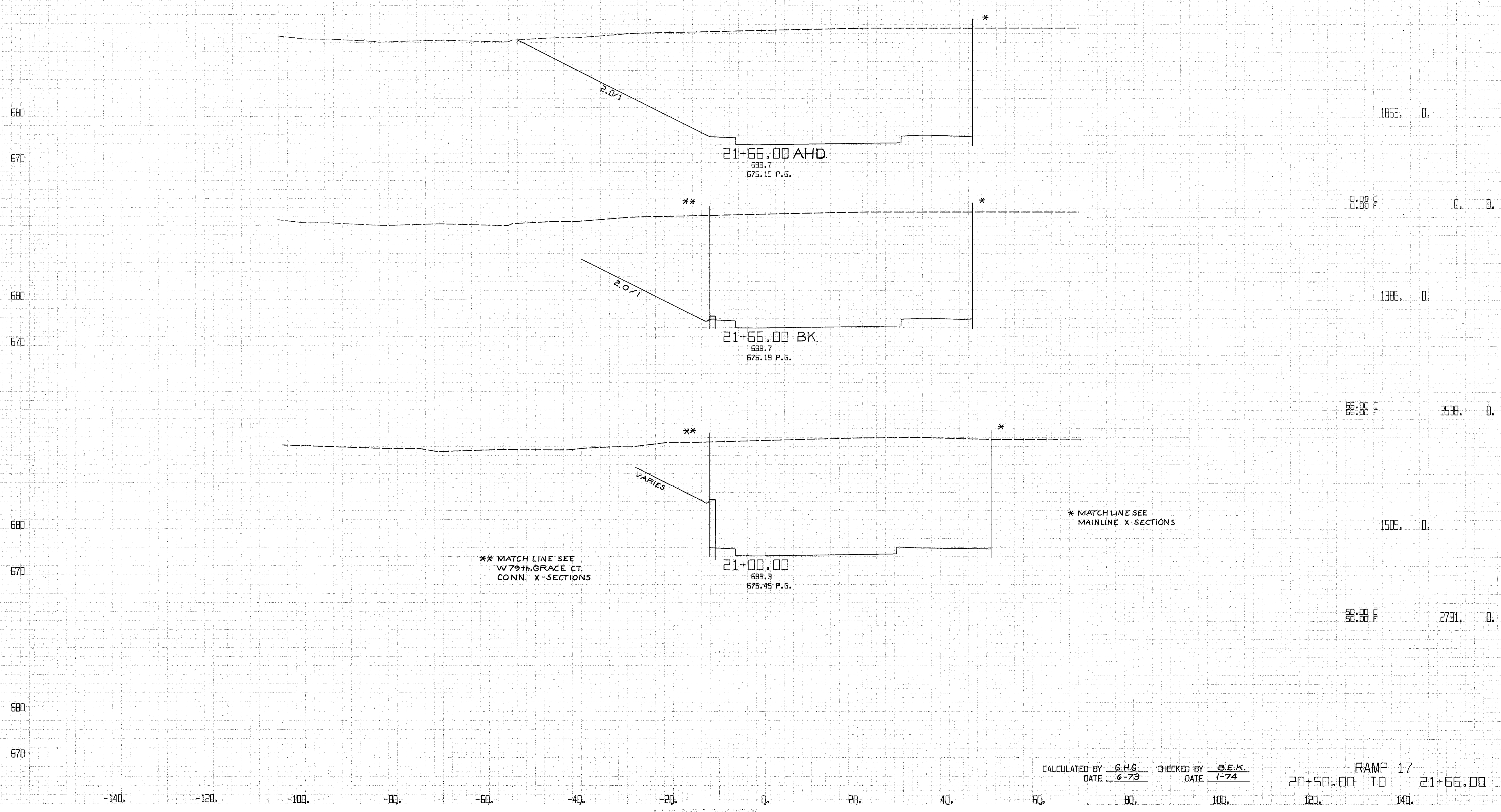
\* MATCH LINE SEE  
MAIN LINE  
X-SECTIONS

CALCULATED BY G.H.G.  
DATE 6-73

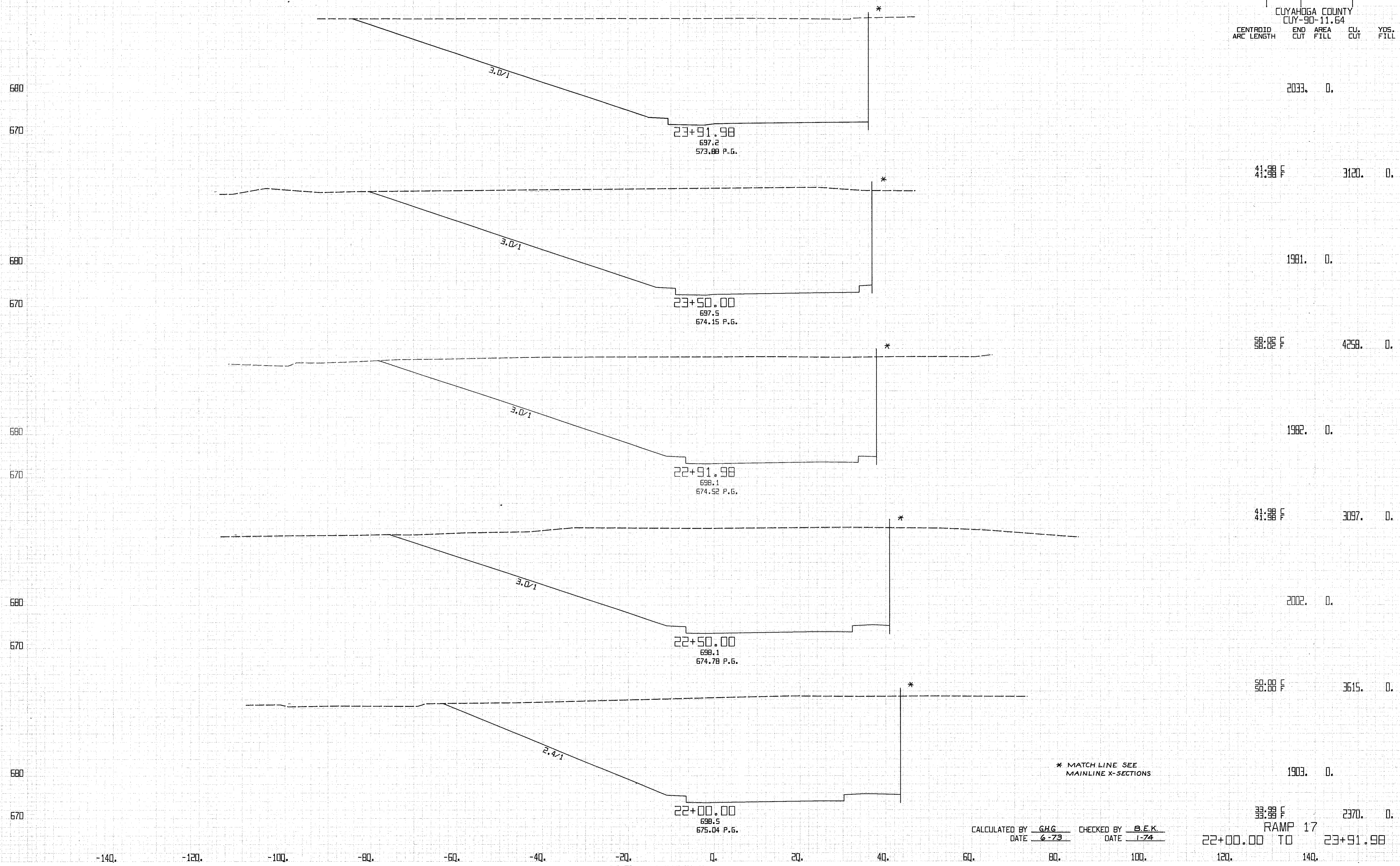
CHECKED BY B.E.K.  
DATE 4-74

19+50.00 TO 20+50.00  
RAMP 17

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.



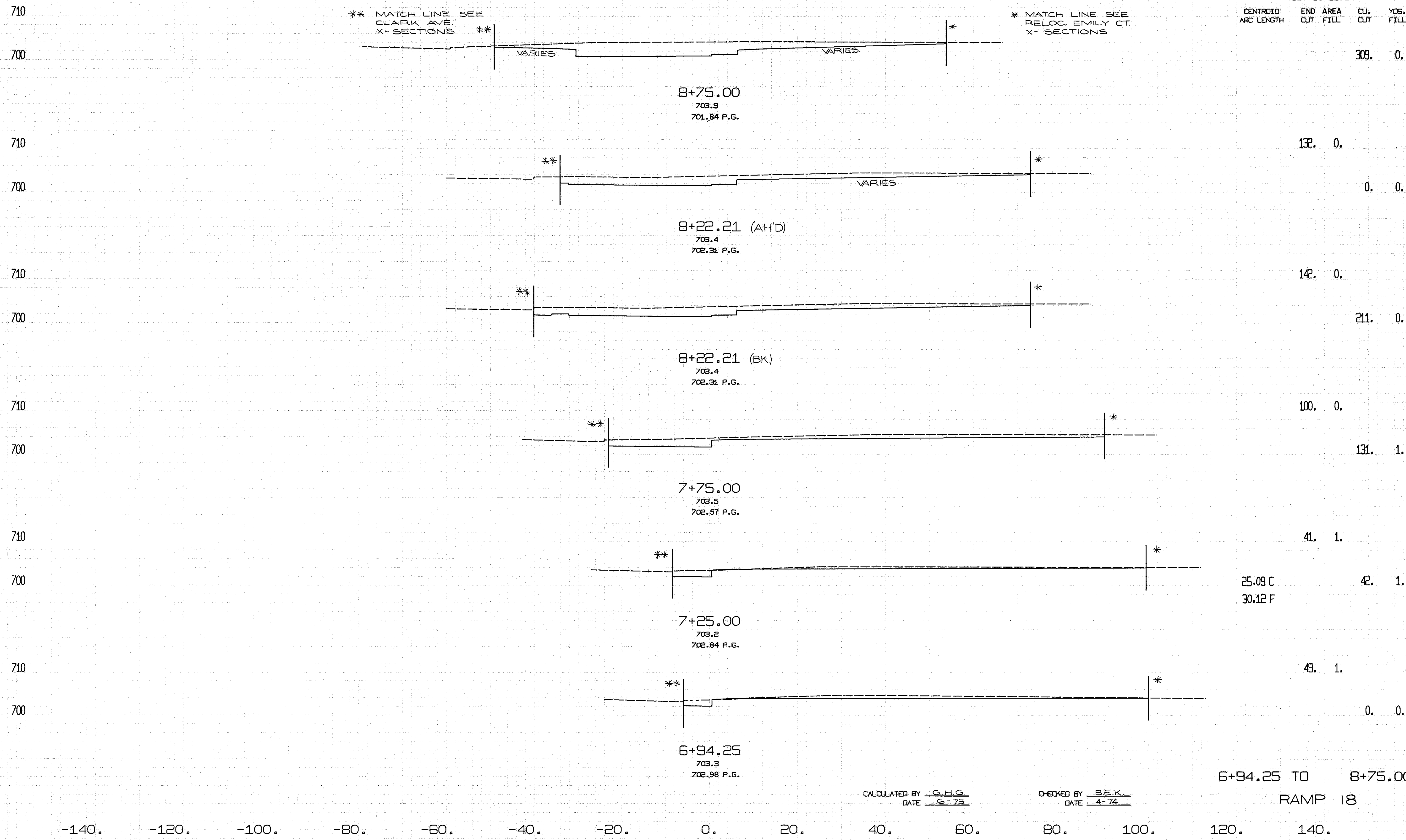




2033.	0.	41:38 F	3120.	0.
1981.	0.	58:02 F	4258.	0.
1982.	0.	41:38 F	3097.	0.
2002.	0.	58:00 F	3615.	0.
1903.	0.	33:38 F	2370.	0.

CALCULATED BY GHG CHECKED BY B.E.K.  
 DATE 6-73 DATE 1-74

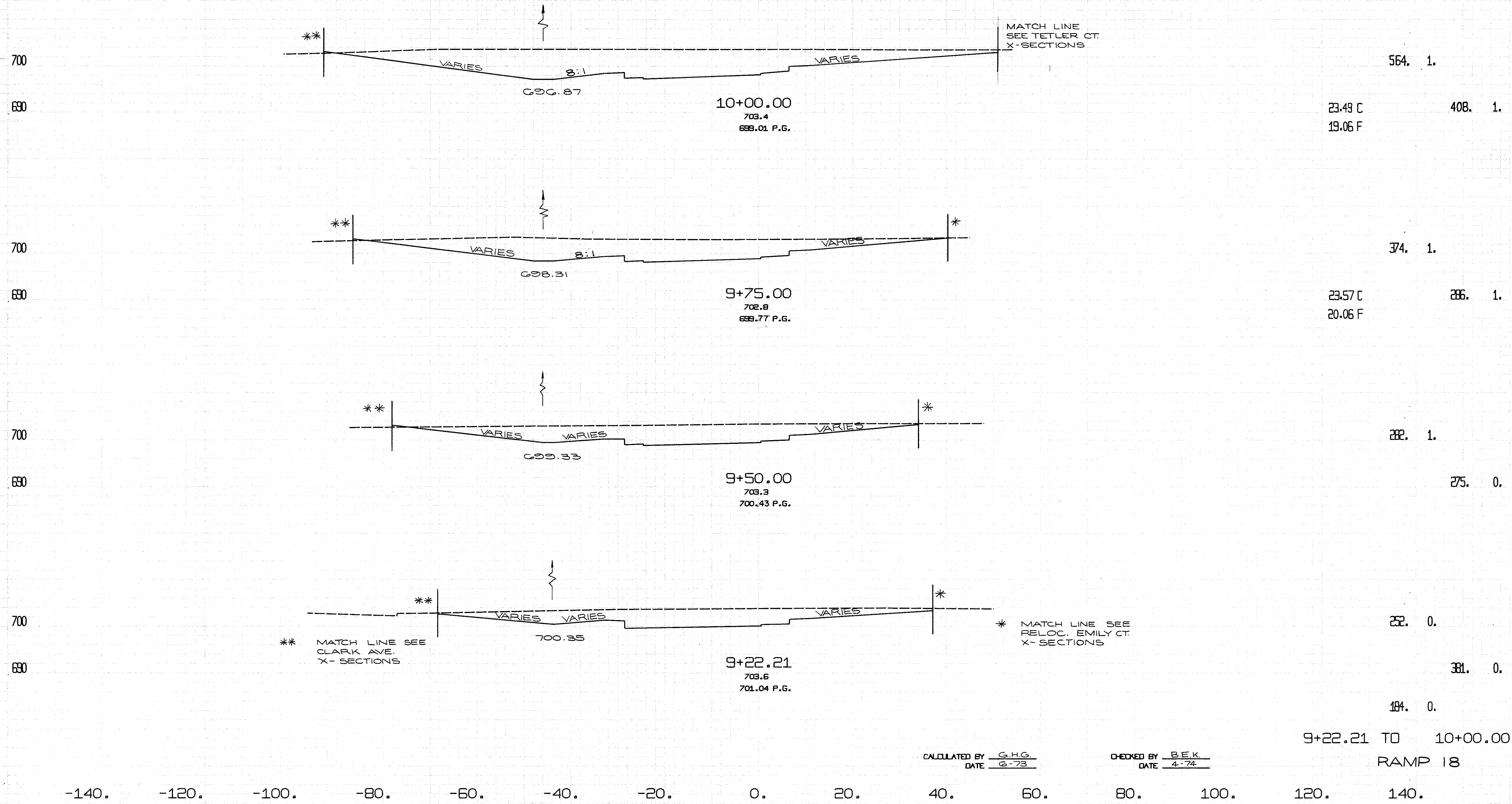
RAMP 17  
 22+00.00 TO 23+91.98



CALCULATED BY G.H.G.  
DATE 6-73

CHECKED BY B.E.K.  
DATE 4-74

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

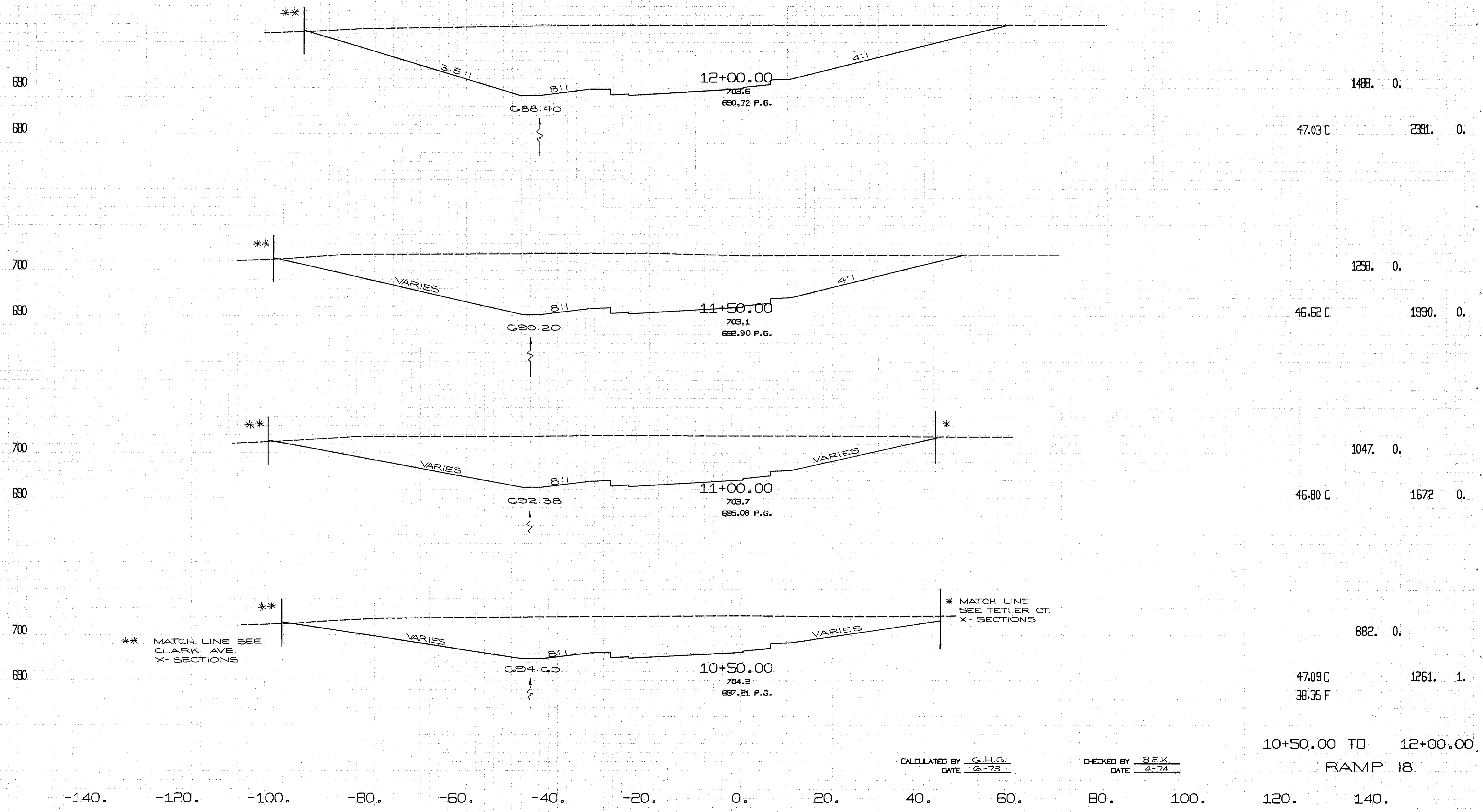


CALCULATED BY G.H.G.  
DATE 6-73

CHECKED BY B.E.K.  
DATE 4-74

9+22.21 TO 10+00.00  
RAMP 18

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.



\*\* MATCH LINE SEE CLARK AVE. X-SECTIONS

\* MATCH LINE SEE TETLER CT. X-SECTIONS

CALCULATED BY G.H.G.  
 DATE 6-73

CHECKED BY B.E.K.  
 DATE 4-74

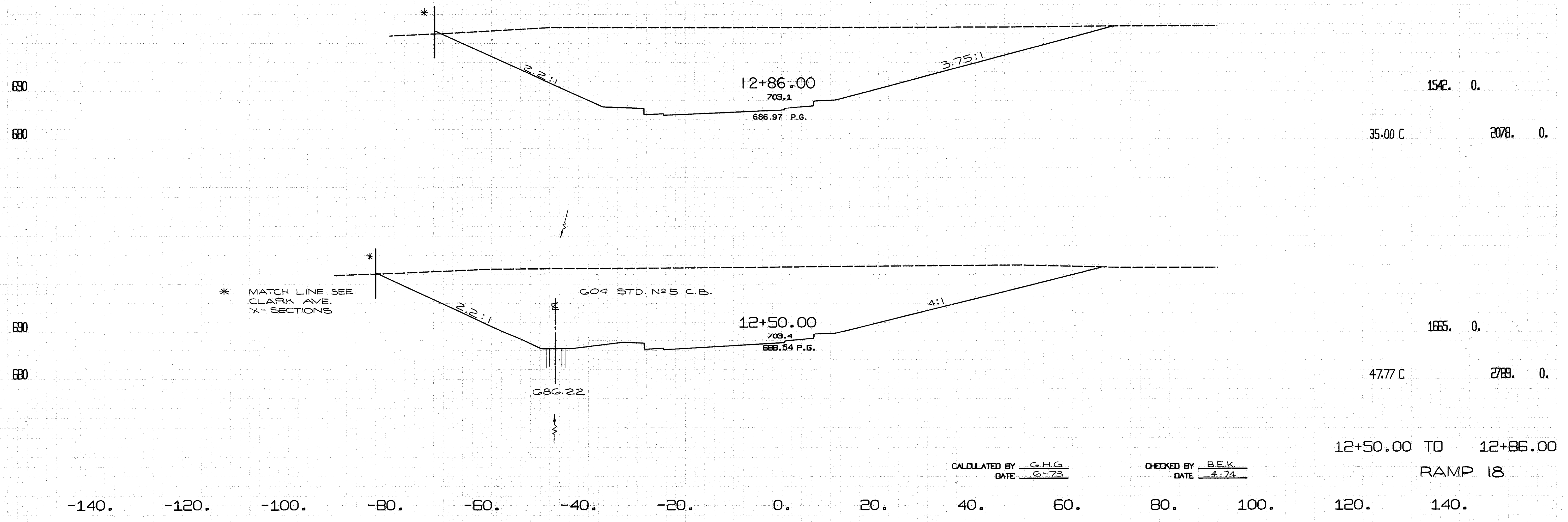
10+50.00 TO 12+00.00  
 RAMP 18

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.

FED. RD. DIVISION	STATE	PROJECT	277 338
2	OHIO		

CUYAHOGA COUNTY  
 CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CUT	YOS. CUT	FILL
---------------------	---------	-----------	-----	----------	------

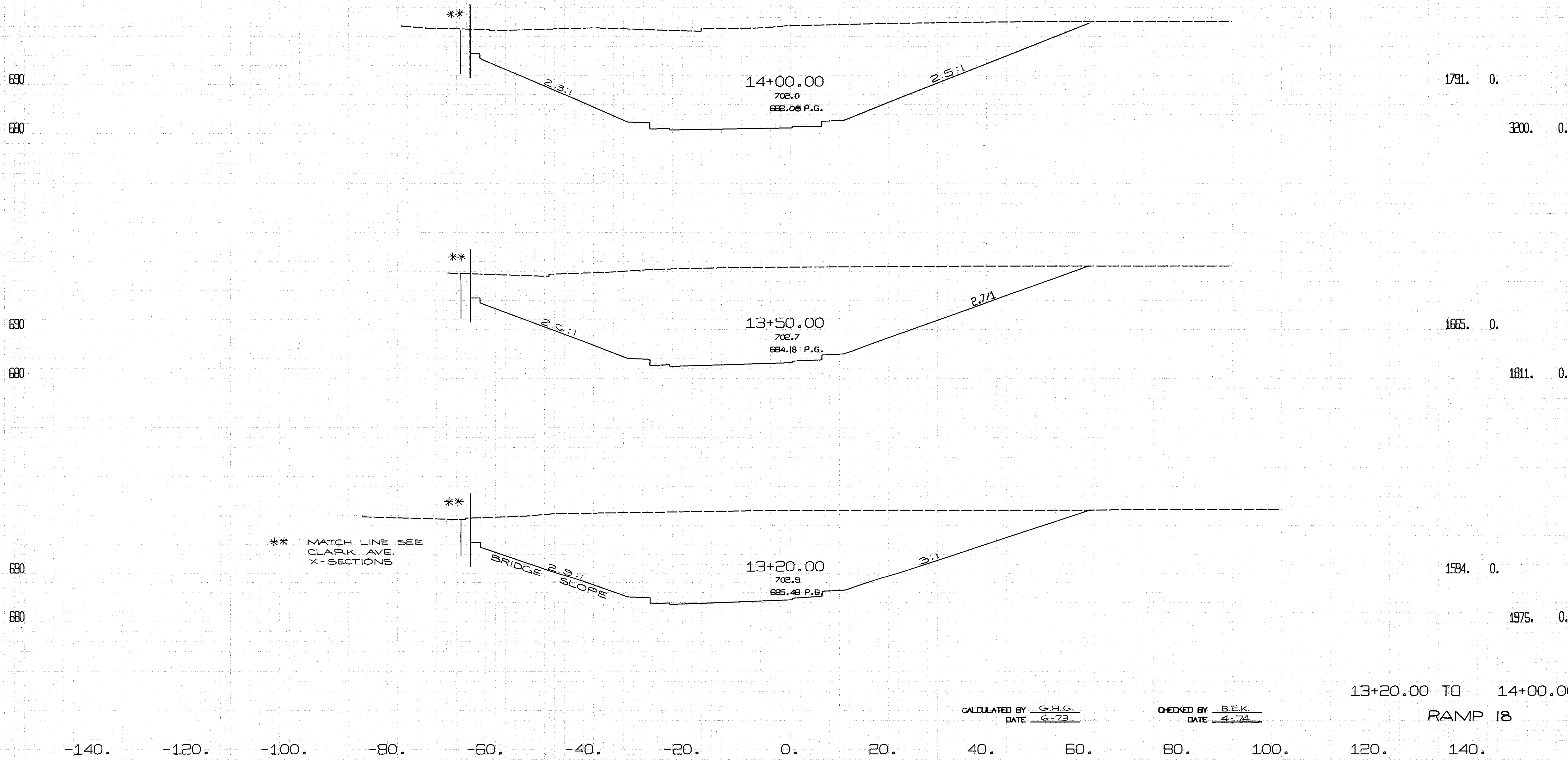


CALCULATED BY G.H.G.  
 DATE 6-73

CHECKED BY B.E.K.  
 DATE 4-74

CUYAHOGA COUNTY  
CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CJ. CUT	YDS. FILL
---------------------	---------	-----------	---------	-----------

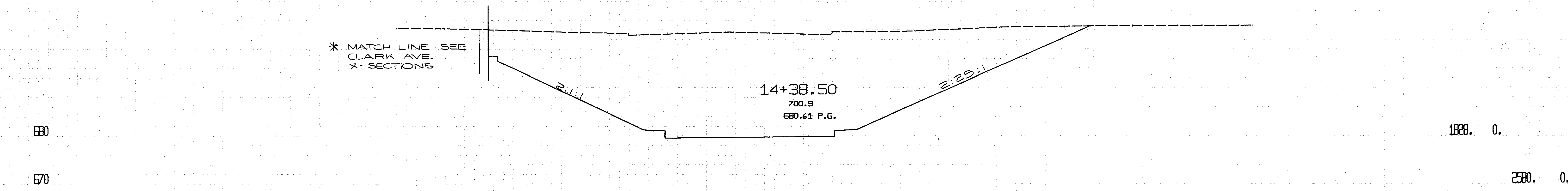
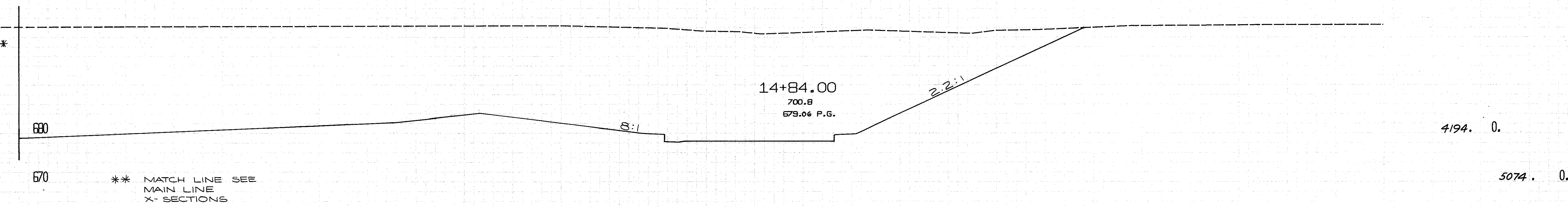
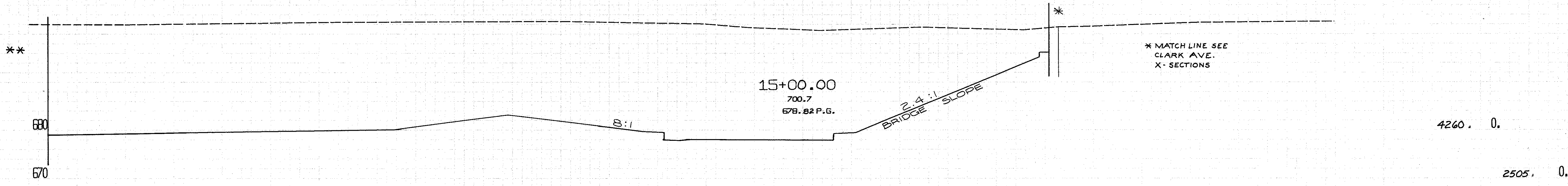


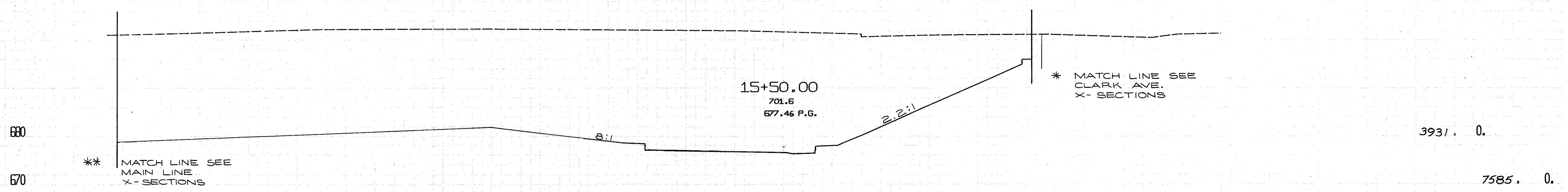
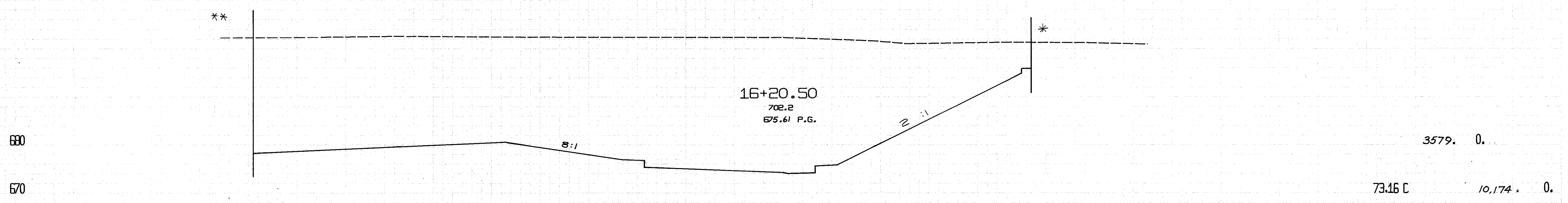
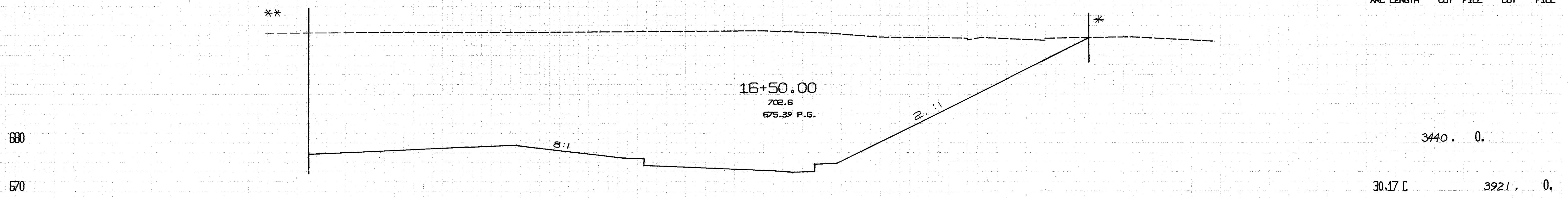
CALCULATED BY G.H.G.  
DATE 6-73

CHECKED BY B.E.K.  
DATE 4-74

13+20.00 TO 14+00.00  
RAMP 18

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100. 120. 140.





15+50.00 TO 16+50.00  
RAMP 18

CALCULATED BY G.H.G.  
DATE 6-73

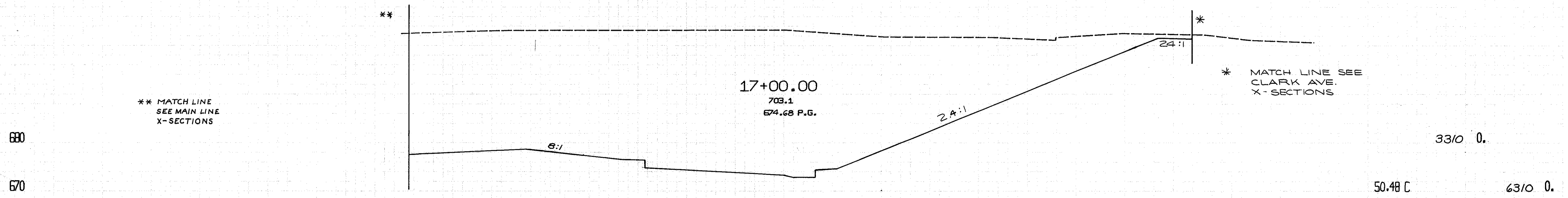
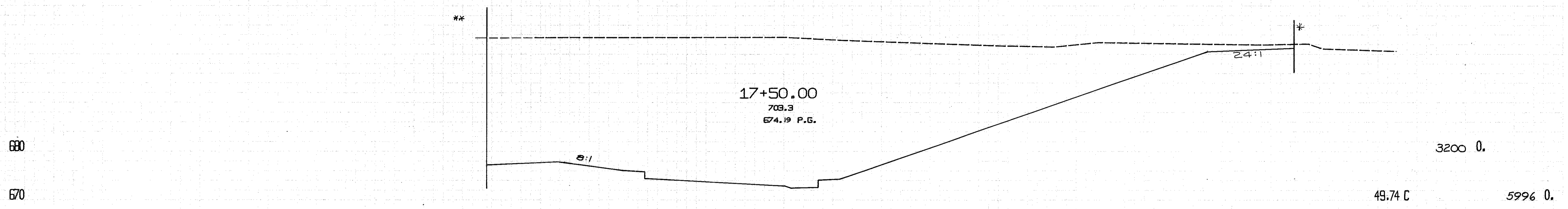
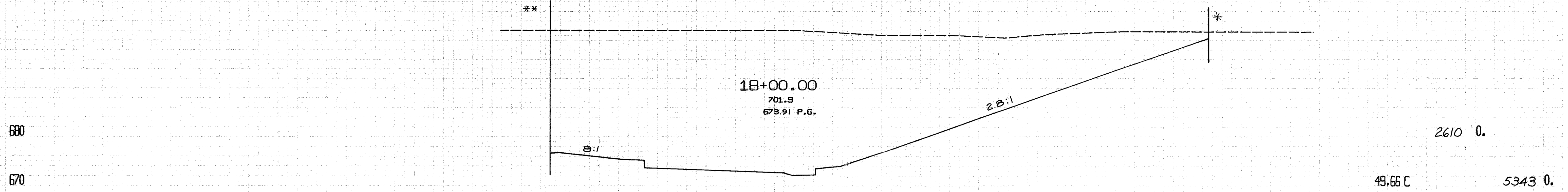
CHECKED BY BEK  
DATE 4-74

-140.    -120.    -100.    -80.    -60.    -40.    -20.    0.    20.    40.    60.    80.    100.    120.    140.



CUYAHOGA COUNTY  
CUY-90-11.64

CENTROID ARC LENGTH	END CUT	AREA FILL	CJ. CUT	YOS. FILL
---------------------	---------	-----------	---------	-----------



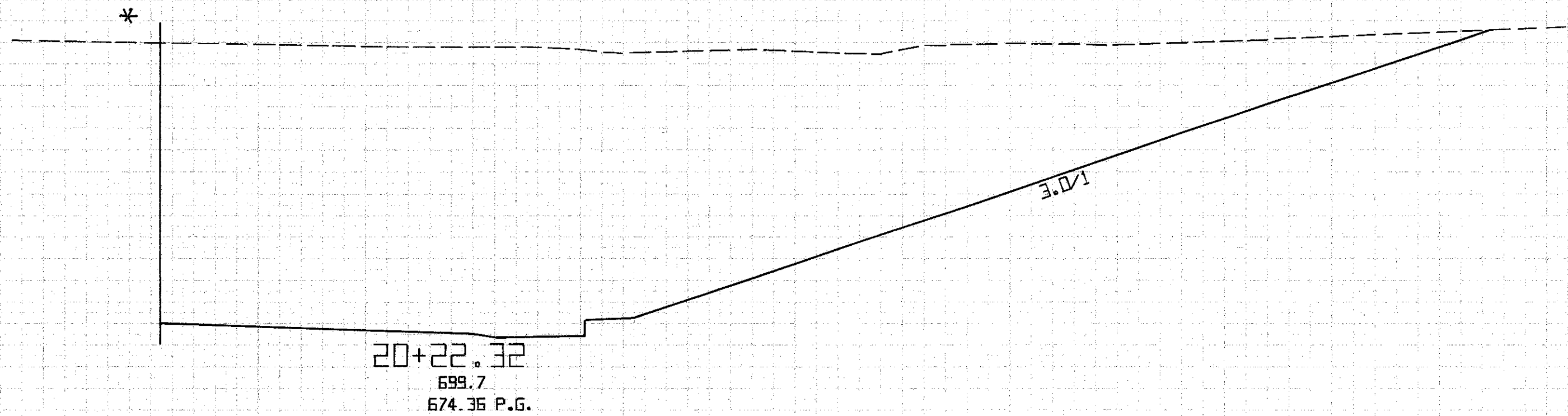
-140.    -120.    -100.    -80.    -60.    -40.    -20.    0.    20.    40.    60.    80.    100.    120.    140.

CALCULATED BY G.H.G.  
DATE 6-73

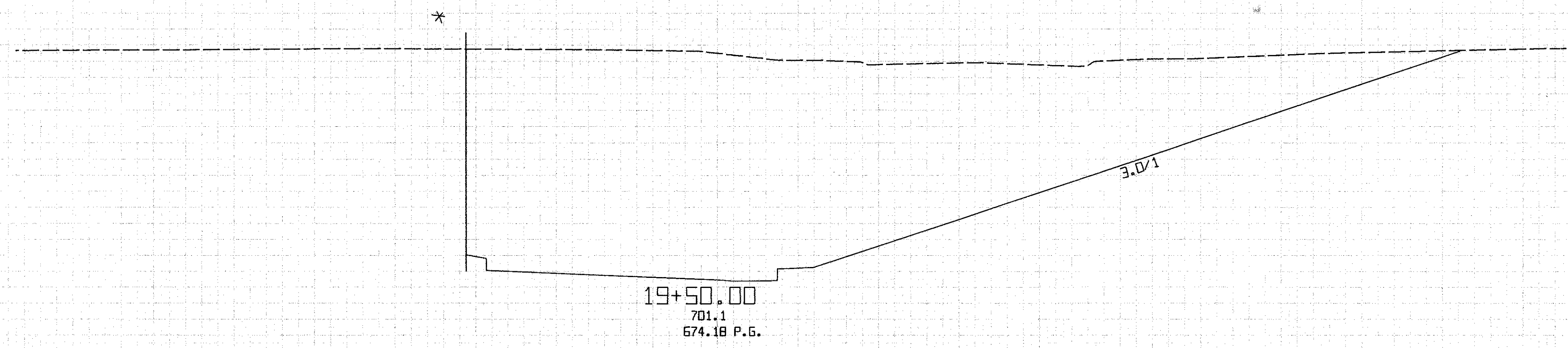
CHECKED BY B.E.K.  
DATE 4-74

17+00.00 TO 18+00.00  
RAMP 18

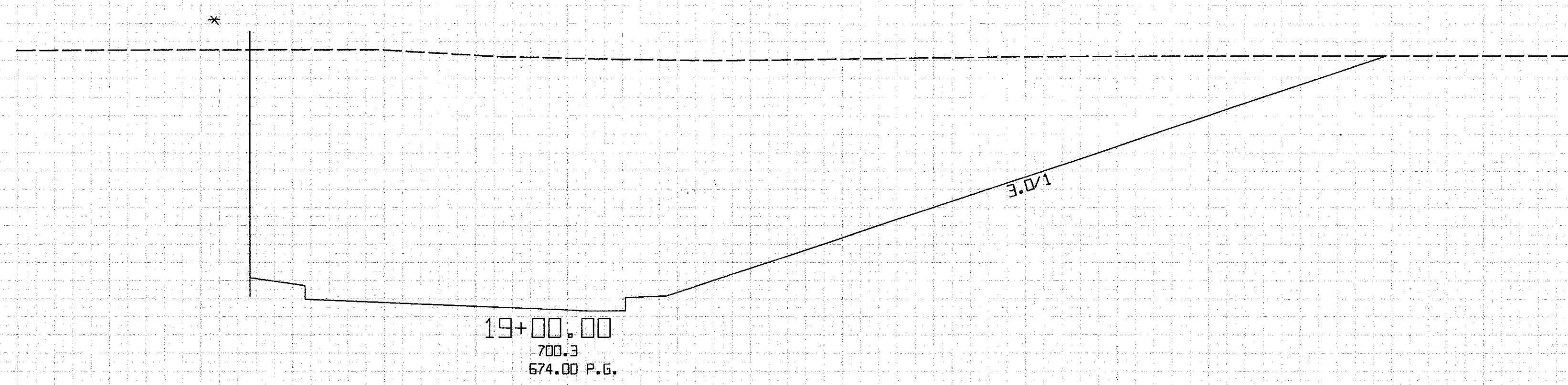
680  
670  
680  
670  
680  
670  
680  
670



2110. 0.  
71.63 F  
72.32 F 5688. 0.

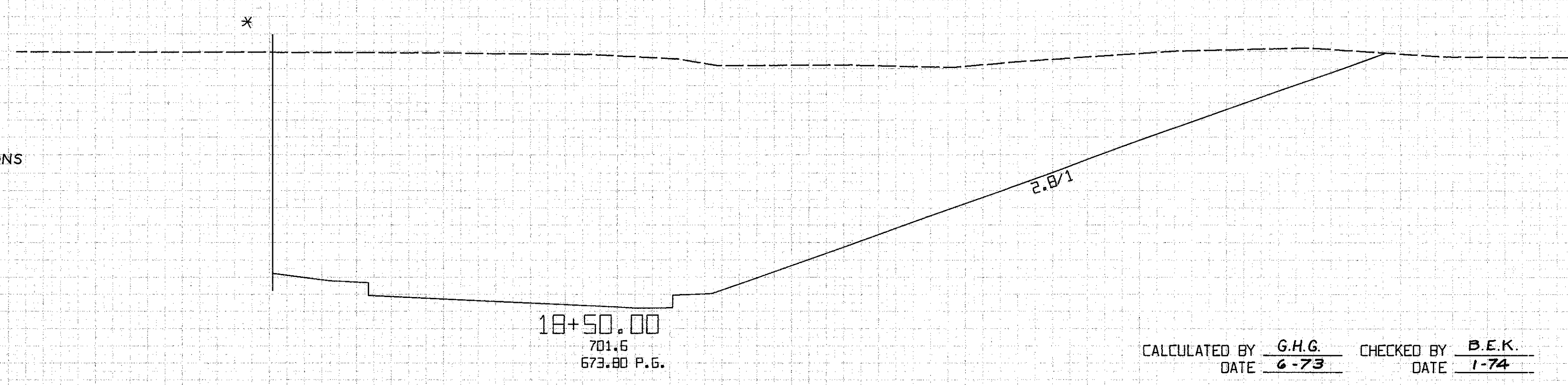


2178. 0.  
48.68 F 4056. 0.



2238. 0.  
49.68 F 4296. 0.

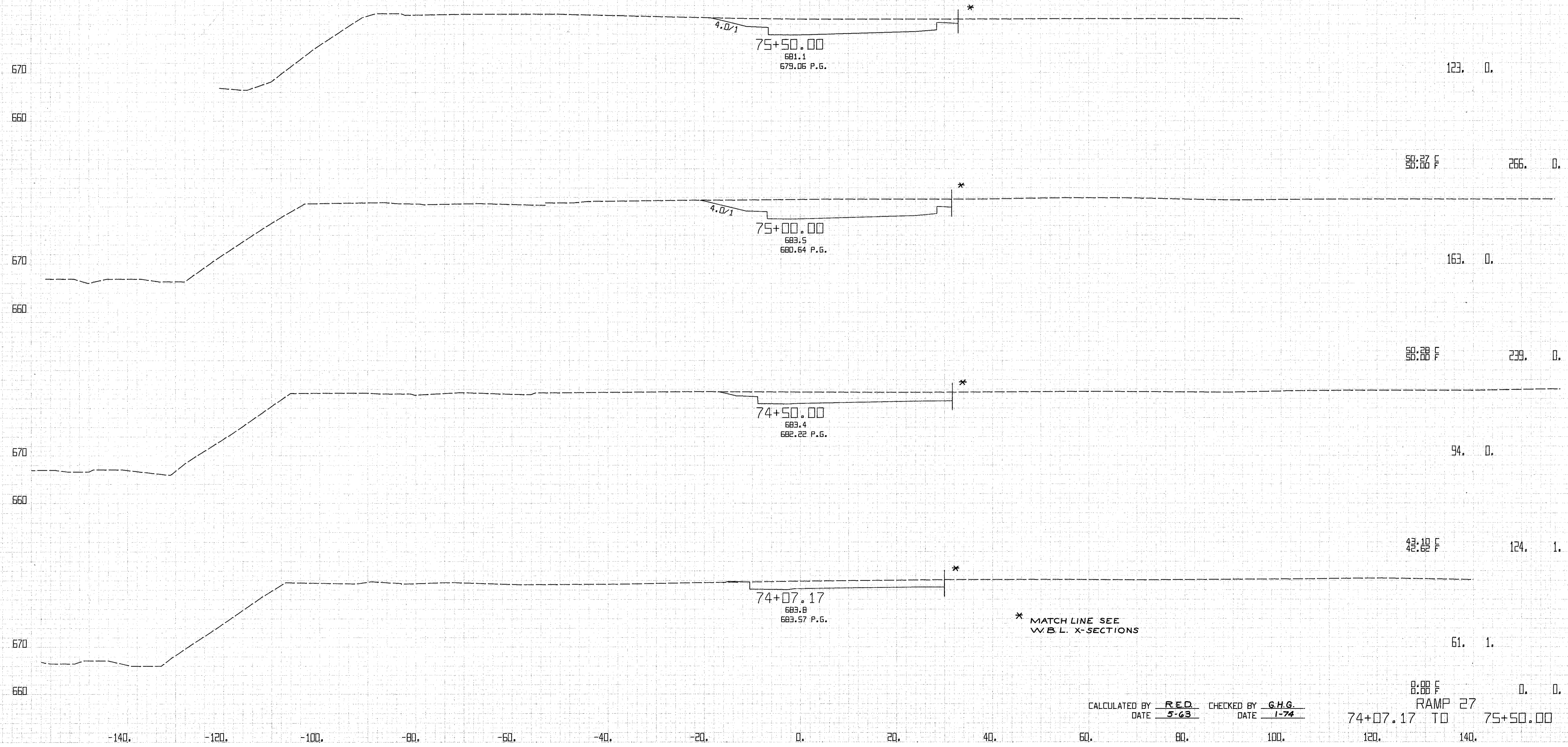
\* MATCH LINE SEE  
MAINLINE X-SECTIONS



2431. 0.  
48.70 F 4739. 0.  
RAMP 18  
18+50.00 TO 20+22.32

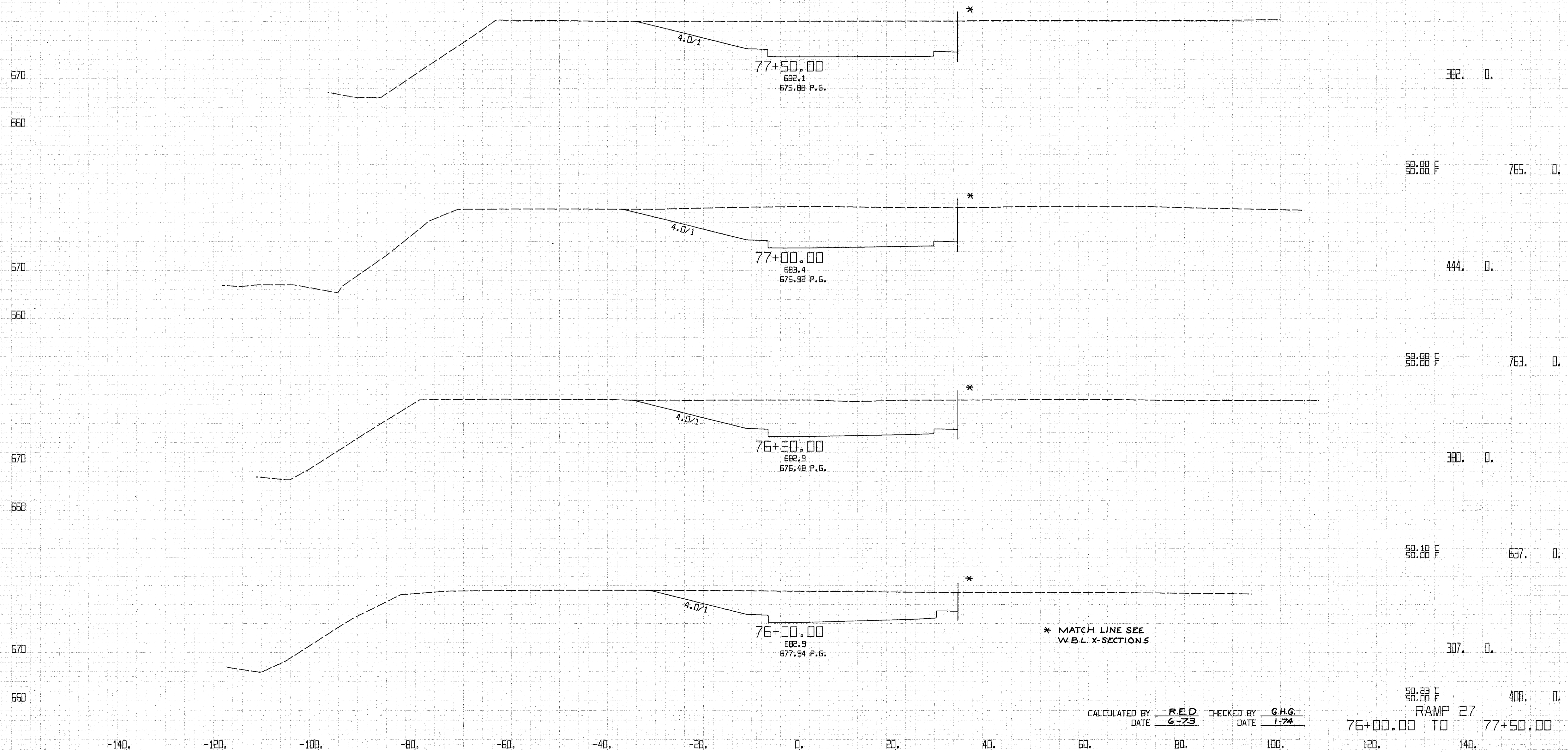
CALCULATED BY G.H.G. CHECKED BY B.E.K.  
DATE 6-73 DATE 7-74

-140. -120. -100. -80. -60. -40. 0. 20. 40. 60. 80. 100. 120. 140.



CALCULATED BY RED CHECKED BY G.H.G.  
 DATE 5-63 DATE 1-74

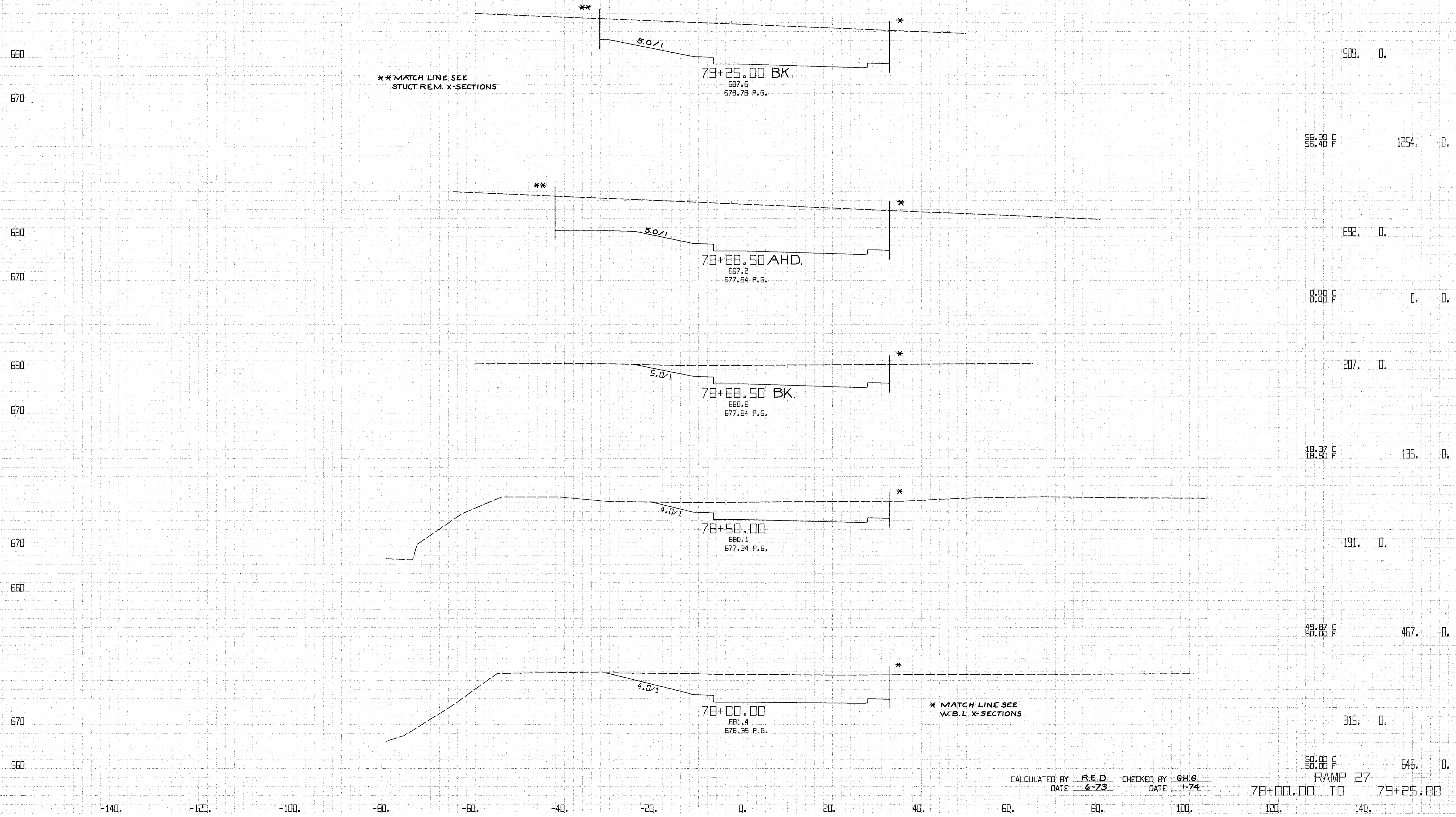
8:00 F 0. 0.  
 RAMP 27  
 74+07.17 TO 75+50.00  
 120. 140.



\* MATCH LINE SEE W.B.L. X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 6-73 DATE 1-74

76+00.00 TO 77+50.00  
RAMP 27

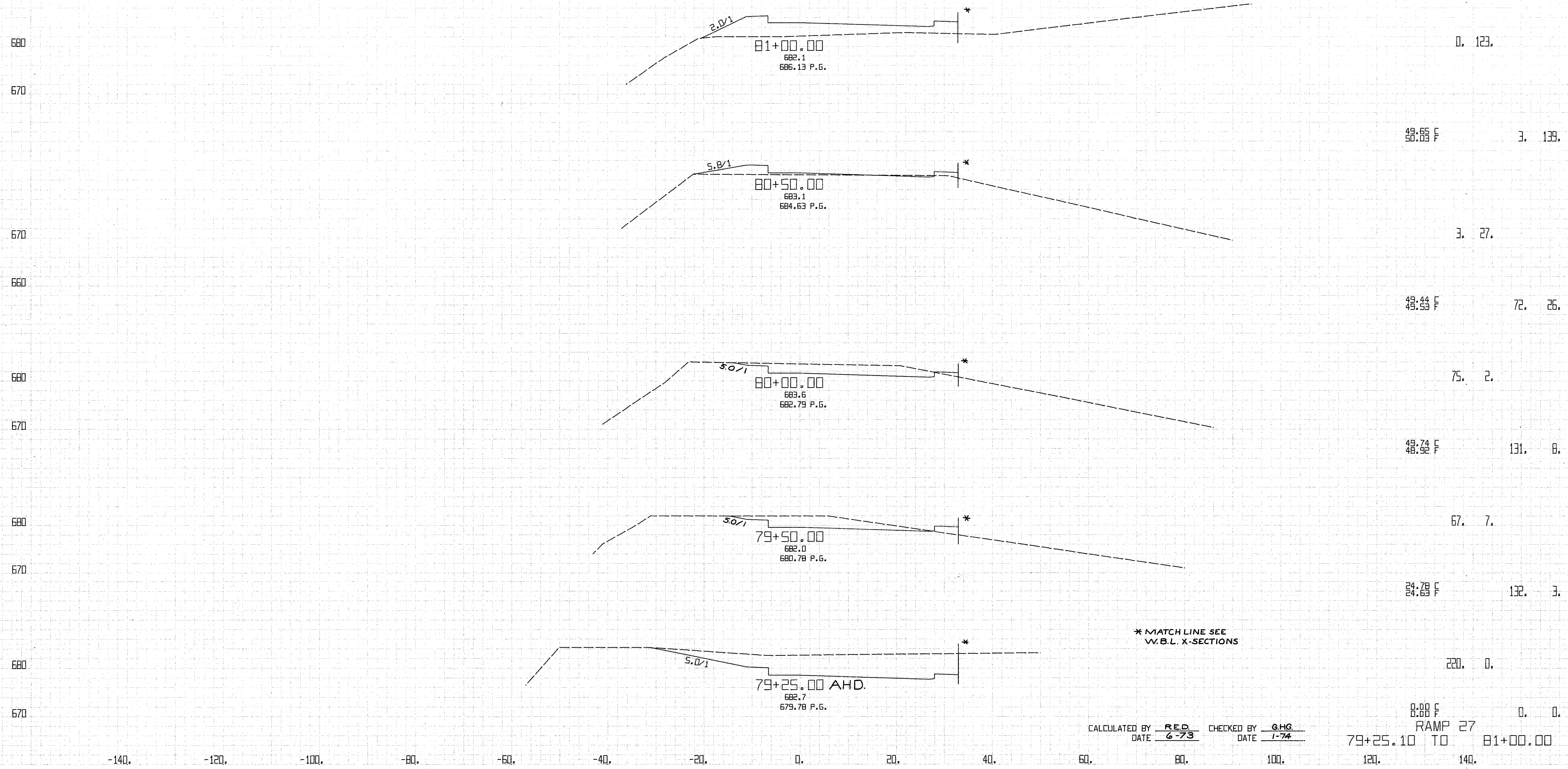


\*\* MATCH LINE SEE  
STUCT REM. X-SECTIONS

\* MATCH LINE SEE  
W.B.L. X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 6-73 DATE 1-74

58.00 F 646.0 D.  
RAMP 27  
78+00.00 TO 79+25.00  
120. 140.



\* MATCH LINE SEE  
V.B.L. X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
DATE 6-73 DATE 1-74

79+25.10 TO 81+00.00

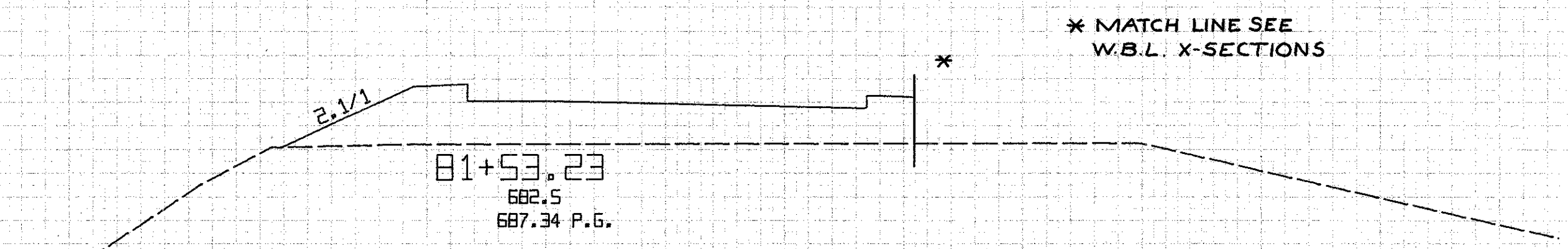
FED. RD. DIVISION	STATE	PROJECT	287 838	
5	OHIO			
CUYAHOGA COUNTY CLY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CU. CUT	YDS. FILL

FINAL SURVEY  
 SURVEY  
 PROJECT NO. 838  
 DATE 11/19/73

CUYAHOGA COUNTY  
 SURVEY  
 PROJECT NO. 838  
 DATE 11/19/73

670  
660

-140.      -120.      -100.      -80.      -60.      -40.      -20.      0.      20.      40.      60.      80.      100.      120.      140.



\* MATCH LINE SEE  
W.B.L. X-SECTIONS

0. 177.

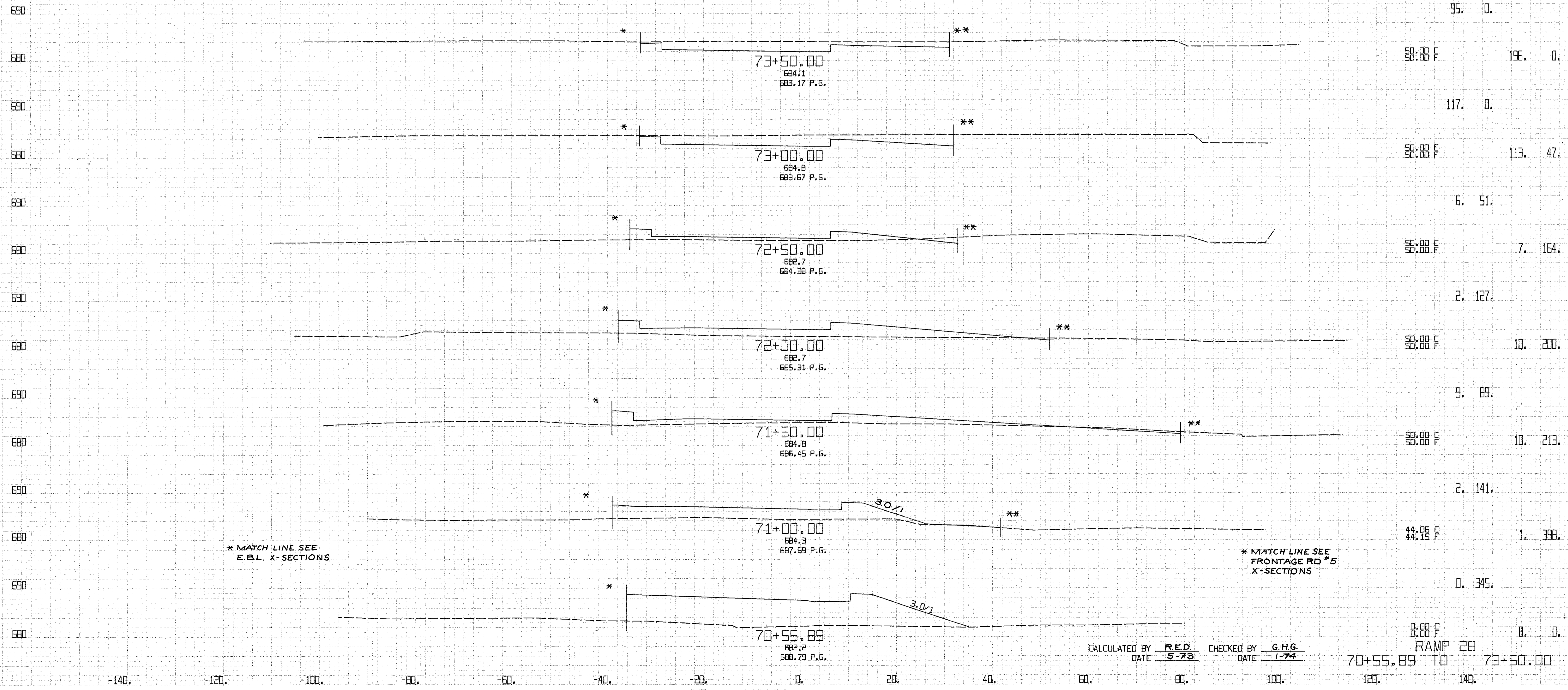
53.23 F      0. 295.

CALCULATED BY R.E.D.      CHECKED BY G.H.G.  
DATE 6-73      DATE 7-74

RAMP 27  
81+53.23 TO 81+53.23

ORIGINAL SURVEY  
 SURVEY  
 DATE  
 BY

ORIGINAL SURVEY  
 SURVEY  
 DATE  
 BY



\* MATCH LINE SEE E.B.L. X-SECTIONS

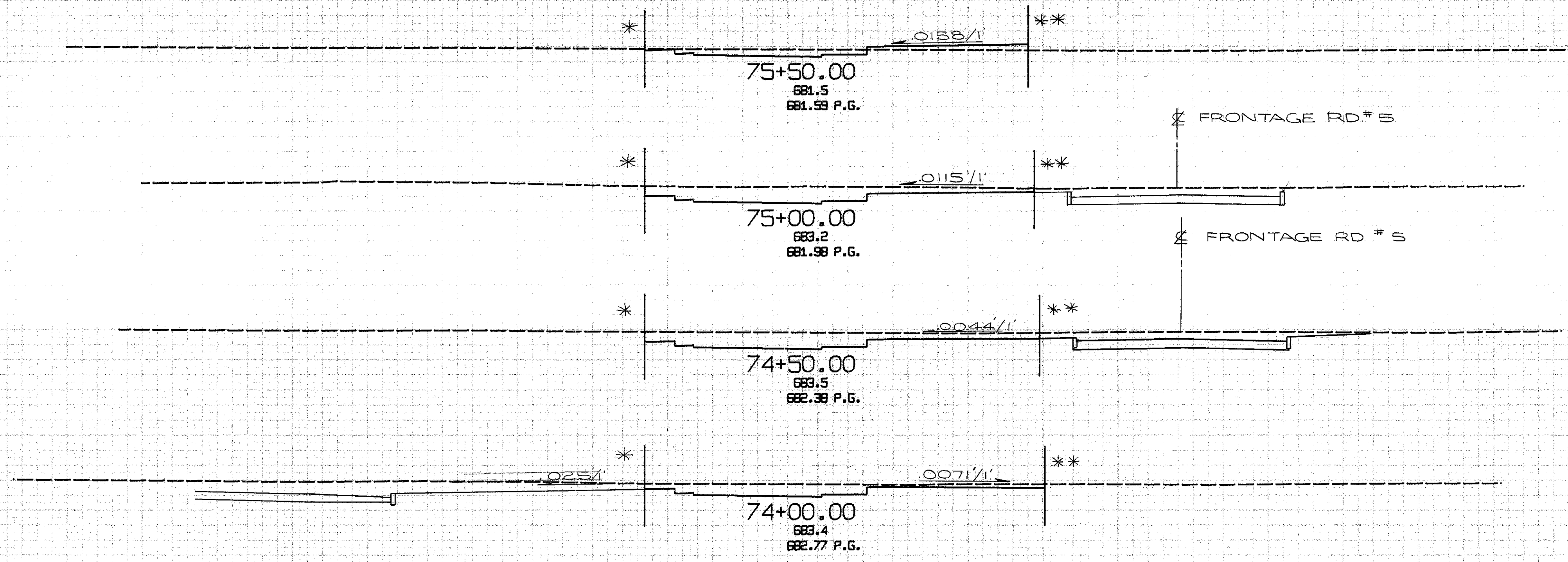
\* MATCH LINE SEE FRONTAGE RD #5 X-SECTIONS

CALCULATED BY R.E.D. CHECKED BY G.H.G.  
 DATE 5-73 DATE 1-74

8.00 F RAMP 28  
 70+55.89 TO 73+50.00



630  
680  
630  
680  
630  
680  
630



50.00C 50.00F			87.	12.
	73.	0.		
50.00 F			137.	0.
	75.	0.		
50.00 F			117.	0.
	51.	0.		
50.00 F			113.	0.

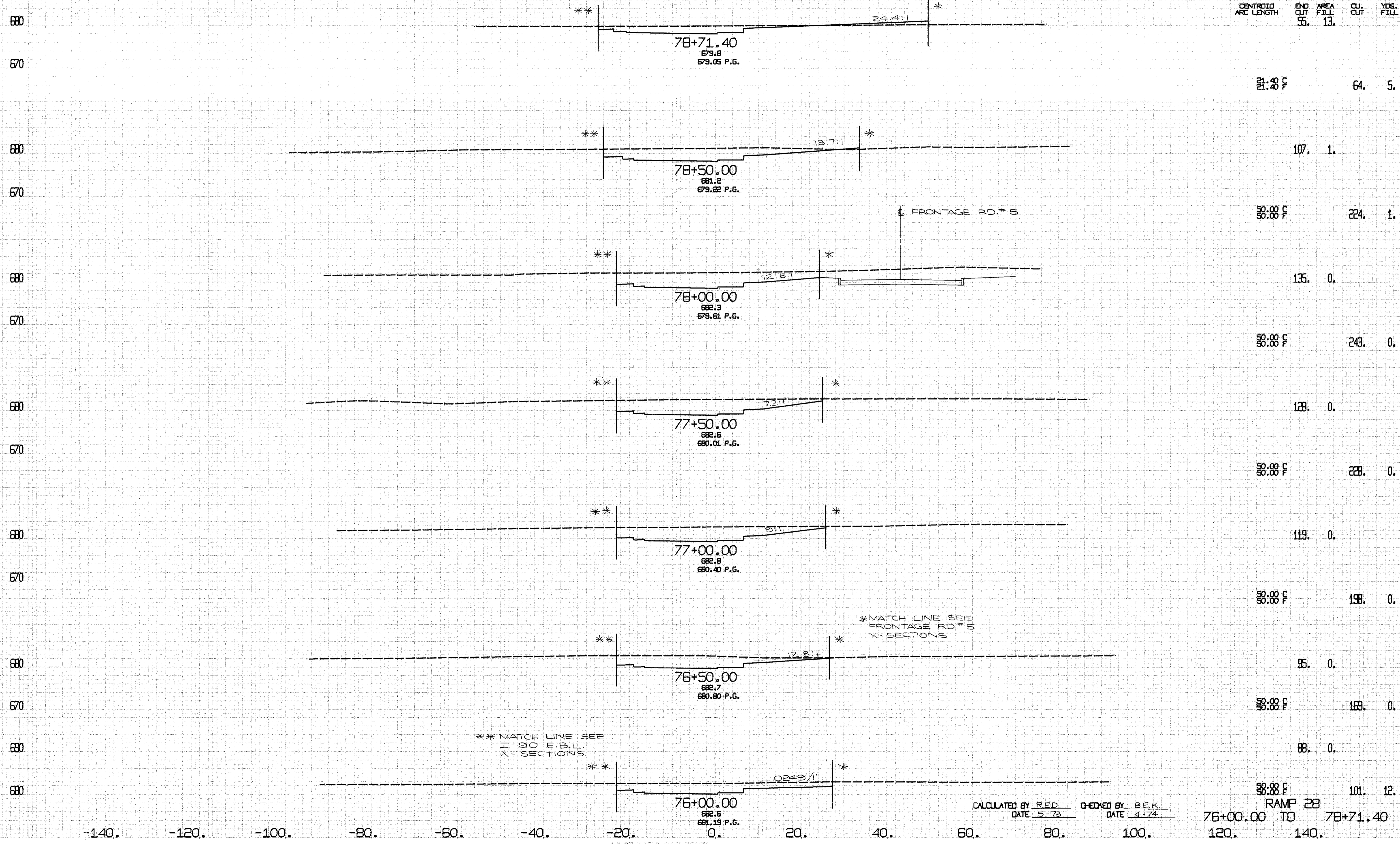
\* MATCH LINE SEE  
E.B.L. 11-80  
X-SECTIONS

\*\* MATCH LINE SEE  
FRONTAGE RD. #5  
X-SECTIONS

ALLOLATED BY RED CHECKED BY BEK  
DATE 5-73 DATE 4-74

RAMP 28  
74+00.00 TO 75+50.00

-140. -120. -100. -80. -60. -40. -20. 0. 20. 40. 60. 80. 100.



FINAL DESIGN  
 CHECKED BY [Signature]  
 DATE [Date]  
 PROJECT NO. [Number]  
 SHEET NO. [Number]

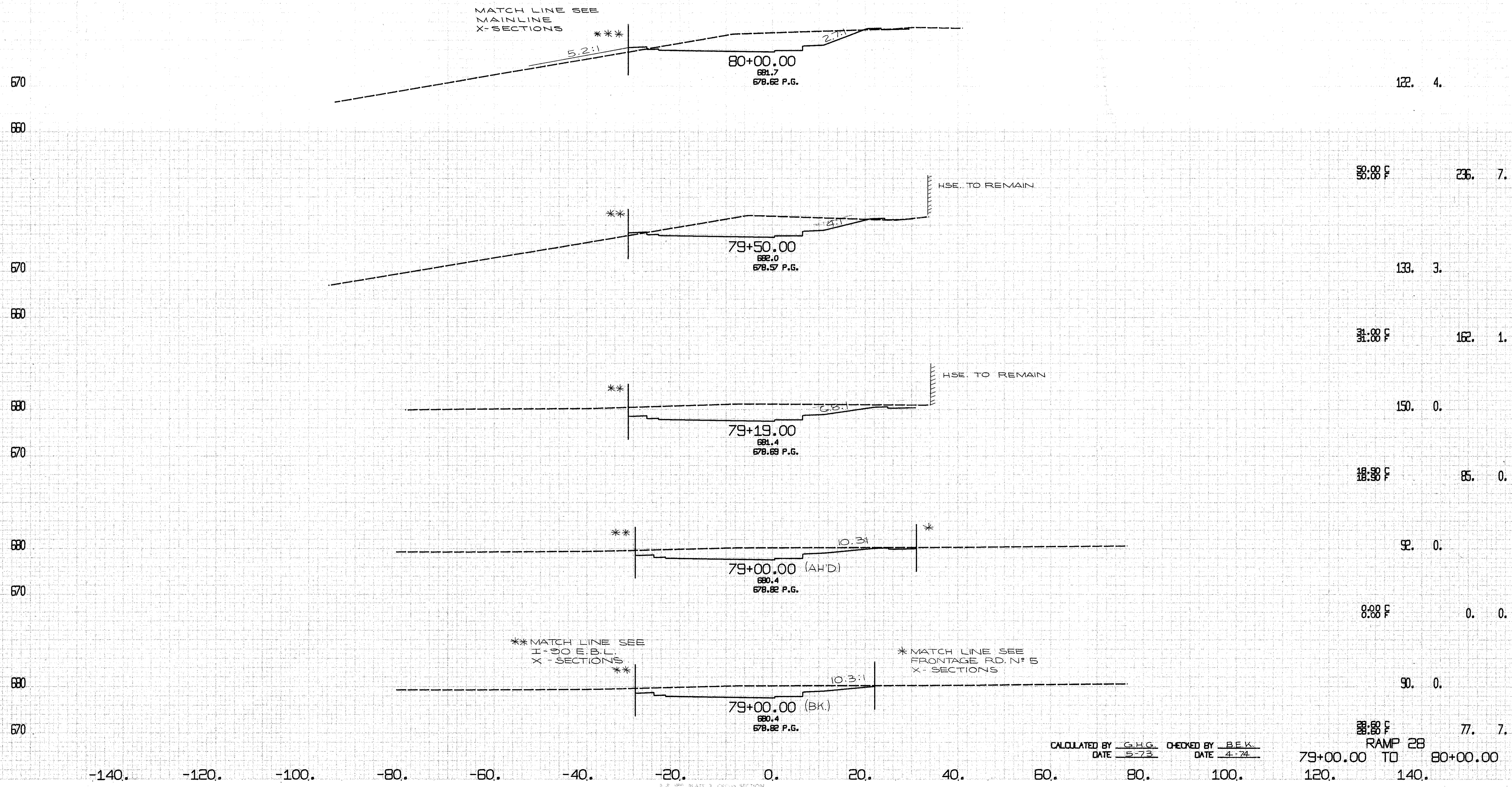
GENERAL NOTES  
 SEE [Reference]  
 [Additional notes text]

\*\* MATCH LINE SEE  
I-90 E.B.L.  
X-SECTIONS

\* MATCH LINE SEE  
FRONTAGE RD # 5  
X-SECTIONS

CALCULATED BY RED. CHECKED BY BEK  
DATE 5-73 DATE 4-74

RAMP 28  
76+00.00 TO 78+71.40

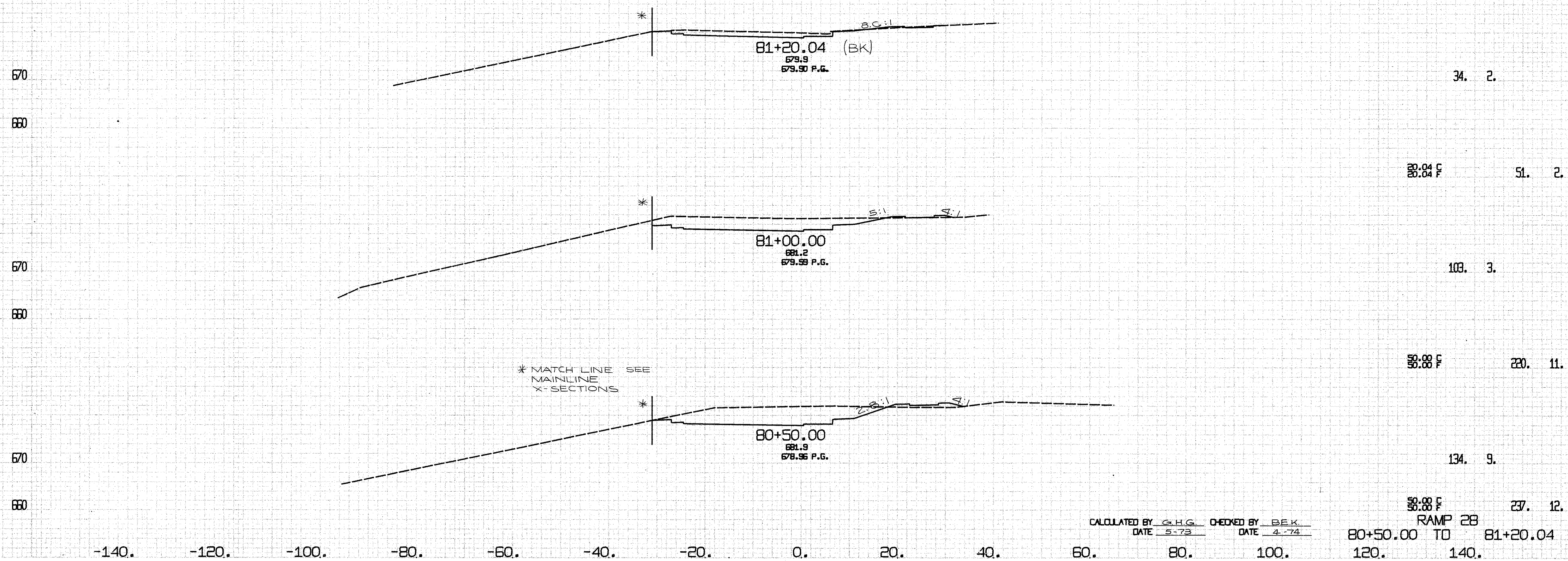


CALCULATED BY G.H.G. CHECKED BY B.E.K.  
DATE 5-73 DATE 4-74

FINAL SURVEY

PERSONAL SURVEY

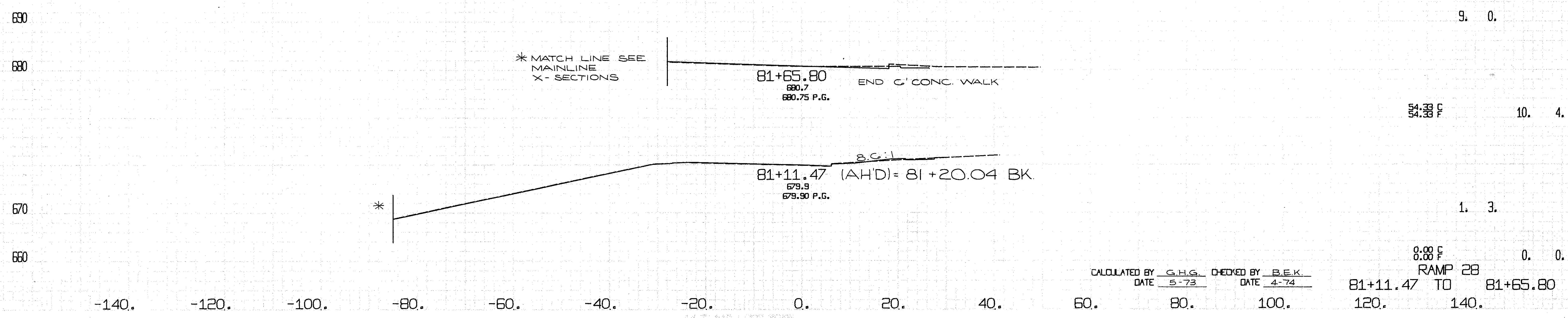
FED. RD. DIVISION	STATE	PROJECT	292 838	
2	OHIO			
CUYAHOGA COUNTY CUY-90-11.64				
CENTROID ARC LENGTH	END CUT	AREA FILL	CUT CUT	YOS. FILL



\* MATCH LINE SEE  
MAINLINE  
X-SECTIONS

CALCULATED BY G.H.G. CHECKED BY BEK.  
DATE 5-73 DATE 4-74

RAMP 28  
80+50.00 TO 81+20.04



\* MATCH LINE SEE  
MAINLINE  
X-SECTIONS

81+65.80  
680.7  
680.75 P.G. END 6' CONC. WALK

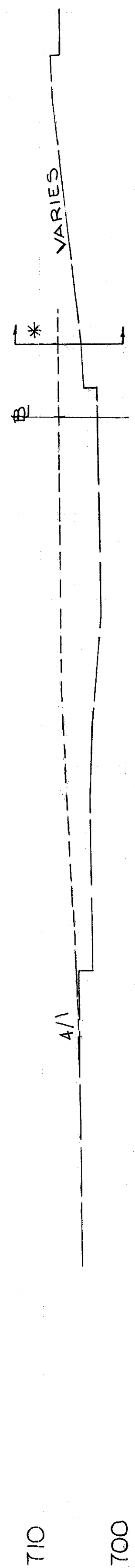
81+11.47 (AH'D) = 81+20.04 BK.  
673.9  
673.90 P.G.

3.6:1

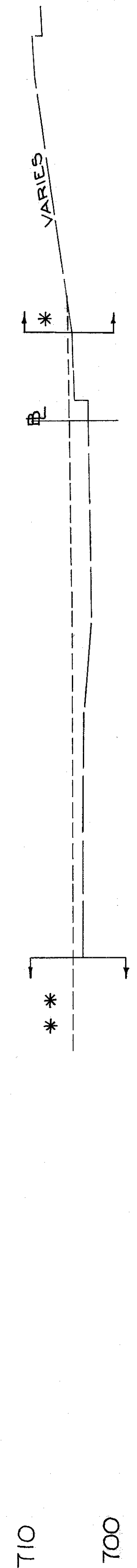
CALCULATED BY G.H.G. CHECKED BY B.E.K.  
DATE 5-73 DATE 4-74

0.00 F  
RAMP 28  
81+11.47 TO 81+65.80

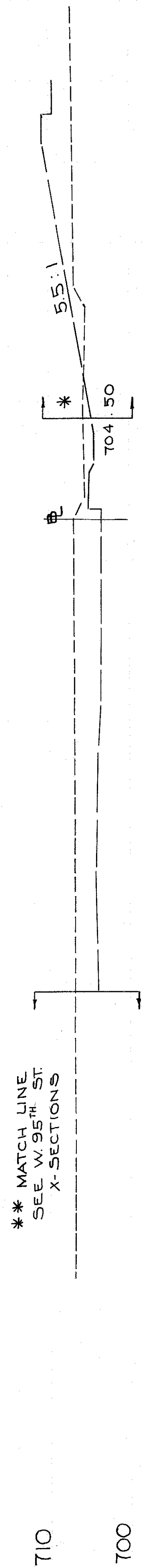
END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL



70+30  
706.3  
705.02 PG



70+00  
706.3  
705.02 PG



69+50  
705.1  
705.11 PG

\* MATCH LINE  
SEE MAINLINE  
X-SECTIONS

40 20 0 20 40 60

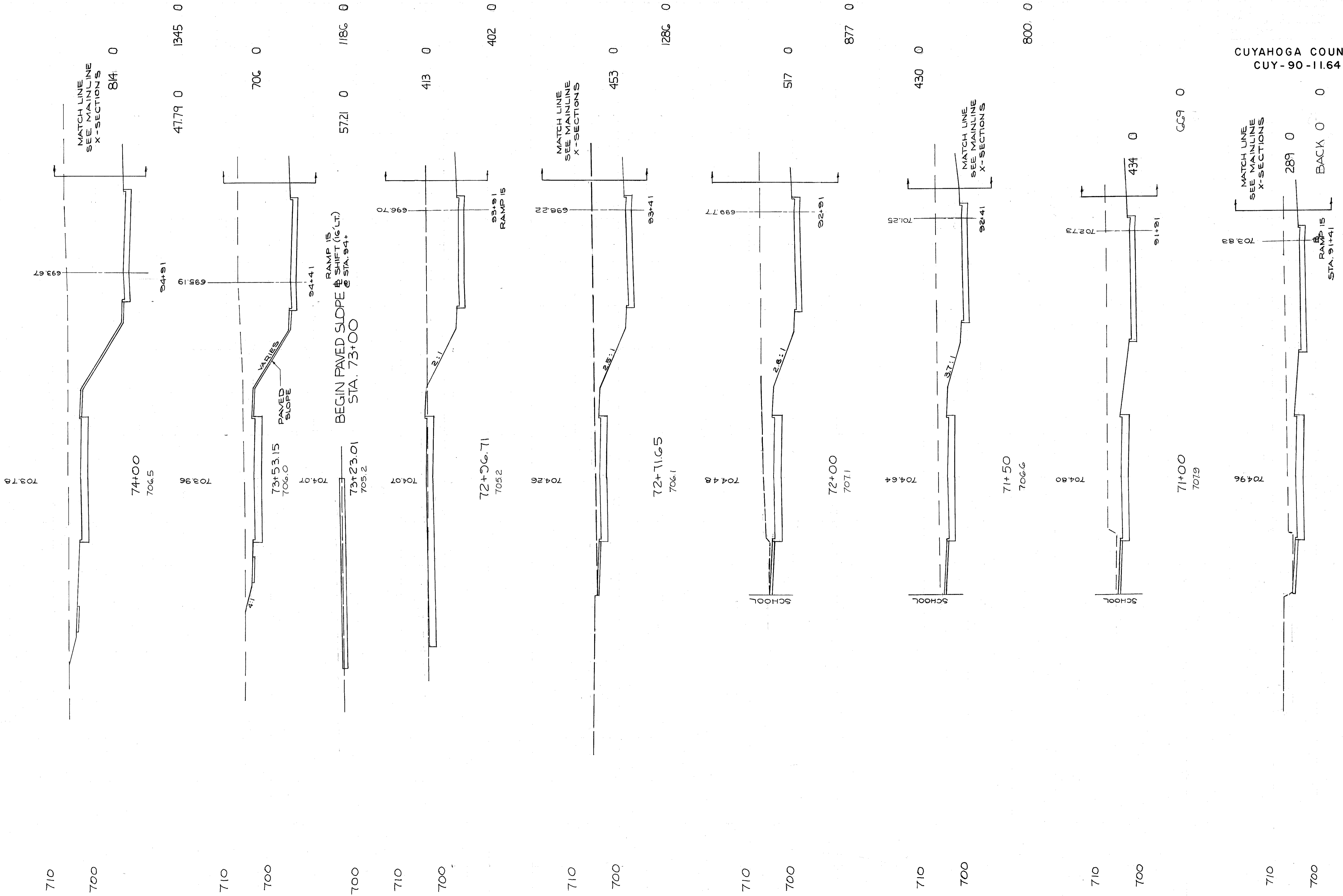
MARGINAL ROAD # 4  
STA 69+50 TO 70+30

CUYAHOGA COUNTY  
CUY-90-11.64

CALCULATED BY E.F.F. DATE 6/10  
CHECKED BY R.E.D. DATE MAR 72

295  
838

ADJ. ARC END AREA VOLUME  
LENGTH  
CUT YDS.  
CUT FILL CUT FILL CUT FILL



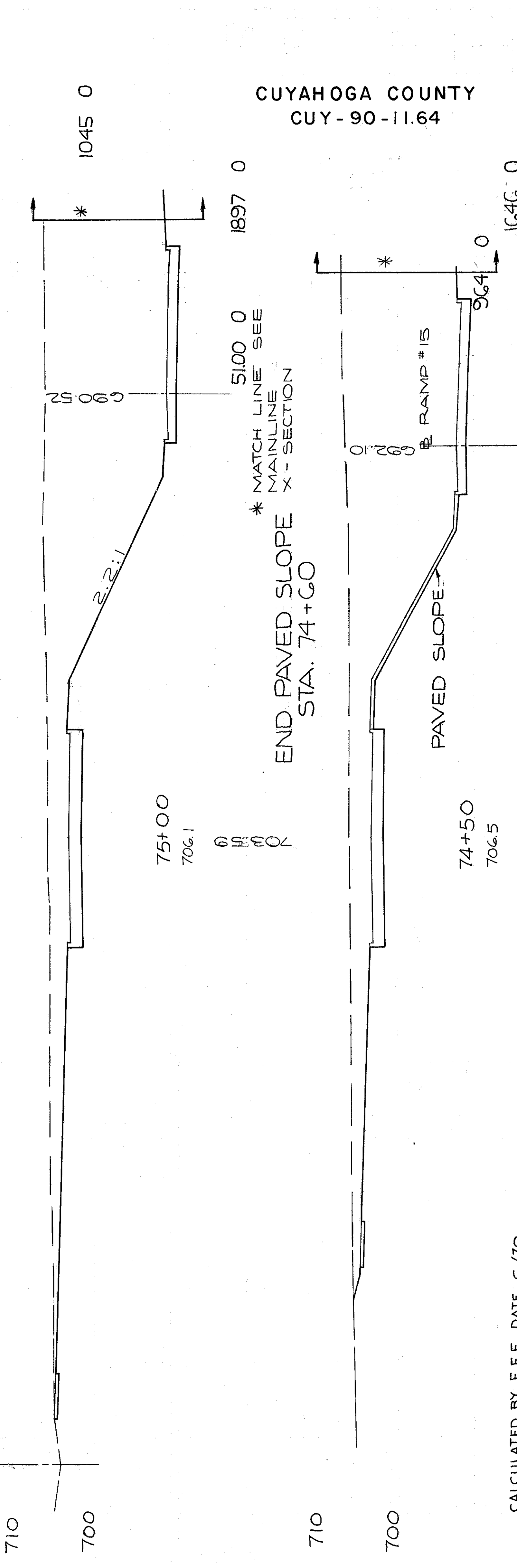
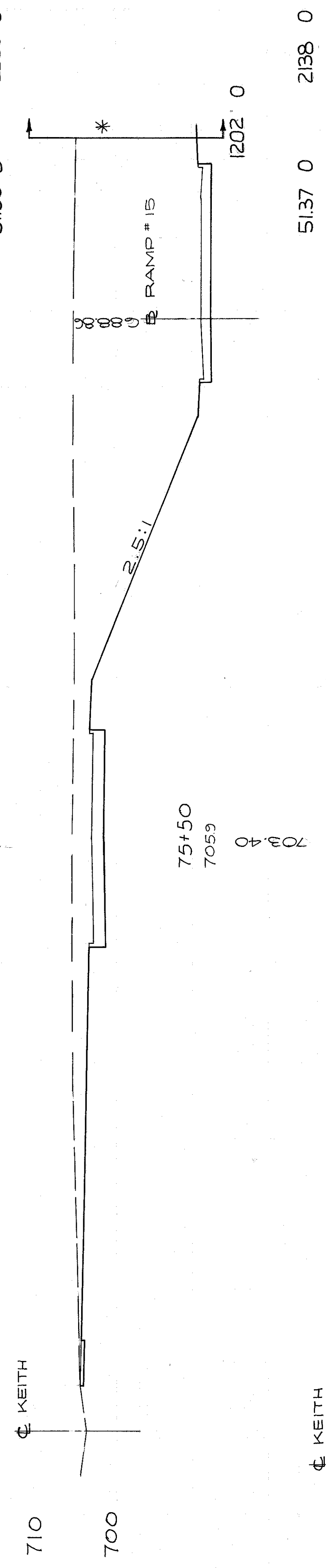
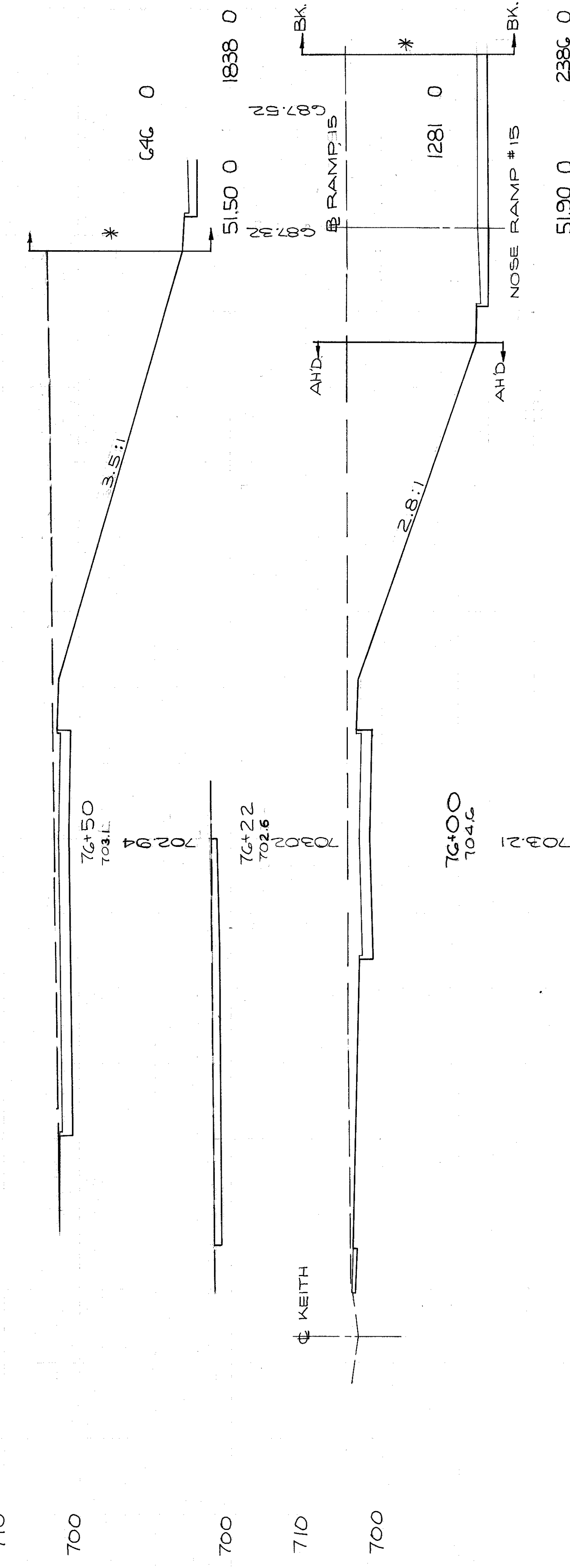
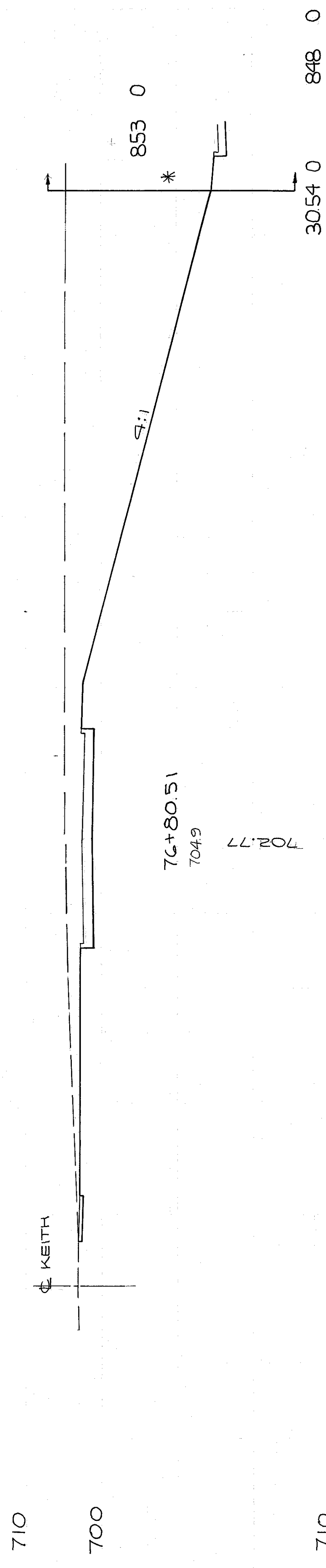
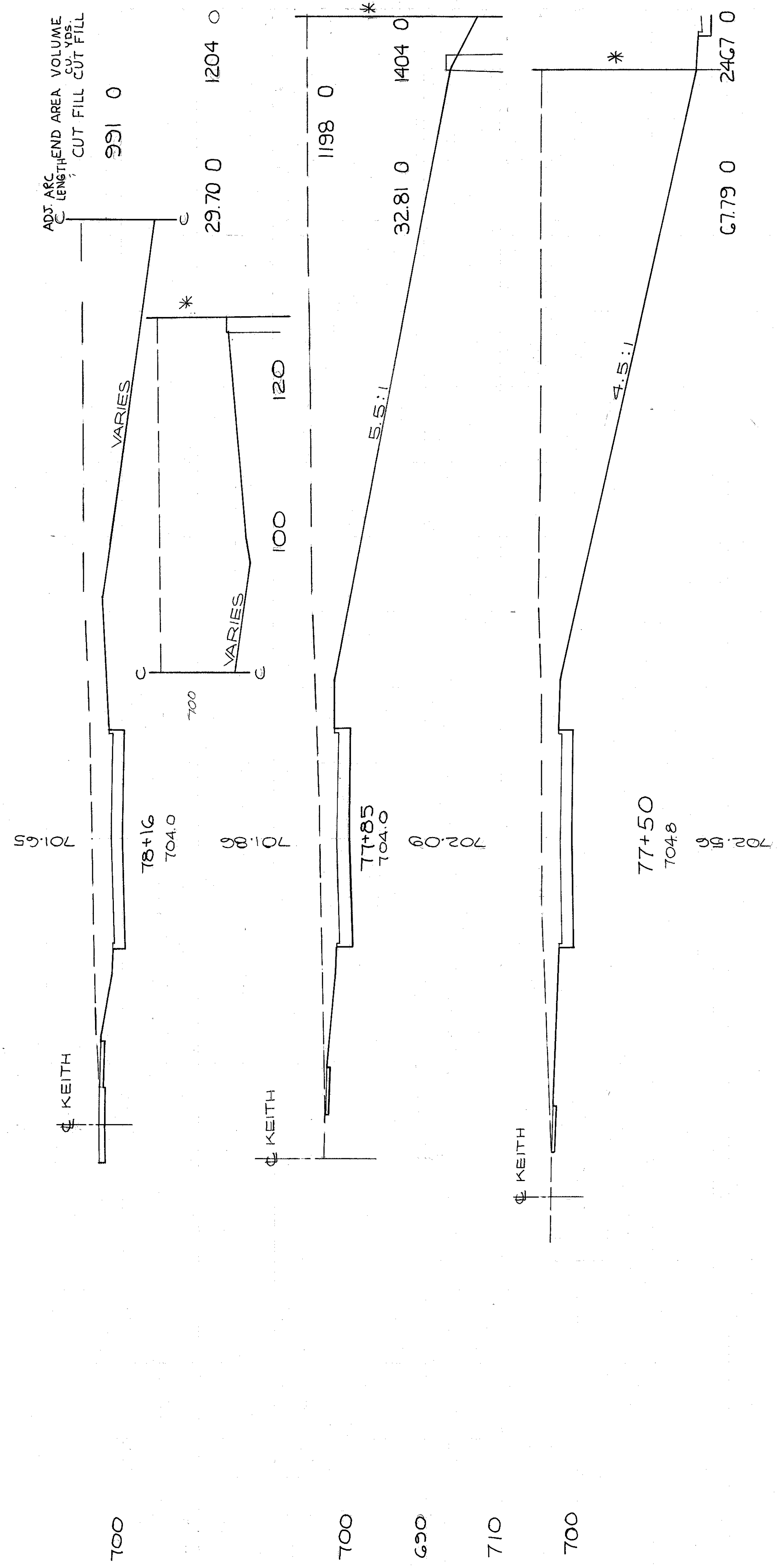
CUYAHOGA COUNTY  
CUY-90-11.64

CALCULATED BY F.F.F. DATE 6/70  
CHECKED BY R.E.D. DATE MAR 72

MARGINAL RD #4  
STA. 70+50 TO 74+00

BEGIN PAVT 70+50  
706.8

STATION	CUT	FILL	TOTAL VOLUME
74+00	84	0	84
73+53.15	706	0	706
73+23.01	572	0	572
72+56.71	413	0	413
72+11.65	453	0	453
72+00	517	0	517
71+50	430	0	430
71+00	434	0	434
70+96	289	0	289
70+50	0	0	0
TOTAL	6565	0	6565



CALCULATED BY F.E.F. DATE 6/70.  
 CHECKED BY R.E.D. DATE MAR. 72.

MARGINAL RD # 4  
 STA 74+50 TO 78+16

CUYAHOGA COUNTY  
 CUY-90-11.64

END PAVED SLOPE STA. 74+60

PAVED SLOPE

TOTAL VOLUME - 15828 0

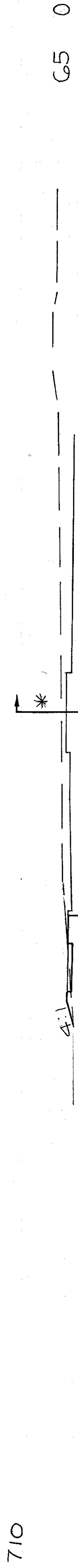
80 60 40 20 0 20 40 60 80



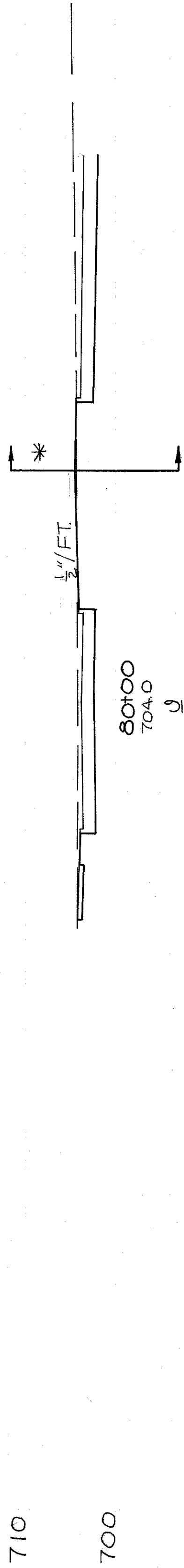
ADJ. ARC END AREA VOLUME  
LENGTH CU. YDS.  
CUT FILL CUT FILL CUT FILL

FOR CONTINUATION OF X-SECTIONS  
EARTHWORK SEE RELOC. LORAIN AVE.  
X-SECTIONS

702.7  
704.0  
704.0

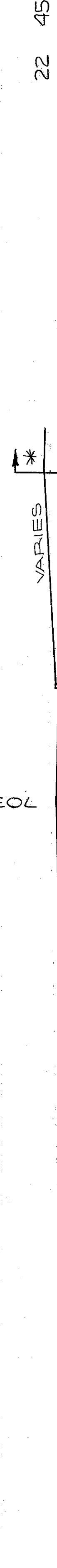


80+50  
705.0  
703.9  
703.9



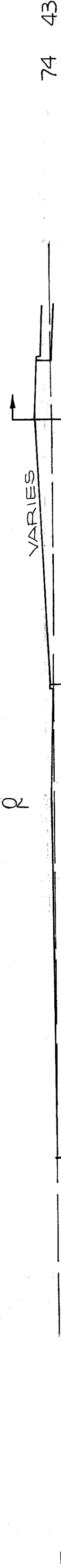
50.14 C  
50.34 F  
109 1

79+63  
704.0  
702.8



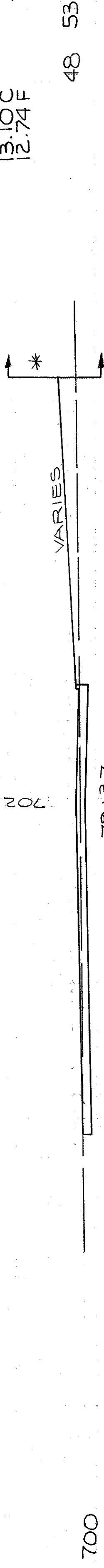
37.37 C  
36.71 F  
51 30

79+50  
703.3  
702.4



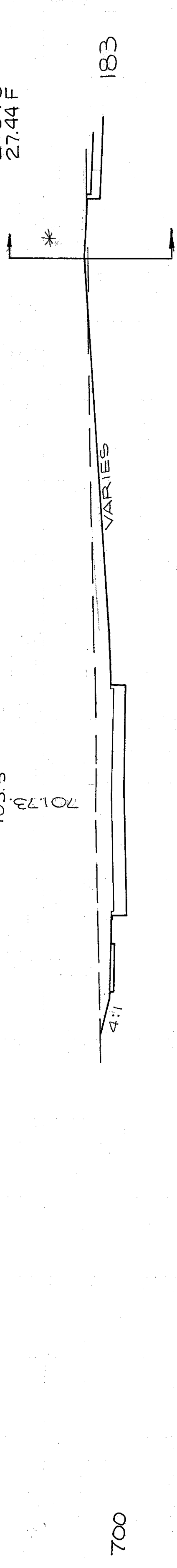
13.17 C  
12.77 F  
23 21

79+37  
703.5  
701.7



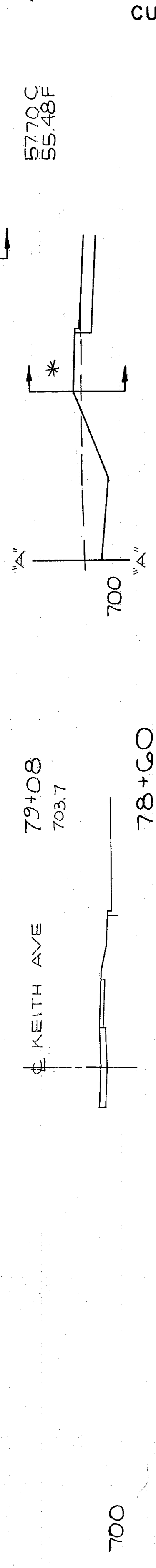
13.10 C  
12.74 F  
30 23

79+08  
703.7



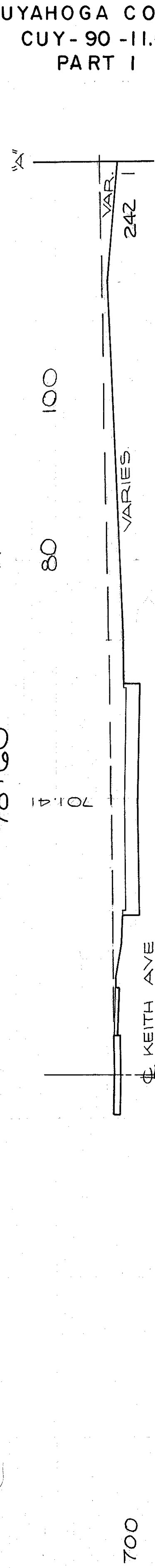
29.04 C  
27.44 F  
124 27

78+60  
701.4



48 53

78+50  
703.1



57.70 C  
55.48 F  
454 2

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

CALCULATED BY E.E.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

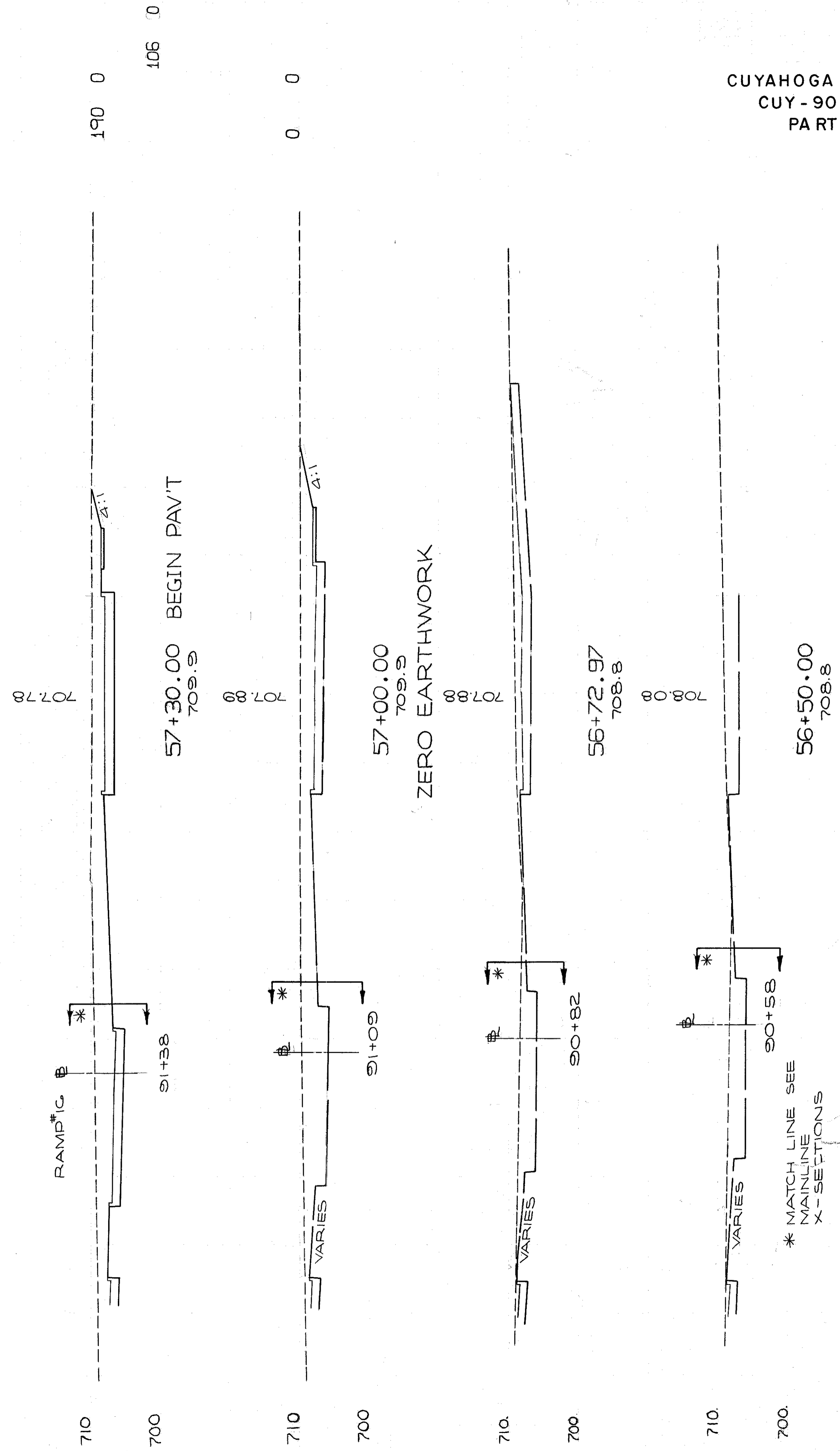
33.15 C  
33.11 F  
757 1  
TOTAL VOLUME - 1548.105

80 60 40 20 0 20 40 60 80

298  
838

MARGINAL RD\*4  
STA 78+50 TO 80+50

END AREA VOLUME  
CU YDS  
CUT FILL CUT FILL



CUYAHOGA COUNTY  
CUY - 90 - 11.64  
PART I

\* MATCH LINE SEE  
MAINLINE  
X-SECTIONS

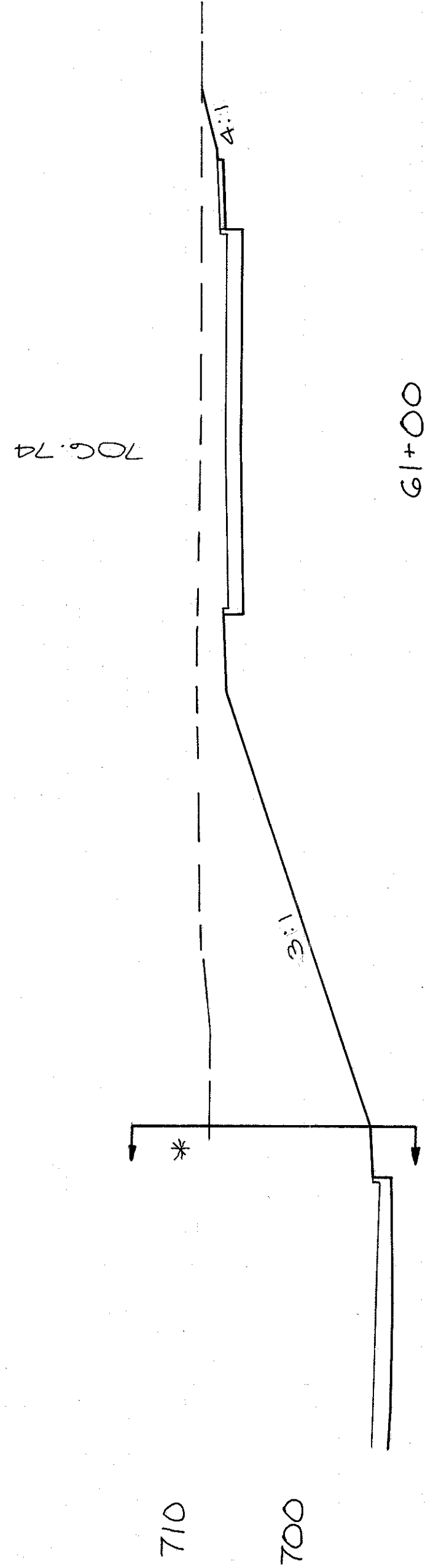
CALCULATED BY F.E.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

MARGINAL RD# 5  
57

TOTAL VOLUME - CUT FILL  
60

299  
838

END AREA VOLUME  
CU. YDS. CUT FILL CUT FILL

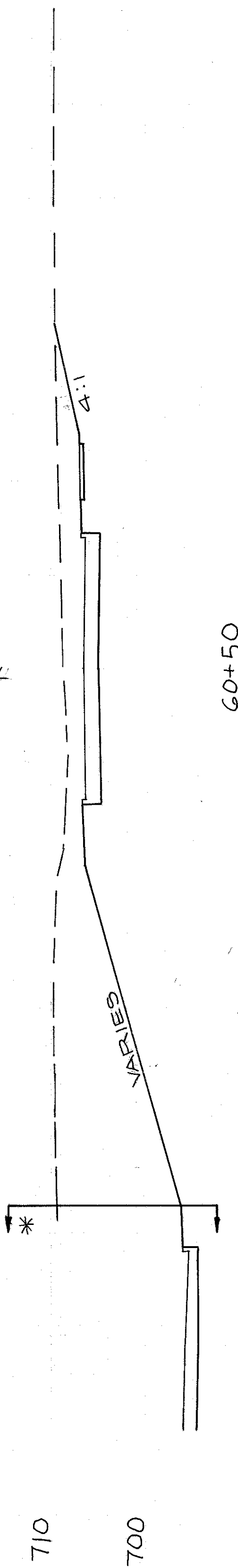


441 0

61+00

706.8  
706.70

827 0

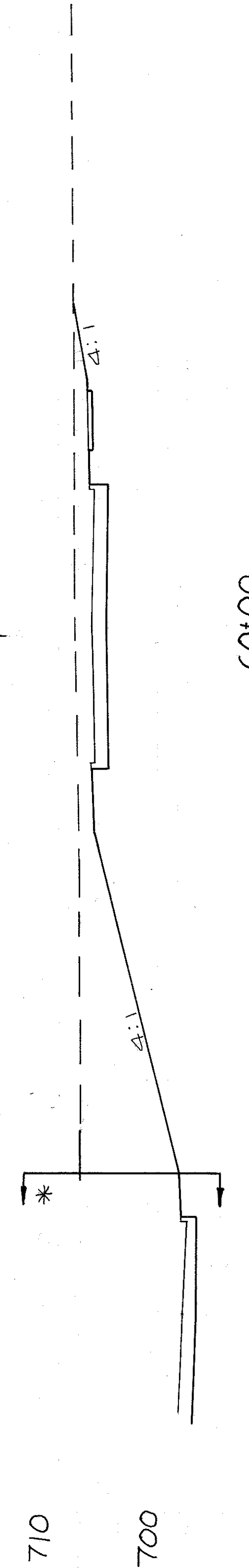


452 0

60+50

706.9  
706.9

708 0

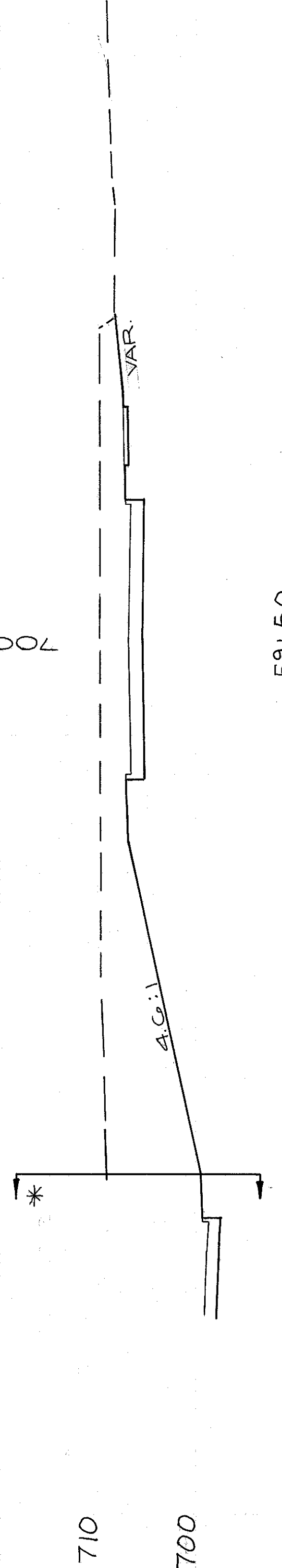


312 0

60+00

706.92  
706.99

668 0

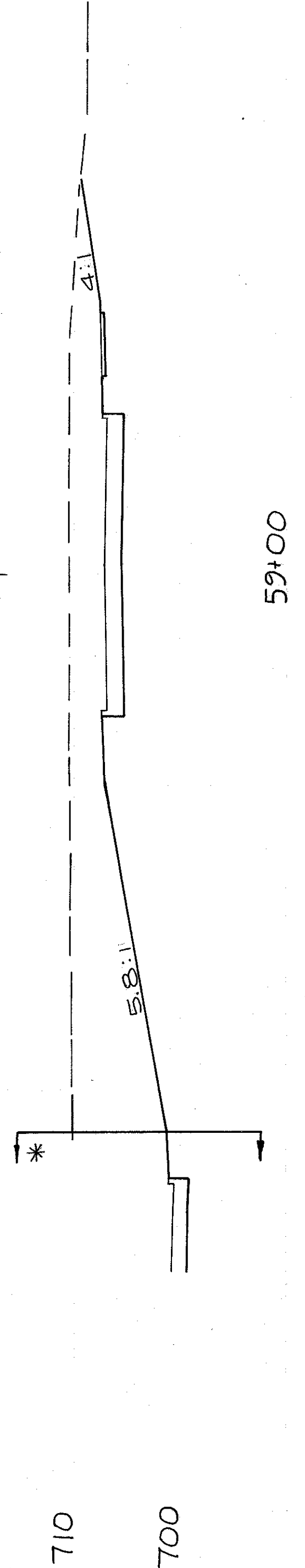


409 0

59+50

707.9  
707.17

762 0

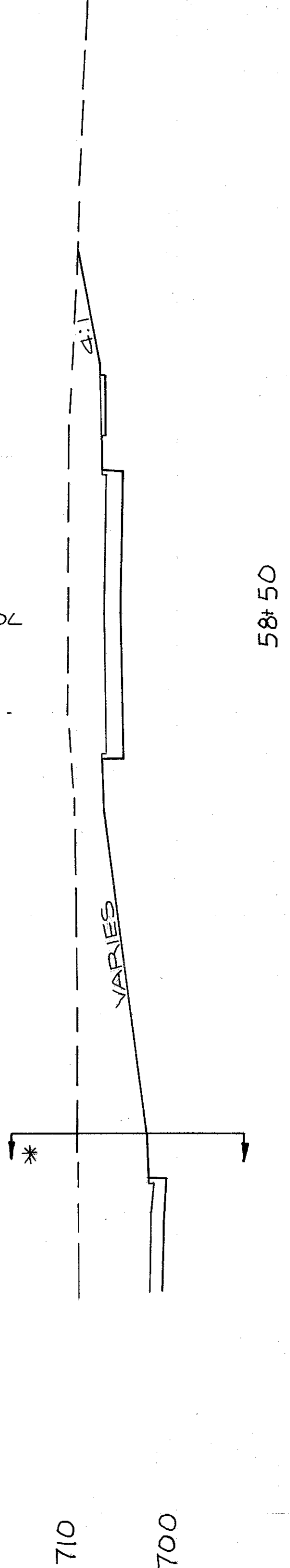


414 0

59+00

707.98  
707.9

735 0

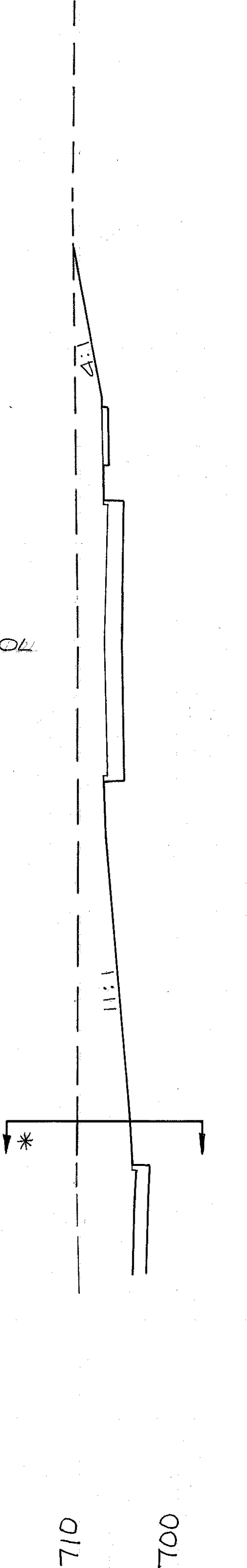


379 0

58+50

707.98  
707.9

652 0

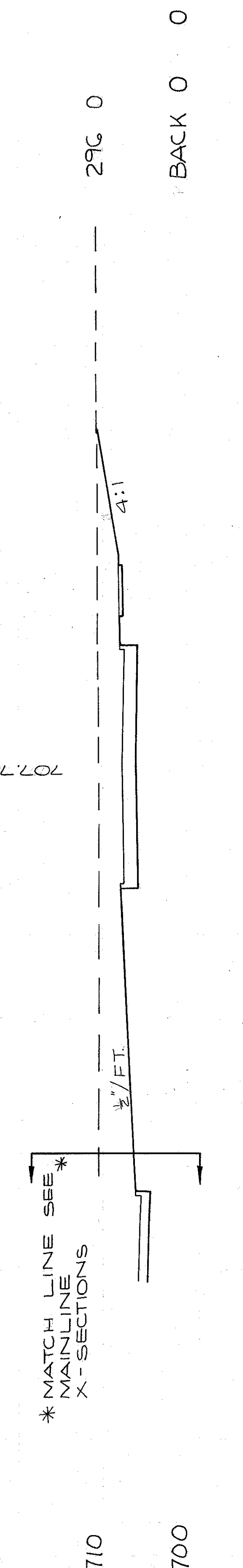


325 0

58+00

707.7  
707.2

575 0



296 0

57+50

707.7  
707.7

BACK 0 0

\* MATCH LINE SEE \*  
MAINLINE  
X-SECTIONS

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

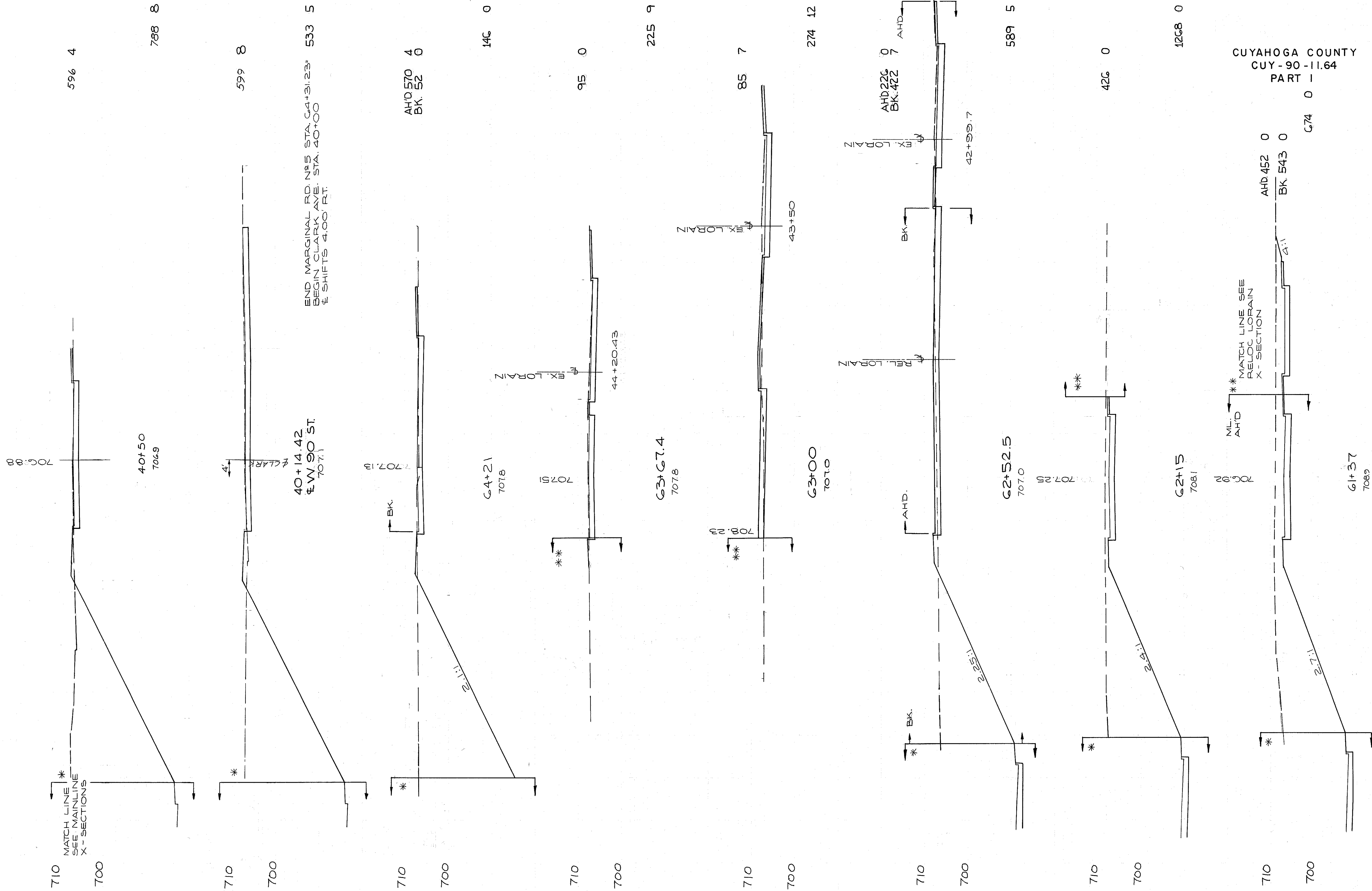
CALCULATED BY F.E.E. DATE 6/10  
CHECKED BY R.E.D. DATE 3/72

TOTAL VOLUME 4927 0

300  
838

MARGINAL RD #5  
STA 57+50 TO 61+00

END AREA VOLUME  
CU. YDS. CUT FILL CUT FILL



596 4

788 8

599 8

533 5

AHD 570 4  
BK. 52 0

146 0

95 0

225 9

85 7

274 12

AHD 226 9  
BK. 422 7

589 5

426 0

1268 0

AHD 452 0  
BK. 543 0  
G74 0

61+37  
7089

CALCULATED BY F.F.E. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

TOTAL VOLUME - 4497 39

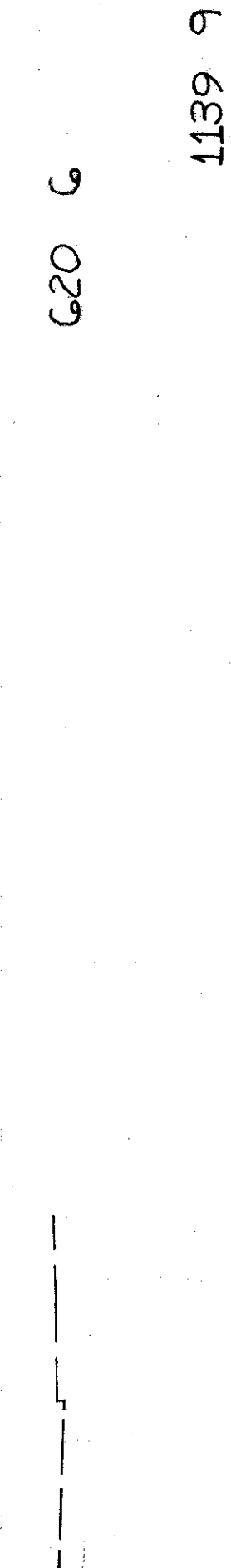
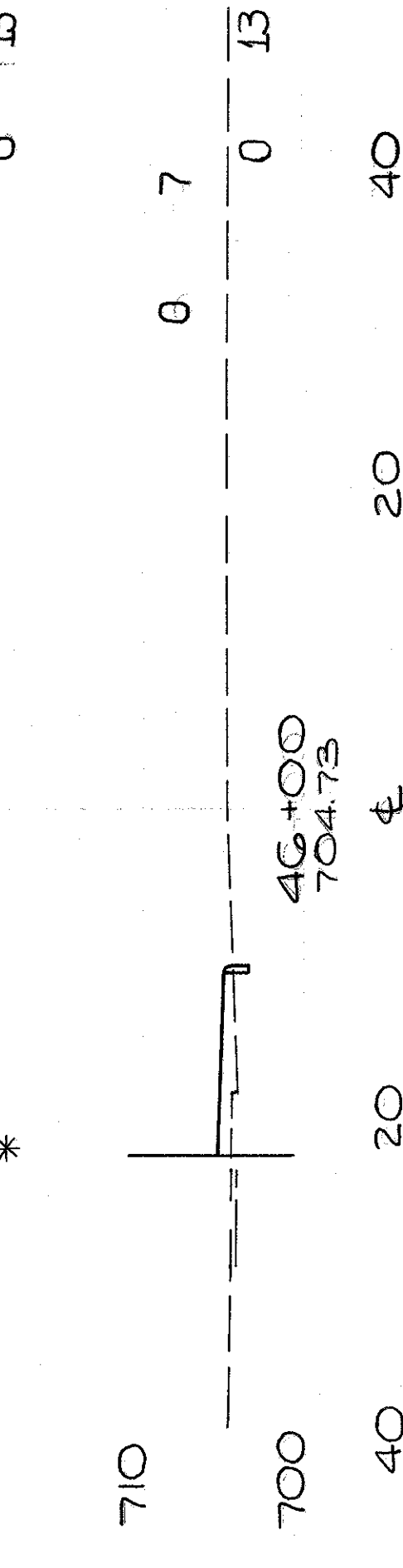
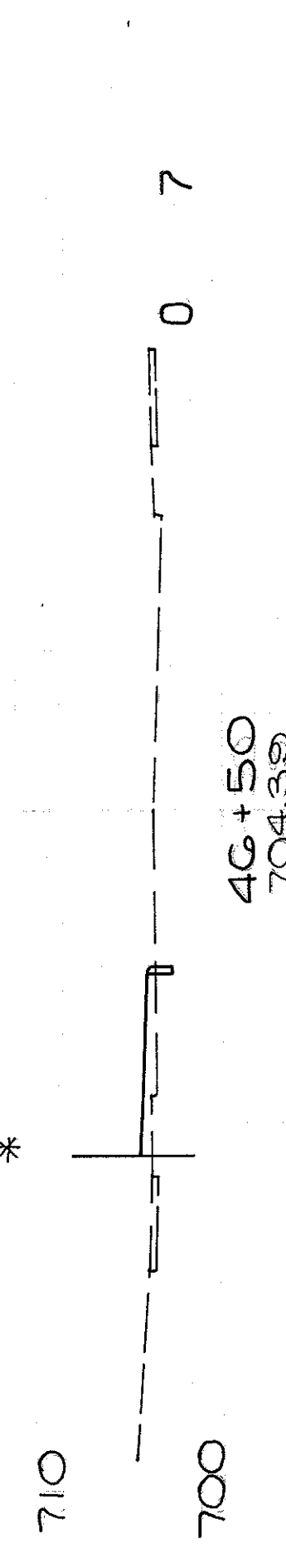
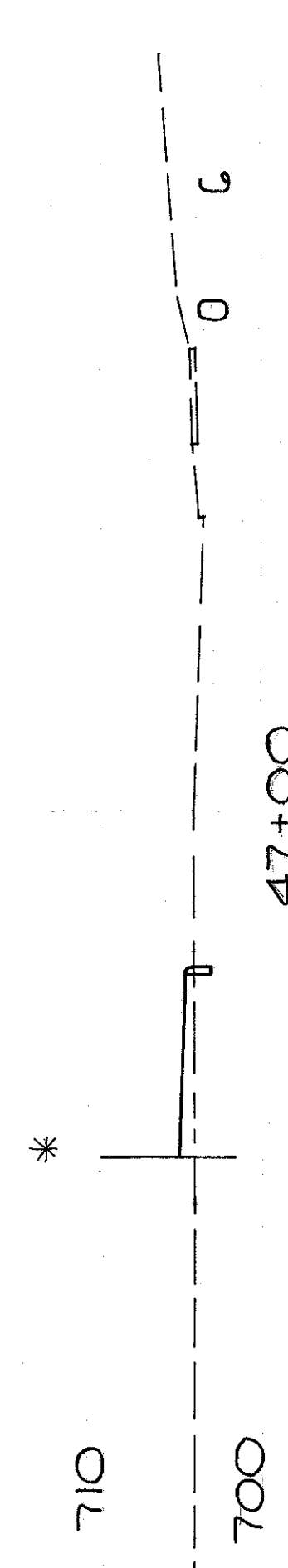
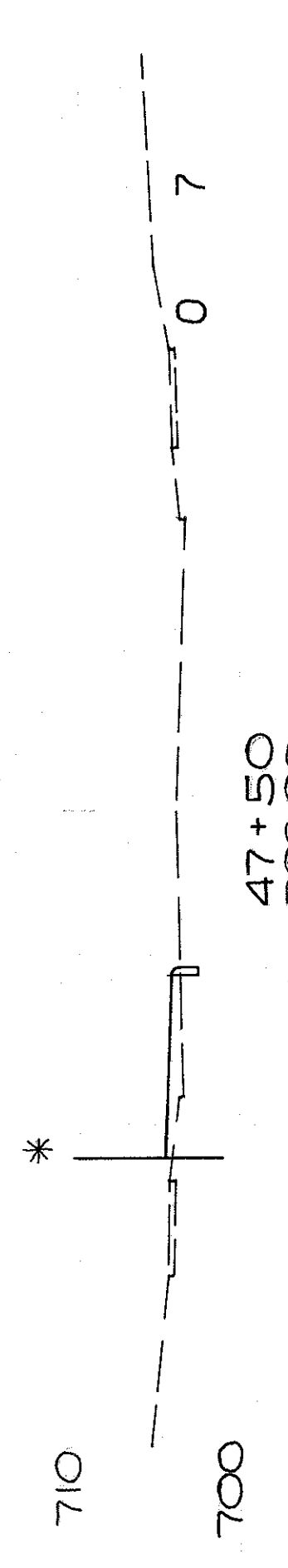
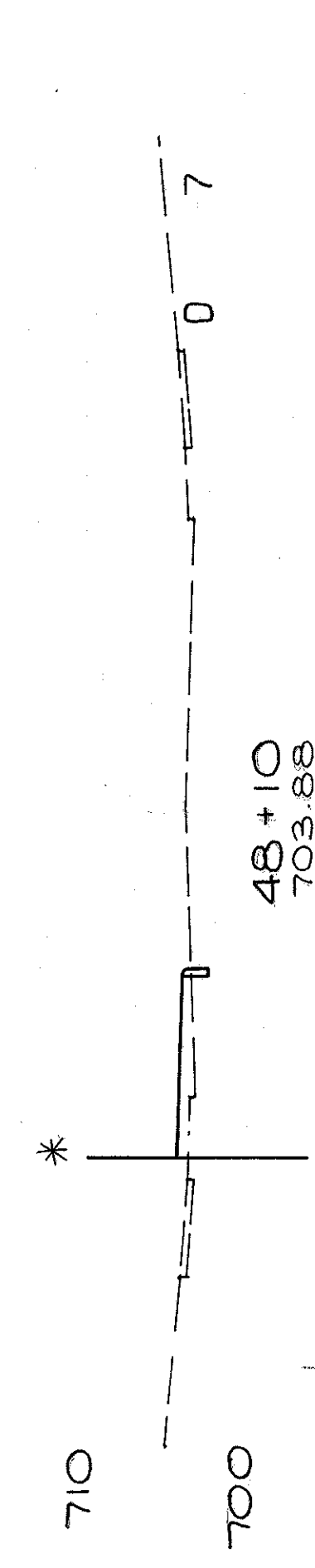
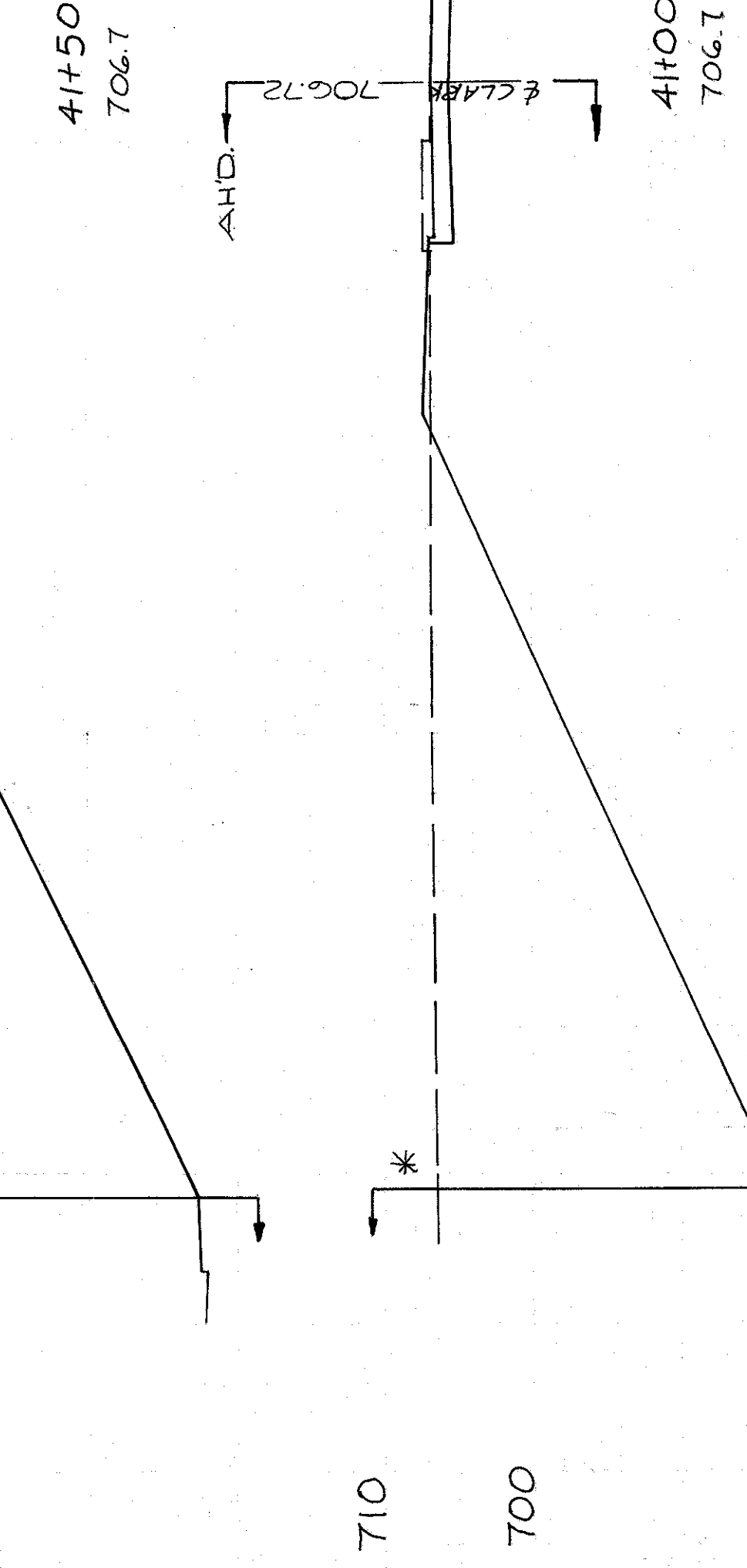
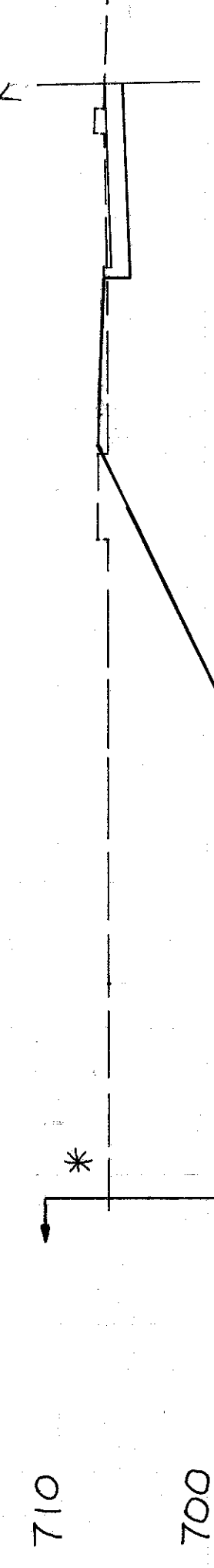
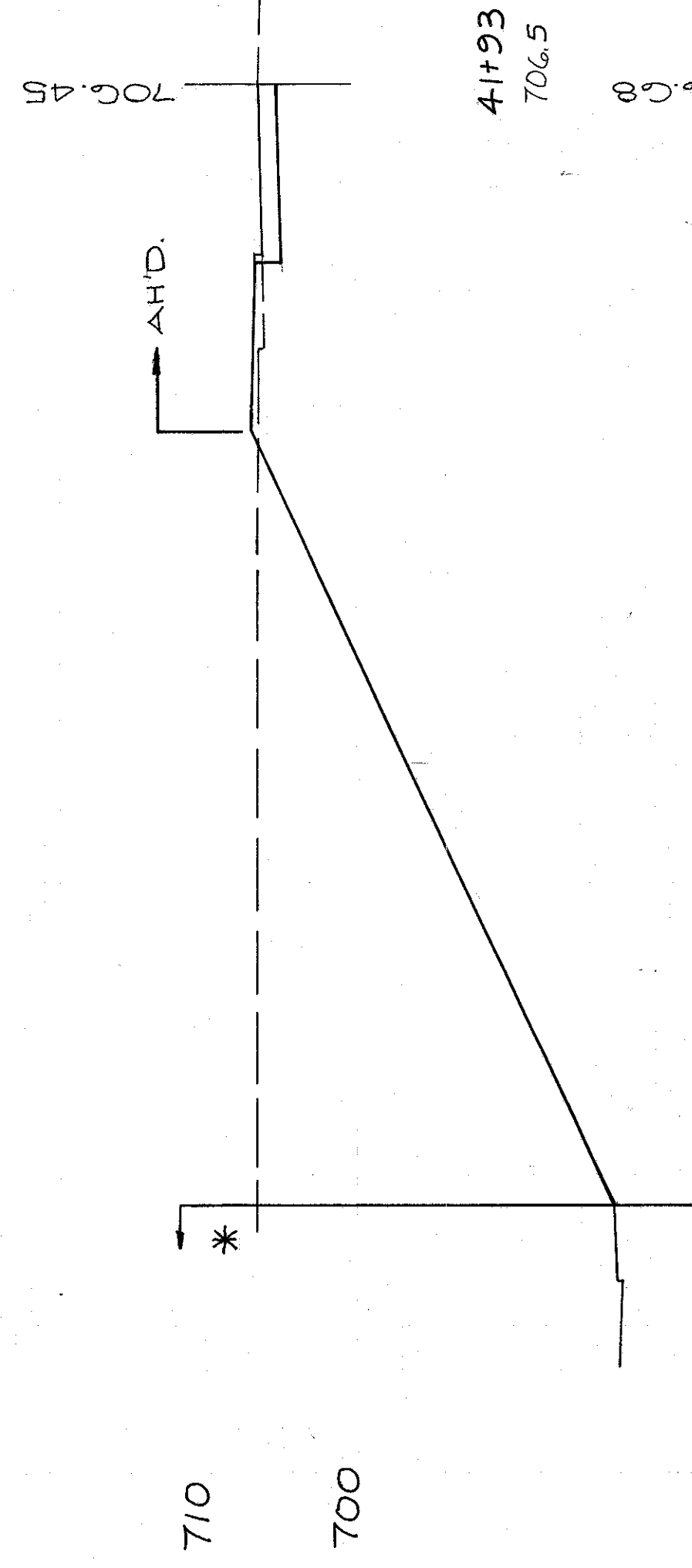
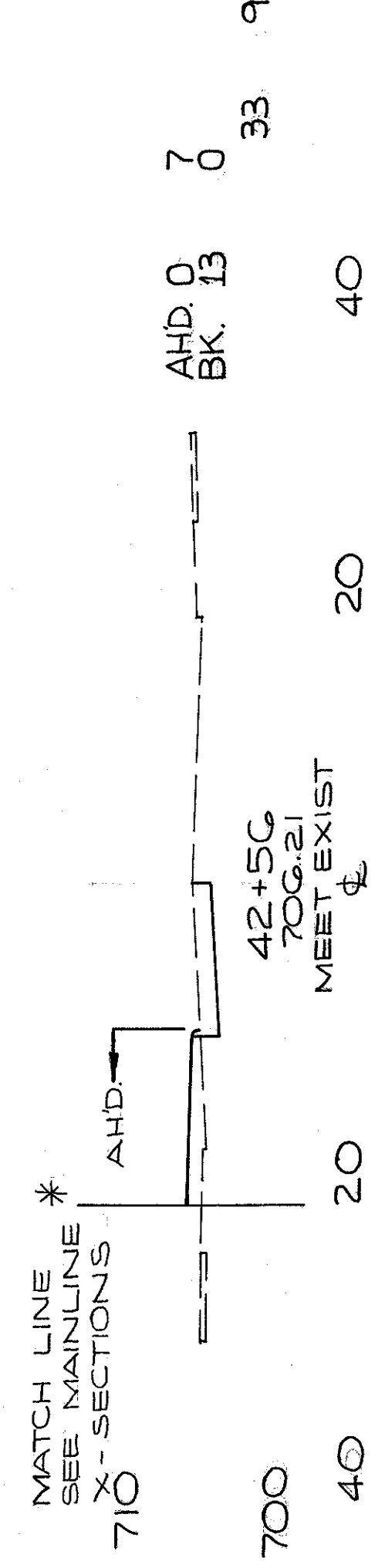
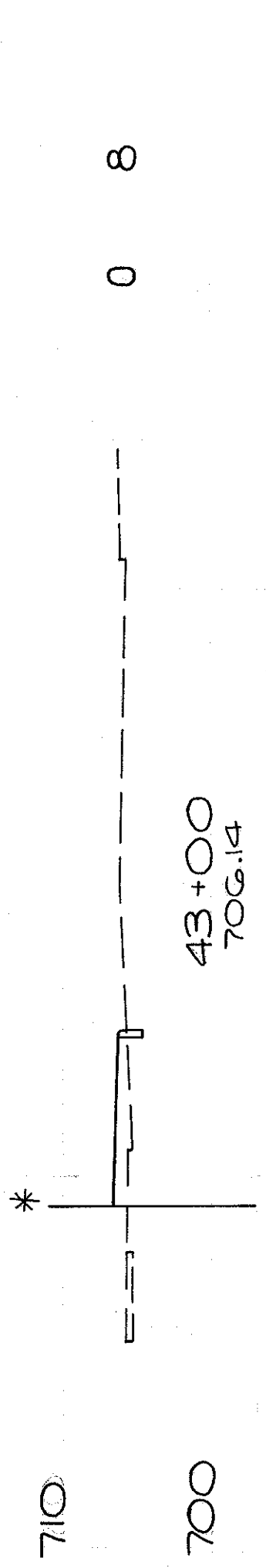
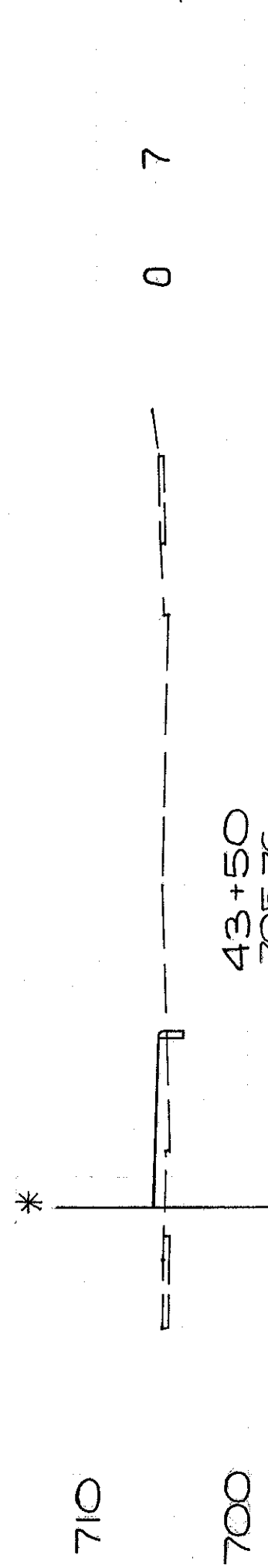
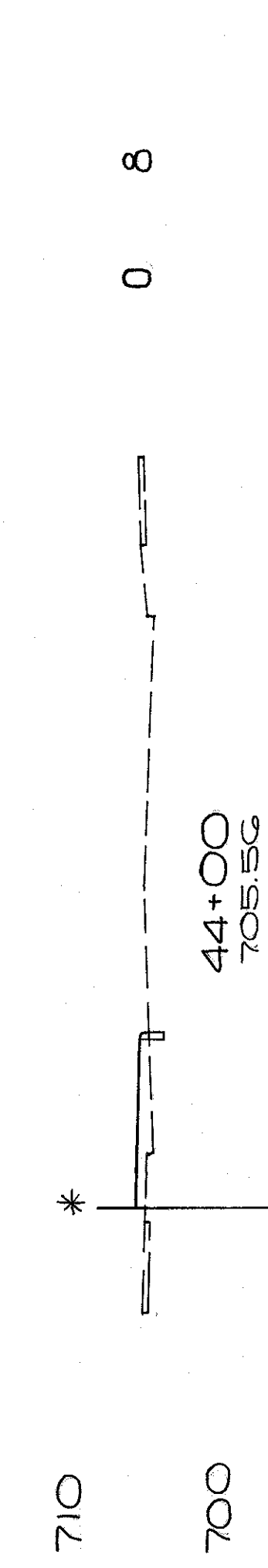
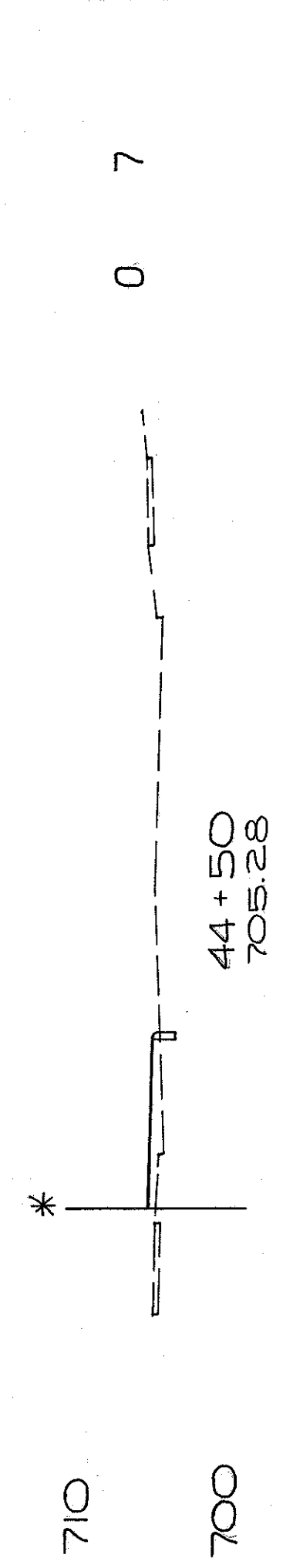
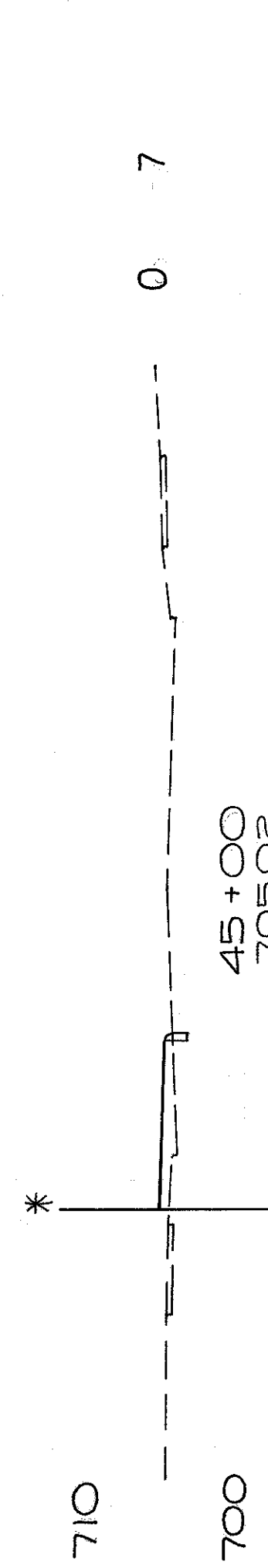
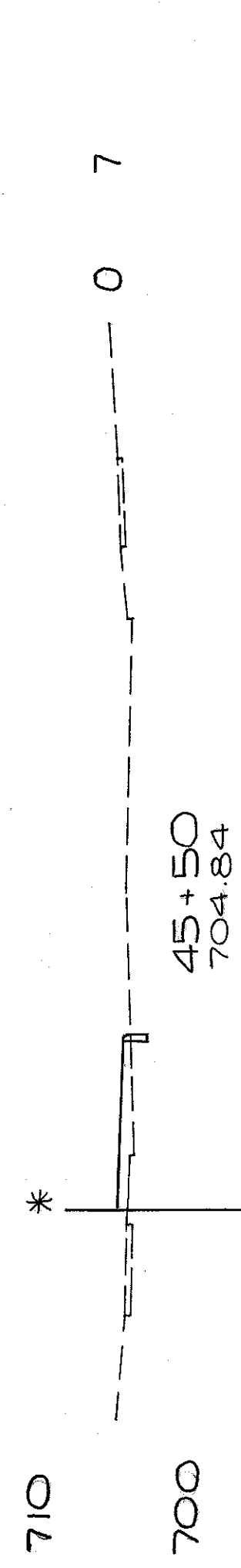
301  
838

MARGINAL RD. #5 & CLARK AVE.  
STA. 61+37 TO 40+50

CUYAHOGA COUNTY  
CUY-90-11.64  
PART 1

END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL

END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL



CLARK AVE @ RELOC. LORAIN  
STA 41+00 TO 48+10

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

AHD G/O 4  
BK. G45 4

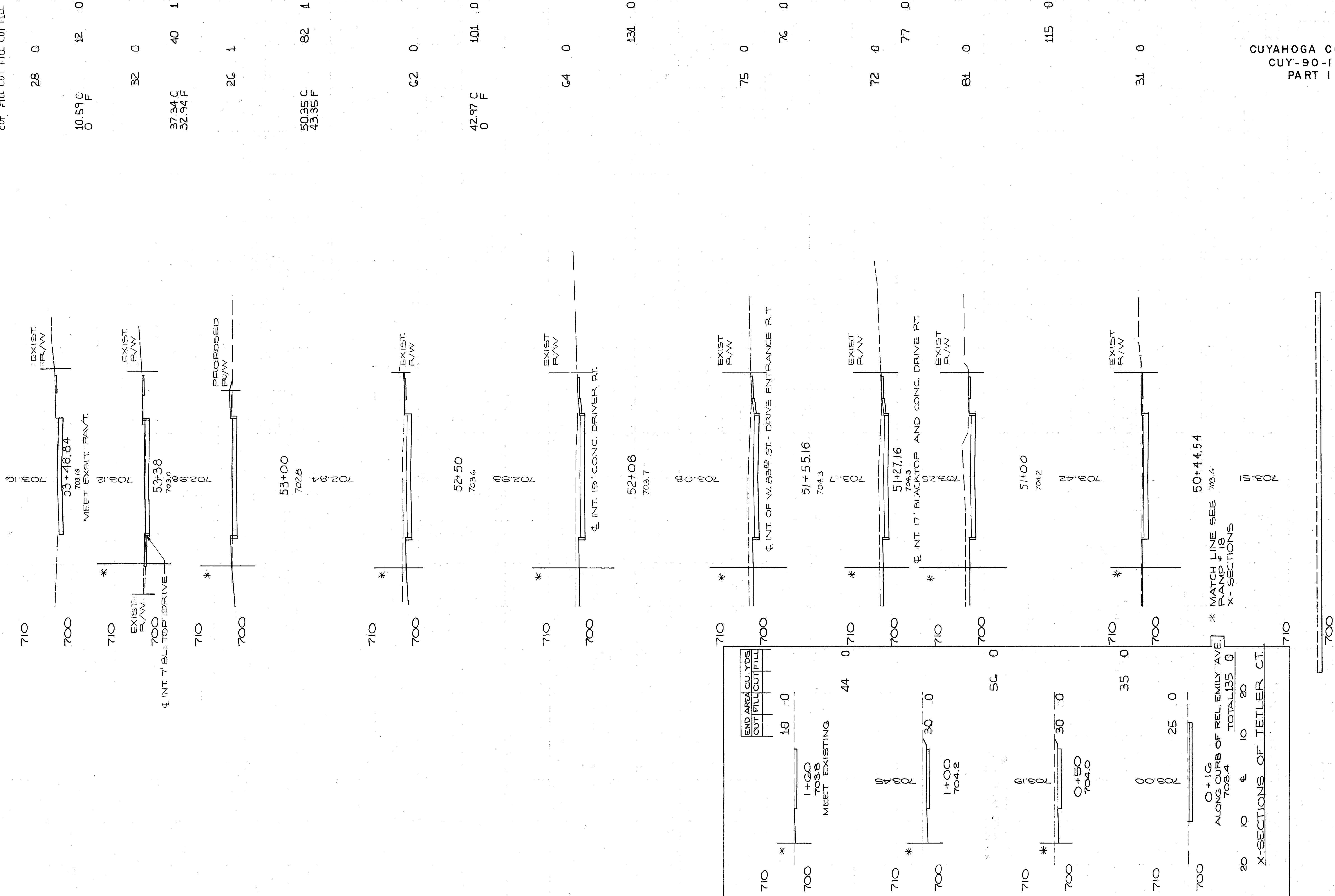
1149 7

998 11

CALCULATED BY F.F.F. DATE 6/70 TOTAL VOLUME - 3319 184  
CHECKED BY R.E.D. DATE 3/72

302  
838

ADJ. ARC. END AREA VOLUME  
LENGTH, CU. YDS.  
CUT, FILL CUT FILL CUT FILL



REL. EMILY AVE. & TETLER CT.  
STA. 50+13.02 TO 53+48.84

\* MATCH LINE SEE  
RAMP # 18  
X-SECTIONS

END AREA CU. YDS.  
CUT FILL CUT FILL

10 0

44 0

56 0

35 0

25 0

10 0

10 20

TOTAL 135 0

X-SECTIONS OF TETLER CT.

CALCULATED BY F.E.E. DATE 6/10  
CHECKED BY R.E.D. DATE 3/72

50+13.02  
703.51

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

TOTAL VOLUME - 634 2

CUT FILL

303  
838

ADT ARC END AREA VOLUME  
LENGTH CU. YDS. CUT FILL CUT FILL CUT FILL

710

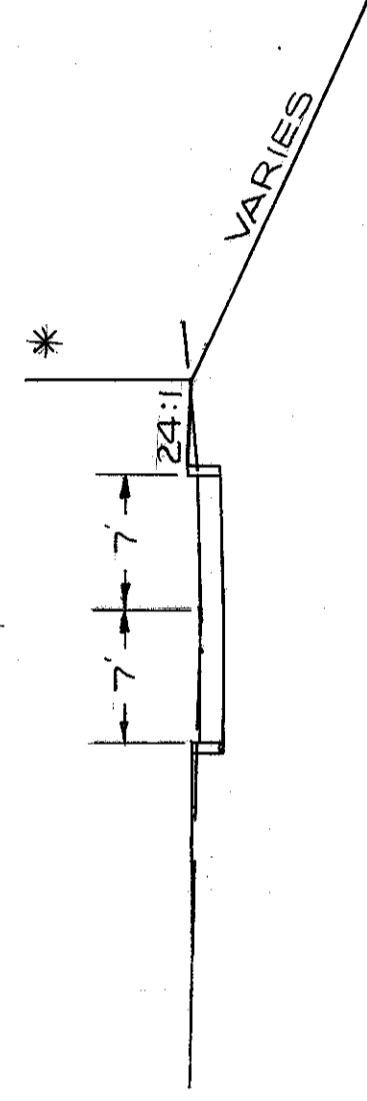
700



51+00  
700.5

710

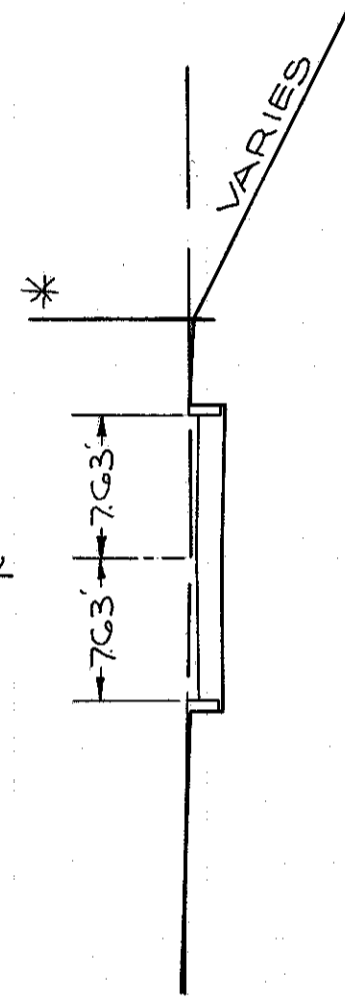
700



50+84.35  
700.5  
END 451 CONC. PAV'T.

710

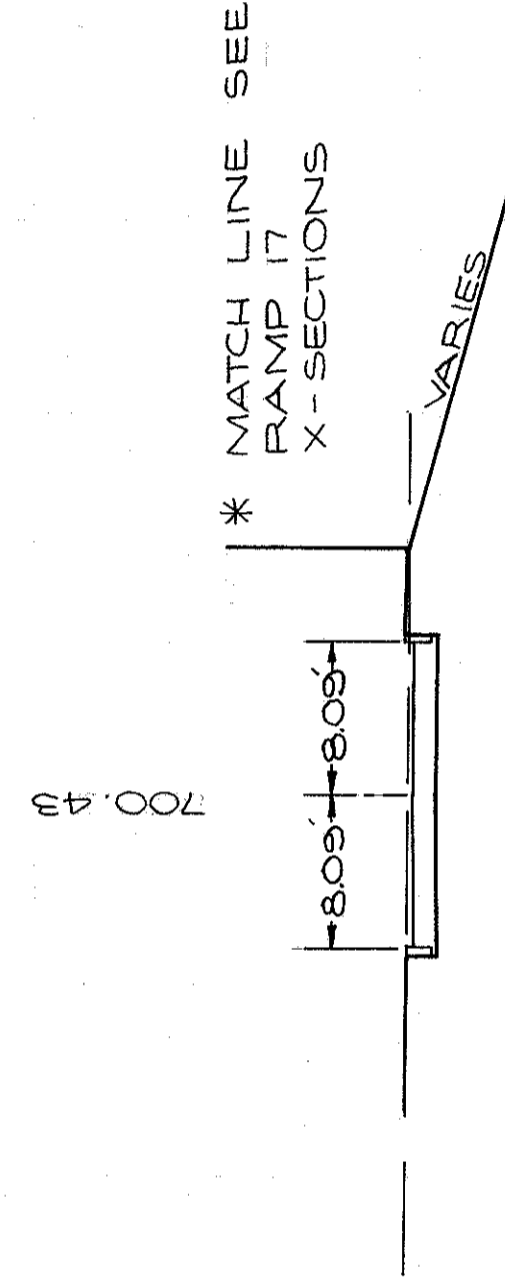
700



50+50  
700.9

710

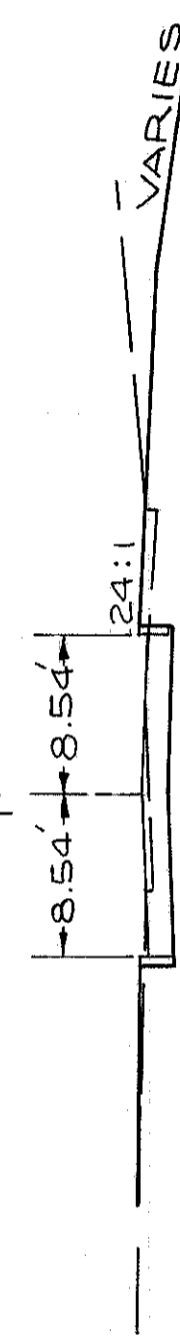
700



50+25  
700.8

700

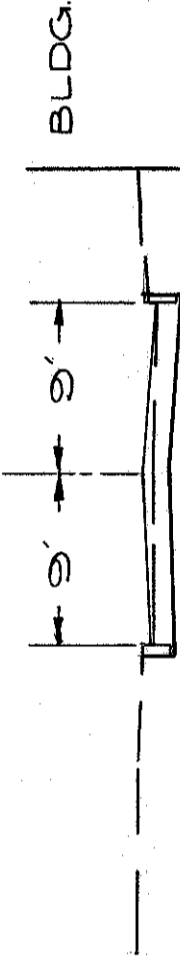
690



50+00  
700.8

700

690

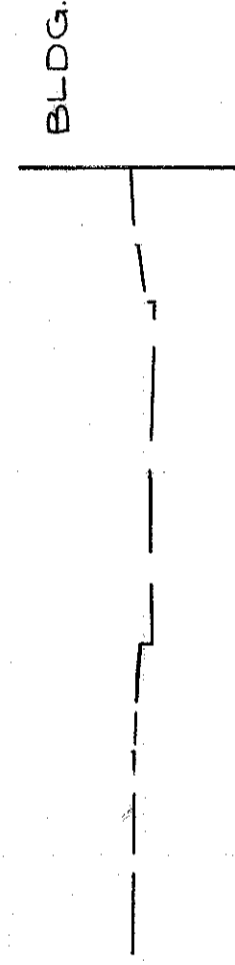


BEGIN 451 CONC. PAV'T.

49+75.12  
699.9

700

690



49+67.11  
699.9

EARTHWORK	ITEM	203
EXCAVATION	EMBANKMENT	
CU. YDS.	CU. YDS.	5
96		

W 80th NORDICA CT. CONN.  
STA. 49+67.11 TO 51+00

CUYAHOGA COUNTY  
CUY-90-11.64  
PART 1

34.35 C  
0 F

29 0

28 0

25.00 C  
0 F

25 0

25 0

25.23 C  
27.73 F

22 3

22 5

25.08 C  
27.57 F

20 2

20 0

CALCULATED BY F.E.E. DATE 6/10  
CHECKED BY R.E.D. DATE 3/72

TOTAL VOLUME - CUT FILL

96

60

40

20

£

20

40

60

80

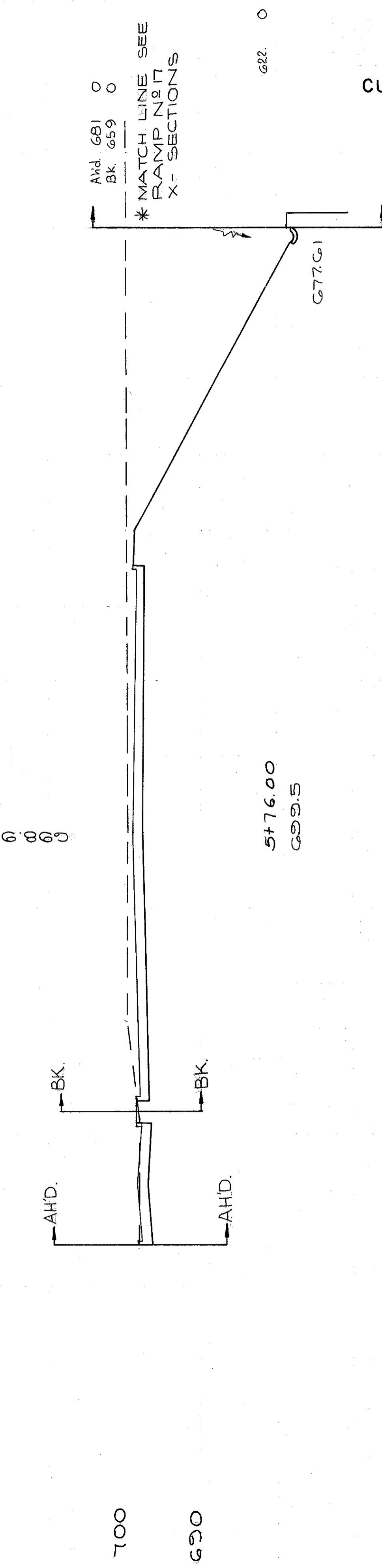
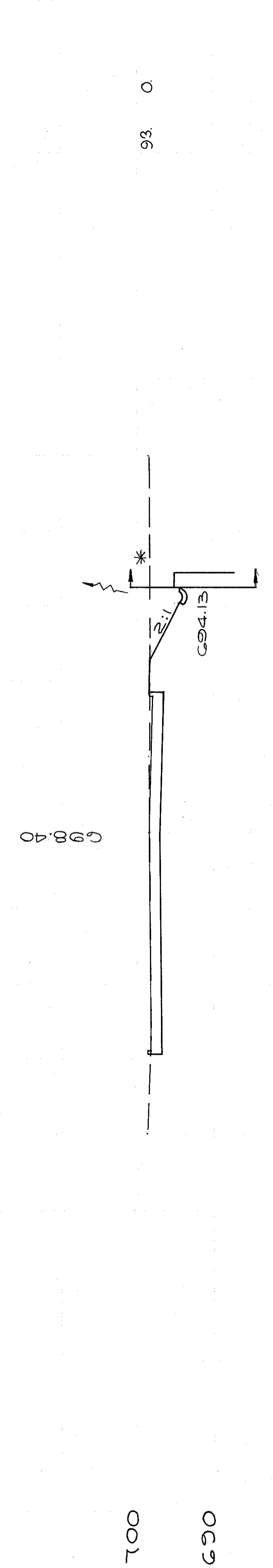
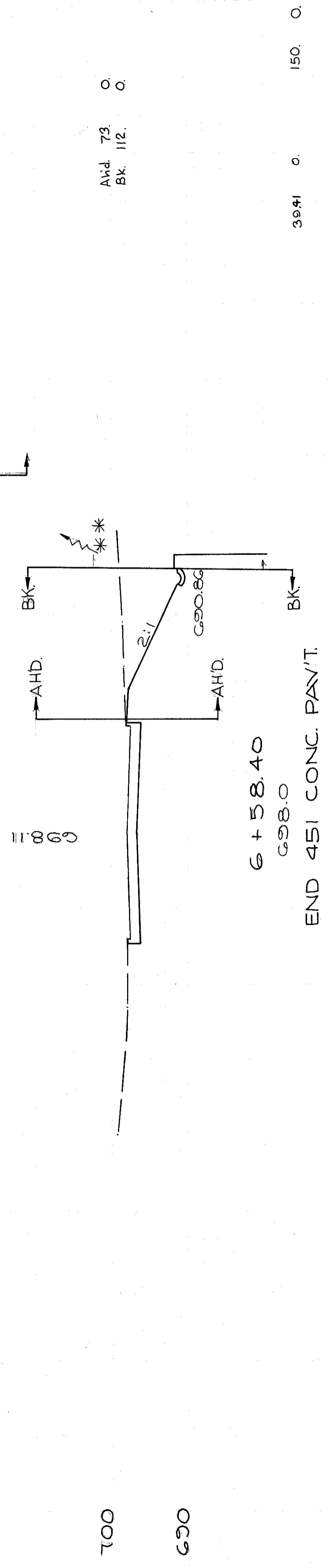
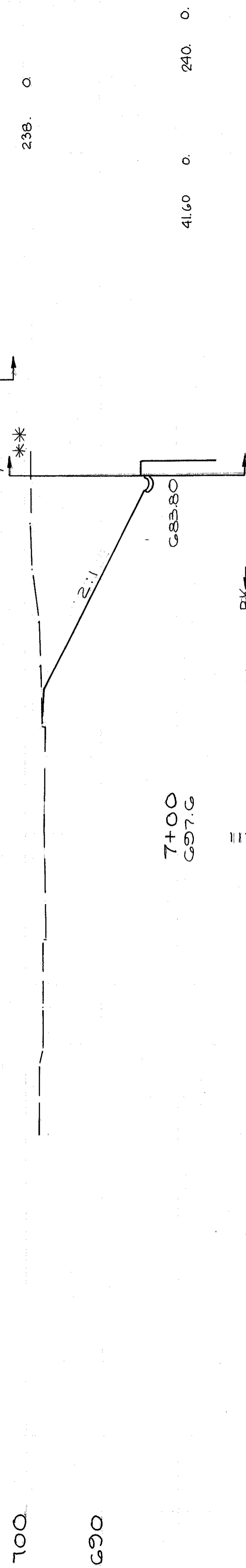
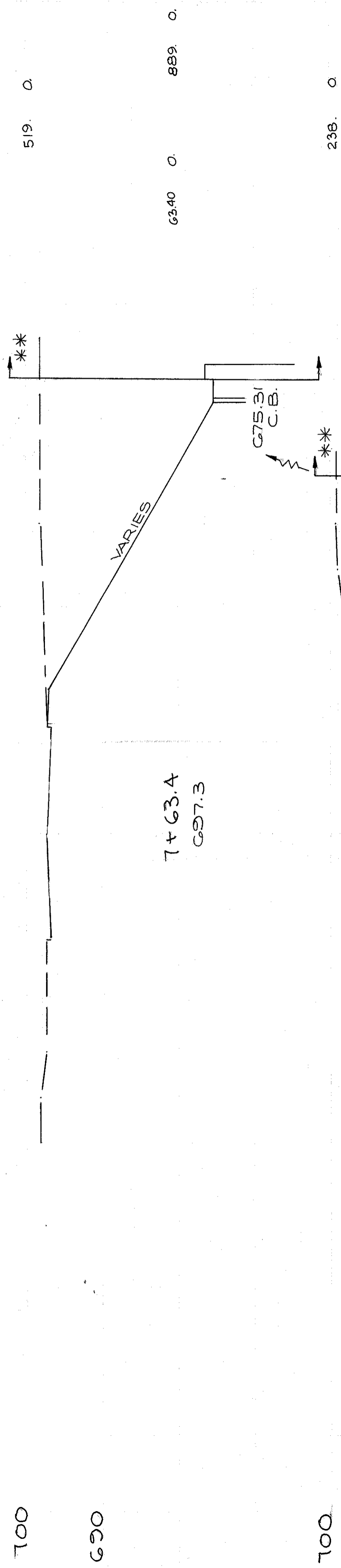
100

304

838

ADT. DIST. END AREA VOLUME  
CUT FILL CUT FILL CUT FILL

\*\* MATCH LINE  
SEE W.B.L.  
X-SECTIONS



CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

ZERO EARTHWORK STA. 5+25

EARTHWORK	ITEM 203
EXCAVATION	EMBANKMENT
CU. YDS.	CU. YDS.
2012	1

CALCULATED BY F.E.F. DATE 6/10  
CHECKED BY R.E.D. DATE 3/72

GRACE AVE STA. 5+76.00 TO 7+63.4

TOTAL VOLUME  
CUT FILL  
2912.1

80 60 40 20 0

80 60 40 20 0

80 60 40 20 0

80 60 40 20 0

80 60 40 20 0

80 60 40 20 0

80 60 40 20 0

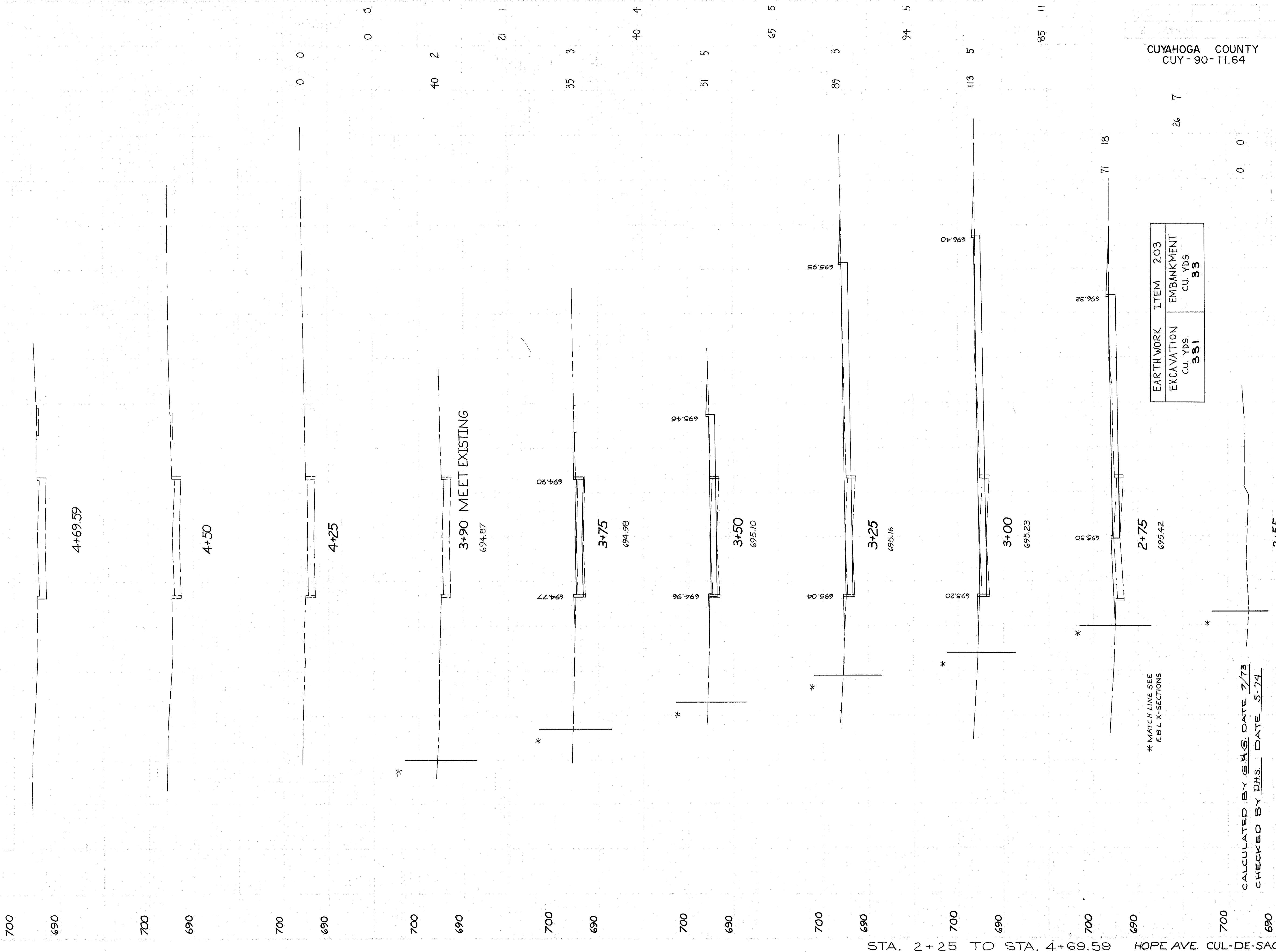
80 60 40 20 0

80 60 40 20 0

305  
838



END AREA	VOLUME	
	SQ. FT.	CU. YDS.
CUT	FILL	FILL



CALCULATED BY S.H.S. DATE 7/73  
 CHECKED BY D.H.S. DATE 5/74

END AREA	VOLUME	
	CUT	FILL



333 0

617 0

333 0

675 0

396 0

627 36

AHD 373 45  
BK 370 45

636 56

243 9

402 8

210 0

38 0

132 0

1+96

1+50

CUYAHOGA COUNTY  
CUY-90-11.64

REVISOR BY B.E.K. DATE 1-16  
CHECKED BY L.L.L. DATE 2-16

TOTAL VOLUME  
CUT 2995  
FILL 100

60 20 40 60 80 100

307  
838

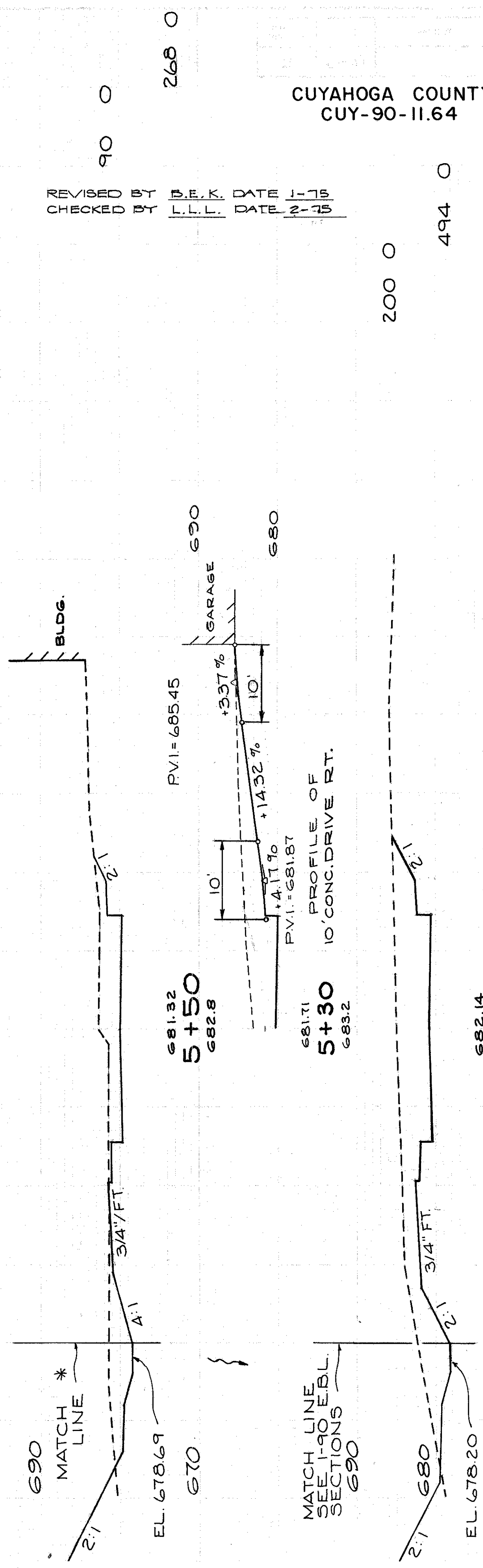
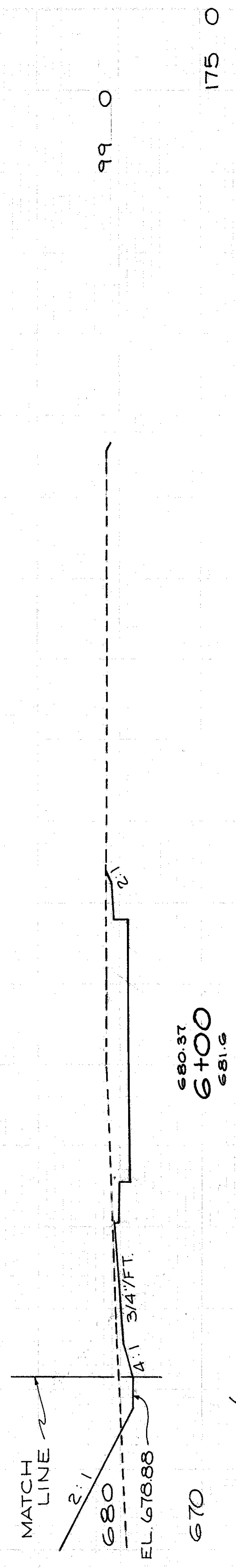
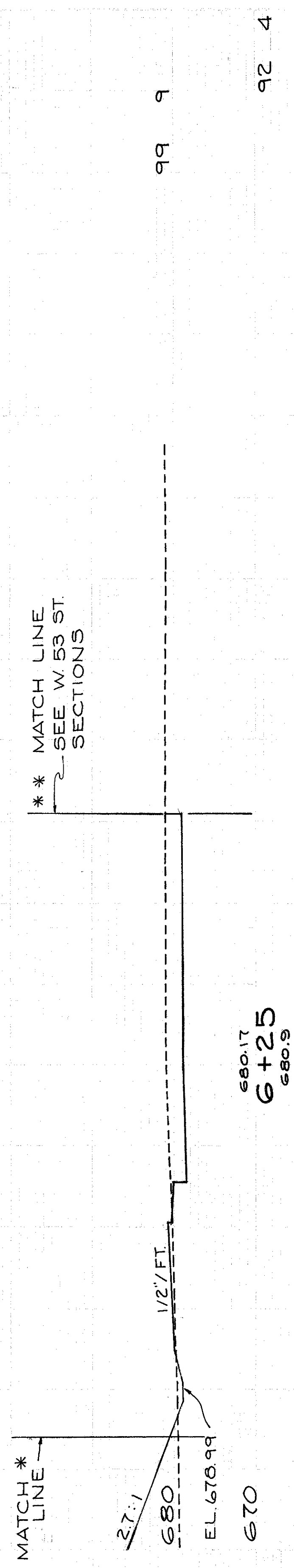
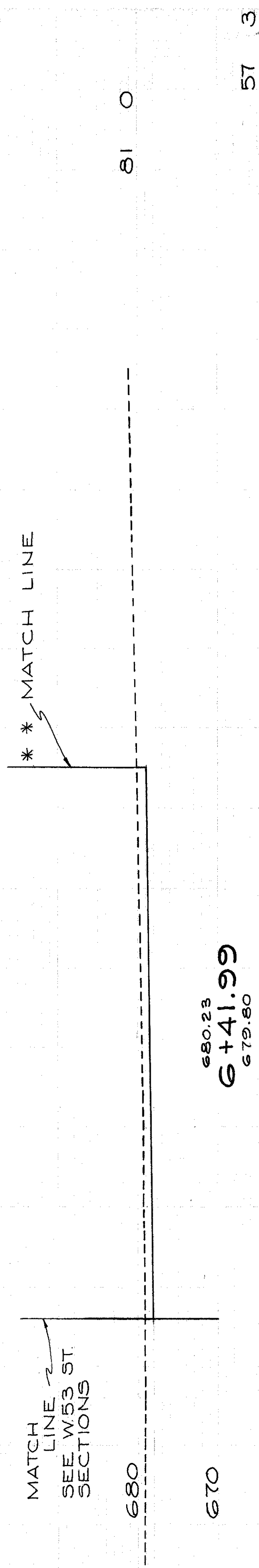
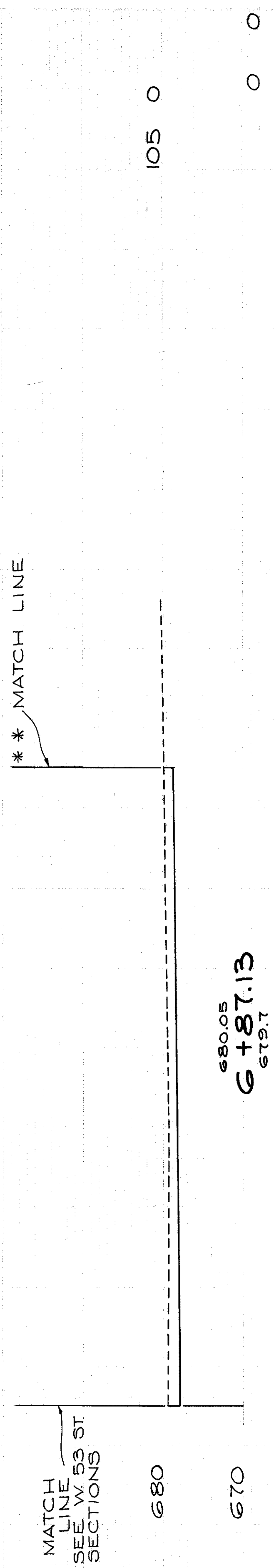
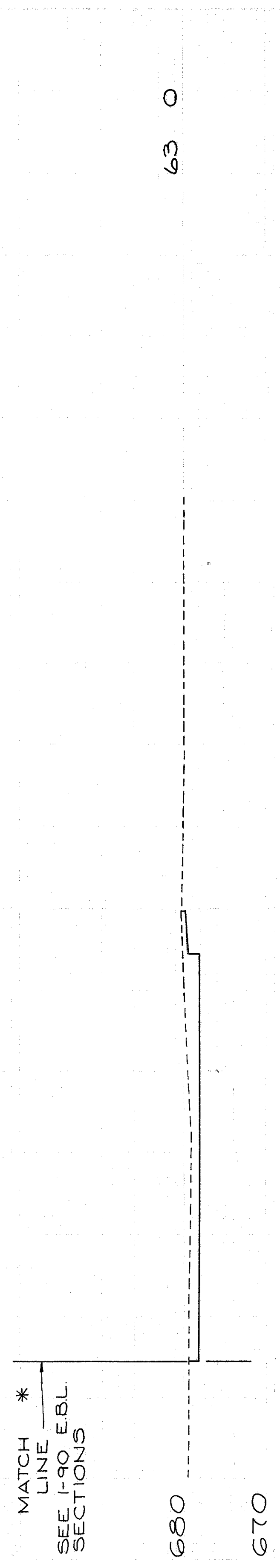
W. 55 ST.-WALWORTH CONNECTOR  
STA. 1+50 TO STA. 4+50

\* MATCH LINE  
SEE 1-90 EBL  
SECTIONS

PC. 2+01.82  
MEET EXISTING

BLDG.

END AREA	VOLUME
CUT	FILL
CUT	FILL



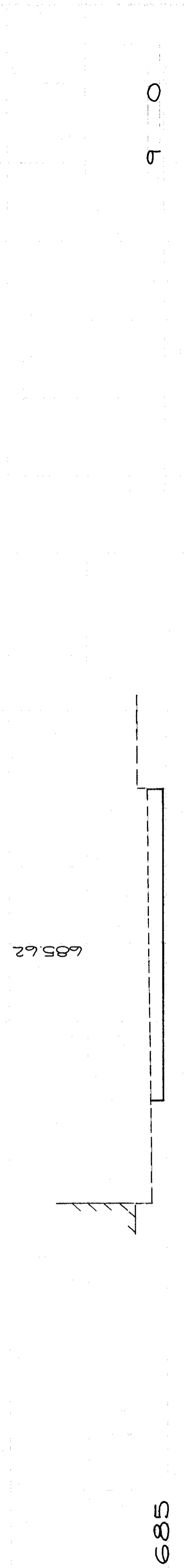
W.55 ST.-WALWORTH CONNECTOR  
STA. 5+00 TO STA. 7+16

TOTAL VOLUME
CUT
FILL

308  
838

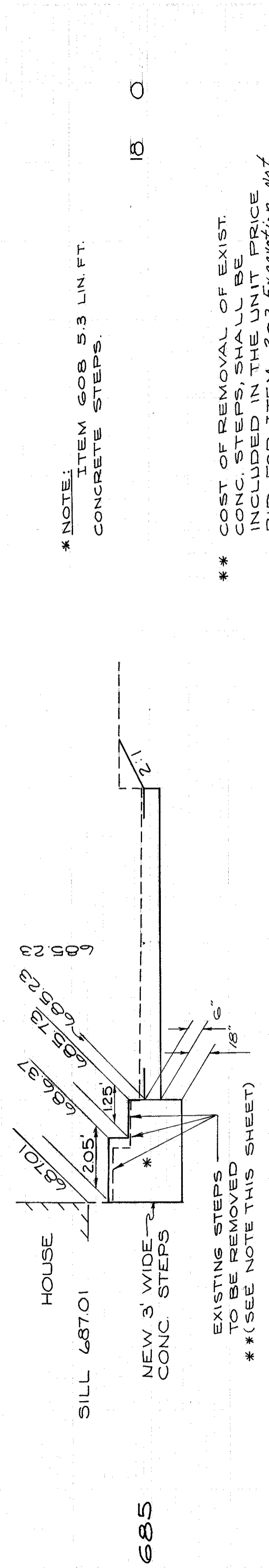
60 40 20 0 20 40 60 80 100

END AREA		VOLUME	
CUT	FILL	CUT	FILL



685  
680  
O+49  
685.62  
4 0

MEET EXISTING GARAGE FLOOR ELEV.

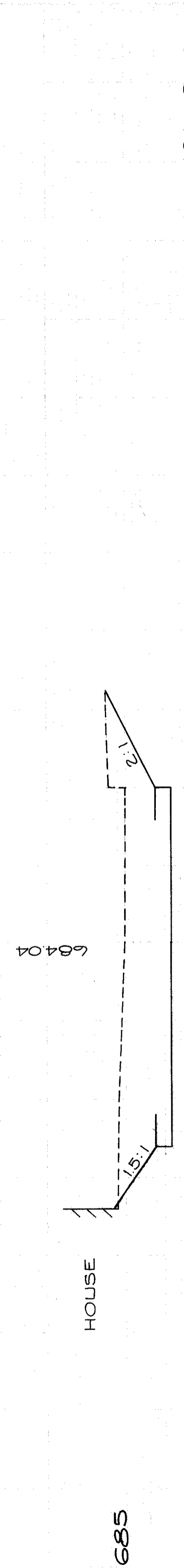


685  
680  
O+42.5  
685.32  
6 0

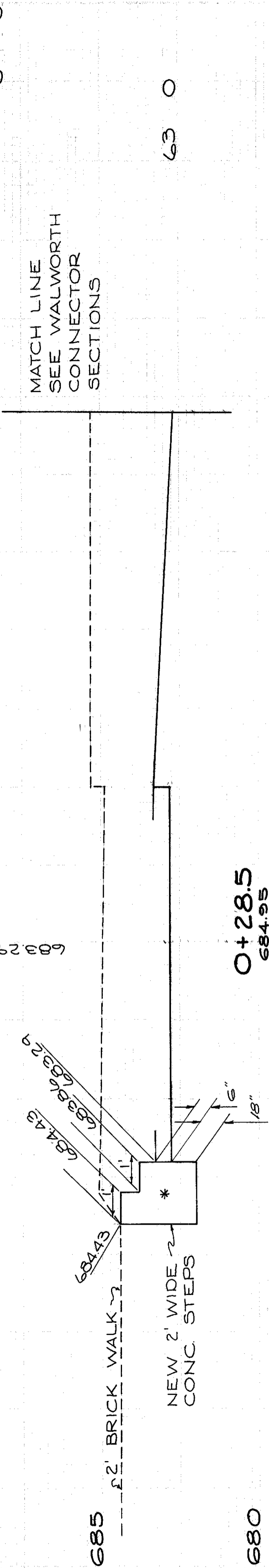
\* NOTE: ITEM 608 5.3 LIN. FT. CONCRETE STEPS.

\*\* COST OF REMOVAL OF EXIST. CONC. STEPS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM-203 Excavation not including Embankment Construction

EXISTING STEPS TO BE REMOVED TO BE REMOVED \*\* (SEE NOTE THIS SHEET)



685  
680  
O+33.5  
685.06  
18 0  
8 0

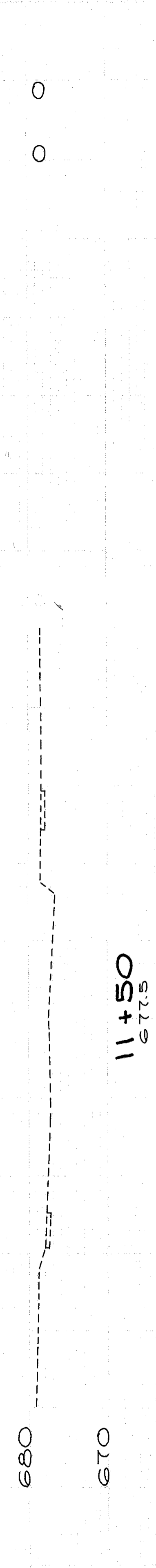


685  
680  
O+28.5  
684.95  
63 0

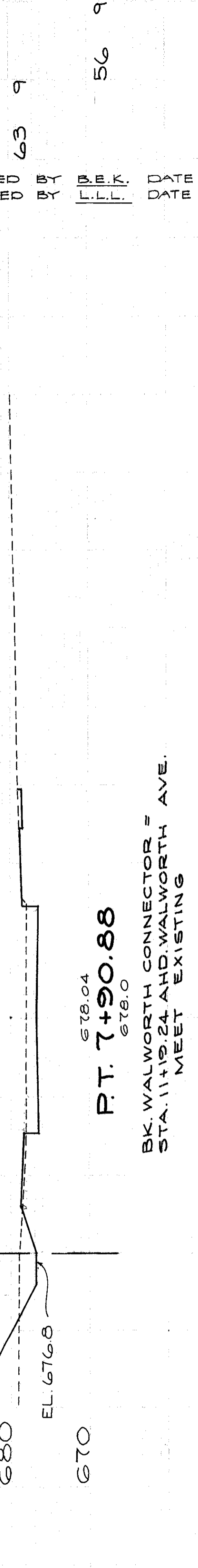
MATCH LINE SEE WALWORTH CONNECTOR SECTIONS

DRIVEWAY  
TOTAL VOLUME  
CUT 18  
FILL 0

DRIVE RT. WALWORTH CONN. STA. 5+30



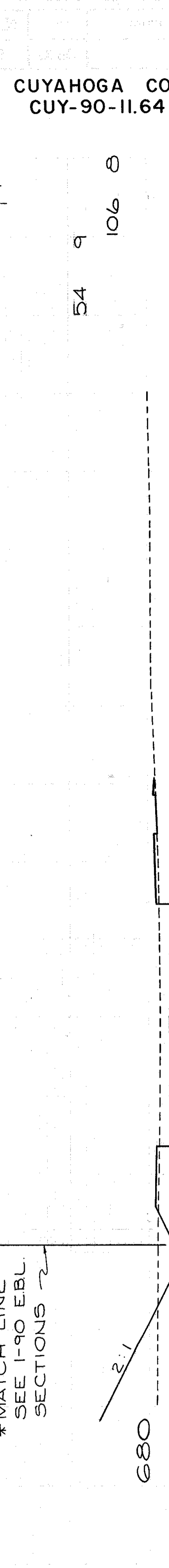
680  
670  
11+50  
677.5  
0 0



680  
670  
P.T. 7+90.88  
678.04  
678.0  
54 9  
106 8

BK. WALWORTH CONNECTOR = STA. 11+19.24 AHD. WALWORTH AVE. MEET EXISTING

\* MATCH LINE SEE 1-90 EBL SECTIONS



680  
670  
7+65  
678.71  
678.8  
TOTAL VOLUME  
CUT 162  
FILL 17

TOTAL VOLUME  
CUT 162  
FILL 17

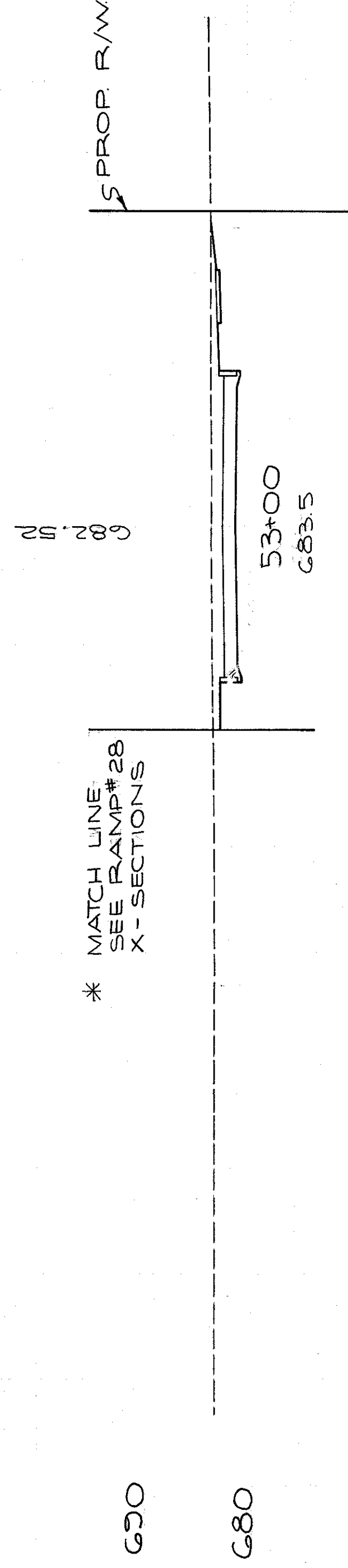
W.55 ST.-WALWORTH CONNECTOR  
STA. 7+65 TO STA. 7+90.88

REVISOR BY B.E.K. DATE 1-15  
CHECKED BY L.L.L. DATE 2-15

CUYAHOGA COUNTY  
CUY-90-11.64

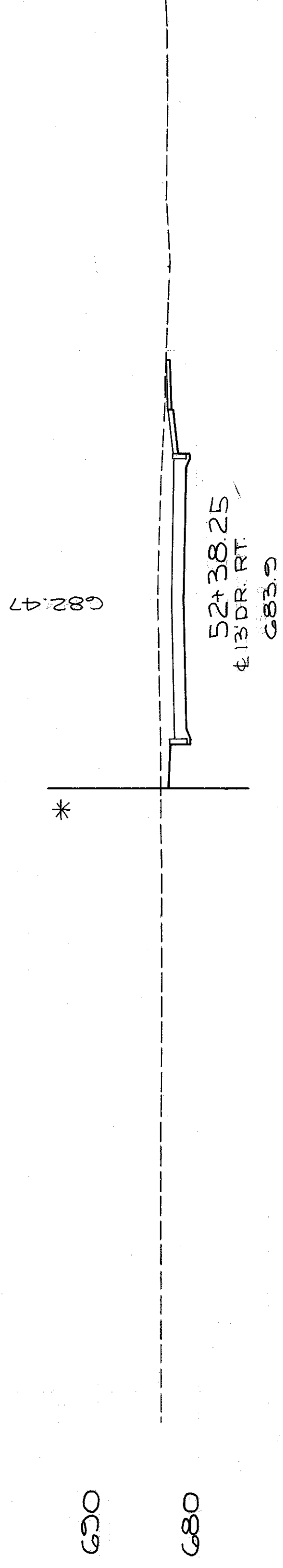
309  
838

ADJ. ARC. END AREA VOLUME  
 LENGTH<sup>TH</sup> CU. YDS.  
 CUT FILL CUT FILL CUT FILL



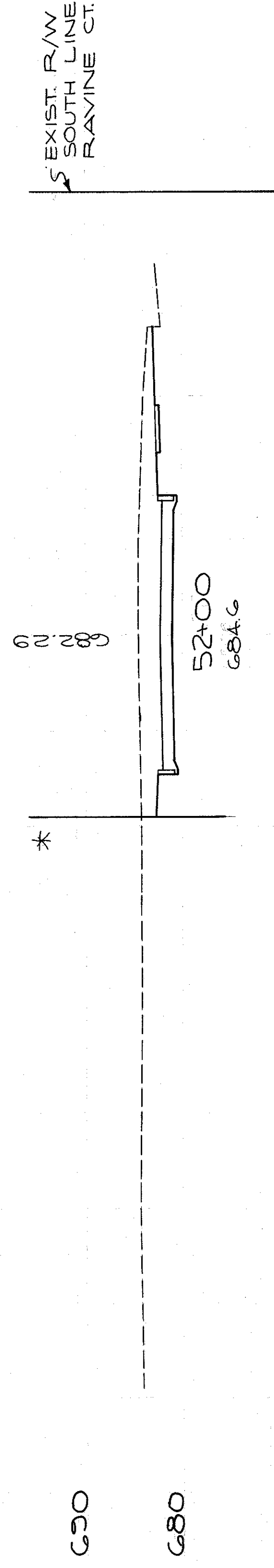
83 0

199 0



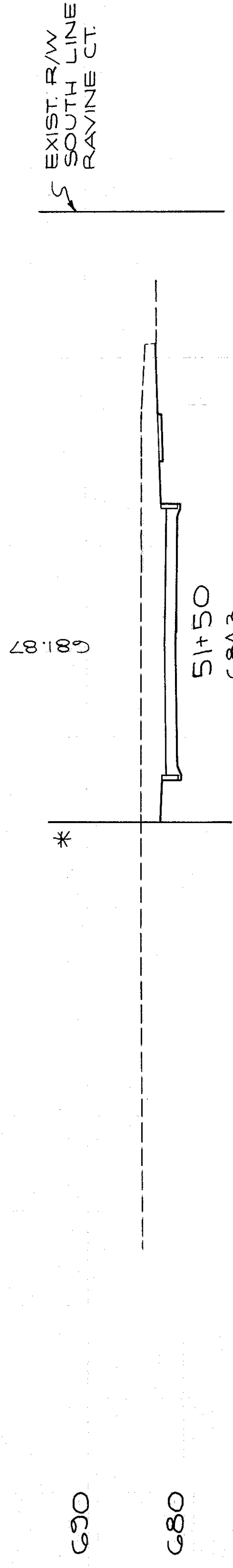
91 0

161 0



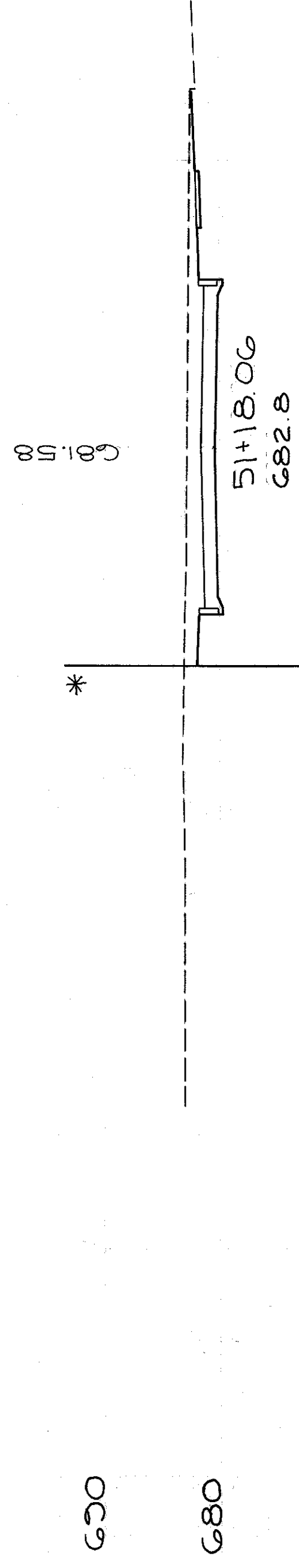
137 0

266 0



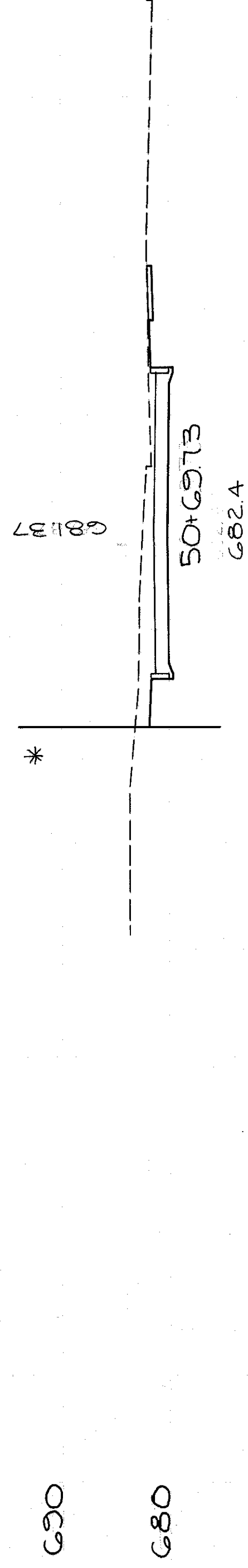
150 0

142 0



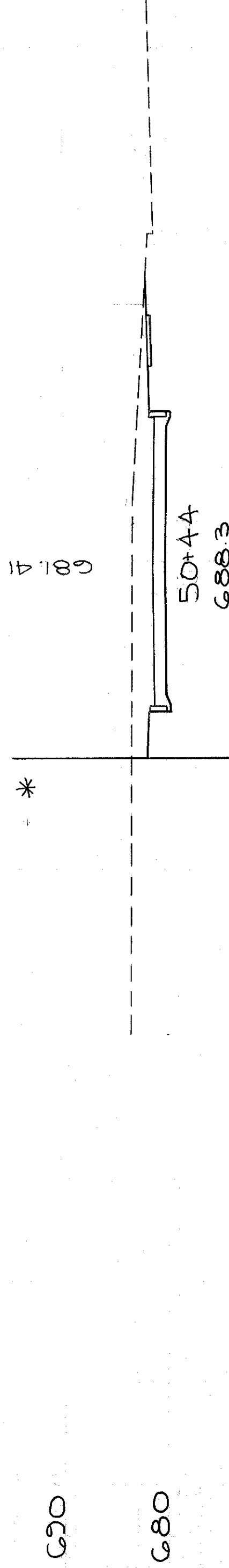
90 0

4910 0 151 0



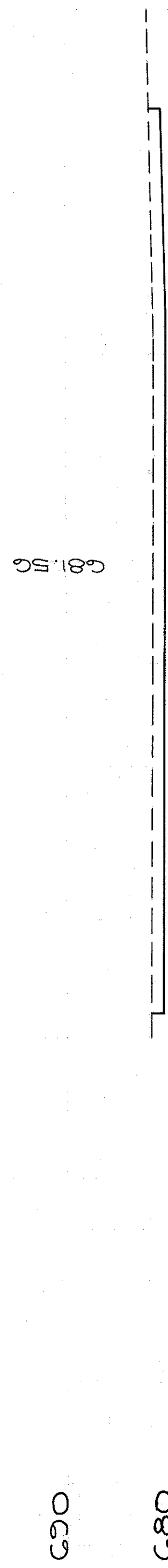
76 0

89 0



110 0

CUYAHOGA COUNTY  
 CUY-90-11.64  
 PART I



CALCULATED BY F.E.E. DATE 6/10  
 CHECKED BY R.E.D. DATE 3/72

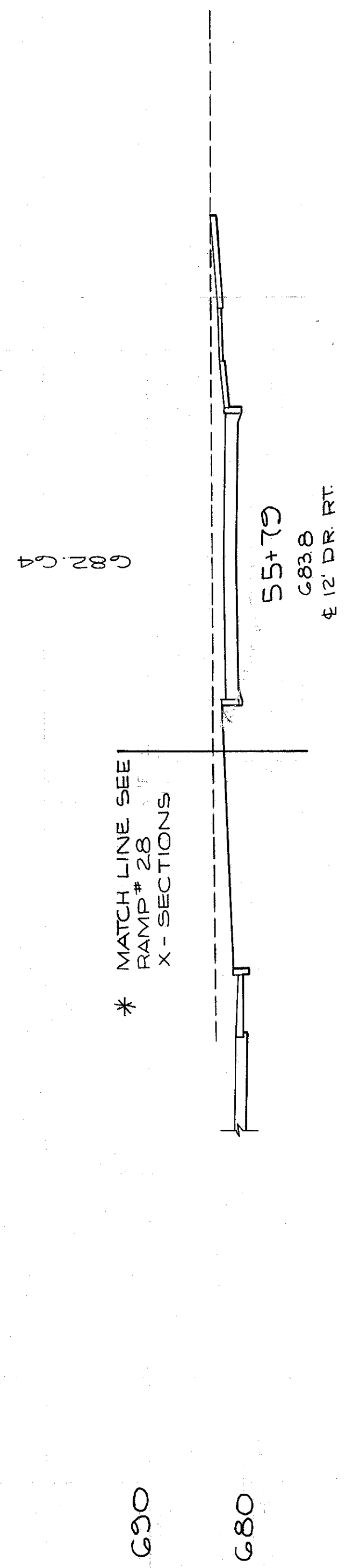
50+14  
 681.56

TOTAL VOLUME - 1008 0

310  
 838

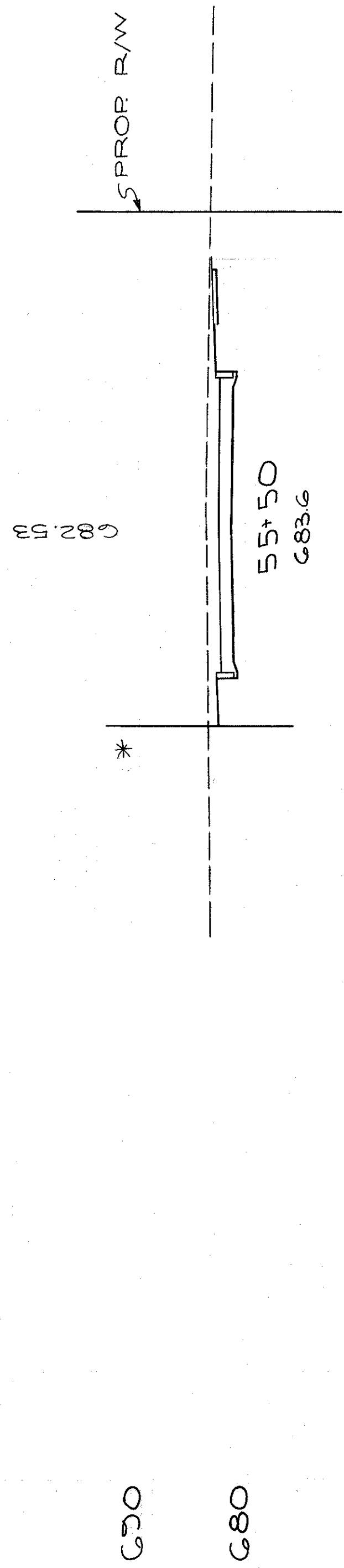
S. FRONTAGE RD. NO. 5  
 STA. 50+14 TO STA. 53+00

END AREA VOLUME  
CU. YDS. CUT FILL CUT FILL



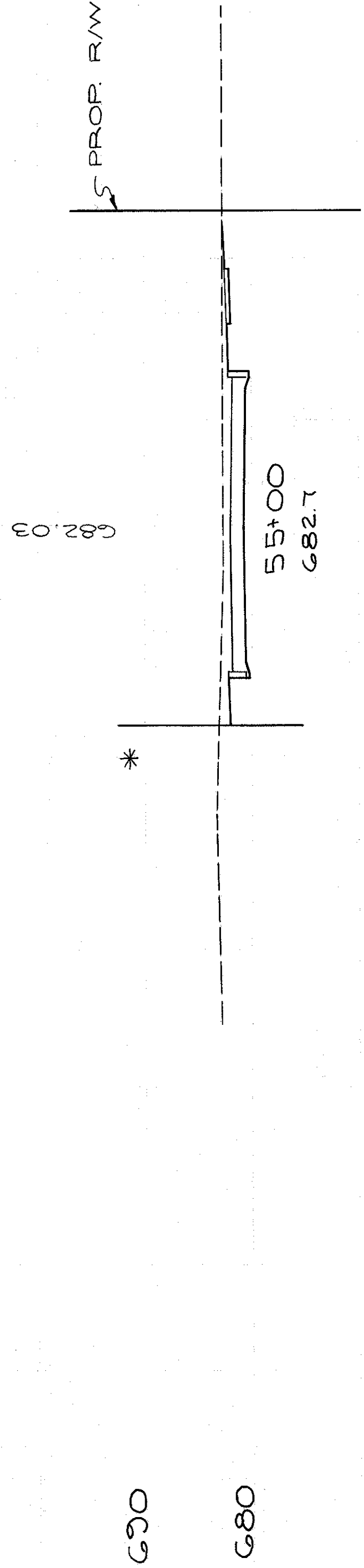
98 0

97 0



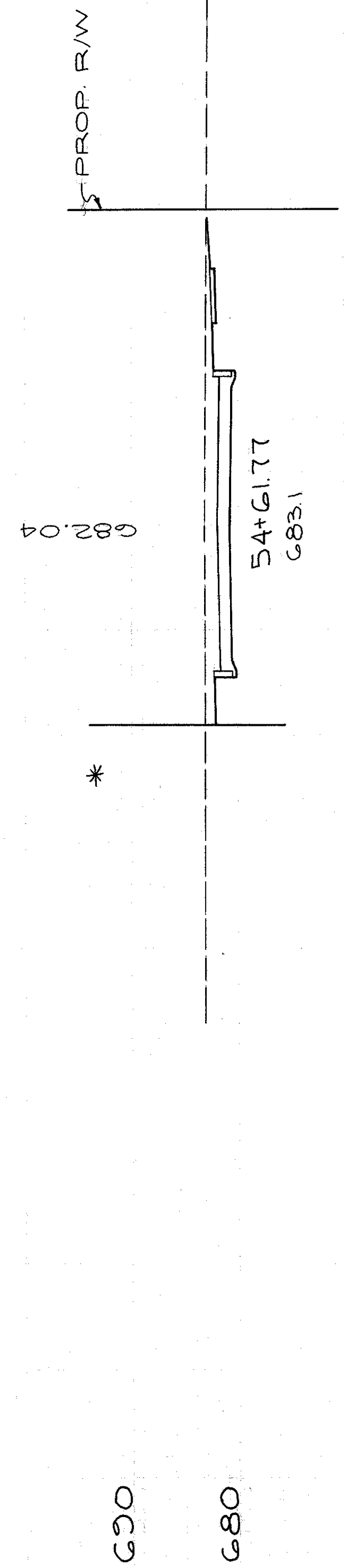
82 0

144 0



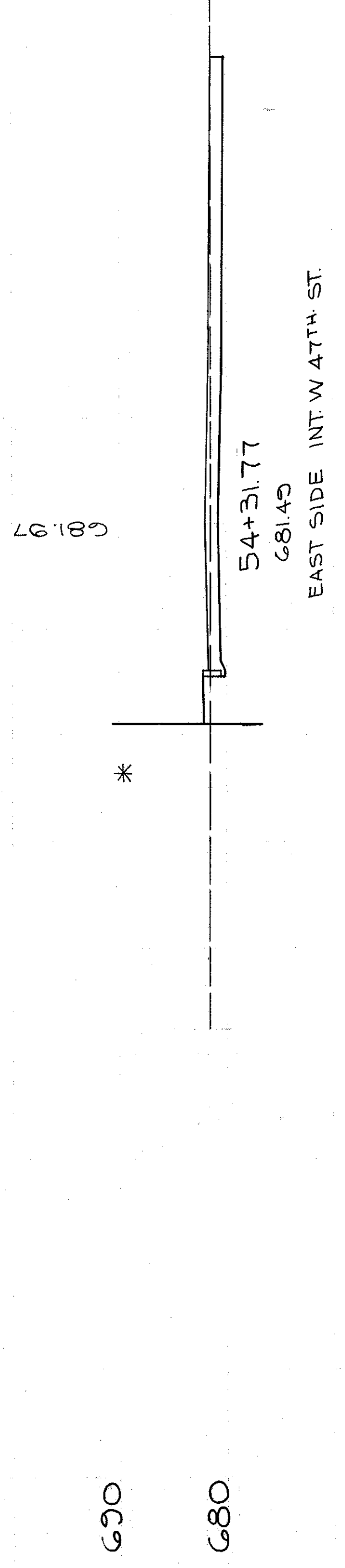
73 0

144 0



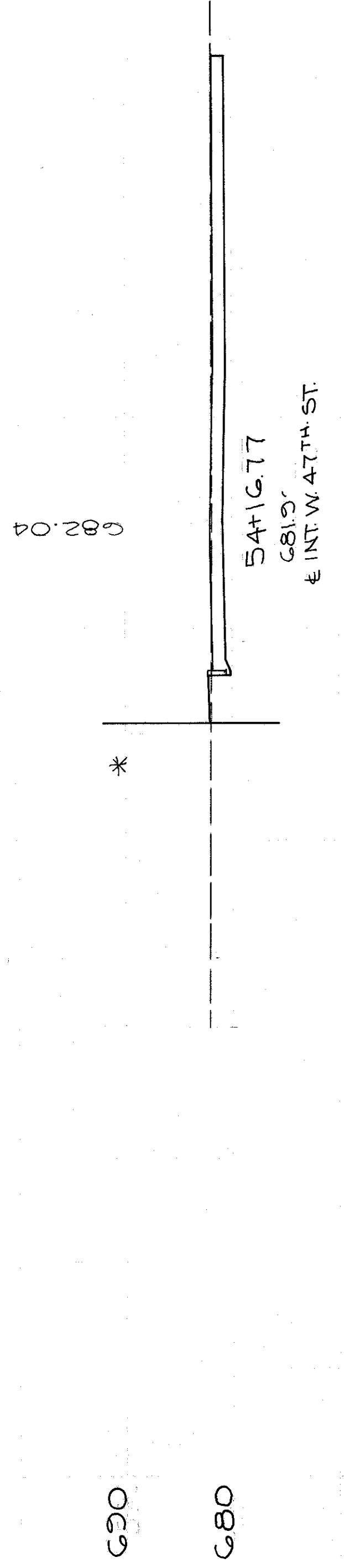
88 0

81 2



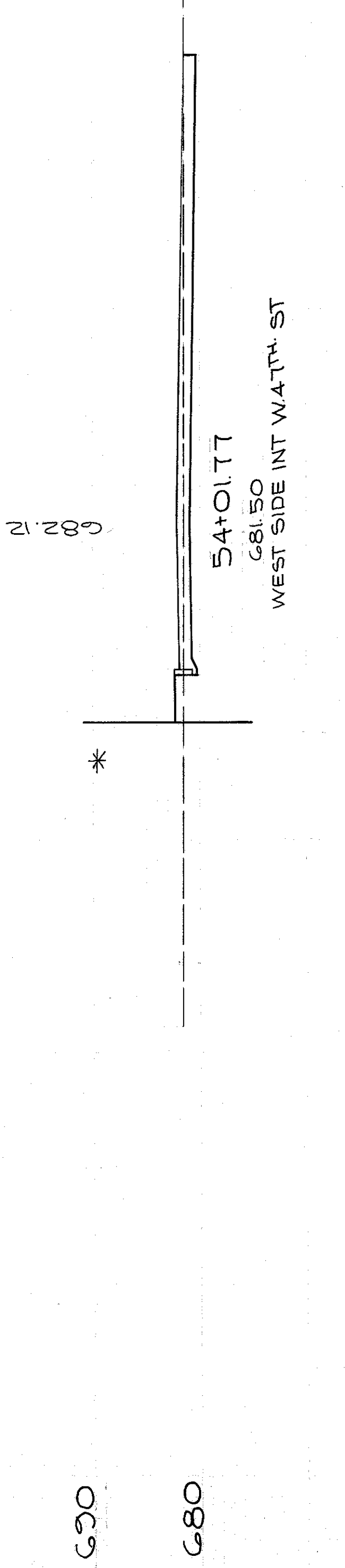
58 4

37 1



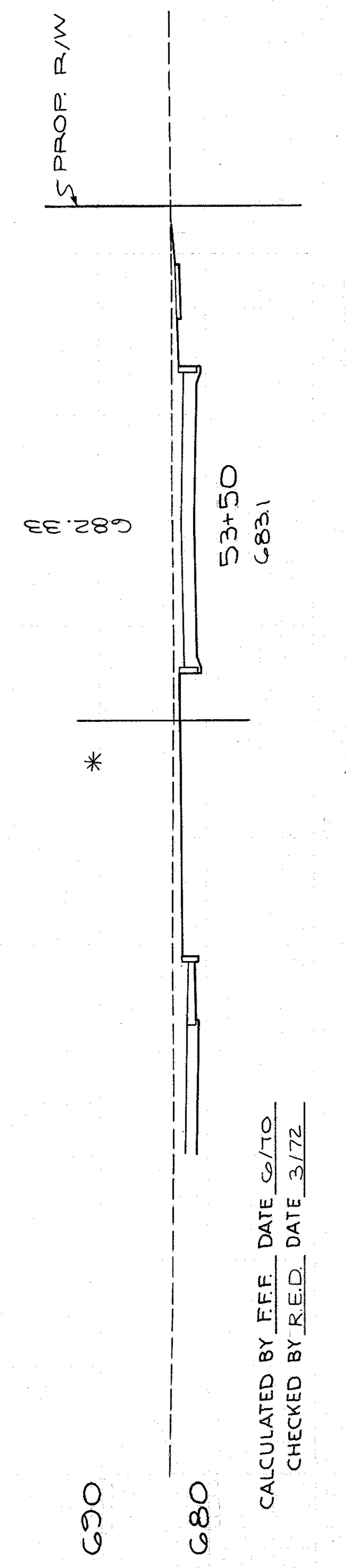
75 0

36 1



53 4

120 4



72 0

144 0

TOTAL VOLUME - 803 8

311

838

S. FRONTAGE RD. NO 5  
STA 53+50 TO STA 55+79

CALCULATED BY J.F.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

ADJ. ARC END AREA VOLUME  
LENGTH CUT FILL CUT FILL  
CUT FILL CUT FILL CUT FILL

CUYAHOGA COUNTY  
CUY-90-11.64  
PART 1

CALCULATED BY F.F.F. DATE 5/70  
CHECKED BY R.E.D. DATE 3/72

S. FRONTAGE RD. NO 5  
STA 56+00 TO STA 58+00



TOTAL VOLUME - 515.13

312  
838

P10

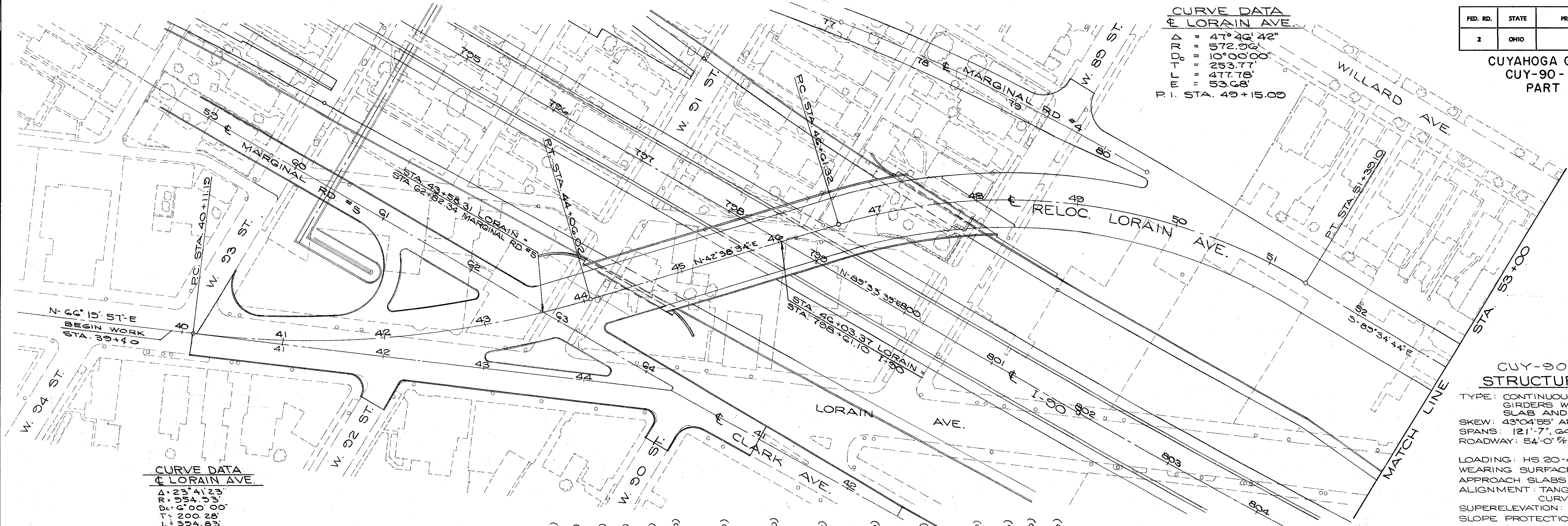
Q-6

FED. RD.	STATE	PROJECT
2	OHIO	

313  
838

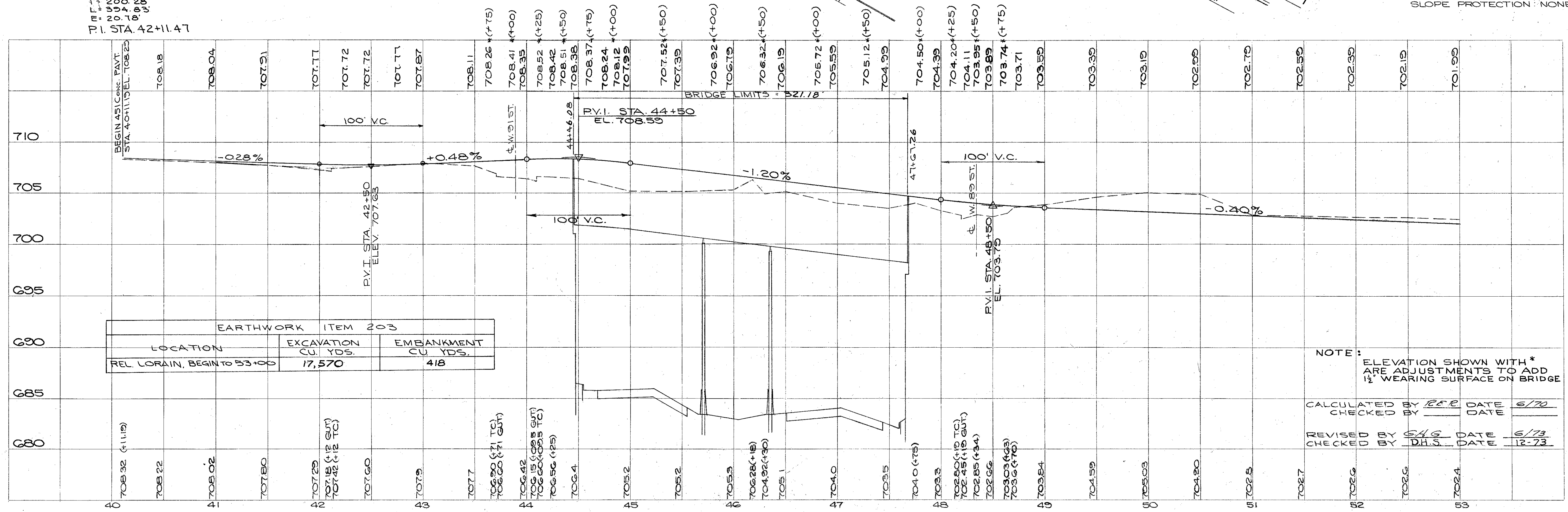
CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

**CURVE DATA**  
P. LORAIN AVE.  
Δ = 47°26'42"  
R = 572.96'  
L = 10°00'00"  
T = 253.77'  
P.T. = 477.78'  
P.C. = 59.68'  
P.I. STA. 49+15.00



**CURVE DATA**  
P. LORAIN AVE.  
Δ = 23°41'23"  
R = 934.03'  
L = 10°00'00"  
T = 207.00'  
P.T. = 207.00'  
P.C. = 207.00'  
P.I. STA. 42+11.47

**CUY-90-1181**  
**STRUCTURE DATA**  
TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONC. SLABS AND SUBSTRUCTURES  
SKEW: 43°04'55" AND 41°04'55" A-2 ONLY  
SPANS: 121'-7", 64'-4", 119'-2"  
ROADWAY: 54'-0" CURBS, 6'-0" SIDEWALKS  
LOADING: HS 20-44  
WEARING SURFACE: 1 1/2" ASPHALT  
APPROACH SLABS: 30' LONG (AS-1-T2)  
ALIGNMENT: TANGENT AND 10°00'00"  
CURVE RT.  
SUPERELEVATION: 3/16" / FT.  
SLOPE PROTECTION: NONE REQUIRED



NOTE: ELEVATION SHOWN WITH \* ARE ADJUSTMENTS TO ADD 1/2" WEARING SURFACE ON BRIDGE

CALCULATED BY R.E.C. DATE 6/70  
CHECKED BY            DATE           

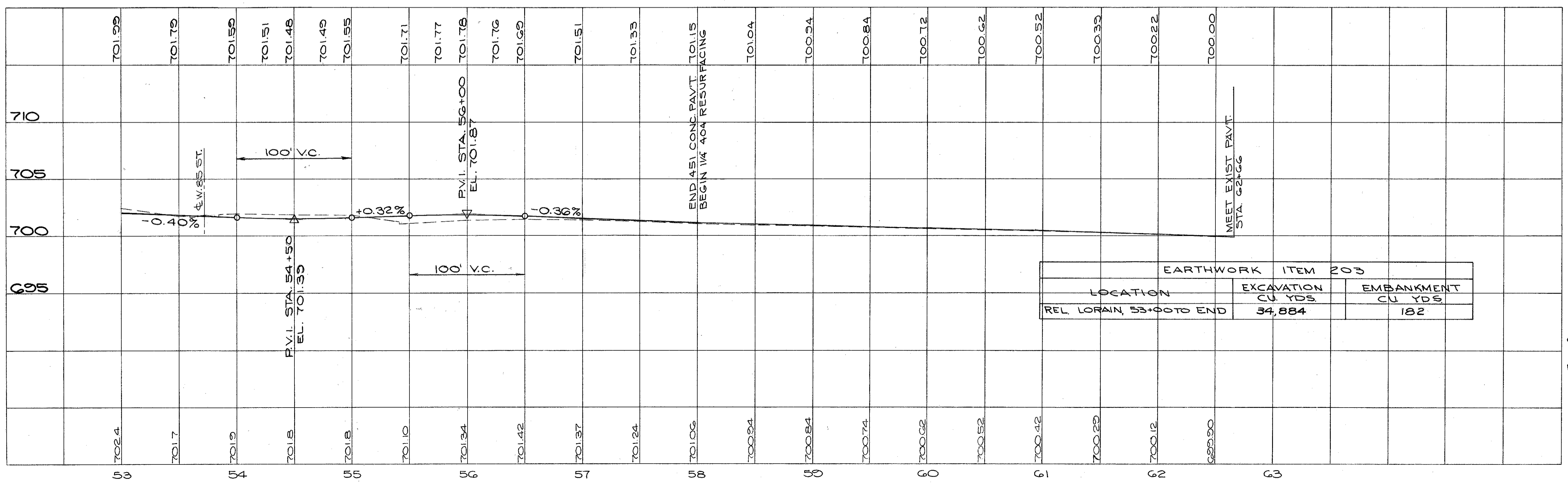
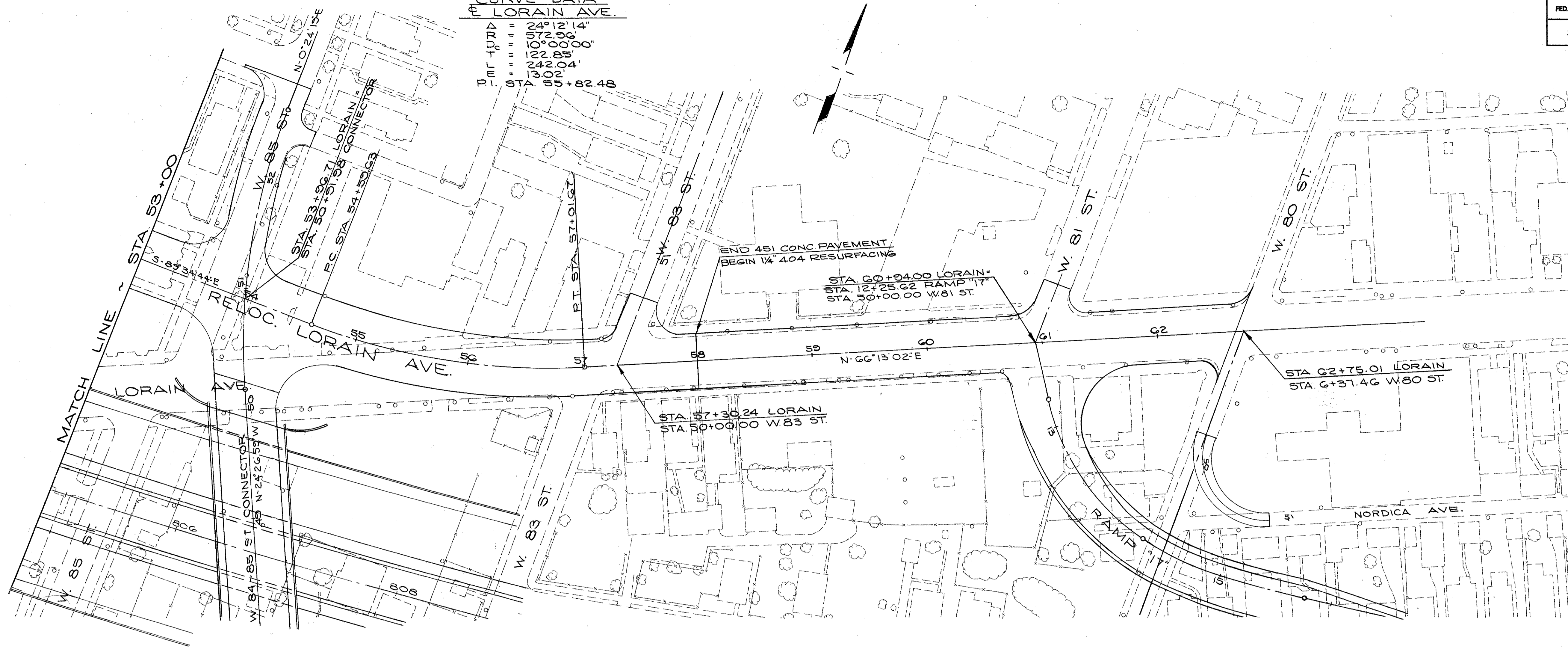
REVISED BY S.H.G. DATE 6/73  
CHECKED BY D.H.S. DATE 12-73

RELOC. LORAIN AVE. STA. 40+11.19 TO STA. 53+00



CURVE DATA  
@ LORAIN AVE.

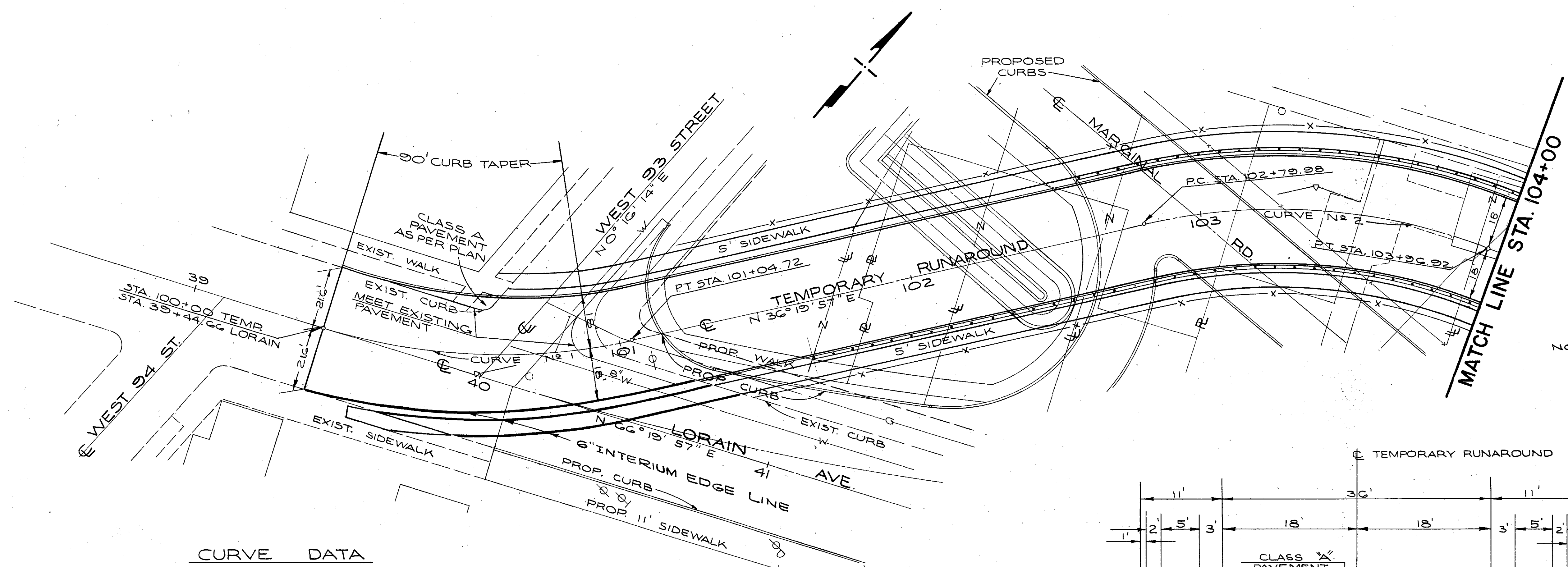
DMR - 10777	24° 12' 14"
" " " " "	1072.00'
" " " " "	122.00'
" " " " "	242.00'
STA. 55+82.48	



EARTHWORK ITEM 203		
LOCATION	EXCAVATION CU YDS	EMBANKMENT CU YDS
REL. LORAIN, 53+00 TO END	34,884	182

CALCULATED BY R.E.R. DATE 6/70  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 REVISED BY S.H.G. DATE 6/73  
 CHECKED BY D.H.S. DATE 12-73

RELOC. LORAIN AVE.  
STA. 53+00 TO STA. 62+50

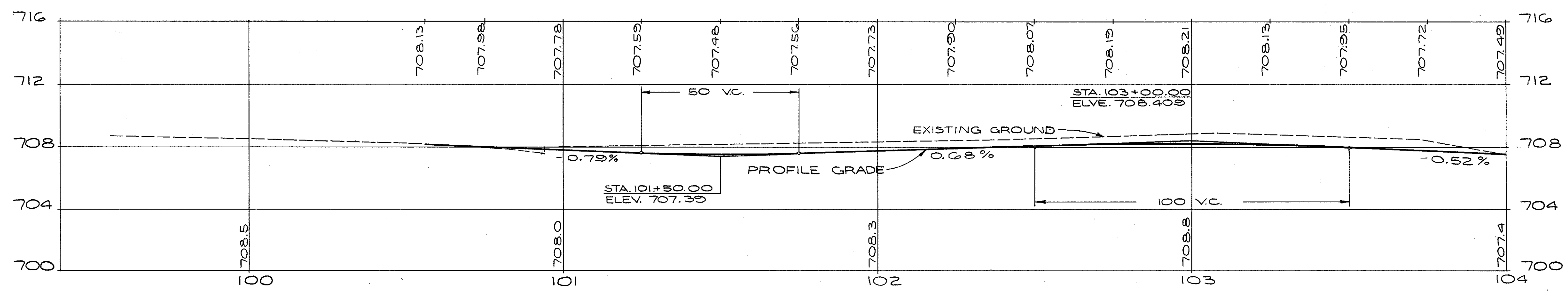
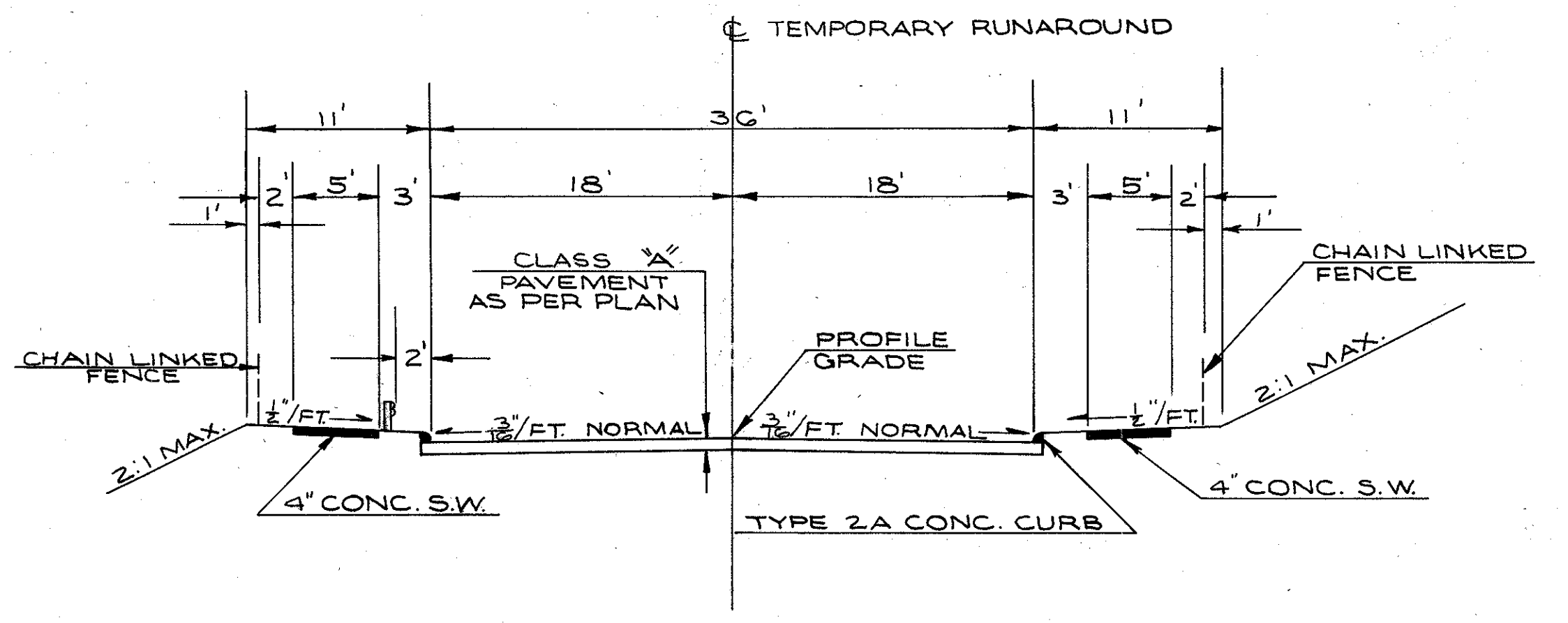


NOTE:  
FOR MAINTENANCE OF TRAFFIC. SEE SHEET N<sup>o</sup> 30  
FOR STRIPING AND TRAFFIC CONTROL DEVICES. SEE TRAFFIC CONTROL SH.T.N: 494

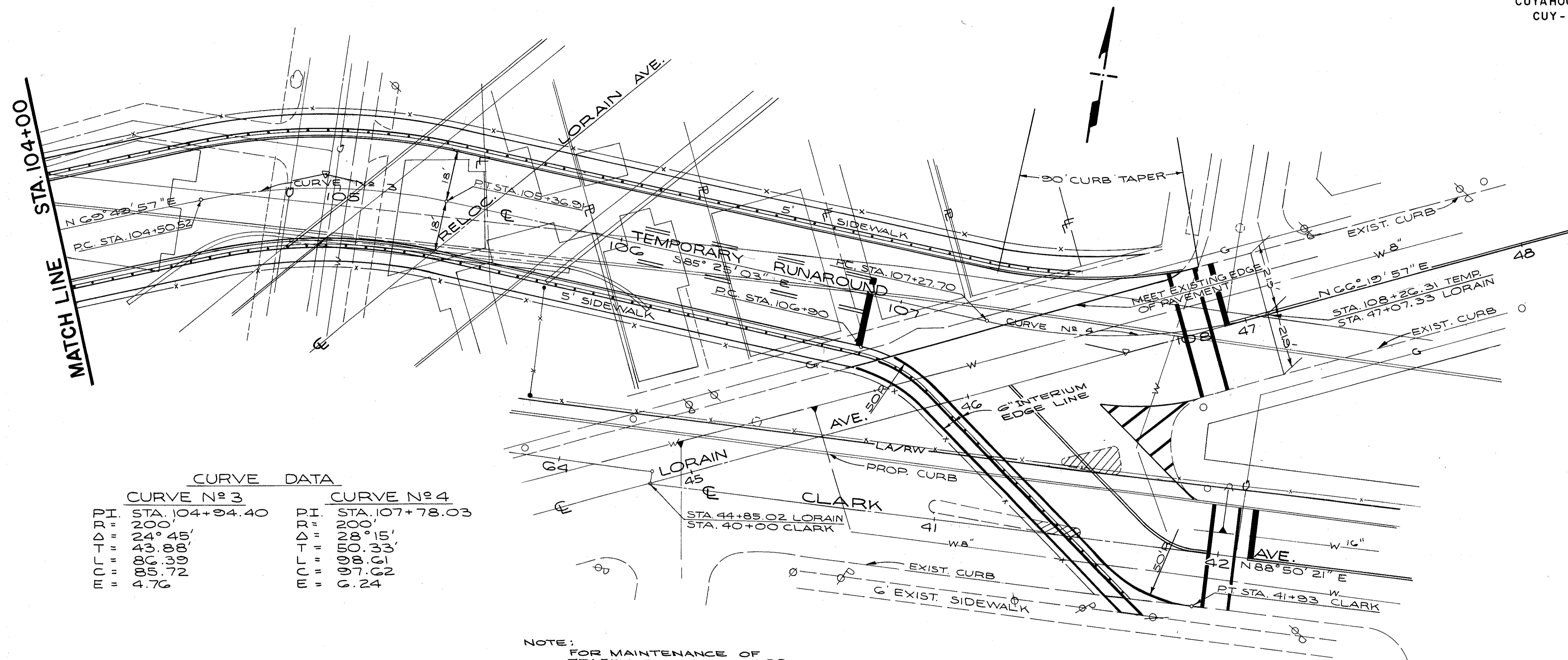
CURVE DATA	
CURVE N <sup>o</sup> 1	CURVE N <sup>o</sup> 2
PI. = STA. 100+53.59	PI. = STA. 103+40.07
R = 200'	R = 200'
Δ = 30°	Δ = 33°30'
T = 53.59	T = 60.19
L = 104.72	L = 116.94
C = 103.53	C = 115.28
E = 6.81	E = 8.86

NOTE:  
WHERE TEMPORARY PAVEMENT CLASS "A" AS PER PLAN IS CALLED FOR THE CONTRACTOR SHALL USE RIGID PAVEMENT AS DESCRIBED UNDER G15.05. THIS ITEM WILL BE PAID FOR AT UNIT PRICE BID ITEM G15 TEMPORARY PAVEMENT CLASS "A" AS PER PLAN.

NOTE:  
FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET N<sup>o</sup> 61



STA. 100+00 TO STA. 104+00  
LORAIN AVE.  
TEMPORARY RUNAROUND #1

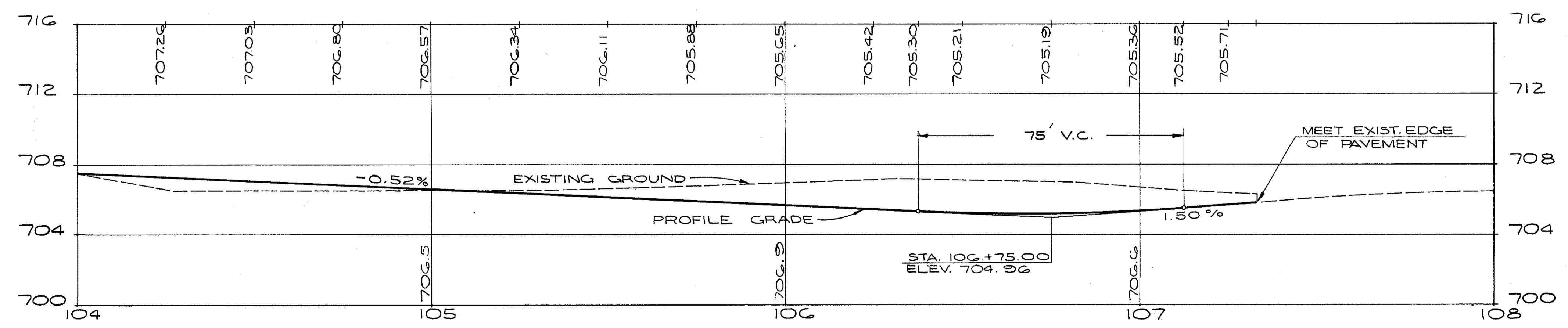


CURVE DATA	
CURVE N°3	CURVE N°4
P.I. STA. 104+94.40	P.I. STA. 107+78.03
D = 200'	D = 200'
Δ = 24° 45'	Δ = 28° 15'
T = 43.88'	T = 50.33'
L = 86.39'	L = 98.61'
E = 85.72'	E = 97.62'
E = 4.76'	E = 0.24'

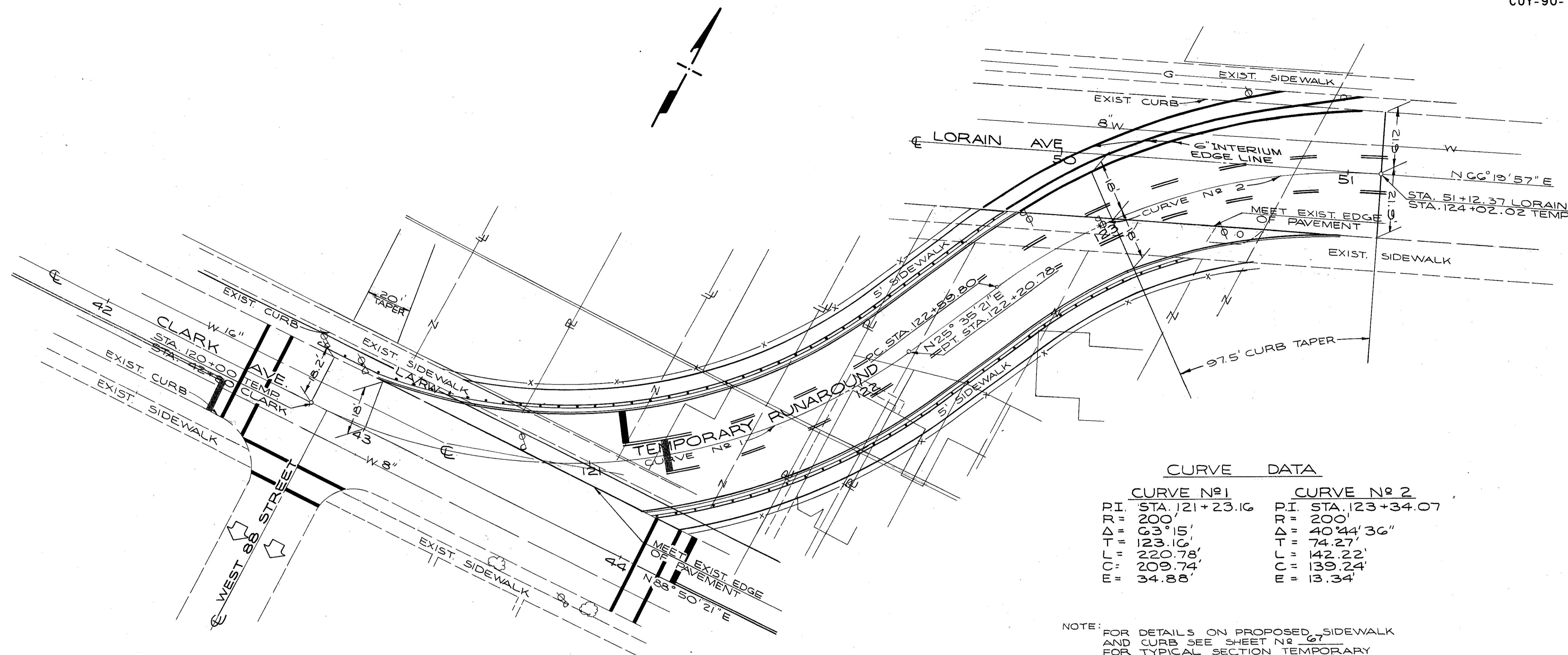
NOTE:  
 FOR MAINTENANCE OF TRAFFIC. SEE SHEET N° 30  
 FOR STRIPING AND TRAFFIC CONTROL DEVICES. SEE TRAFFIC CONTROL SH'T. N° 494

/// DENOTES EXISTING ISLANDS TO BE REMOVED AND REPLACE WITH TEMPORARY RUNAROUND DURING USE OF TEMPORARY RUNAROUND

NOTE:  
 FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET N° 61  
 FOR TYPICAL SECTION TEMPORARY RUNAROUND SEE SHEET N° 315



STA. 104+00 TO STA. 108+26  
 LORAIN AVE.  
 TEMPORARY RUNAROUND #1

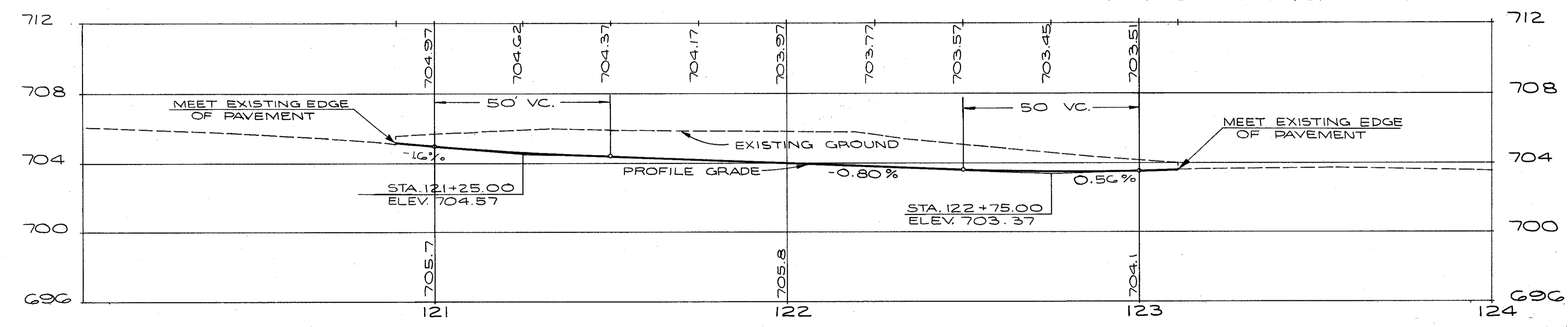


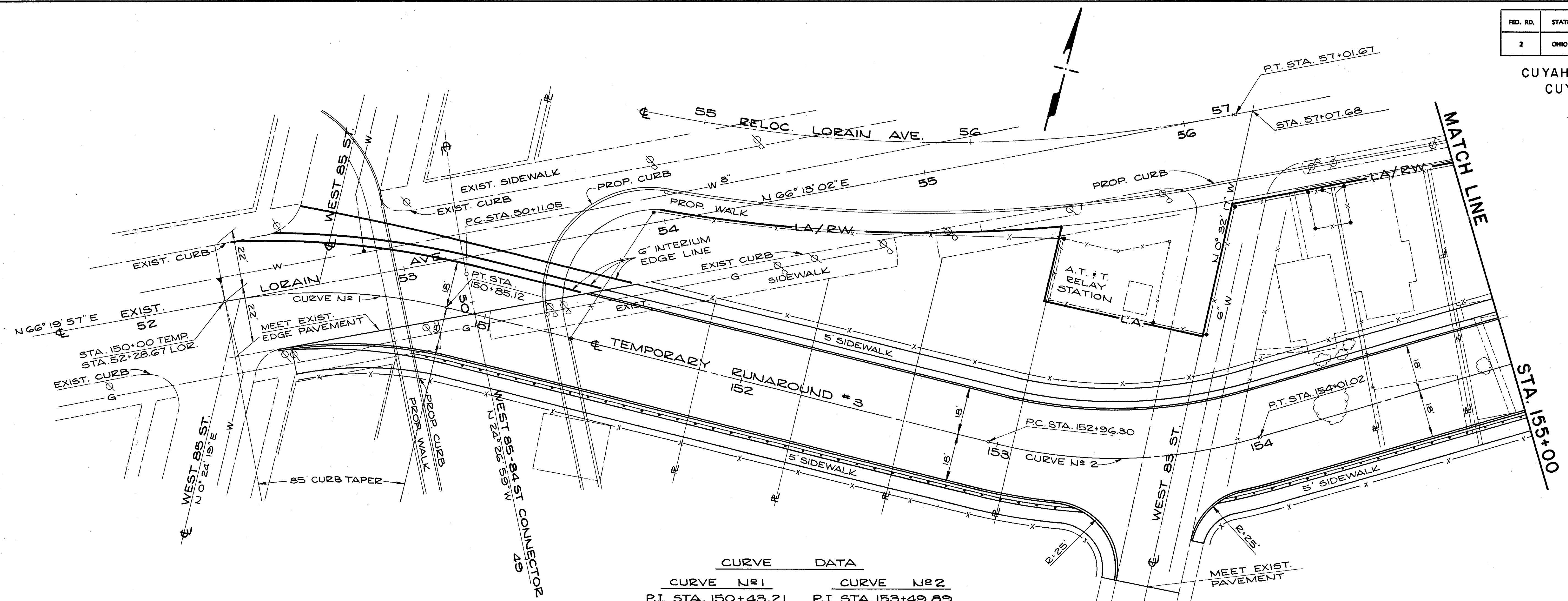
CURVE DATA	
CURVE No 1	CURVE No 2
P.I. STA. 121+23.16	P.I. STA. 123+34.07
R = 200'	R = 200'
Δ = 63° 15'	Δ = 40° 44' 36"
L = 123.10'	L = 74.27'
T = 220.78'	T = 142.22'
C = 209.74'	C = 139.24'
E = 34.88'	E = 13.34'

NOTE: FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET No 67 FOR TYPICAL SECTION TEMPORARY RUNAROUND SEE SHEET No 315

NOTE: FOR MAINTENANCE OF TRAFFIC. SEE SHEET No 30

FOR STRIPING AND TRAFFIC CONTROL DEVICES, SEE TRAFFIC CONTROL, SHEET No 494





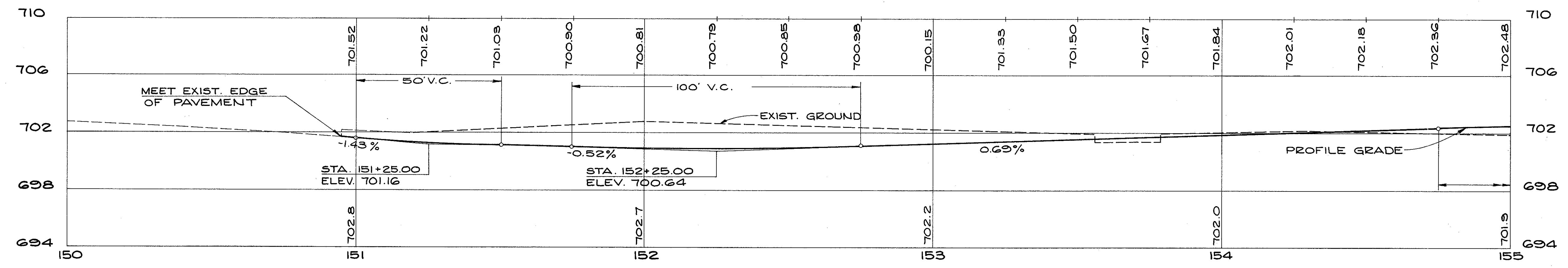
CURVE DATA	
CURVE No 1	CURVE No 2
P.I. STA. 150+43.21	P.I. STA. 153+49.89
R = 200'	R = 200'
Δ = 24° 23' 05"	Δ = 30° 00' 00"
T = 43.21'	T = 53.59'
L = 85.12'	L = 104.72'
C = 84.48'	C = 103.53'
E = 4.62'	E = 7.05'

NOTE: FOR MAINTENANCE OF TRAFFIC. SEE SHEET No 30

NOTE: FOR STRIPING AND TRAFFIC CONTROL DEVICES. SEE TRAFFIC CONTROL SHEET No 495

NOTE: FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET No 64

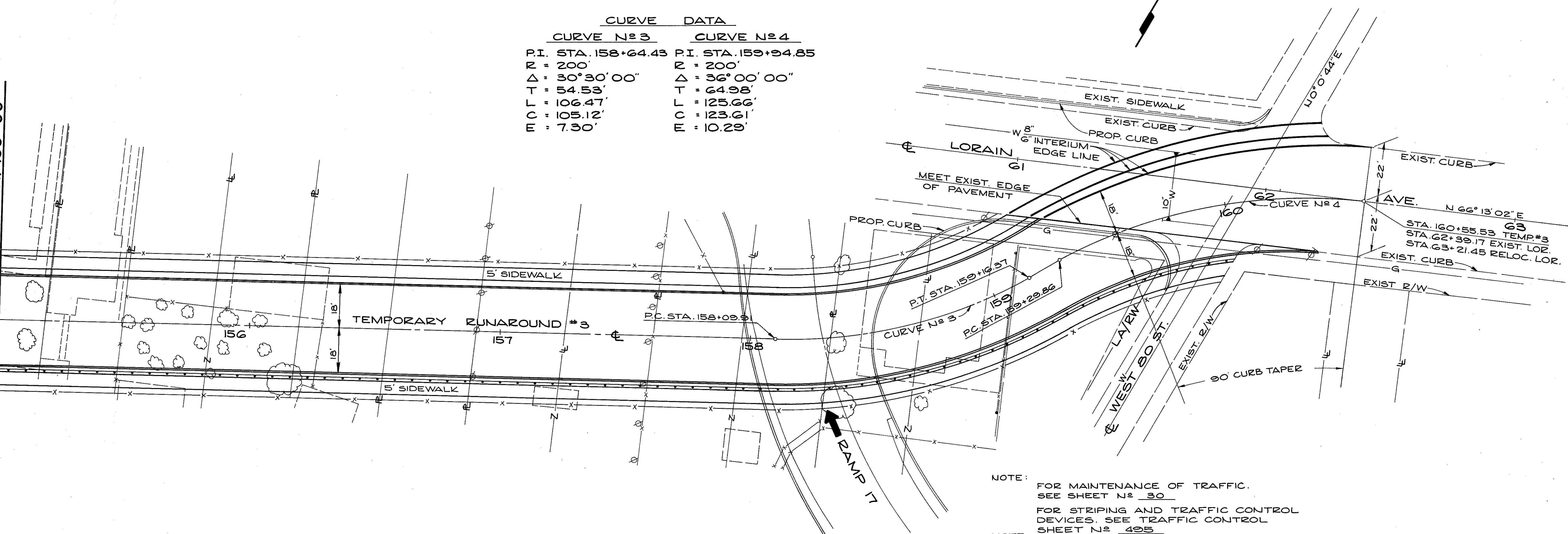
NOTE: FOR TYPICAL SECTION TEMPORARY RUNAROUND SEE SHEET No 315



STA. 150+00 TO STA. 155+00  
LORAIN AVE.  
TEMPORARY RUNAROUND #3

CURVE DATA	
CURVE N°3	CURVE N°4
P.I. STA. 158+64.43	P.I. STA. 159+94.85
R = 200'	R = 200'
Δ = 30°30'00"	Δ = 36°00'00"
T = 54.53'	T = 64.98'
L = 106.47'	L = 125.66'
C = 105.12'	C = 123.61'
E = 7.30'	E = 10.29'

MATCH LINE STA. 155+00

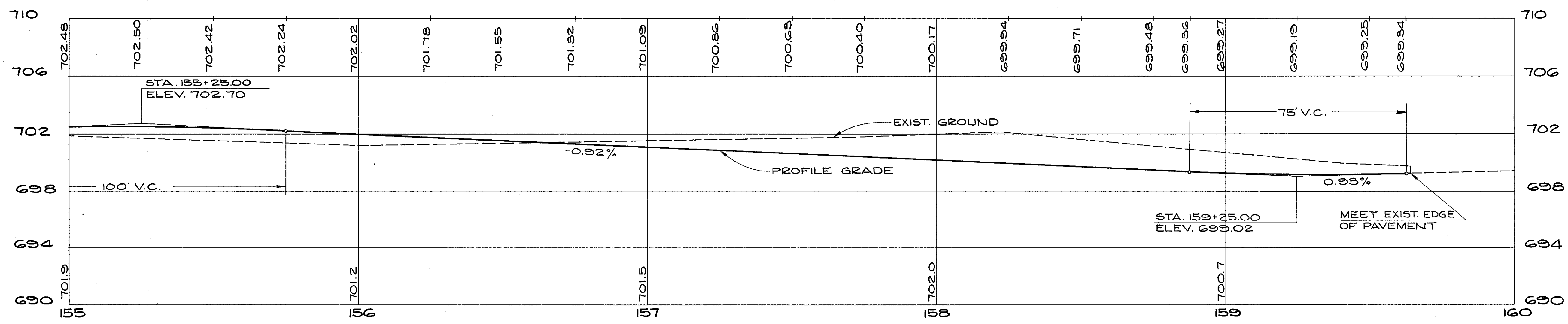


NOTE: FOR MAINTENANCE OF TRAFFIC. SEE SHEET N° 30

NOTE: FOR STRIPING AND TRAFFIC CONTROL DEVICES. SEE TRAFFIC CONTROL SHEET N° 495

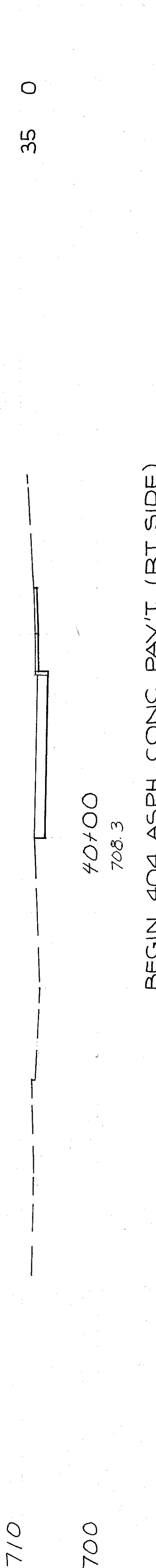
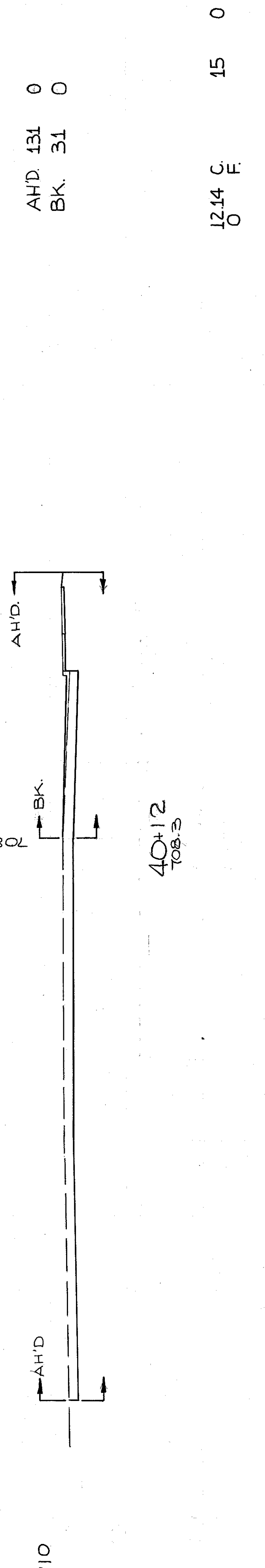
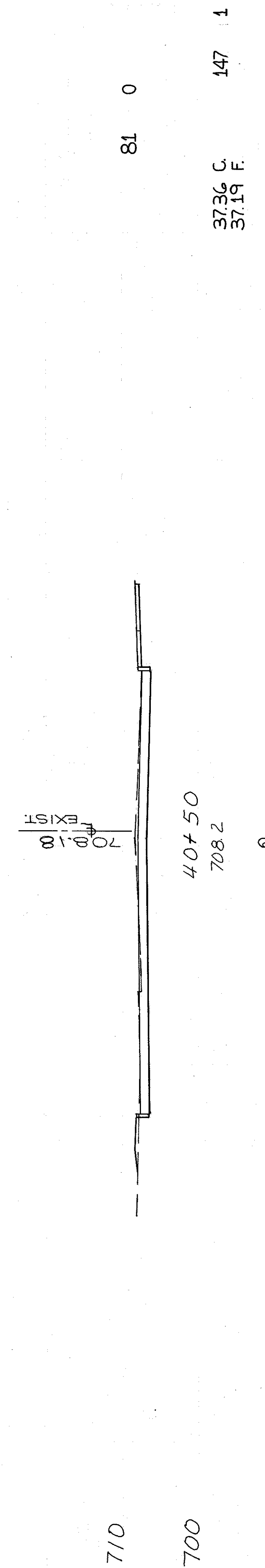
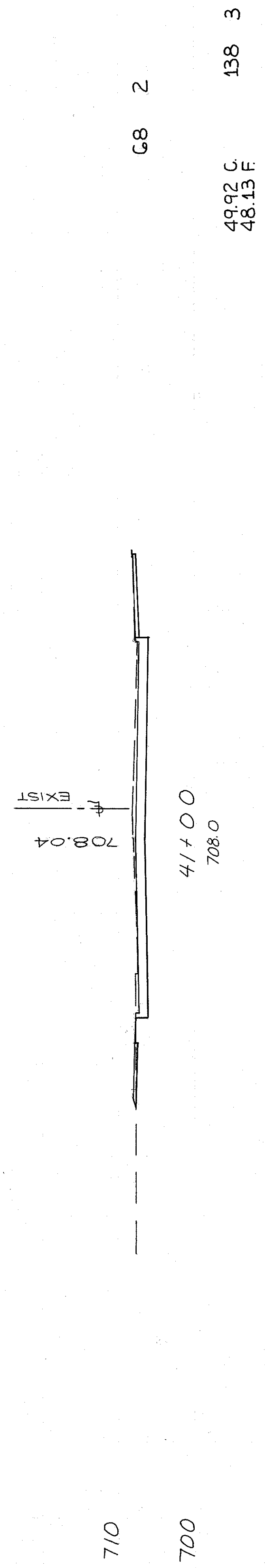
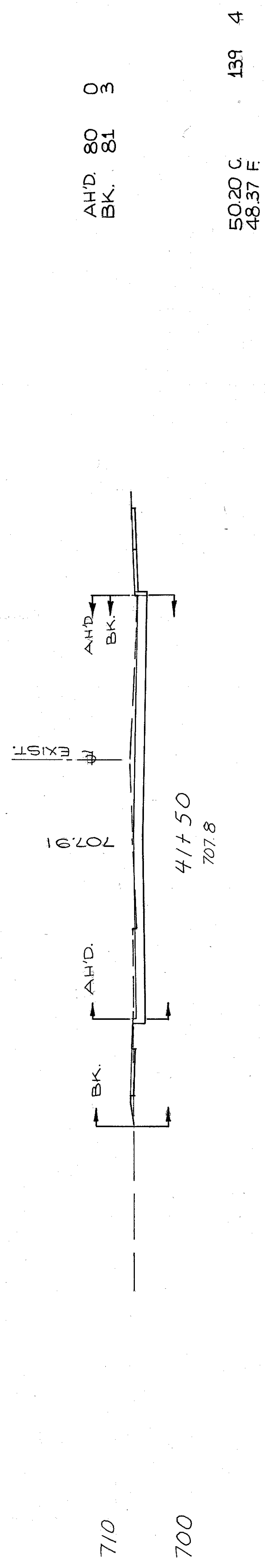
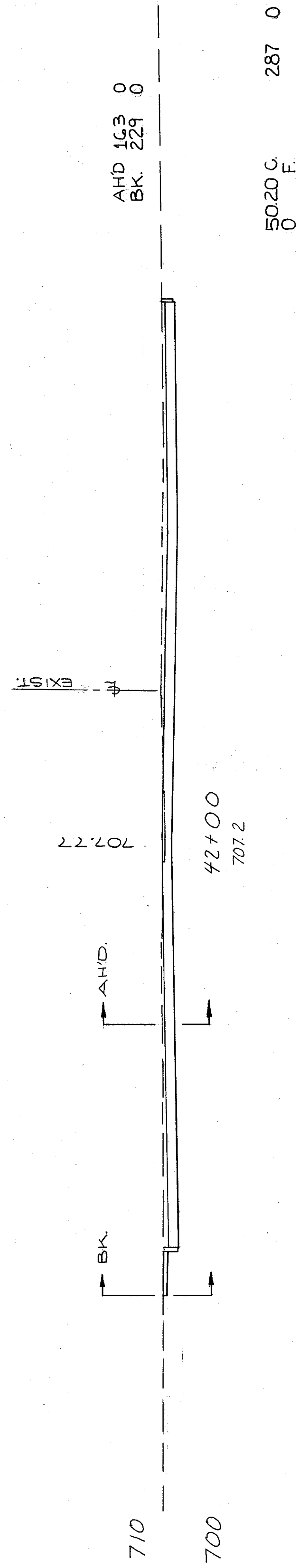
NOTE: FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET N° 65

NOTE: FOR TYPICAL SECTION TEMPORARY RUNAROUND SEE SHEET N° 315

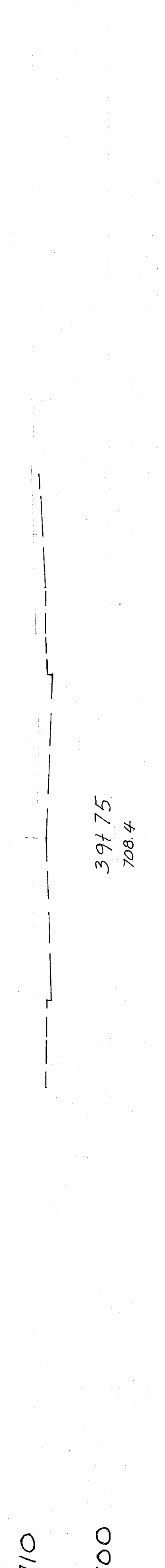


STA. 155+00 TO 160+55.53  
LORAIN AVE.  
TEMPORARY RUNAROUND #3

ADT ARC END AREA VOLUME  
LENGTH C.C. YDS.  
CUT FILL CUT FILL CUT FILL



BEGIN 404 ASPH. CONC. PAY'T (RT. SIDE)



CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

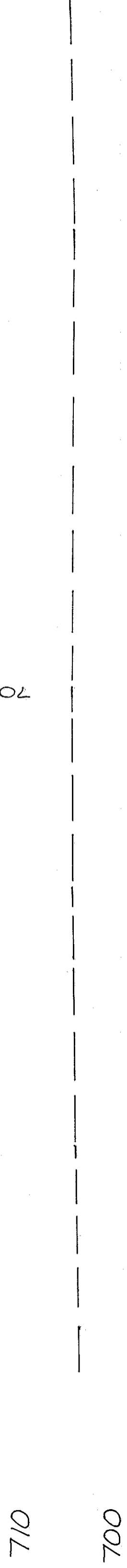
700 REVISED BY S.H.S. DATE 6/73  
CHECKED BY D.H.S. DATE 12-73  
CALCULATED BY F.F.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

REL LORAIN STA. 39+50 TO 42+00

320	1
838	
TOTAL VOLUME - 726.8	
	80
	60
	40
	20
	4

ADI ARC END AREA VOLUME  
LENGTH CU. YDS.  
CUT FILL CUT FILL CUT FILL

706.92

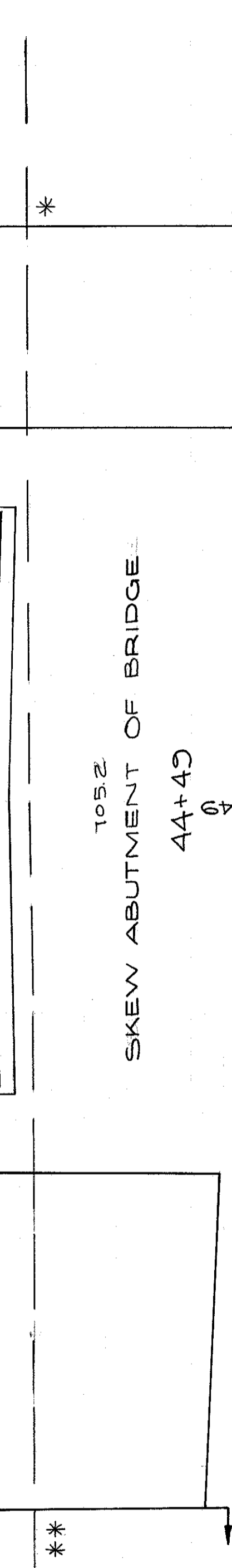


46+00  
705.3

707.52



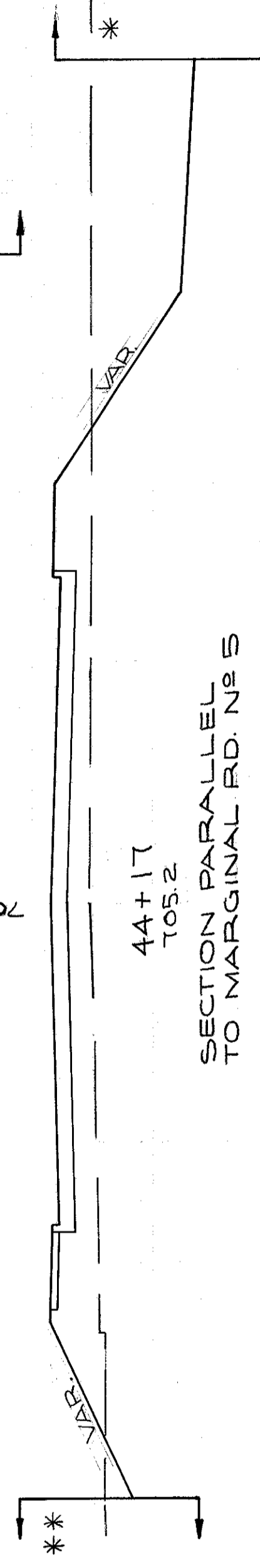
45+50  
705.2



SKEW ABUTMENT OF BRIDGE

661.188

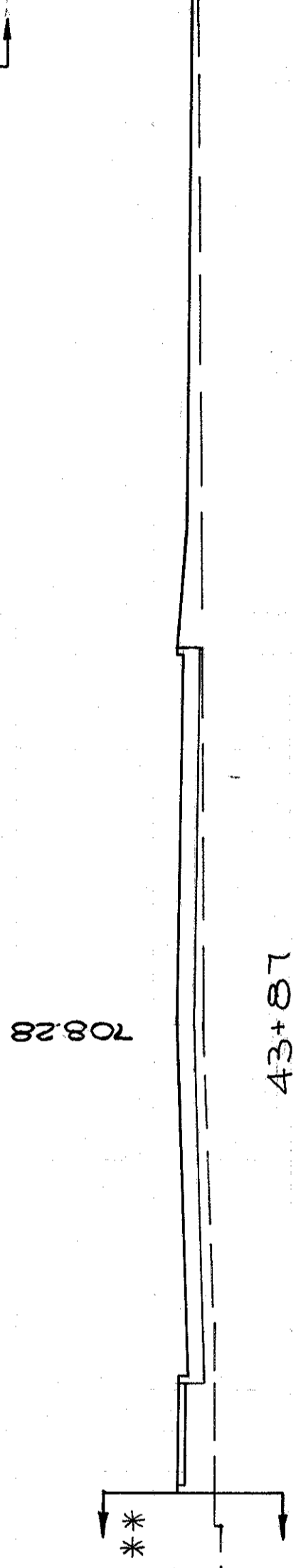
44+45  
704.9



SECTION PARALLEL TO MARGINAL RD. NO. 5

74.99

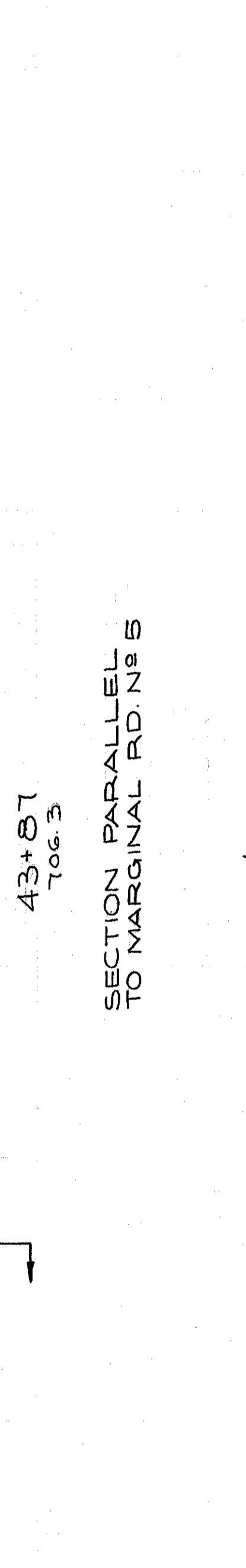
43+17  
705.2



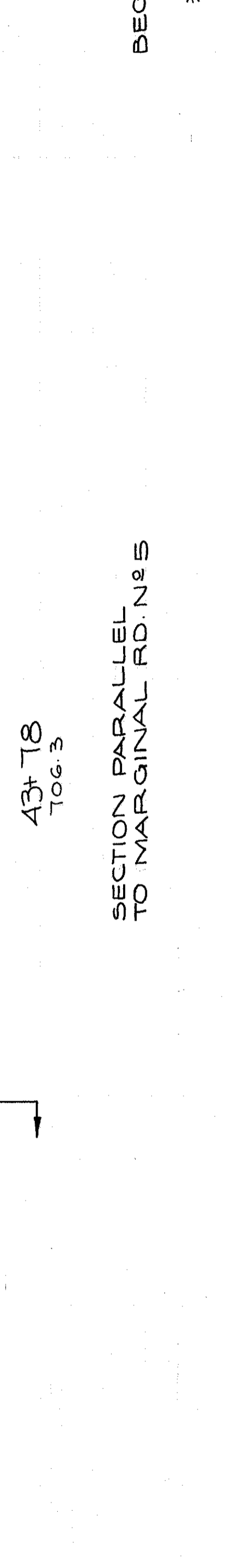
SECTION PARALLEL TO MARGINAL RD. NO. 5

12.22

43+87  
706.3



43+78  
706.3



SECTION PARALLEL TO MARGINAL RD. NO. 5

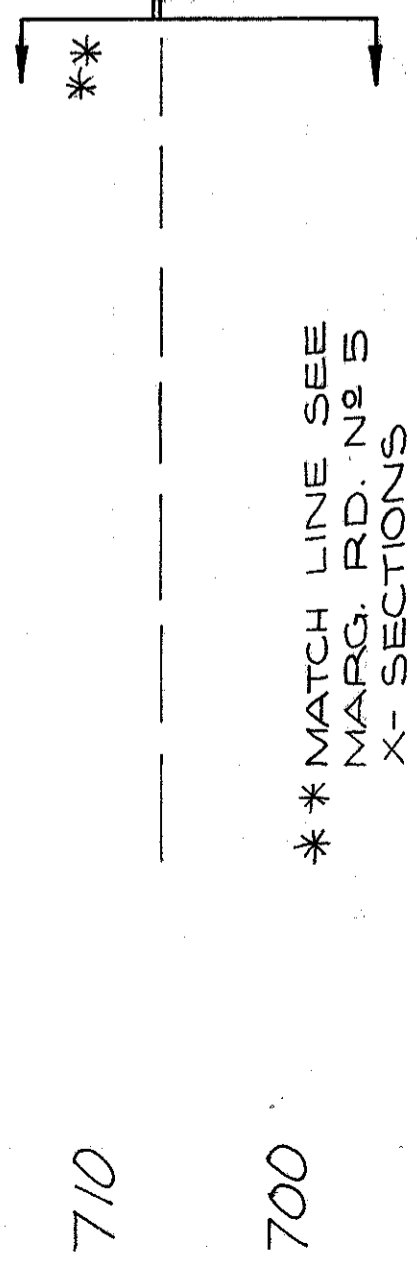
BEGIN EARTHWORK

936 C.  
8.9% F.

\* MATCH LINE SEE MARG. RD. NO. 5 X-SECTIONS

FIX LORAIN

707.84



\*\* MATCH LINE SEE MARG. RD. NO. 5 X-SECTIONS

END EARTHWORK

42+55.44  
707.9

46.26 C.  
45.32 F.

195.6

707.72



FIX LORAIN

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

REVISOR BY S.H.S. DATE 6/73  
CHECKED BY D.H.S. DATE 12-73

CALCULATED BY L.F.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

42+50  
707.6

51.05 C.  
50.93 F.

261.4

TOTAL VOLUME: 1203.319

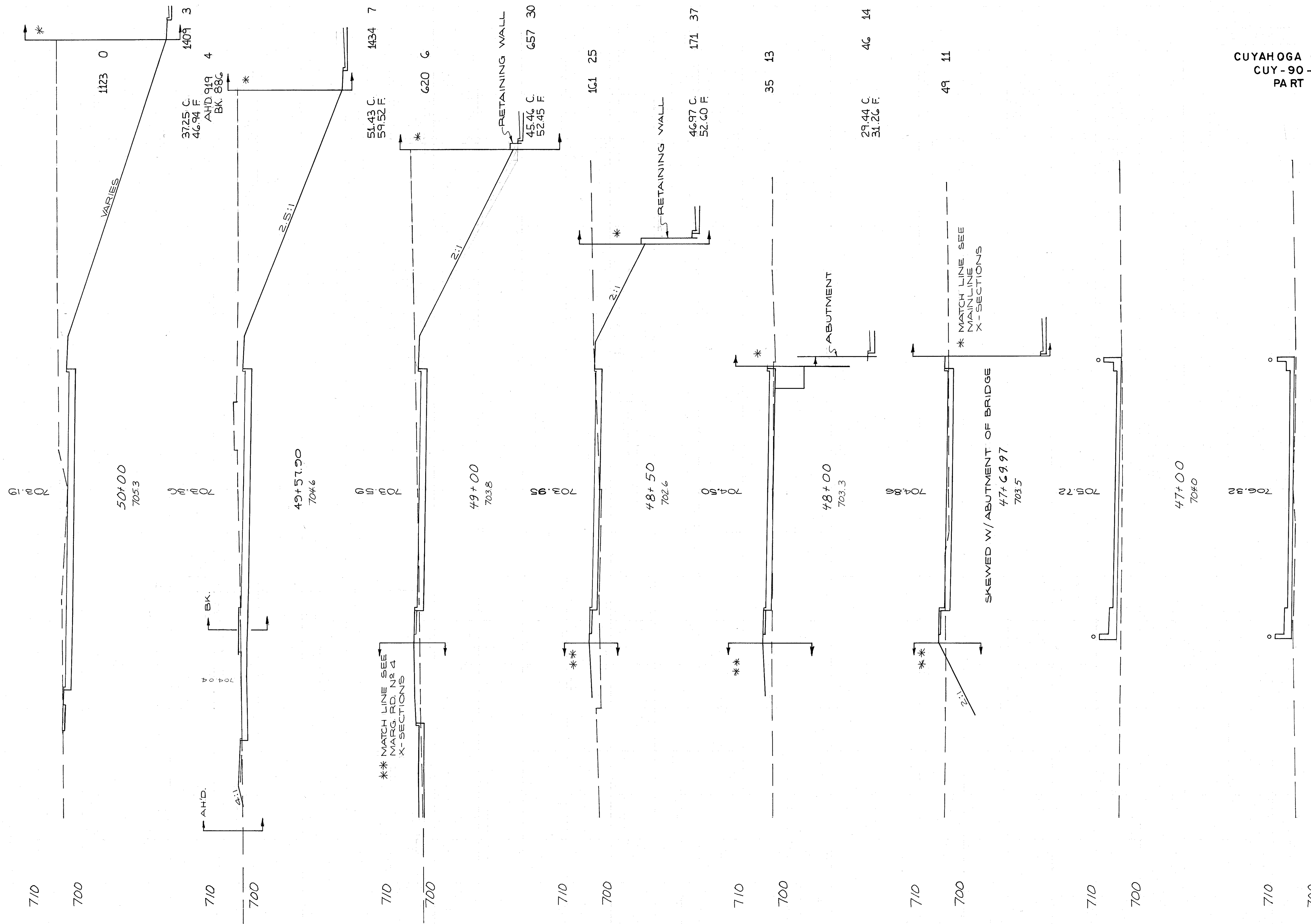
CUT FILL  
60 80

80 60 40 20 0 20 40 60 80

321  
838



ADJ ARC END AREA VOLUME  
 C.U. YDS.  
 LENGTH CUT FILL CUT FILL



CUYAHOGA COUNTY  
 CUY-90-11.64  
 PART I

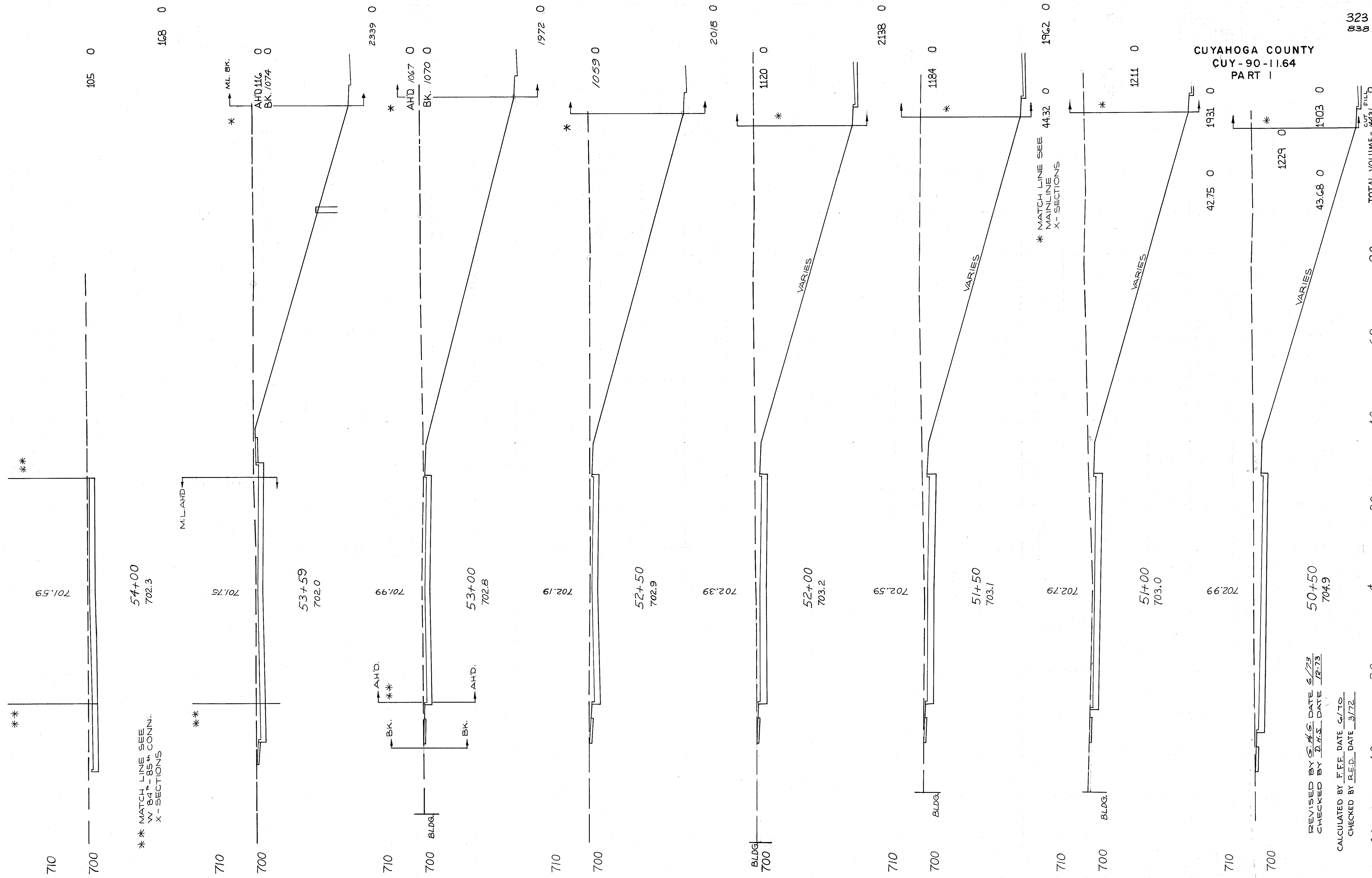
REVISED BY S.A.S. DATE 6/78  
 CHECKED BY D.H.S. DATE 12/73  
 CALCULATED BY F.F.F. DATE 6/70  
 CHECKED BY R.E.D. DATE 3/72

REL. LORAIN STA. 46+50 TO 50+00

TOTAL VOLUME - 517 91  
 80 60 40 20 0 20 40 60 80

322  
 838

END AREA VOLUME  
CU YDS.  
CUT FILL CUT FILL



\*\* MATCH LINE SEE  
W 84<sup>th</sup>-85<sup>th</sup> CONN.  
X-SECTIONS

REVISED BY S.A.S. DATE 6/73  
CHECKED BY D.H.S. DATE 12-73  
CALCULATED BY F.F.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

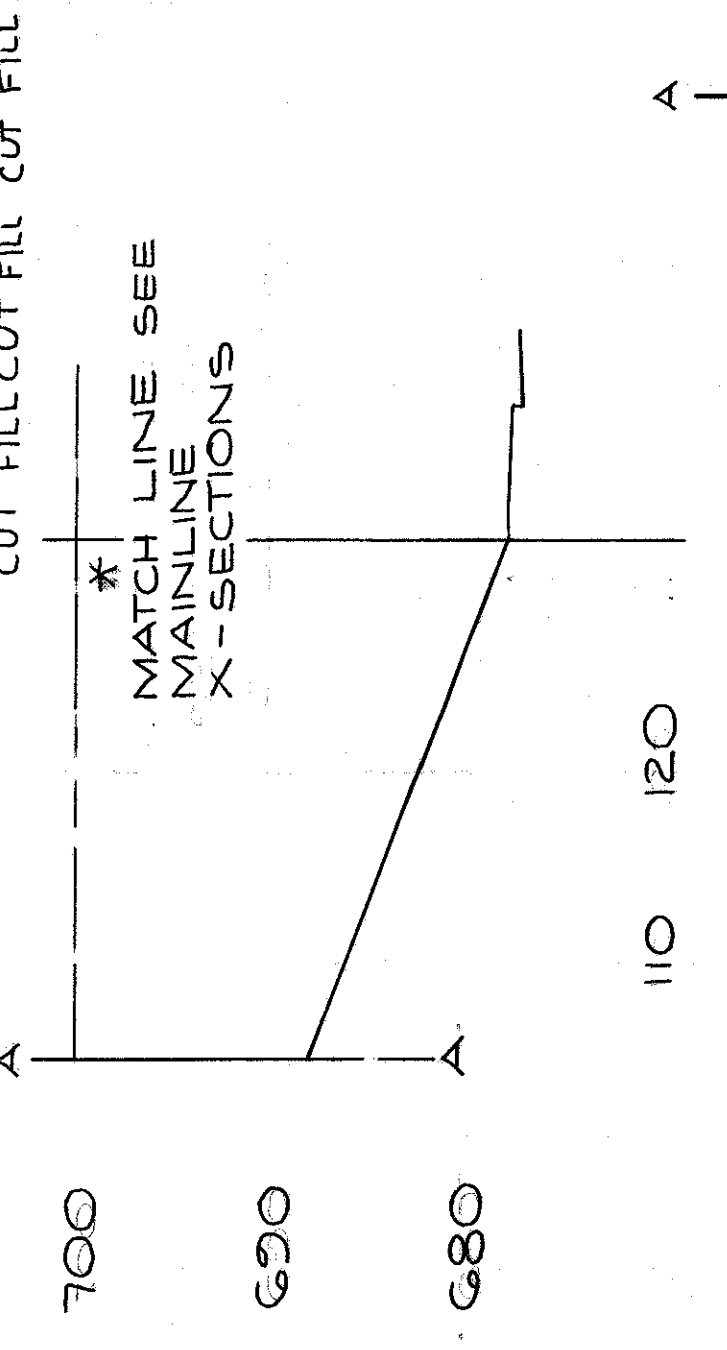
REL. LORAIN AVE  
STA 50+50 TO 54+00

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

323  
838

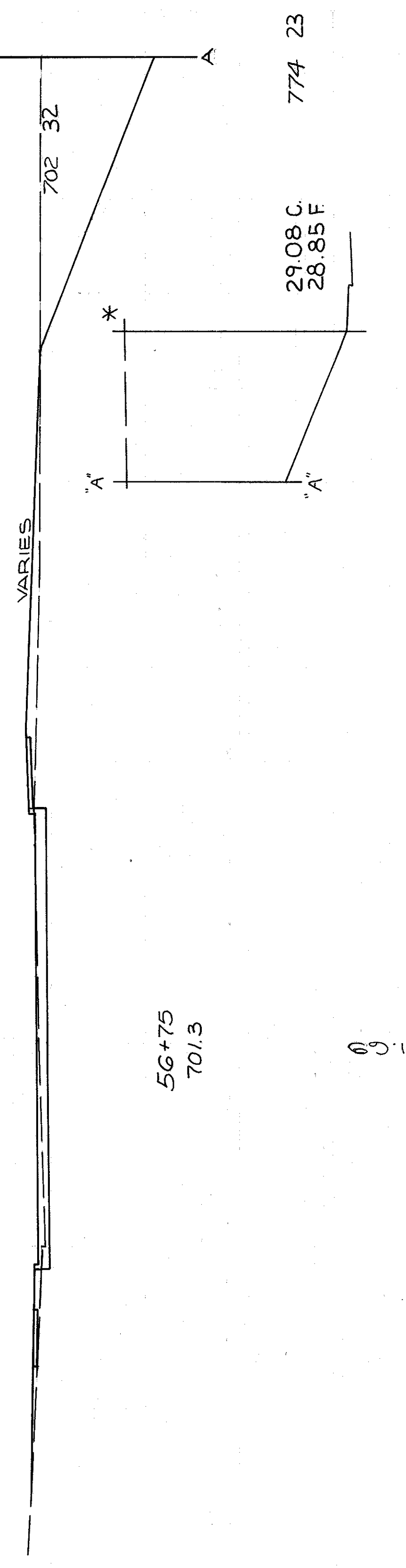
ADJ. ARC END AREA VOLUME  
LENGTH CU. YDS.  
CUT FILL CUT FILL CUT FILL

MATCH LINE SEE  
MAINLINE  
X-SECTIONS



710  
700  
690

701.60

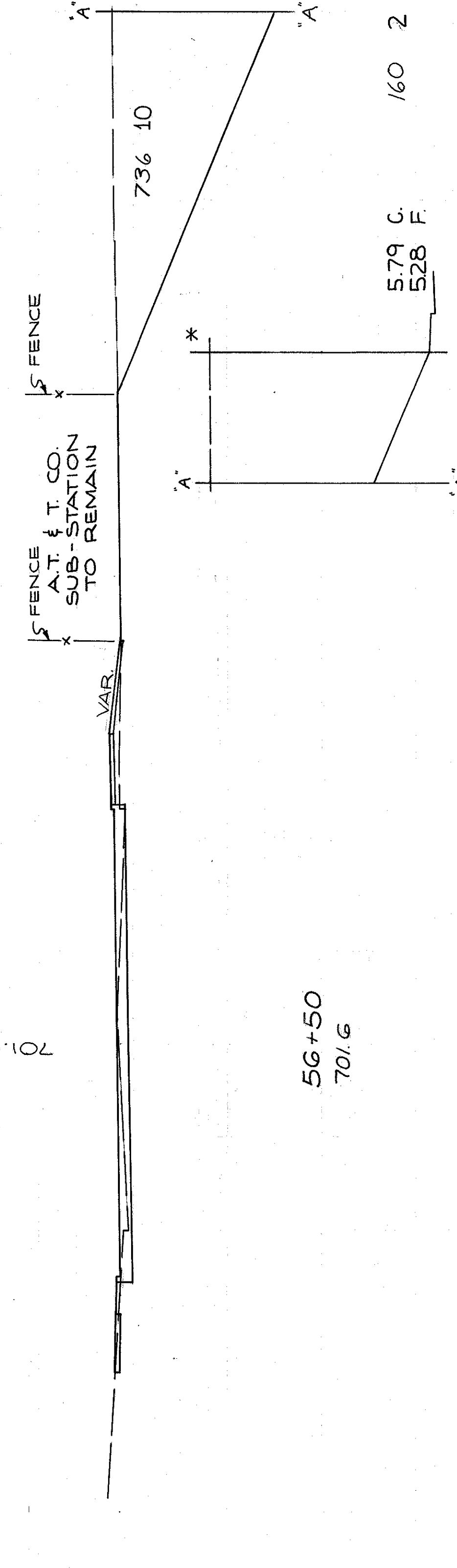


710  
700  
690

56+75  
701.3

29.08 C  
28.85 F

701.60

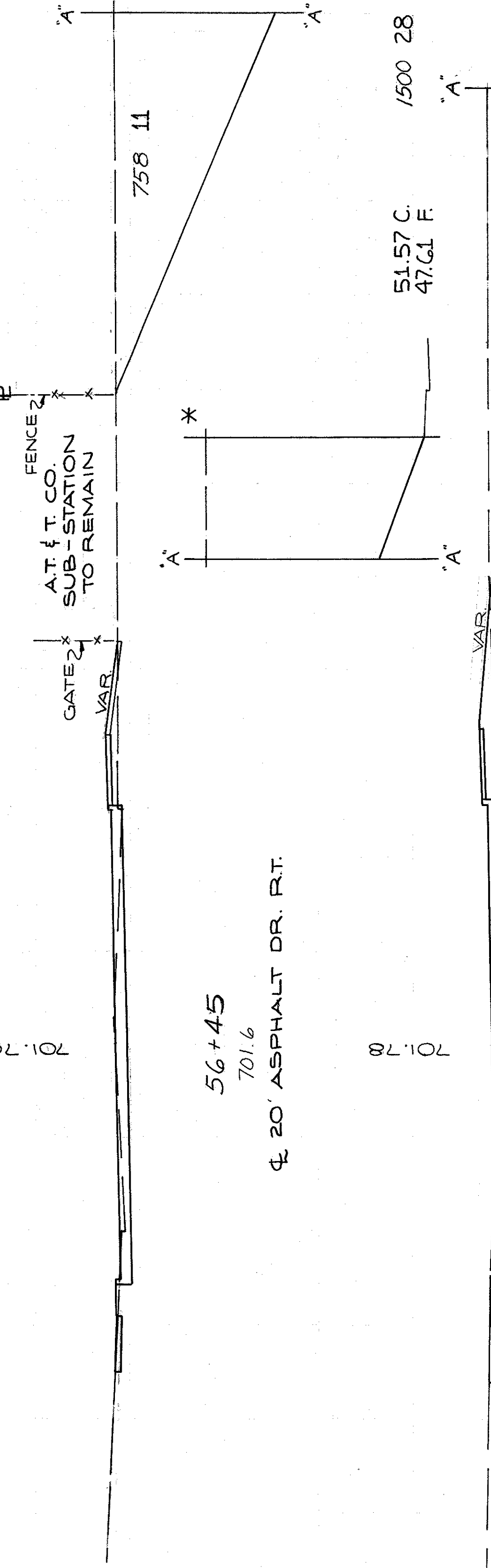


710  
700  
690

56+50  
701.6

579 C  
528 F

701.70



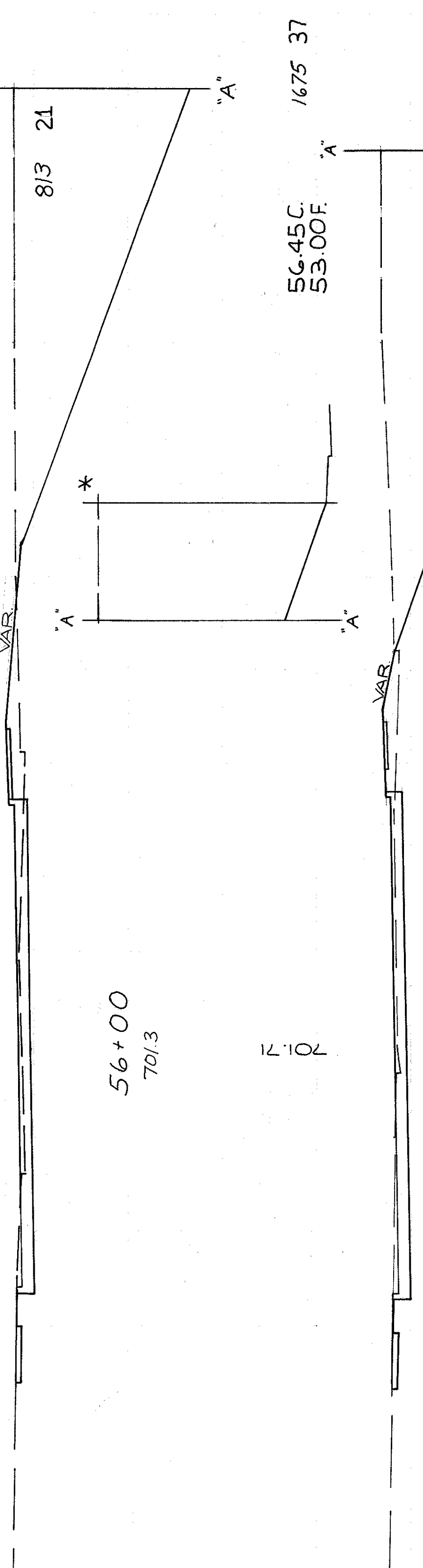
710  
700

56+45  
701.6

5157 C  
47.61 F

701.78

CL 20' ASPHALT DR. R.T.

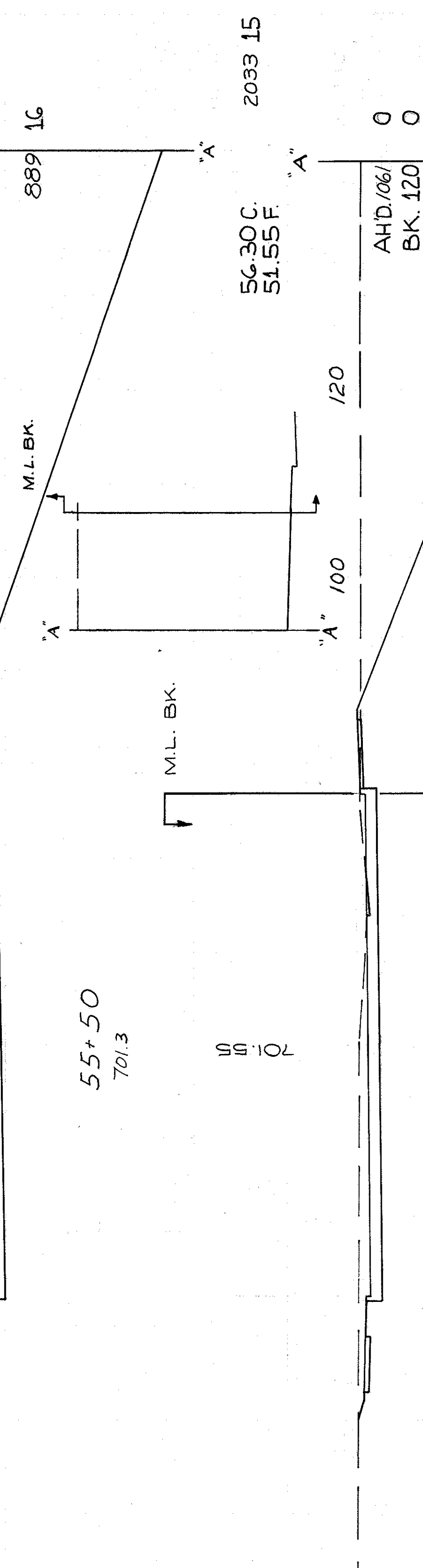


710  
700

56+00  
701.3

56.45 C  
53.00 F

701.71

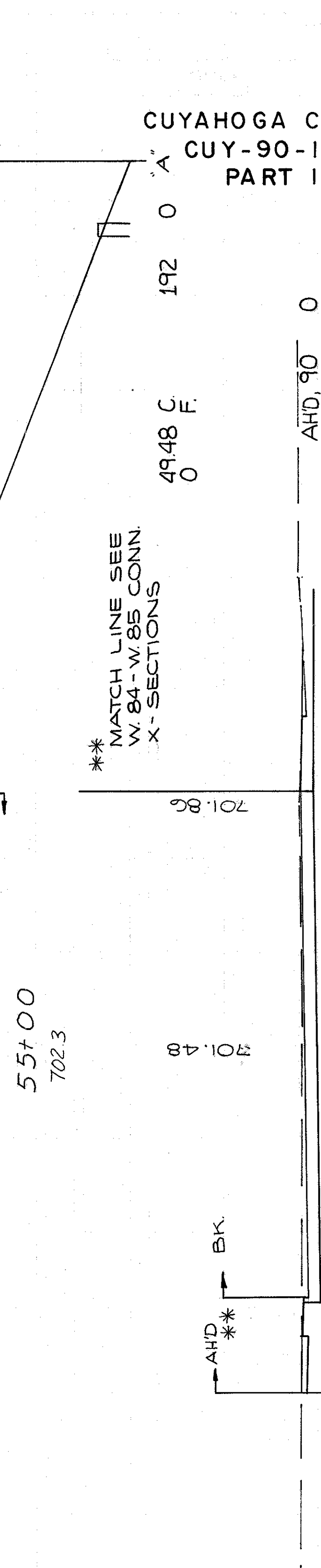


710  
700

55+50  
701.3

56.30 C  
51.55 F

701.58



710  
700

54+50  
701.5

49.48 C  
0 F

701.48

MATCH LINE SEE  
W. 84-W. 85 CONN  
X-SECTIONS

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

REVISED BY S.W.G. DATE 6/23  
CHECKED BY D.R.S. DATE 12-23

CALCULATED BY F.F.F. DATE 6/10  
CHECKED BY R.E.D. DATE 3/72

TOTAL VOLUME - 6572.105

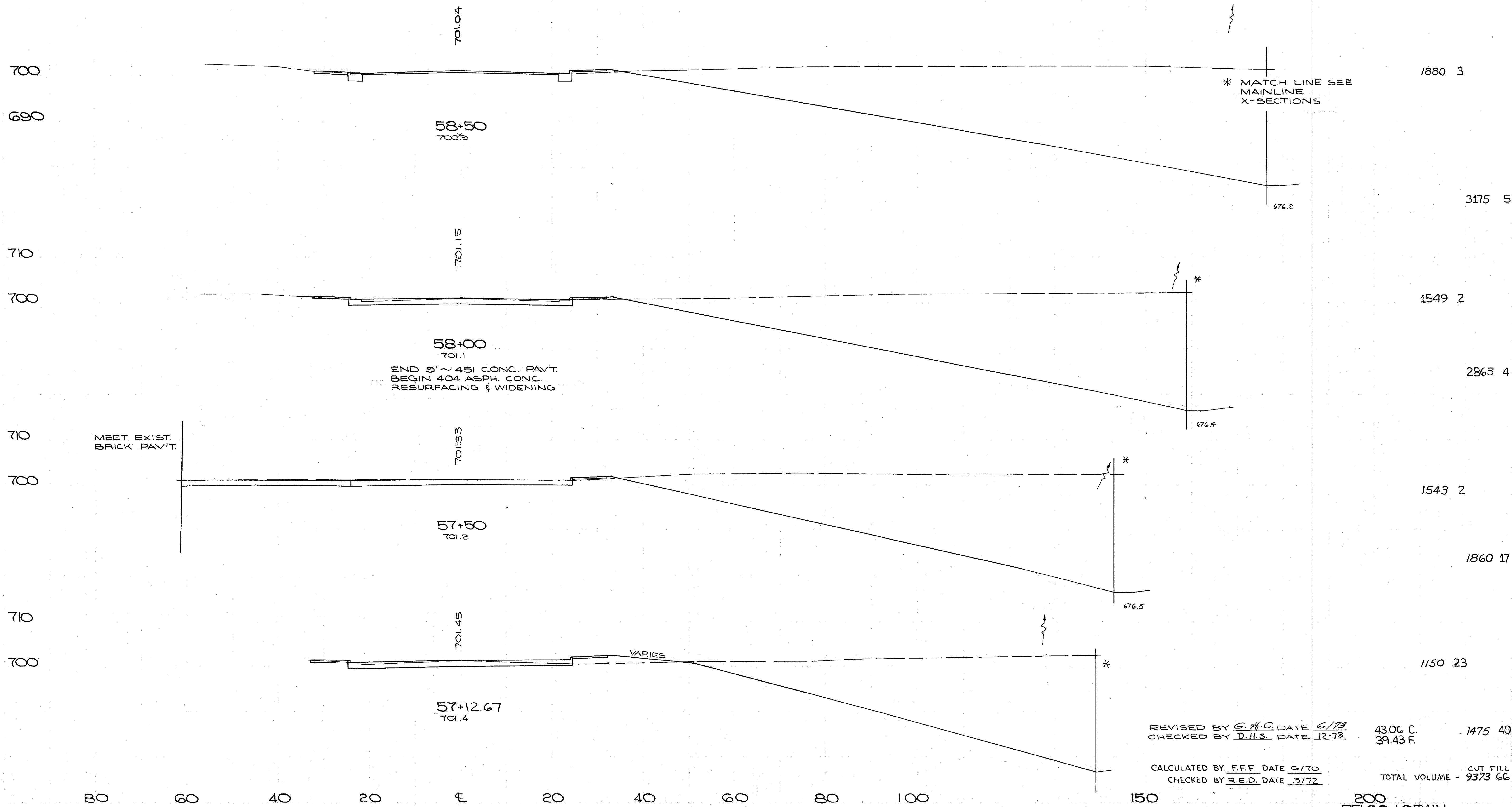
CUT FILL

80 60 40 20 0 20 40 60 80

324  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

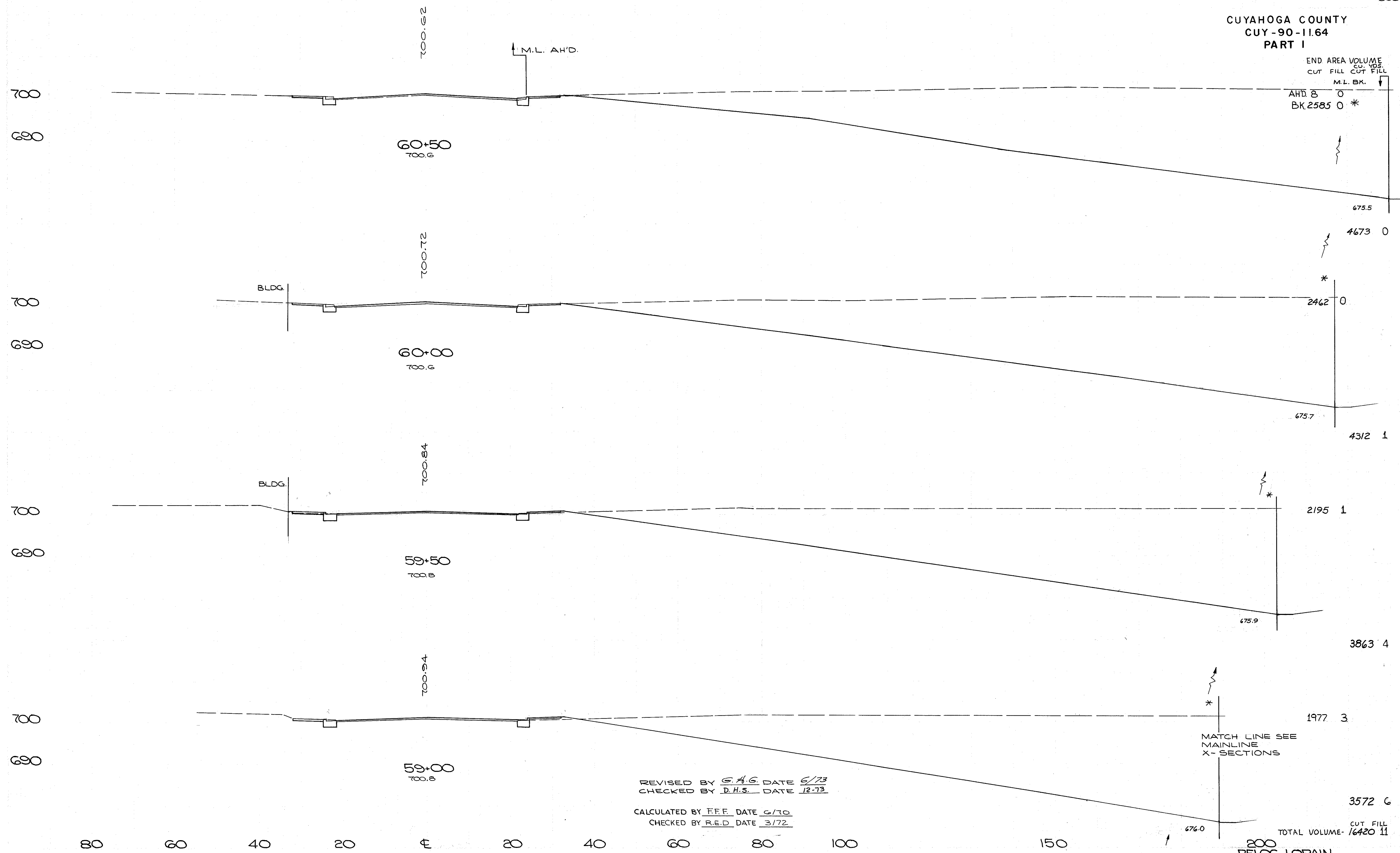
ADJ. LENGTH	ARC	END	AREA	VOLUME
CUT	FILL	CUT	FILL	CUT
				CU. YDS.



200 RELOC. LORAIN  
STA 57+12.67 TO 58+50

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL  
M.L. BK.



AHD 8 0  
BK 2585 0 \*

675.5

4673 0

2462 0

675.7

4312 1

2195 1

675.9

3863 4

1977 3

MATCH LINE SEE  
MAINLINE  
X-SECTIONS

3572 6

676.0

TOTAL VOLUME- 16420 11

REVISED BY G.A.G. DATE 6/73  
CHECKED BY D.H.S. DATE 12-73

CALCULATED BY F.F.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

200  
RELOC. LORAIN  
STA 59+00 TO 60+50

END AREA VOLUME  
CU. YDS. CUT FILL CUT FILL

700  
690  
SECTION PARALLEL TO W. 80 ST.  
G2+77.72  
699.8

68  
66  
65

700  
690  
GUTTER LINE SECTION PARALLEL TO W. 80 ST.  
G2+66  
699.8

00  
00  
00

BLDG.

G2+50  
699.5

BLDG.

G2+31.57  
700.0

BLDG.

G2+00  
700.1

\* MATCH LINE SEE  
RAMP # 17  
X-SECTIONS

00  
00  
00

BLDG.

G1+79.31  
700.2

00  
40  
20

G1+32.4  
700.5

G1+00  
700.4

G0+77.30  
700.4

REVISED BY G.H.G. DATE 6/79  
CHECKED BY D.H.S. DATE 12-79  
CALCULATED BY F.F.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

RELOC. LORAIN  
STA. 60+77.30 TO 62+77.72

7 0  
5 0  
8 0  
9 0  
7 0  
7 0

11 0  
13 0

18 0  
8 0

21  
12 0

7 0  
8 0  
TOTAL VOLUME - 72 0

CUYAHOGA COUNTY  
CUY-90-11.64  
PART 1

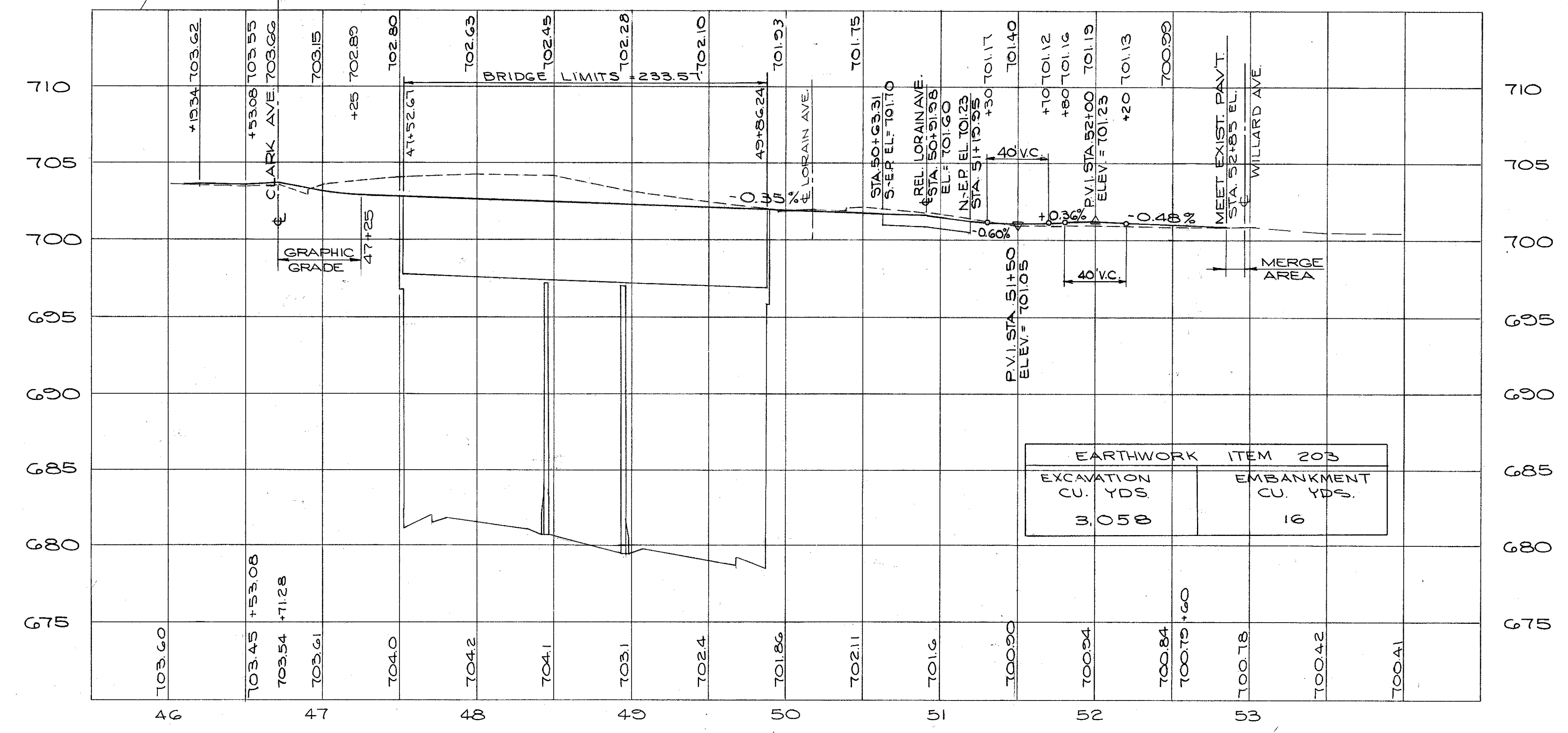
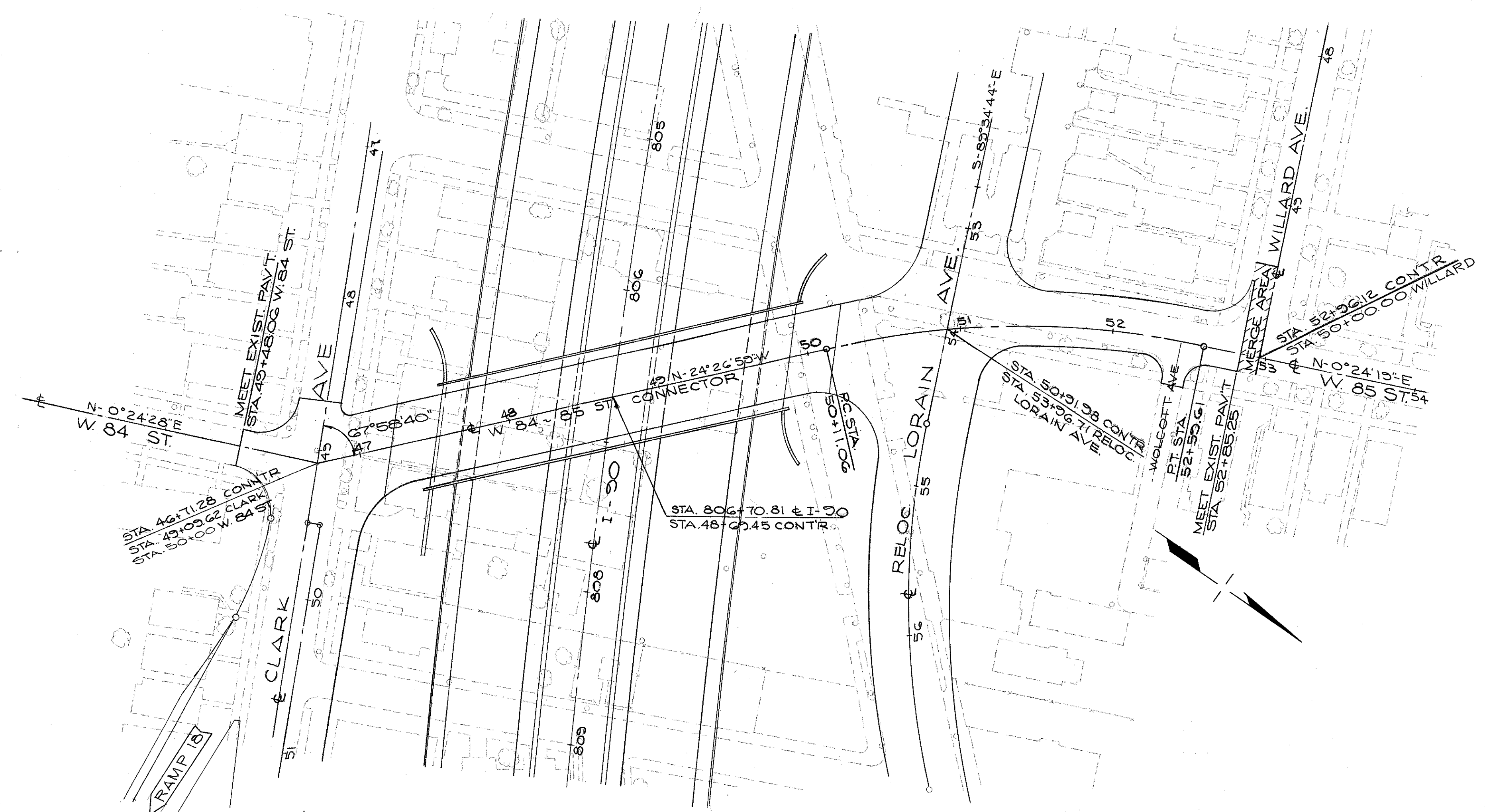
327  
838

60 20 40 60 80 100

FED. RD.	STATE	PROJECT
2	OHIO	

328  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I



**CURVE DATA**  
 I-90  
 P.I. STA. 808+54.11  
 Δ = 9° 45' 25" LT.  
 Dc = 0° 45' 00"  
 R = 7639.44'  
 T = 656.52'  
 Lc = 1309.82'  
 E = 28.16

**CURVE DATA**  
 W 84-85 CONNECTOR  
 P.I. = STA. 51+37.32  
 Δ = 24° 51' 18"  
 Dc = 10° 00' 00"  
 R = 572.96'  
 T = 126.26'  
 Lc = 248.55

**STRUCTURE DATA CUY-90-1196**

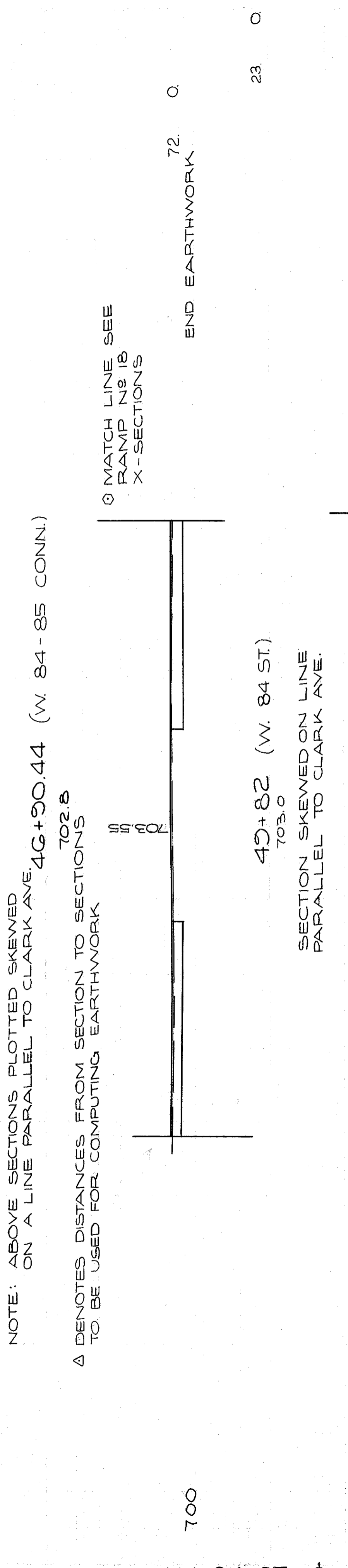
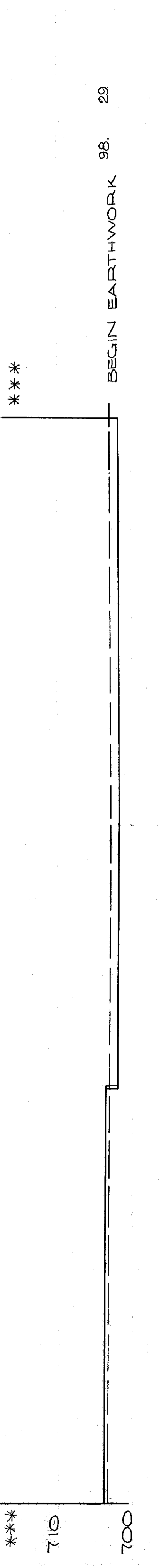
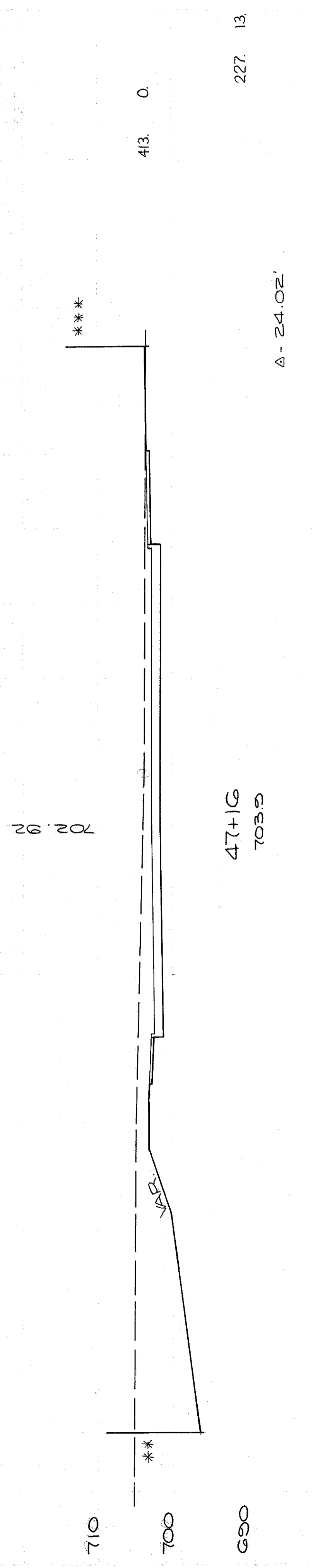
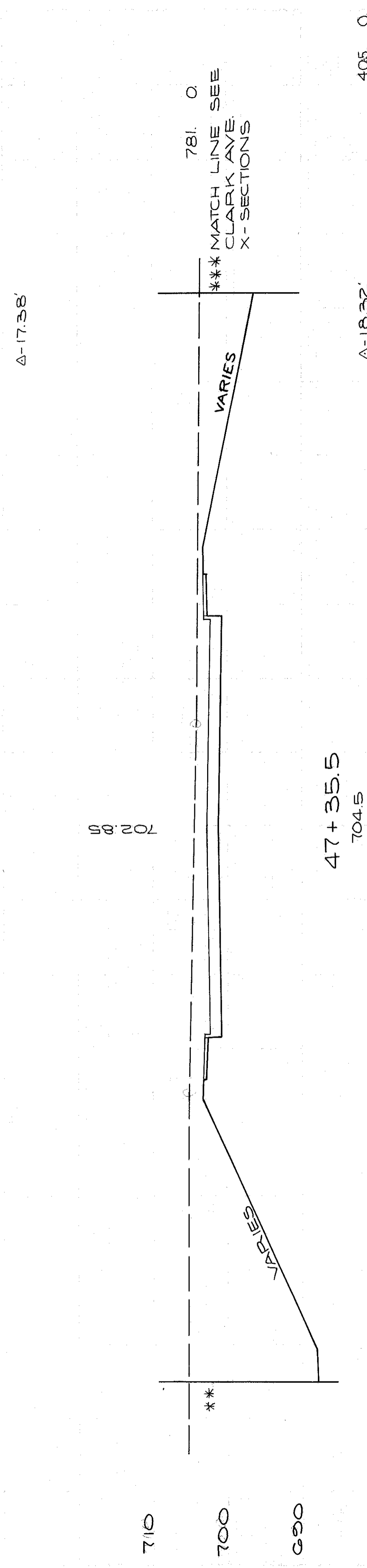
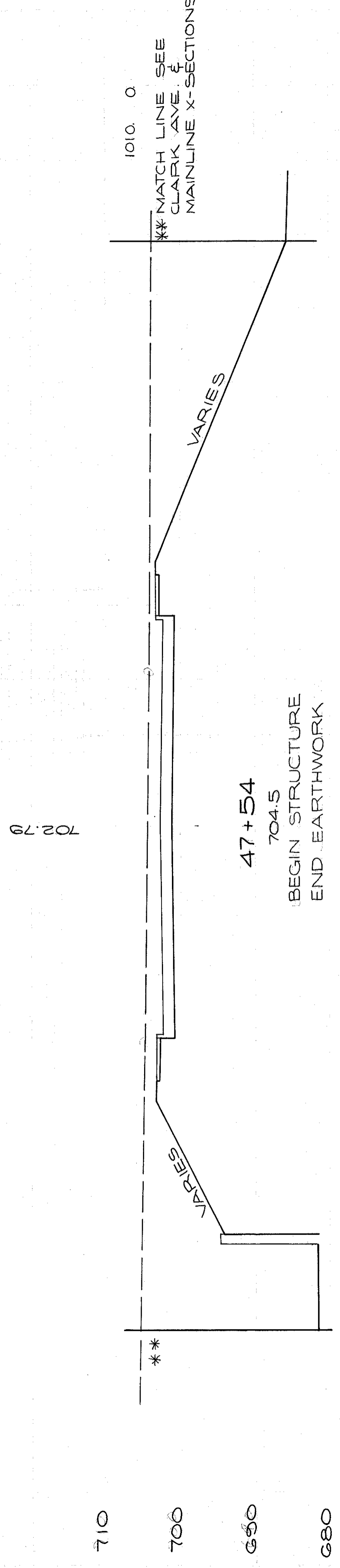
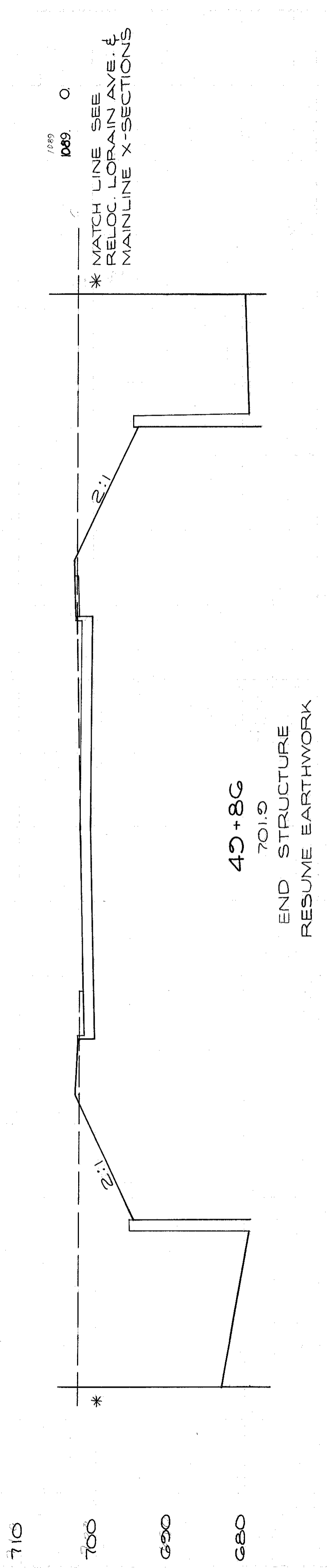
TYPE : CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.  
 SKEW : 20° 27' 41" RF. TO LOC. TAN.  
 SPANS : 89'-3", 50'-3 1/4", 89'-3"  
 ROADWAY : 52'-0" F/F 6'-0" SIDEWALKS  
 LOADING : HS 20-44  
 WEARING SURFACE : 2 1/2" ASPHALT  
 APPROACH SLABS : Special (30' Long)  
 ALIGNMENT : TANGENT AND 10° 00' 00" CURVE RT.  
 SUPERELEVATION : NONE  
 SLOPE PROTECTION : NONE REQUIRED

REVISED BY G.H.G. DATE 7/73  
 CHECKED BY D.H.S. DATE 6-74

CALCULATED BY R.E.R. DATE 6/70  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

W. 84 & W. 85 ST. CONN.  
 STA. 46+00.00 TO STA. 54+00.00

END AREA VOLUME  
CU YDS.  
CUT FILL CUT FILL



NOTE: ABOVE SECTIONS PLOTTED SKEWED ON A LINE PARALLEL TO CLARK AVE. Δ DENOTES DISTANCES FROM SECTION TO SECTIONS TO BE USED FOR COMPUTING EARTHWORK

REVISED BY: G.H.S. DATE: 1/73  
CHECKED BY: D.H.S. DATE: 5/74

CUYAHOGA COUNTY  
CUY-90-11-64  
PART I

W. 84 ST. & W. 84-85 CONN.  
STA. 49+48.00 TO 49+86

STATION	CUT	FILL	TOTAL VOLUME
49+86	0	0	0
47+54	0	0	0
47+35.5	0	0	0
47+16	0	0	0
49+82	0	0	0
49+68	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>

CALCULATED BY: F.E.F. DATE: 5/70  
CHECKED BY: RED. DATE: MAR 72

TOTAL VOLUME - 1238.13



END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL



52+36  
700.8

60. 0

29. 0

701.18

710



52+20.96  
700.9

43. 0

33. 1

701.18

710

HOUSE



52+00  
700.9

42. 2

75. 2

701.18

710



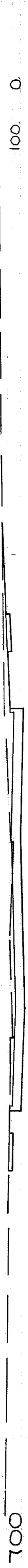
51+60.05  
700.9

59. 0

86. 0

701.17

710



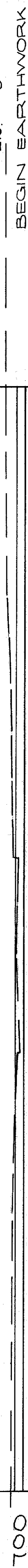
51+31  
701.2

100. 0

PARALLEL TO RELOC. LORAIN CL

701.2

710 \*



51+19.95  
700.5

219. 0

BEGIN EARTHWORK

N. EDGE RELOC. LORAIN PAV'T.

\* MATCH LINE SEE  
RELOC. LORAIN CL  
MAINLINE X-SECTIONS

END EARTHWORK



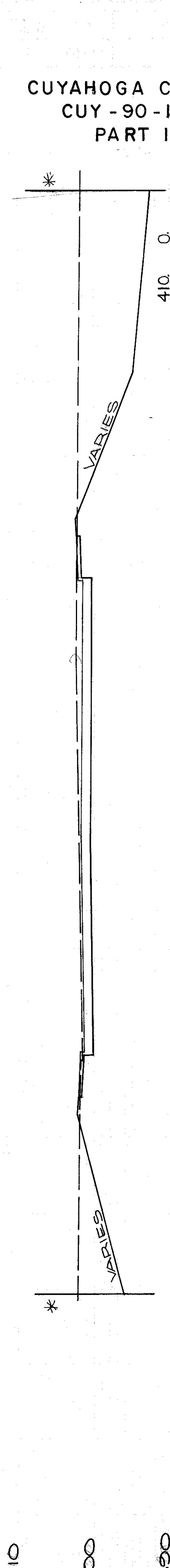
50+63.31  
701.8

180. 0

S. EDGE RELOC. LORAIN PAV'T.

NOTE: USE 30.2 FOR  
VOL. CALC.

396. 0



50+25  
702.0

410. 0

NOTE: SECTIONS ABOVE PLOTTED ON  
A LINE PARALLEL TO RELOC.  
LORAIN CL

NOTE: USE 30.8 FOR  
VOL. CALC.

1042. 0

REVISED BY: G.A.G. DATE: 7/73  
CHECKED BY: P.A.S. DATE: 6/74

CALCULATED BY: F.E.E. DATE: 6/73  
CHECKED BY: R.E.D. DATE: MAR. 72

TOTAL VOLUME: 1727. 3

CUT FILL

80

60

40

20

0

40

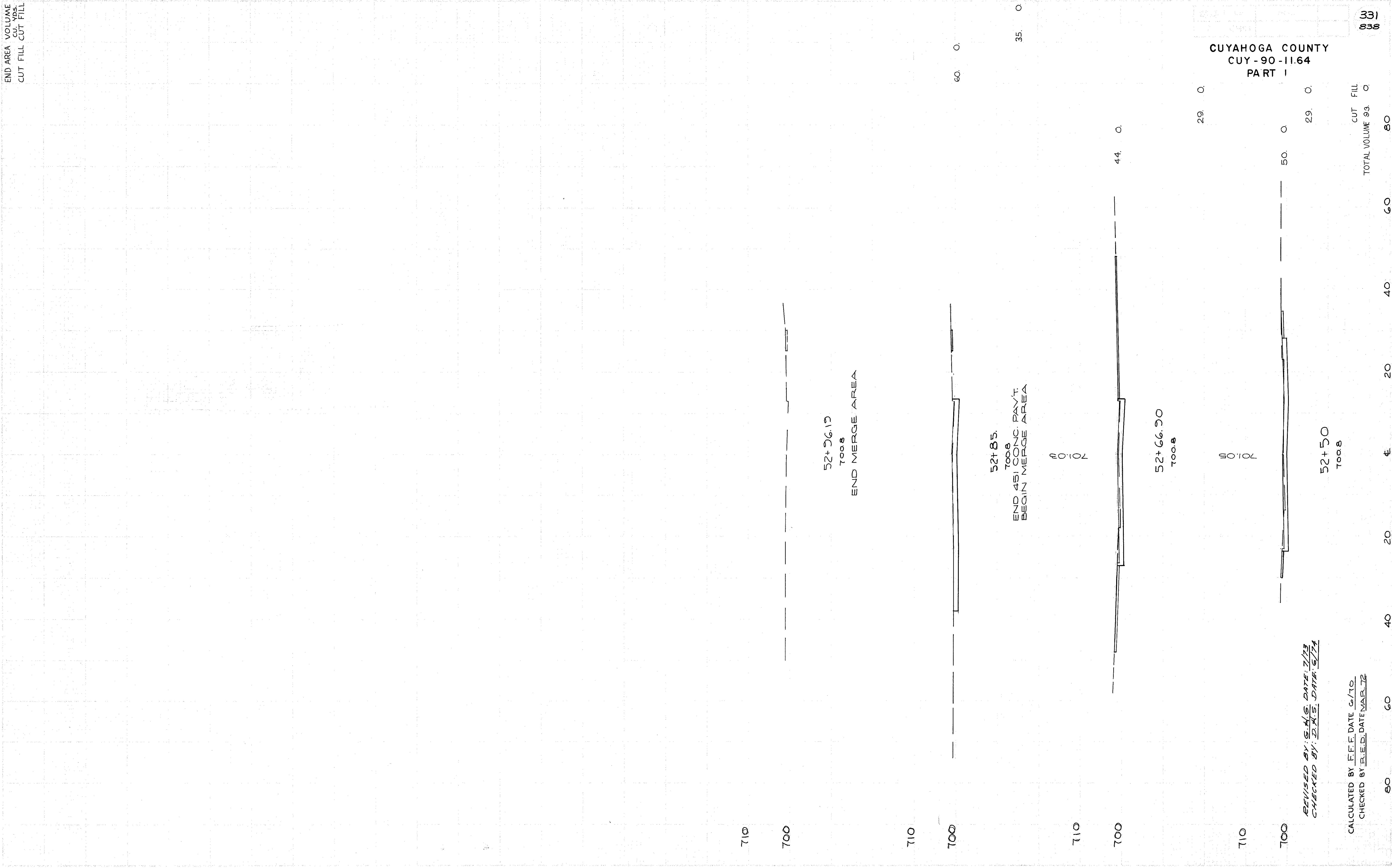
60

80

330

838

END AREA VOLUME  
CU. YDS. CUT FILL CUT FILL



CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

REVISED BY: S.H.S. DATE: 7/73  
CHECKED BY: D.A.S. DATE: 6/74

CALCULATED BY: F.F.F. DATE: 6/10  
CHECKED BY: R.E.D. DATE: MAR 72

TOTAL VOLUME CUT FILL  
93.0 80

331  
838

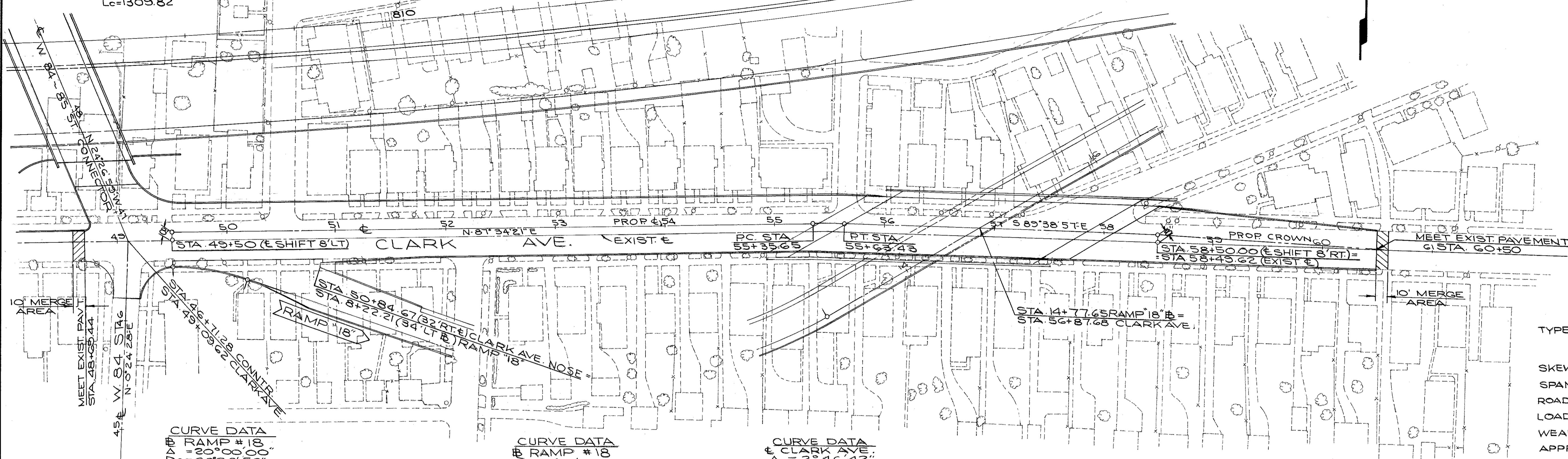
**CURVE DATA**  
 # I-90  
 $\Delta = 9^{\circ}49'25''$  LT.  
 $D_c = 0^{\circ}45'00''$   
 $R = 7639.44'$   
 $T = 656.52'$   
 $L_c = 1309.82'$

**CURVE DATA**  
 # RAMP #18  
 $\Delta = 13^{\circ}58'57''$   
 $D_c = 0^{\circ}00'00''$   
 $R = 716.20'$   
 $T = 87.83'$   
 $L_c = 174.78'$   
 $P.I. = STA. 16+78.05$

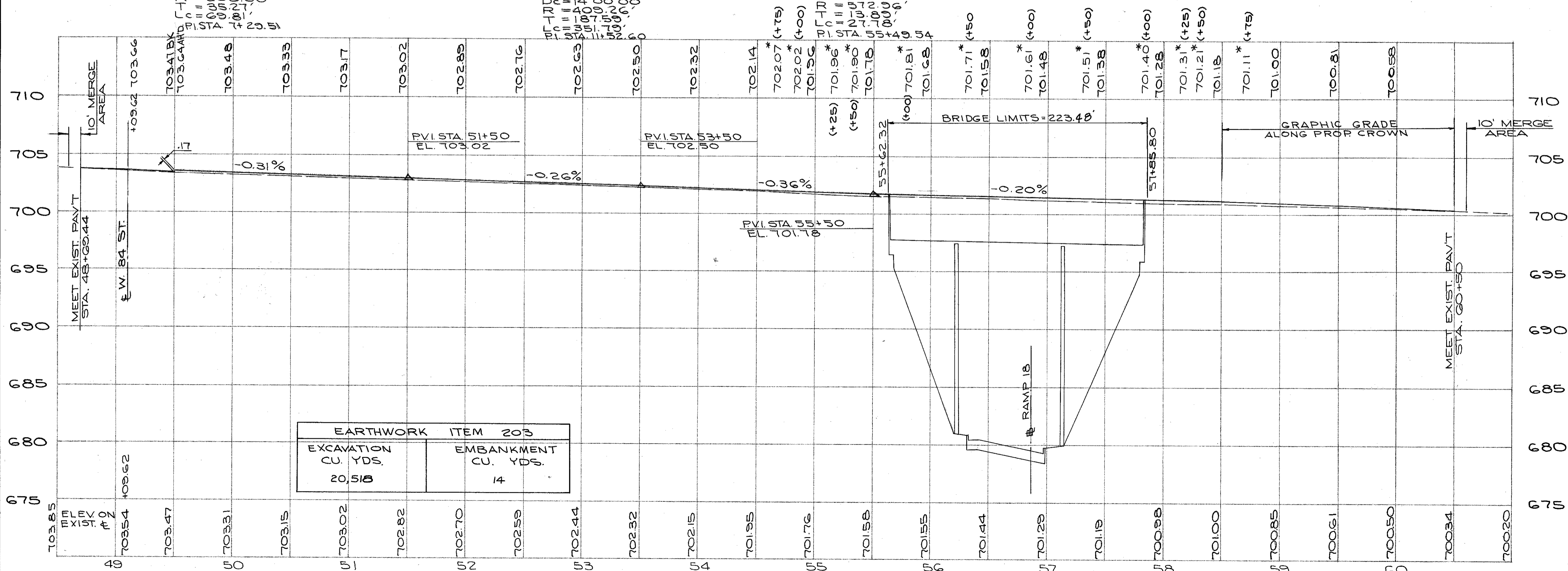
FED. RD.	STATE	PROJECT
2	OHIO	

332  
338

**CUYAHOGA COUNTY**  
**CUY-90-11.64**  
**PART I**



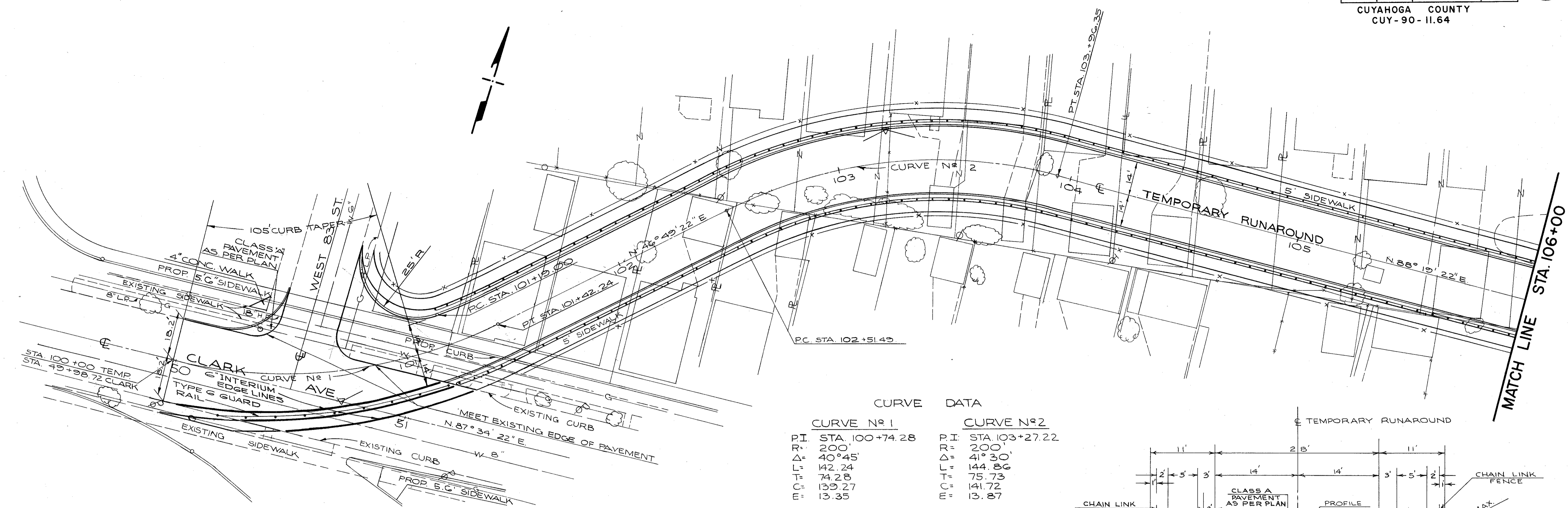
**CUY-90-1210**  
**STRUCTURE DATA**  
 TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.  
 SKEW:  $57^{\circ}58'18''$  L.F.  
 SPANS:  $59'-9''$ ,  $86'-0''$ ,  $68'-8''$   
 ROADWAY: 52' F/F 6'S/W LT. & RT.  
 LOADING: HS 20-44  
 WEARING SURFACE: 1 1/2" ASPHALT  
 APPROACH SLABS: 25' LONG (Special)  
 ALIGNMENT:  $10^{\circ}00'00''$  CURVE RT. & TANGENT  
 SUPERELEVATION: NONE  
 SLOPE PROTECTION: CRUSHED AGGREGATE



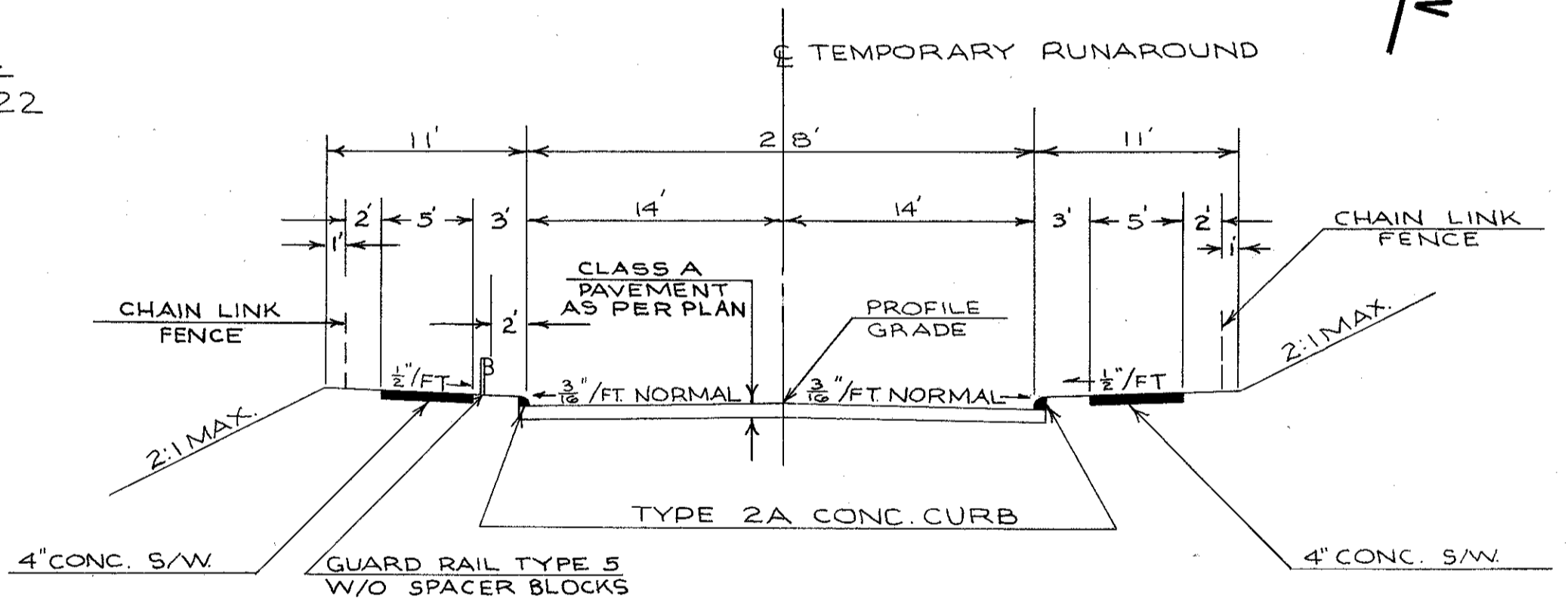
\* NOTE  
 ELEVATION SHOWN WITH \* ARE ADJUSTED TO ADD 1/2" WEARING SURFACE ON BRIDGE.

CALCULATED BY G.H.G. DATE 6-73  
 CHECKED BY D.H.S. DATE 12-73

**CLARK AVE.**  
**STA. 48+50.00 TO STA. 61+00.00**

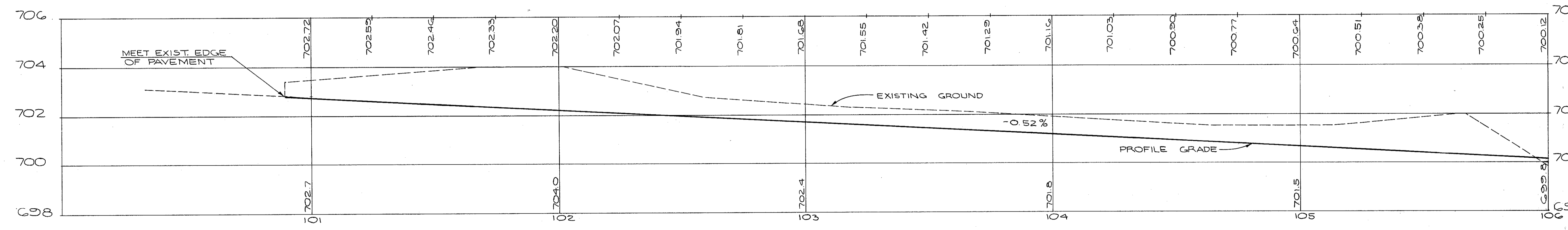


CURVE NO 1		CURVE NO 2	
P.I.	STA. 100+74.28	P.I.	STA. 103+27.22
R.	200'	R.	200'
Δ	40°45'	Δ	41°30'
L	142.24	L	144.86
T	74.28	T	75.73
C	139.27	C	141.72
E	13.35	E	13.87

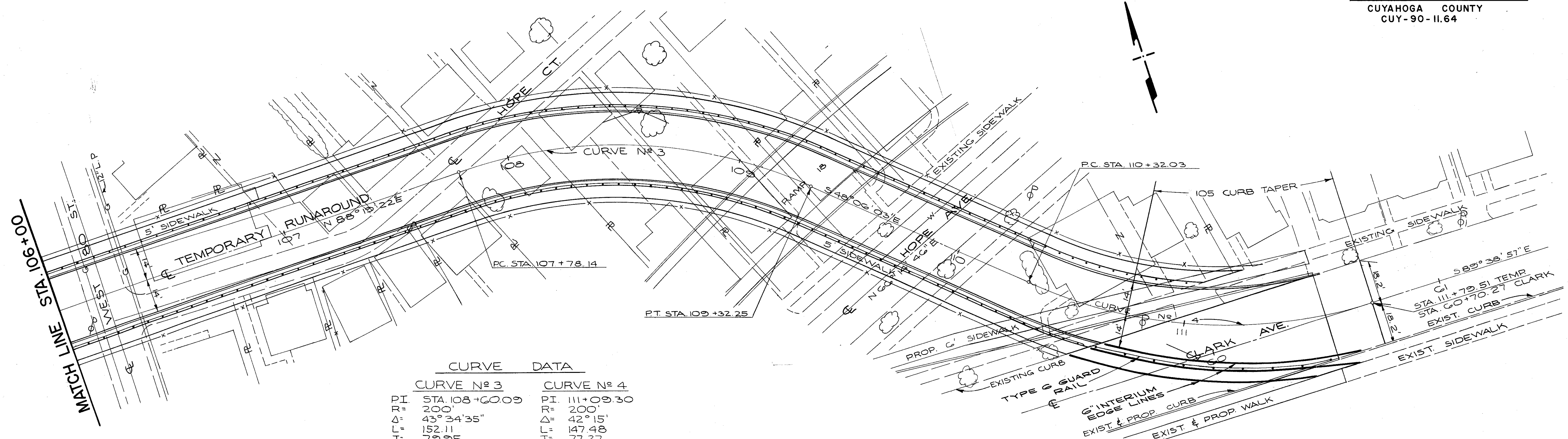


NOTE: FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET NO. 66

NOTE: WHERE TEMPORARY PAVEMENT CLASS "A" AS PER PLAN IS CALLED FOR, THE CONTRACTOR SHALL USE RIGID PAVEMENT AS DESCRIBED UNDER 615.05. THIS ITEM WILL BE PAID FOR AT UNIT PRICE BID ITEM 615 TEMPORARY PAVEMENT CLASS "A" AS PER PLAN.

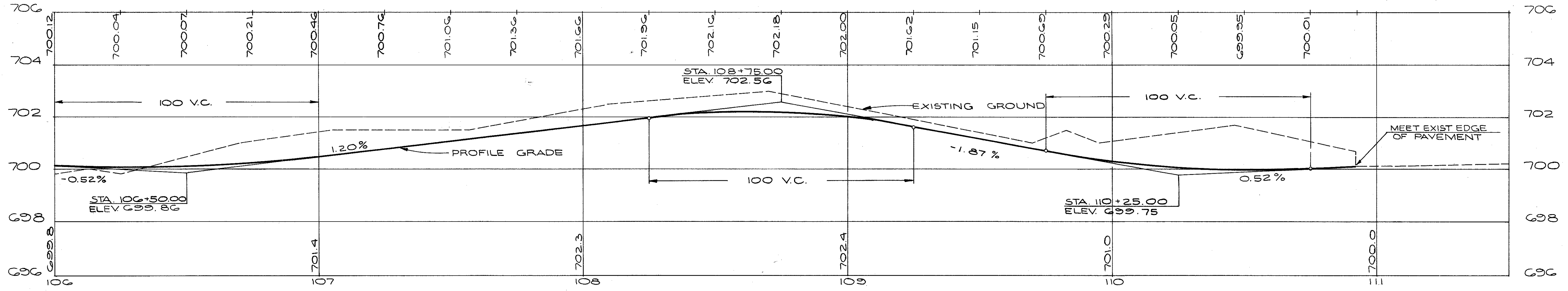


STA. 100+00 TO STA. 106+00  
CLARK AVE.  
TEMPORARY RUNAROUND



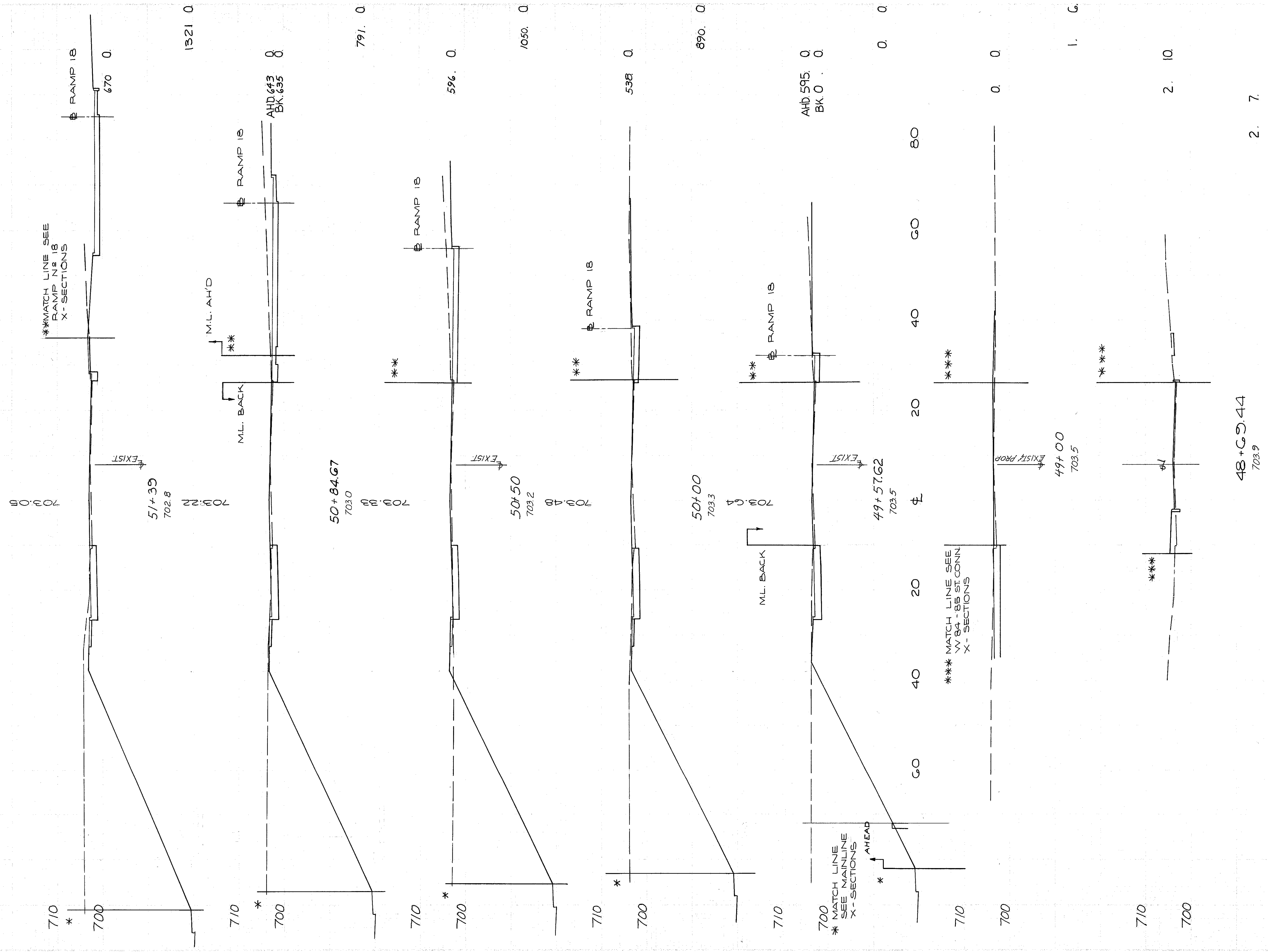
CURVE DATA	
CURVE No. 3	CURVE No. 4
PI STA. 108+60.09	PI. 111+09.30
R= 200'	R= 200'
Δ= 43°34'35"	Δ= 42°15'
L= 152.11	L= 147.48
T= 79.95	T= 77.27
C= 148.47	C= 144.16
E= 15.39	E= 14.40

NOTE: FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET N° 67 FOR TYPICAL SECTION TEMPORARY RUNAROUND SEE SHEET N° 333



STA. 106+00 TO END  
CLARK AVE.  
TEMPORARY RUNAROUND

END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL



CUYAHOGA COUNTY  
CUY-90-11.64  
PART 1

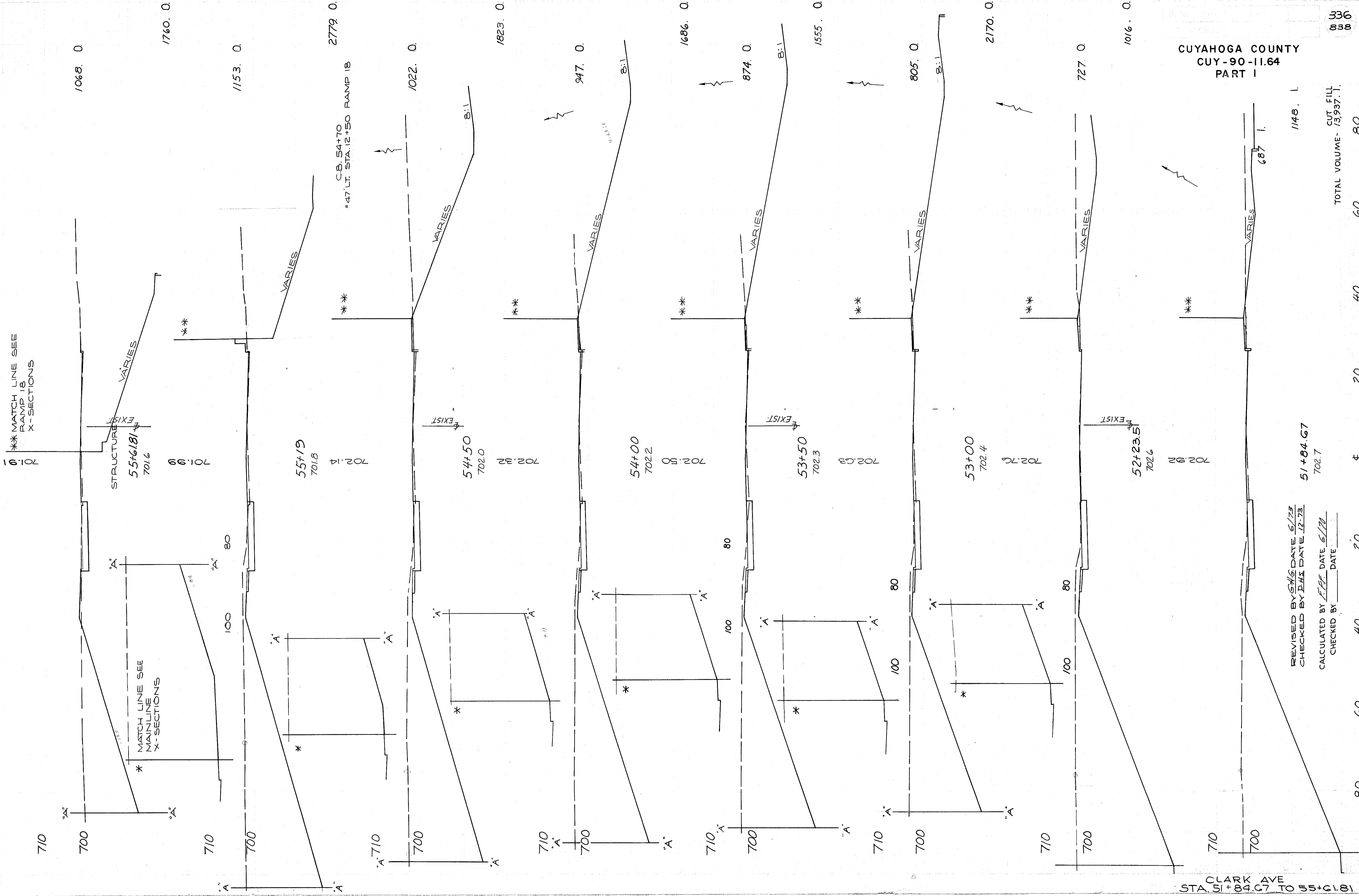
CALCULATED BY EEF DATE 6/70  
CHECKED BY DATE DATE  
REVISED BY DATE DATE 6/73  
CHECKED BY D.H.S. DATE 12-73

CLARK AVE  
STA. 48+10 TO STA. 51+39

TOTAL VOLUME - CUT FILL  
4055 13

335  
838

ADI ARC END AREA VOLUME  
LENGTH CUT FILL CUT FILL CUT FILL



CLARK AVE  
STA. 51+84.67 TO 55+61.81

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

REVISED BY SAK DATE 6/23  
CHECKED BY DHS DATE 12-73  
CALCULATED BY FFF DATE 6/77  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

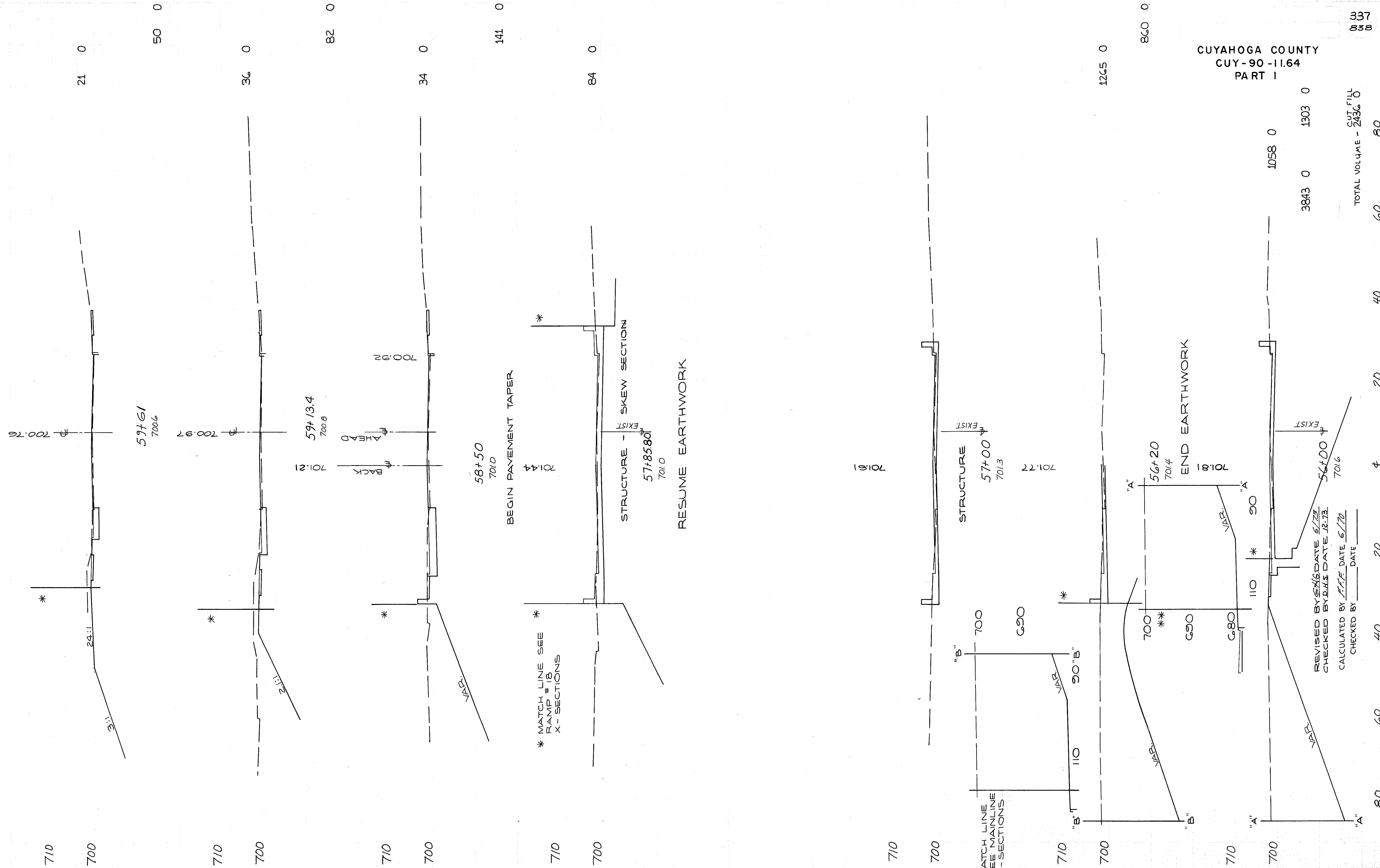
51+84.67  
702.7

1148.1

TOTAL VOLUME - 75937.1

336  
838

ADJ. ARC END AREA VOLUME  
LENGTH CU. YDS.  
CUT FILL CUT FILL CUT FILL



CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

337  
838

TOTAL VOLUME - 2436 0

CUT FILL

60

40

20

4

20

40

60

CLARK AVE  
STA. 56+00 TO 59+61

REVISED BY SEE DATE 6/23  
CHECKED BY DATE 12-13  
CALCULATED BY DATE 6/20  
CHECKED BY DATE

\* MATCH LINE SEE  
RAMP #18  
X-SECTIONS

\*\* MATCH LINE  
SEE MAINLINE  
X-SECTIONS

BEGIN PAYEMENT TAPER

STRUCTURE - SKEW SECTION

RESUME EARTHWORK

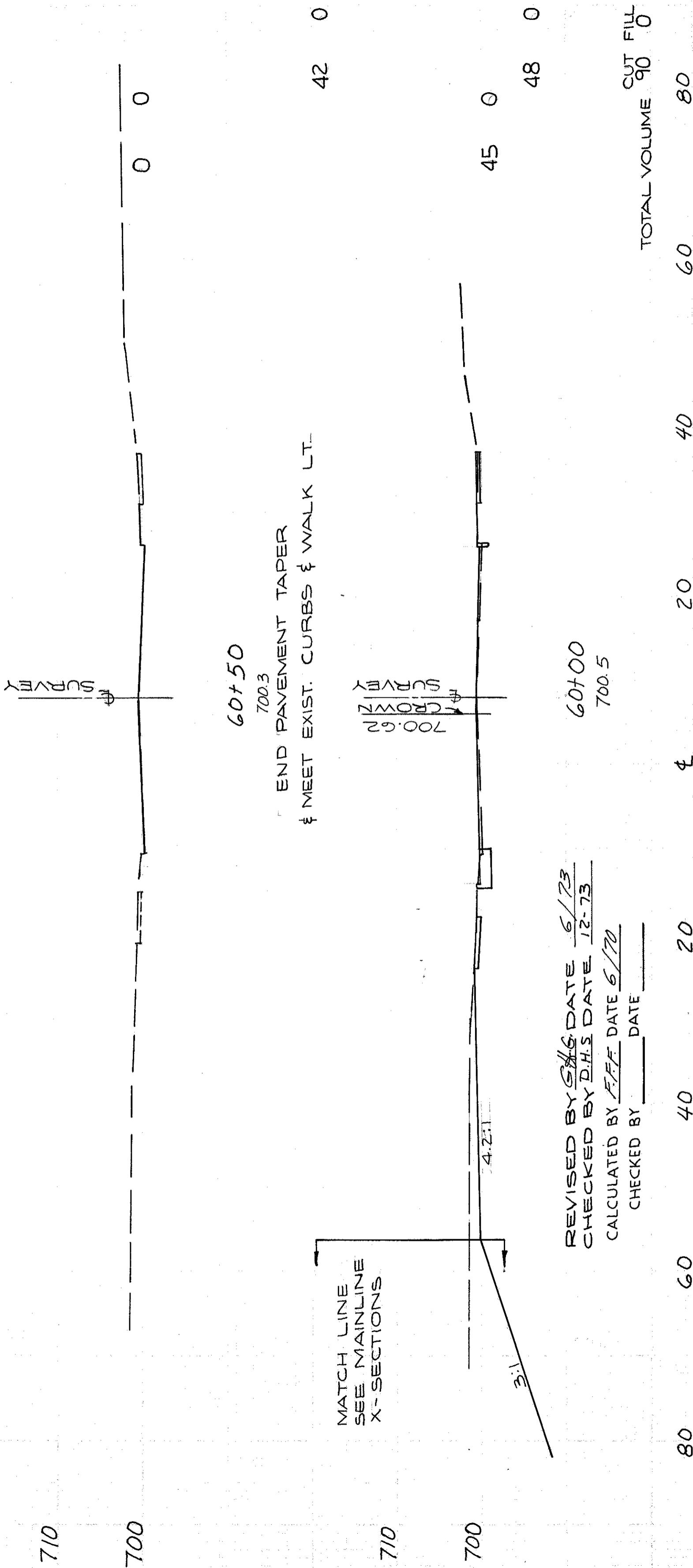
END EARTHWORK



END AREA VOLUME  
CUT FILL CUT FILL

CUYAHOGA COUNTY  
CUY -90 -11.64  
PART I

338  
838



60+50

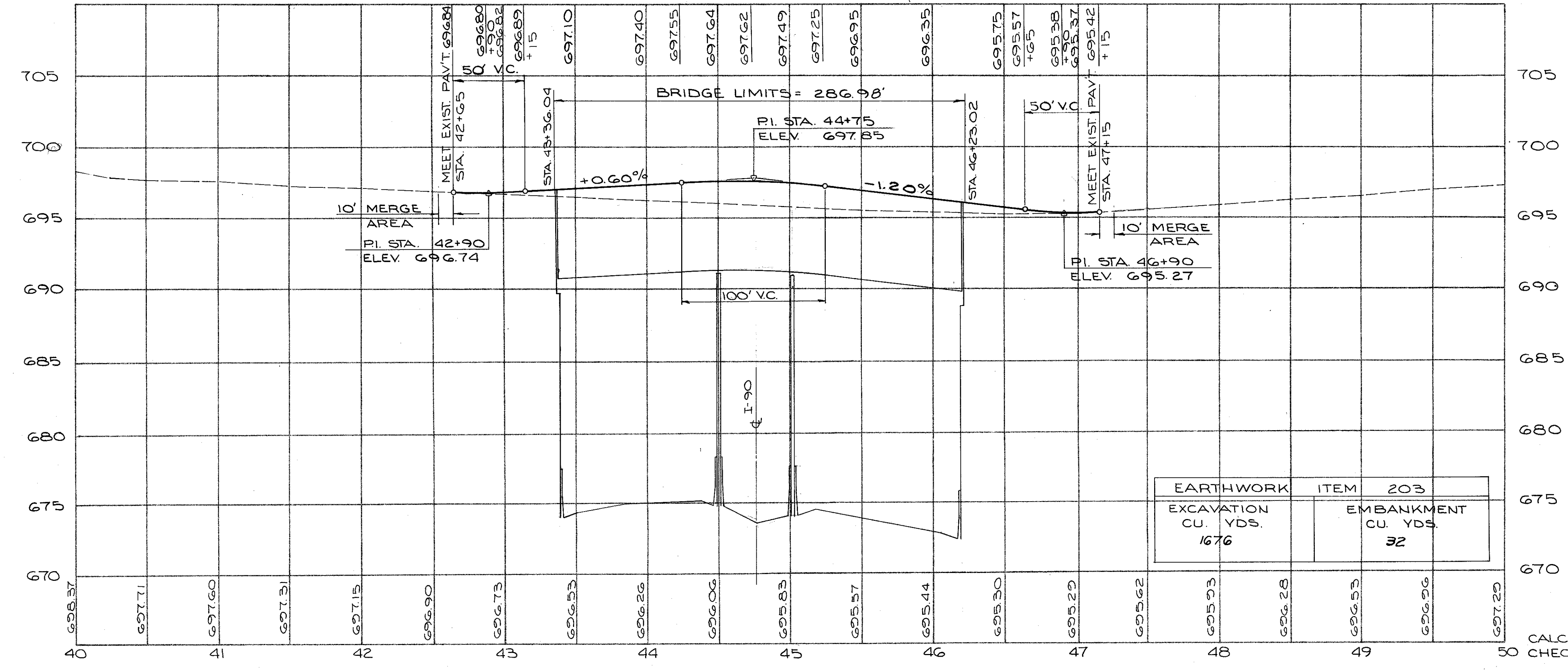
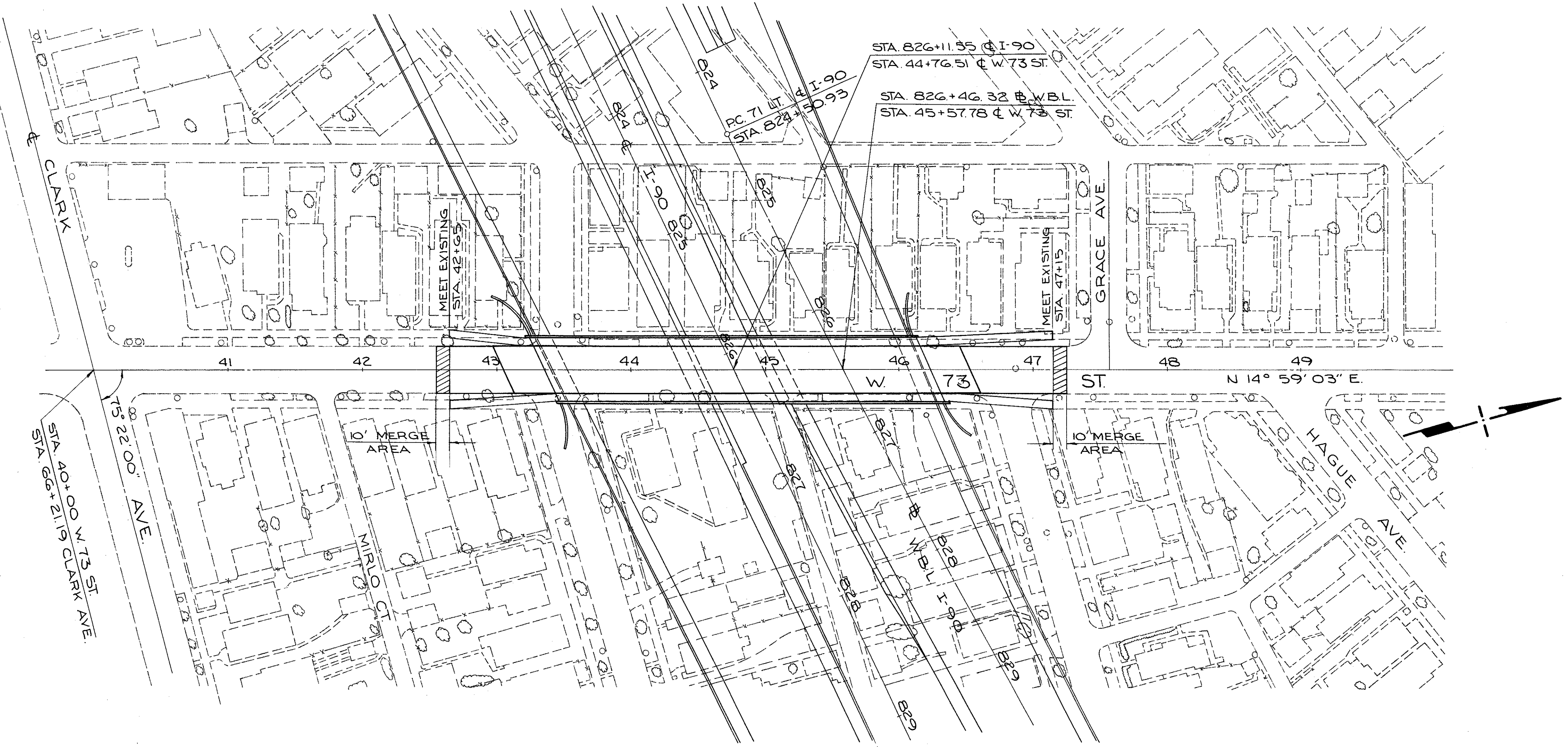
END PAVEMENT TAPER  
& MEET EXIST. CURBS & WALK LT.

MATCH LINE  
SEE MAINLINE  
X-SECTIONS

REVISED BY SM DATE 6/23  
CHECKED BY DMS DATE 12-73  
CALCULATED BY FFF DATE 6/70  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

TOTAL VOLUME CUT FILL  
90 0

CLARK AVE  
STA 60+00 TO 60+50



EARTHWORK	ITEM	203
EXCAVATION CU. YDS.		1676
	EMBANKMENT CU. YDS.	32

CURVE DATA  
# WESTBOUND I-90  
Δ = 18° 30' 37"  
D<sub>c</sub> = 0° 45' 13"  
R = 7603.44'  
T = 1238.99'  
L<sub>c</sub> = 2456.40'

CUY-90-1233  
STRUCTURE DATA  
TYPE: CONTINUOUS WELDED STEEL PLATE  
GIRDERS WITH REINFORCED CONC.  
DECK AND SUBSTRUCTURES  
SKEW: 25°-14'-49" RF  
SPANS: 112'-0", 52'-0", 118'-0" 1/2 BRG  
ROADWAY: 36'-0" 5/8 CURBS, 6'-0" SIDEWALK  
RT. AND LT.  
LOADING: HS 20-44  
WEARING SURFACE: 2 1/2" ASPHALT  
APPROACH SLABS: 30' LONG (AS-1-72)  
ALIGNMENT: TANGENT  
SUPERELEVATION: NONE  
SLOPE PROTECTION: NONE REQUIRED

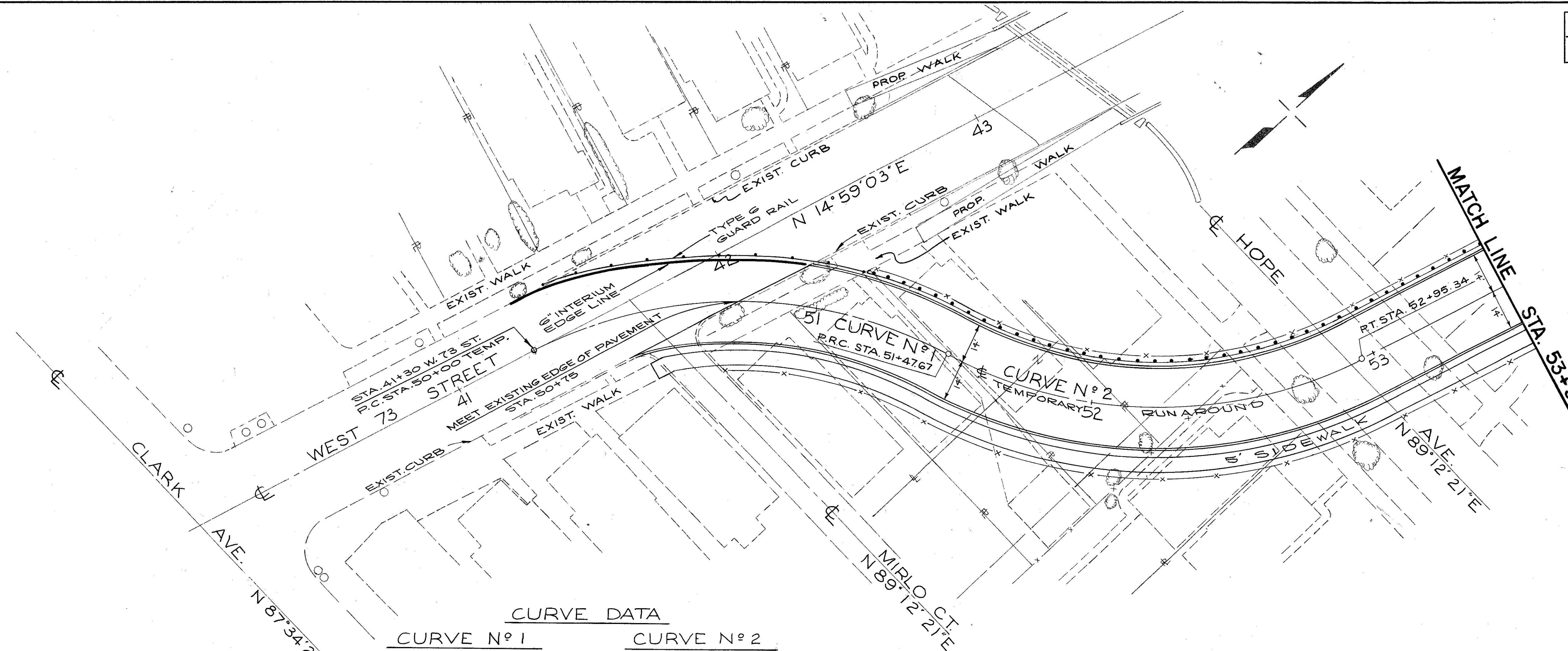
CALCULATED BY G.H.G. DATE 6/73  
CHECKED BY D.H.S. DATE 12-73

W. 73 ST.  
STA. 40+00 TO STA. 50+00

FED. RD.	STATE	PROJECT
2	OHIO	

340  
838

CUYAHOGA COUNTY  
CUY-90-11.64



CURVE DATA

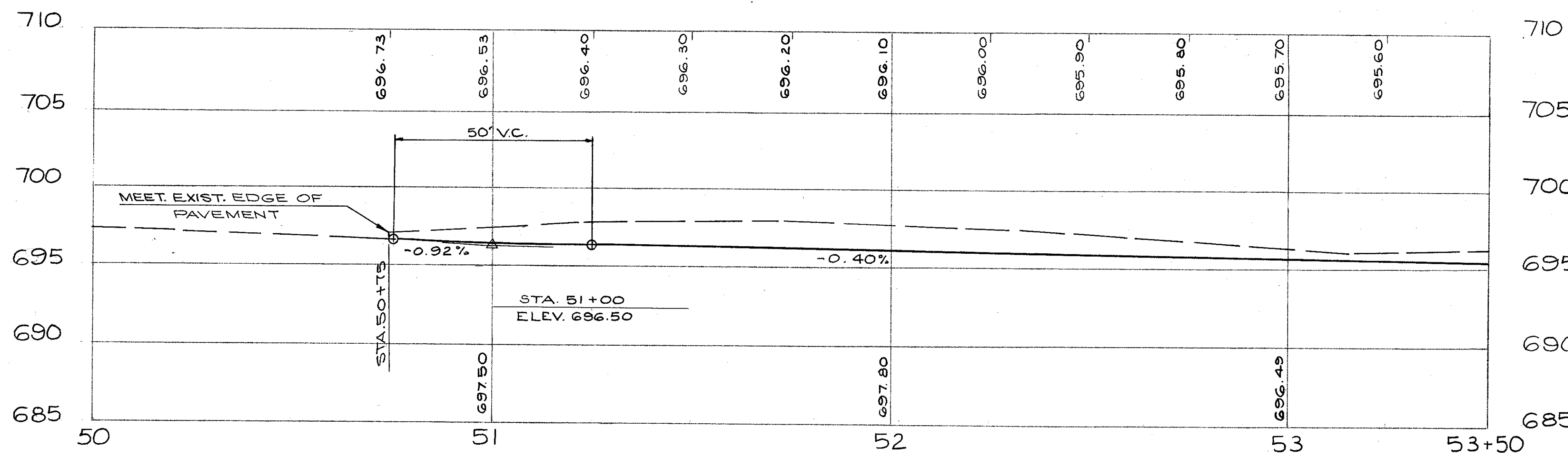
CURVE N° 1

PI. STA. 50+80.44  
 $\Delta = 56^{\circ} 24' 15''$   
 $D_c = 38' 11' 50''$   
 $R = 150'$   
 $T = 80.44'$   
 $L_c = 147.67'$   
 $E = 141.77'$   
 $F = 20.21'$

CURVE N° 2

PI. STA. 52+28.11  
 $\Delta = 56^{\circ} 24' 15''$   
 $D_c = 38' 11' 50''$   
 $R = 150'$   
 $T = 80.44'$   
 $L_c = 147.67'$   
 $E = 141.77'$   
 $F = 20.21'$

NOTE:  
 FOR DETAILS ON PROPOSED SIDEWALK  
 AND CURB SEE SH'T N° 68  
 FOR TYPICAL SECTION TEMPORARY  
 RUNAROUND SEE SH'T N° 333



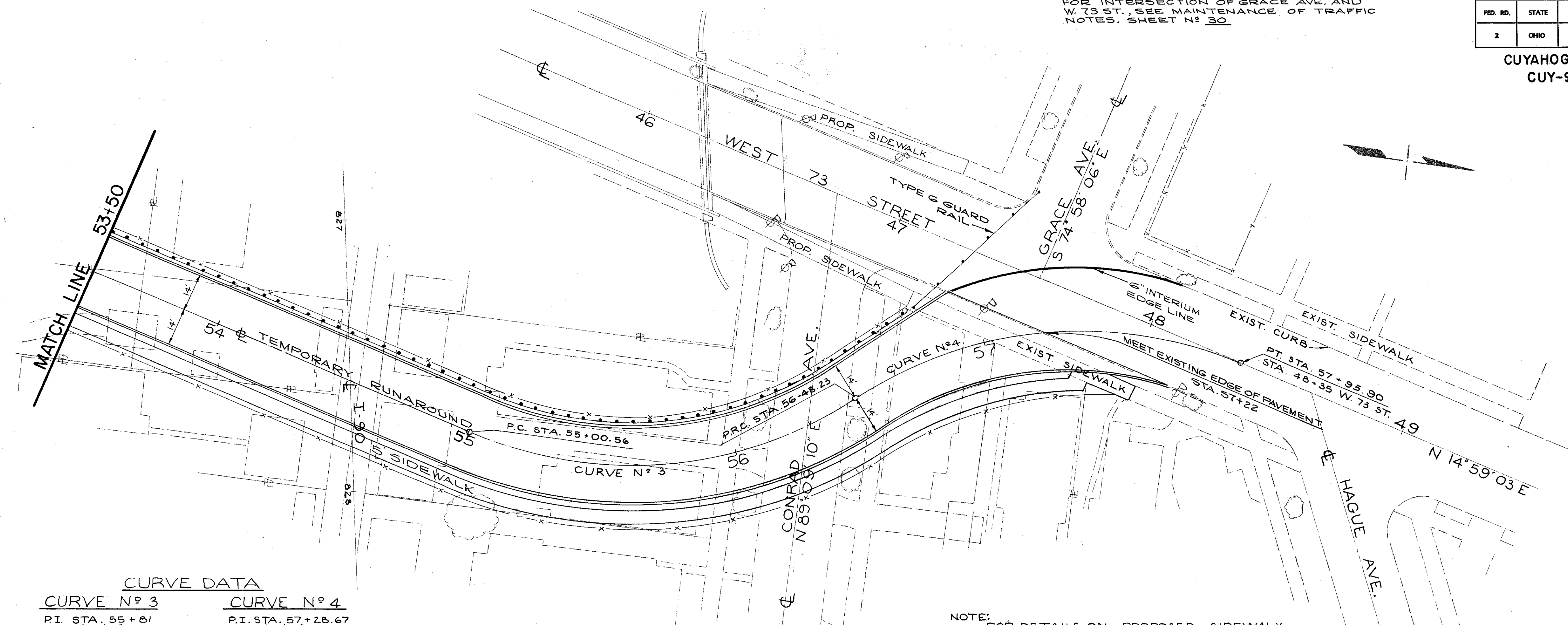
STA. 50+00 TO STA. 53+50  
 W. 73 ST.  
 TEMPORARY RUNAROUND

FOR INTERSECTION OF GRACE AVE. AND W. 73 ST., SEE MAINTENANCE OF TRAFFIC NOTES. SHEET N<sup>o</sup> 30

FED. RD.	STATE	PROJECT
2	OHIO	

341  
838

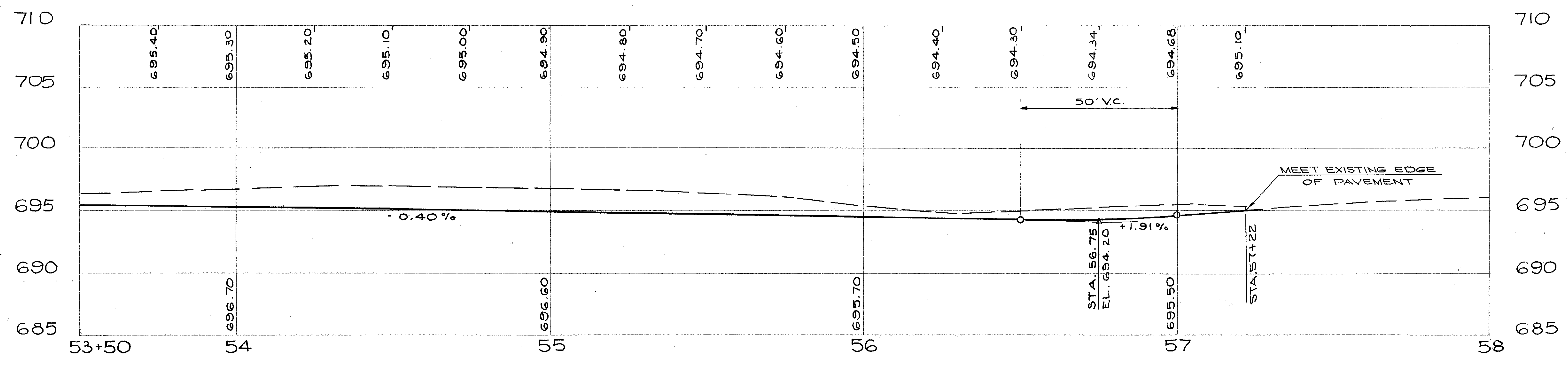
CUYAHOGA COUNTY  
CUY-90-11.64



**CURVE DATA**

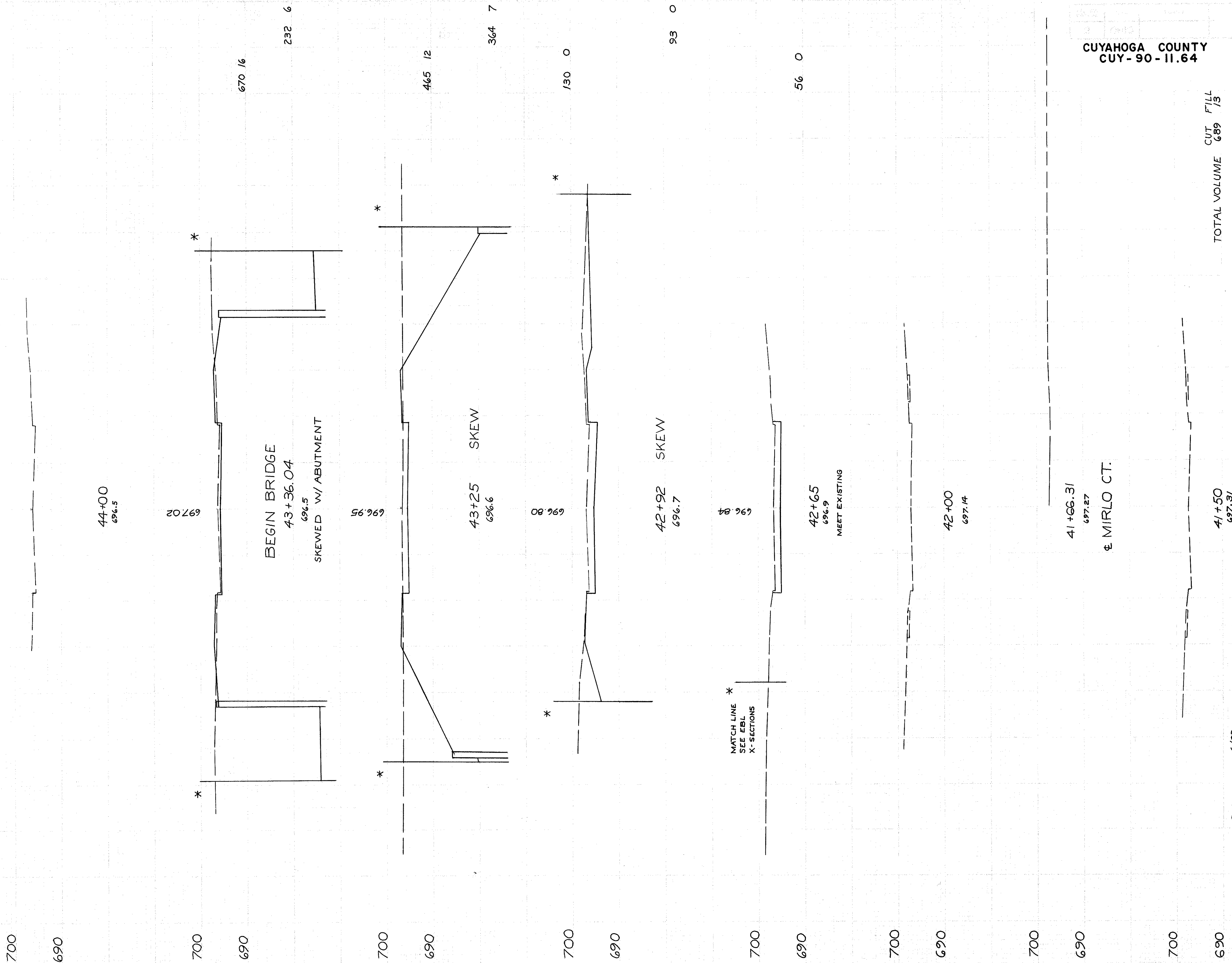
CURVE N <sup>o</sup> 3	CURVE N <sup>o</sup> 4
P.I. STA. 55+81	P.I. STA. 57+28.67
Δ 56° 24' 15"	Δ 56° 24' 15"
Dc 38° 11' 50"	Dc 38° 11' 50"
P 150'	P 150'
T 80.44'	T 80.44'
Lc 147.67'	Lc 147.67'
MC 141.77'	MC 141.77'
PC 20.21'	PC 20.21'

NOTE:  
FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET N<sup>o</sup> 30  
FOR TYPICAL SECTION TEMPORARY RUNAROUND SEE SHEET N<sup>o</sup> 33



STA. 53+50 TO END  
W. 73 ST.  
TEMPORARY RUNAROUND

END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL



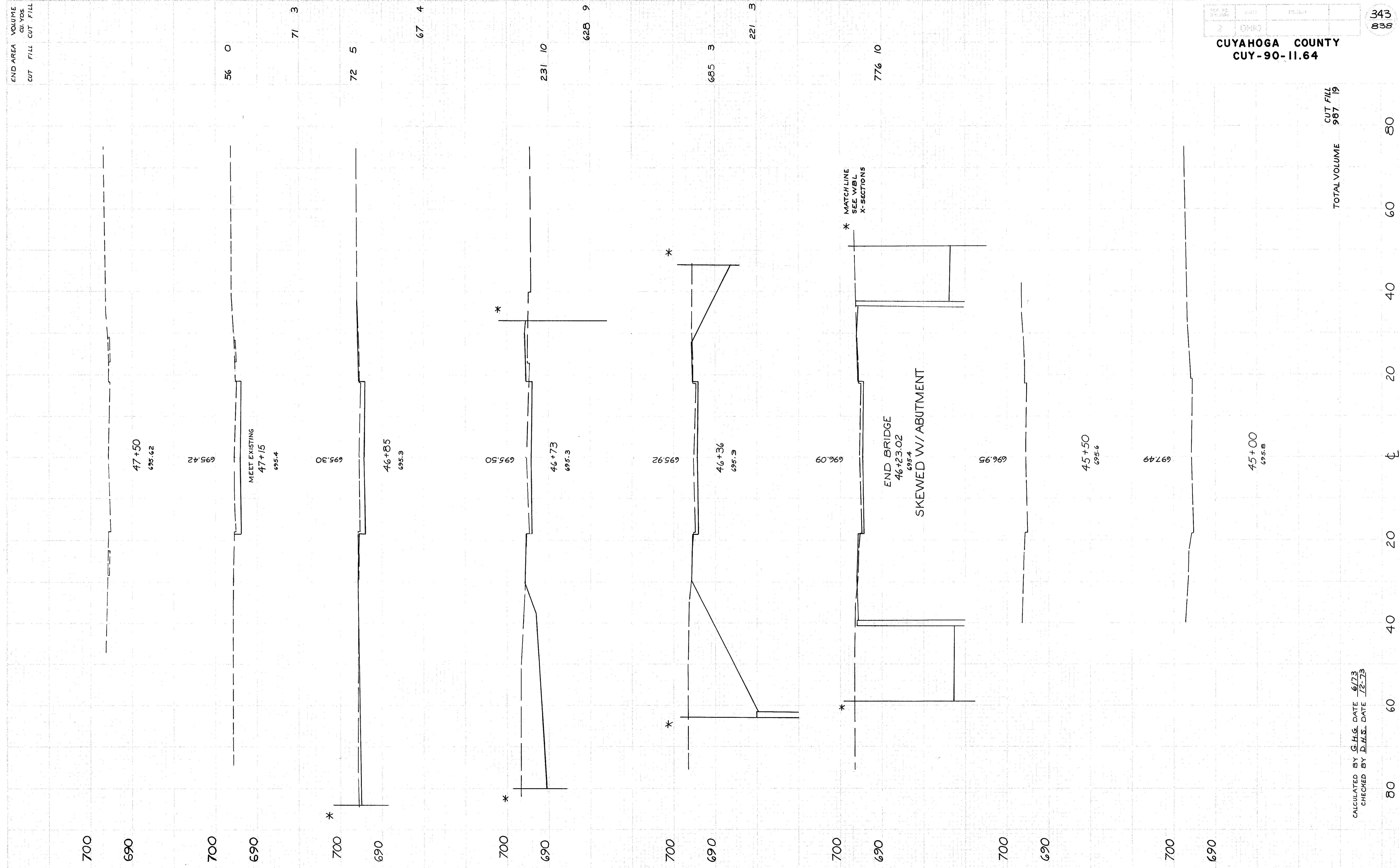
CUYAHOGA COUNTY  
CUY-90-11.64

342  
838

TOTAL VOLUME CUT FILL  
689 73

CALCULATED BY G.H.L. DATE 6/23  
CHECKED BY D.H.S. DATE 12-73

W 73 RD. ST.  
STA 41+50 TO 44+00



END AREA  
 VOLUME  
 CU. YDS.  
 CUT FILL CUT FILL

TOTAL VOLUME  
 CUT FILL  
 967 19

80 60 40 20 0 20 40 60 80

CALCULATED BY G.H.G. DATE 6/73  
 CHECKED BY D.H.S. DATE 12-73

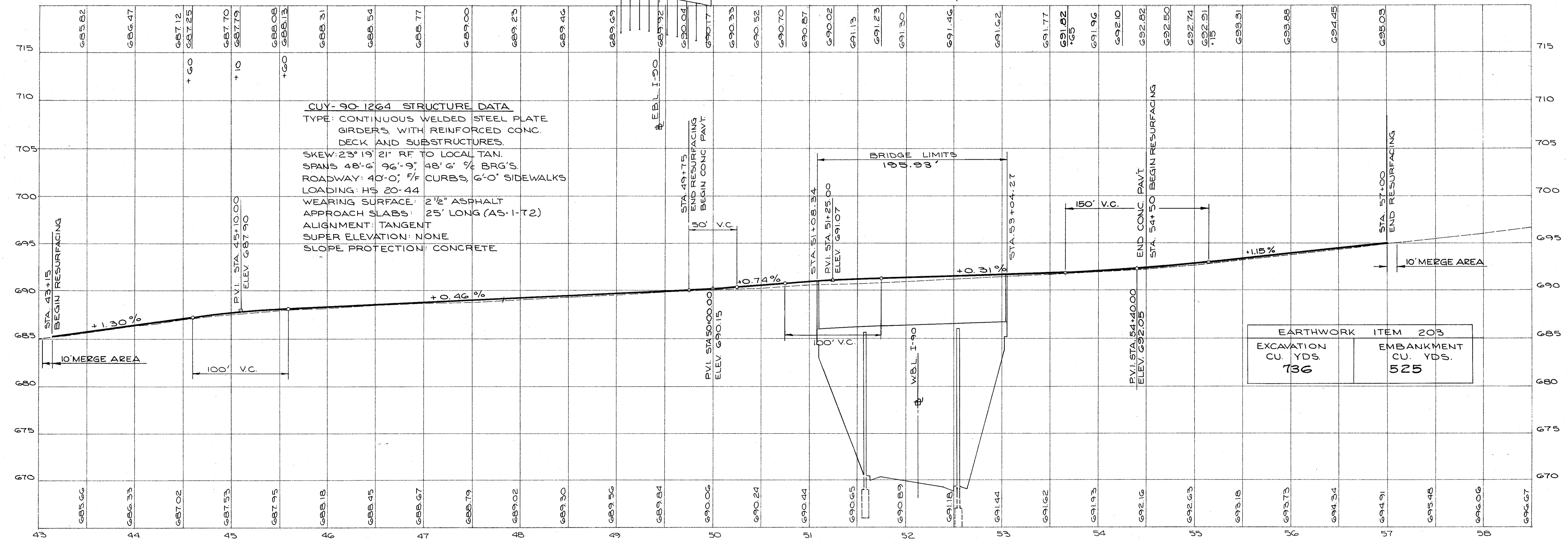
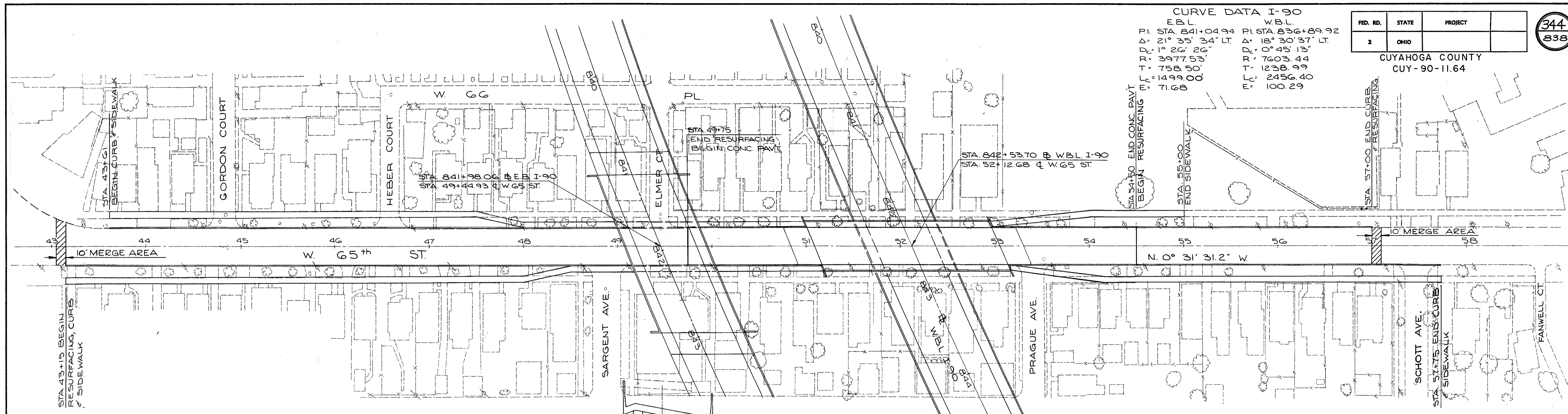
W73 RD. ST.  
 STA 45+00 TO 47+50

CURVE DATA I-90  
 E.B.L. W.B.L.  
 P.I. STA. 841+04.94 P.I. STA. 836+89.92  
 Δ: 21° 35' 34" LT Δ: 18° 30' 37" LT  
 P: 1' 20' 26" P: 0' 40' 13"  
 R: 3977.53' R: 7603.44'  
 T: 758.50' T: 1209.99'  
 L: 1499.00' L: 2406.40'  
 E: 71.68' E: 100.29'

FED. RD.	STATE	PROJECT
2	OHIO	

344  
838

CUYAHOGA COUNTY  
CUY-90-11.64

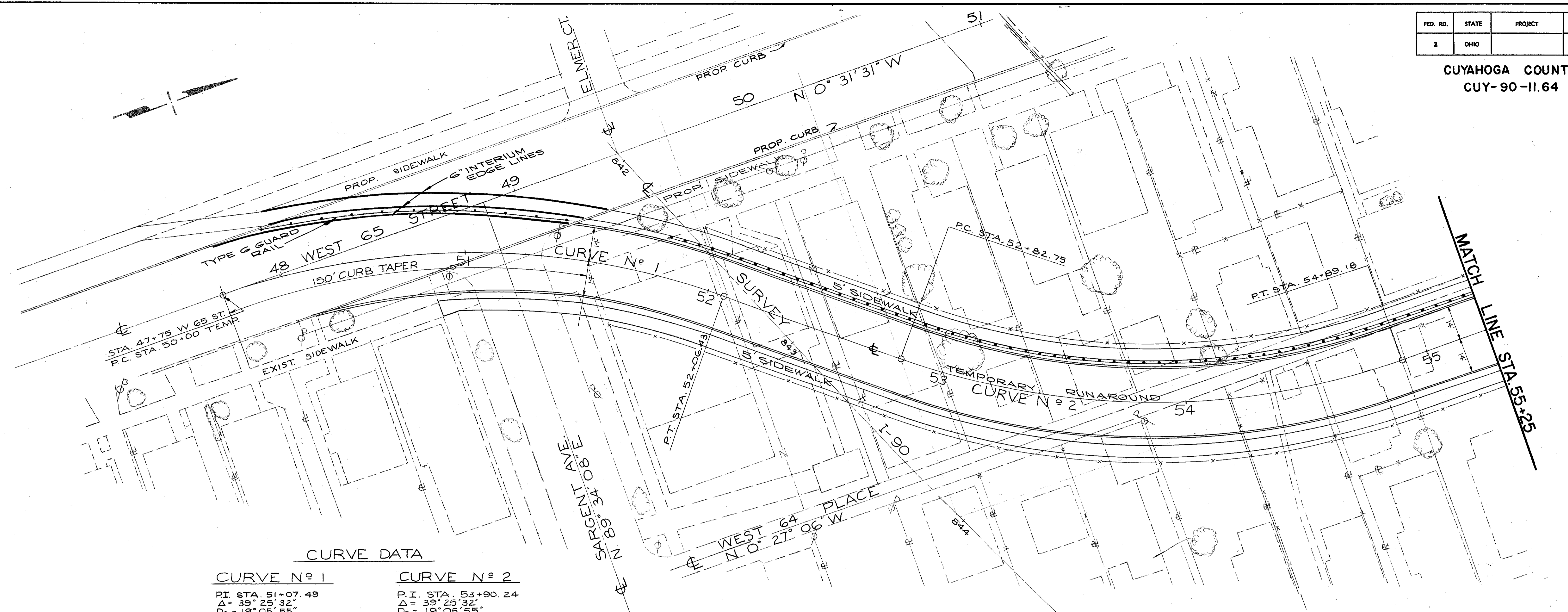


**CUY-90-1264 STRUCTURE DATA**  
 TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONC. DECK AND SUBSTRUCTURES.  
 SKEW: 23° 19' 21" RF TO LOCAL TAN.  
 SPANS 48'-6" 96'-9" 48'-6" 3/8 BRG'S.  
 ROADWAY: 40'-0"; 7/8 CURBS, 6'-0" SIDEWALKS  
 LOADING: HS 20-44  
 WEARING SURFACE: 2 1/2" ASPHALT  
 APPROACH SLABS: 25' LONG (AS-1-T2)  
 ALIGNMENT: TANGENT  
 SUPER ELEVATION: NONE  
 SLOPE PROTECTION: CONCRETE

CALCULATED BY G.H.G. DATE 6-73  
 CHECKED BY D.H.S. DATE 12-73

W. 65 ST. STA. 43+00 TO STA. 57+85

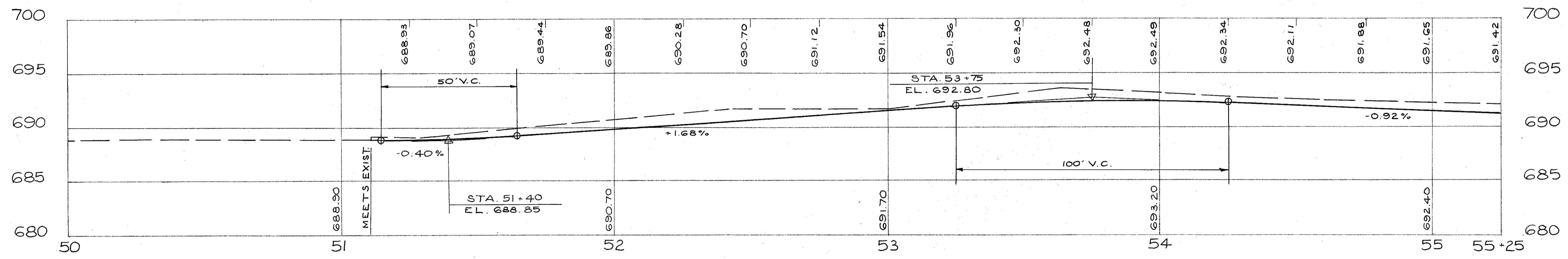
CUYAHOGA COUNTY  
CUY-90-11.64



CURVE DATA

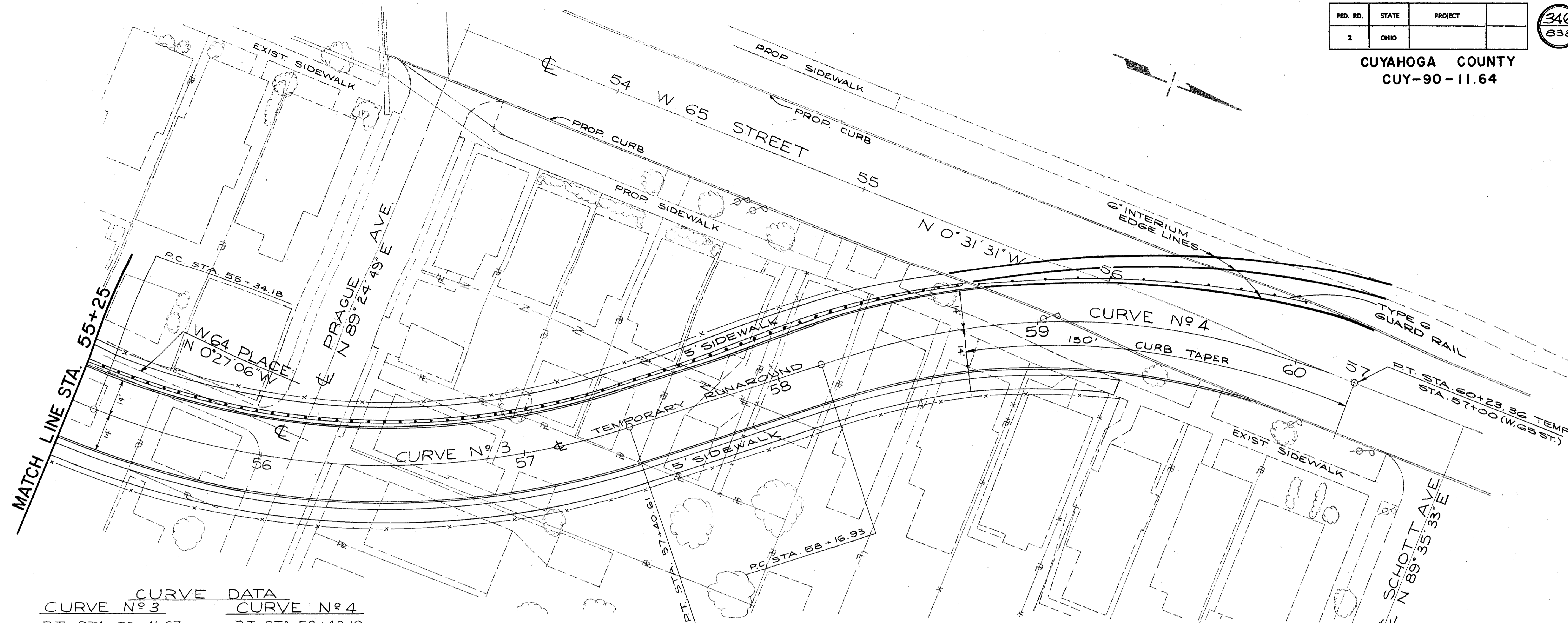
CURVE No 1	CURVE No 2
P.I. STA. 51+07.49	P.I. STA. 53+90.24
$\Delta = 39^{\circ} 25' 32''$	$\Delta = 39^{\circ} 25' 32''$
$D_c = 19^{\circ} 05' 55''$	$D_c = 19^{\circ} 05' 55''$
$R = 300'$	$R = 300'$
$T = 107.49'$	$T = 107.49'$
$L = 206.43'$	$L = 206.43'$
$PC = 202.38'$	$PC = 202.38'$
$EC = 18.68'$	$EC = 18.68'$

NOTE FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET No 69 FOR TYPICAL SECTION TEMPORARY RUNAROUND SEE SHEET No 333



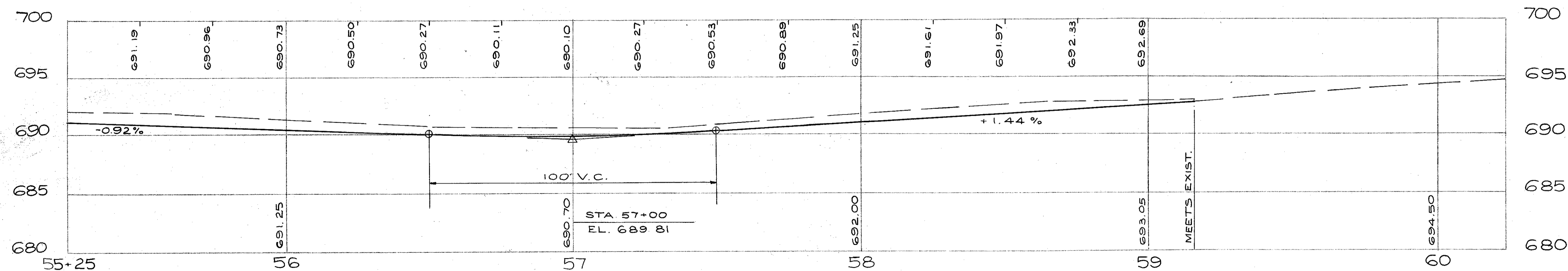
STA. 50+00 TO STA. 55+25  
W. 65 ST.  
TEMPORARY RUNAROUND





CURVE DATA	
CURVE No 3	CURVE No 4
P.I. STA. 56+41.67	P.I. STA. 58+48.10
Δ = 39° 25' 32"	Δ = 39° 25' 32"
Dc = 19° 05' 55"	Dc = 19° 05' 55"
R = 300'	R = 300'
T = 107.49'	T = 107.49'
L = 206.43'	L = 206.43'
C = 202.38'	C = 202.38'
E = 18.68'	E = 18.68'

NOTE: FOR DETAILS ON PROPOSED SIDEWALK AND CURB SEE SHEET No 69  
FOR TYPICAL SECTION OF TEMPORARY RUNAROUND SEE SHEET No 333



STA. 55+25 TO END  
W. 65 ST.  
TEMPORARY RUNAROUND

END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL

688.08

2 2

45+50  
688.0

2 13

687.20

0 12

45+00  
687.5

11 11

687.12

12 0

44+50  
687.0

16 4

686.47

5 4

44+00  
686.3

7 6

STA. 43+61  
BEGIN NEW WALK &  
CURB REPLACEMENT LT.

685.82

3 3

43+50  
685.7

2 3

685.49

2 3

43+24  
685.3

1 1

685.17

STA. 43+15  
BEGIN NEW WALK & CURB RT.

43+00  
685.1

42+50  
684.4

42+00  
684.2

CALCULATED BY G.H.G. DATE 6-73  
CHECKED BY D.H.S. DATE 12-73

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

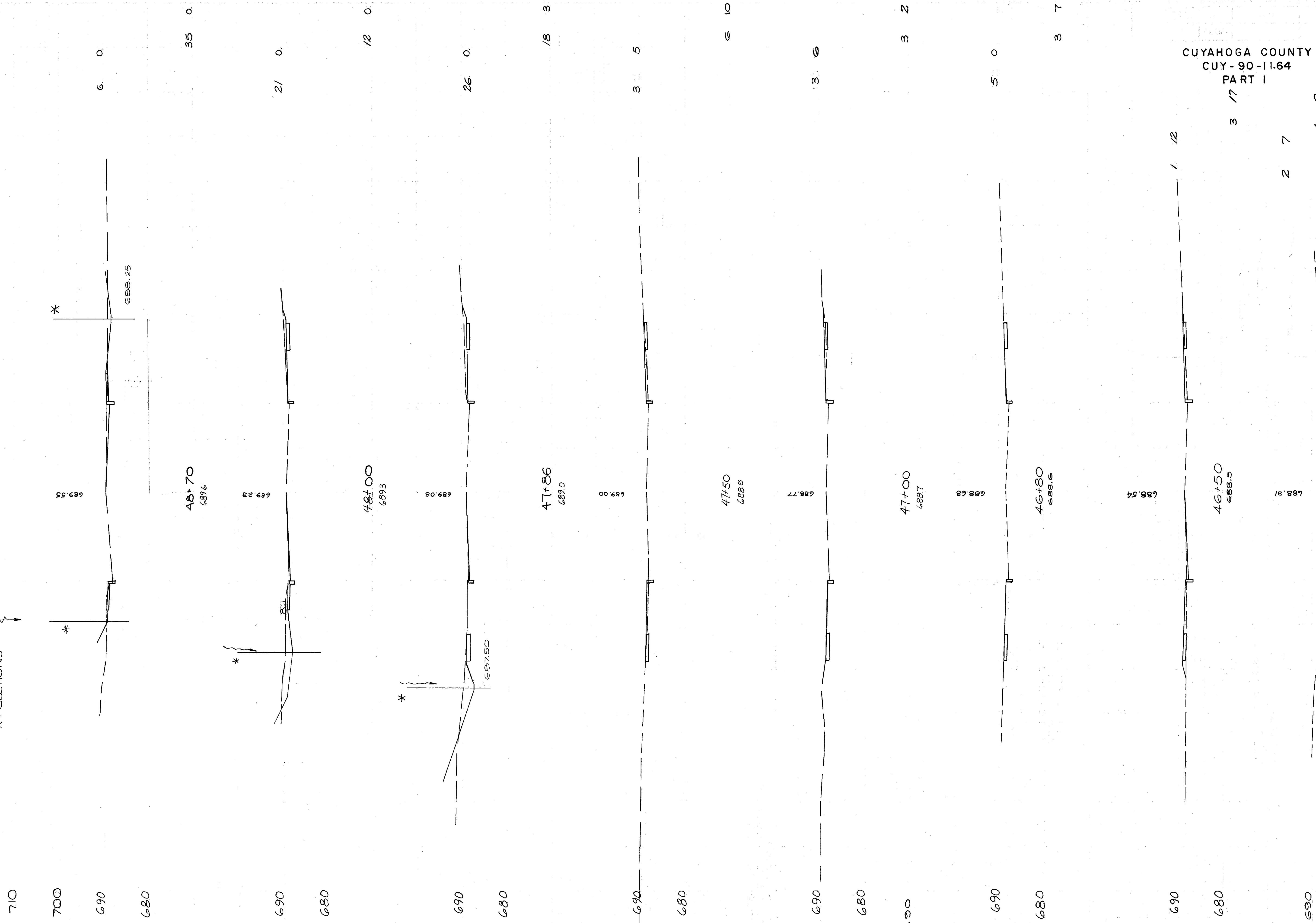
TOTAL VOLUME - 39 38

347  
838

W. 65 ST.  
STA. 42+00 TO 45+50

END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL

\* MATCH LINE SEE  
E.B.L. I-200  
X-SECTIONS



CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

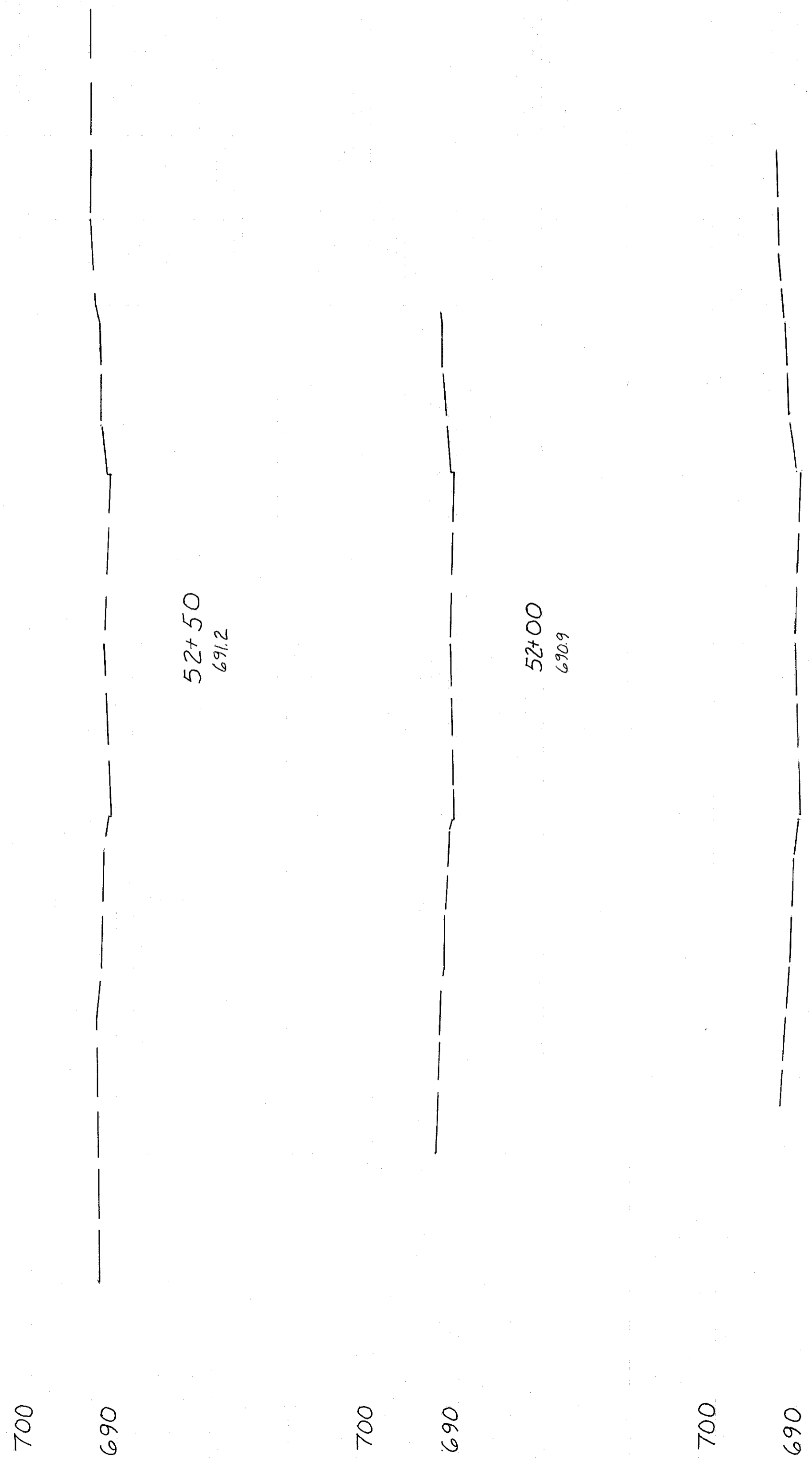
CALCULATED BY G.H.G. DATE 6-73  
CHECKED BY D.H.S. DATE 12-73

TOTAL VOLUME 84.47  
CUT FILL

348  
838

W. 65 ST.  
STA. 46+00 TO 48+70

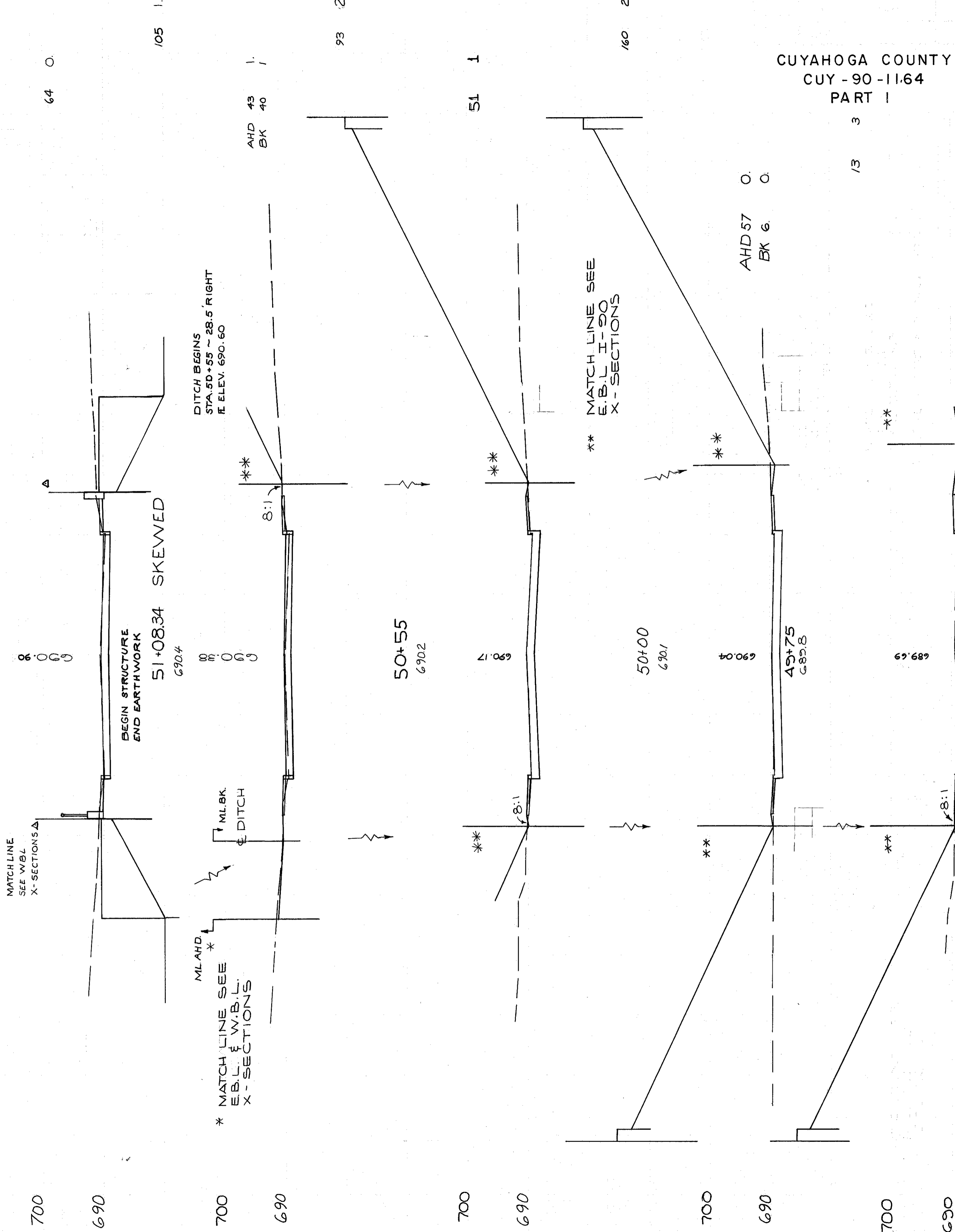
END AREA VOLUME  
CU YDS.  
CUT FILL CUT FILL



52+50  
691.2

51+00  
690.9

51+10.39  
690.4



64 0

105 1

AHD 43  
BK 40

93 2

51 1

160 2

AHD 57  
BK 6

1/3 3

5  
CUT  
FILL

TOTAL VOLUME 376

80 60 40 20 0

CALCULATED BY G.H.G. DATE 6/73

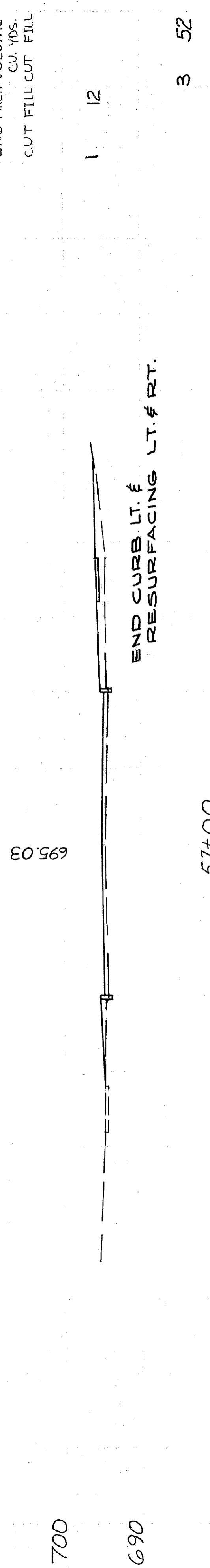
CHECKED BY D.H.S. DATE 12-73

W. 65 ST.  
STA. 49+00 TO 52+50

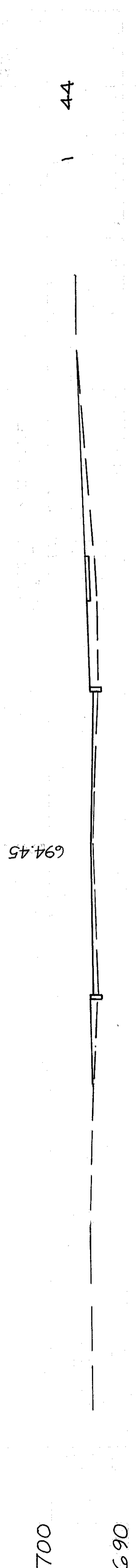
CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

349  
838

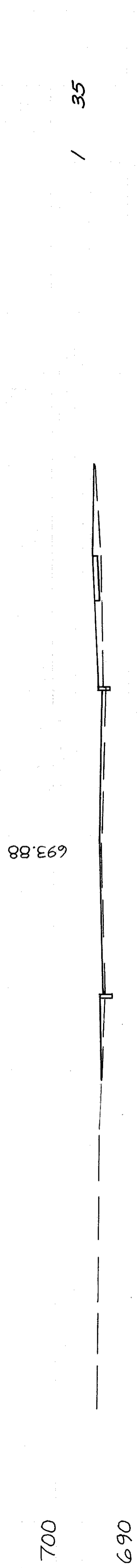
END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL



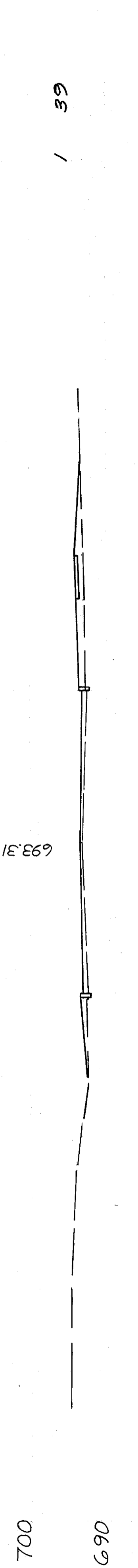
695.03  
694.9  
57+00  
694.45



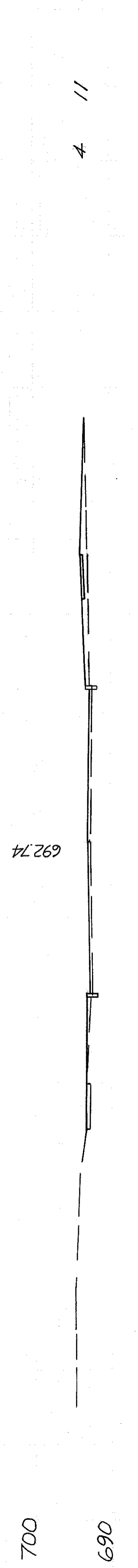
694.45  
694.3  
56+50  
693.88



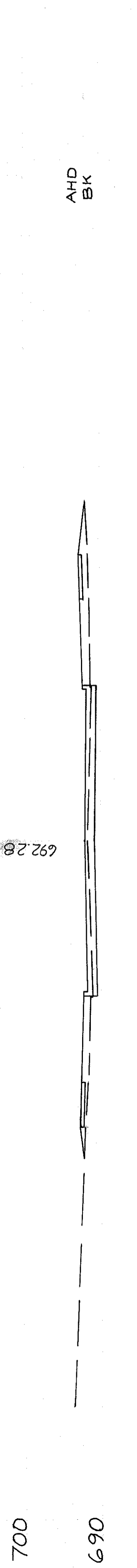
693.88  
693.7  
56+00  
693.31



693.31  
693.2  
55+50  
692.74



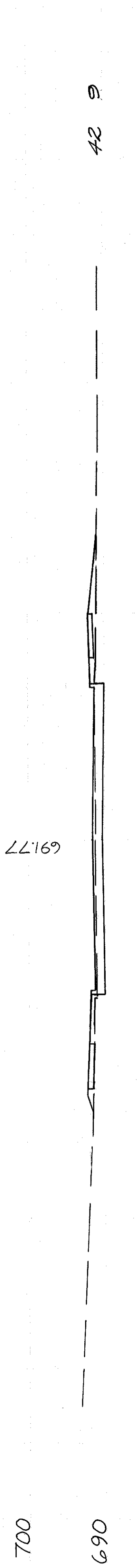
692.74  
692.6  
55+00  
692.28



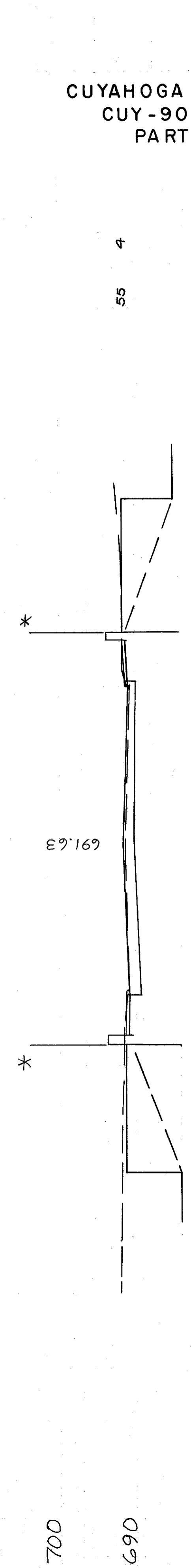
692.28  
691.9  
54+50  
691.77

AHD  
BK

END ITEM 451 CONCRETE PAVEMENT  
BEGIN RESURFACING



691.77  
691.63  
53+50  
691.2



691.63  
691.4  
53+04.27 SKEWED  
END STRUCTURE  
RESUME EARTHWORK

81 15

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

CALCULATED BY G.H.G. DATE 6/73  
CHECKED BY D.H.S. DATE 12-73

TOTAL VOLUME - CUT 234 FILL 387

838

W 65 ST.  
STA 53+00 TO 51+00

END AREA VOLUME  
CU. YDS.  
CUT FILL CUT FILL

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

351  
838

700

690

700

690

700

690

58+25  
C.S.G. 4

0  
0  
0  
0

58+00  
C.S.G. 06

STA. 57+75  
END CURB & SIDEWALK RT.

0  
0  
0  
0

57+50  
C.S.G. 48

2 30

TOTAL VOLUME: 3 44

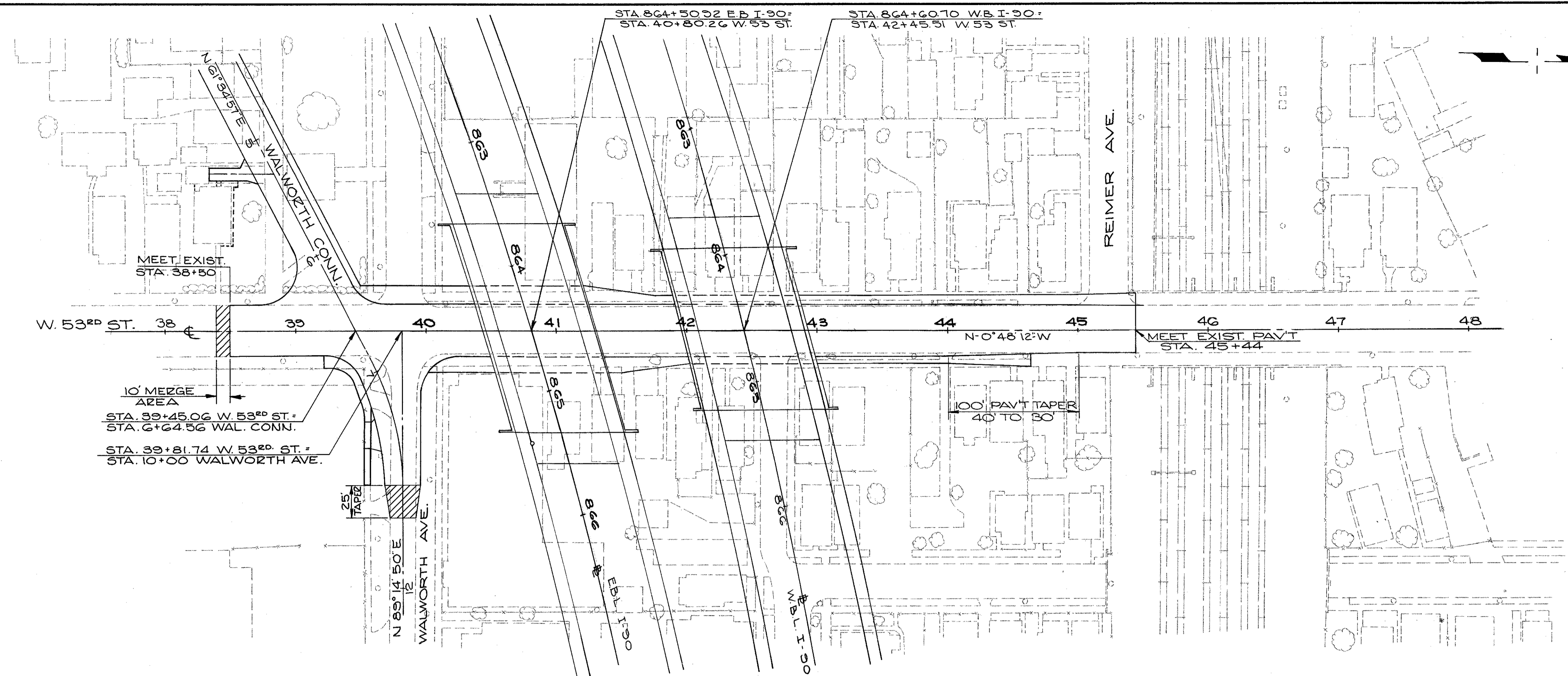
CALCULATED BY C.H.G. DATE 6-73

CHECKED BY D.H.S. DATE 12-73

80 60 40 20 0 20 40 60 80

W 65 ST.  
STA. 57+50 TO 58+25

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

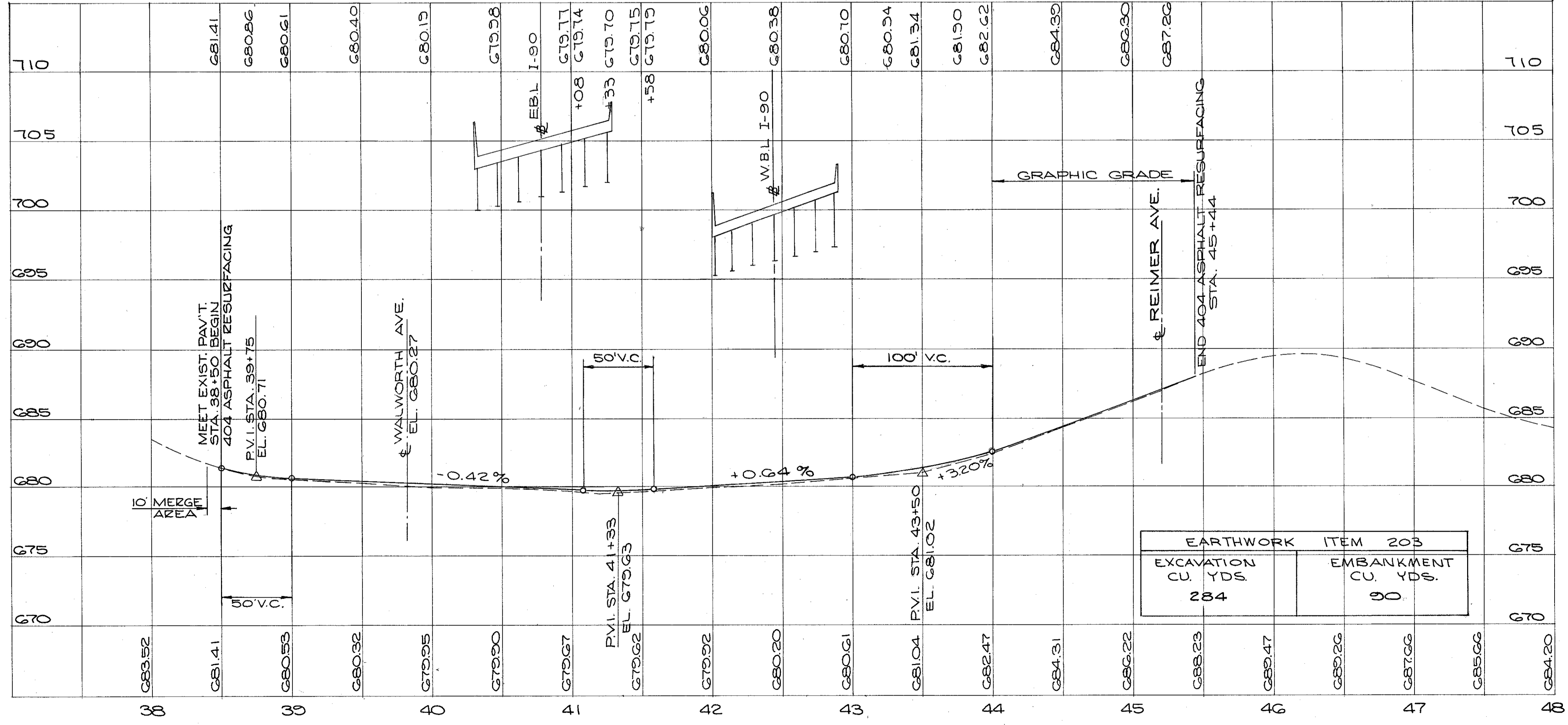


STRUCTURE DATA - CUY-90-1304 RT.  
TYPE: CONTINUOUS STEEL BEAMS, WITH REINF. CONC. DECK & SUBSTRUCTURES (INTEGRAL ABUTMENTS)  
SKEW: 16° 28' 09" LF TO LOC. TAN.  
SPANS: 46'-0", 76'-6", 41'-0"  
ROADWAY: 82'-9" 7/8" PARAPETS  
LOADING: HS 20-44 & INT. ALT. LOADING  
WEARING SURFACE: 2 1/2" ASPHALT  
APPROACH SLABS: 25' LONG (SPECIAL)  
ALIGNMENT: 1° 28' 49.1" CURVE RT.  
SUPERELEVATION: .036'/FT.  
SLOPE PROTECTION: CONCRETE

I-90 CURVE DATA

E.B.L.	W.B.L.
P.I. STA. 862+88.13	P.I. STA. 864+68.46
Δ = 23° 53' 30" RT	Δ = 21° 45' 22" RT
Dc = 1' 28" 43"	Dc = 1' 21" 12"
R = 3810.53'	R = 3942.53'
T = 822.41'	T = 576.51'
Lc = 1620.72'	Lc = 1514.43'
E = 86.41'	E = 115.13'

RAMP 26  
P.I. STA. 60+13.53  
Δ = 32° 21' 08" LT  
Dc = 1' 30"  
R = 768.94  
T = 195.56  
Lc = 1231.35  
E = 339.81

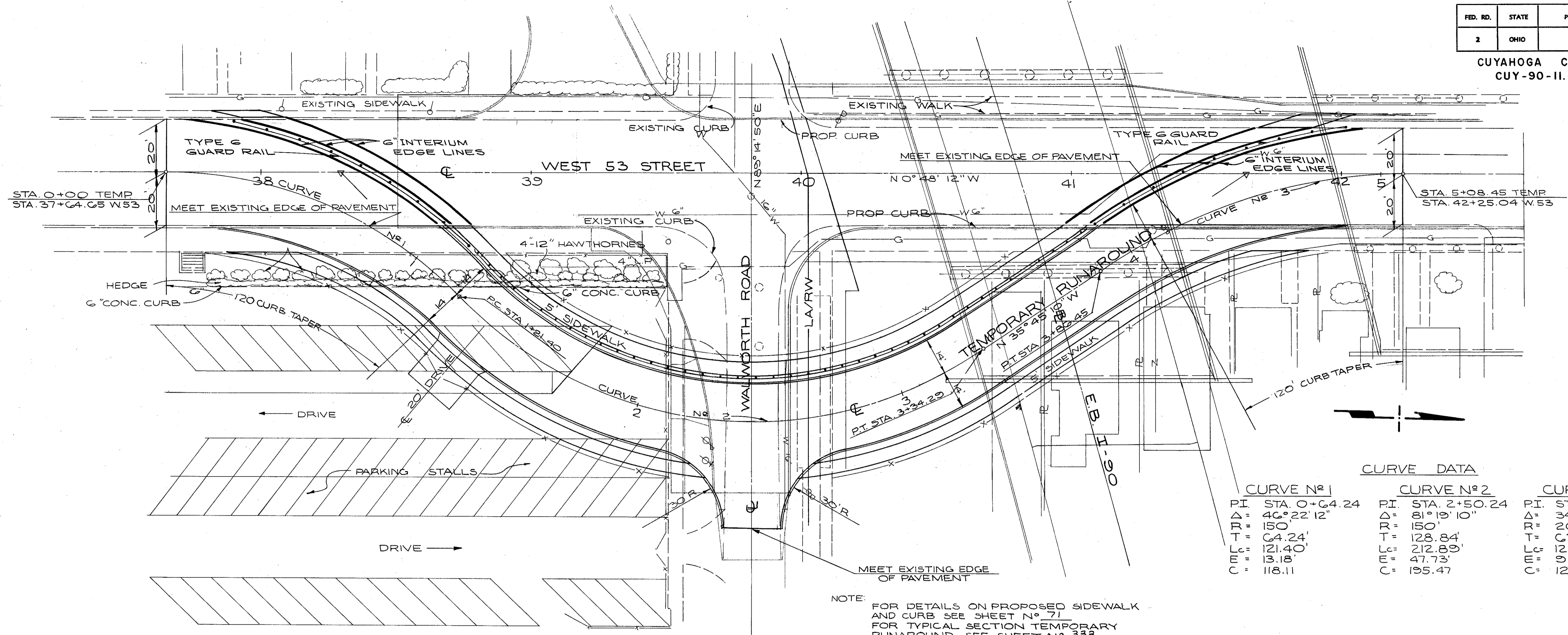


STRUCTURE DATA - CUY-90-1304 LT.  
TYPE: CONTINUOUS STEEL BEAMS, WITH REINF. CONC. DECK & SUBSTRUCTURES (INTEGRAL ABUTMENTS)  
SKEW: 13° 53' 28" LF TO LOC. TAN.  
SPANS: 32'-6", 61'-0", 32'-6"  
ROADWAY: 92.01' Avg. 7/8" PARAPETS  
LOADING: HS 20-44 & INT. ALT. LOADING  
WEARING SURFACE: 2 1/2" ASPHALT  
APPROACH SLABS: 25' LONG (AS-1-T2) & SPECIAL  
ALIGNMENT: 1° 21' 11.8" CURVE RT.  
SUPERELEVATION: .036'/FT.  
SLOPE PROTECTION: CONCRETE

CALCULATED BY R.E.R. DATE 6/10  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
REVISED BY L.L. DATE 2-75  
CHECKED BY R.E.K. DATE 2-75

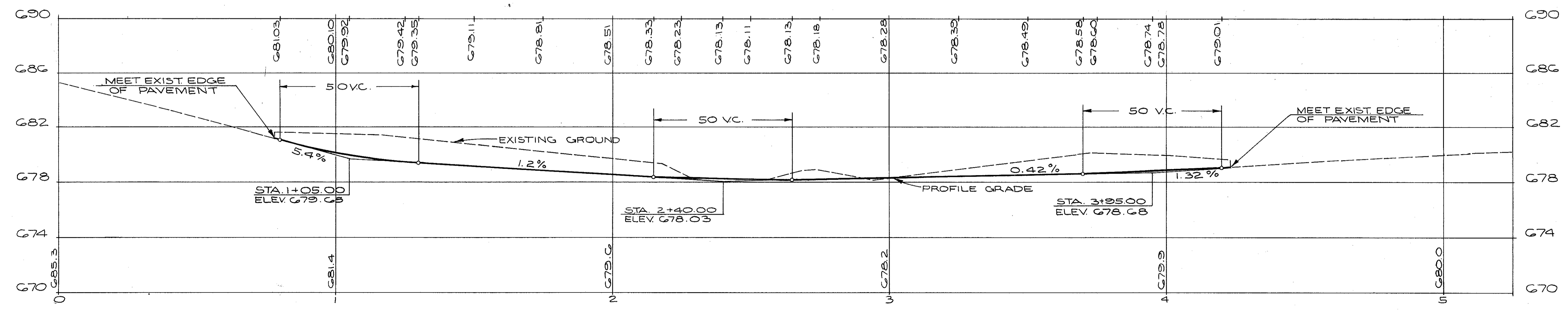
EARTHWORK ITEM 203	
EXCAVATION CU. YDS.	EMBANKMENT CU. YDS.
284	90

W. 53 ST.  
STA. 38+00 TO STA. 48+00



CURVE DATA

CURVE N°1		CURVE N°2		CURVE N°3	
PI	STA. 0+64.24	PI	STA. 2+50.24	PI	STA. 4+49.41
Δ	40° 22' 12"	Δ	81° 19' 10"	Δ	34° 56' 58"
R	150'	R	150'	R	200'
T	64.24'	T	128.84'	T	62.96'
Lc	121.40'	Lc	212.89'	Lc	122.00'
E	13.18'	E	47.73'	E	9.68'
C	118.11	C	195.47	C	120.11

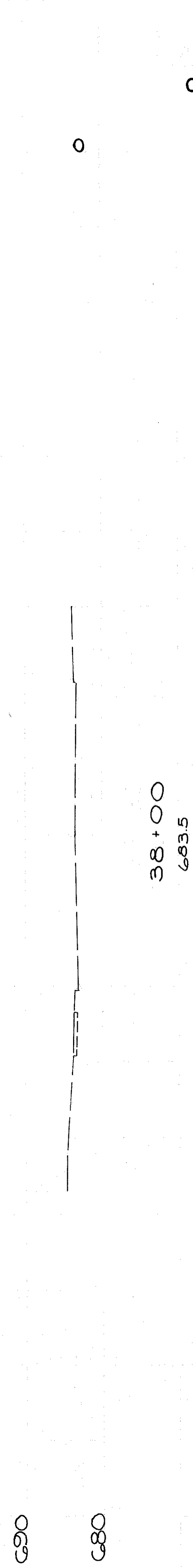
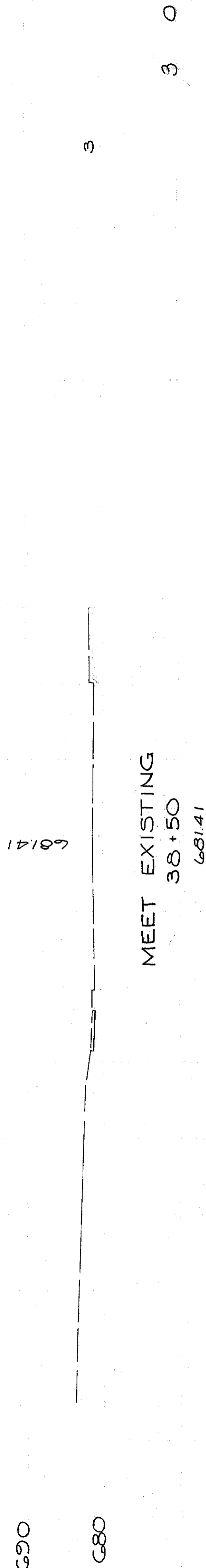
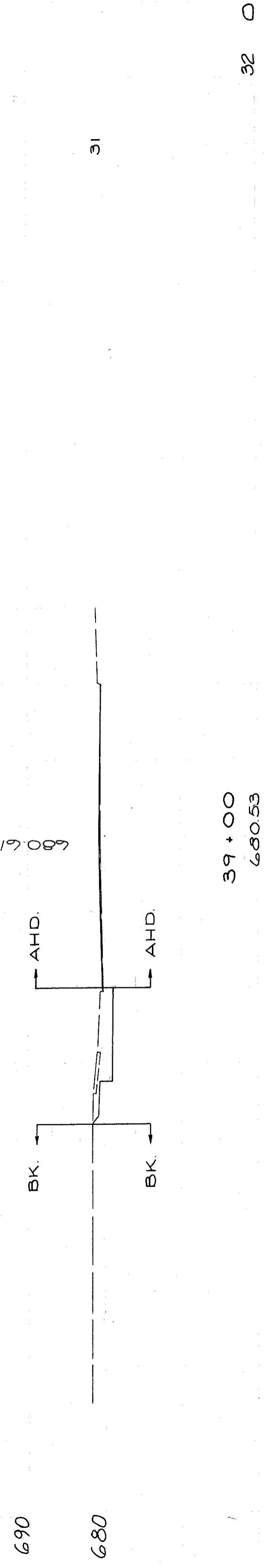
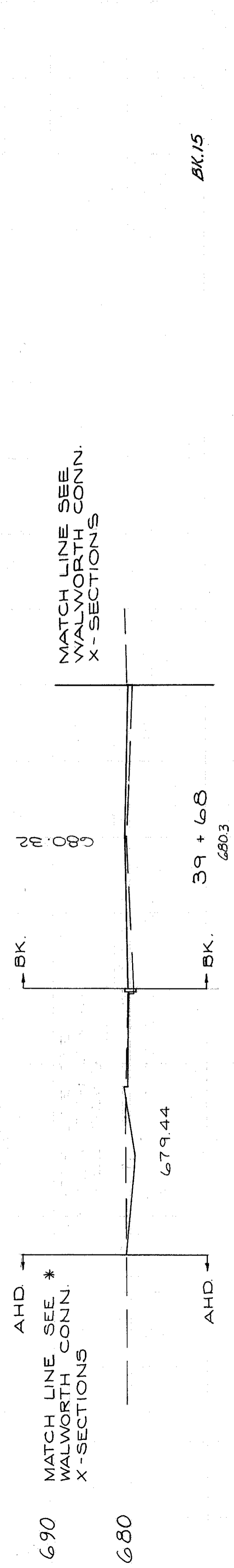
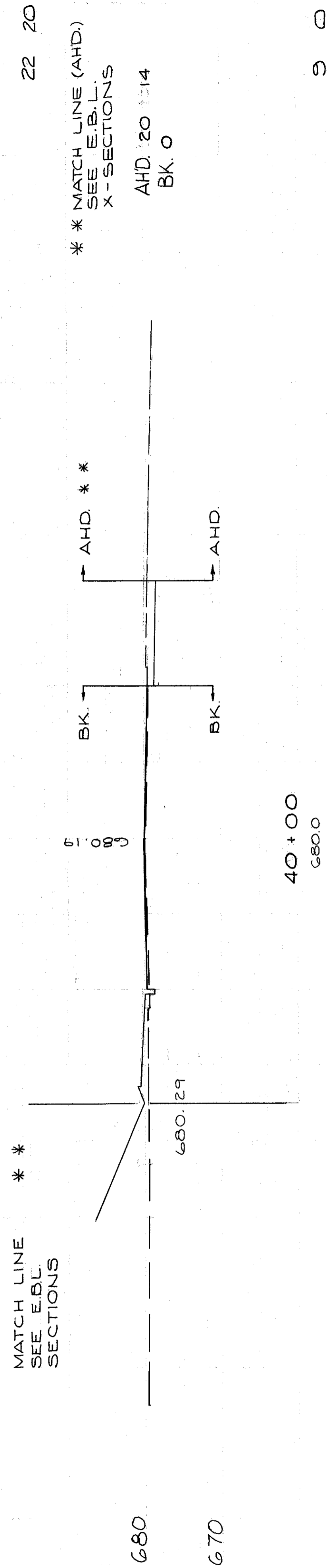
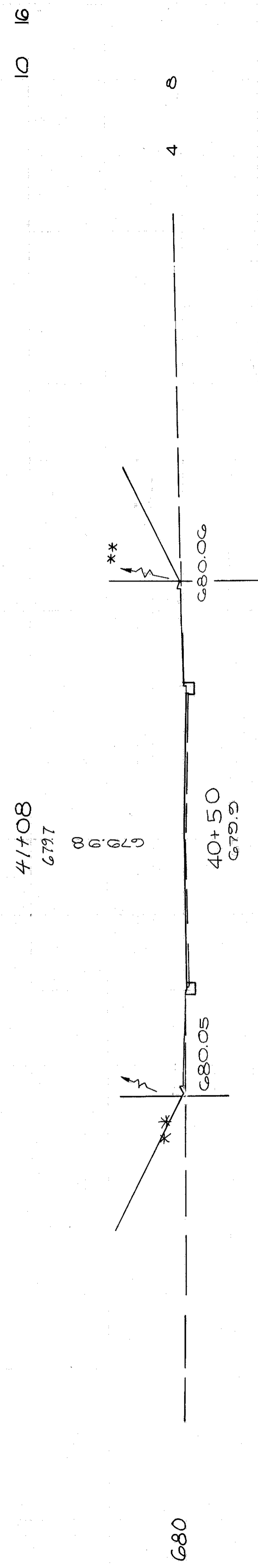
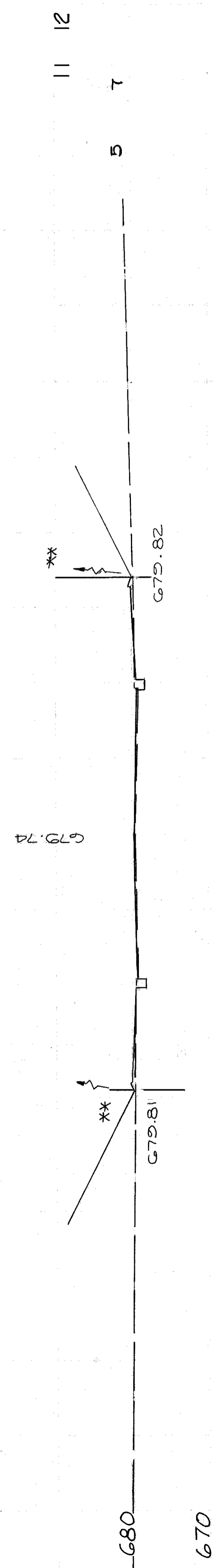


W. 53 ST.  
TEMPORARY RUNAROUND



END AREA VOLUME  
CUT FILL CUT FILL

MATCH LINE SEE  
E.B.L. & W.B.L.  
X-SECTIONS



MATCH LINE \*\*  
SEE E.B.L.  
SECTIONS

\*\* MATCH LINE (AHD.)  
SEE E.B.L.  
X-SECTIONS

AHD. 20 14  
BK. 0

MATCH LINE SEE \*  
WALWORTH CONN.  
X-SECTIONS

MATCH LINE SEE  
WALWORTH CONN.  
X-SECTIONS

BK. 15

MEET EXISTING  
38+50  
681.41

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

REVISED BY RDH. DATE 2-75  
CHECKED BY J.L. DATE 2-75

CALCULATED BY E.F.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72

TOTAL VOLUME	145	48
CUT	145	48
FILL	0	0

80	60	40	20	0	20	40	60	80
0	0	0	0	0	0	0	0	0

W. 53 ST  
STA. 38+50 TO 41+08

VOLUME  
 END AREA CU. YDS.  
 CUT FILL CUT FILL

682.22  
 44+00  
 682.5

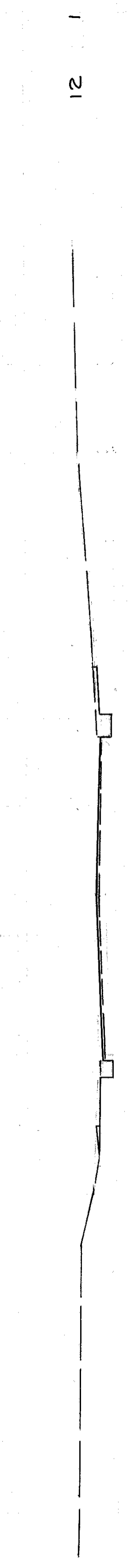
5 5



9 7

681.22  
 43+80  
 681.9

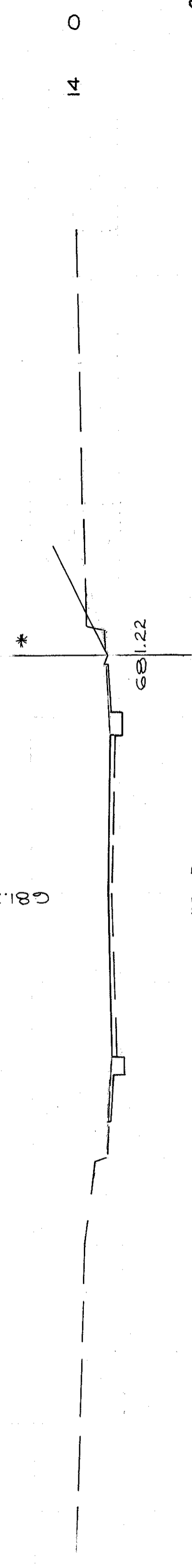
8 3



12 1

680.45  
 43+51  
 681.0

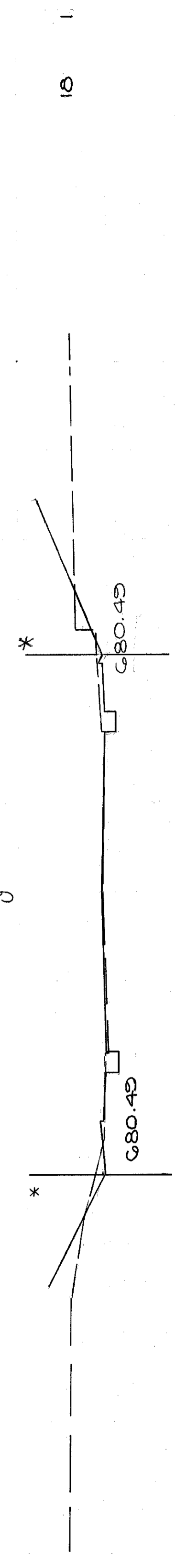
14 1



14 0

680.08  
 42+89  
 680.6

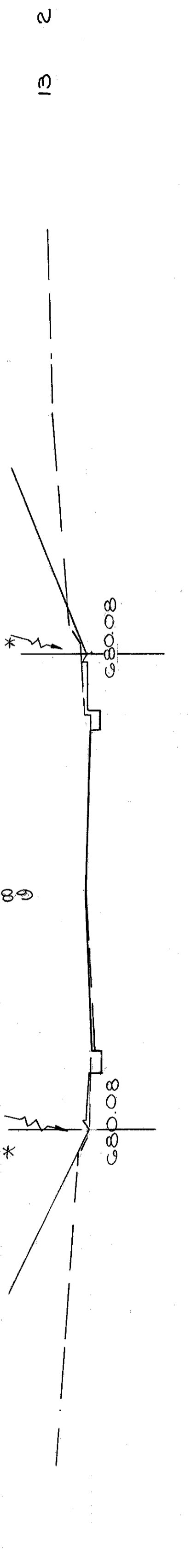
37 4



18 1

680.52  
 42+25  
 680.2

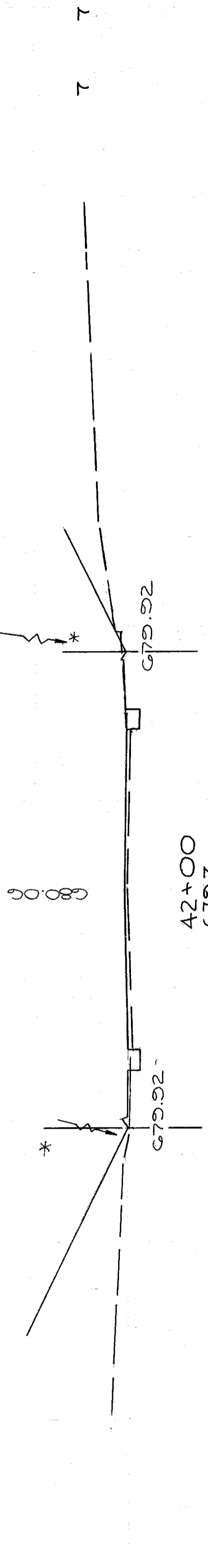
37 4



13 2

679.77  
 42+00  
 679.7

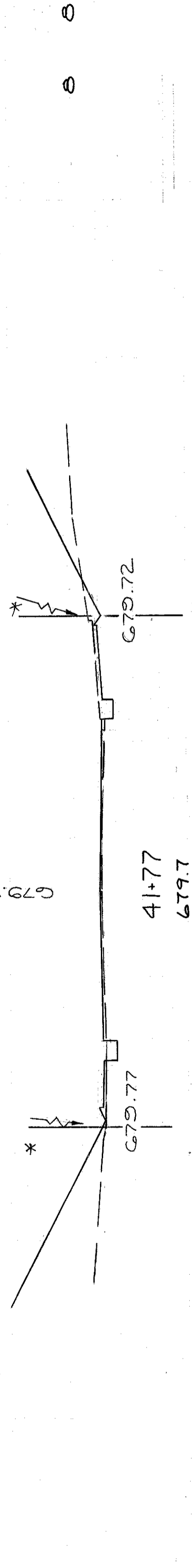
9 4



7 7

679.72  
 41+77  
 679.7

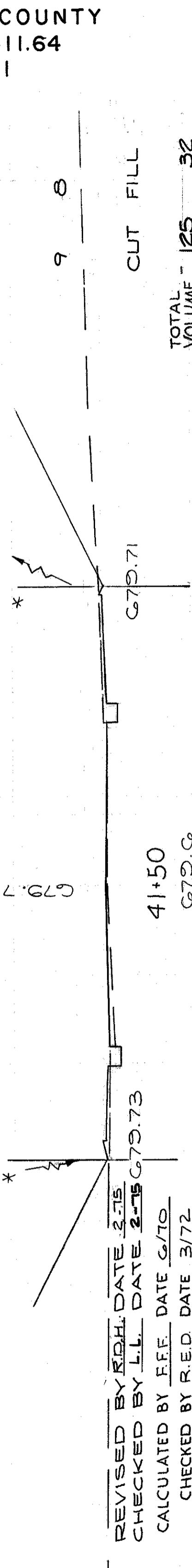
6 6



0 0

679.71  
 41+50  
 679.6

9 8



9 8

CUYAHOGA COUNTY  
 CUY-90-11.64  
 PART I

REVISOR: J.E.H. DATE 3/75  
 CHECKED BY: J.L.L. DATE 2/75  
 CALCULATED BY: J.E.F. DATE 6/70  
 CHECKED BY: R.E.D. DATE 3/72

\*MATCH LINE  
 SEE W.B.L.  
 X-SECTIONS

STA 41+00 TO 44+00

CUT FILL  
 TOTAL VOLUME = 125 32

355  
 838

END AREA VOLUME  
CU. YDS. CUT FILL CUT FILL

690

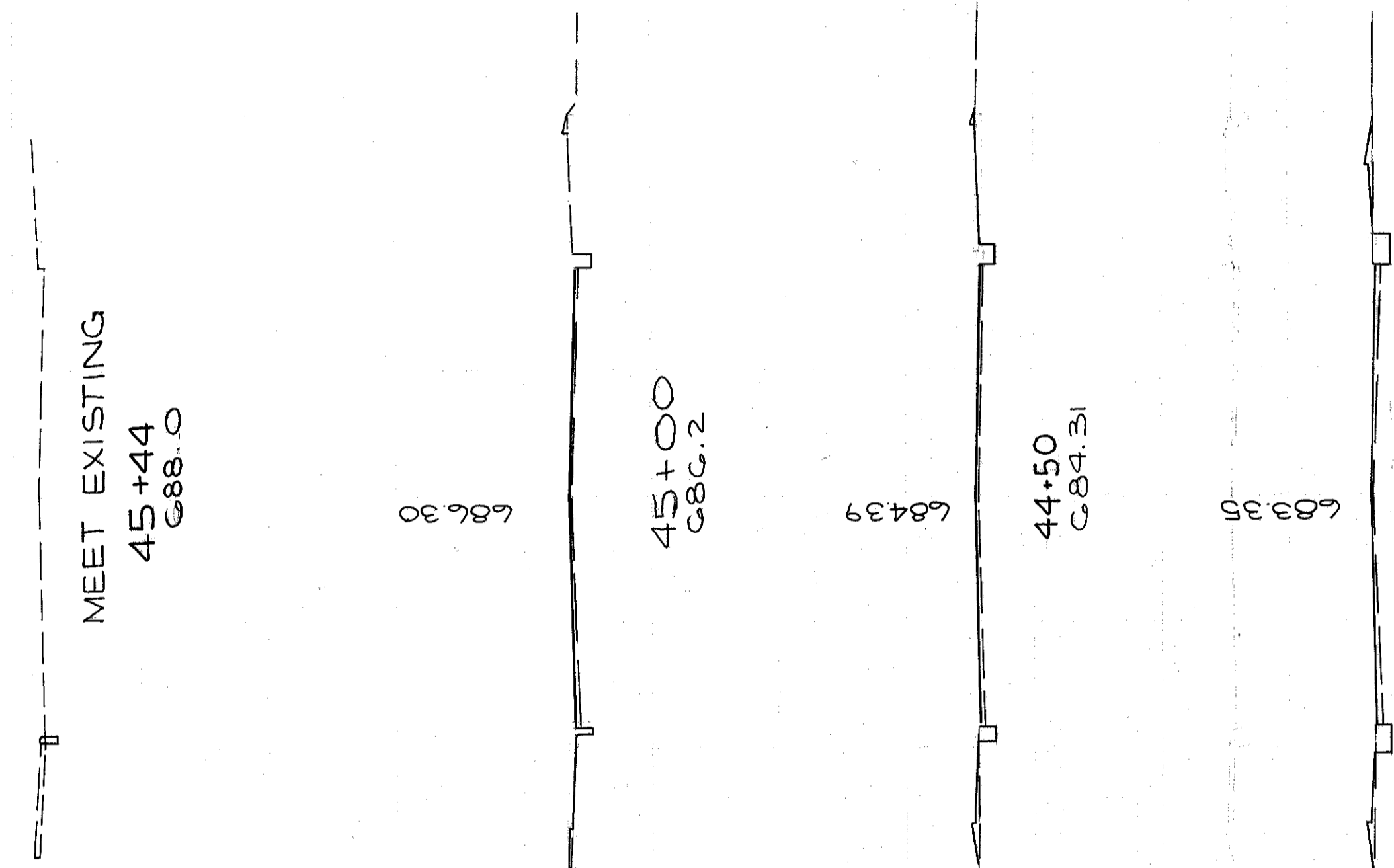
680

690  
680

690

680

680



0 0

2 1

3 1

7 4

5 3

5 5

5 7

CUYAHOGA COUNTY  
CUY-90-11.64  
PART I

CALCULATED BY F.E.F. DATE 6/70  
CHECKED BY R.E.D. DATE 3/72  
REVISED BY R.O.W. DATE 2-75  
CHECKED BY L.L. DATE 2-78

W 53 ST  
STA. 44+21.5 TO 45+44

TOTAL  
VOLUME

CUT FILL  
14 10

80

60

40

20

0

20

40

60

80

356  
838

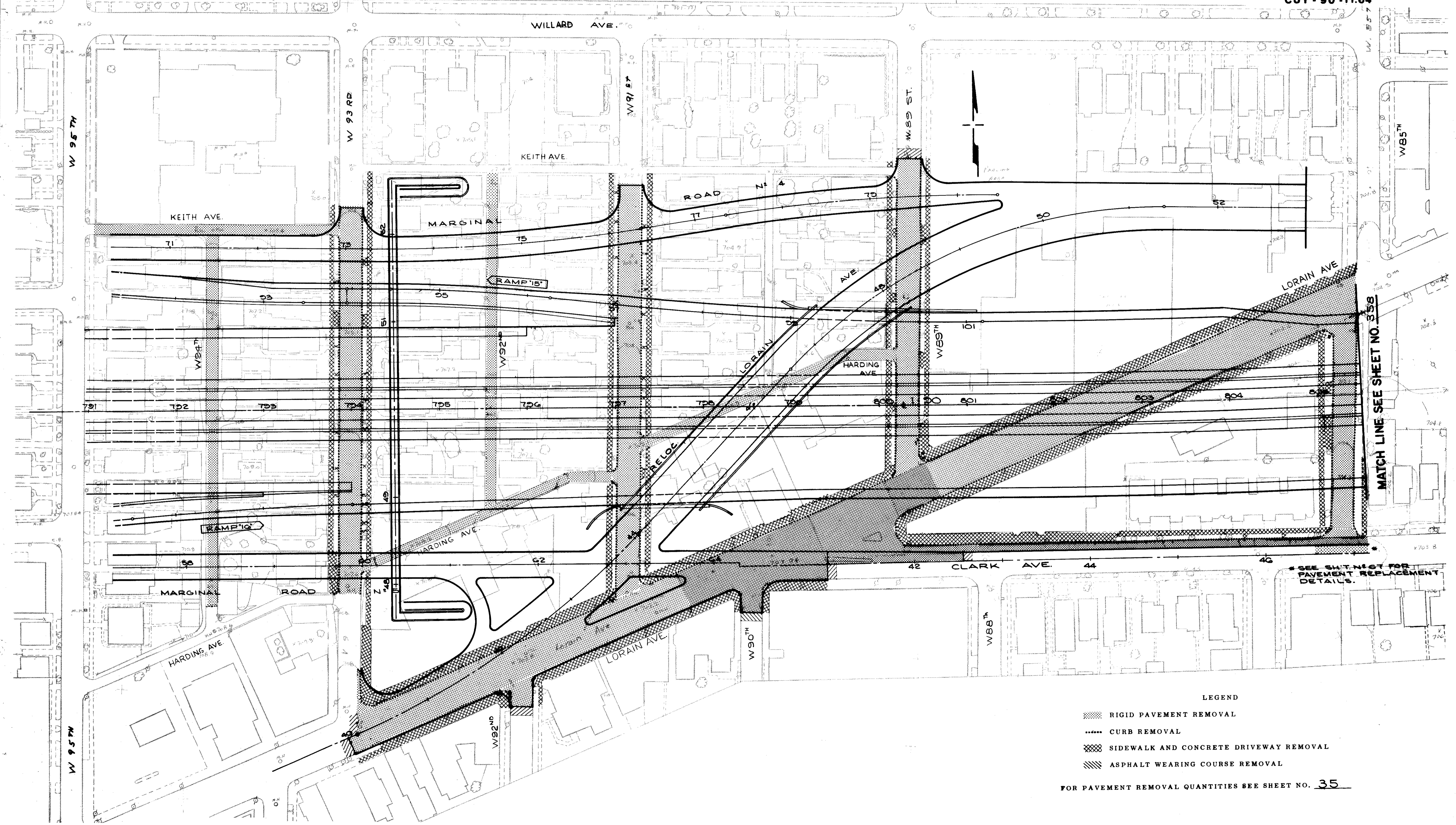
07d

Q-6

FED. RD.	STATE	PROJECT
2	OHIO	

357  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



LEGEND

- ▨ RIGID PAVEMENT REMOVAL
- ..... CURB REMOVAL
- ▩ SIDEWALK AND CONCRETE DRIVEWAY REMOVAL
- ▨ ASPHALT WEARING COURSE REMOVAL

FOR PAVEMENT REMOVAL QUANTITIES SEE SHEET NO. 35


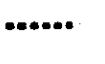


PAVEMENT REMOVALS

FED. NO.	STATE	PROJECT
2	OHIO	

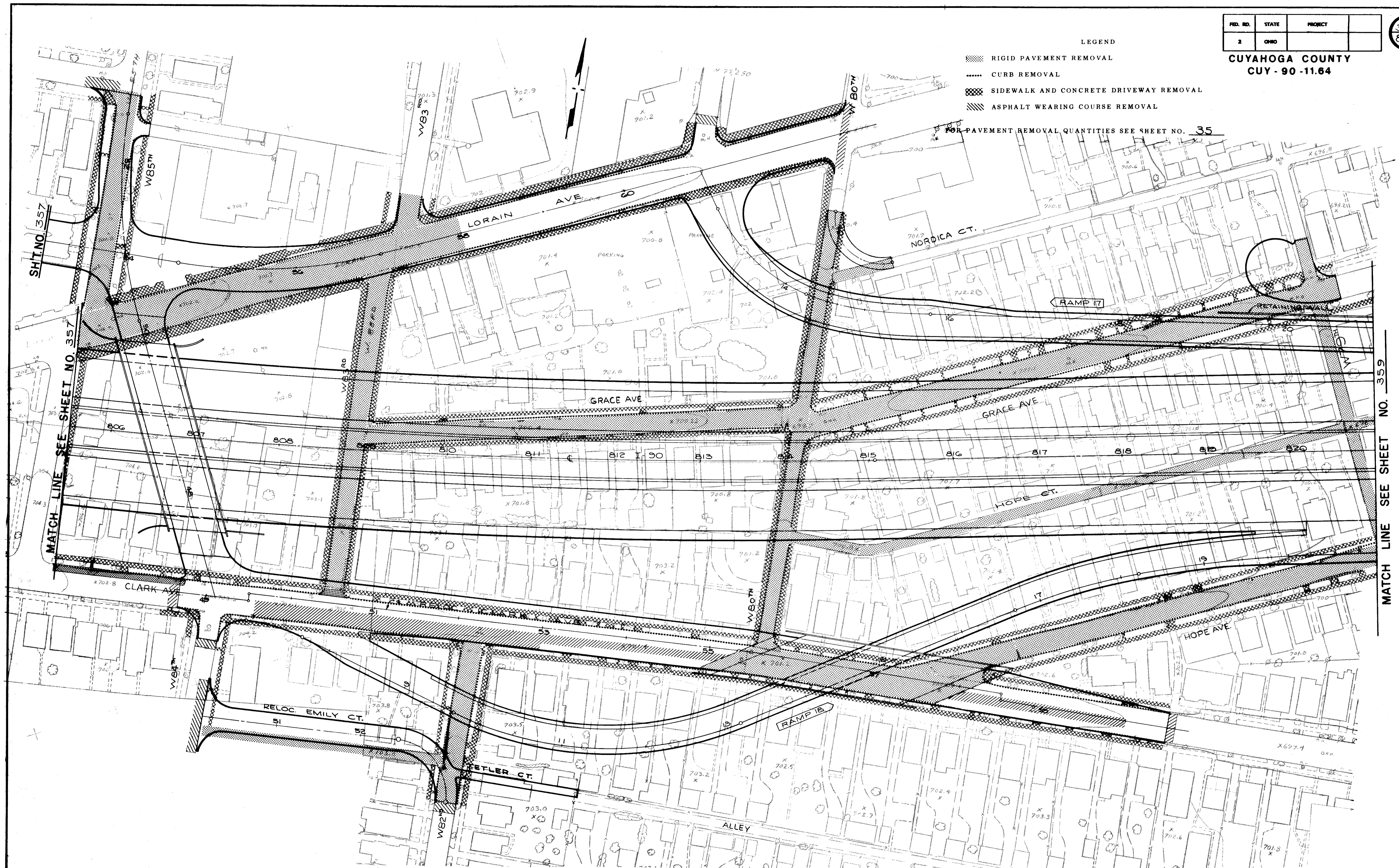
35  
838

**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

LEGEND

-  RIGID PAVEMENT REMOVAL
-  CURB REMOVAL
-  SIDEWALK AND CONCRETE DRIVEWAY REMOVAL
-  ASPHALT WEARING COURSE REMOVAL

FOR PAVEMENT REMOVAL QUANTITIES SEE SHEET NO. 35


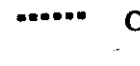




**PAVEMENT REMOVALS**

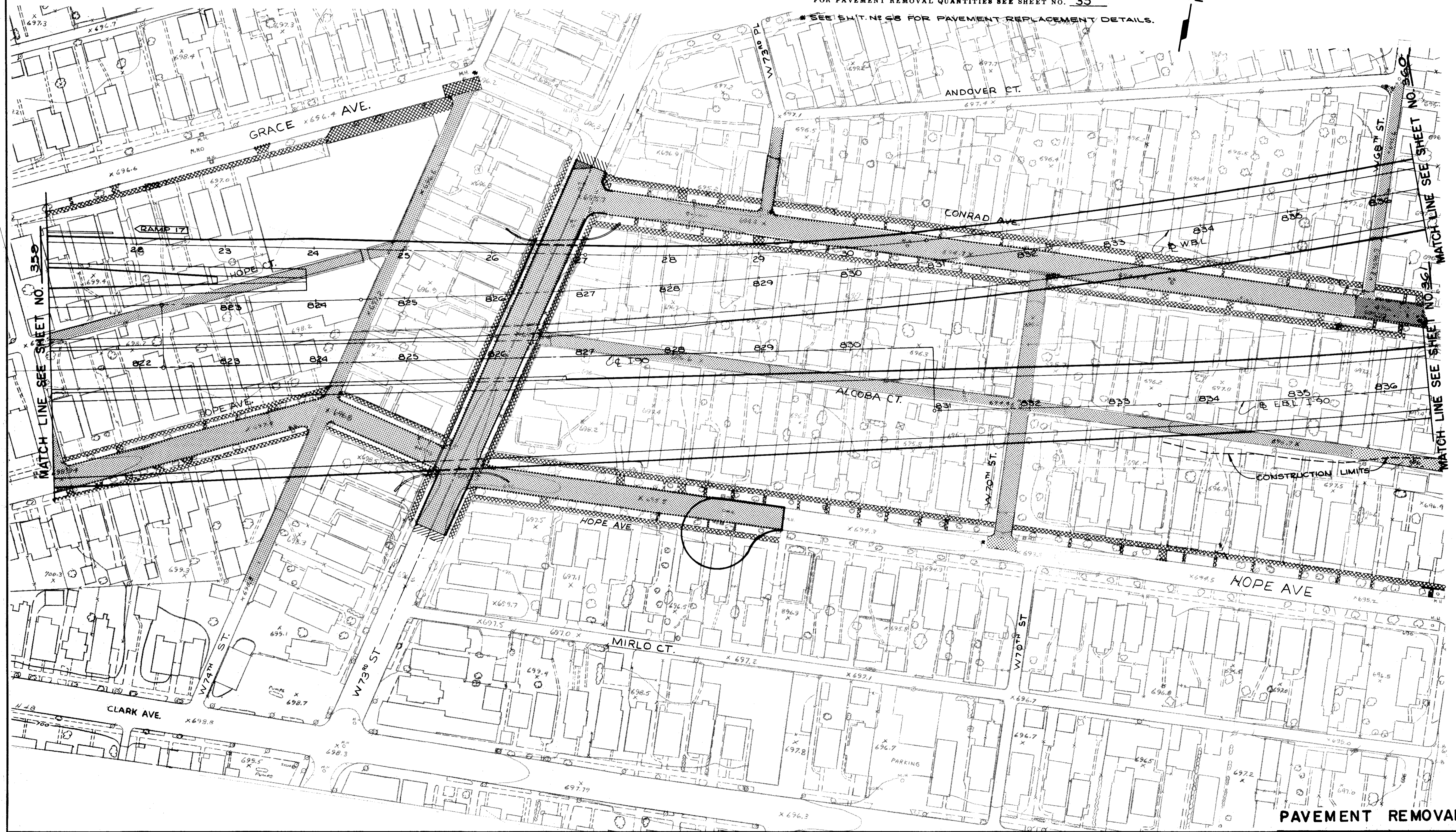
FED. RD.	STATE	PROJECT	
2	OHIO		

359  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

- LEGEND
-  RIGID PAVEMENT REMOVAL
  -  CURB REMOVAL
  -  SIDEWALK AND CONCRETE DRIVEWAY REMOVAL
  -  ASPHALT WEARING COURSE REMOVAL

FOR PAVEMENT REMOVAL QUANTITIES SEE SHEET NO. 35  
\* SEE SHT. NO. 35 FOR PAVEMENT REPLACEMENT DETAILS.



PAVEMENT REMOVALS

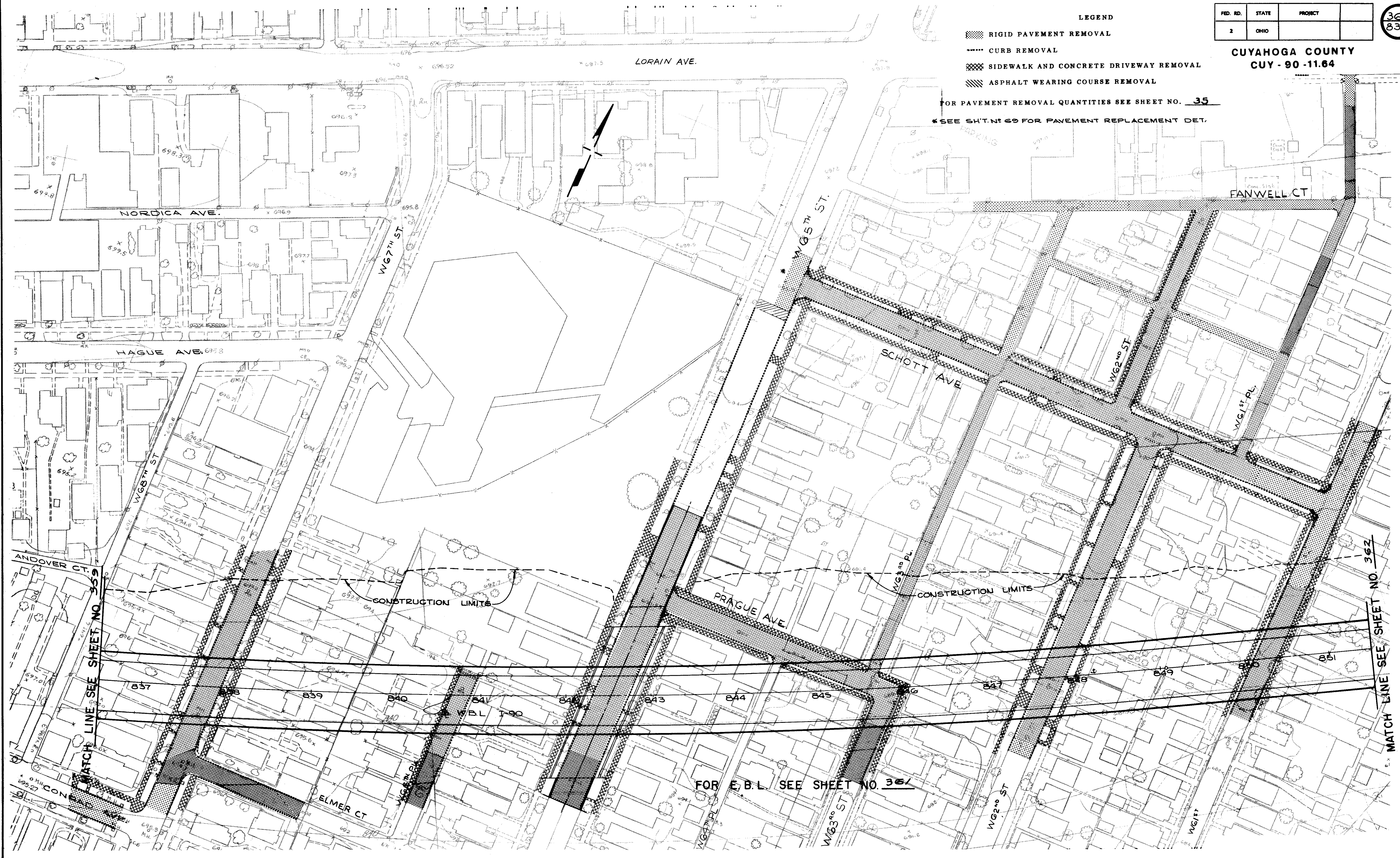
FED. RD.	STATE	PROJECT
2	OHIO	

360  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

- LEGEND
- ▨ RIGID PAVEMENT REMOVAL
  - ⋯ CURB REMOVAL
  - ▩ SIDEWALK AND CONCRETE DRIVEWAY REMOVAL
  - ▨ ASPHALT WEARING COURSE REMOVAL

FOR PAVEMENT REMOVAL QUANTITIES SEE SHEET NO. 35  
\* SEE SHT. NO. 69 FOR PAVEMENT REPLACEMENT DET.



FOR W.B.L. SEE SHEET NO. 360

LEGEND

- ▨ RIGID PAVEMENT REMOVAL
- ..... CURB REMOVAL
- ▨ SIDEWALK AND CONCRETE DRIVEWAY REMOVAL
- ▨ ASPHALT WEARING COURSE REMOVAL
- ▨ RETAINING WALL REMOVAL

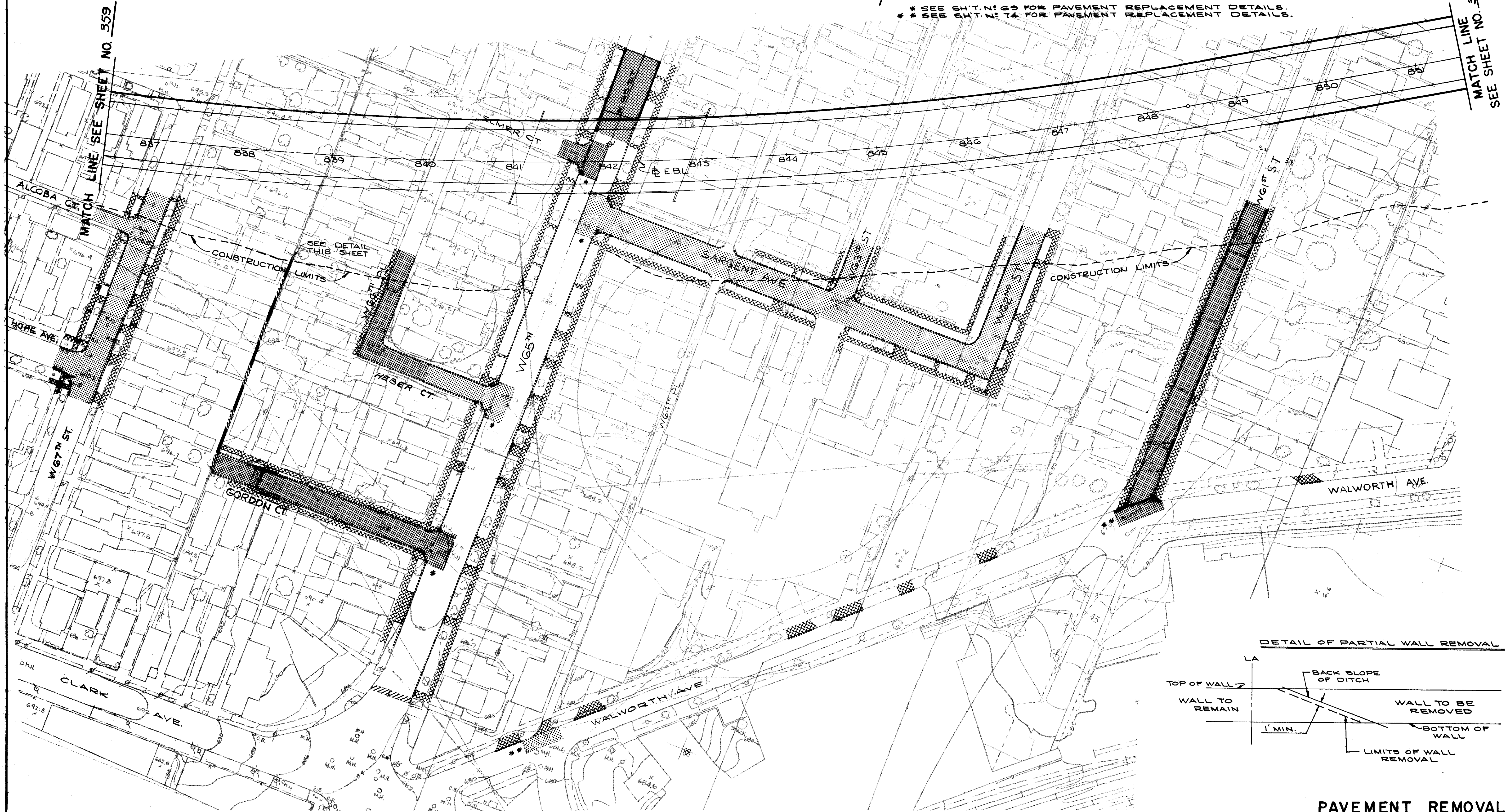
FED. RD.	STATE	PROJECT	
2	OHIO		

361  
838

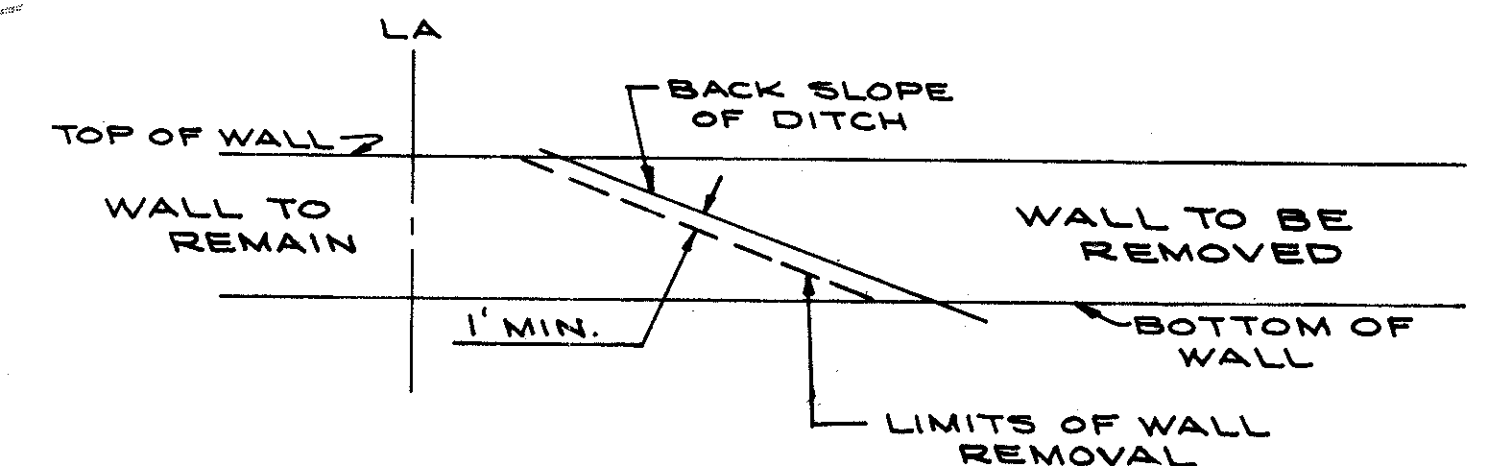
CUYAHOGA COUNTY  
CUY - 90 - 11.64

FOR PAVEMENT REMOVAL QUANTITIES SEE SHEET NO. 35

\* SEE SHT. N: 09 FOR PAVEMENT REPLACEMENT DETAILS.  
\* SEE SHT. N: 14 FOR PAVEMENT REPLACEMENT DETAILS.



DETAIL OF PARTIAL WALL REMOVAL



PAVEMENT REMOVALS

MATCH LINE SEE SHEET NO. 363  
SEE SHEET NO. 363

MATCH LINE SEE SHEET NO. 359




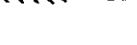


FED. RD.	STATE	PROJECT
2	OHIO	

362  
838

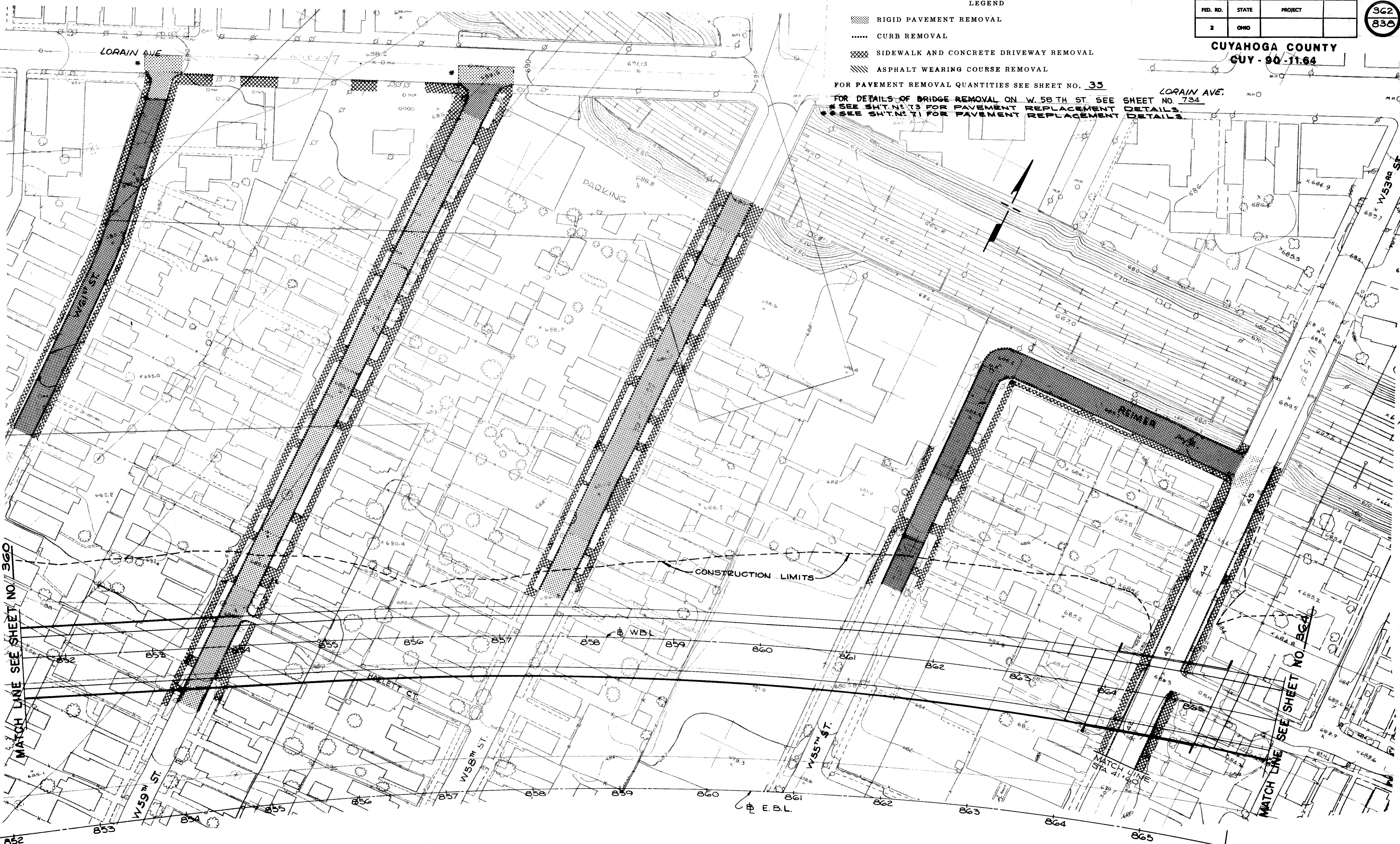
CUYAHOGA COUNTY  
CUY-90-11.64

LEGEND

-  RIGID PAVEMENT REMOVAL
-  CURB REMOVAL
-  SIDEWALK AND CONCRETE DRIVEWAY REMOVAL
-  ASPHALT WEARING COURSE REMOVAL

FOR PAVEMENT REMOVAL QUANTITIES SEE SHEET NO. 35  
 FOR DETAILS OF BRIDGE REMOVAL ON W. 58 TH ST. SEE SHEET NO. 734  
 \* SEE SHT. NO. 73 FOR PAVEMENT REPLACEMENT DETAILS.  
 \* SEE SHT. NO. 71 FOR PAVEMENT REPLACEMENT DETAILS.

LORAIN AVE.



MATCH LINE SEE SHEET NO. 360

MATCH LINE SEE SHEET NO. 364

FOR E.B.L. SEE SHEET NO. 363

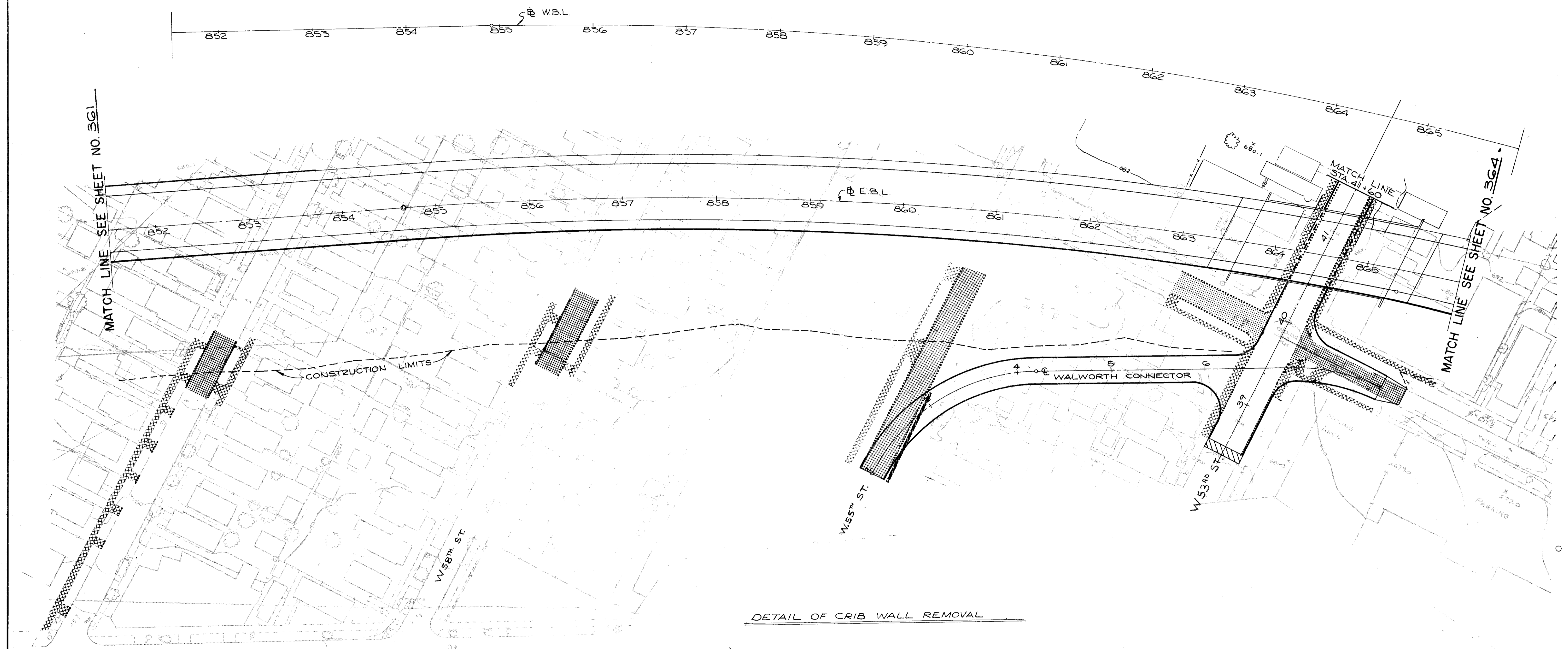
PAVEMENT REMOVALS

FED. RD.	STATE	PROJECT
2	OHIO	

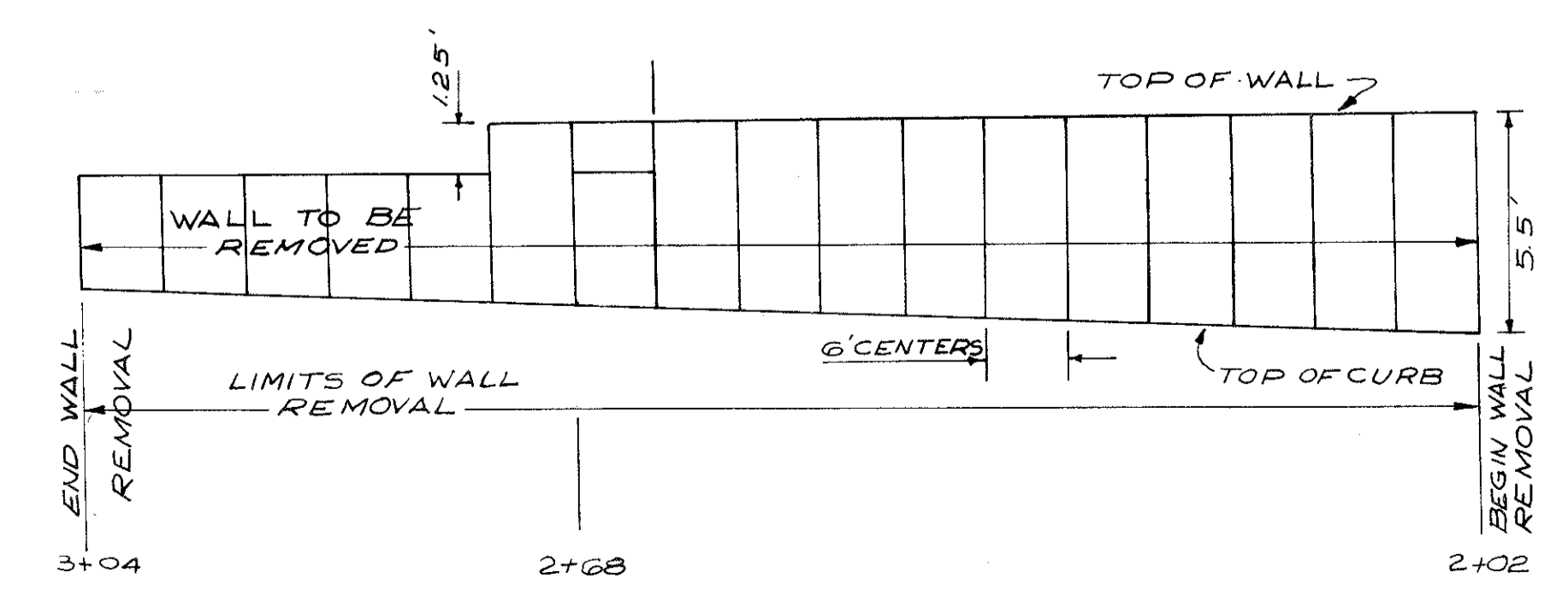
363  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

FOR W.B.L. SEE SHEET NO. 362



DETAIL OF CRIB WALL REMOVAL



- LEGEND
- RIGID PAVEMENT REMOVAL
  - CURB REMOVAL
  - SIDEWALK AND CONCRETE DRIVEWAY REMOVAL
  - ASPHALT WEARING COURSE REMOVAL
  - RETAINING WALL REMOVED

FOR PAVEMENT REMOVAL QUANTITIES SEE SHEET NO. 35  
\* SEE SH'T. NO. 70 FOR PAVEMENT REPLACEMENT DETAILS.

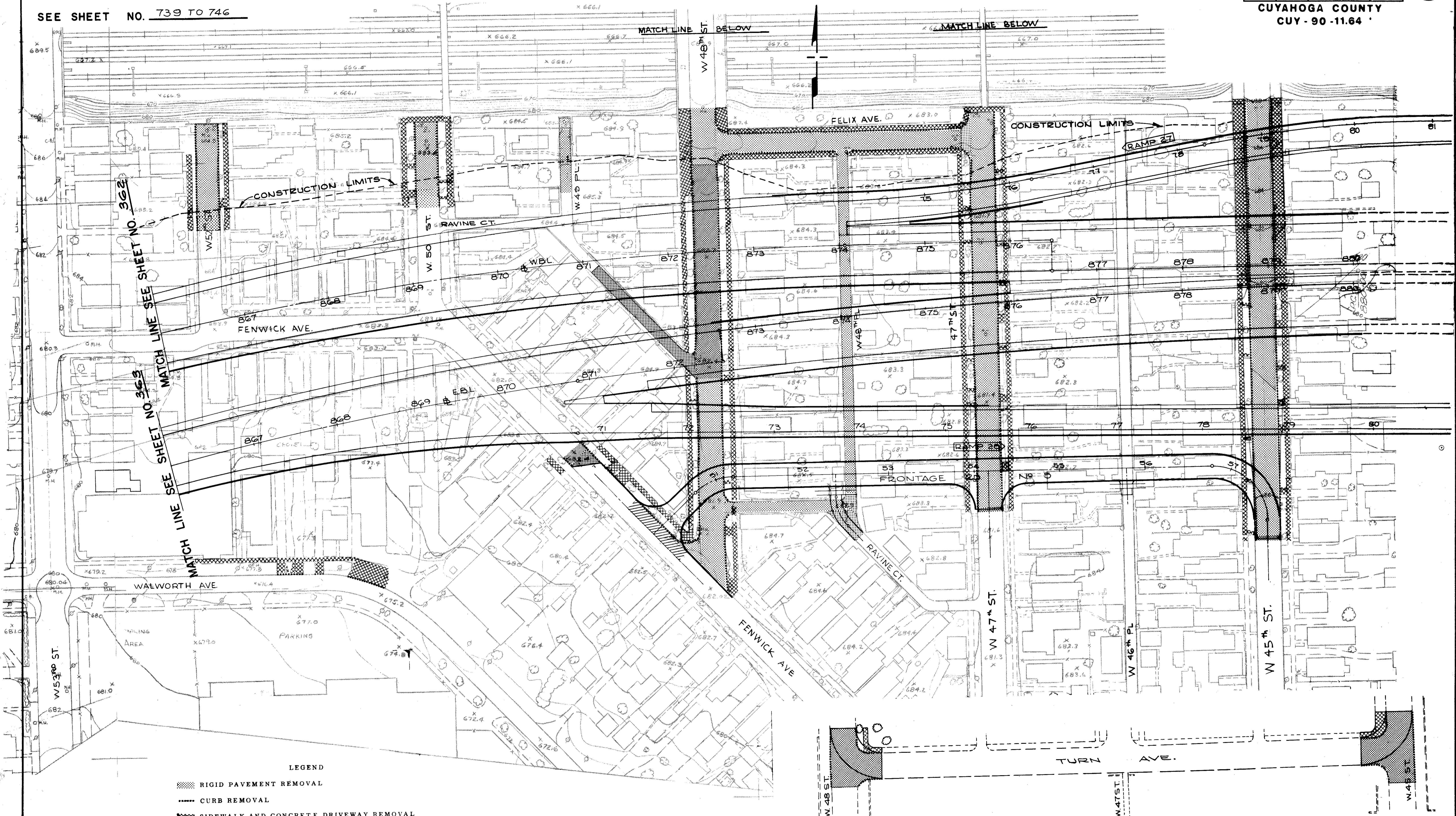
PAVEMENT REMOVALS

FOR DETAILS OF BRIDGE & RETAINING WALL  
 REMOVALS ON W50<sup>th</sup>, W48<sup>th</sup>, W47<sup>th</sup>, & W45<sup>th</sup> STREETS  
 SEE SHEET NO. 739 TO 746

FED. RD.	STATE	PROJECT
1	OHIO	

364  
838

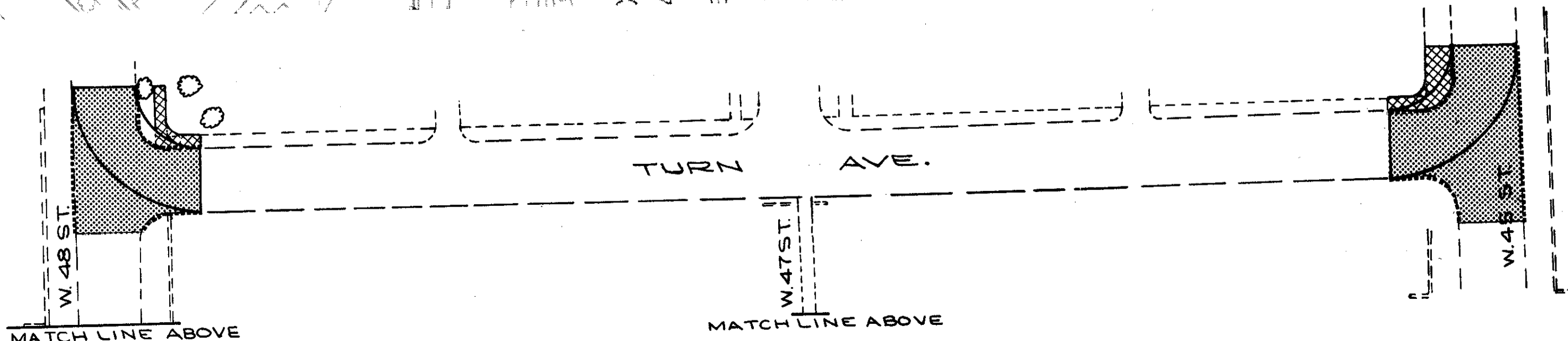
CUYAHOGA COUNTY  
 CUY-90-11.64



MATCH LINE SEE SHEET NO. 362  
 MATCH LINE SEE SHEET NO. 363  
 MATCH LINE SEE SHEET NO. 364

- LEGEND**
- RIGID PAVEMENT REMOVAL
  - CURB REMOVAL
  - SIDEWALK AND CONCRETE DRIVEWAY REMOVAL
  - ASPHALT WEARING COURSE REMOVAL

FOR PAVEMENT REMOVAL QUANTITIES SEE SHEET NO. 35



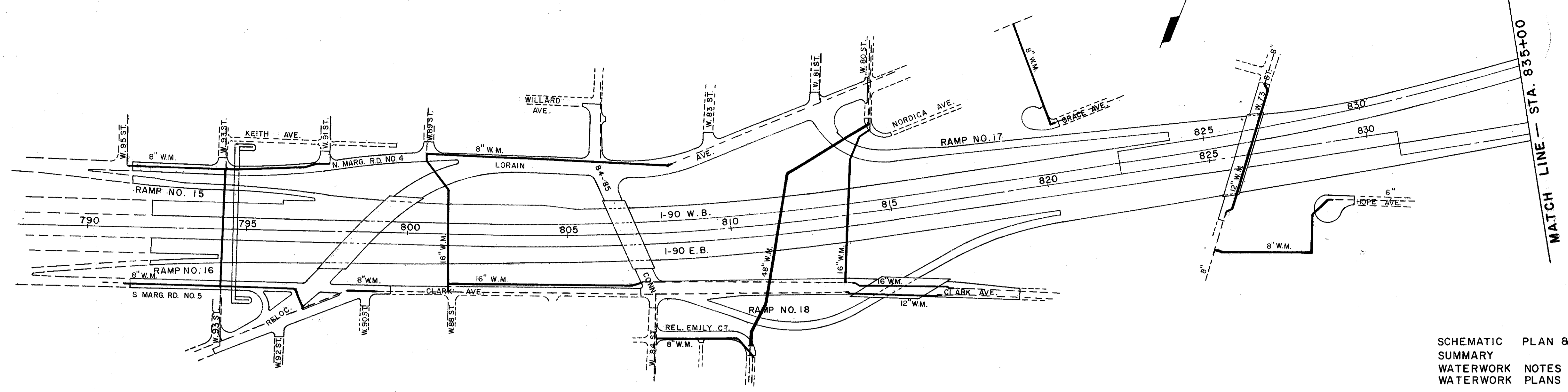
**PAVEMENT REMOVALS**

FED. RD.	STATE	PROJECT
2	OHIO	

365  
838

CUYAHOGA COUNTY  
CUY-90-11.64

1  
60

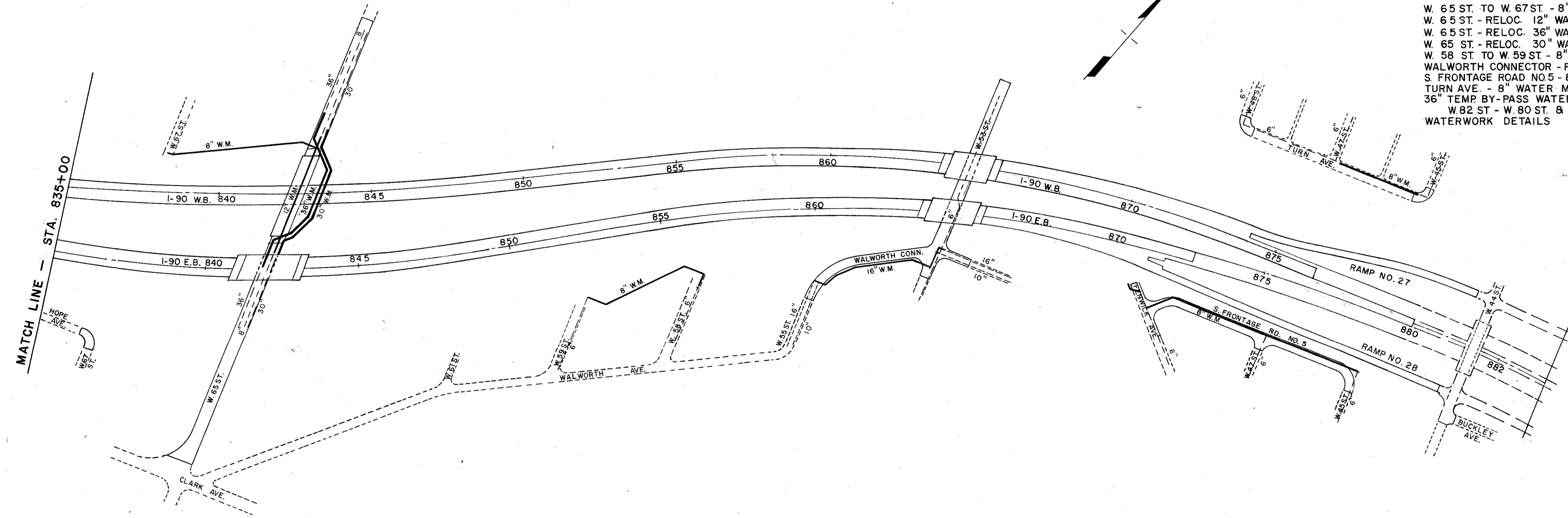


**INDEX**  
DESCRIPTION

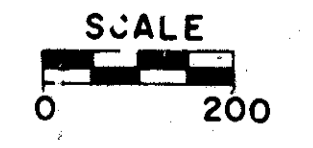
DESCRIPTION	SHEET NO
SCHEMATIC PLAN & INDEX	365
SUMMARY	366-367
WATERWORK NOTES	368-380
WATERWORK PLANS	381-388

**PLAN & PROFILE**

MARGINAL ROAD NO. 4 - 8" WATER MAIN	390-391
MARGINAL ROAD NO. 5 - LORAIN & CLARK AVE. - 8" WATER MAINS	392
MARGINAL ROAD NO. 5-W. 93RD. ST. TO LORAIN AVE. - 8" WATER MAIN	392A
W. 93 RD. ST. MARGINAL ROAD NO. 5 TO MARGINAL ROAD NO. 4 - 12" WATER MAIN	393
W. 89 ST. - S. OF I-90 TO N. OF I-90 - 16" WATER MAIN	394
CLARK AVE. - 16" WATER MAINS	395-396
N. MARGINAL ROAD NO. 4 & RELOC. LORAIN AVE. - 8" WATER MAIN	397-398
RELOC. EMILY COURT - 8" WATER MAIN	399
RELOC. EMILY COURT TO W. 80 ST. & LORAIN AVE. - RELOC. 48" WATER MAIN	400-401
W. 80 ST. - RELOC. 16" WATER MAIN	402
W. 79 ST. - 8" WATER MAIN	403
CLARK AVE. AT RAMP NO. 18 - RELOC. 12" WATER MAIN	404
CLARK AVE. AT RAMP NO. 18 - RELOC. 16" WATER MAIN	405
W. 73 ST. - RELOC. 12" WATER MAIN	406
MIRLO COURT - 8" WATER MAIN	407
W. 65 ST. TO W. 67 ST. - 8" WATER MAIN	407A
W. 65 ST. - RELOC. 12" WATER MAIN	408
W. 65 ST. - RELOC. 36" WATER MAIN	409
W. 65 ST. - RELOC. 30" WATER MAIN	410
W. 58 ST. TO W. 59 ST. - 8" WATER MAIN	410A
WALWORTH CONNECTOR - RELOC. 16" WATER MAIN	411
S. FRONTAGE ROAD NO. 5 - 8" WATER MAIN	412-413
TURN AVE. - 8" WATER MAIN	414
36" TEMP BY-PASS WATER MAINS - RELOC. EMILY COURT & W. 82 ST. - W. 80 ST. & LORAIN AVE.	415
WATERWORK DETAILS	416-424



**WATERWORK  
SCHEMATIC PLAN**





# QUANTITY SUMMARY

## WATERWORK

FED. RD.	STATE	PROJECT
	OHIO	

CUYAHOGA COUNTY  
CUY - 90 - 11.64

367  
838  
3  
60

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY M.R.S. DATE 4/74

TYPE CODE Y060

SHEET NUMBER																										SID			DESCRIPTION											
369	376	378	389	390	391	392	392A	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	407A	408	409	410	410A	411		412	413	414	415	ITEM	QUANTITY	UNIT				
			1																															SPECIAL	1	EACH	WATERWORK			
			60																															SPECIAL	60	EACH	METER VAULT REMOVED (1-1/2").			
			233																															SPECIAL	233	EACH	VALVE BOX REMOVED.			
			3																															SPECIAL	3	EACH	SERVICE BOX REMOVED.			
			18																															SPECIAL	18	EACH	METER VAULT REMOVED (3/4" - 1-1/4").			
			23																															SPECIAL	23	EACH	DRAIN VAULT REMOVED.			
																																			SPECIAL	20	EACH	ADJUST VALVE BOX TO GRADE.		
																																			SPECIAL	24	EACH	ADJUST SERVICE BOX TO GRADE.		
																																				SPECIAL	1	EACH	ACCESS AND ANCHORAGE MANHOLE TYPE C ADJUSTED TO GRADE.	
																																				SPECIAL	1	EACH	ACCESS AND ANCHORAGE MANHOLE TYPE C REMOVED.	
			228																																	SPECIAL	228	EACH	PLUGGING SERVICE CONNECTION - 3/4".	
			2																																	SPECIAL	2	EACH	PLUGGING SERVICE CONNECTION - 1".	
			2																																	SPECIAL	2	EACH	PLUGGING SERVICE CONNECTION - 1-1/2".	
			2																																	SPECIAL	2	EACH	PLUGGING SERVICE CONNECTION - 2".	
																																				SPECIAL	1	EACH	PLUGGING EXIST. 4" WATER MAIN AND BRANCH.	
			15																																	SPECIAL	15	EACH	PLUGGING EXIST. 6" WATER MAIN AND BRANCH.	
																																					SPECIAL	12	EACH	SERVICE CONNECTION EXTENDED - 3/4".
																																					SPECIAL	1	EACH	SERVICE CONNECTION EXTENDED - 1".
																																					SPECIAL	7	EACH	RELOCATE, RETAP AND RECONNECT SERVICE CONNECTION - 3/4".
																																					SPECIAL	8	EACH	ACCESS AND ANCHORAGE MANHOLE FRAME AND COVER
																																					LUMP	LUMP	LUMP	48" STOPPLE.
																																					SPECIAL	1	EACH	36" - (300# FLANGE) SANDWICH TAPPING VALVE.
																																					SPECIAL	2	EACH	30" - (600# FLANGE) SANDWICH TAPPING VALVE.
																																					SPECIAL	1	EACH	30" TAPPING VALVE WITH FLANGED END.
																																					SPECIAL	2	EACH	30" EXTRA CONCRETE PRESSURE PIPE FITTINGS.
																																					SPECIAL	2	EACH	36" EXTRA CONCRETE PRESSURE PIPE FITTINGS.
																																					SPECIAL	2	EACH	48" EXTRA CONCRETE PRESSURE PIPE FITTINGS.
																																					SPECIAL	4	M&F	SHEETING AND BRACING LEFT IN PLACE.
																																					202	447	LIN. FT.	PIPE REMOVED AS PER PLAN. (30", 36", 48")
																																					SPECIAL	16	EACH	FURNISHING AND SETTING 6" FIRE HYDRANT
																																					SPECIAL	21	EACH	FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS.
																																					SPECIAL	2	EACH	6" FIRE HYDRANT REMOVED.

APPROVED 4-10 1975

*[Signature]*  
DIRECTOR OF PUBLIC UTILITIES  
*[Signature]*  
COMMISSIONER OF WATER & HEAT  
*[Signature]*  
COMMISSIONER - DIVISION OF UTILITIES ENGINEERING

ENGINEER OF DESIGN REVIEW *[Signature]*

REVISIONS	

**1st HIGH SERVICE DISTRICT**  
DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF WATER AND HEAT  
CLEVELAND, OHIO

SUBJECT: **WATERWORK SUMMARY OF QUANTITIES**

DRAWN	SCALE
CHECKED	DATE
No.	

SCOPE OF WORK

THE WORK CONTEMPLATED UNDER THIS CONTRACT COMPRISES THE FURNISHING AND INSTALLING OF CAST IRON PIPE, CAST IRON CEMENT LINED PIPE, DUCTILE IRON CEMENT LINED PIPE, GALVANIZED EXTRA-STRONG WELDED STEEL PIPE, AND PRESTRESSED CONCRETE CYLINDER PIPE, WITH ALL APPURTENANCES, COMPLETE IN ALL DETAILS, TESTED AND READY FOR OPERATION. THE CONTRACTOR SHALL DO ALL THE WORK AND FURNISH ALL THE LABOR AND MATERIALS NECESSARY FOR THE PROPER AND FINAL COMPLETION OF THIS CONTRACT IN THE MANNER AND UNDER THE CONDITIONS HEREIN SPECIFIED AND PROVIDED, AND IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

LOCATION AND DESCRIPTION OF

PRINCIPLE WATER WORK

- MARGINAL ROAD NO. 4 - 8" WATER MAIN
- MARGINAL ROAD NO. 5 - LORAIN & CLARK AVENUE - 8" WATER MAINS
- MARGINAL ROAD NO. 5 - W. 93RD STREET TO LORAIN AVENUE - 8" WATER MAIN
- W. 93RD STREET - MARGINAL ROAD NO. 5 TO MARGINAL ROAD NO. 4 - 12" WATER MAIN
- W. 89TH STREET - S. OF I-90 TO N. OF I-90 - 16" WATER MAIN
- CLARK AVENUE - 16" WATER MAINS
- N. MARGINAL ROAD NO. 4 AND RELOCATED LORAIN AVENUE - 8" WATER MAIN
- RELOCATED EMILY COURT - 8" WATER MAIN
- RELOCATED EMILY COURT TO W. 80TH STREET AND LORAIN AVENUE - RELOCATED 48" WATER MAIN
- W. 80TH STREET - RELOCATED 16" WATER MAIN
- W. 79TH STREET - 8" WATER MAIN
- CLARK AVENUE AT RAMP NO. 18 - RELOCATED 12" WATER MAIN
- CLARK AVENUE AT RAMP NO. 18 - RELOCATED 16" WATER MAIN
- W. 73RD STREET - RELOCATED 12" WATER MAIN
- MIRLO COURT - 8" WATER MAIN
- W. 65TH STREET TO W. 67TH STREET - 8" WATER MAIN
- W. 65TH STREET - RELOCATED 12" WATER MAIN
- W. 65TH STREET - RELOCATED 36" WATER MAIN
- W. 65TH STREET - RELOCATED 30" WATER MAIN
- W. 58TH STREET TO W. 59TH STREET - 8" WATER MAIN
- WALWORTH CONNECTOR - RELOCATED 16" WATER MAIN
- S. FRONTAGE ROAD NO. 5 - 8" WATER MAIN
- TURN AVENUE - 8" WATER MAIN

DEFINITIONS

WHEREVER IN THESE SPECIFICATIONS OR IN OTHER CONTRACT DOCUMENTS THE FOLLOWING TERMS OR PRONOUNS IN PLACE OF THEM ARE USED, THE INTENT AND MEANING SHALL BE INTERPRETED AS FOLLOWS:

THE STATE

THE STATE IS THE STATE OF OHIO ACTING THROUGH ITS AUTHORIZED REPRESENTATIVE.

ENGINEER

THE ENGINEER IS DIVISION DEPUTY DIRECTOR OR DIVISION ENGINEER, THE DIVISION CONSTRUCTION ENGINEER OR THE DIVISION MAINTENANCE ENGINEER OR THE PROJECT ENGINEER ASSIGNED TO ADMINISTER THE CONTRACT.

THE CITY

THE CITY IS THE DIRECTOR, DEPARTMENT OF PUBLIC UTILITIES OF THE CITY OF CLEVELAND

STATUS OF CITY INSPECTOR

INSPECTORS AS DESIGNATED BY THE DIRECTOR OF PUBLIC UTILITIES SHALL BE AUTHORIZED TO INSPECT ALL WORK DONE AND MATERIALS FURNISHED. SUCH INSPECTION MAY EXTEND TO ALL OR ANY PART OF THE WATERWORKS, AND TO THE PREPARATION OR MANUFACTURE OF THE MATERIALS TO BE USED IN THE WATERWORKS. THE CITY INSPECTORS AS DESIGNATED BY THE DIRECTOR OF PUBLIC UTILITIES SHALL MAKE WORK INSTRUCTIONS THROUGH THE PROJECT ENGINEER.

ACCESS TO WORK AND PLACE OF MANUFACTURE

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND DIRECTOR OF PUBLIC UTILITIES, AT LEAST SEVEN (7) DAYS PRIOR TO THE COMMENCEMENT OF THE MANUFACTURE OF ANY MATERIALS, OF THE TIME AND PLACE WHERE THE MANUFACTURE IS TO COMMENCE, IN ORDER THAT A REPRESENTATIVE OF THE ENGINEER AND DIRECTOR MAY BE PRESENT TO INSPECT THE MANUFACTURE. THE CONTRACTOR SHALL PROVIDE, WITHOUT CHARGE OR EXPENSE TO THE STATE AND CITY, ALL NECESSARY ASSISTANCE TO THE ENGINEER AND DIRECTOR WHEN REQUIRED FOR INSPECTION OR VERIFICATION OF WORK DONE.

DIMENSIONS, DETAILED DRAWINGS & ELEVATIONS

(A) - FIGURED DIMENSIONS ON DRAWINGS SHALL TAKE PRECEDENCE OVER MEASUREMENTS BY SCALE, AND DETAILED DRAWINGS ARE TO TAKE PRECEDENCE OVER GENERAL DRAWINGS AND SHALL BE CONSIDERED AS EXPLANATORY OF THEM AND NOT AS INDICATING EXTRA WORK. IF, HOWEVER, ANY OF THE DETAILED DRAWINGS SHOW MORE ELABORATE OR EXPENSIVE WORK THAN IS SPECIFIED AND INDICATED BY THE CONTRACT DRAWINGS, NOTICE THEREOF MUST BE GIVEN TO THE ENGINEER BY THE CONTRACTOR WITHIN TEN (10) DAYS AFTER THE RECEIPT OF SUCH DETAILED DRAWINGS IN ORDER THAT THE DRAWINGS MAY BE AMENDED OR THE ADDITIONAL EXPENSE ON ACCOUNT OF SUCH WORK MAY BE ADJUSTED AND AUTHORIZED. IF THE ENGINEER DOES NOT RECEIVE SUCH NOTICE FROM THE CONTRACTOR WITHIN TEN (10) DAYS AFTER DETAILED DRAWINGS HAVE BEEN RECEIVED BY HIM, IT IS HEREBY AGREED THAT THE CONTRACTOR ACCEPTS THE DRAWINGS AND WILL EXECUTE THEM WITHOUT CLAIM FOR EXTRA COMPENSATION.

FLOODS & FREEZING WEATHER

PROPER FACILITIES SHALL BE PROVIDED FOR PROTECTING THE WORK FROM DAMAGE BY FLOOD, RAIN OR FROST, AND WORK DONE IN FREEZING WEATHER SHALL BE DONE IN SUCH MANNER AS THE ENGINEER MAY APPROVE. VALVES SHALL BE PROTECTED FROM FREEZING UNTIL BACKFILLED IN THE COMPLETED WORK.

# WATERWORK NOTES

ADDITIONAL WORK

(A) - ATTENTION IS CALLED TO THE FACT THAT THE WORK OF THIS CONTRACT INCLUDES CERTAIN PERFORMANCES AS INCIDENTAL TO THE ITEMIZED REQUIREMENTS HEREOF AND, THOUGH NOT EXCLUSIVE, ARE AS FOLLOWS: TO PERFORM ALL EXCAVATION, BACKFILLING, SHEETING, BRACING, TEMPORARY AND FINAL REPAVING AND TO TEST THE INSTALLATION. SAND BACKFILL SHALL BE PLACED UNDER EXISTING AND PROPOSED PAVEMENT AND SIDEWALK. FOR THE PERFORMANCES HEREIN DESCRIBED AND FOR OTHER INCIDENTAL PERFORMANCES OF LIKE NATURE, THE STATE WILL MAKE NO SPECIFIC OR SEPARATE PAYMENT OR ALLOWANCE, BUT THE COST THEREOF SHALL BE INCLUDED IN THE PRICES STIPULATED TO BE PAID FOR THE VARIOUS ITEMS OF THE WORK TO BE DONE UNDER THIS CONTRACT.

(B) - PRELIMINARY FLUSHING BEFORE BEING PLACED IN SERVICE ALL DIRT AND FOREIGN MATTER SHALL BE REMOVED FROM THE NEW WATER MAIN OR EXTENSIONS TO EXISTING MAINS BY A THOROUGH FLUSHING THROUGH THE HYDRANTS OR BY OTHER APPROVED MEANS. EACH VALVED SECTION OF NEWLY LAID PIPE SHALL BE FLUSHED INDEPENDENTLY. THIS SHALL BE DONE AFTER THE PRESSURE TEST AND MAY BE DONE BEFORE OR AFTER THE TRENCH SHALL HAVE BEEN BACKFILLED.

(C) - CHLORINATION: FOLLOWING PRELIMINARY FLUSHING, THE NEWLY LAID WATER PIPE SHALL BE CHLORINATED. THE PROCESS OF CHLORINATING, THE METHOD OF PROCEDURE, THE CHLORINATING AGENT, AND THE RATE OF APPLICATION SHALL BE DETERMINED BY THE ENGINEER. THE CITY WILL FURNISH THE NECESSARY LABOR AND MATERIAL REQUIRED FOR SUCH CHLORINATION AND INSTALL THE NECESSARY TAPS AT THE ENDS OF THE WATER MAIN SECTIONS TO BE CHLORINATED. NO CHARGE WILL BE ASSESSED THE CONTRACTOR FOR ANY MATERIAL, LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS FURNISHED BY THE CITY OF CLEVELAND, DIVISION OF WATER, FOR THE CHLORINATION AND THE SAMPLING OF THE WATER. THE CONTRACTOR SHALL FURNISH THE NECESSARY LABOR FOR EXCAVATING AND BACKFILLING WHICH WILL BE REQUIRED FOR THE INSTALLATION OF TAPS FOR INJECTING THE CHLORINE SOLUTION, OPERATING PUMPS AND FLUSHING MAINS.

(D) - FINAL FLUSHING AND TEST: FOLLOWING CHLORINATION, ALL TREATED WATER SHALL BE THOROUGHLY FLUSHED FROM THE NEWLY LAID PIPE AT ITS EXTREMITIES UNTIL THE REPLACEMENT WATER THROUGHOUT ITS LENGTH SHALL, UPON TEST, BOTH CHEMICALLY AND BACTERIOLOGICALLY, BE PROVEN EQUAL TO THE WATER QUALITY SERVED THE PUBLIC FROM THE EXISTING WATER SUPPLY SYSTEM.

MAINTENANCE OF SERVICE AND CONNECTING RELOCATED MAINS

THE CONTRACTOR SHALL FOLLOW STRICTLY THE SEQUENCE OF CONSTRUCTION SHOWN ON THE PLANS. ALL EXISTING FIRE HYDRANT LEADS AND HOUSE SERVICES SHALL BE HAND TUNNELED USING SPECIAL CARE TO AVOID ANY DAMAGE WHICH MIGHT REQUIRE SHUTTING DOWN THE EXISTING MAIN UNTIL THE NEW MAIN IS READY TO BE PLACED IN SERVICE.

WHEN THE NEW MAINS HAVE BEEN TESTED AND CHLORINATED AND ARE READY TO BE CONNECTED TO THE OLD MAIN, THE CONTRACTOR SHALL MAKE SUCH CONNECTIONS AT A TIME DESIGNATED BY THE CITY. PRIOR TO SHUTTING DOWN THE EXISTING MAINS, THE CONTRACTOR SHALL TAKE SUITABLE PRECAUTIONS TO ASSURE A MINIMUM INTERRUPTION TO SERVICE, INCLUDING THE FOLLOWING:

1. PERFORM ALL NECESSARY EXCAVATION, INCLUDING BELL HOLES EXPOSING THE EXISTING MAIN SUFFICIENTLY FOR THE OPERATION OF THE PIPE SAW BY THE CITY.
2. REMOVE THE CAP OR PLUG FROM THE END OF THE NEW MAIN.
3. SWAB THE INSIDE OF ALL PIPES, BENDS AND SLEEVES TO BE USED IN CONNECTION THOROUGHLY WITH A CHLORINE SOLUTION OF AT LEAST 100 P.P.M.
4. MAKE-UP AS MUCH OF THE CONNECTION AS POSSIBLE OUTSIDE THE DITCH TO ELIMINATE THE NEED FOR CAULKING MOST OF THE NECESSARY JOINTS DURING THE SHUTDOWN. BY CAREFUL MEASUREMENT ALL PIPE CUTS CAN BE MADE BY THE CONTRACTOR PRIOR TO SHUTTING DOWN.
5. HAVE SUFFICIENT MANPOWER AND EQUIPMENT ON THE SITE TO PERFORM THE OPERATION IN A MINIMUM OF TIME.

PAINTING

(A) - IT IS THE INTENTION OF THESE SPECIFICATIONS TO PROVIDE THAT ALL METAL WORK SUBJECT TO CORROSION SHALL BE SATISFACTORILY PROTECTED BY A DURABLE COATING OF PAINT OR OTHER APPROVED MATERIAL AND THAT ALL METAL SURFACES NOT BURIED IN EARTH, OR IN CONCRETE, SHALL BE LEFT CLEAN AND WELL PAINTED AT THE COMPLETION OF THE CONTRACT, UNLESS OTHERWISE SPECIFIED, THE PROTECTION SHALL BE AT LEAST THAT GIVEN BY THREE (3) COATS OF APPROVED PAINT. THE FIRST COAT IS TO BE APPLIED AT THE SHOP BEFORE THE METAL HAS RUSTED AND AFTER ALL GREASE, DIRT AND SCALE HAS BEEN REMOVED. BOLTS AND NUTS SHALL NOT BE SHOP COATED, BUT SHALL RECEIVE THREE (3) COATS OF APPROVED PAINT AFTER INSTALLATION.

(B) - ALL METAL WORK WHICH HAS NOT BEEN COATED BEFORE THE ARRIVAL ON THE JOB SHALL BE GIVEN A TEMPORARY PROTECTIVE COATING OF SUCH A NATURE AS TO PERMIT THE READY ADHERENCE OF FUTURE COATINGS. THE TEMPORARY COATING SHALL BE A GOOD GRADE ASPHALTIC PAINT OR OTHER APPROVED MATERIAL. THIS TEMPORARY PROTECTION SHALL APPLY PARTICULARLY TO THE FOLLOWING MATERIAL, AND ELSEWHERE WHEN IN THE OPINION OF THE ENGINEER, SUCH PROTECTION IS NECESSARY.

- MANHOLE RINGS AND COVERS
- LADDERS AND LADDER RUNGS
- DRESSER TYPE COUPLINGS
- VICTAULIC TYPE COUPLINGS
- VALVE BOXES AND COVERS

(C) - ALL SURFACES OF METAL WHICH WILL BE IN CONTACT AFTER ASSEMBLING SHALL BE PAINTED, AT LEAST ONE COAT, BEFORE ASSEMBLING. THE FINAL COAT OF PAINT ON ALL EXPOSED WORK SHALL BE GIVEN SHORTLY BEFORE THE COMPLETION OF THE CONTRACT.

(D) - WHERE PAINTING CLAUSES APPEAR HEREINAFTER, THEY SHALL TAKE PRECEDENCE OVER THIS SECTION, EXCEPT THAT TEMPORARY PROTECTION HEREIN DESCRIBED MAY BE REQUIRED.

(E) - ALL OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE PARTICULAR ITEM REQUIRING THE PAINTING.

TESTS, INSPECTION AND REPORTS

NOT WITHSTANDING THE REQUIREMENTS OF ANY OTHER PROVISIONS OF THESE SPECIFICATIONS, THE CONTRACTOR SHALL ARRANGE FOR AND PAY ALL COSTS INVOLVED FOR SHOP INSPECTION OF ALL MATERIALS FURNISHED, MANUFACTURE OF ALL PIPE, VALVES, FITTINGS, ETC., FIELD AND SHOP WELDS AND WELDING, AND FURNISH TO THE STATE AND THE CITY COPIES OF ALL SHOP, FABRICATION, MANUFACTURE AND OTHER RELATED INSPECTION REPORTS OF MATERIALS FURNISHED. THIS INSPECTION SHALL BE DONE BY A RECOGNIZED INSPECTION LABORATORY APPROVED BY THE CITY.

IN THE CASE OF ANY ITEM NOT SPECIFICALLY MENTIONED IN THE "WATERWORK NOTES" THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, "CONSTRUCTION AND MATERIAL SPECIFICATIONS, JANUARY 1, 1973."

HANDLING PIPE AND ACCESSORIES

(A) - UNLOADING: CAST IRON OR DUCTILE IRON PIPE, FITTINGS, VALVES, HYDRANTS, AND OTHER ACCESSORIES SHALL, UNLESS OTHERWISE DIRECTED, BE UNLOADED AT THE POINT OF DELIVERY, HAULED TO AND DISTRIBUTED AT THE SITE OF THE PROJECT BY THE CONTRACTOR; THEY SHALL AT ALL TIMES BE HANDLED WITH CARE TO AVOID DAMAGE. IN LOADING AND UNLOADING THEY SHALL BE LIFTED BY HOISTS OR SLID, OR ROLLED ON SKIDWAYS IN SUCH MANNER AS TO AVOID SHOCK. UNDER NO CIRCUMSTANCES SHALL THEY BE DROPPED. PIPE HANDLED ON SKIDWAYS MUST NOT BE SKIDDED OR ROLLED AGAINST PIPE ALREADY ON THE GROUND.

(B) - AT SITE OF WORK: IN DISTRIBUTING THE MATERIAL AT THE SITE OF THE WORK, EACH PIECE SHALL BE UNLOADED OPPOSITE OR NEAR THE PLACE WHERE IT IS TO BE LAID IN THE TRENCH.

(C) - PROTECTION OF PIPE COATING: PIPE SHALL BE HANDLED IN SUCH MANNER THAT A MINIMUM AMOUNT OF DAMAGE TO THE COATING WILL RESULT. ANY CAST IRON OR DUCTILE IRON PIPE OR FITTING, THE COATING OF WHICH HAS BEEN DAMAGED IN SHIPPING OR HANDLING, SHALL HAVE THE DAMAGED PORTION WELL CLEANED AND COVERED WITH AN ASPHALT PAINT, APPROVED BY THE ENGINEER, BEFORE BEING PLACED IN THE WORK. THE CONTRACTOR SHALL THOROUGHLY COAT ALL EXPOSED PARTS OF BOLTS AND NUTS WITH AN APPROVED ASPHALT PAINT AFTER ALL PIPE HAS BEEN LAID AND BEFORE BACKFILLING HAS BEEN PLACED. ALL FIELD COATING SHALL BE FURNISHED BY THE CONTRACTOR.

(D) - PIPE KEPT CLEAN: THE INTERIOR OF THE PIPE, FITTINGS AND OTHER ACCESSORIES SHALL BE KEPT FREE FROM DIRT AND FOREIGN MATTER AT ALL TIMES.

(E) - FROST PROTECTION: VALVES AND HYDRANTS BEFORE INSTALLATION SHALL BE DRAINED AND STORED IN A MANNER THAT WILL PROTECT THEM FROM DAMAGE BY FREEZING.

CHANGES IN WATER PIPES

(A) - IN SUCH LOCATIONS AS MAY BE INDICATED ON THE CONTRACT DRAWINGS OR AS ORDERED BY THE ENGINEER TO CHANGE THE LOCATION OF HOUSE CONNECTIONS, SUCH CHANGES WILL BE MADE AS WORK TO BE DONE BY THE CITY. THE CONTRACTOR SHALL NOTIFY THE CITY IN AMPLE TIME TO PERMIT THE CITY TO MAKE SUCH CHANGES AND AVOID UNNECESSARY DELAY IN THE COMPLETION OF THE WORK. THE CONTRACTOR SHALL ALSO COOPERATE WITH THE CITY IN MAKING THESE CHANGES AND SHALL DO ALL EXCAVATING, BACKFILLING, SEEDING, SODDING AND REPAVING AS MAY BE REQUIRED. PAYMENT FOR THE WORK PERFORMED BY THE CONTRACTOR WILL BE AT THE UNIT PRICE BID FOR THE APPROPRIATE SERVICE CONNECTIONS. SEE WORK TO BE DONE BY THE CITY.

(B) - WHEREVER IT BECOMES NECESSARY, IN THE OPINION OF THE ENGINEER, TO CHANGE THE LOCATION OR ELEVATION OF WATER MAINS AND HYDRANTS AND WHERE CONNECTIONS ARE TO BE MADE BETWEEN EXISTING DISTRIBUTION MAINS AND WATER MAINS UNDER THIS CONTRACT, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING WATER LINE MATERIALS REQUIRED TO MAKE THE CONNECTION, AND SHALL FURNISH AND INSTALL COMPLETE, ALL THE CAST IRON OR DUCTILE IRON PIPE, PRESTRESSED CONCRETE CYLINDER PIPE, FITTINGS AND VALVES TO MAKE THE CONNECTIONS INDICATED, EXCEPT TAPPING SLEEVES AND VALVES WHICH WILL BE INSTALLED BY THE CITY. THE CONTRACTOR SHALL ALSO FURNISH ALL NECESSARY LABOR, MATERIALS, TOOLS, AND EQUIPMENT AND MAKE THE EXCAVATION, BACKFILL AND REPAVING FOR SUCH CONNECTIONS. PAYMENT FOR THIS WILL BE INCLUDED IN PRICE BID UNDER APPROPRIATE ITEM FOR SIZE OF WATER MAIN OR CONNECTION TO BE INSTALLED. ALL PIPES, VALVES AND APPURTENANCES REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR. (SEE WORK TO BE DONE BY THE CITY.)

APPROVED 4-10-75

REVISIONS		<b>1st HIGH SERVICE DISTRICT</b>	
		<b>DEPARTMENT OF PUBLIC UTILITIES</b>	
		<b>DIVISION OF WATER AND HEAT</b>	
		<b>CLEVELAND, OHIO</b>	
		<b>SUBJECT WATERWORK NOTES</b>	
DRAWN	SCALE		
CHECKED <u>W.R.S.</u>	DATE <u>1-17-74</u>	No.	

FED. RD.	STATE	PROJECT
2	OHIO	

369  
838

CUYAHOGA COUNTY  
CUY - 90 -11-64

5  
60

# WATERWORK NOTES

## WORK TO BE DONE BY THE CITY

- (A) - THE CITY WATER DEPARTMENT WILL FURNISH THE PIPING MATERIAL FOR AND MAKE ALL CHANGES REQUIRED, INCLUDING TAPPING; IN THE LOCATION OF EXISTING HOUSE SERVICE CONNECTIONS AND METERS. NO CHARGE WILL BE ASSESSED THE CONTRACTOR FOR MATERIAL, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS FURNISHED BY THE CITY OF CLEVELAND, DIVISION OF WATER.
- (B) - THE CITY WATER DEPARTMENT WILL INSTALL ALL TAPPING SLEEVES AND VALVES, BUT THE CONTRACTOR SHALL SUPPLY THE TAPPING SLEEVES AND VALVES AND LEAD, EXCEPT ON 16" AND OVER, AND P.C.C.P. WATER MAIN WHICH SHALL BE DONE BY THE CONTRACTOR AS APPROVED BY THE DEPARTMENT OF PUBLIC UTILITIES. THE CONTRACTOR SHALL FURNISH ALL AIR COMPRESSORS REQUIRED FOR THE WORK. NO CHARGE WILL BE ASSESSED THE CONTRACTOR FOR THE LABOR AND INSTALLATION COST INCIDENTAL TO THE WORK PERFORMED BY THE CITY OF CLEVELAND, DIVISION OF WATER.
- (C) - IN LOCATIONS WHERE BRANCH SLEEVES AND VALVES CANNOT BE INSTALLED, THE CONTRACTOR WILL BE REQUIRED TO CUT IN TEES AND SLEEVE IN THE REMAINDER OF THE CUT SECTION OF THE EXISTING MAIN. TO SPEED UP THIS OPERATION, IT IS CALLED TO THE CONTRACTOR'S ATTENTION THAT THE WATER DEPARTMENT HAS ON HAND AT HARVARD YARDS MOTOR OPERATED PIPE CUTTERS WHICH ARE AVAILABLE FOR CUTTING PIPE BY CITY FORCES AT THE FOLLOWING RATES. THESE PRICES INCLUDE COST OF LABOR, USE OF PIPE CUTTING MACHINE, AND TRUCK. THE CONTRACTOR SHALL DO ALL NECESSARY EXCAVATION, BACKFILLING AND REPAVING AND ALL AIR COMPRESSOR EQUIPMENT SHALL BE FURNISHED BY THE CONTRACTOR.
- |                  |              |
|------------------|--------------|
| SIZE OF PIPE     | COST PER CUT |
| 6", 8", 12", 16" | \$30.00      |
- ### EXCAVATION
- (A) - THE CONTRACTOR SHALL REMOVE ALL EXISTING STRUCTURES, ROADWAYS, DRIVEWAYS AND OTHER SIMILAR MATERIALS AND MAKE TO THE LINES AND GRADES GIVEN, ALL EXCAVATION NECESSARY FOR THE PROPER CONSTRUCTION OF THE WATER MAIN, PIPE CONNECTIONS AND APPURTENANT STRUCTURES, INCLUDING TUNNEL AND SHAFT EXCAVATION. THE EXCAVATION SHALL INCLUDE THE REMOVAL, HANDLING, REHANDLING AND DISPOSAL OF MATERIALS ENCOUNTERED IN THE WORK AND SHALL INCLUDE ALL PUMPING, BAILING, DRAINING, SHEETING AND BRACING. MOREOVER, THE CONTRACTOR MUST ASSUME ALL RESPONSIBILITY FOR ANY ADDED EXPENSE OR OTHER LIABILITY WHICH MAY ARISE BY MEANS OF QUICKSAND, OBSTACLES OR CONDITIONS FORESEEN OR UNFORESEEN AND ENCOUNTERED IN THE WORK OF THIS CONTRACT.
- (B) - TRENCHES SHALL IN EVERY CASE BE OF SUFFICIENT WIDTH TO PERMIT SOLID PACKING OF REFILL UNDER AND AROUND PIPES, AND SATISFACTORY CONSTRUCTION OF ALL APPURTENANCES AND FOR SUCH SHEETING AND BRACING, PUMPING AND DRAINING AS MAY BE NECESSARY.
- (C) - THE TRENCH SHALL BE DUG TO THE ALIGNMENT AND DEPTH REQUIRED AND ONLY SO FAR IN ADVANCE OF PIPE LAYING AS THE ENGINEER SHALL PERMIT. THE TRENCH SHALL BE SO BRACED AND DRAINED THAT WORKMEN MAY WORK THEREIN SAFELY AND EFFICIENTLY. IT IS ESSENTIAL THAT THE DISCHARGE FROM PUMPS BE LED TO NATURAL DRAINAGE CHANNELS, TO DRAINS, OR TO SEWERS.
- (D) - THE TRENCH WIDTH MAY VARY WITH AND DEPEND UPON THE DEPTH OF TRENCH AND THE NATURE OF THE EXCAVATED MATERIAL ENCOUNTERED, BUT IN ANY CASE SHALL BE OF AMPLE WIDTH TO PERMIT THE PIPE TO BE LAID AND JOINTED PROPERLY AND OF THE BACKFILL TO BE PLACED AND COMPACTED PROPERLY. THE MINIMUM WIDTH OF UNSHETED TRENCH SHALL BE EIGHTEEN (18) INCHES AND FOR PIPE TEN (10) INCHES OR LARGER, AT LEAST TWELVE (12) INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE FOR CONCRETE PIPE AND EIGHTEEN (18) INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE FOR CAST IRON AND STEEL PIPE. EXCEPT BY CONSENT OF THE ENGINEER, THE MAXIMUM CLEAR WIDTH OF TRENCH SHALL BE NOT MORE THAN TWO (2) FEET GREATER THAN THE OUTSIDE PIPE DIAMETER. WHEN SHEETING AND BRACING IS USED, THE TRENCH WIDTH SHALL BE INCREASED ACCORDINGLY.
- (E) - THE TRENCH, UNLESS OTHERWISE SPECIFIED, SHALL HAVE A FLAT BOTTOM CONFORMING TO THE GRADE TO WHICH THE PIPE IS TO BE LAID. THE PIPE SHALL BE LAID UPON SOUND SOIL CUT TRUE AND EVEN, SO THAT THE BARREL OF THE PIPE WILL HAVE A BEARING FOR ITS FULL LENGTH.
- (F) - ANY PART OF THE TRENCH EXCAVATED BELOW GRADE SHALL BE CORRECTED WITH APPROVED MATERIAL, THOROUGHLY COMPACTED.
- (G) - WHEN THE UNCOVERED TRENCH BOTTOM AT SUBGRADE IS SOFT AND IN THE OPINION OF THE ENGINEER CANNOT SUPPORT THE PIPE, A FURTHER DEPTH AND/OR WIDTH SHALL BE EXCAVATED AND REFILLED TO PIPE FOUNDATION GRADE AS REQUIRED UNDER (F), OR OTHER APPROVED MEANS SHALL BE ADOPTED TO ASSURE A FIRM FOUNDATION FOR THE PIPE.
- (H) - LEDGE ROCK, BOULDERS, LARGE STONES, AND SHALE SHALL BE REMOVED TO PROVIDE A CLEARANCE OF AT LEAST SIX (6) INCHES BELOW ALL PARTS OF THE PIPE, VALVES, OR FITTINGS, AND TO A CLEAR WIDTH OF SIX (6) INCHES ON EACH SIDE OF ALL CONCRETE PIPE AND NINE (9) INCHES ON EACH SIDE OF ALL CAST IRON AND STEEL PIPE.
- (I) - EXCAVATION BELOW SUBGRADE IN ROCK, SHALE OR IN BOULDERS SHALL BE REFILLED TO SUBGRADE WITH APPROVED MATERIAL, THOROUGHLY COMPACTED.
- (J) - BELL HOLES OF AMPLE DIMENSIONS SHALL BE DUG IN EARTH TRENCHES AT EACH JOINT TO PERMIT THE JOINTING TO BE MADE PROPERLY. ADEQUATE CLEARANCE FOR PROPERLY JOINTING PIPE LAID IN ROCK SHALL BE PROVIDED AT BELL HOLES.
- (K) - THE USE OF EXCAVATING MACHINERY WILL BE PERMITTED EXCEPT IN PLACES WHERE OPERATION OF SAME WILL CAUSE DAMAGE TO TREES, BUILDINGS, OR EXISTING STRUCTURES ABOVE OR BELOW GROUND; IN WHICH CASE HAND METHODS SHALL BE EMPLOYED.
- (L) - TREES, FENCES, POLES AND ALL OTHER PROPERTY SHALL BE PROTECTED UNLESS THEIR REMOVAL IS AUTHORIZED. ANY PROPERTY DAMAGED SHALL BE SATISFACTORILY RESTORED BY THE CONTRACTOR
- (M) - HYDRANTS UNDER PRESSURE, VALVE PIT COVERS, VALVE BOXES, CURB STOP BOXES, FIRE OR POLICE CALL BOXES, OR OTHER UTILITY CONTROLS SHALL BE LEFT UNOBSTRUCTED AND ACCESSIBLE DURING THE CONSTRUCTION PERIOD.

- (N) - THE CONTRACTOR SHALL MAINTAIN ALL EXCAVATIONS IN GOOD ORDER DURING THE CONSTRUCTION, SO AS NOT TO HINDER OR INJURE THE PIPE LAYING, MASONRY OR OTHER WORK. HE SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT MOVEMENT OF THE SIDES OF SUCH EXCAVATION, AND SHALL REMOVE AT HIS OWN EXPENSE ANY MATERIAL SLIDING INTO THE EXCAVATION.
- ### SHEETING AND BRACING
- (A) - THE CONTRACTOR SHALL FURNISH AND PUT IN PLACE SUCH SHEETING AND BRACING AS MAY BE REQUIRED TO SUPPORT THE SIDES OF TRENCHES OR OTHER EXCAVATION AND SHALL REMOVE SUCH SHEETINGS AND BRACINGS, AS THE TRENCH OR EXCAVATION IS FILLED UP, UNLESS THE ENGINEER SHALL ORDER IT LEFT IN PLACE, IN WHICH CASE THE CONTRACTOR SHALL CUT THE PLANK OFF AT A HEIGHT AS ORDERED BY THE ENGINEER, OR AS CALLED FOR ON THE CONTRACT DRAWINGS. THAT PORTION OF THE TIMBER ORDERED TO BE LEFT IN PLACE WILL BE PAID FOR AT THE UNIT PRICE BIDDING PER THOUSAND FEET BOARD MEASURE. NO PAYMENT WILL BE MADE FOR WASTED ENDS.
- A QUANTITY OF 4 MBF HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR SHEETING AND BRACING LEFT IN PLACE
- (B) - WHENEVER THE EXCAVATIONS FOR THE WORK HEREIN TO BE DONE ARE IMMEDIATELY ADJACENT TO OTHER SUBSURFACE STRUCTURES, THE CONTRACTOR SHALL FURNISH AND PLACE SHEETING AND BRACING WHERE NOTED ON CONTRACT DRAWINGS AND AS MAY BE NECESSARY, SO AS TO REDUCE TO A MINIMUM THE POSSIBILITY OF INJURING OR DAMAGING THE SAME.
- (C) - IF THE ENGINEER IS OF THE OPINION THAT AT ANY POINT SUFFICIENT OR PROPER SUPPORTS, SHEETING, OR BRACINGS HAVE NOT BEEN PROVIDED, HE MAY ORDER ADDITIONAL SUPPORTS, SHEETING OR BRACING, AT THE EXPENSE OF THE CONTRACTOR, AND THE COMPLIANCE WITH SUCH ORDERS BY THE CONTRACTOR SHALL NOT RELIEVE OR RELEASE HIM FROM HIS RESPONSIBILITY FOR SUFFICIENCY OF SUCH SUPPORTS.
- ### REMOVAL OF EXCAVATED MATERIAL
- THIS ITEM SHALL BE SPECIFIED IN SECTION 203.05 OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, "CONSTRUCTION AND MATERIAL SPECIFICATIONS, JANUARY 1, 1975"
- ### LAYING PIPE
- (A) - PROPER IMPLEMENTS, TOOLS, AND FACILITIES, SATISFACTORY TO THE ENGINEER SHALL BE PROVIDED AND USED BY THE CONTRACTOR FOR THE SAFE AND CONVENIENT PROSECUTION OF THE WORK. ALL PIPE, FITTINGS, AND VALVES SHALL BE CAREFULLY LOWERED INTO THE TRENCH PIECE BY PIECE BY MEANS OF DERRICK, PROPER SLINGS, AND OTHER SUITABLE TOOLS OR EQUIPMENT, IN SUCH MANNER AS TO PREVENT DAMAGE TO PIPE OR COATING. UNDER NO CIRCUMSTANCES SHALL PIPE OR ACCESSORIES BE DROPPED OR DUMPED INTO THE TRENCH. IF ANY DEFECTIVE PIECE BE DISCOVERED WHILE PIPE IS SUSPENDED OR AFTER BEING LAID, A NEW PIECE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AT THE SITE OF THE WORK.
- (B) - ALL FOREIGN MATTER OR DIRT SHALL BE REMOVED FROM THE INSIDE OF THE PIPE BEFORE IT IS LOWERED INTO ITS POSITION IN THE TRENCH, AND IT SHALL BE KEPT CLEAN BY APPROVED MEANS DURING AND AFTER LAYING.
- (C) - AT TIMES WHEN PIPE LAYING IS NOT IN PROGRESS, THE OPEN ENDS OF PIPE SHALL BE CLOSED BY APPROVED MEANS, AND NO TRENCH WATER SHALL BE PERMITTED TO ENTER THE PIPE. NO PIPE SHALL BE LAID IN WATER, OR WHEN THE TRENCH CONDITIONS OR THE WEATHER IS UNSUITABLE FOR SUCH WORK, EXCEPT BY PERMISSION OF THE ENGINEER.
- (D) - WHEREVER NECESSARY TO DEFLECT PIPE FROM A STRAIGHT LINE, EITHER IN THE VERTICAL OR HORIZONTAL PLANE TO AVOID OBSTRUCTIONS, TO PLUMB STEMS OR FOR OTHER REASONS, THE DEGREE OF DEFLECTION SHALL BE APPROVED BY THE ENGINEER.
- (E) - BEFORE LAYING CAST IRON OR DUCTILE IRON PIPE, ALL LUMPS, BLISTERS AND EXCESS COAL TAR COATING SHALL BE REMOVED FROM THE BELL AND SPIGOT ENDS OF EACH PIPE. THE PIPE ENDS SHALL THEN BE KEPT CLEAN UNTIL JOINTS ARE MADE.
- (F) - PREPARATION OF PIPE ENDS FOR STEEL PIPE SHALL BE IN ACCORDANCE WITH THE A. W. W. A. SPECIFICATIONS C 201-66 AND C 202-64 FOR ELECTRIC FUSION WELDED STEEL WATER PIPE.
- (G) - BEFORE LAYING CONCRETE PIPE, THE PIPE ENDS SHALL BE MADE SMOOTH WITH EMERY CLOTH, FILE OF OTHER APPROVED MEANS, WIRE BRUSHED AND WIPED UNTIL CLEAN AND DRY. PIPE ENDS SHALL BE KEPT CLEAN UNTIL JOINTS ARE MADE. AFTER CLEANING AND DRYING, ALL CONTACT SURFACES OF THE GASKETS AND STEEL JOINT RINGS SHALL BE COATED WITH AN APPROVED FLAX SOAP BEFORE ENTERING THE SPIGOT AND INTO THE SOCKET. IMMEDIATELY AFTER THE JOINT IS PULLED TOGETHER THE PIPE SHALL BE BLOCKED WITH WOOD BLOCKING. A SURCIRCLE SHALL BE INSTALLED AROUND THE JOINT AND PIPE SHALL BE SECURED THERE WITH EARTH OR SAND AS REQUIRED, CAREFULLY TAMPED UNDER AND ON EACH SIDE OF IT UP TO THE SPRING LINE OF PIPE INCLUDING THE BELL HOLES. ALL BLOCKING SHALL BE REMOVED WHEN BACKFILL HAS REACHED THE SPRING LINE OF PIPE.
- (H) - (1) - BLOCKING: IF ORDERED BY THE DIRECTOR, PIPES SHALL BE LAID ON WOOD BLOCKING AND HELD IN CORRECT ALIGNMENT BY WOOD WEDGES PLACED TRANSVERSELY TO THE LINE OF PIPE. BLOCKING AND WEDGES SHALL BE CUT FROM SOUND LUMBER.
- (2) - DIMENSION SCHEDULE: BLOCKING AND WEDGES SHALL VARY IN SIZE WITH THE PIPE DIAMETER AND THE NATURE OF THE FOUNDATION MATERIAL AND THE SIZES SHALL CONFORM TO THE FOLLOWING SCHEDULE OF DIMENSIONS:
- | SIZE OF PIPE | BLOCKING       | WEDGES        |
|--------------|----------------|---------------|
| 6" AND 8"    | 2" X 10" X 24" | 4" X 4" X 10" |
| 10" THRU 24" | 2" X 10" X 30" | 4" X 4" X 10" |
| 30" AND 36"  | 3" X 10" X 36" | 4" X 4" X 12" |
| 48"          | 3" X 10" X 48" | 4" X 4" X 12" |
- (3) - NUMBER OF BLOCKS: PIPE 12 FEET LONG SHALL BE SUPPORTED ON TWO BLOCKS WITH THE CENTER OF EACH BLOCK PLACED 30 INCHES FROM THE JOINT. PIPE 16 AND/OR 18 FEET LONG SHALL BE SUPPORTED BY THREE BLOCKS AND PIPE 20 FEET LONG BY FOUR BLOCKS, THE BLOCKS IN EACH INSTANCE BEING PLACED 30 INCHES FROM THE JOINT.

## FLOATING

THE CONTRACTOR SHALL TAKE EVERY PRECAUTION AGAINST THE FLOATING OF THE PIPE DUE TO WATER COMING INTO THE TRENCH, OR THROUGH CAVING IN, FLUSHING OR PUDDLING. IN CASE OF SUCH FLOATING THE CONTRACTOR SHALL REPLACE THE PIPE AT HIS OWN EXPENSE, AND MAKE WHOLLY GOOD ANY INJURY OR DAMAGE WHICH MAY HAVE RESULTED.

## TESTING MAINS

- (A) - ALL PIPES, VALVES, FITTINGS, ETC., SHALL BE LAID IN SUCH A MANNER AS TO LEAVE ALL JOINTS WATERTIGHT. AFTER THE PIPE IS LAID, AND BEFORE BACKFILLING IS PLACED AROUND THE JOINTS, SUCH LENGTHS OF THE WATER MAIN AS THE ENGINEER MAY DETERMINE, SHALL BE TESTED UNDER A HYDROSTATIC PRESSURE OF SEVENTY-FIVE (75) POUNDS PER SQUARE INCH ABOVE THE STATIC PRESSURE, BUT NOWHERE LESS THAN 100 POUNDS PER SQUARE INCH.
- (B) - THE TEST SHALL BE UNDER THE DIRECTION OF THE ENGINEER AND DIRECTOR OF PUBLIC UTILITIES OR HIS DESIGNATE. THE CONTRACTOR MAY OBTAIN WATER FOR TESTING BY OBSERVING THE RULES AND REGULATIONS ENFORCED IN THE MUNICIPALITIES OR TOWNSHIPS IN WHICH THE WORK IS BEING DONE. THE CITY WILL FURNISH A PRESSURE GAGE FOR MEASURING THE PRESSURE ON THE WATER MAIN, BUT THE CONTRACTOR SHALL FURNISH A SUITABLE PUMP, PIPES, TEST HEADS AND ALL APPLIANCES, LABOR, FUEL AND OTHER APPURTENANCES NECESSARY TO MAKE THESE TESTS.
- (C) - THE TEST PRESSURE SHALL BE MAINTAINED FOR A SUFFICIENT LENGTH OF TIME TO ALLOW FOR A THOROUGH EXAMINATION OF JOINTS AND ELIMINATION OF LEAKAGE WHERE NECESSARY. THE PIPE LINES SHALL BE MADE ABSOLUTELY TIGHT UNDER THE TEST PRESSURE.
- (D) - AFTER A SECTION OF THE WATER MAIN HAS BEEN TESTED, THE CONTRACTOR SHALL DRAIN SAME. IN CASE THE DRAINS ARE CONNECTED TO VALVE OR DRAIN VAULTS, THEN THE CONTRACTOR SHALL, WITHIN A REASONABLE TIME AFTER THE TEST HAS BEEN COMPLETED, PUMP ALL WATER OUT OF THE VAULTS.
- (E) - IN COLD WEATHER, IMMEDIATELY AFTER TESTING A SECTION OF THE WATER MAIN, THE CONTRACTOR IS TO OPEN ALL VALVES, AIR COCKS, BYPASSES AND DRAINS AND PROPERLY DRAIN BONNETS OF ALL VALVES IN THE SECTION OF THE WATER MAIN; AND TAKE ALL OTHER PRECAUTIONS NECESSARY TO PREVENT INJURY TO WATER MAIN AND APPURTENANCES DUE TO FREEZING.

(F) - AS AN ALTERNATE FOR TESTING CONCRETE AND STEEL MAINS OTHER THAN BY THE PRECEDING METHOD, THE CONTRACTOR MAY CHOOSE THE FOLLOWING PROCEDURE:

THE WATER MAIN SHALL BE TESTED UNDER THE SAME HYDROSTATIC PRESSURE AS PREVIOUSLY NOTED. THE TEST PRESSURE SHALL BE MAINTAINED FOR A PERIOD OF TWO (2) HOURS BY PUMPING ADDITIONAL WATER INTO THE MAIN, IF NECESSARY. THE QUANTITY OF WATER THUS PUMPED INTO THE MAIN MULTIPLIED BY TWELVE (12) SHALL BE TAKEN AS THE LEAKAGE PER TWENTY-FOUR (24) HOURS.

(G) - THE PERMITTED LEAKAGE SHALL NOT EXCEED A RATE OF SEVENTY-FIVE (75) GALLONS PER TWENTY-FOUR (24) HOURS PER MILE OF PIPE PER INCH OF NOMINAL DIAMETER.

(H) - IN CALCULATING LEAKAGE, THE DIRECTOR WILL MAKE ALLOWANCE FOR ANY LEAKAGE AT THE VALVES, THE REMOVABLE BULKHEADS, ETC.

(I) - IN USING THIS METHOD OF TESTING, THE CONTRACTOR MAY BACKFILL THE PIPE EXCEPT AT LEAD JOINTS, FLANGED JOINTS, VICTAULIC COUPLINGS, AND DRAIN CONNECTIONS IMMEDIATELY FOLLOWING THE LAYING AND BEFORE THE ACTUAL TEST HAS BEEN MADE. IN CASE THE LEAKAGE EXCEEDS THE PERMISSIBLE AMOUNT MENTIONED ABOVE, THE CONTRACTOR SHALL FIND THE LEAK AND MAKE THE JOINTS TIGHT. THE CONTRACTOR SHALL FURNISH SUITABLE MEANS FOR DETERMINING THE QUANTITY OF WATER LOST BY LEAKAGE DURING THE TEST.

(J) - IN ORDER TO BE ABLE TO MAKE PROPER ALLOWANCE FOR LEAKAGE AT VALVES, ETC., PREVIOUSLY NOTED, ONLY SUCH SECTIONS OF WATER MAIN MAY BE SELECTED FOR TEST AS WILL HAVE SUCH VALVES, REMOVABLE BULKHEADS, ETC., ACCESSIBLE.

(K) - THE EVALUATION OF ACTUAL LEAKAGE TO STANDARD PRESSURE (150#) LEAKAGE IS CALCULATED BY THE APPLICATION OF THE RATIO DETERMINED FROM THE SQUARE ROOT OF RESPECTIVE PRESSURES, OTHER FACTORS BEING EQUAL.

## CLOSING VALVES

THE CLOSING OF ALL GATE VALVES ON EXISTING MAINS FOR MAKING CONNECTIONS, TESTS, OR FOR ANY OTHER CAUSE SHALL BE DONE BY THE CITY AND SUFFICIENT NOTICE SHALL BE GIVEN TO THE CITY, BY THE CONTRACTOR, SO THAT THE WORK MAY BE DONE WITH A MINIMUM OF INCONVENIENCE TO THE PUBLIC AND DELAY TO THE CONTRACTOR.

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 1/74

APPROVED 4-10 1975

REVISIONS		<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>
		<b>DEPARTMENT OF PUBLIC UTILITIES</b> DIVISION OF WATER AND HEAT CLEVELAND, OHIO
		SUBJECT: <b>WATERWORK NOTES</b>
DRAWN	SCALE	
CHECKED <u>W.R.S.</u>	DATE <u>1-17-74</u>	No.

*William J. ...*  
ENGINEER OF DESIGN REVIEW



# WATERWORK NOTES

FED. RD.	STATE	PROJECT
2	OHIO	

370  
838

CUYAHOGA COUNTY  
CUI 90-11-64

6  
60

## EXISTING STRUCTURES REMOVED

THIS WORK SHALL CONSIST OF THE ENTIRE REMOVAL, DISPOSAL AND BACKFILLING OF ALL DRAIN VAULTS, METER VAULTS AND ACCESS AND ANCHORAGE MANHOLE TYPE C, WHICH ARE NOT PERMITTED TO REMAIN, EXCEPT FOR THESE OBSTRUCTIONS TO BE REMOVED AND DISPOSED OF UNDER OTHER ITEMS IN THE CONTRACT.

CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE FILLED TO THE LEVEL OF THE SURROUNDING GROUND AND COMPACTED IN ACCORDANCE WITH ITEM 203 OF THE STATE OF OHIO TRANSPORTATION DEPARTMENT CONSTRUCTION AND MATERIAL SPECIFICATIONS.

CASTINGS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE PLANS.

THE ACCEPTED QUANTITIES OF STRUCTURES REMOVED AND DISPOSED OF, WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE SHALL BE FULL COMPENSATION FOR REMOVAL, DISPOSAL, EXCAVATION AND BACKFILL INCIDENTAL TO THEIR REMOVAL.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR "EACH ITEM SPECIAL - (TYPE STRUCTURE) REMOVED."

## REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

## TEMPORARY PLUGS

WHEN THE CONTRACTOR INSTALLS A WATER MAIN PLUG AND SUBSEQUENTLY REMOVES THE SAME PLUG UNDER PHASE CONSTRUCTION, SAID PLUG SHALL BE CLASSIFIED AS A TEMPORARY PLUG.

TEMPORARY PLUGS WILL NOT BE PAID FOR UNDER A SEPARATE PAY ITEM.

PAYMENT FOR TEMPORARY PLUGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR LINEAL FEET OF ITEM SPECIAL - WATER MAINS TYPE AND SIZE SPECIFIED ON THE PLANS.

## BACKFILLING

(A) THIS WORK INCLUDES ALL BACKFILLING, TOGETHER WITH RAMMING, PUDDLING, AND ROLLING, AS REQUIRED, THE REGRADING OF GROUNDS, THE REPLACING OF SURFACE AND SUB-SURFACE STRUCTURES, THE PLACING AND MAINTAINING OF TEMPORARY SIDEWALKS, AND DRIVEWAYS, THE FURNISHING OF SUITABLE MATERIAL FOR BACKFILL, RESEEDING LAWNS AND REPLACING TREES AND SHRUBBERY DAMAGED BY THE CONTRACTOR, AND ALL APPURTENANT WORK INCIDENTAL THERETO. PAVEMENTS, CURBS, SIDEWALKS AND DRIVEWAYS WITHIN THE LIMITS OF THE WORK SHALL BE TEMPORARILY SURFACED, MAINTAINED AND FINALLY REPLACED OR REPAVED AS SET FORTH UNDER "ROAD SURFACES, SIDEWALKS, DRIVEWAYS AND CURBING" (SEE 2ND COLUMN).

(B) BACKFILL, UNLESS OTHERWISE SPECIFIED, MAY BE MADE WITH MATERIAL EXCAVATED FROM THE TRENCHES, PROVIDING SAME IS SATISFACTORY TO THE ENGINEER. IF, IN THE OPINION OF THE ENGINEER, THE MATERIAL EXCAVATED IS UNSATISFACTORY, THEN THE CONTRACTOR SHALL FURNISH AT HIS OWN EXPENSE OTHER MATERIAL SUITABLE FOR BACKFILL. ALL BACKFILL SHALL BE FREE FROM SLAG, CINDERS, RUBBISH AND OTHER OBJECTIONABLE MATERIAL.

(C) BEFORE LAYING THE PIPE, THE BOTTOM OF THE TRENCH SHALL BE BROUGHT TO THE GRADE OF THE BOTTOM OF THE PIPE EXCEPT AT FIELD JOINTS. WHEREVER THE BOTTOM OF THE TRENCH HAS BEEN EXCAVATED BELOW THE BOTTOM OF THE PIPE, THE CONTRACTOR SHALL PLACE SAND OR OTHER MATERIAL SATISFACTORY TO THE ENGINEER TO BRING THE BOTTOM OF THE TRENCH TO THE GRADE OF THE BOTTOM OF THE PIPE. THIS BED SHALL BE THOROUGHLY TAMPED BEFORE THE PIPE IS LAID.

(D) UNLESS OTHERWISE SPECIFIED, THE BACKFILL UNDER, AROUND AND TO A DEPTH OF ONE (1) FOOT ABOVE THE TOP OF ALL PIPE SHALL BE MADE WITH MATERIAL SATISFACTORY TO THE ENGINEER, WHICH MATERIAL SHALL BE FREE FROM STONE AND OTHER OBJECTIONABLE MATERIAL NOTED ABOVE. THE CONTRACTOR MUST USE SPECIAL CARE IN PLACING THIS PORTION OF THE BACKFILL, SO AS TO AVOID INJURING, DISTORTING OR MOVING THE PIPE WHEN COMPACTING SAME. ABOVE THIS LEVEL THE BACKFILL SHALL BE MADE WITH MATERIAL SATISFACTORY TO THE ENGINEER. HOWEVER, WHERE SPECIFIED, SAND SHALL BE USED FOR THE ENTIRE PORTION OF THE BACKFILL - SEE PARAGRAPH (H).

(E) BACKFILLING AS NOTED IN PARAGRAPH (D) SHALL BE TAMPED IN THIN LAYERS. SIMULTANEOUSLY ON EACH SIDE OF THE PIPE, AND THOROUGHLY COMPACTED SO AS TO PROVIDE A SOLID BACKING AGAINST THE EXTERNAL SURFACE OF THE PIPE.

(F) ONLY AFTER THE BACKFILL PREVIOUSLY MENTIONED HAS BEEN SATISFACTORILY COMPACTED, MAY WORK PROCEED IN PLACING THE REMAINING BACKFILL WHICH MUST BE CAREFULLY PLACED AND COMPACTED BY TAMPING, PUDDLING, OR ROLLING. ALL PRECAUTIONS MUST BE TAKEN TO ELIMINATE FUTURE SETTLEMENT. THE NUMBER OF MEN TAMPING SHALL BE NOT LESS THAN THE NUMBER BACKFILLING, AND ADDITIONAL MEN SHALL BE KEPT IN THE TRENCH TO SPREAD THE MATERIAL.

(G) BACKFILLING SHALL NOT BE DONE IN FREEZING WEATHER, EXCEPT BY PERMISSION OF THE ENGINEER, AND IT SHALL NOT BE MADE WITH FROZEN MATERIAL, NOR SHALL ANY FILL BE MADE WHERE THE MATERIAL ALREADY IN THE DITCH IS FROZEN.

(H) THE ENTIRE BACKFILL SHALL BE MADE WITH SAND WHERE PERMANENT PAVEMENTS, CURBS, DRIVEWAYS, OR SIDEWALKS, HAVE BEEN OPENED FOR OR UNDERCUT BY THE EXCAVATION.

(I) ALL SAND TO BE USED FOR BACKFILL SHALL CONFORM TO STATE OF OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATION FOR 703.02 FINE AGGREGATE.

(J) SPECIAL TREATMENT OF THE TRENCH WILL BE REQUIRED WHERE CINDER EXCAVATION, EXCEEDING ONE FOOT MEASURED FROM THE TOP SURFACE, IS ENCOUNTERED. BEFORE LAYING THE PIPE, THE BOTTOM OF THE TRENCH SHALL BE DUG BELOW GRADE AND THEN BROUGHT TO THE GRADE OF THE PIPE IN THE FOLLOWING MANNER: A FOUR (4) INCH LAYER OF CRUSHED LIME STONE SHALL BE PLACED ON THE ENTIRE WIDTH OF THE BOTTOM OF THE TRENCH, FOLLOWED BY A FILLER OF HYDRATED LIME AND A LAYER OF THREE (3) INCHES OF SAND. THE CRUSHED LIME STONE SHALL BE WELL GRADED FROM FINE TO COARSE, AND FREE FROM SLAG, CINDERS, ASHES, RUBBISH OR OTHER OBJECTIONABLE MATERIAL. ALL LIME STONE MUST BE CAPABLE OF BEING PASSED THROUGH A 3/4 INCH SIEVE. ON TOP OF THIS LAYER OF CRUSHED STONE, HYDRATED LIME SHALL BE SUPPLIED IN THE AMOUNT OF 3/8 OF A POUND PER SQUARE FOOT OF TRENCH. THIS BED OF CRUSHED LIME STONE SHALL BE THOROUGHLY TAMPED BEFORE THE 3" LAYER OF SAND IS PLACED. THE BACKFILL AROUND AND TO THE DEPTH OF 3 INCHES ABOVE THE TOP OF THE PIPE SHALL BE MADE WITH SAND. THE CONTRACTOR MUST USE SPECIAL CARE IN PLACING THIS PORTION OF THE BACKFILL SO AS TO AVOID INJURING OR MOVING THE PIPE WHEN COMPACTING SAME. ON TOP OF THE SAND THE CONTRACTOR SHALL PLACE ANOTHER LAYER OF CRUSHED LIME STONE FIVE (5) INCHES THICK ON THE ENTIRE WIDTH OF THE TRENCH. ON TOP OF THE COMPACTED LAYER OF LIME STONE HYDRATED LIME SHALL BE THEN APPLIED IN THE AMOUNT OF 3/4 OF A POUND PER SQUARE FOOT OF TRENCH. THE REMAINING BACKFILL SHALL BE MADE WITH SAND, CAREFULLY PLACED AND COMPACTED BY TAMPING, PUDDLING, OR ROLLING. ALL PRECAUTIONS SHALL BE TAKEN TO ELIMINATE FUTURE SETTLEMENT. THE TREATMENT OF THE TRENCH BOTTOM, PREVIOUSLY DESCRIBED, MAY BE OMITTED WHERE THE CINDER DEPTH, MEASURED FROM THE TOP SURFACE DOES NOT EXCEED 2' - 6".

## SEEDING AND SODDING

(A) IN PREPARATION FOR SEEDING OR SODDING, THE SURFACES SHALL BE HARROWED TO A DEPTH OF THREE (3) INCHES. ALL GRASS, WEEDS, ROOTS, STICKS, STONES, ETC., ARE TO BE REMOVED AND THE SOIL CAREFULLY BROUGHT TO THE EXACT FINISHED GRADE OR SUBBASE BY RAKING. AN APPLICATION OF NOT LESS THAN ONE POUND PER ONE HUNDRED (100) SQUARE FEET OF A HIGH NITROGEN CONTENT COMMERCIAL FERTILIZER HAVING AN ANALYSIS OF 10-6-4 SHALL THEN BE UNIFORMLY DISTRIBUTED AND CAREFULLY RAKED IN.

(B) IMMEDIATELY AFTER THE PREPARATION AND FERTILIZING OF THE SEED BED, THE PREPARED SURFACE SHALL BE SEEDED WITH NOT LESS THAN THREE HUNDRED (300) POUNDS OF GRASS SEED PER ACRE. THE SEED SHALL BE CAREFULLY AND UNIFORMLY SOWN BY EXPERIENCED AND SKILLED WORKMEN. FOLLOWING THE SEEDING, THE SURFACE SHALL BE LIGHTLY RAKED AND ROLLED WITH A LIGHT ROLLER. THE GRASS SEED TO BE USED SHALL BE APPROVED BY THE DIRECTOR.

(C) IMMEDIATELY AFTER THE PREPARATION OF THE SURFACE FOR SOD, THE FRESHLY CUT SOD SHALL BE CAREFULLY PLACED IN FINAL POSITION, STAKED WITH SUFFICIENT WOODEN STAKES TO PREVENT MOVEMENT, CAREFULLY TAMPED TO FINAL POSITION AND ALL JOINTS CAREFULLY FILLED WITH SCREENED TOPSOIL TO BRING ALL TO A UNIFORM SURFACE.

(D) ALL SEEDED AND SODDED SURFACES SHALL BE CAREFULLY LOOKED AFTER AND TENDED BY THE CONTRACTOR: SHALL BE WATERED AND THE GRASS CUT WHEN NECESSARY. SETTLED AREAS SHALL BE REFILLED, LEVELLED AND TAMPED TO THE PROPER GRADE. ALL SEEDED AND SODDED SURFACES SHALL BE LEFT IN GOOD CONDITION ON THE COMPLETION OF THE WORK.

(E) AS SEEDING AND SODDING CAN ONLY BE SUCCESSFULLY DONE AT CERTAIN SEASONS OF THE YEAR, THE PREPARATION OF THE SOD OR SEED BED, AND THE WORK OF SODDING AND SEEDING, SHALL ONLY BE DONE AT SUCH TIMES AS MAY BE APPROVED BY THE DIRECTOR.

## ROAD SURFACES, SIDEWALKS, DRIVEWAYS, AND CURBING

(A) THE CONTRACTOR SHALL REMOVE ALL PAVEMENTS AND ROAD SURFACES WITHIN THE LINES OF EXCAVATION. AFTER THE PIPE HAS BEEN LAID, ALL APPURTENANT WORK CONSTRUCTED AND BACKFILL COMPLETED, HE SHALL FURNISH, PLACE AND MAINTAIN, WHEREVER THE PAVEMENT OR ROAD SURFACE HAS BEEN REMOVED OR DAMAGED BY HIM, A TEMPORARY PAVEMENT IN THE PAVED PORTION OF STREETS, OR A TEMPORARY ROAD SURFACE IN THE UNPAVED PORTION OF STREETS, SO AS TO PROVIDE A SAFE AND PASSABLE ROADWAY UNTIL SUCH TIME AS THE FINAL PAVEMENT OR ROAD SURFACE IS COMPLETED.

(B) ALL FINAL PAVING OF ROAD SURFACES, IF SO NOTED ON CONTRACT DRAWINGS, SHALL BE DONE BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AND IN CONFORMITY TO THE APPROPRIATE TYPICAL SECTIONS SHOWN IN THE PLANS. THE CONTRACTOR SHALL BEAR THE ENTIRE COST OF THE WORK. THE BASE OF PAVEMENT OF ITEM 905 SHALL BE INSTALLED ON A CAREFULLY PREPARED BED LEVEL WITH THE BOTTOM OF THE ABUTTING BASE OVER DISTRIBUTED AREAS AND SHALL BE OF THE THICKNESS SPECIFIED, BUT IN NO CASE LESS THAN 7" THICK. WHERE PAVEMENT OR BASE OF PAVEMENT HAS BEEN DAMAGED BY CAVE-IN, OR BY TRENCH CUT LEAVING A PORTION OR PORTIONS OF PAVEMENT 18 INCHES OR LESS IN WIDTH BETWEEN SUCH CUT OR DAMAGE TO CURB OR OTHER SUBSTRUCTURE, THAT REMAINING PORTION OF PAVEMENT SHALL BE REMOVED AND RESTORED MONOLITHIC WITH THE TYPE AND KIND OF PAVEMENT SPECIFIED FOR THE ADJACENT TRENCH AREA. THE WEARING COURSE OVER TRENCH OR OTHER DISTURBED AREAS SHALL BE RESTORED TO MATCH EXISTING PAVEMENT UNLESS OTHERWISE SPECIFIED. ASPHALT CONCRETE WEARING COURSE OVER SUCH AREAS SHALL BE NEATLY AND SQUARELY CUT, BEFORE THE INSTALLATION OF A CAREFULLY TOOTHED-IN-TO ADJACENT PAVEMENT, UNLESS OTHERWISE SPECIFIED. EXPANSION JOINTS SHALL BE INSTALLED BETWEEN BRICK WEARING COURSE, IF GROUTED, AND CURB OR OTHER SUBSTRUCTURE, WHERE SUCH RESPAVING IS REQUIRED BY THESE SPECIFICATIONS.

(C) IF ANY SIDEWALKS, DRIVEWAYS OR CURBS, ARE REMOVED OR INJURED BY THE CONTRACTOR IN THE COURSE OF MAKING EXCAVATION OR HANDLING MATERIALS, OR FOR ANY OTHER REASON WHICH MAY BE ATTRIBUTED TO WORK WHICH HAS BEEN DONE BY THE CONTRACTOR, THEN HE SHALL RELAY SAME AFTER ALL WORK, INCLUDING BACKFILLING, HAS BEEN COMPLETED. IF ANY STONE SIDEWALKS, DRIVEWAYS, OR CURBS WHICH HAVE BEEN REMOVED OR INJURED, ARE UNFIT TO BE RELAID, THEN THE CONTRACTOR SHALL FURNISH NEW MATERIAL AND RELAY SAME. ALL CONCRETE OR CEMENT SIDEWALKS, DRIVEWAYS, OR CURBS, WHICH ARE REMOVED OR INJURED BY THE CONTRACTOR SHALL BE BROKEN UP BY HIM AND HE SHALL FURNISH ALL LABOR AND MATERIALS AND CONSTRUCT NEW SIDEWALKS, DRIVEWAYS OR CURBS. TO REPLACE THOSE REMOVED OR INJURED. AT INTERSECTING WALKS, DRIVES, ETC., ADDITIONAL CONCRETE SLABS BEYOND THE EXCAVATION LIMITS SHALL BE REMOVED AND REPLACED WITH NEW MATERIAL, IN ORDER TO AVOID HAVING MORE JOINTS THAN IN THE ORIGINAL WORK. ALL SLABS REPLACED SHALL BE OF FULL WIDTH. THE CONTRACTOR SHALL FURNISH, PLACE AND MAINTAIN, WHEREVER THE SIDEWALK HAS BEEN REMOVED OR DAMAGED BY HIM, A TEMPORARY SIDEWALK SO AS TO PROVIDE A SAFE AND PASSABLE SIDEWALK UNTIL SUCH TIME AS THE FINAL SIDEWALK IS COMPLETED.

(D) ALL DAMAGED OR DISPLACED CURB SHALL BE RENEWED OR RESET TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC SERVICE. NO FAULTY CURB OR CURB LESS THAN 30" LONG WILL BE PERMITTED FOR REUSE.

(E) LOCATION OF WORK: EXISTING PAVEMENT AS SHOWN ON CITY RECORDS, AND RESTORATIONS ACCEPTABLE ARE GIVEN ON THE CONTRACT DRAWINGS.

(F) ALL PAVEMENTS, ROAD SURFACES, SIDEWALKS, DRIVEWAYS, OR CURBS, WHICH THE CONTRACTOR IS REQUIRED TO REPLACE OR TO HAVE REPLACED, SHALL, AT THE EXPIRATION OF THIS CONTRACT, BE IN AT LEAST AS GOOD CONDITION AS AT THE TIME OF AWARDED THE CONTRACT.

(G) IF PRIOR TO THE EXPIRATION OF THE PERIOD OF MAINTENANCE, ANY OF THE PAVEMENTS OR ROAD SURFACES WITHIN THE LINES OF EXCAVATION OR ADJACENT THERETO, SHALL HAVE BEEN DAMAGED OR INJURED, DUE TO UNDERMINING, OR FOR ANY OTHER CAUSE WHICH MAY BE ATTRIBUTED TO THE WORK WHICH IS BEING DONE BY THE CONTRACTOR, THEN THE CONTRACTOR SHALL REMOVE SUCH DAMAGED OR INJURED PAVEMENTS OR ROAD SURFACES, FOUNDATIONS OF SAME AND ALL LOOSE EARTH. HE SHALL THEN BACKFILL WITH SAND PROPERLY RAMMED AND REPLACE THE FINAL PAVEMENT OR ROAD SURFACE.

(H) TUNNELING WILL NOT BE PERMITTED WITHOUT PERMISSION OF THE ENGINEER. IN BACKFILLING TUNNELS, SAND SHALL BE USED AS FAR AS POSSIBLE AND BALANCE OF BACK-FILLING MADE WITH CLASS "C" CONCRETE, RAMMED IN PLACE.

(I) NO SPECIFIC OR SEPARATE PAYMENT WILL BE MADE FOR ALL OF THIS WORK, BUT THE COST THEREOF SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS OF THE WORK TO BE DONE UNDER THIS CONTRACT. RESTORATION AS NOTED ABOVE WILL ONLY BE REQUIRED IN AREAS WHERE THE PLANS DO NOT OTHERWISE PROPOSE NEW CONSTRUCTION OF PAVEMENT, SIDEWALKS, AND CURBS, EXCEPT THAT TEMPORARY RESTORATION IN SUCH AREAS MAY BE REQUIRED BY THE ENGINEER IN ORDER TO MAINTAIN TRAFFIC OR LOCAL ACCESS. PER 104.04 AND 107.10 OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIALS SPECIFICATIONS.

## LIST AND INVOICES

(A) THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH THE LIST IN DUPLICATE OF PIECES IN EACH SHIPMENT OF PIPE AND SPECIALS, GIVING THE SERIAL NUMBER AND DESIGNATION OF EACH PIPE AND SPECIAL SENT AT THAT TIME.

(B) THE MATERIAL SHALL BE SHIPPED IN SUCH SECTIONS AS THE ENGINEER MAY ORDER.

## CAST IRON AND DUCTILE IRON PIPE AND FITTINGS

### JOINTS

IN THE FOLLOWING WATER NOTES, LEAD JOINTS HAVE BEEN CALLED TO BE USED THROUGHOUT. IF THE CONTRACTOR CANNOT OBTAIN THE REQUIRED MATERIAL FOR LEAD JOINTS, AN EQUAL, APPROVED BY CITY OF CLEVELAND, CAN BE USED.

### WORK INCLUDED

THE CONTRACTOR SHALL FURNISH ALL THE MATERIALS FOR AND SHALL PROPERLY CONSTRUCT AND CONNECT IN PLACE AT THE LOCATIONS SHOWN ON THE DRAWINGS OR AS DIRECTED, ALL CAST IRON OR DUCTILE IRON PIPE AND FITTINGS, INCLUDING ALL EXCAVATION WORK, THE CUTTING INTO AND REMOVAL OF EXISTING PIPE, BACKFILLING, SAND BACKFILL AND REPAVING, ALL AS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT.

(A) ALL PIT CAST PIPE SHALL BE MANUFACTURED IN ALL RESPECTS IN ACCORDANCE WITH, AND SHALL MEET THE REQUIREMENTS OF THE LATEST "STANDARD SPECIFICATIONS FOR CAST IRON PIPE AND SPECIAL FITTINGS" AS ADOPTED BY THE AMERICAN WATER WORKS ASSOCIATION WHICH SPECIFICATIONS EXCEPT AS HEREIN MODIFIED ARE MADE A PART OF THESE SPECIFICATIONS.

(B) ALL PIT CAST PIPE AND FITTINGS, UNLESS OTHERWISE SHOWN IN THE PLANS, SHALL BE CEMENT LINED AND OF THE SIZE AND CLASSES NOTED ON THE RESPECTIVE CONTRACT DRAWINGS.

(C) IN LIEU OF PIT CAST PIPE ABOVE, THE CONTRACTOR WILL BE PERMITTED TO FURNISH EITHER CENTRIFUGAL OR HIGH STRENGTH CEMENT LINED PIPE. THE METAL SHALL HAVE A MODULUS OF RUPTURE OF NOT LESS THAN 40,000 PSI AND A TENSILE STRENGTH OF NOT LESS THAN 18,000 PSI AND SHALL BE FOR CLASS NOTED ON THE CONTRACT DRAWINGS. PIPE MAY BE FURNISHED IN 12, 16 OR 18 FOOT LENGTHS. THE CENTRIFUGALLY CAST PIPE SHALL CONFORM TO THE AMERICAN NATIONAL STANDARD SPECIFICATIONS A 21.6-1970 AND ALL SUBSEQUENT AMENDMENTS THERETO.

WHEN NOTED ON THE CONTRACT DRAWINGS, DUCTILE IRON PIPE SHALL BE SUPPLIED. ALL DUCTILE IRON PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH A.N.S. A21.51. ALL DUCTILE IRON FITTING SHALL BE MANUFACTURED IN ACCORDANCE WITH A.N.S. A21.11 (A.W.W.A. H-6T) DUCTILE IRON SHALL HAVE A MINIMUM OF 60,000 PSI ULTIMATE TENSILE STRENGTH, 42,000 PSI YIELD POINT AND 10% ELONGATION.

APPROVED 4-10 1975

REVISIONS	<b>1st HIGH SERVICE DISTRICT</b>
	<b>DEPARTMENT OF PUBLIC UTILITIES</b>
	<b>DIVISION OF WATER AND HEAT</b>
	<b>CLEVELAND, OHIO</b>
SUBJECT	<b>WATERWORK NOTES</b>
DRAWN	SCALE
CHECKED <u>W.R.S.</u>	DATE <u>1-17-74</u> No.

*William J. Sweeney*  
ENGINEER OF DESIGN REVIEW

# WATERWORK NOTES

FIG. NO.	STATE	PROJECT
2	OHIO	

371  
838

CUYAHOGA COUNTY  
CUY-90-11.64

7  
60

## CAST IRON AND DUCTILE IRON PIPE AND FITTINGS CONT'D.

(1) THE THICKNESS OF THE CENTRIFUGALLY CAST DUCTILE IRON PIPE AND CAST IRON PIPE SHALL CONFORM TO THE FOLLOWING:

CAST IRON PIPE				DUCTILE IRON PIPE			
SIZE	WORKING PRESSURE	STANDARD THICKNESS	CLASS	SIZE	WORKING PRESSURE	STANDARD THICKNESS	CLASS
4"	250	0.44	24	12"	350	0.49	6
6"	250	0.48	25	16"	350	0.52	6
8"	250	0.52	25				
12"	250	0.60	25				
10"	250	0.56	25				

(2) ALL FITTINGS, SUCH AS BENDS, TEES, CROSSES, OFFSETS, HYDRANT BRANCHES, ETC., SHALL HAVE BELL AND BELL, OR BELL AND SPIGOT ENDS WITH CAST LEAD JOINTS, UNLESS OTHERWISE CALLED FOR ON DETAIL PLANS.

(D) ALL PIPE SHALL HAVE BELL AND SPIGOT ENDS FOR CAST LEAD JOINTS OR A SLIP ON TYPE JOINT WITH COMPRESSED RUBBER RING INSERTS. ALL PIPE AND FITTINGS, SHALL BE CEMENT LINED.

(E) GASKETS SHALL BE OF RUBBER OR OTHER EQUALLY EFFECTIVE PROTECTION AGAINST UNEVEN DISTORTION OF THE GASKET.

(F) WHERE FITTINGS ARE SHOWN WHICH ARE NOT COVERED BY THE ABOVE SPECIFICATIONS, THEY IN SUCH PARTICULARS AS ARE LACKING THEREON, SHALL CONFORM TO THE DIMENSIONS AND OTHERWISE MEET THE SPECIFICATIONS FOR THE RESPECTIVE TYPE WHICH ARE CARRIED IN THE LATEST REVISIONS TO THE CURRENT EDITION OF THE "HANDBOOK OF CAST IRON PIPE" BY THE CAST IRON PIPE RESEARCH ASSOCIATION OR WHICH ARE OTHERWISE SHOWN ON THE CONTRACT DRAWINGS.

(G) WHEREVER CHANGES IN LINE AND GRADES OF THE MAIN AS SHOWN ON THE DRAWINGS ARE NOT STANDARD FITTING DEFLECTIONS. THE CONTRACTOR WILL BE PERMITTED TO SUBMIT DETAILS USING COMBINATIONS OF STANDARD FITTINGS AND SMALL DEFLECTIONS (NOT TO EXCEED A MAXIMUM OF ONE HALF (1/2) INCH JOINT OPENING) IN THE ADJOINING LENGTHS OF PIPE.

(H) PLUGS FOR BELL AND SPIGOT PIPE SHALL BE FURNISHED WITH TWO (2) PLUGGED TWO (2") INCH TAPS FOR DRAIN AND AIR COCK CONNECTIONS.

(I) CLOSURE PIECES SHALL BE ACCURATELY MEASURED AND CUT IN THE FIELD AND INSTALLED USING SOLID TYPE PATTERN SLEEVES AS SHOWN OR AS REQUIRED.

(J) TESTS, INSPECTION, REPORTS AND ANALYSES OF TESTS OF SAMPLES FOR ALL MATERIALS SHALL BE FURNISHED AS SET FORTH ELSEWHERE IN THESE NOTES.

(K) BITUMASTIC COATING SHALL BE APPLIED ON THE EXTERIOR OF ALL CAST IRON & DUCTILE IRON PIPE AND FITTINGS IN ACCORDANCE WITH AWWA SPECIFICATIONS.

### CEMENT LINING

ALL CAST IRON OR DUCTILE IRON PIPE AND FITTINGS, UNLESS OTHERWISE SHOWN IN THE PLANS, SHALL BE GIVEN A CEMENT MORTAR LINING AT THE POINT OF MANUFACTURE. THE LINING SHALL CONFORM TO THE AMERICAN NATIONAL STANDARD SPECIFICATIONS A21.4-1971 AND ALL SUBSEQUENT AMENDMENTS THERETO.

### MARKING

ALL CAST IRON OR DUCTILE IRON PIPE AND FITTINGS SHALL BE SUITABLY MARKED TO DENOTE THE MANUFACTURER, CLASS, DATE, WEIGHT, AND OTHER ELEMENTS OF IDENTIFICATION

### FACING AND DRILLING

ALL FLANGES SHALL BE CAST SOLID AND FACED ACCURATELY AT RIGHT ANGLES TO THE AXIS OF THE PIPE. ALL FLANGES SHALL BE COATED WITH WHITE LEAD IMMEDIATELY AFTER THEY HAVE BEEN FACED AND DRILLED. ALL FLANGED PIPE AND FITTINGS SHALL BE FACED AND DRILLED TO "AMERICAN 1928 STANDARD" DRILLING, 125 POUND TEMPLATE, UNLESS SPECIAL DRILLING IS CALLED FOR. WHERE TAP OR STUD BOLTS ARE REQUIRED, FLANGES SHALL ALSO BE TAPPED.

### LAYING

(A) PROPER AND SUITABLE TOOLS AND APPLIANCES FOR THE SAFE AND CONVENIENT HANDLING AND LAYING OF THE PIPES AND FITTINGS SHALL BE USED. GREAT CARE SHALL BE TAKEN TO PREVENT THE PIPE COATING FROM BEING DAMAGED PARTICULARLY ON THE INSIDE OF PIPES AND FITTINGS AND ANY SUCH DAMAGE SHALL BE REMEDIATED AS DIRECTED. ALL PIPES AND FITTINGS SHALL BE CAREFULLY EXAMINED BY THE CONTRACTOR FOR DEFECTS JUST BEFORE LAYING AND NO PIPE OR FITTINGS SHALL BE LAID WHICH IS KNOWN TO BE DEFECTIVE.

(B) IF ANY DEFECTIVE PIPE IS DISCOVERED AFTER HAVING BEEN LAID, IT SHALL BE REMOVED AND REPLACED WITH A SOUND PIPE OR FITTING IN A SATISFACTORY MANNER BY THE CONTRACTOR AT HIS OWN EXPENSE. ALL PIPES AND FITTINGS SHALL BE THOROUGHLY CLEANED BEFORE THEY ARE LAID, SHALL BE KEPT CLEAN UNTIL THEY ARE USED IN THE COMPLETED WORK AND WHEN LAID SHALL CONFORM TO THE LINES AND GRADES GIVEN BY THE ENGINEER. OPEN ENDS OF PIPES SHALL BE KEPT PLUGGED WITH A BULKHEAD DURING CONSTRUCTION. IN NO EVENT SHALL ANY PORTION OF THE DAMAGED PIPE BE PERMITTED TO REMAIN IN THE LINE. ANY APPROVAL STAMPS FOUND ON THE PIPE SHALL BE REMOVED OR THE PIPE BROKEN UP FOR SCRAP.

(C) PIPE LAID IN TRENCH SHALL BE LAID TO A FIRM AND EVEN BEARING FOR ITS FULL LENGTH. PRECAUTIONS SHALL BE TAKEN AGAINST FLOATING.

(D) IT IS THE INTENTION OF THESE SPECIFICATIONS TO SECURE FIRST CLASS WORKMANSHIP IN THE PLACING OF PIPE AND ACCESSORIES. IN SUCH DETAILS AS ARE NOT SPECIFICALLY MENTIONED HEREIN OR CALLED FOR ON THE DRAWINGS. THE CONTRACTOR WILL BE REQUIRED TO CONFORM WITH THE APPLICABLE SECTIONS OF THE LATEST "STANDARD SPECIFICATIONS FOR LAYING CAST IRON PIPE" AS ADOPTED BY THE AMERICAN WATER WORKS ASSOCIATION.

### CUTTING PIPE

WHENEVER THE PIPES REQUIRE CUTTING TO FIT INTO THE LINES, THE WORK SHALL BE DONE IN A SATISFACTORY MANNER SO AS TO LEAVE A SMOOTH END AT RIGHT ANGLES TO THE AXIS OF THE PIPE. IN NO EVENT SHALL FLAME CUTTING BE USED. WHEN A PIECE OF PIPE IS CUT TO FIT INTO THE LINE, NO PAYMENT WILL BE MADE FOR THE PORTION CUT OFF AND NOT USED IN THE LINE.

### JOINTS (SLIP-ON AND BOLTLESS RESTRAINED)

(A) LEAD JOINTS: IN JOINTING ALL BELL AND SPIGOT PIPE AND FITTINGS HAVING LEAD JOINTS, THE SPIGOT OF EACH PIPE SHALL BE PROPERLY SEATED IN THE BELL OF THE NEXT ADJACENT PIECE AND ADJUSTED SO AS TO GIVE A UNIFORM ANNULAR SPACE. THE JOINT SHALL BE MADE WITH TWISTED HARD JUTE AND SOFT FIG LEAD. BEFORE PLACING THE JUTE, IT SHALL BE STERILIZED EITHER BY BOILING OR BY DIPPING IN A CONCENTRATED SOLUTION OF "HTH". THE JUTE SHALL BE TWISTED AND THOROUGHLY DRIVEN INTO THE BELL SO THAT THE LEAD, AFTER HAVING BEEN CAULKED, SHALL HAVE THE FOLLOWING DEPTH:

SIZE OF PIPE	DEPTH OF LEAD
4 - 20 (BOTH INCLUSIVE).....	2-1/2 INCHES
30 - 36.....	3-1/4 "
SLEEVES.....	SOLID

THE FURNACE AND MELTING POT SHALL BE KEPT NEAR THE JOINT TO BE POURED AND EACH JOINT SHALL BE MADE WITH ONE POURING. DROSS SHALL NOT BE ALLOWED TO ACCUMULATE IN THE MELTING POT. THE JOINTS SHALL BE THOROUGHLY CAULKED BY COMPETENT PIPE JOINERS AND IN SUCH MANNER AS WILL SECURE A TIGHT JOINT WITHOUT OVERSTRAINING THE IRON OF THE BELL.

\*(B) SEE CONTINUATION OF NOTE IN LOWER RT. SECTION OF THIS SHEET.

### PAINTING

AFTER ERECTION, ALL EXPOSED OR DAMAGED COATINGS AND ALL BOLTS FOR LUGGED JOINTS SHALL BE CLEANED AND PAINTED WITH THREE (3) FIELD COATS OF INERTOL 50 OR BITUMASTIC 50 OR APPROVED EQUAL.

### DRAWINGS

(A) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, DUPLICATE PRINTS OF ALL SHOP DRAWINGS FOR CAST IRON AND DUCTILE IRON PIPE AND FITTINGS AND MISCELLANEOUS DETAILS WHICH ARE NOT STANDARD CONSTRUCTION, AND ARE NOT MENTIONED IN THE REGULAR CATALOGUE OF THE COMPANY FURNISHING THE PIPE. NO WORK SHALL BE DONE IN THE SHOP UNTIL AFTER THE DRAWINGS HAVE BEEN APPROVED.

### MEASUREMENT

THE NUMBER OF LINEAL FEET OF CAST IRON AND DUCTILE IRON, PIPE MAINS AND CONNECTIONS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF LINEAL FEET FURNISHED AND PLACED IN ACCORDANCE WITH THESE SPECIFICATIONS AS MEASURED ALONG THE AXIS OF THE PIPING INCLUDING FITTINGS AND VALVES CONNECTED UP IN PLACE. FOR CONNECTION BETWEEN NEW AND EXISTING MAINS, MEASUREMENT SHALL BE THE DISTANCE FROM CENTERLINE TO CENTERLINE OF MAINS AND THE ACTUAL LENGTH OF EXISTING MAIN ORDERED TO BE REMOVED TO MAKE THE CONNECTION.

### PAYMENT

THE FOOTAGE MEASURED AS PROVIDED ABOVE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT FOR "ITEM SPECIAL-WATER MAIN" CLASSIFIED AS TO SIZE AND TYPE, WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR EXCAVATING AND FOR FURNISHING, HAULING, PLACING, CUTTING INTO AND CONNECTING THE PIPE, PIPE BENDS, C.I. PLUGS AND CLAMPS AT DEAD ENDS, CONCRETE PIERS, SHEETING AND BRACING, SAND BACKFILL, WATER USED FOR COMPACTION, INCIDENTAL CONCRETE, THE REMOVAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIAL, REPAVING, AND FOR THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM, EXCEPT FOR THE ITEMS SPECIFICALLY LISTED AS SEPARATE PAY ITEMS.

THE CHLORINATION OF THE NEWLY LAID WATER MAINS BY THE CITY OF CLEVELAND, DIVISION OF WATER, WHICH IS DESCRIBED UNDER "ADDITION WORK, PART C CHLORINATION" WILL BE AT NO EXPENSE TO THE CONTRACTOR.

### 2-INCH GALVANIZED BLACK IRON AND BRASS PIPE FOR FLUSHING CONNECTIONS AND AIR COCKS

### WORK INCLUDED

THE CONTRACTOR SHALL FURNISH ALL THE MATERIALS FOR AND SHALL PROPERLY CONNECT IN PLACE AT THE LOCATIONS SHOWN ON THE DRAWINGS OR AS ORDERED, ALL 2-INCH EXTRA STRONG BRASS PIPE AND FITTINGS, AND ALL 2-INCH EXTRA STRONG GALVANIZED BLACK IRON PIPE AND FITTINGS RESPECTIVELY, WHICH ARE NECESSARY FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT. SEE "ADDITIONAL WORK" PARAGRAPHS (A) THRU (D) SHEET NO. 368.

### BRASS PIPE AND FITTINGS

ALL BRASS PIPE AND FITTINGS SHALL BE EXTRA STRONG 2-INCH PIPE SIZE AND THE PIPE SHALL CONFORM TO A.S.T.M. SPECIFICATIONS B43-42. FITTINGS SHALL BE EXTRA STRONG WEIGHT AND SHALL HAVE SOUND WELL-FITTING THREADS.

## GALVANIZED BLACK IRON PIPE & FITTINGS

ALL GALVANIZED BLACK IRON PIPE, NIPPLES AND COUPLINGS SHALL BE EXTRA STRONG BLACK IRON PIPE A.S.T.M. DESIGNATION A120. THE FITTINGS SHALL BE BEADED AND OF EXTRA HEAVY WEIGHT MALLEABLE IRON. ALL PIPE AND FITTINGS SHALL BE HOT DIPPED ZINC COATED INSIDE AND OUTSIDE, AND SHALL HAVE SOUND WELL-FITTING THREADS.

### ERECTION

ALL PIPE SHALL BE CAREFULLY PLACED TO THE PROPER LINES AND GRADES, AND SHALL BE CONNECTED UP, UNLESS OTHERWISE SHOWN, WITH SCREW FITTINGS. SCREW JOINTS SHALL BE MADE TIGHT WITH A GRAPHITE PASTE AND SCREWED HOME. A LIBERAL NUMBER OF UNIONS SHALL BE USED TO PERMIT THE READY REMOVAL OF ANY SECTION.

### PAYMENT

THE WORK INCLUDED IN THIS ITEM SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR EACH "ITEM SPECIAL - FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS," WHETHER TEMPORARY OR LEFT IN PLACE, WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR EXCAVATING AND FOR FURNISHING, HAULING AND PLACING PLUGS, CLAMPS, VALVES, ROADWAY BOXES, PRESSURE BACKING AND APPURTENANCES, AND FOR THE FURNISHING OF ALL LABOR, EQUIPMENT, TOOLS, MATERIALS REQUIRED TO COMPLETE THIS ITEM OF WORK IN PLACE.

### TAPPING SLEEVE AND VALVE (EXCEPT ON LARGER MAINS AND SPECIAL TAPS)

**WORK INCLUDED**  
THE CONTRACTOR SHALL FURNISH AND DELIVER THE TAPPING SLEEVE AND VALVE OF THE SIZES SPECIFIED ON THE DRAWINGS TO THE PROPER LOCATION ON THE JOB.

THE CITY OF CLEVELAND, DIVISION OF WATER, WILL INSTALL THE TAPPING SLEEVES AND VALVES EXCEPT ON P.C.C.P. AND OVER 16" SIZE WHICH SHALL BE DONE BY THE CONTRACTOR AS APPROVED BY THE DEPARTMENT OF UTILITIES, BUT THE CONTRACTOR SHALL DO ALL THE NECESSARY EXCAVATION AND BACKFILLING REQUIRED AND REPAVING IF SO NOTED ON THE CONTRACT DRAWINGS.

### QUALITY OF VALVES

THE TAPPING SLEEVE AND VALVE SHALL BE A. P. SMITH MFG. CO. OR APPROVED EQUAL. ALL SLEEVES SHALL BE OF THE CLASS AND SIZE AS SHOWN AND SHALL CONFORM FOR MATERIALS, TESTS, PAINTING, DRAWINGS, ETC. TO THE REQUIREMENTS OF THE ITEM "CAST IRON OR DUCTILE IRON PIPES AND FITTINGS" OF THESE SPECIFICATIONS INsofar AS THEY APPLY. THE VALVES FURNISHED AND USED UNDER THIS ITEM SHALL COMPLY WITH THE REQUIREMENTS OF THE ITEM "VALVES" OF THIS CONTRACT.

### PAYMENT

THE UNIT PRICE BID PER EACH "ITEM SPECIAL-TAPPING SLEEVE AND VALVE" FURNISHED UNDER THIS ITEM SHALL INCLUDE THE FURNISHING AND DELIVERY TO THE PROPER LOCATION AND IN ADDITION ALL EXCAVATION, SHEETING AND SHORING, BACKFILLING, SAND BACKFILLING, SEEDING AND SODDING AND REPAVING, IF SO NOTED ON THE CONTRACT DRAWINGS, AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND THE APPLIANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

THE INSTALLATION OF THE TAPPING SLEEVE AND VALVE BY THE CITY OF CLEVELAND, DIVISION OF WATER, WILL BE AT NO EXPENSE TO THE CONTRACTOR.

### VALVE BOX

MATERIALS SHALL CONFORM TO THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS 711.12.

### (B) JOINTS (SLIP-ON & BOLTLESS RESTRAINED)

WHERE LUGGED OR RESTRAINED JOINTS ARE USED IN PLACE OF BELL & BELL OR BELL AND SPIGOT JOINTS FOR CAST LEAD JOINTS AS INDICATED OR SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL SUPPLY PIPE AND FITTINGS HAVING LUGGED JOINTS OR POSITIVE RESTRAINED COMPRESSION LOCKED JOINT IN PUSH-ON OR SLIP-ON JOINT. LUGGED JOINTS SHALL IN ALL RESPECTS, COMPLY TO THE STANDARD A.W.W.A. SPECIFICATIONS AND DIMENSIONS FOR THE CLASS OF PIPE AND FITTINGS SPECIFIED. POSITIVE RESTRAINED COMPRESSION LOCKED JOINT PUSH-ON OR SLIP-ON JOINT SHALL HAVE ENDS WITH POSITIVE COMPRESSION LOCKED JOINT IN PUSH-ON OR SLIP-ON JOINT PROVIDING A RESTRAINED FLEXIBLE JOINT USING CORROSION RESISTANT LOCKING SO AS TO PROVIDE A MINIMUM OF STRESS IN THE JOINT, BUT PROVIDING A MINIMUM OF 400 LBS. PER INCH OF PIPE CIRCUMFERENCE RESISTANCE TO SEPARATION OF JOINT.

LOCKING GROOVES OR SLOTS WILL BE ALLOWED IN PLAIN END OF PIPE OR FITTING, THICKNESS OF PIPE OF FITTING SHOULD NOT BE REDUCED TO LESS THAN THAT FOR:

(1) USAS A21.6 (AWWA C106) CLASS 22 FOR CAST IRON PIPE.

(2) USAS A21.51 (AWWA C151) CLASS 25 FOR DUCTILE IRON PIPE.

ALL BOLT DIMENSIONS AND OTHER FEATURES SHALL STRICTLY COMPLY WITH THOSE WHICH HAVE BEEN ESTABLISHED UNDER THE AMERICAN WATER WORKS ASSOCIATION STANDARDS. DRAWINGS SHALL BE FURNISHED IN ACCORDANCE WITH ARTICLE A, DRAWINGS, FULLY AND DISTINCTLY ILLUSTRATING AND DESCRIBING AND GIVING COMPLETE LAYOUT AND ASSEMBLY DIRECTION FOR THE JOINT TO BE FURNISHED. APPROVAL OF THE CITY OF CLEVELAND, DIVISION OF WATER WILL BE REQUIRED.

APPROVED 4-10-75

William J. Sweeney  
DESIGN REVIEW

REVISIONS	1st HIGH SERVICE DISTRICT		
	DEPARTMENT OF PUBLIC UTILITIES		
	DIVISION OF WATER AND HEAT		
	CLEVELAND, OHIO		
	SUBJECT: WATERWORK NOTES		
	DRAWN	SCALE	No.
	CHECKED WRS	DATE 1-11-74	

# WATERWORK NOTES

FED. RD.	STATE	PROJECT
2	OHIO	

**CUYAHOGA COUNTY**  
CUY - 90 - 11.64

372  
838

8  
60

### FIRE HYDRANT REMOVED AND RESET

#### WORK INCLUDED

THE CONTRACTOR SHALL REMOVE THE FIRE HYDRANT AND PROPERLY SET IN PLACE AND CONNECT AT THE LOCATIONS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER. THIS SHALL INCLUDE ALL EXCAVATION, FURNISHING AND INSTALLING CAST IRON PIPE AND FITTINGS, GATE VALVE AND VALVE BOX, BACKFILLING, TESTING, CHLORINATION, SEEDING AND SODDING AND REPAVING REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED IN THIS CONTRACT.

#### MATERIALS

ALL FIRE HYDRANTS TO BE REMOVED AND RESET MUST BE IN GOOD CONDITION AND APPROVED FOR RESETTING BY THE ENGINEER. ALL OTHER MATERIAL AND APPURTENANCES NECESSARY FOR THE PROPER COMPLETION OF THIS ITEM OF WORK SHALL BE THE KIND AND GRADE CALLED FOR IN THESE NOTES FOR THE PARTICULAR KIND OF CONSTRUCTION IN WHICH THE MATERIALS ARE TO BE USED.

#### CONSTRUCTION METHODS

THE CONSTRUCTION METHODS SHALL CONFORM TO THE REQUIREMENTS OF "ITEM SPECIAL-FURNISHING AND SETTING 6" FIRE HYDRANT" AS SET FORTH ELSEWHERE IN THESE NOTES.

SEE ALSO PARAGRAPHS (B), (C), AND (D) FURNISHING AND SETTING 6" FIRE HYDRANT, SEE THIS SHEET.

#### PAYMENT

THE WORK INCLUDED IN THIS ITEM WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR EACH "ITEM SPECIAL - FIRE HYDRANTS REMOVED AND RESET" WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR THE REMOVING AND RECONNECTING ACCORDING TO THE PROVISIONS OF THESE SPECIFICATIONS FOR THE PARTICULAR TYPE OF CONSTRUCTION CALLED FOR ON THE PLANS, AND FOR ALL EXCAVATION, BACKFILLING, SEEDING AND SODDING AND REPAVING AND THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND APPLIANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR AS SHOWN.

### FIRE HYDRANTS ABANDONED

WHERE FIRE HYDRANTS ARE INDICATED TO BE ABANDONED (NOT FOR REMOVAL), HYDRANTS BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED AND DISPOSED OF BY HIM. THE COST OF SUCH REMOVAL AND DISPOSAL SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.

### FURNISHING AND SETTING 6" FIRE HYDRANTS

#### WORK INCLUDED

THE CONTRACTOR SHALL FURNISH ALL HYDRANTS, CAULKING MATERIAL, LABOR, TOOLS AND EQUIPMENT FOR AND SHALL PROPERLY CONNECT AT THE LOCATION SHOWN ON THE CONTRACT DRAWINGS 6" FIRE HYDRANTS, COMPLETE, AS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT.

#### HYDRANTS

THE 6" FIRE HYDRANTS SHALL BE CITY OF CLEVELAND STANDARD AND SHALL CONFORM TO THE CITY SPECIFICATIONS ON FILE AT 1201 LAKESIDE AVENUE, CLEVELAND 14, OHIO AND THE HYDRANT DETAIL SHOWN ON SHEET NO. 60

#### SETTING

(A) GENERAL LOCATION: HYDRANT SHALL BE LOCATED IN A MANNER TO PROVIDE COMPLETE ACCESSIBILITY AND IN SUCH MANNER THAT THE POSSIBILITY OF DAMAGE FROM VEHICLES OR INJURY TO PEDESTRIANS WILL BE MINIMIZED. UNLESS OTHERWISE DIRECTED THE SETTING OF ANY FIRE HYDRANT SHALL CONFORM TO THE FOLLOWING:

(B) LOCATION REGARDING CURB LINES: WHEN PLACED BEHIND CURB, THE HYDRANT BARREL SHALL BE SET SO THAT CENTER OF BARREL WILL BE NO LESS THAN 3 FEET FROM THE GUTTER FACE OF THE CURB OR DEViate FROM LOCATION INDICATED ON CONTRACT DRAWINGS EXCEPT BY CONSENT OF THE ENGINEER.

(C) LOCATION REGARDING SIDEWALK: WHEN SET IN THE LAWN SPACE BETWEEN THE CURB AND THE SIDEWALK OR BETWEEN THE SIDEWALK AND THE PROPERTY LINE, NO PORTION OF THE HYDRANT OR NOZZLE CAP SHALL BE WITHIN 6 INCHES OF THE SIDEWALK.

(D) POSITION OF NOZZLES: THE HYDRANT SHALL STAND PLUMB WITH NOZZLE POINTING TOWARD CURB AND AT AN ANGLE OF FORTY-FIVE DEGREES THEREFROM. WHERE HYDRANT BRANCH PIPING IS PARALLEL WITH, OR NOT AT RIGHT-ANGLES TO CURB, THE CONTRACTOR SHALL RELEASE SWIVEL HEAD BOLTS AND ADJUST HYDRANT NOZZLES TO FACE CURB AT PROPER ANGLE. HYDRANT WITHOUT SWIVEL HEADS WILL BE ADJUSTED BY THE CITY WHERE NECESSARY TO CORRECT ANGLE ON NOZZLES WITH CURBING. ELEVATION SHALL CONFORM TO THE ESTABLISHED GRADE WITH TOPS OF FROST CASING AT LEAST FOUR INCHES ABOVE GRADE.

(E) CONNECTION TO MAIN: THE FIRE HYDRANT SHALL BE CONNECTED TO THE MAIN PIPE WITH A CAST IRON BRANCH CONTROLLED BY THE INDEPENDENT GATE VALVE OF THE SAME SIZE AS FIRE HYDRANT EXCEPT AS OTHERWISE DIRECTED.

F) DRAINAGE AT HYDRANT: DRAINAGE SHALL BE PROVIDED AT BASE OF THE HYDRANT BY FILLING AROUND ELBOW WITH COARSE GRAVEL OR CRUSHED STONE TO AT LEAST SIX - INCHES ABOVE THE WASTE OPENING. WHEREVER HYDRANT IS SET IN ROCK, CLAY OR OTHER IMPERVIOUS SOIL, THE TRENCH SHALL BE WIDENED AND DEEPENED ON EACH SIDE OF HYDRANT BASE. WHICH SPACE SHALL BE FILLED COMPACTLY WITH COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND OF SUFFICIENT QUANTITY TO ABSORB ALL SPECIAL-WATER TO BE DRAINED FROM HYDRANT WHEN VALVE IS CLOSED.

(G) ANCHORAGE FOR HYDRANT: THE HYDRANT SHALL BE SET ON A STONE SLAB OR SIMILAR FOUNDATION AND BASE OF HYDRANT AND HYDRANT TEE WELL BRACED AGAINST UNEXCAVATED EARTH AT THE END OF THE TRENCH WITH CONCRETE BACKING OR IT SHALL BE TIED TO THE PIPE WITH SUITABLE RODS OR CLAMPS AS DIRECTED BY THE ENGINEER.

(H) CLEANING: HYDRANT SHALL BE THOROUGHLY CLEANED OF DIRT OR FOREIGN MATTER BEFORE SETTING

#### PAYMENT

(A) THE UNIT PRICE STIPULATED TO BE PAID FOR EACH ITEM SPECIAL-FURNISHING AND SETTING 6" FIRE HYDRANT SHALL INCLUDE FURNISHING THE HYDRANT, IN ACCORDANCE WITH RESPECTIVE SPECIFICATION SET FORTH ELSEWHERE IN THESE NOTES, SETTING, TESTING, PAINTING, THE EXCAVATION, SHEETING AND BRACING, BACKFILLING, AND THE FURNISHING OF ALL LABOR, MATERIAL, TOOLS AND APPLIANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR AS SHOWN.

(B) THE PIPE WILL BE PAID FOR UNDER "CAST IRON AND DUCTILE IRON PIPE AND FITTINGS."

(C) THE VALVES WILL BE PAID FOR UNDER "VALVES."

(D) THE VALVE BOX WILL BE PAID FOR UNDER "VALVES".

#### ELECTROLYSIS BONDS AND TEST TAPS

#### GENERAL

UNLESS INDICATED OR SPECIFIED OTHERWISE, INSTALLATION, MATERIAL AND EQUIPMENT SHALL CONFORM TO THE SPECIFICATIONS SHOWN IN THE CONTRACT DRAWINGS AND SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE AND THE ELECTRICAL CODES OF THE STATE OF OHIO AND THE POLITICAL SUBDIVISIONS, AS APPLICABLE TO THE LOCATION IN WHICH THE WORK IS TO BE PERFORMED AND WITH THE APPROVAL OF THE ENGINEER. SEE DETAIL SHEET NO. 421

#### ELECTRICAL WORK

THE WORK COVERED BY THIS SUBSECTION CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, APPLIANCES, AND MATERIALS AND IN PERFORMING ALL OPERATIONS NECESSARY FOR THE INSTALLATION OF ALL ELECTRICAL WORK COMPLETE IN STRICT ACCORDANCE WITH THIS SECTION AND THE CONTRACT DRAWINGS AND APPROVAL OF THE ENGINEER.

#### TERMINALS

THE TERMINALS SHALL BE CLEARLY MARKED TO SHOW POLARITY AND SHALL BE READILY ACCESSIBLE FOR TESTING. THE NEGATIVE TERMINAL SHALL BE CLEARLY OR PERMANENTLY TAGGED "STRUCTURE." THE POSITIVE TERMINAL SHALL BE CLEARLY MARKED OR PERMANENTLY TAGGED "ANODE." THE ANODE LEADS SHALL TERMINATE IN THE TERMINAL BOX AS SHOWN ON THE DRAWINGS. SUFFICIENT SLACK SHALL BE LEFT IN THE WELL HEAD TO PERMIT MOVEMENT OF THE WIRES DUE TO SOIL SETTLEMENT.

#### MEASUREMENT AND PAYMENT

CORROSION CONTROL AS SHOWN ON THE CONTRACT DRAWINGS WILL NOT BE MEASURED FOR PAYMENT, BUT WILL BE INCLUDED IN PAYMENT FOR RESPECTIVE WATER MAIN PIPE.

### VALVES

#### WORK INCLUDED

THE CONTRACTOR SHALL FURNISH ALL THE MATERIALS FOR AND SHALL PROPERLY SET IN PLACE AND CONNECT AT THE LOCATIONS SHOWN ON THE DRAWINGS OR AS DIRECTED, ALL AIR COCKS, DRAIN VALVES, AND GATE VALVES OF THE VARIOUS SIZES AND TYPES SPECIFIED OR ORDERED, ALL AS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT.

#### AIR COCKS

ALL AIR COCKS OR AIR VENT VALVES SHALL BE 2-INCH BRASS ANGLE TYPE GLOBE VALVES. 2-INCH AIR COCKS SHALL BE EQUAL IN ALL RESPECTS TO THE FARNAN "CLEVELAND STANDARD" BRASS AIR VENT VALVE NO. W-4625 AS MANUFACTURED BY THE FARNAN BRASS WORKS.

#### GATE VALVES

(A) TYPE OF VALVES: THE GATE VALVES SHALL BE MANUFACTURED IN FULL COMPLIANCE WITH THE STANDARD SPECIFICATIONS FOR GATE VALVES FOR ORDINARY WATERWORKS SERVICE OF THE AMERICAN WATERWORKS ASSOCIATION AWWA C 500-81 OR LATEST REVISION THEREOF AND IN ADDITION SHALL COMPLY WITH THE FOLLOWING SUPPLEMENTARY REQUIREMENTS. ALL GATE VALVES SHALL BE THE NONREVOLVING DOUBLE DISC TYPE. ALL GATE VALVES 16 IN. AND UNDER IN SIZE SHALL BE DOUBLE DISC PARALLEL OR TAPERED SEAT BOTTOM WEDGE OR SIDE WEDGE TYPE. ALL GATE VALVES 20 IN. AND OVER IN SIZE SHALL BE DOUBLE DISC PARALLEL SEAT BOTTOM WEDGE OR SIDE WEDGE TYPE AND SHALL INCLUDE BYPASS VALVES ATTACHED THERETO. IN OPENING OR CLOSING THE VALVE, THE GATES SHALL BE FORCED TO ASCEND OR DESCEND BY REASON OF THE THRUST EXERTED UPON THEM BY THE VALVE STEM NUT: THIS THRUST BEING GENERATED BY THE ROTATION OF THE VALVE STEM. IN CLOSING THE VALVE THE DISCS WHEN OPPOSITE THE PORTS SHALL BE PRESSED FIRMLY AGAINST THE BODY SEATS BY WEDGES OR SOME OTHER DEVICE EQUALLY SUITABLE TO THE ENGINEER.

(B) VALVES WITH STATIONARY STEMS: ALL GATE VALVES, UNLESS OTHERWISE ORDERED, SHALL BE MADE WITH SINGLE, NONRISING STEMS.

(C) HUB ENDS: THE DIMENSIONS OF THE BELLS ON VALVES UP TO 24 INCHES IN DIAMETER SHALL CONFORM TO THOSE FOR CLASS D PRESSURE FITTINGS AS REQUIRED BY AWWA C 100.

(D) VICTAULIC ENDS: VICTAULIC ENDS SHALL CONFORM TO THE DIMENSIONS REQUIRED, FOR THE SPECIFIED TYPE.

(E) FLANGE ENDS: THE END FLANGES OF FLANGED END GATE VALVES SHALL CONFORM IN DIMENSIONS AND DRILLING TO THE "AMERICAN 125 LB. CAST IRON FLANGES STANDARD", UNLESS OTHERWISE ORDERED.

(F) SCREW ENDS: ALL 2 IN. GATE VALVES AND UNDER SHALL BE MADE WITH SCREW ENDS UNLESS OTHERWISE SPECIFIED. THREADS TO BE INSIDE STANDARD IRON PIPE THREADS.

(G) VERTICAL AND HORIZONTAL VALVES: ALL GATE VALVES, 16 INCHES AND UNDER SHALL BE CONSTRUCTED TO WORK VERTICALLY. VALVES OVER 16 INCHES WATERWAY SHALL BE CONSTRUCTED TO WORK HORIZONTALLY.

(H) BY-PASSES: BY-PASSES WITH GATE VALVES SHALL BE PROVIDED ON VALVES 20 INCHES AND LARGER. THE BY-PASSES SHALL BE LOCATED ON OR BELOW THE HORIZONTAL CENTERLINE OF THE VALVES. BY-PASS VALVES SHALL BE OF THE SAME SIZE AS THE BY-PASS AND SHALL CONFORM TO THE REQUIREMENTS OF THESE SPECIFICATIONS FOR THE SPECIFIC VALVE USED. THE SIZE REQUIREMENTS OF BY-PASSES SHALL BE AS FOLLOWS: VALVES 24 INCHES TO 30 INCHES INCLUSIVE, SHALL BE PROVIDED WITH 4 INCH BY-PASSES. VALVES 36 INCHES SHALL BE PROVIDED WITH 6 INCH BY-PASSES.

APPROVED 4-10-1975

*William J. Sweeney*  
ENGINEER & DESIGNER REVIEW

REVISIONS	<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>		
	<b>DEPARTMENT OF PUBLIC UTILITIES</b>		
	DIVISION OF WATER AND HEAT		
	CLEVELAND, OHIO		
SUBJECT	WATERWORK NOTES		
DRAWN	SCALE		
CHECKED WRS.	DATE 1-17-75	No.	

# WATERWORK NOTES

(I) FLANGES: WHEN FLANGED VALVES ARE REQUIRED THE FLANGES SHALL BE FACED AND DRILLED. BOLT HOLES SHALL BE SPOT FACED ON THE BACK WHEN NECESSARY TO SECURE AN EVEN BEARING. ALL BOLT HOLES SHALL BE OF THE SIZE SHOWN ON THE DRAWINGS TO BE SUBMITTED AND APPROVED, SHALL BE ACCURATELY DRILLED FROM TEMPLATES SPACED EQUAL DISTANCES APART AND SHALL STRADDLE HORIZONTAL AND VERTICAL AXIS, ALL AS SHOWN ON THE DRAWINGS. THE DIMENSIONS AND DRILLING OF ALL END FLANGES SHALL CONFORM TO THE SPACING INDICATED ON THE DRAWINGS WHICH SHALL BE THE AMERICAN 125 LBS. CAST IRON FLANGE STANDARD, FLANGES SHALL BE PLAIN FACE WITH A SMOOTH FINISH.

(J) MARKING: ALL GATE VALVES 3 IN. AND OVER SHALL HAVE THE IDENTITY OF MAKER, SIZE AND THE YEAR WHEN MADE AND ALSO THE LETTERS "C. W. D." CAST UPON ITS BODY OR DOME IN RAISED LETTERS.

(K) STUFFING BOXES: THE STUFFING BOX ON EACH GATE VALVES 3 IN. OR OVER, MUST BE SEPARATE FROM THE DOME AND FASTENED TO IT BY BOLTS. FOR 2 IN. VALVES AND UNDER, THE STUFFING BOXES MAY BE FORMED IN THE DOME OF THE VALVE. WHEN REQUIRED BY THE ENGINEER, VALVES 16 IN. AND SMALLER, SHALL BE FURNISHED WITH "O" RING TYPE SEAL PLATE. THE SEAL PLATE SHALL BE FITTED WITH AT LEAST TWO "O" RINGS, THE LOWER "O" RING SERVING AS THE PRESSURE SEAL AND THE UPPER "O" RING AS A COMBINED DIRT AND MOISTURE SEAL. THE "O" RINGS SHALL BE PRECISION RUBBER CORPORATION QUALITY COMPOUND NO. 122-70, OR APPROVED EQUAL.

(L) SEAT AND GATE RINGS DIMENSIONS OF THE BRONZE SEAT AND GATE RINGS SHALL BE PROPORTIONED TO FIT THE TEST PRESSURE REQUIRED, AND SHALL MEET THE APPROVAL OF THE ENGINEER. THE RINGS SHALL BE FIRMLY SECURED IN PLACE BY AN APPROVED DEVICE WHICH WILL PREVENT THEM FROM WORKING LOOSE, PARTICULARLY WHEN THE VALVE IS LEFT PARTLY OPEN.

BODY SEAT RINGS

SHALL BE MADE OF GRADE ONE BRONZE. GATE SEAT RINGS SHALL BE MADE OF GRADE FIVE BRONZE.

**BODY AND GATE RINGS**  
BOTTOM WEDGE

VALVE SIZE	BODY RINGS			GATE RINGS			
	FACE	DEPTH	THICKNESS AT BASE OF THREADS	FACE	FACE	FACE	DEPTH
				THICKNESS	THICKNESS	THICKNESS	
4"	9/16	9/16	3/16	3/16	5/8	5/32	5/16
6"	11/16	9/16	3/16	5/32	11/16	5/32	5/16
8"	3/4	5/8	3/16	7/32	13/16	5/32	5/16
10"	3/4	5/8	3/16	7/32	13/16	5/32	11/32
12"	7/8	5/8	7/32	7/32	1	5/32	11/32
30"	1-1/2	1-1/4	3/8	7/16	1-1/2	7/16	3/4

SIDE WEDGE

4"	7/16	9/16	3/16	3/16	1/2	5/32	21/64
6"	1/2	11/16	9/32	1/4	5/8	5/32	21/64
8"	17/32	11/16	9/32	1/4	11/16	5/32	21/64
10"	5/8	13/16	3/8	5/16	13/16	5/32	21/64
12"	5/8	13/16	3/8	5/16	13/16	5/32	21/64
30"	1-5/8	1-1/2	25/32	1/2	1-7/16	5/16	10/32

DIMENSIONS IN INCHES

VALVE STEM: ALL GATE VALVES SHALL BE OF THE SINGLE SCREW TYPE. THE STEMS SHALL BE OF GRADE THREE BRONZE. THE THREADS OF STEMS AND STEM NUTS SHALL BE OF ACME, MODIFIED ACME OR ONE-HALF V TYPE. IF REQUESTED, A MANUFACTURER'S CERTIFICATE OF TEST SHALL BE FURNISHED WITH ALL BRONZE STEMS. ALL STEM COLLARS SHALL BE CAST INTEGRAL WITH STEMS. THE DIAMETERS OF STEMS AT THE BASE OF THE THREAD SHALL BE NOT LESS THAN THOSE SHOWN BELOW. THE STEM OPENING AND THRUST-BEARING RECESS SHALL BE GRADE ONE BRONZE BUSHED. THE NUMBER OF THREADS PER INCH SHALL BE AS GIVEN BELOW:

SIZE OF VALVE INCHES	DIAMETER OF STEM AT BASE OF THREAD - INCHES	NO. OF THREADS PER INCH
4	0.859	3
6	1.000	3
8	1.000	3
10	1.125	3
12	1.188	3
30	2.480	2

(M) WRENCH CAPS: THE WRENCH CAPS AND RETAINING NUTS ON HEADS OF VALVE STEMS AND PINION SHAFTS SHALL BE OF GRADE THREE BRONZE. ON VALVES 24-INCHES AND OVER, WRENCH CAPS SHALL BE 2 IN. SQUARE AND 2 IN. DEEP. ON VALVES 4-INCHES TO 20 INCHES INCLUSIVE, THEY SHALL BE 1-3/4 INCHES SQUARE ON TOP, 1-7/8 INCHES SQUARE AT BASE, AND 1-3/4 INCHES DEEP.

MACHINED WRENCH CAPS FOR VALVES 3-INCHES TO 48 INCHES INCLUSIVE SHALL BE FITTED TO A MACHINED SQUARE STEM OR PINION SHAFT AND HELD IN PLACE BY A RETAINING NUT. WRENCH CAPS SHALL HAVE A CUT-AWAY SKIRT TO PERMIT EASY ACCESS TO GLAND BOLTS.

(N) VALVES TO OPEN CLOCKWISE, EXCEPT 2-INCHES AND UNDER: ALL GATE VALVES 3-INCHES AND OVER, INCLUDING BY-PASS VALVES, SHALL BE MADE TO OPEN BY TURNING IN A CLOCKWISE DIRECTION. VALVES 2-INCHES AND UNDER SHALL BE MADE TO OPEN BY TURNING IN A COUNTER-CLOCKWISE DIRECTION. ALL VALVES TO BE SO MADE THAT THEY CAN BE EASILY OPERATED.

(O) FACING OF GATES: ALL DISCS OR GATES AND THREADS FOR SEAT RINGS IN THE BODY SHALL BE MACHINED TRUE AND A GROOVE OR GROOVES SHALL BE MACHINED IN EACH DISC OR GATE FOR THE RECEPTION OF THE FACE RING. THE DISC AND SEAT RINGS SHALL BE SECURELY AND RIGIDLY ATTACHED TO THE DISCS OR BODY SEATS IN A MANNER APPROVED BY THE ENGINEER, AND THE RINGS ARE TO BE FINISHED TO A TRUE SURFACE.

(P) ROLLERS AND SCRAPERS: IN ALL VALVES 20-INCHES IN DIAMETER AND LARGER DESIGNED TO LIE HORIZONTALLY, EACH GATE OR DISC SHALL BE PROVIDED WITH TWO BRONZE ROLLERS TRAVELING ON BRONZE-FACED TRACKS AND PROVIDED WITH SUITABLE BRONZE SCRAPERS OR TWO STAINLESS STEEL ROLLERS TRAVELING ON STAINLESS STEEL-FACED TRACKS AND PROVIDED WITH SUITABLE STAINLESS STEEL SCRAPERS. THE THICKNESS OF THE FACING OF THE TRACKS SHALL BE NOT LESS THAN 1/4-INCH. THE BRONZE SHALL BE CLASS I AND THE STAINLESS STEEL SHALL BE ASTM A276-55, TYPE 302.

(Q) VALVE GUIDES: ALL VALVES 20-INCHES IN DIAMETER AND LARGER SHALL BE PROVIDED WITH GUIDES OR TRACKS WHICH SHALL BE MADE STRAIGHT AND TRUE AND ALL IRREGULARITIES MUST BE MACHINED OFF. THE GUIDES OR TRACKS OF HORIZONTAL VALVES SHALL BE SUBSTANTIALLY FACED WITH A MINIMUM OF 1/4 IN. OF GRADE ONE BRONZE, OR STAINLESS STEEL ASTM A 276-55, TYPE 302, SATISFACTORY TO THE ENGINEER, SECURELY FASTENED AND PLANED OFF SMOOTH AND TRUE.

(R) GEARING: ALL VALVES 20-INCHES IN DIAMETER AND LARGER SHALL BE EQUIPPED WITH ENCLOSED CUT TOOTH STEEL GEARS. GEARS, SHAFTS AND BEARINGS, SHALL BE SUCH AS TO PRODUCE EASY OPERATION WITHOUT BENDING OR TWISTING.

(S) DOWEL PINS: ALL GEAR VALVES SHALL HAVE TWO DOWEL PINS SET IN THE FLANGES CONNECTING THE DOME AND BODY. SIZE OF THE PINS TO BE SHOWN IN PLANS.

(T) INDICATORS: ALL VALVES 20-INCHES IN DIAMETER AND OVER, SHALL BE EQUIPPED WITH INDICATORS DENOTING THE POSITIONS OF THE GATE. THE MOVING PART AND BEARINGS TO BE OF BRONZE OR BRONZE-LINED.

(U) GREASE CASES: ALL VALVES 20-INCHES IN DIAMETER AND LARGER, SHALL HAVE WATER TIGHT GREASE CASES INSTALLED. THE GREASE CASES SHALL BE OF THE EXTENDED TYPE AND SHALL BE MADE OF CAST IRON CONFORMING TO ASTM SPECIFICATIONS SERIAL DESIGNATION A 126, CLASS B OR ANY SUBSEQUENT AMENDMENT THERETO. BEARING SURFACES FOR VALVE STEM AND PINION SHAFT SHALL BE BRONZE BUSHED WITH GRADE ONE BRONZE. THE GREASE CASES SHALL BE SECURELY BOLTED TO THE VALVE BONNET THROUGH A HEAVY CAST IRON YOKE. THE YOKE SHALL BE OF SUFFICIENT LENGTH TO PROVIDE SPACE FOR REPACKING VALVE AND GREASE CASE STUFFING BOXES. ALL GREASE CASES SHALL BE PROVIDED WITH A REMOVABLE COVER SECURELY BOLTED IN PLACE TO ALLOW EASY ACCESS TO THE GEARS. THERE SHALL ALSO BE PROVIDED CONVENIENT FILLING AND DRAINING PLUGS AND SUFFICIENT OIL TO FULLY SUBMERGE THE PINION GEAR. THE VALVES SHALL BE DELIVERED WITH THE GREASE CASES FILLED WITH THE PROPER OIL AS RECOMMENDED BY THE MANUFACTURER.

(V) BRONZE PARTS: THE STEMS, STEM NUTS, OPERATING NUTS, RETAINING NUTS, DISC AND SEAT RINGS, SHALL BE OF SOLID BRONZE. OTHER PARTS SUCH AS WEDGES, GLANDS, THRUST BEARINGS, GEAR SPINDLES, ROLLERS, SCRAPERS AND TRACKS, AND ALL OTHER PARTS COMING TOGETHER IN OPERATION, SHALL BE OF BRONZE, OR SUBSTANTIALLY LINED WITH BRONZE OR STAINLESS STEEL OF A THICKNESS NOT LESS THAN 1/4 OF AN INCH AND AS SHOWN ON DRAWINGS SUBMITTED AND APPROVED. ALL 2" VALVES AND UNDER SHALL BE MADE ENTIRELY OF BRONZE, EXCEPT HAND-WHEELS WHICH SHALL BE OF MALLEABLE IRON.

(W) CAST IRON PARTS: THE BODIES, COVERS, DISCS, FRAMES, ETC., OF ALL GATE VALVES 3" AND OVER, SHALL BE OF CAST IRON.

(X) WATERWAY OPENING: WITH THE VALVE OPEN, AN UNOBSTRUCTED WATERWAY SHALL BE AFFORDED. THE DIAMETER OF WHICH IS NOT TO BE LESS THAN THE FULL NOMINAL DIAMETER OF THE VALVE.

MATERIAL SPECIFICATIONS

(A) STRENGTH OF VALVES: THE GATE VALVES SHALL BE DESIGNED FOR 150 LB. WORKING PRESSURE AND SHALL WITHSTAND AN INTERNALLY APPLIED HYDROSTATIC PRESSURE AT ALL POINTS OF AT LEAST 300 LBS. PER SQUARE INCH. A FACTOR OF SAFETY OF NOT LESS THAN 10 SHALL BE USED ON THE DESIGN. SHOULD TESTS DEVELOP ANY WEAKNESS, THE VALVES FROM THAT DESIGN SHALL BE REJECTED AND A NEW DESIGN MADE.

(B) REINFORCEMENT AT FLANGES: ALL VALVE FLANGES SHALL BE REINFORCED BY FILLETS IN ACCORDANCE WITH THE MANUFACTURER'S PRACTICE PROVEN SATISFACTORY IN ACTUAL SERVICE.

(C) JOINTS: ALL JOINTS OF THE VALVES SHALL BE FACED TRUE IN A LATHE OR PLANER AND PUT TOGETHER WITH A GASKET OF SOME MATERIAL ACCEPTABLE TO THE ENGINEER.

(D) BOLT HOLES: ALL BOLT HOLES SHALL BE ACCURATELY DRILLED FROM TEMPLATES AND SPACED EQUAL DISTANCES APART.

(E) BOLTS AND NUTS: ALL BOLTS AND NUTS SHALL BE MADE OF SILICON BRONZE (ASTM. B 98-55, ALLOY A) OR STAINLESS STEEL (ASTM A 276-55, TYPE 302)

(F) PARTS TO BE INTERCHANGEABLE: ALL PARTS OF VALVES OF THE SAME SIZE AND MAKE MUST BE PERFECTLY INTERCHANGEABLE AND ALL WORK DONE IN A THOROUGH AND WORKMANLIKE MANNER.

(G) CASTINGS: ALL CASTINGS, WHETHER OF BRONZE, IRON OR STEEL, SHALL BE SOUND AND SMOOTH WITHOUT COLD SHUTS, SWELLS, LUMPS, SCABS, BLISTERS, SAND HOLES OR OTHER IMPERFECTIONS, AND SHALL BE MADE IN ACCORDANCE WITH THE BEST MODERN FOUNDRY PRACTICE TO OBTAIN CASTINGS OF THE BEST QUALITY AND OF UNIFORM THICKNESS. NO WELDING, PLUGGING OR FILLING OF HOLES OR OTHER DEFECTS WILL BE PERMITTED. FOR PARTS WHOSE THICKNESS IS LESS THAN ONE (1") - INCH, CASTING BEING THINNER THAN THE SPECIFIED THICKNESS BY .06 INCH OR MORE SHALL BE REJECTED, AND FOR PARTS WHOSE THICKNESS IS ONE (1") INCH OR MORE, CASTINGS BEING THINNER THAN SPECIFIED BY .08 INCH OR MORE SHALL BE REJECTED.

(H) BRONZE PARTS: (1) BRONZE FOR PARTS, OTHER THAN THOSE LISTED BELOW, SHALL BE GRADE ONE. (2) VALVE STEMS, PINION SHAFTS, STEM NUTS, WRENCH CAPS AND RETAINING NUTS SHALL BE MADE OF GRADE THREE BRONZE. (3) DISC RINGS SHALL BE MADE OF GRADE FIVE BRONZE.

(I) TESTS OF BRONZE: (1) IF DEMANDED, A MANUFACTURER'S CERTIFICATE OF TEST SHALL BE FURNISHED WITH ALL BRONZE STEMS. (2) ALL STEMS OF 16-INCH GATE VALVES AND OVER, SHALL HAVE A PROLONGATION ON ONE END OF EACH STEM, OF THE SAME DIMENSIONS AND CROSS SECTIONS AS THE STEM AND OF SUFFICIENT LENGTH TO ENABLE THE CUTTING OF SPECIMENS PARALLEL WITH THE LONGITUDINAL AXIS OF THE STEM. SPECIMENS SHALL BE CUT FROM PROLONGATIONS ONE-HALF WAY BETWEEN SURFACE AND CENTRAL AXIS. OTHER METHODS OF TEST WILL BE CONSIDERED BY THE ENGINEER, BUT MUST BE SUBMITTED IN DETAIL WITH THE BID. (3) FOR ALL STEMS OF GATE VALVES SMALLER THAN 16-INCHES, NOT LESS THAN TWO TEST PIECES SHALL BE CAST FROM THE MOLTEN METAL OF EACH HEAT, FROM WHICH VALVE STEMS ARE BEING MADE. (4) ALL STEMS MADE FROM BRONZE SHOWING LESS STRENGTH, ELONGATION AND/OR DUCTILITY THAN ABOVE REQUIRED SHALL BE REJECTED. (5) TESTS OF VALVE STEMS, OR THE VARIOUS PARTS OF ANY VALVE MAY BE MADE AT ANY TIME BEFORE OR AFTER DELIVERY, AND IF FOUND TO BE DEFICIENT IN STRENGTH OR UNSATISFACTORY TO THE ENGINEER, THE WHOLE LOT OR SHIPMENT MAY BE REJECTED.

(J) - CAST IRON:  
(1) - QUALITY: CAST IRON SHALL CONFORM TO ASTM SPECIFICATIONS A126. CLASS B, OR LATEST REVISION THEREOF. ALL IRON CASTINGS SHALL BE TOUGH AND WITHOUT BRITTLENESS, SUCH AS MAY BE CUT, DRILLED AND CHIPPED BY HAND WITH DUE CARE. A BLOW FROM A HAMMER SHALL PRODUCE AN INDENTATION ON THE EDGE OF THE CASTING WITHOUT FLAKING THE METAL.

(2) - TESTS: BARS FROM THE MOLTEN METAL FROM WHICH THE VALVES ARE BEING MADE SHALL BE TESTED AT SUCH TIME AND IN SUCH MANNER, AS THE ENGINEER MAY REQUIRE. THE REQUIREMENTS OF ASTM SPECIFICATIONS A 126 SHALL GOVERN TESTING PROCEDURES TO DETERMINE THE PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE IRON CASTINGS. SHOULD THE RESULT OBTAINED FROM THE BAR TESTED FAIL TO SHOW THAT THE CAST IRON MEETS THE REQUIREMENTS HEREIN SPECIFIED, THE ENTIRE MELT WILL BE REJECTED. TEST BARS, HOWEVER, WHOSE FAILURE IS DUE TO INHERENT DEFECTS SHALL NOT BE CONSIDERED. ALL VALVES MADE FROM IRON SHOWING LESS STRENGTH THAN CALLED FOR IN THE ASTM SPECIFICATIONS SHALL BE REJECTED.

(K) - QUALITY OF MATERIALS:

- GRADE ONE CAST BRONZE SHALL CONFORM TO THE PROPERTIES OF ASTM. B 62.
- GRADE TWO CAST BRONZE SHALL CONFORM TO THE PROPERTIES OF ASTM. B 132 ALLOY 864
- GRADE THREE CAST BRONZE SHALL CONFORM TO THE PROPERTIES OF ASTM. B 132 ALLOY 867
- GRADE FOUR ROLLED BRONZE SHALL CONFORM TO THE PROPERTIES OF ASTM. B 21, ALLOY 464 (ONE-HALF HARD)
- GRADE FIVE BRONZE SHALL BE SUFFICIENTLY MALLEABLE TO CONFORM TO DOVETAILED GROOVES WHEN PEENED OR ROLLED: AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH WITHOUT DEFORMATION OF 4000 PSI, AND SHALL HAVE THE FOLLOWING CHEMICAL COMPOSITION:

COPPER, PERCENT .....	91.0
TIN, PERCENT .....	0.0
ZINC, PERCENT .....	5.0
LEAD, PERCENT .....	4.0

SILICON BRONZE

THIS BRONZE SHALL CONFORM TO ASTM SPECIFICATION B-98, ALLOY A

STAINLESS STEEL

THE STAINLESS STEEL SHALL CONFORM TO ASTM SPECIFICATIONS A-276 TYPE 302.

CAST IRON

THE CAST IRON SHALL CONFORM TO ASTM SPECIFICATION A 126 CLASS B

(L) - OTHER MATERIALS: ALL OTHER MATERIALS USED IN THE MANUFACTURE OF THESE VALVES AND NOT SPECIFIED IN THE SPECIFICATIONS SHALL BE OF THE BEST QUALITY OF THEIR RESPECTIVE KINDS, AND SUBJECT TO INSPECTION, TESTS, AND APPROVAL BY THE ENGINEER.

APPROVED 4-10-75

*William J.weeney*  
ENGINEER OF DESIGN REVIEW

REVISIONS	<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>		
	DEPARTMENT OF PUBLIC UTILITIES		
	DIVISION OF WATER AND HEAT		
	CLEVELAND, OHIO		
	SUBJECT <b>WATERWORK NOTES</b>		
DRAWN	SCALE	No.	
CHECKED W.R.S.	DATE 1-17-74		

(M) - CHEMICAL ANALYSIS: CHEMICAL ANALYSIS OF THE MATERIAL USED SHALL BE FURNISHED BY THE CONTRACTOR WHENEVER REQUIRED BY THE ENGINEER.

(N) - CLEANING OF CASTINGS: ALL IRON CASTINGS SHALL BE THOROUGHLY CLEANED ON THE OUTSIDE AND INSIDE SURFACES AND PROTECTED FROM RAIN OR MOISTURE UNTIL THEY ARE PAINTED.

(O) - HYDROSTATIC TESTS AT SHOP: ALL GATE VALVES SHALL BE TESTED IN THE SHOP BY HYDROSTATIC PRESSURE, BY CLOSING THE VALVE AND APPLYING THE REQUIRED TEST PRESSURE IN THE BODY AND DOME OF THE VALVE AS SPECIFIED BELOW.

16"	300 PSI - INSERT TEST PROCEDURE
4" THROUGH 12"	400 PSI - NO TIME REQUIREMENT
24" THROUGH 48"	300 PSI FOR 1/2 HOUR, DROP PRESSURE TO 150 PSI, THEN ELEVATE AGAIN TO 300 PSI FOR 30 MINS. - A TOTAL OF 1 HOUR.

THIS IS A MODIFICATION OF SECTION 29 OF THE "STANDARD SPECIFICATIONS AWWA DESIGNATION C-500-GI". ALL LEAKS, FLAWS OR OTHER DEFECTS DEVELOPED IN MAKING THESE TESTS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER OR THE ENTIRE PIECE SHALL BE REJECTED. AFTER TESTING, ALL VALVES SHALL BE THOROUGHLY DRAINED. ALL EQUIPMENT FOR TESTING AND ALL TESTS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.

(P) - PERFORMANCE TESTS: EACH VALVE SHALL BE OPERATED IN THE POSITION THAT IT WILL ASSUME IN SERVICE AND FOR THE FULL LENGTH OF GATE TRAVEL IN BOTH DIRECTIONS, TO DEMONSTRATE THE FREE AND PERFECT FUNCTIONING OF ALL PARTS IN THE INTENDED MANNER. ANY DEFECTS OF WORKMANSHIP SHALL BE CORRECTED AND THE TEST REPEATED UNTIL SATISFACTORY PERFORMANCE IS DEMONSTRATED.

**PLACING AND TESTING**

(A) - ALL VALVES SHALL BE SET ACCURATELY AND CAREFULLY TO THE LINES AND GRADES GIVEN. ALL CONNECTIONS TO PIPE SHALL HAVE THE NECESSARY FLANGE, LEAD, SCREWED, VICTAULIC OR SOLDERED ENDS AS REQUIRED UNDER THE FOLLOWING ITEMS: CAST IRON AND DUCTILE IRON PIPE AND FITTINGS, PRESTRESSED CONCRETE CYLINDER PIPE AND FITTINGS, FURNISHING AND SETTING 6" (SIX INCH) HYDRANT, 4" DRAIN COMPLETE, AND AS SHOWN ON THE VALVE SCHEDULE.

(B) - AFTER THE VALVES ARE SET IN PLACE AND READY TO OPERATE, THE CONTRACTOR SHALL TEST THEM UNDER WORKING PRESSURE AND CONDITIONS HEREIN SPECIFIED UNDER THE SPECIFICATION "TESTING MAINS" AND ANY VALVE FOUND TO LEAK SHALL BE MADE WATER-TIGHT AND IF FOUND TO BE OF FAULTY DESIGN, SHALL BE SATISFACTORILY REPAIRED OR REPLACED BY THE CONTRACTOR.

**PAINTING**

(A) - IRON BODY VALVES SHALL EITHER BE DIPPED IN ASPHALT PAINT AND ALL BRONZE PARTS CLEANED, OR ALL IRON CASTINGS SHALL BE PAINTED INSIDE BEFORE ASSEMBLING WITH TWO (2) COATS OF AN APPROVED PAINT, AND, AFTER PASSING THE HYDRAULIC TEST SHALL BE GIVEN AT LEAST TWO (2) COATS OF APPROVED PAINT OUTSIDE.

(B) - AFTER ERECTION, ALL EXPOSED METAL SURFACES OF VALVES EXCEPT BRASS OR BRONZE SHALL BE PAINTED WITH TWO (2) FIELD COATS OF COAL TAR PITCH PAINT INERTOL 66 OR KOPPERS BITUMASTIC 50, OR APPROVED EQUAL.

**INSPECTION**

THE ENGINEER, OR HIS AUTHORIZED DESIGNATE WILL INSPECT THE MATERIAL AND WORK DONE, AS THE INTERESTS OF THE RESPECTIVE CITIES OR STATE MAY REQUIRE. SUCH OFFICE SHALL HAVE UNRESTRICTED ACCESS TO THE CONTRACTOR'S PLANT AND TO ALL PARTS OF THE WORK AND OTHER PLACES AT WHICH THE PREPARATION OF THE MATERIAL AND THE CONSTRUCTION OF THE DIFFERENT PARTS OF THE WORK TO BE DONE UNDER THESE SPECIFICATIONS ARE CARRIED ON, AND HE SHALL RECEIVE ALL FACILITIES AND ASSISTANCE TO CARRY OUT HIS WORK OF INSPECTION AND TESTING, IN A MANNER SATISFACTORY TO THE ENGINEER. SUCH INSPECTION SHALL NOT RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM SAID WORK STRICTLY IN ACCORDANCE WITH THE SPECIFICATIONS, OR ANY MODIFICATIONS THEREOF, AS HEREIN PROVIDED, AND WORK NOT SO CONSTRUCTED SHALL BE REMOVED AND MADE GOOD BY THE CONTRACTOR, AT HIS OWN EXPENSE.

**DRAWINGS**

(A) - PRIOR TO THE MANUFACTURE OF ANY VALVES, THE CONTRACTOR SHALL SUBMIT FOR THE APPROVAL OF THE ENGINEER AND DIRECTOR OF PUBLIC UTILITIES OF THE CITY OF CLEVELAND COMPLETE WORKING, DETAIL, AND DIMENSION DRAWINGS SHOWING THICKNESSES AND KINDS OF MATERIAL AND SIMILAR INFORMATION.

(B) ONE PRINT OF EACH OF THE DRAWINGS SUBMITTED WILL BE RETURNED WITH THE CRITICISMS OR APPROVAL OF THE DIRECTOR. IN CASE THE DRAWINGS ARE NOT APPROVED, THE CONTRACTOR SHALL AGAIN SEND FOR APPROVAL, DUPLICATE REVISED PRINTS OF THE DRAWINGS OR TAKE CARE OF THE CRITICISMS NOTED, AND AFTER THE DRAWINGS HAVE BEEN FINALLY APPROVED, THE CONTRACTOR SHALL AGAIN FURNISH TO THE DIRECTOR THREE (3) MYLAR OR REPRODUCIBLE CLOTH TRACINGS OF EACH DRAWING. NO WORK SHALL BE DONE IN THE SHOP UNTIL AFTER THE DRAWINGS HAVE BEEN FINALLY APPROVED. THEN WHEN RETURNED, FURNISH FIFTEEN (15) SETS OF PRINTS OF APPROVED TRACINGS FOR DISTRIBUTION.

**PAYMENT**

THE UNIT PRICE STIPULATED FOR EACH "ITEM SPECIAL-VALVES" CLASSIFIED AS TO SIZE AND TYPE SHALL INCLUDE THE FURNISHING, PLACING, TESTING AND PAINTING OF THE AIR COCKS, DRAIN VALVES, GATE VALVES, INCLUDING BY-PASS VALVES OPERATING NUTS AND OTHER ACCESSORIES AND APPURTENANCES AND THE FURNISHING OF ALL LABOR, TOOLS AND APPLIANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR AS SHOWN.

AIR COCK IS INCLUDED FOR PAYMENT IN ITEM SPECIAL - 2" AIR COCK COMPLETE.

DRAIN- VALVE IS INCLUDED FOR PAYMENT IN ITEM SPECIAL - 4" DRAIN COMPLETE.

VALVE BOXES SHALL BE INCLUDED FOR PAYMENT IN "ITEM SPECIAL-VALVES".

# WATERWORK NOTES

**GALVANIZED WELDED STEEL PIPE ON BRIDGE STRUCTURES**

(12.75" O. D. X 0.50" EXTRA STRONG WELDED STEEL PIPE A.S.T.M. A-120) GRADE B  
(16.00" O. D. X 0.50" WELDED STEEL PIPE A.S.T.M. A-53 GRADE B)

**WORK INCLUDED**

THE WORK SHALL CONSIST OF THE FURNISHING AND INSTALLING STEEL PIPE OF THE SIZES INDICATED INCLUDING STEEL PIPE FLANGES, COUPLINGS, EXPANSION JOINT ASSEMBLIES, STEEL PIPE SUPPORT ASSEMBLIES, FASTENINGS, APPURTENANCES, PIPING INSULATION AND APPURTENANCES, AND SLEEVE PACKING THRU ABUTMENT WALLS.

**JOINTS**

(A) - FLANGED JOINTS:

(1) - FLANGED JOINTS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS, FLANGES SHALL BE EITHER CAST STEEL, FORGED OR ROLLED STEEL, OR PROPERLY WELDED AND MACHINED FABRICATED STEEL PLATES, WELDED TO PIPE WITH TWO CONTINUOUS WELDS. THEY SHALL HAVE PLAIN FACES AND SHALL BE FACED TRUE AND SMOOTH AT RIGHT ANGLES TO THE AXIS OF THE PIPE AND SHALL BE SPOT FACED ON THE BACK. DRILLING SHALL CONFORM TO "AMERICAN 1928 STANDARD" DRILLING 125 POUND TEMPLATE. EACH BLIND FLANGE SHALL BE CAST IRON AND HAVE BOSSES TAPPED AT TOP AND BOTTOM FOR TWO-(2) INCH STANDARD PIPE AND FURNISHED WITH PLUGS. ALL BOLTS FOR FLANGES AND OTHER TYPES OF BOLTING SHALL CONFORM TO THE "TENTATIVE SPECIFICATIONS FOR STEEL MACHINE BOLTS AND NUTS AND TAP BOLTS. ASTM DESIGNATION A 307-63T" GRADE-A, EXCEPT WHERE ONE OR BOTH FLANGES ARE CAST IRON, IN WHICH CASE BOLTS SHALL BE GRADE-B.

(2) - ALL BOLTS USED IN THE FINISHED WORK FOR FLANGES SHALL BE OF MEDIUM OPEN HEARTH STEEL. THE ENDS OF ALL BOLTS MUST BE FINISHED TO STANDARD RADIUS IN ACCEPTABLE MANNER. ALL SCREW THREADS SHALL BE AMERICAN STANDARD COARSE THREAD (N.C.). STUD BOLTS DOUBLE END (ROD) SHALL BE USED TO MAKE THE FLANGED JOINTS ON PIPE. ALL NUTS SHALL BE HEXAGONAL COLD PRESSED SEMI-FINISHED AND MADE OF MEDIUM OPEN HEARTH STEEL. ALL DIMENSIONS TO BE ACCORDING TO AMERICAN STANDARD HEAVY. BOLTS AND NUTS SHALL BE GALVANIZED BEFORE SHIPMENT AND NOT PRIMED. GASKETS FOR FLANGED PIPE SHALL BE FULL FACED RUBBER ONE-SIXTEENTH (1/16) INCH THICK 5X MANILA ROPE PATTERN OR OTHER APPROVED TYPE.

(B) - VICTAULIC PIPE COUPLINGS:

(1) - WHERE SHOWN ON THE DRAWINGS OR WHERE REQUIRED, THE CONTRACTOR SHALL FURNISH AND INSTALL VICTAULIC PIPE COUPLINGS STYLE 77 FOR CONNECTION OF STEEL PIPES. STEEL PIPE ENDS SHALL BE FABRICATED AND GROOVED AS INDICATED ON THE DRAWINGS. SEE DETAIL SHEET NO 418

COUPLINGS SHALL BE COMPOSED OF MALLEABLE IRON HOUSINGS HELD TOGETHER WITH STEEL BOLTS HEAT TREATED AND WITH A CONTINUOUS HOLLOW MOLDED RUBBER SEALING RING, OF SUCH TYPE THAT THE SEAL BECOMES TIGHT AS THE PRESSURE WITHIN THE PIPE INCREASES. THE JOINTS SHALL BE CONSTRUCTED AND INSTALLED AND BE EQUAL IN ALL RESPECTS TO THOSE MANUFACTURED BY THE VICTAULIC COMPANY OF AMERICA. MALLEABLE HOUSINGS SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR MALLEABLE IRON CASTINGS, A.S.T.M. DESIGNATION A 47-61. BOLTS SHALL BE MANUFACTURED BY THE COUPLING MANUFACTURER AND SHALL BE HEAT TREATED CADMIUM PLATED STEEL BOLTS HAVING 100,000 PSI. TENSILE STRENGTH.

(2) - ALL METAL PARTS OF THE COUPLINGS SHALL BE COATED AT THE SHOP WITH ONE COAT OF BITUMINOUS PRIMER FURNISHED BY THE SAME MANUFACTURER WHO FURNISHES THE COATINGS AS SPECIFIED UNDER "PAINTING."

(3) - ALL BOLTS AND NUTS SHALL BE OF THE SAME QUALITY AS PROVIDED FOR FLANGED JOINTS.

(C) - EXPANSION JOINT ASSEMBLY

(1) - THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE DIRECTOR OF PUBLIC UTILITIES FOR APPROVAL OF THE EXPANSION JOINT ASSEMBLY.

(2) - THE JOINT ASSEMBLY SHALL BE "DRESSER STYLE 63 TYPE 1" OR "ADSCO MODEL NO. S-151-1S SLIP TYPE WITH AN 8" TRAVERSE, OR APPROVED EQUAL. THE JOINT ASSEMBLY SHALL INCLUDE ALL MATERIALS, CADMIUM PLATED BOLTS, NUTS AND WASHERS; WELDED NECK FLANGES A.S.A. 150# AND GASKETS. NO FIELD WELDING OR GALVANIZED STEEL PIPE WILL BE PERMITTED.

**PIPE SUPPORT ASSEMBLIES**

(1) - THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE DIRECTOR OF PUBLIC UTILITIES FOR APPROVAL OF THE PIPE SUPPORT ASSEMBLIES. THEY SHALL BE FABRICATED AS DETAILED IN THE WATER WORK DETAILS ON SHEET 418.

(2) - PIPE SUPPORT ASSEMBLIES SHALL BE COMPLETE INCLUDING ALL MATERIALS, CADMIUM PLATED SHOULDER AND CLAMP BOLTS, WASHERS AND NUTS. THE SUPPORT ASSEMBLY CLAMP, SEAT PLATE AND SHIMS SHALL ALL BE HOT DIPPED GALVANIZED AFTER FABRICATION PER A.S.T.M. A-123 LATEST REVISION. NO FIELD WELDING OF GALVANIZED STEEL PIPE WILL BE PERMITTED.

(3) - AFTER FABRICATION THE ENTIRE ASSEMBLY SHALL BE HOT DIPPED GALVANIZED EXCEPT BOLTS AND SLIP PIPE.

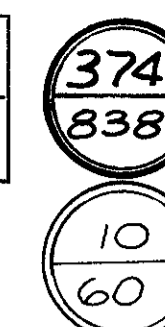
**INSULATION, APPURTENANCES AND FASTENINGS**

THE CONTRACTOR SHALL FURNISH AND INSTALL INSULATION SLEEVE PACKING, APPURTENANCES AND FASTENINGS AS CALLED FOR ON THE WATERWORK DETAIL PLANS.

THE STEEL PIPE THROUGH BRIDGE LIMITS SHALL BE INSULATED WITH THREE (3)" INCHES OF HEAVY DENSITY FIBER GLASS (JOHNS-MANVILLE; GUSTIN-BACON; OWENS-CORNING; OR APPROVED EQUAL) PREFORMED PIPE INSULATION, A.S.T.M. C-547-67, OR LATEST REVISION, WITH APPROVED FACTORY APPLIED REINFORCED FIRE RESISTANT PROTECTIVE VAPOR BARRIER JACKET OF LAMINATED KRAFT AND CORROSION RESISTANT METALLIC FOIL AND 0.010" MINIMUM STAINLESS STEEL WEATHER-PROOF JACKET. STAINLESS STEEL STRAPS ONE-HALF (1/2") INCH MINIMUM WIDTH WITH STAINLESS STEEL CLAMPS SHALL BE PLACED A MINIMUM OF TWO (2) PER SECTION OF PREFORMED INSULATION.

THE VOID BETWEEN THE PIPE SLEEVE AND THE WATERMAIN THROUGH THE BRIDGE ABUTMENTS SHALL BE FILLED WITH JUTE PACKING AND SEALED AT BOTH ENDS WITH THREE (3)" INCHES OF HOT POURED LEAD.

FED. RD.	STATE	PROJECT
2	OHIO	



CUYAHOGA COUNTY  
CUY - 90 - 11.64

**DRAWINGS**

(A) - THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, DUPLICATE PRINTS OF ALL SHOP DRAWINGS FOR STEEL PIPE, FITTINGS AND SPECIALS, AND MISCELLANEOUS DETAILS, SUCH AS AIR COCK AND DRAIN FORGINGS, CASTINGS, ETC.

(B) - THE CONTRACTOR SHALL ALSO FURNISH AN ASSEMBLY PLAN FOR THE ENTIRE LENGTH OF THE PIPE LINE FOR WHICH STEEL PIPE IS FURNISHED UNDER THE APPROPRIATE ITEMS. THIS ASSEMBLY PLAN SHALL ALSO SHOW THE CORRECT LOCATION OF ALL FITTINGS FURNISHED.

(C) - TWO PRINTS OF EACH OF THE DRAWINGS SUBMITTED WILL BE RETURNED WITH THE CRITICISMS OR APPROVAL OF THE ENGINEER. IN CASE THE DRAWINGS ARE NOT APPROVED, THE CONTRACTOR SHALL AGAIN SEND FOR APPROVAL, DUPLICATE REVISED PRINTS OF THE DRAWINGS TO TAKE CARE OF THE CRITICISMS NOTED, AND AFTER THE DRAWINGS HAVE BEEN FINALLY APPROVED, THE CONTRACTOR SHALL FURNISH TO THE ENGINEER THREE (3) MYLAR OR REPRODUCIBLE CLOTH TRACINGS OF EACH DRAWING. NO WORK SHALL BE DONE IN THE SHOP UNTIL AFTER THE DRAWINGS HAVE BEEN FINALLY APPROVED.

(D) - THE APPROVAL OF THE DRAWINGS BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF ANY OF HIS OBLIGATIONS IN CONNECTION WITH THIS CONTRACT.

**EXPERIENCE QUALIFICATIONS**

ALL BIDDERS WILL BE REQUIRED TO SHOW TO THE SATISFACTION OF THE ENGINEER THAT THE TYPE AND SIZE OF PIPE AND FITTINGS HE PROPOSES TO FURNISH WILL BE MADE BY A MANUFACTURER WHOSE PIPE HAS BEEN SUCCESSFULLY USED FOR LIKE WORK OUTSIDE OF THE BUILDER'S WORKS FOR A PERIOD OF NOT LESS THAN FIVE YEARS.

**PAINTING**

AFTER ERECTION, ALL EXPOSED OR DAMAGED COATINGS AND ALL BOLTS FOR FLANGES AND VICTAULIC COUPLINGS SHALL BE CLEANED AND PAINTED WITH THREE (3) FIELD COATS OF INERTOL 50 OR BITUMASTIC 50 OR APPROVED EQUAL.

**PAYMENT**

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER LINEAR FEET OF "ITEM SPECIAL - 12.75" O.D. X 0.50" OR 16.00" O.D. X 0.50" WALL THICKNESS GALVANIZED STEEL PIPE (A.S.T.M. A-120 EXTRA STRONG GRADE B OR A.S.T.M. A-53 GRADE B SCHEDULE 40 AS SPECIFIED), FITTINGS, COUPLINGS, ASSEMBLIES, INSULATION COVERING AND APPURTENANCES COMPLETE" WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO COMPLETE THIS WORK IN PLACE.

**CUT-IN VALVES**

**WORK INCLUDED**

CUT-IN VALVES WILL BE CUT IN BY THE CONTRACTOR. THE HUB VALVE SHALL BE AS SPECIFIED OR APPROVED EQUAL. THE TIME OF INSTALLATION WILL BE SET BY THE CITY OF CLEVELAND, DIVISION OF WATER.

THE CONTRACTOR WILL DO ALL PIPE CUTTING AND REMOVAL OF SECTION OF PIPE CUT AND INSTALLATION OF THE VALVE. THE CONTRACTOR SHALL FURNISH AND INSTALL THE CUT-IN HUB VALVE, COUPLINGS, C.I. NIPPLES, VALVE BOX, LEAD AND INCIDENTALS AT THE PROPER LOCATIONS ON THE JOB FOR THE INSTALLATION, SEE DETAIL SHEET 53. THE CONTRACTOR SHALL DO ALL NECESSARY EXCAVATION, SHEETING AND BRACING, SAND BACKFILLING AND REPAVING REQUIRED FOR THIS ITEM

**PAYMENT**

THE WORK INCLUDED IN THIS ITEM SHALL BE PAID FOR AT THE UNIT PRICE BID FOR EACH "ITEM SPECIAL - CUT-IN VALVE, COMPLETE" AND CLASSIFIED AS TO SIZE. THE PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR PERFORMING ALL CUT-INS, EXCAVATION, SHEETING, BRACING, SAND BACKFILLING AND REPAVING AS NECESSARY AND THE FURNISHING OF ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

NO MATERIALS, LABOR, TOOLS, EQUIPMENT OR INCIDENTALS WILL BE FURNISHED BY THE CITY OF CLEVELAND, DIVISION OF WATER, TO THE CONTRACTOR. THE VALVE BOX SHALL BE INCLUDED IN THE PAYMENT BID FOR "ITEM SPECIAL - CUT-IN VALVE, COMPLETE."

**4" DRAIN, COMPLETE**

**WORK INCLUDED**

THE CONTRACTOR SHALL FURNISH PIPE WITH A 4" TANGENT OUTLET AT THE LOCATIONS SHOWN ON THE PLANS AND SHALL FURNISH AND INSTALL THE 4" PIPE, VALVE AND VALVE BOX AS SHOWN IN THE "WATERWORK DETAILS."

APPROVED 4-10-75

William J. Sweet  
ENGINEER OF DESIGN REVIEW

REVISIONS	1 <sup>st</sup> HIGH SERVICE DISTRICT
	DEPARTMENT OF PUBLIC UTILITIES
	DIVISION OF WATER AND HEAT
	CLEVELAND, OHIO
SUBJECT	WATERWORK NOTES
DRAWN	SCALE
CHECKED W.B.S.	DATE 1-17-74 No.

# WATERWORK NOTES

FED. RD.	STATE	PROJECT
2	OHIO	

375  
838

11  
60

CUYAHOGA COUNTY  
CUY - 90 -11.64

### 4" DRAIN, COMPLETE - (CON'T)

#### MEASUREMENT

THE 4" DRAIN, COMPLETE" TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF EACH LISTED AND ESTIMATED SEPARATELY COMPLETE AND ACCEPTED.

#### PAYMENT

THE UNIT PRICE STIPULATED FOR EACH "ITEM SPECIAL - 4" DRAIN COMPLETE" SHALL CONSTITUTE FULL PAYMENT FOR PERFORMING THE EXCAVATION AND BACKFILLING AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, SMALL TOOLS, AND APPLIANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR AS SHOWN. PAYMENT FOR PIPE WITH 4" TANGENT OUTLET SHALL BE INCLUDED UNDER THIS ITEM. PAYMENT FOR DRAIN VAULTS SHALL BE INCLUDED UNDER "ITEM SPECIAL DRAIN VAULT." THE VALVE BOX SHALL BE INCLUDED IN THE PAYMENT BID FOR "ITEM SPECIAL - 4" DRAIN COMPLETE."

#### 2" AIR COCK, COMPLETE

#### WORK INCLUDED

THE CONTRACTOR SHALL FURNISH PIPE WITH A 2" AIR COCK CONNECTION AND FURNISH AND INSTALL THE "2" AIR COCK, COMPLETE" AS SHOWN IN THE "WATERWORK DETAILS" AT THE LOCATIONS SHOWN IN THE PLANS.

#### PAYMENT

THE WORK INCLUDED IN THIS ITEM SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR EACH "ITEM SPECIAL - 2" AIR COCK, COMPLETE" WITH NO. 7 VALVE BOX WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL PAYMENT FOR FURNISHING AND INSTALLING ALL MATERIALS, LABOR EQUIPMENT, TOOLS AND APPLIANCES NECESSARY TO COMPLETE THIS ITEM. THE VALVE BOX SHALL BE INCLUDED IN THE PAYMENT BID FOR THE "ITEM SPECIAL "2" AIR COCK COMPLETE", WITH NO. 7 VALVE BOX.

#### PLUGGING DEAD ENDS

STANDARD PLUGS WITH CLAMPS SHALL BE INSERTED INTO THE BELLS OF ALL DEAD ENDS OF PIPES, TEES, OR CROSSES, AND SPIGOT ENDS CAPPED AND CLAMPED BY THE CONTRACTOR, ON ALL MAINS CONSTRUCTED BY HIM AND ON EXISTING WATER MAINS WHERE INDICATED IN THE CONTRACT DRAWING. CONCRETE PIERS SHALL BE PLACED WHEN CALLED FOR ON THE CONTRACT DRAWINGS, OR ORDERED BY THE ENGINEER. THE COST OF FURNISHING THE PLUGS SHALL BE INCLUDED IN THE PER LINEAR FOOT PRICE BID FOR THE VARIOUS SIZES OF NEW WATER MAINS AND FOR SIZE PLUG INSTALLED WHERE SHOWN ON EXISTING WATER MAIN, AT THE CONTRACT PRICE BID PER EACH "ITEM SPECIAL - PLUGGING EXISTING WATER MAIN AND BRANCH" (SEE PAY ITEM BELOW).

#### ITEM SPECIAL - PLUGGING EXISTING WATER MAINS AND BRANCHES AND PLUGGING SERVICE CONNECTIONS

#### WORK INCLUDED:

THE WORK INCLUDED UNDER THESE ITEMS SHALL CONSIST OF THE PLUGGING OF EXISTING WATER MAINS AND BRANCHES, AND THE PLUGGING OF SERVICE CONNECTIONS AT THE LOCATIONS SHOWN ON THE DRAWINGS OR AS ORDERED, INCLUDING CAST IRON PLUGS OR CAPS WITH CLAMPS AND CONCRETE PIERS, ALL EXCAVATION, SHEETING AND BRACING, CONCRETE, SAND BACKFILL, BACKFILL, TEMPORARY REPAVING AND PERMANENT REPAVING, ALL AS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT.

(A) PLUGGING MAINS AND BRANCHES: WHEN INDICATED ON THE PLANS OR AS ORDERED, THE CONTRACTOR SHALL MAKE PIPE CUTS, REMOVE PIPE AND FITTINGS AND SHALL PLUG OR CAP MAINS, TEES OR CROSSES, PLUG CONNECTIONS AT MAIN OR BRANCHES, SHALL DO ALL THE EXCAVATION, BACKFILLING AND REPAVING, ALL AS REQUIRED.

(B) PLUGGING SERVICE CONNECTION: THE CONTRACTOR SHALL DO ALL NECESSARY EXCAVATION, SHEETING AND BRACING, SAND BACKFILLING, BACKFILLING AND REPAVING REQUIRED FOR THIS ITEM, BUT THE CLEVELAND WATER DEPARTMENT WILL FURNISH THE PLUG AND PLUG THE SERVICE CONNECTION. THE CONTRACTOR SHALL ARRANGE WITH THE CLEVELAND WATER DEPARTMENT FOR THE NECESSARY WORK UNDER THIS ITEM.

#### MEASUREMENT

THE EXISTING WATER MAINS AND BRANCHES PLUGGED OR SERVICE CONNECTIONS PLUGGED TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF EACH LISTED AND ESTIMATED SEPARATELY, COMPLETED AND ACCEPTED.

#### BASIS OF PAYMENT:

THE UNIT PRICE STIPULATED FOR (A) "ITEM SPECIAL - PLUGGING EXISTING WATER MAINS AND BRANCHES" CLASSIFIED AS TO SIZE SHALL CONSTITUTE FULL COMPENSATION FOR PERFORMING ALL THE REQUIREMENTS OF THIS ITEM INCLUDING FURNISHING ALL NECESSARY MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS TO MAKE THIS A COMPLETE ITEM OF WORK. THE ITEM SHALL BE PAID FOR ON PER "EACH" BASIS.

THE UNIT PRICE STIPULATED FOR (B) "ITEM SPECIAL - PLUGGING SERVICE CONNECTIONS" SHALL CONSTITUTE FULL COMPENSATION FOR PERFORMING ALL THE REQUIREMENTS OF THIS ITEM INCLUDING FURNISHING ALL NECESSARY MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS TO MAKE THIS A COMPLETE ITEM OF WORK. THE ITEM SHALL BE PAID FOR ON PER "EACH" BASIS.

THE MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS FURNISHED BY THE CITY OF CLEVELAND, DIVISION OF WATER, WILL BE AT NO EXPENSE TO THE CONTRACTOR. THE WORK PERFORMED BY THE CITY OF CLEVELAND APPLIES TO (B) PLUGGING SERVICE CONNECTIONS.

#### SERVICE CONNECTIONS EXTENDED

THE CONTRACTOR SHALL DO ALL THE NECESSARY EXCAVATION, BACKFILLING, SEEDING, SODDING, AND REPAVING REQUIRED IN MAKING THESE SERVICE CONNECTIONS AND ALTERATIONS AND COSTS THEREOF SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "SERVICE CONNECTIONS EXTENDED". THE CURB BOXES SHALL BE RELOCATED BY THE CITY AND SET TO FINAL GRADE BY THE CONTRACTOR. WATER METER VAULTS FOR CONNECTIONS 1-1/2" AND OVER SHALL BE CONSTRUCTED BY THE CONTRACTOR AND PAID FOR AT THE CONTRACT PRICE BID FOR EACH "ITEM SPECIAL - METER VAULT."

#### MEASUREMENT

THE SERVICE CONNECTIONS EXTENDED" TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF EACH LISTED AND ESTIMATED SEPARATELY COMPLETED AND ACCEPTED.

#### WORK INCLUDED

THE CITY OF CLEVELAND, DIVISION OF WATER, WILL RELOCATE CURB BOXES, RESET METERS AND EXTEND CONNECTIONS AT NO COST TO THE CONTRACTOR.

#### BASIS OF PAYMENT

THE UNIT PRICE STIPULATED FOR EACH "ITEM SPECIAL-SERVICE CONNECTIONS EXTENDED" SHALL INCLUDE THE EXCAVATION, BACKFILLING, SEEDING AND SODDING AND REPAVING AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS AND APPLIANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR AS SHOWN.

#### RELOCATE, RETAP AND RECONNECT SERVICE CONNECTION

#### WORK INCLUDED

THE CONTRACTOR SHALL REMOVE THE EXISTING SERVICE CONNECTION FROM THE EXISTING WATER MAIN WHICH IS TO BE ABANDONED. A TAP IS TO BE MADE ON THE NEW WATER MAIN AND THE EXISTING SERVICE CONNECTION SHALL BE RECONNECTED TO THE NEW WATER MAIN.

THE CITY OF CLEVELAND, DIVISION OF WATER, WILL FURNISH THE CORPORATION COCKS AND PIPING MATERIAL FOR AND MAKE ALL CHANGES REQUIRED IN THE LOCATION OF EXISTING CONNECTION AT THE NEW WATER MAINS AS SHOWN ON THE PLANS AT NO COST TO THE CONTRACTOR, FROM THE MAIN TO TWO (2) FEET BEHIND CURB OR TO CURB COCK SETTING.

THE CONTRACTOR SHALL DO ALL THE NECESSARY EXCAVATION, BACKFILLING, SEEDING AND SODDING, AND REPAVING AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS, AND APPLIANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR SHOWN.

#### MEASUREMENT

THE "RELOCATE, RETAP & RECONNECT SERVICE CONNECTION" TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF EACH LISTED AND ESTIMATED SEPARATELY COMPLETED AND ACCEPTED.

#### TEMPORARY SERVICE CONNECTION

TO BE TREATED SAME AS AND INCLUDED IN UNIT PRICE BID FOR RELOCATE, RETAP AND RECONNECT SERVICE CONNECTION.

#### BASIS OF PAYMENT

THE UNIT PRICE STIPULATED FOR EACH PERTINENT SIZE "ITEM SPECIAL - RELOCATE, RETAP AND RECONNECT SERVICE CONNECTION" SHALL INCLUDE THE EXCAVATION, BACKFILLING, SEEDING AND SODDING, AND REPAVING AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND APPLIANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR AS SHOWN.

#### MISCELLANEOUS METAL WORK

#### WORK INCLUDED

(A) THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MISCELLANEOUS METAL WORK WHICH IS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT AND IS NOT SPECIFICALLY INCLUDED UNDER THE OTHER ITEMS OF THESE SPECIFICATIONS.

(B) IN GENERAL, THE WORK SHALL INCLUDE THE FURNISHING AND INSTALLING OF MANHOLE FRAMES AND COVERS, MANHOLE STEPS, VALVE BOXES, EXTENSION STEMS AND BRACE, STRUCTURAL MEMBERS, BRONZE BOLTS, AND OTHER SIMILAR ITEMS REQUIRED FOR THE PROPER COMPLETION OF THE WORK.

#### MATERIALS

ALL CASTINGS SHALL CONFORM TO THE REQUIREMENTS OF ITEM 604 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, EXCEPT THAT THE CAST IRON SHALL BE CLASS NO. 30. VALVE BOXES MAY BE LOWEST CLASS UNDER ITEM 604. DUCTILE IRON SHALL MEET THE REQUIREMENTS OF THE ASTM SPECIFICATIONS A 536. ALL STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF THE ASTM SPECIFICATIONS A 7-46. ALL BRONZE BOLTS AND NUTS SHALL CONFORM TO C.S. STANDARD SIZES, AND SHALL BE CLEAN CUT AND HAVE WELL FITTED THREADS. ALL BRONZE BOLTS AND NUTS SHALL BE OF TOBIN OR MANGANESE BRONZE, OR OF SIMILAR APPROVED MATERIALS.

#### CLEANING AND TESTING

ALL CASTINGS SHALL BE THOROUGHLY CLEANED AND SUBJECTED TO A CAREFUL HAMMER TEST. NO CASTINGS SHALL BE COATED UNLESS CLEAN AND FREE FROM RUST, AND APPROVED IN THESE RESPECTS BY THE ENGINEER OR HIS AUTHORIZED INSPECTOR IMMEDIATELY BEFORE BEING DIPPED.

#### COATING

EACH CASTING SHALL BE SPRAYED OR BRUSHED INSIDE AND OUT WITH ONE COAT OF ASPHALTIC COMPOUND VARNISH. THE VARNISH SHALL BE MADE OF HIGH GRADE ASPHALT FLUXED AND BLENDED WITH PROPERLY TREATED DRYING OILS AND THINNED TO A PROPER CONSISTENCY WITH A VOLATILE SOLVENT. THE VARNISH SHALL BE MADE TO COMPLY WITH FEDERAL SPECIFICATION 77-V-51a OR JOINT ARMY-NAVY SPECIFICATION JAN-P-450.

OTHER METHODS OF COATING AND TYPES OF COATING MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. IN ADDITION TO THE SHOP COAT THE CASTINGS SHALL RECEIVE TWO (2) COATS OF APPROVED PAINT.

#### INSPECTION

THE ENGINEER OR HIS AUTHORIZED ASSISTANT, SHALL HAVE THE RIGHT TO INSPECT THE MATERIAL AND WORK DONE, AS THE INTERESTS OF THE CITY OR STATE MAY REQUIRE. SUCH INSPECTION SHALL NOT RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM SAID WORK STRICTLY IN ACCORDANCE WITH THE SPECIFICATIONS, OR ANY MODIFICATION THEREOF, AS HEREIN PROVIDED, AND WORK NOT SO CONSTRUCTED SHALL BE REMOVED AND MADE GOOD BY THE CONTRACTOR, AT HIS OWN EXPENSE. ALL MANHOLE RINGS AND COVERS MUST BE SOUND AND SHALL CONFORM TO THESE SPECIFICATIONS, AND ANY DEFECTIVE CASTINGS WHICH MAY HAVE PASSED THE INSPECTOR AT THE WORKS, OR ELSEWHERE, SHALL BE AT ALL TIMES LIABLE TO REJECTION WHEN DISCOVERED, UNTIL THE DATE OF FINAL PAYMENT UNDER THIS CONTRACT.

#### STEPS AND LADDERS

DUCTILE IRON STEPS AND LADDERS OF THE SIZE AND SHAPE SHOWN ON THE CONTRACT DRAWINGS, SHALL BE BUILT INTO THE BRICK AND CONCRETE MASONRY OF THE MANHOLES AS INDICATED ON THE DRAWINGS AND SHALL MEET THE REQUIREMENTS OF THE STATE OF OHIO, ITEM 604.

#### RIMS AND COVERS

(A) ALL CAST IRON MANHOLE RIMS AND COVERS OF THE FORMS, DIMENSIONS AND DETAILS SHOWN ON THE CONTRACT DRAWINGS, SHALL BE FURNISHED AND INSTALLED AS DIRECTED.

(B) THE RIMS SHALL BE PROPERLY SET IN PLACE IN A FULL BED OF MORTAR OR POURED MONOLITHIC IN THE MASONRY, AT SUCH ELEVATION AS TO MAKE THE TOP OF THE RIM CONFORM TO THE FINISHED SURFACES OF THE STRUCTURES OR THE FINISHED GRADE AS ESTABLISHED BY THE ENGINEER.

#### VALVE BOXES AND COVERS

THE CONTRACTOR SHALL FURNISH AND INSTALL, OVER EACH VERTICALLY SET VALVE AT THE LOCATIONS SHOWN ON THE DRAWINGS, OR AS REQUIRED, VALVE BOXES AND COVERS OF THE TYPES AND SIZES INDICATED ON THE CONTRACT PLANS. THESE SHALL BE CAREFULLY LOCATED OVER THE VALVE NUTS, AND SHALL BE SET PLUMB AND TRUE TO ELEVATION AS REQUIRED.

#### DETAILED DRAWINGS

COMPLETE DETAILED DRAWINGS OF MISCELLANEOUS METAL WORK SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, PRIOR TO THE MANUFACTURE OF ANY WORK TO BE FURNISHED UNDER THIS ITEM, IN ACCORDANCE WITH THESE SPECIFICATIONS IF DIFFERING FROM DETAILED PLANS.

#### PAINTING

ALL MISCELLANEOUS METAL WORK NOT GALVANIZED SHALL BE THOROUGHLY CLEANED AND GIVEN THREE (3) COATS OF COAL TAR PITCH, INERTOL 50, BITUMASTIC 50, OR APPROVED EQUAL.

#### PAYMENT

THE FABRICATING, FURNISHING, ERECTING, MACHINING, FITTING, ADJUSTING, BOLTING, CLEANING AND PAINTING OF MISCELLANEOUS METAL WORK, INCLUDING THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT "ITEM SPECIAL" IN WHICH IT IS A PART. NO SEPARATE PAYMENT WILL BE MADE FOR MISCELLANEOUS WORK.

APPROVED 4-10-75

REVISIONS	<b>1<sup>ST</sup> HIGH SERVICE DISTRICT</b>
	<b>DEPARTMENT OF PUBLIC UTILITIES</b>
	<b>DIVISION OF WATER AND HEAT</b>
	<b>CLEVELAND, OHIO</b>
SUBJECT	<b>WATERWORK NOTES</b>
DRAWN	SCALE
CHECKED <u>WRS.</u>	DATE <u>1-17-74</u> No.

*William J. L...*  
ENGINEER OF DESIGN REVIEW

FED. RD.	STATE	PROJECT	
2	OHIO		

376  
838

12  
60

CUYAHOGA COUNTY  
CUY - 90 - 11.64

# WATERWORK NOTES

ADJUST VALVE BOX TO GRADE  
ADJUST SERVICE BOX TO GRADE

## WORK INCLUDED

THE CONTRACTOR SHALL RAISE OR LOWER THE EXISTING VALVE BOX AND EXISTING SERVICE BOX TO FIT THE NEW GRADE BY USING APPROPRIATE EXTENSION SECTIONS (IF NEEDED), OR BY EXCAVATING UNDER AND LOWERING BOX. BACKFILL SHALL BE TAMPED UNDER THE VALVE BOX TO INSURE THE BOX HAS A FIRM FOOTING.

## PAYMENT

THE WORK INCLUDED IN THIS ITEM SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR EACH, ITEM SPECIAL - ADJUST VALVE BOX TO GRADE, "ADJUST SERVICE BOX TO GRADE", "ADJUST AIR COCK BOX TO GRADE" WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR ADJUSTING THE VALVE BOX, OR SERVICE BOX, EXCAVATION, TAMPING EARTH UNDER VALVE BOX, FURNISHING AND INSTALLING EXTENSION SECTIONS, BACKFILLING, AND FOR THE FURNISHING OF ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

## BRICK AND PLAIN CONCRETE MASONRY

UNDER THESE ITEMS THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, MATERIALS, TOOLS AND EQUIPMENT FOR THE CONSTRUCTION, COMPLETE, OF ALL MISCELLANEOUS MASONRY STRUCTURES, AND INCLUDING ALL WATER MAIN DRAIN VAULTS, ACCESS AND ANCHORAGE MANHOLES, VALVE CHAMBERS, ANCHORS, PIERS AT PIPE BENDS AND UNDER LINE VALVES, FLOORS FOR DRAIN AND VALVE VAULTS, AND OTHER APPURTENANT WORK TOGETHER WITH THE HAULING, MIXING, PLACING, FORMS, SCAFFOLDING, SHEETING AND BRACING, GROUTING, PLASTERING, CURING, ETC., ALL AS SPECIFIED, REQUIRED OR SHOWN ON THE CONTRACT DRAWINGS.

## BRICK AND MASONRY MATERIAL

(A) THE MATERIAL FURNISHED BY THE CONTRACTOR FOR THE VARIOUS KINDS OF MASONRY CONSTRUCTION TO BE CONSTRUCTED SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

(B) ALL BRICK FURNISHED AND USED SHALL BE NO. 2 SHALE BRICK AND SHALL COMPLY WITH THE REQUIREMENTS FOR "GRADE SA" ASTM DESIGNATION C 32.

(C) PORTLAND CEMENT. A.S.T.M. C150, TYPE 1. STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPEC. 701.04.

(D) AGGREGATE FOR PORTLAND CEMENT CONCRETE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPEC. 703.02.

(E) FINE AGGREGATE FOR MORTAR OR GROUT. STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPEC. 703.03.

## MANHOLE CONSTRUCTION

ALL BRICK MANHOLES, BRICK NECKS AND EXTENSIONS SHALL BE BUILT IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

THE WALLS OF MANHOLES SHALL BE BUILT OF NO. 2 SHALE BRICK LAID IN 1:3 PORTLAND CEMENT MORTAR, WITH BRICK ARRANGED RADially AS HEADERS, FORMING A WALL NINE (9) INCHES THICK, IN DEEP MANHOLES THE WALL SHALL BE THIRTEEN (13") INCHES THICK BELOW A POINT 12' FROM THE SURFACE. ALL OF THE BRICK COMPOSING SAID MANHOLES SHALL BE LAID IN FULL MORTAR BEDS AND JOINTS, WITH NO MORTAR JOINTS APPEARING ON THE INNER SURFACE OF THE MANHOLE EXCEEDING THREE-EIGHTHS INCH (3/8") THICK.

THE TOP OF THE WALLS OF MANHOLES SHALL BE PROPERLY LEVELED OFF WITH MORTAR SO AS TO FORM A FLAT SURFACE UPON WHICH THE CAST IRON MANHOLE RING IS TO REST, AND SAID MANHOLE SHALL BE CARRIED TO PROPER HEIGHT AS INDICATED BY THE CONTRACT DRAWINGS.

THE ENTIRE OUTER SURFACE OF ALL BRICK MANHOLES SHALL BE PLASTERED WITH A SMOOTH COATING OF 1:3 PORTLAND CEMENT MORTAR, AT LEAST ONE-HALF (1/2) INCH THICK.

THE BASE SHALL BE PORTLAND CEMENT CONCRETE, CAST INTO PLACE AGAINST FIRM SOIL FOR ANCHOR BEARING.

## PAYMENT

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH "ITEM SPECIAL - DRAIN VAULT, ACCESS AND ANCHORAGE MANHOLE TYPE "A" AND VALVE CHAMBER, COMPLETE AND ACCEPTED IN PLACE.

NO SEPARATE PAYMENT WILL BE MADE FOR BRICK OR PLAIN CONCRETE MASONRY. PAYMENT WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM IN WHICH IT IS USED. PAYMENT FOR CONCRETE PIERS AND ANCHORS IS TO BE INCLUDED IN THE PRICE BID FOR "ITEM SPECIAL - WATERMANS".

PAYMENT FOR FRAMES, COVERS, STEPS AND LADDERS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT ITEM SPECIAL - ACCESS AND ANCHORAGE MANHOLE, DRAIN VAULT OR VALVE CHAMBER.

## REMOVAL ITEMS

ALL MATERIALS CONSISTING OF VALVES, FIRE HYDRANTS, VALVE BOXES, SERVICE BOXES, MANHOLE FRAMES AND COVERS, AND ALL APPURTENANCES WHICH ARE INDICATED FOR REMOVAL BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE REMOVED AND DISPOSED OF BY HIM.

THE UNIT PRICE STIPULATED FOR EACH "ITEM SPECIAL - (ITEM) REMOVED" SHALL CONSTITUTE FULL COMPENSATION FOR PERFORMING ALL THE REQUIREMENTS OF THIS ITEM INCLUDING EXCAVATION, REMOVING AND DISPOSING OF THE "ITEM", BACKFILLING, SEEDING AND SODDING, REPAVING AND FOR THE FURNISHING OF ALL NECESSARY MATERIALS, LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS TO MAKE THIS A COMPLETE ITEM OF WORK.

## ADJUST ACCESS AND ANCHORAGE MANHOLE TO GRADE

## WORK INCLUDED

EXISTING WATER MANHOLES TO BE ADJUSTED TO GRADE SHALL INCLUDE EXCAVATION NECESSARY FOR CAREFUL REMOVAL OF CASTINGS, CLEANING CASTINGS, TEMPORARY STORAGE, REMOVAL OF OLD AND LOOSE MORTAR BED FOR THE CASTING SEAT, FURNISHING AND PLACING OF REQUIRED BRICK AND OR MORTAR FOR LEVELING TO GRADE, PLACEMENT OF CASTING AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

THE BASE OF THE FRAME SHALL BE SET IN A FULL BED OF PORTLAND CEMENT MORTAR AND SO ADJUSTED TO CONFORM TO THE FINISHED PAVEMENT GRADE.

MANHOLE FRAMES AND COVERS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH STANDARD CITY OF CLEVELAND WATER DEPARTMENT FRAME AND COVERS AT THE CONTRACTORS EXPENSE.

## PAYMENT

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH "ITEM SPECIAL - ACCESS AND ANCHORAGE MANHOLE ADJUSTED TO GRADE".

## MANHOLE FRAME AND COVER

WHEN DAMAGED OR UNSATISFACTORY WATER MANHOLE FRAMES AND COVERS ARE ENCOUNTERED, NEW CASTINGS SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE TO THE CITY OF CLEVELAND WATER DEPARTMENT STANDARD FRAME AND COVER AS DETAILED ON SHEET 58 OF THE PLANS.

## PAYMENT

PAYMENT WILL BE MADE AT THE CONTRACT UNIT BID PRICE PER EACH "ITEM SPECIAL - ACCESS AND ANCHORAGE MANHOLE FRAME AND COVER." PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING, HAULING AND PLACING ALL CASTINGS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM TO THE SATISFACTION OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER AND SHALL NOT BE ORDERED WITHOUT HIS APPROVAL. SHOULD NONE BE REQUIRED THE ITEM WILL BE NON-PERFORMED.

"ITEM SPECIAL - ACCESS AND ANCHORAGE MANHOLE FRAME AND COVER" 8 EACH

## PROPOSED WATER MAIN RELOCATIONS - CONSTRUCTION PROCEDURE

### GENERAL:

1. ALL WATER MAIN RELOCATIONS SHALL BE CARRIED ON UNDER THE PROVISIONS SPECIFIED IN THE "MAINTENANCE OF TRAFFIC" NOTES. SEE SHEETS NO. 30 & NO. 31

2. ALL WATER MAINS SHALL BE CONSTRUCTED TO THE GREATEST LENGTH POSSIBLE BETWEEN THE LOCATIONS OF THEIR PENDING CONNECTIONS TO THE EXISTING WATER MAIN, WITHOUT INTERFERING WITH THE SERVICE OF THE EXISTING MAIN.

TEMPORARY PLUGS SHALL BE INSTALLED AND THE PROPOSED WATER MAIN TESTED AND CHLORINATED BEFORE THE EXISTING MAIN IS TAKEN OUT OF SERVICE. ONCE THE WATER IS SHUT OFF, THE CONTRACTOR SHALL EXPEDITE THE INSTALLATION OF THE CONNECTIONS UNTIL SUCH TIME AS THE WATER SERVICE CAN BE RESUMED. IT IS THE INTENT THAT THE CONNECTIONS BE INSTALLED TO MINIMIZE THE LENGTH OF TIME THAT WATER SERVICE IS INTERRUPTED. THEREFORE, THE CONTRACTOR MUST HAVE SUFFICIENT LABOR, EQUIPMENT, AND SUPPLIES TO INSTALL THESE CONNECTIONS SIMULTANEOUSLY.

3. ANY VARIATION IN THIS CONSTRUCTION PROCEDURE MUST FIRST BE APPROVED IN WRITING BY THE CITY AND THE ENGINEER.

### PROCEDURE:

A. THE 16" WATER MAIN RELOCATION FROM CLARK AVENUE TO W. 80TH STREET AND THE 8" WATER MAIN RELOCATION AT RELOCATED EMILY COURT CAN NOT BE COMPLETED UNTIL WORK ON THE 48" WATER MAIN RELOCATION IN THESE AREAS IS FINISHED. THE SPECIAL REINFORCED CONCRETE ANCHOR BLOCK AT STATION 41+83 W. 82ND STREET SHALL NOT BE CONSTRUCTED UNTIL WORK IS COMPLETED ON THE PROP. 24" COMBINATION SEWER AT STATION 41+70 W. 82ND STREET.

B. THE 36" WATER MAIN IN W. 65TH STREET AND THE 16" WATER MAIN IN CLARK AVENUE SHALL NOT BE OUT OF SERVICE DURING THE SAME PERIOD OF TIME.

C. THE 16" WATER MAIN IN CLARK AVENUE OVER RAMP 18 AND THE 16" WATER MAIN FROM W. 89TH STREET TO CLARK AVENUE SHALL NOT BE OUT OF SERVICE DURING THE SAME PERIOD OF TIME.

## GENERAL NOTES - 30", 36", TEMP 36" & 48" RELOCATED WATER MAINS

1. THE CONTRACTOR SHALL NOTIFY THE CITY OF CLEVELAND DIVISION OF WATER AND HEAT AT LEAST TWO (2) WEEKS PRIOR TO STARTING WATERWORK FOR THE RELOCATED MAINS. PHONE NO. 694-3065
  2. THE LOCATION AND ELEVATION OF THE EXISTING WATER MAINS SHOWN ON THE PLANS WERE DETERMINED FROM RECORDS AND IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT BUT NO GUARANTEE IS MADE OF THEIR ACCURACY OR COMPLETENESS, AND FIELD MEASUREMENTS OF EXISTING MANHOLES, VALVE STEMS, AND AIR COCKS. THE EXACT LOCATIONS AND ELEVATIONS OF THE EXISTING WATER MAINS AT THE PROPOSED CONNECTIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
  3. THE PIPE STATIONING IS ALONG HORIZONTAL CENTERLINE OF PIPE, AND ALONG TANGENTS TO P.I. AT HORIZONTAL BENDS.
  4. ELEVATIONS ARE BASED ON SEA LEVEL DATUM.
  5. THE PIPE FABRICATOR SHALL FOLLOW AS CLOSELY AS POSSIBLE THE POINTS OF CHANGE OF GRADE AS GIVEN ON THESE CONTRACT DRAWINGS.
  6. TAPS FOR CHLORINATION ARE TO BE PROVIDED IN THE RELOCATED WATER MAIN. THE CITY OF CLEVELAND WATER DEPARTMENT WILL DETERMINE THE LOCATION OF THE NECESSARY TAPS.
  7. THE FIELD TESTING HEAD FOR THE RELOCATED WATER MAINS SHALL BE THE SAME AS THE APPROPRIATE DESIGN PRESSURE AND 75 P.S.I. OR NOT LESS THAN SHOWN ON THE DETAIL PLAN. THE OTHER PROVISIONS OF "TESTING MAINS" ON SHEET NO. 369 WILL APPLY.
  8. THE PRESTRESSED CONCRETE CYLINDER PIPE SHALL BE DESIGNED TO RESIST ALL THRUSTS. SEE NOTE (Q) ON SHEET NO. 377 FOR MINIMUM CYLINDER STEEL THICKNESS FOR BENDS, ETC.
  9. AT LEAST THREE (3) FEET OF APPROPRIATE COMPACTED BACKFILL SHALL BE PLACED OVER THE RELOCATED WATER MAINS BEFORE TESTING, EXCEPT FOR THE TEMP. 36" BY-PASS WATER MAINS.
  10. ALL JOINTS NOT HAVING VICTAULIC OR STEEL FLANGE CONNECTORS SHALL BE TIED WITH A CLAMP TYPE HARNESSSED JOINT, OR APPROVED EQUAL. SEE DETAIL ON SHEET NO. 419.
- SHOP JOINTS MAY BE TIED BY WELDING, AS SHOWN ON DETAIL SHEET NO. 419.
11. A PIPE MANUFACTURER FIELD REPRESENTATIVE SHALL SUPERVISE ALL CLAMP TYPE HARNESSSED JOINT INSTALLATIONS, AND THE SUBSEQUENT GROUTING OF THE JOINTS.
  12. HIGH EARLY CEMENT, OR AN APPROVED FAST SETTING CEMENT SUBSTITUTE, SHALL BE USED FOR THE GROUTING OF THE JOINTS COMPRISING THE CONNECTIONS TO THE EXISTING WATER MAINS.
  13. SLIGHT HORIZONTAL AND VERTICAL DEFLECTIONS MAY BE MADE WITH JOINT DEFLECTIONS, PROVIDED THAT THE MAXIMUM JOINT OPENING CAUSED BY SUCH DEFLECTIONS DOES NOT EXCEED RECOMMENDED TOLERANCES.
  14. THE TOPS OF ALL ACCESS MANHOLES WITHIN THE C. A. LINE SHALL BE DEPRESSED ONE FOOT BELOW GRASSED AREAS.

APPROVED 4-10-75

REVISIONS	<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>		
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO		
	SUBJECT: WATERWORK NOTES		
	DRAWN	SCALE	No.
	CHECKED WRS	DATE 1-17-74	

CALCULATED BY R.L.K. DATE 2/72

CHECKED BY WRS. DATE 1/74

William J. Swamy  
ENGINEER OF DESIGN REVIEW

PRESTRESSED CONCRETE CYLINDER PIPE

WORK INCLUDED

THE CONTRACTOR SHALL FURNISH ALL THE MATERIALS, LABOR, TOOLS AND EQUIPMENT FOR AND SHALL PROPERLY CONSTRUCT AND CONNECT IN PLACE THE WATER MAIN AT LOCATIONS SHOWN ON THE DRAWINGS, OR AS DIRECTED, USING PRESTRESSED CONCRETE CYLINDER PIPE AND FITTINGS AND INCLUDING ALL EXCAVATION WORK, BACKFILLING, SAND BACKFILL, REPAVING, CONCRETE CYLINDER FITTINGS CAST IRON PIPE AND FITTINGS, VICTAULIC AND DRESSER COUPLINGS, ETC., ALL AS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT.

DEFINITIONS

WHENEVER THE WORDS "CONCRETE PIPE" OR "PRESTRESSED CONCRETE CYLINDER PIPE" ARE USED, THEY SHALL REFER TO AND MEAN "PRESTRESSED STEEL CYLINDER REINFORCED CONCRETE PRESSURE PIPE."

PRESTRESSED CONCRETE CYLINDER PIPE

(A) ALL PRESTRESSED CONCRETE PIPE TO BE FURNISHED SHALL CONFORM TO THESE SPECIFICATIONS AND SHALL CONFORM TO THE LATEST A.W.W.A. C 301-72 "STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE WATER PIPE-STEEL CYLINDER TYPE, PRESTRESSED." THE 48" PRESTRESSED CONCRETE CYLINDER PIPE SHALL IN ALL RESPECTS BE DESIGNED FOR A DESIGN PRESSURE OF 150 P.S.I. AN ACTUAL WORKING PRESSURE OF APPROXIMATELY 138 P.S.I. AND A TRANSIENT LOADING CONDITION (WATER HAMMER) OF 215 P.S.I. THE THICKNESS OF THE STEEL CYLINDERS AND DIAMETER OF WIRE USED AS WELL AS THE CENTERLINE SPACING AT WHICH THE CIRCUMFERENTIAL WIRE IS PLACED AND THE TENSION UNDER WHICH THE WIRE IS WOUND AROUND THE LINED CYLINDER SHALL BE SUCH THAT THE ZERO COMPRESSION PRESSURE BE AT LEAST 50 POUNDS PLUS 1 1/4 TIMES THE STATIC PRESSURE.

(B) THE PRESTRESSED CONCRETE CYLINDER PIPE SHALL BE IN GENERAL FURNISHED IN UNIFORM LENGTH OF SIXTEEN FEET OR TWENTY FEET FOR THE PIPE EXCEPT THAT SHORTER LENGTHS MAY BE USED TO MEET SPECIAL CONDITIONS. THE NOMINAL THICKNESS OF THE CORE AND THE NOMINAL THICKNESS OF THE MORTAR COATING SHALL NOT BE LESS THAN THAT GIVEN IN THE FOLLOWING TABLE:

NOMINAL INSIDE DIAMETER	CORE THICKNESS	MINIMUM MORTAR COATING	DESIGN PRESSURE P.S.I.
48"	3"	1-1/4"	150
36"	2-1/4"	5/8"	200
30"	1-7/8"	5/8"	200

THE INTERIOR DIAMETER OF THE PIPE SHALL NOT BE LESS THAN THE NOMINAL DIAMETER BY MORE THAN ONE PER CENT (1%). THE THICKNESS OF THE WALL OF THE PIPE SHALL NOT BE LESS THAN THE NOMINAL THICKNESS BY MORE THAN EIGHT PER CENT (8%). THE ENDS OF PIPE SHALL BE AT RIGHT ANGLES TO THE PIPE AXIS. PIPES MAY BE BEVELED TO FORM CURVES. THE CONCRETE USED TO LINE THE STEEL CYLINDERS SHALL BE MADE FROM SUITABLE AGGREGATES COMPOSED OF HARD, DURABLE PARTICLES, CLEAN AND FREE FROM LOAM OR ORGANIC MATERIAL. CEMENT SHALL FULFILL THE REQUIREMENTS OF ASTM DESIGNATION: C 150-69, "STANDARD SPECIFICATIONS FOR PORTLAND CEMENT". IT IS THE INTENT OF THIS SPECIFICATION TO PRODUCE A CONCRETE HAVING A 28-DAY STRENGTH OF 4500 OR A 7-DAY STRENGTH OF 3000 POUNDS PER SQUARE INCH FOR STANDARD 6" X 12" TEST CYLINDERS WHICH SHALL BE CURED IN THE SAME MANNER AS THE PIPE. CONCRETE FOR WHICH 28-DAY STRENGTH TESTS SHALL SHOW STRENGTHS OF LESS THAN 4500 POUNDS PER SQUARE INCH MAY BE USED PROVIDING THAT THE MAXIMUM DESIGN COMPRESSIVE STRESSES IN THE CONCRETE SHALL NOT EXCEED FORTY (40) PER CENT OF THE STRENGTH OF THE CONCRETE OF THE TIME OF WRAPPING.

(C) THE CONCRETE LINING OF THE STEEL CYLINDER MAY BE PLACED VERTICALLY BY THE USE OF INTERIOR FORMS OR MAY BE PLACED BY THE CENTRIFUGAL PROCESS. WHEN THE CENTRIFUGAL PROCESS IS USED, THE CYLINDER SHALL BE HELD SECURELY IN SPINNING FRAMES AND THE FRAMES PLACED HORIZONTALLY IN A MACHINE WHICH WILL CAUSE THEM TO ROTATE RAPIDLY ABOUT THEIR LONGITUDINAL AXIS AT A RIM SPEED SUFFICIENT TO INSURE GOOD COMPACTION OF THE CONCRETE. THE CONCRETE SHALL BE PLACED IN THE STEEL CYLINDERS WHILE THEY ARE REVOLVING IN SUCH MANNER THAT THE ROTATION SHALL EVENLY DISTRIBUTE THE CONCRETE ALONG THE ENTIRE LENGTH OF THE PIPE. AFTER THE CONCRETE HAS BEEN DEPOSITED, THE FRAMES SHALL CONTINUE TO REVOLVE UNTIL THE EXCESS WATER HAS COME TO THE SURFACE AND THE CONCRETE HAS BECOME THOROUGHLY COMPACTED. THE INTERIOR SURFACE OF THE PIPE MAY BE FINISHED EITHER WHILE IT IS STILL IN THE CENTRIFUGAL MACHINE OR BY MEANS OF A HONING OPERATION AFTER THE CONCRETE HAS SET. WHEN THE SPINNING OF THE CONCRETE IS COMPLETED, THE LINED CYLINDERS SHALL BE REMOVED FROM THE MACHINE AND PLACED IN A VERTICAL POSITION FOR CURING. AFTER THE CONCRETE HAS TAKEN ITS FINAL SET, THE PIPES SHALL BE KEPT IN A WARM ATMOSPHERE FOR CURING.

(D) WHEN THE CONCRETE LINING IS PLACED BY A VERTICAL CASTING, THE STEEL CYLINDER SHALL BE PLACED VERTICALLY ABOUT AN INTERIOR MOLD AND THE MOLD AND CYLINDER SHALL BE HELD IN CIRCULAR AND CONCENTRIC POSITION BY TOP AND BOTTOM RINGS OF STEEL OR CAST IRON. WHILE THE CONCRETE IS BEING PLACED, VIBRATIONS SHALL BE EMPLOYED SO AS TO PRODUCE A CONCRETE OF MAXIMUM DENSITY. AFTER COMPLETION OF THE POURING OPERATION AND WHEN CONCRETE HAS TAKEN ITS FINAL SET, THE LINED CYLINDERS SHALL BE KEPT IN A WARM ATMOSPHERE UNTIL THE FOLLOWING DAY, WHEN THE MOLDS MAY BE REMOVED.

(E) AFTER THE INTERIOR MOLDS HAVE BEEN REMOVED, OR IN THE CASE OF CENTRIFUGAL CASTING, AFTER THE CONCRETE HAS HARDENED SUFFICIENTLY, THE CONCRETE LINING SHALL BE KEPT MOIST BY WATER OR STEAM UNTIL AT LEAST 36 HOURS AFTER THE PLACING OF THE CONCRETE. THE TEMPERATURE OF THE ATMOSPHERE TO WHICH THE NEW CONCRETE IS EXPOSED DURING THIS CURING PERIOD SHALL BE MAINTAINED ABOVE 50° F. BUT NOT EXCEEDING 150° F. ON THE SECOND DAY AFTER PLACING THE CONCRETE, THE PIPE MAY BE TIPPED INTO HORIZONTAL POSITION AND PLACED IN STORAGE. WHERE STEAM HAS NOT BEEN USED DURING THIS INITIAL CURING PERIOD, THE CONCRETE SHALL BE KEPT MOIST FOR A FURTHER PERIOD OF 5 DAYS BY INTERMITTENT SPRINKLING.

(F) IN LIEU OF THE MOIST CURING METHOD PREVIOUSLY DESCRIBED, THE MANUFACTURER MAY USE CURING COMPOUNDS OF THE EMULSIFIED ASPHALT OR SYNTHETIC RESIN TYPE, BUT SUCH COMPOUNDS MUST BE APPLIED TO THE CONCRETE AT SUCH TIME AS TO ASSURE THE RETENTION OF ADEQUATE MOISTURE FOR THE PROPER HYDRATION OF THE CEMENT.

(G) WHATEVER METHOD IS USED, HOWEVER, THE CURING SHALL PROCEED IN SUCH MANNER AND FOR SUCH A PERIOD AS TO ASSURE THE CONCRETE LINING ATTAINING THE REQUIRED STRENGTH.

(H) THE CEMENT MORTAR COATING SHALL BE APPLIED TO THE CORES AFTER THEY HAVE BEEN WRAPPED UNDER TENSION WITH HIGH TENSILE WIRE. THE MORTAR USED FOR THIS COATING SHALL CONSIST OF ONE PART OF CEMENT TO NOT MORE THAN THREE PARTS OF FINE AGGREGATE, MEASURED BY VOLUME. THE MORTAR SHALL BE PLACED ON THE PIPE BY A MACHINE IN WHICH THE MORTAR, PREVIOUSLY MIXED, IS DRIVEN AGAINST THE EXTERIOR SURFACE OF THE CORE SO AS TO PRODUCE A DENSE COATING AROUND THE PIPE AND COVERING THE STEEL REINFORCING. UPON COMPLETION OF THE COATING OPERATION, THE PIPES SHALL BE PLACED WHERE THEY ARE PROTECTED FROM SUN, WIND AND RAIN AND AFTER THE MORTAR HAS HARDENED SUFFICIENTLY, IT SHALL BE KEPT MOIST WITH WATER OR STEAM UNTIL THE FOLLOWING DAY OR FOR A PERIOD OF NOT LESS THAN TWELVE HOURS, AT WHICH TIME THE PIPES MAY BE PLACED IN THE STORAGE YARD. IF WATER IS USED FOR CURING, THE PIPES SHALL BE KEPT MOIST BY PERIODIC SPRINKLING FOR AN ADDITIONAL 3 DAYS AFTER BEING PLACED IN STORAGE. IN LIEU OF THE MOIST CURING METHOD, THE MANUFACTURER MAY USE CONCRETE CURING COMPOUNDS OF THE EMULSIFIED ASPHALT OR SYNTHETIC RESIN TYPE, PROVIDED THAT SUCH COMPOUNDS MUST BE APPLIED TO THE MORTAR AT SUCH TIME AS TO ASSURE THE RETENTION OF ADEQUATE MOISTURE FOR THE PROPER HYDRATION OF THE CEMENT.

(I) THE PIPE SHALL BE REINFORCED WITH A CONTINUOUS WELDED STEEL CYLINDER OF HOT ROLLED STEEL SHEETS NOT LIGHTER THAN 16 U.S. GAGE AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A 254-52T, GRADE B, SPECIFICATIONS FOR "HEAVY GAGE STRUCTURAL QUALITY FLAT HOT ROLLED CARBON STEEL OPEN HEARTH" OR ANY SUBSEQUENT AMENDMENTS THERETO, AND ASTM DESIGNATION: A242-52T, SPECIFICATIONS FOR "LOW-ALLOY STRUCTURAL STEEL" OR ANY SUBSEQUENT AMENDMENTS THERETO, EITHER OPEN HEARTH OR BESSEMER SHEETS HAVING PHYSICAL AND CHEMICAL QUALITIES EQUIVALENT TO THOSE MENTIONED MAY BE USED. WHERE THE PIPES ARE DESIGNED FOR SPECIAL CONDITIONS OR FOR HIGH OPERATING PRESSURES, THE CYLINDERS MAY BE MADE FROM HOT-ROLLED SHEETS OF SPECIAL ALLOY STEEL HAVING HIGHER ELASTIC LIMIT AND ULTIMATE STRENGTH THAN THOSE SPECIFIED. IN SUCH CASE THE SHEETS SHALL BE OF GOOD WELDING QUALITY AND SHALL CONFORM TO THE STEEL MANUFACTURER'S PUBLISHED SPECIFICATIONS FOR THE SPECIAL GRADE OF STEEL BEING SUPPLIED. EACH COMPLETED CYLINDER WITH JOINT RINGS WELDED TO IT SHALL BE SUBJECTED TO A HYDROSTATIC TEST BY CLOSING THE ENDS AT THE JOINT RINGS, FILLING WITH WATER IN CONTACT AT ALL POINTS WITH WELDS, AND RAISING THE WATER PRESSURE TO STRESS THE CYLINDER TO A FIBER STRESS OF 25,000 POUNDS PER SQUARE INCH. WHILE UNDER PRESSURE TEST, ALL WELDS SHALL BE THOROUGHLY INSPECTED. IF ANY LEAKS ARE FOUND, THEY SHALL BE REPAIRED AND THE CYLINDER SHALL BE RETESTED. THE FINISHED CYLINDER WITH JOINT RINGS ATTACHED SHALL BE WATER TIGHT UNDER THE REQUIRED TEST PRESSURE. ARC WELDING SHALL BE AN APPROVED PROCESS AND TEST WELDS SHALL BE FURNISHED FROM THE WORK AS REQUIRED.

(J) THE HIGH TENSILE WIRE USED FOR CIRCUMFERENTIAL REINFORCEMENT SHALL BE OF HIGH TENSILE PROPERTIES EITHER COLD DRAWN OF HIGH CARBON M.B. BASIC, UNTEMPERED ACCORDING TO THE DIAMETER OF THE PIPE AND THE PRESSURE FOR WHICH IT IS DESIGNED. THE TYPE OF WIRE TO BE USED SHALL BE DETERMINED BY THE MANUFACTURER AND SHALL CONFORM TO THE APPROPRIATE ASTM SPECIFICATIONS AS FOLLOWS:

ASTM DESIGNATION	A 82-34	A 227-47
TITLE	COLD-DRAWN STEEL WIRE FOR CONCRETE REINFORCEMENT	HARD-DRAWN STEEL SPRING WIRE
MIN. ULT. STR. NO. 6 GA. U. S. S.	80,000 P.S.I.	192,000 P.S.I.
MIN. ELASTIC LIMIT NO. 6-GA. U. S. S.	64,000 P.S.I.	100,000 P.S.I.

THE CIRCUMFERENTIAL REINFORCEMENT PROPERTIES MAY BE INCREASED BY THE MANUFACTURER UPON APPROVAL BY THE ENGINEER. TEST REPORTS WILL BE REQUIRED BEFORE APPROVAL. THE AVERAGE GROSS WRAPPING STRESS OF THE HIGH TENSILE WIRE SHALL NOT EXCEED SEVENTY-FIVE (75) PERCENT OF THE MINIMUM ULTIMATE TENSILE STRENGTH OF THE WIRE, AND CENTERLINE SPACING OF THE WIRE SHALL NOT EXCEED 1 1/2 INCHES FOR LINED CYLINDER PIPE WITH WIRE OF NO. 6 GAUGE U. S. S.; THE MAXIMUM CENTERLINE SPACING OF WIRE LARGER THAN NO. 6 GAUGE SHALL BE 1 INCH. NO CIRCUMFERENTIAL WIRE SHALL BE LESS THAN NO. 6 GAUGE. THE WIRE SHALL BE PLACED DIRECTLY AGAINST THE STEEL CYLINDER OF THE CORE AND SHALL BE WRAPPED SPIRALLY, EVENLY AND UNDER CONSTANT TENSION. THE WIRE SHALL BE ANCHORED AT THE ENDS OF THE PIPE BY MECHANICAL DEVICES OF SUFFICIENT STRENGTH TO MAINTAIN THE STRESS IN THE WIRE. THE THICKNESS OF THE STEEL CYLINDERS AND DIAMETER OF WIRE USED AS WELL AS THE CENTERLINE SPACING AT WHICH THE CIRCUMFERENTIAL WIRE IS PLACED AND THE TENSION UNDER WHICH THE WIRE IS WOUND AROUND THE LINED CYLINDER SHALL BE SUCH THAT THE ZERO COMPRESSION PRESSURE BE AT LEAST 50 POUNDS PLUS 1 1/4 TIMES THE STATIC PRESSURE. WHERE THE COVER OVER THE PIPE EXCEEDS EIGHT (8) FEET, THE DESIGN SHALL BE MODIFIED TO WITHSTAND THE ADDITIONAL EXTERNAL LOADING.

(L) STEEL OF FLAT SECTION FOR BELL RINGS SHALL CONFORM TO ASTM DESIGNATION: A 245-44T, GRADE B, SPECIFICATION FOR "LIGHT GAGE STRUCTURAL QUALITY FLAT HOT-ROLLED CARBON STEEL" OR A 283-58, GRADE C, SPECIFICATION FOR "STRUCTURAL QUALITY LOW AND INTERMEDIATE TENSILE STRENGTH CARBON STEEL PLATES", OR ANY SUBSEQUENT AMENDMENTS THERETO.

(M) STEEL OF SPECIAL SECTION OF SPIGOT JOINT RINGS SHALL CONFORM TO ASTM DESIGNATION: A 31-52T, GRADE A, SPECIFICATIONS FOR "BOILER RIVET STEEL AND RIVETS".

(N) FITTINGS OR SPECIALS SHALL BE FURNISHED AND INSTALLED AS SHOWN ON THE DRAWINGS FOR CONCRETE CYLINDER PIPE OR AS REQUIRED AND ALL INCLUDE SPECIALS WITH BELL END, SPIGOT END, FLANGED END, AND VICTAULIC END OUTLETS, WITH ACCESS MANHOLES, AIR COCKS, PITOMETER, AND DRAIN CONNECTIONS, ANCHOR RINGS, BENDS, TEST HEADS, CLOSURE PIECES, BEVEL AND PIPE, JOINT HARNESS, ETC. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER DETAILED DESIGNS AND SHALL RECEIVE HIS APPROVAL BEFORE THE CONSTRUCTION OF ANY SUCH SPECIALS. THE ZINC COATED JOINT RINGS SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING ASTM SPECIFICATIONS: 3/16 BELL RINGS A 303-52T, GRADE A; 1/4" AND 5/16" BELL RINGS LESS THAN 6" IN WIDTH: A 31-52T, GRADE A; ALL SPIGOT RINGS A 31-52T, GRADE A.

(O) SPECIAL PIECES, SUCH AS TEE, WYES, OR BRANCH OPENINGS, SHALL ALSO BE OF CYLINDER CONSTRUCTION. IN ALL CASES, THE REINFORCEMENT SHALL ADEQUATELY COMPENSATE FOR THE OPENINGS IN THE PIPE WELL. IF THE SPECIAL PIECE IS PRESTRESSED, THEN THE AREA OF THE STEEL IN THE CYLINDER AND GAGE, IN ADDITION TO THE COMPENSATING REINFORCEMENT PREVIOUSLY MENTIONED, SHALL BE NOT LESS THAN THAT FOR THE ADJOINING PRESTRESSED STRAIGHT PIPE. IF THE SPECIAL PIECE IS NOT PRESTRESSED, THEN THE ADDITIONAL AREA OF THE STEEL IN SUCH CYLINDER AND GAGE SHALL BE NOT LESS THAN THAT FOR THE ADJOINING STRAIGHT PIPE IF SUCH STRAIGHT PIPE WERE DESIGNED AS CONCRETE CYLINDER PIPE.

(P) THE OPENINGS IN THE SPECIAL MAY BE FORMED BY STEEL RINGS OR CASTINGS OF SUITABLE DESIGN SECURELY WELDED TO THE CYLINDER AND REINFORCING GAGE. ALL BENDS AND SPECIAL PIECES SHALL BE PROVIDED WITH JOINT RINGS CORRESPONDING TO THOSE IN THE STRAIGHT PIPE.

(Q) ALL BENDS, FLANGED PIPE, AND REDUCERS SHALL BE CONSTRUCTED WITH STEEL CYLINDERS HAVING 7/16" MINIMUM PLATE THICKNESS FOR 48" WATER MAIN, 3/8" MINIMUM PLATE THICKNESS FOR 36" WATER MAIN, AND 3/8" MINIMUM PLATE THICKNESS FOR 30" WATER MAIN. THEY SHALL HAVE THE SAME LONGITUDINAL AND CIRCUMFERENTIAL STEEL IN THE GAGE AS THE ADJOINING STRAIGHT PIPE WOULD HAVE, IF SUCH STRAIGHT PIPE WERE DESIGNED AS CONCRETE CYLINDER PIPE.

(R) CAST STEEL SADDLES AND FORGINGS OR THE EQUIVALENT IN FABRICATED STEEL PLATES SHALL BE WELDED TO THE STEEL CYLINDER FOR MANHOLE AND PIPE CONNECTIONS AND FOR DRAIN, AND AIR COCK CONNECTIONS, AND SHALL BE DRILLED AND TAPPED AND PROVIDED WITH TWO-2" DIAM. MALLEABLE IRON PLUGS.

(S) UNLESS OTHERWISE SHOWN OR REQUIRED, THE ENDS OF EACH PIPE FOR TYPICAL FIELD JOINTS SHALL BE FORMED BY ZINC COATED STEEL JOINT RINGS SECURELY WELDED TO THE STEEL CYLINDERS, WITH THE RING FORMING THE BELL AND COVERED ON THE EXTERIOR SURFACE WITH REINFORCED CONCRETE AND THE RING FORMING THE SPIGOT END LINED ON ITS INNER SURFACE WITH CONCRETE. THE SPIGOT RING SHALL HAVE A SUBSTANTIAL GROOVE ON ITS OUTER SURFACE FOR THE PURPOSE OF RECEIVING, HOLDING AND PROTECTING THE GASKET. THE JOINTS SHALL BE SELF-CENTERING AND THE RINGS FORMING THE JOINTS SHALL BE OF SUCH SHAPE AND DIMENSIONS THAT THE PIPE SHALL CENTER THEMSELVES WITHOUT THE AID OF THE RUBBER GASKET. THE WELDING OF THE JOINT RINGS TO THE CYLINDER PIPE SHALL CONSIST OF AT LEAST ONE FULL CONTINUOUS WELD FOR PIPE SECTIONS THAT ARE PROPERLY TESTED HYDRAULICALLY FOR STRENGTH AND WATER TIGHTNESS. FOR PIPE SECTIONS THAT HAVE TO BE CUT TO BE FITTED UP TO MAKE BENDS, SUCH CONSTRUCTION SHALL HAVE DOUBLE CONTINUOUS WELDS. LIKEWISE, ANY SPECIAL CONSTRUCTION, SUCH AS FOR OUTLETS OR FOR PIPES HAVING SPECIAL ENDS, SHALL HAVE DOUBLE CONTINUOUS WELDS.

(T) THE GASKET SEALING THE JOINT SHALL BE OF SPECIAL COMPOSITION RUBBER HAVING A TEXTURE TO SECURE A PERMANENTLY WATERTIGHT SEAL. THE TYPE OF GASKET SHALL HAVE BEEN IN SATISFACTORY USE IN COMPARABLE INSTALLATIONS FOR NOT LESS THAN FIVE (5) YEARS.

(U) ACCESS CONSTRUCTION MANHOLES IN ADDITION TO THOSE SHOWN ON THE DRAWINGS SHALL BE LOCATED AS REQUIRED TO PROVIDE EASY ACCESS FOR FIELD WELDING AND PLACING OF MORTAR AS REQUIRED FOR FIELD JOINTS.

(V) TESTING BULKHEADS SHALL BE FURNISHED AND INSTALLED FOR TESTING ANY COMPLETE SECTIONS OF THE PRESTRESSED CONCRETE CYLINDER PIPE MAINS AS MAY BE REQUIRED.

(W) ALL STEEL FOR CASTINGS SHALL CONFORM TO THE SPECIFICATIONS FOR GRADE 70-36 STEEL CASTINGS, AS GIVEN IN THE "STANDARD SPECIFICATIONS FOR MILD-TO-MEDIUM STRENGTH CARBON-STEEL CASTINGS FOR GENERAL INDUSTRIAL USE, ASTM DESIGNATION: A 27-62T".

(X) ALL STEEL FORGINGS SHALL CONFORM TO "STANDARD SPECIFICATIONS FOR CARBON-STEEL FORGINGS, ASTM DESIGNATION: A 235-62T, CLASS C".

(Y) ALL FORGED OR ROLLED STEEL PIPE FLANGES SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR FORGED OR ROLLED STEEL PIPE FLANGES FOR GENERAL SERVICE, ASTM DESIGNATION: A 181-61T, GRADE 1".

(Z) ALL STRUCTURAL STEEL INCLUDING ANGLES FOR ANCHOR RINGS SHALL CONFORM TO "TENTATIVE SPECIFICATIONS FOR STEEL FOR BRIDGES AND BUILDINGS, ASTM DESIGNATION: A 7-61T", OR TO "SPECIFICATIONS FOR LOW AND INTERMEDIATE TENSILE STRENGTH CARBON STEEL PLATES OF STRUCTURAL QUALITY", ASTM DESIGNATION A 283-62, GRADE C.

# WATERWORK NOTES

FED. RD.	STATE	PROJECT
2	OHIO	

377  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

13  
60

APPROVED 4-10-76

REVISIONS	<b>1st HIGH SERVICE DISTRICT</b>	
	DEPARTMENT OF PUBLIC UTILITIES	
	DIVISION OF WATER AND HEAT	
	CLEVELAND, OHIO	
SUBJECT	WATERWORK NOTES	
DRAWN	SCALE	
CHECKED W.R.S.	DATE 1-17-74	No.

William J. Sweeney  
ENGINEER OF DESIGN REVIEW



# WATERWORK NOTES

FED. NO.	STATE	PROJECT	
2	OHIO		

378  
838

**CUYAHOGA COUNTY**  
CUY - 90 -11-64

14  
60

**PRESTRESSED CONCRETE CYLINDER PIPE -**

- (AA) ALL CAST IRON PIPE AND FITTINGS SHALL CONFORM TO "CAST IRON PIPE AND FITTINGS SPECIFICATIONS," SHEET NO. 37C.
- (BB) IRON CASTINGS MUST BE SMOOTH AND FREE FROM BLOWHOLES AND OTHER DEFECTS AND THE MATERIAL SHALL CONFORM TO "STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS, ASTM DESIGNATION: A 48-62, CLASS NO. 30B", AND ALL SUBSEQUENT AMENDMENTS THERETO.
- (CC) CLOSURE COUPLINGS WITH DRESSER COUPLING JOINTS WITH STOPS REMOVED, SHALL BE PROVIDED AS ARE NECESSARY FOR THE PROPER CONSTRUCTION OF THE WATER MAINS. MEASUREMENTS FOR LENGTH OF CLOSURE PIECES WILL BE MADE IN THE FIELD BY THE CONTRACTOR AFTER ADJACENT PIPE SECTIONS ARE IN PLACE IN THE TRENCH.
- (DD) TESTS, INSPECTIONS, REPORTS AND ANALYSES OF TESTS OF SAMPLES FOR ALL MATERIALS SHALL BE FURNISHED IN ACCORDANCE WITH PREVIOUS INSTRUCTIONS IN THESE NOTES.

**MARKING**

EACH PIPE AND SPECIAL SHALL HAVE CONSPICUOUSLY PAINTED IN BLACK ON THE INSIDE, A SERIAL NUMBER FOR THE PURPOSE OF IDENTIFICATION. SERIAL NUMBERS SHALL AGREE WITH LISTS TO BE FURNISHED TO THE ENGINEER. THE TOP CENTER LINE OF ALL SPECIAL FITTINGS AND EACH PIPE THAT HAS A BEVELED END SHALL HAVE A WHITE RING PAINTED IN THE SHOP AROUND THE MARK BOTH ON THE INSIDE AND OUTSIDE OF THE PIPE.

**TYPICAL FIELD JOINTS FOR CONCRETE PIPE**

THE CONTRACTOR SHALL MAKE ALL TYPICAL FIELD JOINTS, CLAMP TYPE HARNESSED JOINTS AND SHOP WELDED TIED JOINTS (SEE GENERAL NOTE NO.374, SHEET NO. 37C, MARKED "Y", AS SHOWN ON SHEET NO. 41B OR AS REQUIRED AND AS SPECIFIED IN THE SECTION OF THESE NOTES TITLED "LAYING PIPE" AND SHALL PROPERLY MAKE ALL FIELD CONNECTIONS FOR THE ABOVE HARNESSED JOINTS. THE ANNULAR RECESSES AT THE JOINT, BOTH INSIDE AND OUTSIDE OF THE PIPE, SHALL BE FILLED WITH CEMENT MORTAR MIXED IN A PROPORTION OF NOT LESS THAN ONE PART OF CEMENT AND TWO PARTS OF SAND.

**FLANGED JOINTS**

(A) FLANGED JOINTS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS. FLANGES SHALL BE EITHER CAST STEEL, FORGED OR ROLLED STEEL, OR PROPERLY WELDED AND MACHINE FABRICATED STEEL PLATES, WELDED TO PIPE WITH TWO CONTINUOUS WELDS. THEY SHALL HAVE PLAIN FACES AND SHALL BE FACED TRUE AND SMOOTH AT RIGHT ANGLES TO THE AXIS OF THE PIPE AND SHALL BE SPOT FACED ON THE BACK. DRILLING SHALL CONFORM TO "AMERICAN 1928 STANDARD, DRILLING, 125 POUND TEMPLATE". EACH BLIND FLANGE SHALL BE CAST IRON AND SHALL HAVE BOSSES TAPPED AT TOP AND BOTTOM FOR TWO - 2 INCH STANDARD PIPE AND FURNISHED WITH PLUGS. ALL BOLTS FOR FLANGES AND FOR OTHER TYPES OF BOLTING SHALL CONFORM TO THE TENTATIVE SPECIFICATIONS FOR LOW CARBON STEEL EXTERNALLY AND INTERNALLY THREADED FASTENERS ASTM A 307-63T, GRADE A, EXCEPT WHEN ONE OR BOTH FLANGES ARE CAST IRON, IN WHICH CASE BOLTS SHALL BE GRADE B.

(B) ALL BOLTS USED IN THE FINISHED WORK FOR FLANGES AND TIED JOINTS FOR CONCRETE PIPE SHALL BE OF MEDIUM OPEN HEARTH STEEL. THE ENDS OF ALL BOLTS MUST BE FINISHED TO STANDARD RADIUS IN ACCEPTABLE MANNER. ALL SCREW THREADS SHALL BE AMERICAN STANDARD COURSE THREAD (N.C.). STUD BOLTS DOUBLE END (ROD) SHALL BE USED TO MAKE THE FLANGED JOINTS ON PIPE. ALL NUTS SHALL BE HEXAGONAL, COLD PRESSED SEMI-FINISHED AND MADE OF MEDIUM OPEN HEARTH ELECTRIC FURNACE OR BESSEMER PROCESS STEEL. ALL DIMENSIONS TO BE ACCORDING TO AMERICAN STANDARD HEAVY. BOLTS AND NUTS SHALL BE GALVANIZED BEFORE SHIPMENT AND NOT PRIMED. GASKETS FOR FLANGED PIPE SHALL BE FULL FACED RUBBER ONE-SIXTEENTH (1/16) INCH THICK 5X MANILA ROPE PATTERN OR OTHER APPROVED TYPE.

**LEAD JOINTS**

(A) LEAD JOINTS: IN JOINTING ALL BELL AND SPIGOT PIPE AND FITTINGS HAVING LEAD JOINTS, THE SPIGOT OF EACH PIPE SHALL BE PROPERLY SEATED IN THE BELL OF THE NEXT ADJACENT PIECE AND ADJUSTED SO AS TO GIVE A UNIFORM ANNULAR SPACE. THE JOINT SHALL BE MADE WITH TWISTED HARD JUTE AND SOFT PIG LEAD. BEFORE PLACING THE JUTE, IT SHALL BE STERILIZED EITHER BY BOILING OR BY DIPPING IN A CONCENTRATED SOLUTION OF CALCIUM HYPOCHLORITE. THE JUTE SHALL BE TWISTED AND THOROUGHLY DRIVEN INTO THE BELL, SO THAT THE LEAD, AFTER HAVING BEEN CAULKED, SHALL HAVE A DEPTH OF 2 1/2 INCHES.

THE FURNACE AND MELTING POT SHALL BE KEPT NEAR THE JOINT TO BE POURED AND EACH JOINT SHALL BE MADE WITH ONE POURING. DROSS SHALL NOT BE ALLOWED TO ACCUMULATE IN THE MELTING POT. THE JOINTS SHALL BE THOROUGHLY CAULKED BY COMPETENT PIPE JOINERS AND IN SUCH MANNER AS WILL SECURE A TIGHT JOINT WITHOUT OVERSTRAINING THE IRON OF THE BELL.

**VICTAULIC PIPE COUPLINGS:**

(A) WHERE SHOWN ON THE DRAWINGS OR WHERE REQUIRED, THE CONTRACTOR SHALL FURNISH AND INSTALL VICTAULIC PIPE COUPLINGS FOR CONNECTION OF IRON, CONCRETE, OR STEEL PIPE AND FITTINGS. STEEL PIPE ENDS SHALL BE FABRICATED AND GROOVED AS INDICATED ON THE DRAWINGS. THE COUPLINGS SHALL BE ADAPTED FOR INSTALLATION ON SHOULDERED END CAST IRON SPACERS, REDUCERS AND FITTINGS AND DESIGNED FOR NOT LESS THAN THE WORKING PRESSURE NOTED ON THE CONTRACT DRAWINGS. COUPLINGS SHALL BE COMPOSED OF MALLEABLE IRON HOUSINGS HELD TOGETHER WITH STEEL BOLTS HEAT TREATED AND WITH A CONTINUOUS HOLLOW MOLDED RUBBER SEALING RING OF SUCH TYPE THAT THE SEAL BECOMES TIGHT AS THE PRESSURE WITHIN THE PIPE INCREASES. THE JOINTS SHALL BE CONSTRUCTED AND INSTALLED AND BE EQUAL IN ALL RESPECTS TO THOSE MANUFACTURED BY THE VICTAULIC COMPANY OF AMERICA. MALLEABLE HOUSINGS SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR MALLEABLE IRON CASTINGS, A.S.T.M. DESIGNATION A 47-61. BOLTS SHALL BE MANUFACTURED BY THE COUPLING MANUFACTURER AND SHALL BE HEAT TREATED CADMIUM PLATED STEEL BOLTS HAVING 100,000 PSI. TENSILE STRENGTH.

(B) ALL METAL PARTS OF THE COUPLINGS SHALL BE COATED AT THE SHOP WITH ONE COAT OF BITUMINOUS PRIMER FURNISHED BY THE SAME MANUFACTURER WHO FURNISHES THE COATINGS AS SPECIFIED UNDER "PAINTING."

(C) ALL BOLTS AND NUTS SHALL BE OF THE SAME QUALITY AS PROVIDED FOR FLANGED JOINTS.

**SHOP COATING AND PAINTING**

(A) THE EXPOSED SURFACE OF THE STEEL ENDS OF SPIGOT, BELL, VICTAULIC OR FLANGED STEEL OUTLET CONNECTIONS AND THE FLANGED ENDS OF CONCRETE PIPE, ETC., SHALL BE CLEANED, PRIMED AND ENAMELED INSIDE AND OUTSIDE IN ACCORDANCE WITH THE A.W.W.A. SPECIFICATIONS C203-62. THE COAL TAR PRIMER SHALL BE TYPE A. THE COATING MAY BE APPLIED BY BRUSH OR SPRAY. ALL COATINGS SHALL BE APPLIED IN THE SHOP BEFORE SHIPMENT. THE OUTSIDE COATING SHALL STOP AGAINST THE FLANGES AT ENDS OF PIPE SECTIONS.

(B) GALVANIZED PIPE ENDS FOR RUBBER GASKET JOINTS ARE NOT TO BE COATED.

(C) THE GROOVED STEEL BANDS AT THE ENDS OF THE PRESTRESSED CONCRETE CYLINDER PIPE TO RECEIVE VICTAULIC TYPE COUPLINGS SHALL BE COATED WITH WHITE LEAD AND TALLOW, THE COATING MUST BE REMOVED JUST PRIOR TO INSTALLATION OF THE COUPLING.

(D) ALL FINISHED SURFACES SHALL BE COATED WITH WHITE LEAD AND TALLOW AND NOT PRIMED.

(E) AFTER ERECTION, ALL EXPOSED OR DAMAGED COATINGS ON SURFACES BURIED UNDER GROUND AND ALL BOLTS ON FLANGES AND VICTAULIC COUPLINGS SHALL BE CLEANED AND PAINTED WITH THREE FIELD COATS OF COAL TAR PITCH PAINT EQUAL TO INERTOL 50 OR KOPPERS BITUMASTIC 50 OR APPROVED EQUAL.

**TRANSPORTATION AND DELIVERY**

(A) THE CONTRACTOR SHALL TRANSPORT, DELIVER AND DISTRIBUTE ALONG THE LINE OF THE WORK, THE PIPE, SPECIALS AND APPURTENANCES.

(B) PIPE SHALL BE LOADED FOR SHIPMENT UPON SUITABLE CARS OR TRUCKS WHICH SHALL BE PROVIDED WITH WOODEN SKIDS. IN LOADING AND UNLOADING THE PIPE, MORE THAN ORDINARY CARE MUST BE TAKEN TO PREVENT ANY INJURY TO THE CONCRETE CYLINDER PIPE, STEEL AND PIPE ENDS AND PROTUBERANT STEEL CONNECTIONS. SUCH WORK MUST BE DONE SLOWLY WITH THE PIPE AT ALL TIMES UNDER PERFECT CONTROL, AND UNDER NO CONDITION SHALL THE PIPE BE DROPPED.

(C) IN DISTRIBUTING THE PIPE IN THE FIELD, EACH PIPE MUST BE PLACED AS NEARLY AS POSSIBLE TO THE POINT WHERE IT IS TO BE LAID, AND FACING IN THE PROPER DIRECTION. SUITABLE SKIDS OR BLOCKS MUST ALSO BE LEFT UNDER EACH PIPE, AND THE PIPE SECURELY WEDGED IN PLACE TO PREVENT ITS BEING MOVED UNTIL REQUIRED. A STEEL CABLE SLING SHALL BE USED FOR ROLLING OF LIFTING PIPE. NO IRON CHAINS SHALL BE USED. PIPE WHICH HAS BEEN IMPROPERLY DISTRIBUTED AND WHICH MUST BE MOVED LONGITUDINALLY ALONG THE TRENCH SHALL BE RELOADED ON A WAGON, OR LIFTED AND SWUNG BY A DERRICK OR MOVED BY SUCH MEANS AS MAY BE SATISFACTORY TO THE ENGINEER.

(D) IF, IN THE PROCESS OF MANUFACTURE, TRANSPORTATION, OR HANDLING, ANY CONCRETE PIPE OR SPECIAL RECEIVES ANY INDENTATION OR DEFORMATION TO THE CONCRETE, STEEL ENDS OR CONNECTIONS, THE REMOVAL OF WHICH WILL IN ANY DEGREE INJURE IT, SUCH PIPE OR SPECIAL SHALL BE REJECTED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

(E) PIPE WHICH IS PLACED IN STORAGE, STREETS OR DRIVES MUST BE SO ARRANGED AS NOT TO CAUSE UNDUPLICATE INCONVENIENCE TO TRAFFIC AND MUST BE PROTECTED SUFFICIENTLY TO PREVENT INJURY TO THE CONCRETE CYLINDER PIPE, AND THE COATING OF THE STEEL ENDS AND CONNECTIONS.

**MATERIAL DATA WITH PROPOSAL**

EACH BIDDER SHALL SUBMIT WITH HIS PROPOSAL, AND IN THE FORM PROVIDED, THE INFORMATION CALLED FOR BELOW:

1. NAME OF PIPE MANUFACTURER AND LOCATION OF PLANT.
2. NAME OF COUPLING MANUFACTURER AND LOCATION OF PLANT.
3. PIPE COATING AND LINING DATA.

**DRAWINGS**

(A) THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR FOR APPROVAL, DUPLICATE PRINTS OF ALL SHOP DRAWINGS FOR CONCRETE PIPE, FITTINGS, AND SPECIALS, AND MISCELLANEOUS DETAILS, SUCH AS AIR COCK AND DRAIN FORGINGS, CASTINGS, ETC.

(B) THE CONTRACTOR SHALL ALSO FURNISH AN ASSEMBLY PLAN AND TABULATED LAYOUT SCHEDULE FOR THE ENTIRE LENGTH OF THE PIPE LINE FOR WHICH CONCRETE PIPE IS FURNISHED UNDER THE APPROPRIATE ITEMS. THIS ASSEMBLY PLAN AND LAYOUT SCHEDULE SHALL ALSO SHOW THE CORRECT LOCATION OF ALL FITTINGS FURNISHED.

(C) ONE PRINT OF EACH OF THE DRAWINGS SUBMITTED WILL BE RETURNED WITH THE CRITICISMS OR APPROVAL OF THE DIRECTOR. IN CASE THE DRAWINGS ARE NOT APPROVED, THE CONTRACTOR SHALL AGAIN SEND FOR APPROVAL, DUPLICATE REVISED PRINTS OF THE DRAWINGS OR TAKE CARE OF THE CRITICISMS NOTED, AND AFTER THE DRAWINGS HAVE BEEN FINALLY APPROVED, THE CONTRACTOR SHALL AGAIN FURNISH TO THE DIRECTOR THREE (3) MYLAR OR REPRODUCIBLE CLOTH TRACINGS OF EACH DRAWING. NO WORK SHALL BE DONE IN THE SHOP UNTIL AFTER THE DRAWINGS HAVE BEEN FINALLY APPROVED. THEN WHEN RETURNED, FURNISH FIFTEEN (15) SETS OF PRINTS OF APPROVED TRACINGS FOR DISTRIBUTION.

(D) THE APPROVAL OF THE DRAWINGS BY THE DIRECTOR SHALL NOT RELIEVE THE CONTRACTOR OF ANY OF HIS OBLIGATIONS IN CONNECTION WITH THIS CONTRACT.

**EXPERIENCE QUALIFICATIONS**

ALL BIDDERS WILL BE REQUIRED TO SHOW TO THE SATISFACTION OF THE DIRECTOR THAT THE TYPE AND SIZE OF PIPE AND FITTINGS BE PROPOSED TO FURNISH, WILL BE MADE BY A MANUFACTURER WHOSE PIPE HAS BEEN SUCCESSFULLY USED FOR LIKE WORK OUTSIDE OF THE BUILDER'S WORKS FOR A PERIOD OF NOT LESS THAN FIVE (5) YEARS.

**MEASUREMENT**

THE NUMBER OF LINEAR FEET OF WATER MAIN TO BE PAID FOR UNDER PRESTRESSED CONCRETE CYLINDER PIPE SHALL BE THE ACTUAL NUMBER OF LINEAR FEET FURNISHED AND PLACED IN ACCORDANCE WITH THESE SPECIFICATIONS AS MEASURED ALONG THE AXIS OF THE MAIN, INCLUDING FITTINGS AND VALVES CONNECTED UP IN PLACE.

**PAYMENT**

(A) THE UNIT PRICE STIPULATED TO BE PAID FOR EACH LINEAR FOOT OF ITEM SPECIAL-WATER MAIN CLASSIFIED AS TO SIZE, SHALL INCLUDE THE FURNISHING, LAYING, PAINTING AND INSPECTION AND TESTING OF PRESTRESSED CONCRETE PIPE, CONCRETE CYLINDER FITTINGS, CONCRETE PIERS AND ANCHORS, CAST IRON PIPE AND FITTINGS, VICTAULIC AND DRESSER COUPLINGS, TIED JOINTS DETAIL "Y", HARNESSED JOINTS, THE EXCAVATION, SHEETING AND SHORING, BACKFILLING, SAND BACKFILLING, SEEDING AND SODDING, SIDEWALK REPLACEMENT, AND THE TEMPORARY AND PERMANENT REPAVING FOR THE ABOVE MAIN AND FOR SERVICE CONNECTION CHANGES BY THE CITY WATER DEPARTMENT, AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS, APPLIANCES, AND EQUIPMENT TO COMPLETE THE WORK AS SPECIFIED OR SHOWN.

**EXTRA CONCRETE PRESSURE PIPE FITTINGS**

**WORK INCLUDED**

(A) THE CONTRACTOR SHALL FURNISH ALL THE MATERIALS FOR AND SHALL PROPERLY INSTALL ALL THE CONCRETE PRESSURE PIPE FITTINGS OF THE VARIOUS SIZES SPECIFIED WHICH ARE NOT SHOWN ON THE CONTRACT DRAWINGS OR ON APPROVED SHOP DRAWINGS AND WHICH ARE ORDERED INSTALLED BY THE DIRECTOR IN ORDER TO CHANGE LINE OR GRADE TO AVOID OBSTACLES PREVIOUSLY UNKNOWN, OR TO MEET OTHER FIELD CONDITIONS, AND ANY OUTLET CONNECTIONS FOR DRAINS, AIR COCKS OR OTHER USE WHICH MAY BE REQUIRED DUE TO FIELD CONDITIONS, AND INCLUDING ALL EXTRA EXCAVATION, SHEETING, SHORING, BACKFILLING, SAND BACKFILL, SEEDING, SODDING AND TEMPORARY AND PERMANENT REPAVING REQUIRED THEREFOR FOR THE PROPER COMPLETION OF THE WORK UNDER THIS CONTRACT.

(B) IN GENERAL, THE WORK OF THIS ITEM SHALL INCLUDE BEVELS, HALF BEVELS, ADAPTERS, ELBOWS, TANGENTIAL OUTLET PIECES, AND PIPES WITH SMALL OUTLETS (WITH OR WITHOUT TIED JOINTS) WHICH WERE NOT SHOWN ON APPROVED SHOP DRAWINGS AND WHICH ARE ORDERED INSTALLED BY THE DIRECTOR.

(C) THE PROVISIONS OF THIS ITEM SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO INVESTIGATE EXISTING FACILITIES AS INDICATED UNDER NOTES AND SPECIFICATIONS, NOR TO USE LESS THAN NORMAL DILIGENCE IN EXCAVATING OR LAYING PIPE TO ANTICIPATE POSSIBLE DIFFICULTIES.

**CONCRETE PRESSURE PIPE FITTINGS**

ALL FITTINGS TO BE FURNISHED AND INSTALLED UNDER THIS ITEM SHALL BE MANUFACTURED AND INSTALLED IN FULL CONFORMANCE WITH THE REQUIREMENTS OF ITEM "PRESTRESSED CONCRETE CYLINDER PIPE" OF THESE SPECIFICATIONS. JOINTS, MARKING, SHOP COATING, PAINTING, TESTING AND CHLORINATING SHALL CONFORM TO THE REQUIREMENTS OF ITEM "PRESTRESSED CONCRETE CYLINDER PIPE", AND DRAWINGS SHALL BE SUBMITTED AND APPROVED AS REQUIRED THEREIN.

**PAYMENT**

(A) THE UNIT PRICE STIPULATED PER EACH ITEM SPECIAL-EXTRA CONCRETE PRESSURE PIPE FITTINGS CLASSIFIED AS TO SIZE AND TYPE SHALL BE IN FULL COMPENSATION FOR THE FURNISHING AND INSTALLING OF SUCH EXTRA FITTINGS AS ARE ORDERED BY THE ENGINEER AND WHICH ARE NOT SHOWN ON THE CONTRACT DRAWINGS OR APPROVED SHOP DRAWINGS, AND SHALL INCLUDE ANY EXTRA EXCAVATION, SHEETING, SHORING, BACKFILLING, SAND BACKFILL, SEEDING, SODDING, AND TEMPORARY AND PERMANENT REPAVING REQUIRED THEREFOR, AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS, AND APPLIANCES NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR AS SHOWN.

(B) NO DEDUCTION WILL BE MADE IN THE LENGTHS OF PIPE AND FITTINGS TO BE PAID FOR UNDER ITEM "PRESTRESSED CONCRETE CYLINDER PIPE", WHERE EXTRA FITTINGS ARE ORDERED TO BE INSTALLED AND, LIKEWISE, NO PAYMENT WILL BE MADE FOR EXTRA FITTINGS WHICH ARE INSTALLED FOR THE CONVENIENCE OF THE CONTRACTOR WITHOUT SPECIFIC ORDERS FROM THE ENGINEER.

(C) AN ESTIMATED QUANTITY OF 2 EACH PER PERTINENT SIZE HAS BEEN INCLUDED IN THE WATERWORK SUMMARY FOR "EXTRA CONCRETE PRESSURE PIPE FITTINGS".

APPROVED 4-10-75

	REVISIONS	<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>
		<b>DEPARTMENT OF PUBLIC UTILITIES</b> DIVISION OF WATER AND HEAT CLEVELAND, OHIO
		SUBJECT: <b>WATERWORK NOTES</b>
	DRAWN	SCALE
	CHECKED W.R.S.	DATE 1-17-74 No.

CALCULATED BY *W.R.S.* DATE *2/72*  
CHECKED BY *W.R.S.* DATE *1/74*

*William A. Sweet*  
ENGINEER OF DESIGN REVIEW

# WATERWORK NOTES

FED. RD.	STATE	PROJECT
2	OHIO	

379  
838

CUYAHOGA COUNTY  
CUY-90-11.64

15  
60

48" WATER MAIN RELOCATION, SPECIFICATIONS AND PROCEDURES

**GENERAL:**

1. CONSTRUCTION OF THE 48" PRESTRESSED CONCRETE WATER MAIN RELOCATION AND THE 36" TEMP. BY-PASSES SHALL CONFORM TO ALL CONDITIONS SPECIFIED WITHIN THIS PLAN.
2. A 48" "STOPPLE" AND 30" BY-PASS TAPS AND VALVES WILL BE USED TO ESTABLISH TEMPORARY BY-PASS LINES WHILE MAINTAINING SERVICE IN THE EXISTING 48" STEEL LINE. THE 36" PRESTRESSED CONCRETE PIPE USED IN THE TEMP. BY-PASS LINES WILL BECOME THE PROPERTY OF THE CONTRACTOR UPON COMPLETION OF THE WORK AND SHALL NOT BE REUSED FOR OTHER 36" RELOCATIONS. ALL VALVES AND FITTINGS USED IN THE TEMP. BY-PASS LINES WILL NOT BE APPROVED FOR USE ELSEWHERE IN THE PROJECT. THE 48" WATER MAIN WILL NOT BE TAKEN OUT OF SERVICE FOR ANY PERIOD OF TIME DURING THE RELOCATION. WATER SERVICE WILL BE MAINTAINED AT ALL TIMES BY THE EXISTING 48" MAIN, RELOCATED 48" MAIN AND/OR 36" BY-PASS MAINS. FOR MANUFACTURER SEE SHT. 421.

WELDING ROD SPECIFICATIONS

THE WELDING ROD TO BE USED ON THE 48" STEEL WATER MAIN SHALL BE E7018 AS PER ASTM A-233-64T. THE ELECTRODES SHALL BE MAINTAINED UNDER PROPER STORAGE CONDITIONS - NORMAL ROOM TEMPERATURE, 50 PER CENT MAXIMUM RELATIVE HUMIDITY. IF THE ELECTRODES HAVE NOT BEEN ADEQUATELY PROTECTED AGAINST MOISTURE PICKUP IN STORAGE, THEN THEY SHALL BE HELD AT A TEMPERATURE OF 500°-700°F FOR A PERIOD OF 2 HOURS IMMEDIATELY PRIOR TO WELDING. THE AREA ON THE 48" STEEL PIPE WHERE THE WELDING IS TO BE DONE SHALL BE HEATED TO REMOVE MOISTURE FROM THE PIPE BEFORE THE WELDING PROCESS IS STARTED.

3. THE PLAIN CONC. ANCHOR WITH ANCHORAGE TEES AT EXISTING 48" WATER LINE STATION 114+49 SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER LIN. FT. FOR "ITEM SPECIAL - 48" PRESTRESSED CONCRETE CYLINDER PIPE AND FITTINGS A.W.W.A. C 301-64". THE STRUCTURAL TEES SHALL BE WELDED TO THE EXISTING STEEL PIPE AS SPECIFIED UNDER "WELDING STRUCTURAL TEES TO EXISTING 48" STEEL PIPE" (ON THIS SHEET).

48" WATER MAIN CONSTRUCTION SEQUENCE

1. THE 48" PRESTRESSED CONCRETE CYLINDER PIPE SHALL BE CONSTRUCTED FROM APPROXIMATELY PROPOSED WATER LINE STATION 0+10 TO STATION 8+04 AT THE SAME TIME THAT WORK IS PROCEEDING ON THE EXIST. STEEL LINE AT THE FOLLOWING LOCATIONS: STATION 125+20 - 30" BY-PASS TAP, STATION 125+05.7 - SPECIAL CONCRETE ANCHOR BLOCK, STATION 124+76.4 - CONCRETE ANCHOR BLOCK, STATION 124+12 - 48" "STOPPLE" INSTALLATION, STATION 123+96 - 30" BY-PASS TAP, STATION 114+49.4 - PLAIN ANCHOR W/ANCHORAGE TEES, STATION 114+42.46-48" "STOPPLE" FITTINGS, STATION 114+30 - 30" BY-PASS TAP, AND THE 36" TEMPORARY BY-PASS LINES.
2. COMPLETE THE CONSTRUCTION OF THE SPECIAL REINFORCE CONCRETE ANCHOR BLOCK STATION 125+05 AND CONCRETE ANCHOR BLOCK STATION 42+02. TEST AND STERILIZE THE 36" TEMP. BY-PASS LINE.
3. PUT THE 36" TEMP. BY-PASS LINE IN SERVICE AND CLOSE THE 36" VALVE AT STATION 124+86.42.
4. COMPLETE THE "STOPPLE" INSTALLATION AT STATION 124+12 AND PRELOAD THE SOIL TO SUPPORT THE SPECIAL ANCHORAGE AT STATION 125+05.
5. CLOSE THE "STOPPLE" DRAIN AND CUT THE EXISTING STEEL LINE AT STATION 124+17 AND STATION 124+72. INSTALL AND TEST THE STEEL BULKHEAD AT STATION 124+17.
6. REMOVE "STOPPLE" AND INSTALL "LOCK-O-RING" PLUG AT STATION 124+12. COMPLETE THE 48" INSTALLATION, STATION 8+04 TO STATION 8+28, CONNECT TO THE STEEL MAIN. UPON COMPLETION OF THE ANCHOR AT STATION 8+18, THE JACKS SUPPORTING THE SPECIAL ANCHOR AT STATION 125+06 CAN BE REMOVED.
7. COMPLETE THE ANCHORAGES AT STATION 114+49, STATION 0+46 AND COMPLETE THE 36" TEMP. BY-PASS. WITH THE VALVE AT STATION 0+27 CLOSED THE 36" TEMP. BY-PASS AND THE 48" RELOCATION SHALL BE TESTED AND STERILIZED.
8. INSTALL THE "STOPPLE" (PREVIOUSLY USED AT STATION 124+12) AT STATION 114+42.46. PUT THE 36" TEMP. BY-PASS AND THE 48" RELOCATION INTO SERVICE BY OPENING THE VALVES AT STATION 114+30 AND STATION 124+86; CLOSE THE "STOPPLE".
9. REMOVE THE 36" TEMP. BY-PASS AT W. 82ND AND EMILY AND INSTALL "LOCK-O-RING" PLUG AND BLIND FLANGE AT STATION 125+20.
10. DRAIN THE EXISTING STEEL LINE AND CUT AT STATION 114+56. COMPLETE 48" RELOCATION INSTALLATION, STATION 0+00 TO STATION 0+10.6 AND CONNECT TO THE STEEL MAIN.
11. TEST AND STERILIZE THE ISOLATED SECTION OF WATER MAIN BETWEEN "STOPPLE" AND VALVE AT STATION 0+27. REMOVE "STOPPLE" AND INSTALL "LOCK-O-RING" PLUG AND BLIND FLANGE, STATION 114+42. OPEN 36" VALVE AT STATION 0+27.
12. REMOVE THE 36" TEMP. BY-PASS AND INSTALL "LOCK-O-RING" PLUGS AND BLIND FLANGES AT STATION 114+30 AND STATION 0+37.

SPECIAL REINFORCED CONCRETE ANCHOR BLOCK TO BE ADDED TO EXISTING ACCESS MANHOLE

WORK INCLUDED

A. THE CONTRACTOR SHALL FURNISH ALL THE MATERIAL AND EQUIPMENT FOR AND SHALL PROPERLY CONSTRUCT, AND MAINTAIN THE SPECIAL REINFORCED CONCRETE ANCHOR BLOCKS, STATION 125 + 06 AND STATION 124 + 76 EXISTING 48" WATER LINE, AS SPECIFIED IN THESE NOTES AND AS DETAILED ON SHEET NO. 416. THIS WORK SHALL INCLUDE ALL EXCAVATION, SHEETING, SHORING, WELDING, 1" BITUMINOUS EXPANSION JOINT, JACKING, BACKFILLING, SEEDING, SODDING AND TEMPORARY AND PERMANENT REPAVING REQUIRED FOR THE PROPER COMPLETION OF THE WORK UNDER THIS CONTRACT.

B. IN GENERAL THE CONCRETE ANCHOR BLOCK AT EXIST 48" WATERLINE STATION 124+76, THE ADJUSTABLE TIE RODS, THE CONCRETE ANCHOR BLOCK AT STATION 125+06, WHICH COMPLETELY SURROUNDS THE EXISTING ACCESS MANHOLE, AND THE JACKING AND SOIL LOADING ARE DESIGNED TO TIE TOGETHER AND SUPPORT THE EXISTING 48" PIPE AND 36" VALVE WHEN THE VALVE IS SHUT AND THE LINE CUT. THIS STRUCTURE IS DESIGNED TO SUPPORT THE ENTIRE THRUST, PLUS A FACTOR OF SAFETY, EXERTED AGAINST THE CLOSED VALVE AND REDUCER AS LONG AS ADEQUATE SOIL LOADING IS MAINTAINED. THEREFORE, THE FORCE EXERTED AGAINST THE SOIL SHALL BE MEASURED AND MAINTAINED CONSTANTLY DURING THE REQUIRED TIME TO PERFORM THE WORK. SEE NOTES DETAIL SHEET NO. 416.

THE VALVE BOX ON THE BY-PASS FOR THE 36" VALVE SHALL BE REMOVED TO FACILITATE INSTALLATION OF THE TIE RODS. UPON COMPLETION OF THE WORK, THIS VALVE BOX SHALL BE REPLACED AND ADJUSTED TO GRADE. THE AREA AS SHOWN ON THE DETAIL (SHEET NO. 416) SHALL BE CAREFULLY SHEETED AND EXCAVATED TO ALLOW INSTALLATION OF THE TIE RODS AND TURNBUCKLES SO AS NOT TO DISTURB THE SOIL TO BE PRELOADED.

THE TURNBUCKLES SHALL BE DESIGNED TO WITHSTAND A FORCE OF 69,000# TRANSMITTED THROUGH EACH TIE ROD.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, AT LEAST 10 DAYS BEFORE BEGINNING WORK, COMPLETE DETAILS AND PROCEDURE FOR PRELOADING THE SOIL, AND WORK SHALL NOT BEGIN UNTIL THE METHOD HAS BEEN APPROVED BY THE ENGINEER.

WELDING STRUCTURAL TEES TO EXISTING 48" STEEL PIPE

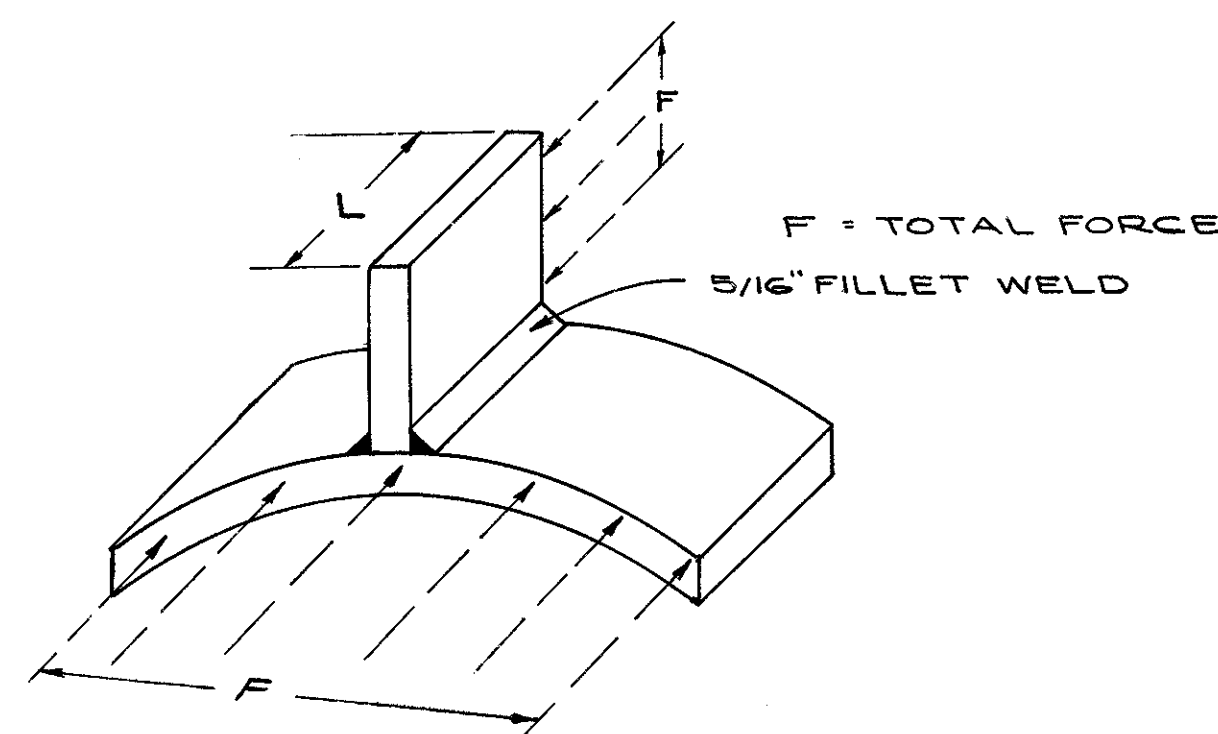
IN ORDER TO DETERMINE THE QUALITY OF THE WELDS MADE IN ATTACHING THE STRUCTURAL TEES TO THE EXISTING 48" STEEL WATER MAIN A METHOD OF INSPECTION OTHER THAN VISUAL INSPECTION SHALL BE USED. IN AS MUCH AS DESTRUCTIVE TEST CAN NOT BE MADE ON THE 48" PIPE THE FOLLOWING METHOD SHALL BE USED, UNDER THE DIRECTION AND SUPERVISION OF THE ENGINEER.

1. THE PROCEDURE AND THE WELDERS SHALL BE QUALIFIED BY DUPLICATING THE MATERIALS, POSITIONS AND PROCESSES TO BE FOLLOWED WHEN WORKING ON THE ACTUAL PIPE LINE. THE WELDERS WILL WELD TO CURVED SECTIONS OF 7/16" THICK STEEL PLATE, ASTM A-283-49 GRADE B, THE STRUCTURAL TEES, (ASTM A-36) AS DETAILED ON SHEET NO. 416. THEY WILL USE THE SPECIFIED WELDING ROD AND ENOUGH DIFFERENT WELDING POSITIONS SO AS TO DUPLICATE ALL THE WELDING POSITIONS USED ON THE ACTUAL PIPE LINE, THE BACK OF THE 7/16" PLATE SHALL BE SUBJECT TO A SPRAY OF COLD WATER.

2. THESE SAMPLE WELDS SHALL THEN BE INSPECTED USING THE DRY POWDER MAGNETIC PARTICLE INSPECTION METHOD AS PER ASTM E-109-63. PHOTOGRAPHS OR TRANSFERS SHALL BE MADE OF EACH PARTICLE ALIGNMENT OR PATTERN SO THAT A RECORD OF ALL SAMPLE WELDS IS MADE. THIS INSPECTION SHALL BE PERFORMED BY A QUALIFIED AND EXPERIENCED INSPECTOR.

3. EACH OF THE SAMPLE WELDS SHALL BE EXAMINED AND TESTED SO THAT THE PARTICLE PATTERNS CAN BE ASSOCIATED WITH THE QUALITY OF THE WELDS.

THE WELDS SHALL VISUALLY BE OBSERVED TO BE FREE OF CRACKS, UNDERCUT, OVERLAP, TRAPPED SLAG, AND SURFACE POROSITY. TEST SPECIMENS SHALL BE CUT FROM THE SAMPLE WELDS AND ANCHOR TEES AS SHOWN:



THE END AREAS OF THE WELDS SHALL BE VISUALLY OBSERVED AND THEY SHALL COMPLY WITH THE FOLLOWING DIMENSIONAL QUALITY - MAX CONVEXITY 5/64 INCH - MAX DIFFERENCE BETWEEN LENGTHS OF FILLET LEGS 1/8 INCH.

THE SAMPLES SHALL BE LOADED AS SHOWN IN THE SKETCH AND SHALL PASS THE TEST IF THE WELDS ARE CAPABLE OF WITHSTANDING A MINIMUM FORCE (F) = 3270.0xL, WHERE L IS EQUAL TO THE LENGTH OF THE CUT SAMPLE.

THE PARTICLE PATTERNS SHALL BE INTERPRETED OR CLASSIFIED AND EVALUATED UPON THE COMPLETION OF THE TESTS. THEY SHALL, TO THE APPROVAL OF THE ENGINEER, ACCURACY DEFINE THE TYPE, LOCATION AND DIRECTION OF INDICATIONS CONSIDERED ACCEPTABLE AND UNACCEPTABLE.

WHEN SAMPLES HAVE PASSED THE TESTS, THE PROCEDURE AND THE WELDER WILL BE CONSIDERED QUALIFIED AND WELDING ON THE WATER LINE CAN BEGIN. IF MORE THAN ONE WELDER IS USED EACH WELDER MUST PREFORM THE ENTIRE TEST DESCRIBED ABOVE AND PASS TO BE CONSIDERED QUALIFIED TO WELD ON THE EXISTING 48" WATER PIPE.

4. WHEN THE WELDING WORK ON THE WATER LINE IS COMPLETED ALL WELDS SHALL BE INSPECTED BY THE DRY MAGNETIC PARTICLE METHOD. PARTICLE PATTERNS OBTAINED SHALL BE COMPARED TO THE PHOTOGRAPHS OR TRANSFERS FROM THE SAMPLE WELDS AND THE QUALITY OF THE WELDS OBSERVED. ALL THE WELDS SHOWING UNACCEPTABLE IMPERFECTIONS SHALL BE REPAIRED OR REPLACED. ONCE ALL WELDS ARE ACCEPTABLE WORK CAN PROCEED ON THE WATER MAIN.

PAYMENT

PAYMENT SHALL BE MADE AT THE CONTRACT PRICE BID LUMP SUM FOR "ITEM SPECIAL - SPECIAL REINFORCED CONCRETE ANCHOR BLOCK," WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO CONSTRUCT AND MAINTAIN THE SPECIAL ANCHOR BLOCK (STATION 125 + 06 AND 124 + 76 EXISTING 48" WATER MAIN). PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR ALL EXCAVATION, SHEETING, SHORING, WELDING (AND QUALIFICATION PROCEDURE), TESTS, INSPECTIONS AND REPORTS OF INSPECTION SERVICE, JACKING, VALVE BOX REMOVAL AND ADJUSTMENT TO GRADE, TURNBUCKLES, BACKFILLING, SEEDING, SODDING, TEMPORARY AND PERMANENT REPAVING, AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

APPROVED 4-10-75

ENGINEER OF DESIGN REVIEW

REVISIONS		<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>	
		DEPARTMENT OF PUBLIC UTILITIES	
		DIVISION OF WATER AND HEAT	
		CLEVELAND, OHIO	
		SUBJECT: WATERWORK NOTES	
DRAWN	SCALE	CHECKED	DATE
		W.R.S.	1-17-74 No.

# WATERWORK NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

CUYAHOGA COUNTY  
CUY-90-11.64

380  
838

16  
60

48" STOPPLE, SANDWICH VALVES, AND BY-PASS TAPS

THE 48" STEEL PIPE SHALL BE PLUGGED WHILE IN SERVICE BY USE OF A 48" STOPPLE AND STOPPLE FITTINGS. THIS STOPPLE SHALL BE DESCRIBED AS A HYDRAULICALLY OPERATED, SELF-ACTUATING, PIVOTED YOKE TYPE SEALING HEAD PIPELINE PLUGGING MACHINE REQUIRING ONLY ONE LATERAL ENTRY INTO THE PIPELINE AND SEALING INSIDE THE PIPELINE INTERNAL CIRCUMFERENCE. INSTALLATION OF THE STOPPLE SHALL INCLUDE WELDING STOPPLE FITTING ON 48" STEEL PIPE, MAKING A 36" TAP IN THE 48" STEEL PIPE, A 36" SANDWICH TAPPING VALVE, AND TO ALLOW FOR RECOVERY OF THE 36" SANDWICH TAPPING VALVE AFTER THE STOPPLE PLUGGING OPERATION, A LOCK-O-RING AND BLIND FLANGE. SEE DETAILS SHEET NO. 421.

30" BY-PASS TAPS SHALL BE MADE INTO THE EXISTING 48" STEEL PIPE (WHILE IN SERVICE) BY MEANS OF 48" X 30" BY-PASS TAP FITTINGS, 30" SANDWICH TAPPING VALVE OR 30" FLANGED TAPPING VALVE, AND TO ALLOW FOR RECOVERY OF THE 30" TAPPING VALVES AFTER THE BY-PASS HAS BEEN REMOVED A LOCK-O-RING AND BLIND FLANGE. SEE DETAIL SHEETS NO. 421. (THE 30" FLANGED TAPPING VALVE, LOCATED AT EXIST. WATER LINE STATION 123+96, WILL NOT BE REMOVED UNDER PRESSURE CONDITIONS AND THE 48" X 30" BY-PASS TAP FITTING AT THIS POINT NEED NOT BE FURNISHED WITH A LOCK-O-RING FLANGE.)

THIS EQUIPMENT, WITH THE EXCEPTION OF THE 30" FLANGED TAPPING VALVE, IS AVAILABLE FROM T. D. WILLIAMSON, INC. WHO ARE REPRESENTED BY KERR ENGINEERED SALES COMPANY, 5956 BAUM SQUARE, PITTSBURGH, PENNSYLVANIA, 15206, (412)362-6553. THIS EQUIPMENT CAN BE RENTED AND IS SUPPLIED WITH TECHNICAL ADVISOR.

A 36"- (300# FLANGE DRILLING) LOCK-O-RING FLANGE SHALL BE PURCHASED FROM THE MANUFACTURER AND SUPPLIED TO THE CONCRETE PIPE MANUFACTURER SO THAT IT CAN BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE 48" X 48" X 36" CONCRETE TEE AT PROP. 48" WATER LINE STATION 0+37.2 PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR "ITEM SPECIAL-LIN. FT.-48" PRESTRESSED CONCRETE CYLINDER PIPE AND FITTINGS A.W.W.A. C301-64".

TAPPING OPERATIONS FOR THE 48" STOPPLE SHALL BE DONE IN THE VERTICAL PLANE AND TAPPING OPERATIONS FOR THE 30" BY-PASS TAPS SHALL BE DONE IN THE HORIZONTAL PLANE.

INSTALLATION PROCEDURES - STOPPLE & BY-PASS FITTINGS

THE STOPPLE INSTALLATION SHALL BE CARRIED ON UNDER THE SUPERVISION OF THE TECHNICAL ADVISOR SUPPLIED BY THE STOPPLE MANUFACTURER WITH THE APPROVAL OF THE ENGINEER AND DIRECTOR OF PUBLIC UTILITIES.

THE EXISTING 48" STEEL PIPELINE WHERE THE FITTINGS WILL BE LOCATED MUST BE ROUND AND CLEAN.

SEE "WELDING ROD SPECIFICATIONS"

THE MATCHED ENDS OF THE FITTINGS ARE IDENTIFIED BY A PAINTED YELLOW BAND AND/OR IDENTICAL STAMPED NUMBERS. THE BANDS OR NUMBERS ON BOTH HALVES OF THE FITTING MUST BE ON THE SAME END BEFORE THE FITTING IS WELDED TO THE LINE.

A SUITABLE WELDING BACKUP TAPE ALONG THE LONGITUDINAL SEAM OF THE FITTING IS RECOMMENDED TO AVOID FUSING THE WELD TO THE SIDE WALL OF THE PIPE. WELDING SEQUENCE - (1) COMPLETE THE LONGITUDINAL WELDS. (2) COMPLETE THE WELD AT ONE END OF THE FITTING AND ALLOW THE WELD TO COOL. (3) COMPLETE THE WELD ON THE OTHER END OF THE FITTING.

PAYMENT, 36" TEMPORARY BY-PASS MAIN

THE NUMBER OF LINEAL FEET OF TEMPORARY WATER MAIN TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF LINEAL FEET FURNISHED AND PLACED IN ACCORDANCE WITH THESE SPECIFICATIONS AS MEASURED ALONG THE AXIS OF THE PIPING INCLUDING FITTINGS AND VALVES CONNECTED IN PLACE AND FROM CENTERLINE TO CENTERLINE OF INTERSECTED WATER MAINS. THIS FOOTAGE MEASURED SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT FOR "ITEM SPECIAL - 36" TEMP. WATER MAIN, PRESTRESSED CONCRETE CYLINDER PIPE AND FITTINGS A.W.W.A. C 301-64". PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT AND LABOR TO PROPERLY INSTALL, MAINTAIN AND REMOVE THE TEMPORARY MAIN, AND SHALL INCLUDE ALL EXCAVATION, SHEETING, SHORING, WELDING, BACKFILLING, SEEDING, SODDING, AND TEMPORARY AND PERMANENT REPAVING REQUIRED FOR THE COMPLETION OF THE WORK. INSTALLATION OF THE 48" X 30" BY-PASS TAP FITTINGS, CONC. PIERS, LOCK-O-RINGS AND BLIND FLANGES SHALL BE INCLUDED UNDER THIS ITEM.

WORK INCLUDED, 48" STOPPLE

THE CONTRACTOR SHALL FURNISH ALL THE MATERIALS, EQUIPMENT AND LABOR AND SHALL PROPERLY INSTALL, MAINTAIN, OPERATE AND REMOVE THE 48" STOPPLE AS HEREIN SPECIFIED. THIS WORK SHALL INCLUDE ALL EXCAVATION, SHEETING, SHORING, WELDING, BACKFILLING, SEEDING, SODDING, AND TEMPORARY AND PERMANENT REPAVING REQUIRED FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.

PAYMENT 48" STOPPLE

PAYMENT FOR THIS ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID LUMP SUM FOR "ITEM SPECIAL - 48" STOPPLE". PAYMENT SHALL INCLUDE RENTAL OF THE STOPPLE AND NECESSARY EQUIPMENT, MATERIAL AND LABOR FOR INSTALLATION, RENTAL OF THE 36" - 300# SANDWICH VALVE, TWO 48" X 36" STOPPLE FITTINGS, TWO - 36" LOCK-O-RINGS AND BLIND FLANGES, AND ALL WORK AS HEREIN DESCRIBED TO COMPLETE THE TWO STOPPLE PLUGGING OPERATIONS.

PAYMENT - SANDWICH TAPPING VALVE

THE UNIT PRICE BID STIPULATED FOR EACH "ITEM SPECIAL - SANDWICH TAPPING VALVE" CLASSIFIED AS TO SIZE AND FLANGE DRILLING SHALL INCLUDE THE FURNISHING, PLACING, TESTING, REMOVING AND THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND APPLIANCES NECESSARY TO COMPLETE THE WORK.

PAYMENT - 30" FLANGED TAPPING VALVE

THE UNIT PRICE STIPULATED FOR EACH "ITEM SPECIAL - 30" TAPPING VALVE WITH FLANGED END" SHALL INCLUDE THE FURNISHING, PLACING, TESTING, REMOVING, AND THE FURNISHING OF ALL LABOR, TOOLS AND APPLIANCES NECESSARY TO COMPLETE THE WORK.

ITEM 202 PIPE REMOVED AS PER PLAN

EXISTING WATER MAINS, 30 INCHES IN DIAMETER AND LARGER, WHICH HAVE BEEN INDICATED TO BE REMOVED, SHALL BE REMOVED OR, AT THE CONTRACTOR'S OPTION, SHALL BE FILLED HYDRAULICALLY WITH SAND OR SAND AND GRAVEL SIMILAR TO STRIPPINGS FROM A GRAVEL PIT AND LEFT IN PLACE.

IF THE WATER MAIN IS LEFT IN PLACE AND FILLED, BULKHEADS CONSISTING OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES SHALL BE LOCATED AT THE ENDS OF THE FILLED PIPE. THE FILL MATERIAL SHALL AFTER SOLIDIFICATION, OCCUPY AT LEAST 90% OF THE CROSS SECTIONAL AREA OF THE WATER MAIN FOR THE ENTIRE LENGTH INDICATED TO BE REMOVED, IN ORDER TO MEET THIS REQUIREMENT, THE CONTRACTOR WILL EXCAVATE AND CUT PIT HOLES AS APPROVED BY THE ENGINEER TO IMPLEMENT THE FILLING OF THE REINFORCED CONCRETE PRESTRESSED PIPE WATER MAIN AND/OR TO CHECK THE CROSS SECTIONAL AREA OF THE WATER MAIN WHEN FILLED. THE FOOTAGE OF FILLED AND PLUGGED WATER MAIN TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF LINEAL FEET (MEASURED ALONG THE CENTERLINE OF THE WATER MAIN FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

PAYMENT - ITEM 202 - PIPE REMOVED AS PER PLAN

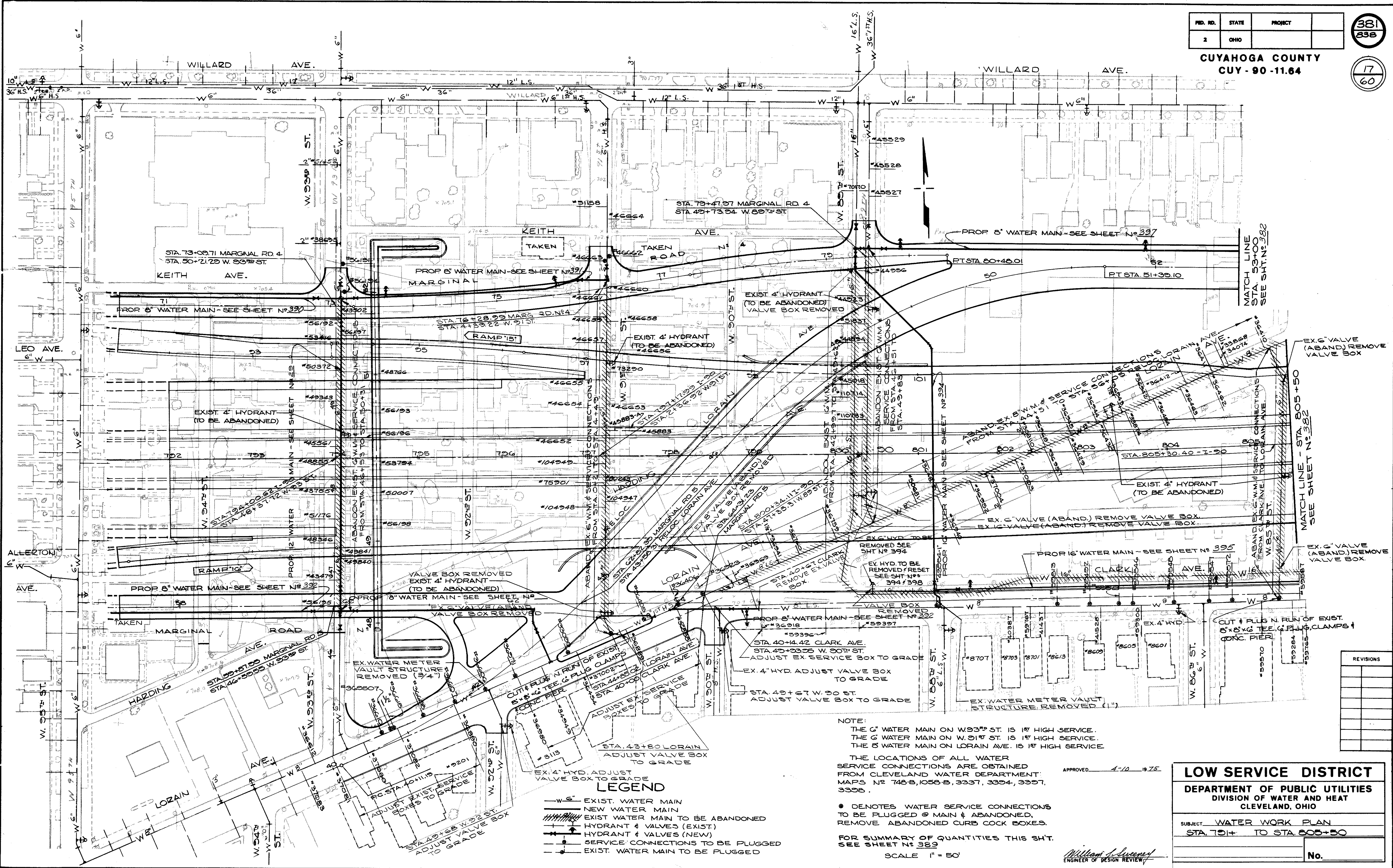
THE FOOTAGE, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT FOR "202 - PIPE REMOVED AS PER PLAN", WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING, HAULING AND PLACING ALL THE NECESSARY MATERIALS, AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

ALL 30 INCH AND LARGER WATER MAIN INDICATED " TO BE ABANDONED" SHALL BE REMOVED. PAYMENT SHALL BE INCLUDED WITH ITEM 203 - EXCAVATION AND EMBANKMENT IN THE PERTINENT ITEM 202 OR ITEM 203 - EXCAVATION.

APPROVED 4-10 19 75

	REVISIONS	<b>1st HIGH SERVICE DISTRICT</b>
		<b>DEPARTMENT OF PUBLIC UTILITIES</b> DIVISION OF WATER AND HEAT CLEVELAND, OHIO
		SUBJECT <b>WATERWORK NOTES</b>
	DRAWN	SCALE
	CHECKED <b>WRS</b>	DATE <b>1-17-73</b> No.

*William J. Sweeney*  
ENGINEER OF DESIGN REVIEW



NOTE:  
 THE 6" WATER MAIN ON W93<sup>RD</sup> ST. IS 1<sup>ST</sup> HIGH SERVICE.  
 THE 6" WATER MAIN ON W. 91<sup>ST</sup> ST. IS 1<sup>ST</sup> HIGH SERVICE.  
 THE 8" WATER MAIN ON LORAIN AVE. IS 1<sup>ST</sup> HIGH SERVICE

THE LOCATIONS OF ALL WATER SERVICE CONNECTIONS ARE OBTAINED FROM CLEVELAND WATER DEPARTMENT MAPS NO 748-B, 1056-B, 3337, 3394, 3397, 3398.

● DENOTES WATER SERVICE CONNECTIONS TO BE PLUGGED @ MAIN & ABANDONED, REMOVE ABANDONED CURB COCK BOXES.

FOR SUMMARY OF QUANTITIES THIS SH. T. SEE SHEET NO 389

SCALE 1" = 50'

APPROVED 4-10-1975

William A. Sweeney  
ENGINEER OF DESIGN REVIEW

- LEGEND**
- W 6" — EXIST. WATER MAIN
  - W 6" — NEW WATER MAIN
  - EXIST WATER MAIN TO BE ABANDONED
  - H — HYDRANT & VALVES (EXIST)
  - H — HYDRANT & VALVES (NEW)
  - S — SERVICE CONNECTIONS TO BE PLUGGED
  - P — EXIST. WATER MAIN TO BE PLUGGED

NO.	REVISIONS

**LOW SERVICE DISTRICT**  
 DEPARTMENT OF PUBLIC UTILITIES  
 DIVISION OF WATER AND HEAT  
 CLEVELAND, OHIO

SUBJECT: WATER WORK PLAN  
 STA 791+ TO STA 805+50

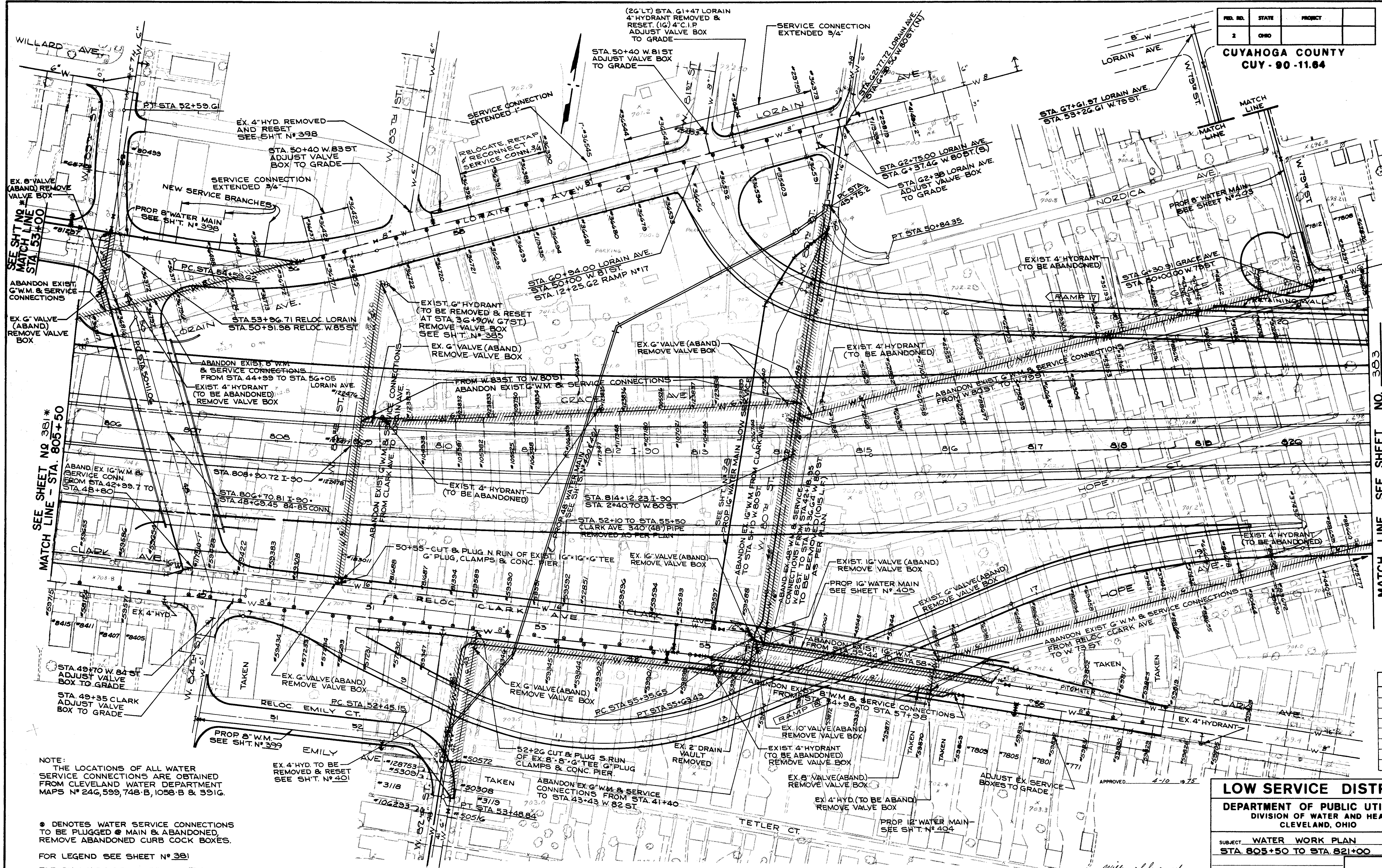
No. \_\_\_\_\_

REQ. NO.	STATE	PROJECT
2	OHIO	

382  
838

CUYAHOGA COUNTY  
CUY-90-11.64

18  
60



NOTE:  
THE LOCATIONS OF ALL WATER SERVICE CONNECTIONS ARE OBTAINED FROM CLEVELAND WATER DEPARTMENT MAPS N° 246, 599, 748-B, 1058-B & 391G.

● DENOTES WATER SERVICE CONNECTIONS TO BE PLUGGED @ MAIN & ABANDONED, REMOVE ABANDONED CURB COCK BOXES.

FOR LEGEND SEE SHEET N° 381

FOR SUMMARY OF QUANTITIES THIS SHEET SEE SHEET N° 389

MATCH LINE SEE SHEET NO. 383

NO.	REVISIONS

**LOW SERVICE DISTRICT**  
DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF WATER AND HEAT  
CLEVELAND, OHIO

SUBJECT: WATER WORK PLAN  
STA. 805+50 TO STA. 821+00

SCALE 1" = 50'

APPROVED: 4-10-1975  
ENGINEER OF DESIGN REVIEW

No.

FED. RD.	STATE	PROJECT
2	OHIO	

383  
838

19  
60

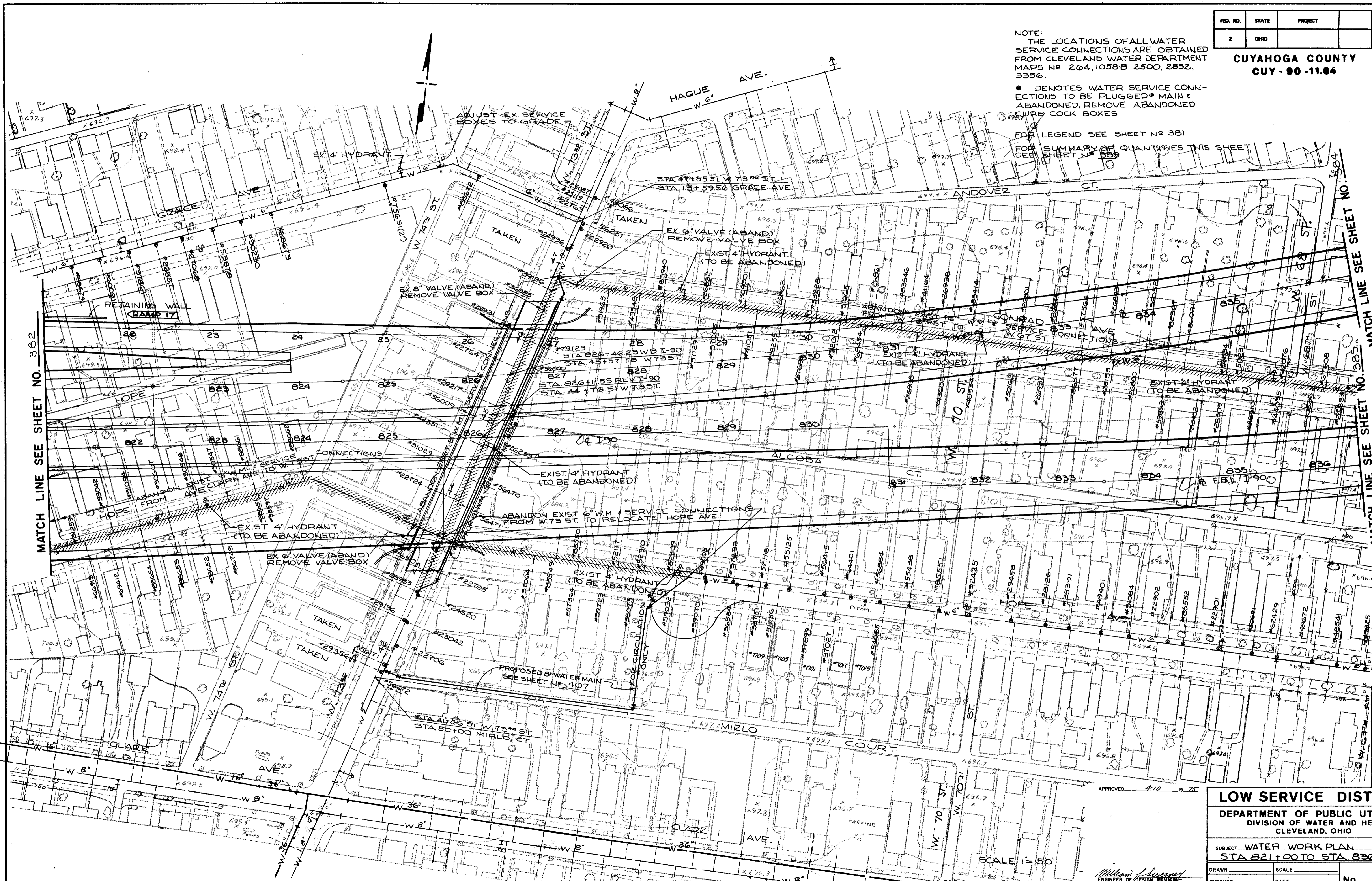
CUYAHOGA COUNTY  
CUY-90-11.64

NOTE:  
THE LOCATIONS OF ALL WATER SERVICE CONNECTIONS ARE OBTAINED FROM CLEVELAND WATER DEPARTMENT MAPS NO 264, 1058 B 2500, 2832, 3356.

● DENOTES WATER SERVICE CONNECTIONS TO BE PLUGGED @ MAIN & ABANDONED, REMOVE ABANDONED PRESSURE COCK BOXES

FOR LEGEND SEE SHEET NO 381

FOR SUMMARY OF QUANTITIES THIS SHEET SEE SHEET NO 383



MATCH LINE SEE SHEET NO. 382

MATCH LINE SEE SHEET NO. 385

REVISIONS

**LOW SERVICE DISTRICT**  
**DEPARTMENT OF PUBLIC UTILITIES**  
 DIVISION OF WATER AND HEAT  
 CLEVELAND, OHIO

SUBJECT: WATER WORK PLAN  
 STA. 821+00 TO STA. 836+50

SCALE 1" = 50'

APPROVED: 4-10-25

DRAWN: \_\_\_\_\_ SCALE: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_ DATE: \_\_\_\_\_ No. \_\_\_\_\_

*William J. Sullivan*  
 ENGINEER OF DESIGN REVIEW

NOTE:  
THE LOCATION OF ALL WATER SERVICE CONNECTIONS ARE OBTAINED FROM CLEVELAND WATER DEPARTMENT MAPS NO 588, 2456, 2862, 3334, 3334-A & 3338.

● DENOTES WATER SERVICE CONNECTIONS TO BE PLUGGED @ MAIN & ABANDONED. REMOVE ABANDONED CURB COCK BOXES.

FOR LEGEND SEE SHEET NO. 381

FOR SUMMARY OF QUANTITIES THIS SHEET SEE SHEET NO. 382

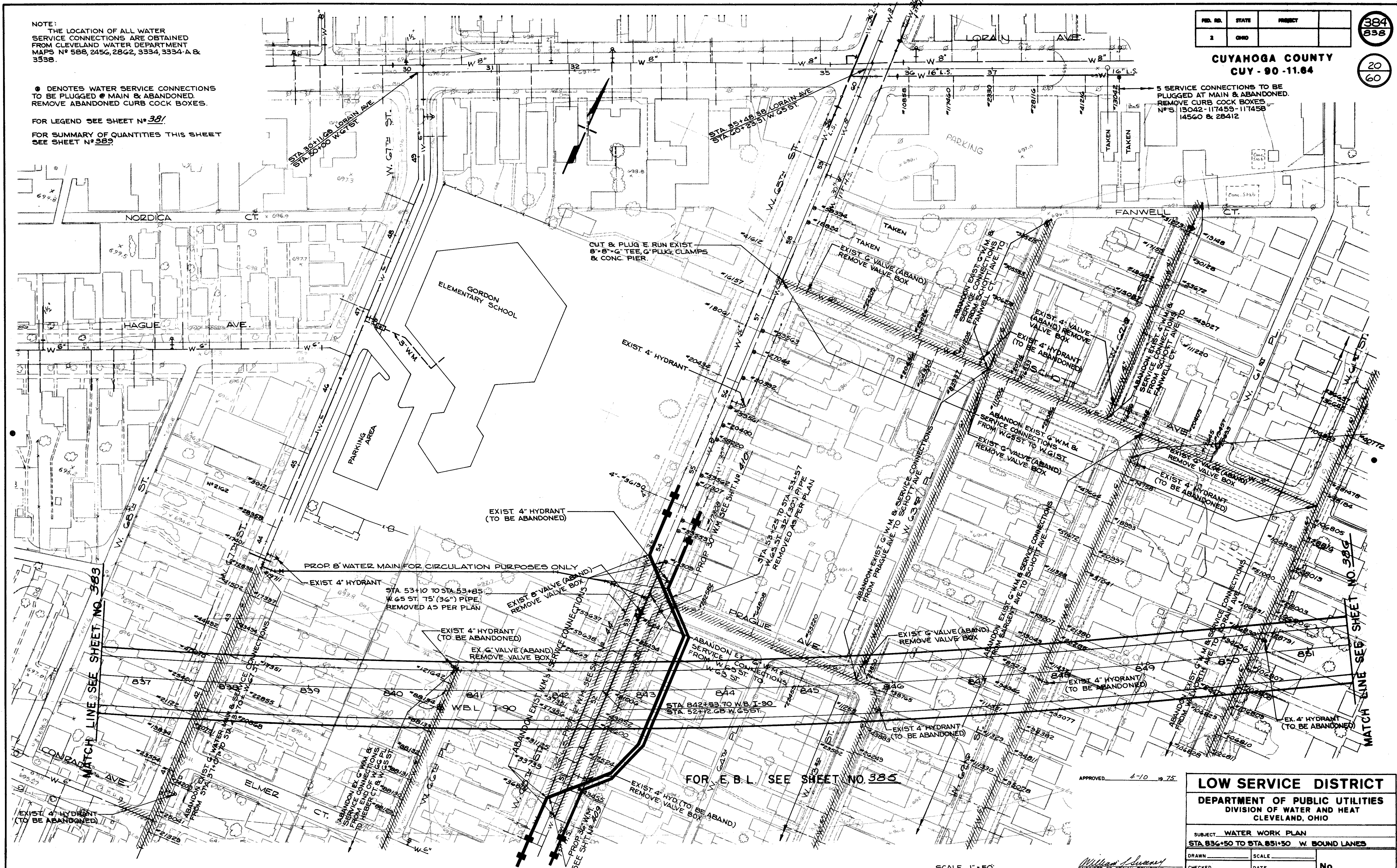
FED. RD.	STATE	PROJECT
2	OHIO	

384  
838

CUYAHOGA COUNTY  
CUY-90-11.64

20  
60

5 SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE CURB COCK BOXES. N°S 13042-117459-117458 14560 & 28412



MATCH LINE SEE SHEET NO. 383

MATCH LINE SEE SHEET NO. 385

FOR E.B.L. SEE SHEET NO. 385

APPROVED 4-10-1975

SCALE 1" = 50'

William J. Swamy  
ENGINEER OF DESIGN REVIEW

<b>LOW SERVICE DISTRICT</b>		
DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO		
SUBJECT: WATER WORK PLAN		
STA 836+50 TO STA 851+50 W. BOUND LANES		
DRAWN	SCALE	
CHECKED	DATE	No.

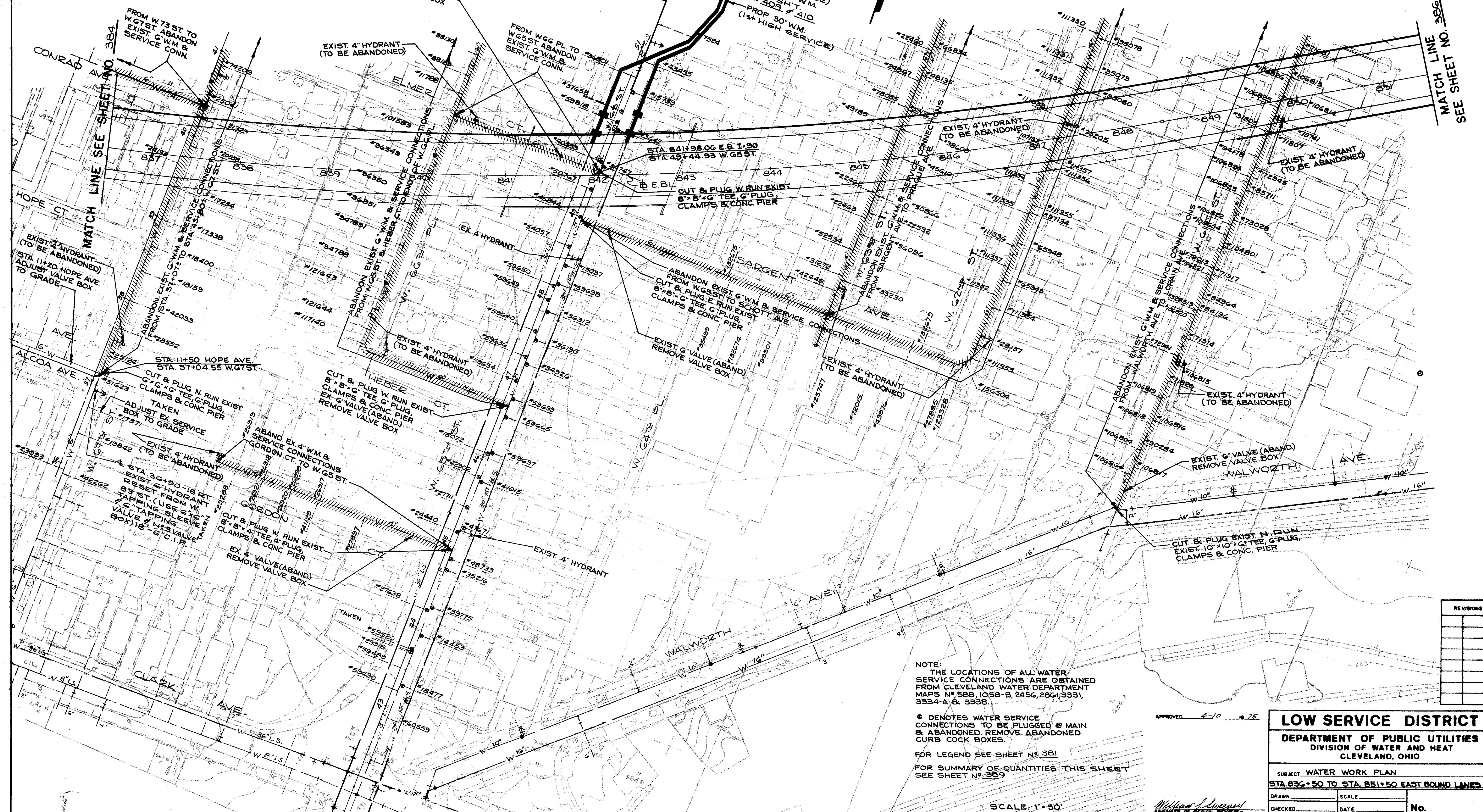
FED. NO.	STATE	PROJECT
2	OHIO	

385  
898

CUYAHOGA COUNTY  
CUY - 90 - 11.64

21  
60

FOR W.B.L. SEE SHEET NO. 384



MATCH LINE SEE SHEET NO. 384

MATCH LINE SEE SHEET NO. 389

NOTE:  
THE LOCATIONS OF ALL WATER SERVICE CONNECTIONS ARE OBTAINED FROM CLEVELAND WATER DEPARTMENT MAPS N° 588, 1058-B, 2456, 2861, 3331, 3334-A & 3338.

⊙ DENOTES WATER SERVICE CONNECTIONS TO BE PLUGGED @ MAIN & ABANDONED REMOVE ABANDONED CURB COCK BOXES.

FOR LEGEND SEE SHEET N° 381  
FOR SUMMARY OF QUANTITIES THIS SHEET SEE SHEET N° 389

APPROVED 4-10-75

SCALE 1" = 50'

*William J. Stevens*  
ENGINEER OF DESIGN REVIEW

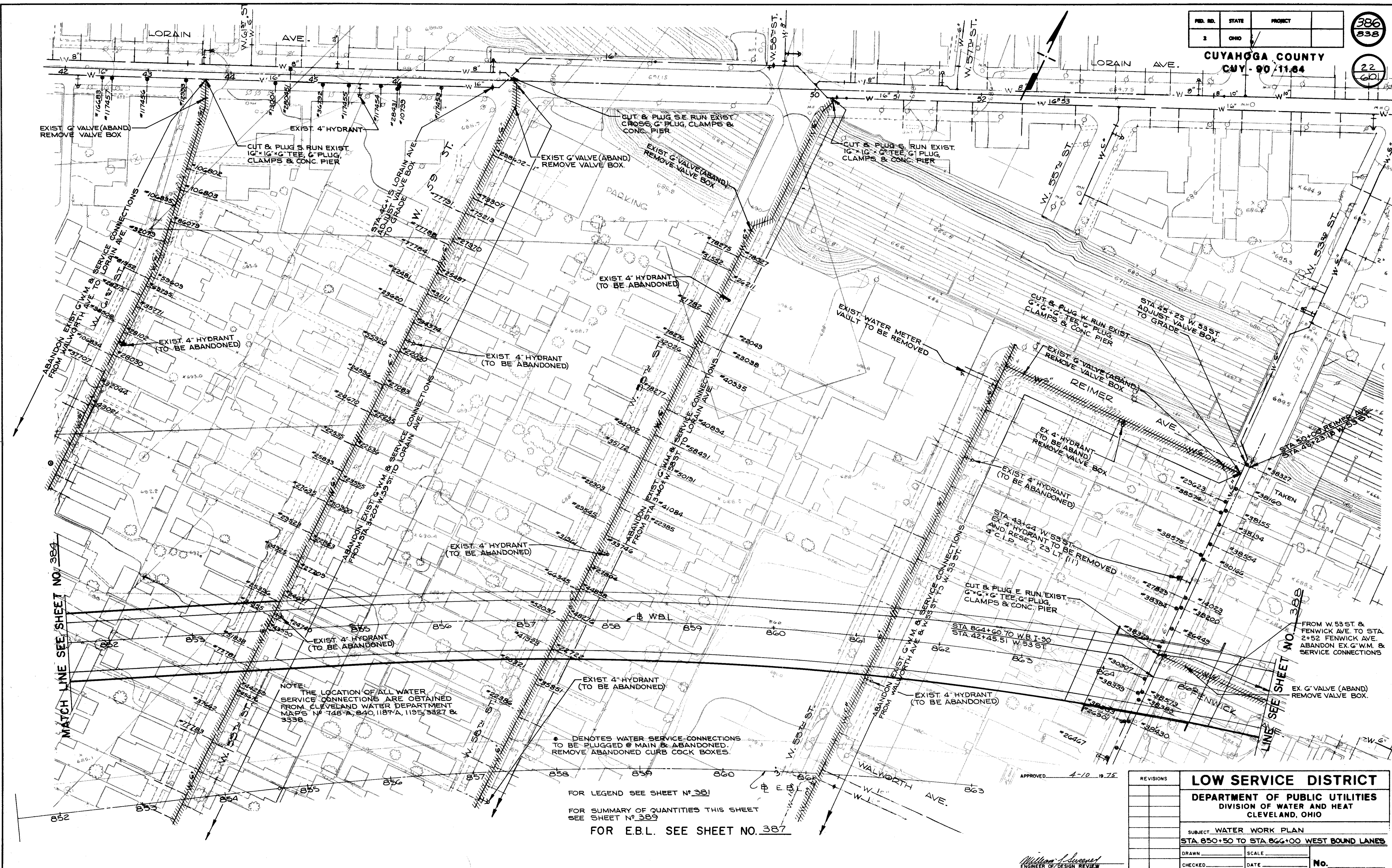
NO.	REVISIONS

**LOW SERVICE DISTRICT**  
DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF WATER AND HEAT  
CLEVELAND, OHIO

SUBJECT WATER WORK PLAN  
STA. 836+50 TO STA. 851+50 EAST BOUND LANES

DRAWN \_\_\_\_\_ SCALE \_\_\_\_\_  
CHECKED \_\_\_\_\_ DATE \_\_\_\_\_ No. \_\_\_\_\_





MATCH LINE SEE SHEET NO. 384

MATCH LINE SEE SHEET NO. 388

NOTE: THE LOCATION OF ALL WATER SERVICE CONNECTIONS ARE OBTAINED FROM CLEVELAND WATER DEPARTMENT MAPS NO. 748-A, 840, 1187-A, 1195, 3327 & 3338.

• DENOTES WATER SERVICE CONNECTIONS TO BE PLUGGED @ MAIN & ABANDONED REMOVE ABANDONED CURB COCK BOXES.

FOR LEGEND SEE SHEET NO. 381

FOR SUMMARY OF QUANTITIES THIS SHEET SEE SHEET NO. 389

FOR E.B.L. SEE SHEET NO. 387

APPROVED 4-10 1975

*William J. Lovern*  
ENGINEER OF DESIGN REVIEW

REVISIONS		LOW SERVICE DISTRICT	
		DEPARTMENT OF PUBLIC UTILITIES	
		DIVISION OF WATER AND HEAT	
		CLEVELAND, OHIO	
SUBJECT: WATER WORK PLAN			
STA. 850+50 TO STA. 866+00 WEST BOUND LANES			
DRAWN	SCALE		
CHECKED	DATE	No.	

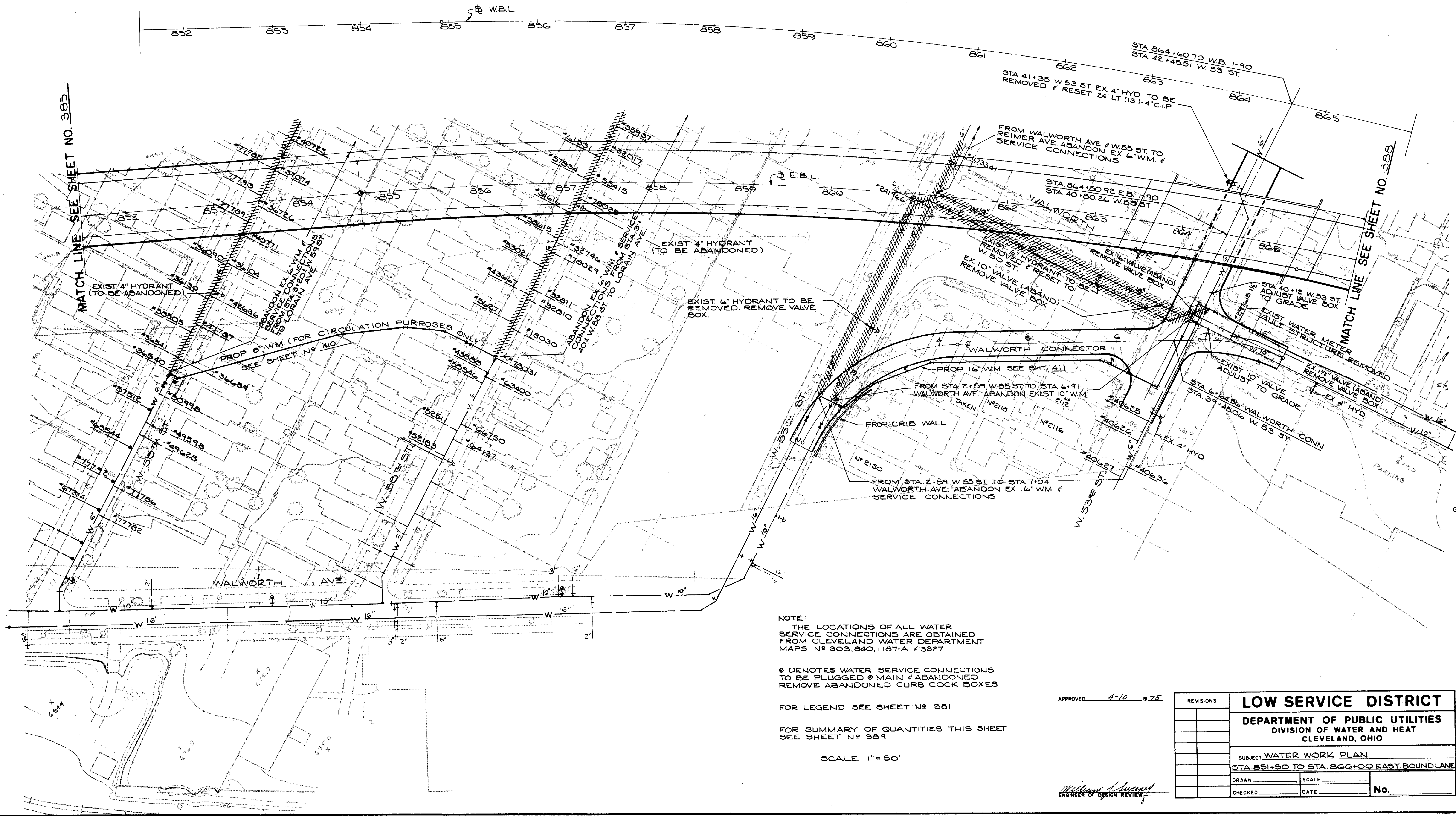
FED. RD.	STATE	PROJECT
2	OHIO	

387  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

23  
60

FOR W.B.L. SEE SHEET NO. 386



NOTE:  
THE LOCATIONS OF ALL WATER SERVICE CONNECTIONS ARE OBTAINED FROM CLEVELAND WATER DEPARTMENT MAPS N° 303, 640, 1187-A & 3327

⊙ DENOTES WATER SERVICE CONNECTIONS TO BE PLUGGED ⊙ MAIN & ABANDONED REMOVE ABANDONED CURB COCK BOXES

FOR LEGEND SEE SHEET N° 381

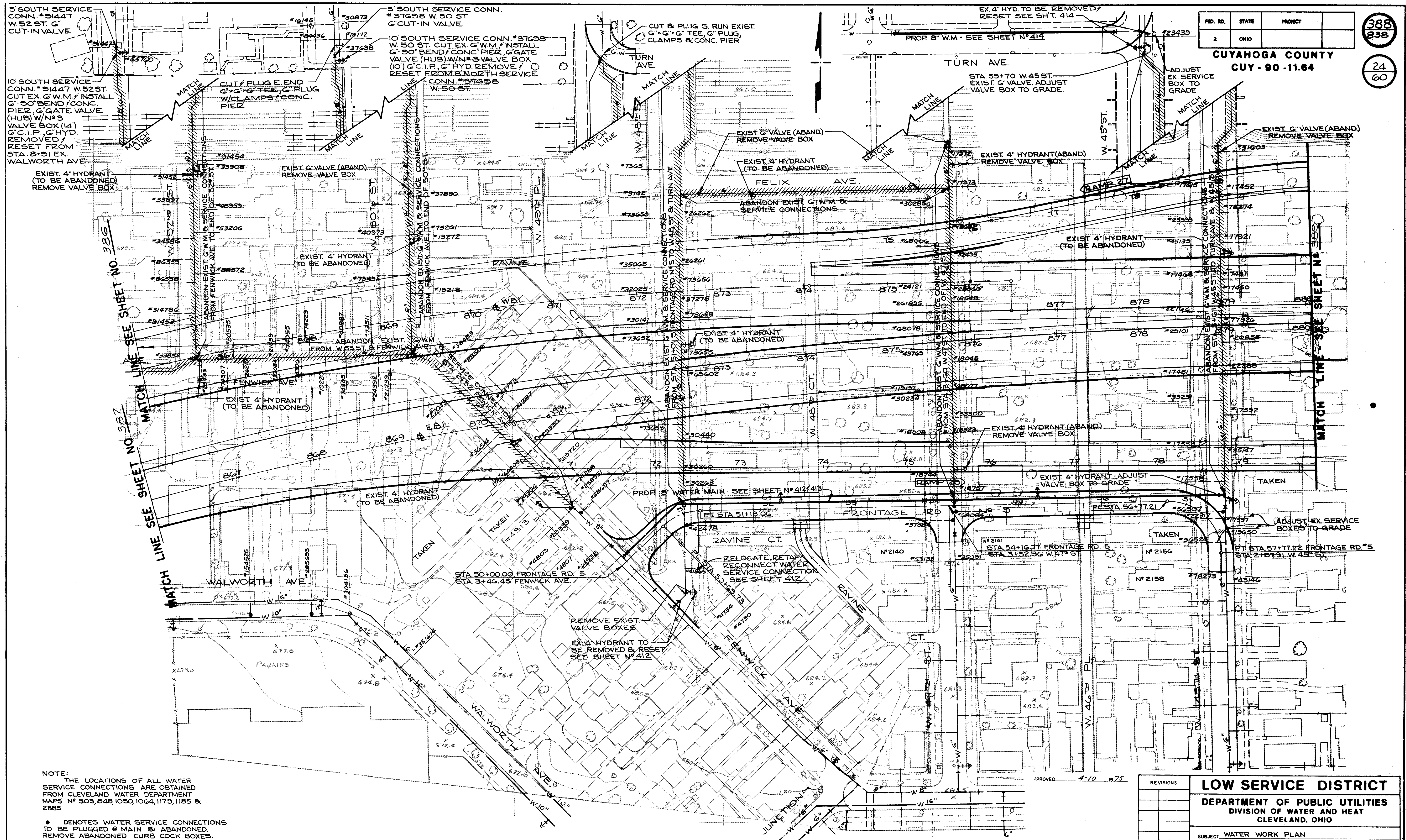
FOR SUMMARY OF QUANTITIES THIS SHEET SEE SHEET N° 384

SCALE 1" = 50'

APPROVED 4-10-1975

*William J. Sweet*  
ENGINEER OF DESIGN REVIEW

REVISIONS		LOW SERVICE DISTRICT	
		DEPARTMENT OF PUBLIC UTILITIES	
		DIVISION OF WATER AND HEAT	
		CLEVELAND, OHIO	
SUBJECT WATER WORK PLAN			
STA. 851+50 TO STA. 866+00 EAST BOUNDLINE			
DRAWN	SCALE		
CHECKED	DATE	No.	



NOTE:  
THE LOCATIONS OF ALL WATER SERVICE CONNECTIONS ARE OBTAINED FROM CLEVELAND WATER DEPARTMENT MAPS N° 303, 848, 1050, 1064, 1179, 1185 & 2885.

• DENOTES WATER SERVICE CONNECTIONS TO BE PLUGGED @ MAIN & ABANDONED. REMOVE ABANDONED CURB COCK BOXES.

FOR LEGEND SEE SHEET N° 381

FOR SUMMARY OF QUANTITIES THIS SHEET SEE SHEET N° 389

SCALE 1" = 50'

*William J. Sweeney*  
ENGINEER OF DESIGN REVIEW

REVISIONS		LOW SERVICE DISTRICT	
		DEPARTMENT OF PUBLIC UTILITIES	
		DIVISION OF WATER AND HEAT	
		CLEVELAND, OHIO	
SUBJECT WATER WORK PLAN			
STA. 866+00 TO STA. 880+00 AH.			
DRAWN	SCALE		
CHECKED	DATE		
			No.

# QUANTITY SUB-SUMMARY

## WATERWORK

FED. RD.	STATE	PROJECT
	OHIO	

CUYAHOGA COUNTY  
CUY-90-11.64

389  
838

25  
60

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 4/74

SHEET NUMBER								BID			DESCRIPTION	TYPE CODE Y060
381	382	383	384	385	386	387	388	ITEM	QUANTITY	UNIT		
	16							SPECIAL	16	LIN. FT.	4" WATER MAIN CAST IRON PIPE A.N.S.I. CLASS 24 AND FITTINGS CLASS D, WITH PUSH-ON JOINTS, ALL CEMENT LINED.	
				18		13	24	SPECIAL	55	LIN. FT.	6" WATER MAIN CAST IRON PIPE A.N.S.I. CLASS 25 AND FITTINGS CLASS D, WITH PUSH-ON JOINTS, ALL CEMENT LINED.	
				1			2	SPECIAL	1	EACH	6" X 6" TAPPING SLEEVE AND 6" TAPPING VALVE AND NO. 3 VALVE BOX.	
								SPECIAL	2	EACH	6" GATE VALVE (HUB) AND NO. 3 VALVE BOX.	
		1		1				SPECIAL	2	EACH	PLUGGING SERVICE CONNECTION - 2"	
1						1		SPECIAL	2	EACH	PLUGGING SERVICE CONNECTION - 1-1/2"	
1	1							SPECIAL	2	EACH	PLUGGING SERVICE CONNECTION - 1"	
21	54	45	18	39	35	7	3	SPECIAL	228	EACH	PLUGGING SERVICE CONNECTION - 3/4"	
2	2			5	5		1	SPECIAL	15	EACH	PLUGGING EXIST. 6" WATER MAIN & BRANCH.	
				1				SPECIAL	1	EACH	PLUGGING EXIST. 4" WATER MAIN & BRANCH.	
5	6			1	2	2	2	SPECIAL	18	EACH	ADJUST VALVE BOX TO GRADE.	
11	5	2		1			4	SPECIAL	23	EACH	ADJUST SERVICE BOX TO GRADE.	
2	1							SPECIAL	1	EACH	DRAIN VAULT REMOVED	
								SPECIAL	3	EACH	METER VAULT REMOVED (3/4"-1-1/4")	
								SPECIAL	1	EACH	METER VAULT REMOVED (1-1/2")	
10	15	3	8	5	8	3	8	SPECIAL	60	EACH	VALVE BOX REMOVED.	
23	54	46	18	40	35	8	3	SPECIAL	233	EACH	SERVICE BOX REMOVED.	
	1							SPECIAL	1	EACH	SERVICE CONNECTION EXTENDED - 1".	
	12							SPECIAL	12	EACH	SERVICE CONNECTION EXTENDED - 3/4".	
	3							SPECIAL	3	EACH	RELOCATE, RETAP AND RECONNECT SERVICE CONNECTION 3/4"	
						1		SPECIAL	1	EACH	4" FIRE HYDRANT REMOVED.	
	1				1			SPECIAL	2	EACH	4" FIRE HYDRANT REMOVED AND RESET.	
	1					1		SPECIAL	1	EACH	6" FIRE HYDRANT REMOVED.	
	1			1		1	1	SPECIAL	4	EACH	6" FIRE HYDRANT REMOVED AND RESET.	
	340		107					SPECIAL	202	LIN. FT.	PIPE REMOVED AS PER PLAN, (30", 36", 48")	

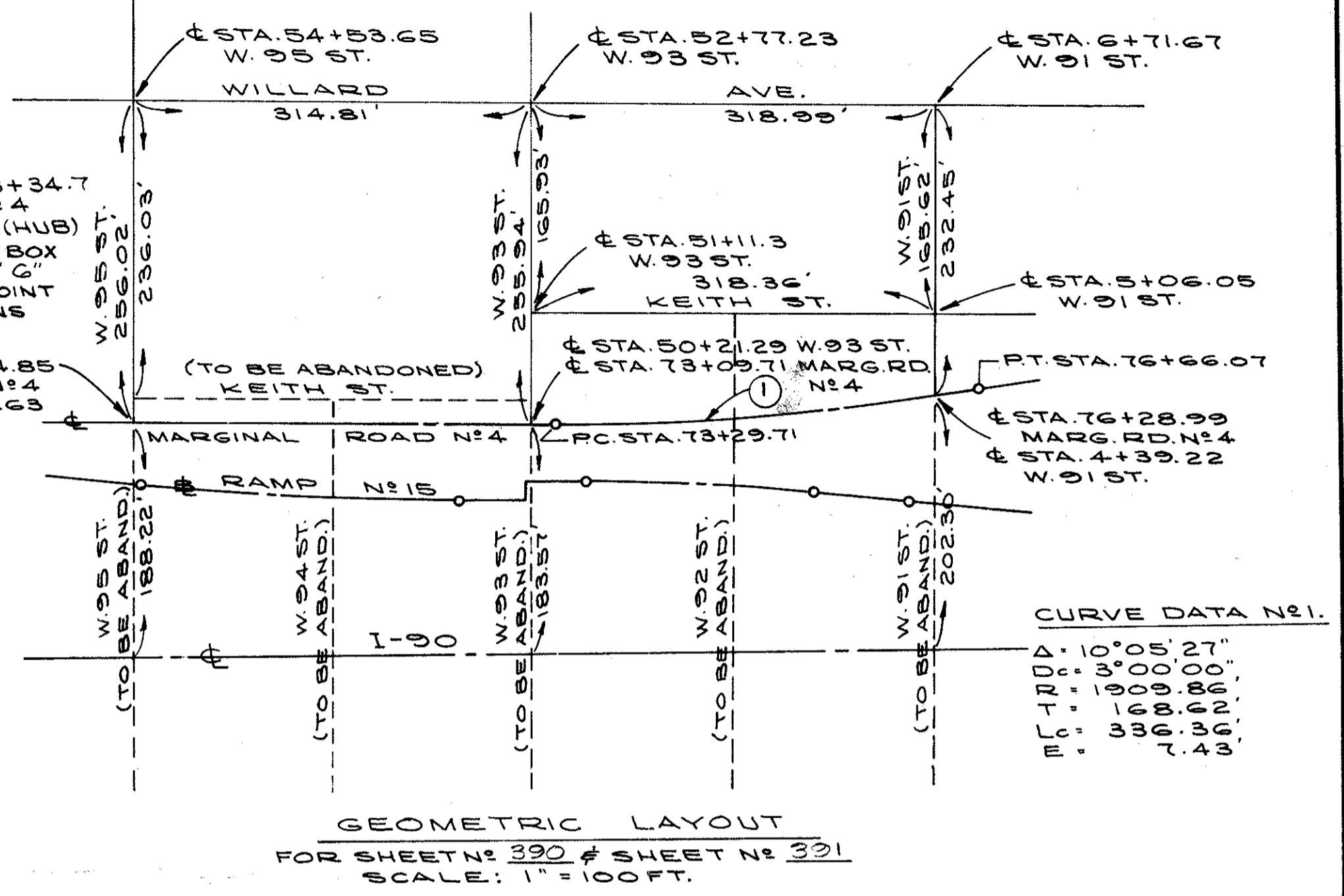
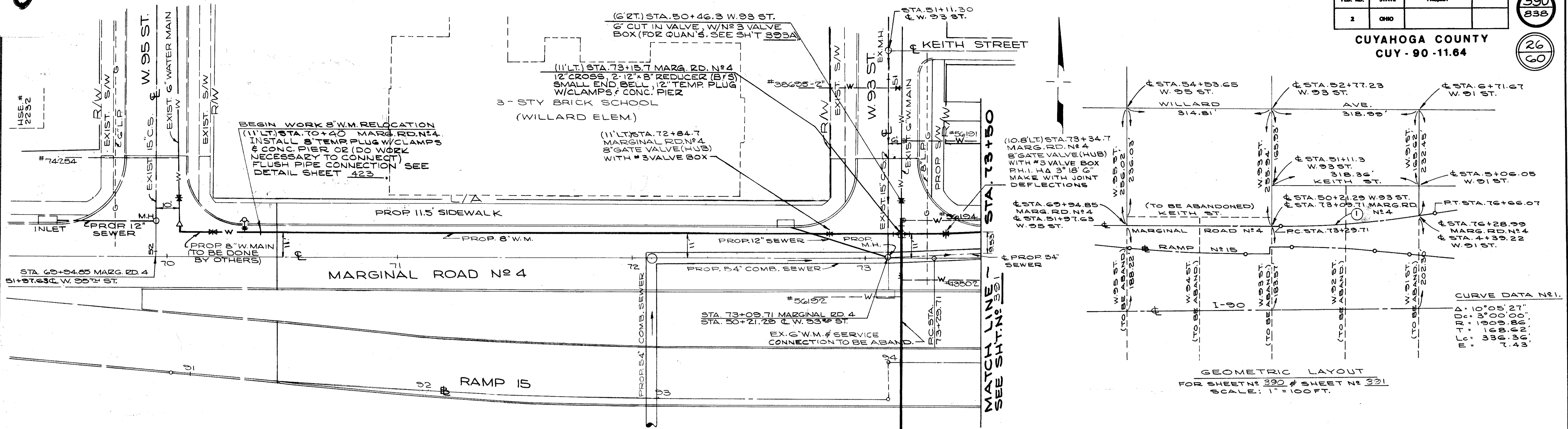
APPROVED 4-10 1975

REVISIONS	<b>LOW SERVICE DISTRICT</b>		
	DEPARTMENT OF PUBLIC UTILITIES		
	DIVISION OF WATER AND HEAT		
	CLEVELAND, OHIO		
	SUBJECT <b>QUANTITIES FOR SUB-SUMMARY WATERWORK PLANS</b>		
DRAWN	SCALE	No.	
CHECKED	DATE		

*William J. Sweet*  
ENGINEER OF DESIGN

7-0

Q-7



NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS N: 368 THRU 380

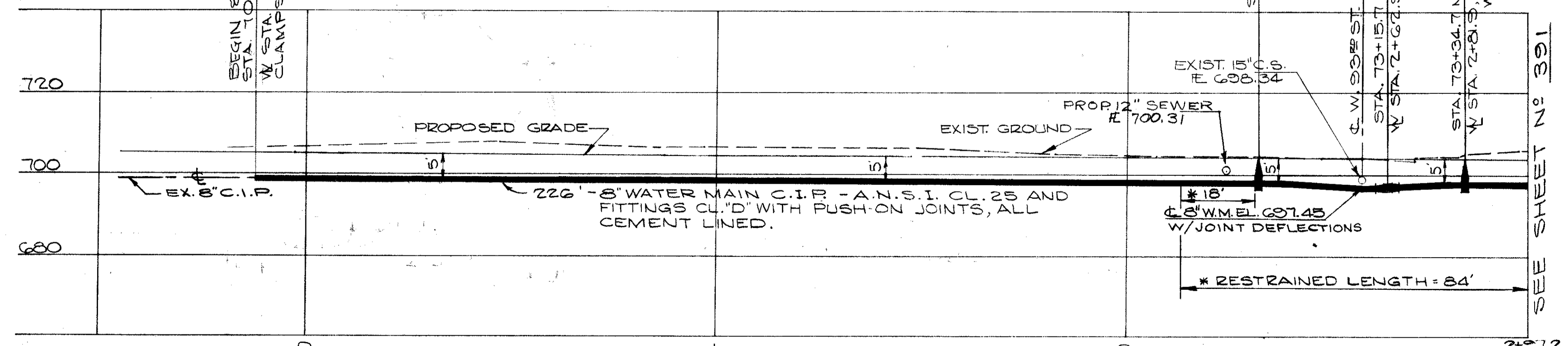
⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.

INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR PERTINENT SIZE WATER MAIN.

FOR SUMMARY OF QUANTITIES SEE SHEET 7-0 390 & 391

ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	226	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	84	LIN. FT.
SPECIAL	8" GATE VALVE (HUB) AND N# 3 VALVE BOX*	2	EACH
SPECIAL	FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH

\* COMPLETE



\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1-18" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

APPROVED: 9-10-1975

CALCULATED BY R.L.K. DATE 2/72  
 CHECKED BY W.B.S. DATE 3/74

*William J. Sweney*  
 ENGINEER OF DESIGN REVIEW

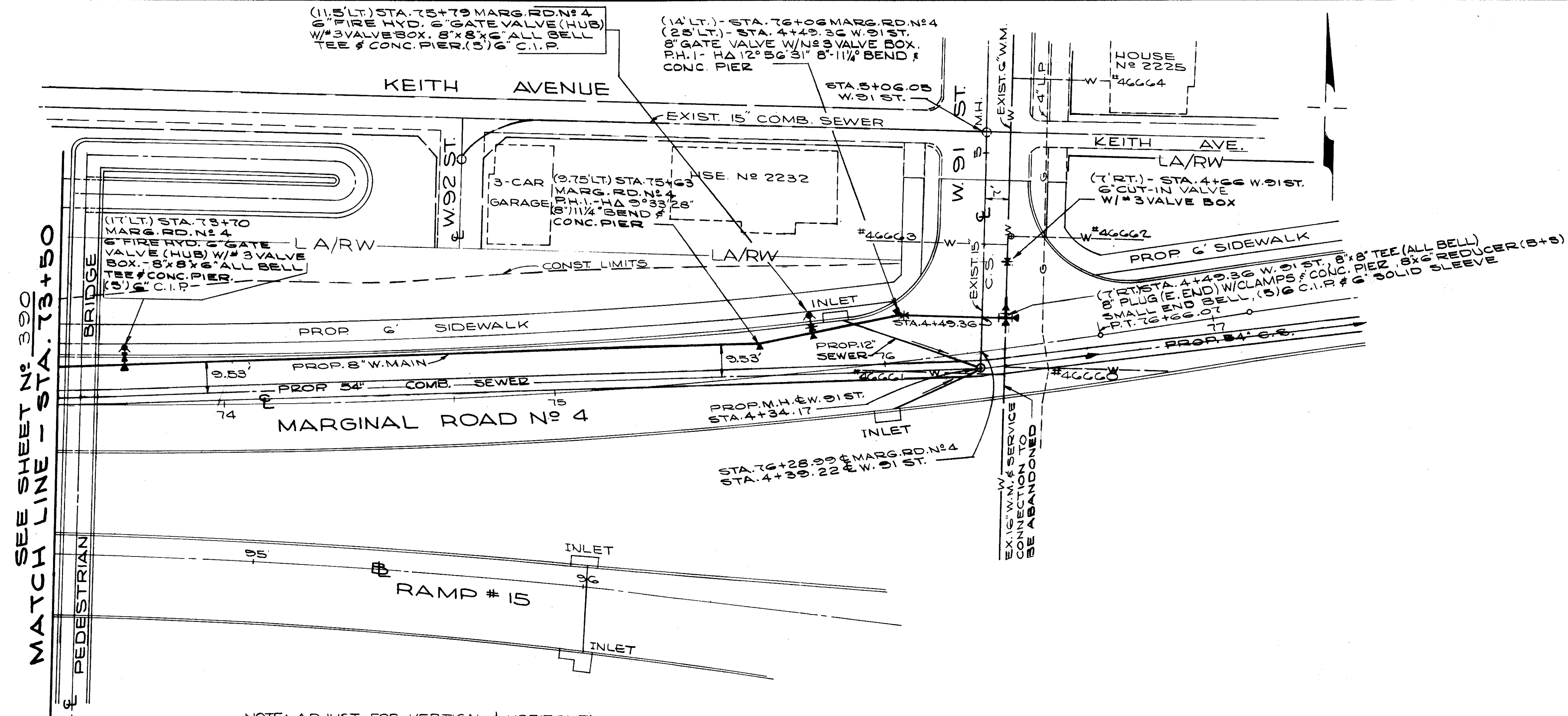
REVISIONS	1st HIGH SERVICE DISTRICT
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO
	SUBJECT: PLAN & PROFILE - PROP. 8" W.M. - W. 95th ST. TO W. 93rd ST.
	DRAWN: _____ SCALE: _____
	CHECKED: _____ DATE: _____ No. _____

FED. NO.	STATE	PROJECT
2	OHIO	

391  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

27  
60

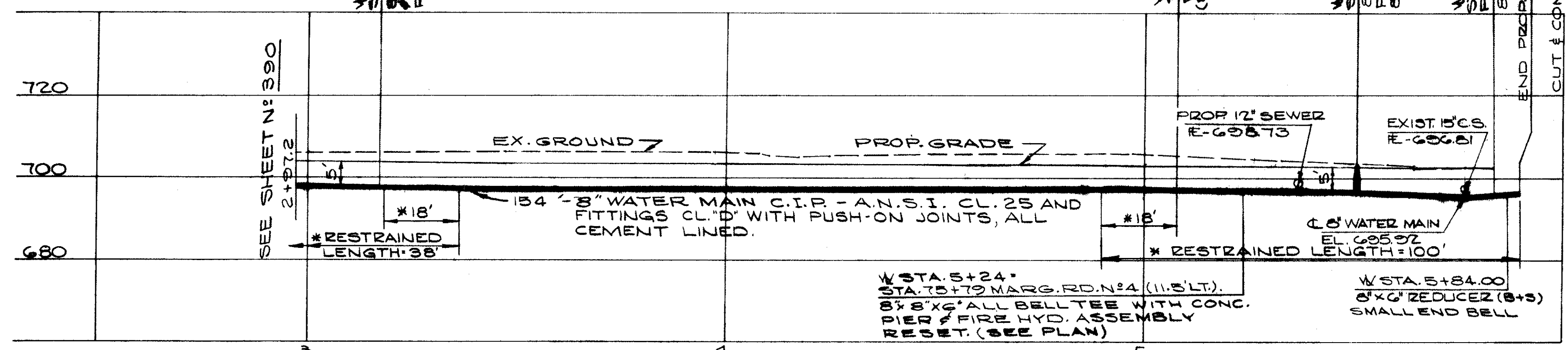


NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED. FOR GEOMETRIC LAYOUT OF THIS AREA, SEE SLIT NO 390

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS NO 368 THRU 380  
 @ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.  
 FOR SUMMARY OF QUANTITIES SEE SHEET NO 366 & 367

ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	6" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	15	LN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	154	LN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	138	LN. FT.
SPECIAL	6" GATE VALVE (HUB) AND NO 2 VALVE BOX*	2	EACH
SPECIAL	6" CUT-IN VALVE (HUB) AND NO 3 VALVE BOX*	1	EACH
SPECIAL	8" GATE VALVE (HUB) AND NO 3 VALVE BOX*	1	EACH
SPECIAL	FURNISHING AND SETTING 6" FIRE HYDRANT	2	EACH

\* COMPLETE



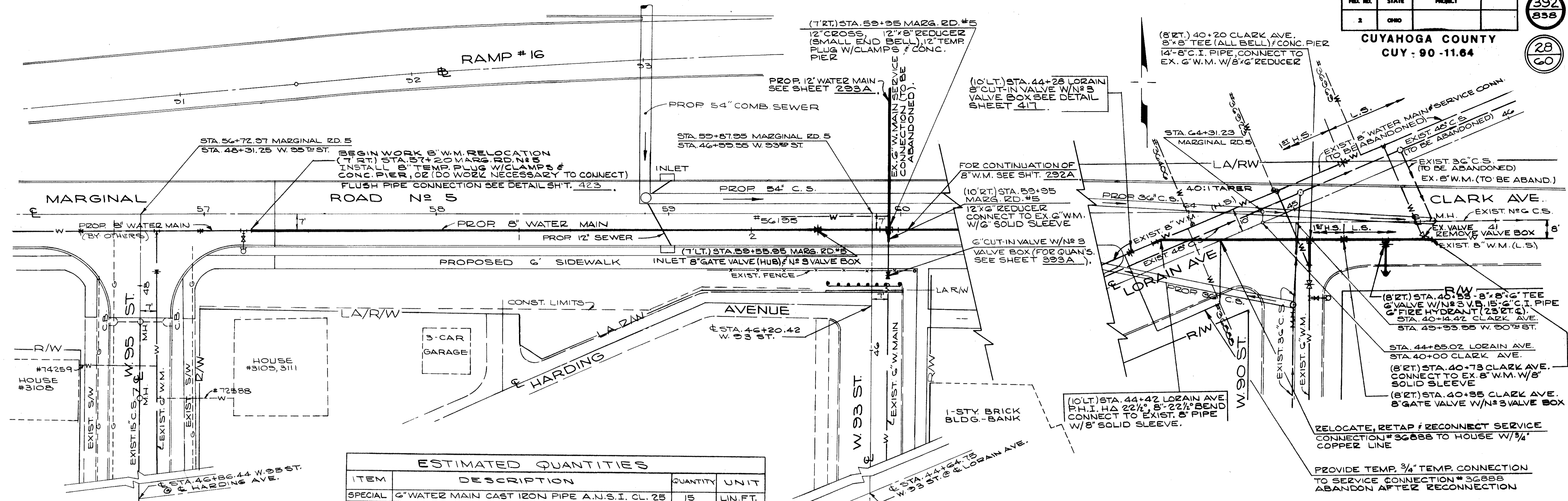
\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1'-0" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTINGS.

APPROVED 4-10-75

REVISIONS	<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>	
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO	
	SUBJECT: PLAN & PROFILE - PROP 6" W.M. - W 93 <sup>RD</sup> ST. TO W 91 <sup>ST</sup> ST	
DRAWN	SCALE	No.
CHECKED WRS	DATE	

CALCULATED BY R.L.K. DATE 2/72  
 CHECKED BY W.R.S. DATE 3/74

William J.weeney  
ENGINEER OF DESIGN REVIEW



**ESTIMATED QUANTITIES**

ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	6" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	15	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	267	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	142	LIN. FT.
SPECIAL	6" GATE VALVE (HUB) AND N# 3 VALVE BOX *	1	EACH
SPECIAL	8" GATE VALVE (HUB) AND N# 3 VALVE BOX *	2	EACH
SPECIAL	8" CUT-IN VALVE (HUB) AND N# 3 VALVE BOX *	1	EACH
SPECIAL	FURNISHING & SETTING 6" FIRE HYDRANT	1	EACH
SPECIAL	FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH
SPECIAL	RELOCATE, RETAP & RECONNECT SERVICE CONNECTION (3/4") # 36888	1	EACH

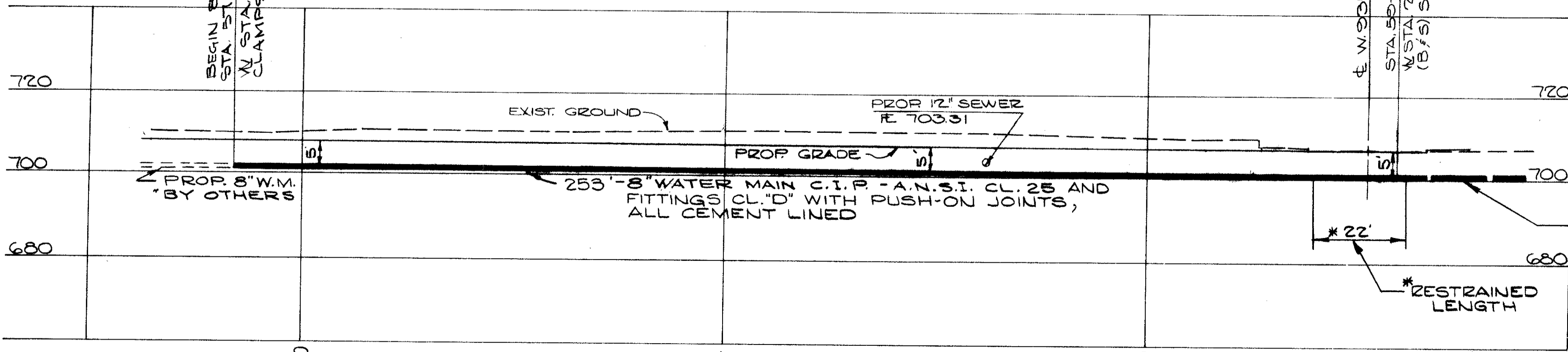
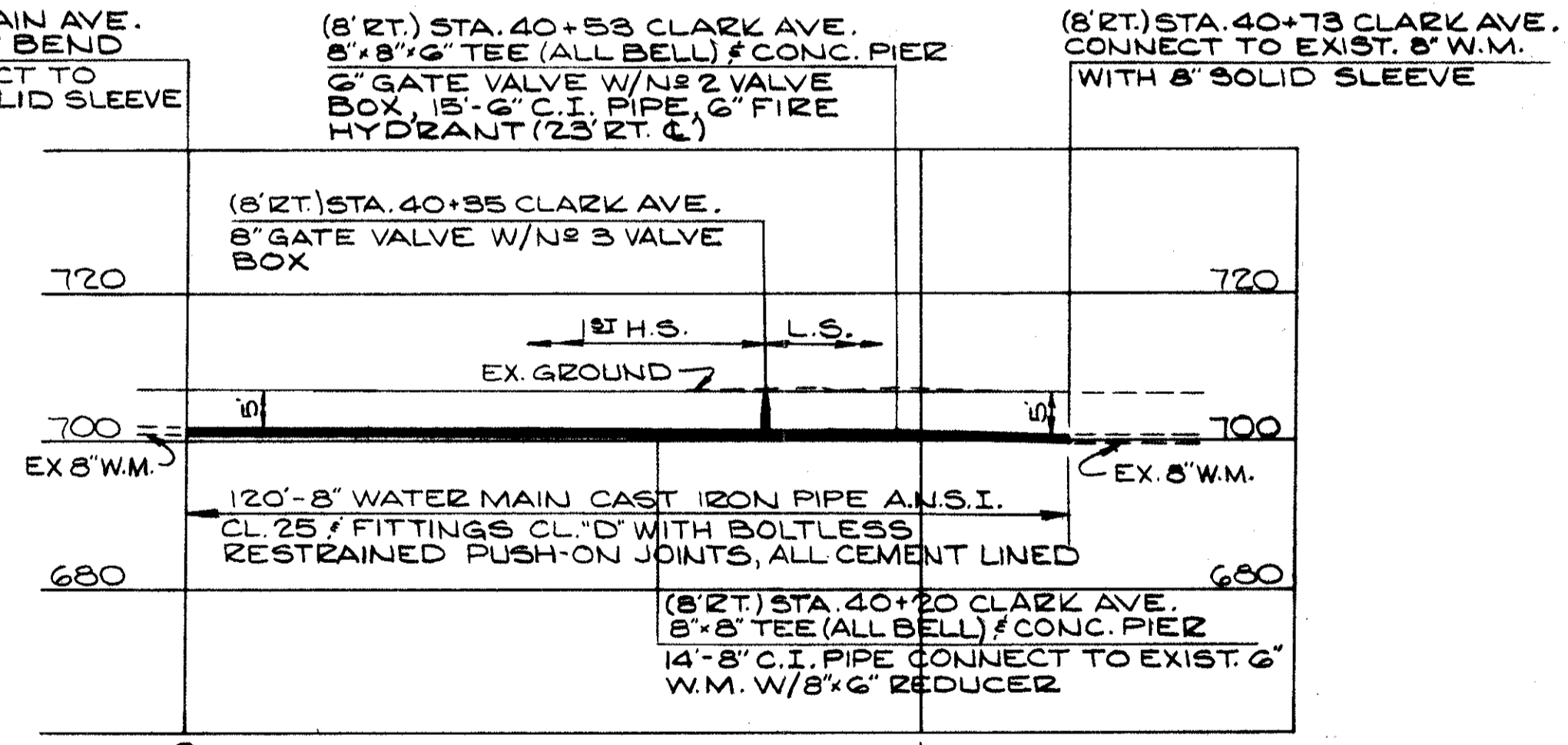
\* COMPLETE

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS N# 368 THRU 380.

NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.

INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR PERTINENT SIZE WATER MAIN.



\* BOLTLESS RESTRAINED JOINT 2 FOR MINIMUM OF 1-18" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 3/72

APPROVED 4-10-1975

REVISIONS	

**1ST HIGH SERVICE DISTRICT**  
DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF WATER AND HEAT  
CLEVELAND, OHIO

SUBJECT: **PLAN & PROFILE**  
PROP. 8" WATER MAIN - W. 95<sup>TH</sup> ST. TO W. 93<sup>RD</sup> ST., PROP. 8" W.M. @ LORAIN & CLARK

No. \_\_\_\_\_

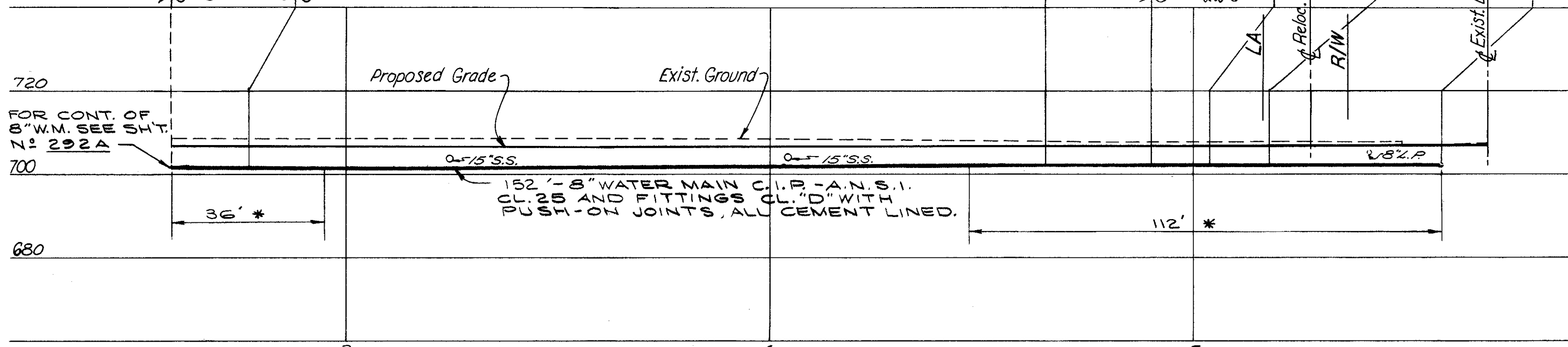
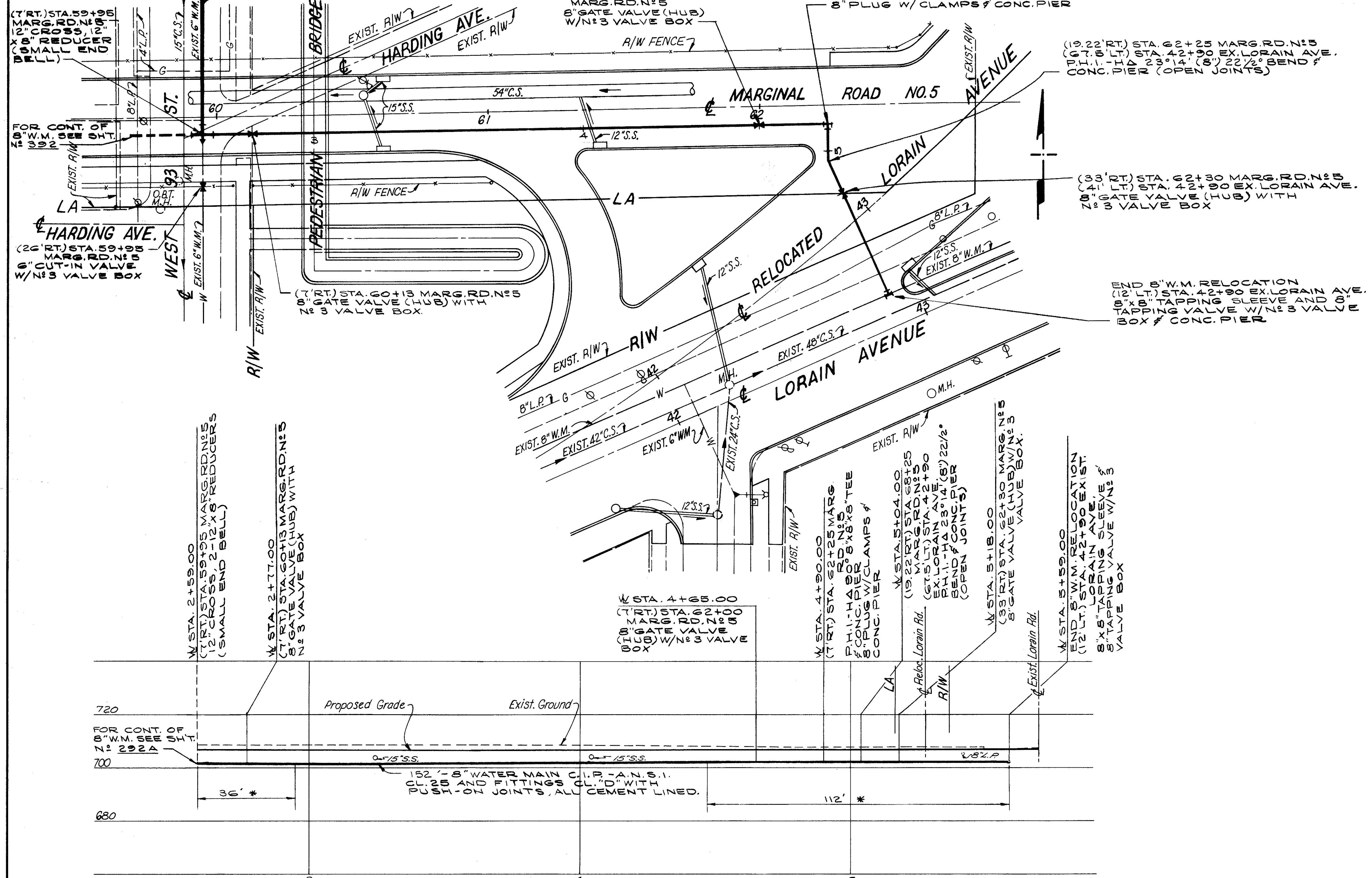
PROP. 12" W.M. SEE SH. T. N. 293A

FED. RD.	STATE	PROJECT
2	OHIO	

CUYAHOGA COUNTY  
CUY - 90 - 11.64

392A  
838

28A  
60



\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1'-11" EITHER SIDE OF FITTING.

NOTE:  
FOR COMPLETE WATER WORK SPECIFICATIONS SEE SHEETS 293B THRU 293D.  
ADJUST FOR VERTICAL AND HORIZONTAL ALIGNMENT WITH FIELD DEFLECTION WHERE APPLICABLE.  
FOR SUMMARY OF QUANTITIES SEE SHEET 293G & 293H.

ESTIMATED QUANTITIES				
ITEM	DESCRIPTION	QUANTITY	UNIT	
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25	152	LIN. FT.	
	5" FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED.			
SPECIAL	8" WATER MAIN CAST IRON PIPE - A.N.S.I. CL. 25	148	LIN. FT.	
	5" FITTINGS CL. "D" W/ BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED.			
SPECIAL	8" GATE VALVE (HUB) AND N#3 VALVE BOX, COMPLETE	3	EACH	
SPECIAL	8"x8" TAPPING SLEEVE, 8" TAPPING VALVE AND N#3 VALVE BOX, COMPLETE	1	EACH	
SPECIAL	6" CUT-IN VALVE AND N#3 VALVE BOX, COMPLETE	1	EACH	

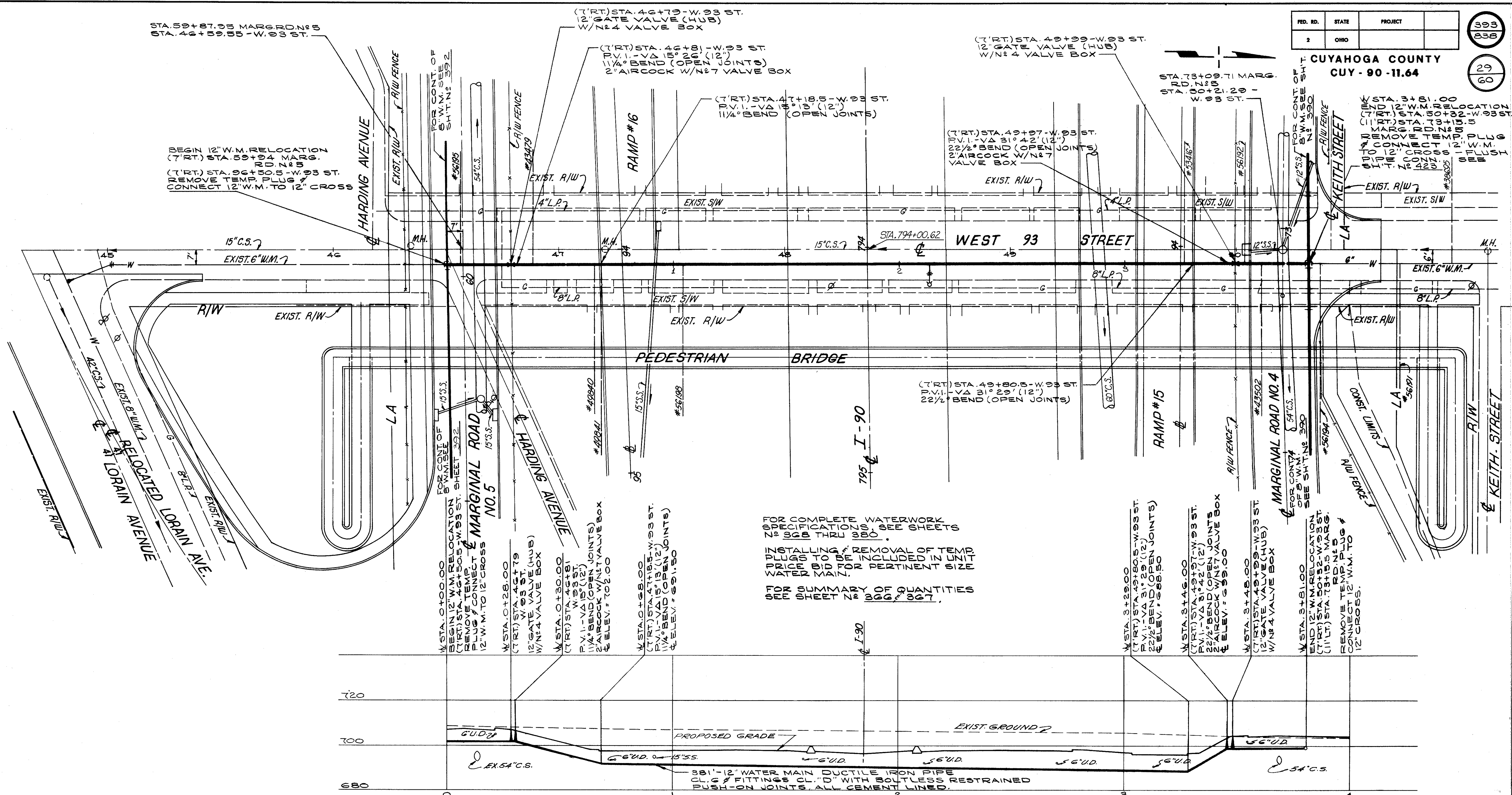
APPROVED 4-10-1975

CALCULATED BY NRS DATE 2/75  
CHECKED BY WRS DATE 3/75

William Swenson  
ENGINEER OF DESIGN REVIEW

REVISIONS		1st HIGH SERVICE DISTRICT	
		DEPARTMENT OF PUBLIC UTILITIES	
		DIVISION OF WATER AND HEAT	
		CLEVELAND, OHIO	
		SUBJECT: PROP 8" W.M. MARG. RD. #5	
		W. 23 ST. TO LORAIN AVE.	
DRAWN	SCALE		
CHECKED	DATE	No.	





FOR COMPLETE WATERWORK IDENTIFICATION SEE SHEETS 200 TO 208 TIRE 1000.

ALL LINES TO BE REMOVED OF TEMP. NATURE ARE SHOWN WITH DASHED LINES.

FOR SUMMARY OF UTILITIES SEE SHEET 200 OF PLAN.

W STA. 0+00.00  
 BEGIN 12" W.M. RELOCATION (T.R.T.) STA. 46+79.5 W. 93 ST. REMOVE TEMP. PLUG & CONNECT 12" W.M. TO 12" CROSS

W STA. 0+28.00  
 (T.R.T.) STA. 46+79.5 W. 93 ST. 12" GATE VALVE (HUB) W/ N#4 VALVE BOX

W STA. 0+50.00  
 (T.R.T.) STA. 46+81 W. 93 ST. P.V. 1 - VA 31° 29' (12") 22 1/2° BEND (OPEN JOINTS) 2" AIRCOCK W/ N#7 VALVE BOX & ELEV. = 702.00

W STA. 0+88.00  
 (T.R.T.) STA. 46+81.5 W. 93 ST. P.V. 1 - VA 31° 29' (12") 22 1/2° BEND (OPEN JOINTS) & ELEV. = 691.50

W STA. 3+29.00  
 (T.R.T.) STA. 49+80.5 W. 93 ST. P.V. 1 - VA 31° 29' (12") 22 1/2° BEND (OPEN JOINTS) & ELEV. = 688.50

W STA. 3+48.00  
 (T.R.T.) STA. 49+87 W. 93 ST. P.V. 1 - VA 31° 42' (12") 22 1/2° BEND (OPEN JOINTS) 2" AIRCOCK W/ N#7 VALVE BOX & ELEV. = 699.00

W STA. 3+48.00  
 (T.R.T.) STA. 49+89 W. 93 ST. 12" GATE VALVE (HUB) W/ N#4 VALVE BOX

W STA. 3+81.00  
 END 12" W.M. RELOCATION (T.R.T.) STA. 50+52 W. 93 ST. (11' L.T.) STA. 73+15.5 MARG. REMOVE TEMP. PLUG & CONNECT 12" W.M. TO 12" CROSS.

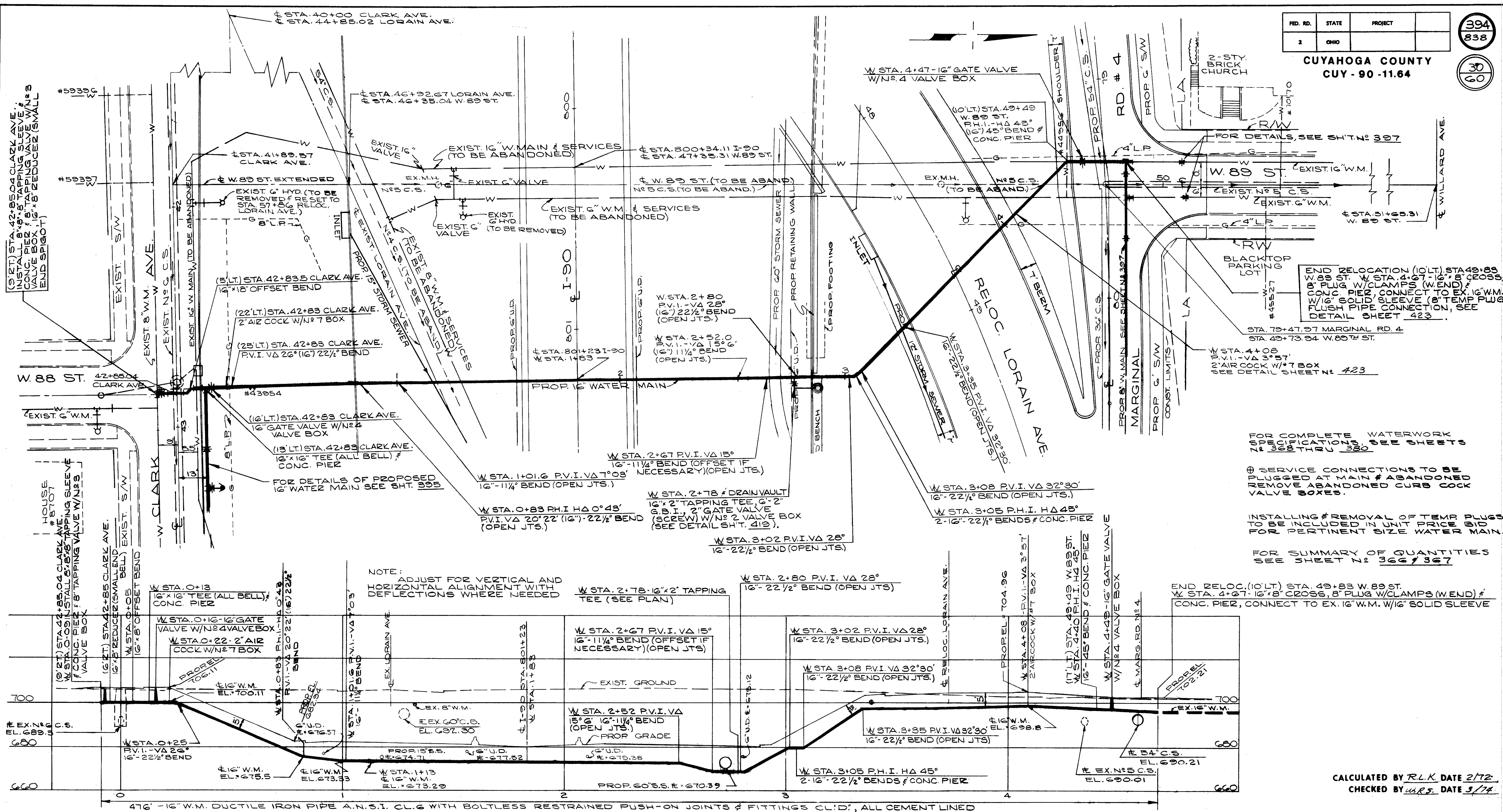
ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	12" WATER MAIN DUCTILE IRON PIPE CL. 6	381	LIN. FT.
	& FITTINGS CL. "D" W/ BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED.		
SPECIAL	12" GATE VALVE (HUB) & N#4 VALVE BOX, COMPLETE	2	EACH
SPECIAL	2" AIRCOCK WITH N#7 VALVE BOX, COMPLETE	2	EACH
SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUDING FITTINGS.	1	EACH

CALCULATED BY NRS DATE 3/75  
 CHECKED BY WRS DATE 3/75

APPROVED: 4-10-75

*William J. ...*  
 ENGINEER OF DESIGN REVIEW

REVISIONS		1ST HIGH SERVICE DISTRICT	
		DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO	
SUBJECT		PROP. 12" W.M. - W. 93 ST.	
		LORAIN AVE. TO MARG. RD. #4	
DRAWN	SCALE		
CHECKED	DATE	No.	



FOR COMPLETE WATERWORK NOTIFICATIONS SEE SHEETS 300

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN # ABANDONED VALVE BOXES.

IN INSTALLING # REMOVAL OF TEMP PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR PERTINENT SIZE WATER MAIN.

FOR SUMMARY OF QUANTITIES SEE SHEET 7: 366 & 367

476' - 16" W.M. DUCTILE IRON PIPE A.N.S.I. CL.6 WITH BOLTLESS RESTRAINED PUSH-ON JOINTS & FITTINGS CL.D., ALL CEMENT LINED

\* ALL CEMENT LINED COMPLETE

ESTIMATED QUANTITIES					
ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL.6 WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, AND FITTINGS CL.D.*	5	LIN. FT.	SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUDING FITTINGS
SPECIAL	16" W.M. D.I.P. A.N.S.I. CL.6 W/BOLTLESS RESTRAINED PUSH-ON JOINTS & FITTINGS CL.D.*	476	LIN. FT.	SPECIAL	16" GATE VALVE (HUB) AND 4 VALVE BOX**
SPECIAL	8"x8" TAPPING SLEEVE & TAPPING VALVE AND 3 VALVE BOX	1	EACH	SPECIAL	2" AIR COCK COMPLETE WITH N#7 VALVE BOX
SPECIAL	DRAIN VAULT	1	EACH	SPECIAL	2" DRAIN COMPLETE
				SPECIAL	EX. 6" HYDRANT REMOVED

APPROVED 4-10-75

W. 89th St. ENGINEER OF DESIGN REVIEW

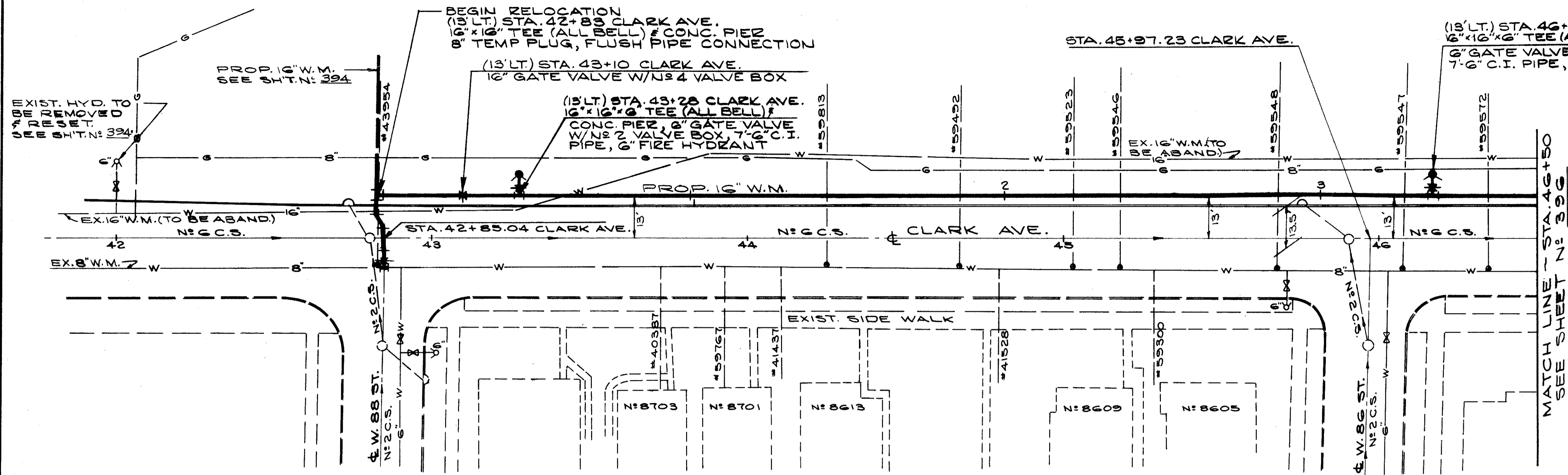
REVISIONS	
<b>LOW SERVICE DISTRICT</b>	
DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO	
SUBJECT: <b>PLAN &amp; PROFILE</b>	
16" WATER MAIN - S. of I-90	
To N. of I-90.	
W. 89 ST.	No.

FILE NO.	STATE	PROJECT
2	OHIO	

395  
838

31  
60

CUYAHOGA COUNTY  
CUY - 90 - 11.64



NOTE:

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS 7: 358 THRU 360

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.

INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR PERTINENT UNIT SIZE WATER MAIN.

FOR SUMMARY OF QUANTITIES SEE SHEET N: 366 & 367

NOTE: ADJUST FOR VERTICAL AND HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.

ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	6" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH PUSH-ON JOINTS, ALL CEMENT LINED.	14	LIN. FT.
SPECIAL	16" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	270	LIN. FT.
SPECIAL	16" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	99	LIN. FT.
SPECIAL	6" GATE VALVE (HUB) AND N# 2 VALVE BOX*	2	EACH
SPECIAL	6" GATE VALVE (HUB) AND N# 4 VALVE BOX*	1	EACH
SPECIAL	FURNISHING AND SETTING 6" FIRE HYDRANT	2	EACH
SPECIAL	FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH

740		W STA. 0+27 - 16" GATE VALVE WITH N# 4 VALVE BOX			
720	BEGIN RELOCATION (13' LT.) STA. 42+89 CLARK AVE. 16" x 16" TEE (ALL BELL) & CONC. PIER 8" TEMP PLUG, FLUSH PIPE CONN. SEE DETAIL SHT. 423	W STA. 0+45 - 16" x 16" x 6" TEE (ALL BELL) 6" GATE VALVE W/ N# 2 VALVE, 7" C.I. PIPE, 6" FIRE HYDRANT		W STA. 3+36 - 16" x 16" x 6" TEE & CONC. PIER, 6" GATE VALVE W/ N# 3 VALVE BOX, 7" C.I. PIPE, 6" FIRE HYDRANT	
700		PROP. GRADE	EXIST. GROUND		
680	PROP. 16" W.M. SEE SHT. N: 324	* RESTRAINED LENGTH 63	270' - 16" WATER MAIN - C.I.P. A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	* RESTRAINED LENGTH: 86	
660					

\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1'-18" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

APPROVED 4-10-1975

REVISIONS		<b>LOW SERVICE DISTRICT</b>	
		DEPARTMENT OF PUBLIC UTILITIES	
		DIVISION OF WATER AND HEAT	
		CLEVELAND, OHIO	
SUBJECT		PLAN AND PROFILE	
		PROP. 16" W.M. - CLARK AVE.	
DRAWN	SCALE	CHECKED	DATE
		No.	

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.P.S. DATE 3/74

William J. ...  
ENGINEER OF DESIGN REVIEW

FED. RD.	STATE	PROJECT
2	OHIO	

396  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

32  
60

NOTE:

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS N: 308 THRU 380

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.

INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR PERTINENT SIZE WATER MAIN.

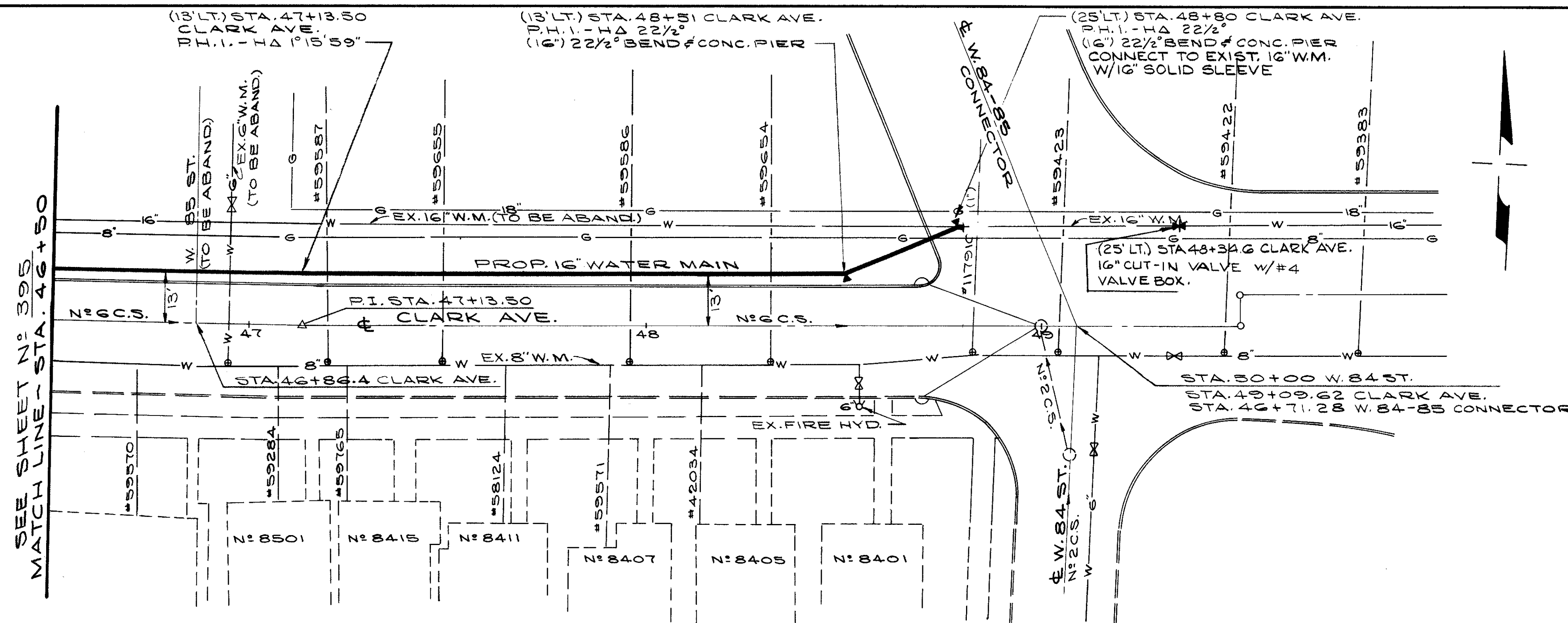
FOR SUMMARY OF QUANTITIES SEE SHEET N: 366 & 367

ESTIMATED QUANTITIES

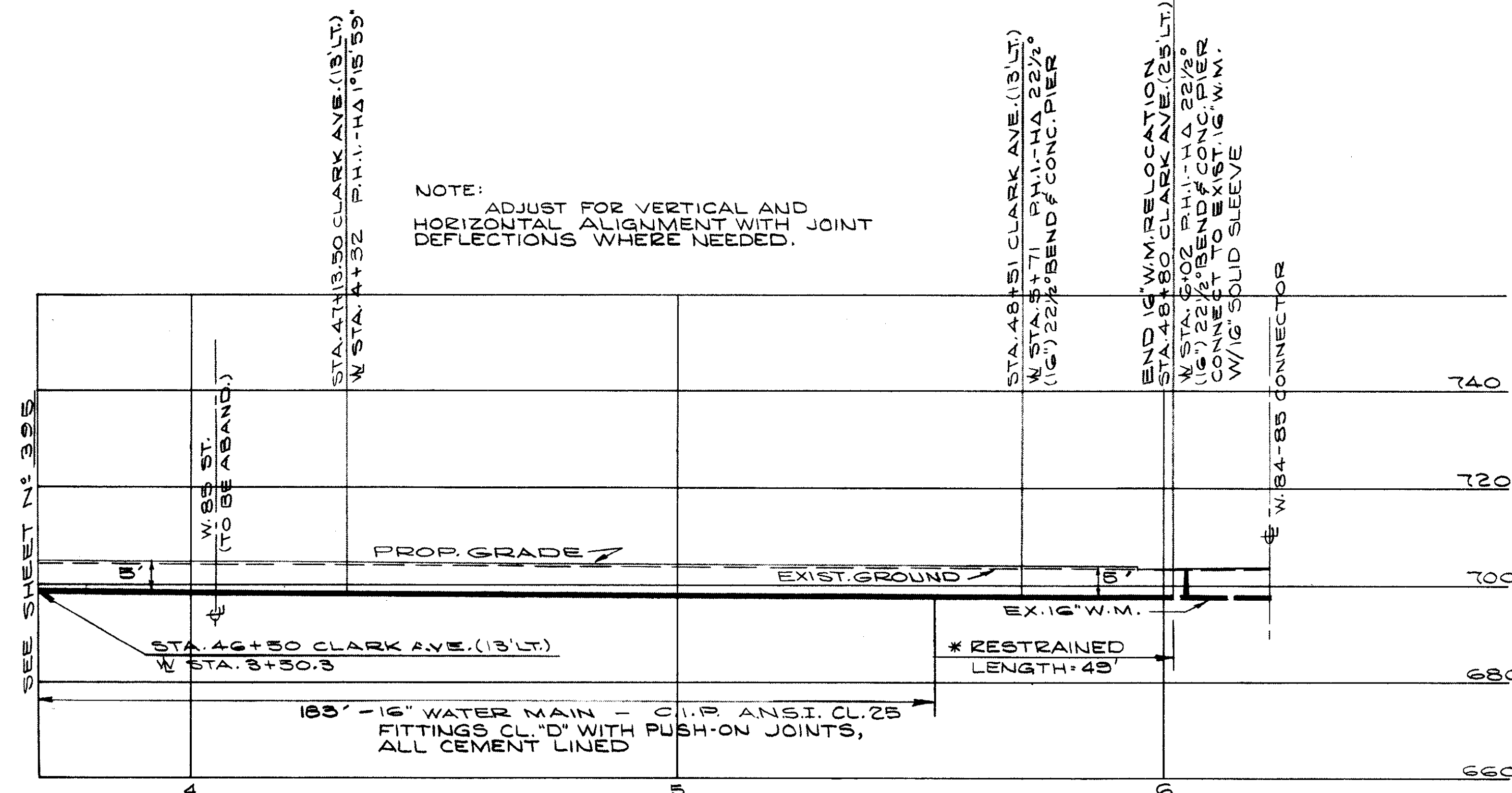
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	16" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	183	LIN. FT.
SPECIAL	16" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	49	LIN. FT.
SPECIAL	16" CUT-IN VALVE (HUB) AND N°4 VALVE BOX *	1	EACH

\* COMPLETE

\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1'-18" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.



NOTE: ADJUST FOR VERTICAL AND HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.

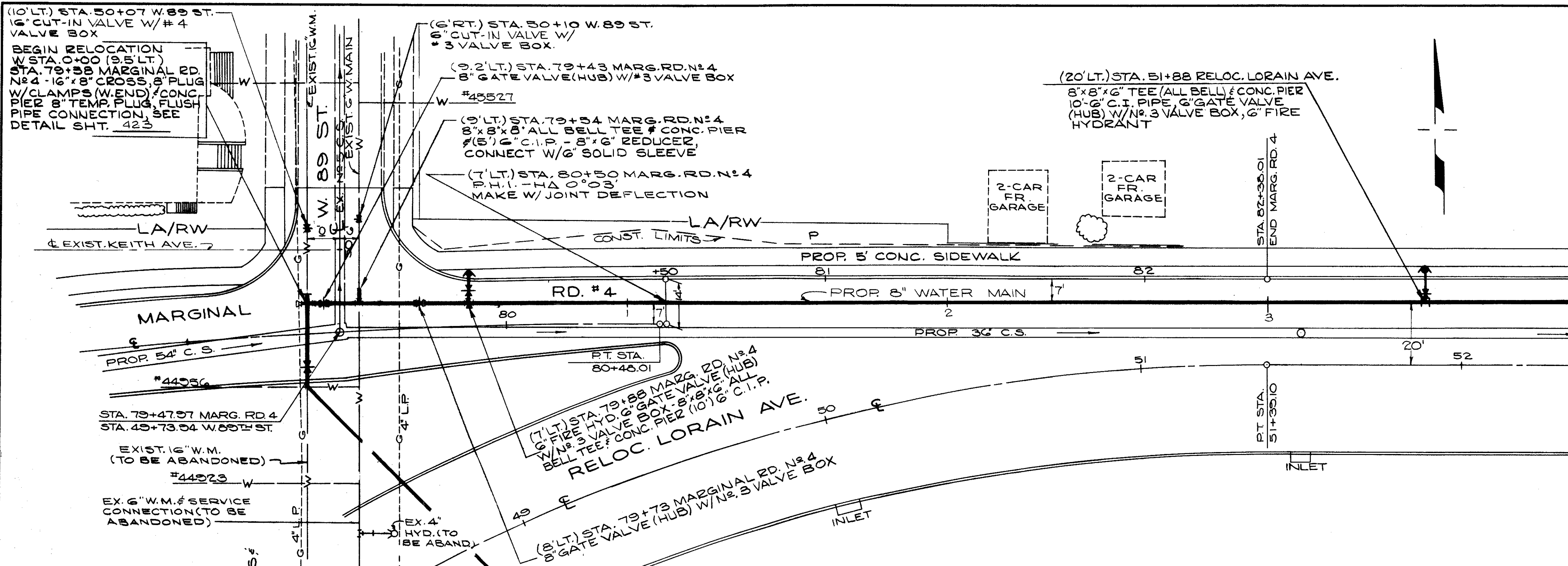


APPROVED 4-10-1976

REVISIONS	LOW SERVICE DISTRICT
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO
	SUBJECT PLAN & PROFILE - PROP. 16" W.M. - CLARK AVE.
	DRAWN _____ SCALE _____
	CHECKED WRS DATE _____ No. _____

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 3/74

ENGINEER OF DESIGN REVIEW



MATCH LINE - STA. 52+39.10  
SEE SHEET N° 398

ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	6" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	20	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	296	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	104	LIN. FT.
SPECIAL	16" CUT IN VALVE # N° 4 VALVE BOX*	1	EACH
SPECIAL	6" CUT IN VALVE # N° 3 VALVE BOX*	1	EACH
SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH
SPECIAL	8" GATE VALVE (HUB) # N° 3 VALVE BOX*	2	EACH
SPECIAL	6" GATE VALVE (HUB) # N° 3 VALVE BOX*	2	EACH
SPECIAL	FURNISHINGS & SETTING 6" FIRE HYDRANT	2	EACH

\* COMPLETE

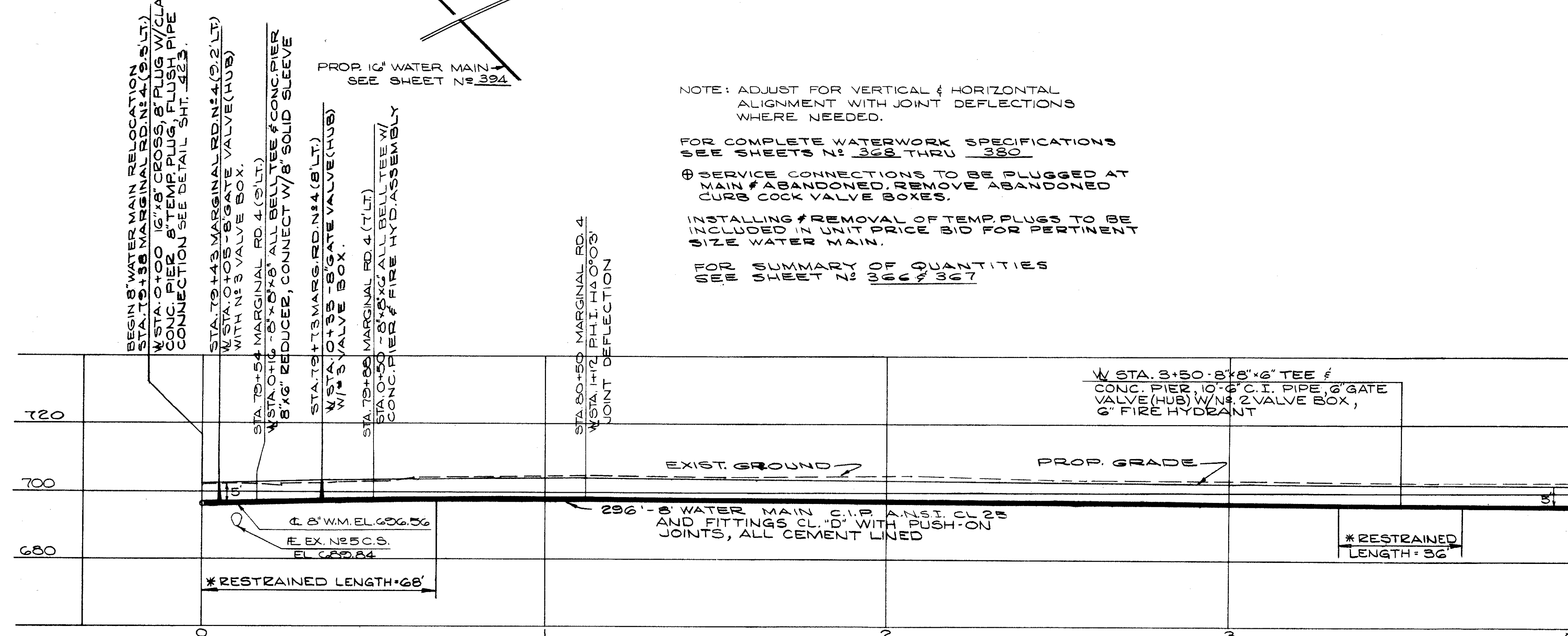
NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS N° 368 THRU 380

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN # ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.

INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR PERTINENT SIZE WATER MAIN.

FOR SUMMARY OF QUANTITIES SEE SHEET N° 366 & 367



SEE SHEET N° 398

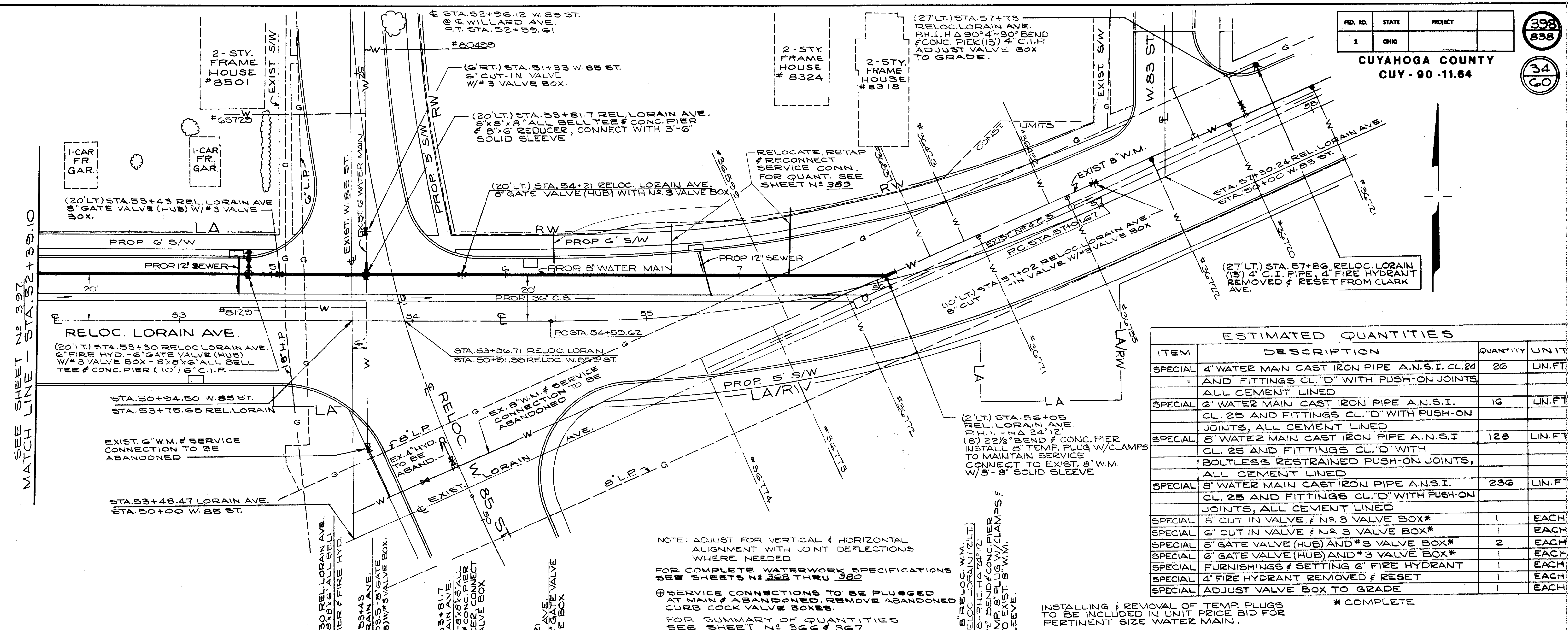
APPROVED 4-10-1975

\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1/8" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

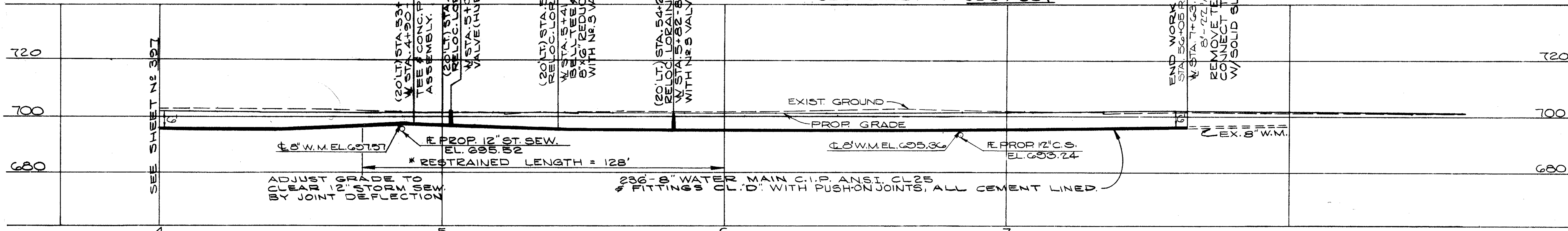
CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY M.R.S. DATE 3/74

*William J. Swenson*  
ENGINEER OF DESIGN REVIEW

REVISIONS	<b>LOW SERVICE DISTRICT</b> DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO
SUBJECT: <b>PLAN &amp; PROFILE</b> <b>PROP. 8" WATER MAIN W. 80' ST.</b>	
	No. _____



ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	4" WATER MAIN CAST IRON PIPE A.N.S.I. CL.24 AND FITTINGS CL."D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	26	LIN.FT.
SPECIAL	6" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	16	LIN.FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	126	LIN.FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH JOINTS, ALL CEMENT LINED	236	LIN.FT.
SPECIAL	8" CUT IN VALVE, #3 VALVE BOX*	1	EACH
SPECIAL	6" CUT IN VALVE #3 VALVE BOX*	1	EACH
SPECIAL	8" GATE VALVE (HUB) AND #3 VALVE BOX*	2	EACH
SPECIAL	6" GATE VALVE (HUB) AND #3 VALVE BOX*	1	EACH
SPECIAL	FURNISHINGS & SETTING 6" FIRE HYDRANT	1	EACH
SPECIAL	4" FIRE HYDRANT REMOVED & RESET	1	EACH
SPECIAL	ADJUST VALVE BOX TO GRADE	1	EACH



\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1'-8" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

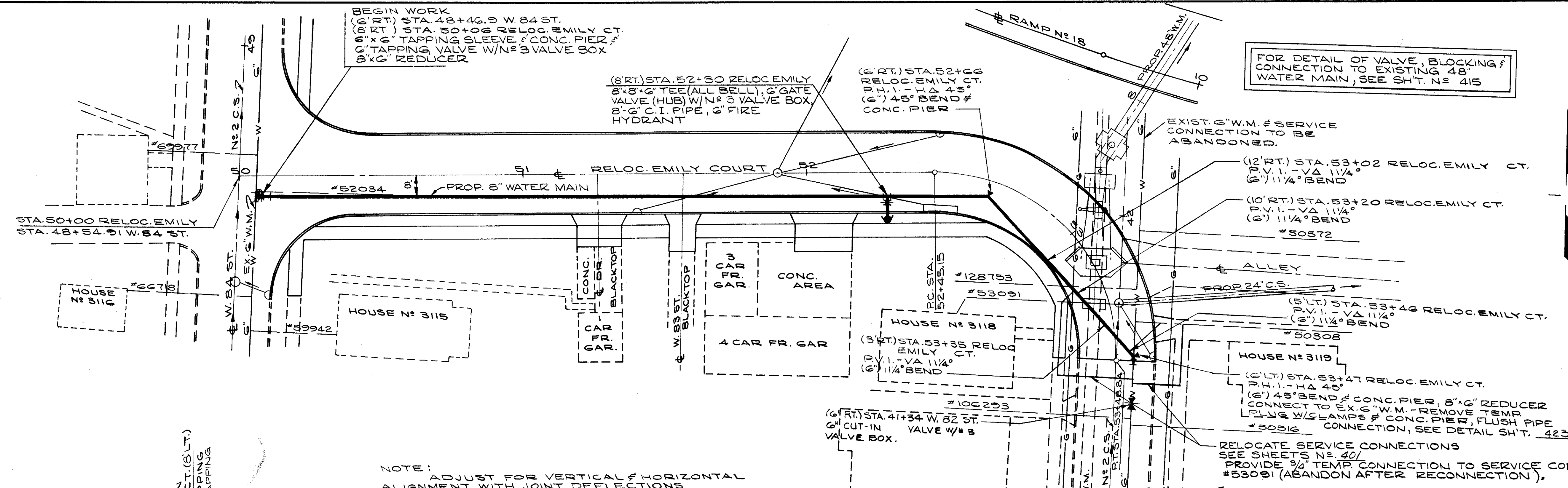
APPROVED 4-10-1975

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 3/72

William J. L...  
ENGINEER OF DESIGN REVIEW

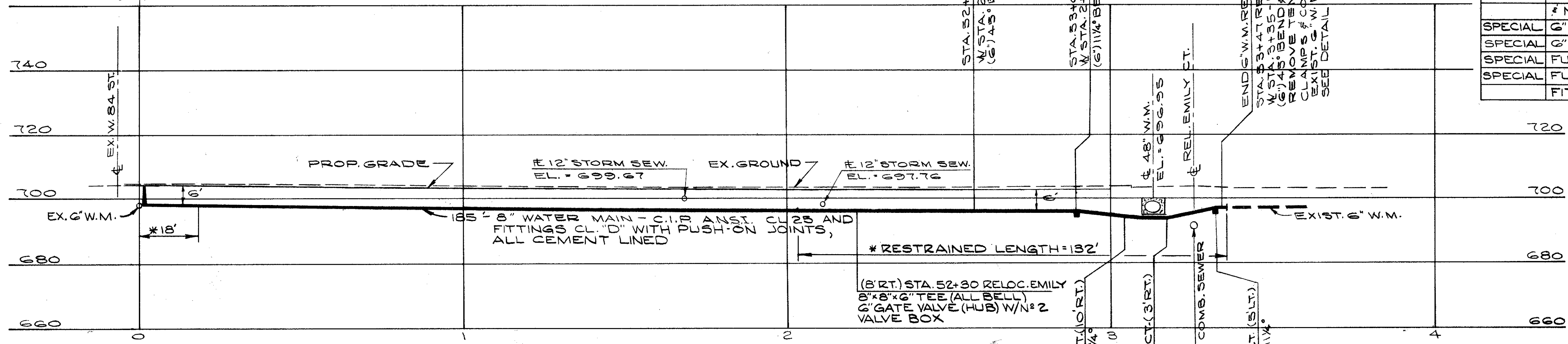
REVISIONS	LOW SERVICE DISTRICT
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO
	SUBJECT: PLAN & PROFILE PROP. 8" WATER MAIN TO LORAIN AVE.
	No.

FOR DETAIL OF VALVE, BLOCKING & CONNECTION TO EXISTING 48" WATER MAIN, SEE SH'T. N° 415



**NOTE:**  
 ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.  
 FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS N° 368 THRU 380  
 ⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.  
 INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT BID FOR RELOC. & REPAIR OF WATER MAIN  
 FOR SUMMARY OF QUANTITIES SEE SHEET N° 366 & 367

ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	6" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	8	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	150	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	185	LIN. FT.
SPECIAL	6" x 6" TAPPING SLEEVE & 6" TAPPING VALVE & N° 3 VALVE BOX, COMPLETE	1	EACH
SPECIAL	6" GATE VALVE (HUB) & N° 3 VALVE BOX, COMPLETE	1	EACH
SPECIAL	6" CUT-IN VALVE & N° 3 VALVE BOX, COMPLETE	1	EACH
SPECIAL	FURNISHING & SETTING 6" FIRE HYDRANT	1	EACH
SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH



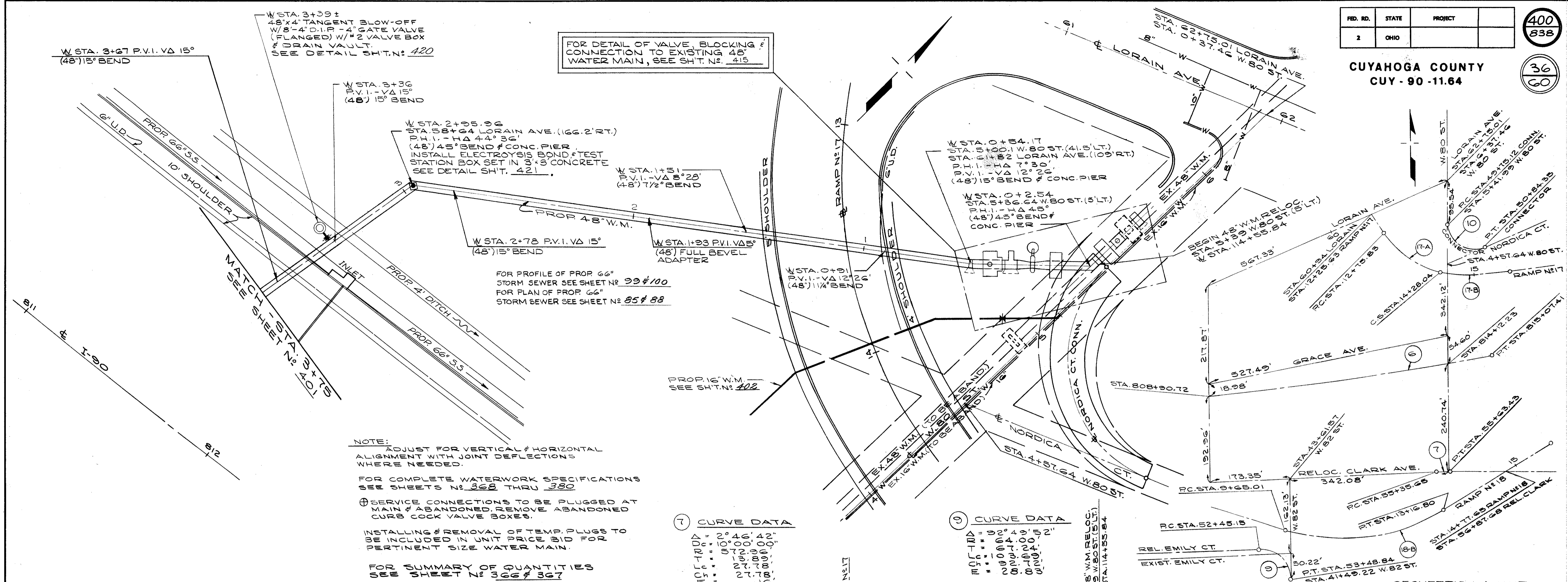
\* BOLTLESS RESTRAINED JOINT FOR A MINIMUM OF 1'-18" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

APPROVED: 4-10-1976

REVISIONS		<b>LOW SERVICE DISTRICT</b>
		DEPARTMENT OF PUBLIC UTILITIES
		DIVISION OF WATER AND HEAT
		CLEVELAND, OHIO
		SUBJECT: <b>PLAN &amp; PROFILE</b>
		<b>PROP. 6" WATER MAIN</b>
		<b>RELOC. EMILY CT.</b>
		No. _____

CALCULATED BY R.L.K. DATE 2/72  
 CHECKED BY W.B.S. DATE 3/74

William J. Sweeney  
 ENGINEER OF DESIGN REVIEW



**NOTE:**  
 ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.  
 FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS N<sup>o</sup> 366 THRU 380  
 SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.  
 INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR PERTINENT SIZE WATER MAIN.  
 FOR SUMMARY OF QUANTITIES SEE SHEET N<sup>o</sup> 366 & 367

**7 CURVE DATA**

DEL-TPO	2° 46' 42"
DEL-TPO	50' 00' 00"
DEL-TPO	27' 00' 00"
DEL-TPO	10' 00' 00"
DEL-TPO	0' 00' 00"

**9 CURVE DATA**

DEL-TPO	0° 00' 00"
DEL-TPO	0° 00' 00"
DEL-TPO	0° 00' 00"
DEL-TPO	0° 00' 00"
DEL-TPO	0° 00' 00"

**8 CURVE DATA**

DEL-TPO	9° 49' 25"
DEL-TPO	0° 48' 25"
DEL-TPO	76' 00' 00"
DEL-TPO	100' 00' 00"
DEL-TPO	200' 00' 00"
DEL-TPO	200' 00' 00"
DEL-TPO	200' 00' 00"
DEL-TPO	200' 00' 00"

**10 CURVE DATA**

DEL-TPO	113° 41' 17"
DEL-TPO	99' 00' 00"
DEL-TPO	100' 00' 00"
DEL-TPO	92' 14' 70"
DEL-TPO	48' 70' 00"

**10B CURVE DATA**

DEL-TPO	49° 15' 00"
DEL-TPO	14° 00' 00"
DEL-TPO	40' 00' 00"
DEL-TPO	139' 10' 00"
DEL-TPO	351' 70' 00"
DEL-TPO	341' 06' 00"

GEOMETRIC LAYOUT FOR SH.T.S. N<sup>o</sup> 401 & N<sup>o</sup> 402  
SCALE: 1" = 100 FT.

**7-A CURVE DATA**

DEL-TPO	42° 37' 03"
DEL-TPO	28' 00' 00"
DEL-TPO	204' 00' 00"
DEL-TPO	139' 00' 00"
DEL-TPO	139' 00' 00"

**7-B SPIRAL DATA**

DEL-TPO	21' 00' 00"
DEL-TPO	150' 00' 00"
DEL-TPO	00' 71' 00"
DEL-TPO	00' 68' 00"

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 3/72

APPROVED 4-10-75

REVISIONS	<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>
	DEPARTMENT OF PUBLIC UTILITIES
	DIVISION OF WATER AND HEAT
	CLEVELAND, OHIO
SUBJECT	PLAN & PROFILE
	48" WATER MAIN
DRAWN	SCALE
CHECKED	DATE
	No.

**ESTIMATED QUANTITIES**

ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	48" PRESTRESSED CONCRETE CYLINDER	375	LIN. FT.	SPECIAL	4" DRAIN, COMPLETE	1	EACH
	PIPE AND FITTINGS A.W.W.A. C-301-72 WITH HARNESSSED JOINTS			SPECIAL	DRAIN VAULT	1	EACH
				SPECIAL	FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH

William J. Sweeney  
ENGINEER OF DESIGN REVIEW

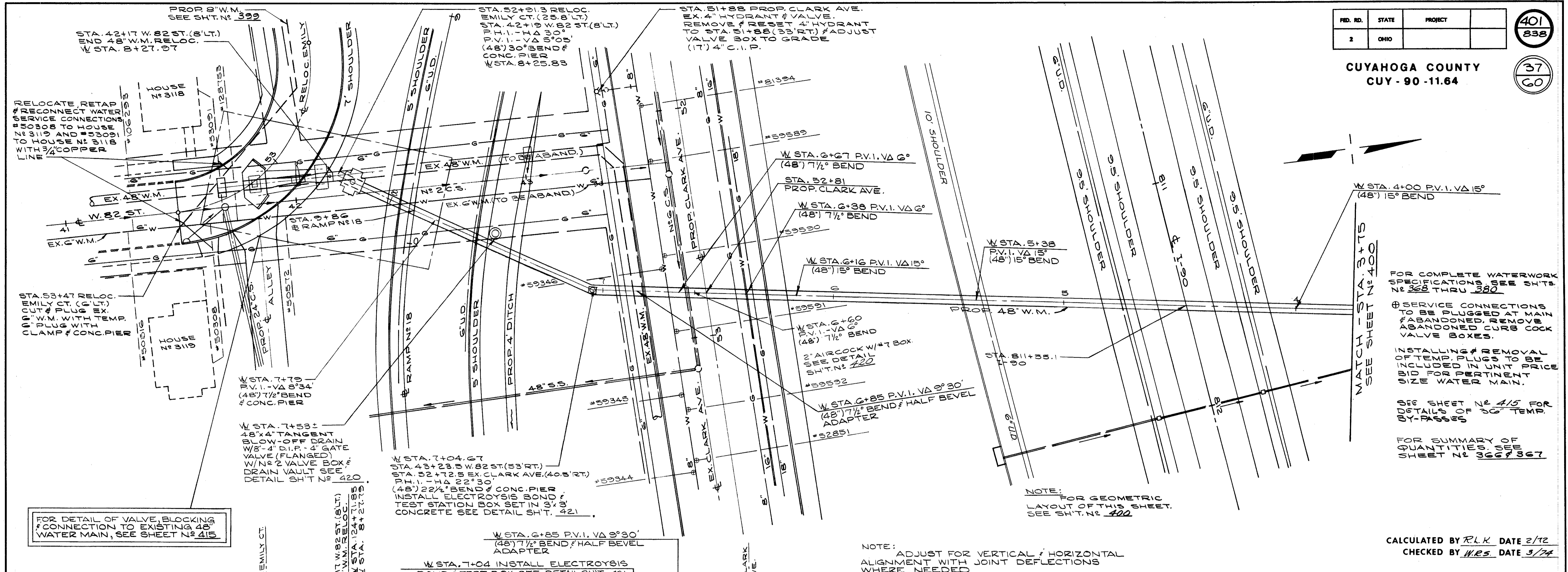


FED. RD.	STATE	PROJECT
2	OHIO	

401  
838

37  
60

CUYAHOGA COUNTY  
CUI - 90 - 11.64



FOR COMPLETE WATERWORK SPECIFICATIONS SEE SH.T. NO. 300 TIRU 380

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN ABANDONED REMOVE VALVE BOXES.

⊕ INSTALLING & REMOVAL OF TEMP. PLUGS TO BE BID FOR PERTINENT PRICE ONE WATER MAIN.

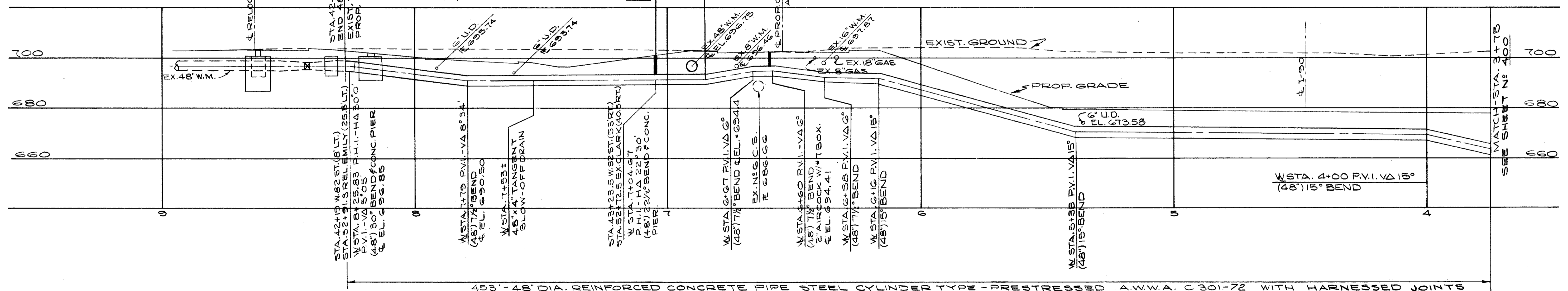
SEE SHEET NO. 415 FOR DETAILS OF 2\"/>

FOR SUMMARY OF QUANTITIES OF WORK SEE SHEET NO. 366 & 367

NOTE: FOR GEOMETRIC LAYOUT OF THIS SHEET. SEE SH.T. NO. 400

NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY H.R.S. DATE 3/72



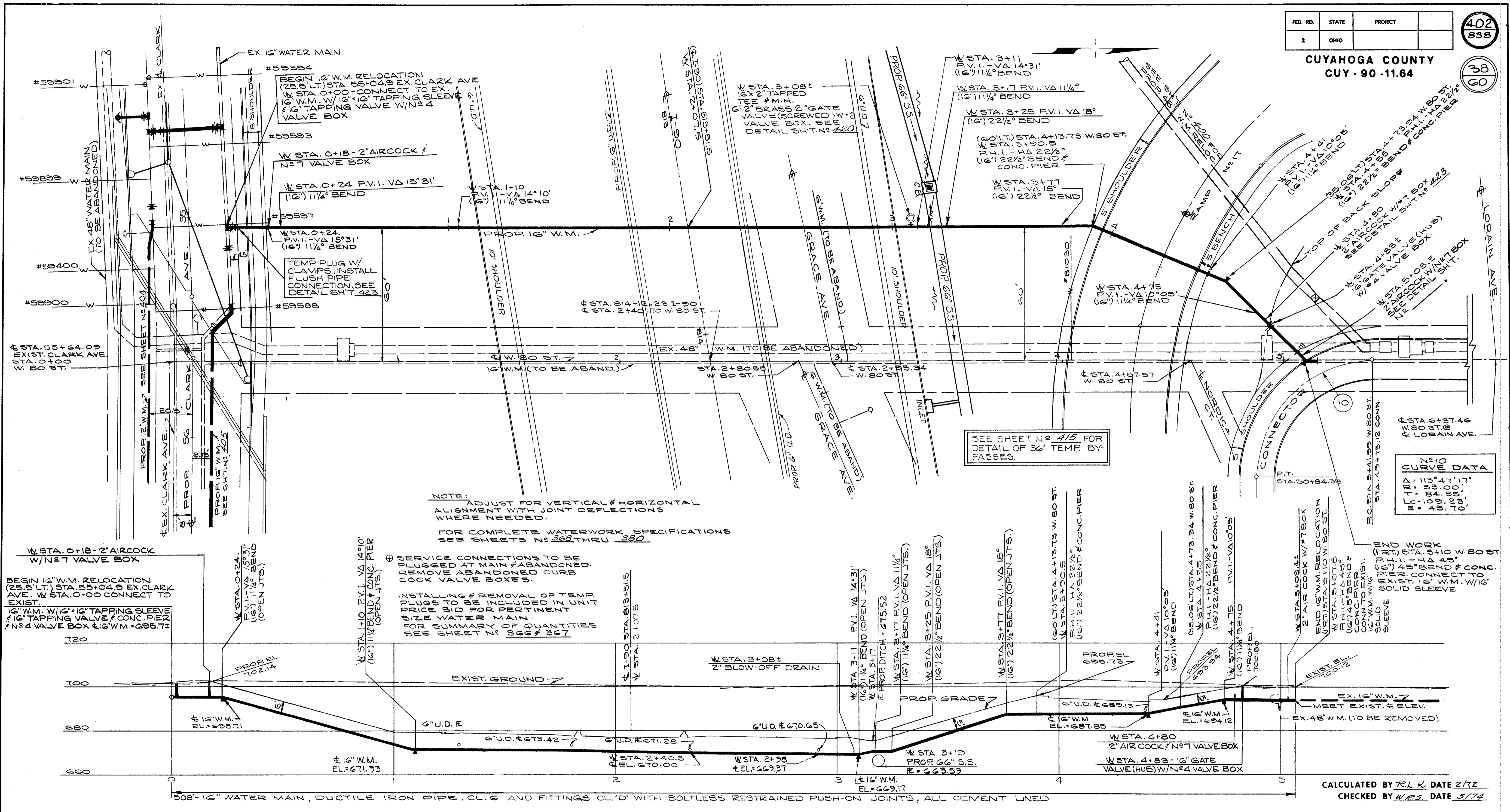
ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	48\"/>	453	LIN. FT.	SPECIAL	4\"/>	1	EACH
				SPECIAL	2\"/>	1	EACH
SPECIAL	4\"/>	17	LIN. FT.	SPECIAL	4\"/>	1	EACH
				SPECIAL	ADJUST VALVE BOX TO GRADE	1	EACH
SPECIAL	DRAIN VAULT, COMPLETE	1	EACH	SPECIAL	RELOCATE, RETAP AND RECONNECT SERVICE CONNECTION 3/4\"/>	2	EACH

APPROVED 4-10-75

REVISIONS	
<b>1st HIGH SERVICE DISTRICT</b>	
DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO	
SUBJECT PLAN & PROFILE 48\"/>	
DRAWN	SCALE
CHECKED	DATE
	No.

William J. Sweney  
ENGINEER OF DESIGN REVIEW



**NOTE:**  
ALIGNMENT ADJUST FOR VERTICAL & HORIZONTAL  
WHERE NEEDED.  
FOR COMPLETE WATERWORK SPECIFICATIONS  
SEE SHEETS NO. 368 THROUGH 380

SEE SHEET NO 415 FOR  
DETAIL OF 36" TEMP. BY-  
PASSES.

CURVE DATA	
Δ	113° 47' 17"
R	185.47' 17"
Δ	1084.30'
Δ	108.0'

CALCULATED BY REL DATE 2/72  
CHECKED BY W.R.S. DATE 3/74

ESTIMATED QUANTITIES				ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	16" WATER MAIN DUCTILE IRON PIPE A.N.S.I. CL. 6 AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	508	LIN. FT.	SPECIAL	16" TAPPING SLEEVE & 16" TAPPING VALVE W/N#4 VALVE BOX, COMPLETE	1	EACH
SPECIAL	16" GATE VALVE (HUB) & N#4 VALVE BOX*	1	EACH	SPECIAL	2" DRAIN, COMPLETE	1	EACH
SPECIAL	DRAIN VAULT, COMPLETE	1	EACH	SPECIAL	2" AIR COCK W/N#7 VALVE BOX, COMPLETE	3	EACH
				SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH

APPROVED 4-10 19 75

*William J. Lynch*  
ENGINEER OF DESIGN REVIEW

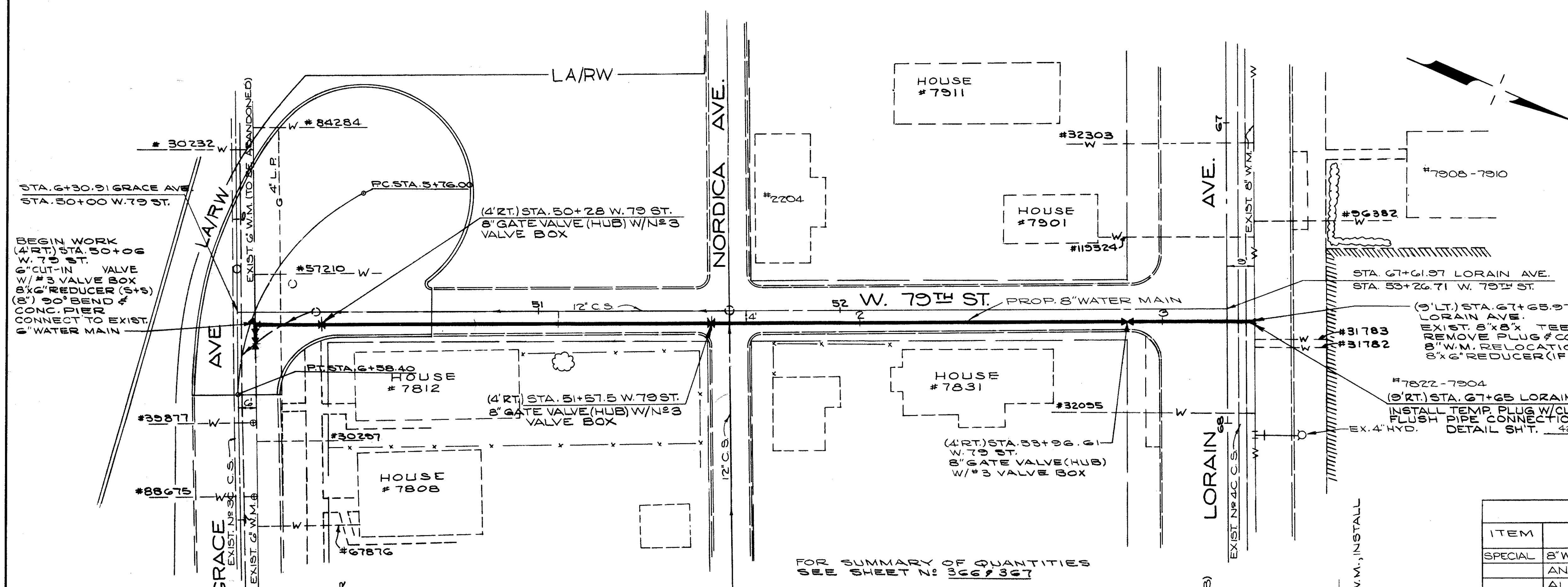
REVISIONS	

**LOW SERVICE DISTRICT**  
DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF WATER AND HEAT  
CLEVELAND, OHIO

SUBJECT: **PLAN & PROFILE**  
**RELOC. 16" WATER MAIN**  
**WEST 80TH ST.**

No. \_\_\_\_\_

\* COMPLETE



BEGIN WORK  
(4' RT.) STA. 50+06  
W. 79 ST.  
6\"/>

(3' LT.) STA. 67+65.97  
LORAIN AVE.  
EXIST. 8\"/>

FOR SUMMARY OF QUANTITIES  
SEE SHEET NO. 366 & 367

NOTE: ADJUST FOR VERTICAL & HORIZONTAL  
ALIGNMENT WITH JOINT DEFLECTIONS  
WHERE NEEDED.

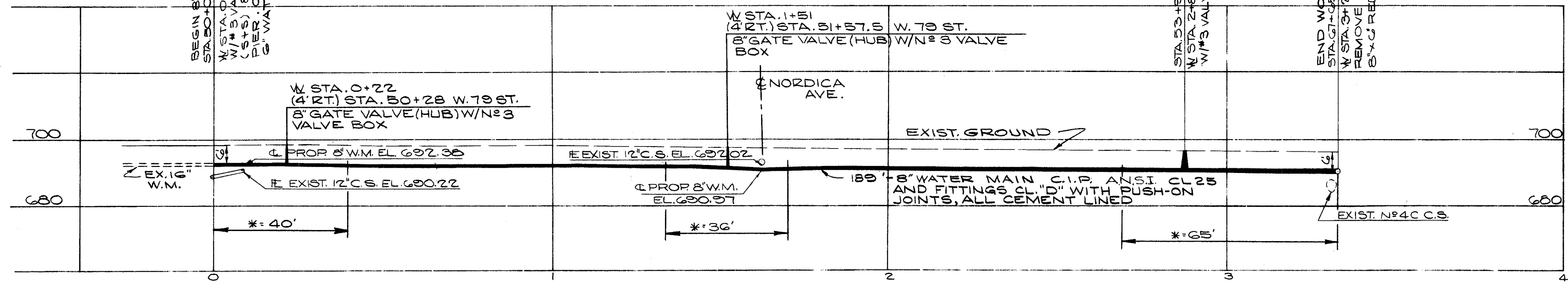
FOR COMPLETE WATERWORK SPECIFICATIONS  
SEE SHEETS NO. 368 THRU 380

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN  
ABANDONED. REMOVE ABANDONED CURB  
COCK VALVE BOXES.

INSTALLING & REMOVAL OF TEMP. PLUGS TO BE  
INCLUDED IN UNIT PRICE BID FOR PERTINENT  
SIZE WATER MAIN.

ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	8\"/>	189	LIN. FT.
SPECIAL	8\"/>	141	LIN. FT.
SPECIAL	6\"/>	1	EACH
SPECIAL	8\"/>	3	EACH
SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH

\* COMPLETE



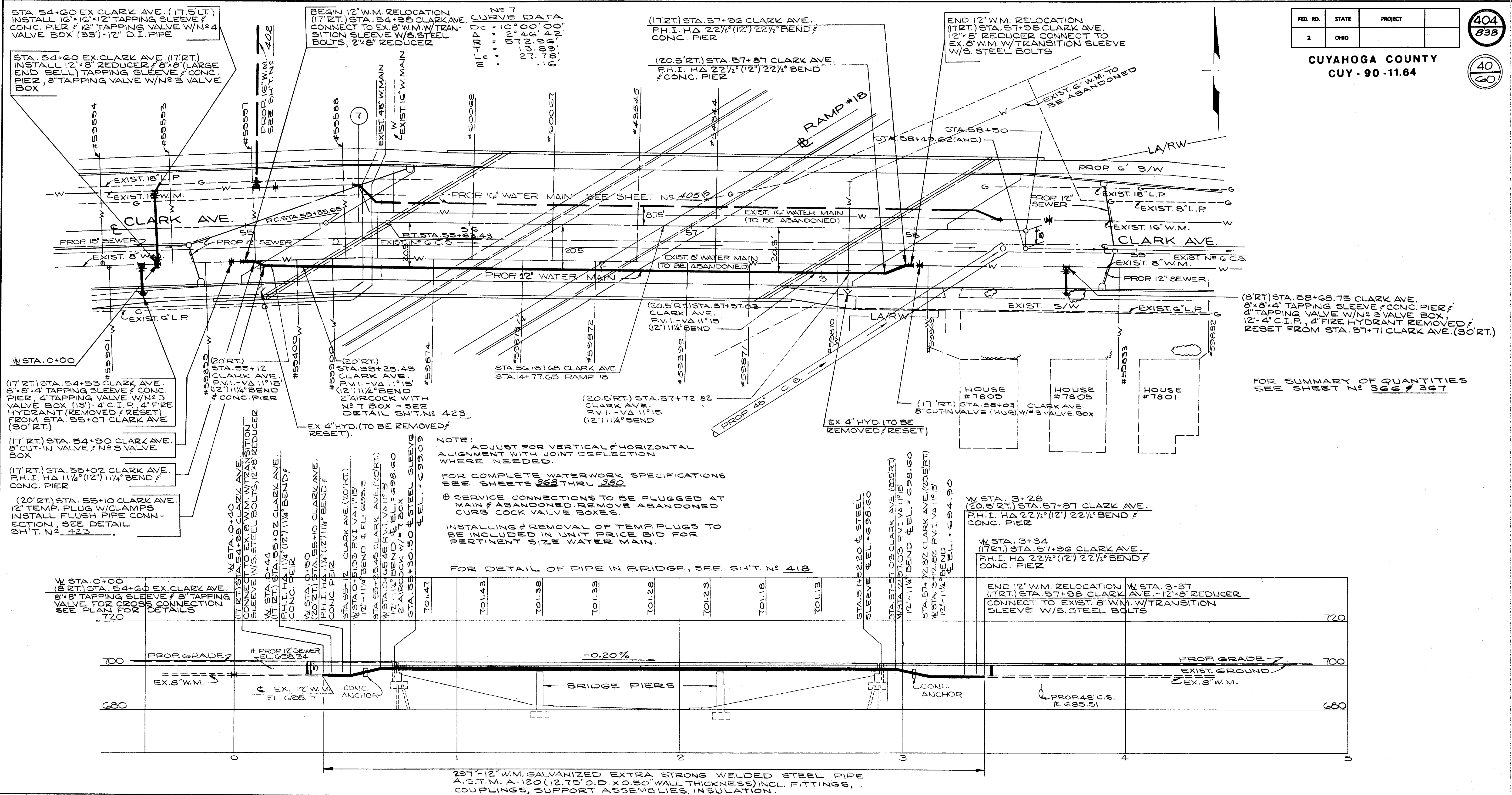
\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF  
1-18\"/>

APPROVED 4-10-1975

REVISIONS	<p><b>LOW SERVICE DISTRICT</b> DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO</p> <p>SUBJECT: PLAN &amp; PROFILE 8\"/&gt; </p>

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 3/74

*William J. Swenson*  
ENGINEER OF DESIGN REVIEW



NOTE:  
ALIGN ADJUST FOR VERTICAL & HORIZONTAL  
ALIGNMENT WITH JOINT DEFLECTION  
WHERE NECESSARY.

FOR COMPLETE WATERWORK SPECIFICATIONS  
SEE SHEETS 368 THRU 380

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT  
CURB COCK VALVE BOXES. REMOVE ABANDONED  
CURB COCK VALVE BOXES.

⊕ INSTALLING & REMOVAL OF TEMP PLUGS TO  
BE IN ACCORDANCE WITH UNIT PRICE SCHEDULE FOR  
NEXT LINE WATER MAIN.

FOR DETAIL OF PIPE IN BRIDGE, SEE SH'T. N° 418

ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	12" WATER MAIN DUCTILE IRON PIPE A.N.S.I. CL. G AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	297	LIN. FT.	SPECIAL	12" WATER MAIN GALVANIZED EXTRA STRONG WELDED STEEL PIPE A.S.T.M. A-120 (12.75" O.D. X 0.50" WALL THICKNESS), INCL. FITTINGS, COUPLINGS, SUPP. ASSEMBLIES, INSULATION, AND APPURTENANCE COMPLETE	297	LIN. FT.
SPECIAL	4" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 24 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	25	LIN. FT.	SPECIAL	8"x4" TAPPING SLEEVE & 4" TAPPING VALVE & N° 3 VALVE BOX	2	EACH
SPECIAL	8" CUT IN VALVE (HUB) & N° 3 VALVE BOX *	2	EACH	SPECIAL	8"x8" TAPPING SLEEVE & 8" TAPPING VALVE & N° 3 VALVE BOX	1	EACH
SPECIAL	2" AIRCOCK W/ N° 7 VALVE BOX, COMPLETE	1	EACH	SPECIAL	16"x12" TAPPING SLEEVE & 12" TAPPING VALVE & N° 4 VALVE BOX	1	EACH
				SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH
				SPECIAL	4" FIRE HYDRANT, REMOVED & RESET	2	EACH

\* COMPLETE

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 5/74

APPROVED 4-10-1975

William J. Sweney  
ENGINEER OF DESIGN REVIEW

REVISIONS	

**LOW SERVICE DISTRICT**  
DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF WATER AND HEAT  
CLEVELAND, OHIO

SUBJECT: PLAN & PROFILE  
RELOC. 12" WATER MAIN  
CLARK AVE.

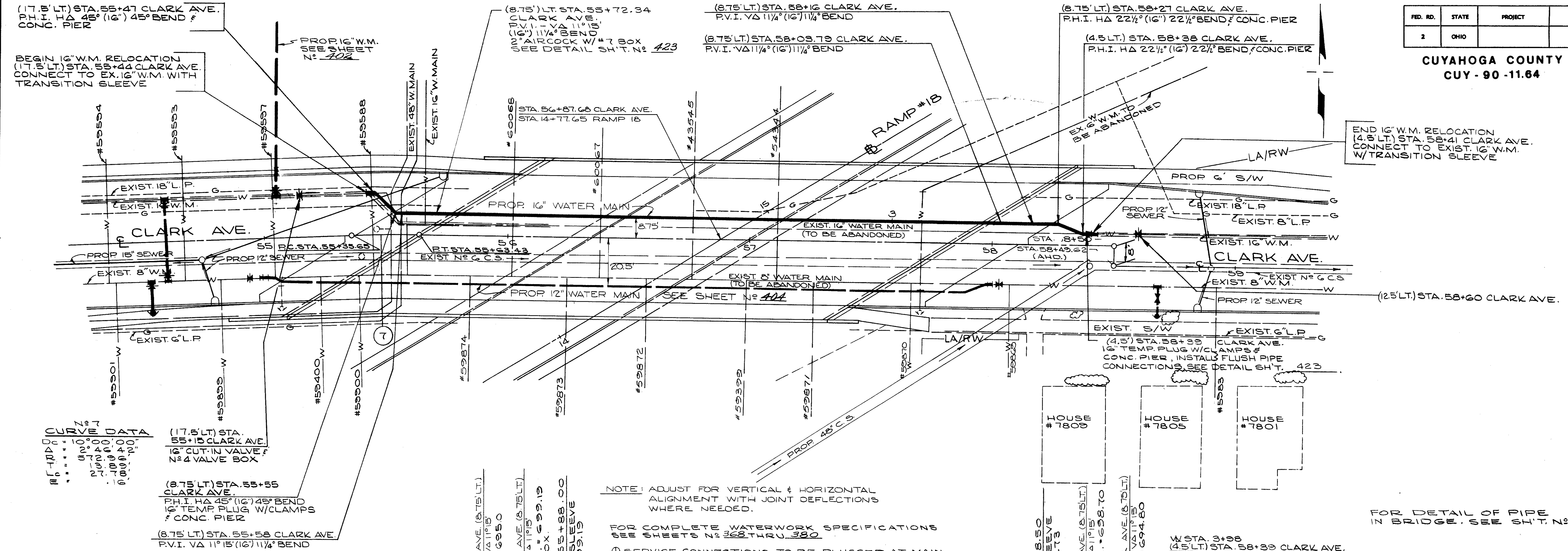
No. \_\_\_\_\_

FED. RD.	STATE	PROJECT
2	OHIO	

405  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

41  
60



CURVE DATA

Station	Radius	Delta	Chord	Offset
55+00	1000	45°	1000	1000
55+47	1000	45°	1000	1000

(17.5' LT) STA. 55+15 CLARK AVE.  
16\"/>

(8.75' LT) STA. 55+55 CLARK AVE.  
P.H.I. HA 45° (16\"/>

(8.75' LT) STA. 55+58 CLARK AVE.  
P.V.I. VA 11° 15' (16\"/>

NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.

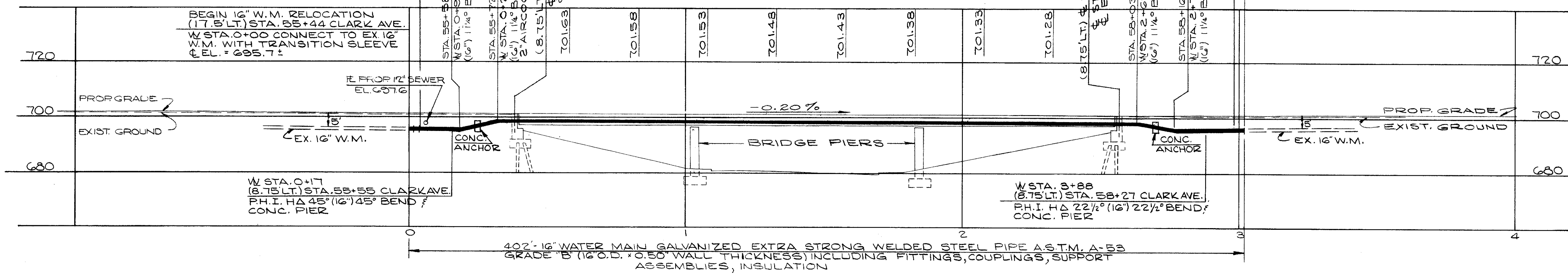
FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS N° 368 THRU 380

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN. ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.

INSTALLING & REMOVAL OF TEMP PLUGS TO BE SHOWN WATER UNIT DRAWING FOR PERTINENT MAIN.

FOR DETAIL OF PIPE IN BRIDGE. SEE SH.T. N° 418

FOR SUMMARY OF QUANTITIES SEE SHEET N° 366 & 367



402' 16\"/>

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	16\"/>	402	LIN. FT.
SPECIAL	16\"/>	2	EACH
SPECIAL	2\"/>	1	EACH
SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUD. FITTINGS	1	EACH

\* COMPLETE

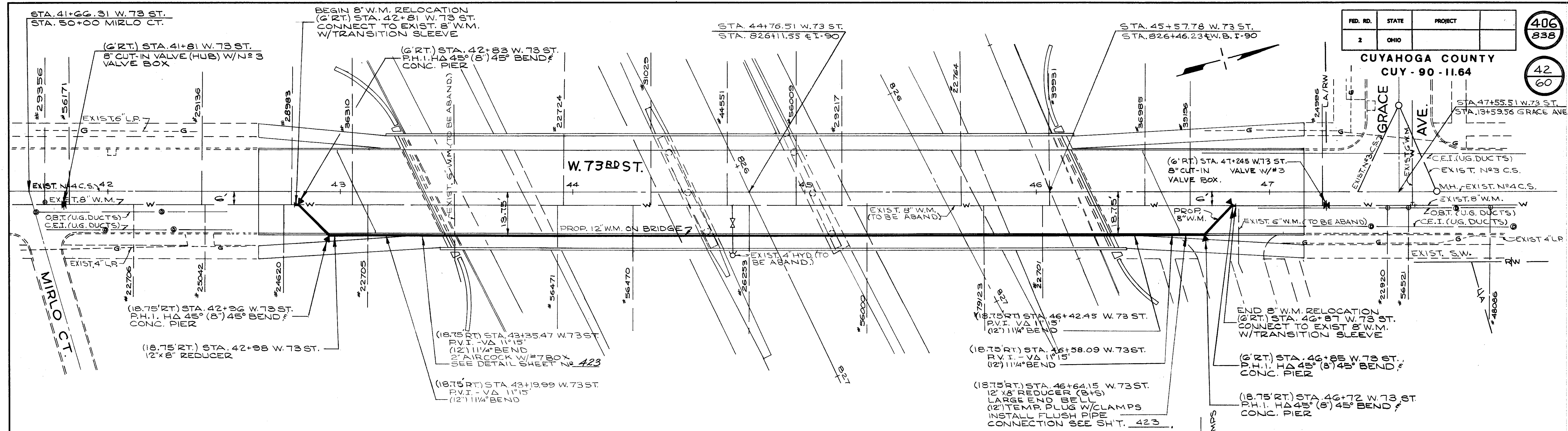
APPROVED 4-10-1975

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 3/74

William J. Sweeney  
ENGINEER OF DESIGN REVIEW

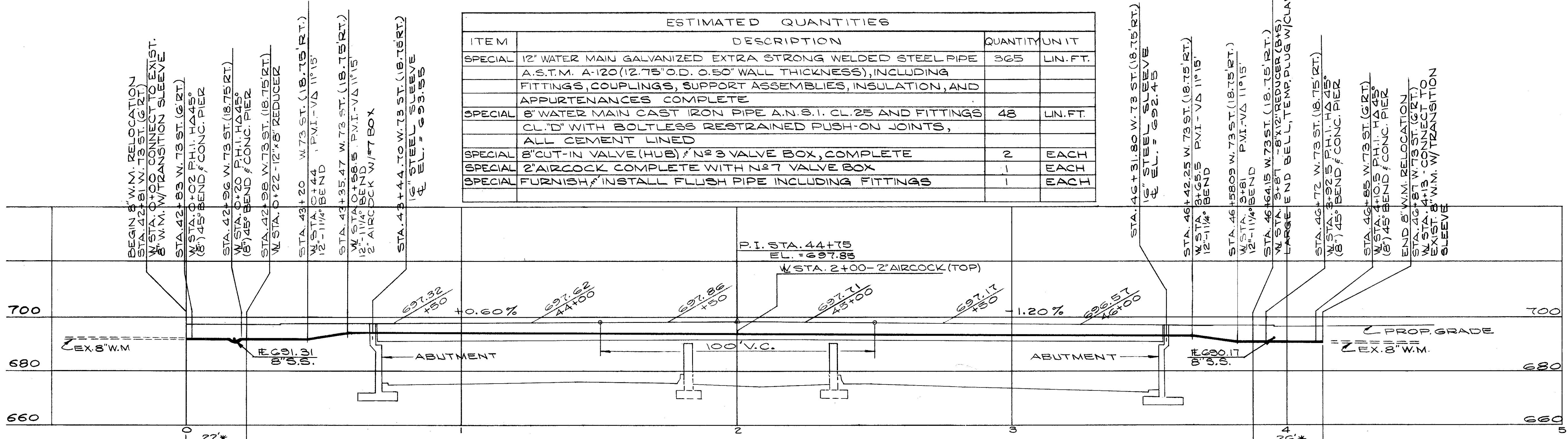
REVISIONS	LOW SERVICE DISTRICT
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO
	SUBJECT: PLAN & PROFILE RELOC. 16\"/>
	CLARK AVE.
	No.

**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**



**ESTIMATED QUANTITIES**

ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	12" WATER MAIN GALVANIZED EXTRA STRONG WELDED STEEL PIPE A.S.T.M. A-120 (12.75" O.D. 0.50" WALL THICKNESS), INCLUDING FITTINGS, COUPLINGS, SUPPORT ASSEMBLIES, INSULATION, AND APPURTENANCES COMPLETE	365	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS, ALL CEMENT LINED	48	LIN. FT.
SPECIAL	8" CUT-IN VALVE (HUB) & NO. 3 VALVE BOX, COMPLETE	2	EACH
SPECIAL	2" AIRCOCK COMPLETE WITH NO. 7 VALVE BOX	1	EACH
SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH



\*48\"/>

365'-12" WATER MAIN GALVANIZED EXTRA STRONG WELDED STEEL PIPE A.S.T.M. A-120 (12.75" O.D. X 0.50" WALL THICKNESS) INCLUDING FITTINGS, COUPLINGS, SUPPORT ASSEMBLIES, INSULATION AND APPURTENANCES COMPLETE.

NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAINS ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS NO. 368 THRU 380.

INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR PERTINENT SIZE WATER MAIN.

FOR DETAIL OF PIPE IN BRIDGE, SEE SHT. NO. 418.

FOR SUMMARY OF QUANTITIES SEE SHEET NO. 366 & 367.

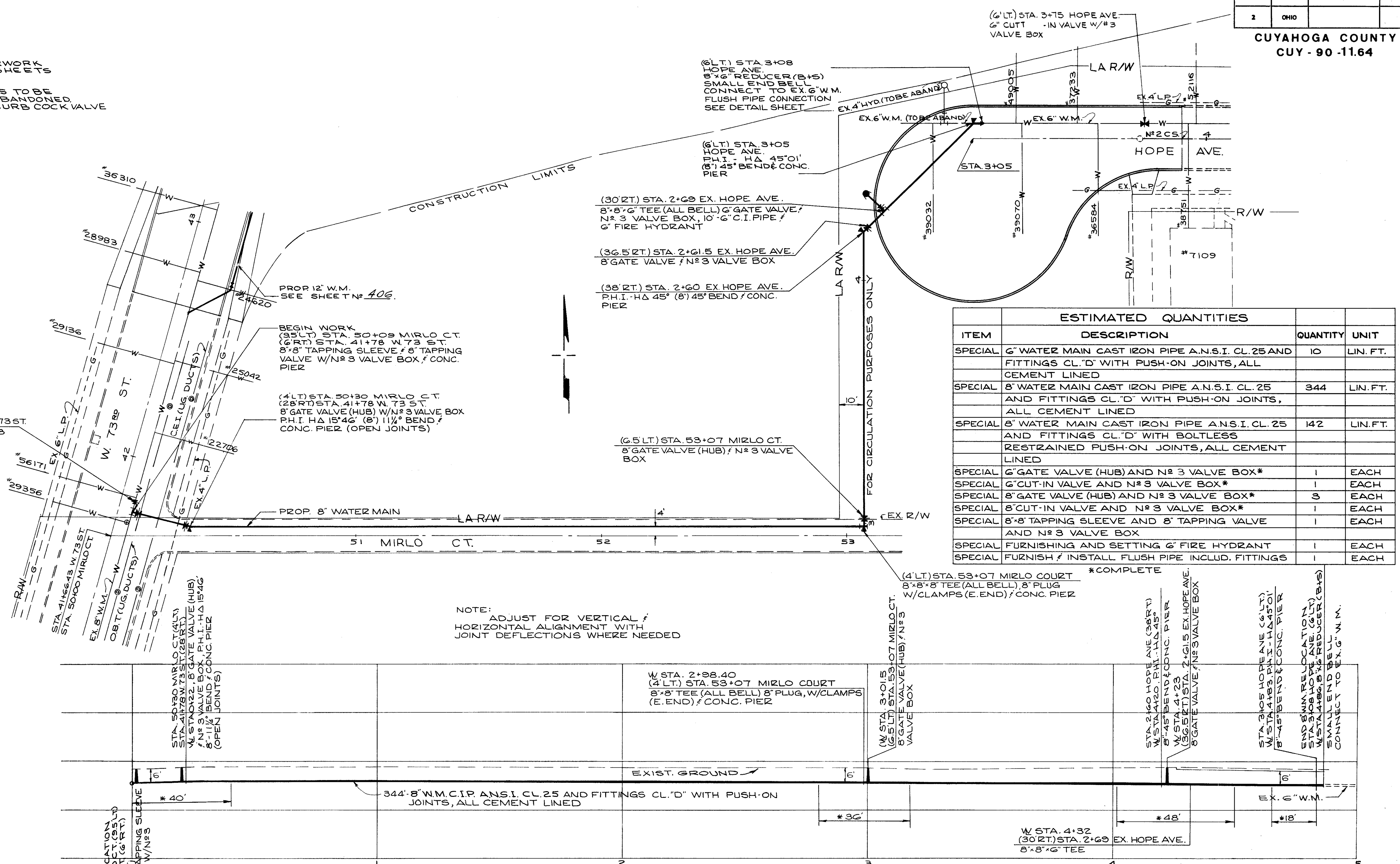
APPROVED: 4-10-1975

CALCULATED BY W.R.S. DATE 3/25/74  
CHECKED BY J.L.S. DATE 3/28/74

ENGINEER OF DESIGN REVIEW

<b>LOW SERVICE DISTRICT</b>	
<b>DEPARTMENT OF PUBLIC UTILITIES</b> DIVISION OF WATER AND HEAT CLEVELAND, OHIO	
SUBJECT: <b>PLAN &amp; PROFILE</b> <b>PROP. 12" WATER MAIN RELOCATION</b> <b>W. 73<sup>RD</sup> ST. - OVER</b>	
I-90	No.

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS N<sup>o</sup> 388 THRU 390.  
 @ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN AND ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.



ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	6" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	10	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	344	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	142	LIN. FT.
SPECIAL	6" GATE VALVE (HUB) AND N <sup>o</sup> 3 VALVE BOX*	1	EACH
SPECIAL	6" CUT-IN VALVE AND N <sup>o</sup> 3 VALVE BOX*	1	EACH
SPECIAL	8" GATE VALVE (HUB) AND N <sup>o</sup> 3 VALVE BOX*	3	EACH
SPECIAL	8" CUT-IN VALVE AND N <sup>o</sup> 3 VALVE BOX*	1	EACH
SPECIAL	8" x 8" TAPPING SLEEVE AND 8" TAPPING VALVE AND N <sup>o</sup> 3 VALVE BOX	1	EACH
SPECIAL	FURNISHING AND SETTING 6" FIRE HYDRANT	1	EACH
SPECIAL	FURNISH / INSTALL FLUSH PIPE INCLUD. FITTINGS	1	EACH

\* BOLTLESS RESTRAINED JOINT FOR A MINIMUM OF 1'-8" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

APPROVED 4-10-19-25

CALCULATED BY *R.L.K.* DATE 2/72  
 CHECKED BY *W.R.S.* DATE 3/74  
*William J. Sweeney*  
 ENGINEER OF DESIGN REVIEW

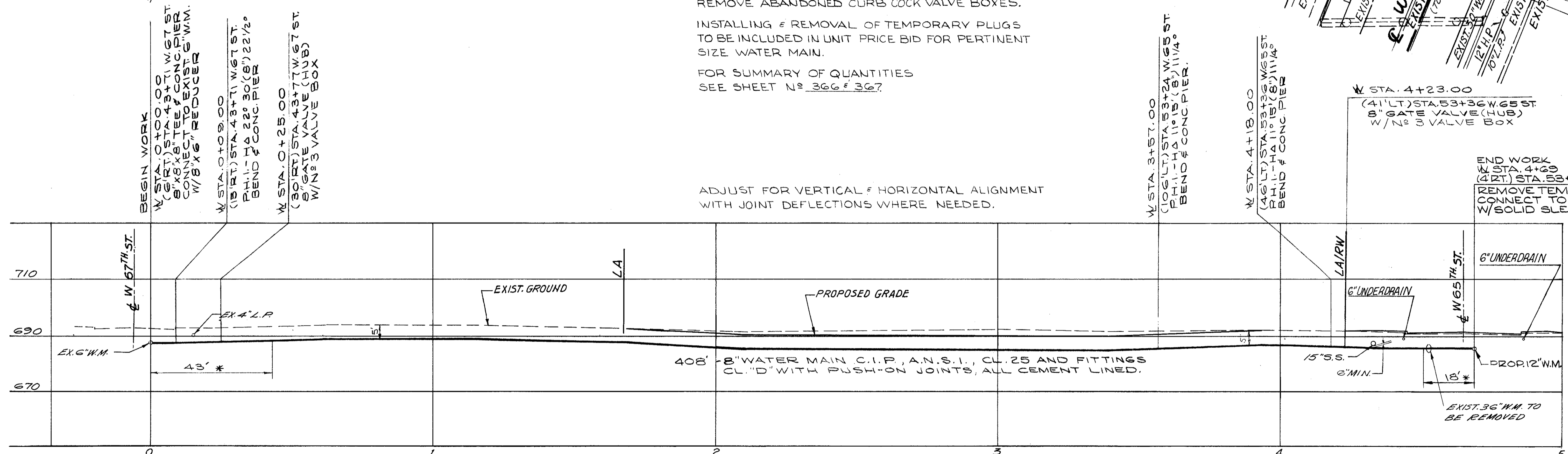
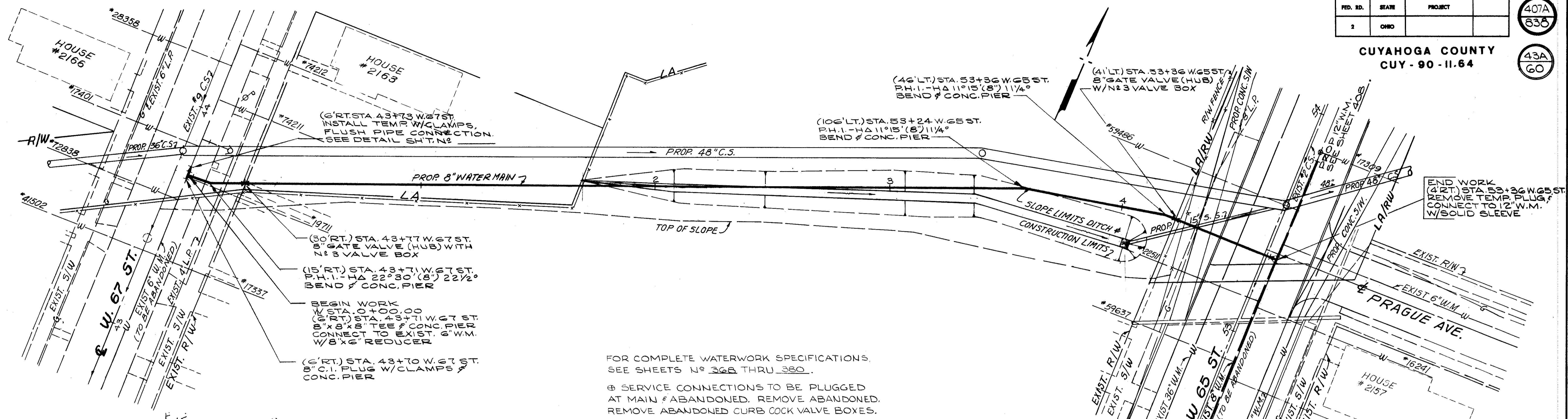
REVISIONS	<b>LOW SERVICE DISTRICT</b> DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO
SUBJECT: <b>PLAN &amp; PROFILE</b> <b>PROPR 8" W.M. CONNECTION</b> <b>HOPE AVE TO W. 73 ST.</b>	
No.	

FED. RD.	STATE	PROJECT
1	OHIO	

407A  
838

CUYAHOGA COUNTY  
CUY-90-11-64

43A  
60



\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1'-18" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 AND FITTINGS CL."D" WITH PUSH-ON JOINTS, ALL CEMENT LINED.	408	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 & FITTINGS CL."D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED.	61	LIN. FT.
SPECIAL	8" GATE VALVE (HUB) AND N° 3 VALVE BOX COMPLETE	2	EACH
SPECIAL	FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS.	1	EACH

APPROVED 4-10-75

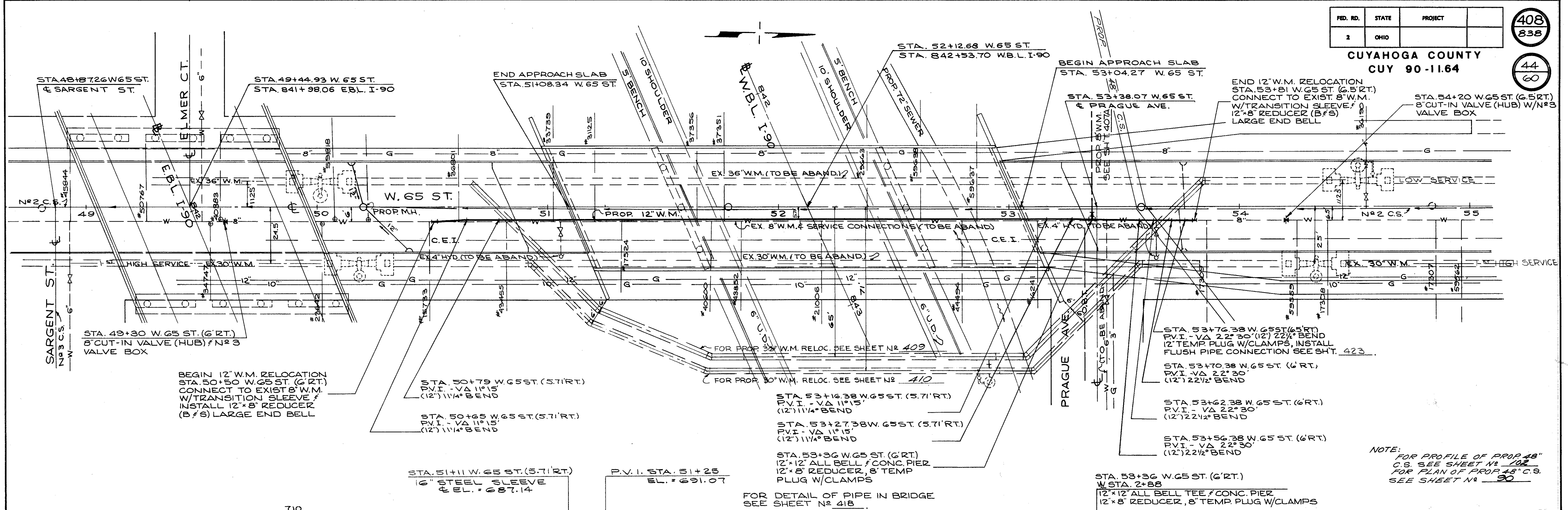
ENGINEER OF DESIGN REVIEW

REVISIONS	

<b>LOW SERVICE DISTRICT</b>	
DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO	
SUBJECT: PROP. 8" W.M. W.67ST. TO W.65ST.	
DRAWN	SCALE
CHECKED	DATE
	No. _____

CALCULATED BY WRS DATE 2/75  
CHECKED BY WRS DATE 3/75





NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.

FOR COMPLETE WATERWORK SPECIFICATIONS, SEE SHEETS 100 THROUGH 130.

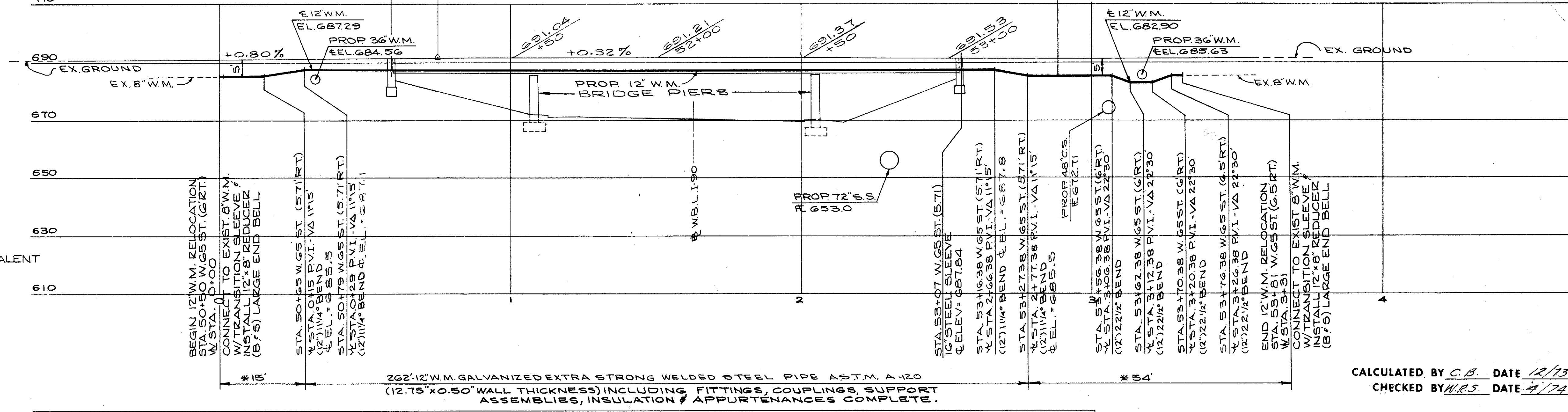
ALL SERVICE CONNECTIONS TO BE PLUGGED AT MAINS & ABANDONED. REMOVE ABANDONED COOK VALVE BOXES.

INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE FOR PERTINENT SIZE WATER MAIN.

FOR LOCATIONS OF SERVICE CONNECTIONS, SEE SHEET 117.

FOR CONC. PIER DETAILS SEE SHEET 117.

\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1-1/2' LENGTH OR EQUIVALENT FITTING FOR EITHER SIDE OF JOINT.



NOTE: FOR PROFILE OF PROP. 48" C.S. SEE SHEET NO. 102. FOR PLAN OF PROP. 48" C.S. SEE SHEET NO. 90.

ESTIMATED QUANTITIES							
ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	12" WATER MAIN GALVANIZED EXTRA STRONG WELDED STEEL PIPE A.S.T.M. A-120 (12.75" O.D. x 0.50" WALL THICKNESS) INCLUDING FITTINGS, COUPLINGS, SUPPORT ASSEMBLIES, INSULATION & APPURTENANCES COMPLETE	262	LIN. FT.	SPECIAL	12" WATER MAIN DUCTILE IRON PIPE A.N.S.I. CL. G AND FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	69	LIN. FT.
SPECIAL	FURNISH & INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH	SPECIAL	8" CUT-IN VALVE (HUB) & N#3 VALVE BOX **	2	EACH

\*\* COMPLETE

APPROVED: 4-10-1975

ENGINEER OF DESIGN REVIEW: *William J. ...*

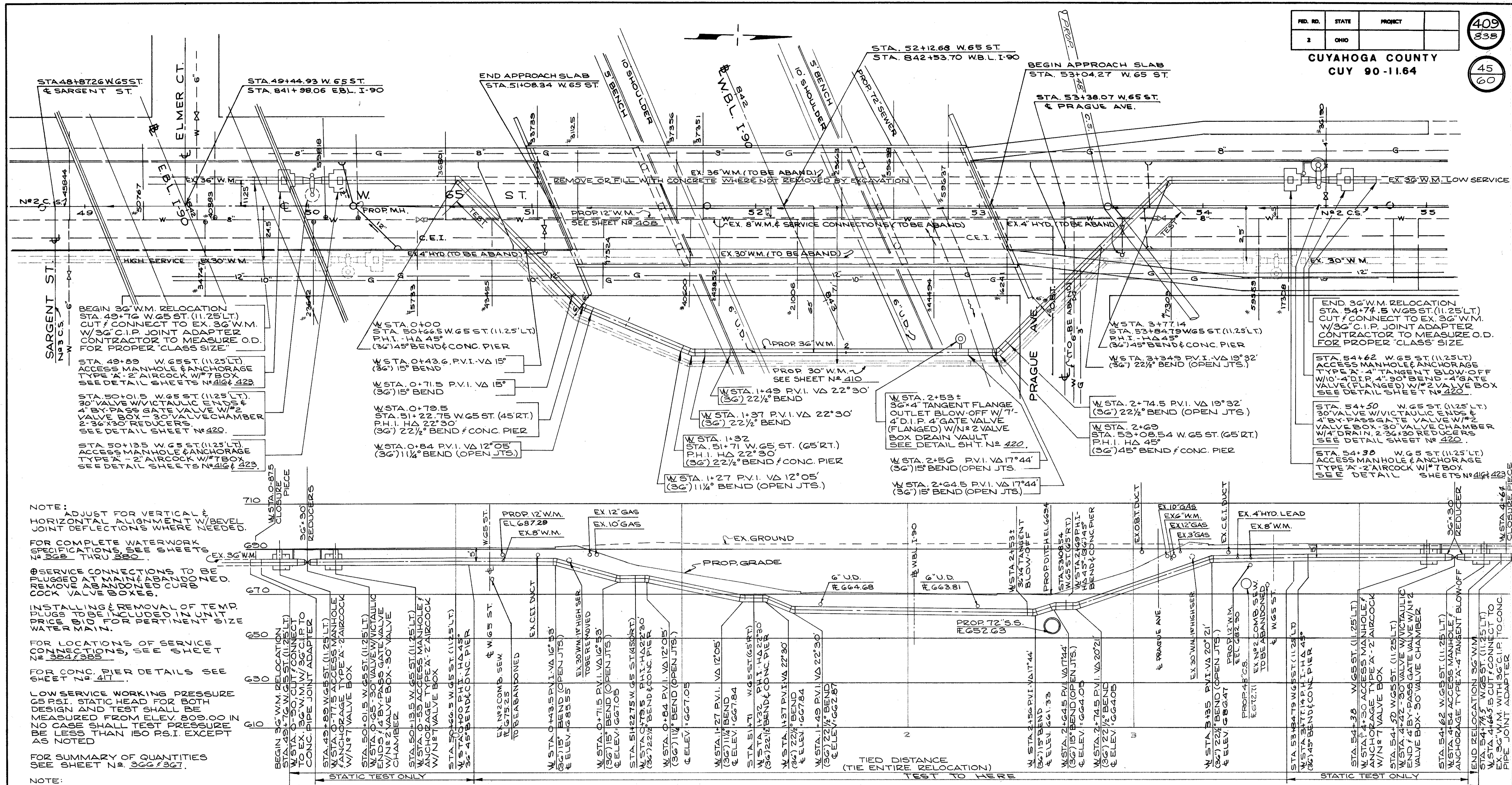
REVISIONS	

**LOW SERVICE DISTRICT**  
 DEPARTMENT OF PUBLIC UTILITIES  
 DIVISION OF WATER AND HEAT  
 CLEVELAND, OHIO

SUBJECT: **PLAN & PROFILE**  
**PROPOSED 12" WATER MAIN**  
**WEST 65 ST.**

No. \_\_\_\_\_

CALCULATED BY C.B. DATE 12/13  
 CHECKED BY W.R.S. DATE 7/74



**NOTE:**  
 1. ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT & LEVEL JOINT DEFLECTIONS WHERE NEEDED.  
 2. FOR COMPLETE WATERWORK SPECIFICATIONS, SEE SHEETS 366 & 367.  
 3. SERVICE CONNECTIONS TO BE PLUGGED AT MAINLINE AND ZOOZED.  
 4. INSTALLING & REMOVING OF ITEMS DRILLS TO BE PERFORMED IN ACCORDANCE WITH ALL CITY & STATE ORDINANCES.  
 5. FOR LOCATION OF ALL UTILITIES SEE SHEET 367.  
 6. FOR CONC. PIER DETAILS SEE SHEET 367.  
 7. LOW SERVICE WORKING PRESSURE 65 PSI. STATIC HEAD FOR BOTH DESIGN AND TEST SHALL BE MEASURED FROM ELEV. 809.00 TO CASE SHALL TEST PRESSURE IN BE LESS THAN 150 PSI. EXCEPT AS NOTED.  
 8. FOR SUMMARY OF QUANTITIES SEE SHEET 366 & 367.

**ESTIMATED QUANTITIES**

ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	36" PRESTRESSED CONCRETE CYLINDER PIPE & FITTINGS A.W.W.A. C 301-72 **	557	LIN. FT.	SPECIAL	ACCESS MANHOLE & ANCHORAGE TYPE "A"	4	EACH
SPECIAL	30" GATE VALVE W/VICTALLIC ENDS W/4" BY-PASS GATE VALVE AND N#2 VALVE BOX, COMPLETE	2	EACH	SPECIAL	2" AIRCOCK COMPLETE WITH N#7 VALVE BOX	3	EACH
SPECIAL	4" DRAIN COMPLETE	2	EACH	SPECIAL	30" VALVE CHAMBER	2	EACH
				SPECIAL	DRAIN VAULT	1	EACH
				SPECIAL	FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH

\*\* WITH HARNESSSED JOINTS

CALCULATED BY J.K.R. DATE 2/72  
 CHECKED BY W.B.S. DATE 4/74

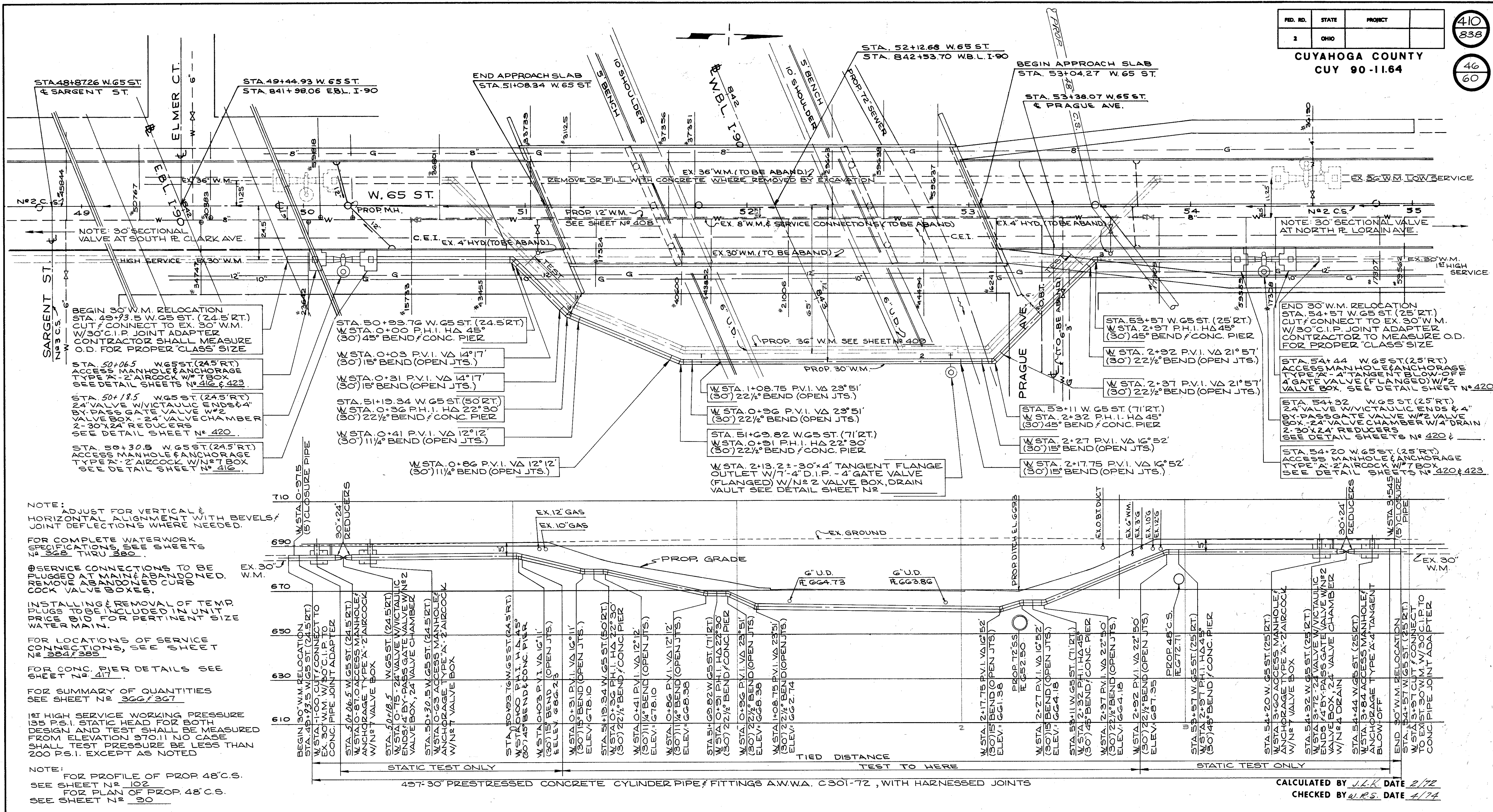
APPROVED 4-10-1975

William J.weeney  
 ENGINEER OF DESIGN REVIEW

REVISIONS	<b>LOW SERVICE DISTRICT</b> DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO

SUBJECT: **PLAN & PROFILE  
RELOCATED 36" WATER MAIN  
WEST 65 ST.**

No. \_\_\_\_\_



NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH BEVELS. JOINT DEFLECTIONS WHERE NEEDED.

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS 300 THROUGH 380.

ALL SERVICE CONNECTIONS TO BE PLUGGED AT MAINLINE. REMOVE AND ABANDON CURB COCK VALVE BOXES.

INSTALL AND REMOVE TEMP PLUGS TO PREVENT INFLUX OF WATER TO OCCUR AT MAINLINE. REMOVE TEMP PLUGS TO PREVENT INFLUX OF WATER TO OCCUR AT MAINLINE.

FOR LOCATION OF SERVICE CONNECTIONS SEE SHEET 300.

FOR CONNECTION DETAILS SEE SHEET 300.

FOR SUMMARY OF QUANTITIES SEE SHEET 300.

1. HIGH SERVICE WORKING PRESSURE 105 P.S.I. STATIC HEAD FOR BOTH DESIGN AND TEST SHALL BE MEASURED FROM ELEVATION 670.11 NO CASE SHALL TEST PRESSURE BE LESS THAN 200 P.S.I. EXCEPT AS NOTED.

NOTE: FOR PROFILE OF PROP. 48" C.S. SEE SHEET 102. FOR PLAN OF PROP. 48" C.S. SEE SHEET 90.

ESTIMATED QUANTITIES							
ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	30" PRESTRESSED CONCRETE CYLINDER PIPE & FITTINGS A.W.W.A. C 301-72 **	497	LIN. FT.	SPECIAL	ACCESS MANHOLE & ANCHORAGE TYPE 'A'	4	EACH
SPECIAL	24" GATE VALVE W/VICTAULIC ENDS W/4" BY-PASS GATE VALVE W/N#2 VALVE BOX, COMPLETE	2	EACH	SPECIAL	2" AIRCOCK W/N#7 VALVE BOX, COMPLETE	2	EACH
SPECIAL	DRAIN VAULT	1	EACH	SPECIAL	4" DRAIN COMPLETE	1	EACH
				SPECIAL	24" VALVE CHAMBER	2	EACH
				SPECIAL	FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH

\*\* WITH HARNESSED JOINTS

APPROVED: 4-10-1976

ENGINEER OF DESIGN REVIEW

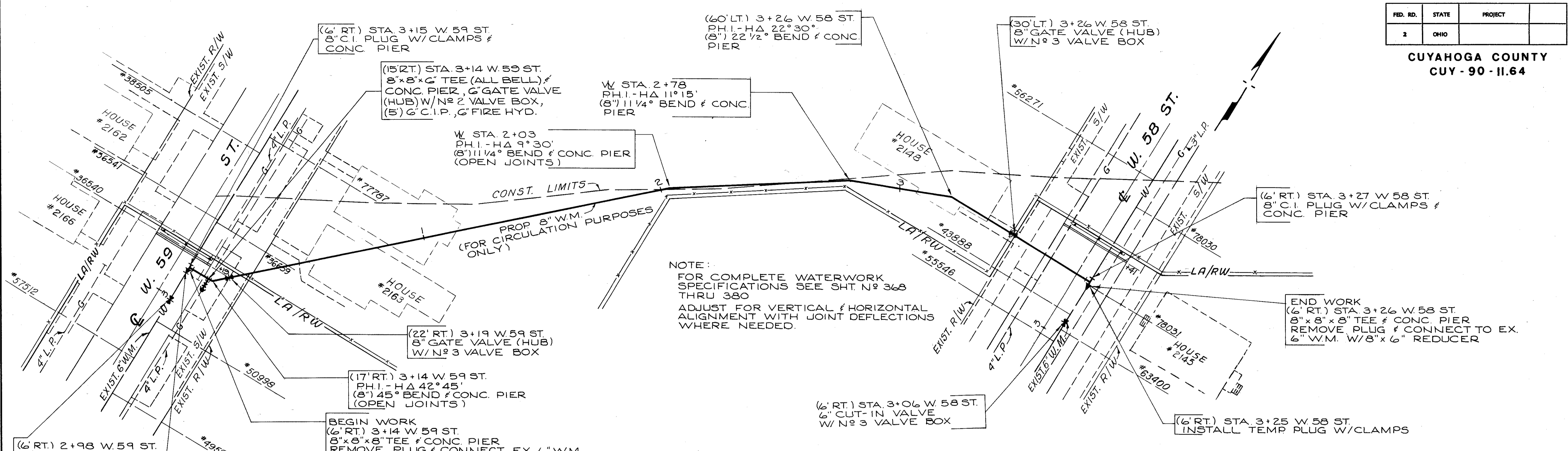
CALCULATED BY J.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 4/74

REVISIONS		HIGH SERVICE DISTRICT
DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO		
SUBJECT: PLAN & PROFILE RELOCATED 30" WATER MAIN WEST 65 ST.		
		No.

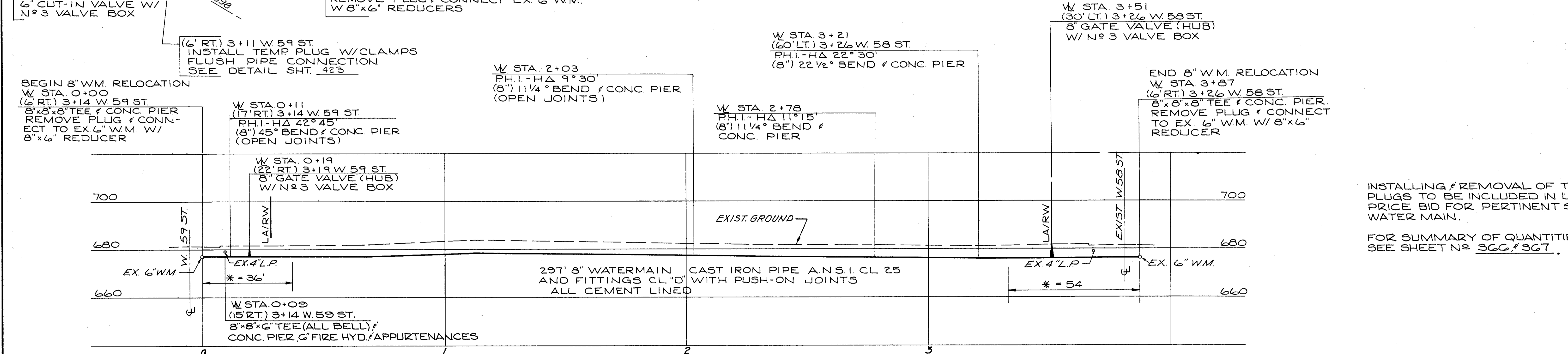
FED. RD.	STATE	PROJECT
2	OHIO	

410A  
838  
46A  
60

CUYAHOGA COUNTY  
CUY - 90 - 11.64



NOTE:  
FOR COMPLETE WATERWORK  
SPECIFICATIONS SEE SHET NO 368  
THRU 380  
ADJUST FOR VERTICAL & HORIZONTAL  
ALIGNMENT WITH JOINT DEFLECTIONS  
WHERE NEEDED.



INSTALLING & REMOVAL OF TEMP.  
PLUGS TO BE INCLUDED IN UNIT  
PRICE BID FOR PERTINENT SIZE  
WATER MAIN.  
FOR SUMMARY OF QUANTITIES  
SEE SHEET NO 366 & 367.

ESTIMATED QUANTITIES				ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	6" WATERMAIN CAST IRON PIPE A.N.S.I. CL 25 AND FITTINGS CL "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	5	LIN. FT.	SPECIAL	8" WATERMAIN CAST IRON PIPE A.N.S.I. CL 25 AND FITTINGS CL "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	297	LIN. FT.
SPECIAL	FURNISHING & SETTING 6" FIRE HYDRANT	1	EACH	SPECIAL	8" WATERMAIN CAST IRON PIPE A.N.S.I. CL 25 AND FITTINGS CL "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	90	LIN. FT.
				SPECIAL	8" GATE VALVE (HUB) & N#3 VALVE BOX, COMPLETE	2	EACH
				SPECIAL	6" CUT-IN VALVE & N#3 VALVE BOX, COMPLETE	2	EACH
				SPECIAL	6" GATE VALVE (HUB) & N#2 VALVE BOX, COMPLETE	1	EACH

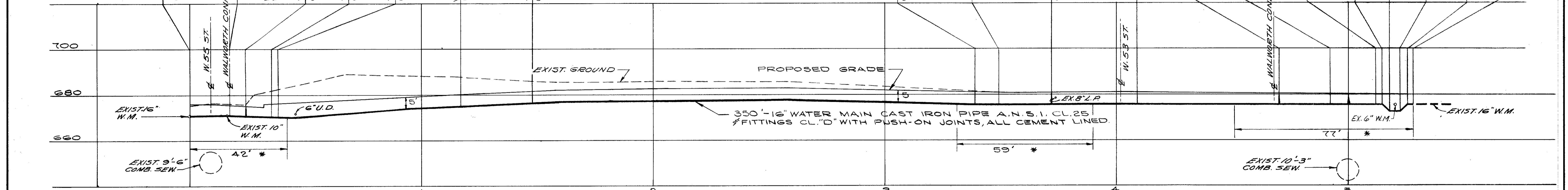
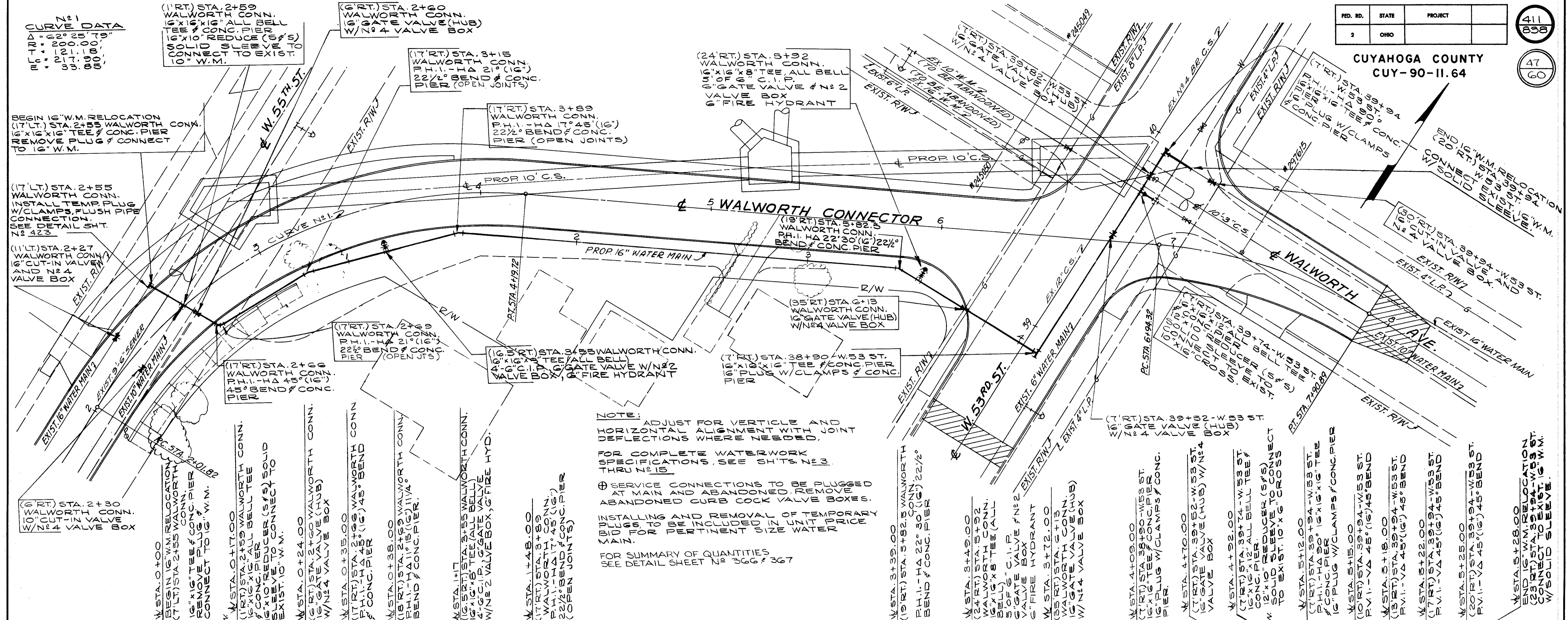
\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1-18' LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING

APPROVED: 4-10-75

CALCULATED BY WRS DATE 2/75  
CHECKED BY WRS DATE 3/75

W.W. and Sweeney  
ENGINEER OF DESIGN REVIEW

REVISIONS	<b>LOW SERVICE DISTRICT</b>	
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO	
	SUBJECT: PROP. 8" W.M. W. 59 ST. TO W. 58 ST.	
DRAWN	SCALE	No.
CHECKED	DATE	



ESTIMATED QUANTITIES			QUANTITIES				
ITEM	DESCRIPTION	QUANTITY	UNIT	ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	16" WATER MAIN CAST IRON PIPE A.N.S.I.	350	LIN. FT.	SPECIAL	16" GATE VALVE (HUB) #4 VALVE BOX, COMPLETE	4	EACH
	CL. 25 F FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED			SPECIAL	16" CUT-IN VALVE #4 VALVE BOX, COMPLETE	2	EACH
SPECIAL	16" WATER MAIN CAST IRON PIPE A.N.S.I.	178	LIN. FT.	SPECIAL	10" CUT-IN VALVE #2 VALVE BOX, COMPLETE	1	EACH
	CL. 25 F FITTINGS CL. "D" WITH BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED			SPECIAL	G" GATE VALVE (HUB) #2 VALVE BOX, COMPLETE	2	EACH
SPECIAL	G" WATER MAIN CAST IRON PIPE A.N.S.I.	9	LIN. FT.	SPECIAL	FURNISHINGS, SETTING G" FIRE HYDRANT	2	EACH
	CL. 25 F FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED			SPECIAL	FURNISH, INSTALL FLUSH PIPE INCLUDING FITTINGS	1	EACH

APPROVED 4-10-1975

\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1'-8" LENGTH FOR EITHER SIDE OF FITTING

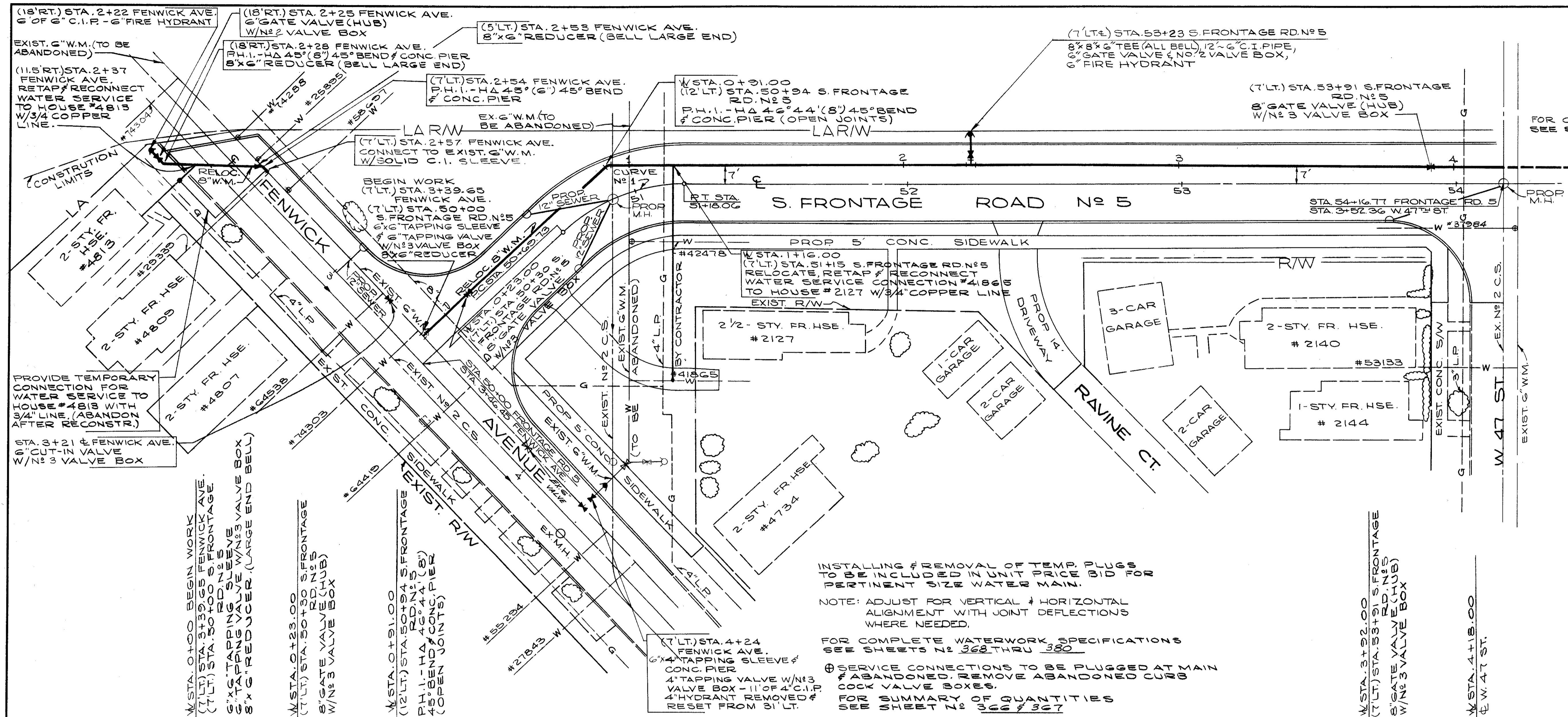
CALCULATED BY WRS DATE 2/75  
CHECKED BY WRS DATE 3/75

**LOW SERVICE DISTRICT**

**DEPARTMENT OF PUBLIC UTILITIES**  
DIVISION OF WATER AND HEAT  
CLEVELAND, OHIO

SUBJECT: PROP. RELOCATED 16" W.M.  
WALWORTH CONNECTOR

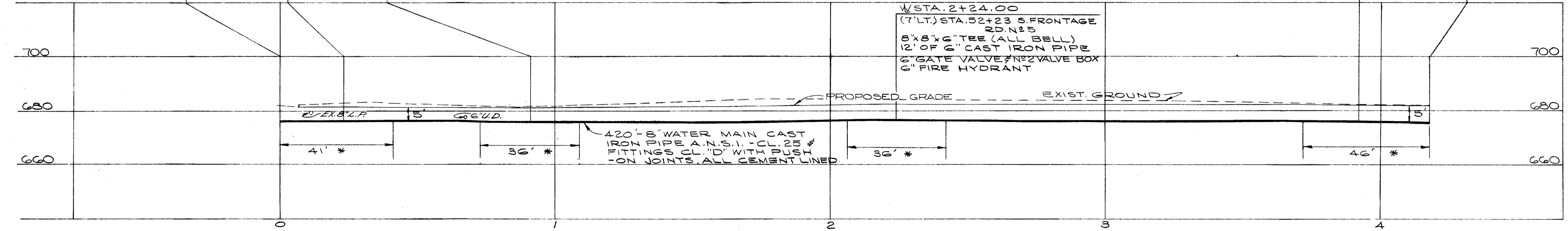
DRAWN	SCALE	No.
CHECKED	DATE	



FOR CONTINUATION  
SEE SH.T. NO. 413

CURVE DATA  
 R = 430.00  
 Δ = 45.00  
 L = 100.00  
 E = 70.71  
 M = 25.00

INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR PERTINENT SIZE WATER MAIN.  
 NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.  
 FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS NO. 368 THRU 380  
 SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE ABANDONED CURBS & COCK VALVE BOXES.  
 FOR SUMMARY OF QUANTITIES SEE SHEET NO. 366 & 367



ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	4" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 24" FITTINGS CL. "D" WITH PUSH-ON JOINTS ALL CEMENT LINED.	11	LIN. FT.
SPECIAL	6" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25" FITTINGS CL. "D" W/BOLTLESS RESTRAINED PUSH-ON JOINTS ALL CEMENT LINED.	18	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25" FITTINGS CL. "D" WITH PUSH-ON JOINTS ALL CEMENT LINED.	259	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25" FITTINGS CL. "D" W/BOLTLESS RESTRAINED	190	LIN. FT.

ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	6" GATE VALVE (HUB) # NO. 2 VALVE BOX COMPLETE	1	EACH
SPECIAL	8" GATE VALVE (HUB) # NO. 3 VALVE BOX COMPLETE	2	EACH
SPECIAL	6" CUT-IN VALVE # NO. 3 VALVE BOX COMPLETE	1	EACH
SPECIAL	6"x4" TAPPING SLEEVE, 4" TAPPING VALVE # NO. 3 VALVE BOX	1	EACH
SPECIAL	8"x6" TAPPING SLEEVE, 6" TAPPING VALVE # NO. 3 VALVE BOX	1	EACH
SPECIAL	4" FIRE HYDRANT REMOVED & RESET	1	EACH
SPECIAL	FURNISHINGS & SETTINGS 6" FIRE HYDRANT	2	EACH
SPECIAL	RELOC. & RETAP & RECONNECT SERVICE CONN. # 41865	1	EACH
SPECIAL	RELOC. & RECONNECT SERVICE CONNECTION TO HOUSE NO. 4-813 WITH 3/4" COPPER LINE	1	EACH

\* BOLTLESS RESTRAINED JOINT FOR MINIMUM OF 1'-18" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

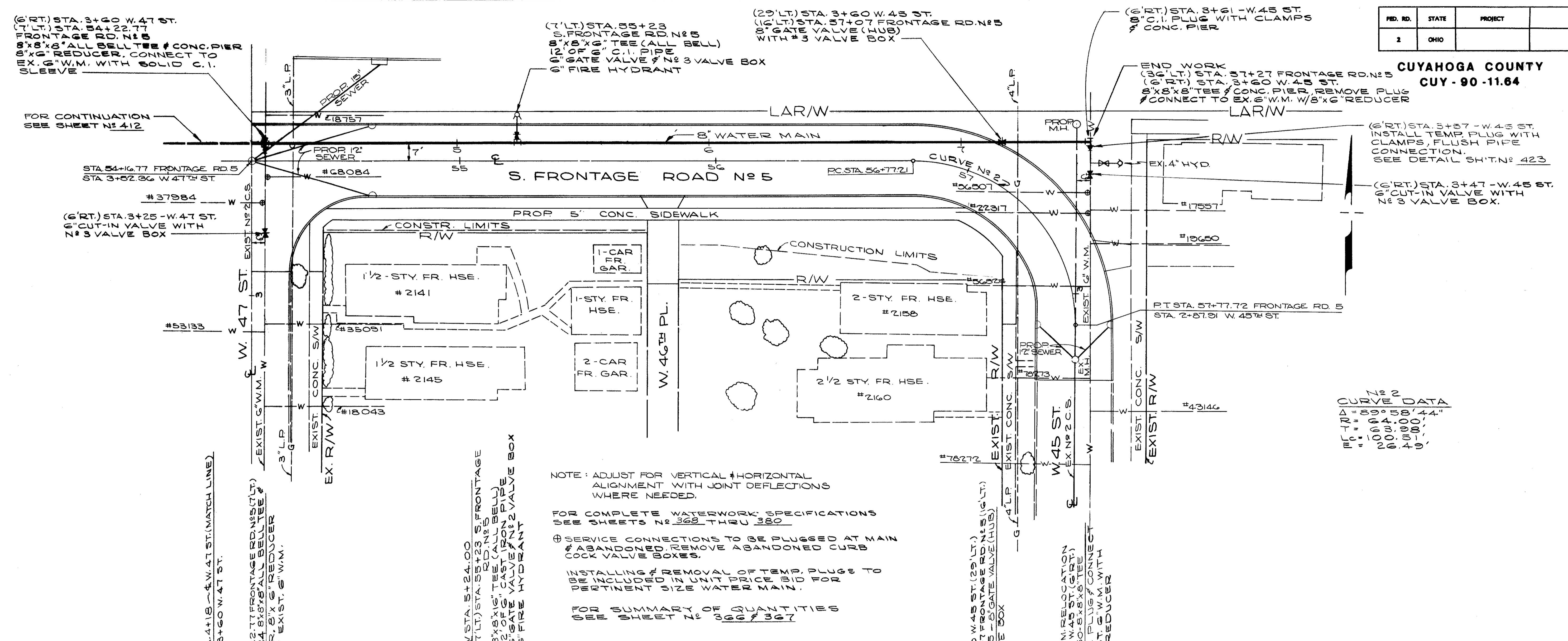
APPROVED 4-10-1975

CALCULATED BY R.L.K. DATE 2/72  
 CHECKED BY W.R.S. DATE 4/74

William J. Swanney  
 ENGINEER OF DESIGN REVIEW

REVISIONS	<b>LOW SERVICE DISTRICT</b>
	DEPARTMENT OF PUBLIC UTILITIES
	DIVISION OF WATER AND HEAT
	CLEVELAND, OHIO
	SUBJECT: PLAN & PROFILE
	RELOC. 8" WATER MAIN
	FENWICK AVE. TO
	W. 47TH ST.
	No.

CUYAHOGA COUNTY  
CUY - 90 - 11.64



NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS NO. 362 THRU 380

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN COCK VALVE BOXES.

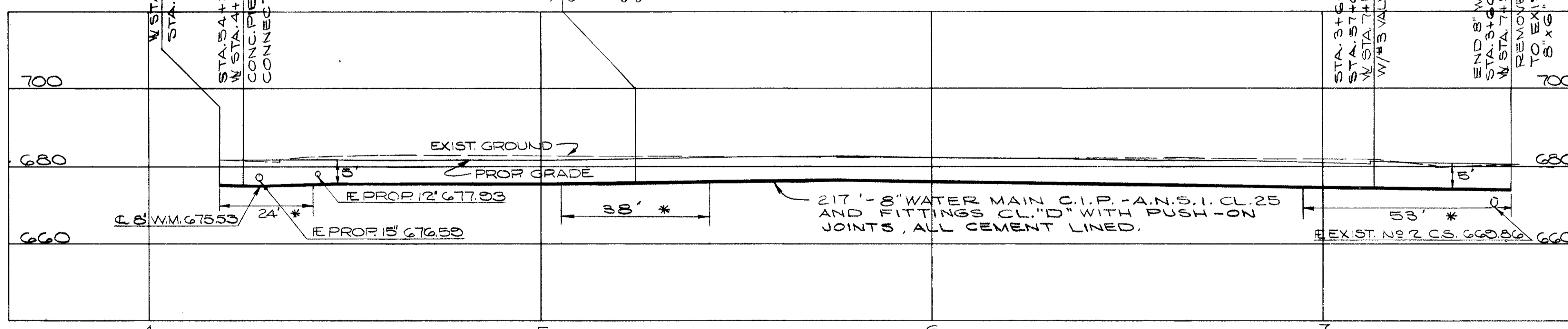
⊕ ABANDONED REMOVE ABANDONED CURB

⊕ INSTALLING & REMOVAL OF TEMP. PLUGS TO BE INCLUDED IN UNIT PRICE BID FOR MAINTENANCE OF WATER MAIN.

FOR SUMMARY OF QUANTITIES SEE SHEET NO. 380 & 387

CURVE DATA

MC	TR	DA	80°
MC	TR	DA	100°
MC	TR	DA	200°
MC	TR	DA	40°



ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 & FITTINGS CL. "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED.	217	LIN. FT.
SPECIAL	8" WATER MAIN CAST IRON PIPE A.N.S.I. CL. 25 & FITTINGS CL. "D" W/ BOLTLESS RESTRAINED PUSH-ON JOINTS, ALL CEMENT LINED	115	LIN. FT.
SPECIAL	6" CUT-IN VALVE & NO. 3 VALVE BOX, COMPLETE	1	EACH
SPECIAL	6" GATE VALVE (HUB) & NO. 2 VALVE BOX, COMPLETE	1	EACH
SPECIAL	FURNISHINGS & SETTINGS, 6" FIRE HYDRANT	1	EACH
SPECIAL	FURNISH AND INSTALL FLUSH PIPE INCLUDING FITTINGS.	1	EACH
SPECIAL	8" GATE VALVE (HUB) & NO. 3 VALVE BOX, COMPLETE	1	EACH

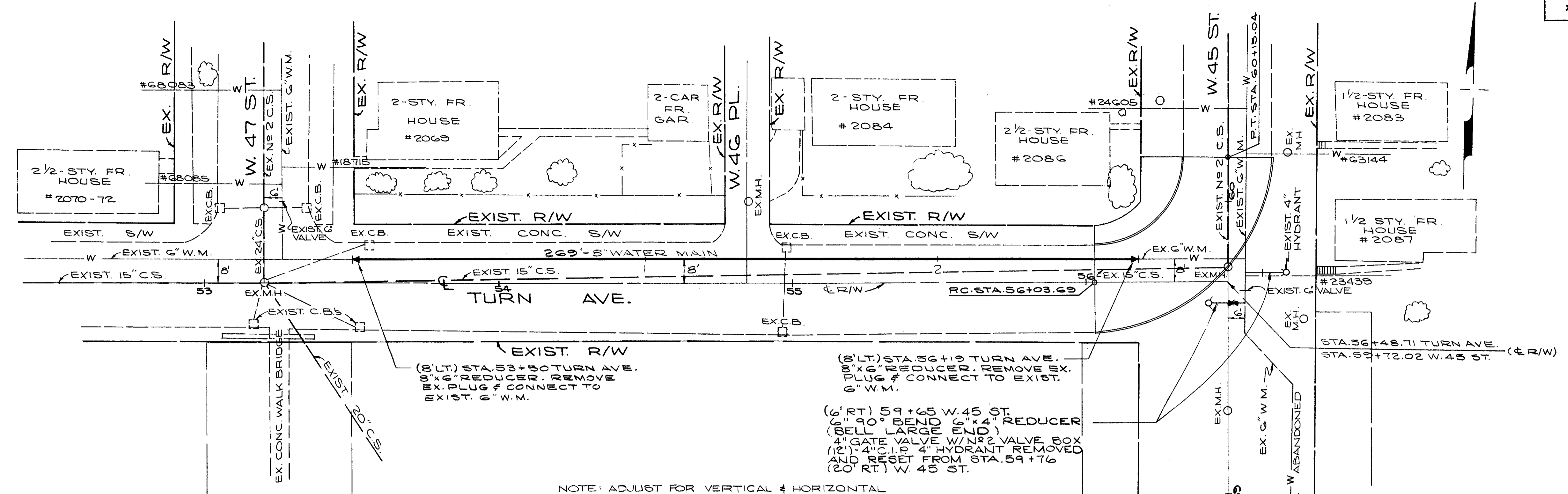
\* BOLTLESS RESTRAINED JOINT OR MINIMUM OF 1'-11" LENGTH OR EQUIVALENT LENGTH FOR EITHER SIDE OF FITTING.

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 4/72

APPROVED 4-10-75

William J. [Signature]  
ENGINEER OF DESIGN REVIEW

REVISIONS	<b>LOW SERVICE DISTRICT</b>
	DEPARTMENT OF PUBLIC UTILITIES
	DIVISION OF WATER AND HEAT
	CLEVELAND, OHIO
	SUBJECT: PLAN & PROFILE
	RELOC. 8" WATER MAIN
	W. 47TH ST. TO
	W. 45TH ST.
	No. _____



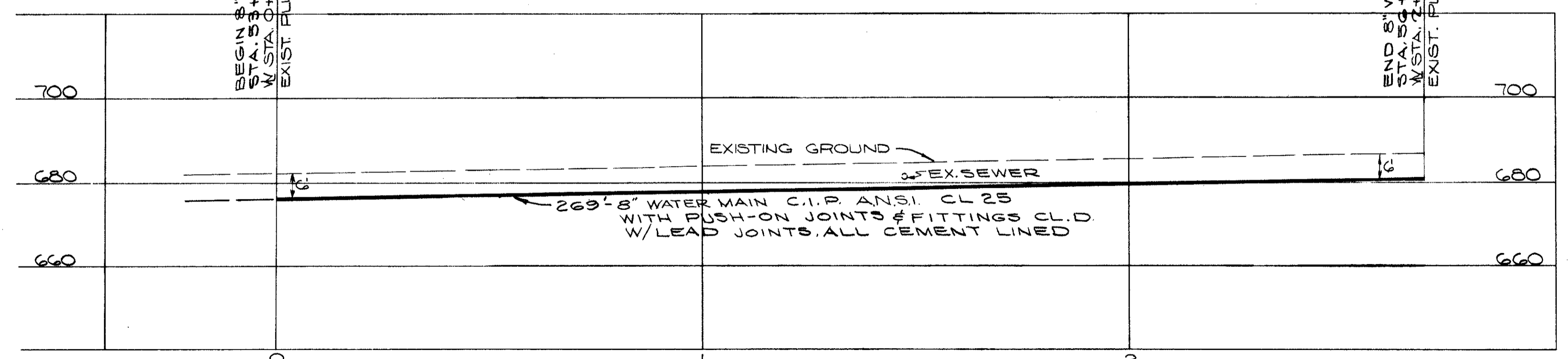
NOTE: ADJUST FOR VERTICAL & HORIZONTAL ALIGNMENT WITH JOINT DEFLECTIONS WHERE NEEDED.

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEETS NO. 368 THRU 380

⊕ SERVICE CONNECTIONS TO BE PLUGGED AT MAIN & ABANDONED. REMOVE ABANDONED CURB COCK VALVE BOXES.

IN INSTALLING & REMOVAL OF FITTINGS PLUGS TO BE INSTALLED IN WATER MAIN TO BE INSTALLED IN WATER MAIN.

FOR SUMMARY OF QUANTITIES SEE SHEET NO. 368



ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	8" WATERMAIN CAST IRON PIPE A.N.S.I. CL. 25 & FITTINGS CL "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	269	LIN. FT.
SPECIAL	4" WATERMAIN CAST IRON PIPE A.N.S.I. CL. 24 & FITTINGS CL "D" WITH PUSH-ON JOINTS, ALL CEMENT LINED	12	LIN. FT.
SPECIAL	4" GATE VALVE (HUB) AND NO. 2 VALVE BOX, COMPLETE	1	EACH
SPECIAL	4" FIRE HYDRANT REMOVED AND RESET	1	EACH

APPROVED 4-10-1975

William J. [Signature]  
ENGINEER OF DESIGN REVIEW

CALCULATED BY R.L.K. DATE 2/72  
CHECKED BY W.R.S. DATE 4/74

REVISIONS	LOW SERVICE DISTRICT
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO
	SUBJECT: PLAN & PROFILE 8" WATER MAIN
	W. 47 ST. TO W. 45 ST. TURN AVE. No.



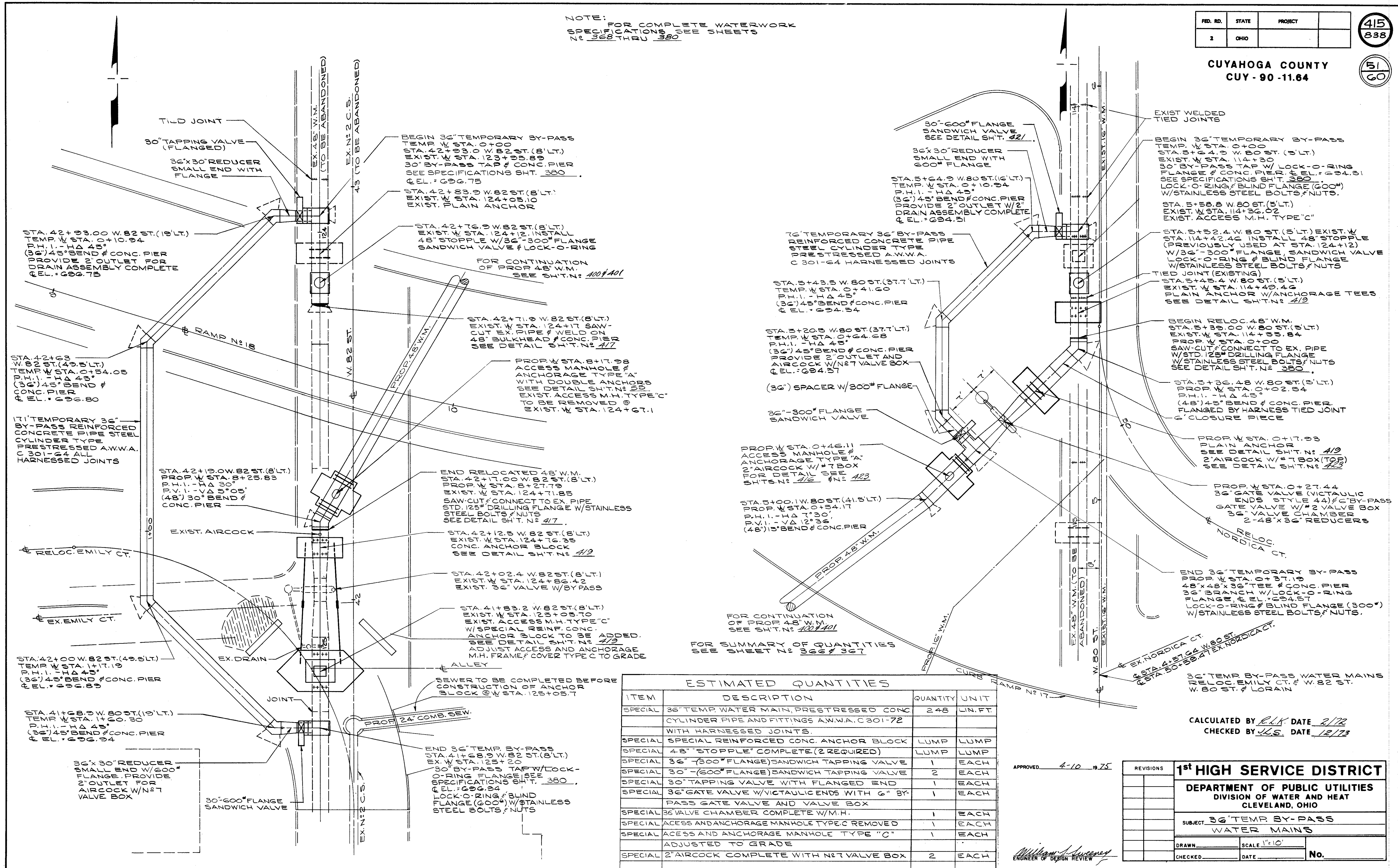
NOTE:  
 SPECIFICATIONS FOR COMPLETE WATERWORK  
 2: 368 THRU 380

FED. RD.	STATE	PROJECT
2	OHIO	

415  
838

51  
60

CUYAHOGA COUNTY  
 CUY-90-11.64



FOR SUMMARY OF QUANTITIES  
 SEE SHEET N° 366 & 367

ITEM	DESCRIPTION	QUANTITY	UNIT
SPECIAL	36" TEMP WATER MAIN, PRESTRESSED CONC CYLINDER PIPE AND FITTINGS A.W.W.A. C301-72 WITH HARNESSED JOINTS	248	LN. FT.
SPECIAL	SPECIAL REINFORCED CONC. ANCHOR BLOCK	LUMP	LUMP
SPECIAL	4-8" STOPPLE COMPLETE (2 REQUIRED)	LUMP	LUMP
SPECIAL	36" (300" FLANGE) SANDWICH TAPPING VALVE	1	EACH
SPECIAL	30" (600" FLANGE) SANDWICH TAPPING VALVE	2	EACH
SPECIAL	30" TAPPING VALVE WITH FLANGED END	1	EACH
SPECIAL	36" GATE VALVE W/VICTAULIC ENDS WITH 6" BY-PASS GATE VALVE AND VALVE BOX	1	EACH
SPECIAL	36" VALVE CHAMBER COMPLETE W/M.H.	1	EACH
SPECIAL	ACCESS AND ANCHORAGE MANHOLE TYPE C REMOVED	1	EACH
SPECIAL	ACCESS AND ANCHORAGE MANHOLE TYPE "C" ADJUSTED TO GRADE	1	EACH
SPECIAL	2" AIRCOCK COMPLETE WITH N2 VALVE BOX	2	EACH

CALCULATED BY *RLK* DATE *2/72*  
 CHECKED BY *JLS* DATE *12/73*

APPROVED *4-10* 1975

*William J. Sweney*  
 ENGINEER OF DESIGN REVIEW

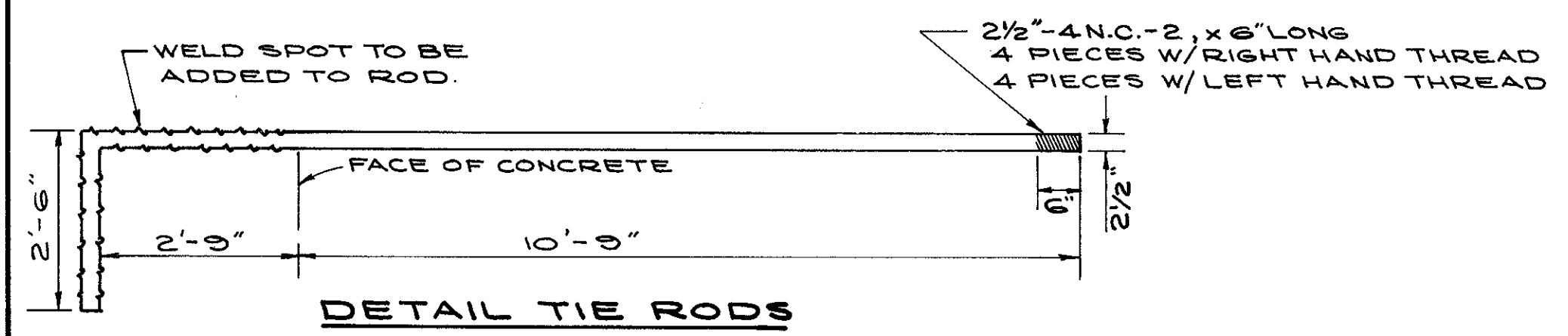
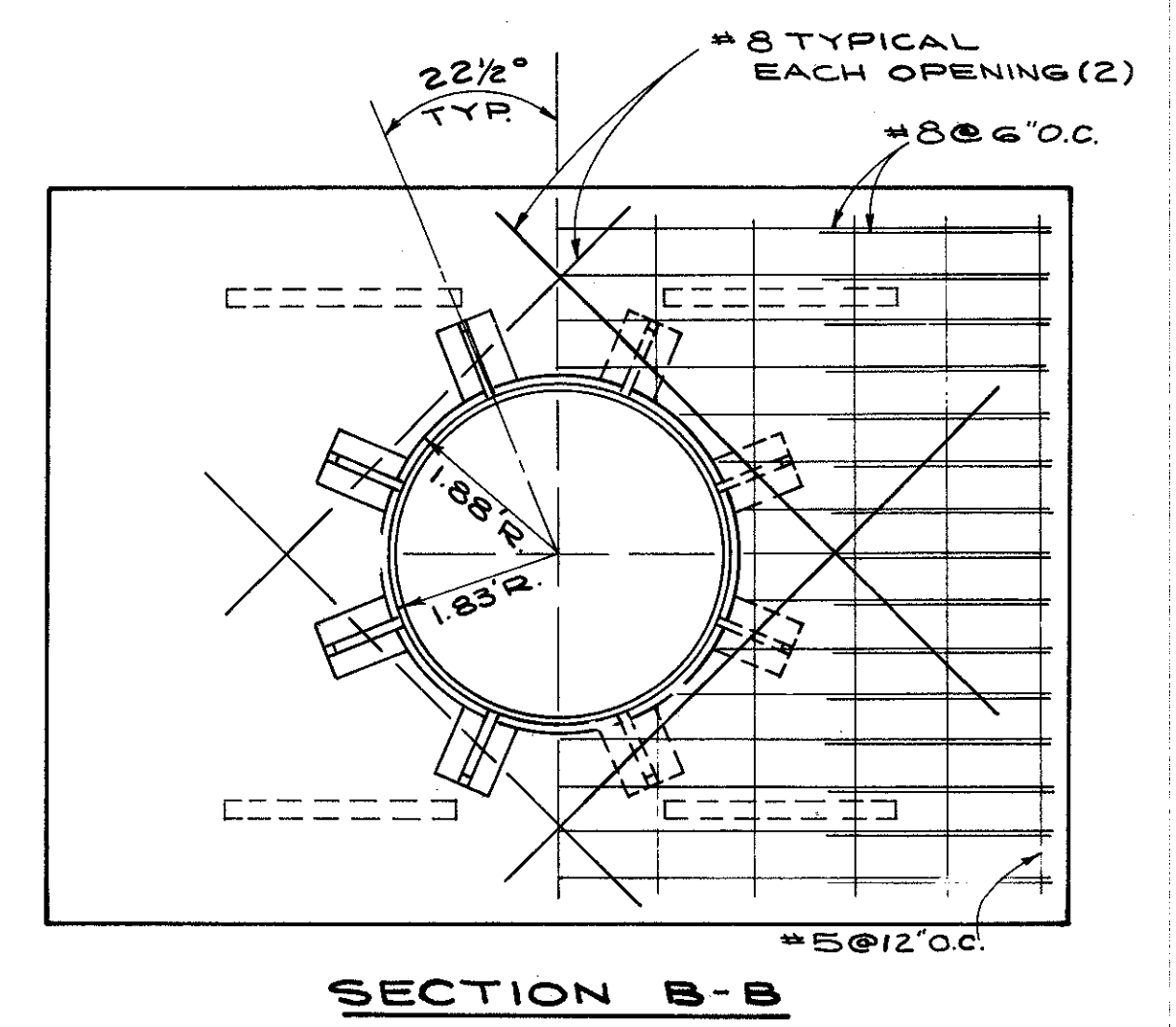
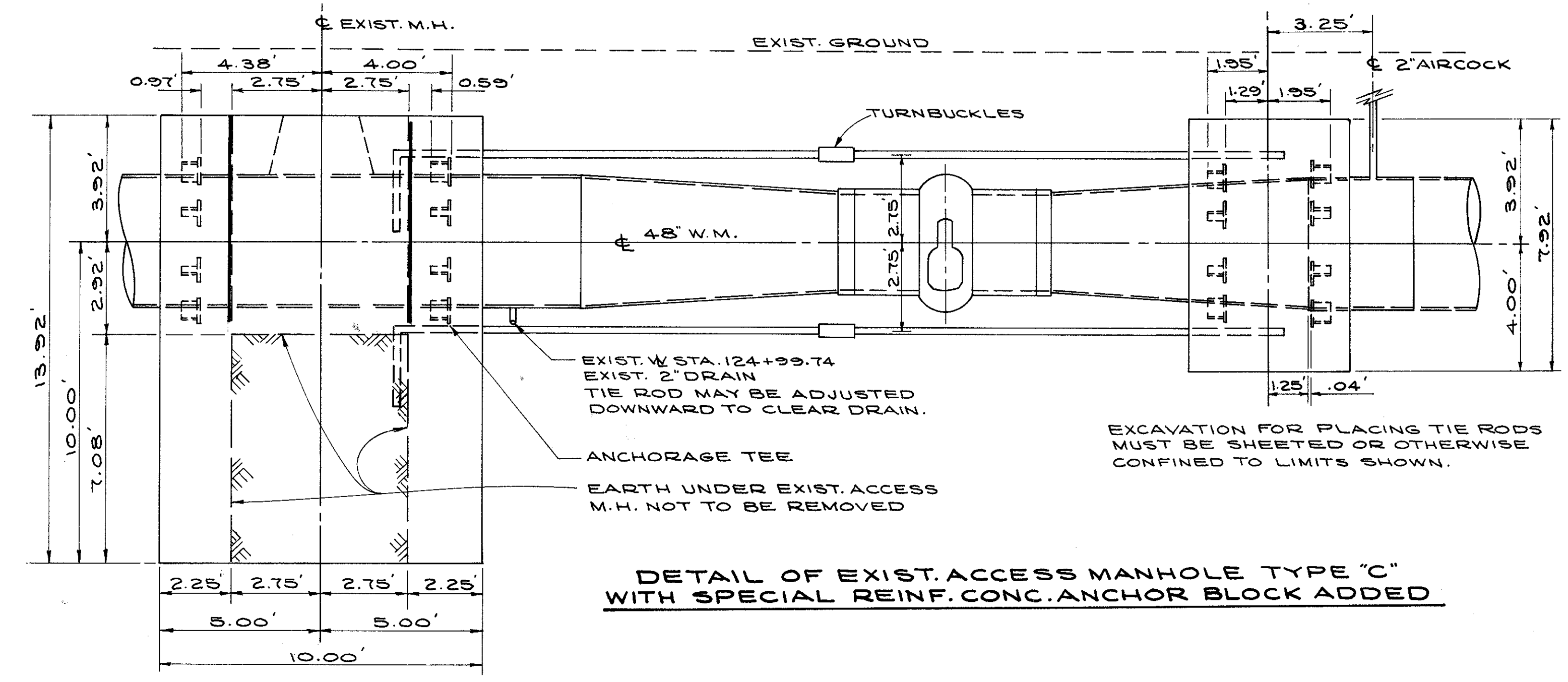
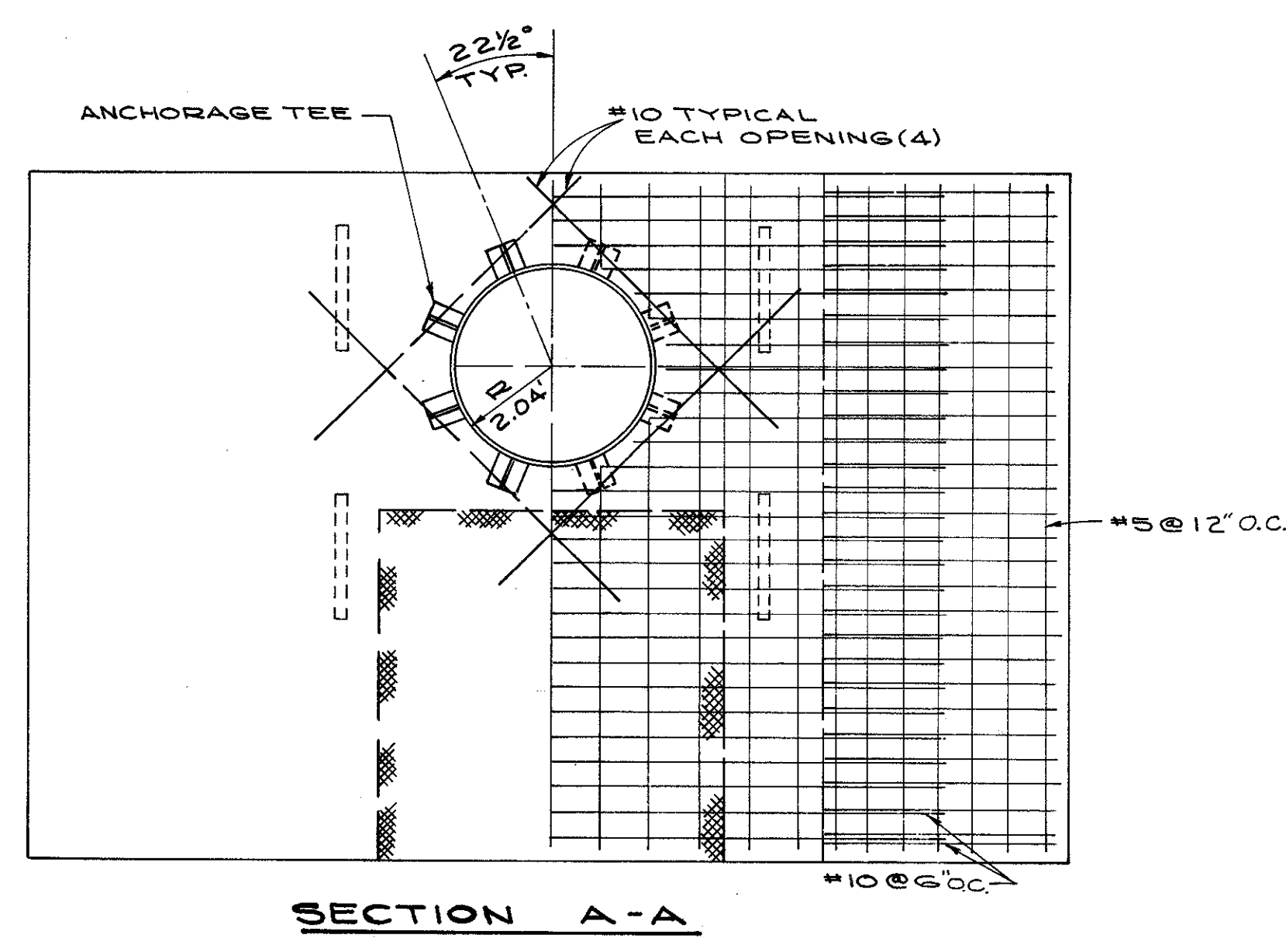
REVISIONS	<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>	
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO	
	SUBJECT <b>36" TEMP BY-PASS WATER MAINS</b>	
DRAWN	SCALE 1"=10'	No.
CHECKED	DATE	

FED. RD.	STATE	PROJECT
2	OHIO	

416  
338

52  
60

CUYAHOGA COUNTY  
CUY - 90 - 11.64

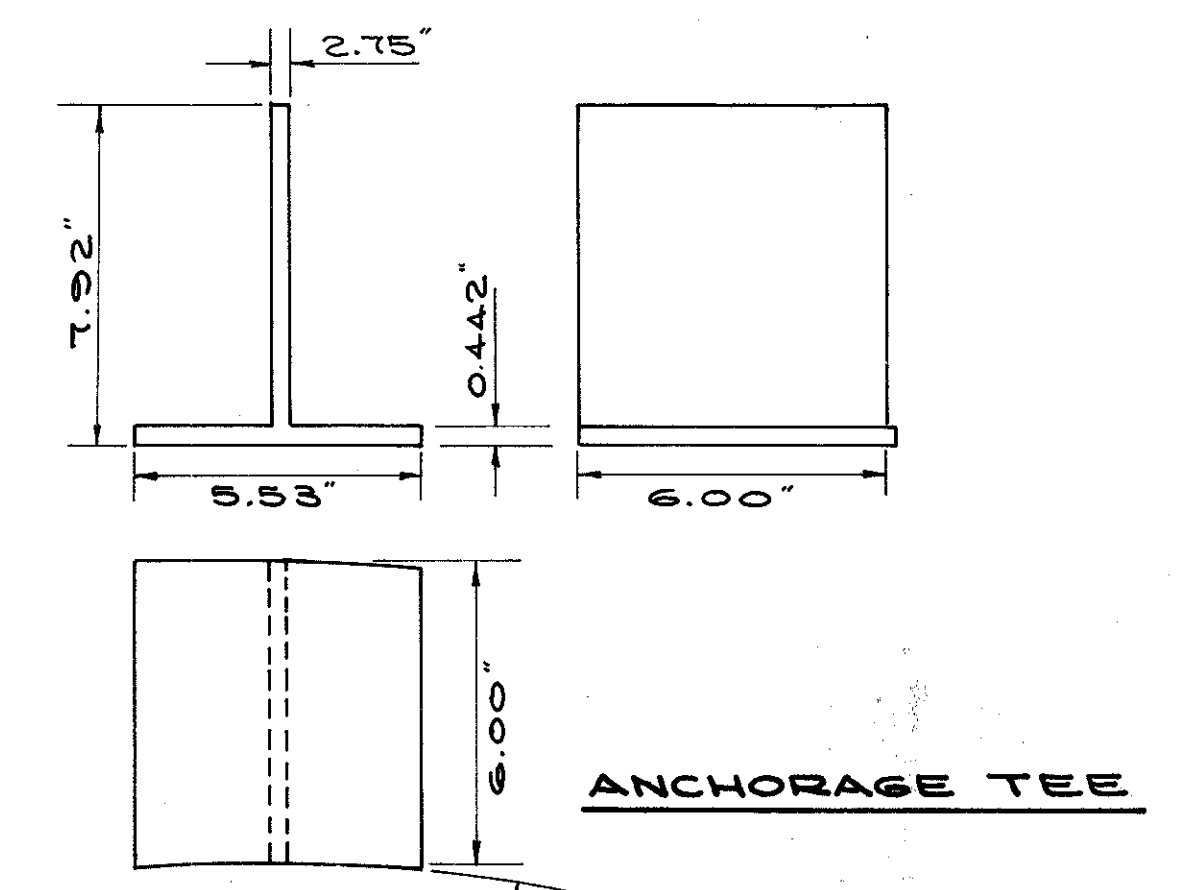
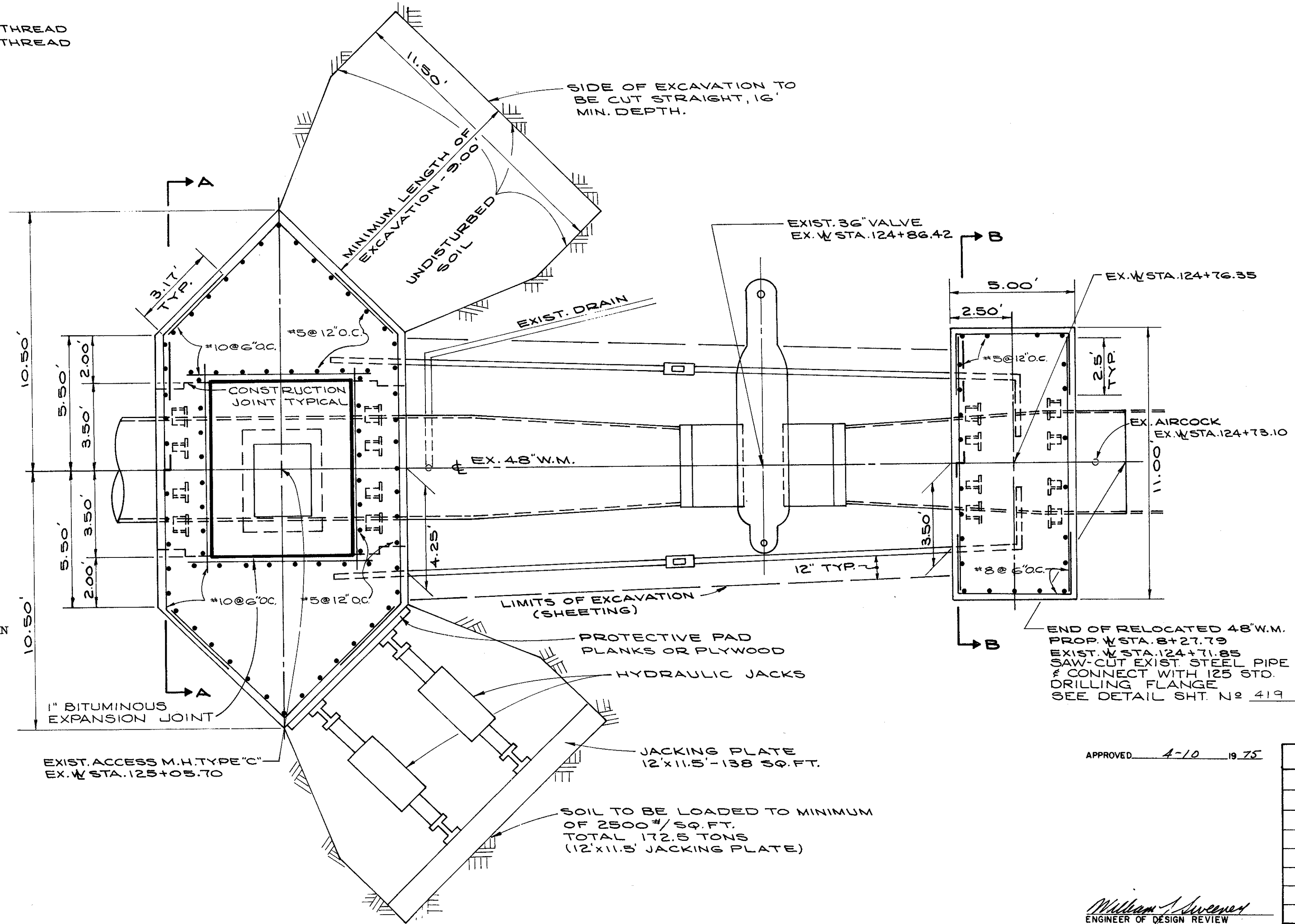


**PRELOADING SOIL**

THE FORCE TO BE RESISTED BY EACH OF THE PRELOADED SOIL AREAS IS 345,000 LBS. OR 172.5 TONS. THE LOADING OF THE TWO SOIL AREAS SHALL BE SIMULTANEOUS AND EVENLY BALANCED. UPON DETERMINATION THAT THE LOADED SOIL WILL GIVE A CONSTANT PASSIVE RESISTANCE THAT CAN BE MAINTAINED DURING THE RELOCATION PERIOD, OF AT LEAST 172.5 TONS THE WORK SEQUENCE FOR THE 48" RELOCATION MAY CONTINUE (SEE SHEET NO. 379). THE NUMBER OF JACKS USED AND THE DUNNAGE OR BLOCKING USED TO DISTRIBUTE THE FORCE OF THE JACK OR JACKS TO THE JACKING PLATE AND THE ANCHOR BLOCK ARE TO BE DETERMINED BY THE CONTRACTOR, AND APPROVED BY THE ENGINEER. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, CHANGE THE SIZE OF THE JACKING PLATE, THE AMOUNT OF PRESSURE EXERTED BY THE JACKS AND THE AMOUNT THAT THE SOIL IS LOADED SO LONG AS THE ANCHOR BLOCK IS SUPPORTED EQUALLY ON EACH FACE WITH A FORCE OF 345,000 LBS. THE AMOUNT OF FORCE SHALL BE MEASURED AND MAINTAINED CONSTANTLY ON EACH FACE OF THE ANCHOR BLOCK DURING THE RELOCATION PERIOD. SEE NOTE SHEET NO. 379.

THE FOLLOWING METHOD OF LOADING THE SOIL USING HYDRAULIC JACKS SHALL BE USED.

FOUR (4) 45 TON CAPACITY, 10" BORE HYDRAULIC JACKS WILL YIELD 345,576# OF FORCE WITH AN INTERNAL PRESSURE OF 1100 P.S.I. USING THE ANCHOR BLOCK AS A BULWARK, AND WITH THE FORCES DISTRIBUTED EVENLY, THE HYDRAULIC JACKS SHALL EXERT PRESSURE ON THE JACKING PLATE (WITH 138 SQ. FT. AREA). THE JACKS SHALL BE OF THE SAME SIZE AND NUMBER IN EACH OF THE TWO LOCATIONS AND SHALL HAVE A COMMON PRESSURE SOURCE SO THAT A PRESSURE GAUGE IN THE LINE CAN BE USED TO MEASURE AND MAINTAIN THE REQUIRED PRESSURE CONSTANTLY. WHEN THE SOIL HAS BEEN COMPRESSED TO THE POINT WHERE CONSTANT PRESSURE OF 1100 P.S.I. IN THE JACKS NO LONGER PRODUCES A MOVEMENT OF THE JACKING PLATE, THE SOIL WILL BE LOADED TO 2500#/SQ. FT. (138 SQ. FT. AREA BEARING ON EARTH).



MAKE FROM STRUCTURAL TEE  
WT. 8x15.5-A.S.T.M. A-36

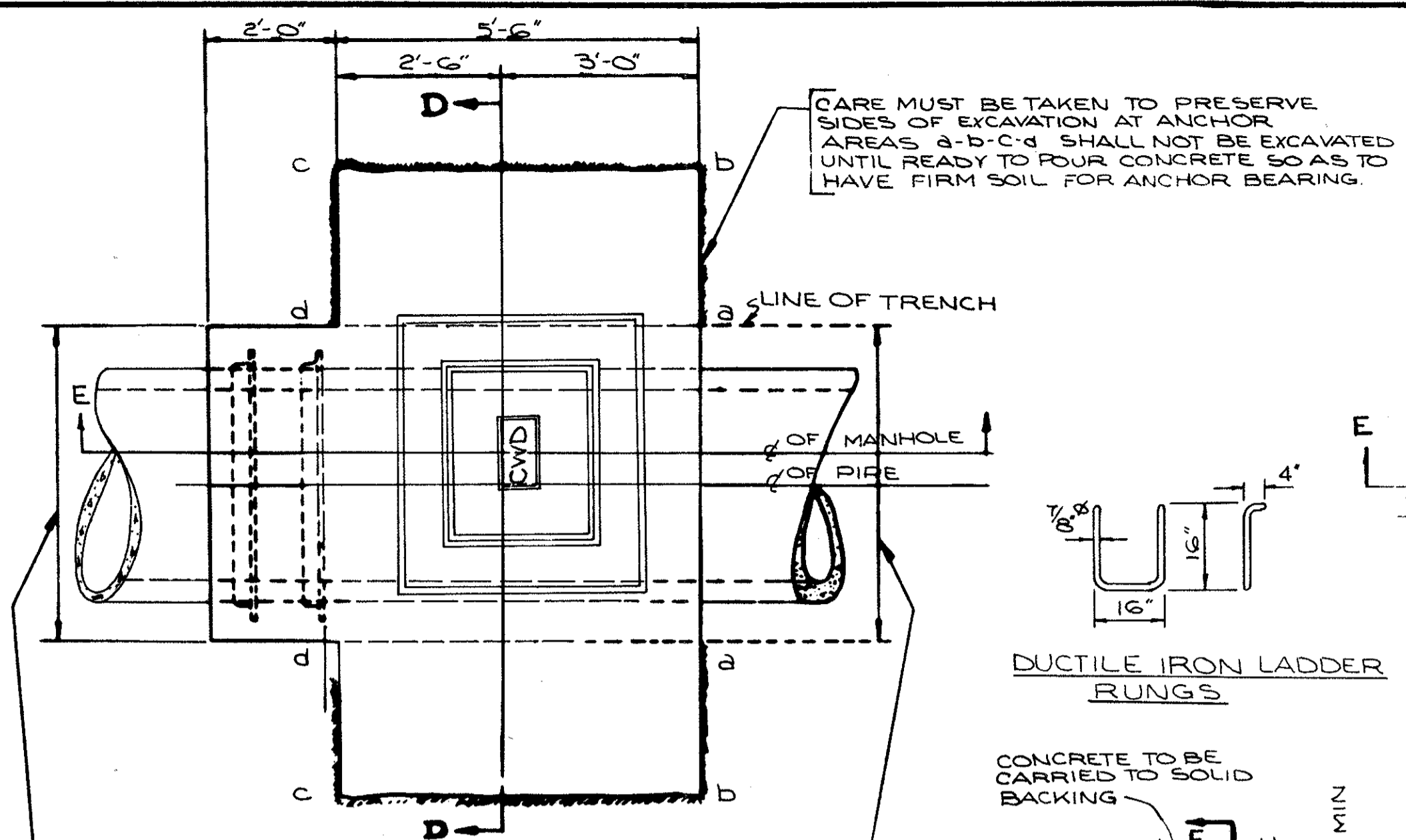
8 PIECES CUT TO 1.88" R  
40 PIECES CUT TO 2.037" R  
(16 PCS. USED ON PROP. PLAN ANCHOR  
EX. STA. 114+42.45)

WELD TO PIPE AS SHOWN WITH  
5/16" FILLET WELD ALL AROUND.  
SEE SPEC. ON SH'T. N# 417

APPROVED 4-10-1975

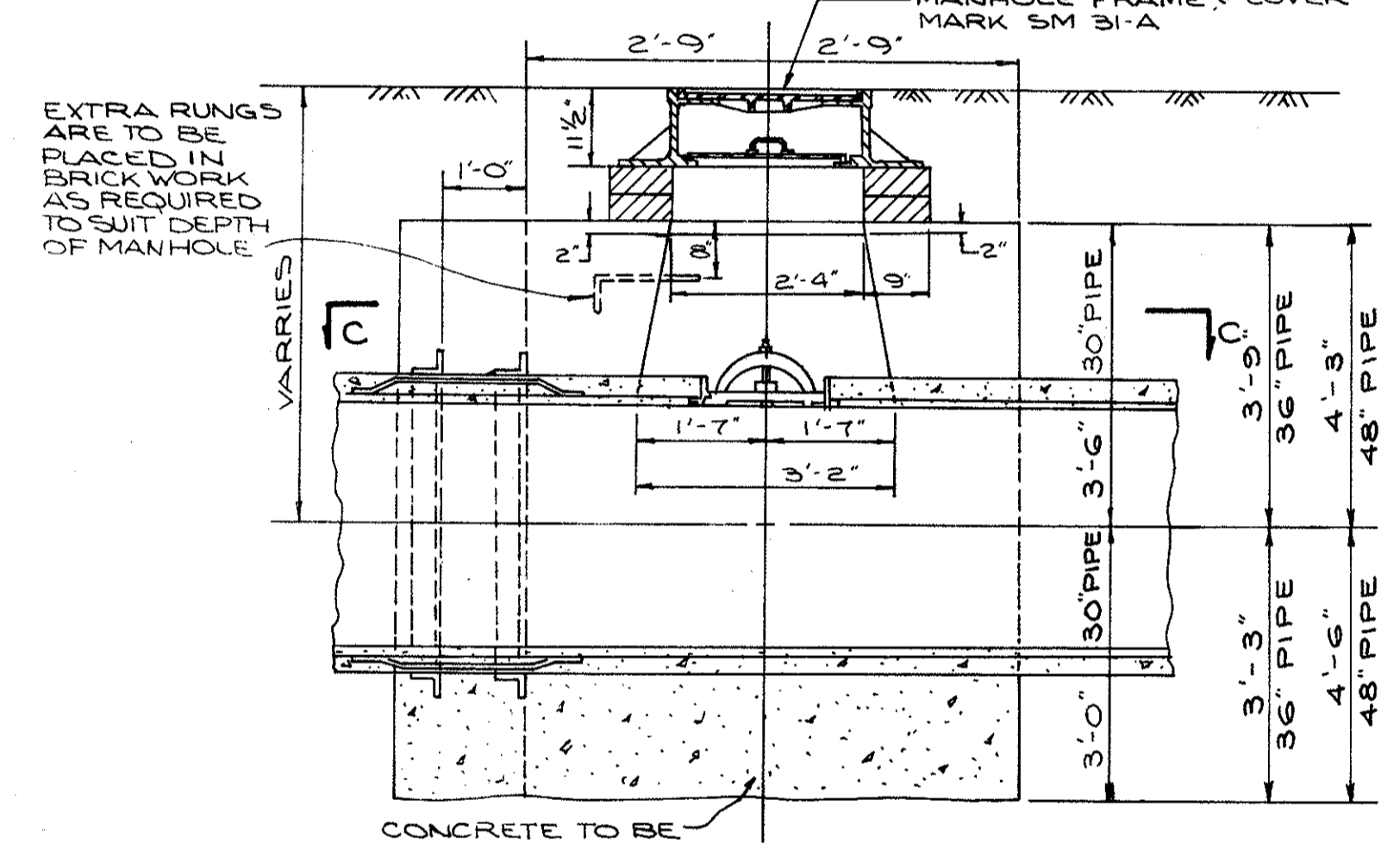
REVISIONS		1 <sup>st</sup> HIGH SERVICE DISTRICT	
		DEPARTMENT OF PUBLIC UTILITIES	
		DIVISION OF WATER AND HEAT	
		CLEVELAND, OHIO	
		SUBJECT: WATERWORK DETAIL - SPECIAL	
		REINFORCED CONCRETE ANCHOR	
DRAWN	SCALE		
CHECKED	DATE	No.	

William J. Swenson  
ENGINEER OF DESIGN REVIEW

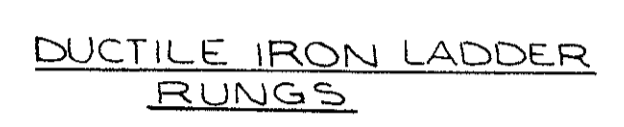


WIDTH OF TRENCH AT ANCHOR TO BE 5'-0" MAX. FOR 30" & 36" PIPE, 6'-0" MAX. FOR 48" PIPE FOR DISTANCE OF ABOUT 5' FROM BOTH FACES OF ANCHOR.

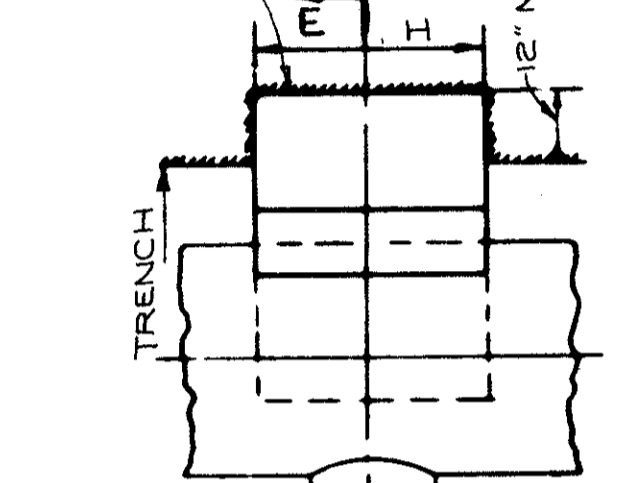
PLAN



SECTION "E-E"



CONCRETE TO BE CARRIED TO SOLID BACKING

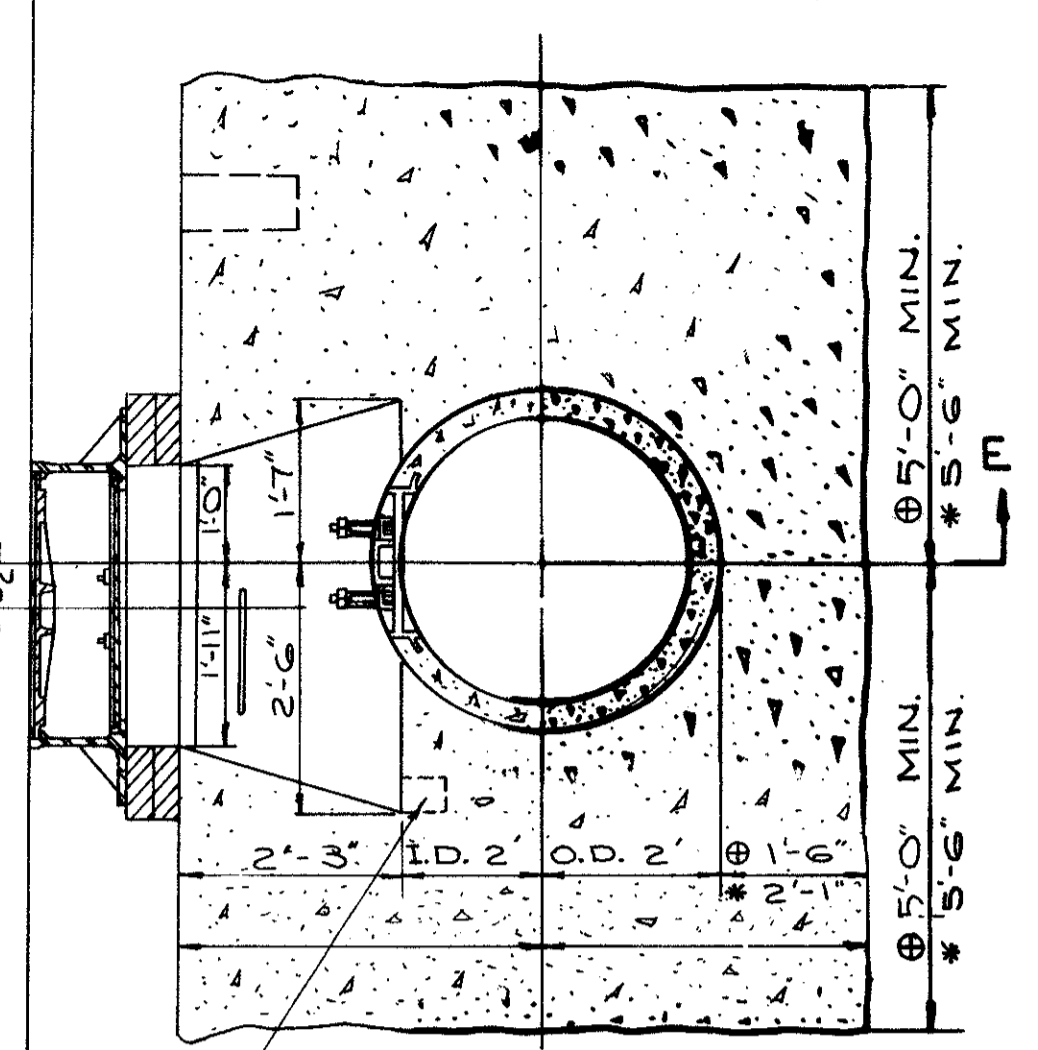


SECTION E-E

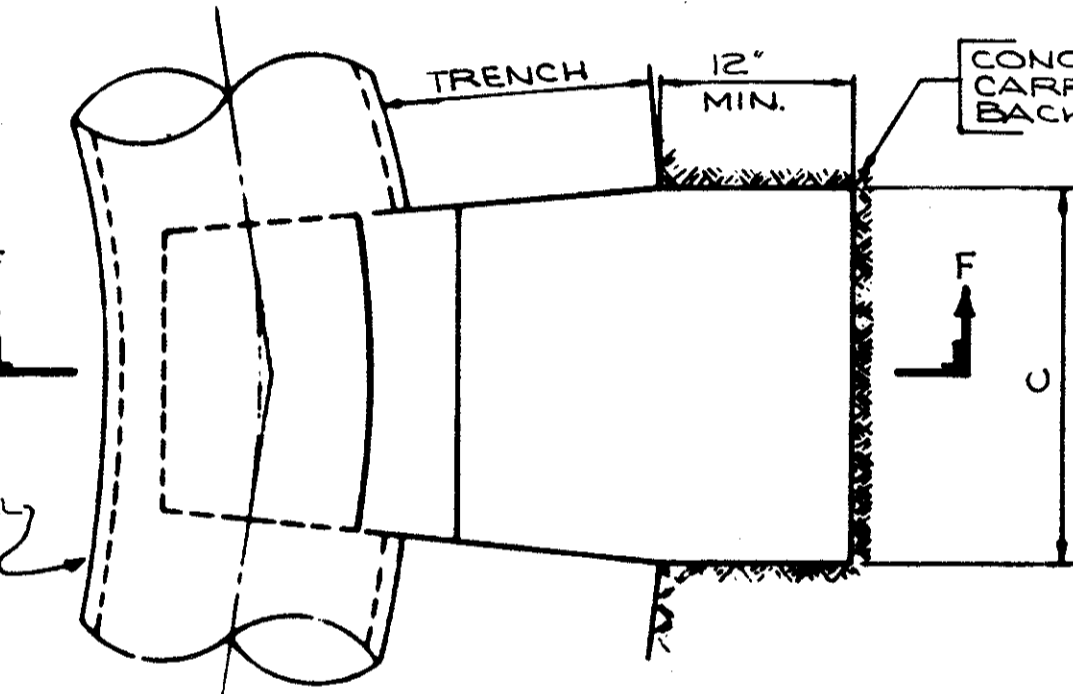
CONCRETE PIERS FOR TEES

SIZE OF CONN. *	H	K
6"	2'-0"	2'-0"
8"	2'-0"	2'-0"
10"	2'-0"	2'-0"
12"	2'-3"	2'-3"
16"	2'-9"	2'-9"

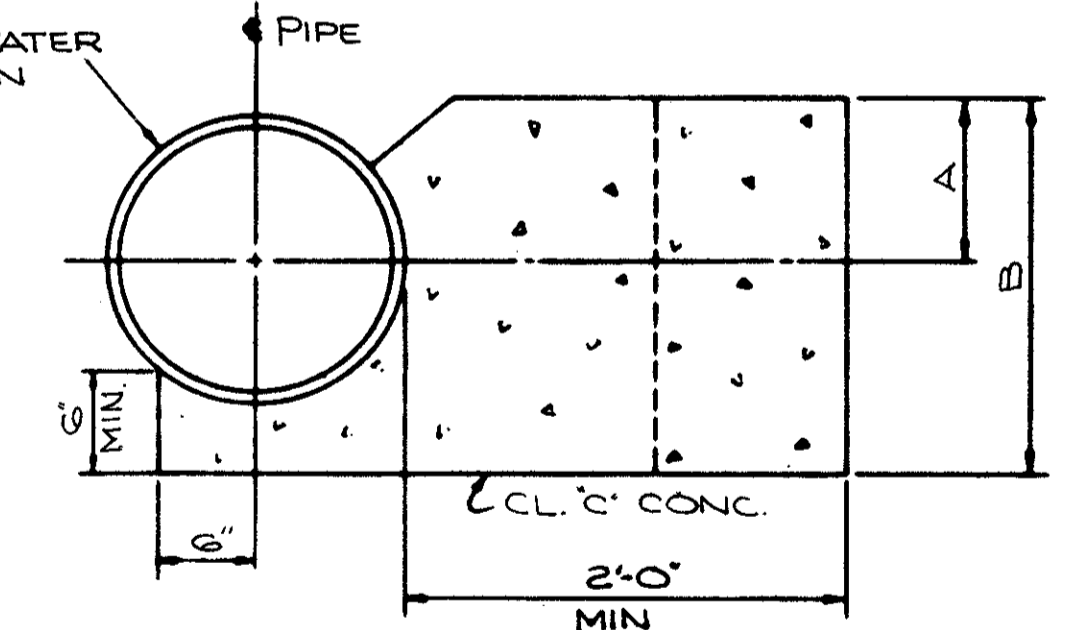
NOTE: MANHOLE FRAME & COVER, STEPS & INCIDENTALS SHALL BE INCLUDED IN UNIT BID PRICE FOR ITEM SPECIAL, ACCESS M.H., COMPLETE



SECTION D-D



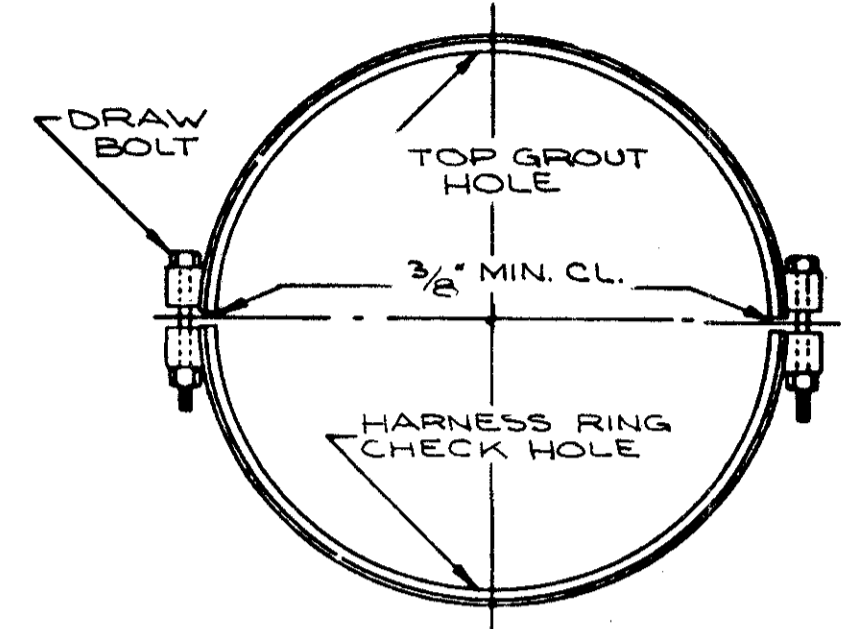
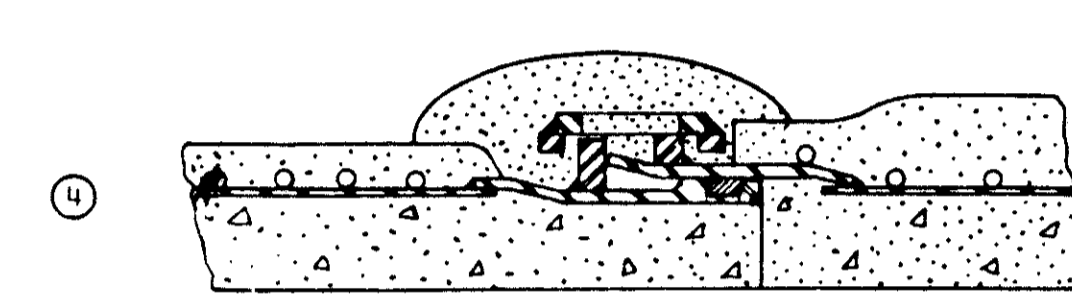
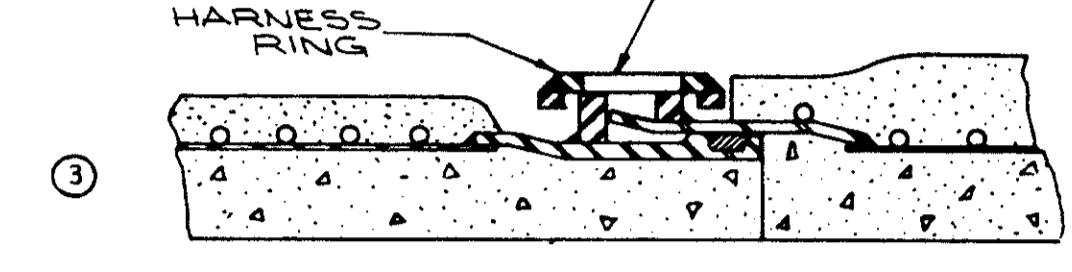
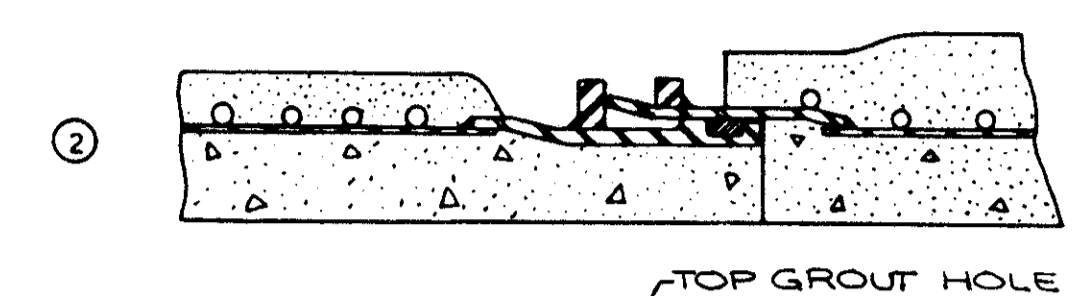
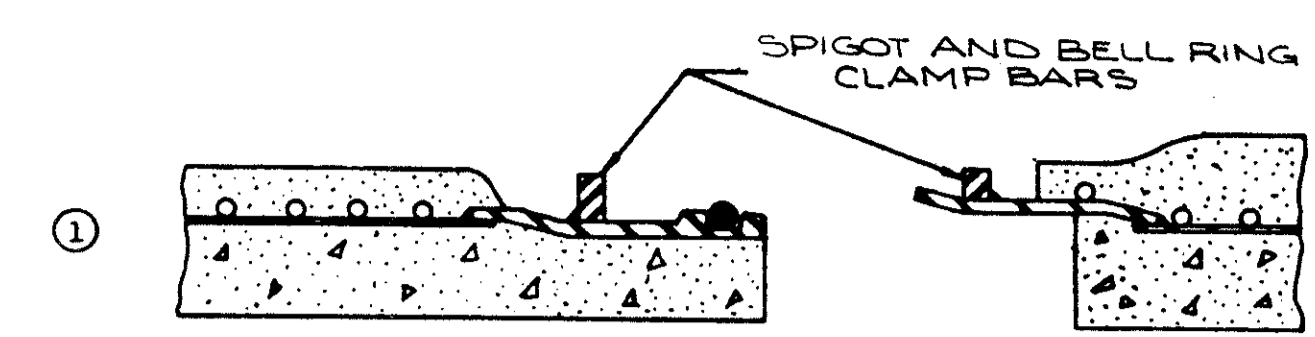
PLAN



SECTION F-F

CONCRETE PIERS FOR BENDS

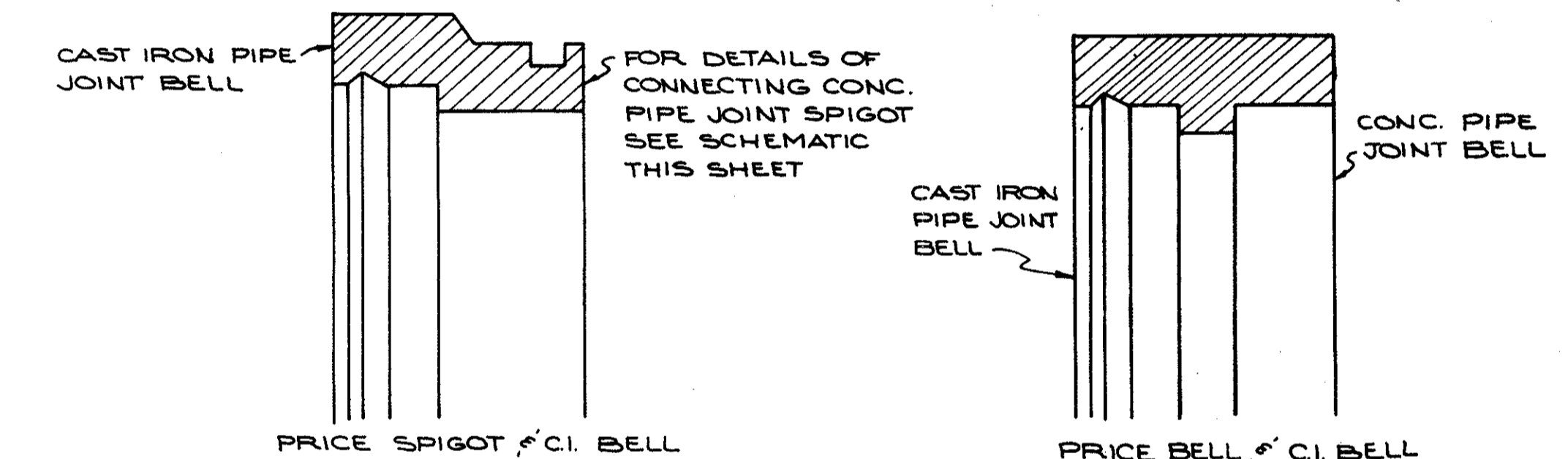
SIZE	ANGLE	A.	B.	C.
6"	45°	0'-9"	1'-3"	1'-6"
6"	90°	0'-9"	1'-6"	2'-0"
8"	11¼°	0'-4"	1'-3"	1'-6"
8"	22½°	0'-4"	1'-3"	1'-6"
8"	45°	0'-8"	1'-6"	2'-0"
8"	90°	0'-10"	2'-0"	3'-0"
10"	45°	0'-10"	2'-0"	2'-6"
12"	22½°	0'-10"	2'-0"	2'-0"
16"	11¼°	0'-8"	2'-0"	2'-0"
16"	22½°	0'-8"	2'-0"	3'-0"
16"	45°	1'-6"	3'-0"	4'-0"
36"	45°	1'-6"	4'-0"	4'-0"
48"	22½°	1'-6"	5'-0"	3'-0"
48"	30°	1'-9"	5'-0"	4'-0"
48"	45°	2'-0"	5'-0"	4'-0"



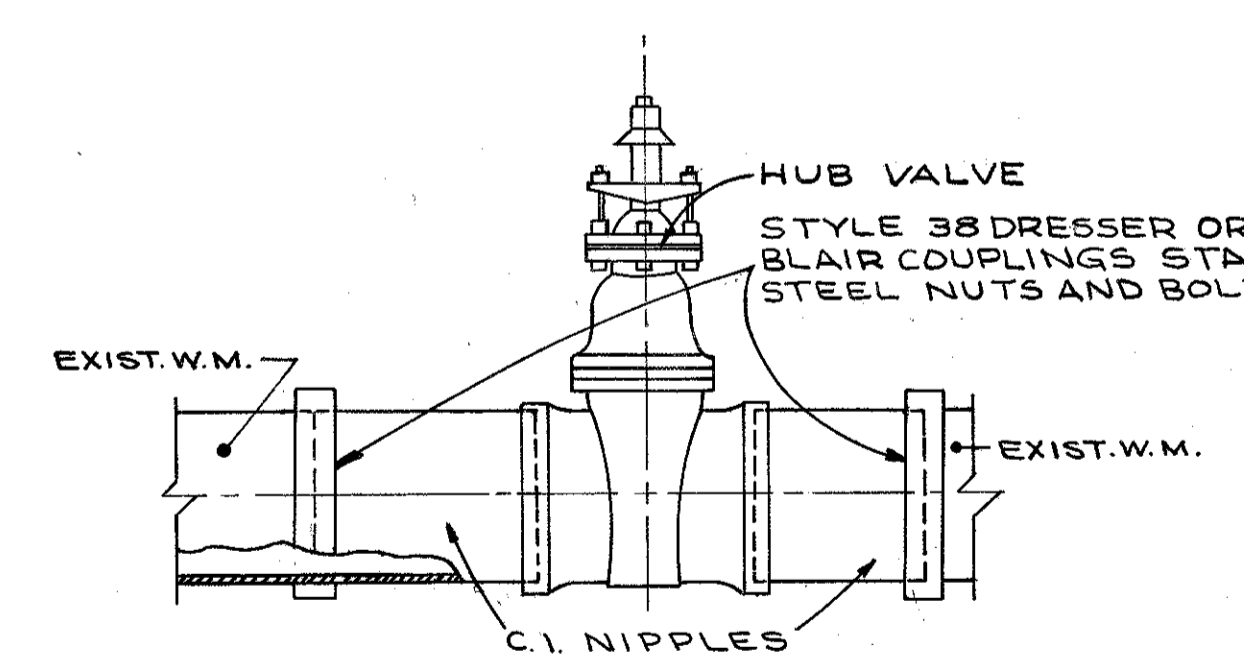
END VIEW OF HARNESS RING

CLAMP TYPE TIED JOINT OR APPROVED EQUAL

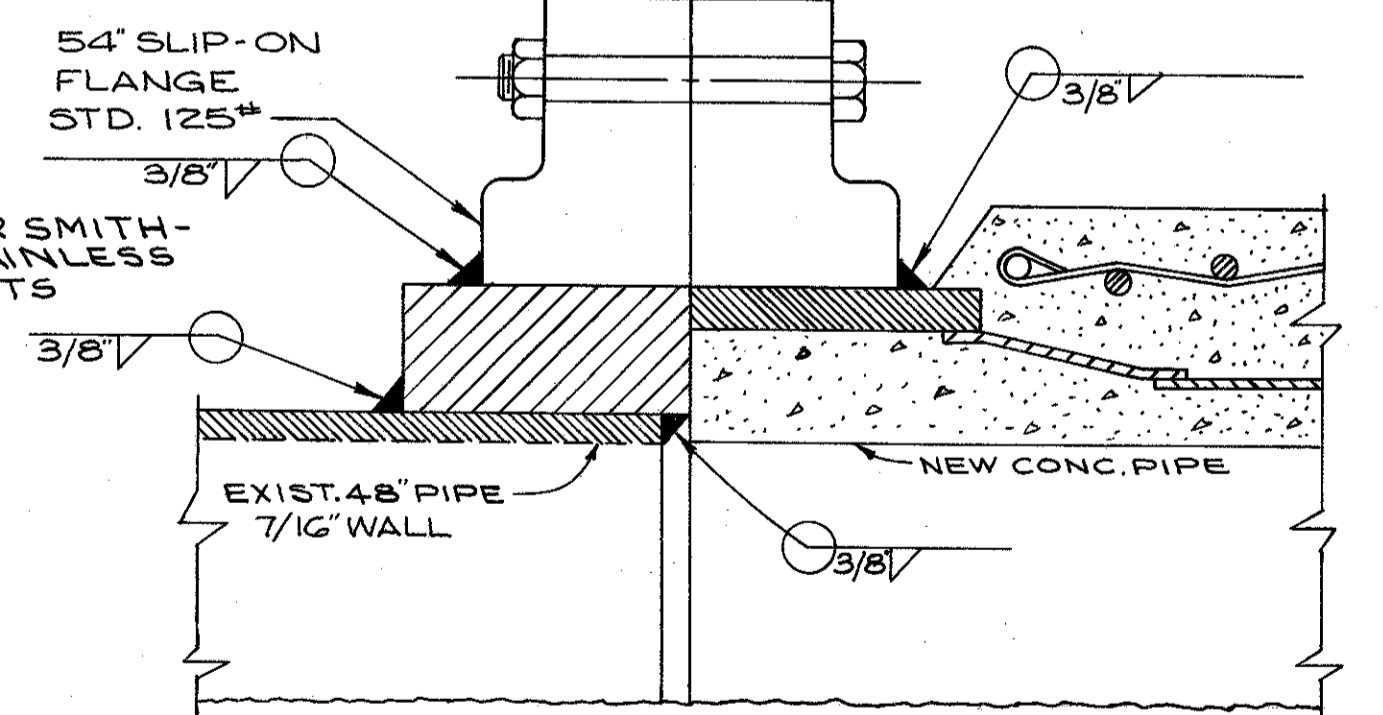
HARNESS RING CLAMP TYPE TIED JOINTS



DETAIL OF ADAPTER FROM PRESTRESSED CONCRETE CYLINDER PIPE TO EXISTING CAST IRON PIPE



DETAIL OF CUT-IN VALVE & SLEEVE



DETAIL OF CONNECTION BETWEEN 48" CONCRETE PIPE AND EXIST. 48" STEEL PIPE

NOTE: BEFORE CUTTING EXISTING WATERMAIN PIPE, THE TWO NIPPLES SHALL BE CONNECTED TO THE HUB VALVE USING LEAD JOINTS. FINAL CONNECTIONS SHALL BE MADE WITH STYLE 38 DRESSER OR SMITH-BLAIR COUPLINGS OR APPROVED EQUAL.

APPROVED 4-10-1975

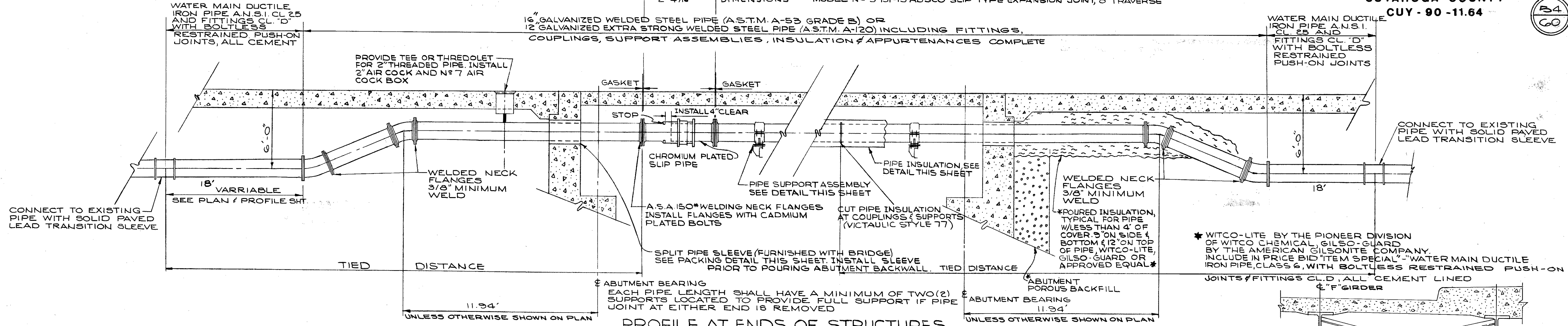
William A. Swartz  
ENGINEER OF DESIGN REVIEW

REVISIONS	1st HIGH SERVICE DISTRICT	
	DEPARTMENT OF PUBLIC UTILITIES	
	DIVISION OF WATER AND HEAT	
	CLEVELAND, OHIO	
SUBJECT	WATERWORK DETAILS	
DRAWN	SCALE	No.
CHECKED	DATE	

30" & 36" W.M.  
48" W.M.

ACCESS MANHOLE ANCHORAGE TYPE "A" FOR 30, 36 & 48" W.M.

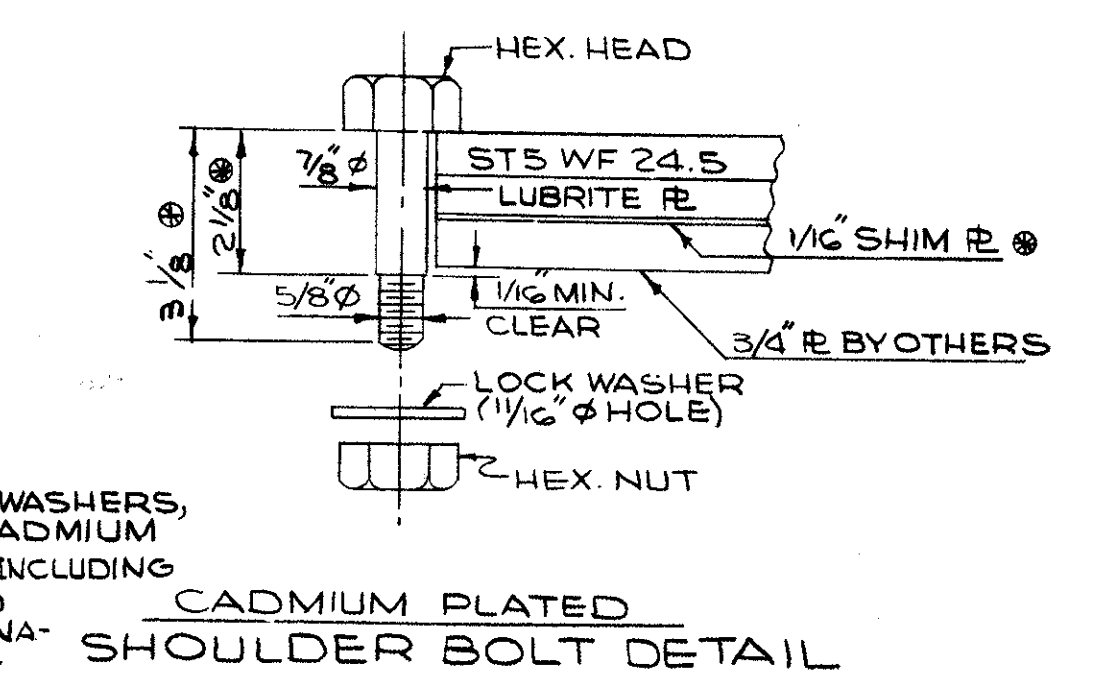
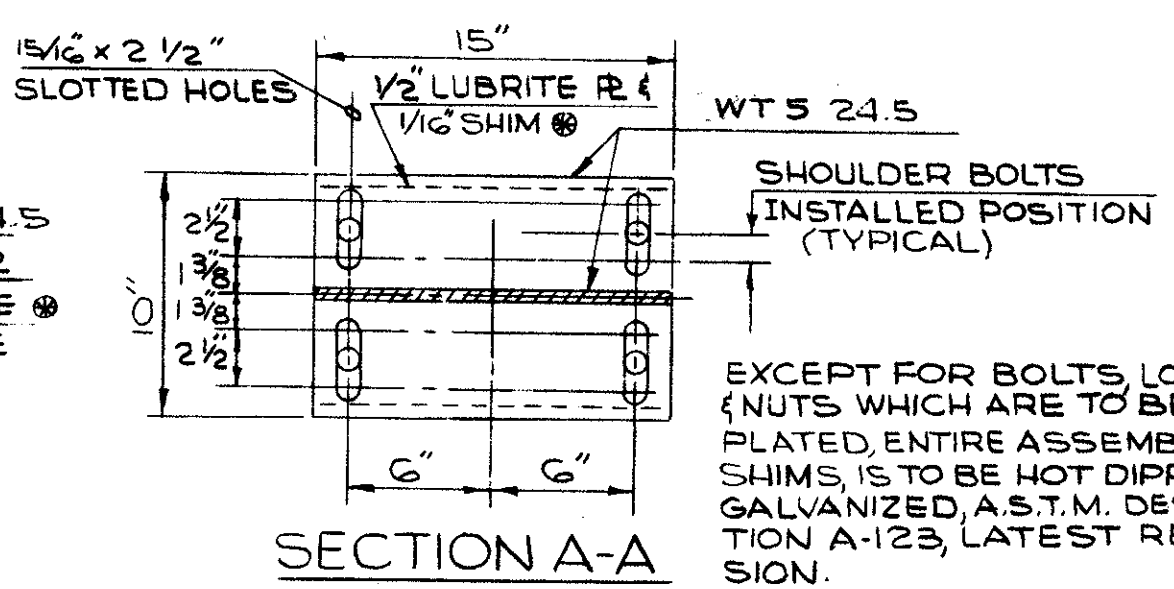
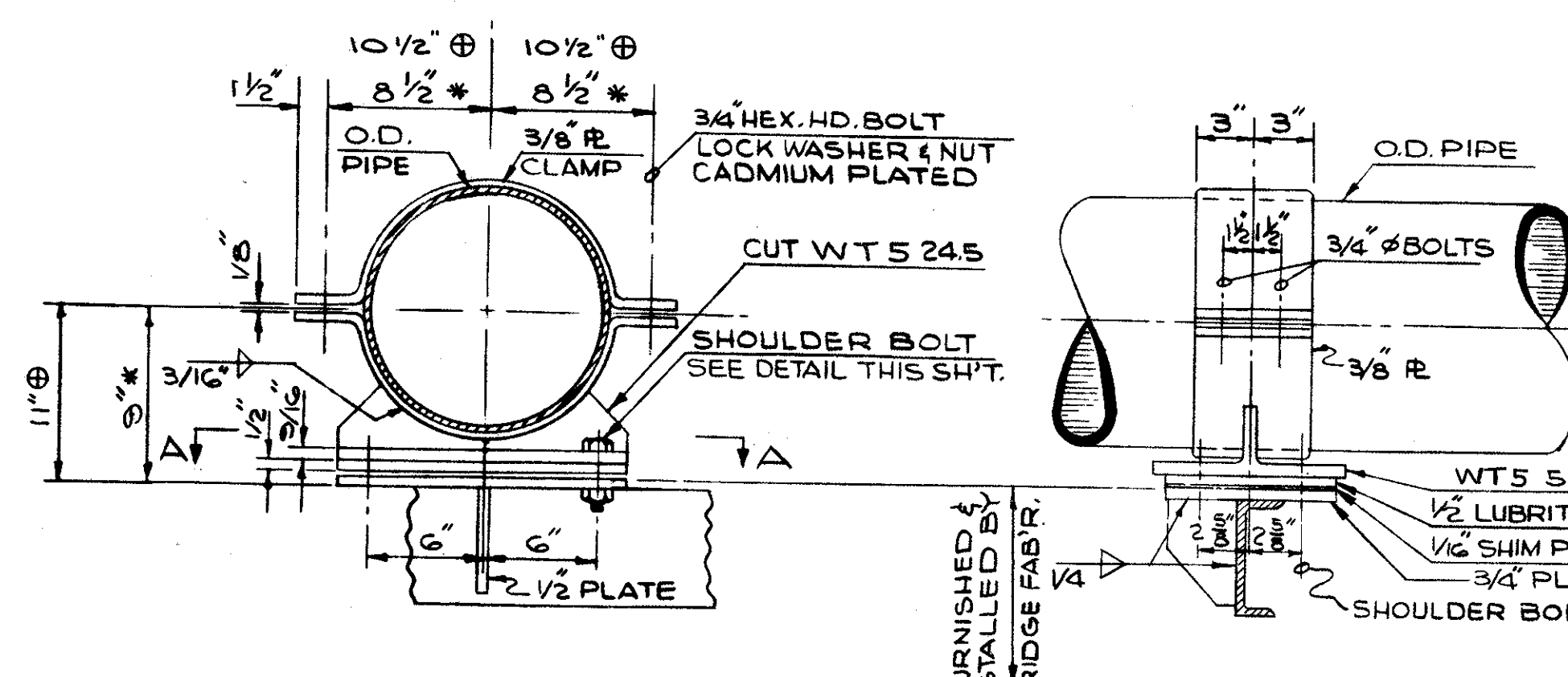
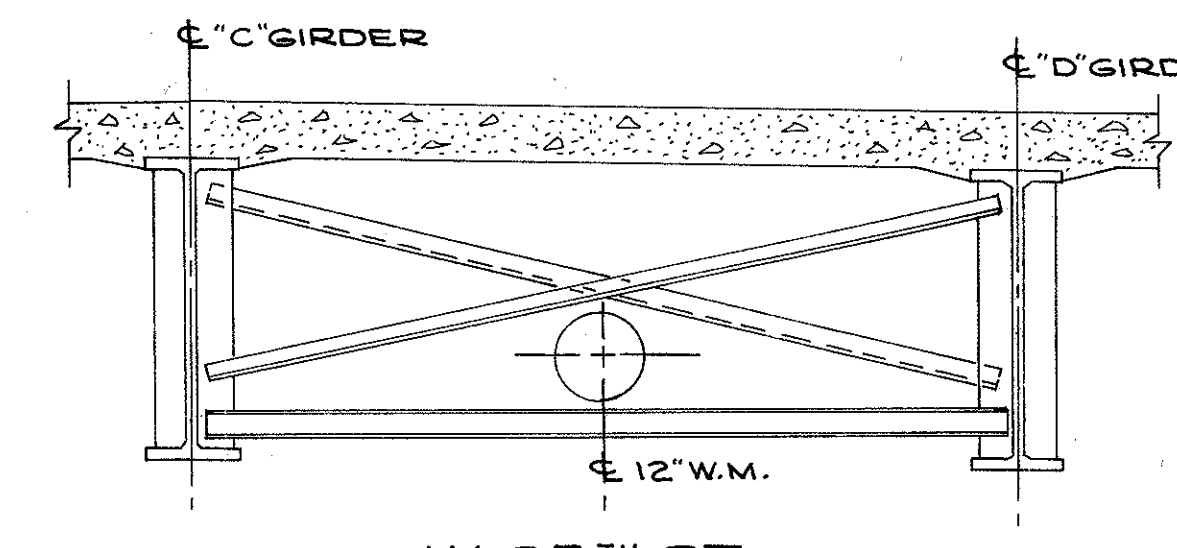
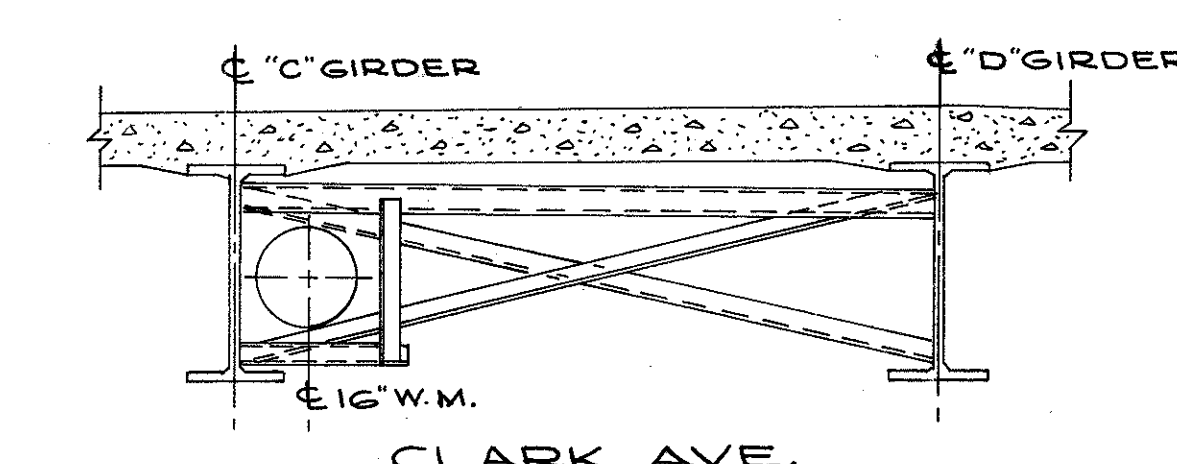
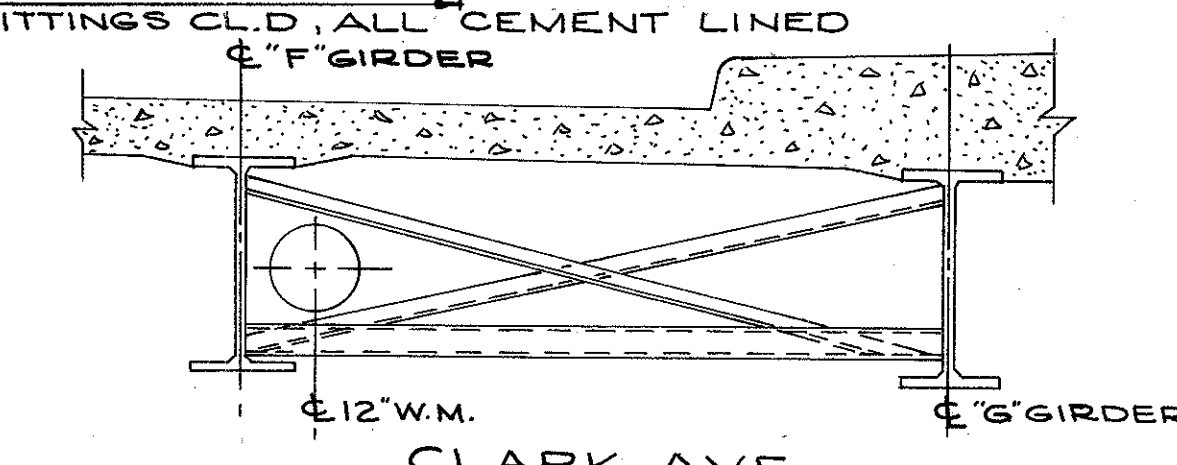
EXPANSION JOINT ASSEMBLY  
4'-0" DIMENSIONS  
STYLE G3 TYPE I DRESSER EXPANSION JOINT  
MODEL N° S-151-IS ADSCO SLIP TYPE EXPANSION JOINT, 8" TRAVERSE



PROFILE AT ENDS OF STRUCTURES

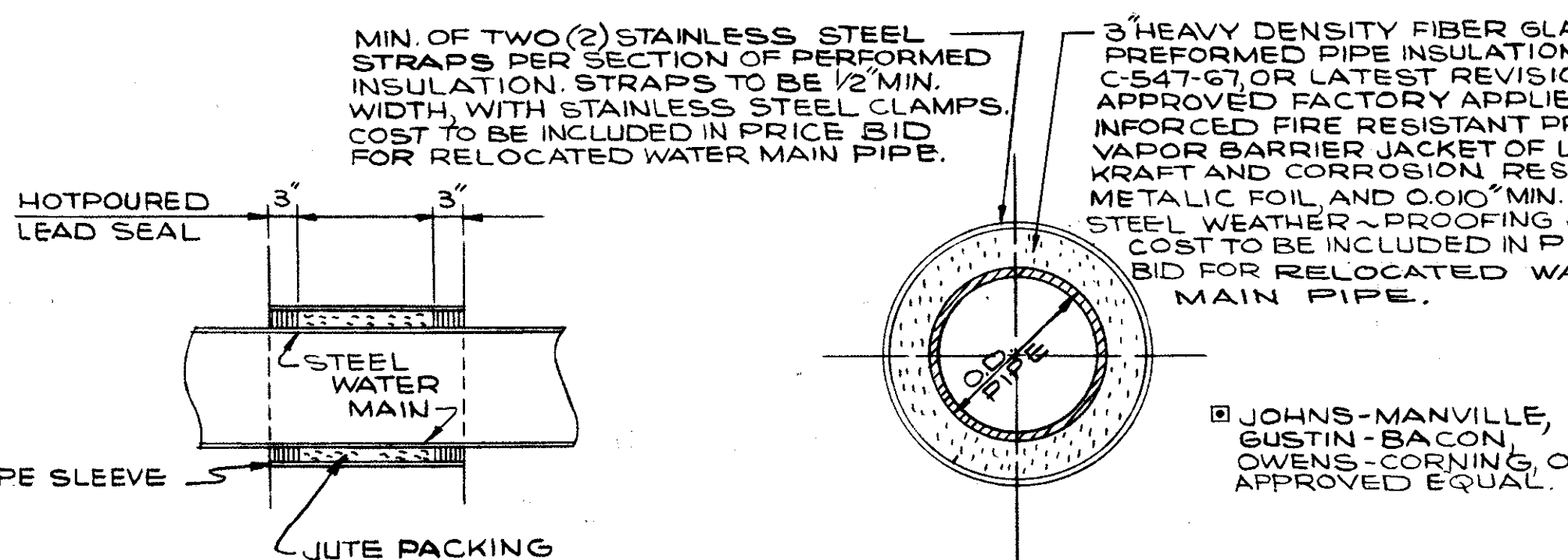
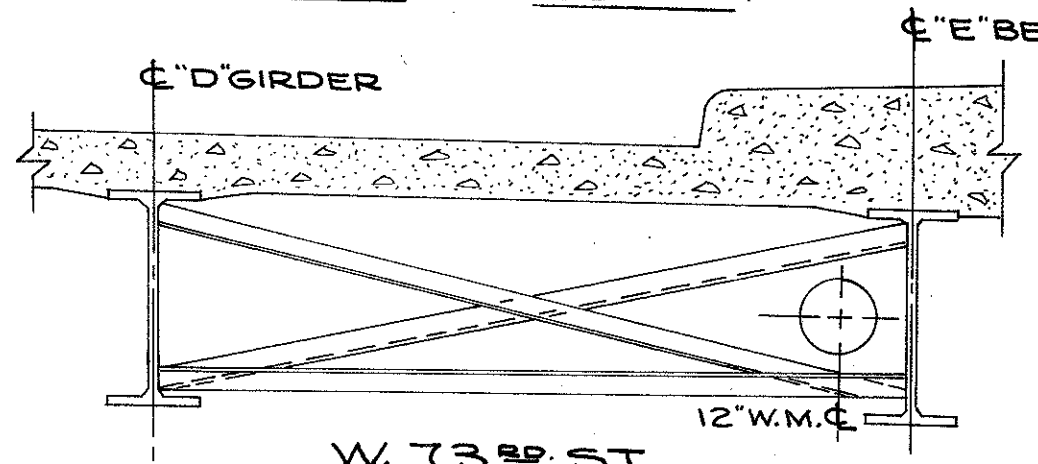
FOR PLAN & PROFILE OF WATER MAIN SEE:

12" - SHEET N°	404	FOR CLARK AVE. STRUCTURE DRAWINGS	653	666
12" - SHEET N°	406	FOR W. 73 ST. STRUCTURE DRAWINGS	667	678
12" - SHEET N°	405	FOR CLARK AVE. STRUCTURE DRAWINGS	653	666
12" - SHEET N°	408	FOR W. 65 ST. STRUCTURE DRAWINGS	691	699



NOTES: THE CONTRACTOR SHALL FURNISH ALL SHOP DRAWINGS, INSTALLATION DRAWINGS AND INSTALLATION SCHEDULE TO THE DIRECTOR OF PUBLIC UTILITIES, CITY OF CLEVELAND, AND THE ENGINEER FOR APPROVAL.

FOR COMPLETE WATERWORK SPECIFICATIONS SEE SHEET 368 THRU 380



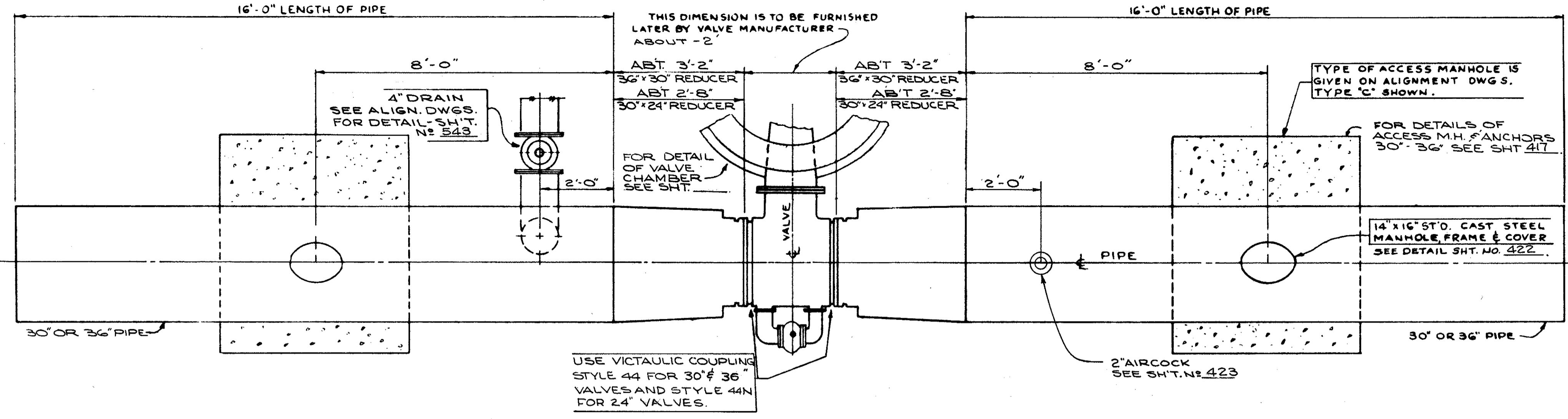
DETAIL AT END OF STEEL PIPE FOR VICTAULIC COUPLINGS STYLE N° 77

NOTE: 1035 STEEL H.T. CADMIUM PLATED BOLTS (100,000 RS.I) TO BE FURNISHED WITH VICTAULIC COUPLINGS.

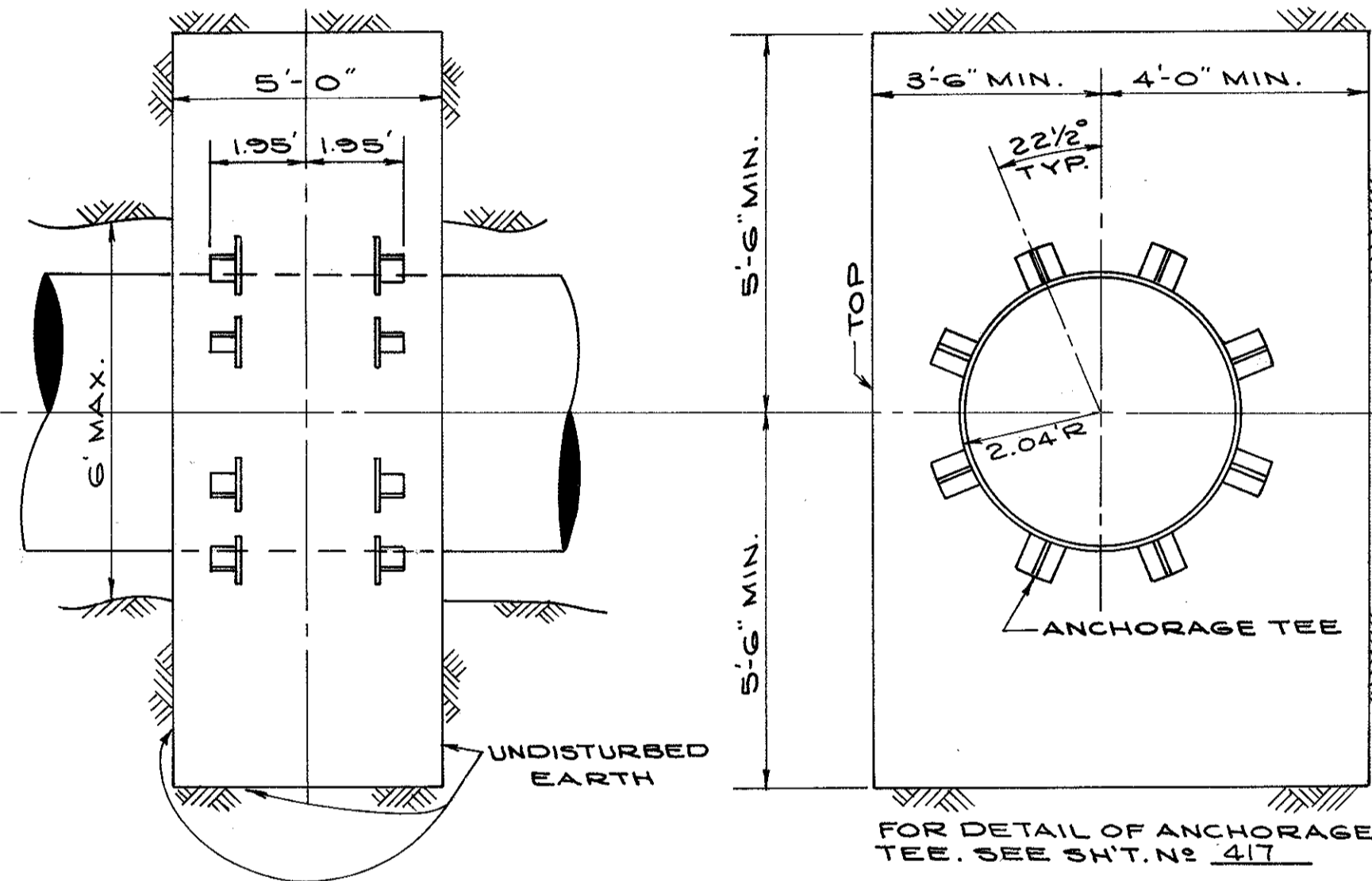
APPROVED 4-10-1975

William J. Lacey  
ENGINEER OF DESIGN REVIEW

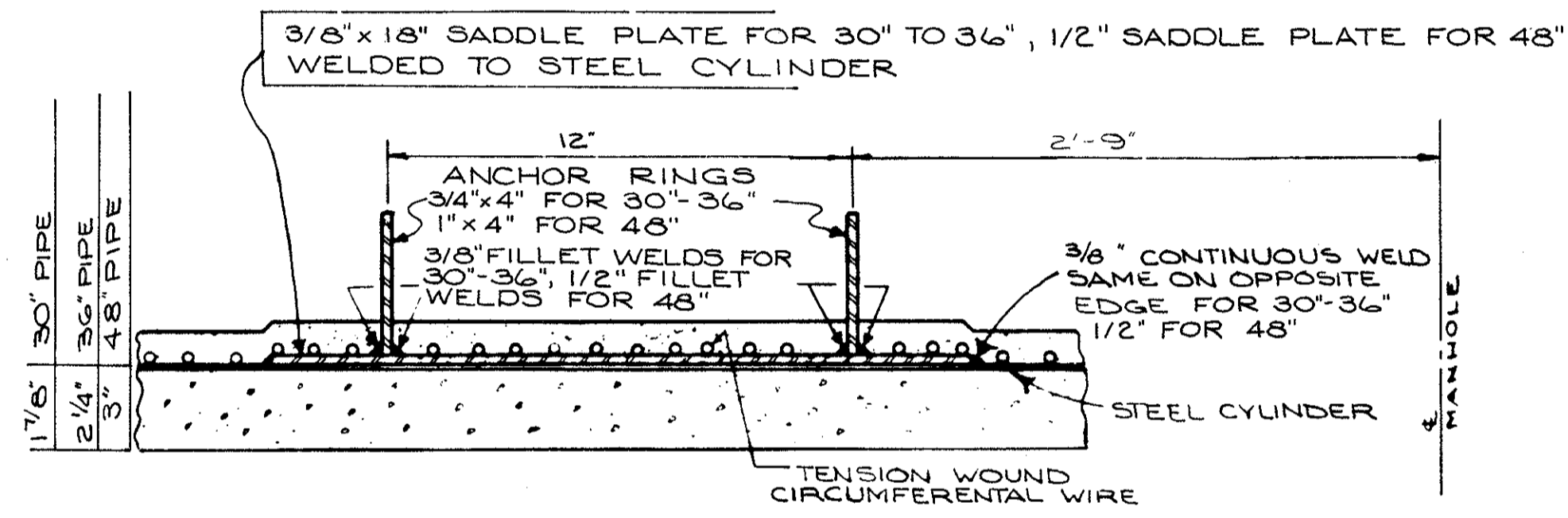
REVISIONS		LOW SERVICE DISTRICT	
		DEPARTMENT OF PUBLIC UTILITIES	
		DIVISION OF WATER AND HEAT	
		CLEVELAND, OHIO	
		SUBJECT WATER MAIN CONNECTION & SUPPORT DETAILS	
DRAWN W.R.S.	SCALE		
CHECKED	DATE	No.	



**TYPICAL VALVE ASSEMBLIES FOR 30" AND 36" CONCRETE PIPE**

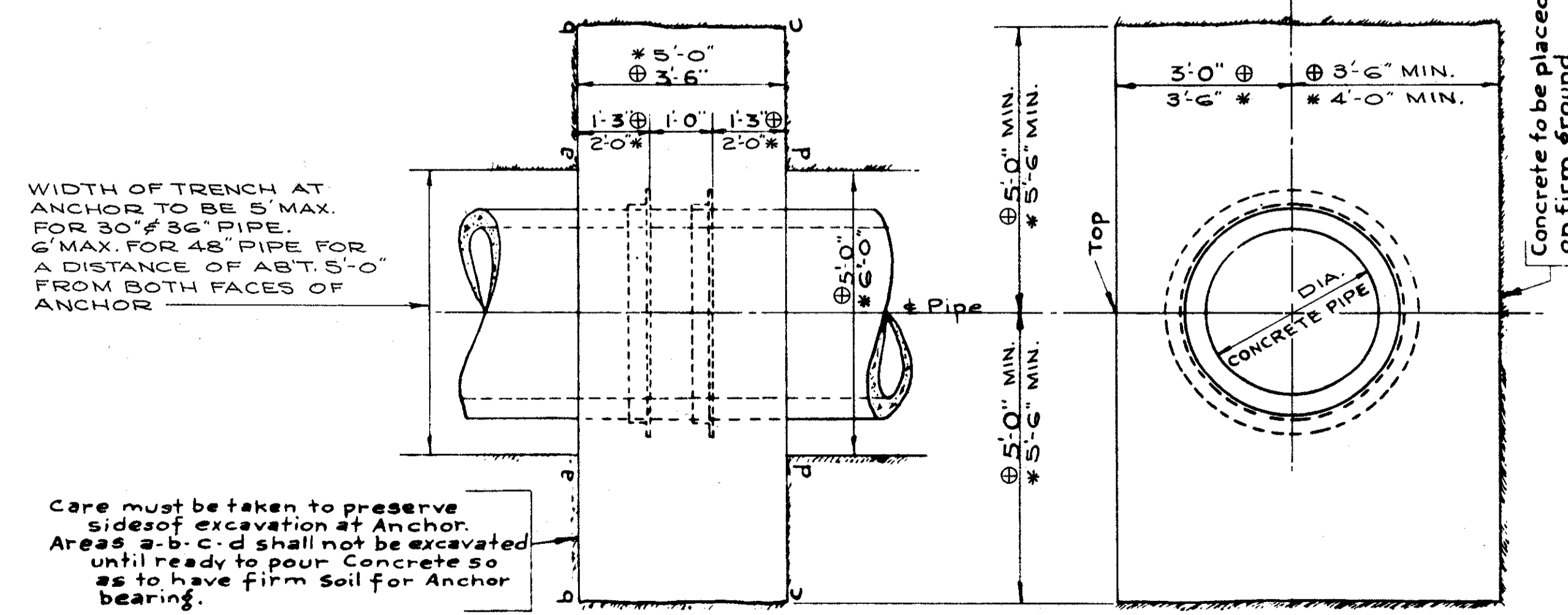


**PROP. PLAIN ANCHOR W/ANCHORAGE TEES ON EXIST. 48" STEEL PIPE**

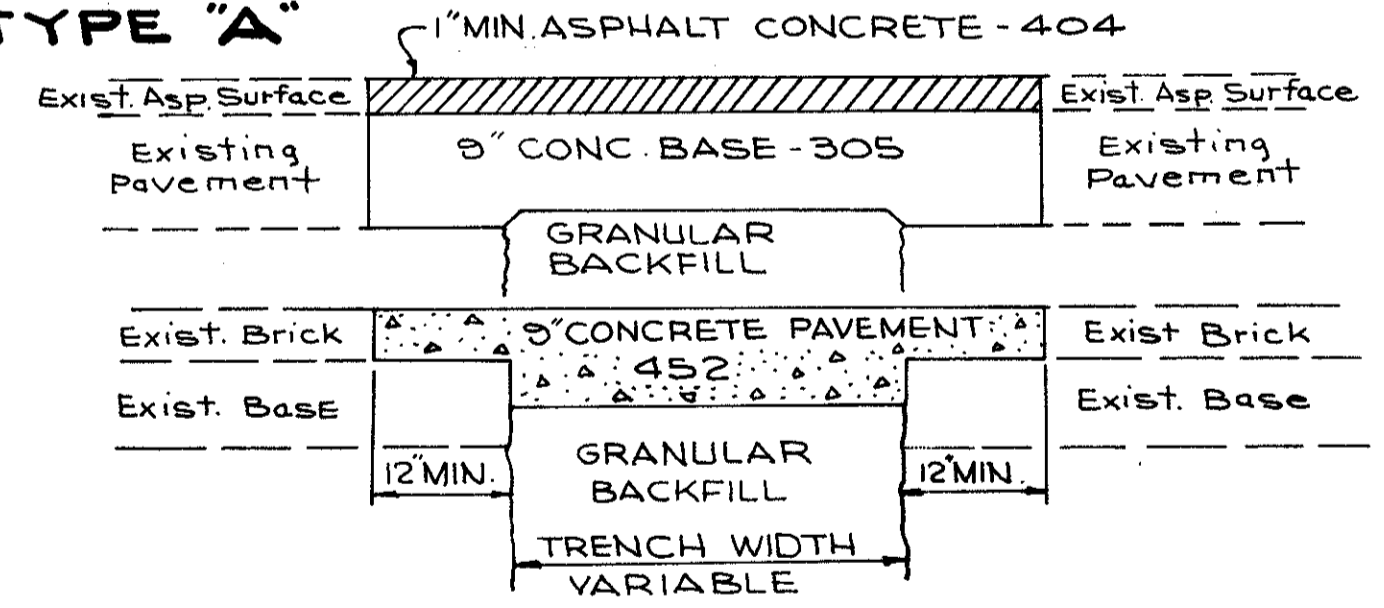


**ANCHORAGE DETAILS FOR 30", 36" & 48" PRESTRESSED CONC. CYLINDER PIPE FOR PLAIN ANCHOR AND ACCESS M.H. & ANCHORAGE TYPE "A"**

NOTE-1: FOR VALVES EQUIPPED WITH EXTENDED GREASE CASES, DIMENSION "X" WILL INCREASE. THE LOCATION OF VALVE STEM TO CENTER OF CHAMBER WILL REMAIN THE SAME AS SHOWN.



**PLAIN CONCRETE ANCHOR**  
 @ 30" & 36" W.M.  
 @ 48" W.M.

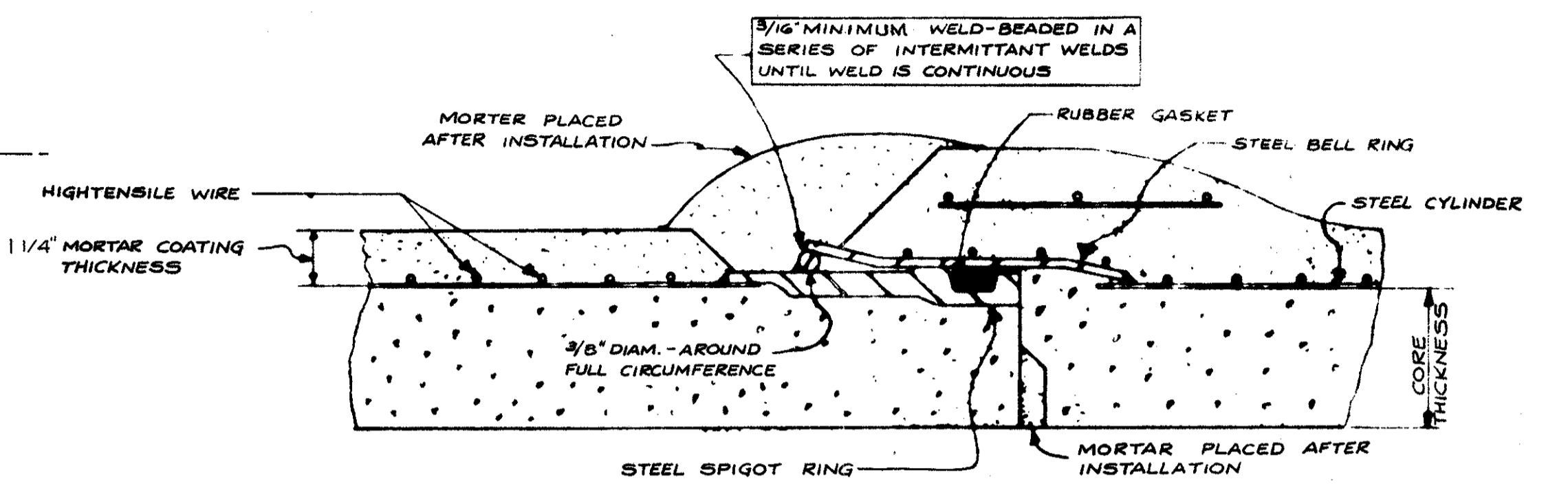


**TYPICAL SECTIONS REPAVING OVER WATER MAIN TRENCH**

**NOTES**

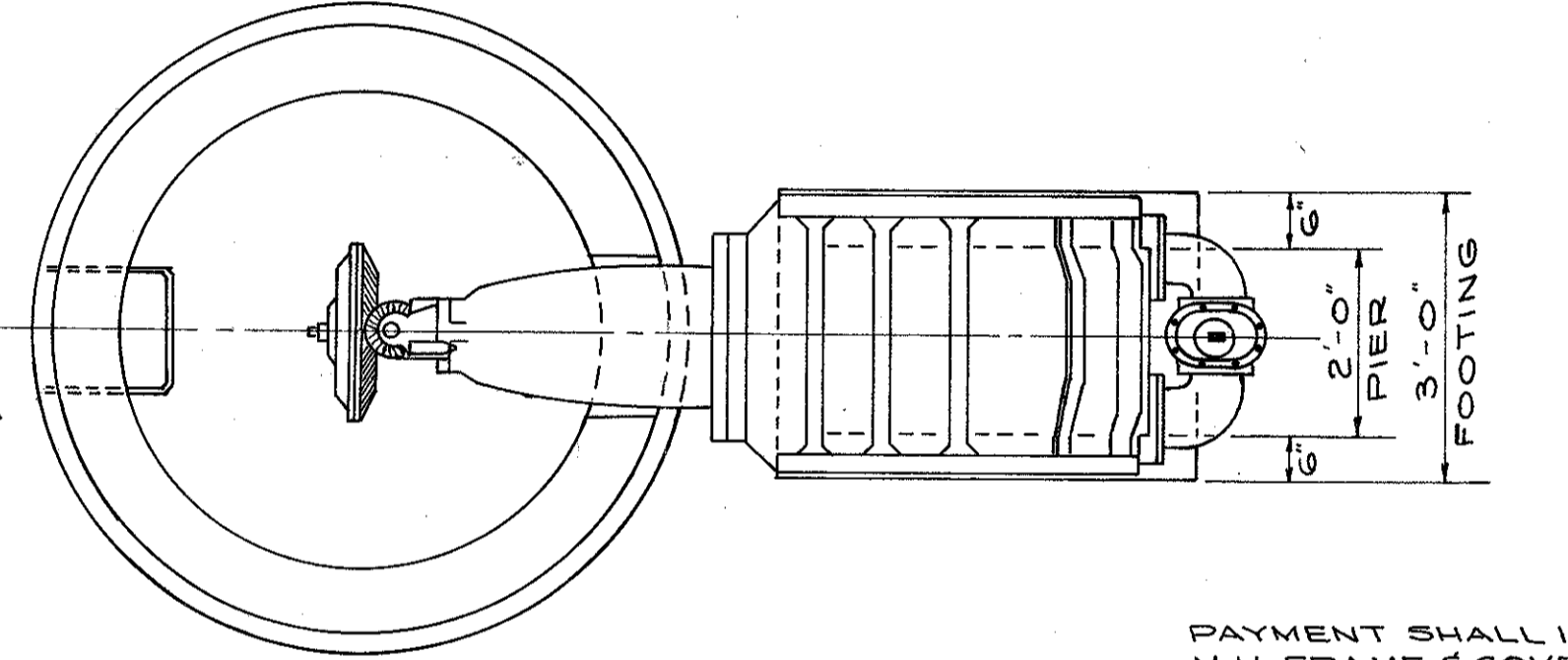
NO SPECIFIC OR SEPARATE PAYMENT WILL BE MADE FOR PAVEMENT REPLACEMENT, BUT THE COST THEREOF SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE VARIOUS ITEMS OF WATERWORK TO BE DONE UNDER THIS CONTRACT.

PAVEMENT REPLACEMENT AS STATED ABOVE WILL ONLY BE REQUIRED IN AREAS WHERE THE PLANS DO NOT OTHERWISE PROPOSE NEW CONSTRUCTION OF PAVEMENT.



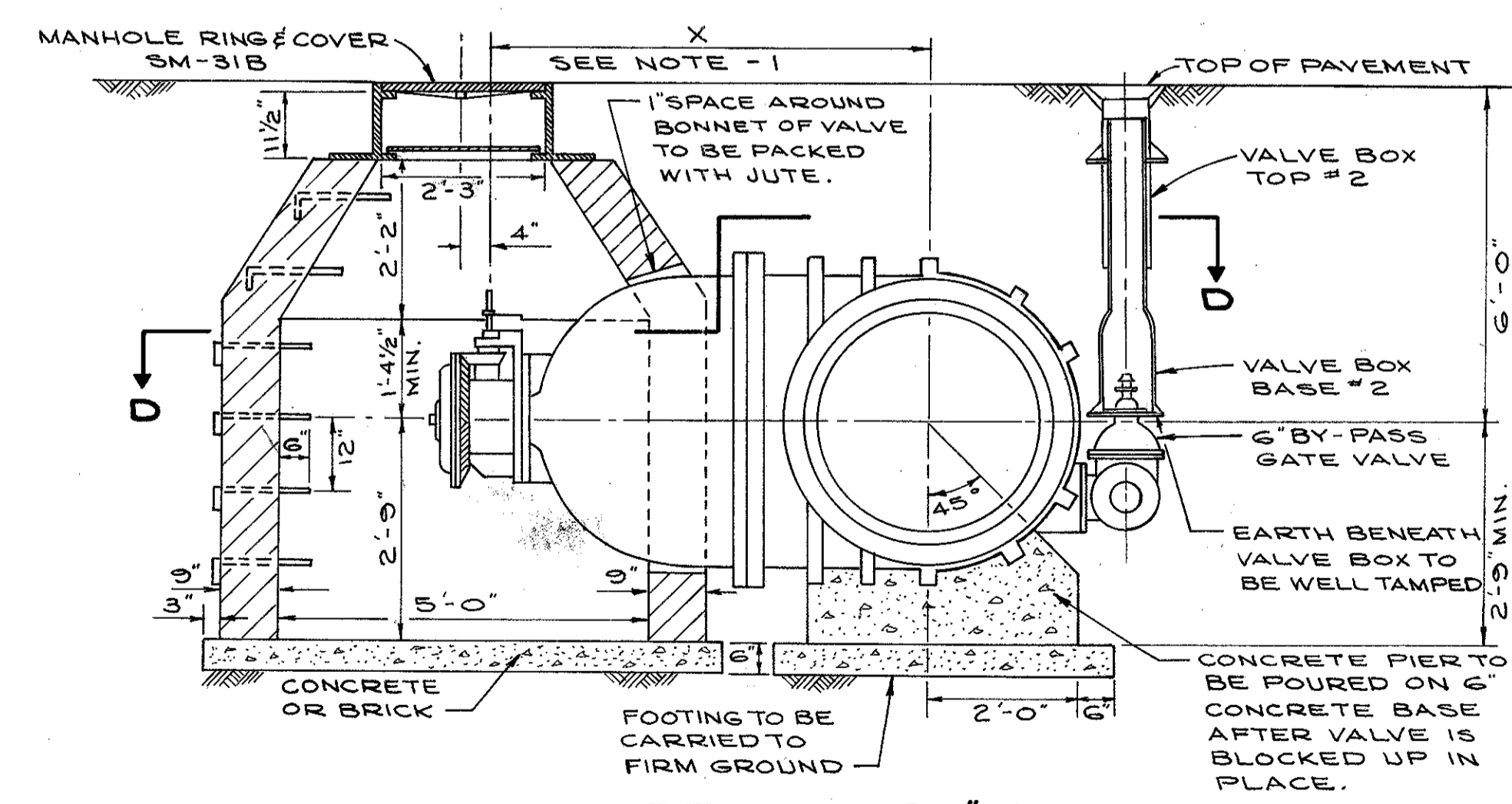
**DETAIL "Y"**

PRESTRESSED CONCRETE CYLINDER PIPE WITH RUBBER AND STEEL JOINT SHOWING WELDED TYPE TIED JOINT (SAME TYPE OF WELD FOR REINFORCED CONCRETE CYLINDER PIPE)



**SECTION D-D**

PAYMENT SHALL INCLUDE M.H. FRAME & COVER & ALL INCIDENTALS TO COMPLETE THIS ITEM.



**CHAMBER FOR 36" VALVE**

APPROVED 4-10-1975

REVISIONS	<b>1<sup>st</sup> HIGH SERVICE DISTRICT</b>		
	DEPARTMENT OF PUBLIC UTILITIES		
	DIVISION OF WATER AND HEAT		
	CLEVELAND, OHIO		
	SUBJECT: WATERWORK DETAILS		
DRAWN	SCALE		
CHECKED	DATE	No.	

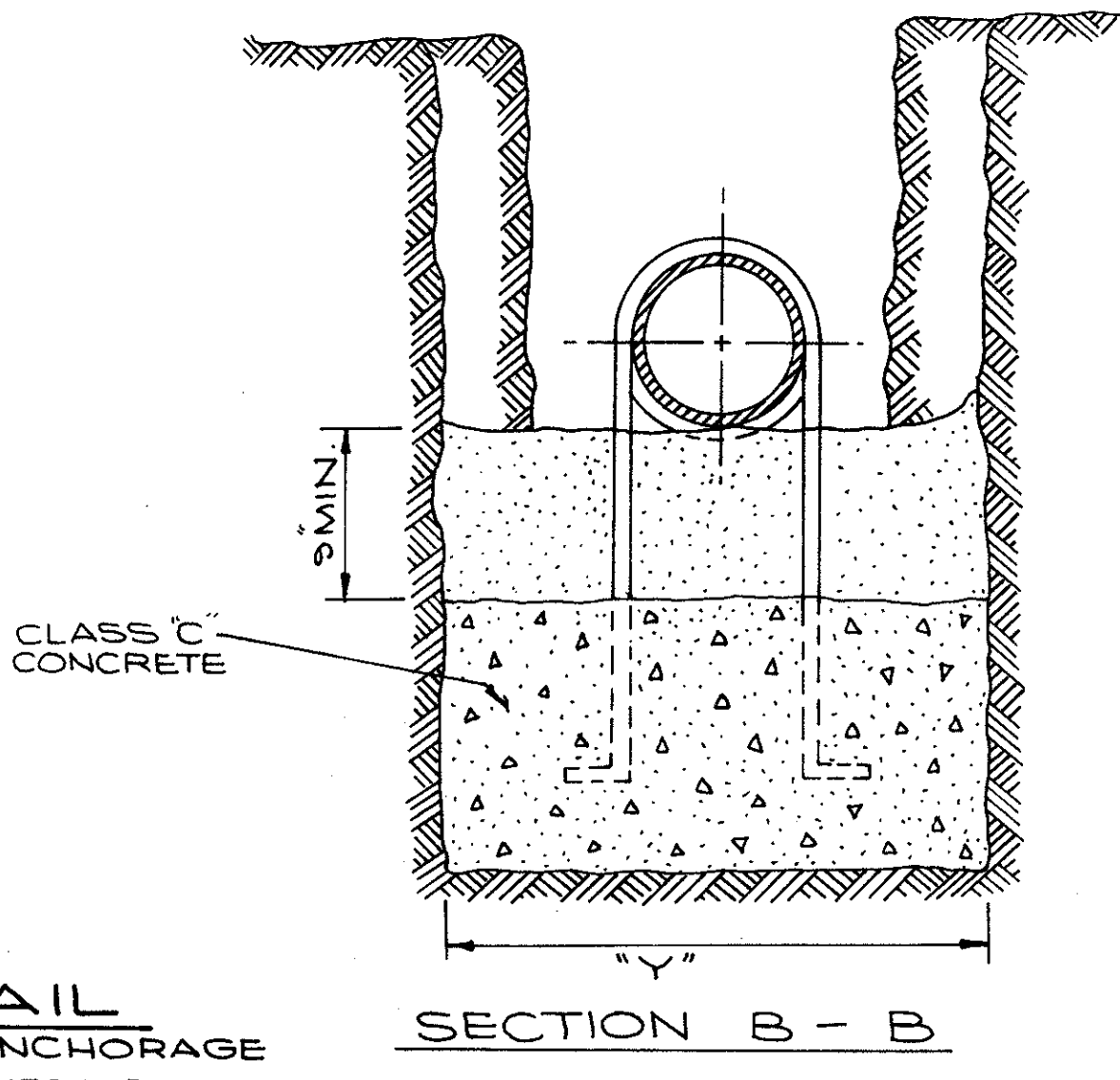
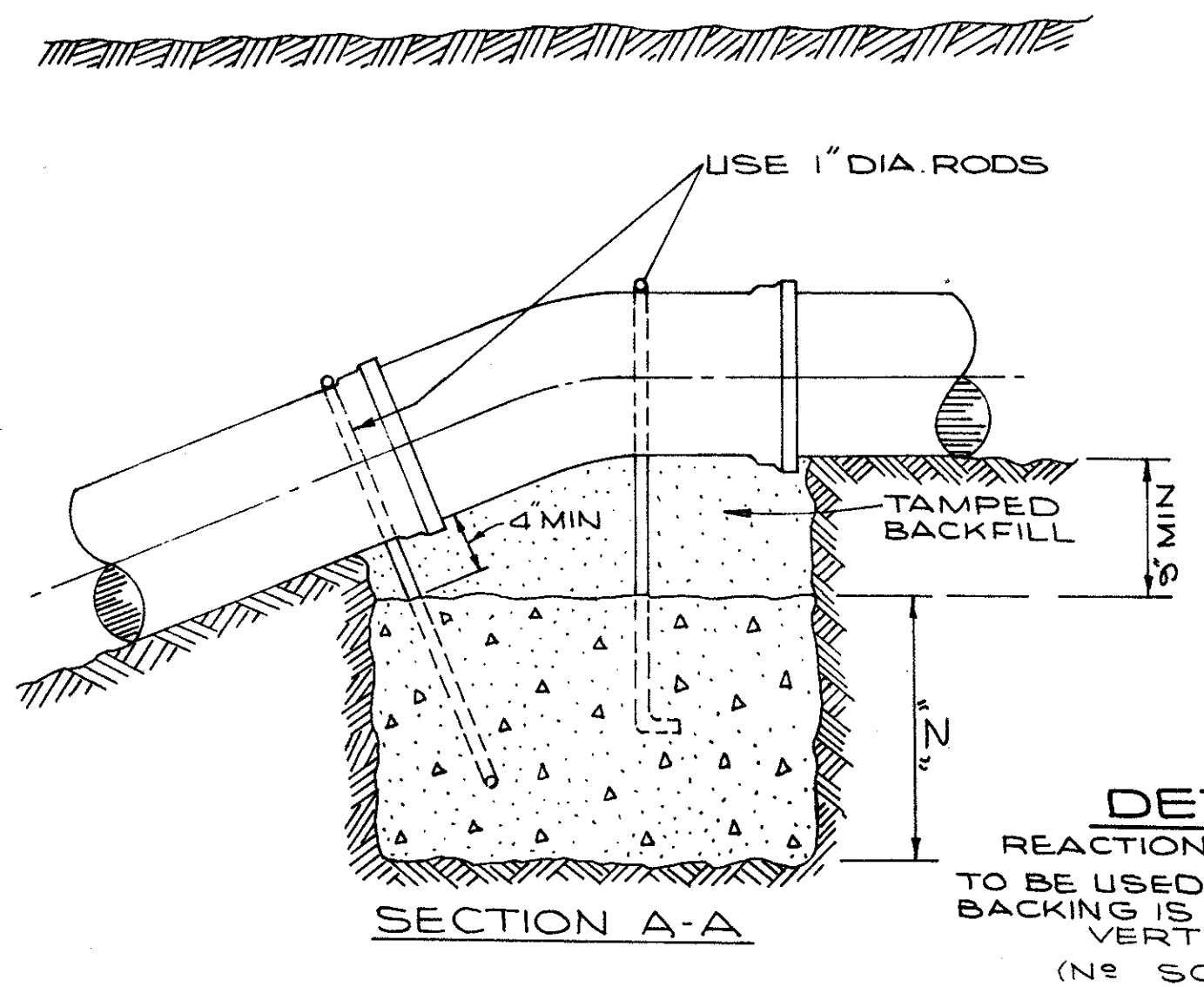
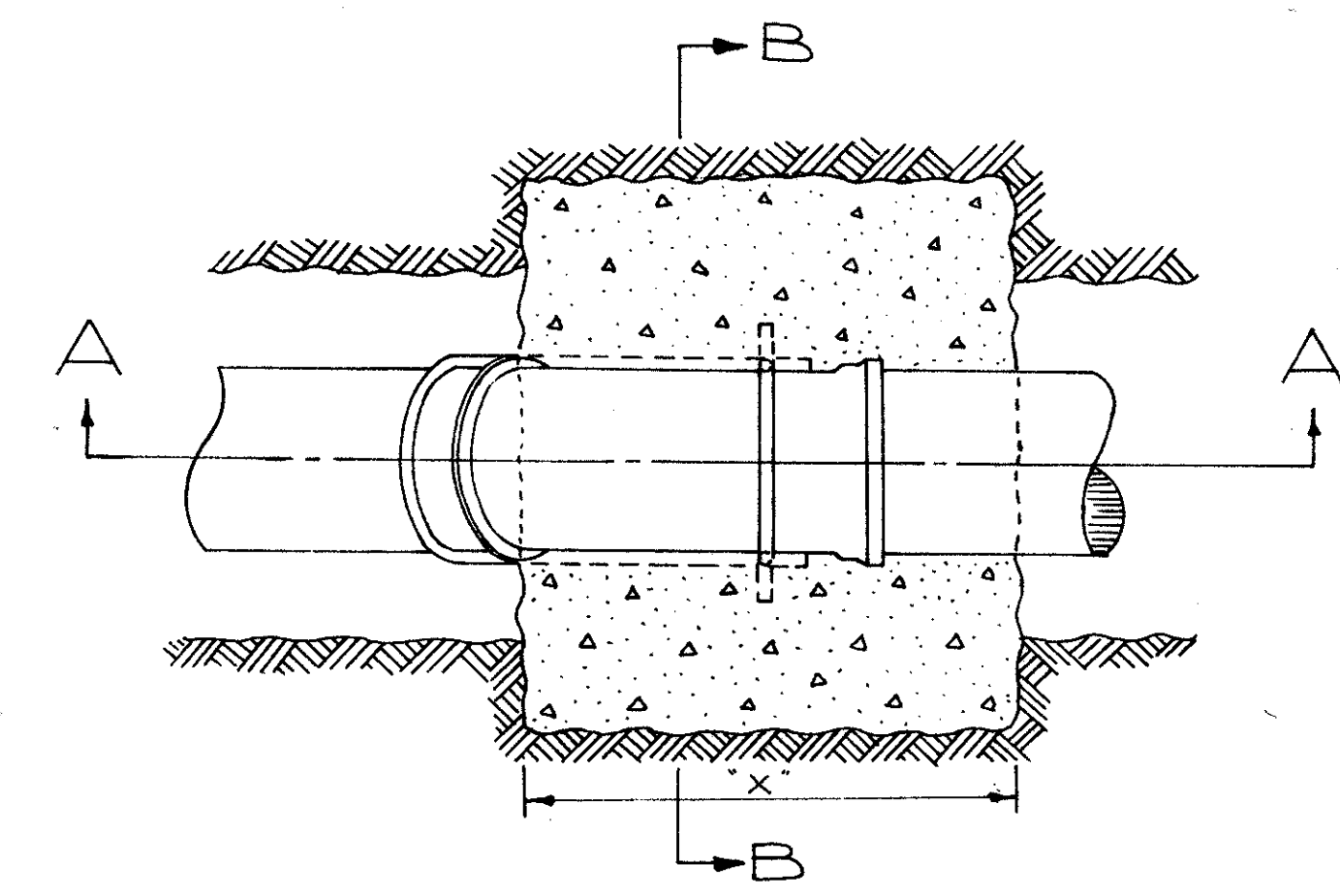
William J. Sweeney  
 ENGINEER OF DESIGN REVIEW

FED. RD.	STATE	PROJECT
1	OHIO	

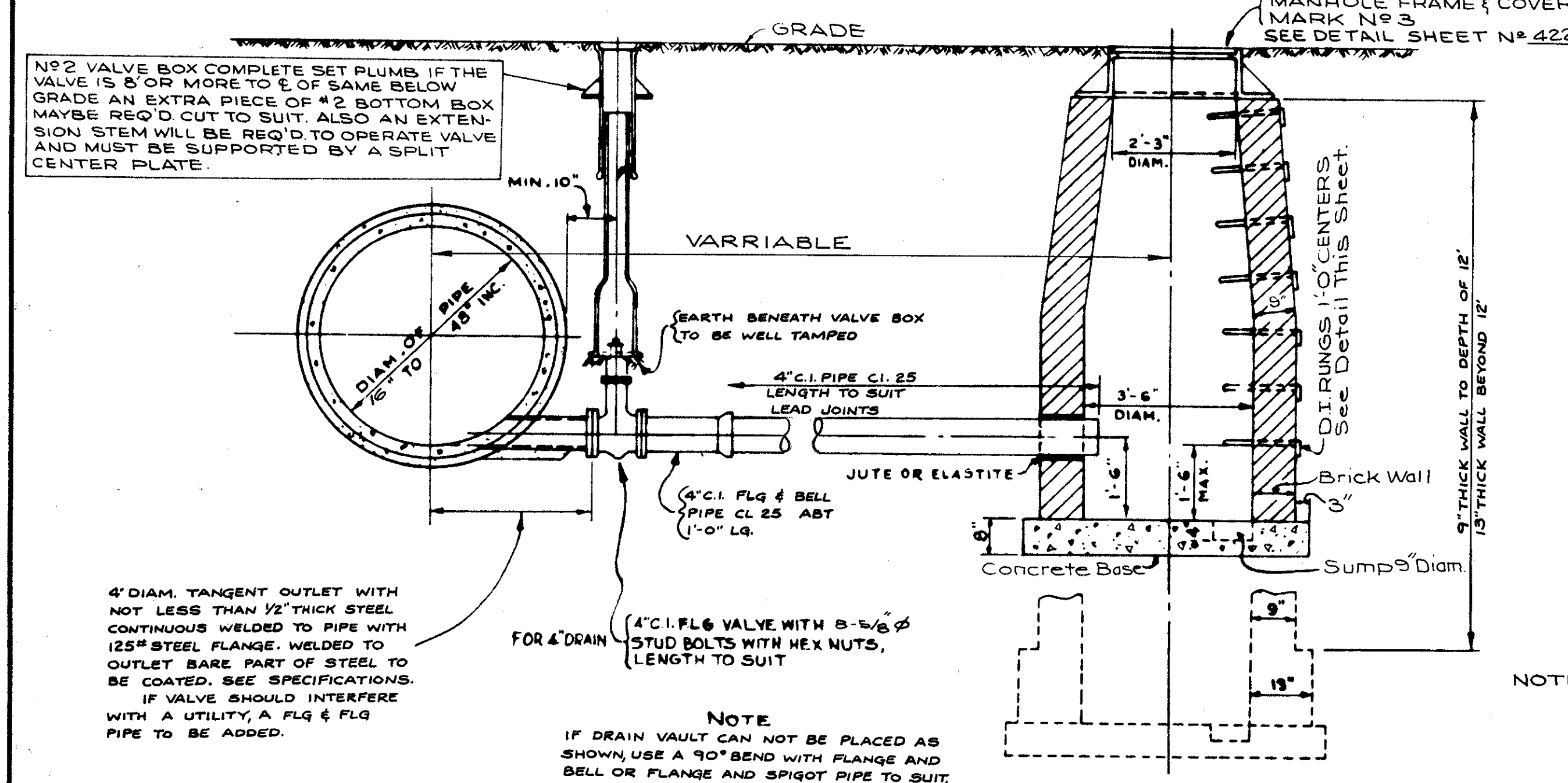
420  
838  
56  
60

CUYAHOGA COUNTY  
CUY-90-11.64

PIPE SIZE	BEND ANGLE	DIMENSIONS		
		'X'	'Y'	'Z'
6"	11 1/4°	2'-0"	2'-6"	2'-0"
12"	11 1/4°	3'-0"	2'-9"	2'-9"
12"	22 1/2°	3'-6"	3'-6"	3'-6"
16"	11 1/4°	3'-3"	3'-6"	3'-6"
16"	22 1/2°	3'-6"	4'-9"	4'-9"
16"	45°	3'-6"	6'-0"	7'-0"
48"	22 1/2°	4'-0"	8'-0"	4'-0"

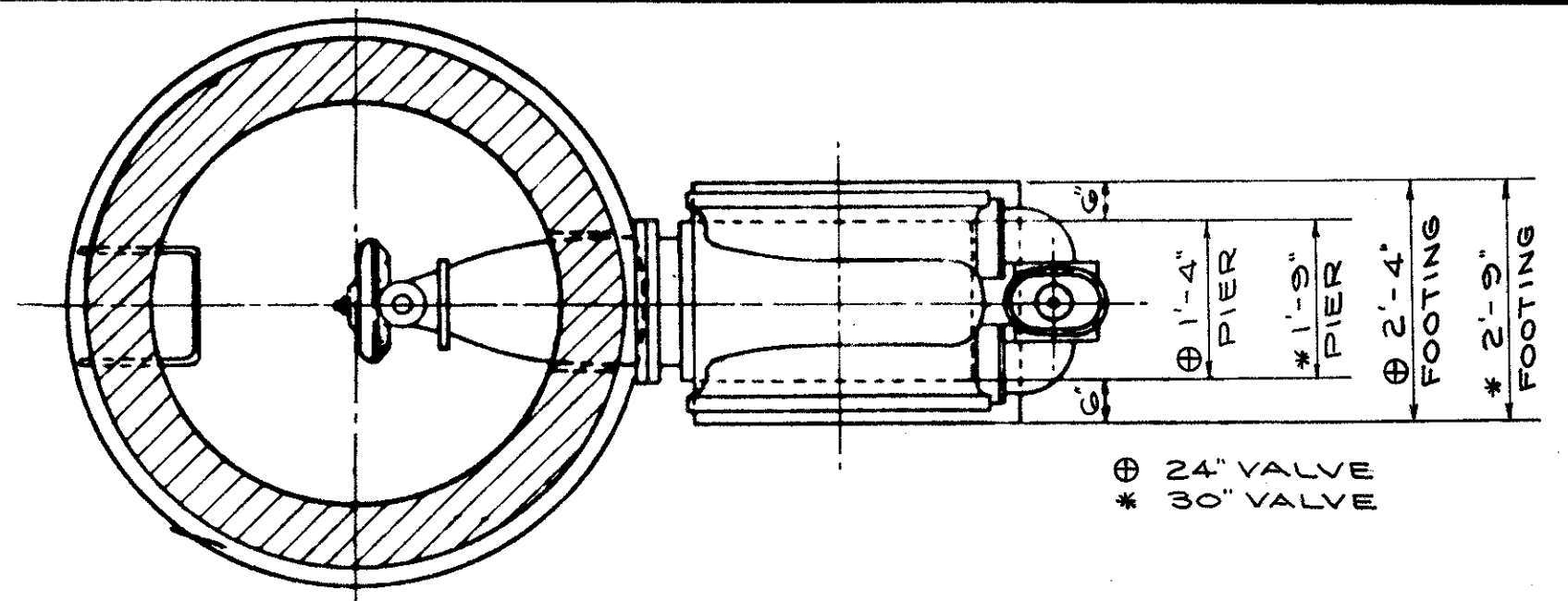


**DETAIL REACTION ANCHORAGE**  
TO BE USED WHERE REACTION BACKING IS REQUIRED FOR VERTICAL BENDS.  
(No SCALE)

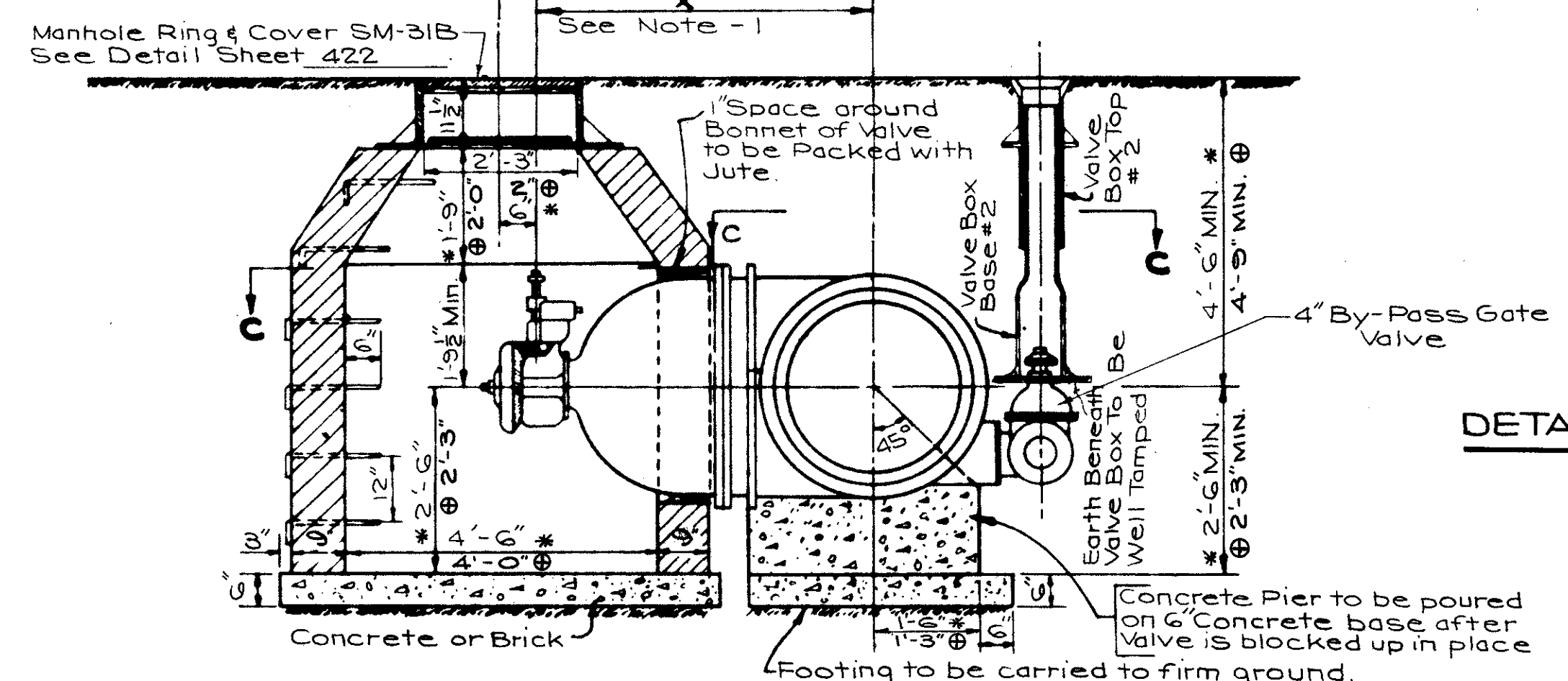


**TYPICAL DETAIL OF 4" DRAIN AND VAULT**

SCALE: 1/2" = 1'-0"

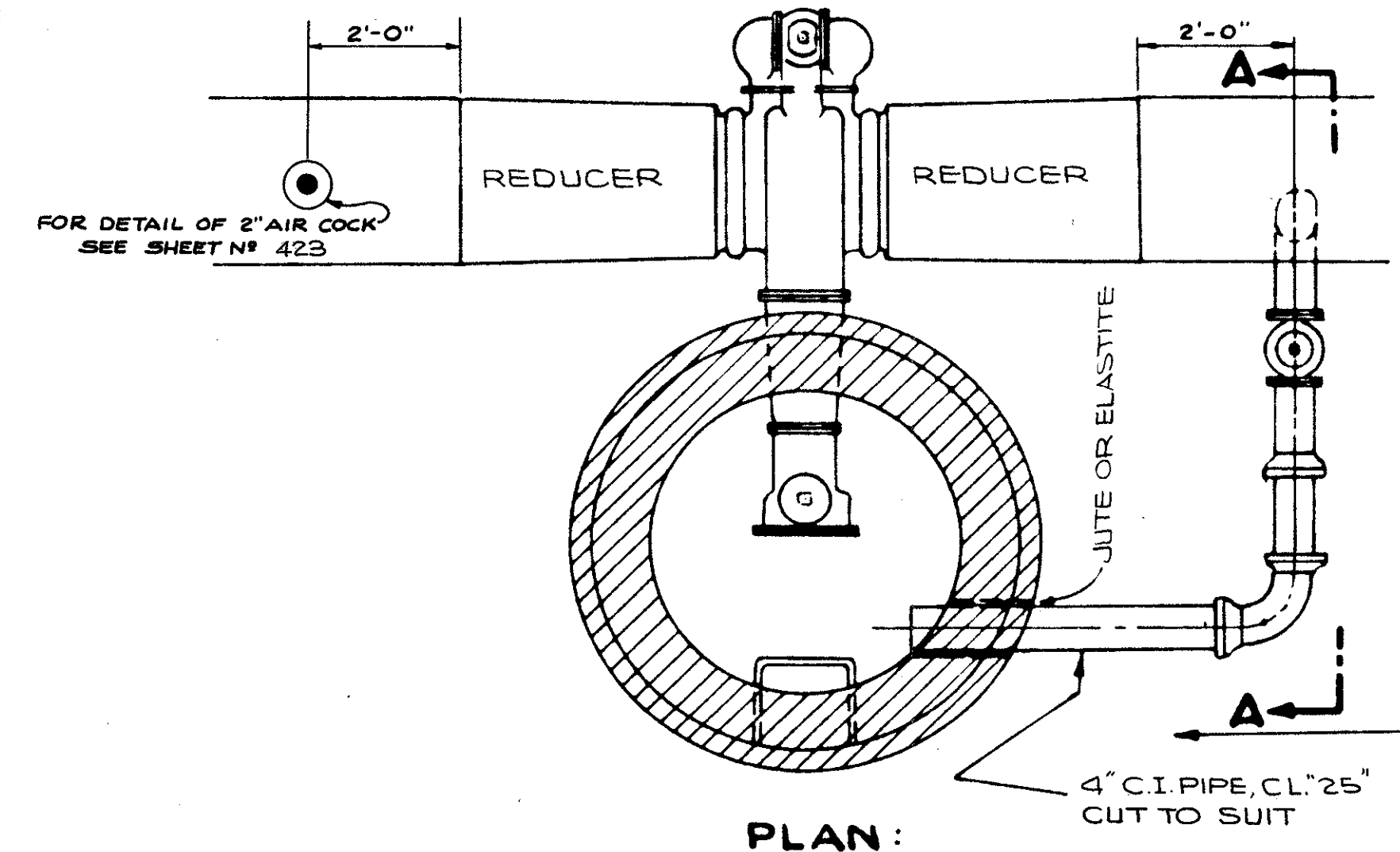


**SECTION C-C**



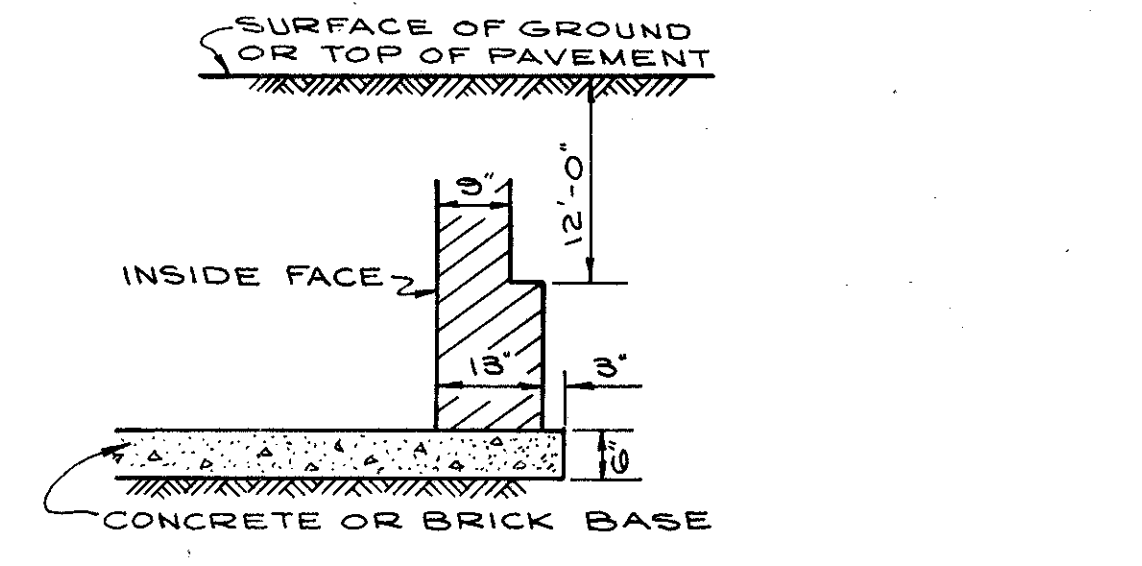
**CHAMBER FOR 24" & 30" VALVE**

PAYMENT SHALL INCLUDE M.H. FRAME & COVER & ALL INCIDENTALS TO COMPLETE THIS ITEM.

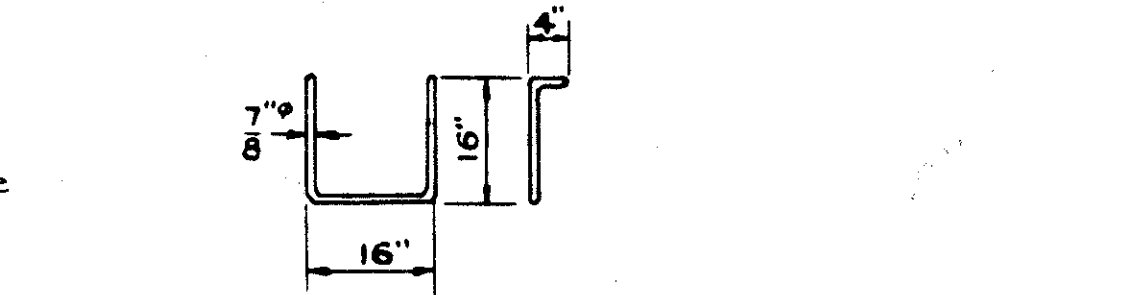


**TYPICAL DETAIL SHOWING 4" DRAIN FROM WATER MAIN TO VALVE CHAMBER**

SCALE: 1/2" = 1'-0"



**TYPICAL SECTION OF CHAMBER WALL WHEN DEPTH EXCEEDS 12'-0"**



**DETAIL OF LADDER RUNG-DUCTILE IRON**  
No Req'd. Depends on depth of Chamber

**NOTE - 1.**  
FOR VALVES EQUIPPED WITH EXTENDED GREASE CASES, DIMENSION 'X' WILL INCREASE. THE LOCATION OF VALVE STEM TO CENTER OF CHAMBER WILL REMAIN THE SAME AS SHOWN.

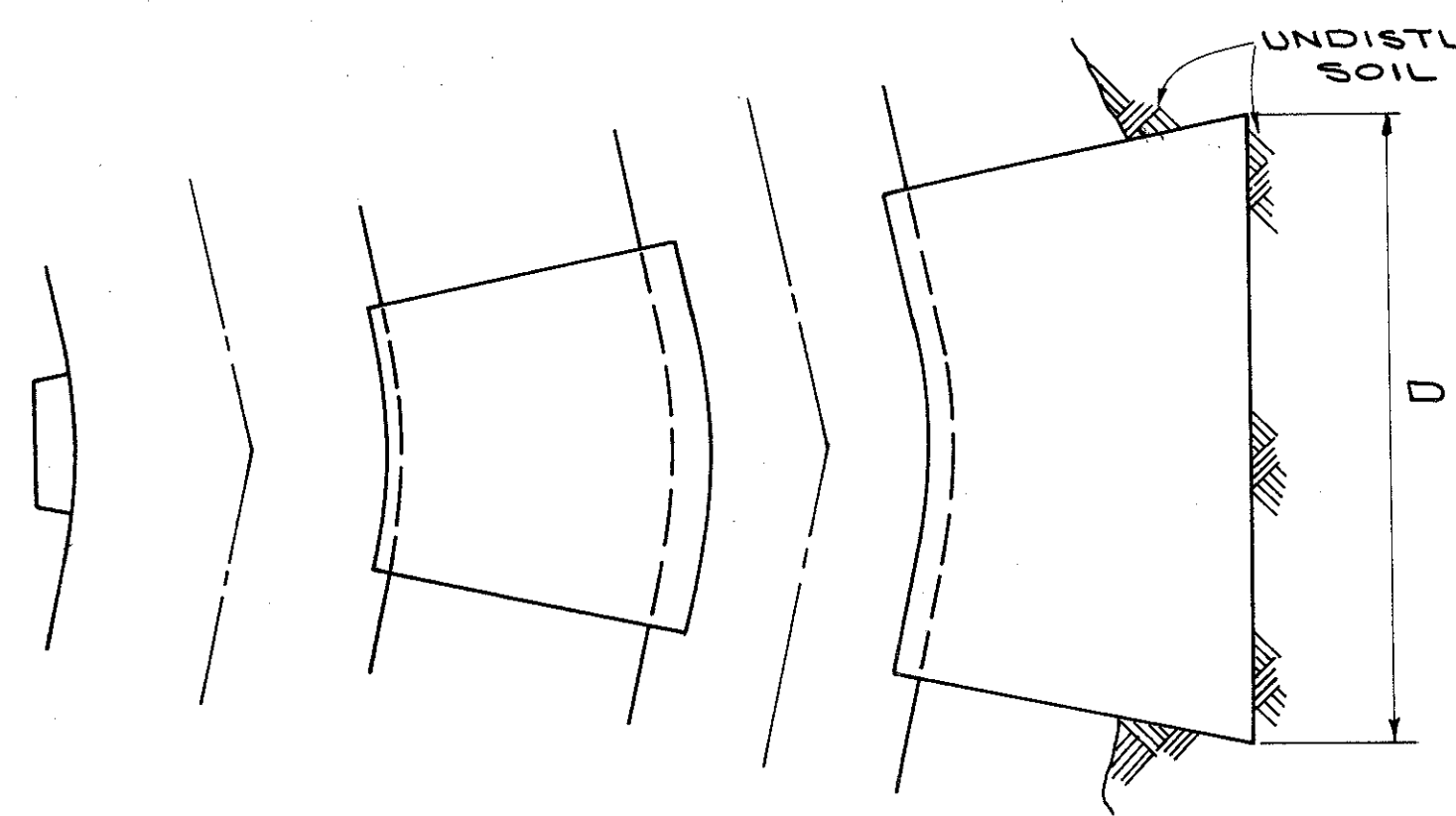
**-NOTE-**  
FOR LOCATION OF 2" AIR COCKS AND 4" DRAINS SEE ALIGNMENT DRAWINGS

NOTE: PLASTER OUTSIDE OF BRICK MASONRY WITH NO LESS THAN 1/2" CEMENT MORTAR FOR WATER PROOF.

APPROVED: 4-10-25

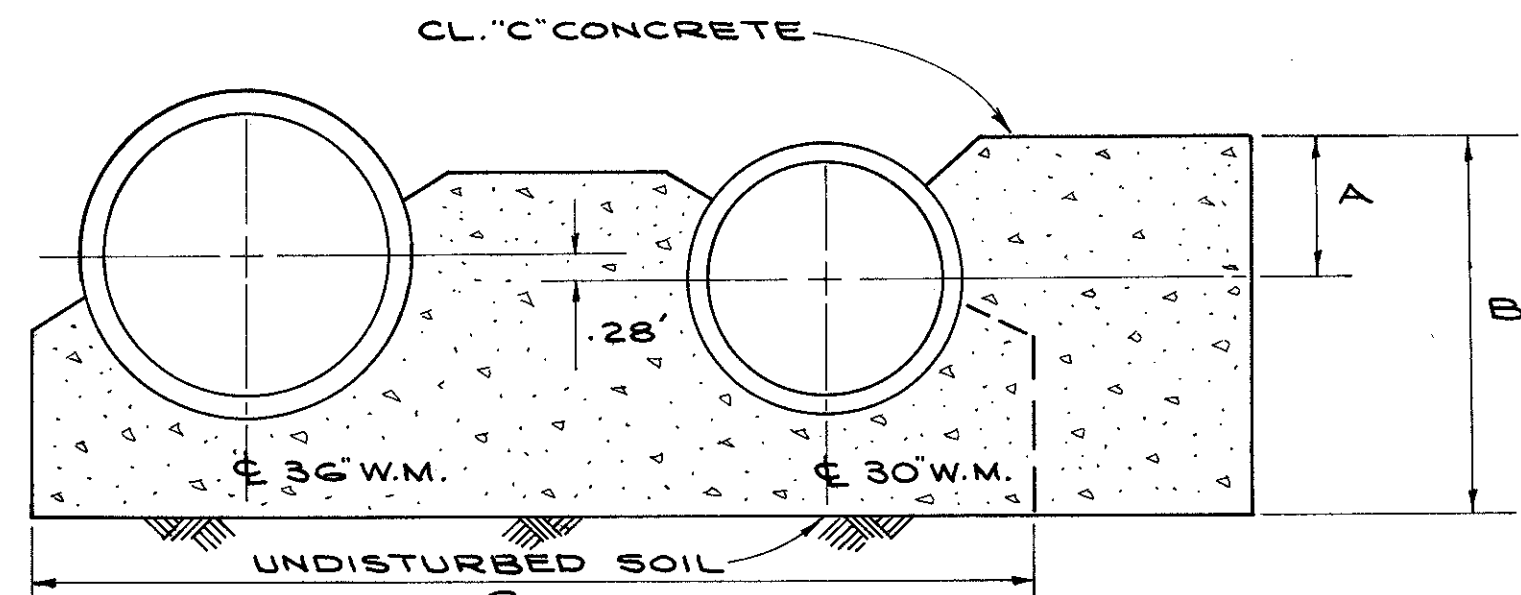
ENGINEER OF DESIGN REVIEW

REVISIONS	1st HIGH SERVICE DISTRICT	
	DEPARTMENT OF PUBLIC UTILITIES	
	DIVISION OF WATER AND HEAT	
	CLEVELAND, OHIO	
	SUBJECT: WATERWORK DETAILS	
	DRAWN	SCALE
	CHECKED	DATE
		No.

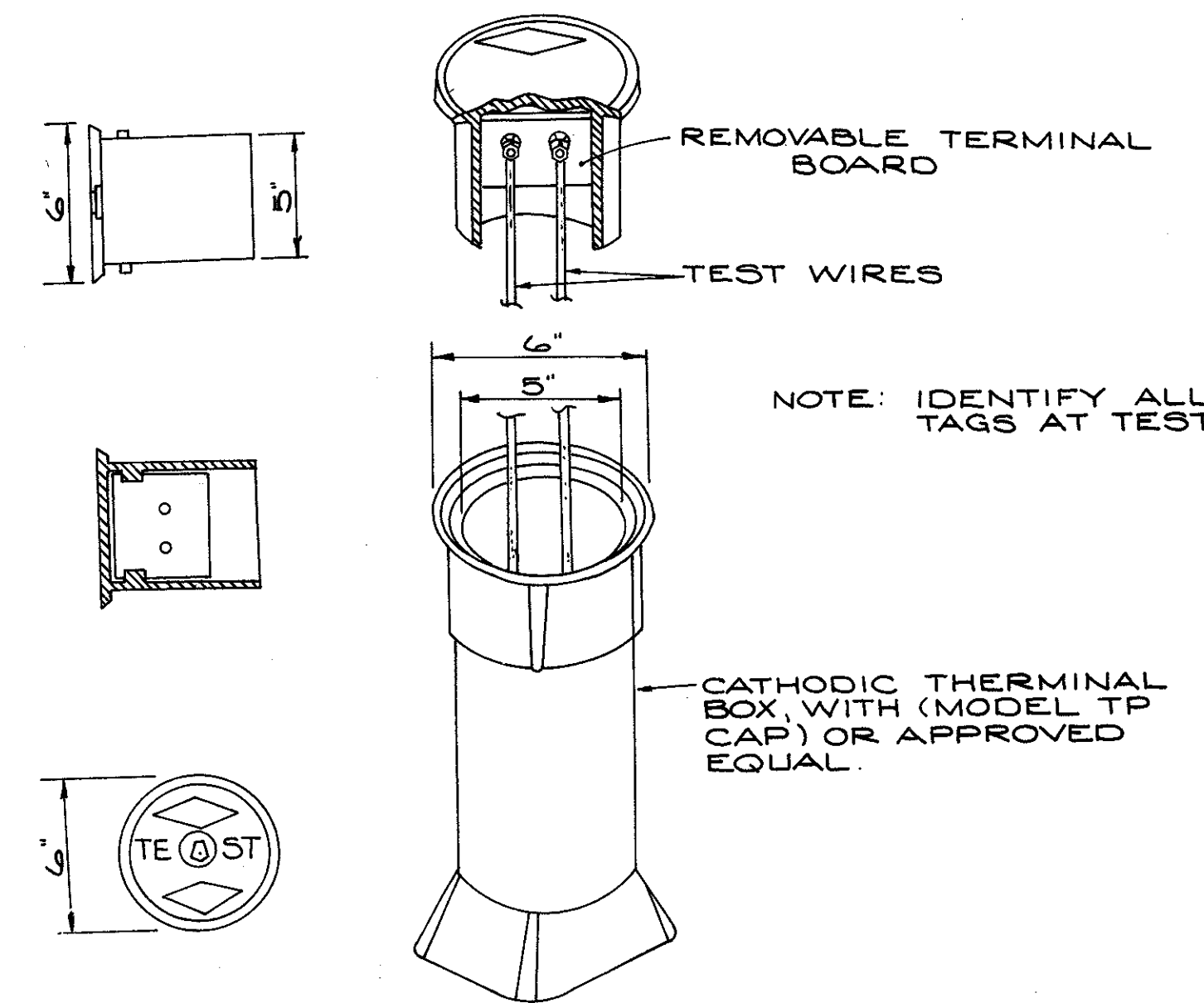
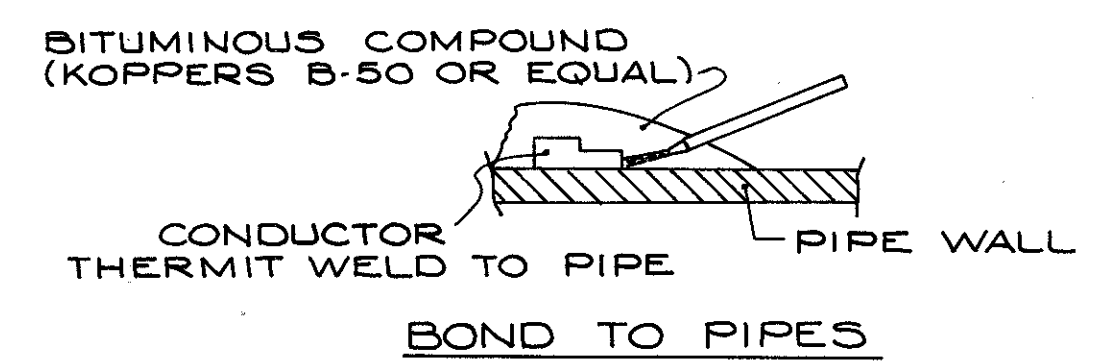


**DIMENSIONS OF PIERS FOR 30" & 36" LINES**

BEND	A	B	C	D
22 1/2° HOR.	1'-3"	3'-0"	—	3'-0"
45° HOR.	1'-6"	4'-0"	—	5'-0"
7 1/2° VER.	—	—	9'-6"	2'-0"
15° VER.	—	—	9'-6"	2'-6"
45° VER.	—	—	9'-6"	3'-0"

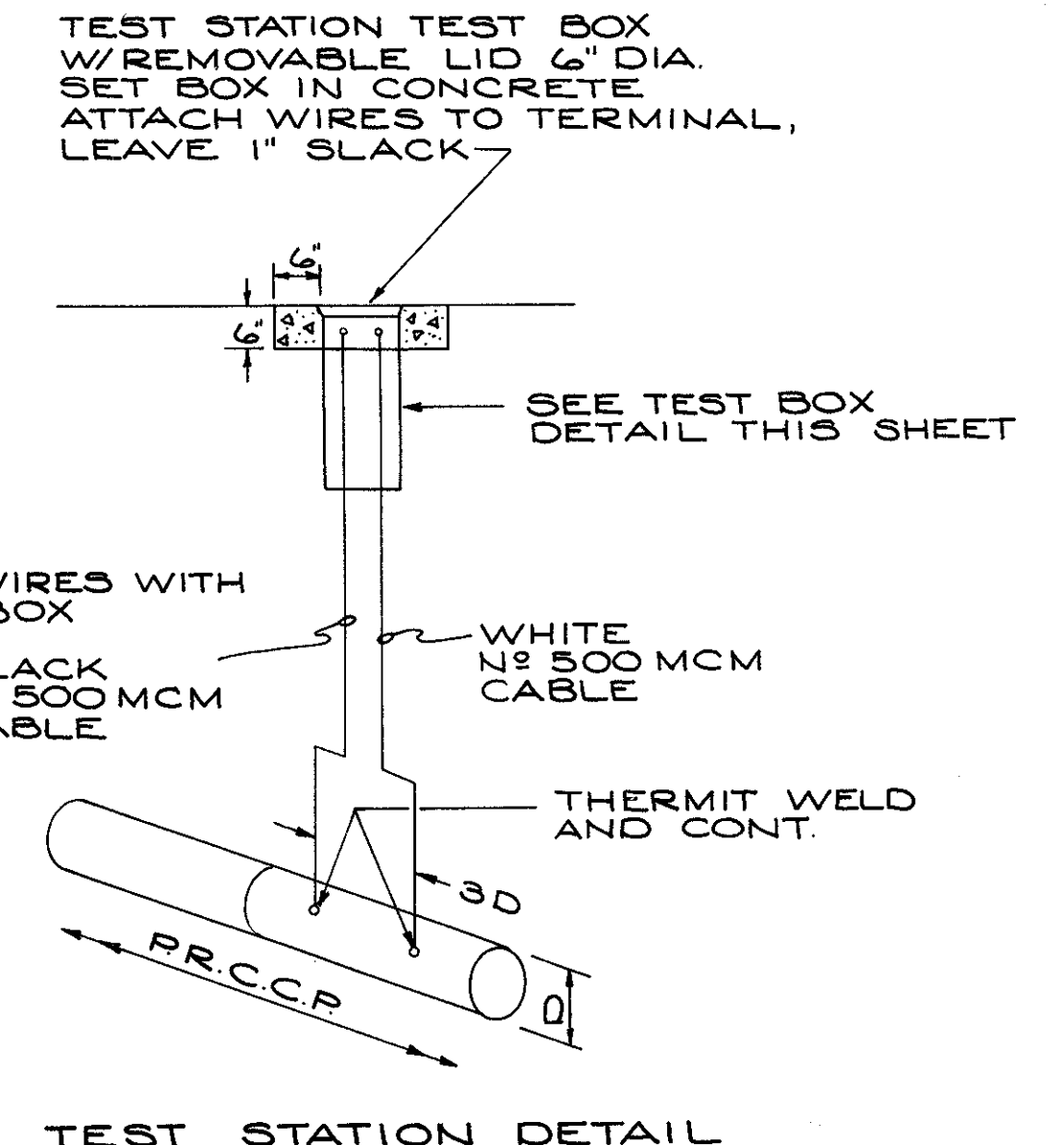


**CONCRETE PIERS FOR 30" & 36" PIPE**

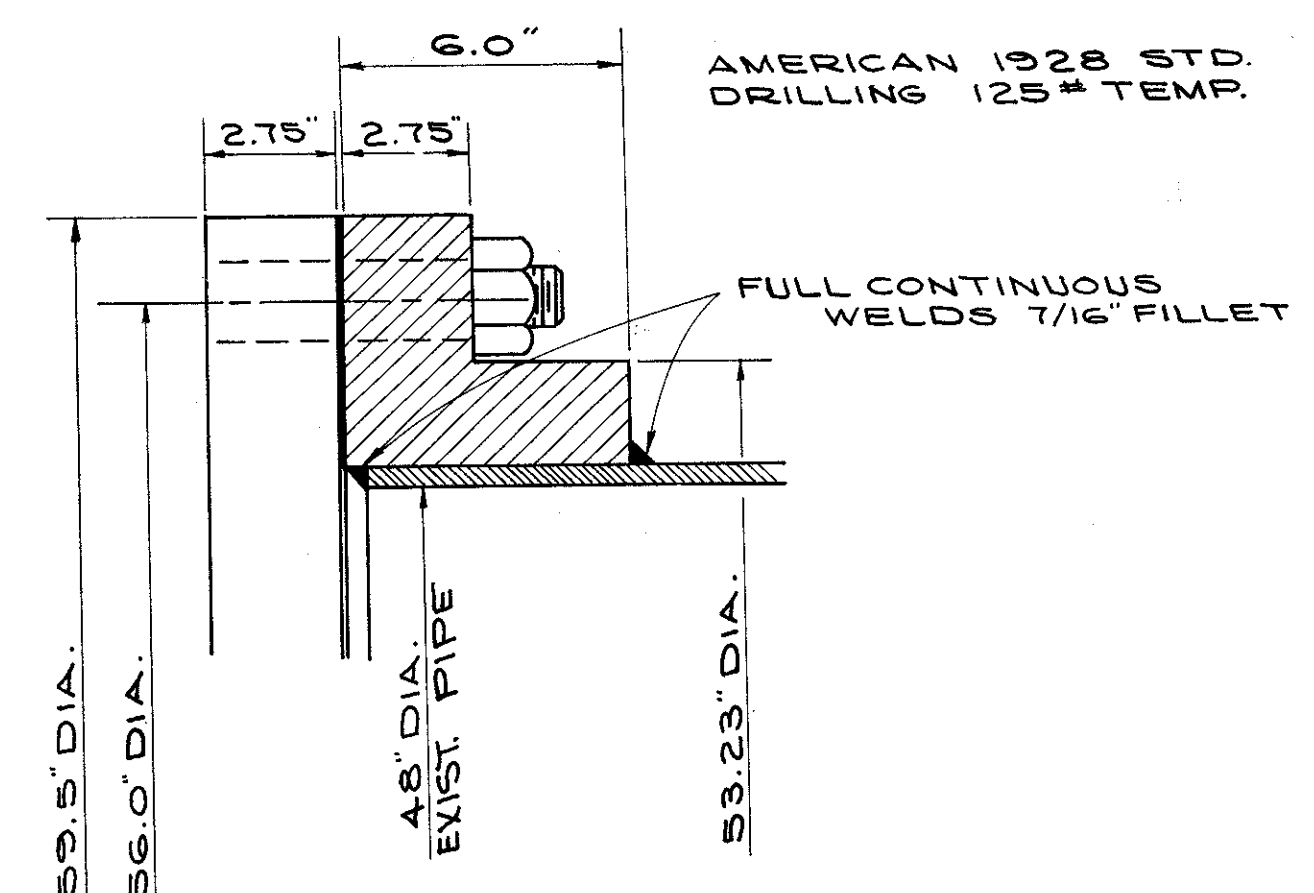


**TEST STATION TEST BOX**

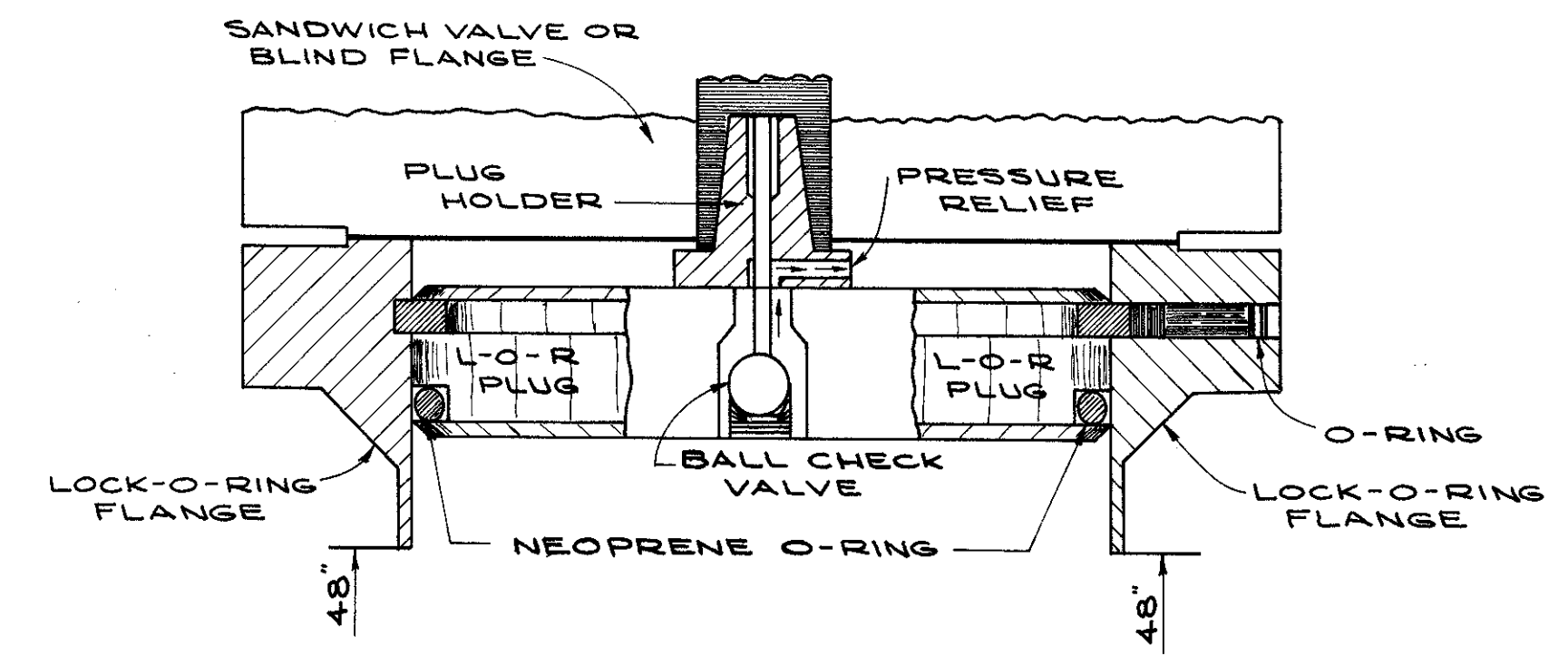
NOTE: PAYMENT FOR ELECTROLYSIS BONDS AND ELECTROLYSIS TEST TAPS SHALL BE INCLUDED IN PAYMENT FOR RESPECTIVE WATER MAIN PIPE.



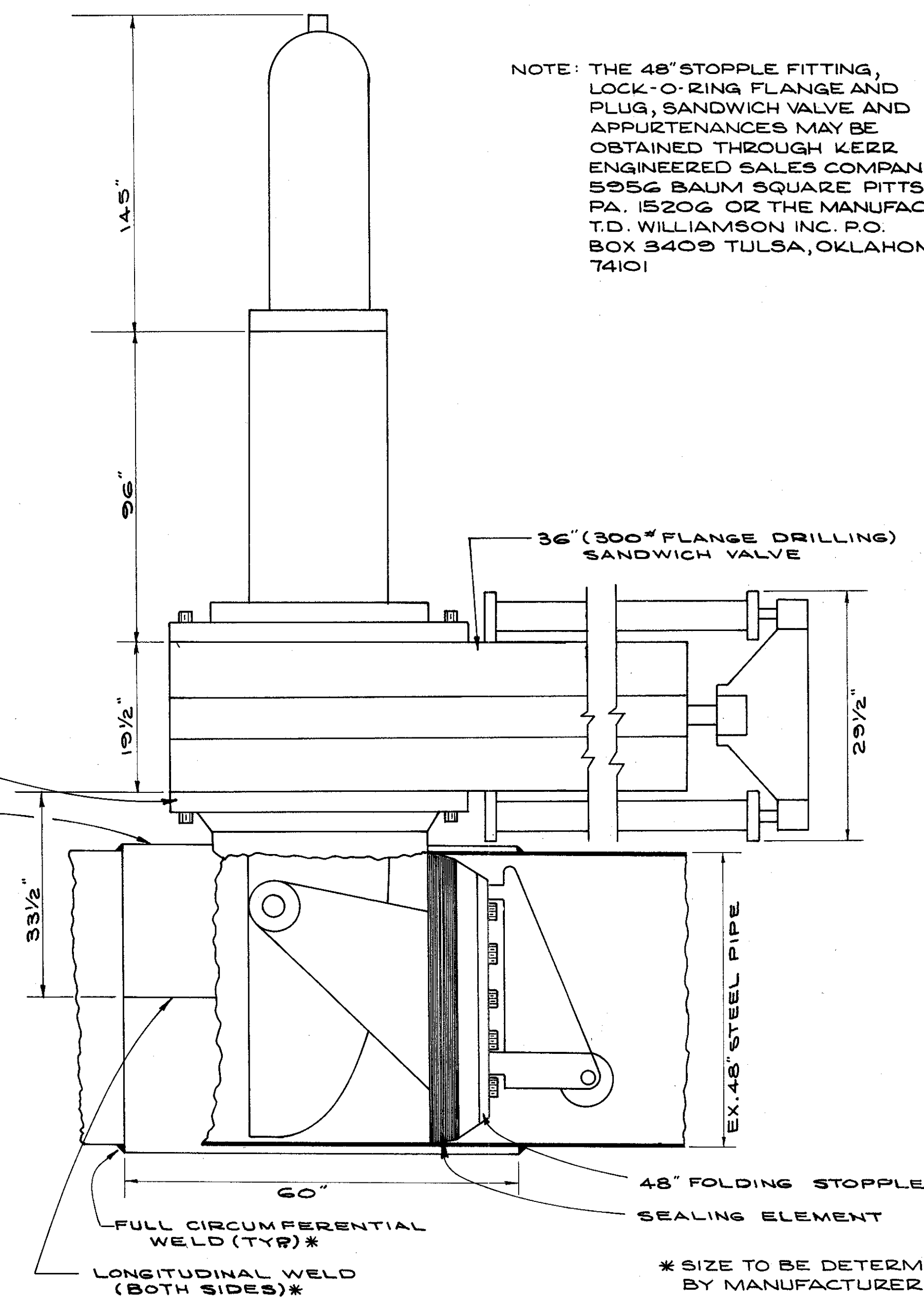
**TEST STATION DETAIL**



**DETAIL OF BULKHEAD CONNECTION TO 48" DIA. STEEL PIPE**



**DETAIL OF LOCK-O-RING FLANGE & PLUG**



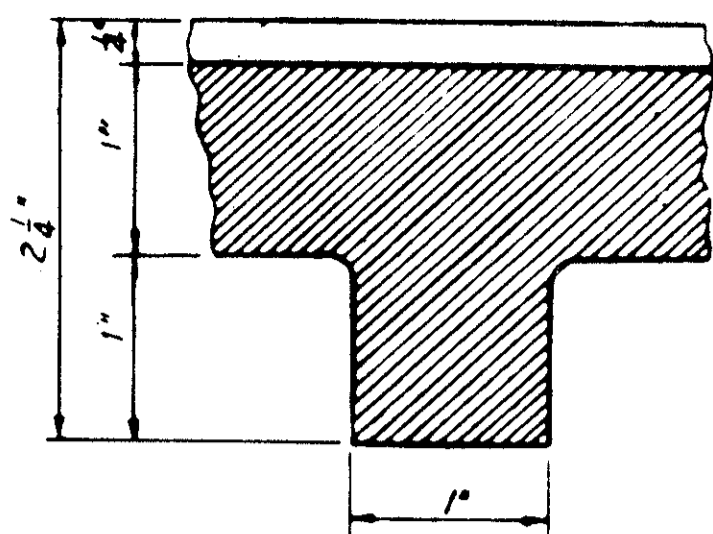
**DETAIL OF 48" STOPPLE FITTING & SANDWICH VALVE**

NOTE: THE 48" STOPPLE FITTING, LOCK-O-RING FLANGE AND PLUG, SANDWICH VALVE AND APPURTENANCES MAY BE OBTAINED THROUGH KERR ENGINEERED SALES COMPANY 5956 BALM SQUARE PITTSBURGH, PA. 15206 OR THE MANUFACTURER: T.D. WILLIAMSON INC. P.O. BOX 3409 TULSA, OKLAHOMA 74101

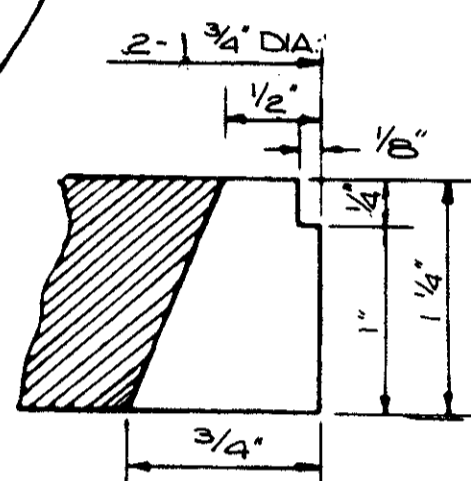
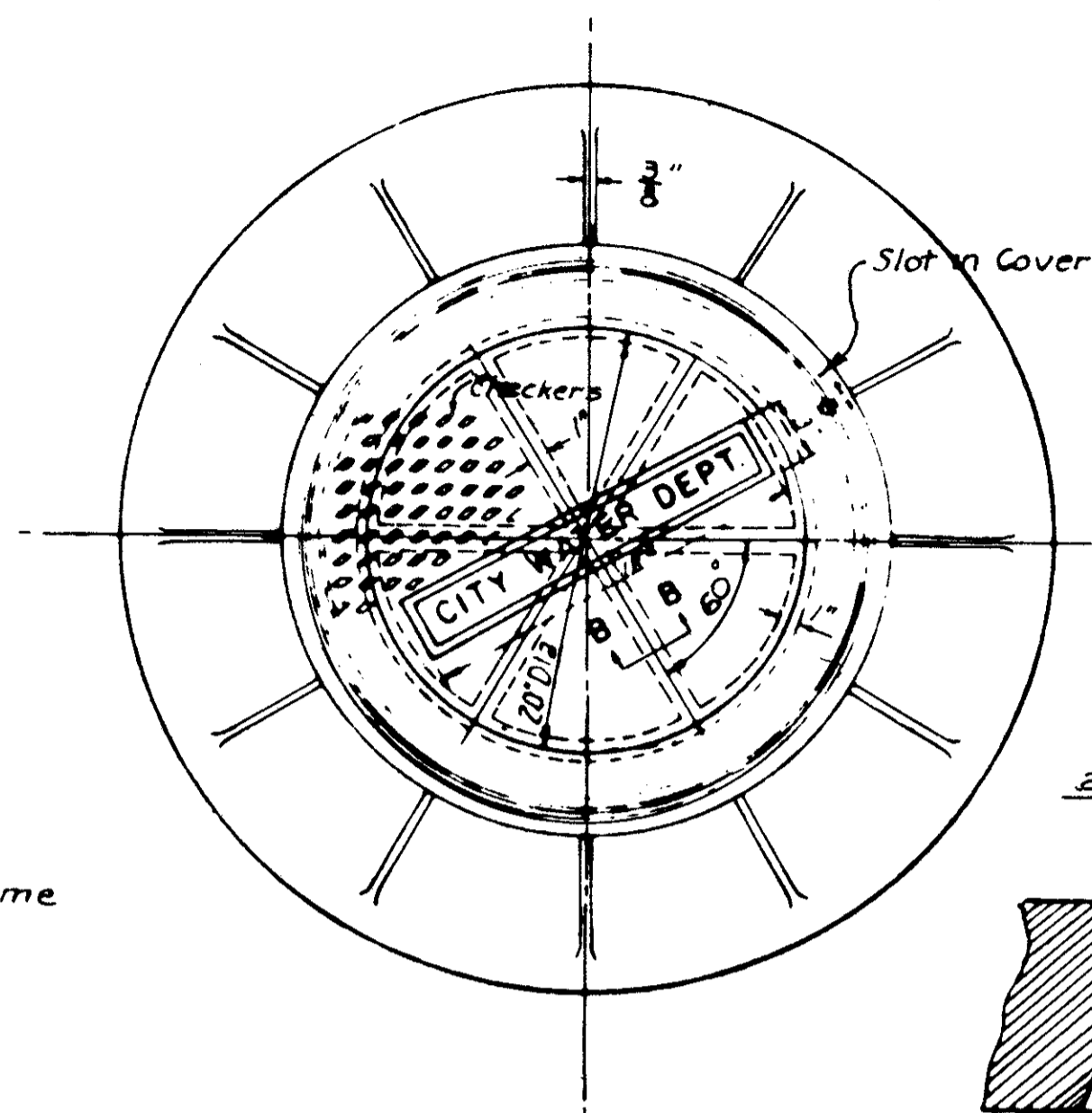
APPROVED 4-10-1975

*William J. Green*  
ENGINEER OF DESIGN REVIEW

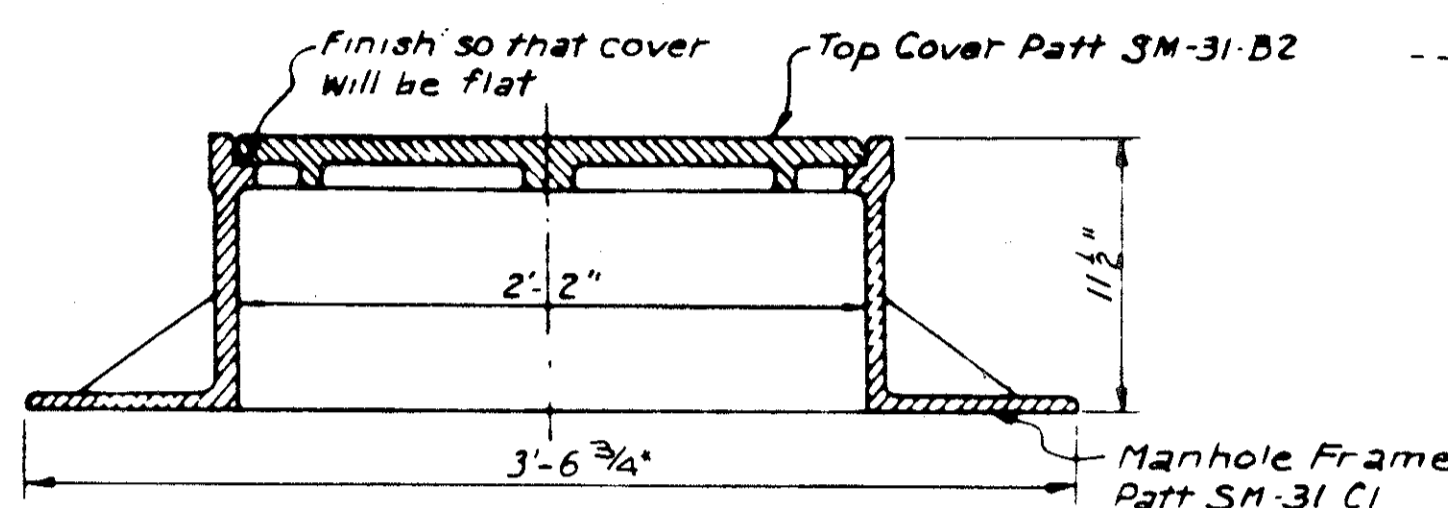
REVISIONS	<b>1st HIGH SERVICE DISTRICT</b>	
	DEPARTMENT OF PUBLIC UTILITIES	
	DIVISION OF WATER AND HEAT	
	CLEVELAND, OHIO	
	SUBJECT WATERWORK DETAILS	
	DRAWN	SCALE
	CHECKED	DATE
		No.



FULL SIZE SECTION B-B

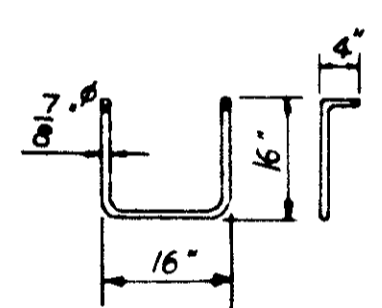


FULL SIZE SECTION AT SLOT



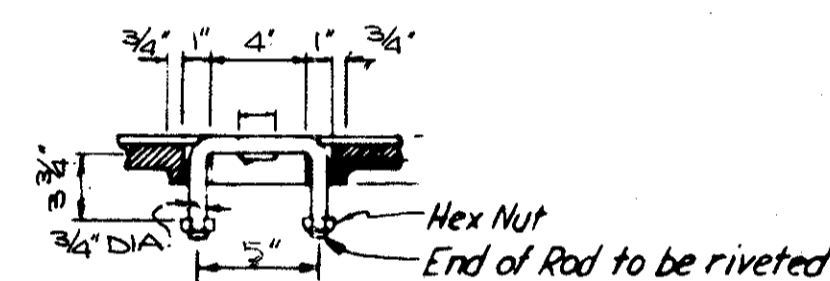
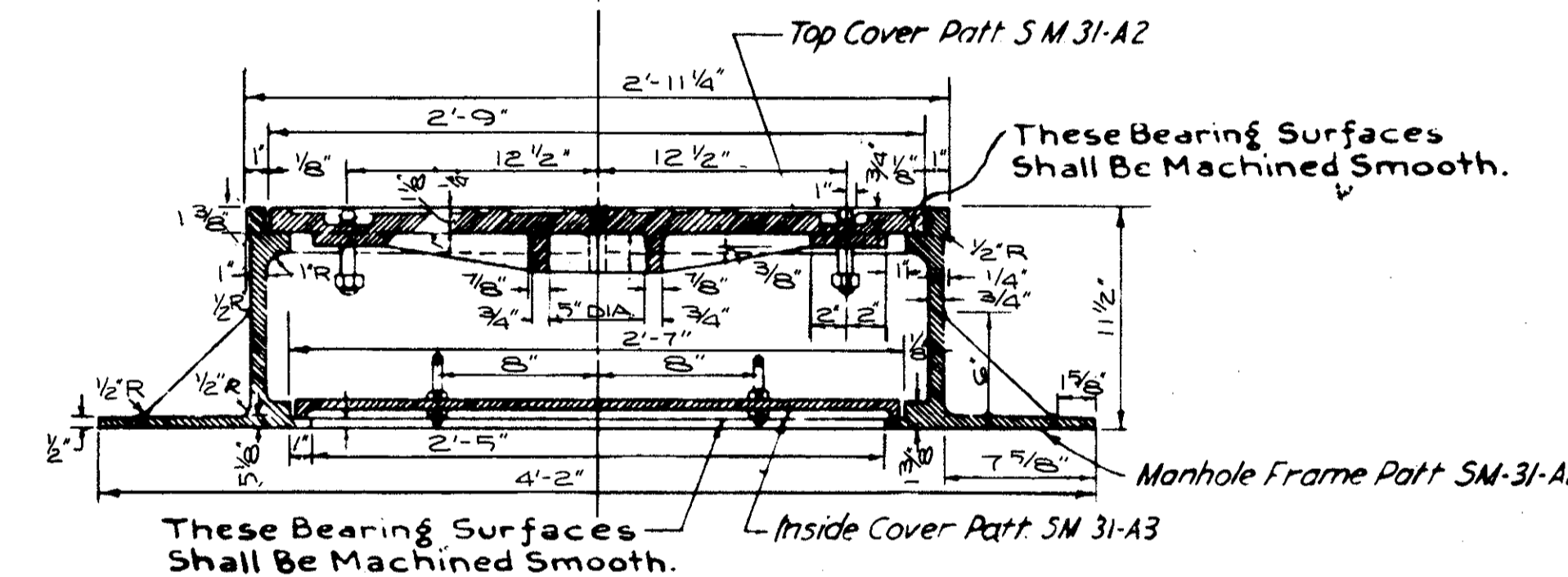
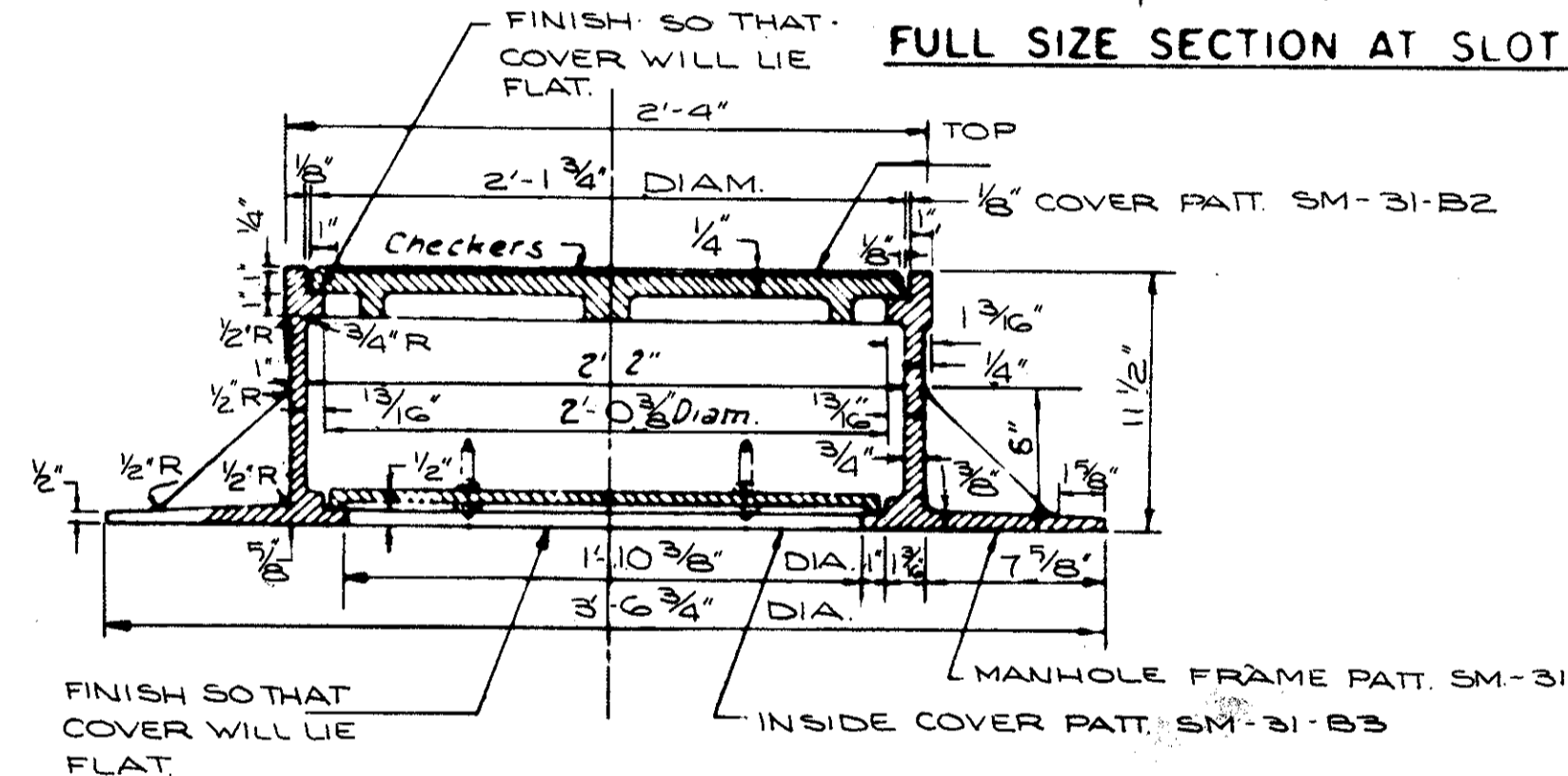
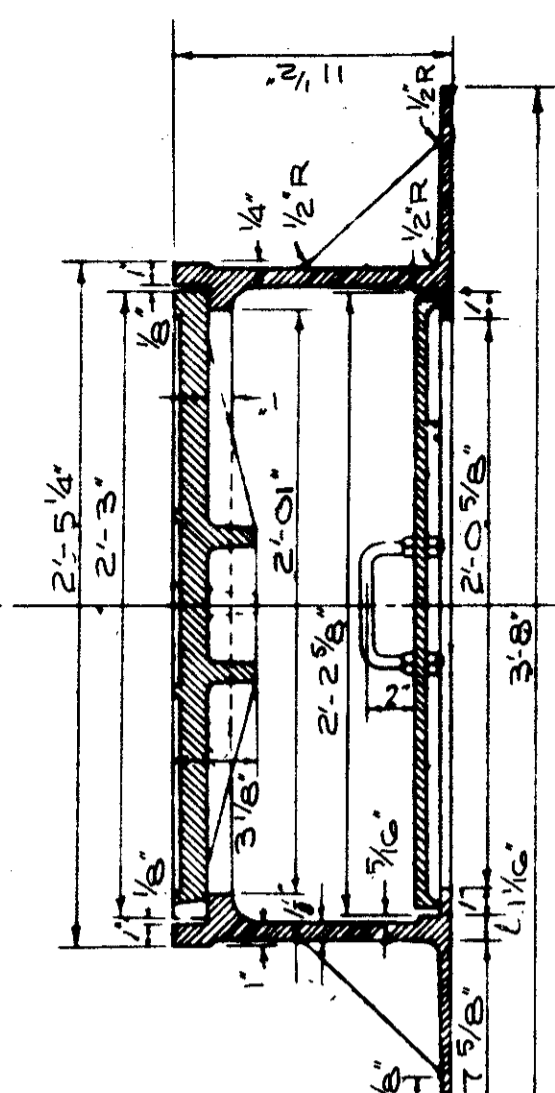
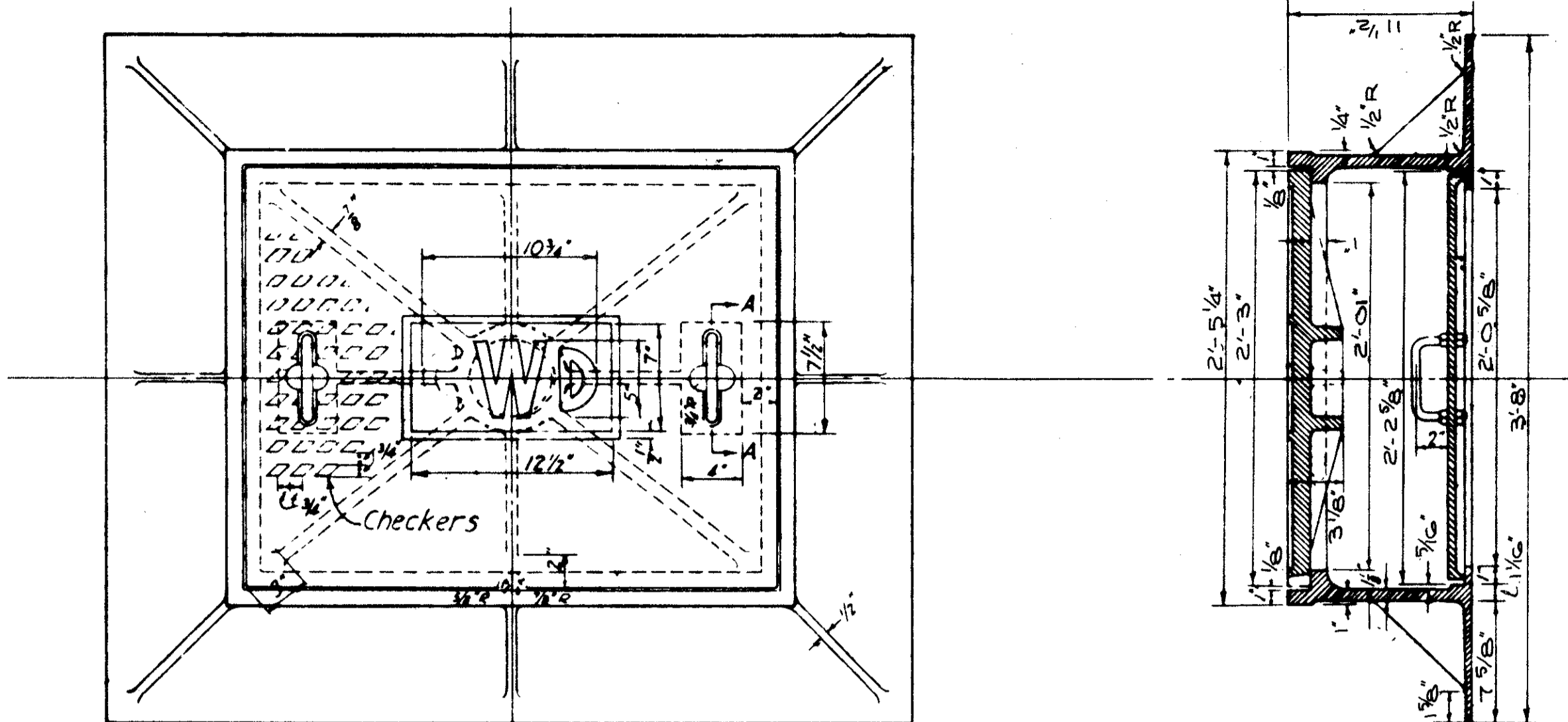
MANHOLE FRAME AND COVER MARK NO. 3

Consisting of {C.I. Manhole Frame Patt SM-31-C1  
C.I. Top Cover Patt SM-31-B2  
(Dimensions not given are the same as those shown for Manhole Frame Patt Mark SM-31-B1)  
Approximate Weight = 602#  
Scale: 1 1/2" = 1'-0"

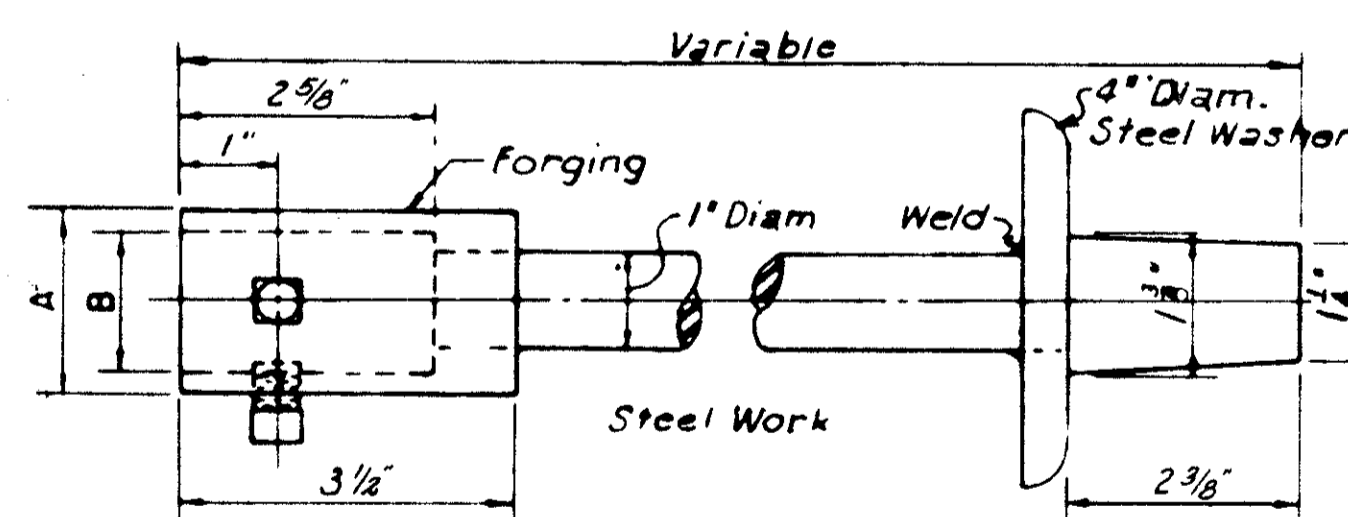


DETAIL OF MANHOLE STEP (D.I.)

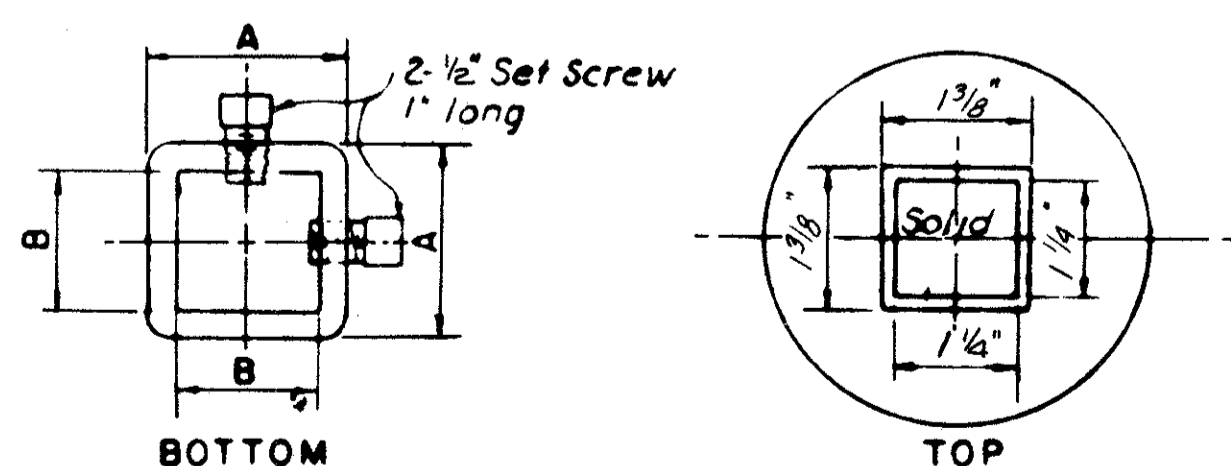
Number required depends on the depth of vault



SECTION A-A



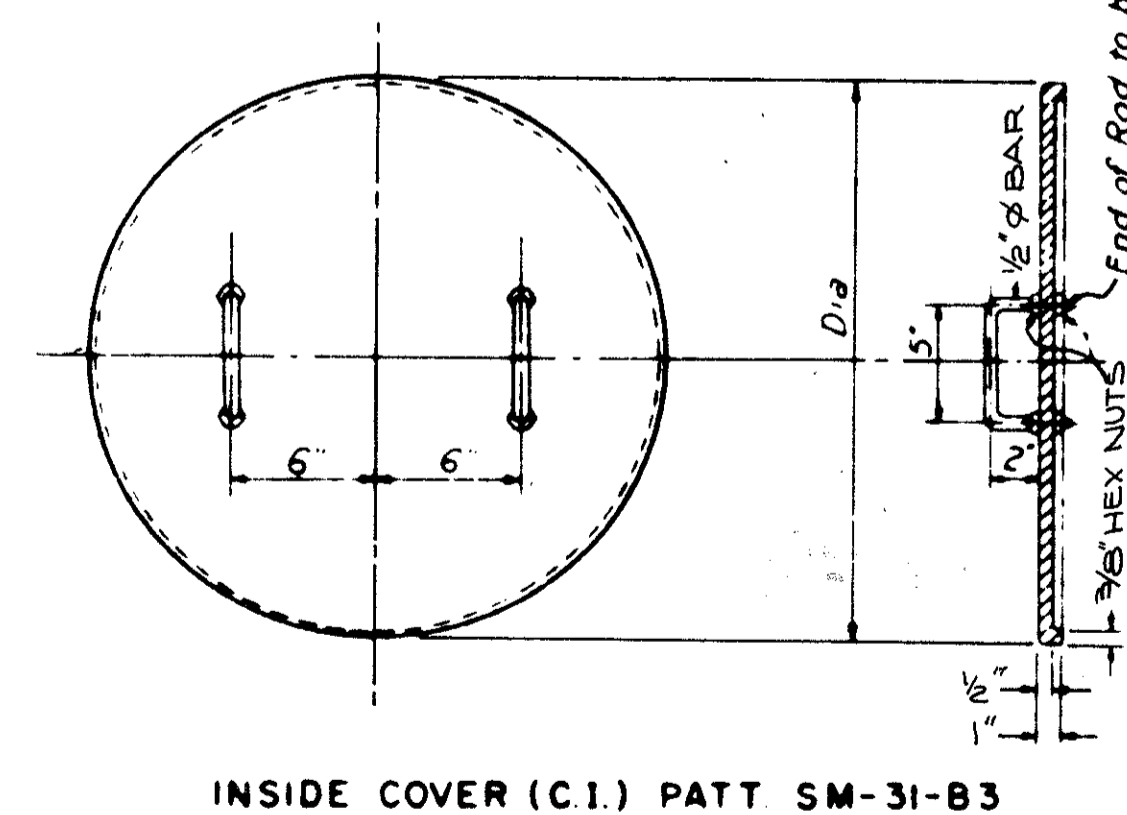
DETAIL OF VALVE EXTENSION STEM



Note: Valve Nuts to be Countersunk 1/8" to receive Set Screws.

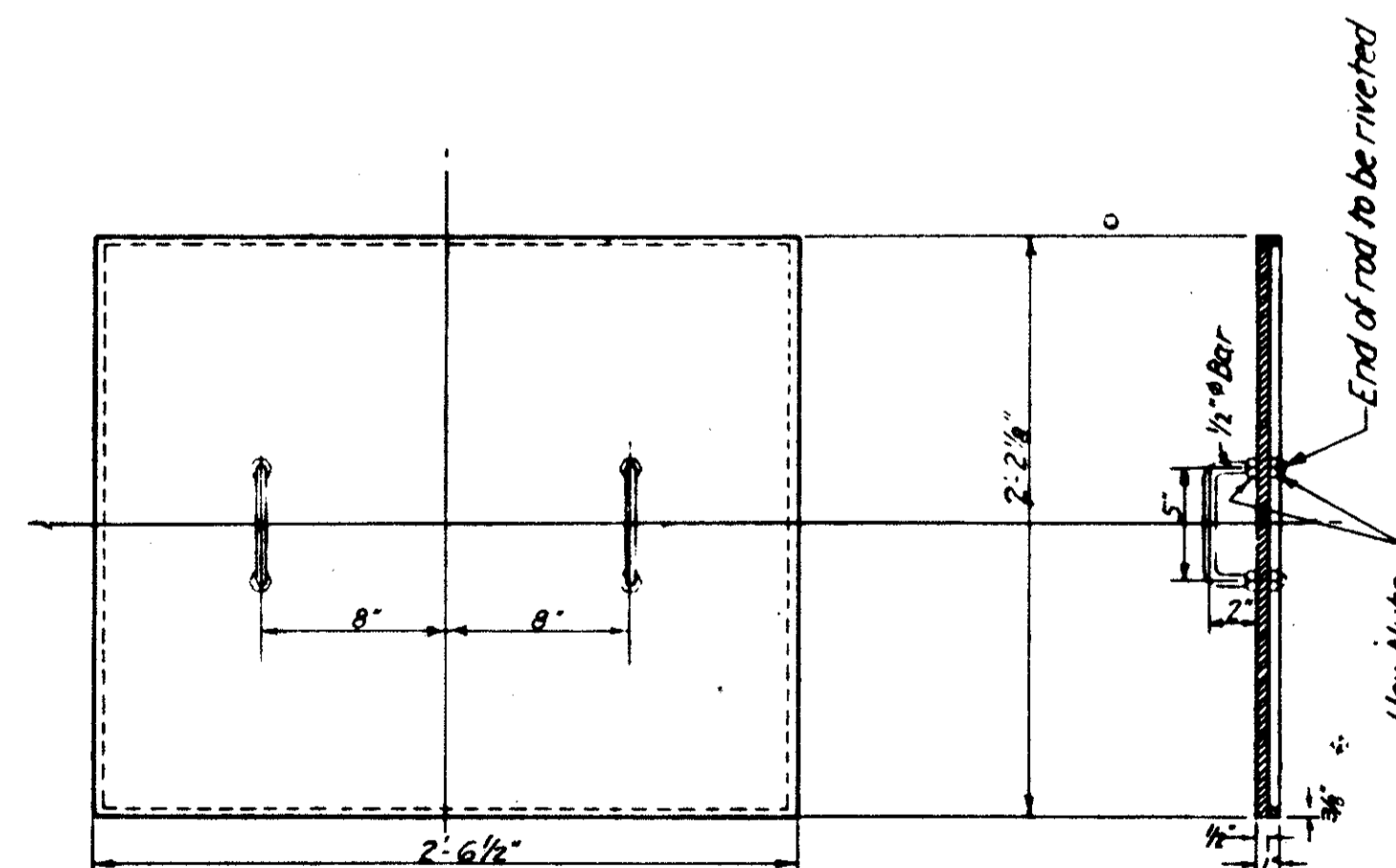
Scale 6" = 1'-0"

VALVE SIZE	A	B
2" and smaller	2"	1 1/2"
4" to 20"	2 1/2"	2"



MANHOLE FRAME AND COVERS MARK SM-31B

Consisting of {C.I. Manhole Frame Patt SM-31-B1  
C.I. Top Cover Patt SM-31-B2  
C.I. Inside Cover Patt SM-31-B3  
Approximate Weight = 766#  
Scale 1 1/2" = 1'-0"



INSIDE COVER (C.I.) PATT. SM-31-A3

MANHOLE FRAME AND COVERS MARK SM-31A

Consisting of {C.I. Manhole Frame Patt. SM-31-A1  
C.I. Top Cover Patt. SM-31-A2  
C.I. Inside Cover Patt. SM-31-A3

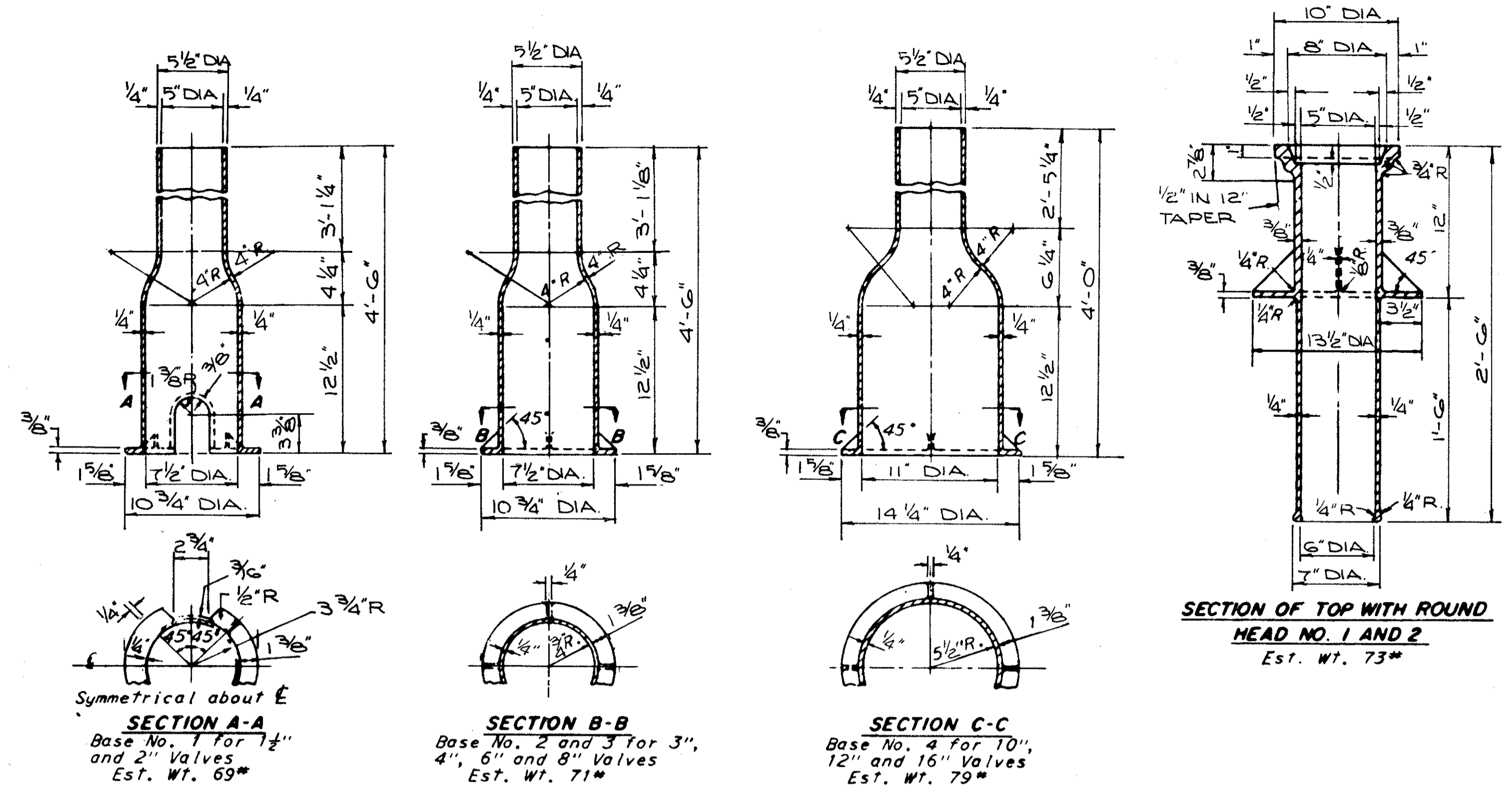
APPROVED 4-10-75

ENGINEER OF DESIGN REVIEW

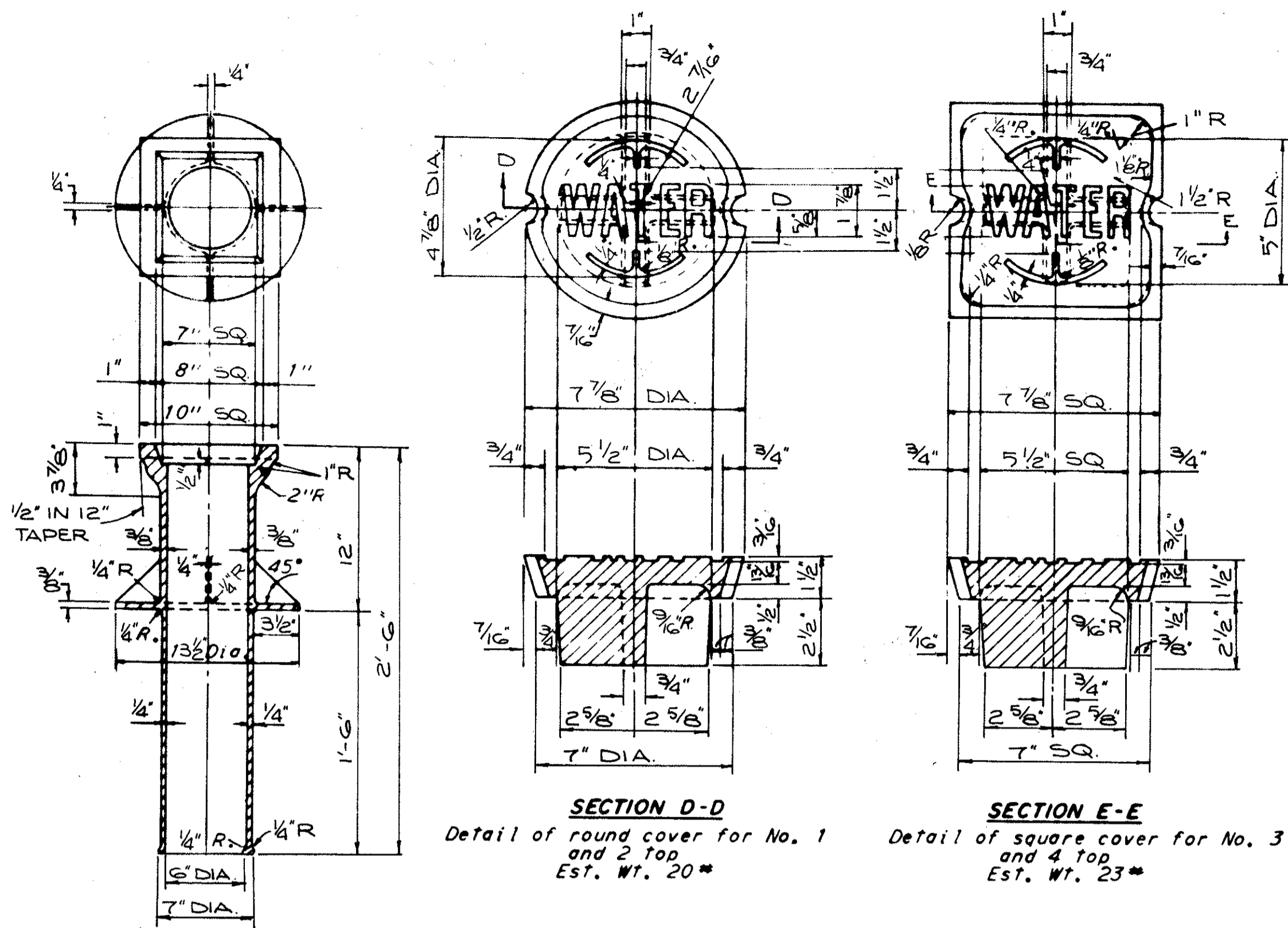
NOTE: MANHOLE FRAME & COVER, STEPS & INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL, IN WHICH IT IS A PART.

REVISIONS	1st HIGH SERVICE DISTRICT	
	DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT CLEVELAND, OHIO	
	SUBJECT: WATERWORK DETAILS	
	DRAWN: _____	SCALE: _____
	CHECKED: _____	DATE: _____
	No. _____	

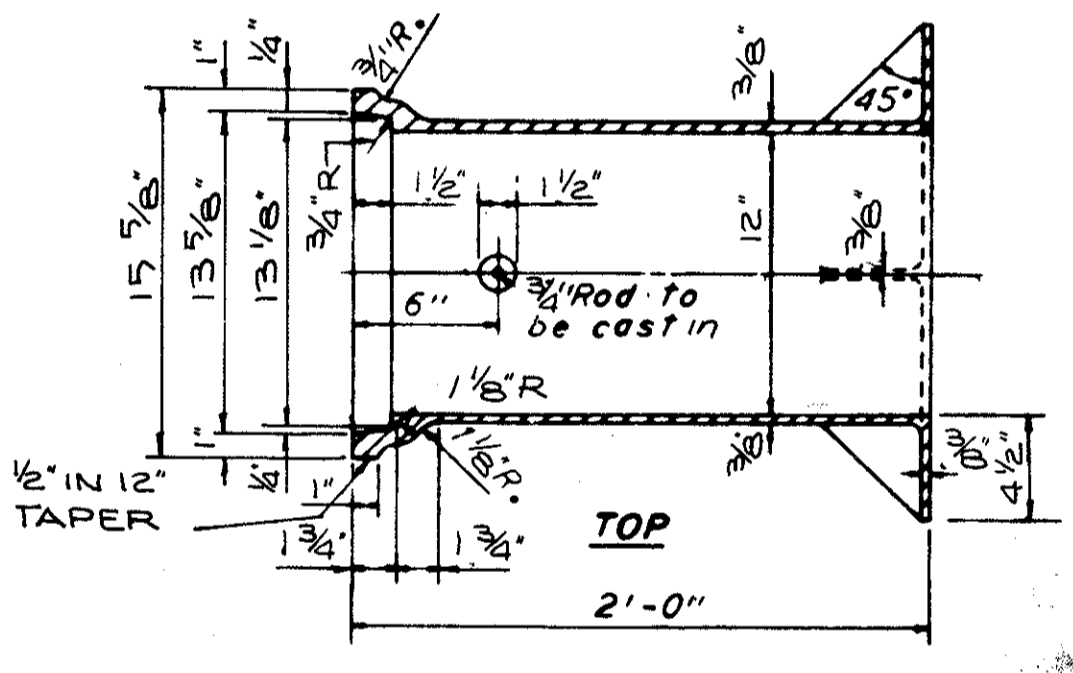
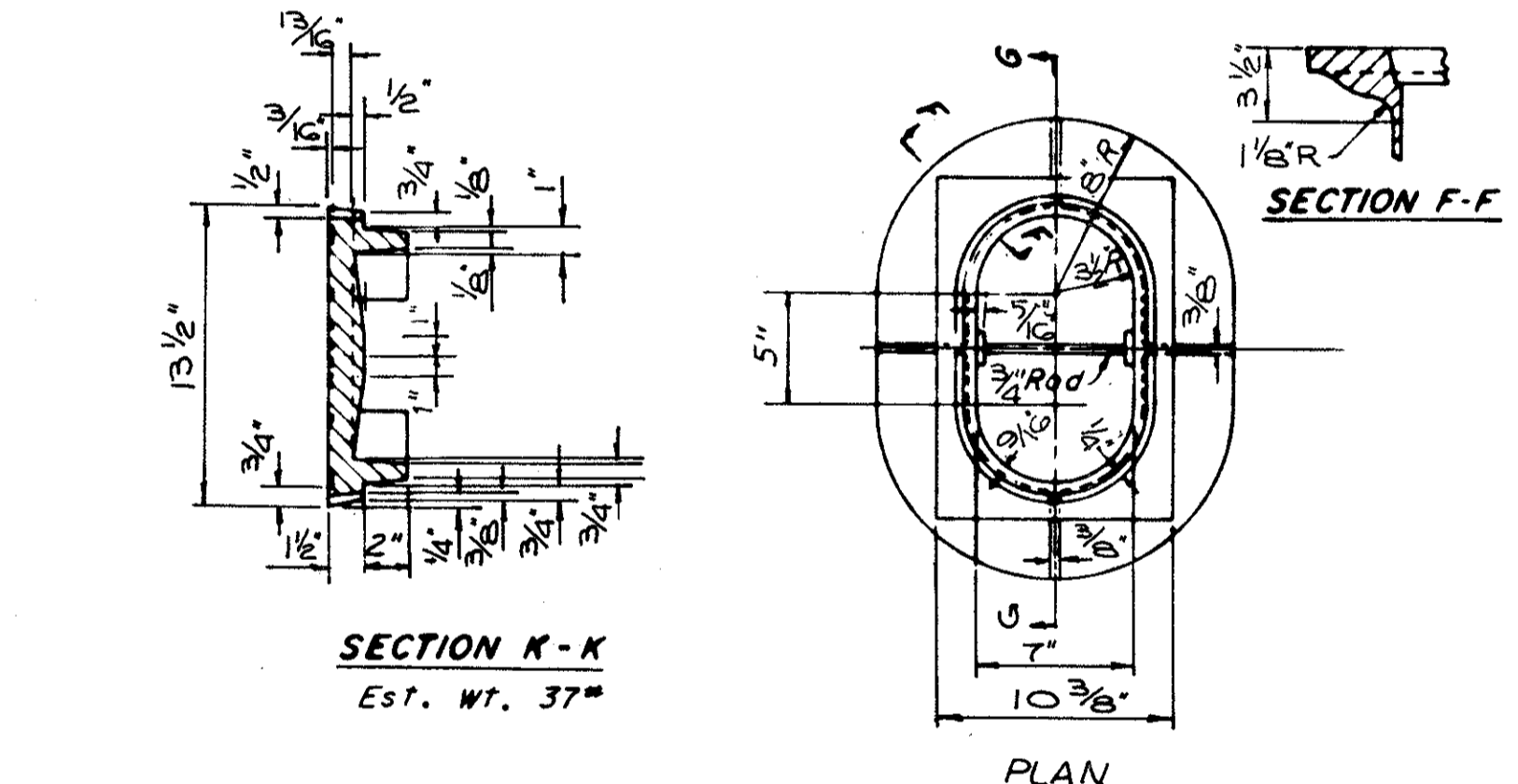




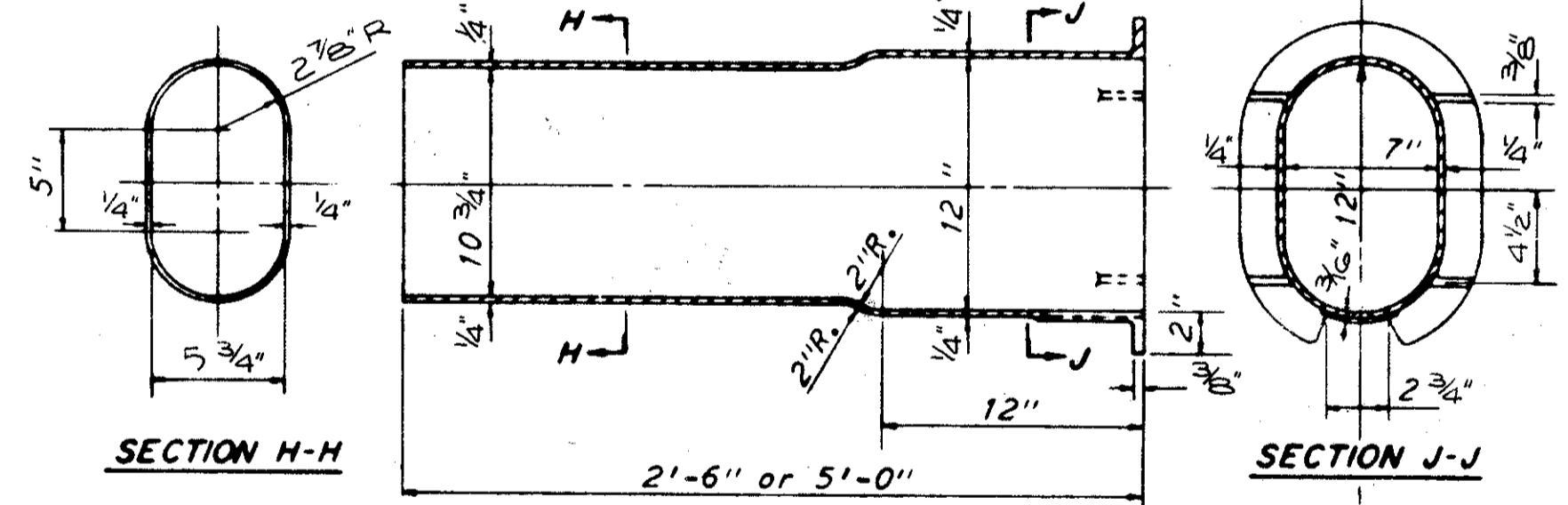
**SECTION OF TOP WITH ROUND HEAD NO. 1 AND 2**  
Est. Wt. 73\*



**SECTION OF TOP WITH SQUARE HEAD NO. 3 AND 4**  
Est. Wt. 85\*

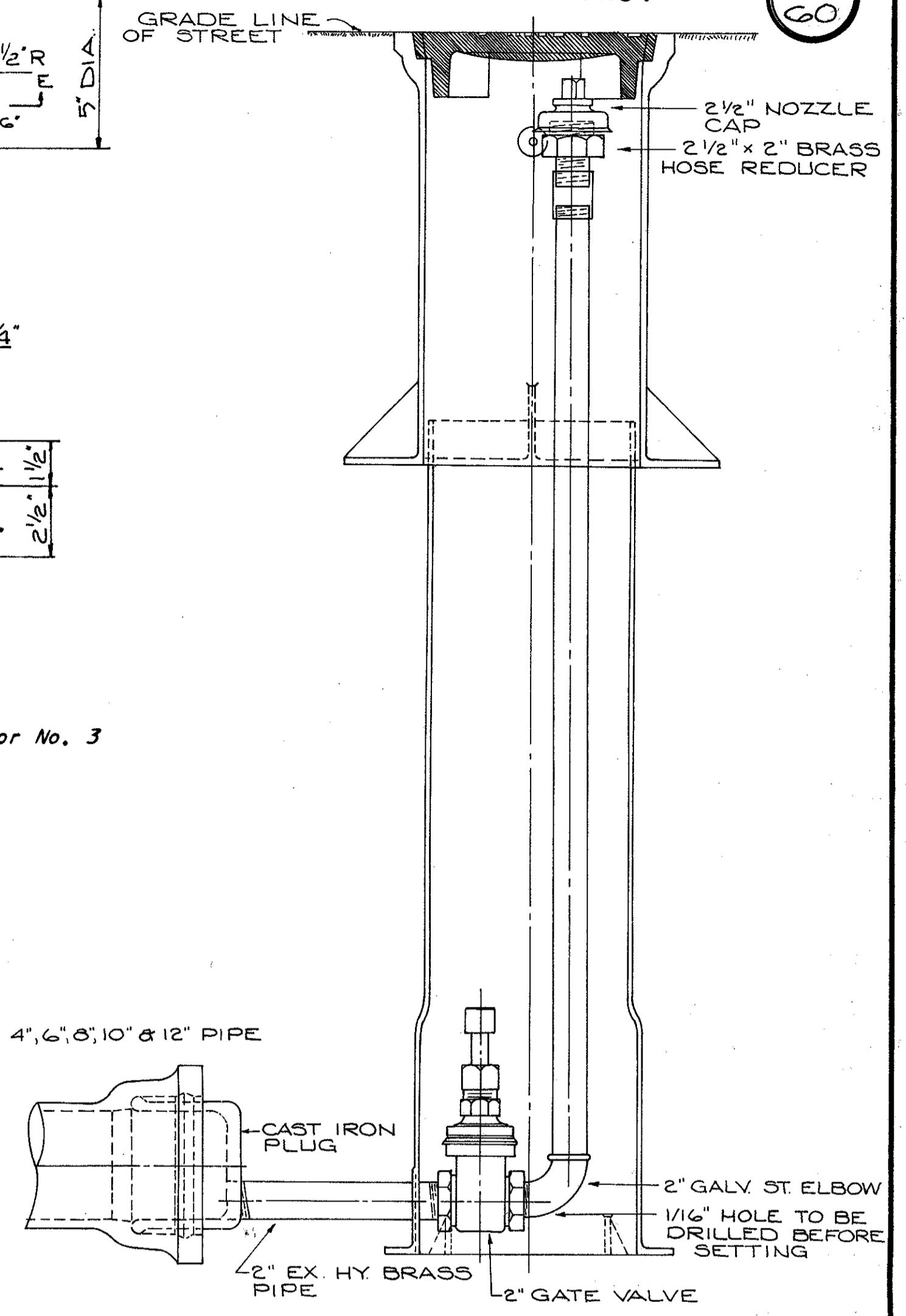


**SECTION G-G**  
Air Cock Box No. 5 is Top and Cover  
Air Cock Box No. 6 is Top, Base 21-6" Long and Cover  
Flushing Box No. 7 is Top, Base 51-0" Long and Cover  
Est. Wt. 128\*



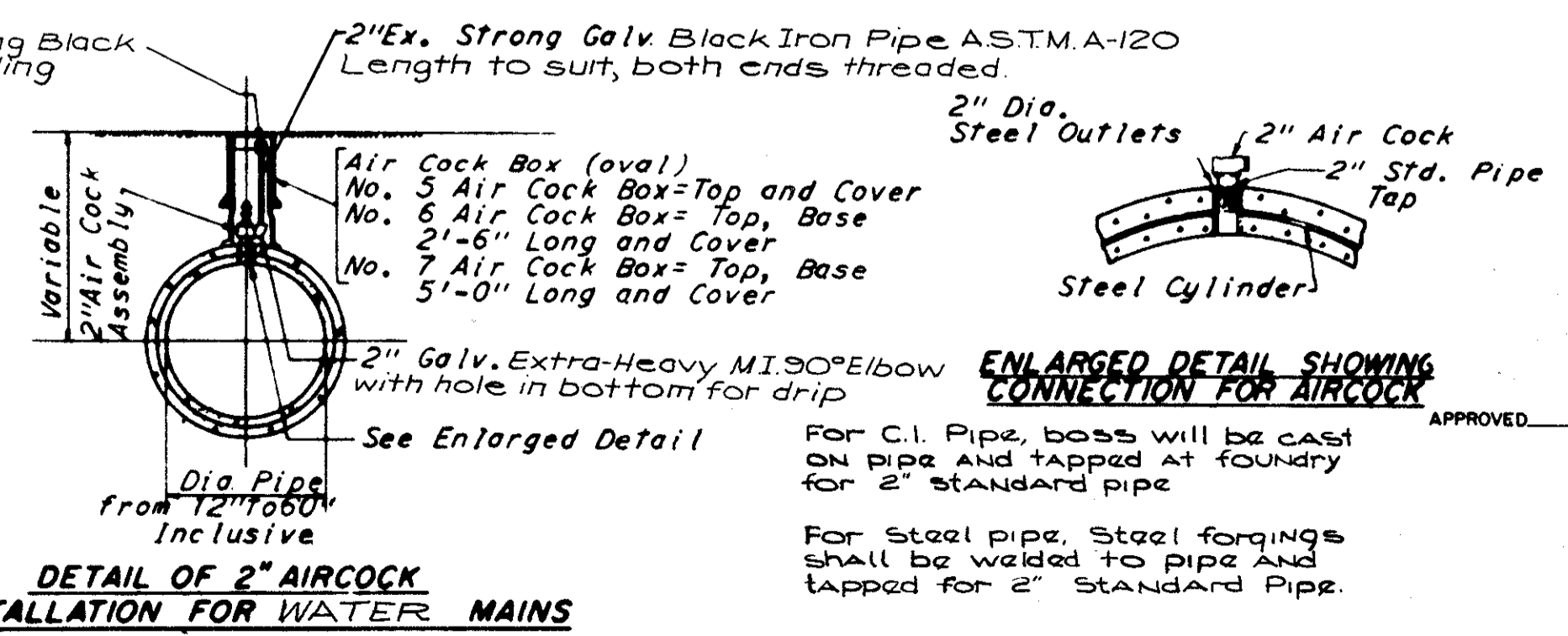
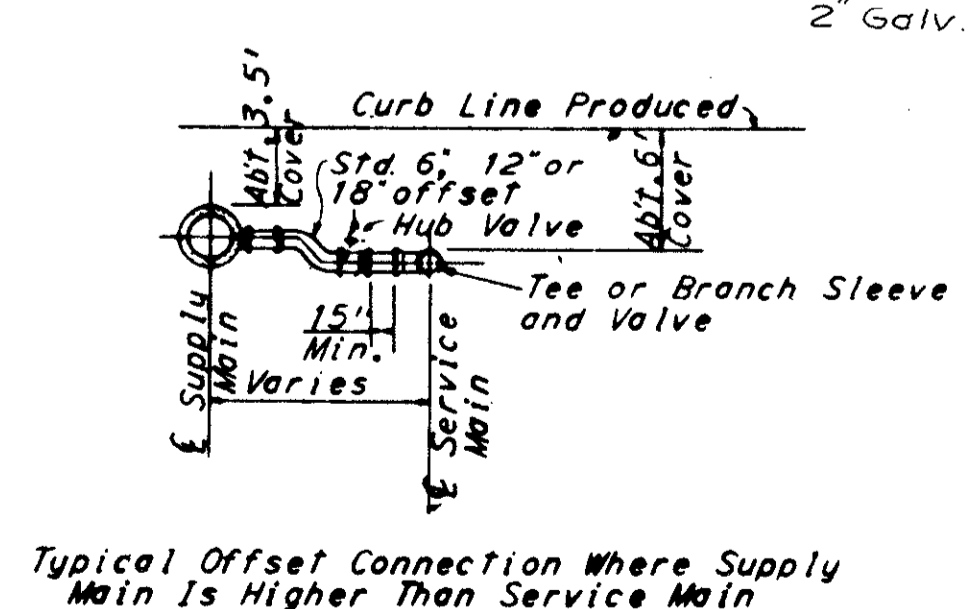
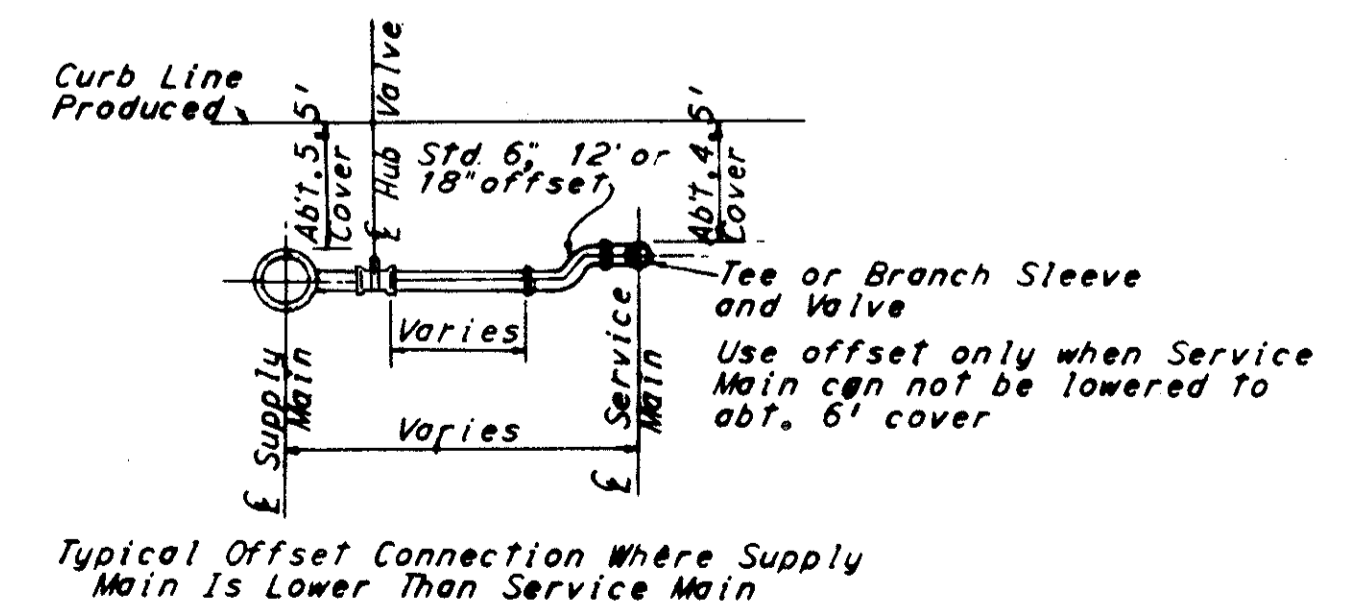
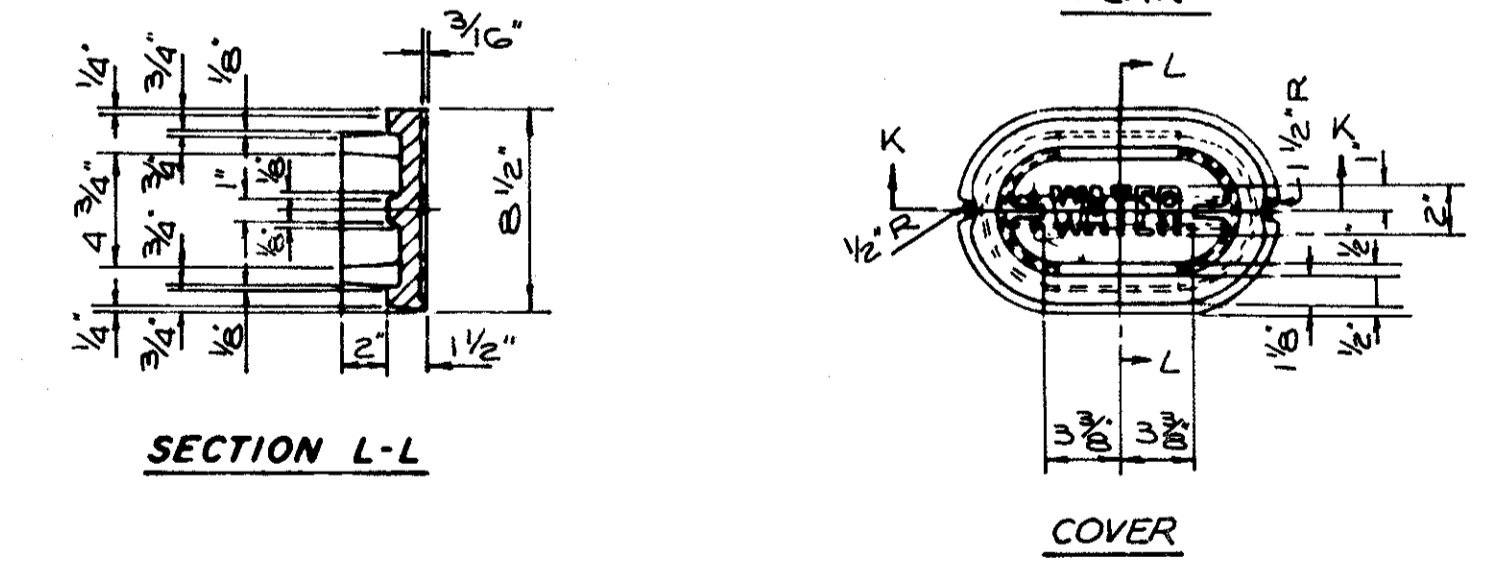
**BASE**  
Est. Weight 21-6" Long = 70\*  
Est. Weight 51-0" Long = 126\*

**NOTE:**  
AIR COCK BOXES, VALVE BOXES & INCIDENTALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM SPECIAL IN WHICH IT IS A PART.



- BILL OF MATERIAL**
- 1 - 2" GALV. IRON PIPE 5'-6" LONG
  - 1 - 2" EX. HY. BRASS PIPE 12" LONG
  - 1 - 2" GALV. IRON STREET ELL. 1/16" DRAIN HOLE
  - 1 - 2 1/2" x 2" BRASS HOSE REDUCER
  - 1 - 2" GALV. IRON COUPLING
  - 1 - (SIZE) PLUG WITH 2" TAP
  - 1 - 2 1/2" NOZZLE CAP
  - 1 - 7" ADJ. VALVE BOX
  - 1 - 2" GATE VALVE

**STANDARD DETAILS - VALVE AND AIR COCK BOXES**



**DETAIL OF 2" AIRCOCK INSTALLATION FOR WATER MAINS**

**ENLARGED DETAIL SHOWING CONNECTION FOR AIRCOCK**

For C.I. Pipe, boss will be cast on pipe and tapped at foundry for 2" STANDARD PIPE

For steel pipe, Steel forgings shall be welded to pipe and tapped for 2" STANDARD PIPE.

**STANDARD DETAILS - AIR COCK AND CONNECTIONS FOR VARIOUS PIPE**

REVISIONS	<b>1st HIGH SERVICE DISTRICT</b>		
	<b>DEPARTMENT OF PUBLIC UTILITIES</b>		
	DIVISION OF WATER AND HEAT CLEVELAND, OHIO		
	SUBJECT: <b>WATERWORK DETAILS</b>		
DRAWN	SCALE	No.	
CHECKED	DATE		

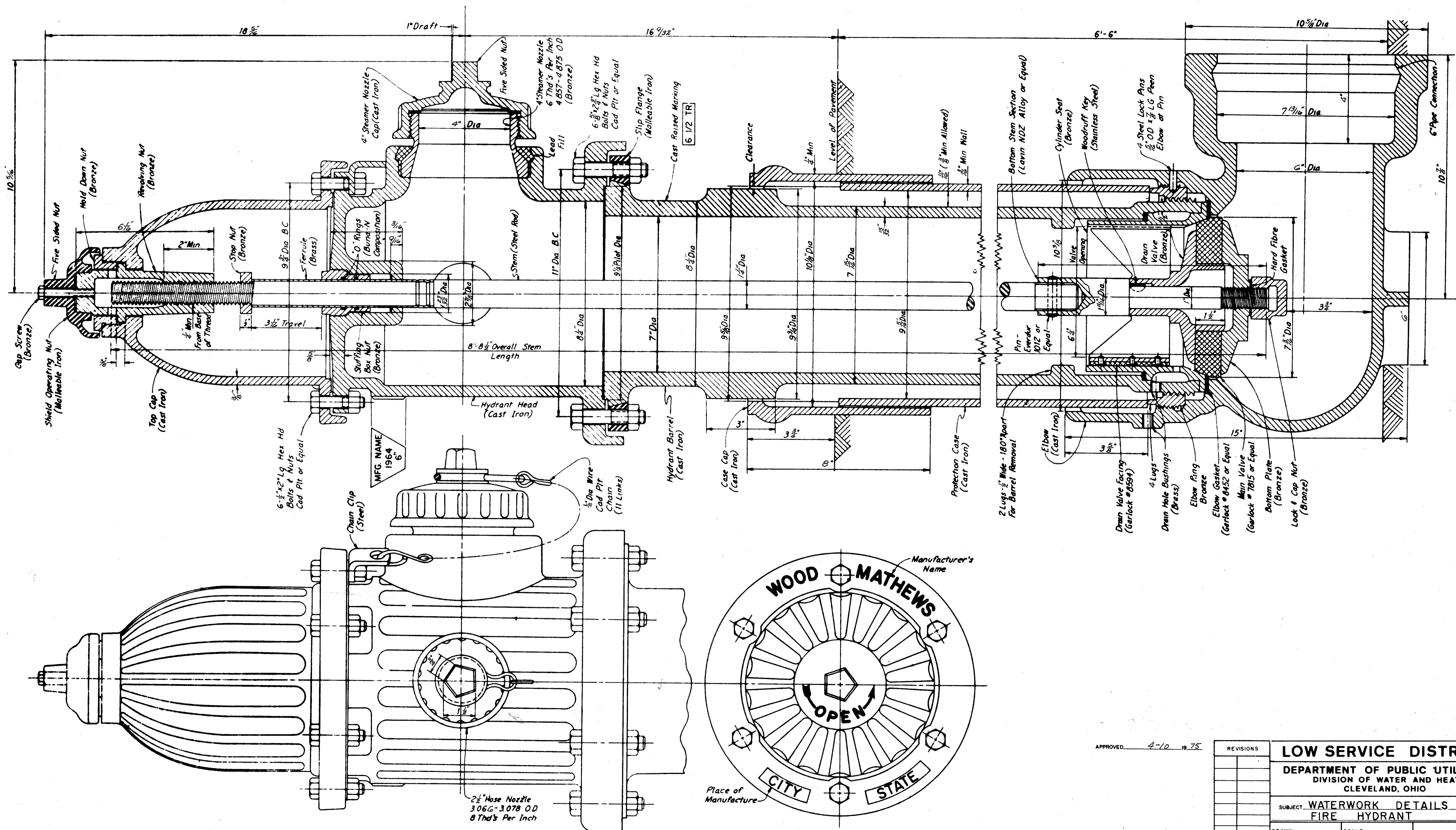
*William H. Swenson*  
ENGINEER OF DESIGN

FED. RD.	STATE	PROJECT
2	OHIO	

424  
838

CUYAHOGA COUNTY  
CUY 90 -11.64

60  
60



APPROVED 4-10 1975

REVISIONS	

<b>LOW SERVICE DISTRICT</b>	
DEPARTMENT OF PUBLIC UTILITIES	
DIVISION OF WATER AND HEAT	
CLEVELAND, OHIO	
SUBJECT WATERWORK DETAILS	
FIRE HYDRANT	
DRAWN	SCALE
CHECKED	DATE
No.	

**WATERWORK DETAILS**

**T-O**

0-7

**DRAWING REFERENCE**

**GENERAL**  
NOTES & LEGEND - SHT. #1A  
SUMMARY - SHT. #1B  
ONE LINE DIAGRAMS- SHT. #1C THRU #1E

**UNDERGROUND**  
MEASUREMENT - SHT. #2A  
PLAN DRAWINGS - SHTS. #2B THRU #2L & #2R  
BRIDGE DETAILS - SHT. #2M  
MANHOLE DETAILS - SHTS. #2N AND #2P  
CONCRETE DUCT DETAILS - SHT. #2Q

**OVERHEAD**  
PLAN DRAWINGS - SHTS. #3A THRU #3H  
POLE LIST & MATERIAL TABULATION - SHT. #3J  
MOD. POLE SCHEDULE OF CHANGES - SHT. #3K  
SUMMARY OF POLE REMOVAL & INSTL. - SHT. #3L  
TYP. POLES, CROSS-ARMS & BILL OF MATL.- SHT. #3M  
POLE ASSEMBLY - SHTS. #3N THRU #3R  
11 KV TYPICAL POLE DETAILS - SHT. #3S  
DETAILS - SHTS. #3T THRU #3X

**TEMPORARY RUNAROUND**  
PLAN DRAWINGS - SHTS. #4A THRU #4K (EXCEPT 4D)  
DETAILS - SHTS. #4L AND #4M

**FEEDER**  
FEEDER LAYOUT - SHTS. #5A AND 5B

**DESCRIPTION OF WORK**

THE CONTRACTOR SHALL SCHEDULE HIS WORK WITH OTHER TRADES AND SHALL COORDINATE AS INSTRUCTED BY PROJECT ENGINEER FOR LEAST INTERFERENCE WITH TRAFFIC, HIGHWAY CONSTRUCTION AND OTHER UTILITIES. CONNECT SECONDARY SERVICES AS REQUIRED TO INDIVIDUAL CUSTOMERS WITH MINIMUM SERVICE INTERRUPTIONS. PAYMENT SHALL BE ABSORBED IN OTHER RESPECTIVE PAY ITEMS.

WEST 47TH, 48TH, 50TH, 52ND STREETS AND FENWICK AVENUE AREA

REMOVE OVERHEAD FEEDERS AND POLES AS INDICATED ON DRAWINGS AND MAKE NECESSARY DEAD ENDS AS REQUIRED.

**WEST 53RD STREET**

- A. INSTALL NEW POLE AND FEEDERS ALONG "WALWORTH CONNECTOR", AS INDICATED ON DRAWINGS N-1, N-2, N-3, N-4, N-5, N-6 & N-36.
- B. INSTALL NEW MANHOLE MH #34-69 AND RUN TWO 4" DUCTS TO LATERAL POLE N-1 WITH CABLE #162-A. RUN THREE 4" DUCTS TO LATERAL POLE N-2 WITH CABLE 516-A3.
- C. CONTINUE NORTH BOTH (162-A AND 516-A3) CABLES AND 3 DUCTS VIA NEW MANHOLE MH #34-70. TO MODIFIED LATERAL POLE #37646 AND TO NEW LATERAL POLE N-17 INSTALL OIL SWITCHES AND CONTINUE BOTH CABLES VIA REIMER AVENUE TO POLE N-18 AND 35126. FEEDERS 512-A2 and 516-A3 ARE EXISTING NORTH ALONG WEST 55TH STREET AND ARE TO BE RETAINED. A 15 KV TRANSFORMER INSTALLED ON POLE N-18 TO BE CONNECTED TO FEEDER 512-A2. FEEDER 162-A TO BE INSTALLED NEW ON WEST 55TH STREET (NORTH) TO POLES N-8 AND N-30 AND ON LORAIN AVENUE TO POLES N-25, N-26, N-27 AND N-28. FROM POLE N-28, 162-A TO BE RECONNECTED TO MODIFIED POLE 35155 AS INDICATED ON DRAWINGS.
- D. RECONNECT FEEDERS NO. 162-A AND 516-A3 AND REMOVE SAME FEEDERS AND OTHER INSTALLATIONS FROM WEST 55TH AND WEST 59TH STREET IN PATH OF I-90 AS INDICATED ON DRAWINGS.
- E. INSTALL TEMPORARY LIGHTING AT 53RD STREET ON RUNAROUND AS SOON AS REQUESTED AND PER DRAWING 6600-4A.

**WEST 55TH, 58TH, 59TH STREETS**

THESE STREETS CANNOT BE WORKED UNTIL CONSTRUCTION WORK HAS BEEN COMPLETED ON WALWORTH CONNECTOR, WEST 53RD STREET, REIMER AVENUE, 55TH STREET NORTH TOGETHER WITH LORAIN AVENUE, BETWEEN WEST 55TH STREET AND 61ST STREET.

DISCONNECT AND REMOVE EXISTING ELECTRICAL INSTALLATIONS ON THESE STREETS IN PATH OF I-90 AS INDICATED ON DRAWINGS.

**WEST 61ST, 62ND & 63RD STREETS & SARGENT AVENUE**

REMOVE EXISTING INSTALLATION IN PATH OF I-90.

**WEST 65TH STREET**

- A. INSTALL TEMPORARY POLE LINE AS INDICATED ON DRAWING 6600-18, C, AND D WITH LIGHTING AND CONNECT FEEDERS BETWEEN POLES NO. N-19 AND 32783.
- B. REMOVE POLES IN PATH OF I-90 AS INDICATED ON DRAWINGS.
- C. INSTALL UNDERGROUND DUCT LINE FROM NEW LATERAL POLE N-19 (32637) TO EXISTING LATERAL POLE NO. 32783 INCLUDING MANHOLES, DUCT RUNS AND ASBESTOS DUCTS ON BRIDGE STRUCTURE OVER WESTBOUND SECTION OF I-90.
- D. INSTALL FEEDER #854-T IN NEW DUCT LINE AS INDICATED ON DRAWINGS. INSTALL OIL SWITCHES AND POTHEADS ON LATERAL POLES AND EACH END OF NEW UNDERGROUND LINE.
- E. EXISTING DUCTS TO LATERAL POLE 32746 TO BE ABANDONED. CONNECT RISER CABLES ON MODIFIED POLE #32783 AND NEW POLE N-19 AND INSTALL 516-A3 TO 854-T TIE POINT ON LATERAL POLE 32783.
- F. RECONNECT SERVICE FROM TEMPORARY OVERHEAD TO NEW UNDERGROUND.
- G. REMOVE TEMPORARY POLE LINE AND POLES 32746 AND 32761.

**WEST 67TH STREET**

REMOVE POLE LINE IN PATH OF I-90 AS INDICATED ON DRAWINGS.

**HOPE AVENUE AND CONRAD AVENUE**

REMOVE EXISTING INSTALLATIONS IN PATH OF I-90 AS INDICATED ON DRAWINGS.

**WEST 73RD STREET AND HOPE AVENUE**

- A. INSTALL TEMPORARY LIGHTING ALONG TURNAROUND.
- B. REMOVE EXISTING INSTALLATION IN PATH OF I-90 INDICATED ON DRAWINGS.
- C. INSTALL UNDERGROUND DUCT BANK FROM FUTURE MANHOLE LOCATIONS TO BRIDGE ABUTMENT, PER DRAWINGS. CAP BOTH ENDS OF EACH CONDUIT CLOSE UP ABUTMENT WINDOW BY BRICK. THIS INSTALLATION SHALL BE EXACTLY ALIGNED WITH CONDUIT SPACE ASSIGNED ON BRIDGE AND READY FOR FUTURE COMPLETION OF DUCT RUN.

NOTE: FUTURE INSTALLATION NOT IN THIS CONTRACT AND SHALL BE MAINLY 2 MANHOLES, ASBESTOS DUCTS ON BRIDGE, LATERAL POLES AS REQUIRED AND CABLES. NO OBSTACLE SHALL BE CREATED BY THIS OR OTHER CONTRACTORS IN THE WAY OF EASIEST AND MOST PRACTICAL COMPLETION OF THIS DUCT RUN AT ANY TIME IN THE FUTURE.

**WEST 79TH, 80TH AND 83RD STREETS, GRACE AVENUE, HOPE CT.**

REMOVE EXISTING INSTALLATIONS IN PATH OF I-90 PER DRAWINGS.

**RELOCATED & OLD LORAIN AVENUE**

THIS SECTION SHALL BE BUILT UNDER THE MOST CAREFUL COORDINATION WITH OTHER TRADES IN SAME AREA.

- A. INSTALL UNDERGROUND WORK ON RELOCATED LORAIN AVENUE SIMULTANEOUSLY WITH OTHER UTILITIES. INSTALL DUCT BANK ON BRIDGE AS INDICATED ON DRAWINGS.
- B. INSTALL LATERAL POLES 27550 AND N-14 AND DUCT BANKS TO THESE LATERAL POLES FROM NEW MANHOLE MH 13-4 ON WEST END OF LORAIN AVENUE. THE NEW MANHOLE MH 13-4 TO EXISTING MODIFIED MANHOLE MH 13-7 AS SHOWN ON DRAWINGS. COORDINATE DUCT RUN FROM NEW MANHOLE IN PHASES, TO ACCOMMODATE AN UNINTERRUPTED FLOW OF STREET TRAFFIC. TEMPORARY RUNAROUNDS IN THE WEST END OF LORAIN AVENUE WILL BE USED TO FACILITATE TRAFFIC FLOW.
- C. INSTALL LATERAL POLES AT WEST 85TH STREET (N-9) AND WEST 83RD STREET (N-10) AS INDICATED ON DRAWINGS. IN THE WEST 83RD STREET AREA, THE EXISTING UNDERGROUND DUCT BANK WILL HAVE TO BE REMOVED FROM APPROXIMATELY WEST 83RD STREET TO WEST 80TH STREET. OVERHEAD DISTRIBUTION ON POLES WILL ALSO HAVE TO BE REMOVED. BEFORE THE REMOVAL OF THESE ITEMS COMMENCES, THE TEMPORARY FEEDERS WILL HAVE TO BE INSTALLED AS SHOWN ON DRAWINGS 4J AND 4K. AFTER REMOVAL OF EXISTING ELECTRICAL DISTRIBUTION (OVERHEAD AND UNDERGROUND), WORK ON NEW UNDERGROUND DISTRIBUTION MAY COMMENCE FROM THE WEST 83RD STREET AREA TO WEST 80TH STREET.
- D. MODIFY EXISTING POLE 30035 AT EAST END OF LORAIN AVENUE TO ACCOMMODATE DUCTS FROM LAST NEW MANHOLE MH-24-15 AT WEST 80TH STREET. THE NEW MANHOLE SHALL INTERCEPT EXISTING DUCT BANK AS SHOWN ON DRAWING 2L.
- E. FINAL CONNECTIONS OF NEW UNDERGROUND DISTRIBUTION TO EXISTING UNDERGROUND AND OVERHEAD DISTRIBUTION MAY COMMENCE AFTER ALL OF THE PREVIOUS STEPS HAVE BEEN COMPLETED. TEMPORARY SERVICE MAY BE DISCONNECTED AT THIS TIME AND REMOVED FROM SITE.

**CLARK & WEST 84TH STREET INTERSECTION**

REPLACE AND MODIFY POLES AS INDICATED ON DRAWINGS.

**CLARK AVENUE BRIDGE AT WEST 80TH STREET**

- A. INSTALL POLES ALONG TEMPORARY RUNAROUND AT CLARK AVENUE BRIDGE.
- B. INSTALL LATERAL POLES N-13 AND 30154 AT WEST AND EAST END OF BRIDGE AND CONNECT TEMPORARY AS INDICATED ON DRAWING. REMOVE EXISTING POLES AS INDICATED.
- C. INSTALL DUCT SYSTEM WITH THREE MANHOLES AS INDICATED ON DRAWINGS.
- D. MAKE FINAL RECONNECTIONS AFTER UNDERGROUND INSTALLATIONS HAVE BEEN COMPLETED.
- E. REMOVE TEMPORARY POLES.

**WEST 93RD & HARDING**

INSTALL NEW POLES, REMOVE AND RECONNECT EXISTING SERVICES AS INDICATED ON DRAWINGS.

**NOTE:**

- A) SEQUENCE OF WORK NOTES ARE TO BE USED AS A GUIDE, FINAL DETAILS AND SEQUENCES ARE TO BE WORKED OUT WITH ALL OTHER TRADES IN THE FIELD AND APPROVED BY THE PROJECT ENGINEER.
- B) SOME WORK MAY BE DONE AT THE SAME TIME, BUT UNDER NO CIRCUMSTANCES SHALL POWER BE INTERRUPTED WITHOUT THE APPROVAL OF THE CITY OF CLEVELAND, DIVISION OF LIGHT AND POWER.
- C) ALL CONSTRUCTION WORK SHALL BE IN AGREEMENT WITH MELP STANDARDS & AS ENCLOSED IN "APPENDIX" SECTION OF SPECIFICATIONS.
- D) "EXISTING" INSTALLATIONS ARE BASED ON RECORD DRAWINGS.

CALCULATED BY: E.F. DATE: 4/74  
CHECKED BY: J.M. DATE: 3/75

FED. RD.	STATE	PROJECT
2	OHIO	

CUYAHOGA COUNTY  
CUY-90-11.64

425  
838

1  
58

GENERAL NOTES

UTILITIES

AT LEAST TWO (2) WEEKS BEFORE BREAKING GROUND THE CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITIES HAVING WIRE POLES, PIPES, CONDUITS, MANHOLES OR OTHER STRUCTURES WHICH MAY BE AFFECTED BY HIS OPERATIONS, INCLUDING ANY SERVICES OR STRUCTURES WHICH ARE AFFECTED BUT NOT SHOWN ON THESE PLANS. HE SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO AVOID DAMAGES TO ANY AND ALL UTILITIES.

FOLLOWING IS A LIST OF THE UTILITIES WITHIN THE LIMITS OF CONSTRUCTION:

DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF WATER & HEAT  
1201 LAKESIDE AVENUE  
CLEVELAND, OHIO 44114

CLEVELAND ELECTRIC ILLUMINATING CO.  
55 PUBLIC SQUARE  
CLEVELAND, OHIO 44113

OHIO BELL TELEPHONE COMPANY  
100 ERIEVIEW PLAZA  
CLEVELAND, OHIO 44114

EAST OHIO GAS COMPANY  
EAST 55TH STREET  
CLEVELAND, OHIO 44114

DEPARTMENT OF PUBLIC SAFETY  
POLICE & FIRE COMMUNICATION SYSTEM  
310 CARNEGIE AVENUE  
CLEVELAND, OHIO 44115

DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF LIGHT AND POWER  
1201 LAKESIDE AVENUE  
CLEVELAND, OHIO 44114

DEPARTMENT OF PUBLIC SERVICE  
ROOM 227 CITY HALL  
601 LAKESIDE AVENUE  
CLEVELAND, OHIO 44114  
UTILITY PROTECTION  
UNDERGROUND UTILITIES

DEPARTMENT OF PUBLIC SAFETY  
DIVISION OF TRAFFIC ENGINEERING & PARKING  
4160 SOUTH MARGINAL ROAD  
CLEVELAND, OHIO 44114  
1-(800)-362-2764

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO MAKES NO GUARANTEE AS TO THEIR ACCURACY OR COMPLETENESS.

FEEDER SHUTDOWN

- (A) A FEEDER SHUTDOWN SCHEDULE WITH DATES AND APPROXIMATE SHUTDOWN TIMES IS TO BE SUBMITTED TO THE CITY OF CLEVELAND, DIV. OF LIGHT AND POWER, FOR APPROVAL 2 WEEKS BEFORE A FEEDER SHUTDOWN IS REQUIRED. DUE TO THE NATURE OF THE LOADING OF THE 2, 3KV & 11 KV FEEDERS AND THE SEASON OF THE YEAR; IT WILL BE NECESSARY TO HAVE SOME OF THE FEEDER SHUTDOWNS ON OFF PEAK DAYS, OR OFF HOURS. THIS DETERMINATION WILL BE MADE BY SESLER N. TITUS SYSTEM OPERATING ENGINEER OF THE DIVISION OF LIGHT & POWER.
- (B) ALL FEEDER SHUTDOWNS SHALL BE CONFIRMED BY THE CONTRACTOR ONE DAY IN ADVANCE OF ALL SCHEDULED JOBS WITH THE SYSTEM OPERATING ENGINEER. ALL SWITCHING WILL BE DONE BY THE CITY OF CLEVELAND DIVISION OF LIGHT & POWER.

TIE INTO EXISTING MANHOLES

WHEN A NEW DUCTBANK IS CONNECTED INTO AN EXISTING MANHOLE, PART OF THE WALL SHALL BE CAREFULLY BROKEN TO RECEIVE NEW DUCTBANK. AFTER NEW DUCTBANK HAS BEEN INSTALLED, EXISTING MANHOLE SHALL BE REPAIRED, PATCHED AND SEALED. CABLES SHALL BE PROTECTED DURING THIS WORK WITH EXTREME CARE. ANY DAMAGE TO EXISTING CABLES SHALL BE REPAIRED. THIS WORK SHALL BE DONE UNDER DIVISION OF LIGHT AND POWER SUPERVISION.

TIE INTO EXISTING DUCTBANKS

WHERE NEW MANHOLES ARE BUILT TO INTERCEPT EXISTING DUCTBANK, THE EXCAVATION OR OTHER WORK SHALL UNDER NO CIRCUMSTANCES DAMAGE EXISTING INSTALLATIONS. PROVIDE ADEQUATE SUPPORTS FOR DUCTBANK DURING CONSTRUCTION UNTIL NEW MANHOLE IS COMPLETED; THEN, REMOVE CONCRETE AND DUCTS. PROVIDE ADEQUATE SUPPORTS FOR ALL CABLES AND NEW SPLICES IN MANHOLE. THIS WORK SHALL BE DONE UNDER DIVISION OF LIGHT AND POWER SUPERVISION.

CABLE MARKING

EACH CABLE UPON ENTERING AND LEAVING MANHOLES SHALL BE MARKED WITH METAL TAGS, INDICATING THE FEEDER NUMBER AND CABLE SIZE. THE LETTER SHALL BE 1/4" HIGH. SEE SPECS.

TRANSFORMERS

ALL NEW AND EXISTING TRANSFORMERS BEING REMOVED SHALL HAVE THE NAMEPLATE DATA RECORDED. THIS INFORMATION SHALL BE FORWARDED TO THE CITY OF CLEVELAND, DIVISION OF LIGHT AND POWER. SEE SPECS.

TEMPORARY SERVICE

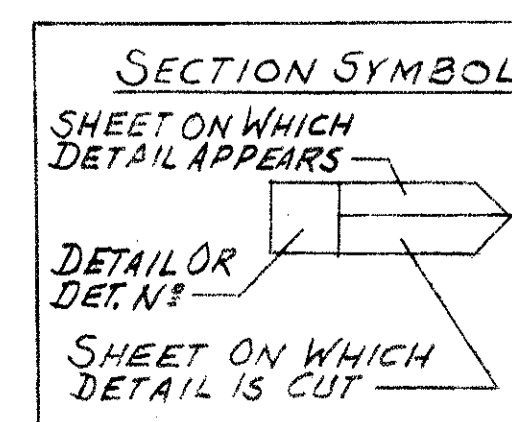
ALL TEMPORARY SERVICES SHALL BE MAINTAINED DURING THE TIME OF CONSTRUCTION BY THIS CONTRACTOR.

POLES

POLE LENGTHS AS SHOWN ON THE DRAWINGS, ARE FOR STANDARD LENGTH POLES. EXACT LINE HEIGHT IS TO BE DETERMINED IN THE FIELD, TO MATCH THE EXISTING LINES AND PROVIDE A UNIFORM APPEARANCE.

**SYMBOL LEGEND**

-	OVERHEAD WIRING - NEW
-E-	OVERHEAD WIRING - EXISTING TO REMAIN
-R-	OVERHEAD WIRING - EXISTING TO BE REMOVED
- - - -	DUCT LINE - NEW (4" DUCTS)
-E-	DUCT LINE - EXISTING TO REMAIN
-R-	DUCT LINE - EXISTING TO BE ABANDONED
- - - -	DUCT LINE OR UNDERGROUND LIGHTING CABLE STUB-UP
●	MELP POLE - NEW
○	MELP POLE - EXISTING TO REMAIN
○	MELP POLE - EXISTING TO BE MODIFIED
○	MELP POLE - EXISTING TO BE REMOVED
⊕	FOREIGN POLE
⊕	MANHOLE NEW
⊕	MANHOLE - EXISTING TO REMAIN
⊕	MANHOLE - EXISTING TO BE ABANDONED OR REMOVED
165-A	TYPICAL MELP 15 KV FEEDER NUMBER
651-E	TYPICAL MELP 5 KV FEEDER NUMBER
SEC.	SECONDARY OVERHEAD WIRING
N-1	TYPICAL NEW POLE NUMBER
22530	TYPICAL MELP POLE NUMBER
OBT	INDICATES OHIO BELL TELEPHONE WIRING
MH# 633	TYPICAL MELP MANHOLE NUMBER
<b>SYMBOLS FOR PLAN DRAWING</b>	
○	POLE MOUNTED LIGHT FIXTURE - NEW
○E	POLE MOUNTED LIGHT FIXTURE - E = EXISTING TO REMAIN
○R	POLE MOUNTED LIGHT FIXTURE - R = EXISTING TO BE REMOVED
⊕/5	NEW POLE MOUNTED TRANSFORMER (NUMBER INDICATES KVA)
⊕/5	EXISTING POLE MOUNTED TRANSFORMER TO REMAIN (N# INDICATES KVA)
⊕/5	EXISTING POLE MOUNTED TRANSFORMER TO BE REMOVED (N# IND# KVA)
→	NEW ANCHOR GUY
⊞	HIGHWAY LIGHTING CONTROL CTR.
<b>SYMBOLS FOR ONE LINE DIAGRAM</b>	
⊕	GROUND
⊕/N	POLE MOUNTED TRANSFORMER (E=EXISTING TO REMAIN, N=NEW)
∇/N	POTHEAD (E=EXISTING TO REMAIN, N=NEW)
⊕/E	LIGHTNING ARRESTER (E=EXISTING TO REMAIN, N=NEW)
⊕	EXISTING LIGHTING SERIES TRANSFORMER
⊕	NEW POLE MOUNTED LIGHT FIXTURE
⊕	EXISTING POLE MOUNTED LIGHT FIXTURE
⊕/E	POLE MOUNTED OIL SWITCH (E=EXISTING TO REMAIN, N=NEW)
⊕/E	POLE MOUNTED LOAD BREAK DISCONNECT (E=EXISTING TO REMAIN, N=NEW)
⊕/E	POLE MOUNTED FUSED CUTOFF WITH NEMA TYPE "K" FUSES (E=EXISTING, N=NEW)



APPROVED BY  
*[Signature]*  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
*[Signature]*  
ENGINEER OF DESIGN  
3/21/75

DIVISION OF LIGHT & POWER  
CITY OF CLEVELAND

GENERAL NOTES & LEGEND

SCALE      DRAWING NUMBER  
DATE      **6600-1A**

# GENERAL SUMMARY (M.E.L.P.)

CALCULATED BY E.F. DATE 4/74  
CHECKED BY J.M. DATE 3/75

FED. RD.	STATE	PROJECT
2	OHIO	

426  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

2  
58

PER FEDERAL CODE TYPE Y060

▲  $\begin{cases} 57.5\% \text{ Fed., State \& City} \\ 42.5\% \text{ 100\% City} \end{cases}$

TOTAL Fed, State & City	ITEM	SHEET NUMBER				QUANTITY TOTAL	UNIT	DESCRIPTION	TOTAL Fed, State & City	TOTAL ▲
		2A	4E	3J	3K					
7	OC-12		7		7	EA.	POLE-30'-0" LENGTH-CLASS 4			
31	OC-12		17	14	31	EA.	POLE-35'-0" LENGTH-CLASS 4			
33	OC-12		31	2	33	EA.	POLE-40'-0" LENGTH-CLASS 1			
12	OC-12		8	4	12	EA.	POLE-45'-0" LENGTH-CLASS 1			
7	OC-12			7	7	EA.	POLE-45'-0" LENGTH-CLASS 3			
4	OC-12			4	4	EA.	POLE-50'-0" LENGTH-CLASS 1			
1	OC-12			1	1	EA.	POLE-55'-0" LENGTH-CLASS 1			
21	OC-12		10	11	21	EA.	POLE-60'-0" LENGTH-CLASS 1			
3	OC-12			3	3	EA.	POLE-70'-0" LENGTH-CLASS 1			
11	OC-13			7	4	ASS'Y	HEAVY DUTY 8 PIN CROSS ARM W/6 PIN INSULATORS (5KV)			
2	OC-13A4			2		ASS'Y	HEAVY DUTY 8 PIN CROSS ARM W/6 PIN INSULATORS & 6 DEAD END CLEVISSES(5KV)			
61	OC-13		56	2	3	ASS'Y	HEAVY DUTY 6 PIN CROSS ARM W/3 PIN INSULATORS (5KV)			
39	OC-13		21	11	7	ASS'Y	HEAVY DUTY 6 PIN CROSS ARM W/3 PIN INSULATORS (15KV)			
13	OC-13A4		7	6		ASS'Y	HEAVY DUTY 6 PIN CROSS ARM W/3 PIN INSULATORS & 3 DEAD END CLEVISSES (5KV)			
9	OC-13A4		3	5	1	ASS'Y	HEAVY DUTY 6 PIN CROSS ARM W/3 PIN INSULATORS & 3 DISK STR.INS-S (15KV) & STRAIN CLAMPS			
1	OC-13			1		ASS'Y	STANDARD 6 PIN CROSS ARM WITH 2 PIN INSULATORS (5KV)			
23	OC-13			12	11	EA.	STANDARD 6 PIN CROSS ARM			
16	OC-13			4	12	ASS'Y	STANDARD 6 PIN CROSS ARM W/3 PIN INSULATORS (5KV)			
13	OC-13A4			3	10	ASS'Y	STANDARD 6 PIN CROSS ARM W/3 PIN INSULATORS & 3 DEAD END CLEVISSES(5KV)			
7	OC-13A4			7		ASS'Y	STANDARD 6 PIN CROSS ARM W/2 PIN INSULATORS & 2 DEAD END CLEVISSES(5KV)			
9	OC-13A4			9		ASS'Y	CORNER POLE DEAD END CLEVISSES ASSY (5KV)			
3	OC-13			3		ASS'Y	CORNER POLE DISK STRAIN INSULATOR ASSEMBLY (15KV)			
137	OC-25		63	42	32	EA.	CROSS ARM BRACE, ANGLE IRON (5KV)			
18	OC-27			10	8	ASSY	LATERAL POLE WOOD BRACES			
42	OC-25		3	23	16	PAIR	CROSS ARM BRACE, WOOD (15KV)			
13	OC-04/OC-11		8	5		ASSY.	HEAVY DUTY ANCHOR GUY WITH 15KV INSULATORS			
43	OC-11		13	9	21	ASSY.	STANDARD ANCHOR GUY WITH INSULATORS			
20	OC-11		12	4	4	ASSY.	HEAVY DUTY ANCHOR GUY WITH 5KV INSULATORS			
10	OC-11		4	6		ASSY.	DOUBLE HEAVY DUTY ANCHOR GUY WITH INSULATORS			
11	OC-11		3	7	1	ASSY.	HEAD GUY OR ARM GUY WITH INSULATORS			
8	OC-12			8		EA.	BLOCK POLE			
12	OC-20			5	7	EA.	OIL SWITCH W/HANGERS & WOOD BRACING - 5KV			
18	OC-15			10	8	EA.	POTHEAD 5KV			
47	OC-16			20	27	EA.	3 KV LIGHTNING ARRESTER			
12	OC-14		12			EA.	STRAIN CLAMPS FOR #30 ACSR WIRE			
5	OC-19		1	2	2	EA.	TRANSFORMER			
6	OC-22			3	3	SET	DEAD BLADE ENCLOSED DISCONNECT SWITCHES (5KV)			
25	OC-09		2	16	7	EA.	GROUNDING			
104	OC-17		61	34	9	EA.	1 PT. SECONDARY RACK			
3	OC-17			3		EA.	3 PT. SECONDARY RACK			
12	OC-24			12		FT.	4" ALUMINUM CONDUIT			
212	OC-17			212		FT.	1/2 5KV #10 C.P. CABLE			
18	OC-17			10	8	EA.	CABLE GUARD FOR P.I.L. CABLE (8'-0" LG.)			
16	OC-18			16		EA.	MERCURY LIGHTING FIXTURE 175W W/BACKET ARM 6 FT LONG.			
9	OC-18			9		EA.	MERCURY LIGHTING FIXTURE 175W W/BACKET ARM 8 FT LONG			
50	OC-18		50			EA.	MERCURY LIGHTING FIXTURE 400W W/BACKET ARM 12 FT LONG			
359	UC-17	359				FT.	3/C 5KV P.I.L #10 CABLE			
9815	UC-17	6580	3235			FT.	3/C 15KV P.I.L. #4/0 CABLE			
9240	UC-17	8165	1075			FT.	3/C 5KV P.I.L. #4/0 CABLE			
3425	UC-17	3425				FT.	1/C 5KV #8 CABLE (SERIES LIGHTING)			
3100	UC-17	3100				FT.	3/C-15KV P.I.L. #500 MCM CABLE			
16	OC-19		2	7	7	EA.	FUSED CUTOUTS (5KV)			

ITEM	SHEET NUMBER				QUANTITY TOTAL	UNIT	DESCRIPTION	TOTAL Fed, State & City	TOTAL ▲
	2A	4E	3J	3K					
OC-19			32	8	40	EA.	PRIMARY WIRE HOLDER		40
OC-10			4730		4730	FT.	#6 WIRE-COPPER-WEATHER PROOF		4730
OC-10			5650		5,650	FT.	336.4 MCM-ACSR WIRE BARE		5650
OC-10			6755	5990	12,745	FT.	#2 4/0 WIRE-COPPER-WEATHER PROOF		12,745
OC-10			5120	3790	8,910	FT.	#2 4 WIRE TRIPLEX		8,910
OC-10			3155		3,155	FT.	#2 3/0 WIRE-COPPER-WEATHER PROOF		3,155
OC-10			3155	1150	4,305	FT.	#2 3/0 ACSR WIRE - WEATHER PROOF		4,305
TC-09			4320		4320	FT.	MESSANGER WIRE 12.5M		4,320
OC-10				500	500	FT.	*1/2 TRIPLEX SECONDARY		500
UC-14	▲930				930	FT.	NON-ENCASED, BRIDGE SUPPORT 6-4" ASBESTOS DUCTS.		930
UC-15	130/710				840	FT.	REINFORCED, CONCRETE ENCASED 6-4" ASBESTOS DUCTS.		130/710
UC-15	90				90	FT.	REINFORCED, CONCRETE ENCASED 3-4" ASBESTOS DUCTS.		90
UC-13	▲960	40			1000	FT.	NON REINFORCED CONCRETE ENCASED 4-4" PVC SCHED 40 DUCT UL APPROVED	40	960
UC-13	▲3775				3775	FT.	NON-REINFORCED CONCRETE ENCASED 6-4" PVC SCHED 40 DUCT UL APPROVED		3775
UC-13	725/120				845	FT.	NON-REINFORCED CONCRETE ENCASED 3-4" PVC SCHED 40 DUCT UL APPROVED	725	120
UC-13	375				375	FT.	NON-REINFORCED CONCRETE ENCASED 2-4" PVC SCHED 40 DUCT UL APPROVED		375
UC-13	35				35	FT.	NON-REINFORCED CONCRETE ENCASED 12-4" PVC SCHED 40 DUCT UL APPROVED		35
UC-12	20				20	EA.	REINFORCED CONCRETE MANHOLES		20
UC-12	2				2	EA.	MANHOLE (MODIFIED)		2
UC-16	3				3	EA.	MANHOLE (ABANDONED OR REMOVED)		3
UC-02/05	7850	40			7890	FT.	EXCAVATION & BACKFILL		7,890
GS-10	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	REMOVAL		Lump
OC-14			12		12	EA.	STRAIN CLAMPS FOR 336.4 MCM ACSR WIRE		12
OC-23			6	3	9	EA.	15KV DISCONNECT SWITCHES (600 A)		9
OC-16			12	3	15	EA.	12KV LIGHTNING ARRESTER		15
OC-21			2		2	EA.	OIL SWITCH WITH HANGERS & WOOD BRACING (15KV)		2
OC-15				4	4	EA.	POTHEAD 15KV		4
UC-17	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	TESTING OF CABLES		Lump
UC-17/415	41,425	160			41,585	FT.	DUCT CLEANING		41,585
UC-17	732				732	FT.	FIREPROOFING CABLES		732

APPROVED BY \_\_\_\_\_  
DIRECTOR OF PUBLIC UTILITIES \_\_\_\_\_  
COMMISSIONER OF LIGHT & POWER \_\_\_\_\_  
COMMISSIONER OF UTILITIES ENGINEERING \_\_\_\_\_  
CHIEF ELECTRICAL ENGINEER Robert J. Albrecht  
ENGINEER OF DESIGN

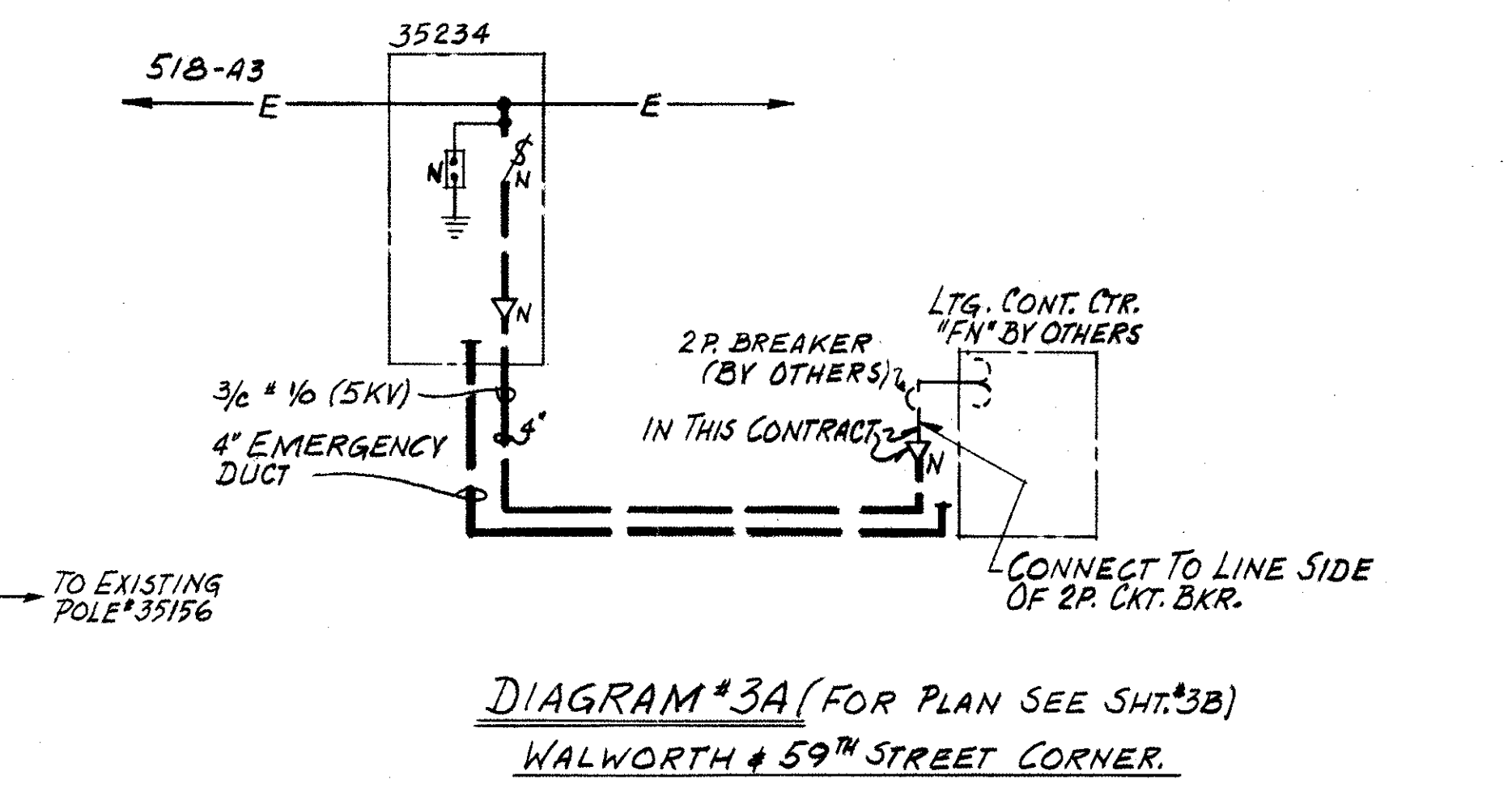
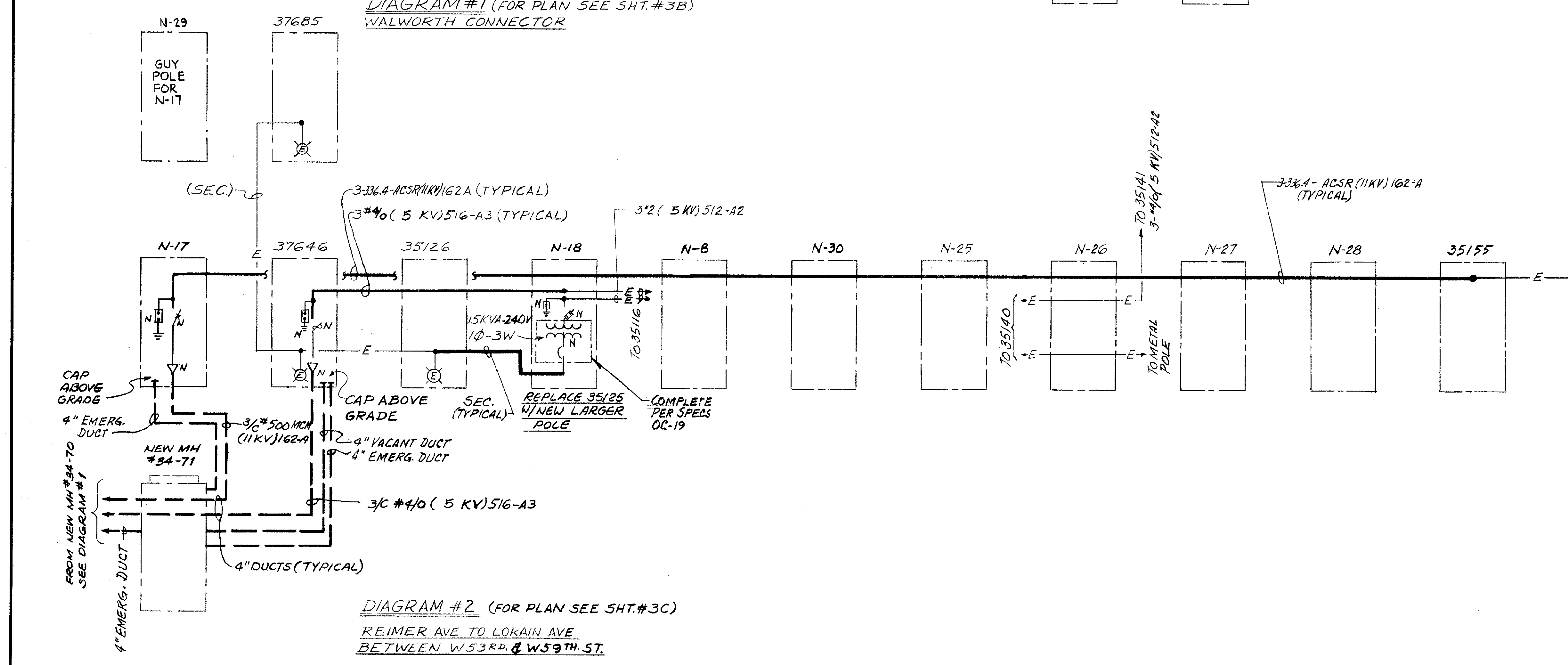
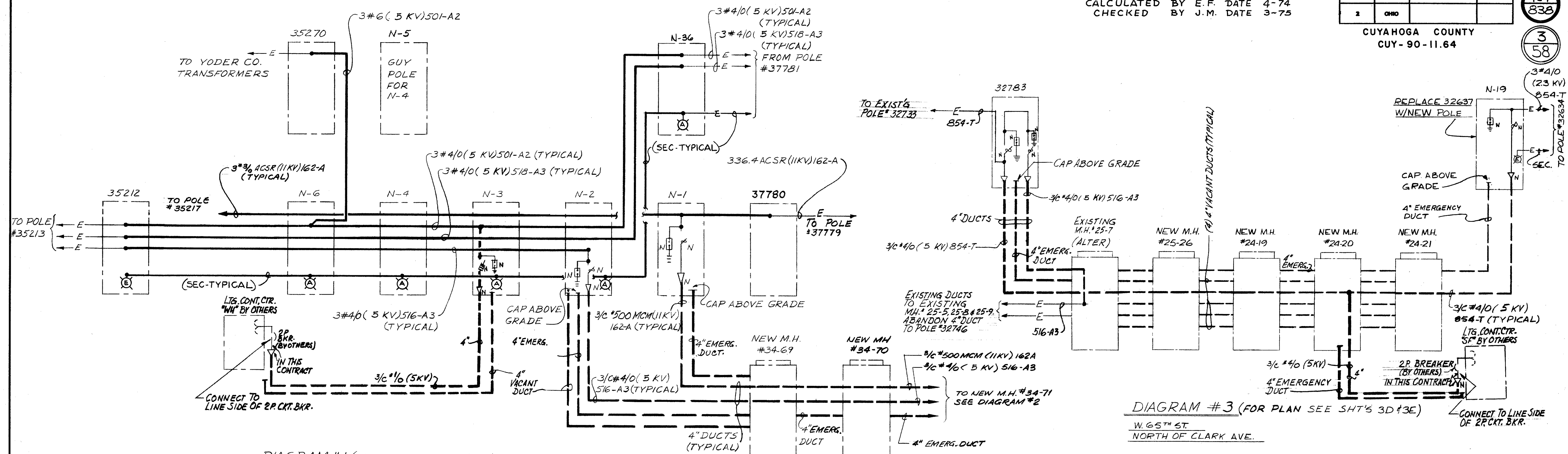
<b>DIVISION OF LIGHT &amp; POWER CITY OF CLEVELAND</b>	
<b>GENERAL SUMMARY</b>	
DRAWN BY <u>maa</u>	SCALE <u>NONE</u>
DATE	DRAWING NUMBER <b>6600-1B</b>
CHK'D BY <u>J.M.</u>	

CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75

FED. RD.	STATE	PROJECT	421 838
2	OHIO		

CUYAHOGA COUNTY  
 CUY-90-11.64

3  
58



**DIAGRAM #2 (FOR PLAN SEE SHT.#3C)**  
 REIMER AVE TO LORAIN AVE  
 BETWEEN W. 53<sup>RD</sup> & W. 59<sup>TH</sup> ST.

APPROVED BY \_\_\_\_\_

DIRECTOR OF PUBLIC UTILITIES \_\_\_\_\_

COMMISSIONER OF LIGHT & POWER \_\_\_\_\_

COMMISSIONER OF UTILITIES ENGINEERING \_\_\_\_\_

CHIEF ELECTRICAL ENGINEER  
*Robert J. Altsch*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
GENERAL ONE-LINE DIAGRAMS SHEET NO. 1	
DRAWN BY: <i>maa</i>	SCALE: NONE
DATE: _____	DRAWING NUMBER: <b>6600-1C</b>

FED. NO.	STATE	PROJECT
2	OHIO	

428  
838

4  
58

CUYAHOGA COUNTY  
CUY-90-11.84

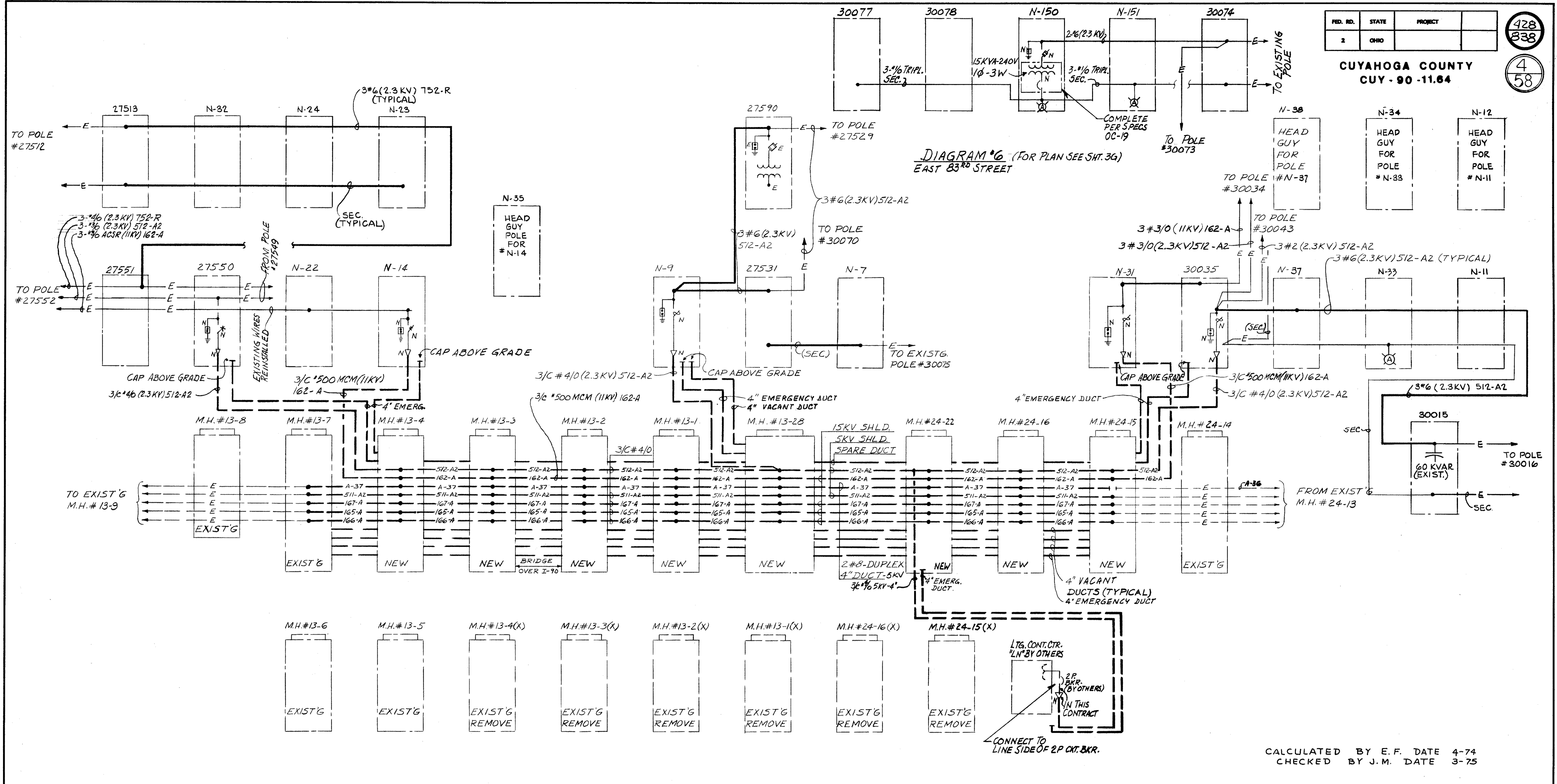


DIAGRAM #4 (FOR PLAN SEE SHTS. 3G & 3H)  
LORAIN AVE. OVER PASS

CALCULATED BY E.F. DATE 4-74  
CHECKED BY J.M. DATE 3-75

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND		
GENERAL ONE-LINE DIAGRAMS - SHEET N° 2		
SCALE NONE	DRAWING NUMBER 6600-1D	
DRAWN BY <i>mas</i>	DATE	CH'KD BY

CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75

FED. RD.	STATE	PROJECT
2	OHIO	

429  
838  
5  
58

CUYAHOGA COUNTY  
 CUY - 90 - 11.64

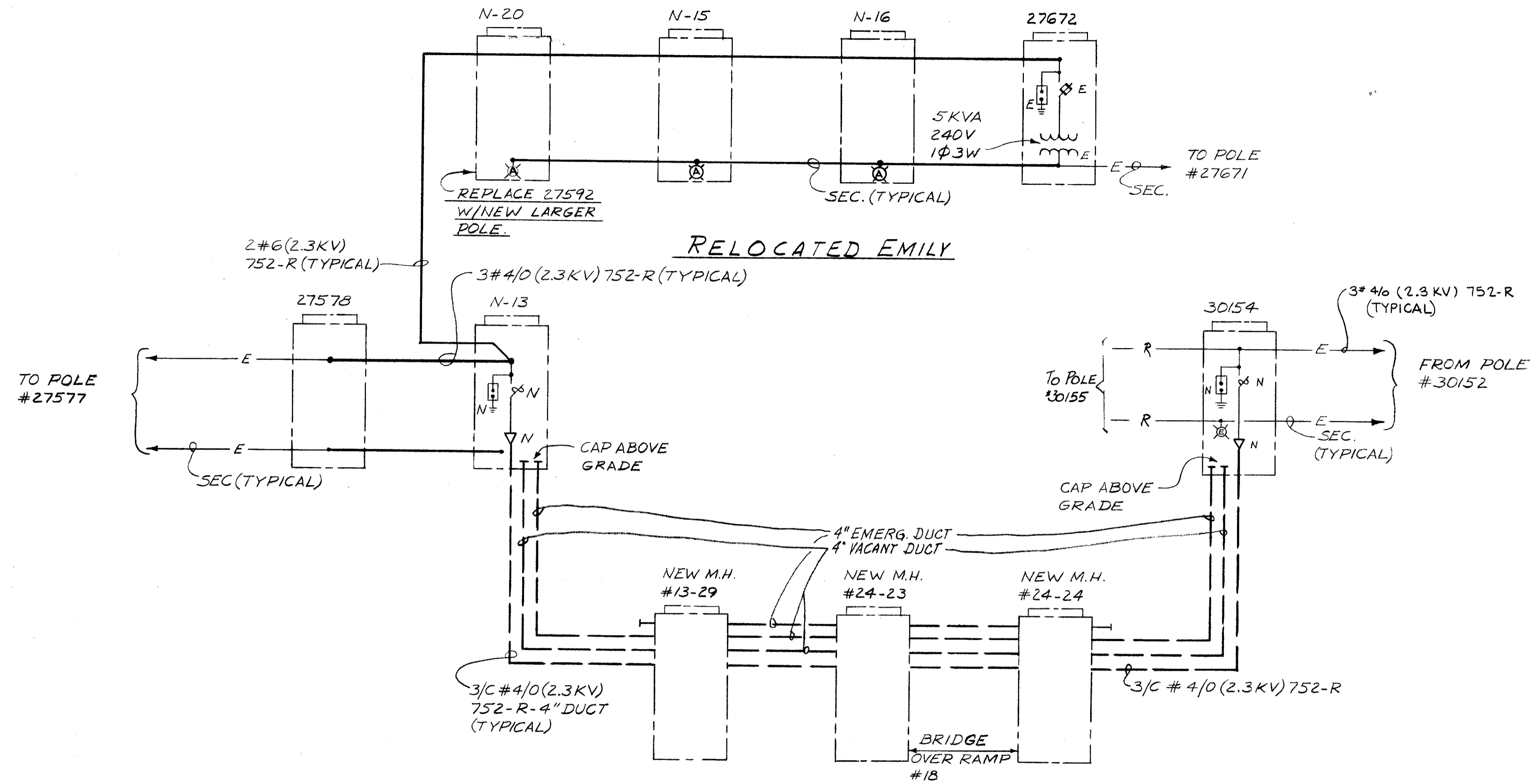


DIAGRAM #5 (FOR PLAN SEE SHT. #3G)  
 CLARK AVE.

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
GENERAL ONE-LINE DIAGRAMS- SHEET №3	
DRAWN BY E.F.	SCALE NONE
DATE	DRAWING NUMBER
CH'K'D BY	6600-1E

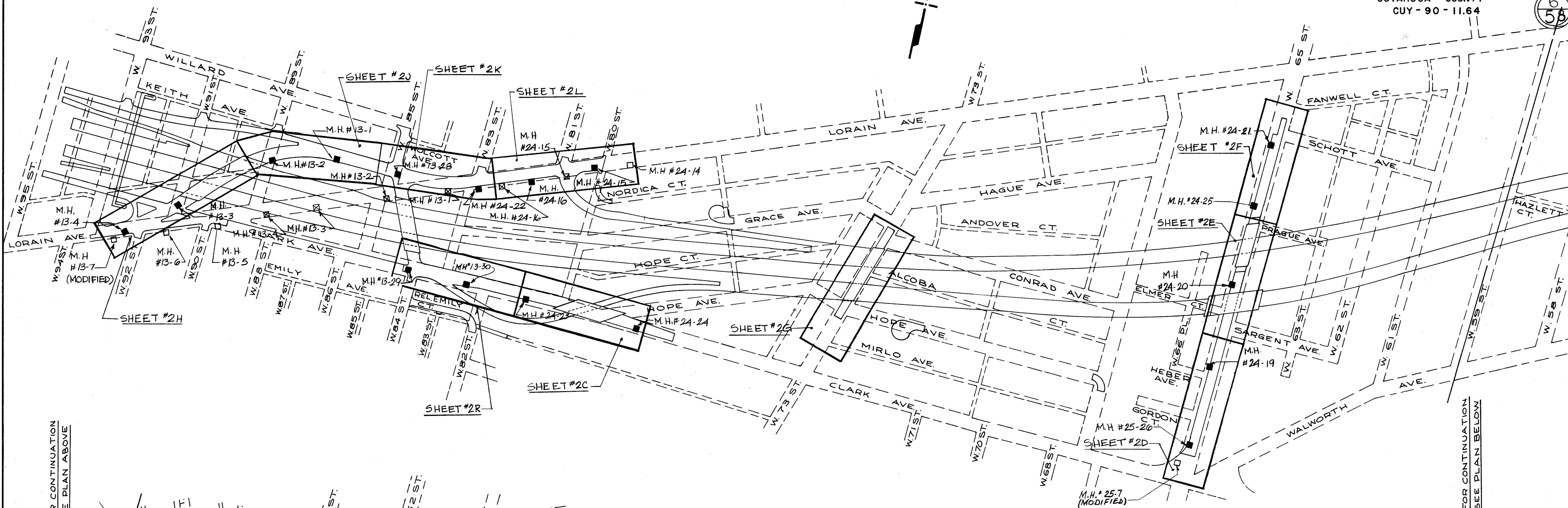
CALCULATED BY E.F. DATE 4/74  
 CHECKED BY J.M. DATE 3-75

FED. RD.	STATE	PROJECT
2	OHIO	

430  
838

CUYAHOGA COUNTY  
 CUY-90-11.64

6  
58



FOR CONTINUATION  
 SEE PLAN ABOVE

FOR CONTINUATION  
 SEE PLAN BELOW

▲ 57.5 % Fed., State & City; 42.5 % City

UNDERGROUND MEASUREMENT

ITEM	Total Fed., State & City	Total	SHEET NUMBER											GRAND TOTAL	UNIT	DESCRIPTION			
			2B	2C	2D	2E	2F	2G	2H	2J	2K	2L	2R				3D		
UC-14	130	930				280▲			590▲	60▲							930	FT.	NON-ENCASED BRIDGE SUPPORT 6" 4" ASBESTOS DUCTS
UC-15	90	710				40	30	60	590▲	120▲							840	FT.	REINFORCED CONCRETE ENCASED 6" 4" ASBESTOS DUCTS
UC-15	90										90						90	FT.	REINFORCED CONCRETE ENCASED 3-4" ASBESTOS DUCTS
UC-13		960		430▲													960	FT.	NON-REINFORCED CONCRETE ENCASED 4-4" PVC SCHED 40 DUCT UL APPR
UC-13		3775			600▲	230▲	300▲				885▲	1042▲	718▲				3775	FT.	NON-REINFORCED CONCRETE ENCASED 6" 4" PVC SCHED 40 DUCT UL APPR
UC-13	72.5		670	80▲													845	FT.	NON-REINFORCED CONCRETE ENCASED 3-4" PVC SCHED 40 DUCT UL APPR
UC-13	375		130		30		75		45		30						375	FT.	NON-REINFORCED CONCRETE ENCASED 2-4" PVC SCHED 40 DUCT UL APPR
UC-13	35								35								35	FT.	NON-REINFORCED CONCRETE ENCASED 12-4" PVC SCHED 40 DUCT UL APPR
UC-12	20		3	2	2	1	2		2	2	2	2	2				20	EA	REINFORCED CONCRETE MANHOLES.
UC-17		8165	1050	540	680	530	400		1340	1120	1135	820	550				8165	LUMP	TESTING OF CABLES
UC-17		6580							2000	1620	1770	1190					6580	FT.	3C-5KV #4/0 CABLE - PIL
UC-17		359	120			40	60				54						359	FT.	3C-15KV #4/0 CABLE - PIL
UC-17		3425							1290	925	1050	160			85		3425	FT.	3C-5KV #8 CABLE (SERIES LIGHTING)
UC-17		3100	900						670	540	590	400					3100	FT.	3C-15KV #800 MCM CABLE - PIL
UC-16		3															3	EA	MANHOLE (ABANDONED OR REMOVED)
UC-17		732	72	24	24	12	12		144	144	144	144	12				732	FT.	FIREPROOFING CABLES
UC-12		2															2	EA	MANHOLE (MODIFIED)
UC-10		Lump																LUMP	REMOVAL
UC-14		41,425	2270	1960	3660	3300	2,130	360	7,660	6,390	6,852	4,473	2240	130			41,425	FT.	DUCT CLEANING
UC-20		7,850	800	510	630	550	405	60	1,260	1,065	1,162	773	570	65			7,850	FT.	EXCAVATION & BACKFILL

SYMBOL LEGEND

- MELP MANHOLE NEW
- MELP MANHOLE - EXISTING
- ⊗ MELP MANHOLE - ABANDON OR REMOVE

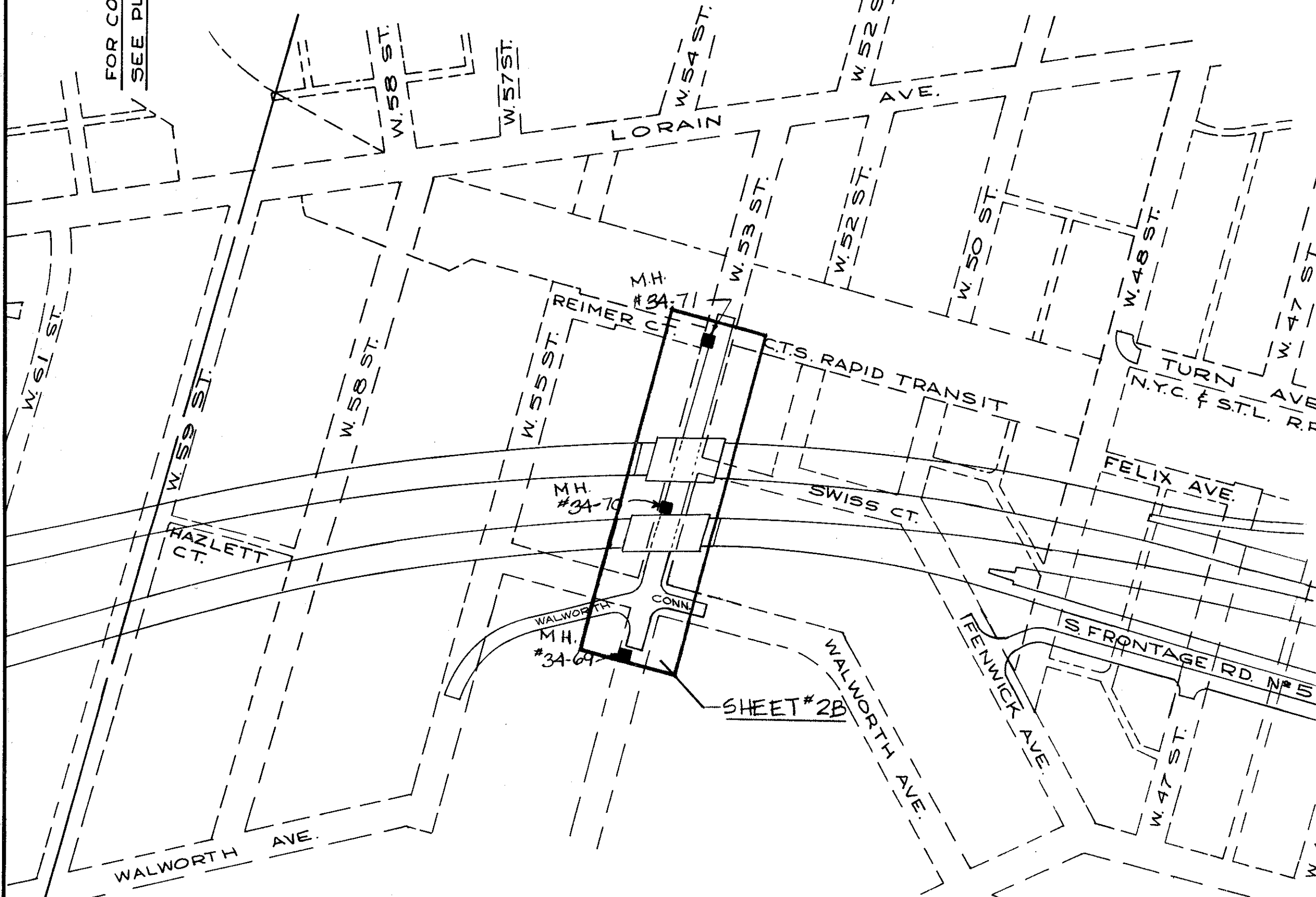
\* 3 MANHOLES NOT SHOWN ON 20'-1" PLAN DRAWINGS

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF DESIGN

**DIVISION OF LIGHT & POWER**  
**CITY OF CLEVELAND**  
 UNDERGROUND MEASUREMENT

SCALE: 1"=200'  
 DRAWING NUMBER: 6600-2A

DRAWN BY: SLV  
 DATE: \_\_\_\_\_  
 CHECKED BY: J.M.





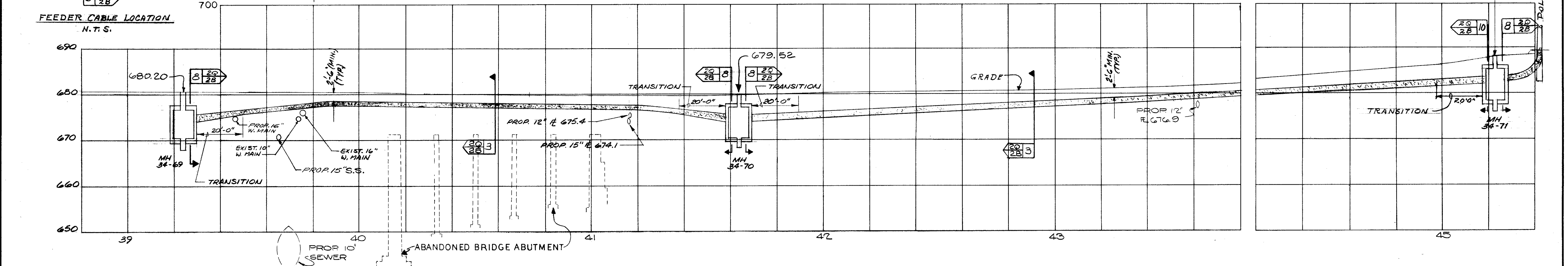
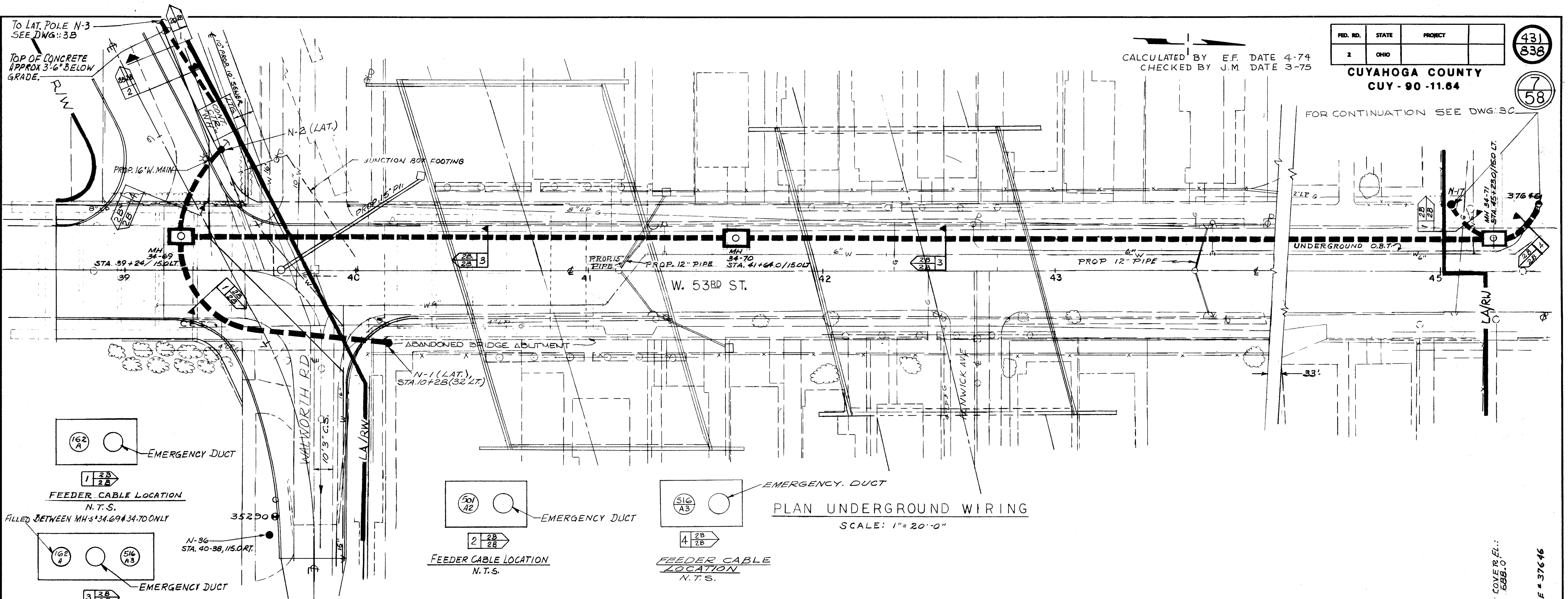
To LAT. POLE N-3  
SEE DWG.: 3B  
TOP OF CONCRETE  
APPROX 3'-6" BELOW  
GRADE.

CALCULATED BY E.F. DATE 4-74  
CHECKED BY J.M. DATE 3-75

FED. RD.	STATE	PROJECT	431 838
2	OHIO		

CUYAHOGA COUNTY  
CUY - 90 - 11.64

7  
58



APPROVED BY

DIRECTOR OF PUBLIC UTILITIES \_\_\_\_\_

COMMISSIONER OF LIGHT & POWER \_\_\_\_\_

COMMISSIONER OF UTILITIES ENGINEERING \_\_\_\_\_

CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER  
CITY OF CLEVELAND

UNDERGROUND PLAN -  
WEST 53rd STREET

SCALE AS NOTED  
DATE \_\_\_\_\_

DRAWN BY L.G.N.  
CH'K'D BY \_\_\_\_\_

6600-28

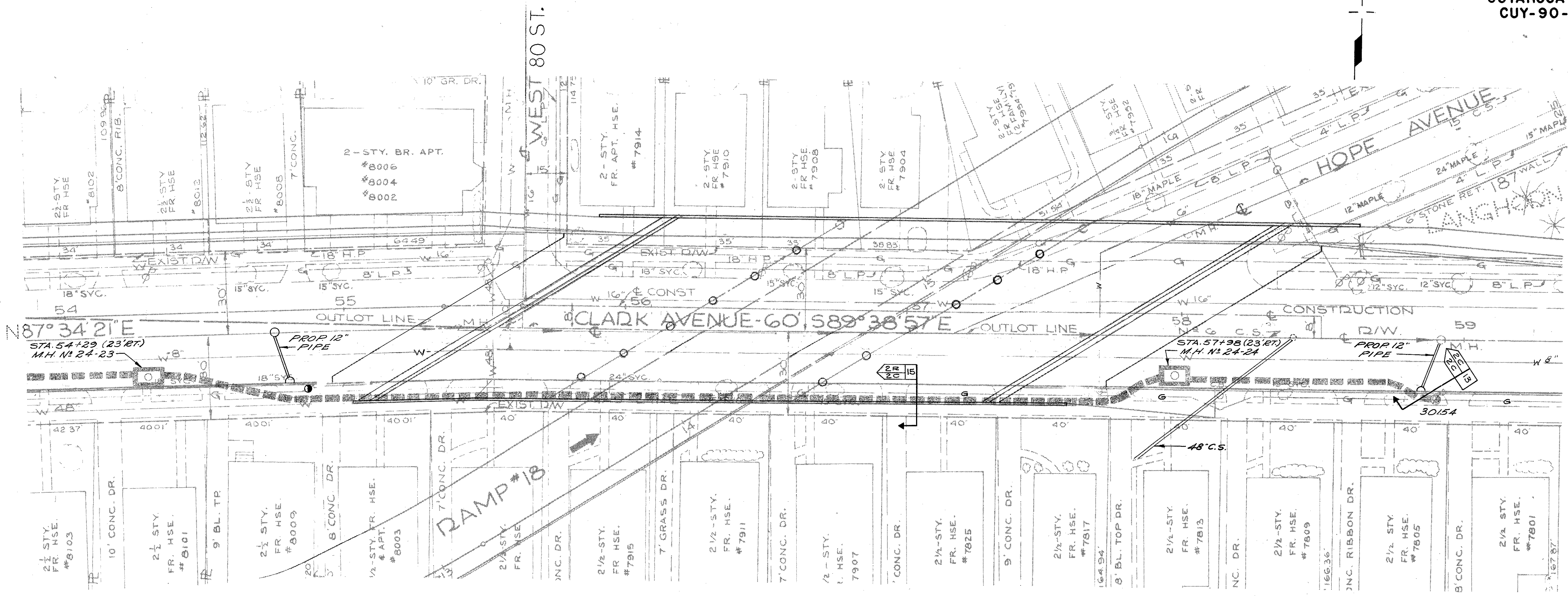
CALCULATED BY C.F. DATE 4/74  
 CHECKED BY [Signature] DATE 3/75

FED. ID.	STATE	PROJECT
2	OHIO	

432  
 838  
 8  
 58

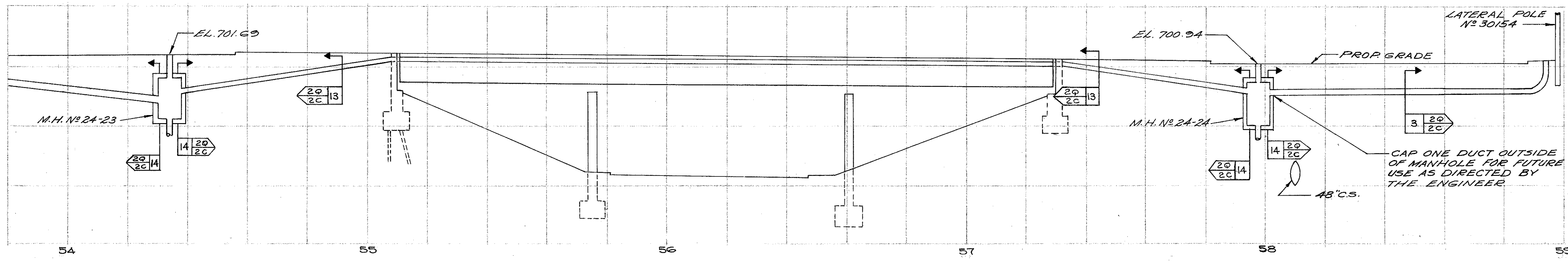
CUYAHOGA COUNTY  
 CUY-90-11.64

FOR CONTINUATION - SEE SH.T. N° 22



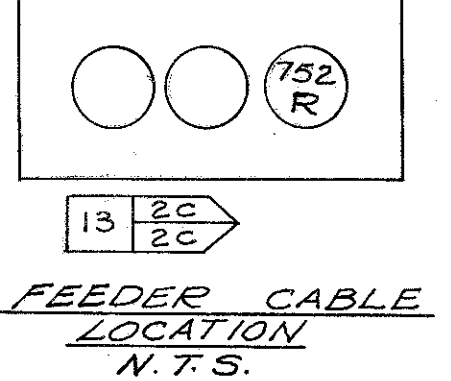
**PLAN UNDERGROUND WIRING**  
 SCALE: 1" = 20'

**NOTE:**  
 ALL DUCTS RUN BETWEEN  
 M.H. N° 24-23 AND M.H. N° 24-24  
 SHALL BE 4" PVC TYPE-40 DUCT.



**PROFILE**  
 HORIZ. = 1" = 20'  
 VERT. = 1" = 10'

MANHOLE N° 24-23 LOCATED CLARK AVE. AT  
 STA. 54+29.00 (23' BT.)  
 MANHOLE N° 24-24 LOCATED CLARK AVE. AT  
 STA. 57+98.00 (22' BT.)



APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
 [Signature: Robert J. Albrecht]  
 ENGINEER OF DESIGN

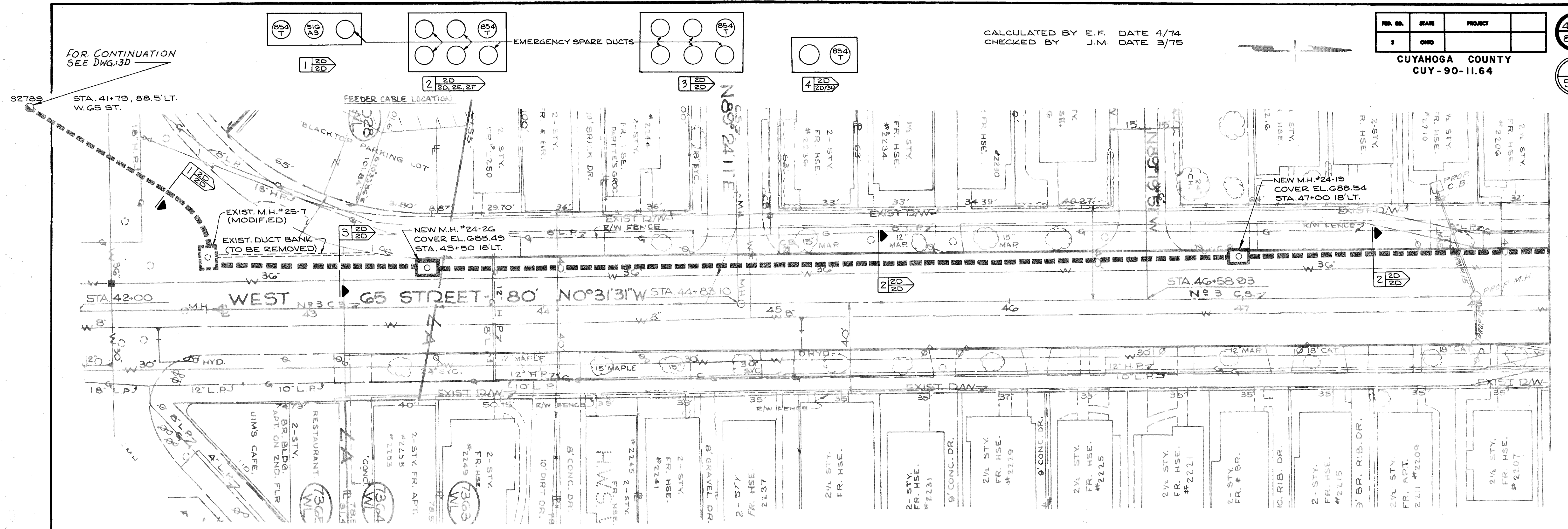
**DIVISION OF LIGHT & POWER  
 CITY OF CLEVELAND**

**UNDERGROUND PLAN  
 CLARK AVENUE SHEET # 1**

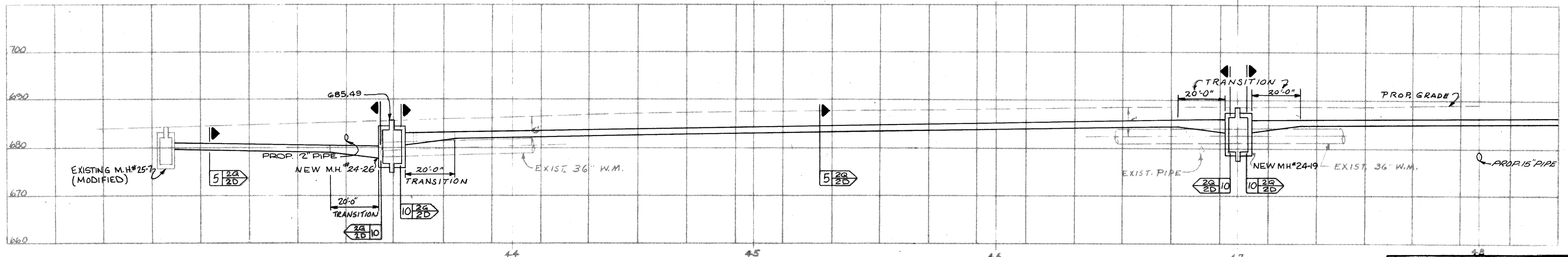
SCALE: AS NOTED  
 DATE: [Blank]  
 DRAWING NUMBER: 6600-2C

CALCULATED BY E.F. DATE 4/74  
CHECKED BY J.M. DATE 3/75

FOR CONTINUATION  
SEE DWG. 3D



PLAN UNDERGROUND WIRING  
SCALE: 1" = 20'-0"



PROFILE  
HORZ: 1" = 20'-0"  
VERT: 1" = 10'-0"

MANHOLE #24-19 LOCATION - W.65ST. STA. 47+00 18' LT.  
MANHOLE #24-26 LOCATION - W.65ST. STA. 43+50 18' LT.

APPROVED BY

Robert J. Albach  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND		
UNDERGROUND PLAN - WEST 65th STREET - SHEET No 1		
DRAWN BY L.G.H.	SCALE AS NOTED	DRAWING NUMBER 6600-2D
CH'D. BY	DATE	

FOR CONTINUATION SEE SHEET 1E

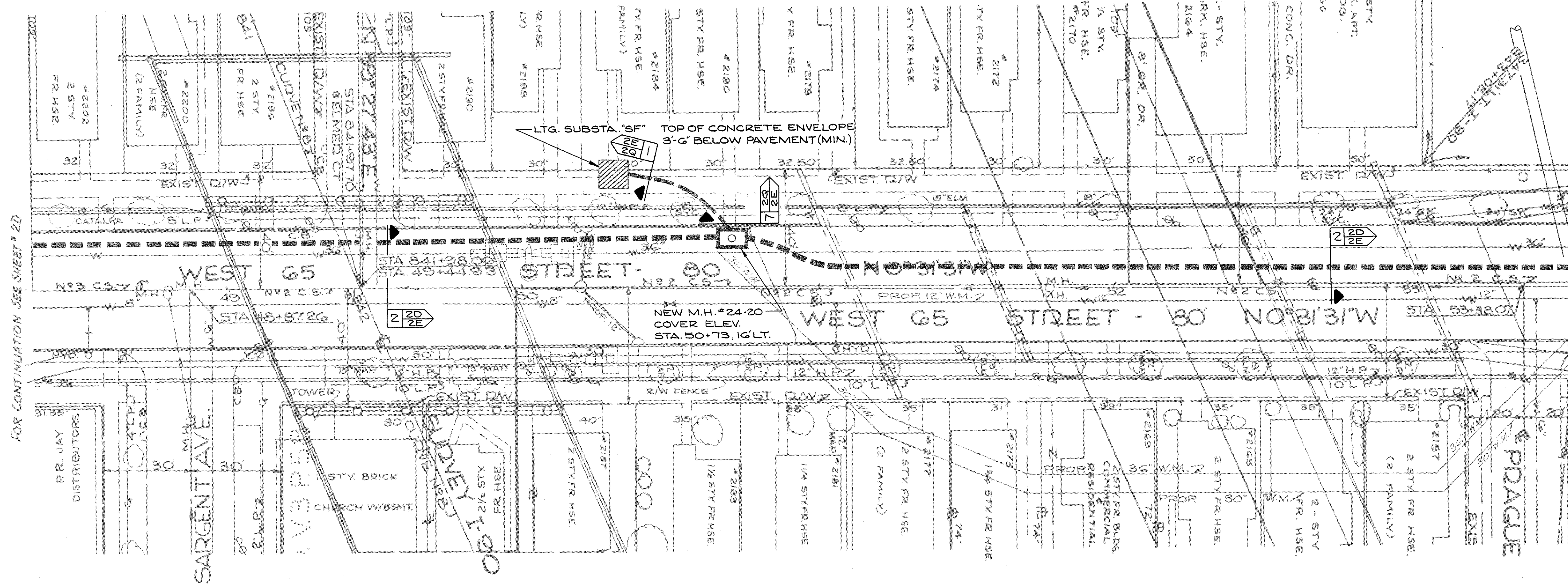
CALCULATED BY: E.F. DATE: 4/74  
 CHECKED BY: J.M. DATE: 3/75

FILE NO.	STATE	PROJECT
1	OHIO	

434  
858

CUYAHOGA COUNTY  
 CUY-90-11.64

10  
58

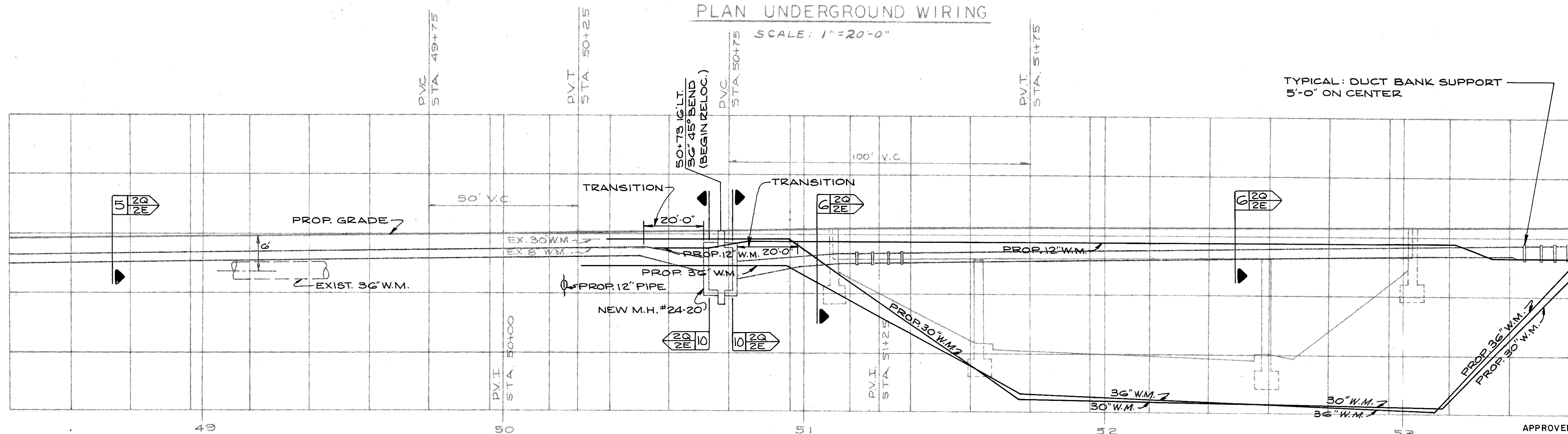


FOR CONTINUATION SEE SHEET #2D

FOR CONTINUATION SEE SHEET #2F

PLAN UNDERGROUND WIRING

SCALE: 1"=20'-0"



TYPICAL: DUCT BANK SUPPORT  
 5'-0" ON CENTER

FOR CONTINUATION SEE SHEET #2F  
 MATCH LINE STATION 53+55

PROFILE  
 HORZ. 1"=20'-0"  
 VERT. 1"=10'-0"

APPROVED BY  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND		
UNDERGROUND PLAN - WEST 65th STREET - SHEET #2		
DRAWN BY L.G.M.	SCALE AS NOTED	DRAWING NUMBER 6600-2E
CH'K'D. BY	DATE	

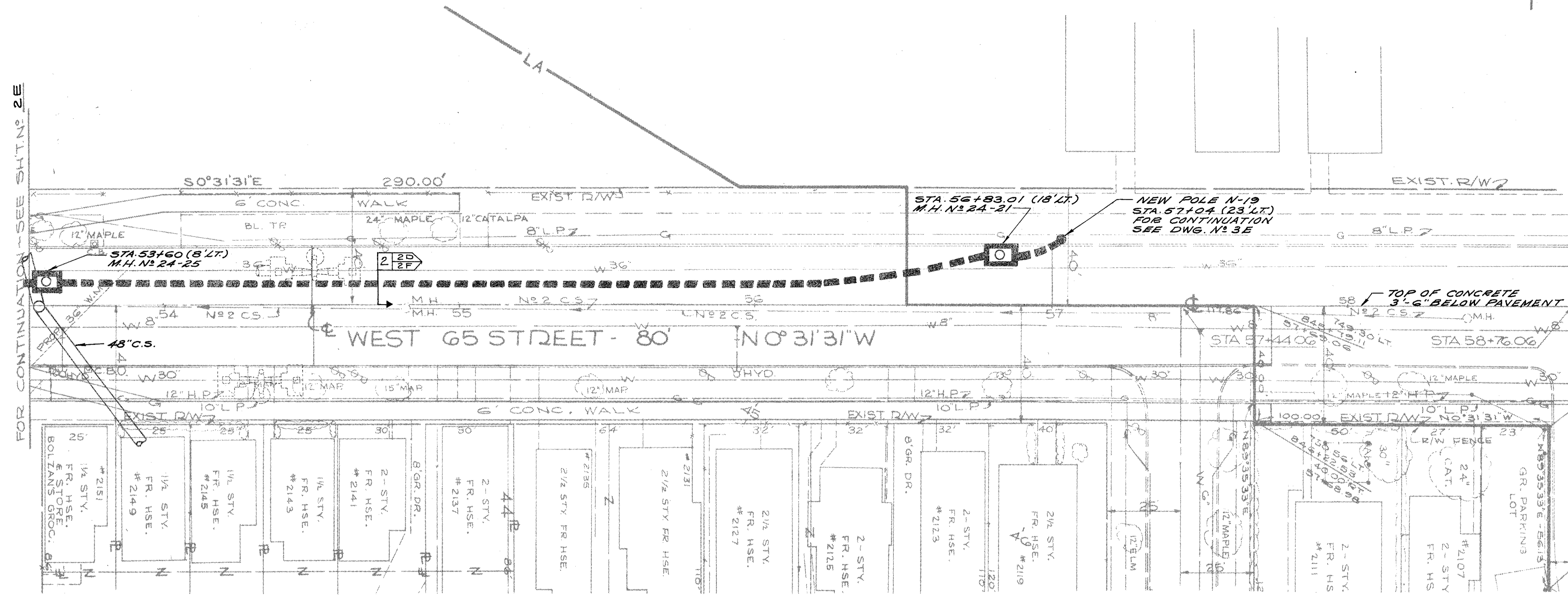
CALCULATED BY C.E. DATE 4/74  
 CHECKED BY J.M. DATE 3/75

P.D. NO.	STATE	PROJECT
1	OHIO	

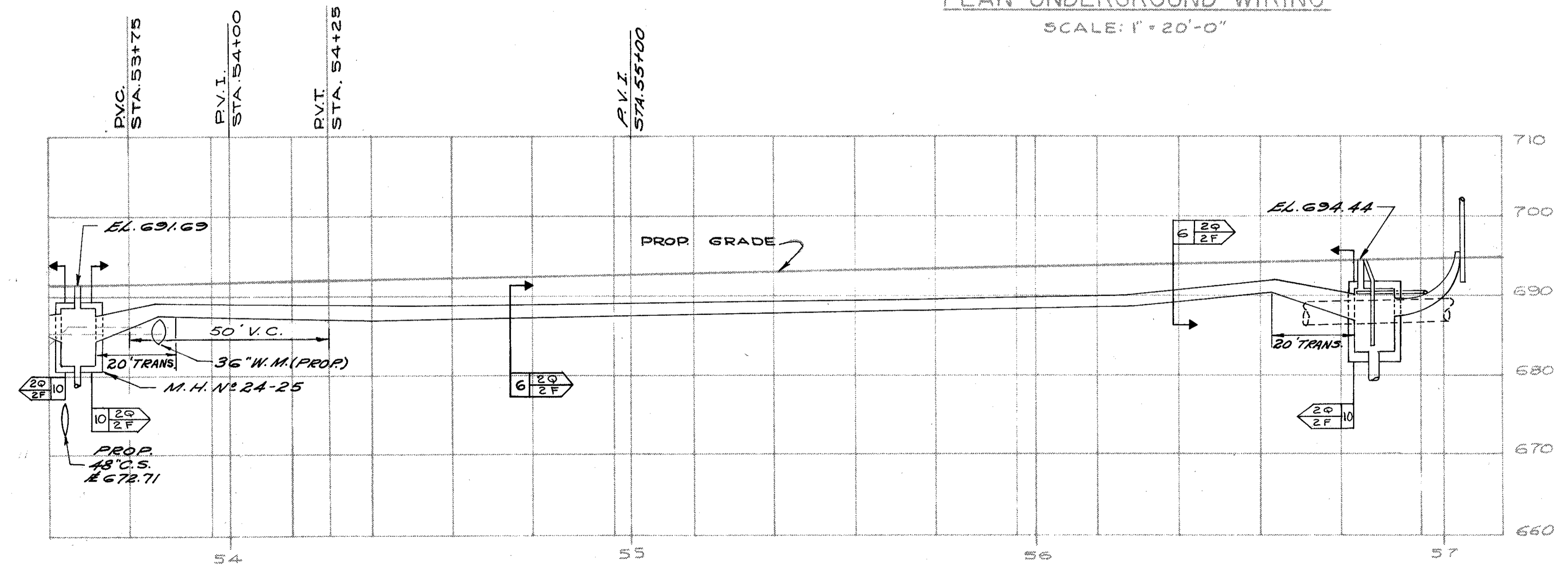
435  
838

CUYAHOGA COUNTY  
 CUY-90-11.64

58

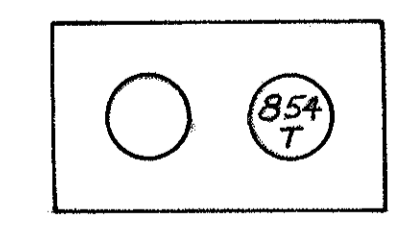


PLAN UNDERGROUND WIRING  
 SCALE: 1" = 20'-0"



PROFILE  
 HORIZ.: 1" = 20'  
 VERT.: 1" = 10'

MANHOLE N° 24-25 LOCATED W. 65 ST. AT  
 STA. 53+60 (8' LT.)  
 MANHOLE N° 24-21 LOCATED W. 65 ST. AT  
 STA. 56+83.01 (18' LT.)



FEEDER CABLE  
 LOCATION  
 N.T.S.

APPROVED BY

Robert J. Albach  
 ENGINEER OF DESIGN

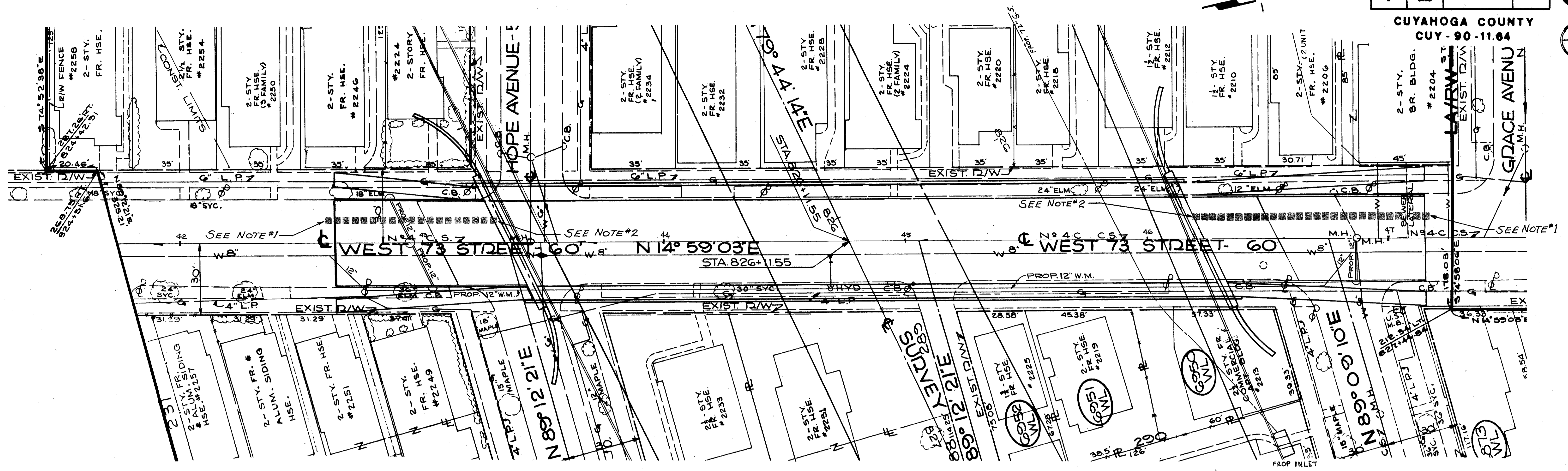
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
UNDERGROUND PLAN WEST 65 <sup>TH</sup> STREET SHEET N° 3	
DRAWN BY L.G.N.	DRAWING NUMBER 6600-2F
SCALE AS NOTED	DATE

CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75

FIG. NO.	STATE	PROJECT
1	OHIO	

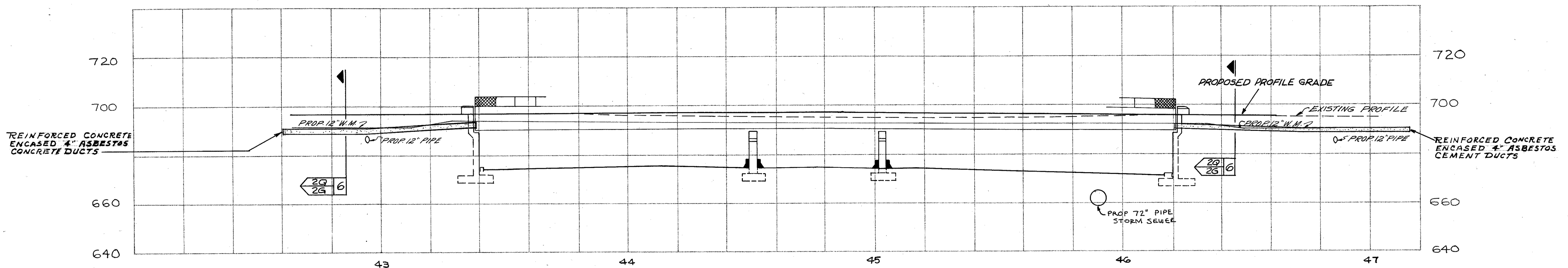
436  
838  
58

CUYAHOGA COUNTY  
 CUY-90-11.64



- NOTES:  
 1. CAP DUCTS OUTSIDE OF NEW PAVEMENT AREA FOR FUTURE EXTENSION.  
 2. CAP DUCTS IN BRIDGE ABUTMENT FOR LOCATIONS SEE DRAWINGS 3/12 & 4/12 (BRIDGE DWGS)

PLAN UNDERGROUND DUCT  
 SCALE: 1" = 20'-0"



PROFILE  
 HORZ: 1" = 20'-0"  
 VERT: 1" = 20'-0"

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert O. Altsch*  
 ENGINEER OF DESIGN

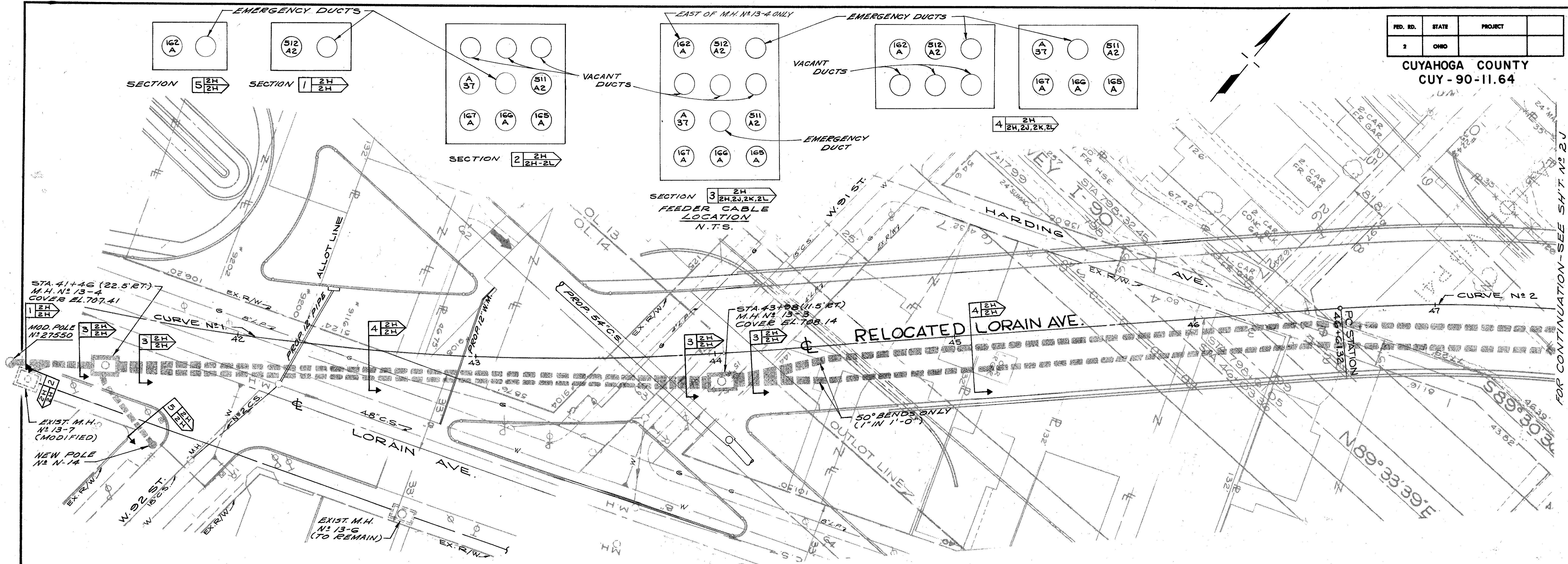
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
UNDERGROUND PLAN WEST 73 <sup>RD</sup> STREET	
DRAWN BY: L.G.N.	DRAWING NUMBER: 6600-2G
SCALE: AS NOTED	DATE:

FED. RD.	STATE	PROJECT
2	OHIO	

437  
838

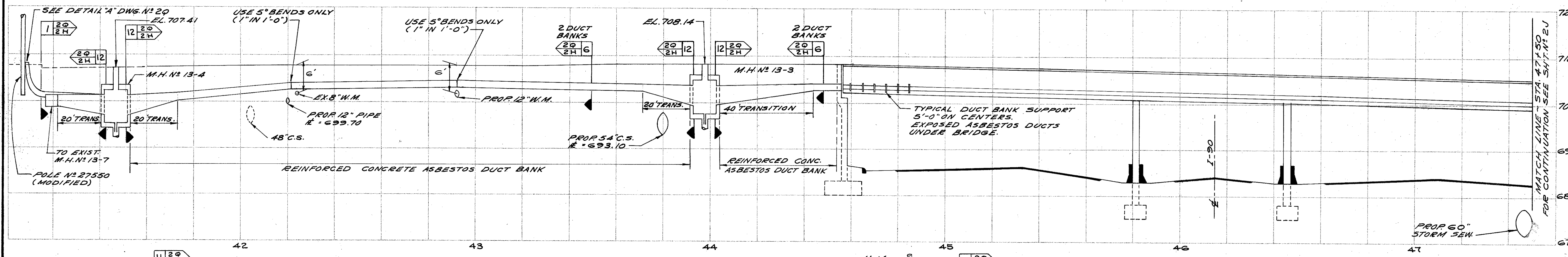
CUYAHOGA COUNTY  
CUY-90-11.64

13  
58



PLAN-UNDERGROUND WIRING  
SCALE: 1"=20'-0"

CALCULATED BY E.F. DATE 4/74  
CHECKED BY J.M. DATE 3/75



PROFILE  
HORZ: 1"=20'  
VERT: 1"=10'

NOTE:  
1. FOR MANHOLE DETAILS, SEE DWG. NO. 2N.  
2. SEE ONE LINE DIAGRAM, DWG. NO. 1D.  
3. UNLESS NOTED OTHERWISE, DUCTS SHALL BE P.V.C., FIBER OR PLASTIC, 4" IN NON-REINFORCED CONCRETE ENVELOPE.

MANHOLE NO. 13-4 LOCATED LORAIN AVE. AT STA. 41+46 (22.5' RT.)  
MANHOLE NO. 13-3 LOCATED LORAIN AVE. AT STA. 43+98 (11.5' RT.)

**DIVISION OF LIGHT & POWER  
CITY OF CLEVELAND**

**UNDERGROUND PLAN -  
LORAIN OVERPASS - SHEET NO. 1.**

DRAWN BY: E.J.Z. AS NOTED DATE: SCALE: AS NOTED  
ENGINEER OF DESIGN: Robert J. Albach  
DRAWING NUMBER: 6600-2H  
CHECKED BY:

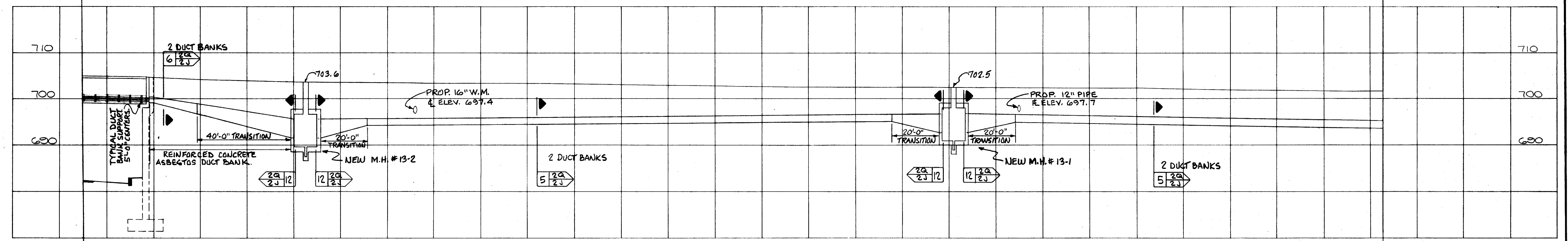
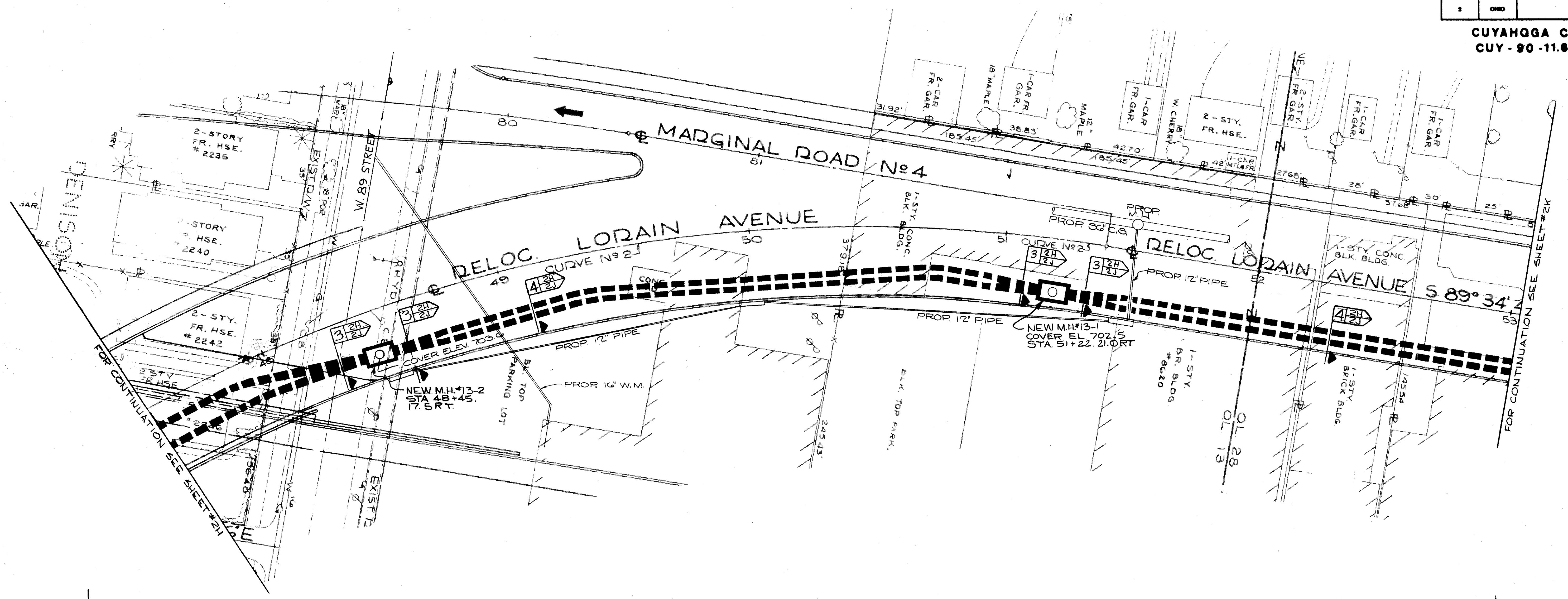
CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75

FIG. NO.	STATE	PROJECT
2	OHIO	

438  
838

CUYAHOGGA COUNTY  
 CUY - 90 - 11.64

14  
58



APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

**DIVISION OF LIGHT & POWER  
 CITY OF CLEVELAND**

UNDERGROUND PLAN—  
 LORAIN OVERPASS—SHEET NO. 2

SCALE AS NOTED  
 DATE 6600-2J

DRAWN BY RJE  
 CHECKED BY



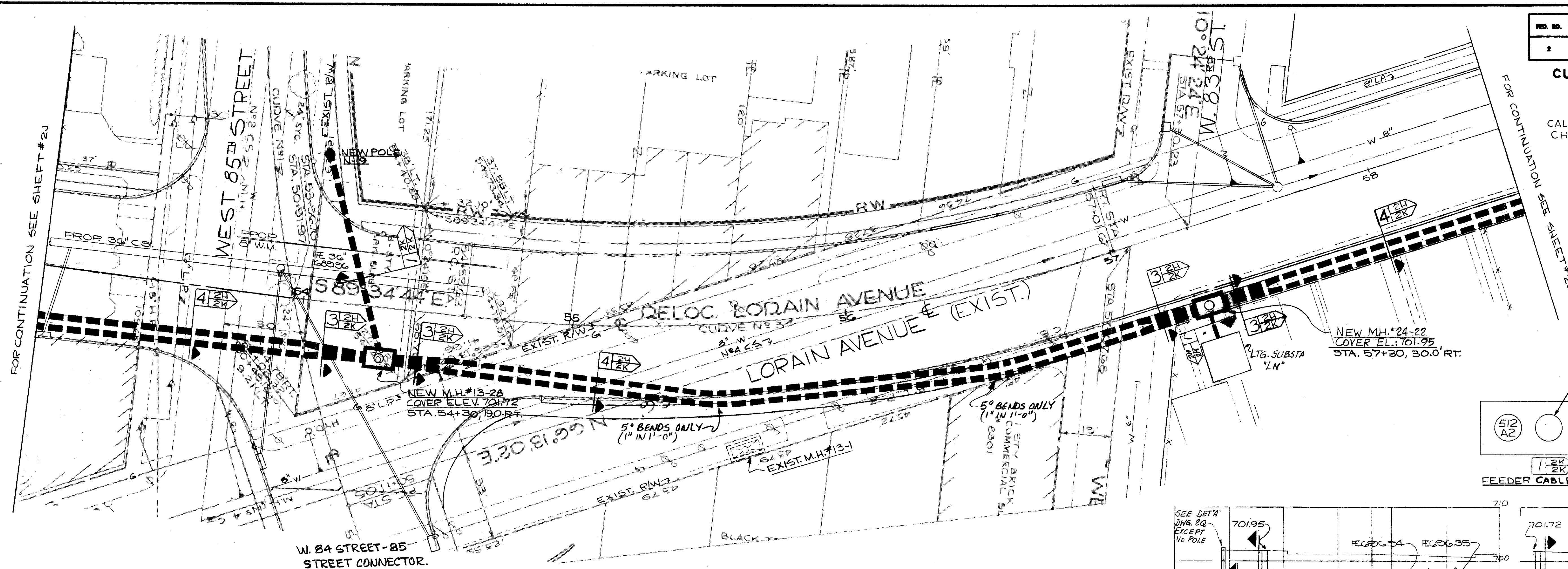
FED. RD.	STATE	PROJECT
2	OHIO	

439  
838

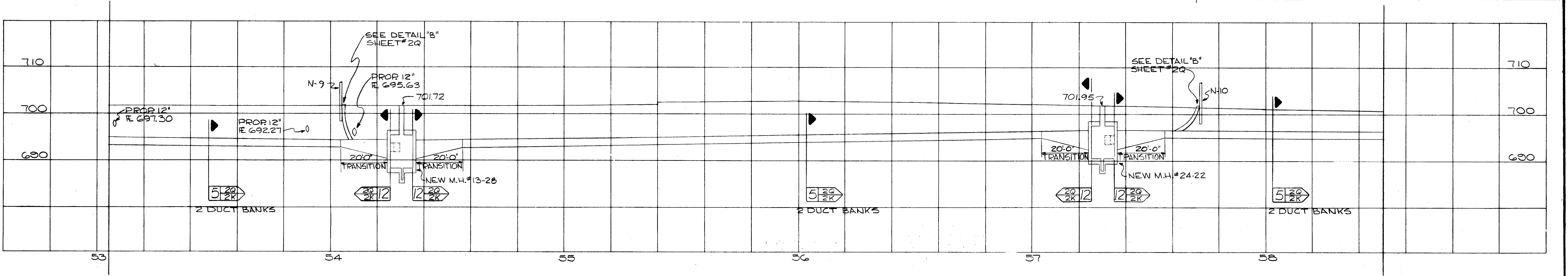
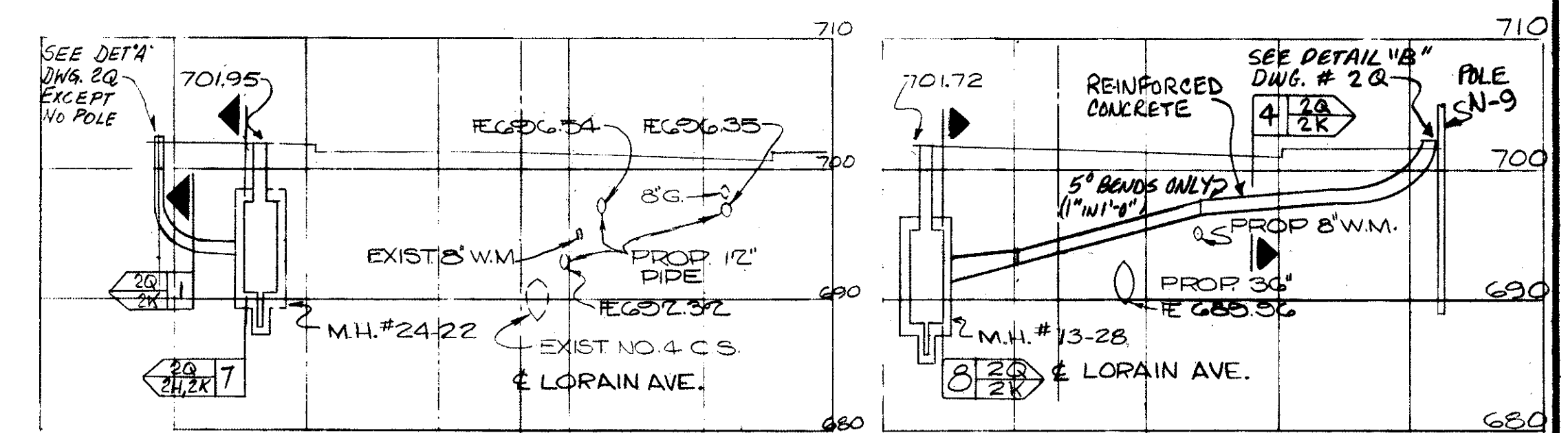
15  
58

CUYAHOGA COUNTY  
CUY-90-11.64

CALCULATED BY E.F. 4-74  
CHECKED BY J.M. 3-75



PLAN-UNDERGROUND WIRING  
SCALE 1"=20'



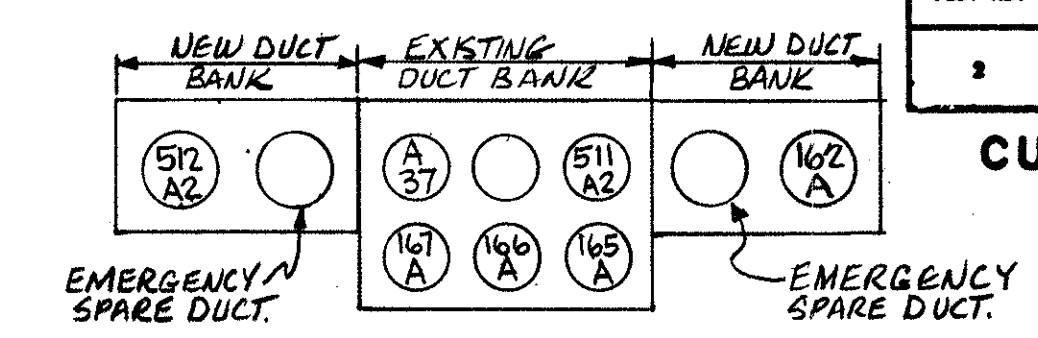
PROFILE  
HORZ: 1"=20'  
VERT: 1"=10'

- NOTE:
- FOR M.H. DETAILS SEE SHEET #2N
  - SEE ONE LINE DIAGRAM, DWG. #1D.
  - UNLESS NOTED OTHERWISE, DUCTS SHALL BE PVC FIBER OR PLASTIC, 4" IN NON-REINFORCED CONCRETE ENVELOPE.

M.H.#13-28: LOCATION - LORAIN AVE. STATION 54+30.190" RT.  
M.H.#24-22: LOCATION - LORAIN AVE. STATION 57+30.300" RT.

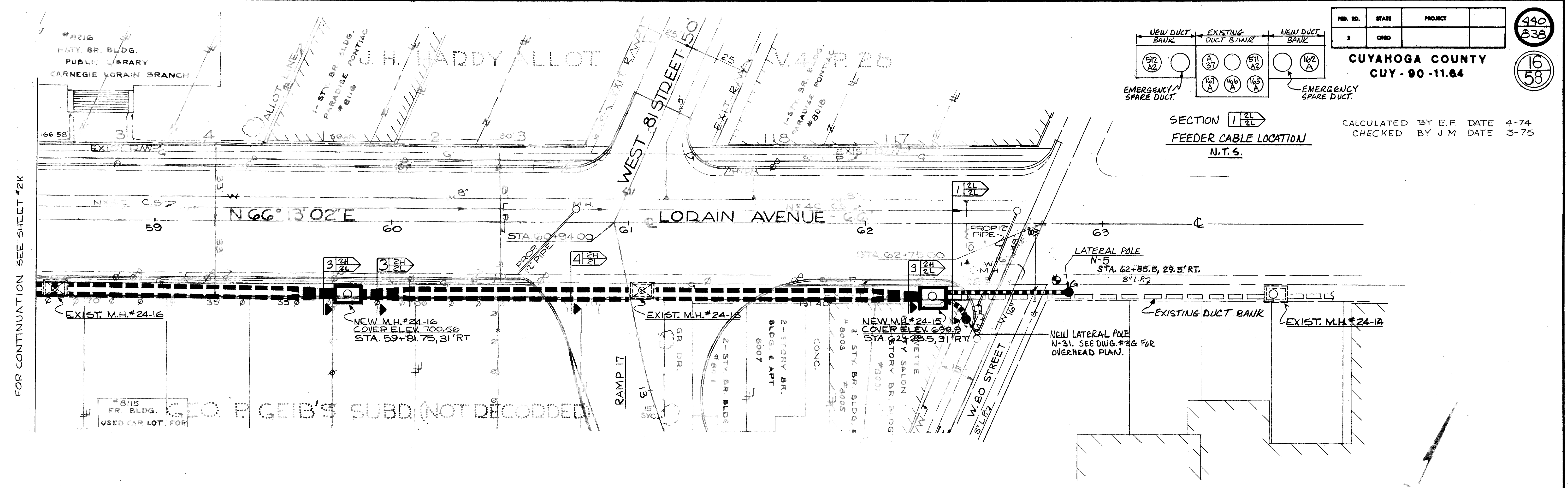
APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
UNDERGROUND PLAN - LORAIN OVERPASS - SHEET No 3	
SCALE AS NOTED DATE	DRAWING NUMBER <b>6600-2K</b>

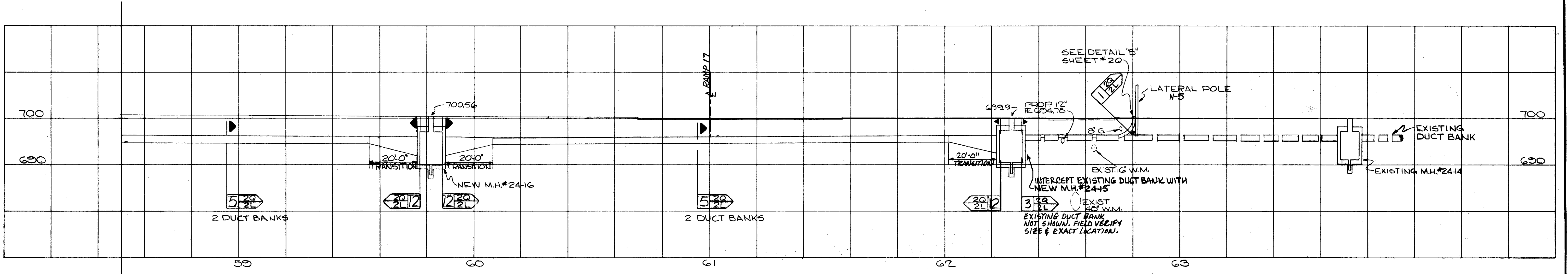


SECTION 1 2L  
 FEEDER CABLE LOCATION  
 N.T.S.

CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75



PLAN-UNDERGROUND WIRING  
 SCALE 1"=20'



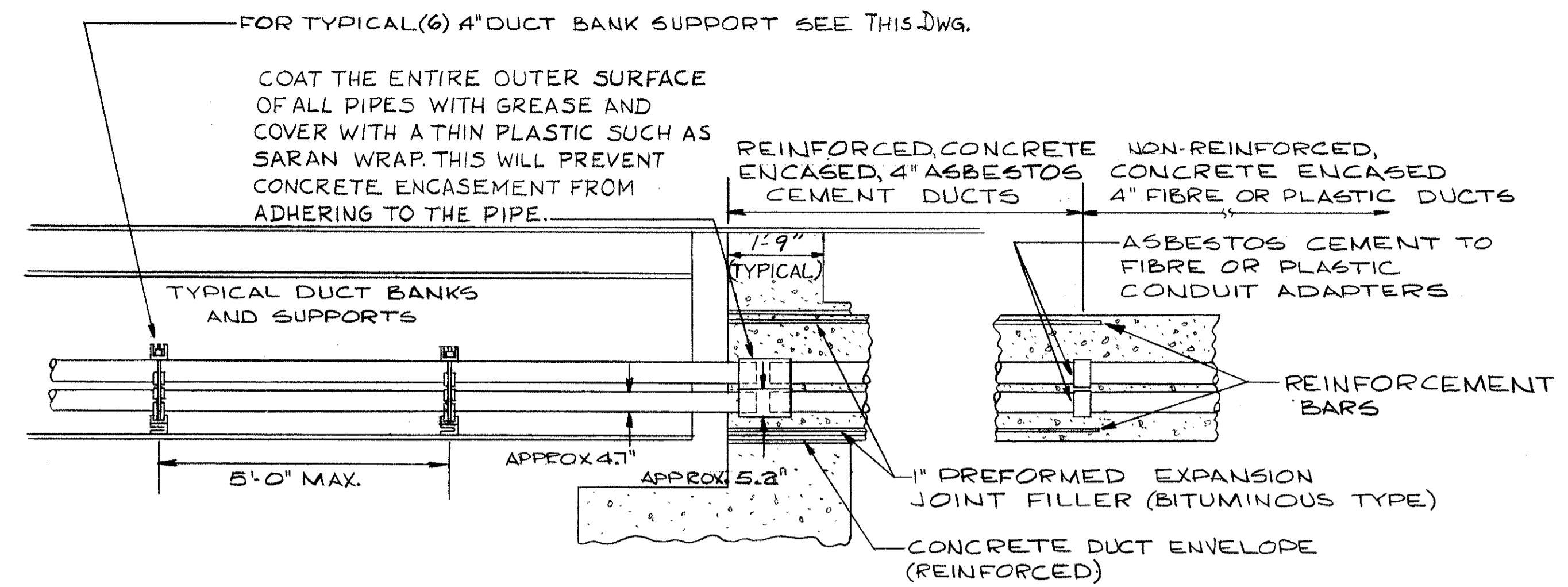
PROFILE  
 HORZ: 1"=20'  
 VERT: 1"=10'

NOTE:  
 1. FOR M.H. DETAILS SEE SHEET #2N  
 2. SEE ONE LINE DIAGRAM, DWG.# 1.D.  
 3. UNLESS NOTED OTHERWISE, DUCTS SHALL BE PVC, FIBER OR PLASTIC, 4" IN DIA. REINFORCED CONCRETE ENVELOPE.

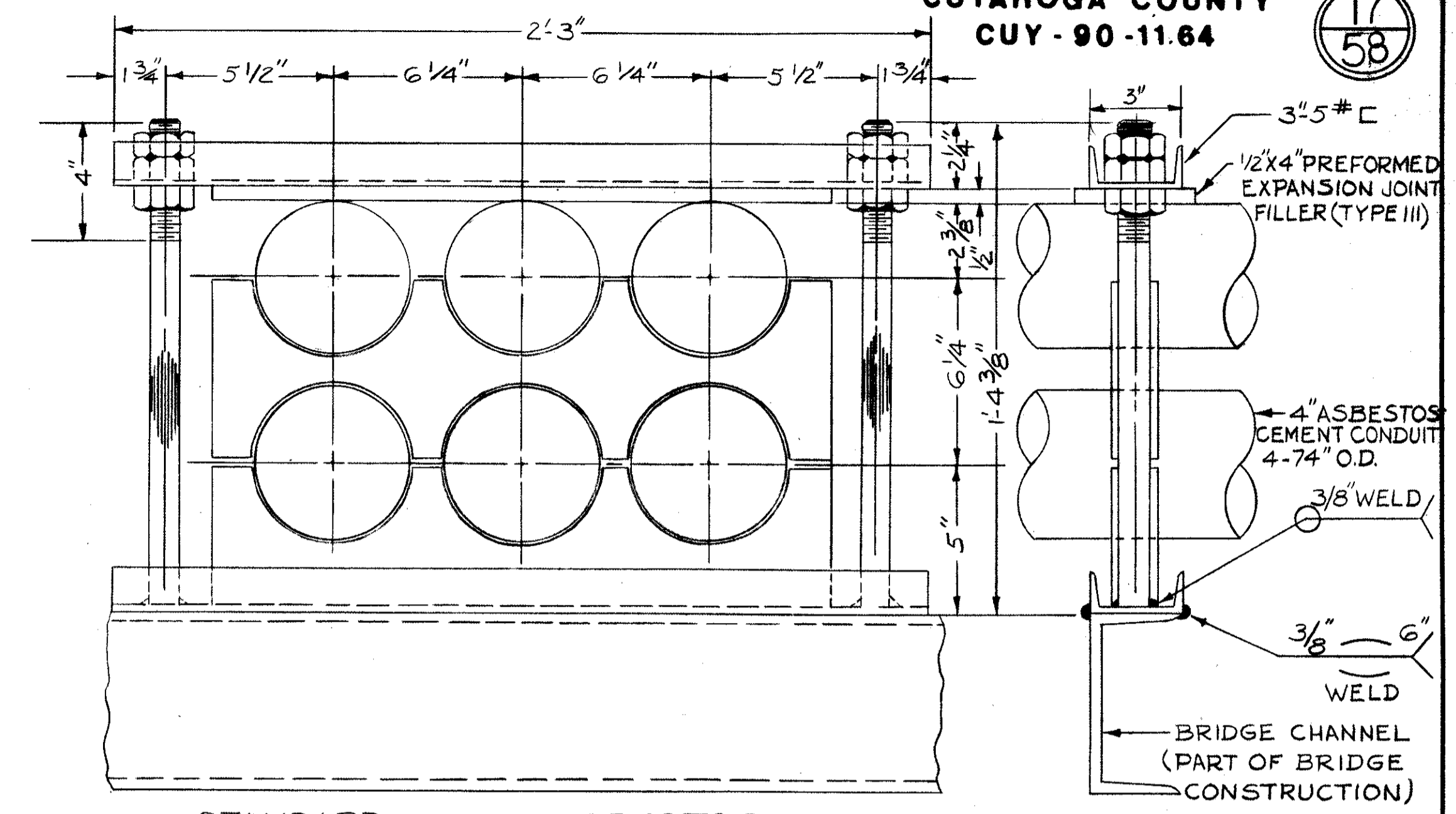
MANHOLE #24-16: LOCATION - LORAIN AVE. STATION 59+81.75 - 31' RT.  
 MANHOLE #24-15: LOCATION - LORAIN AVE. STATION 62+26.5 - 31' RT.

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF RECORD

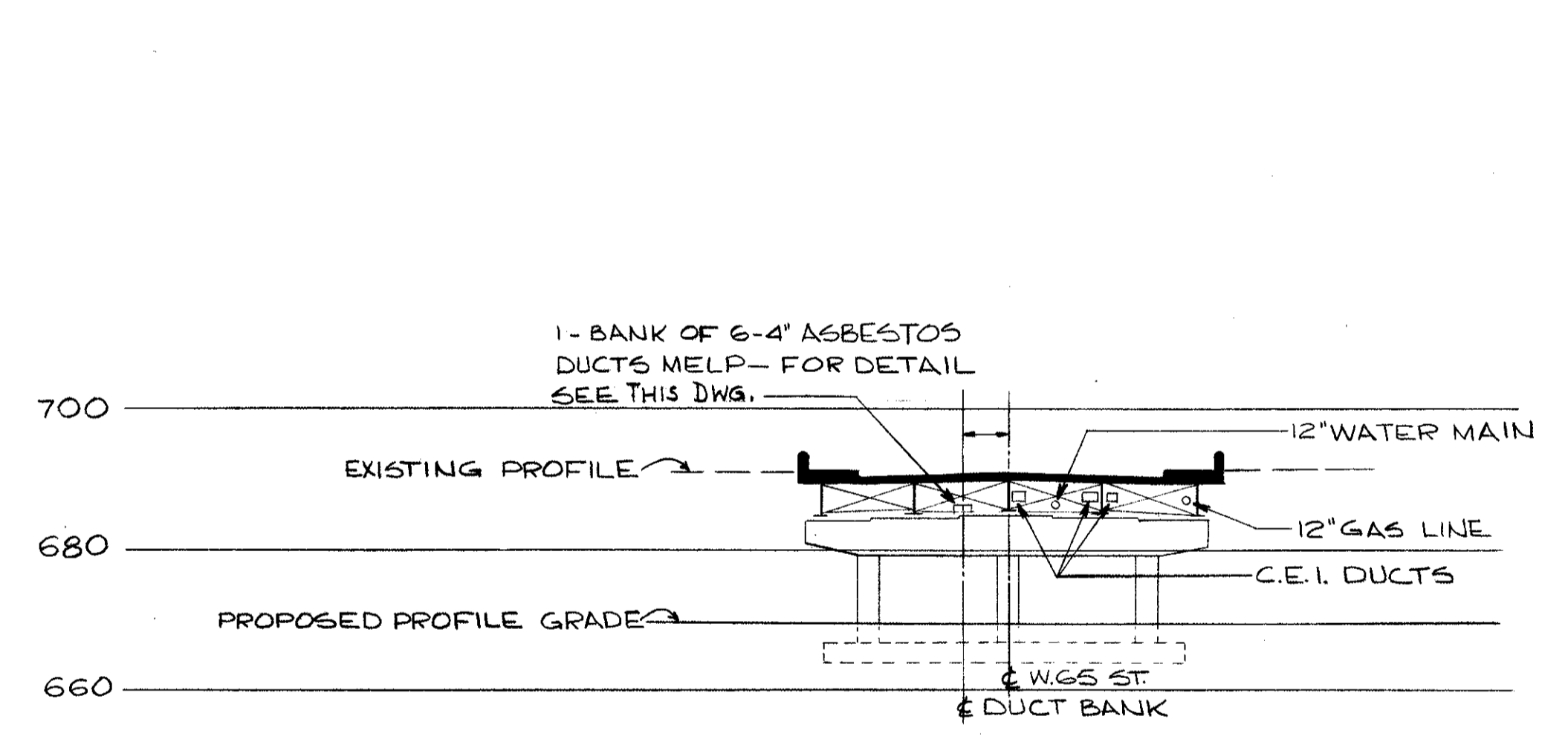
<b>DIVISION OF LIGHT &amp; POWER CITY OF CLEVELAND</b>	
UNDERGROUND PLAN - LORAIN OVERPASS - SHEET # 4	
SCALE AS NOTED DATE	DRAWING NUMBER <b>6600-2L</b>



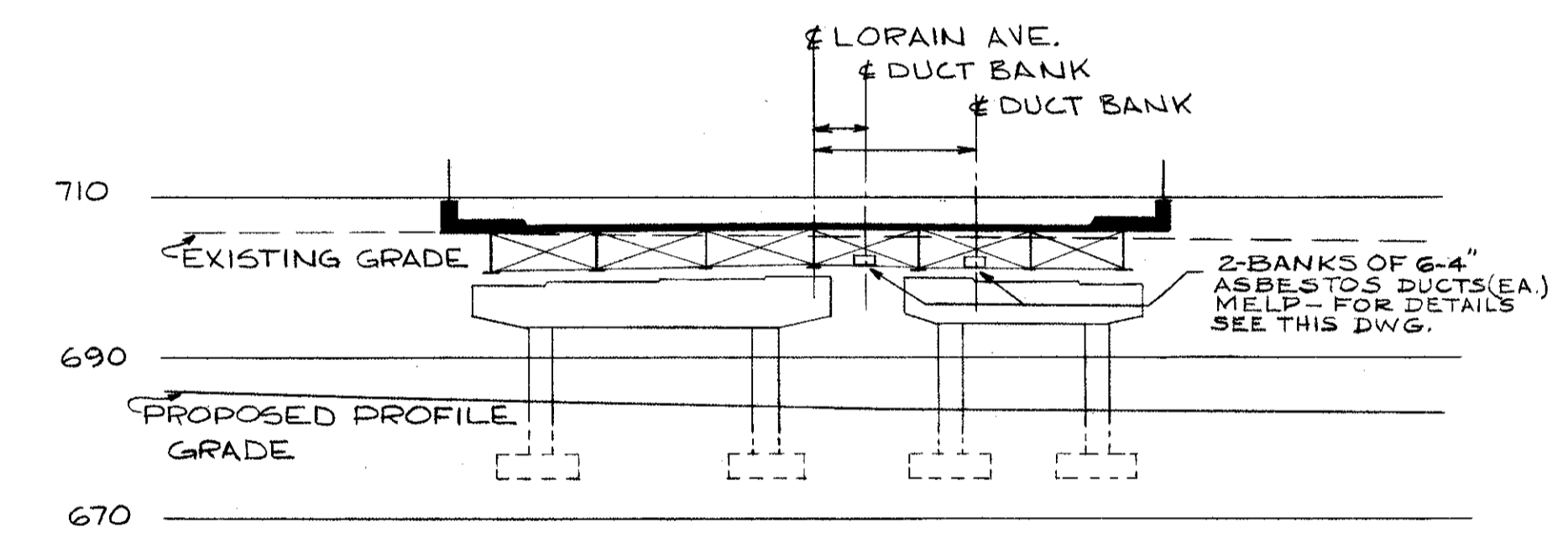
**TYPICAL NEW BRIDGE ABUTMENT DUCT BANK DETAIL**  
(NOT TO SCALE)



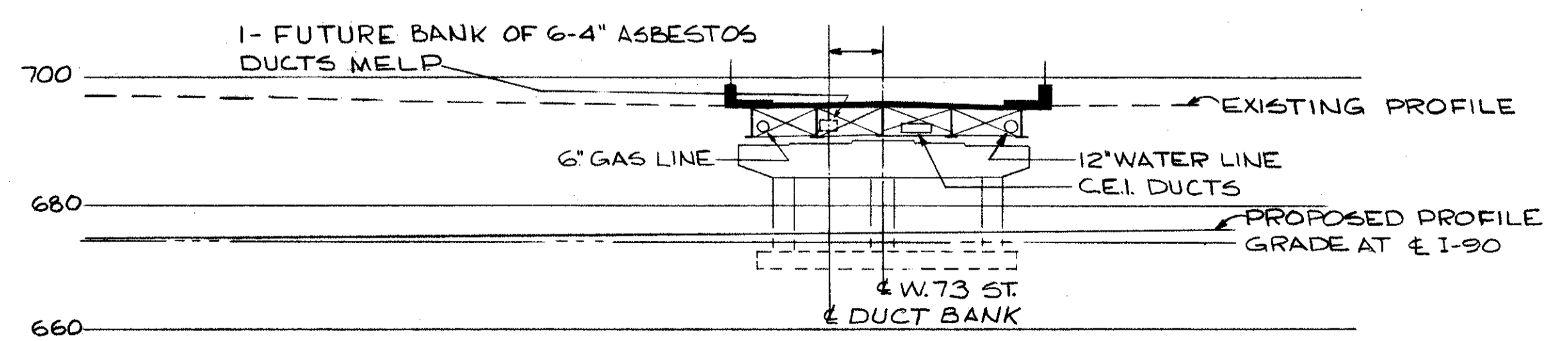
**STANDARD 6 DUCT ASBESTOS CEMENT CONDUIT SUPPORT-ASSEMBLED VIEW**  
NO SCALE



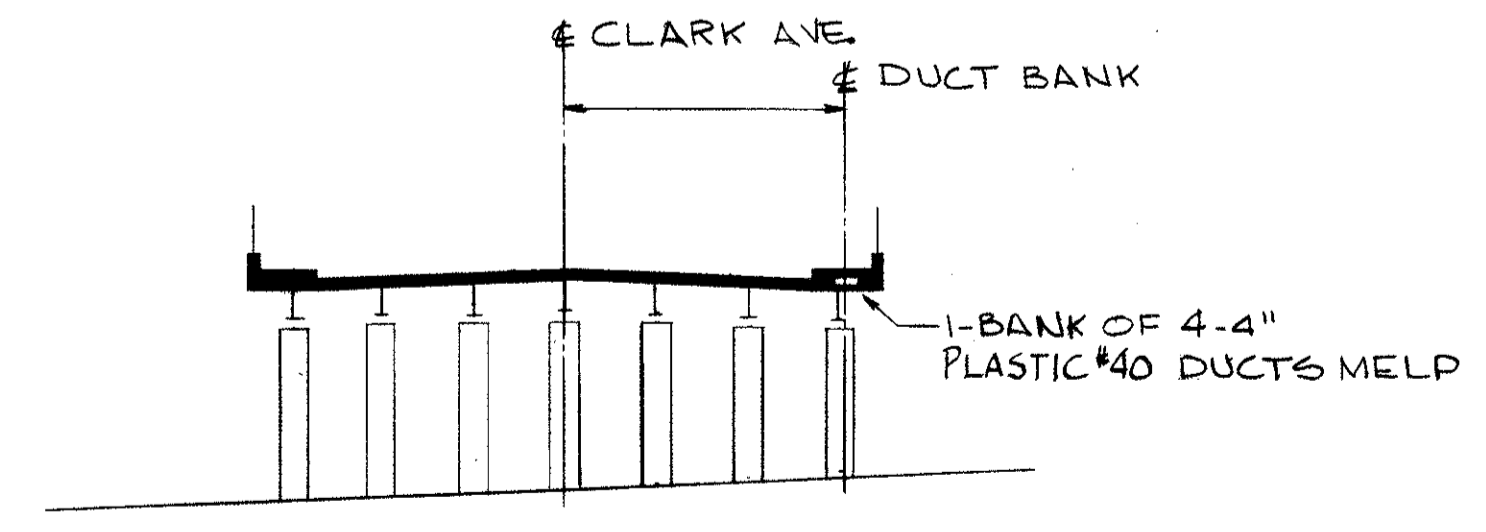
**W.65 ST. BRIDGE SECTION**  
VIEW LOOKING NORTH  
SCALE 1" = 20'-0"



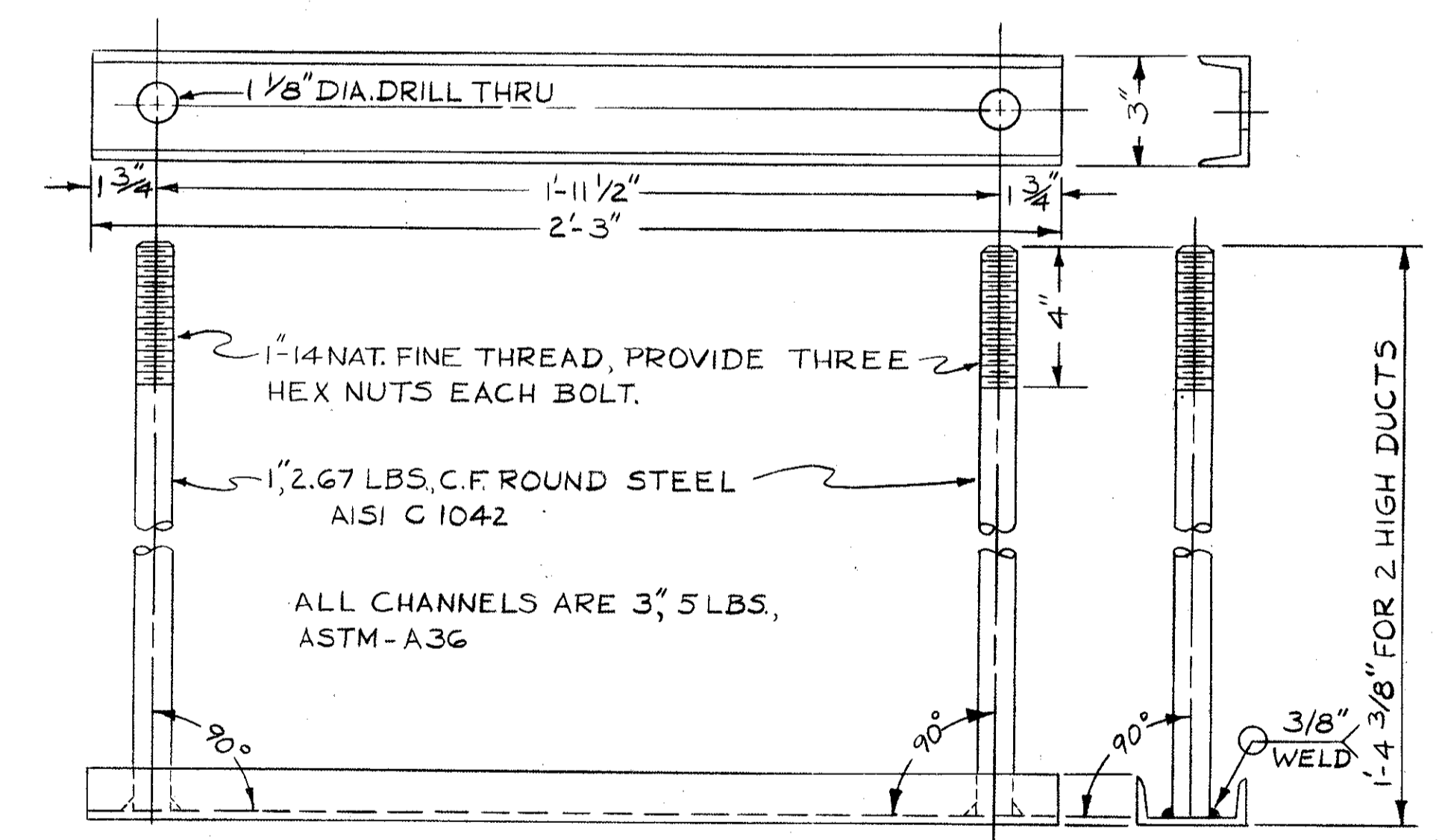
**LORAIN AVE. BRIDGE SECTION**  
VIEW LOOKING NORTHEAST  
SCALE 1" = 20'-0"



**W.73 ST BRIDGE SECTION**  
VIEW LOOKING NORTH  
SCALE 1" = 20'-0"



**CLARK AVE. BRIDGE SECTION**  
VIEW LOOKING EAST  
SCALE 1" = 20'-0"

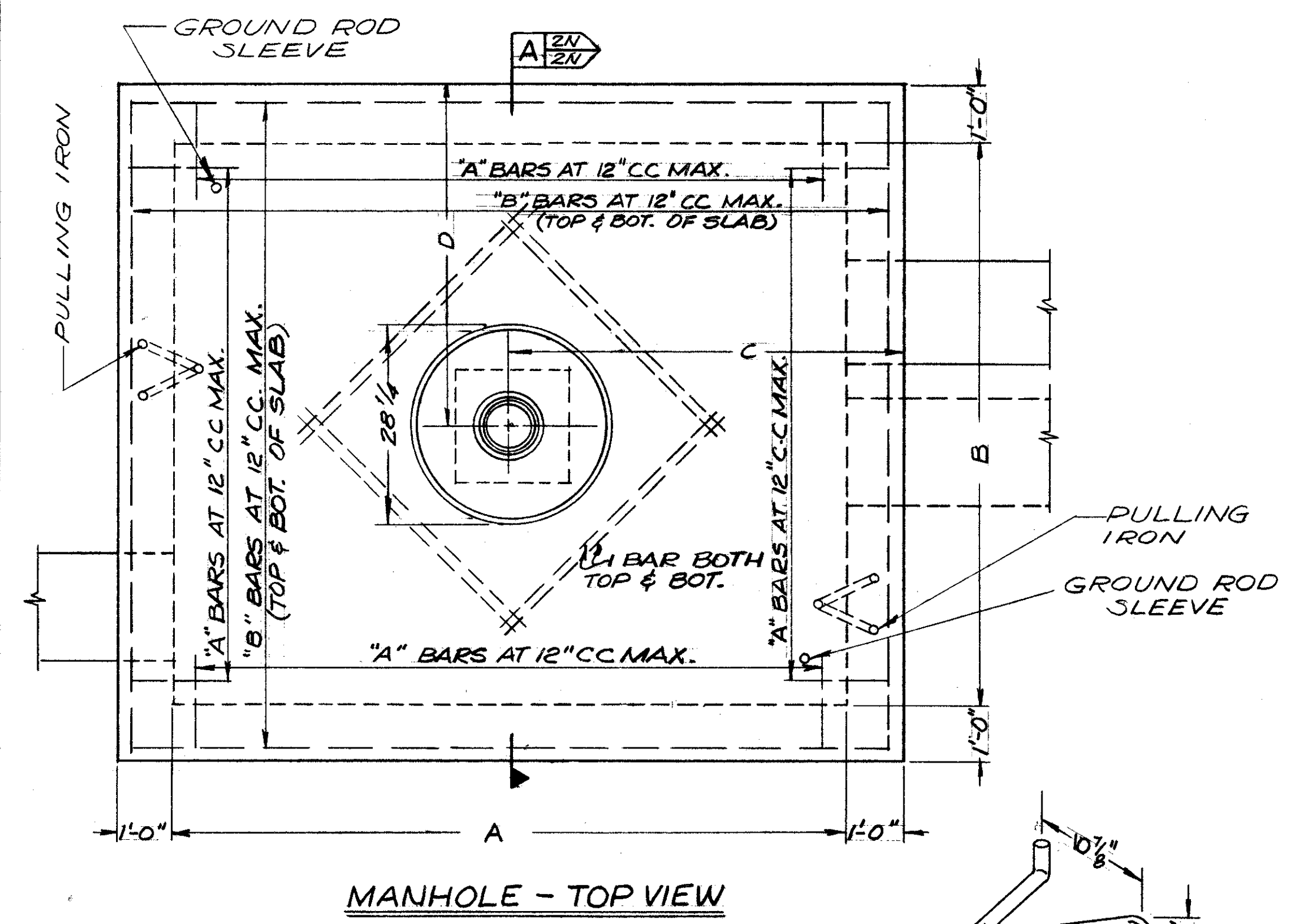


**ASBESTOS CEMENT 6 DUCT SUPPORT-STEEL DETAIL**  
PAINT AS PER SPECIFICATIONS.  
NO SCALE

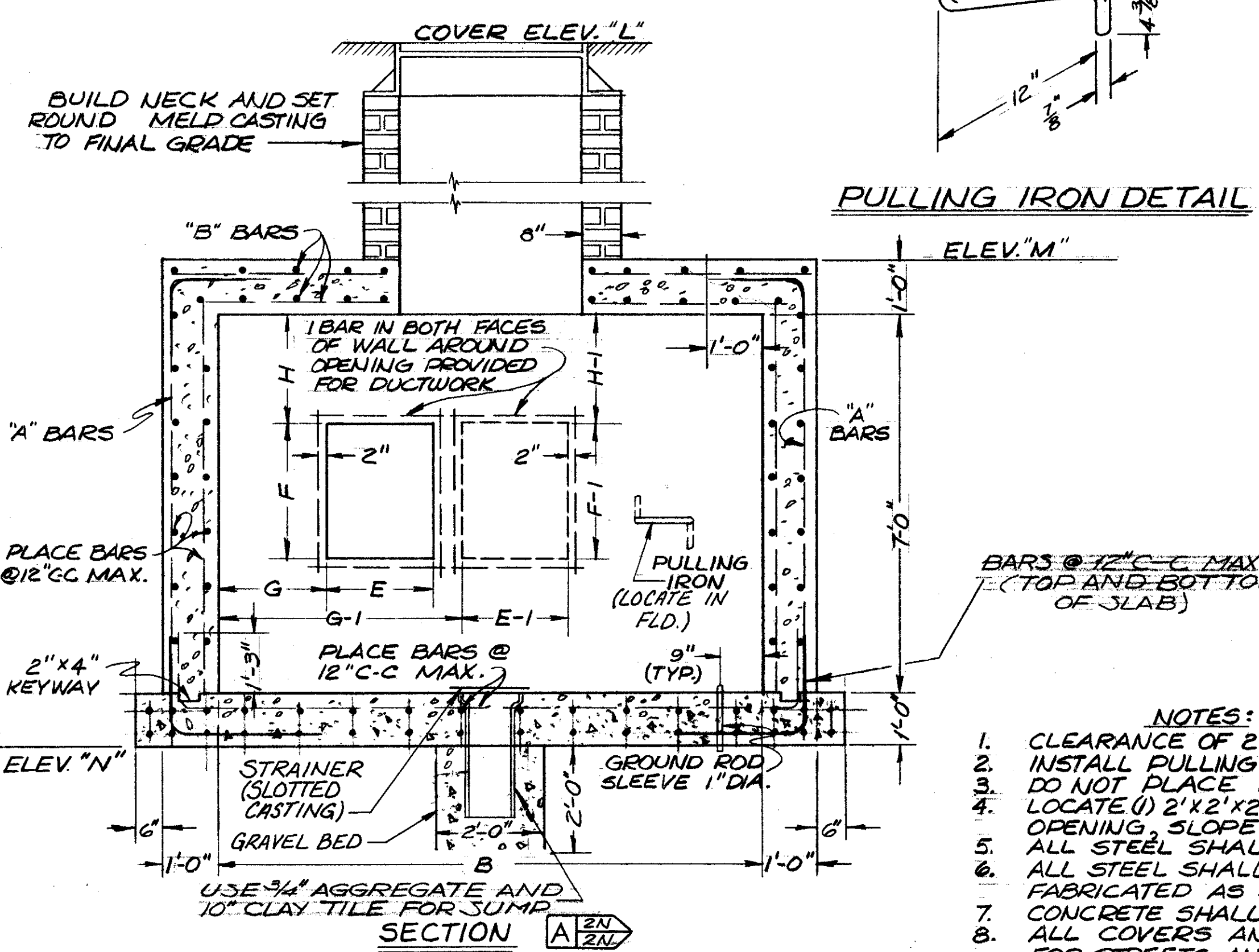
APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
BRIDGE DETAILS	
SCALE AS NOTED	DRAWING NUMBER 6600-2M
DATE	CH'KD BY

CALCULATED BY: E.F. DATE: 4/74  
CHECKED BY: J.M. DATE: 3/75

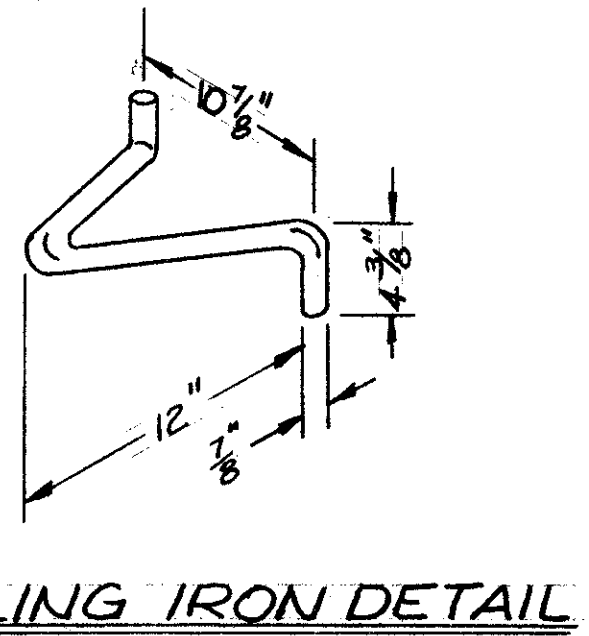


MANHOLE - TOP VIEW



MELP ELECTRICAL MANHOLE

NOTE:  
OTHER WALLS SIMILAR AS VIEWED FROM CENTER OF MANHOLE. FOR DETAILS OF DUCT OPENINGS AND LOCATIONS AND LOCATION OF PULLING IRONS, SEE TABLE ON THIS SHEET.



PULLING IRON DETAIL

- NOTES:
- CLEARANCE OF 2" FROM REBAR TO FACE OF WALL, INSIDE AND OUTSIDE.
  - INSTALL PULLING IRONS OPPOSITE DUCTS ENTERING MANHOLE. DO NOT PLACE RODS BETWEEN DUCTS.
  - LOCATE (1) 2'x2'x2' SLAG SUMP (10" SEWER TILE) UNDER MANHOLE ROOF OPENING, SLOPE FLOOR TOWARDS SUMP.
  - ALL STEEL SHALL BE #6 REINFORCING BARS.
  - ALL STEEL SHALL CONFORM TO A.S.T.M. SPECS. AND SHALL BE FABRICATED AS SHOWN; F<sub>y</sub> = 20,000 PSI.
  - CONCRETE SHALL BE CLASS "C" (4000 PSI).
  - ALL COVERS AND FRAMES MUST BE INTERCHANGEABLE. COVERS FOR STREETS AND SIDEWALKS ARE IDENTICAL. THE RIBS OF COVERS ARE TO BE SUFFICIENTLY STRONG TO PREVENT BREAKAGE.
  - FOR MANHOLE COVER SEE SHEET #2P

\* - DIMENSIONS AS REQUIRED TO FIT EXISTING DUCT  
\* \* - INDICATES DIMENSION OF NORTH WALL

MANHOLE DETAILS

MANHOLE NO. AND LOCATION	STRUCTURE DIMENSIONS						DUCT OPENING DIMENSIONS									
	A	B	C	D	L	M	N	WALL	E	F	G	H	E-1	F-1	G-1	H-1
13-1 LORAIN AVE. STA. 51+22-21 RT.	10'-0"	6'-0"	6'-0"	4'-0"	702.5	699.0	690.0	EAST	23"	47"	24"	12"				
13-2 LORAIN AVE. STA. 48+45-17 RT.	10'-0"	6'-0"	6'-0"	4'-0"	703.6	698.0	689.0	EAST	23"	47"	24"	18"				
13-3 LORAIN AVE. STA. 43+98-11.5 RT.	10'-0"	6'-0"	6'-0"	4'-0"	708.14	706.0	697.0	EAST	23"	47"	24"	12"				
13-4 LORAIN AVE. STA. 41+46-22.5 RT.	10'-0"	6'-0"	6'-0"	4'-0"	707.41	703.5	694.5	EAST	23"	47"	24"	12"				
								WEST	23"	47"	24"	12"				
13-28 LORAIN AVE. STA. 54+30-19 RT.	10'-0"	7'-0"	6'-0"	4'-6"	701.72	696.5	687.5	EAST	23"	47"	24"	12"				
								WEST	23"	47"	24"	12"				
								NORTH	23"	18"	48"	24"				
24-15 LORAIN AVE. STA. 62+28.5-31 RT.	10'-0"	8'-0"	6'-0"	5'-0"	699.9	698.5	689.5	EAST	23"	18"	24"	12"	*	*	*	*
								WEST	23"	47"	24"	12"				
24-16 LORAIN AVE. STA. 59+81.75-31 RT.	10'-0"	6'-0"	6'-0"	4'-0"	699.9	696.0	687.0	EAST	23"	47"	24"	12"				
								WEST	23"	47"	24"	12"				
24-19 W. 65 ST. STA. 47+00-18 LT.	8'-0"	6'-0"	5'-0"	4'-0"	688.58	686.58	677.58	NORTH	23"	30"	24"	18"				
								SOUTH	23"	30"	24"	18"				
								WEST	23"	18"	24"	18"				
24-20 W. 65 ST. STA. 50+73-16 LT.	8'-0"	6'-0"	5'-0"	4'-0"	692.14	690.14	681.14	NORTH	23"	30"	24"	18"				
								SOUTH	23"	30"	24"	18"				
								WEST	18"	12"	24"	36"				
24-21 W. 65 ST. STA. 56+83-18 LT.	8'-0"	6'-0"	5'-0"	4'-0"	691.68	689.68	680.68	SOUTH	23"	30"	24"	12"				
								WEST	23"	18"	36"	18"				
24-22 LORAIN AVE. STA. 57+30-30 RT.	10'-0"	7'-0"	6'-0"	4'-6"	701.95	698.5	689.5	NORTH	23"	18"	48"	36"				
								EAST	23"	47"	24"	12"				
								WEST	23"	47"	24"	12"				
								SOUTH	18 1/2"	12"	24"	36"				
24-23 CLARK AVE. STA. 54+29-23 RT.	8'-0"	6'-0"	5'-0"	4'-0"	701.98	698.98	689.98	WEST	29 3/4"	18"	30"	18"				
								EAST	29 3/4"	18"	30"	18"				
24-24 CLARK AVE. STA. 57+98-23 RT.	8'-0"	6'-0"	5'-0"	4'-0"	700.79	698.29	689.29	WEST	23"	18"	30"	30"				
								EAST	29 3/4"	18"	30"	30"				
13-29 CLARK AVE. STA. 48+90-12.5 RT.	8'-0"	6'-0"	5'-0"	4'-0"	703.37	701.37	692.37	WEST	23"	18"	30"	30"				
								EAST	29 3/4"	18"	30"	30"				
24-26 W. 65 ST. STA. 43+50-18 LT.	8'-0"	6'-0"	5'-0"	4'-0"	685.49	683.49	674.49	NORTH	23"	30"	24"	24"				
								WEST	23"	30"	24"	36"				
								SOUTH	23"	30"	24"	36"				
24-25 W. 65 ST. STA. 53+60-8 LT.	8'-0"	6'-0"	5'-0"	4'-0"	691.57	689.57	680.57	NORTH	23"	30"	24"	36"				
								SOUTH	23"	30"	24"	36"				
13-30 CLARK AVE. STA. 51+30-23 RT.	8'-0"	6'-0"	5'-0"	4'-0"	702.60	700.35	691.35	WEST	29 3/4"	18"	30"	18"				
								EAST	29 3/4"	18"	30"	18"				
34-69 W. 53 ST. STA. 39+24-15 LT.	6'-0"	8'-0"	4'-0"	5'-0"	679.86	678.36	669.36	NORTH	23"	18"	24"	24"				
								E. & W.	23"	18"	24"	48"				
34-70 W. 53 ST. STA. 41+64-15 LT.	6'-0"	8'-0"	4'-0"	5'-0"	679.59	678.36	669.36	NORTH	23"	18"	24"	24"				
								SOUTH	23"	18"	25"	24"				
34-71 W. 53 ST. STA. 45+23-15 LT.	6'-0"	8'-0"	4'-0"	5'-0"	688.00	686.50	677.50	SOUTH	23"	18"	24"	24"				
								NORTH	23"	24"	36"	24"				

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CITY ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER  
CITY OF CLEVELAND

UNDERGROUND  
MANHOLE DETAILS

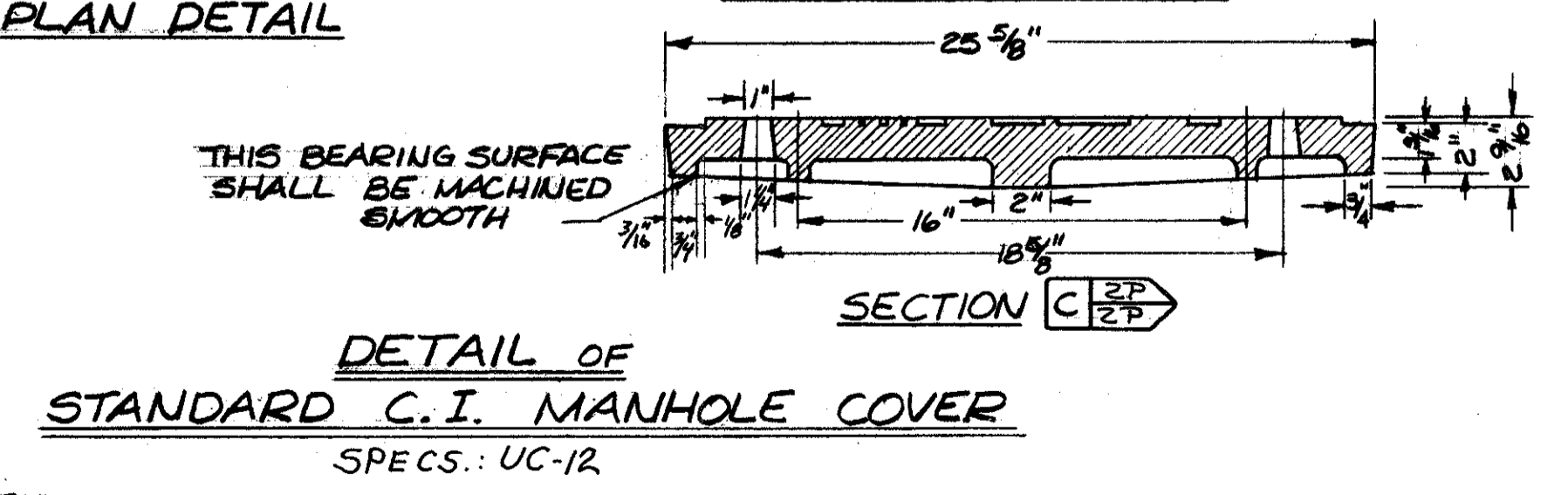
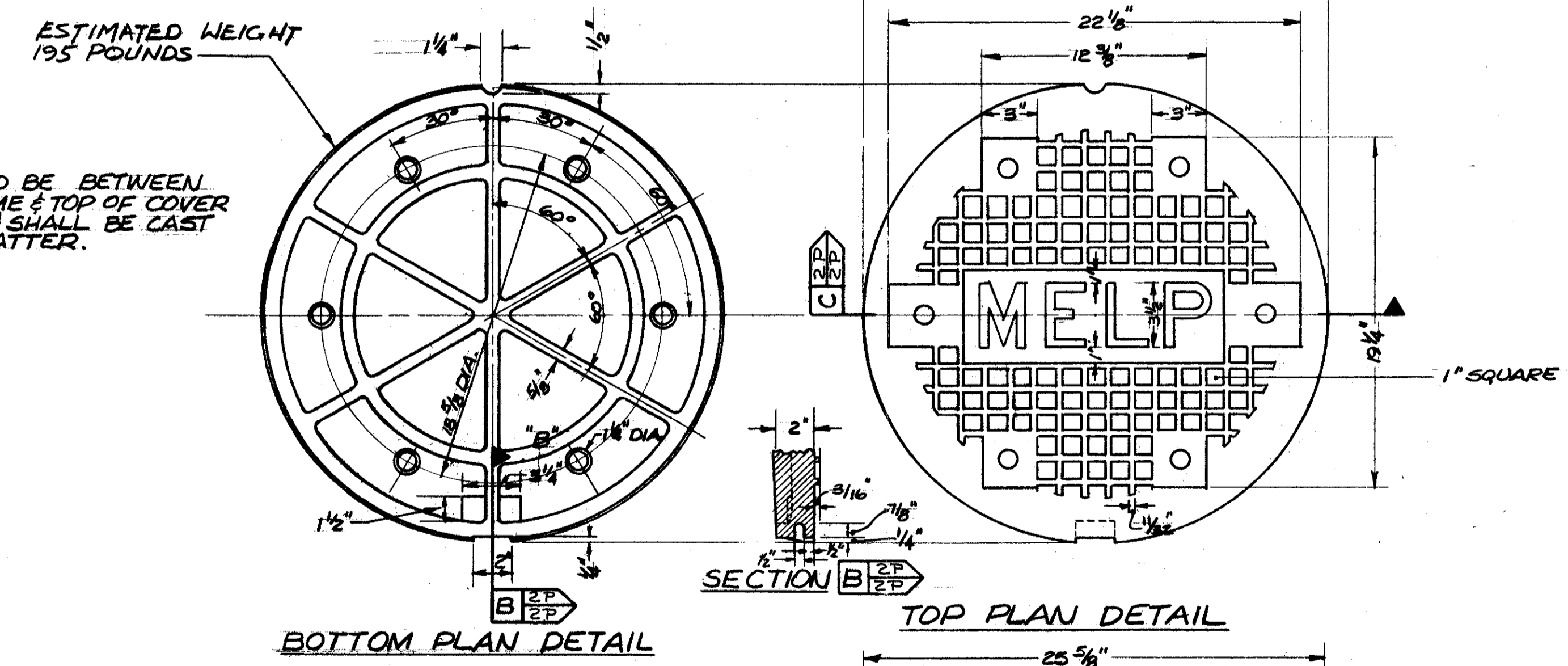
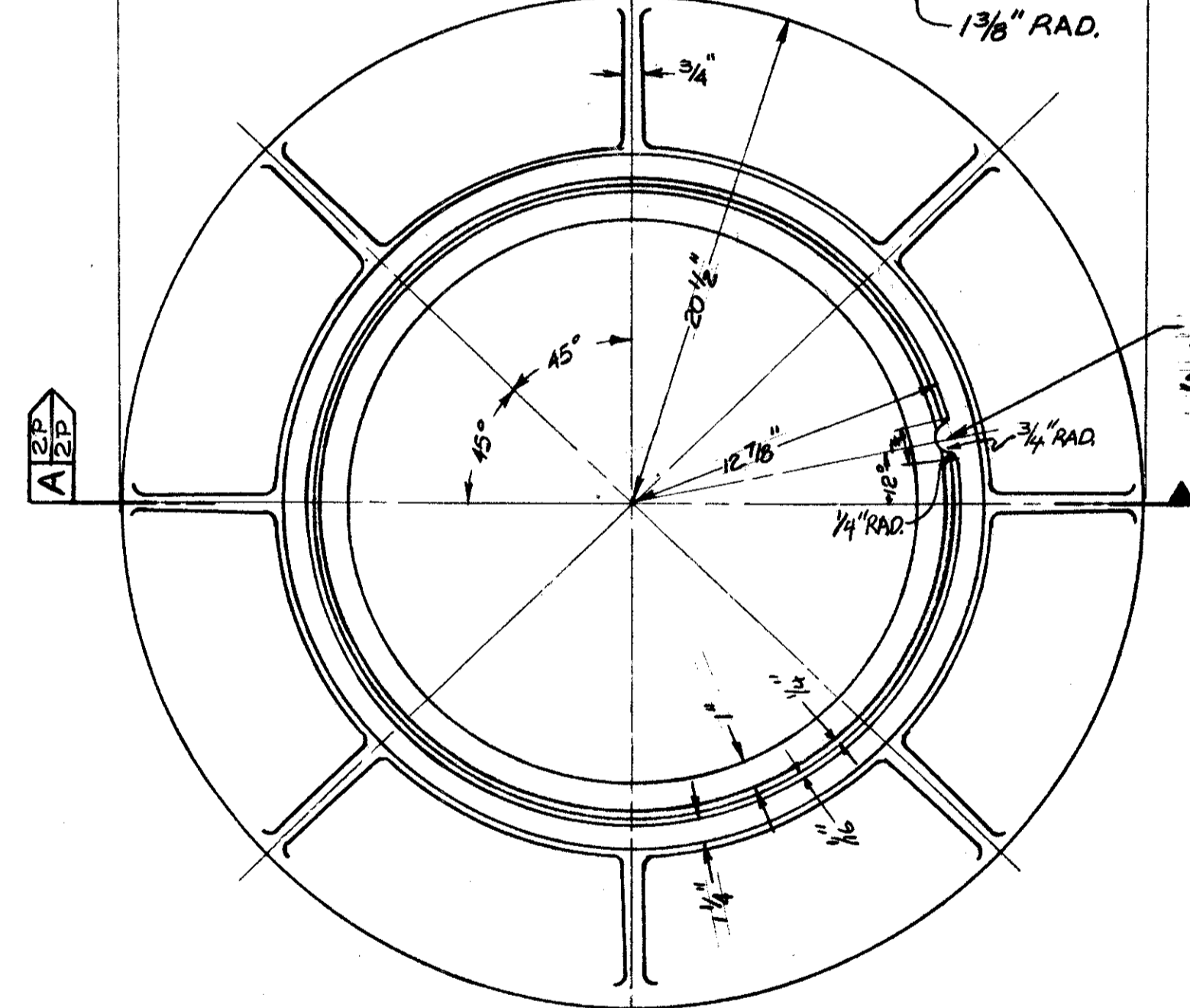
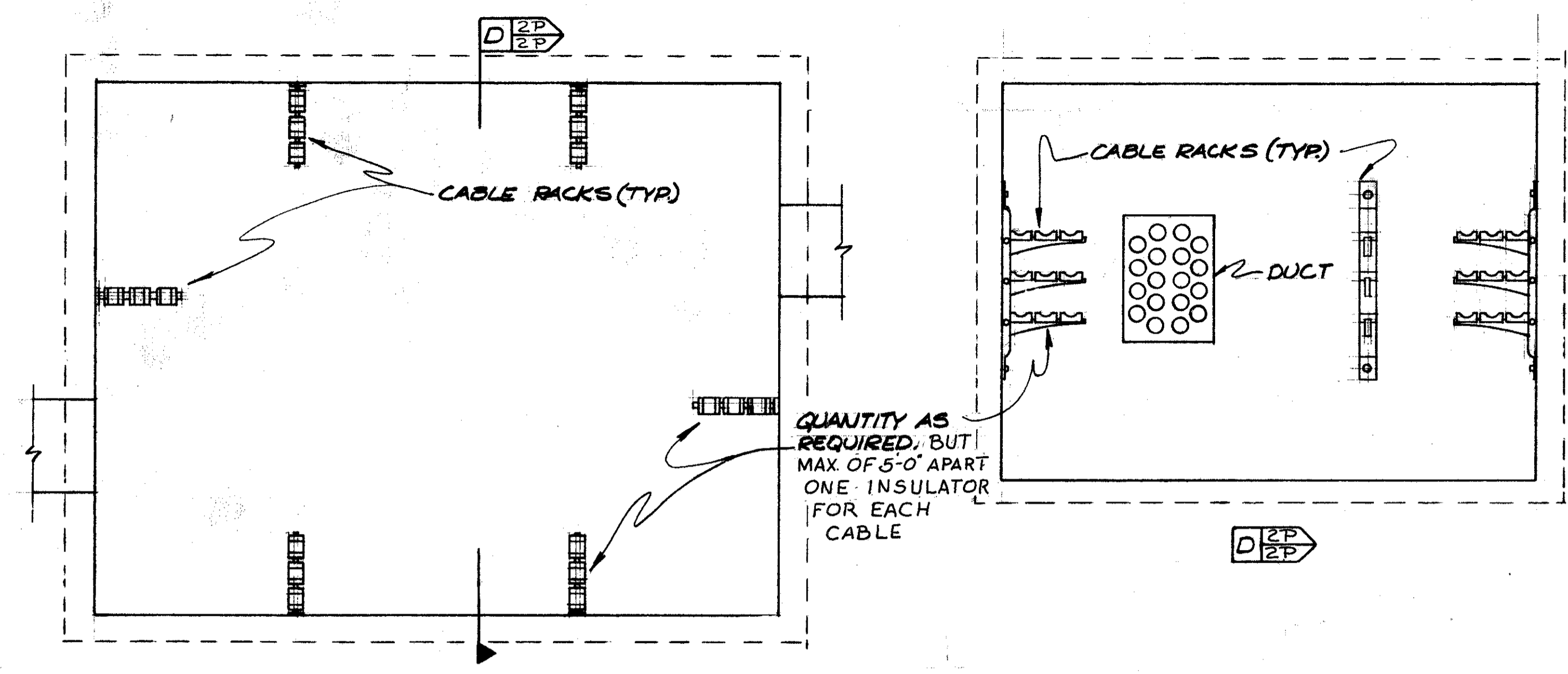
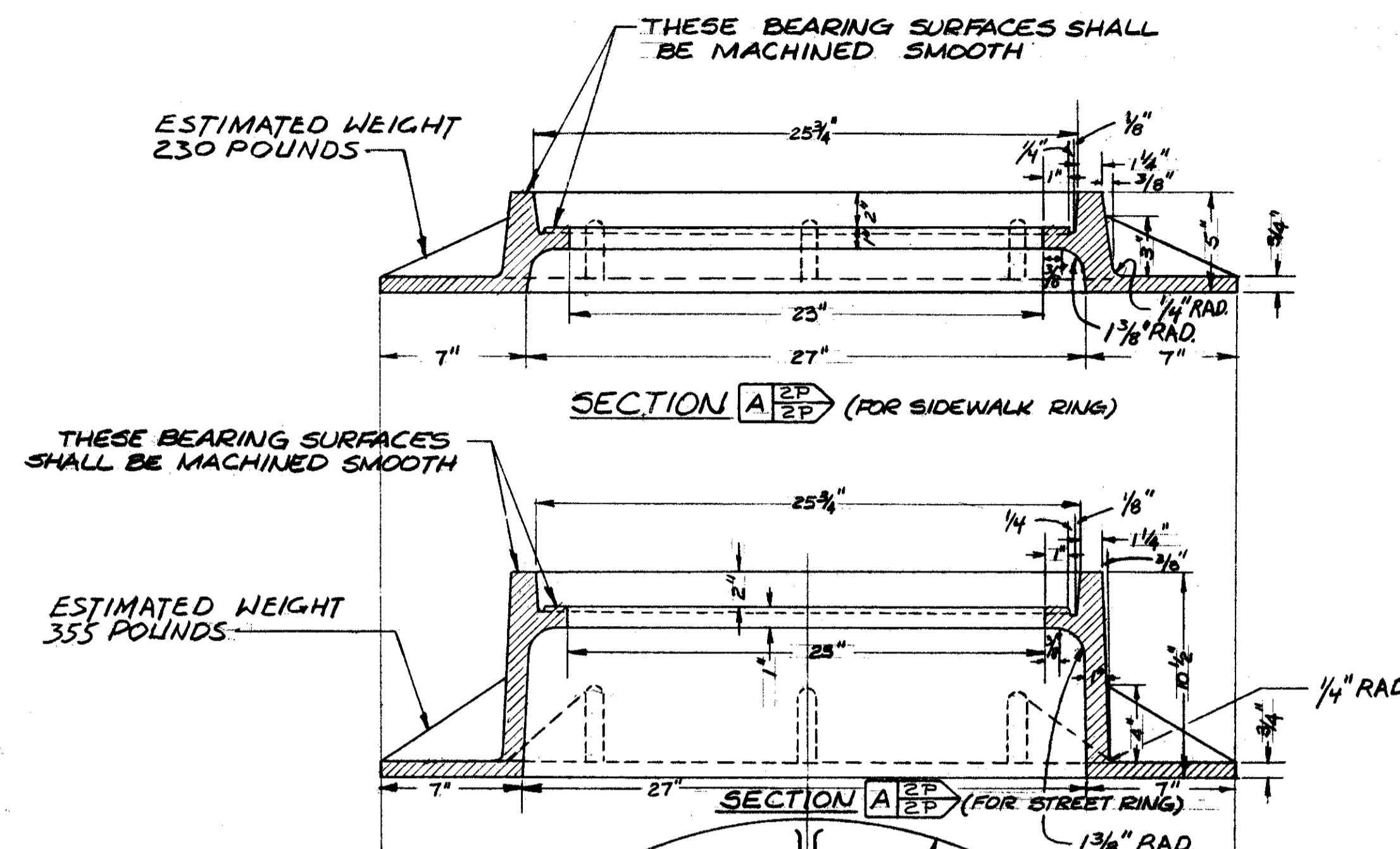
SCALE NO SCALE  
DATE  
DRAWING NUMBER 6600-2N

FED. RD.	STATE	PROJECT
2	OHIO	

443  
838

CUYAHOGA COUNTY  
CUI-90-11.64

19  
58



NOTE:  
ALL COVERS AND FRAMES MUST BE INTERCHANGEABLE.  
COVERS FOR STREET AND SIDEWALK FRAMES ARE IDENTICAL.

APPROVED BY

DIRECTOR OF PUBLIC UTILITIES

COMMISSIONER OF LIGHT & POWER

COMMISSIONER OF UTILITIES ENGINEERING

CHIEF ELECTRICAL ENGINEER

Robert J. Altsch

ENGINEER OF DESIGN

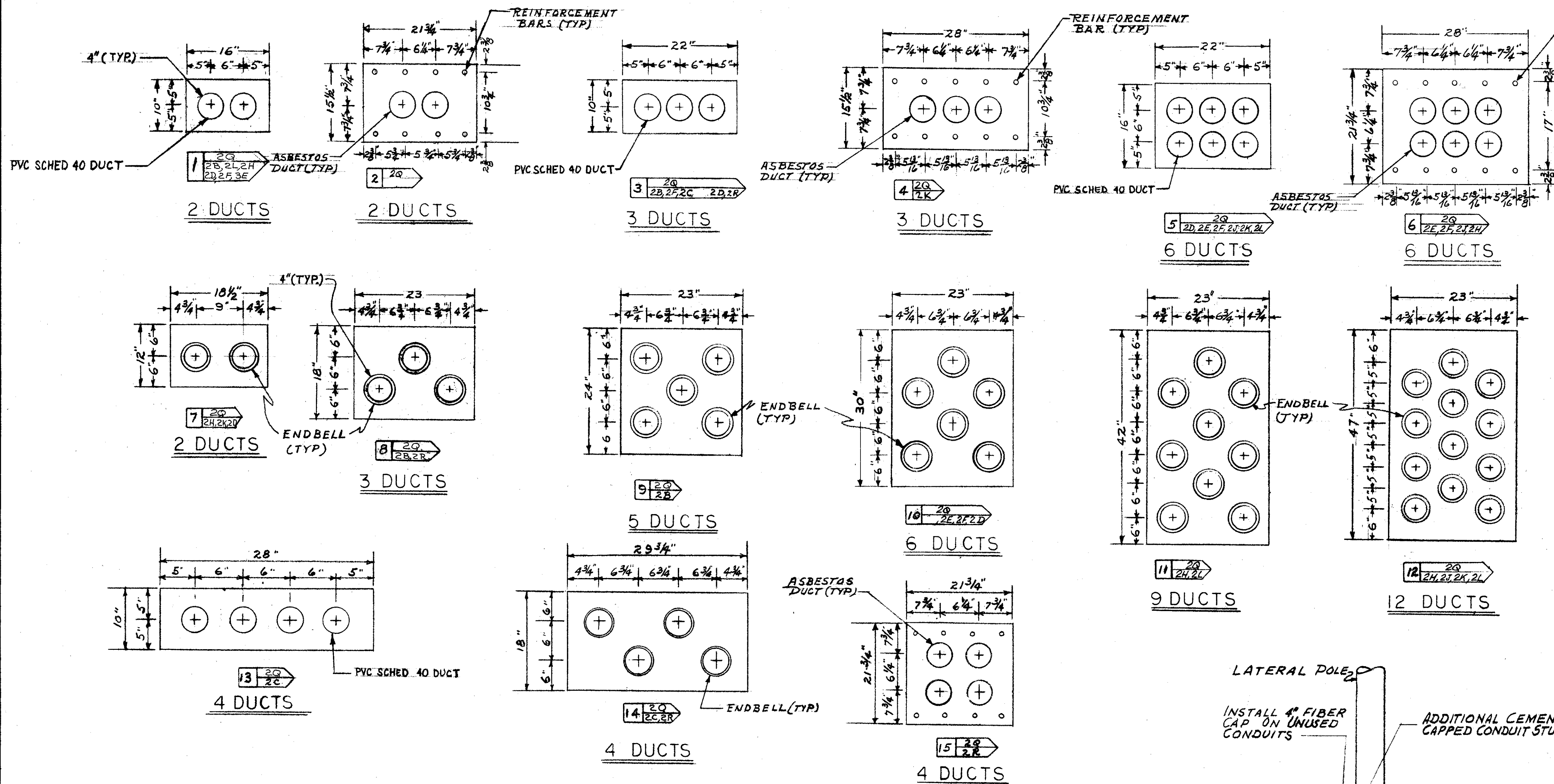
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
UNDERGROUND MANHOLE COVER DETAILS	
SCALE NO SCALE	DRAWING NUMBER 6600-2P
DATE	
DRAWN BY E.F.	CHECKED BY

FED. RD.	STATE	PROJECT
2	OHIO	

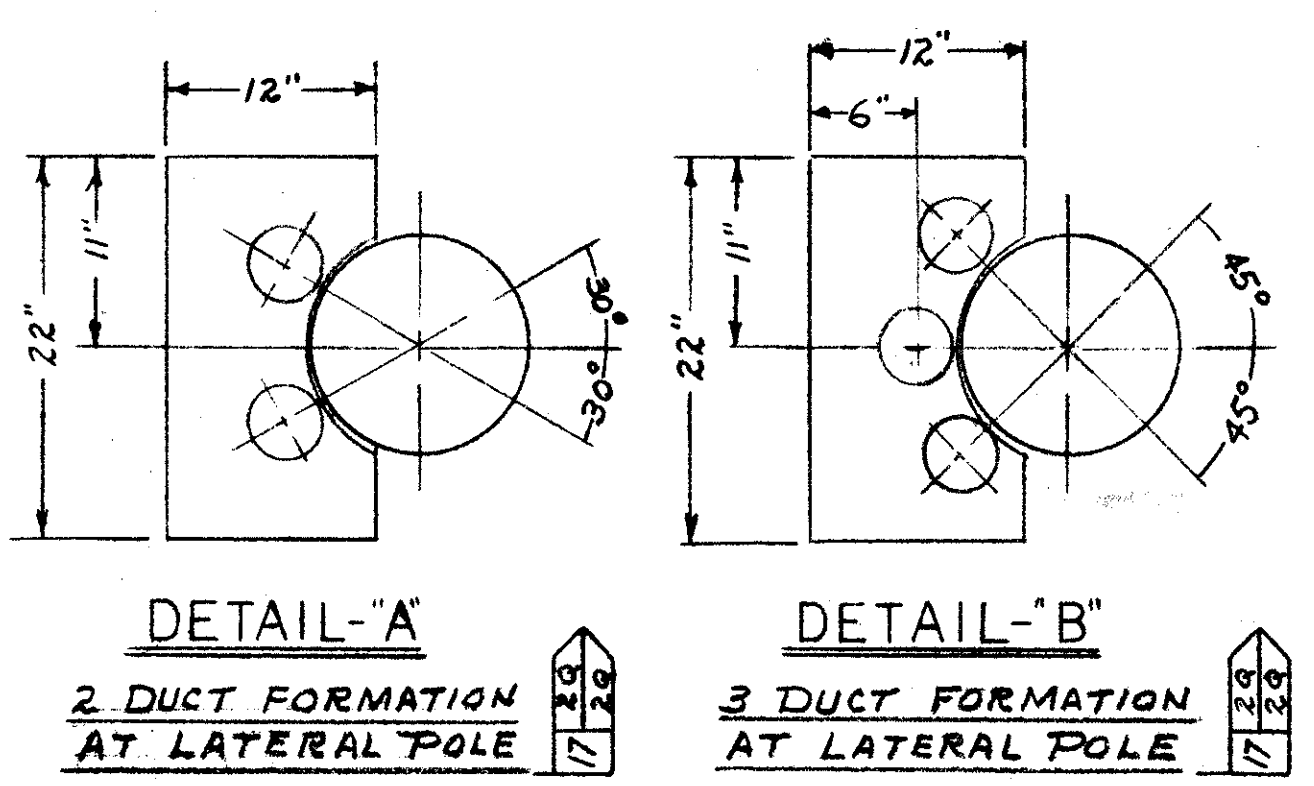
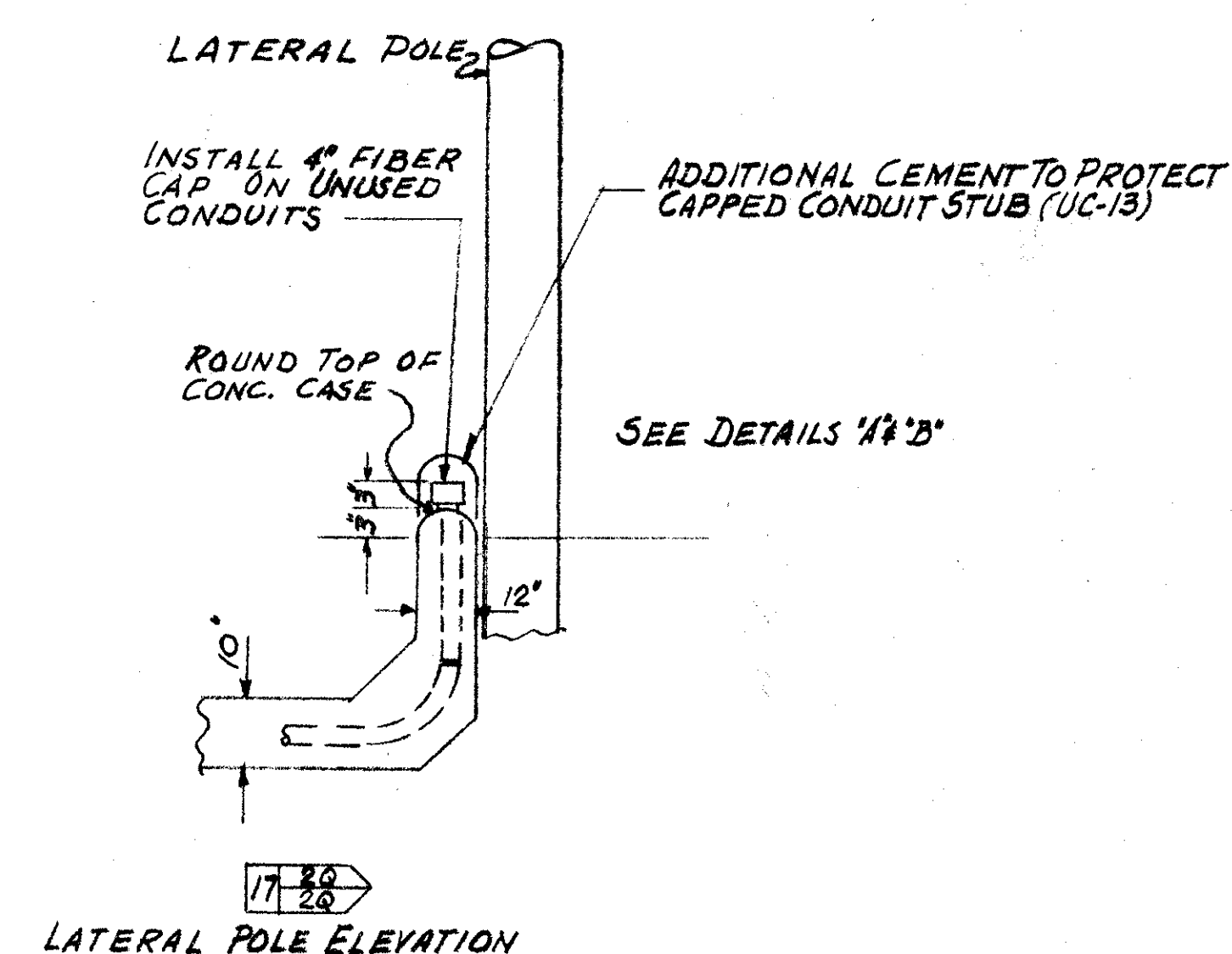
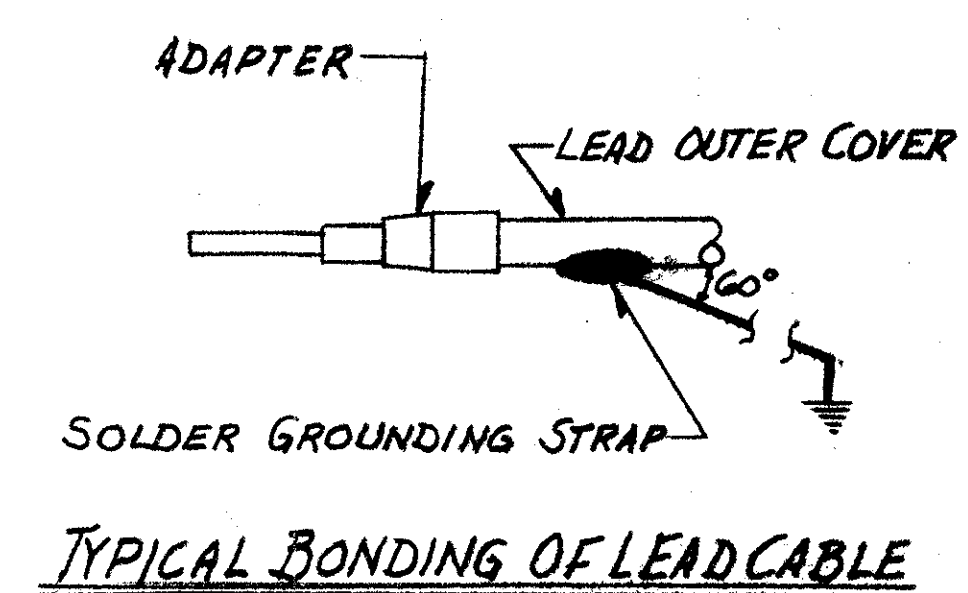
444  
338

CUYAHOGA COUNTY  
CUY - 90 - 11.64

20  
58



NOTE:  
ALL DUCT SHOWN ON THIS  
DRAWING SHALL BE 4" DIA.



APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
Robert J. Allrich  
ENGINEER OF DESIGN

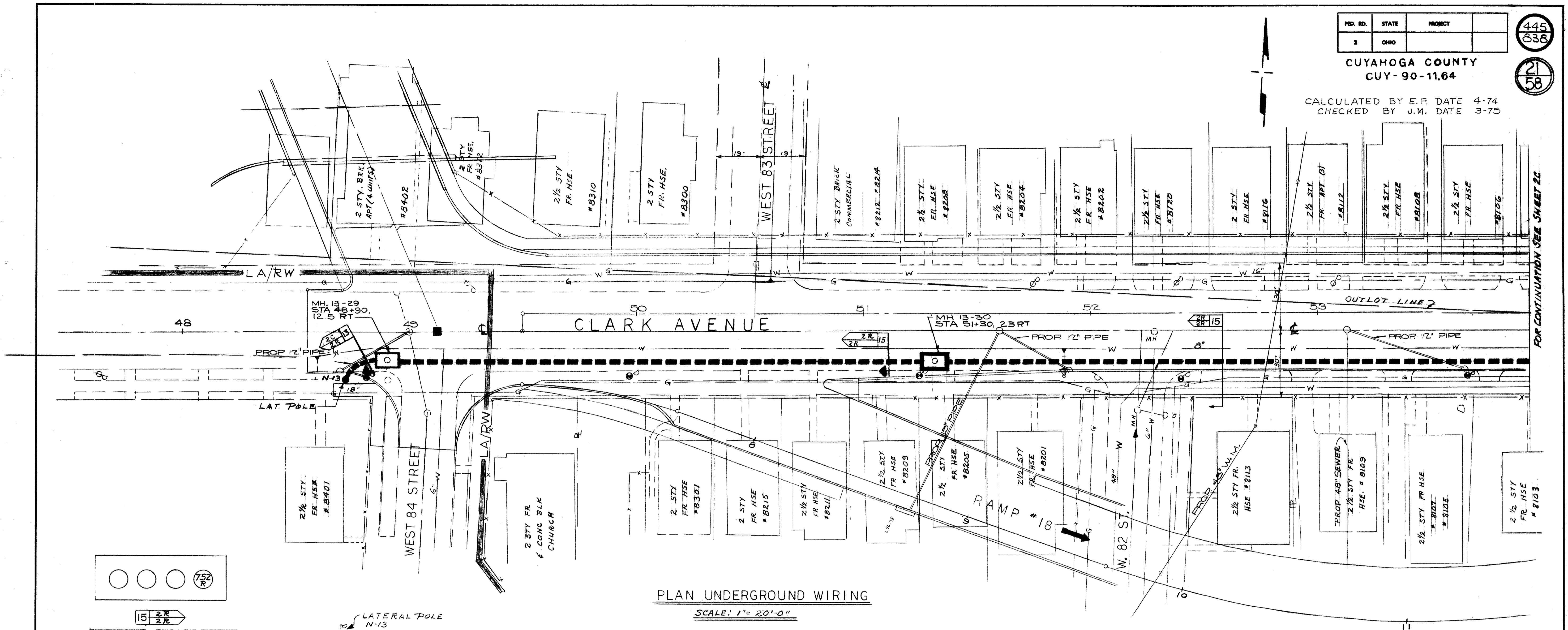
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
UNDERGROUND CONCRETE DUCT DETAILS	
DRAWN BY: L.G.N.	SCALE: NONE
DATE:	DATE:
6600-2Q	

FED. RD.	STATE	PROJECT
2	OHIO	

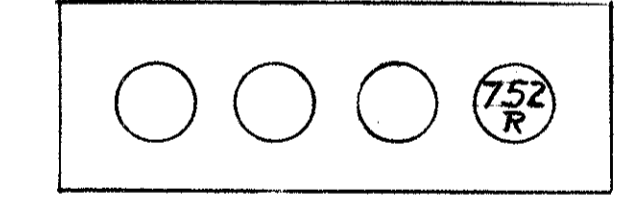
445  
838  
21  
58

CUYAHOGA COUNTY  
CUY-90-11.64

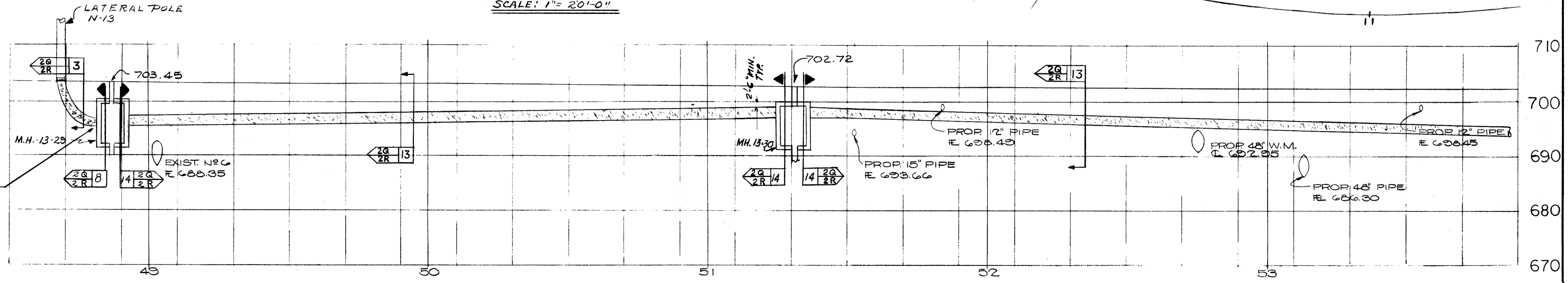
CALCULATED BY E.F. DATE 4-74  
CHECKED BY J.M. DATE 3-75



PLAN UNDERGROUND WIRING  
SCALE: 1" = 20'-0"



FEEDER CABLE LOCATION  
N.T.S.



PROFILE  
HORIZ. 1" = 20'-0"  
VERT. 1" = 10'-0"

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
UNDERGROUND PLAN CLARK AVENUE SHEET # 2	
DRAWN BY: L.G.N.	SCALE: AS NOTED
DATE:	DRAWING NUMBER: 6600-2R

FOR CONTINUATION SEE SHEET 2C

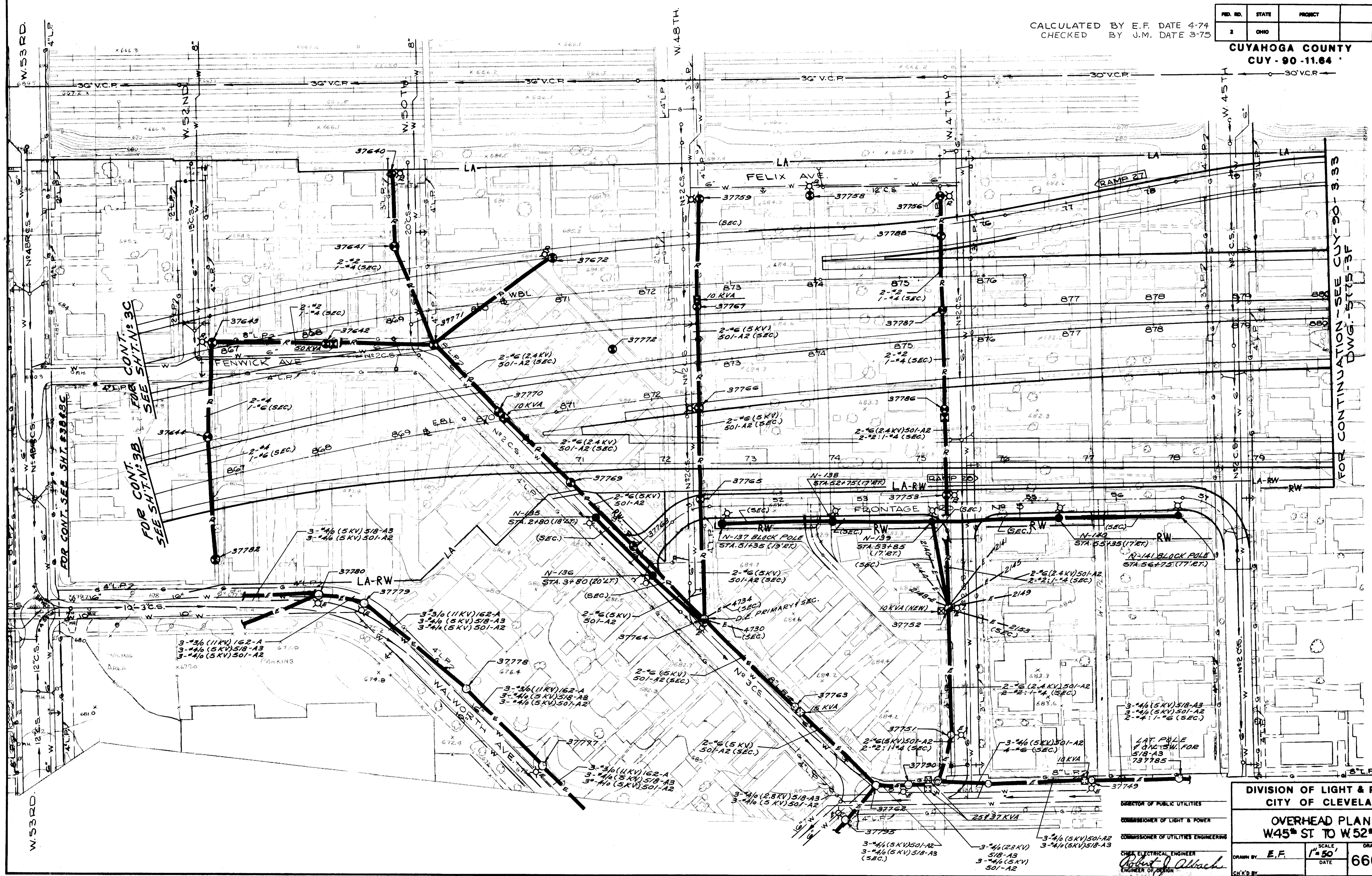
PROJ. NO.	STATE	PROJECT
1	OHIO	

446  
838

CUYAHOGA COUNTY  
CUY-90-11.64

22  
58

CALCULATED BY E.F. DATE 4-74  
CHECKED BY J.M. DATE 3-75



FOR CONT. SEE SH. 33  
FOR CONT. SEE SH. 34  
FOR CONT. SEE SH. 35  
FOR CONT. SEE SH. 36  
FOR CONT. SEE SH. 37  
FOR CONT. SEE SH. 38  
FOR CONT. SEE SH. 39  
FOR CONT. SEE SH. 40  
FOR CONT. SEE SH. 41  
FOR CONT. SEE SH. 42  
FOR CONT. SEE SH. 43  
FOR CONT. SEE SH. 44  
FOR CONT. SEE SH. 45  
FOR CONT. SEE SH. 46  
FOR CONT. SEE SH. 47  
FOR CONT. SEE SH. 48  
FOR CONT. SEE SH. 49  
FOR CONT. SEE SH. 50  
FOR CONT. SEE SH. 51  
FOR CONT. SEE SH. 52  
FOR CONT. SEE SH. 53  
FOR CONT. SEE SH. 54  
FOR CONT. SEE SH. 55  
FOR CONT. SEE SH. 56  
FOR CONT. SEE SH. 57  
FOR CONT. SEE SH. 58  
FOR CONT. SEE SH. 59  
FOR CONT. SEE SH. 60  
FOR CONT. SEE SH. 61  
FOR CONT. SEE SH. 62  
FOR CONT. SEE SH. 63  
FOR CONT. SEE SH. 64  
FOR CONT. SEE SH. 65  
FOR CONT. SEE SH. 66  
FOR CONT. SEE SH. 67  
FOR CONT. SEE SH. 68  
FOR CONT. SEE SH. 69  
FOR CONT. SEE SH. 70  
FOR CONT. SEE SH. 71  
FOR CONT. SEE SH. 72  
FOR CONT. SEE SH. 73  
FOR CONT. SEE SH. 74  
FOR CONT. SEE SH. 75  
FOR CONT. SEE SH. 76  
FOR CONT. SEE SH. 77  
FOR CONT. SEE SH. 78  
FOR CONT. SEE SH. 79  
FOR CONT. SEE SH. 80  
FOR CONT. SEE SH. 81  
FOR CONT. SEE SH. 82  
FOR CONT. SEE SH. 83  
FOR CONT. SEE SH. 84  
FOR CONT. SEE SH. 85  
FOR CONT. SEE SH. 86  
FOR CONT. SEE SH. 87  
FOR CONT. SEE SH. 88  
FOR CONT. SEE SH. 89  
FOR CONT. SEE SH. 90  
FOR CONT. SEE SH. 91  
FOR CONT. SEE SH. 92  
FOR CONT. SEE SH. 93  
FOR CONT. SEE SH. 94  
FOR CONT. SEE SH. 95  
FOR CONT. SEE SH. 96  
FOR CONT. SEE SH. 97  
FOR CONT. SEE SH. 98  
FOR CONT. SEE SH. 99  
FOR CONT. SEE SH. 100

FOR CONTINUATION - SEE CUY-90-3.33  
DWG. 5745-3F

DIVISION OF LIGHT & POWER  
CITY OF CLEVELAND

OVERHEAD PLAN -  
W45th ST TO W52th ST.

SCALE: 1"=50'  
DATE: \_\_\_\_\_  
DRAWING NUMBER: 6600-3A

COMMISSIONER OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
Robert J. Albrecht  
ENGINEER OF DESIGN

DRAWN BY: E.F.  
CHECKED BY: \_\_\_\_\_



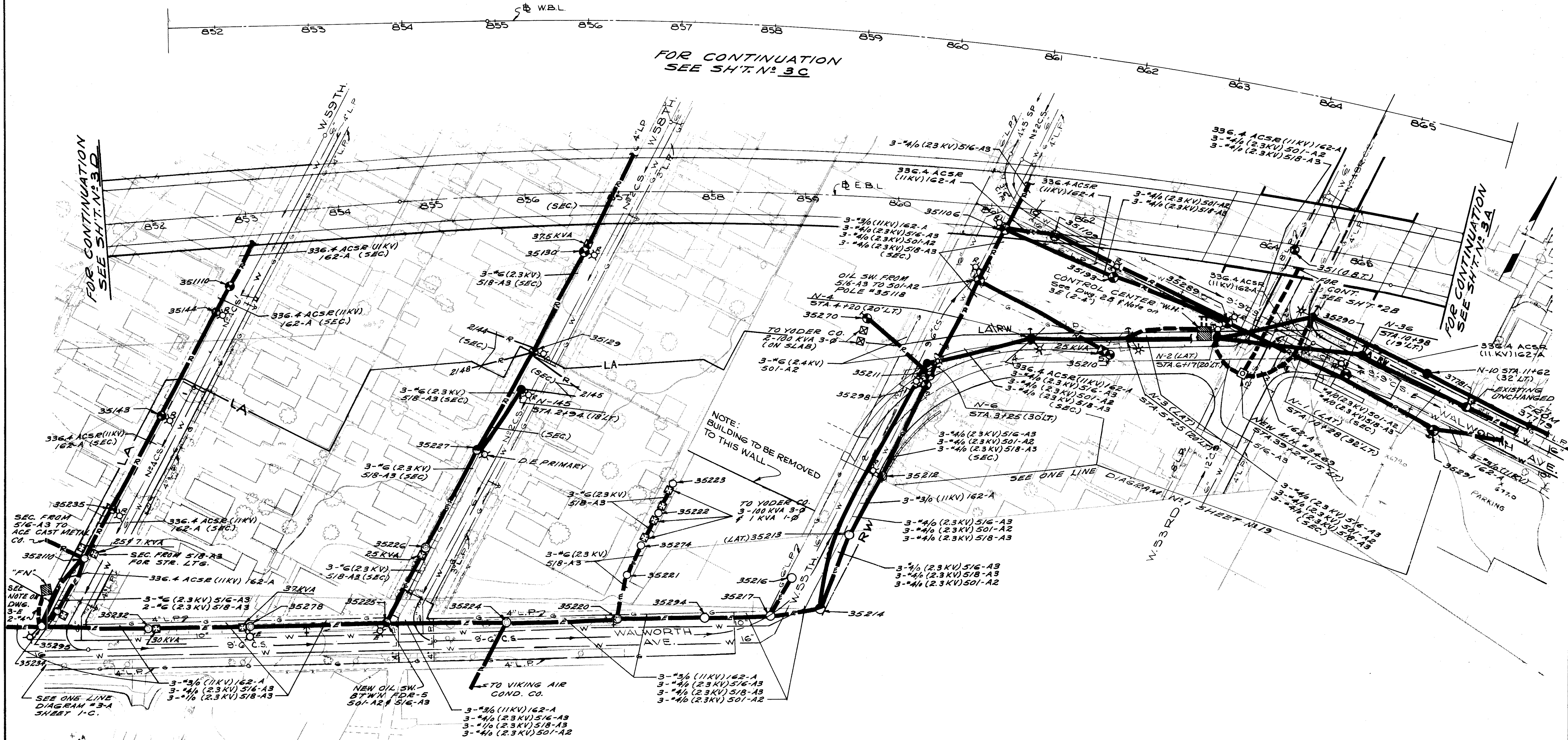
CALCULATED BY E. F. DATE 4-74  
 CHECKED BY J. M. DATE 3-75

FED. RD.	STATE	PROJECT
2	OHIO	

447  
838

CUYAHOGA COUNTY  
 CUY - 90 - 11.64

23  
58



APPROVED BY \_\_\_\_\_  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Abtachs*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND		
OVERHEAD PLAN — W 53 <sup>RD</sup> ST. TO W 59 <sup>TH</sup> ST. SOUTH		
DRAWN BY E.F.	SCALE 1" = 50'	DRAWING NUMBER 6600-3B
CHK'D BY _____	DATE _____	

CALCULATED BY E.F. DATE 4-74  
CHECKED BY J.M. DATE 3-75

FIG. NO.	STATE	PROJECT	448 838
1	OHIO		24 58

CUYAHOGA COUNTY  
CNY. 90/11.84

NOTE: EXIST. OIL SWITCH TIE  
POINT BETWEEN 512-A2  
(OVERHEAD) & 516-A3 (UNDER  
GROUND) LAT. POLE  
#35157

EXIST. HEAD  
GUY POLE

REPLACE EXIST.  
HEAD GUY POLE

OIL SW. BETWEEN 512-A2  
OVERHEAD & UNDERGROUND  
& OIL SW. BETWEEN 516-A3  
OVERHEAD & UNDERGROUND  
(LAT) POLE #35174

CLEAR PRIVATE  
PROPERTY (EX. PUBLIC R/W)

SEE ONE LINE  
DIAGRAM #2

REMOVE EX. 3-#6  
(5KV) 512-A2 &  
INSTALL 3-#6  
(5KV) 516-A3  
(SEC)

OIL SWITCH BETWEEN  
516-A3 (OVERHEAD)  
& UNDERGROUND  
(LAT) POLE #37643

FOR CONT. SEE  
SH.T. NO. 33

FOR CONT. SEE  
SH.T. NO. 33

FOR CONT. SEE  
SH.T. NO. 33

FOR CONT. SEE  
SH.T. NO. 33

FOR CONT. SEE  
SH.T. NO. 33

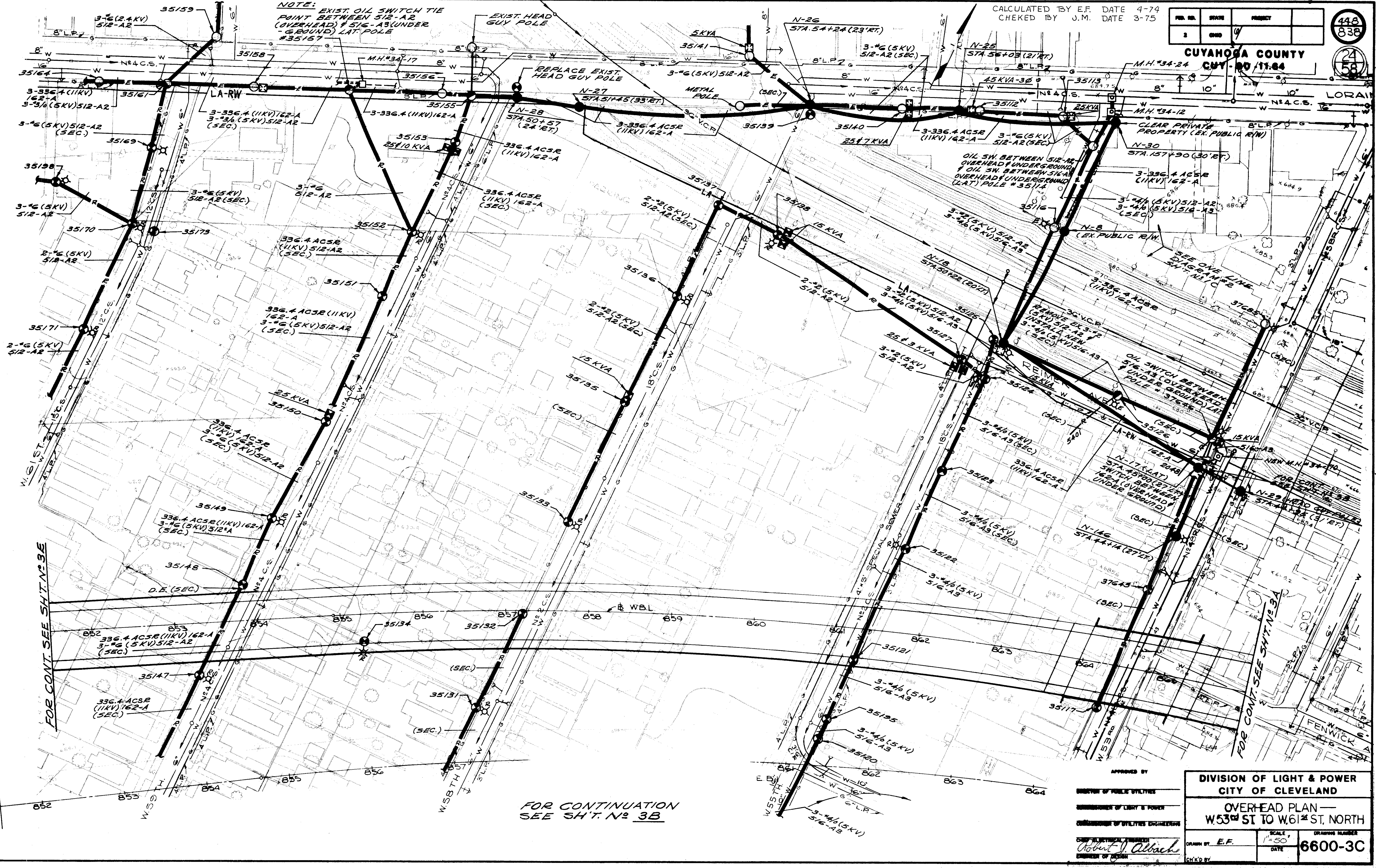
FOR CONT. SEE  
SH.T. NO. 33

FOR CONT. SEE  
SH.T. NO. 33

FOR CONT. SEE  
SH.T. NO. 33

FOR CONT. SEE  
SH.T. NO. 33

FOR CONT. SEE  
SH.T. NO. 33



FOR CONT. SEE SH.T. NO. 33

FOR CONTINUATION  
SEE SH.T. NO. 33

FOR CONT. SEE SH.T. NO. 33

APPROVED BY

DIRECTOR OF PUBLIC UTILITIES

COMMISSIONER OF LIGHT & POWER

COMMISSIONER OF UTILITIES ENGINEERING

CHIEF ELECTRICAL ENGINEER

Robert J. Albo

ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
OVERHEAD PLAN — W 53 <sup>RD</sup> ST TO W 61 <sup>ST</sup> ST, NORTH	
DRAWN BY E.F.	SCALE 1"=50'
DATE	DRAWING NUMBER 6600-3C
CHK'D BY	

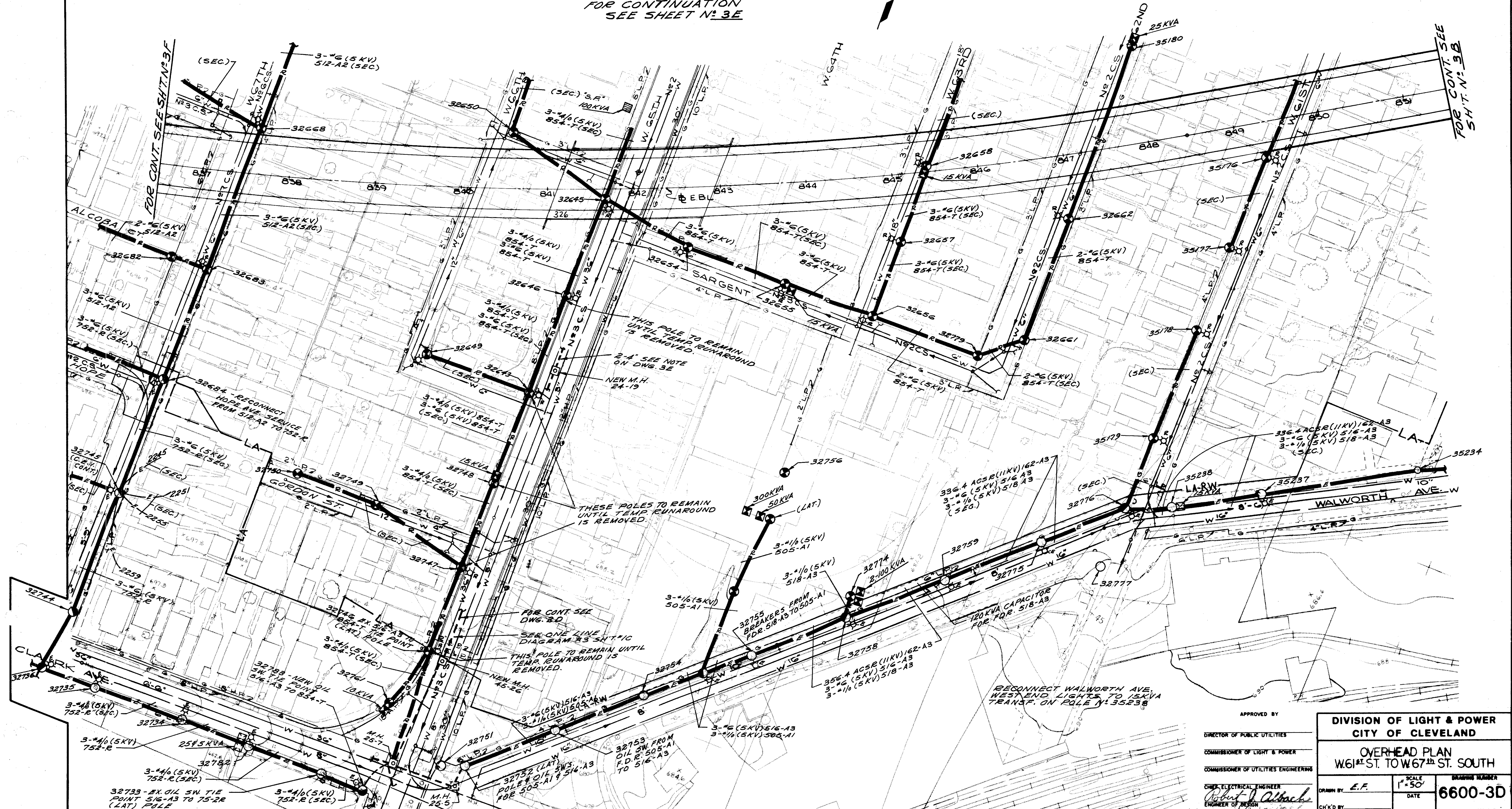
FD. NO.	STATE	PROJECT
2	OHIO	

449  
838

CUYAHOGA COUNTY  
 CUY-90-11.64

25  
58

FOR CONTINUATION  
 SEE SHEET N<sup>o</sup> 3E



APPROVED BY

DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHECKED BY  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
OVERHEAD PLAN W.61 <sup>ST</sup> ST. TO W.67 <sup>TH</sup> ST. SOUTH	
DRAWN BY E.F.	DRAWING NUMBER 6600-3D
DATE	SCALE 1" = 50'

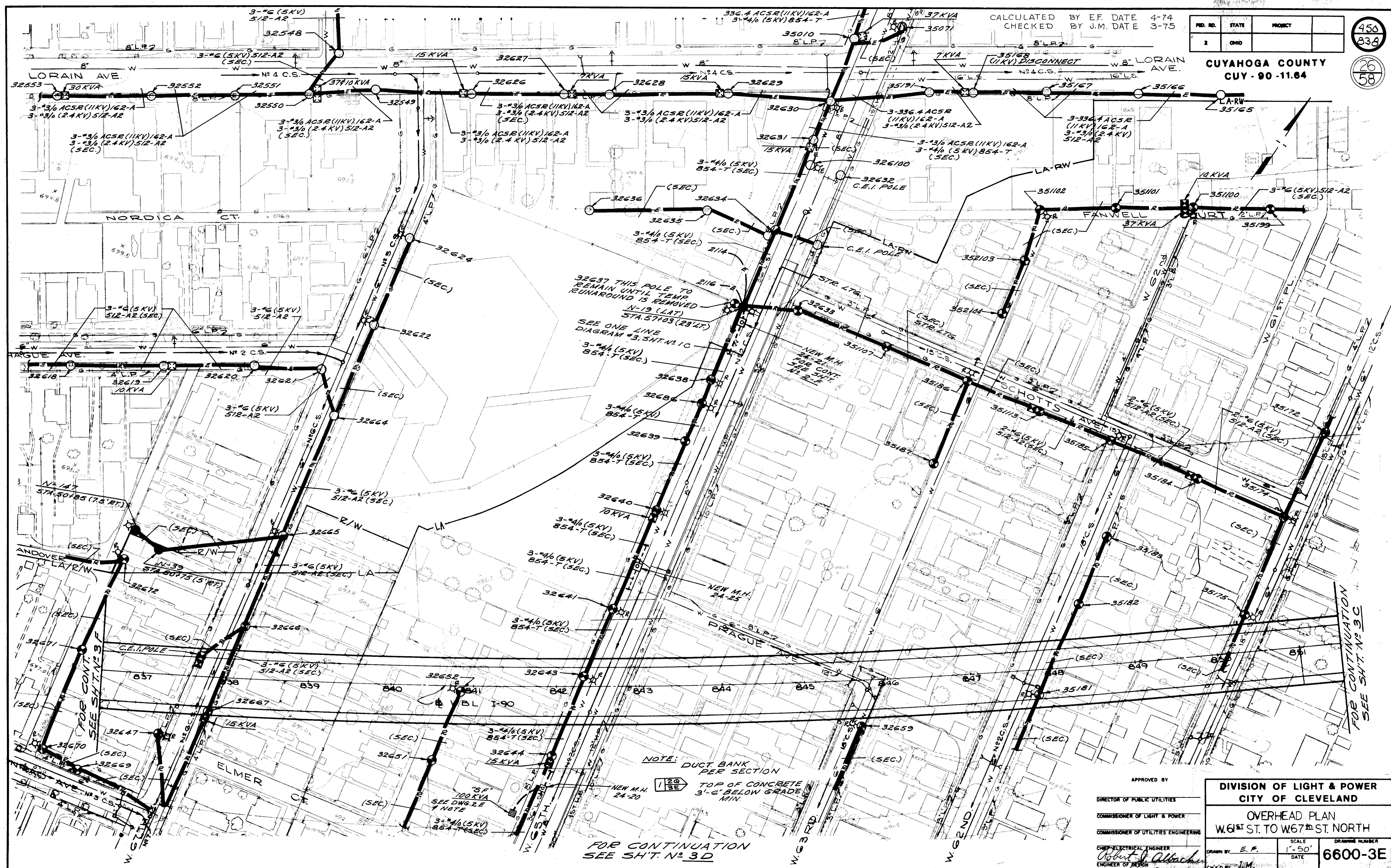
CALCULATED BY E.F. DATE 4-74  
CHECKED BY J.M. DATE 3-75

FILE NO.	STATE	PROJECT
2	OHIO	

450  
838

26  
58

CUYAHOGA COUNTY  
CUY-90-11.64



FOR CONTINUATION  
SEE SH.T. N. 3D

FOR CONTINUATION  
SEE SH.T. N. 3C

APPROVED BY

DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
OVERHEAD PLAN W. 61 <sup>ST</sup> ST. TO W. 67 <sup>ST</sup> ST. NORTH	
SCALE 1" = 50'	DRAWING NUMBER 6600-3E
DATE	CH'K'D BY J.M.

7-0

FILE NO.	STATE	PROJECT
3	OHIO	

451  
838

CUYAHOGA COUNTY  
CUI-90-11.64

27  
58

CALCULATED BY E.F. 4-74  
CHECKED BY J.M. 3-75



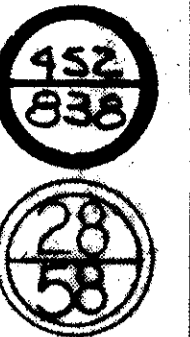
FOR CONTINUATION SEE SH.T. N-3 & G.

FOR CONTINUATION SEE SH.T. N-3 & E.

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF DESIGN

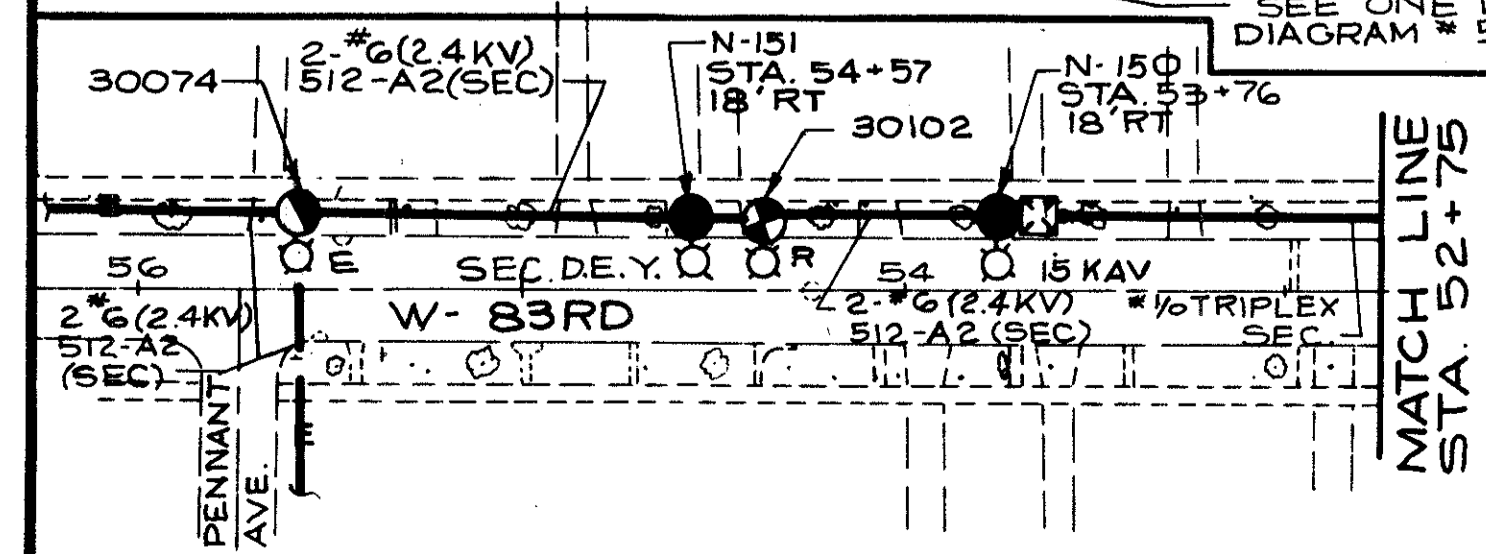
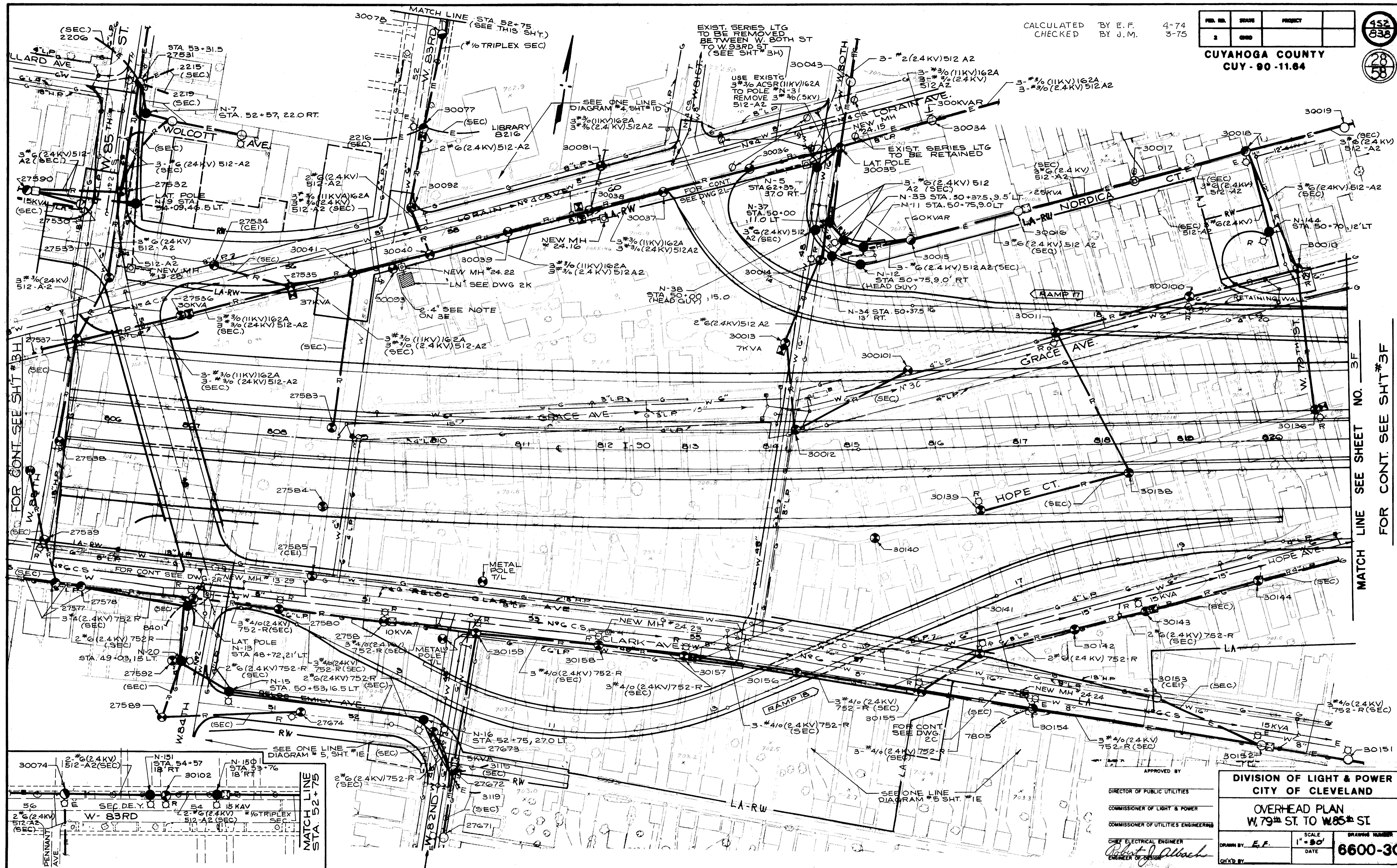
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
OVERHEAD PLAN W. 67 <sup>th</sup> ST. TO W. 79 <sup>th</sup> ST.	
DRAWN BY: E.F.	SCALE: 1" = 50'
DATE:	DRAWING NUMBER: 6600-3F
CHK'D BY:	

FILE NO.	STATE	PROJECT
1	OHIO	



CUYAHOGA COUNTY  
CUY-90-11.64

CALCULATED BY E.F. 4-74  
CHECKED BY J.M. 3-75



APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
ENGINEER OF DESIGN

**DIVISION OF LIGHT & POWER  
CITY OF CLEVELAND**

**OVERHEAD PLAN  
W 79th ST. TO W 85th ST**

SCALE: 1" = 30'  
DATE: \_\_\_\_\_  
DRAWING NUMBER: **6600-3G**

DRAWN BY: E.F.  
CHK'D BY: \_\_\_\_\_

FOR CONT. SEE SHEET #3B

MATCH LINE SEE SHEET NO. 3F  
FOR CONT. SEE SHEET #3F

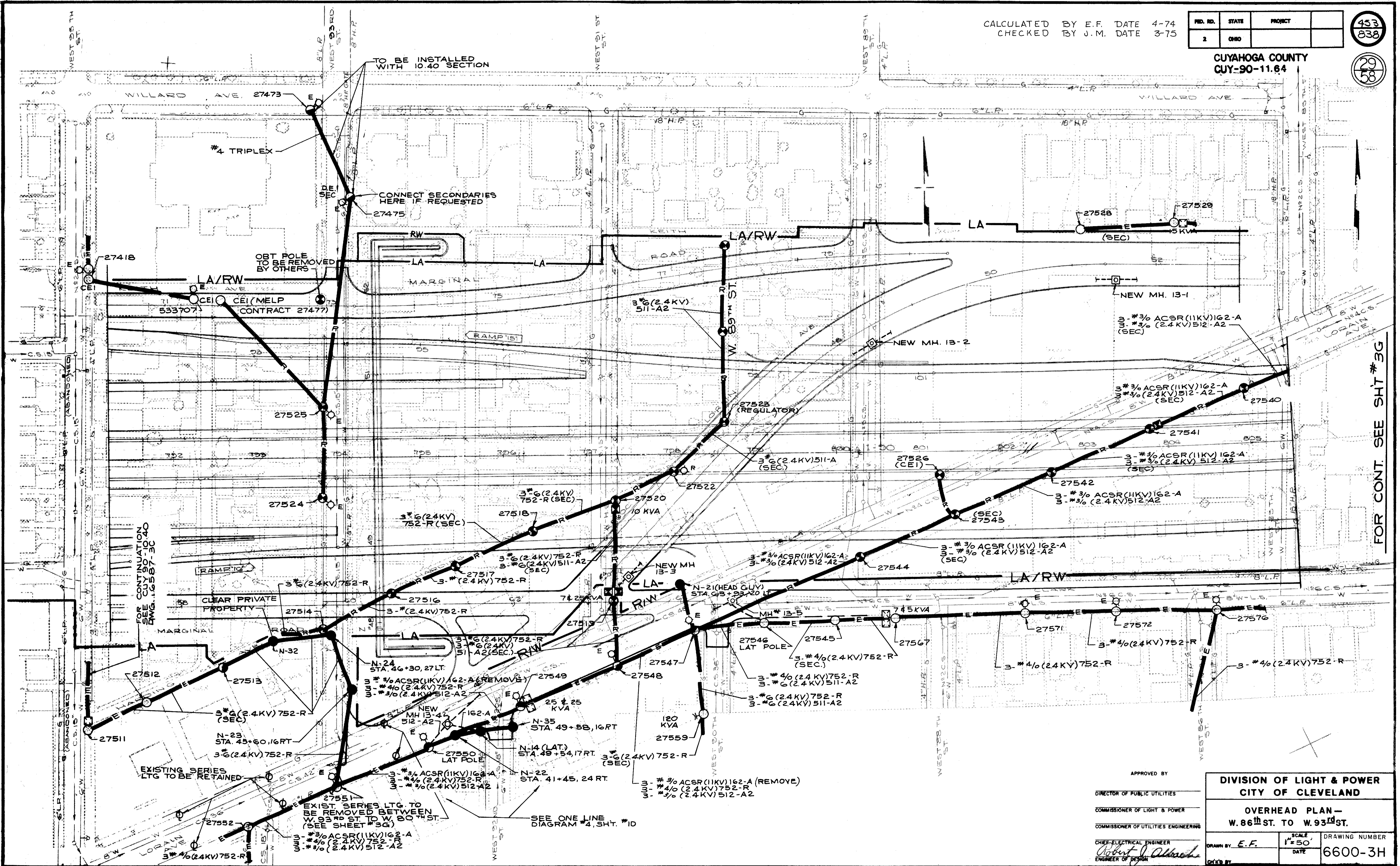
CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75

FIG. NO.	STATE	PROJECT
2	OHIO	

453  
838

CUYAHOGA COUNTY  
 CUY-90-11.64

29  
58



FOR CONTINUATION  
 SEE CUY 90-1040  
 DWG. 16587-3C

FOR CONT. SEE SH7 #3G

APPROVED BY  
 \_\_\_\_\_  
 DIRECTOR OF PUBLIC UTILITIES  
 \_\_\_\_\_  
 COMMISSIONER OF LIGHT & POWER  
 \_\_\_\_\_  
 COMMISSIONER OF UTILITIES ENGINEERING  
 \_\_\_\_\_  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
OVERHEAD PLAN— W. 86 <sup>TH</sup> ST. TO W. 93 <sup>RD</sup> ST.	
DRAWN BY E.F.	SCALE 1"=50'
DATE	DRAWING NUMBER 6600-3H

SEE ONE LINE DIAGRAM #4, SH7 #10





CALCULATED BY E.F. DATE 4/74  
 CHECKED BY J.M. DATE 3-75

FED. RD.	STATE	PROJECT
2	OHIO	



CUYAHOGA COUNTY  
 CUY - 90 - 11.64

POLE NO.	DESCRIPTION	POLE NO.	DESCRIPTION	POLE NO.	DESCRIPTION
27513	A) REMOVE 3 #6 (2.3KV) EAST. B) INSTALL NEW 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 752-R-EAST.	30120	A) REMOVE SEC. NORTH. B) INSTALL STANDARD DUTY ANCHOR GUY NORTH. C) INSTALL TRANSFORMER WITH THROTTLE CUTOUTS.	35210	A) REMOVE 336.4 ACSR (11KV) - NORTH AND DEAD-END - SOUTH. REMOVE SEC. - NORTH & WEST. B) INSTALL DOUBLE STANDARD DUTY ANCHOR GUY. - NORTH.
27531	A) REMOVE 3 #6 (2.3KV) & SEC. -SOUTH. B) INSTALL 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 512-A2 & SEC. TO N-7. C) INSTALL STANDARD DUTY ANCHOR GUY. D) INSTALL MERCURY LUMINAIRE, 175 WATTS W/ BRACKET ARM 6 FT. LG.	30154	A) LOWER SEC. AND INSTALL HEAVY-DUTY 6 PIN X-ARMS AND VERTICAL BRACES. B) INSTALL OIL SWITCH WITH HANGERS & WOOD BRACES, POTHEAD, LIGHTNING ARRESTERS AND #4/0 RISER CABLE FOR 752-R. C) REMOVE 3 #4/0 (2.3KV) 752-R WEST & DEAD-END EAST. D) INSTALL HEAVY-DUTY ANCHOR GUY - WEST.	35212	A) REMOVE 3 #4/0 (2.3KV) 501-A2, 3 #4/0 (2.3KV) 516-A3 AND 3 #4/0 (2.3KV) 518-A3-NORTH. B) INSTALL NEW 3 #4/0 WIRE-COPPER-WEATHERPROOF (2.3KV) 501-A2, 3 #4/0 WIRE-COPPER-WEATHERPROOF (2.3KV) 516-A3, AND 3 #4/0 WIRE-COPPER-WEATHERPROOF (2.3KV) 518-A3- NORTH. C) INSTALL STANDARD DUTY ANCHOR GUY.
27547	A) REMOVE 3 #3/0 ACSR (11KV) 162-A EAST & WEST ON LORAIN AVE. B) REMOVE 3 #3/0 (2.3KV) 512-A2 EAST ON LORAIN & DEAD-END WEST. C) REMOVE DOUBLE X-ARM. D) INSTALL HEAD-GUY OR ARM-GUY WITH INSULATORS - NORTH.	32611	A) REMOVE 2 #6 (2.3KV) - SOUTH AND DEAD-END 2 #6 (2.3KV - NORTH). B) INSTALL NEW SEC. - EAST. C) INSTALL STANDARD DUTY ANCHOR GUY.	35214	A) REMOVE 3 #3/0 ACSR (11KV) - NORTH. B) INSTALL NEW 3 #3/0 ACSR (11KV) 162-A- NORTH.
27548	A) REMOVE 3 #6 (2.3KV) 511-A2 & 3 #6 (2.3KV) 752-R-NORTH. B) REMOVE 3 #3/0 ACSR (11KV) 162-A - EAST & WEST. C) REMOVE (2) DOUBLE X-ARMS.	32612	A) INSTALL NEW SEC. - WEST.	35225	A) INSTALL STD. DOUBLE 6 PIN X-ARM, VERTICAL BRACES, HARDWARE, OIL SWITCH WITH HANGERS & WOOD BRACING, AND 2 SETS LIGHTNING ARRESTERS. B) CONNECT BETWEEN 501-A2 AND 516-A3 FOR TIE POINT.
27549	A) REMOVE 3 #3/0 ACSR (11KV) 162-A - EAST & WEST. B) REMOVE DOUBLE X-ARM.	32634	A) INSTALL DISCONNECT, POTHEAD, LIGHTNING ARRESTERS & GROUND FOR LIGHTING CONTROL CENTER "FA" TO FEEDER #854 T.	35227	A) REMOVE PRIMARY NORTH AND D. E. SOUTH. B) INSTALL STANDARD DUTY ANCHOR GUY NORTH AND SEC. TO POLE N-145.
27550	A) INSTALL 15KV DISCONNECT SWITCHES POTHEAD, L.A. & 3/C #4/0 RISER CABLE (2.3KV) FOR 512-A2.	32665	A) REMOVE 3 #6 (2.3KV) AND SEC. - SOUTH. B) REMOVE SINGLE X-ARM AND INSTALL DOUBLE 6 PIN X-ARM DEAD-END (2.3KV) 512-A2 AND SEC. - NORTH. C) INSTALL DOUBLE HEAVY-DUTY ANCHOR - GUY - SOUTH. D) INSTALL NEW SEC. - WEST TO POLE N-39.	35234	A) INSTALL FUSED CUTOUTS, POTHEAD, LIGHTNING ARRESTERS AND GROUND FOR LIGHTING CONTROL CENTER "FN" TO FEEDER #518-A3.
27551	A) INSTALL DOUBLE 6 PIN X-ARM AND 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 752-R-NORTH. B) INSTALL STANDARD DUTY ANCHOR GUY.	32684	A) REMOVE 3 #6 (2.3KV) 512-A2 NORTH. B) INSTALL 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 752-R-SOUTH AND DEAD-END. C) INSTALL STANDARD ANCHOR-GUY- NORTH.	352110	A) INSTALL STANDARD DUTY ANCHOR GUY.
27577	A) REMOVE SEC. - NORTH.	32689	A) REMOVE SEC. WEST AND INSTALL NEW SEC. TO N-142.	35270	A) REMOVE 3 #6 (2.3KV) - EAST. B) INSTALL NEW 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 501-A2- EAST, ON STD. 6 PIN CROSSARMS W/3 PIN INS. #3 D.E-S C) INSTALL STANDARD DUTY ANCHOR GUY.
27578	A) REMOVE 3 #4/0 (2.3KV) & - SEC. - EAST. B) INSTALL 3 #4/0 WIRE-COPPER-WEATHERPROOF (2.3KV) 752-R & SEC. - EAST.	32736	A) REPLACE EXISTING PRIM. - NORTH WITH 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 752-R. B) INSTALL STANDARD DUTY ANCHOR GUY.	37781	A) REMOVE 336.4 ACSR (11KV) 162-A- WEST. B) INSTALL NEW 336.4 ACSR (11KV) 162-A- WEST TO POLE N-1. C) INSTALL (2) DOUBLE 6 PIN X-ARMS AND 11 KV CUTOUTS PER M.E.L.P. STD. DRAWING #9-2-2-3. D) INSTALL STANDARD DUTY ANCHOR GUY. (SEE DET. DWG# 6600-3Q DET. 15A.)
27590	A) REMOVE 3 #6 (2.3KV) - WEST. B) INSTALL 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 512-A2-WEST.	32744	A) REPLACE EXISTING PRIM. - NORTH AND SOUTH WITH 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 752-R.	37646	A) REMOVE 3 #2 (2.3KV) 512-A2-WEST TRANSFORMER AND SEC. - SOUTH. B) INSTALL (2) HEAVY-DUTY DOUBLE 6-PIN X-ARMS AND VERTICAL BRACES. C) INSTALL OIL SWITCH WITH HANGERS & WOOD BRACING, POTHEAD, LIGHTNING ARRESTERS AND #4/0 WIRE-COPPER WEATHERPROOF.
27672	A) REMOVE 2 #6 (2.3KV) AND SEC. - NORTH. B) TURN DOUBLE X-ARM-WEST AND DEADEND NEW 2 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 752-R AND SEC. - WEST. C) RECONNECT 5KV TRANSFORMER W/THROTTLE CUTOUTS TO PRIM. D) INSTALL STANDARD ANCHOR GUY WITH INSULATORS.	32745	A) REPLACE EXISTING PRIM. - NORTH AND SOUTH WITH 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 752-R.	37752	A) REMOVE 2 #6 (2.3KV) 501-A2 AND SEC. - NORTH. B) INSTALL STANDARD DUTY ANCHOR-GUY-NORTH AND DEAD-END PRIM. - SOUTH. C) INSTALL 10 KVA TRANSFORMER WITH THROTTLE CUTOUTS, LIGHTNING ARRESTERS AND NEW SEC. NORTH TO POLE N-139.
30015	A) REMOVE 3 #6 (2.3KV) AND SEC. - WEST. B) LOWER SEC. AND INSTALL DOUBLE STANDARD 6 PIN X-ARM. C) INSTALL 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 512-A2-WEST.	32776	A) REMOVE SEC. - NORTH.	37764	A) REMOVE 2 #6 (2.3 KV) 501-A2 AND SEC. - NORTH AND WEST. B) INSTALL ANCHOR-GUY - NORTH-WEST. C) DEAD-END PRIM. , SOUTH-EAST. D) INSTALL NEW SEC. TO POLE N-136.
30018	A) REMOVE 3 #6 (2.3KV) AND SEC. - SOUTH AND INSTALL NEW SEC. TO POLE N-144.	32783	A) INSTALL 2- STD. DOUBLE X-ARMS, BRACING, HARDWARE, OIL SWITCHES WITH HANGERS & WOOD BRACING, 2 POT-HEADS, LIGHTNING ARRESTERS AND RISER CABLES. (OIL SWITCH TIE POINT BETWEEN 516-A3 and 854-T). B) INSTALL HEAVY DUTY ANCHOR GUY.	30074	A) INSTALL NEW 2-% WIRE-COPPER-WEATHERPROOF (2.3KV) 512-A2-SOUTH ON (2) STANDARD 6-PIN X-ARMS W/2 PIN INSULATORS & 2 DEADENDS
30035	A) REMOVE 3 #6 (2.3KV) - SOUTH AND WEST. LEAVE 3 #3/0 ACSR (11KV) WEST AND CONNECT TO NEW LAT POLE N-31. B) INSTALL OIL SWITCH WITH HANGERS & WOOD BRACING, POTHEAD, LIGHTNING ARRESTERS, AND RISER CABLE FOR 512-A2-(2.3KV). C) INSTALL 3 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 512-A2-SOUTH, ON H.D. 6 PIN XARMS & 3 PIN INSULATORS & 3 DEADENDS D) DEAD-END 512-A2-EAST. E) INSTALL STANDARD DUTY ANCHOR GUY.	35126	A) REMOVE 3 #2 (2.3KV) 512-A2 EAST AND WEST. B) INSTALL NEW 3 #4/0 WIRE-COPPER-WEATHERPROOF (2.3KV) 516-A3-EAST AND WEST. C) INSTALL NEW SEC. - WEST.	30078	A) INSTALL NEW SECONDARY FROM POLE N-150
30077	A) REMOVE 2 #6 (2.3KV) - SOUTH. B) INSTALL 2 #6 WIRE-COPPER-WEATHERPROOF (2.3KV) 512-A2-SOUTH & DEAD-END. C) INSTALL STANDARD DUTY ANCHOR GUY.	35155	A) REMOVE 3 #3/0 ACSR (11KV) - SOUTH, VERTICAL ARRANGEMENT OF INSULATORS, AND HEAD GUY - EAST. B) INSTALL (2) HEAVY-DUTY DOUBLE 6 PIN X-ARMS AND 3 #3/0 ACSR - STR. CLAMPS (11KV) 162-A-EAST.		
		35157	A) REMOVE 3 #6 (2.3KV) 512-A2-SOUTH AND DEAD-END - WEST. B) INSTALL DOUBLE STANDARD DUTY ANCHOR - GUY - EAST.		
		35161	A) REMOVE 3 #6 (2.3KV) 512-A2-SOUTH. B) INSTALL STANDARD DUTY ANCHOR GUY.		

POLE NO	ITEM	LOCATION SHEET NO	TOTAL UNIT	REMARKS
27513	OC	3H	1	LUMP
27531		3G	/	
27547		3H	/	
27548		3H	/	
27549		3H	/	
27550		3H	/	
27551		3H	/	
27577		3G	/	
27578		3G	/	
27590		3G	/	
27672		3G	/	
30015		3G	/	
30018		3G	/	
30035		3G	/	
30077		3G	/	
30154		3G	/	
30120		3F	/	
32611		3F	/	
32612		3F	/	
32665		3E	/	
32684		3D	/	
32689		3F	/	
32736		3D	/	
32744		3D	/	
32745		3D	/	
32758		3D	/	
32769		3D	/	
32776		3D	/	
32783		3D	/	
35126		3C	/	
35155		3C	/	
35157		3C	/	
35161		3C	/	
35210		3B	/	
35212		3B	/	
35214		3B	/	
35225		3B	/	
35227		3B	/	
35270		3B	/	
37781		3B	/	
37646		3C	/	
37752		3A	/	
37764		3A	/	
35234		3D	/	
32634		3E	/	
352110		3B	/	
30074		3G	/	
30078		3G	/	

ITEM	SHEET NUMBER								TOTAL	UNIT	DESCRIPTION
	3A	3B	3C	3D	3E	3F	3G	3H			
OC-13	1	2	2			3			12	ASS'Y	STANDARD 6 PIN CROSSARM WITH 3 PIN INSULATORS (5KV)
OC-13									3	ASS'Y	HEAVY DUTY 6 PIN CROSSARM WITH 3 PIN INSULATORS (5KV)
OC-13		4	3						7	ASS'Y	HEAVY DUTY 6 PIN CROSSARM WITH 3 PIN INSULATORS (5KV)
OC-13		4							4	ASS'Y	HEAVY DUTY 6 PIN CROSSARM WITH 6 PIN INSULATORS (5KV)
OC-13			3						11	ASS'Y	STANDARD 6 PIN CROSSARM
OC-25	3	3	6		2	10	4	4	32	EA.	CROSSARM BRACE ANGLE IRON
OC-13	2	1	3	1	1	3			11	ASS'Y	STANDARD 6 PIN CROSSARM WITH 3 PIN INSULATORS & 3 DEAD END CLEVELS (5KV)
OC-13									1	ASS'Y	HEAVY DUTY 6 PIN CROSSARM WITH 3 PIN INSULATORS & 3 DISK STRAIN INSULATORS (5KV)
OC-25		8	5						10	PAIR	CROSSARM BRACE WOOD
OC-20		1	3				2	1	7	EA.	OIL SWITCH WITH HANGERS & WOOD BRACING
OC-15		1	3				2	1	8	EA.	POTHEAD 5KV
OC-16	3	3	9	3			6	3	27	EA.	3KV LIGHTNING ARRESTER
OC-27		1	3	1			2	1	8	LOT	LATERAL POLE WOOD BRACE
OC-19		1	3	1			2	1	8	EA.	PRIMARY WIRE HOLDER
OC-19	2	3				2			7	EA.	FUSED CUTOUTS
OC-23								3	3	EA.	15KV DISCONNECT SWITCHES
OC-16		3							3	EA.	12KV LIGHTNING ARRESTER
OC-22				3					3	EA.	DEAD BLADE ENCLOSED DISCONNECT SWITCHES (5KV)
OC-19	1					1			2	LOT	TRANSFORMER
OC-09		1		1			2	1	7	ASS'Y	GROUNDING
OC-17	2		1			2		3	9	EA.	1 PT. SECONDARY RACK
UC-18		1	3	1			2	1	8	EA.	CABLE GUARD FOR P.I.L. CABLE (8'-0" LG.)
OC-11									1	ASS'Y	HEAD OR ARM GUY WITH INSULATORS
OC-11	2	6	4	2		2	4	1	21	ASS'Y	STANDARD ANCHOR GUY WITH INSULATORS
OC-11									4	ASS'Y	HEAVY DUTY ANCHOR GUY WITH INSULATORS
GS-10	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	REMOVAL

APPROVED BY \_\_\_\_\_  
 DIRECTOR OF PUBLIC UTILITIES

COMMISSIONER OF LIGHT & POWER \_\_\_\_\_

COMMISSIONER OF UTILITIES ENGINEERING \_\_\_\_\_

CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF DESIGN

SCALE \_\_\_\_\_ DRAWING NUMBER  
**6600-3K**

DIVISION OF LIGHT & POWER  
 CITY OF CLEVELAND

OVERHEAD MODIFIED  
 POLE SCHEDULE  
 OF CHANGES

DRAWN BY: R.V.Z. DATE \_\_\_\_\_  
 CH'K'D BY: J.M.

CALCULATED BY E. F. DATE 4-74  
 CHECKED BY J. M. DATE 3-75

FILE NO.	STATE	PROJECT
2	OHIO	

456  
838

CUYAHOGA COUNTY  
 CUY-90-11.64

37  
58



FOR CONTINUATION  
SEE PLAN ABOVE

FOR CONTINUATION  
SEE PLAN BELOW

- REMOVAL (OVER ALL)  
REMOVE 265 WOOD POLES
- INSTALLATION (OVER ALL)  
INSTALL 55 WOOD POLES
- MODIFICATION (OVER ALL)  
MODIFY 45 WOOD POLES

SYMBOL LEGEND

- M.E.L.P. POLE — EXISTING TO REMAIN
- M.E.L.P. POLE — EXISTING TO BE MODIFIED
- M.E.L.P. POLE — EXISTING TO BE REMOVED
- M.E.L.P. POLE — NEW

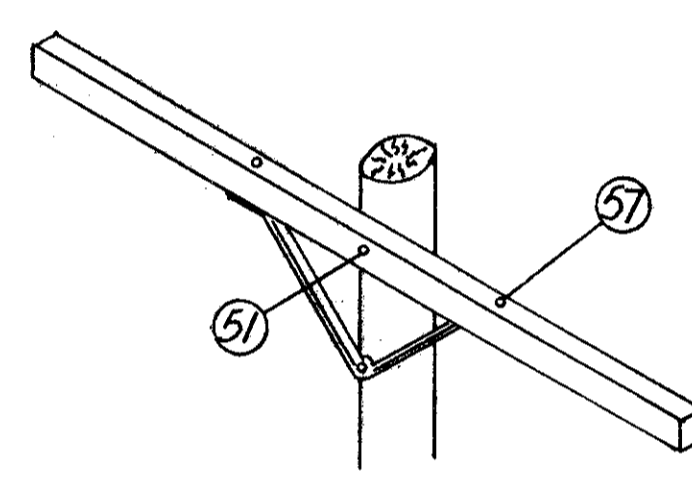
APPROVED BY

DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Alford*  
 ENGINEER OF DESIGN

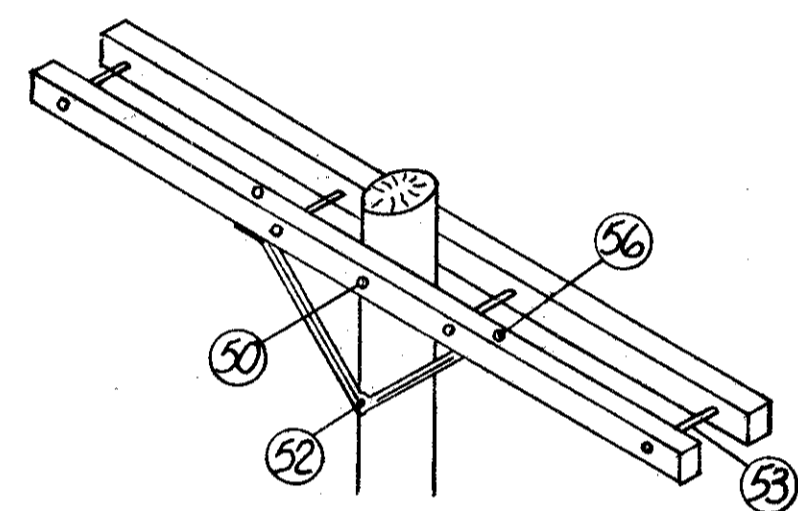
<b>DIVISION OF LIGHT &amp; POWER CITY OF CLEVELAND</b>	
<b>OVERHEAD SUMMARY OF POLE REMOVAL &amp; INSTALLATION</b>	
DRAWN BY <i>E.F.</i>	SCALE 1"=200'
DATE	DRAWING NUMBER <b>6600-3L</b>
CHK'D BY	

ITEM	DESCRIPTION
50	5/8" X 18" MACHINE BOLT W/ 2 1/4" SQ WASHER & NUT
51	5/8" X 16" MACHINE BOLT W/ 2 1/2" SQ WASHER & NUT
52	5/8" X 12" MACHINE BOLT W/ 2 1/4" SQ WASHER & NUT
53	5/8" X 18" DOUBLE ARM BOLT W/ 2 1/4" SQ WASH. & NUT
54	5/8" X 16" DOUBLE ARM BOLT W/ 2 1/4" SQ WASH. & NUT
55	5/8" X 10" MACHINE BOLT W/ 2 1/4" SQ WASHER & NUT
56	1/2" X 6" MACHINE BOLT W/ 3/8" RD. WASHER & NUT
57	1/2" X 5" MACHINE BOLT W/ 3/8" RD. WASHER & NUT
58	5/8" X 18" DOUBLE ARM BOLT W/ 2 1/4" SQ WASH & NUT

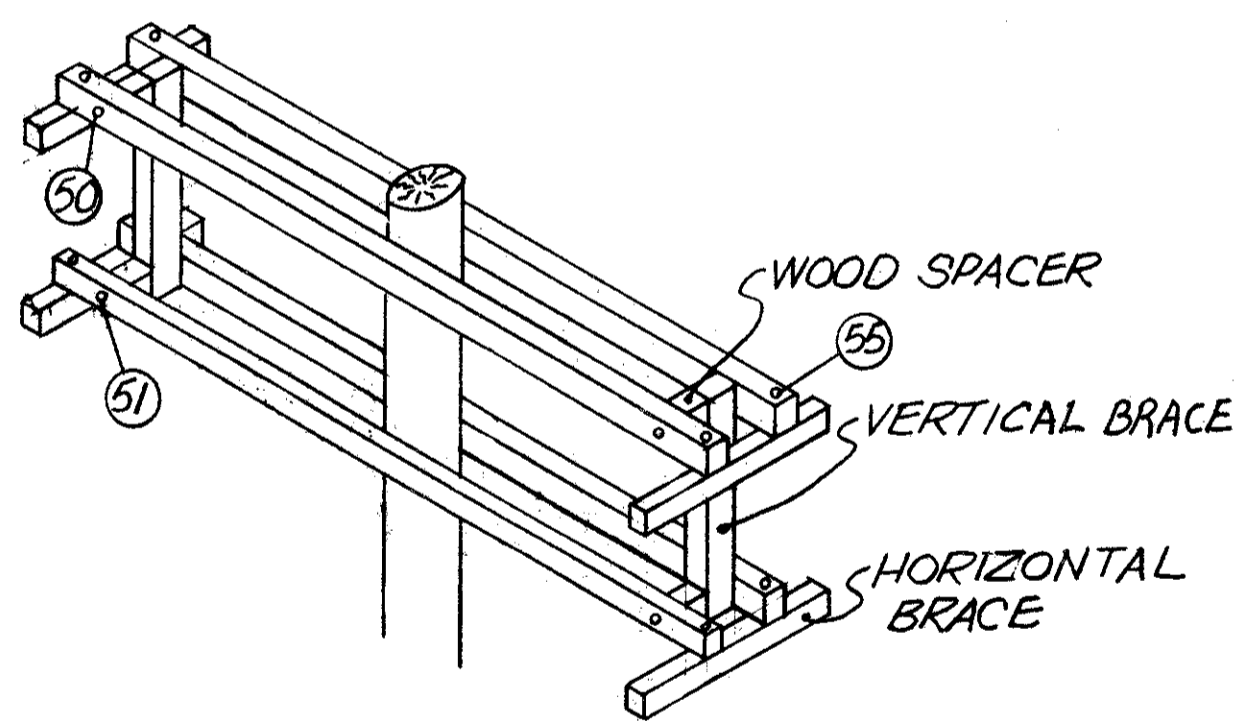
BILL OF MATERIAL FOR POLES	
ITEM No.	DESCRIPTION
1	POLE (SEE POLE SCHEDULE)
2	HEAVY DUTY 8 PIN CROSSARM
3	HEAVY DUTY 6 PIN CROSSARM
4	STANDARD 8 PIN CROSSARM
5	STANDARD 6 PIN CROSSARM
6	STANDARD 4 PIN CROSSARM
7	LATERAL POLE WOOD BRACING
8	CROSSARM BRACE
9	DEAD END INSULATOR
10	LOCUST PIN
11	PIN TYPE INSULATOR
12	1 PT SECONDARY RACK
13	3 PT SECONDARY RACK
14	P.T.L. CABLE
15	PRIMARY WIRE HOLDER
16	OIL SWITCH WITH HANGERS
17	TRANSFORMER WITH MOUNTING HARDWARE
18	DEAD BLADE ENCLOSED DISCONNECT SWITCH
19	1/2 5 KV #10 C.P. CABLE
20	3 KV LIGHTNING ARRESTER
21	POTHEAD WITH MOUNTING BRACKET
22	CABLE GUARD FOR P.T.L. CABLE
23	SERIES TRANSFORMER FOR LIGHT
24	N# 6 C.U. WEATHERPROOF GROUND WIRE
25	WOOD MOULDING
26	1/2" X 8'-0" GROUND ROD
27	STANDARD ANCHOR GUY
28	HEAVY DUTY ANCHOR GUY
29	DOUBLE ANCHOR GUY
30	HEAD GUY WITH INSULATORS
31	MACHINE BOLT W/WASHER
32	DOUBLE ARM BOLT W/WASHER
33	LIGHTING FIXTURE W/BACKET ARM
34	TINNED COPPER GROUND STRAP
35	LIGHTING CABLE
36	CABLE GUARD FOR LIGHTING CABLE
37	FUSED CUTOUTS
38	ARM GUY W/INSULATORS
39	STANDARD 8-PIN CROSSARM BRACE
40	6" DISC STRAIN INSULATOR
41	15 KV DEAD END CLAMPS
42	PREFORMED ARMOR RODS
43	STEEL ANGLE PINS
44	11KV LIGHTNING ARRESTER
45	10" EXTENSION STRAP
46	DEAD END CLAMP AL. LINED, 336.4 ACSR
47	2 BOLT CONNECTOR
48	
49	15 KV DISCONNECT SWITCHES



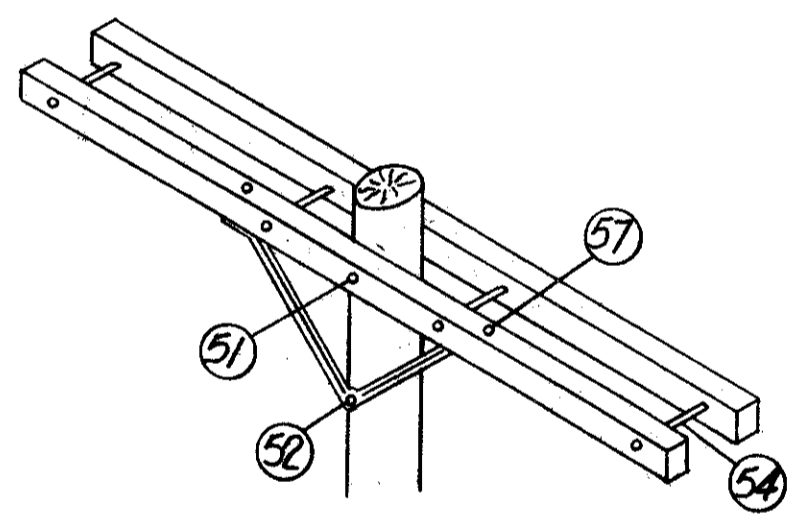
STANDARD CROSSARM



HEAVY DUTY CROSSARMS

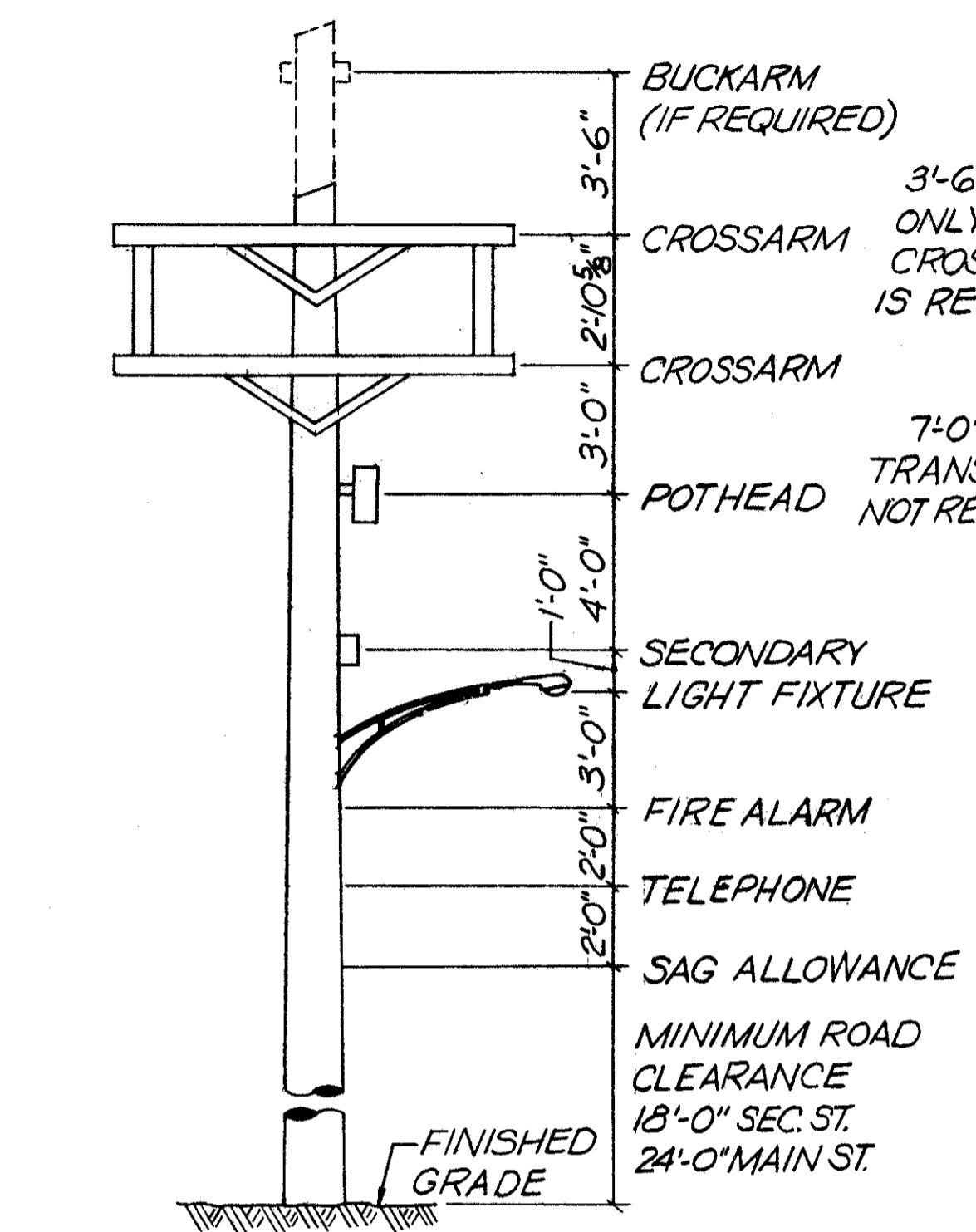


LATERAL POLE CROSSARMS AND WOOD BRACING

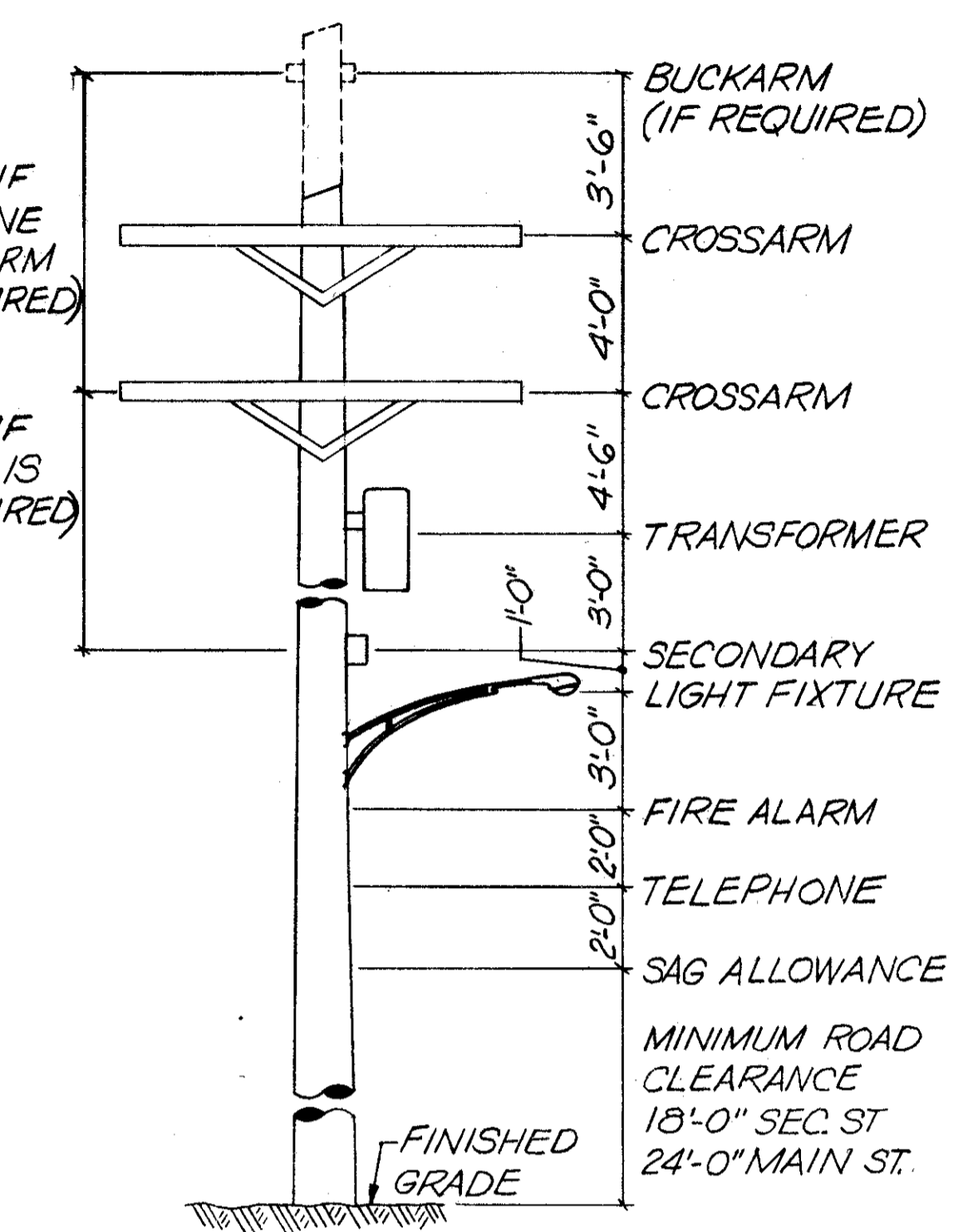


STANDARD CROSSARMS

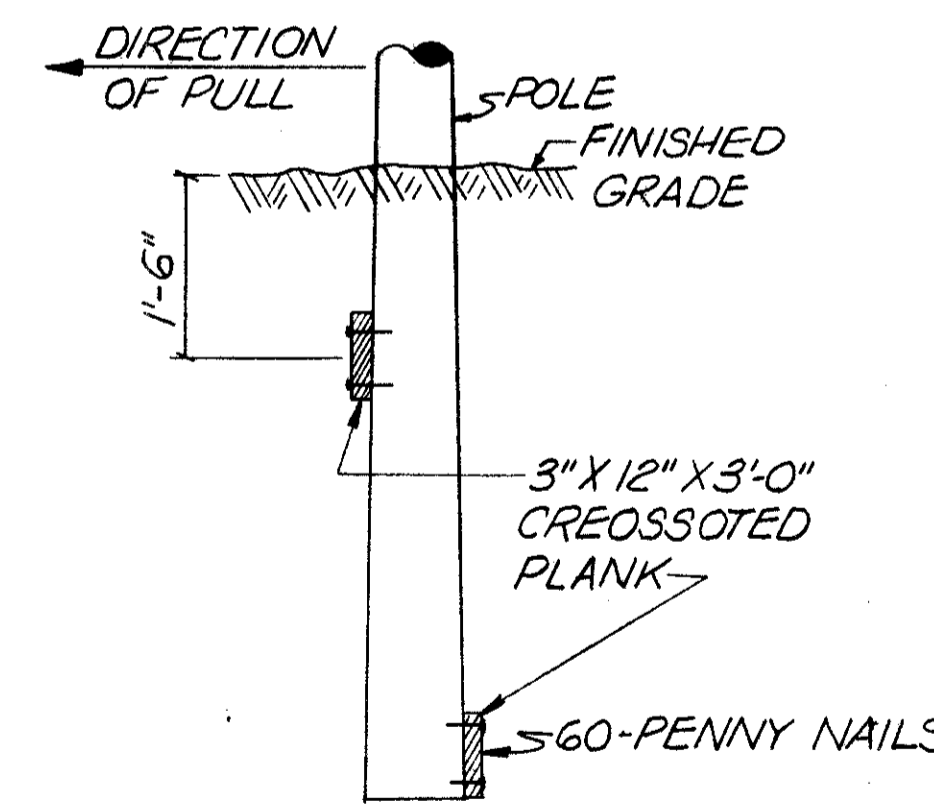
TYPICAL HARDWARE FOR CROSSARM MOUNTING



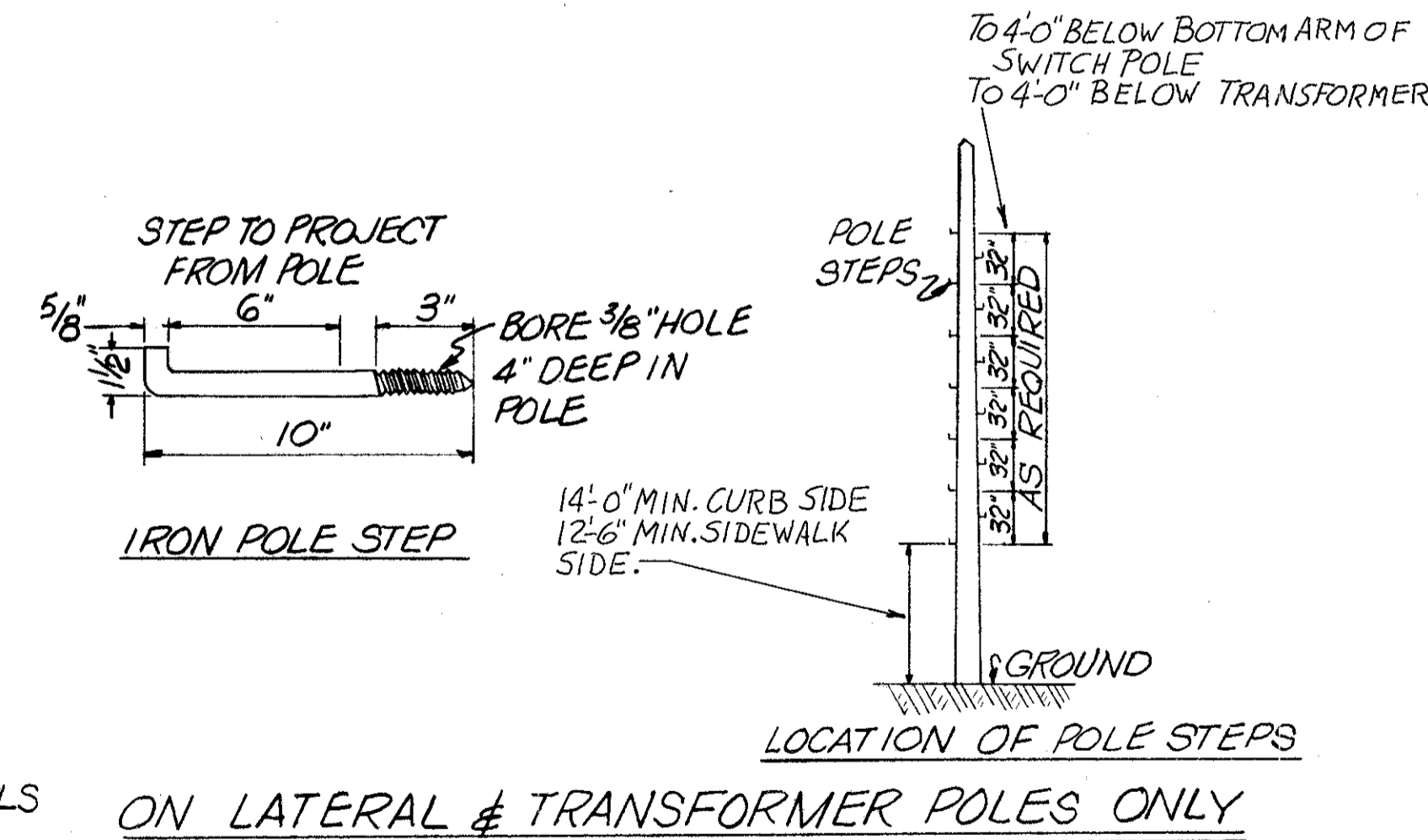
TYPICAL POLE SPACE ASSIGNMENT FOR LATERAL POLE



TYPICAL POLE SPACE ASSIGNMENT FOR LINE POLE



TYPICAL POLE BLOCKING



ON LATERAL & TRANSFORMER POLES ONLY

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

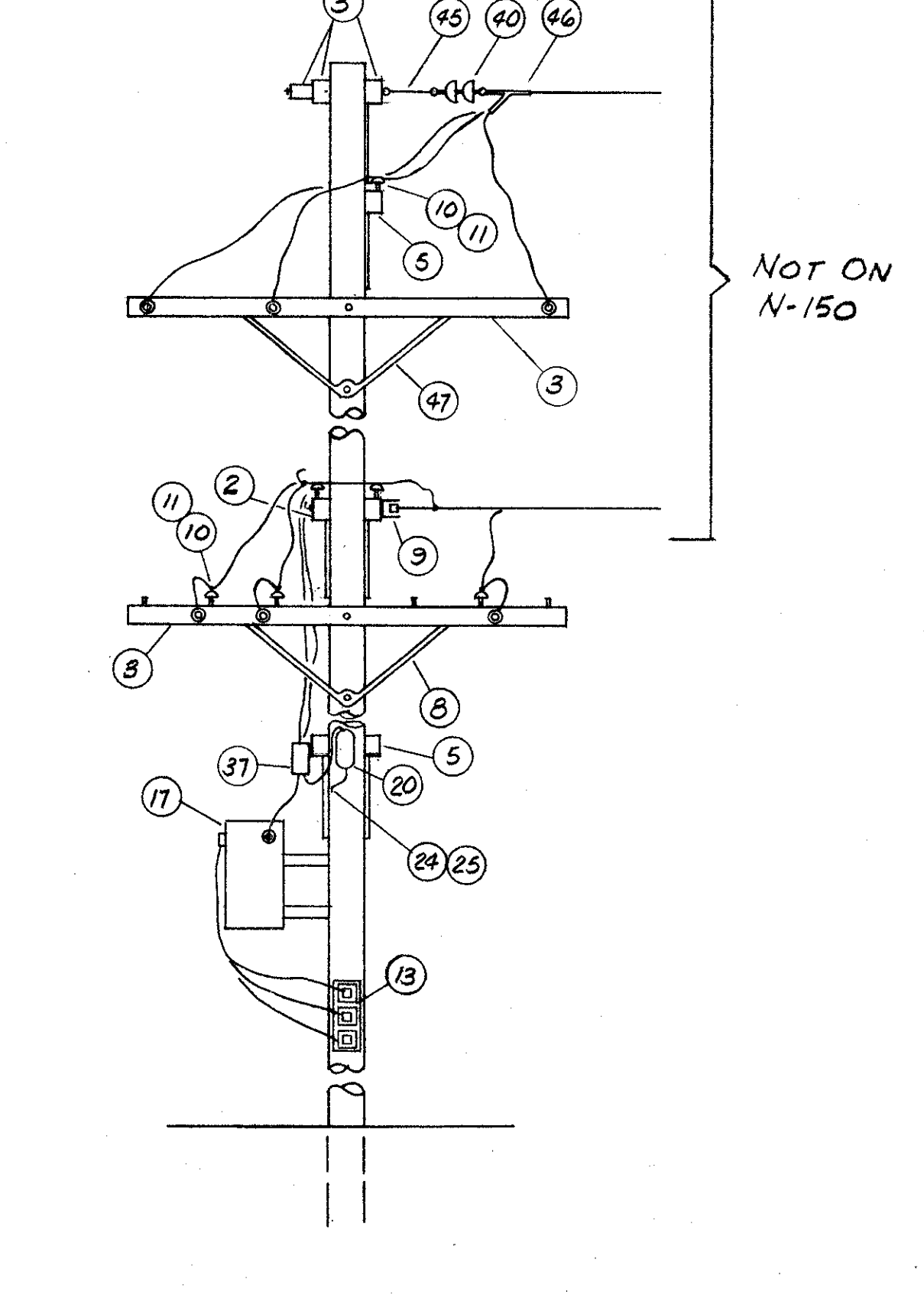
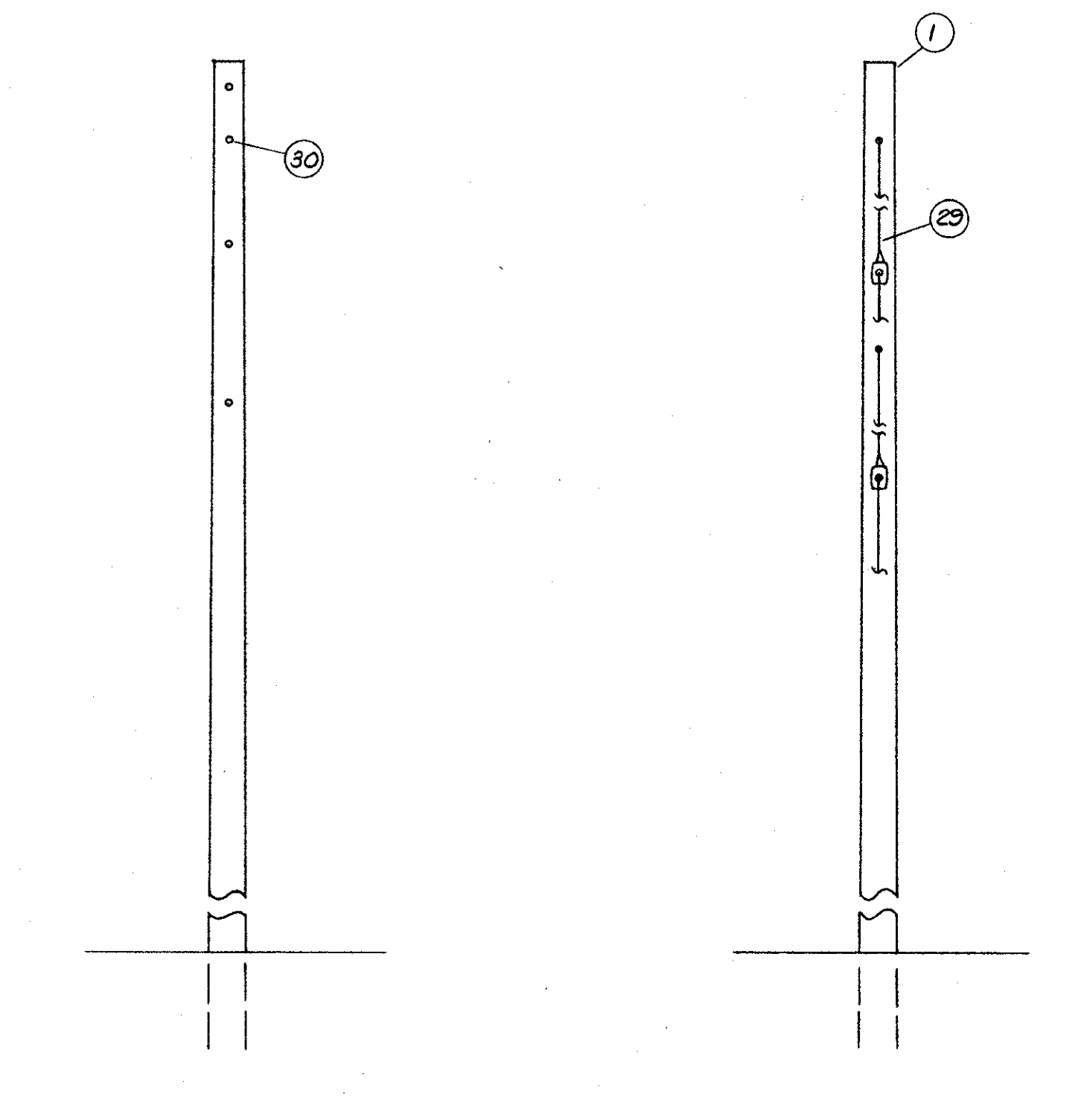
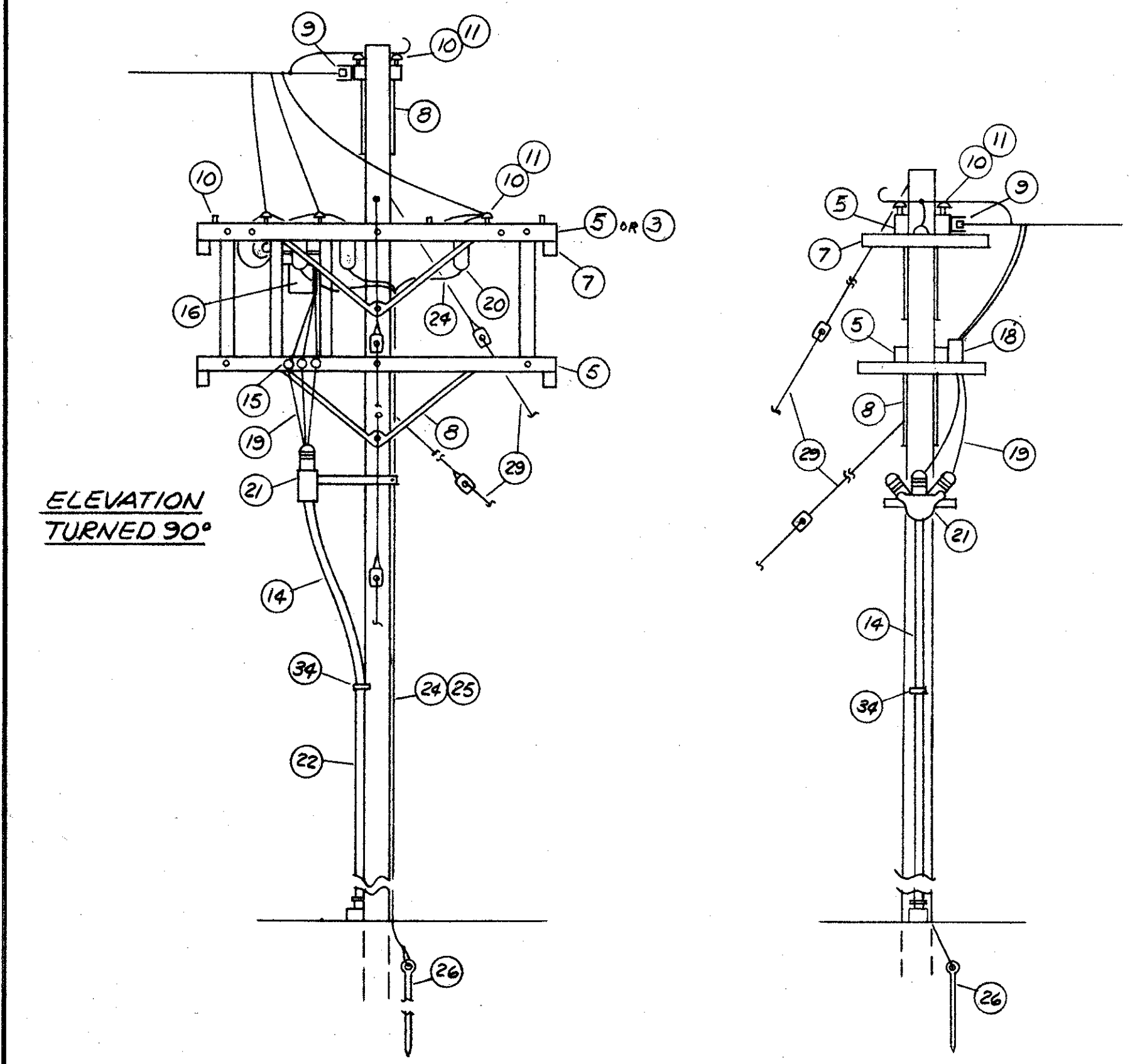
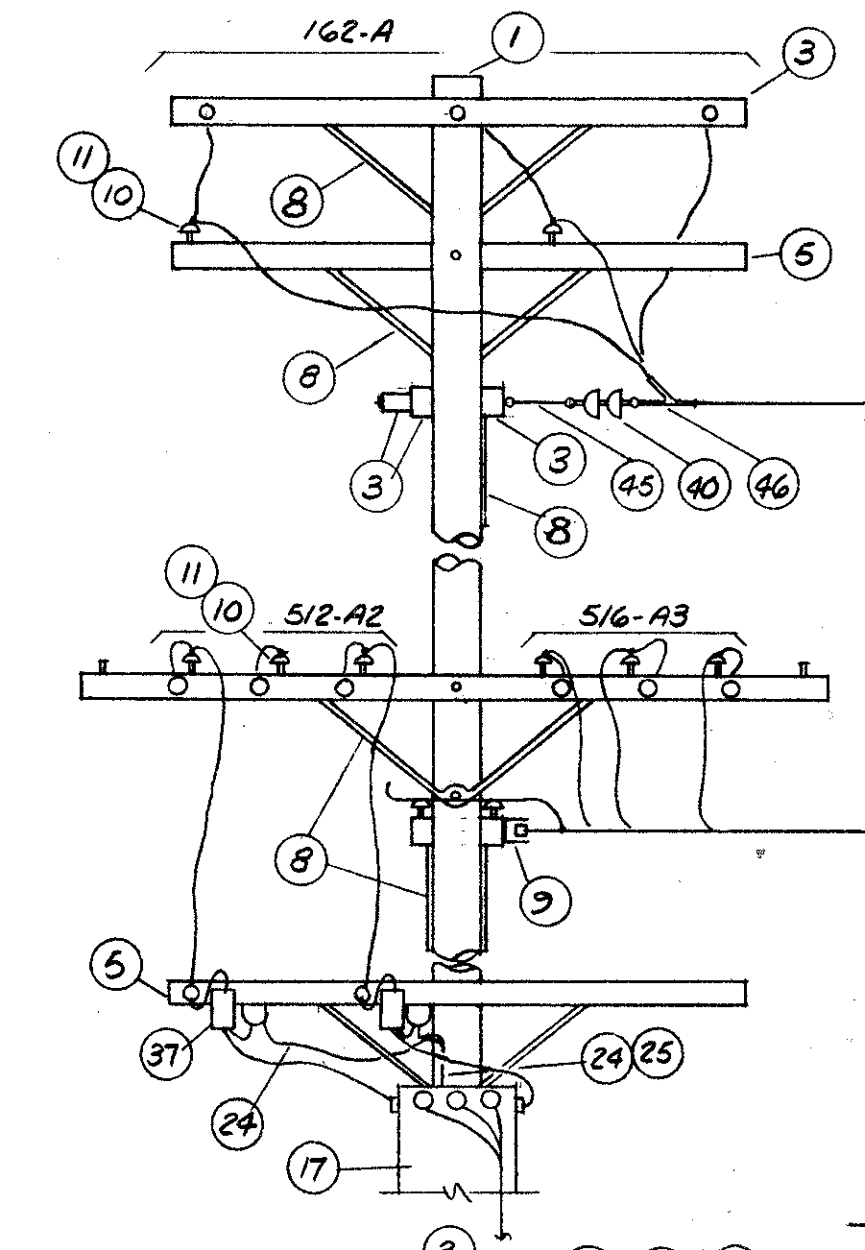
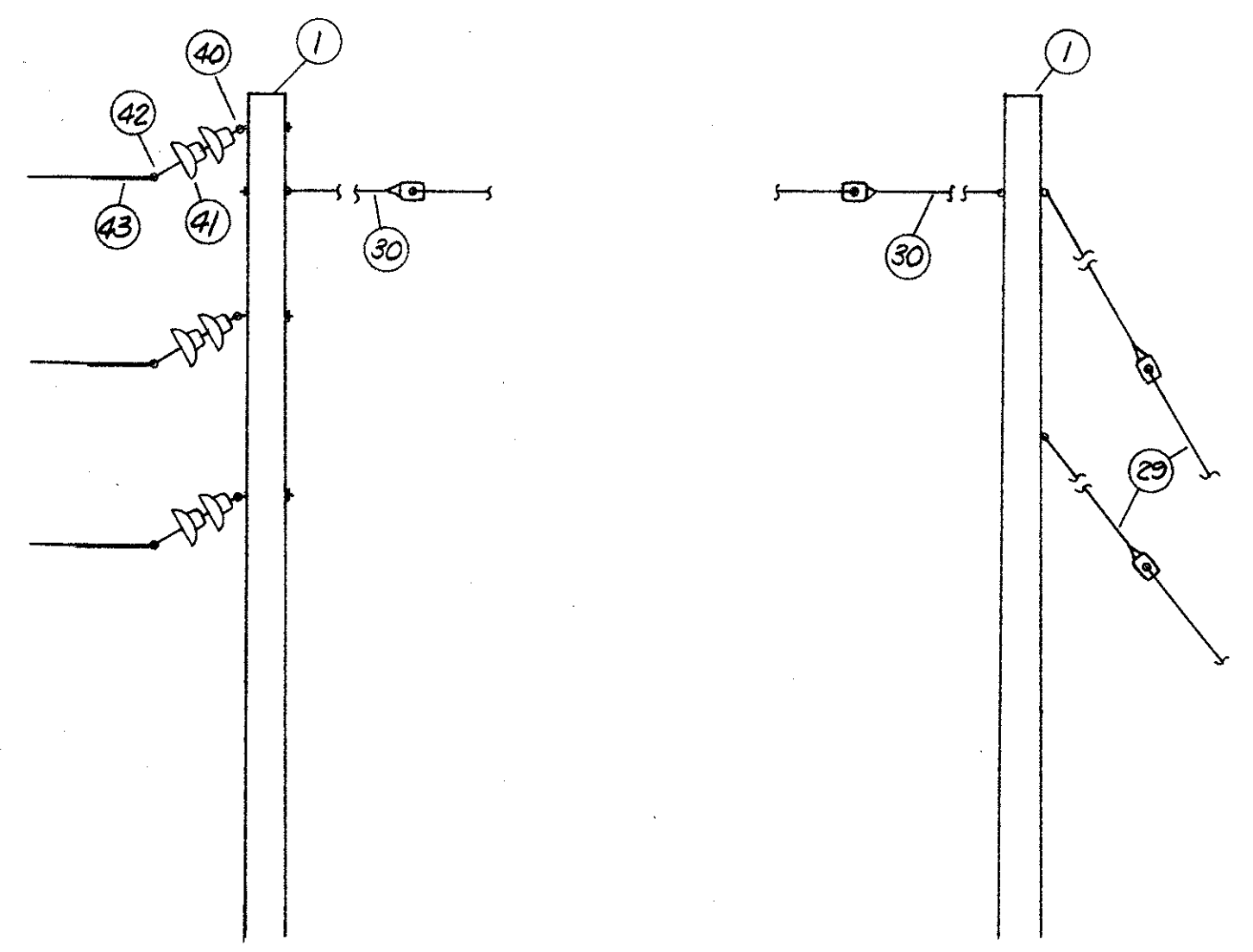
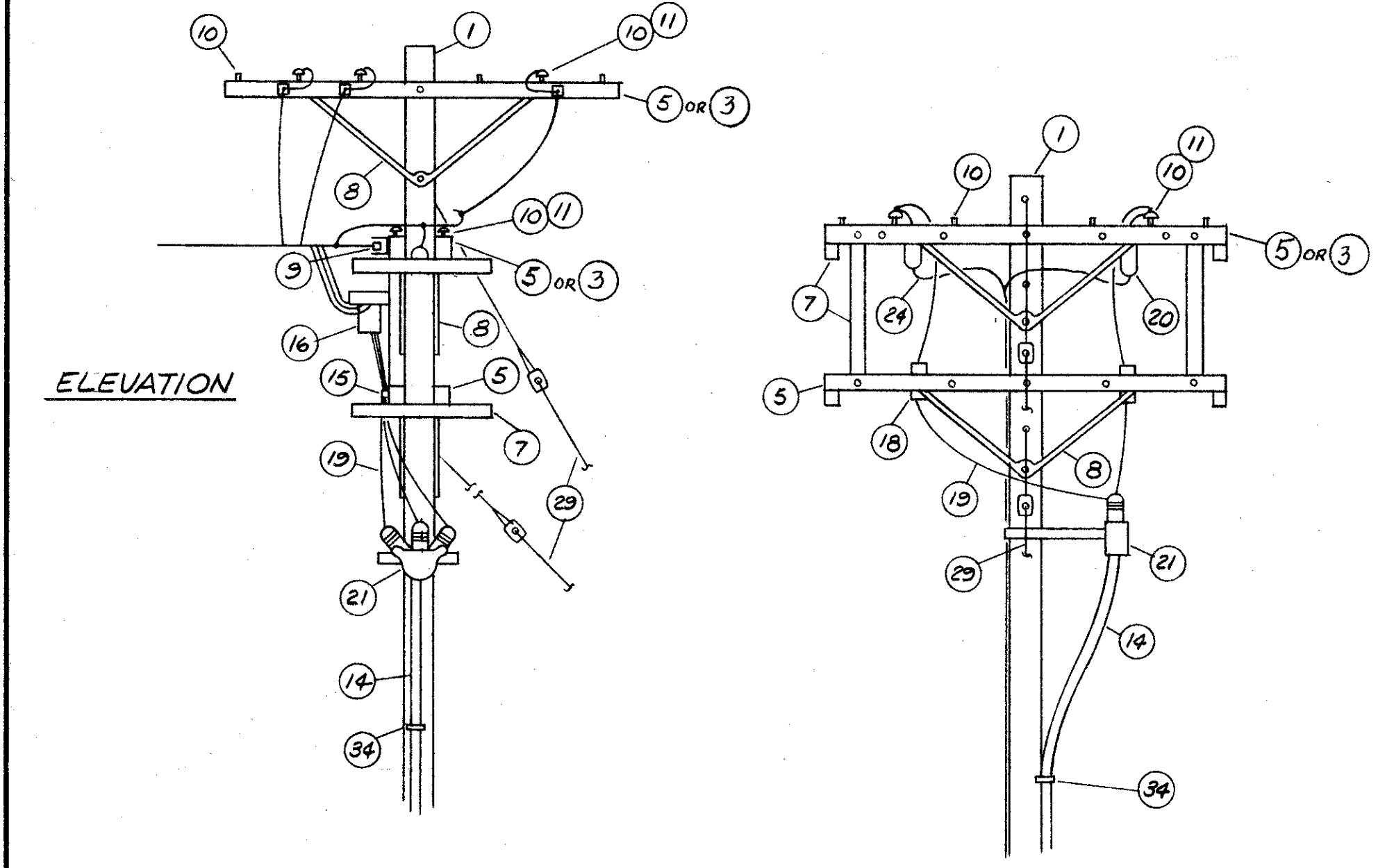
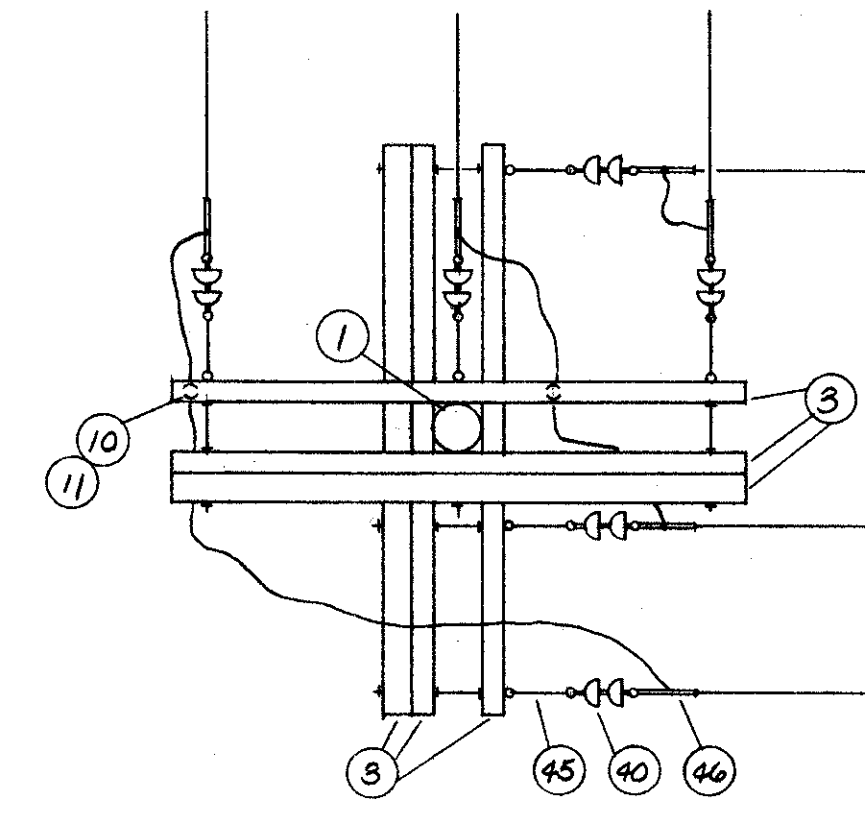
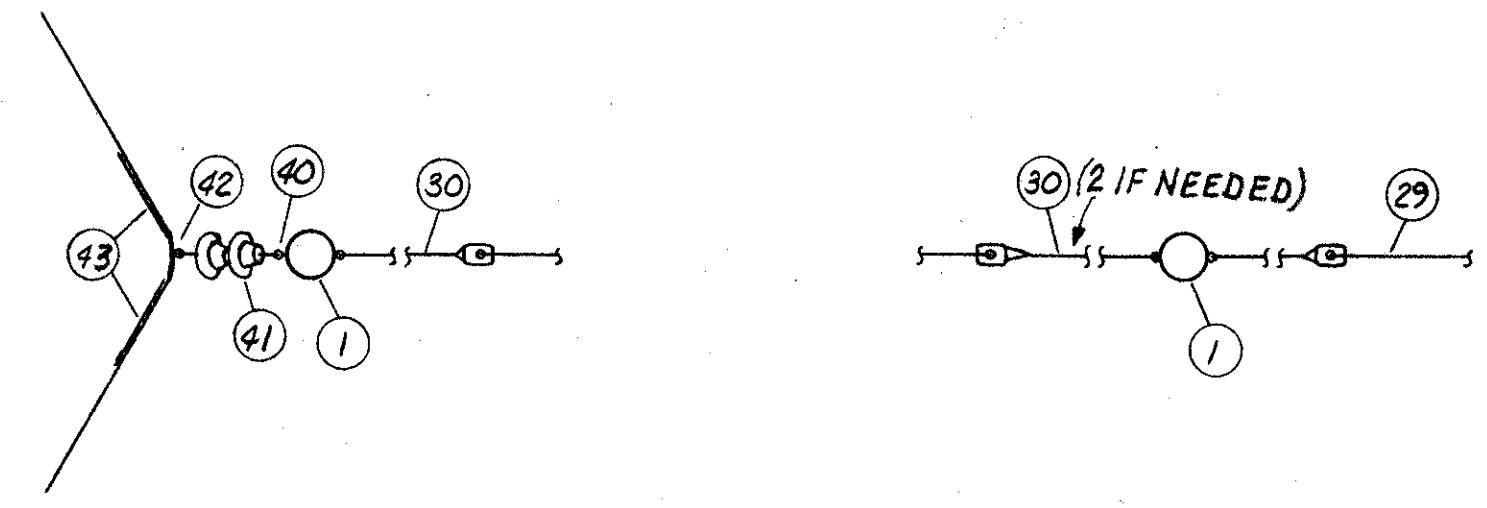
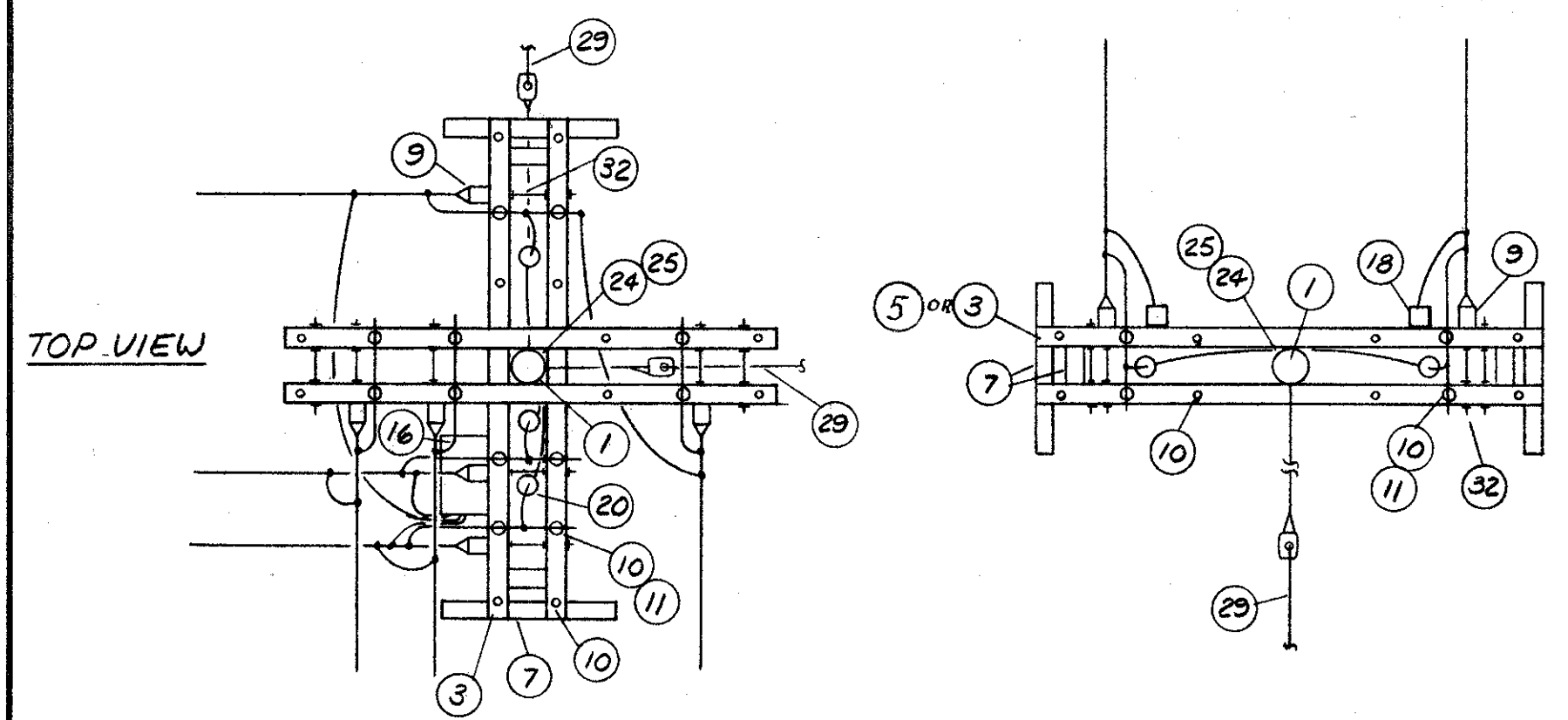
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
TYPICAL POLES & CROSSARMS BILL OF MATERIAL	
SCALE No SCALE	DRAWING NUMBER 6600-3M
DATE	CH'K'D BY

FED. RD.	STATE	PROJECT
2	OHIO	

458  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

34  
58



POLE DETAIL #1

POLE DETAIL #2

POLE DETAIL #3

POLE DETAIL #4

POLE DETAIL #5

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF DESIGN

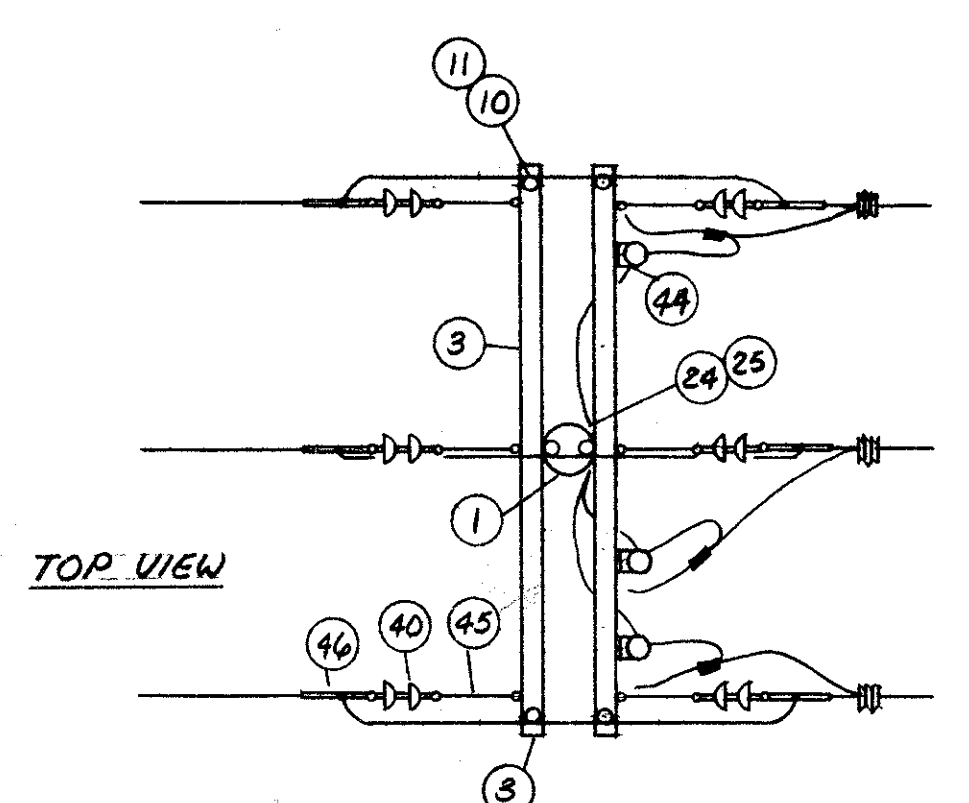
DIVISION OF LIGHT & POWER CITY OF CLEVELAND		
OVERHEAD POLE ASSEMBLY		
DRAWN BY: RWZ	SCALE: NO SCALE	DRAWING NUMBER: 6600-3N
CH'D BY:	DATE:	

FED. RD.	STATE	PROJECT
2	OHIO	

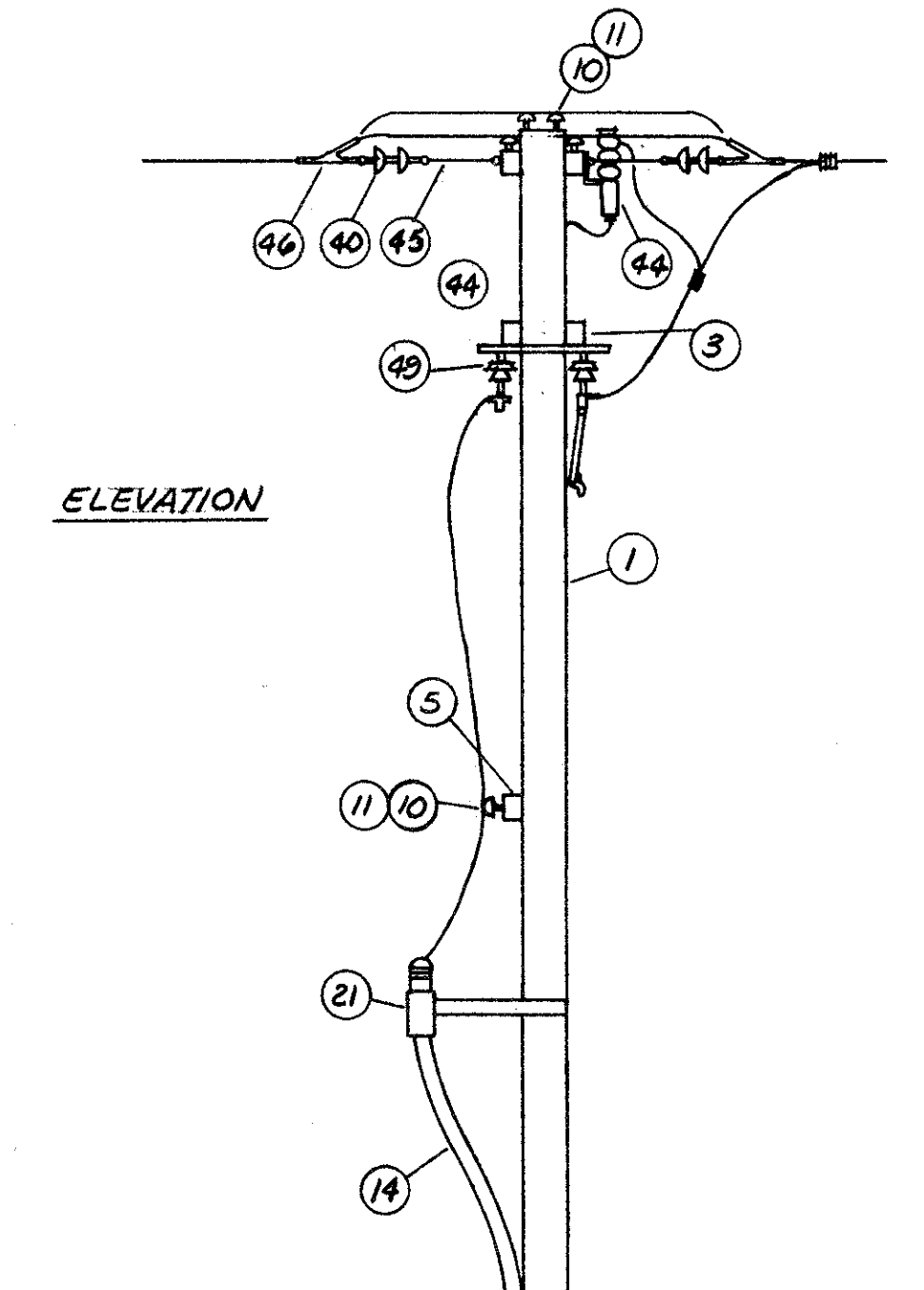
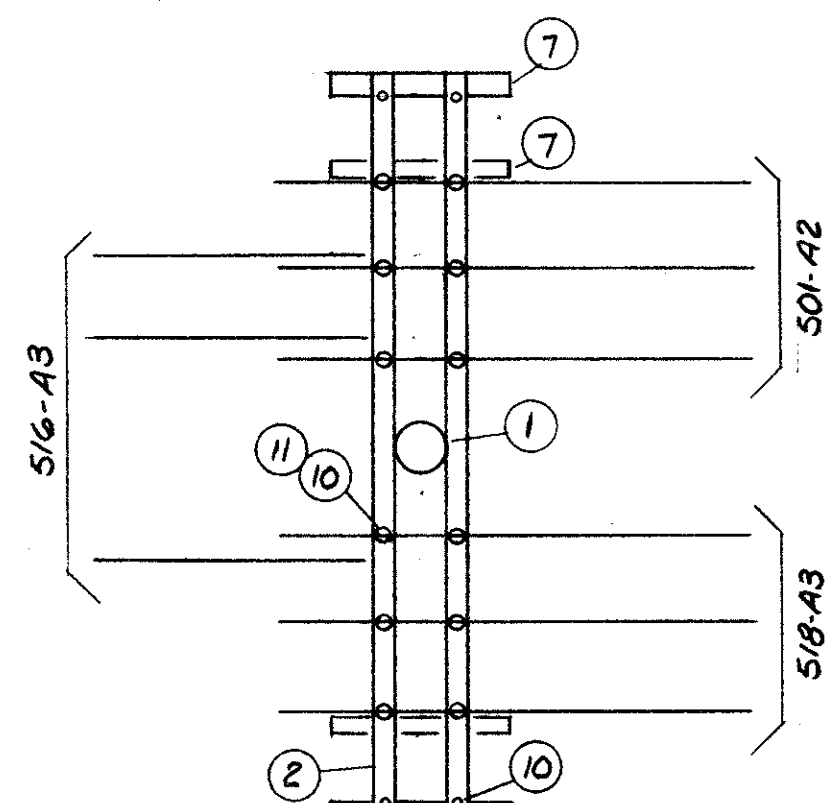
459  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

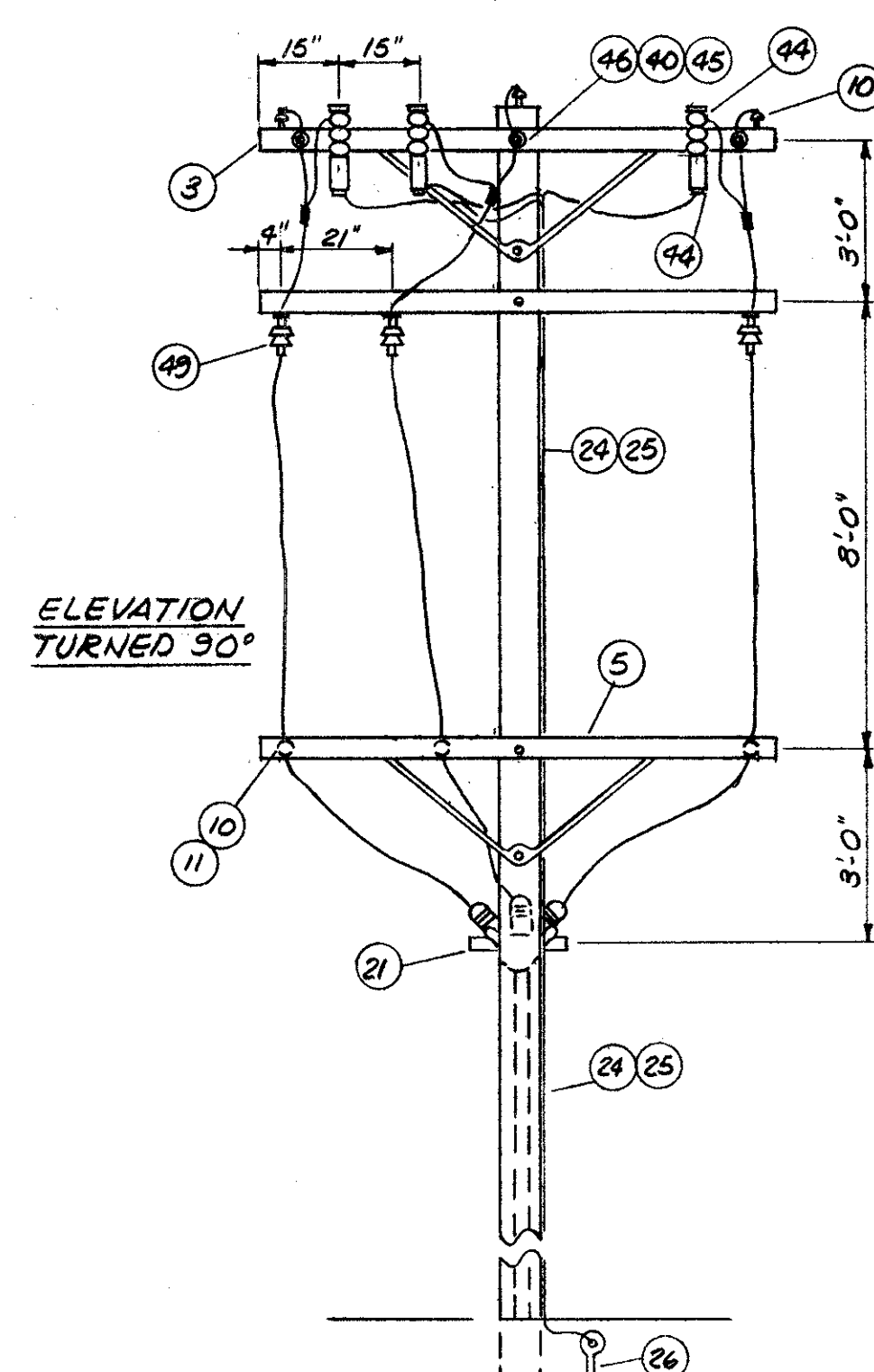
35  
58



TOP VIEW

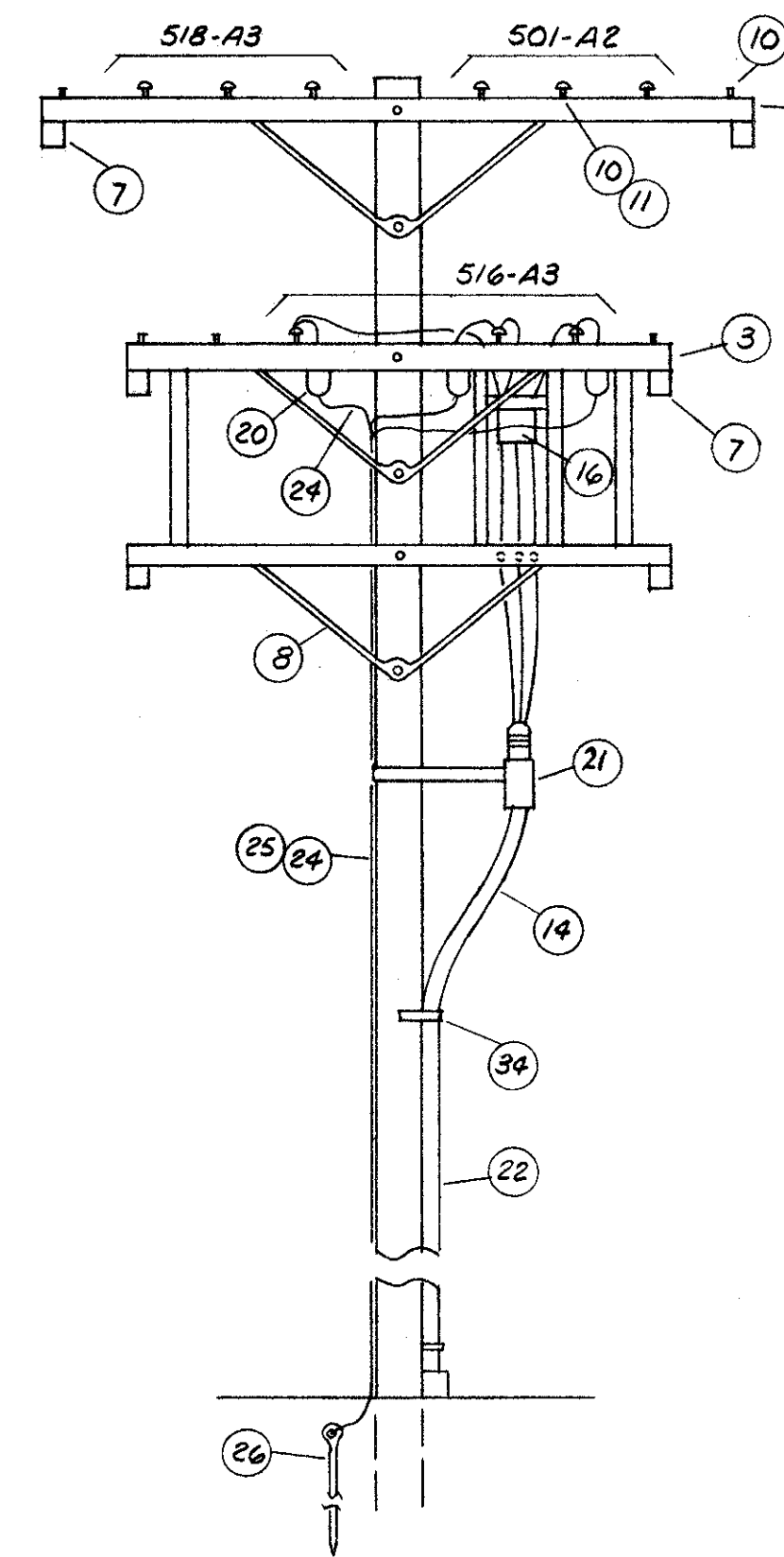
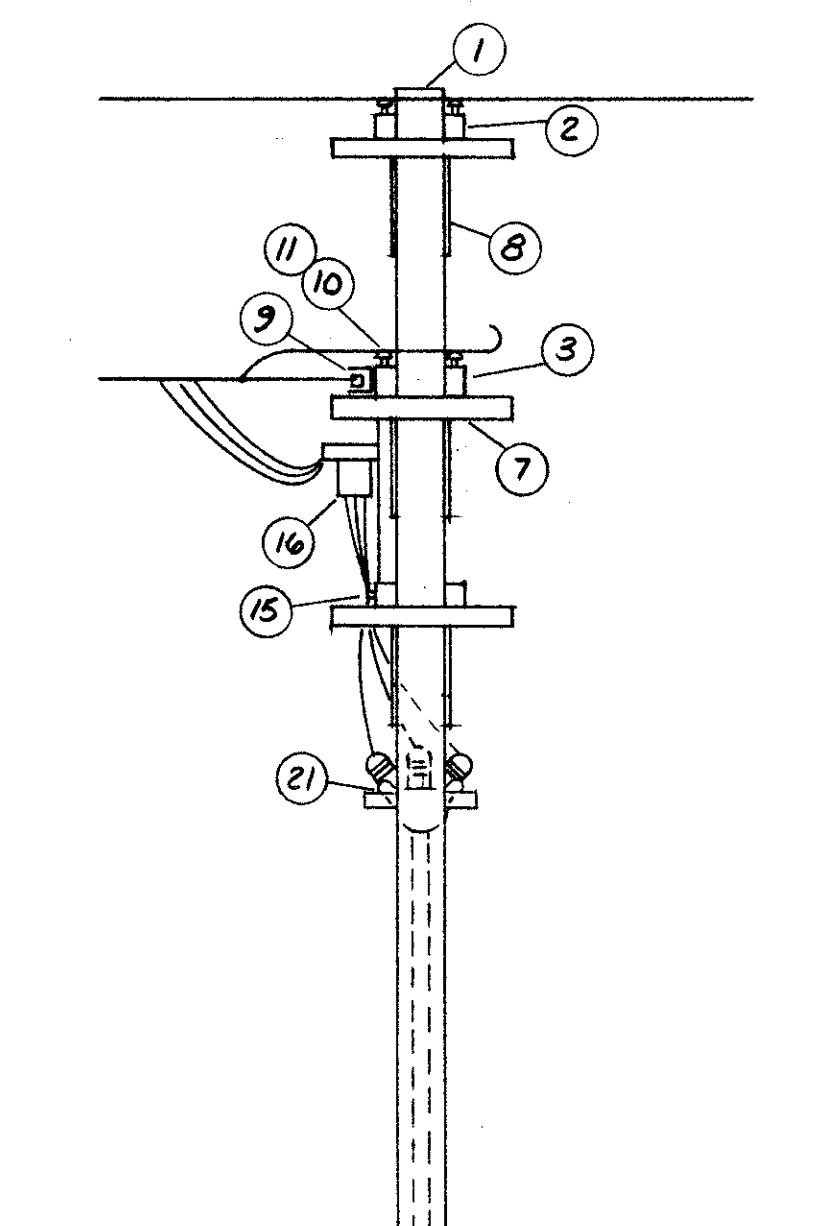


ELEVATION

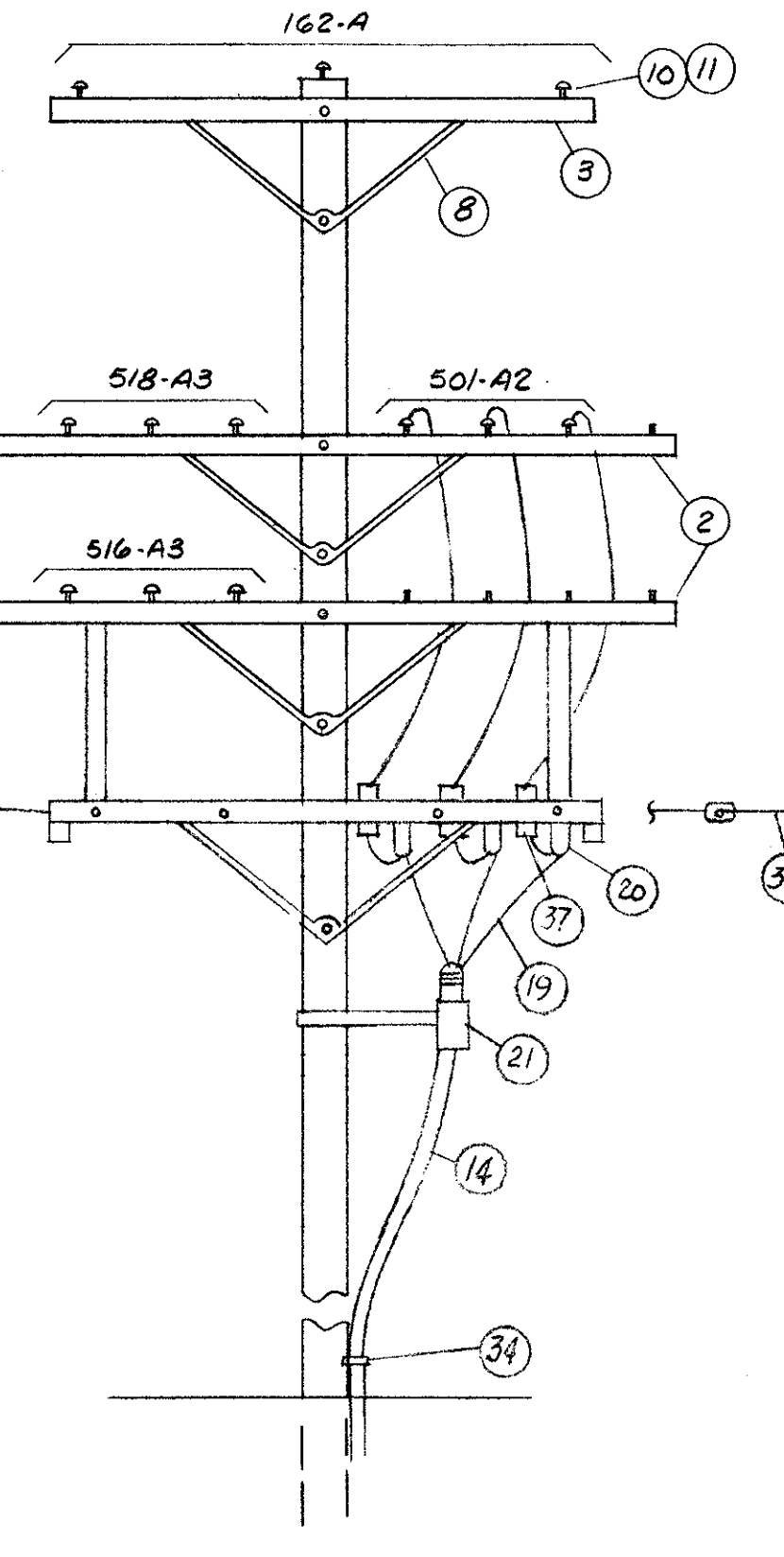
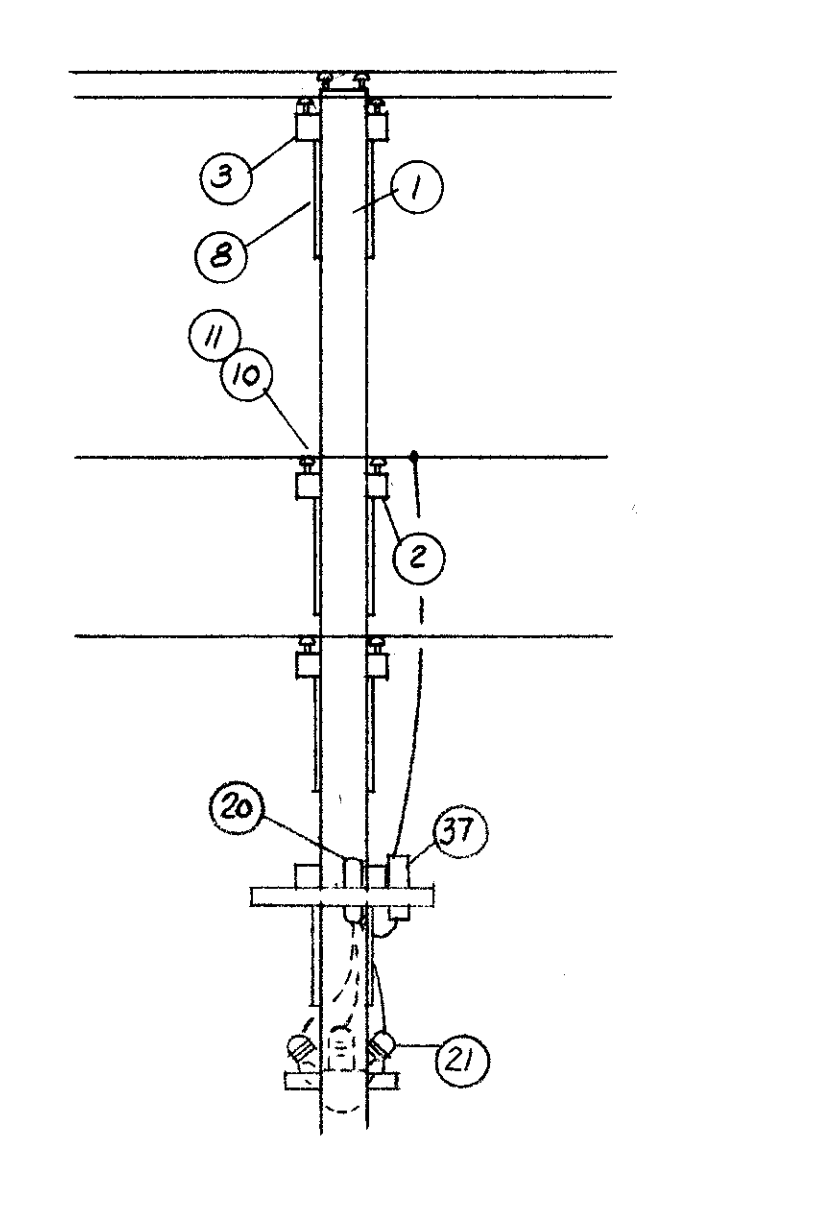
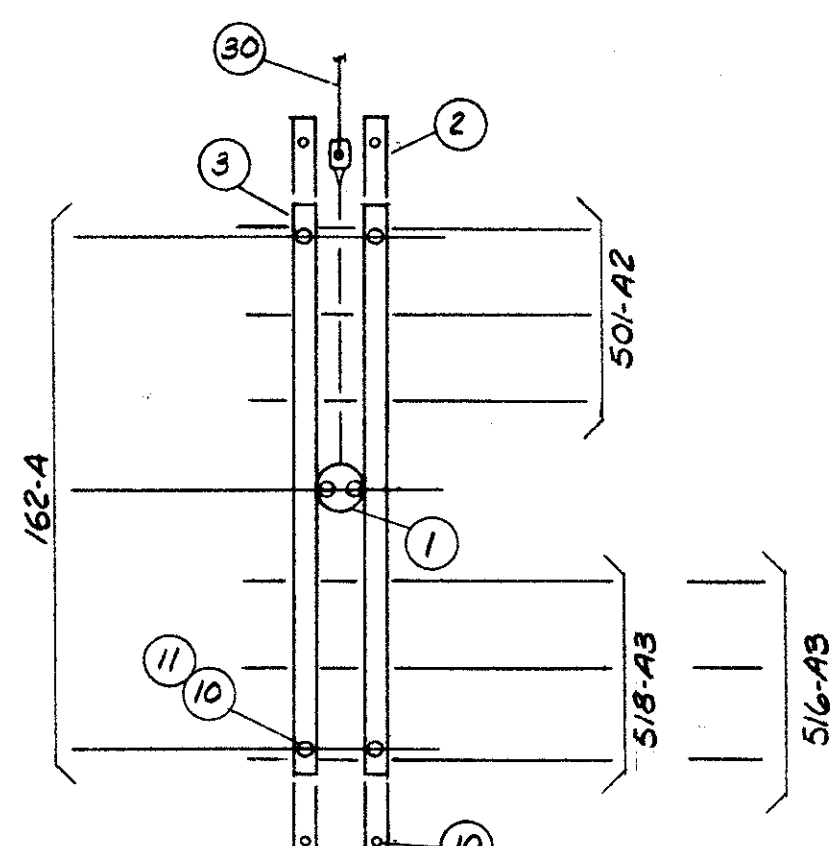


ELEVATION TURNED 90°

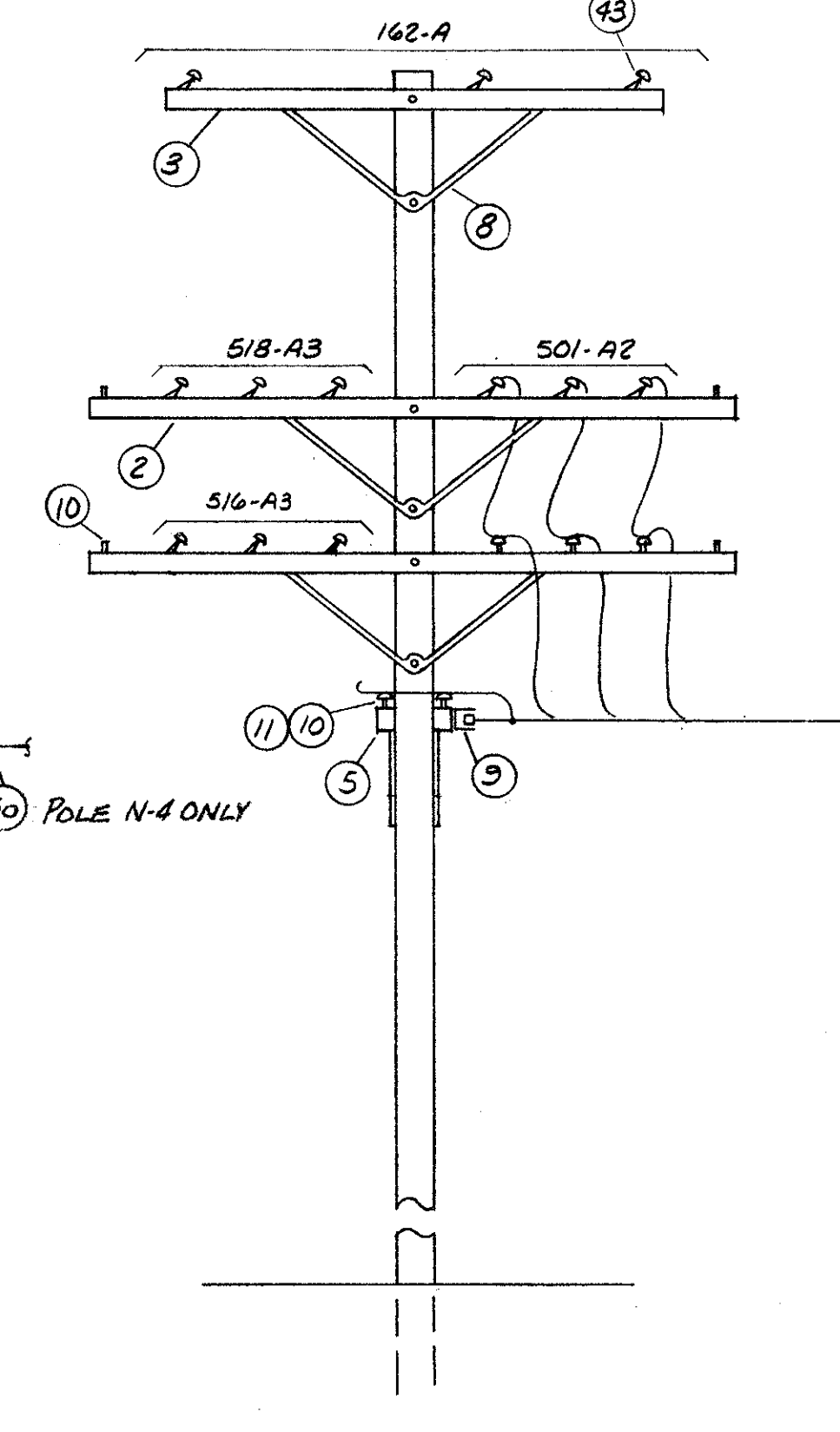
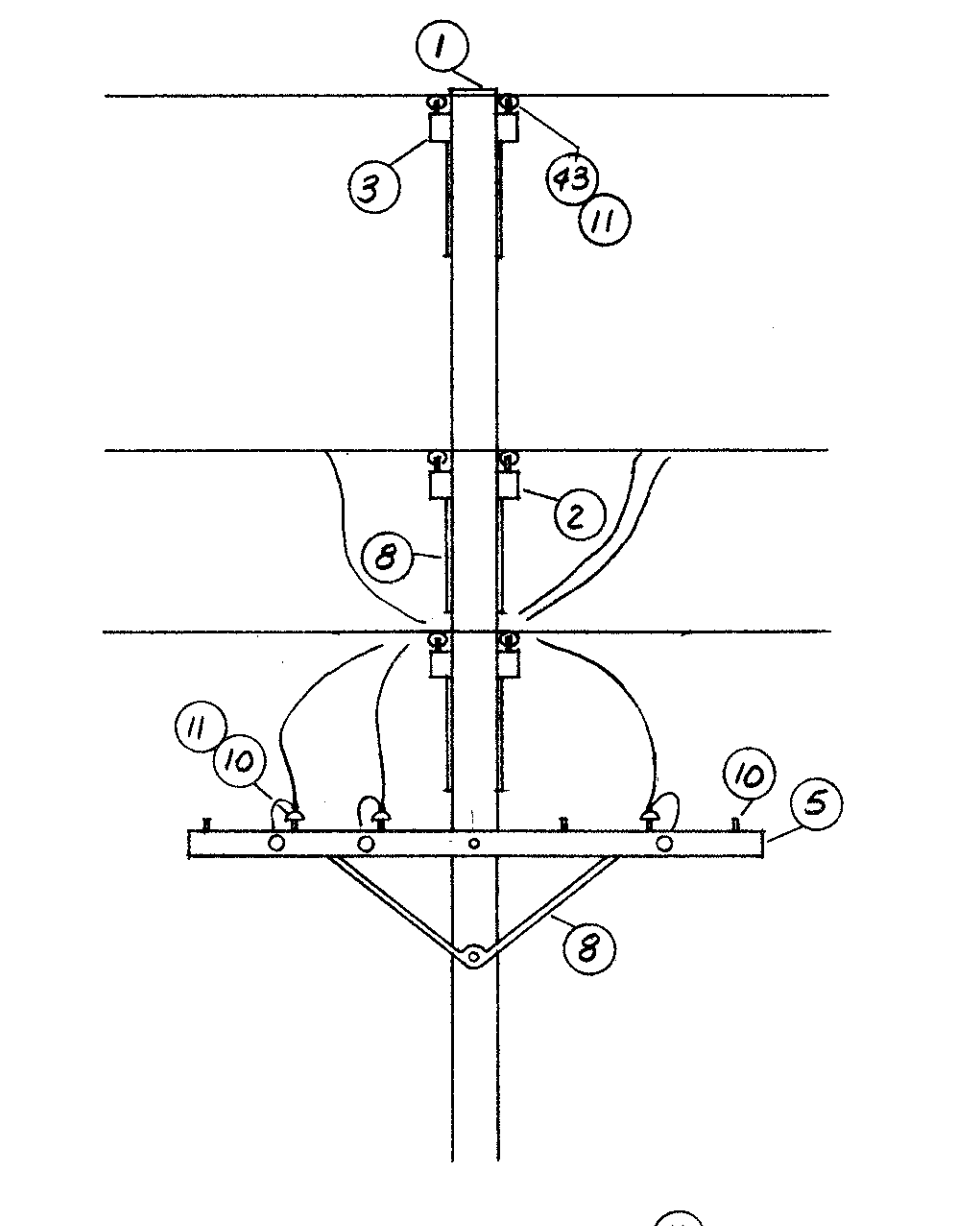
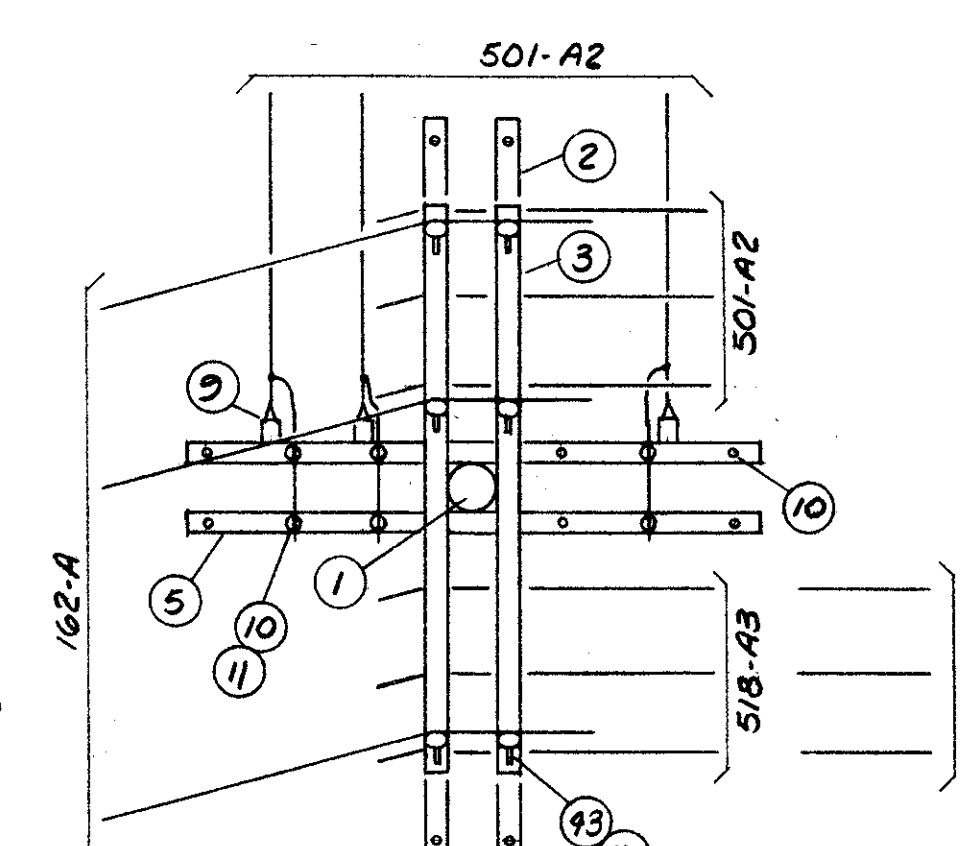
POLE DETAIL #6



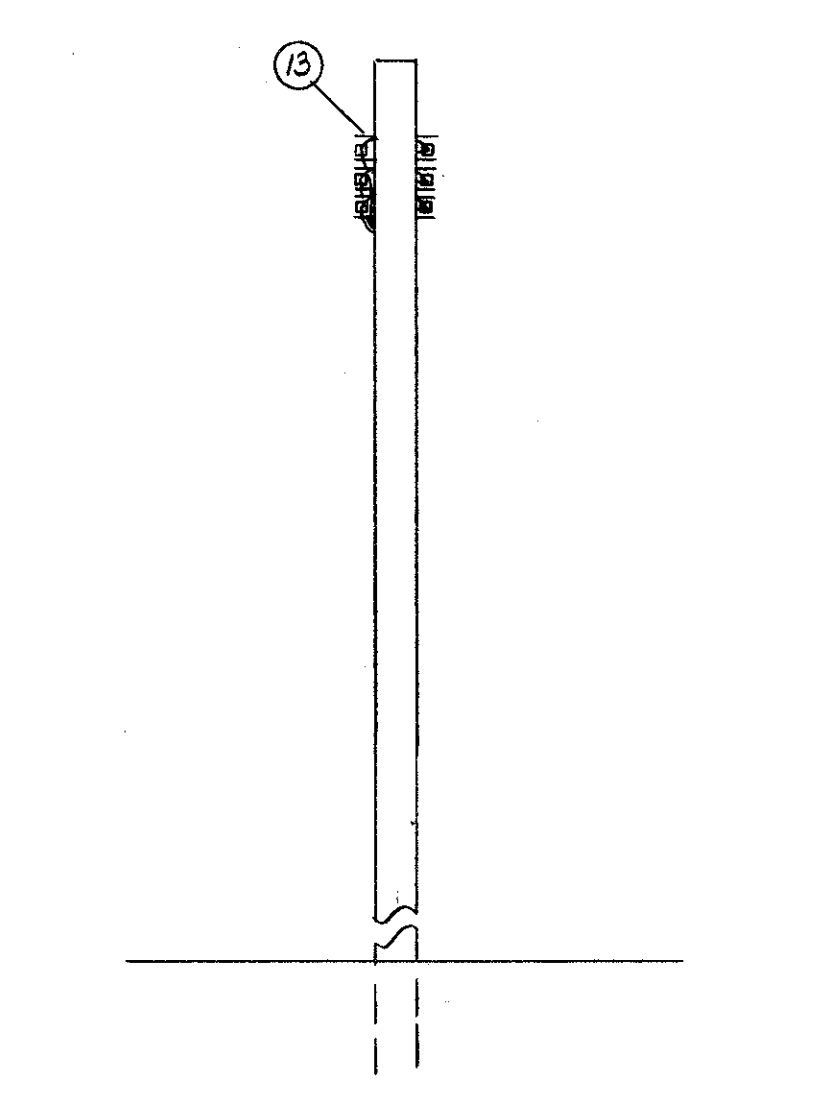
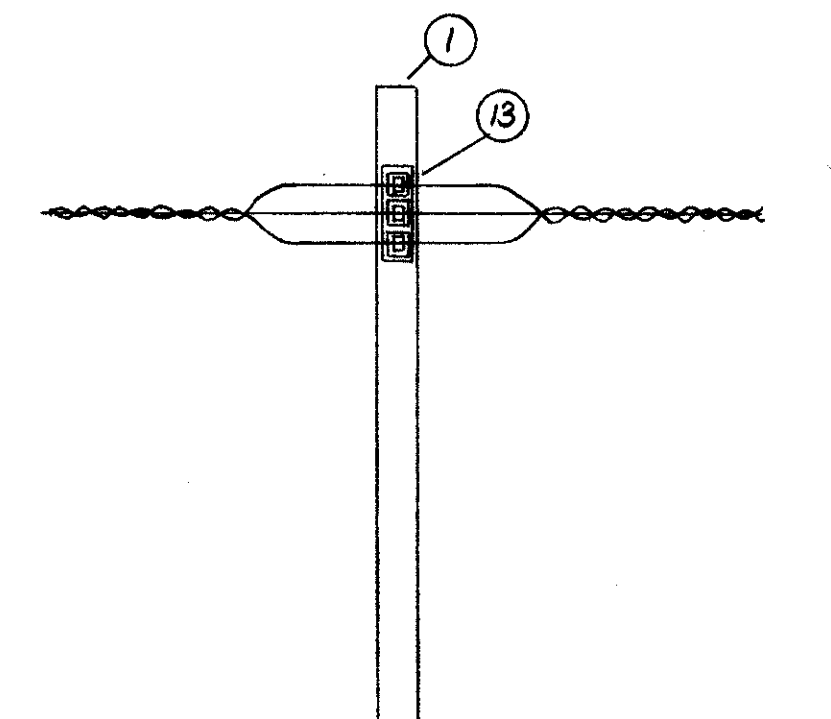
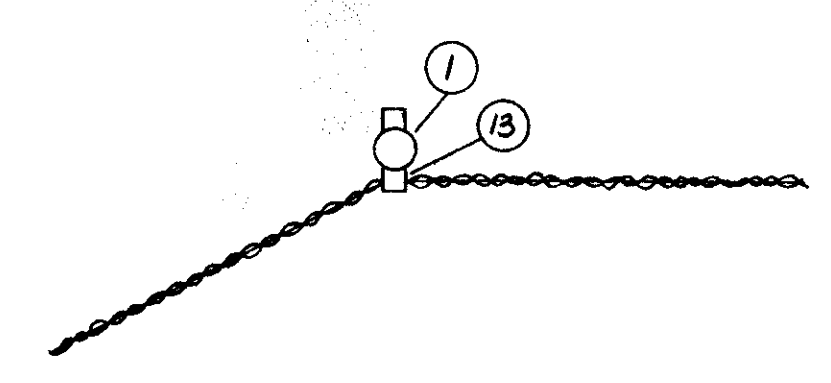
POLE DETAIL #7



POLE DETAIL #8



POLE DETAIL #9



POLE DETAIL #10

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
*Robert J. Altsch*  
ENGINEER OF DESIGN

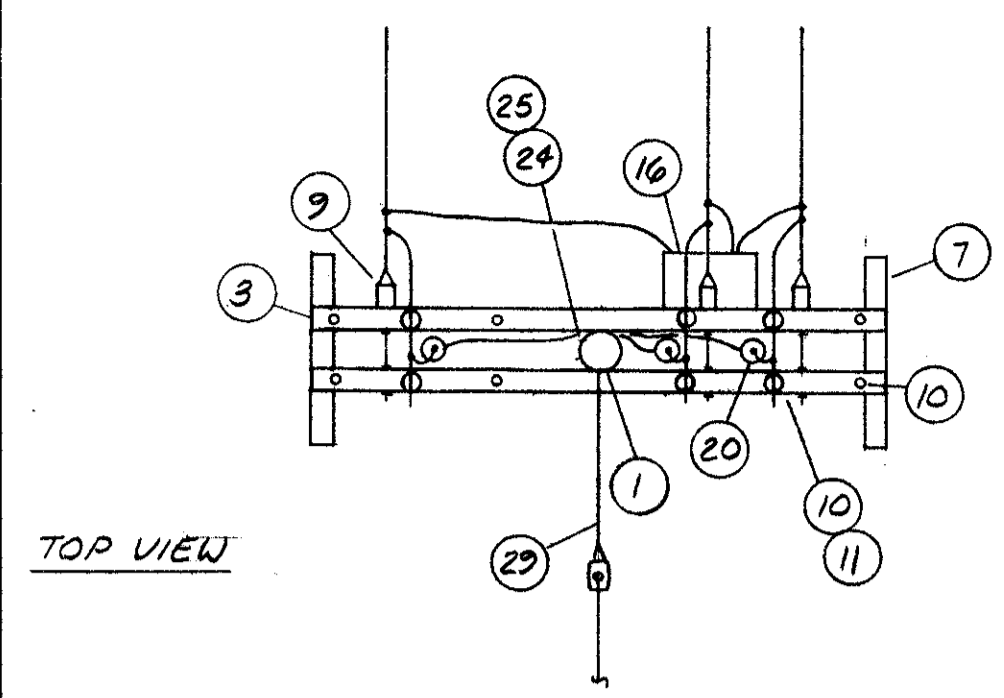
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
OVERHEAD POLE ASSEMBLY	
DRAWN BY: RWJ	SCALE: NO SCALE
DATE:	DRAWING NUMBER: 6600-3P
CH'KD BY:	

FED. RD.	STATE	PROJECT
2	OHIO	

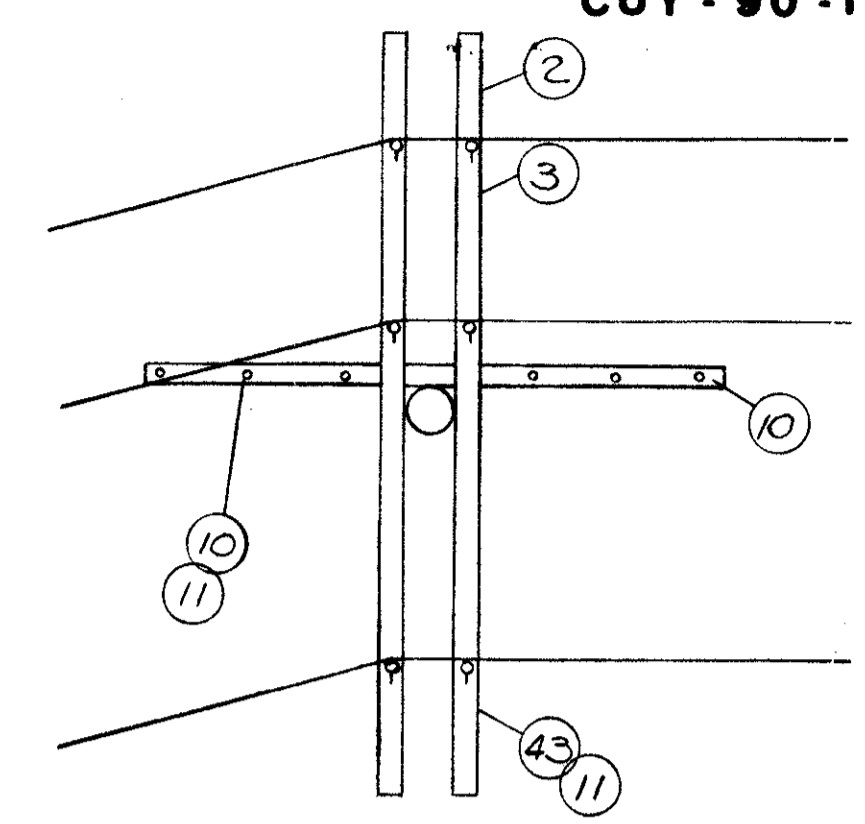
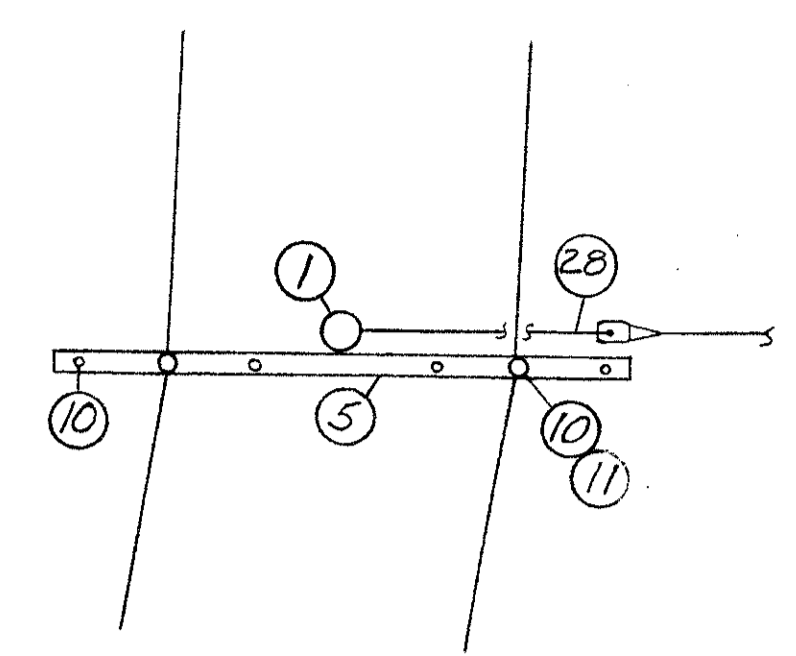
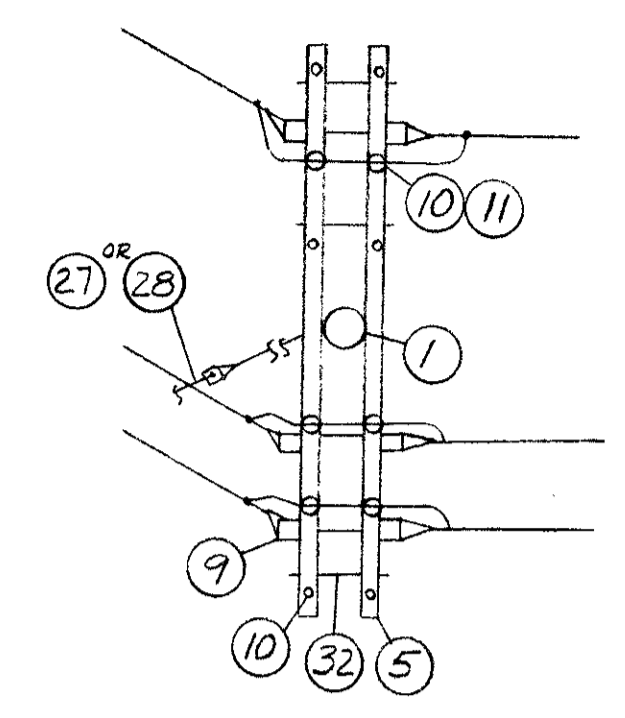
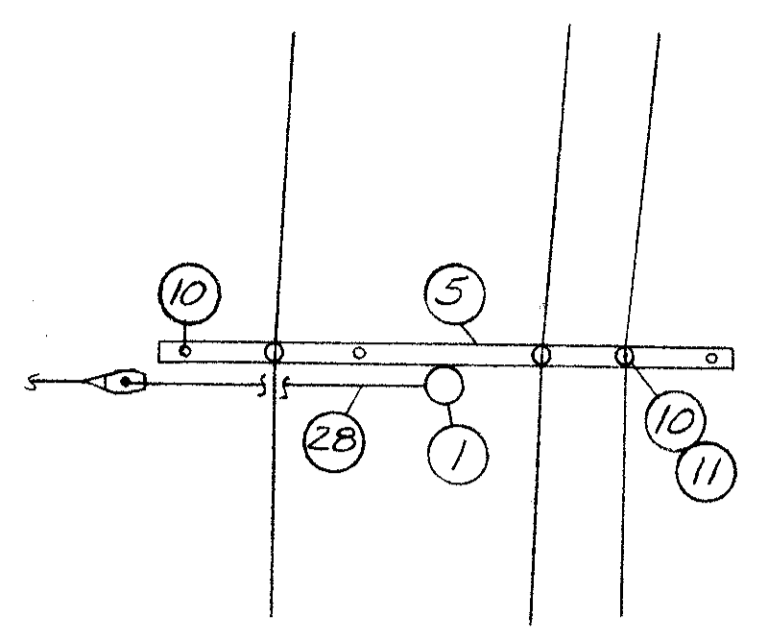
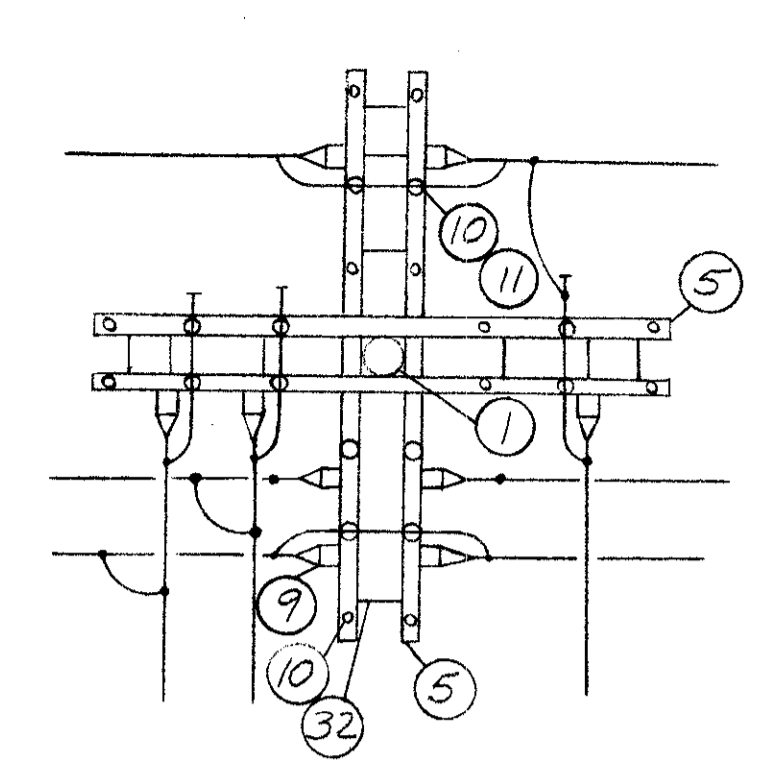
460  
838

36  
58

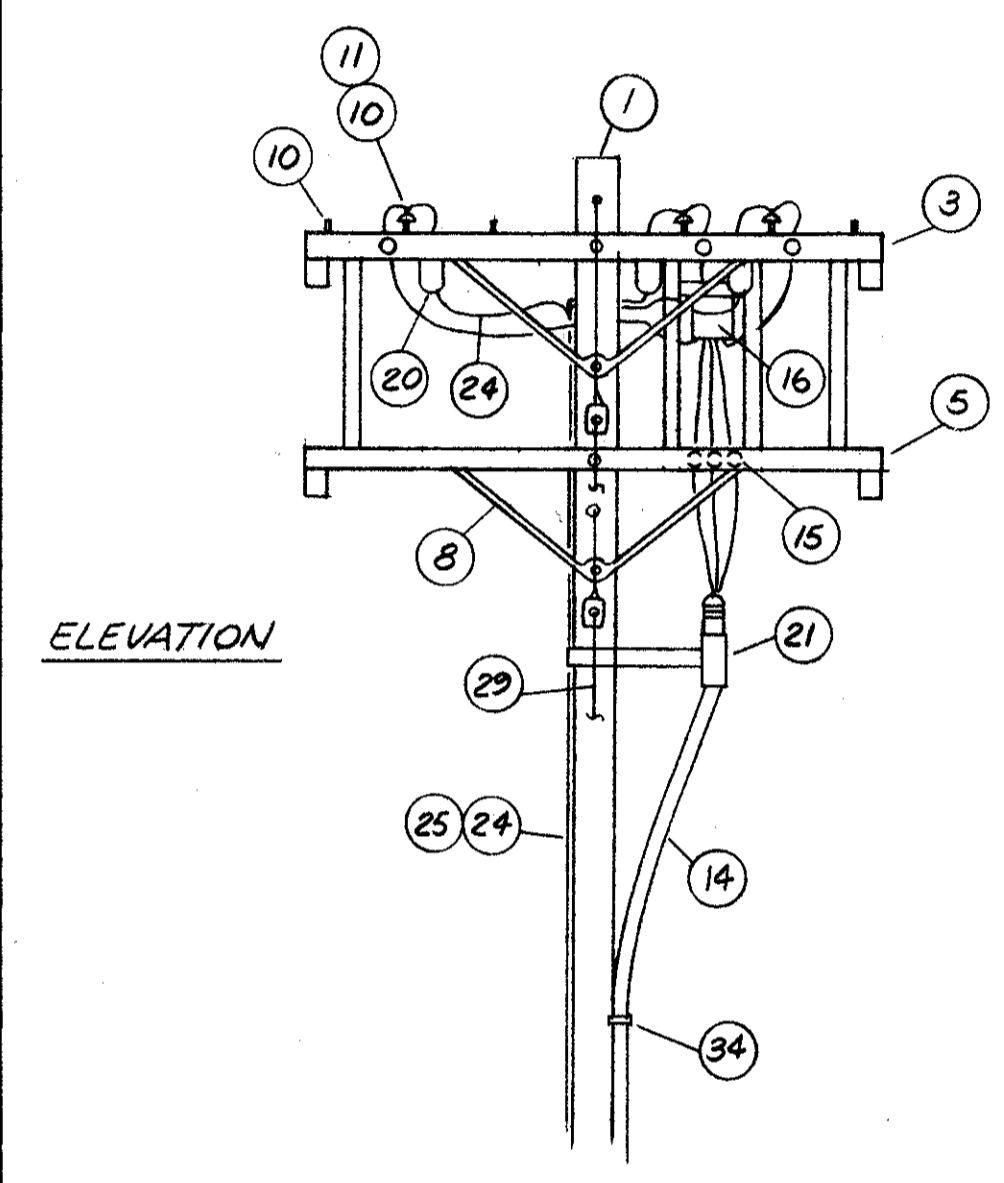
CUYAHOGA COUNTY  
CUY - 90 - 11.64



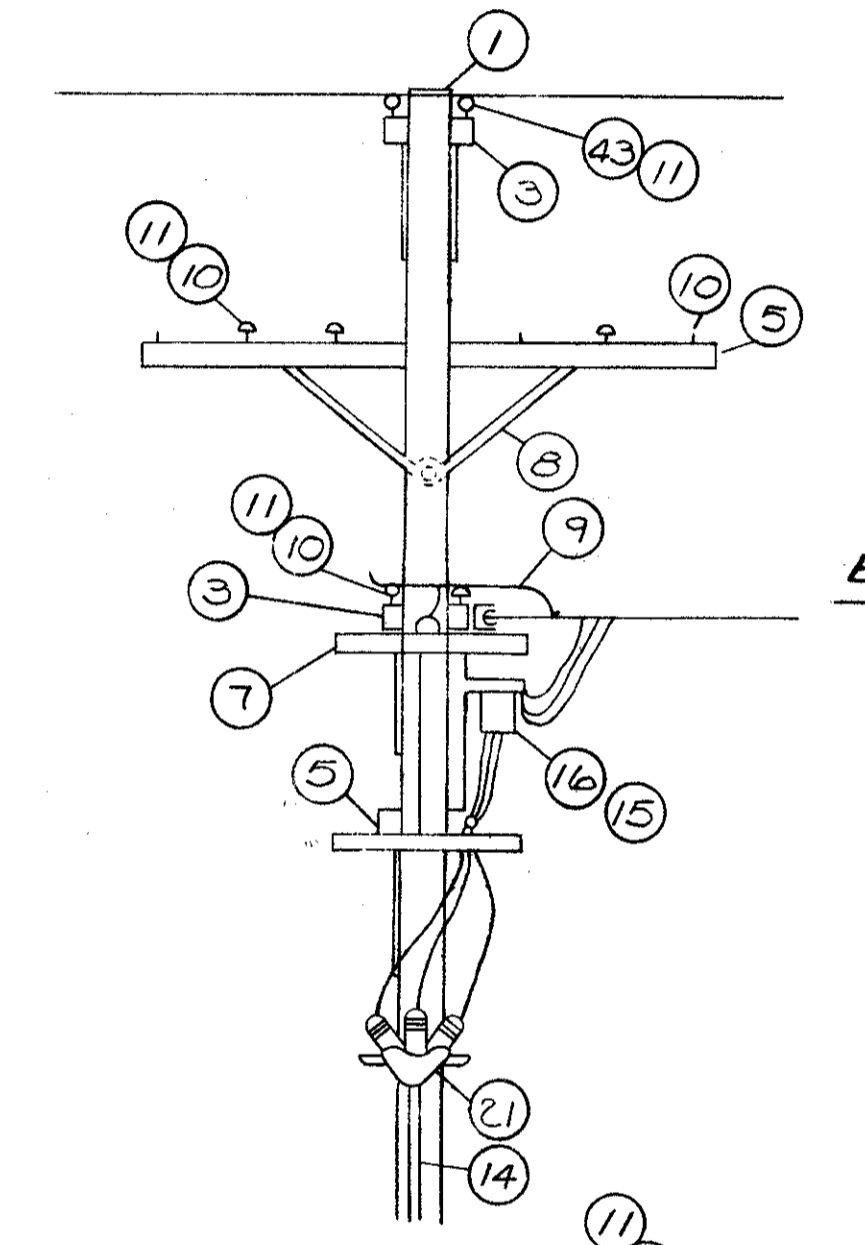
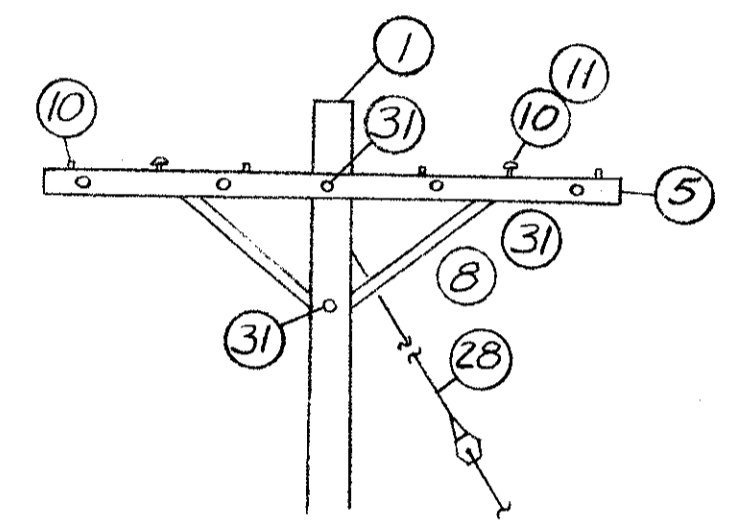
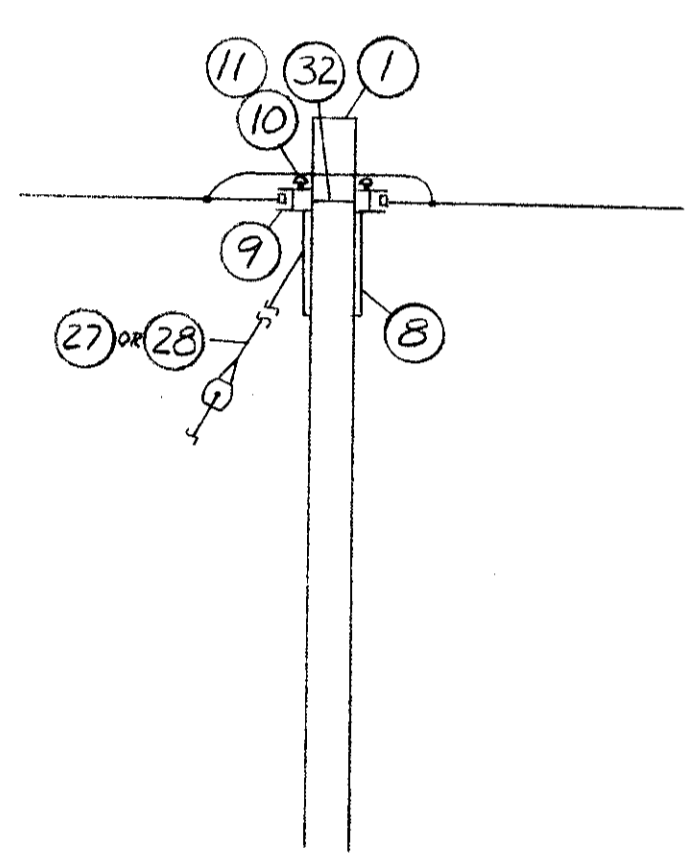
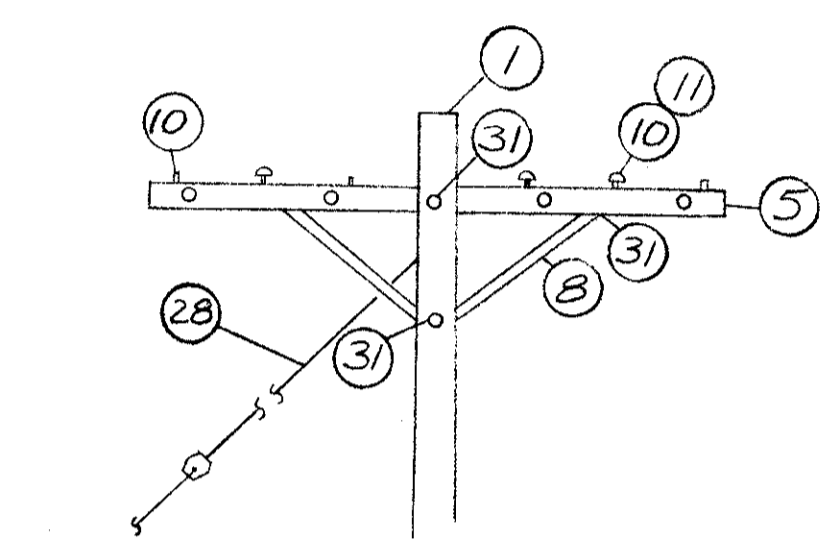
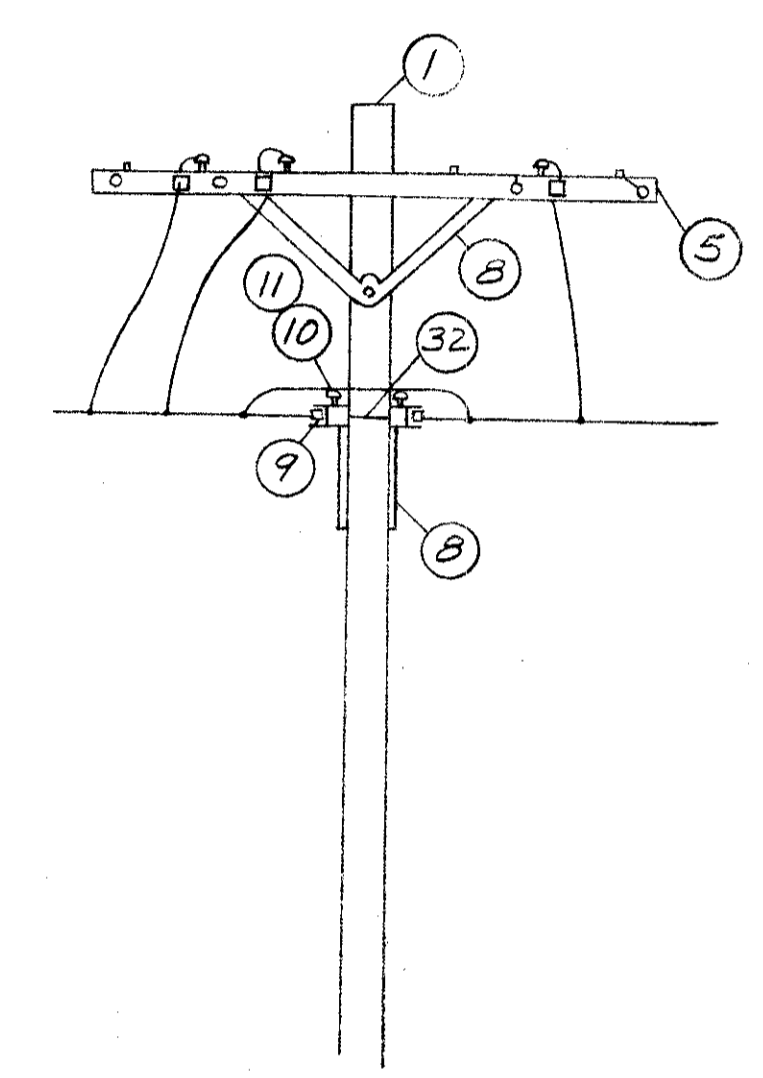
TOP VIEW



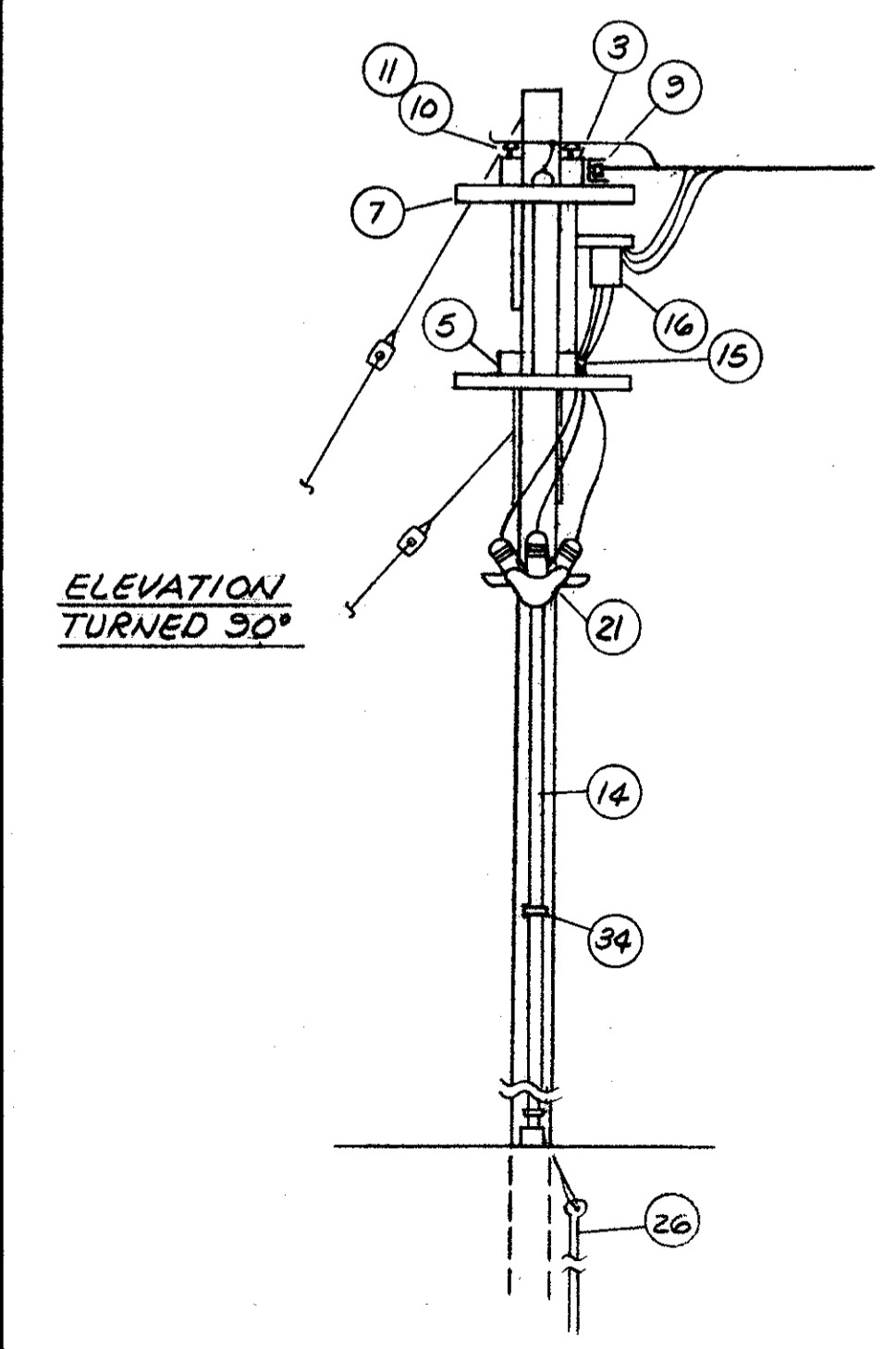
TOP VIEW



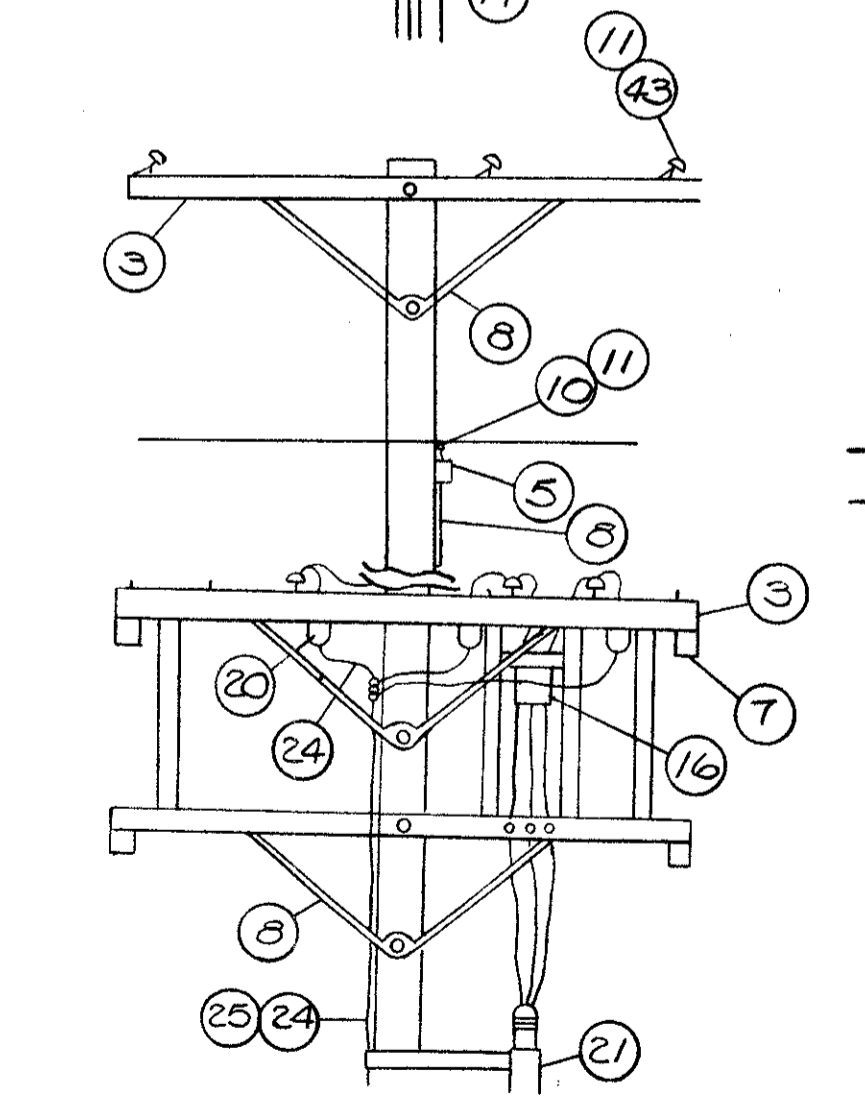
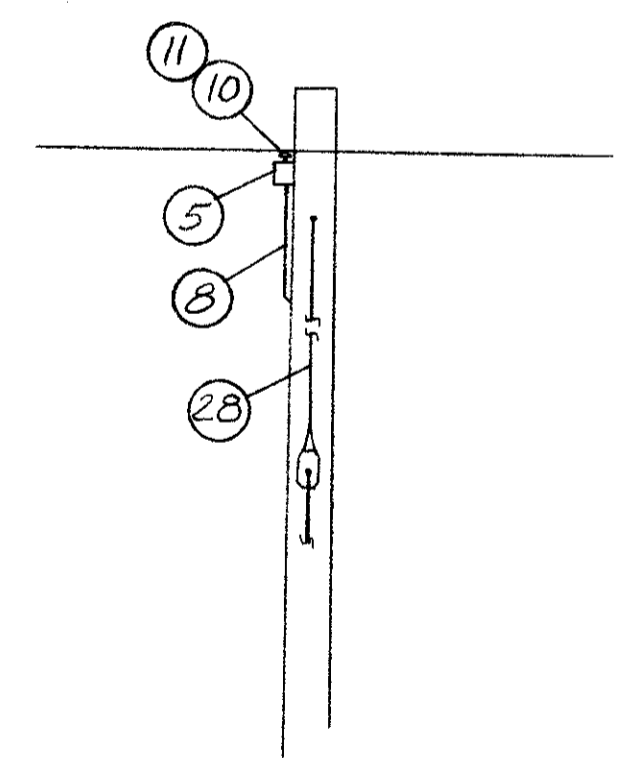
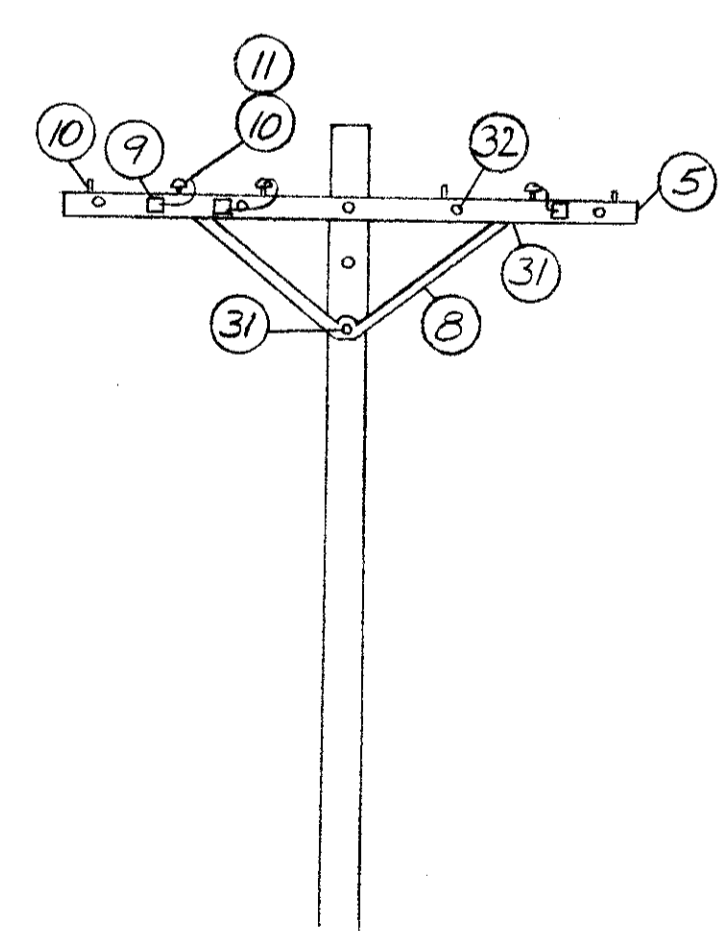
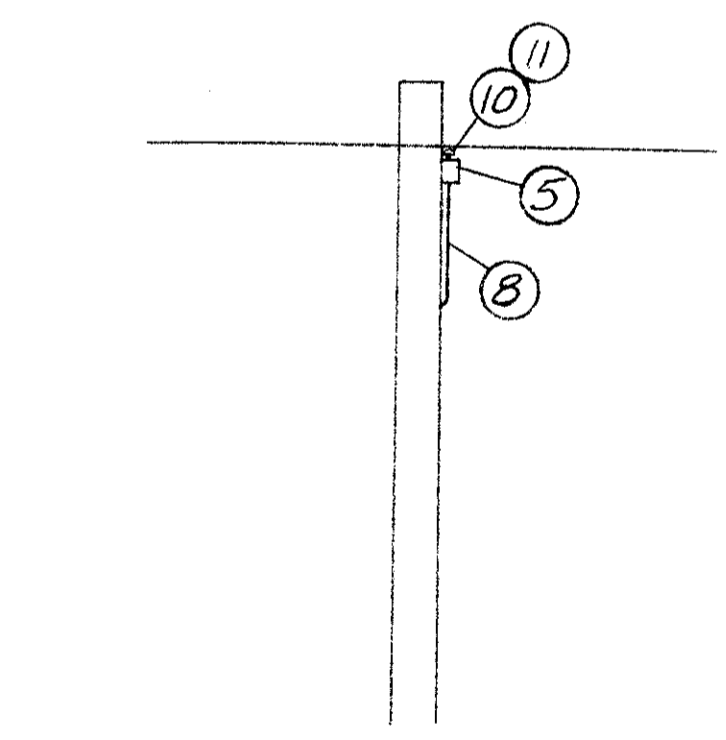
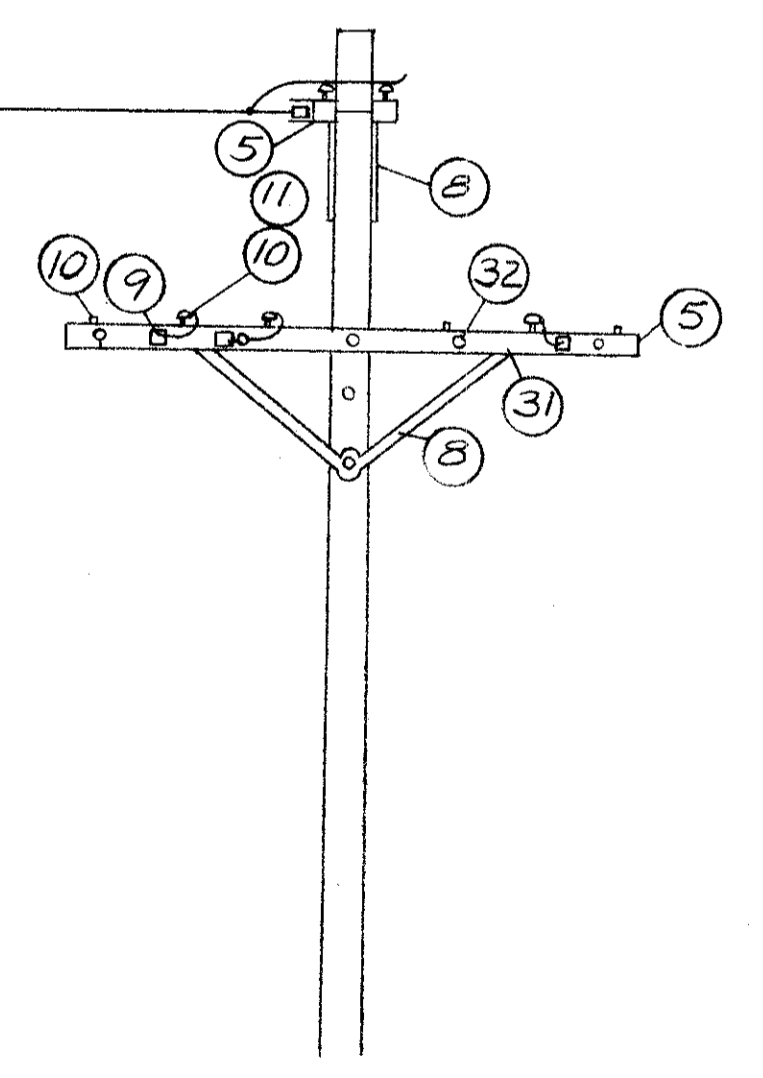
ELEVATION



ELEVATION



ELEVATION  
TURNED 90°



ELEVATION  
TURNED 90°

POLE DETAIL #11

POLE DETAIL #12

POLE DETAIL #13

POLE DETAIL #14

POLE DETAIL #15

POLE DETAIL #15A

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF DESIGN

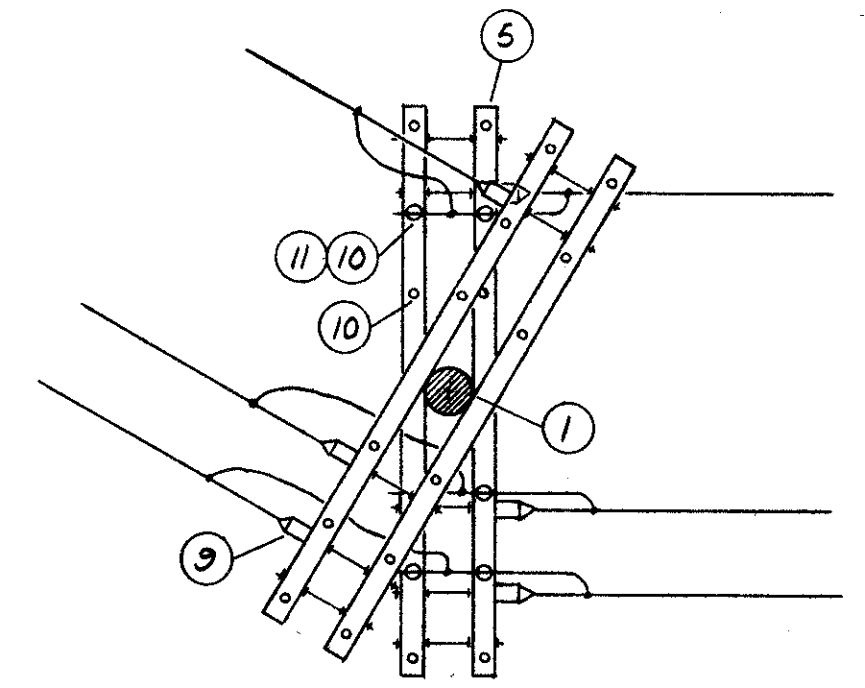
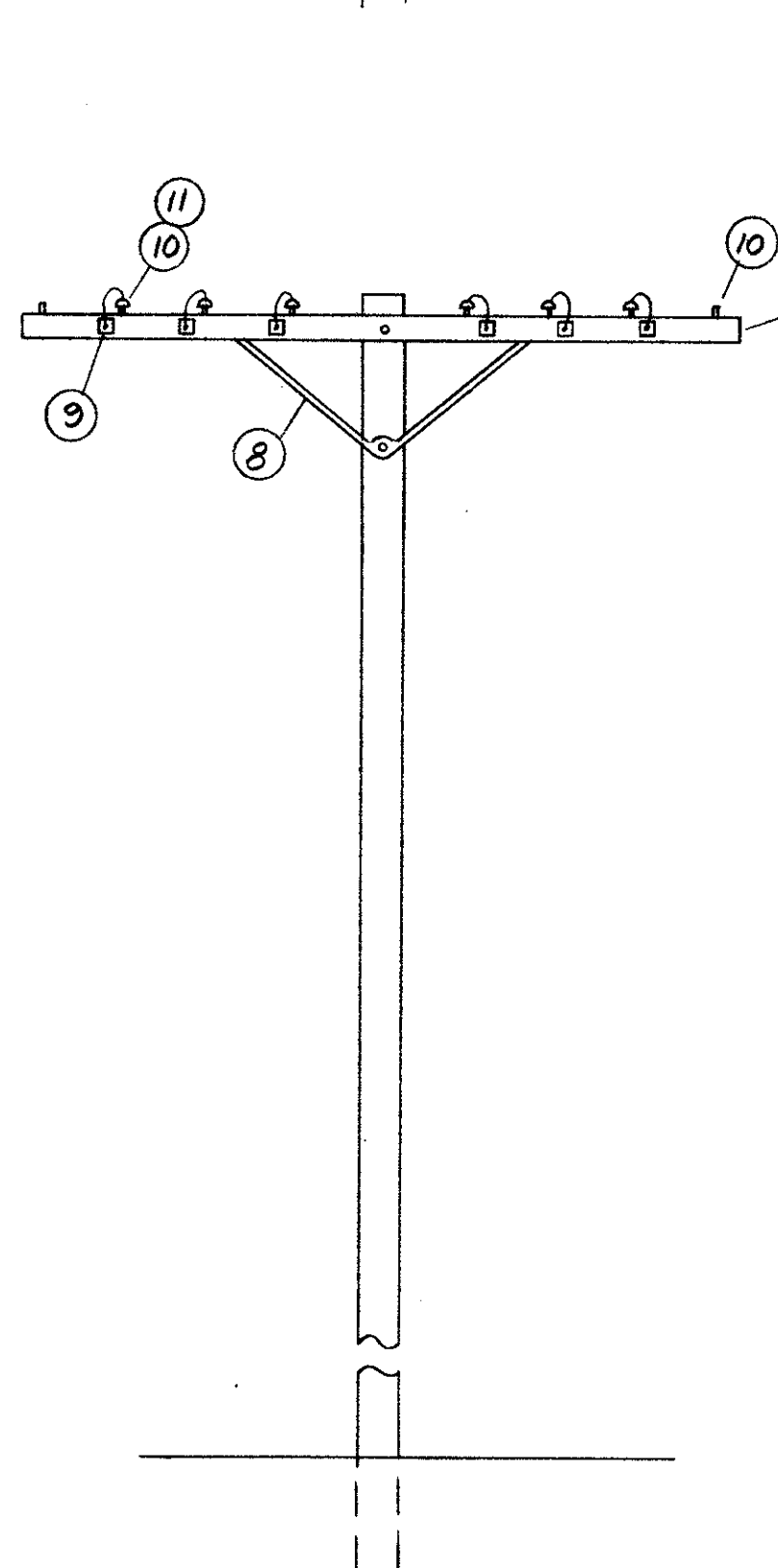
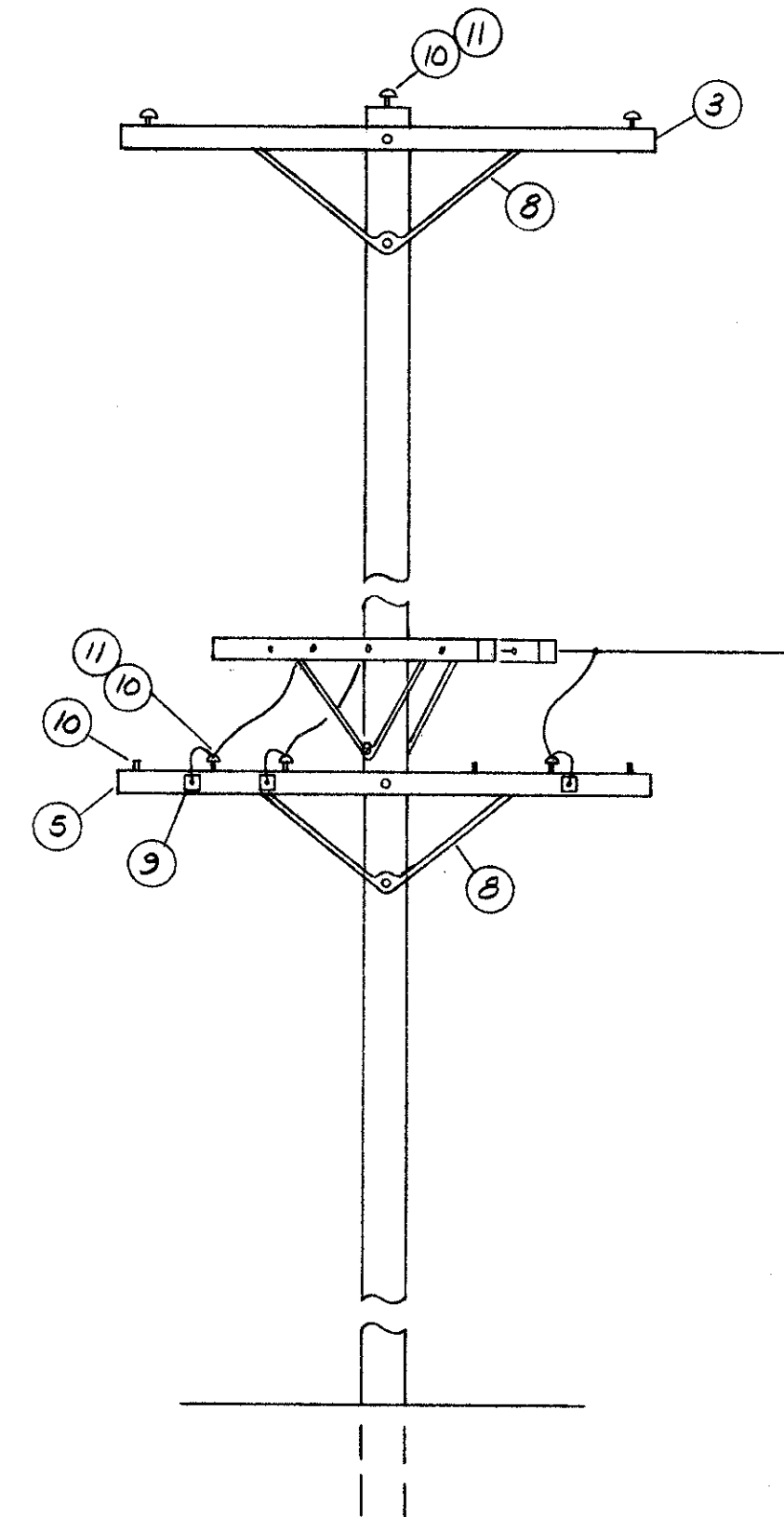
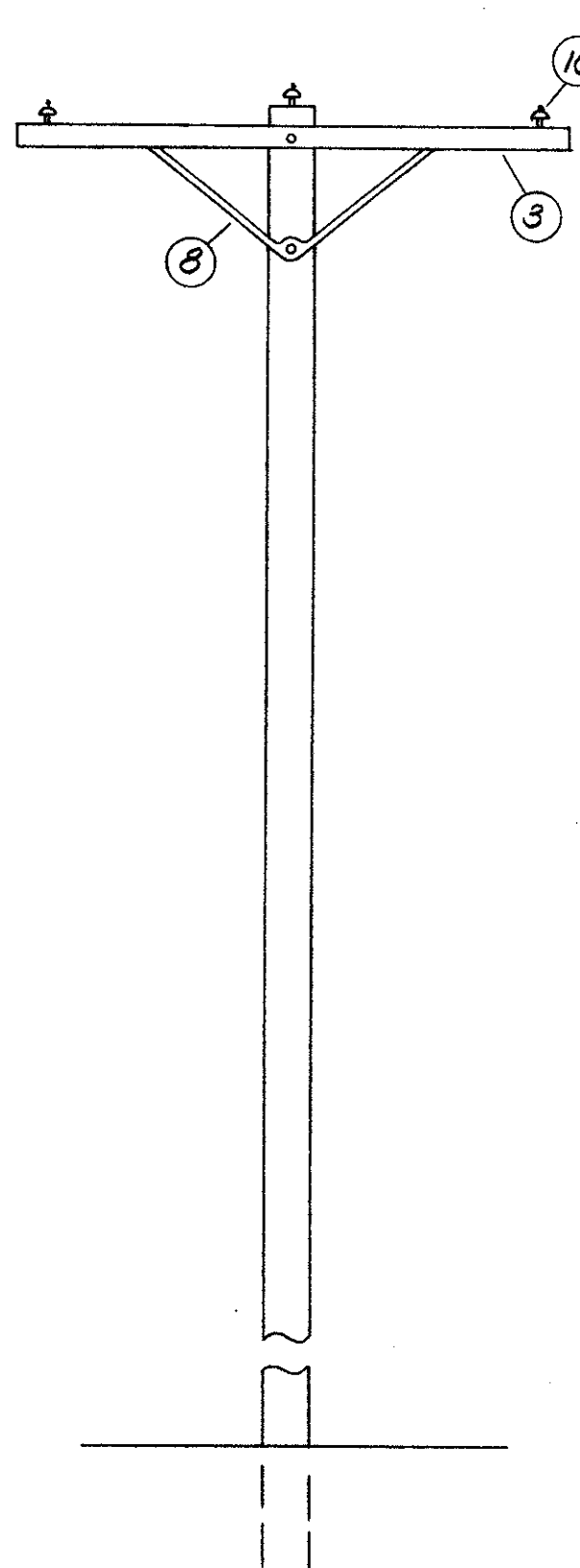
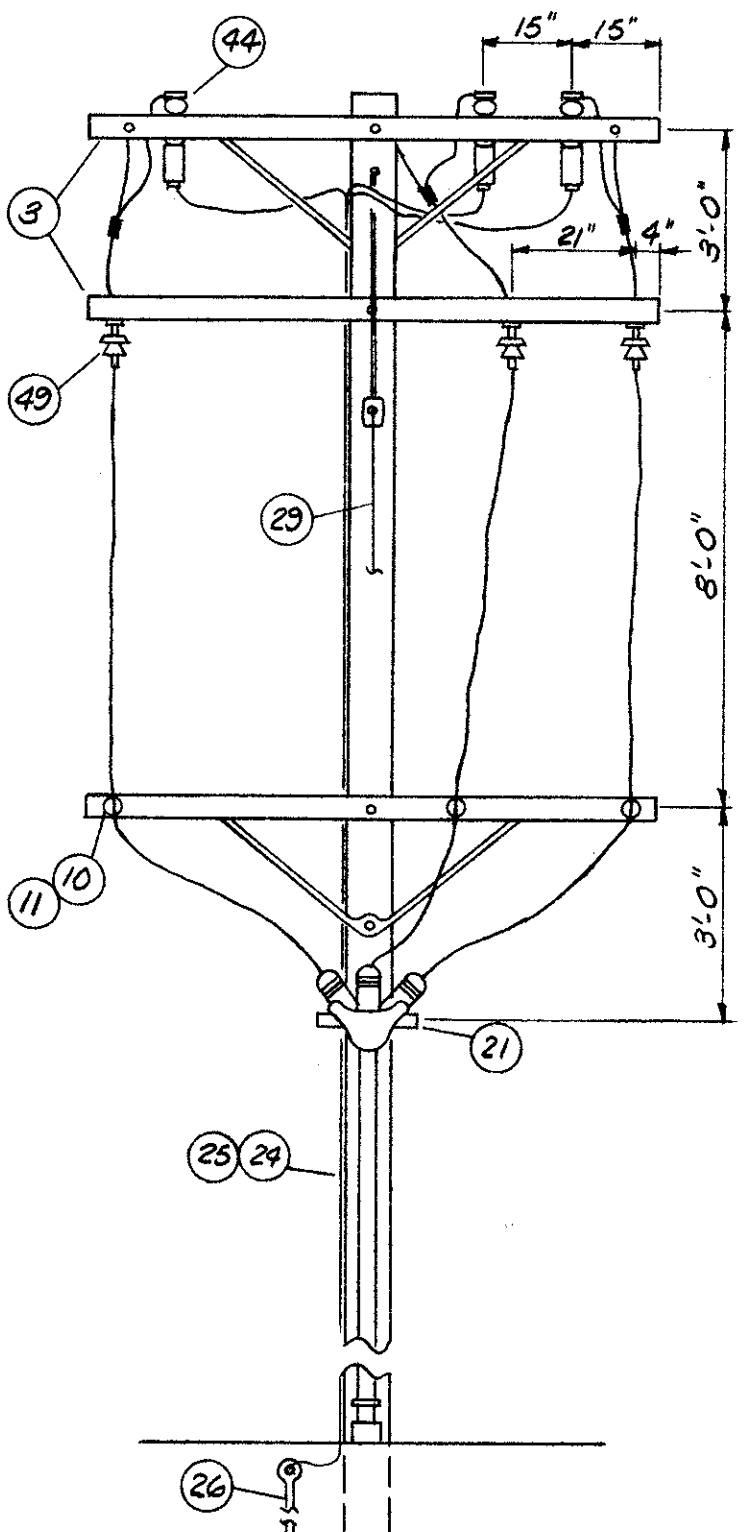
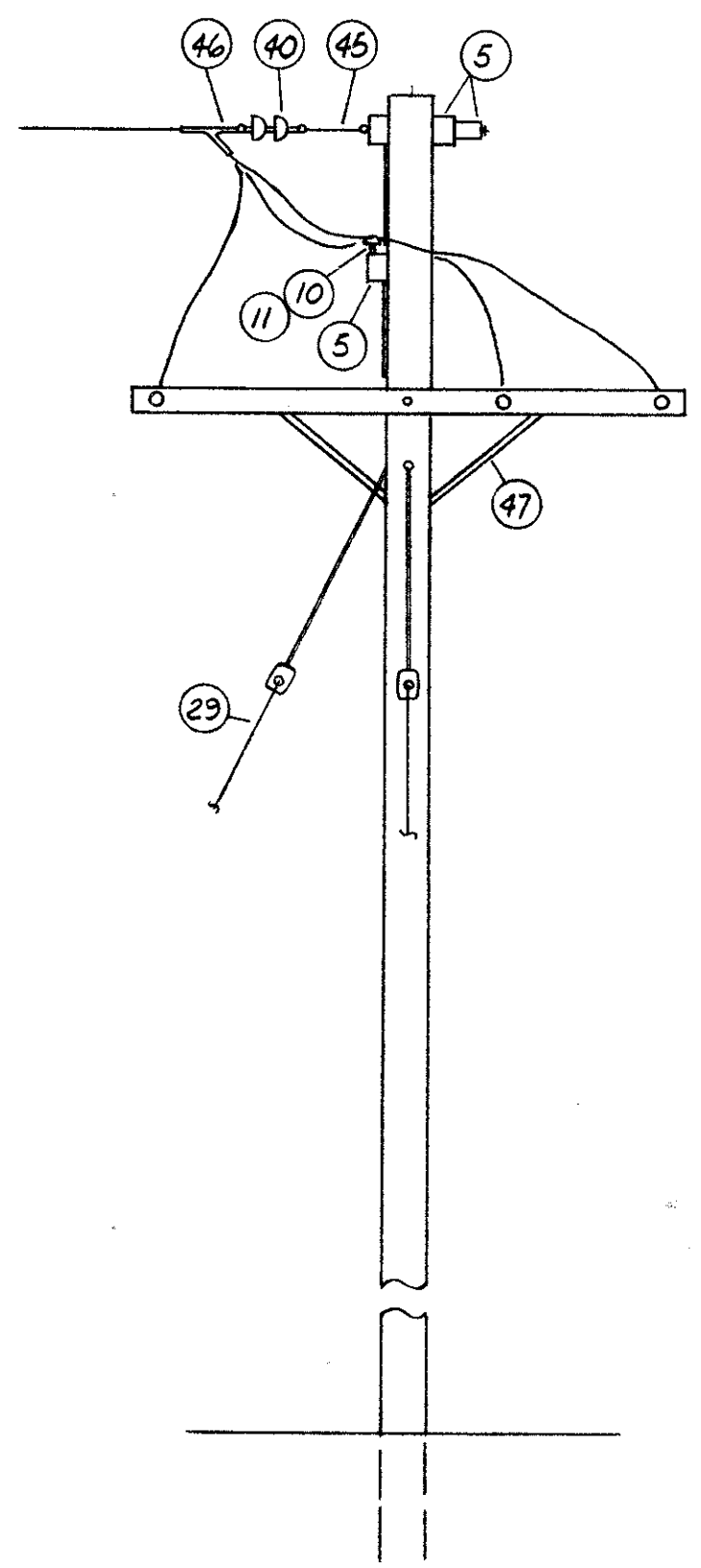
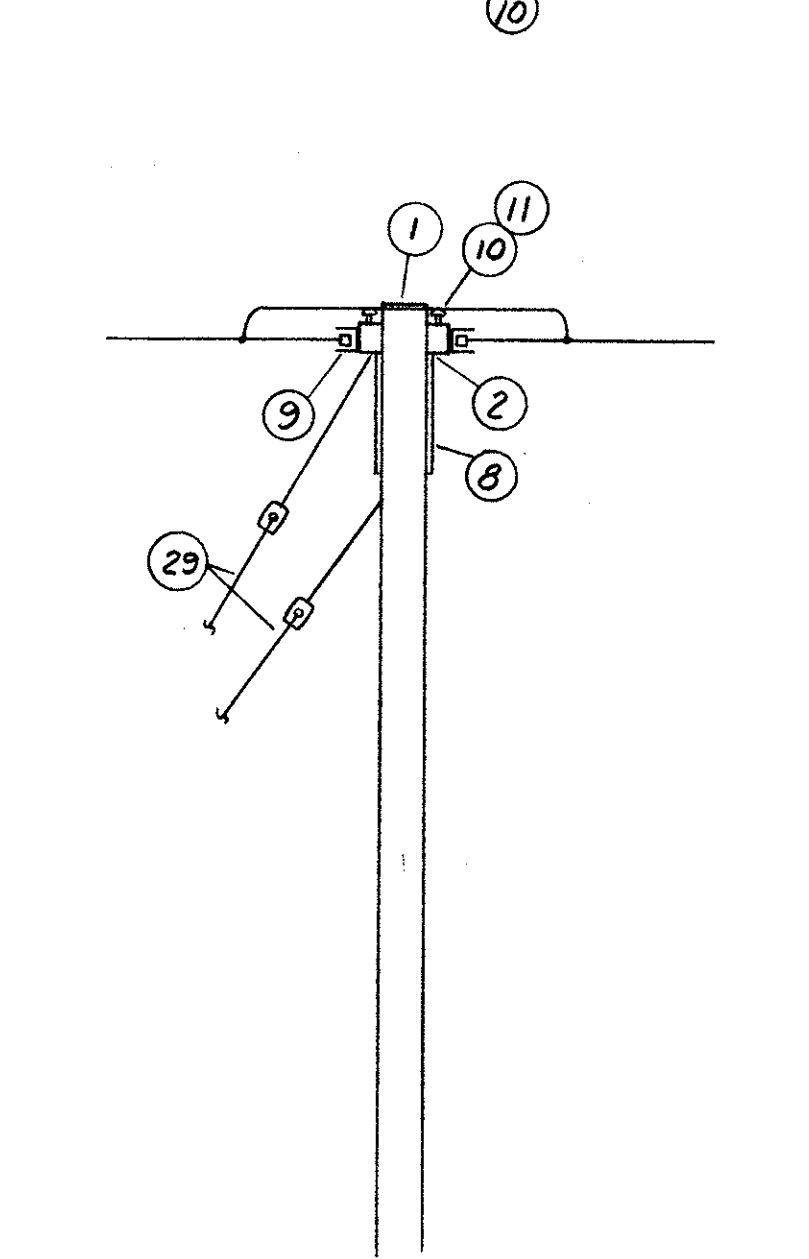
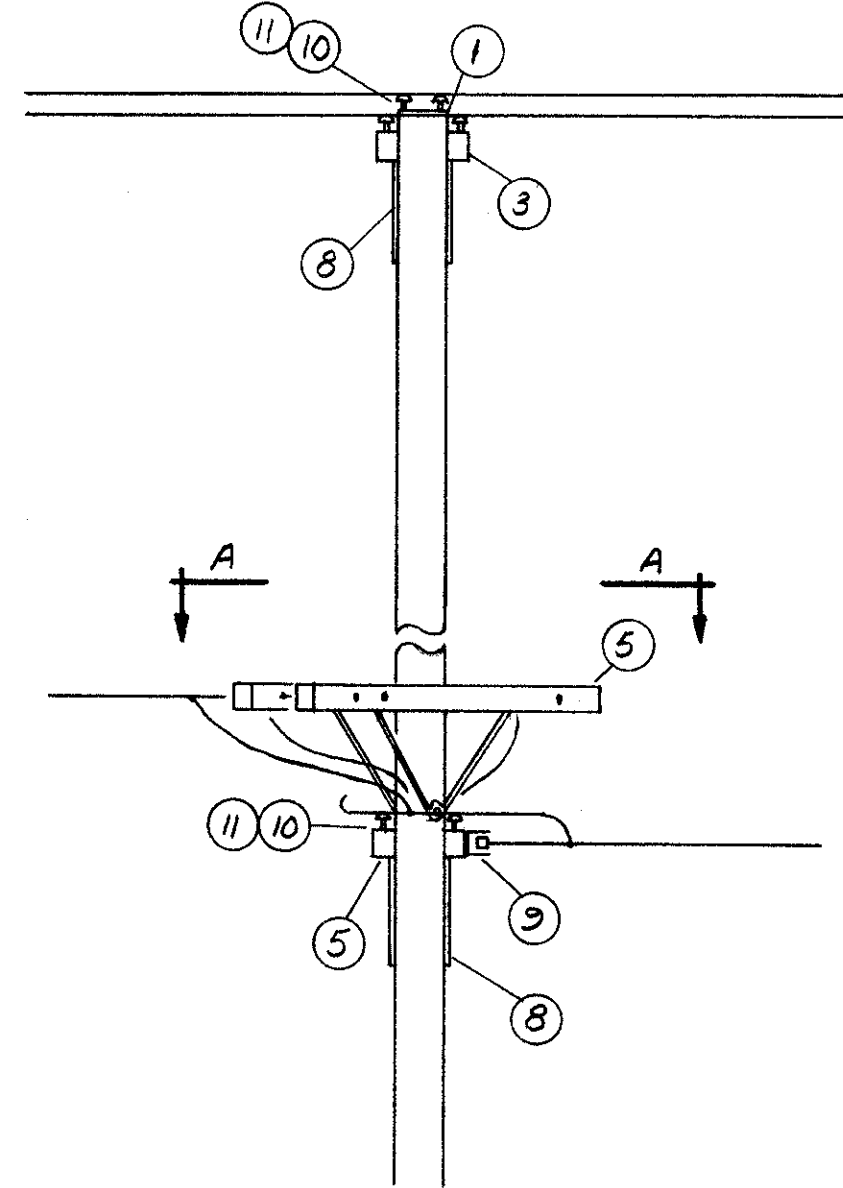
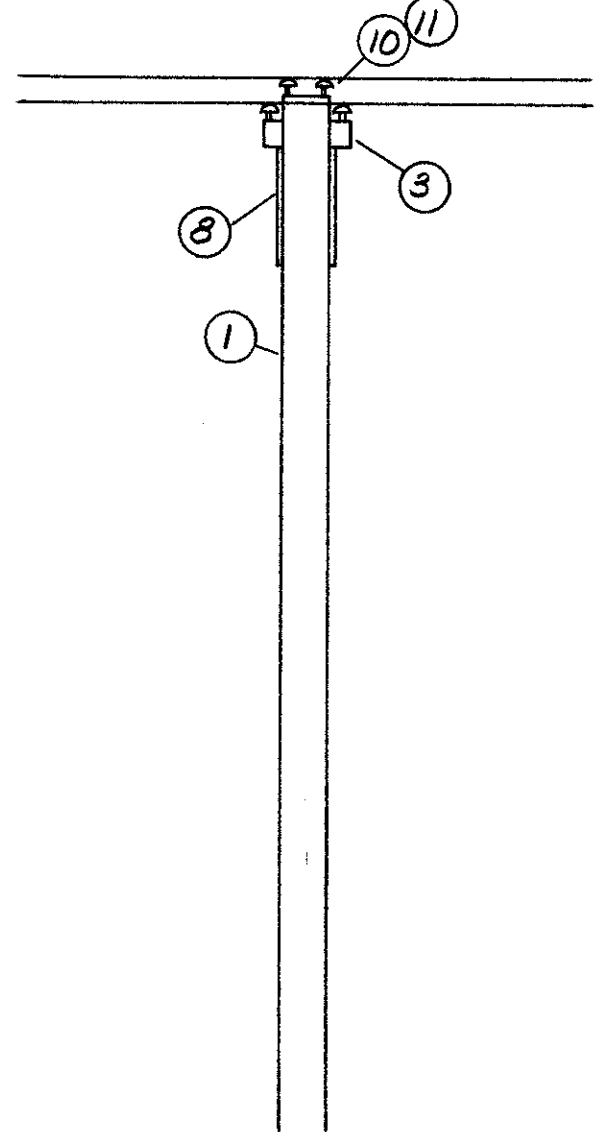
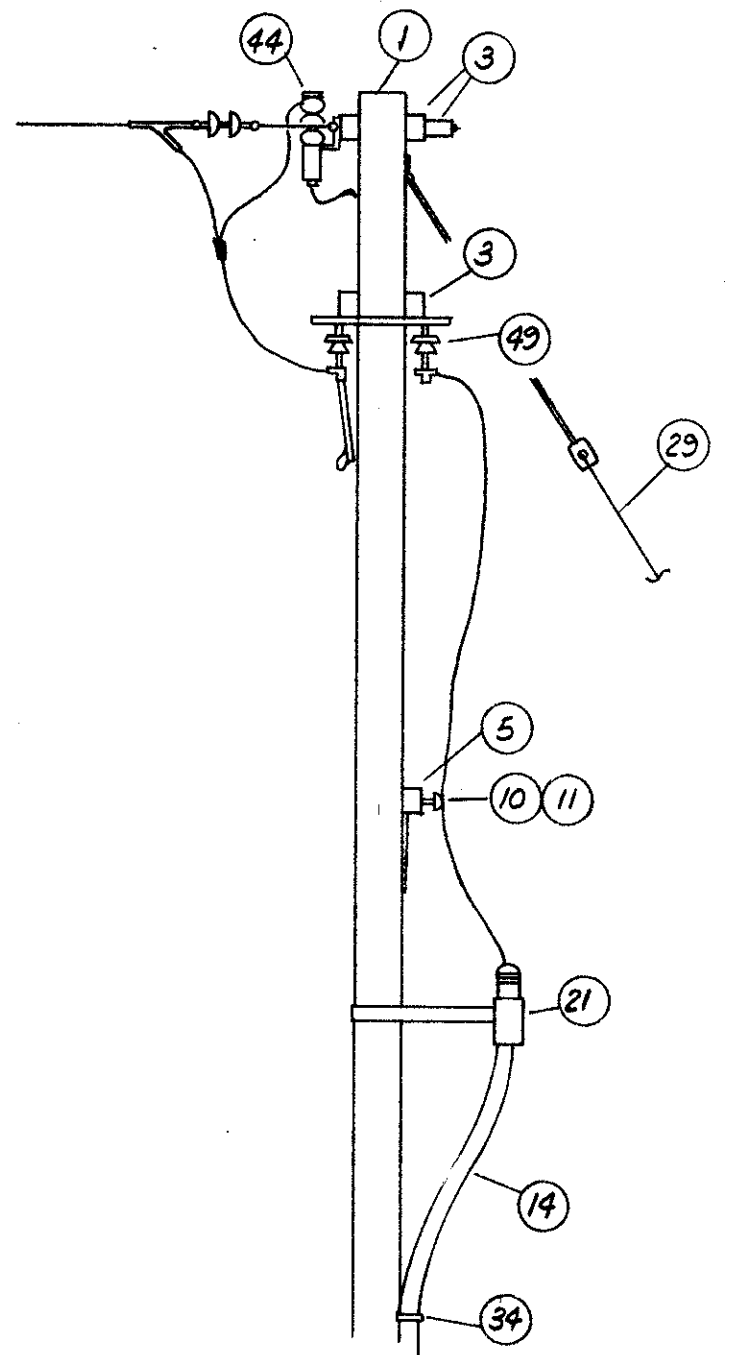
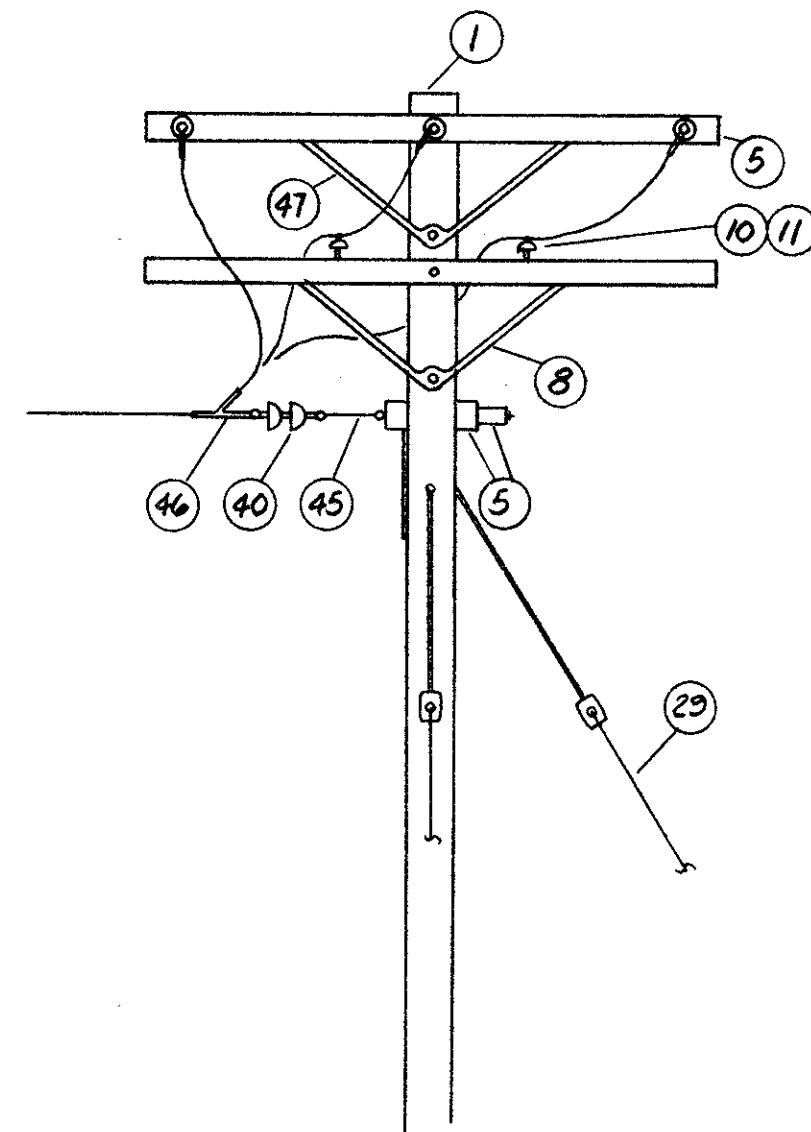
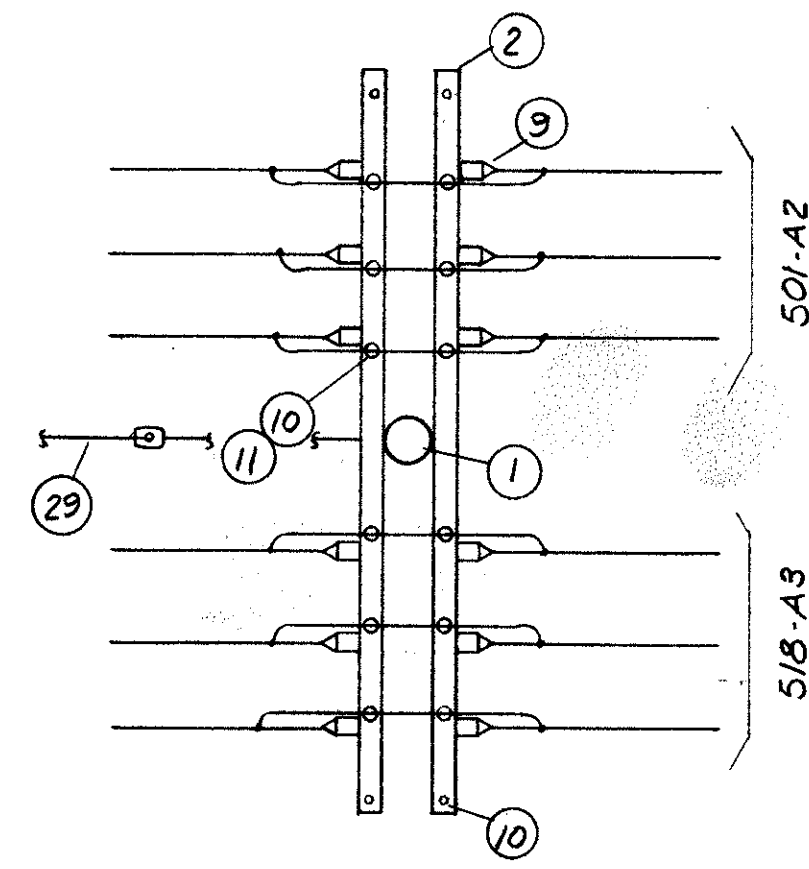
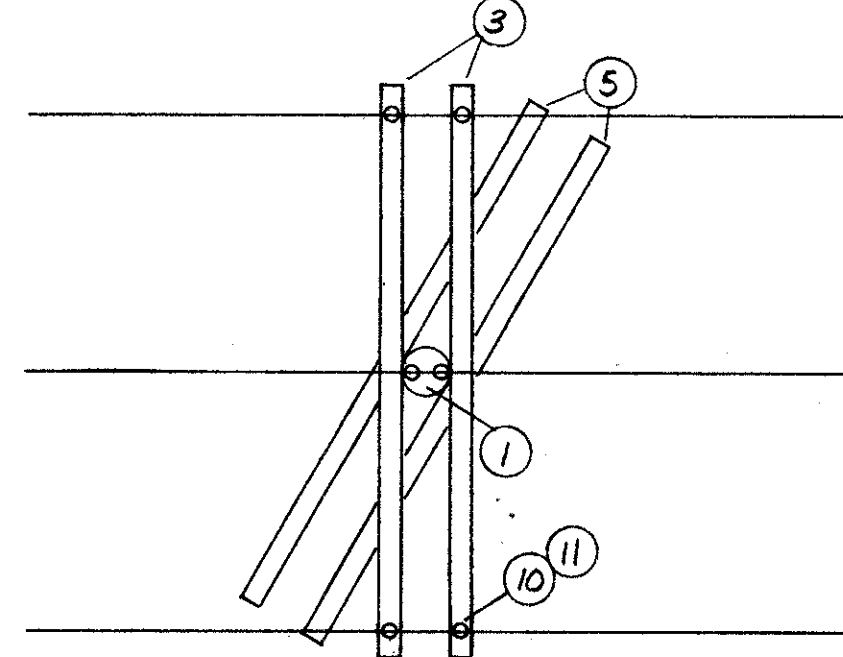
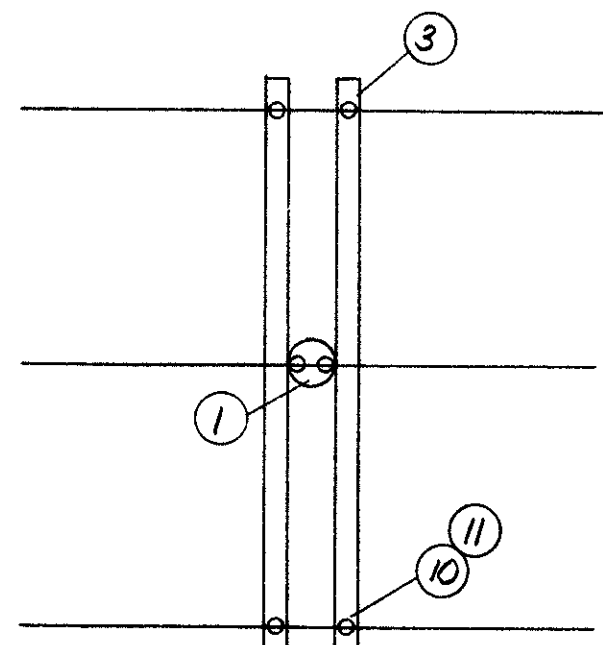
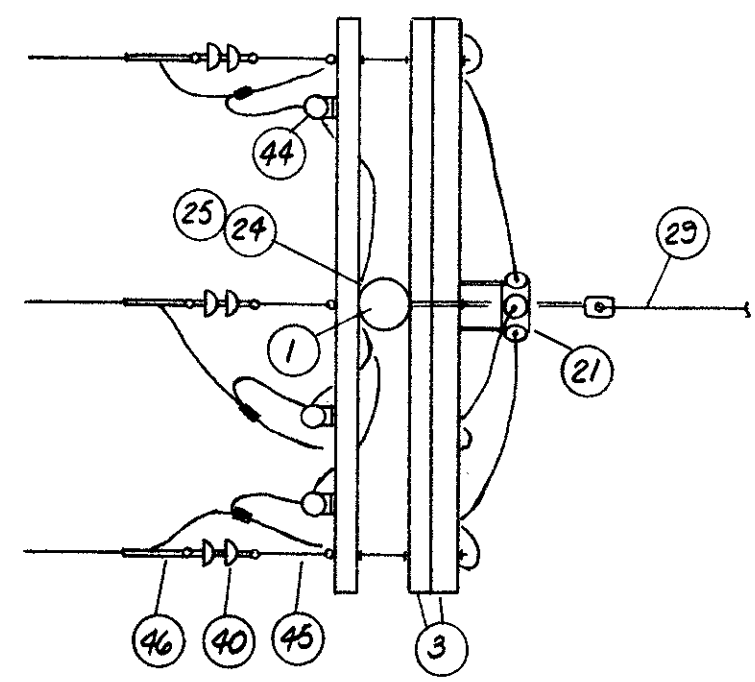
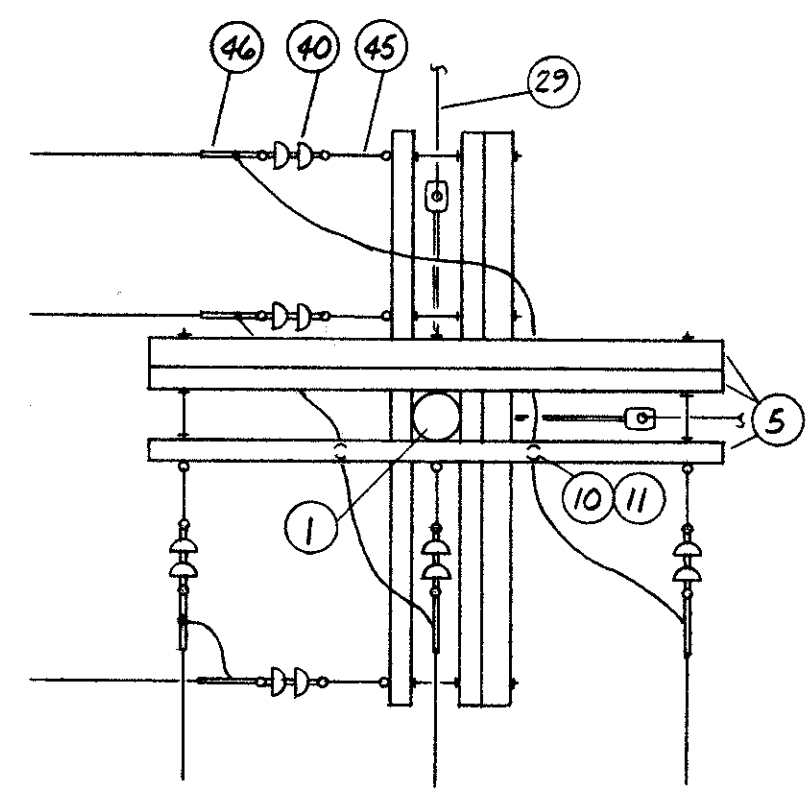
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
OVERHEAD POLE ASSEMBLY	
SCALE NO SCALE	DRAWING NUMBER 6600-3Q
DATE	CH'K'D BY

FED. RD.	STATE	PROJECT
2	OHIO	

461  
838

37  
58

CUYAHOGA COUNTY  
CUY-90-11.64



SECTION A-A  
NO SCALE

POLE DETAIL #16

POLE DETAIL #17

POLE DETAIL #18

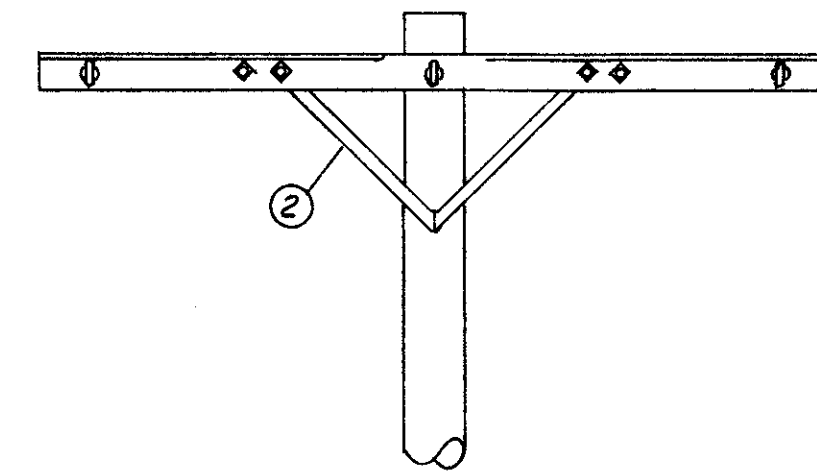
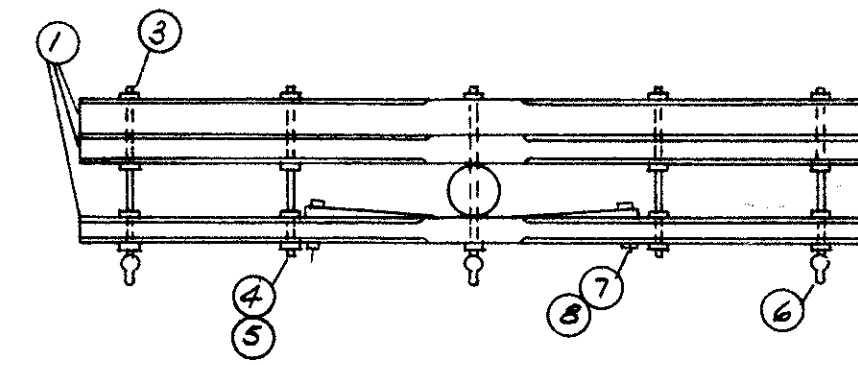
POLE DETAIL #19

POLE DETAIL #20

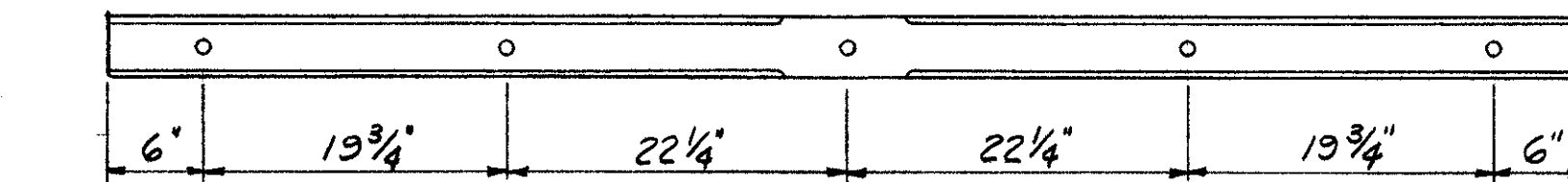
APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND		
OVERHEAD POLE ASSEMBLY		
DRAWN BY: RWZ	SCALE: NO SCALE	DRAWING NUMBER: 6600-3R
CH'K'D BY:	DATE:	

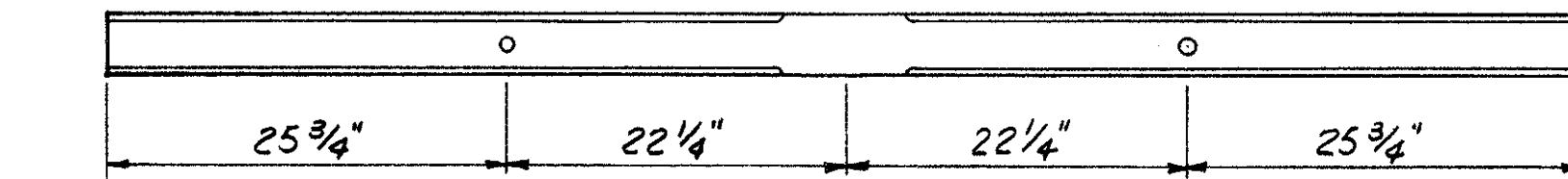
ITEM	NO. REQ'D.
1 X-ARM	3
2 BRACE (WOOD)	2
3 5/8" x 22" (OR 24") O.A. BOLT	5
4 5/8" SQUARE NUT	18
5 2 1/4" SQ. WASHER	18
6 5/8" EYE NUT	3
7 3/8" x 5 1/2" MACH. BOLT & NUT	2
8 1" ROUND WASHER	2
9 1/2" x 4" LAG SCREW	2



TYPICAL TRIPLE X-ARM ASSEMBLY



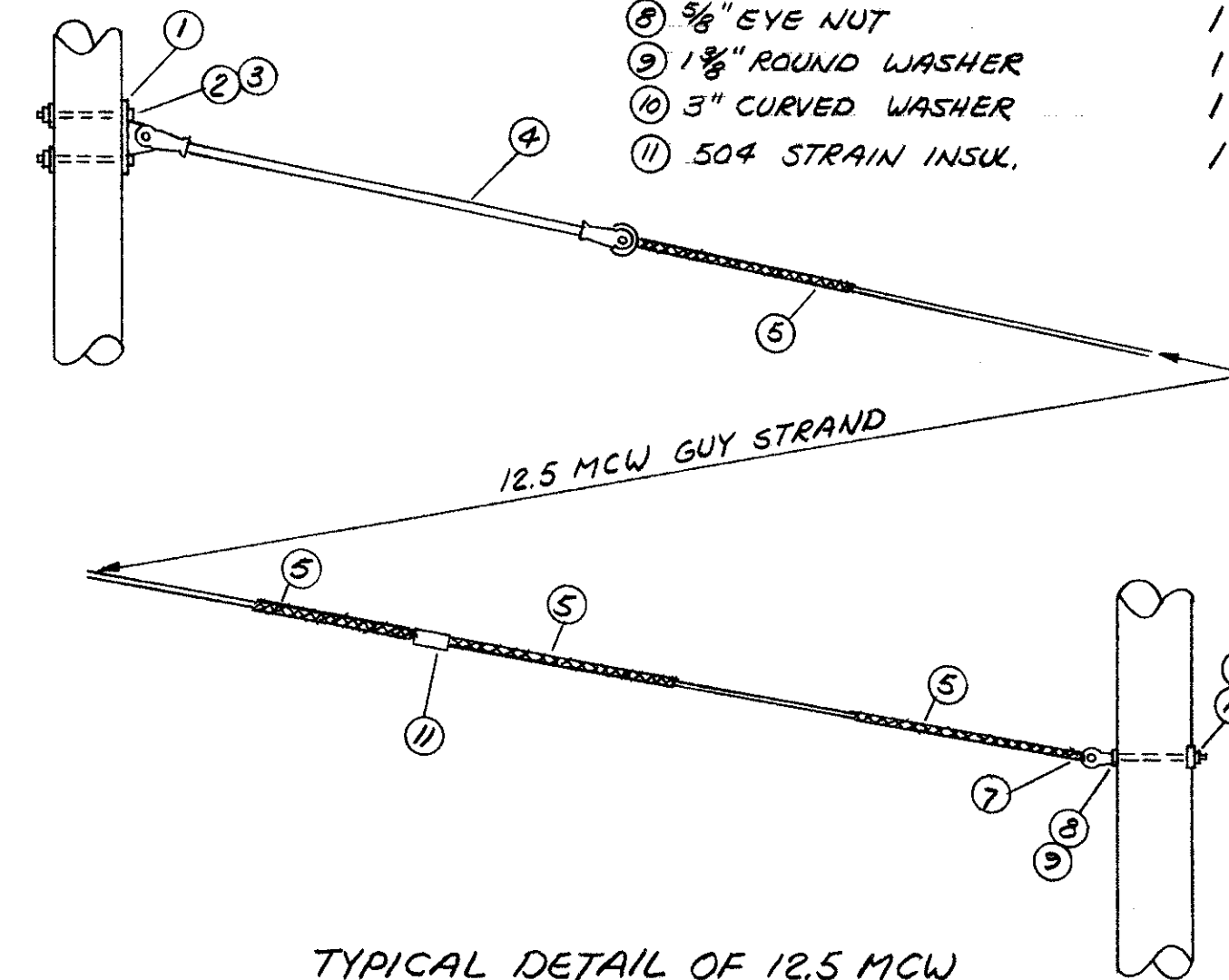
DRILL & TREAT 5-1/16" HOLES FOR 5/8" D. BOLTS IN 1 ARM.



DRILL & TREAT 2-1/16" HOLES FOR 5/8" D. BOLTS IN 2 ARMS

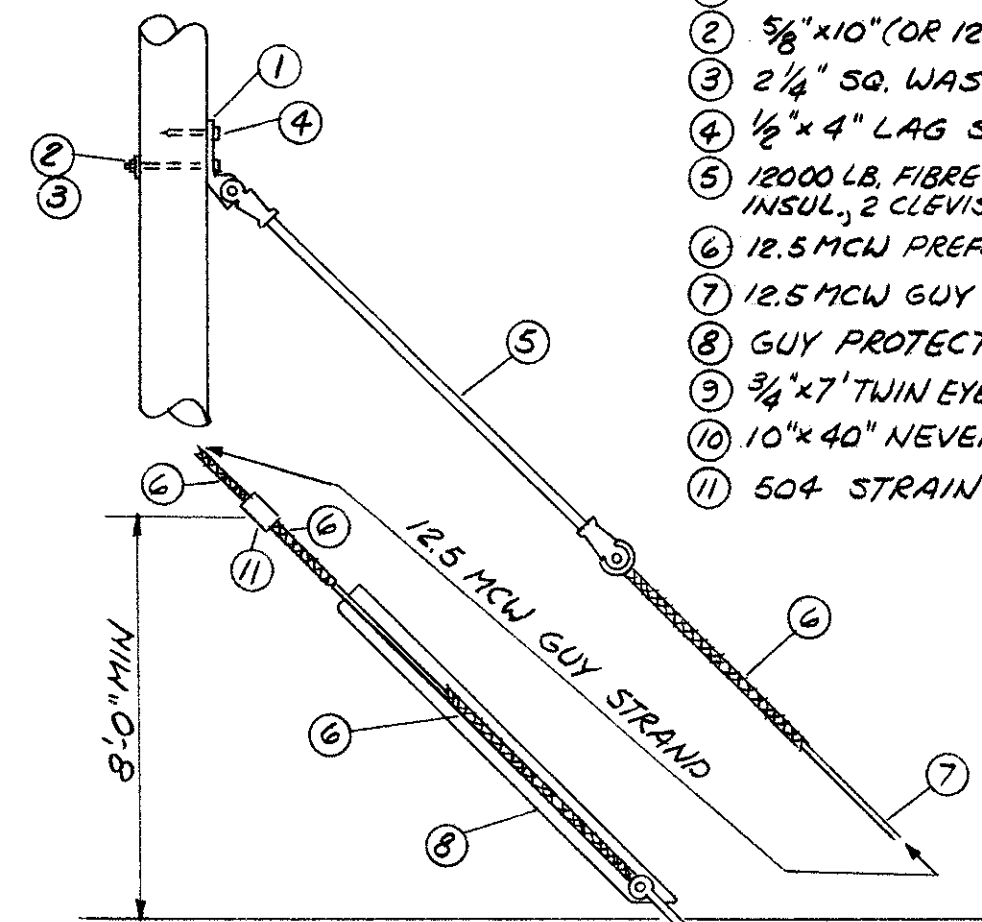
SPECIAL DRILLING FOR TRIPLE ARM ASSEMBLY (EXISTING HOLES NOT SHOWN)

ITEM	NO. REQ'D.
1 POLE ATTACHMENT PLATE	1
2 5/8" x 10" (OR 12") MACH. BOLT	3
3 2 1/4" SQ. WASHER	2
4 12000 LB. FIBER GLASS GUY STRAIN INSUL., 2 CLEVISSES & 1-2 1/2" ROLLER	1
5 12.5 MCW PREFORMED GUY GRIPS	4
6 12.5 MCW GUY STRAND TO LENGTH	1
7 1/2" GUY THIMBLE	1
8 5/8" EYE NUT	1
9 1 1/8" ROUND WASHER	1
10 3" CURVED WASHER	1
11 504 STRAIN INSUL.	1



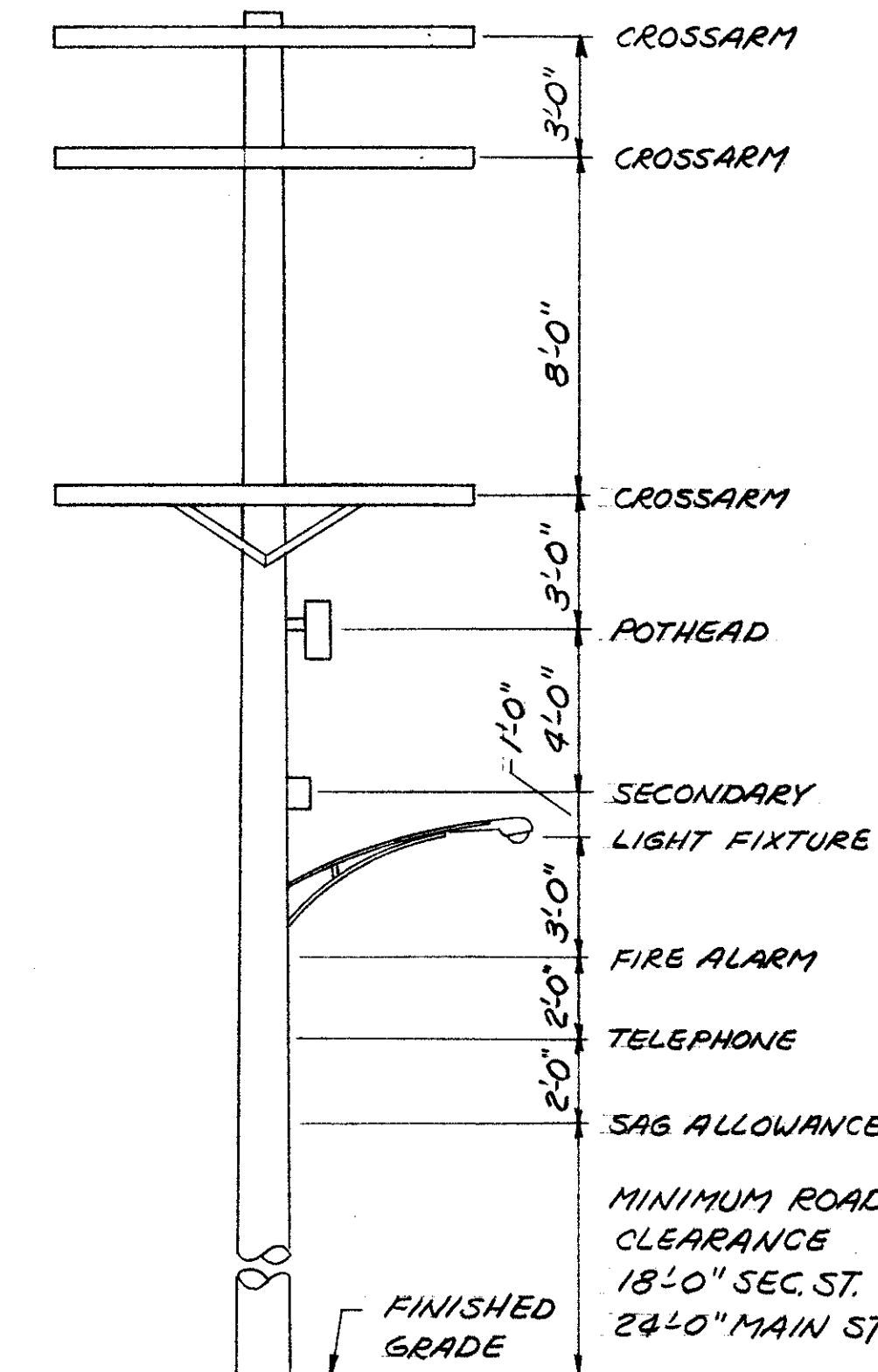
TYPICAL DETAIL OF 12.5 MCW HEAD GUY WITH 15KV STRAIN INSULATOR

ITEM	NO. REQ'D.
1 POLE ATTACHMENT PLATE	1
2 5/8" x 10" (OR 12") MACH. BOLT	1
3 2 1/4" SQ. WASHER	1
4 1/2" x 4" LAG SCREW	1
5 12000 LB. FIBRE GLASS GUY STRAIN INSUL., 2 CLEVISSES & 1-2 1/2" ROLLER	1
6 12.5 MCW PREFORMED GUY GRIPS	4
7 12.5 MCW GUY STRAND TO LENGTH	1
8 GUY PROTECTOR	1
9 3/4" x 7" TWIN EYE THREADED ANC. ROD	1
10 10" x 40" NEVER CREEP ANG. PL.	1
11 504 STRAIN INSUL.	1



NOTE: HEAD END OF MACH. BOLT, ITEM 2, ON ATTCHMT. PL. SIDE FOR MAX. STRENGTH

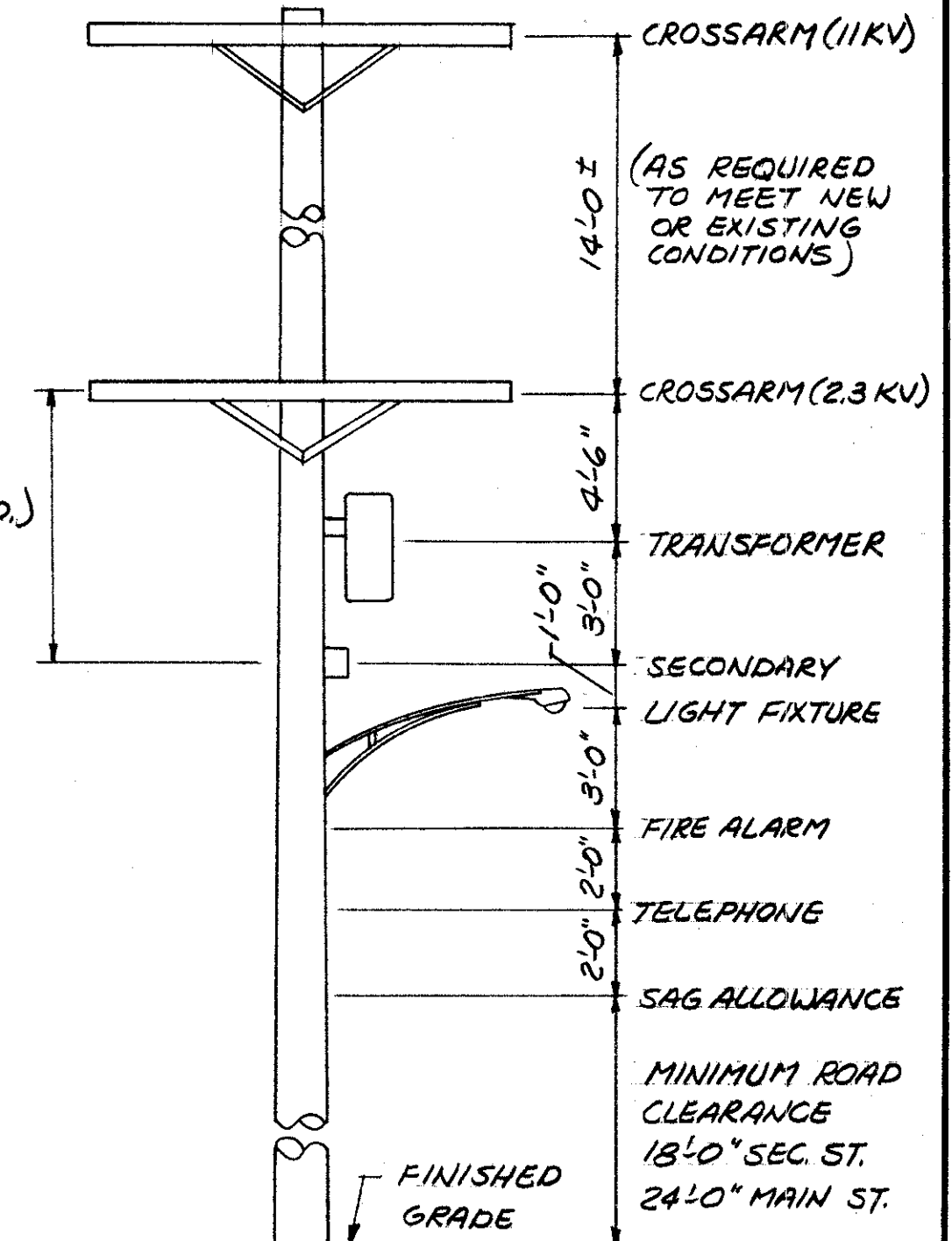
TYPICAL DETAIL OF 12.5 MCW ANCHOR GUY WITH 15KV STRAIN INSULATOR



TYPICAL POLE SPACE ASSIGNMENT FOR 11KV LAT. POLE

NOTE: FOR ADDITIONAL 11KV DETAILS SEE MELP. DWG'S.,

- 2-2-1-1
- 2-2-1-2
- 2-2-1-3
- 2-2-1-4
- 3-2-2-5
- 3-2-2-7
- 3-2-2-10
- 3-2-2-11
- 5-2-2-2
- 6-2-2-1
- 9-2-2-1
- 9-2-2-3
- 9-2-2-5



TYPICAL POLE SPACE ASSIGNMENT FOR 11KV LINE POLES

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
11KV TYPICAL POLE DETAILS	
DRAWN BY: RWZ	SCALE: NO SCALE
DATE:	DATE:
CH'K'D BY:	DRAWING NUMBER: 6600-3S



FED. RD.	STATE	PROJECT
2	OHIO	

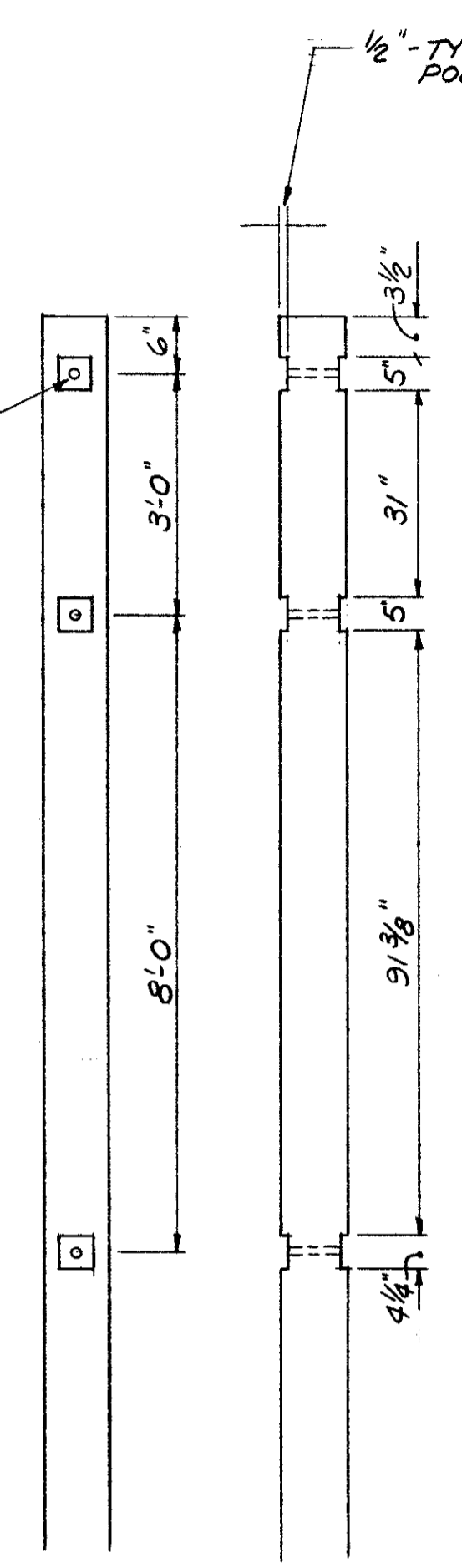
463  
538

CUYAHOGA COUNTY  
CUY-90-11.64

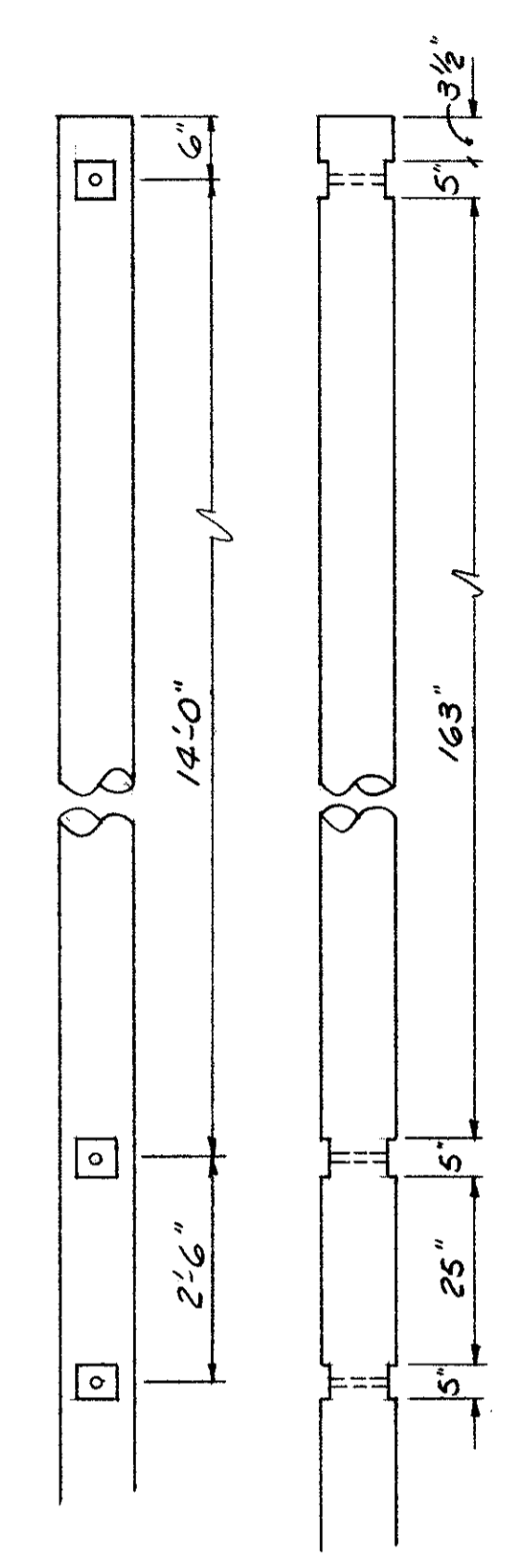
39  
58

1/2" - TYPICAL FOR ALL  
POLES ON THIS DWG.

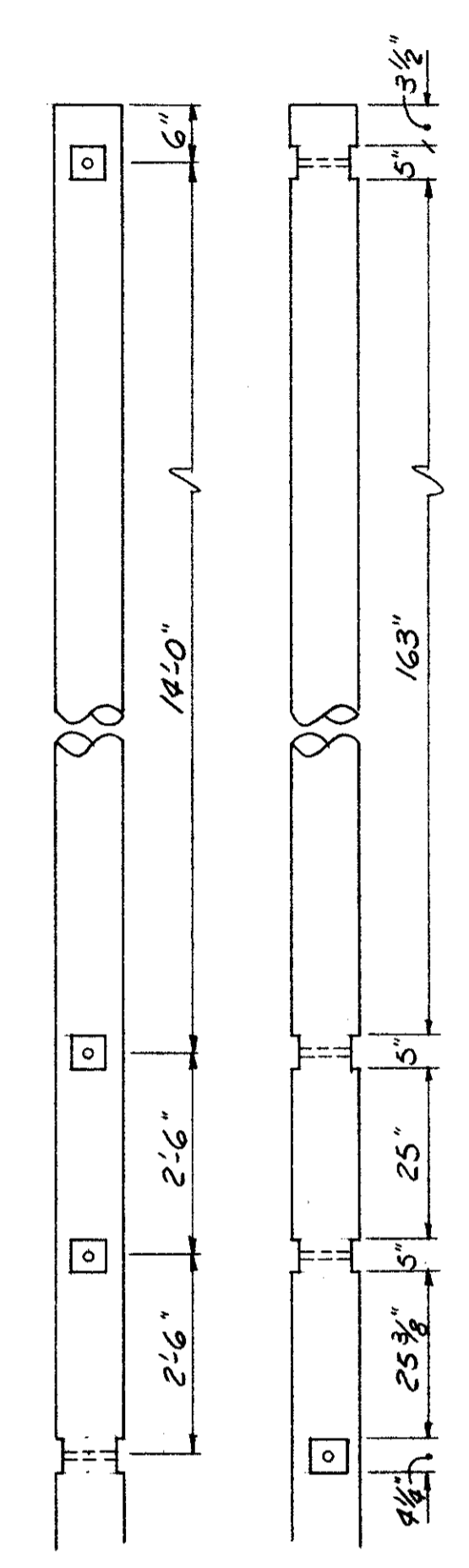
1 1/8" D. HOLE  
TYPICAL FOR  
ALL POLE ON  
THIS DWG.



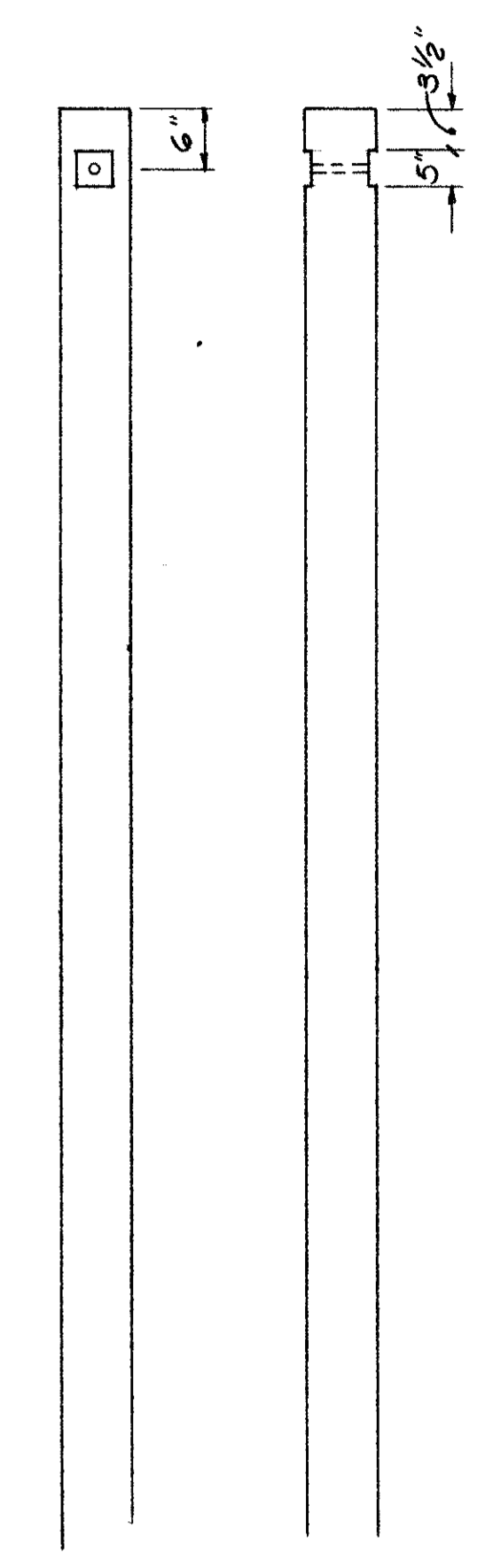
DETAIL "H"



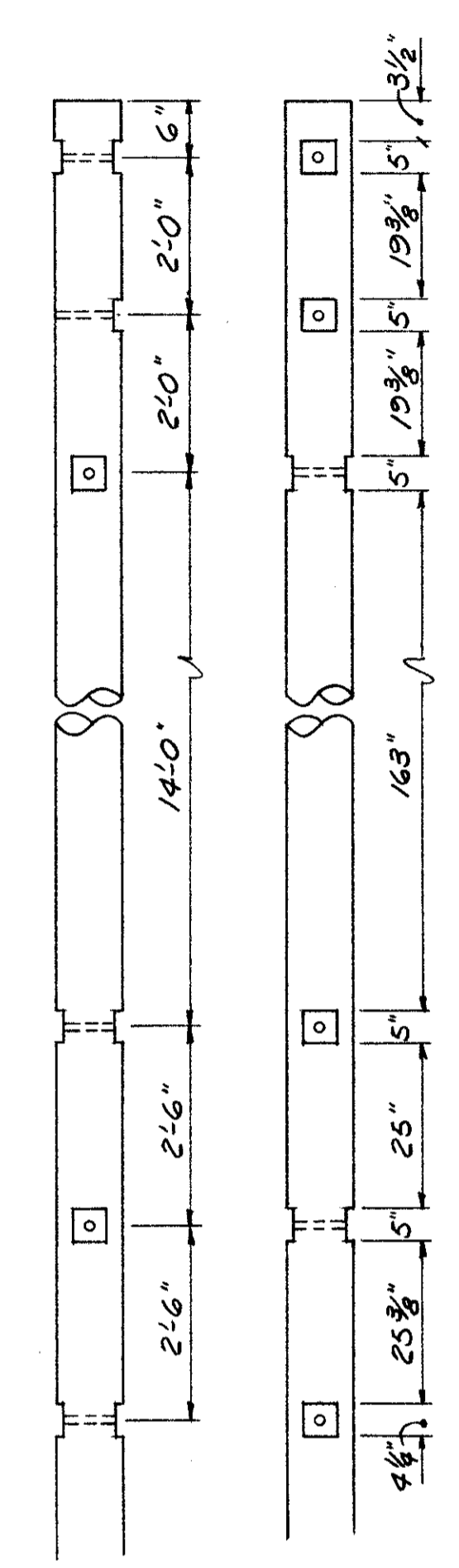
DETAIL "J"



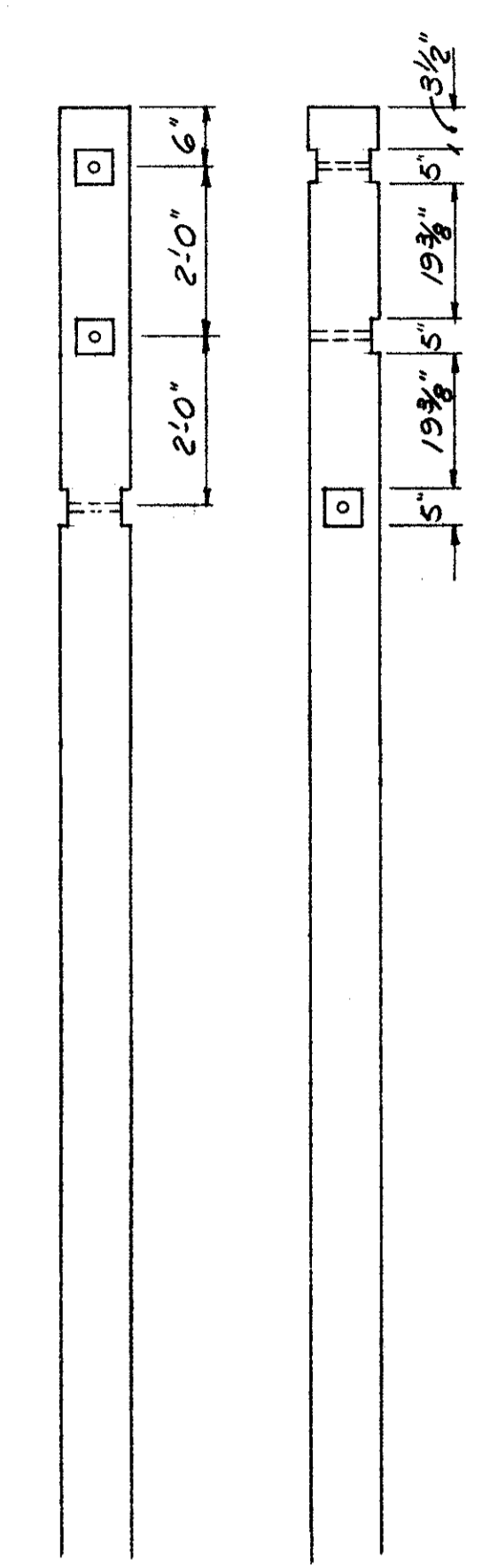
DETAIL "K"



DETAIL "L"



DETAIL "M"

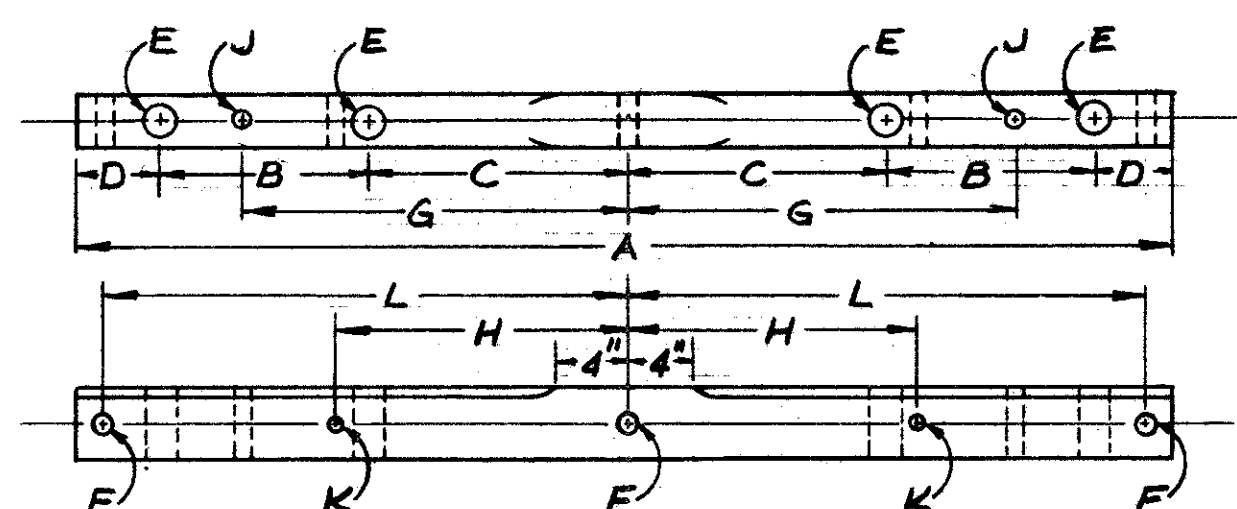


DETAIL "N"

POLE GAINING DETAILS

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

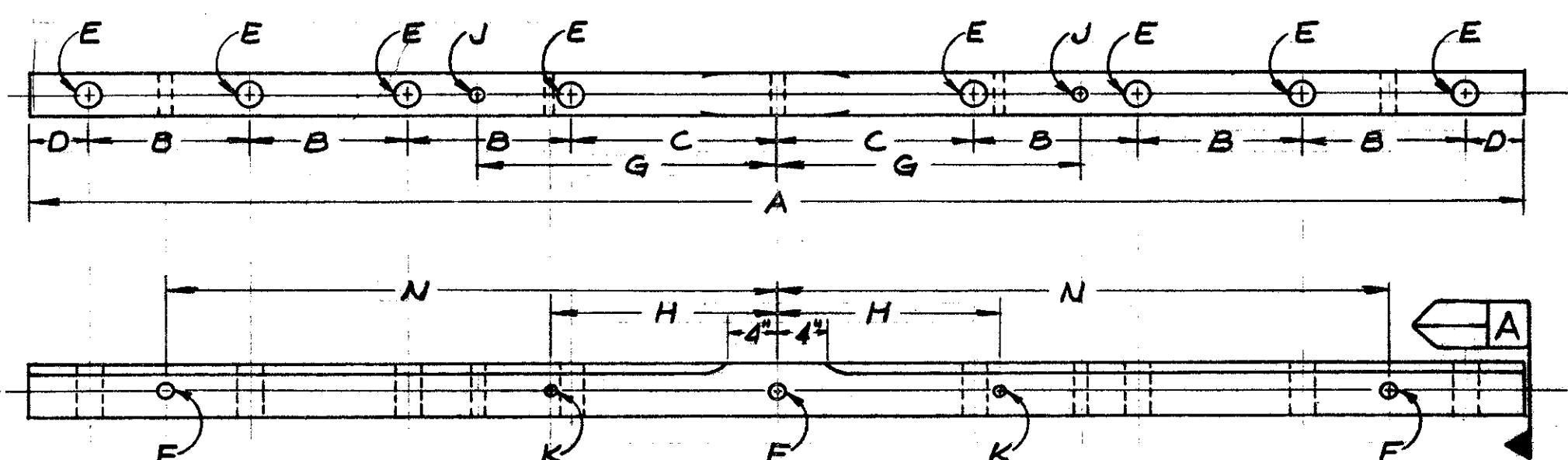
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
OVERHEAD DETAILS-SHEET N#1	
DRAWN BY: RWZ	SCALE: NO SCALE
DATE:	DRAWING NUMBER: 6600-3T
CH'K'D BY:	



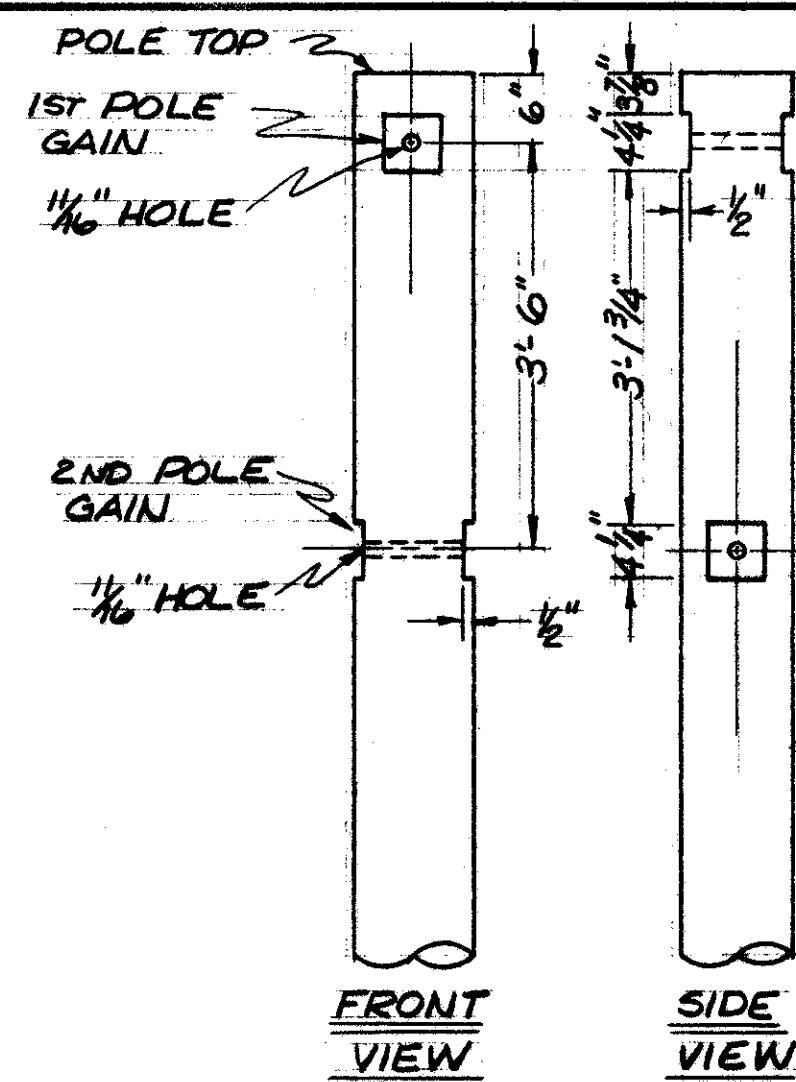
4 PIN CROSSARM



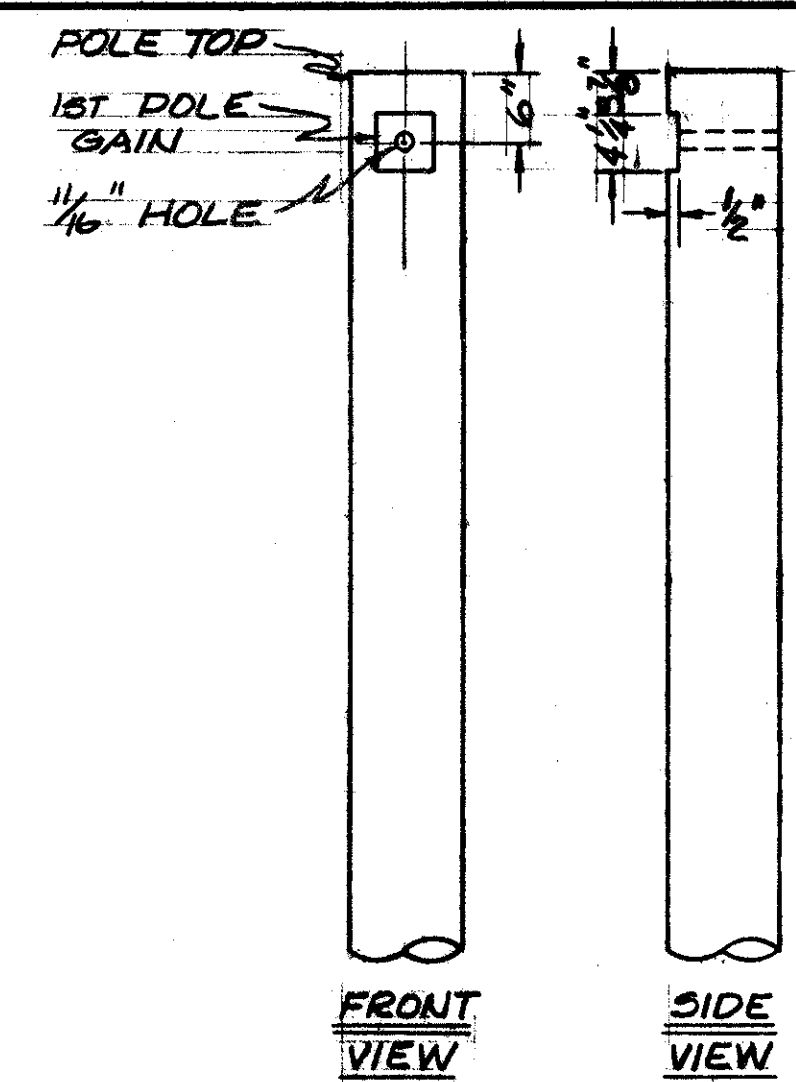
6 PIN CROSSARM



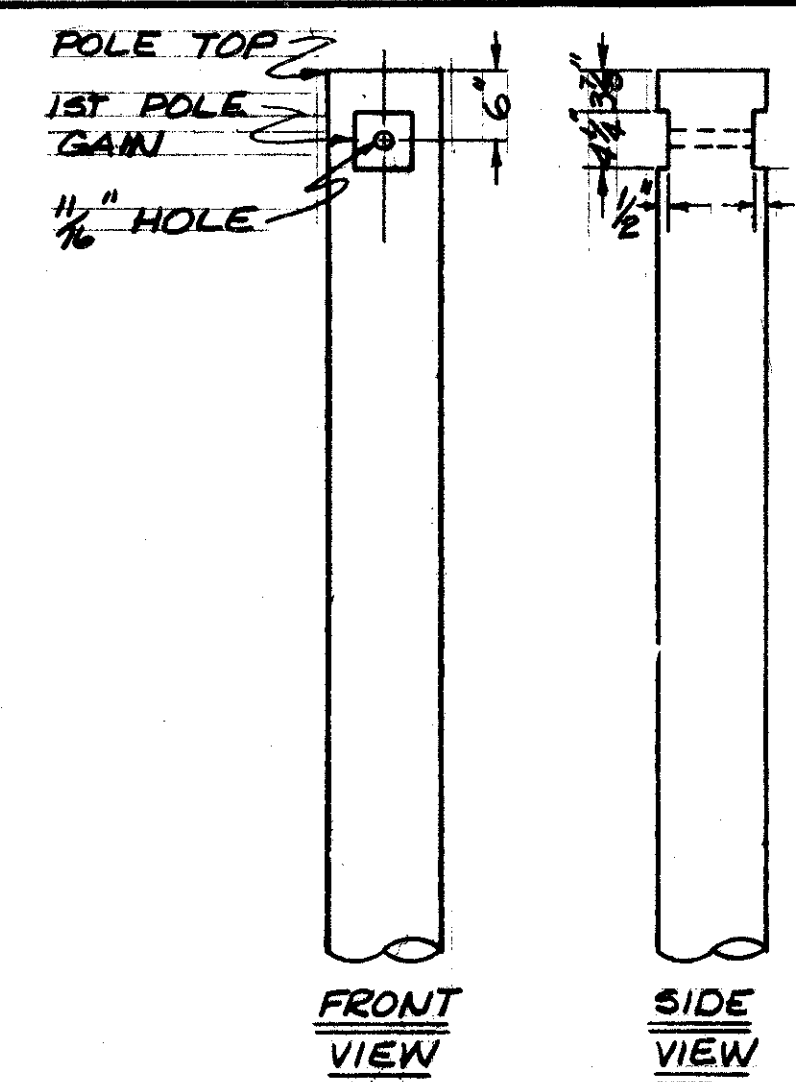
8 PIN CROSSARM



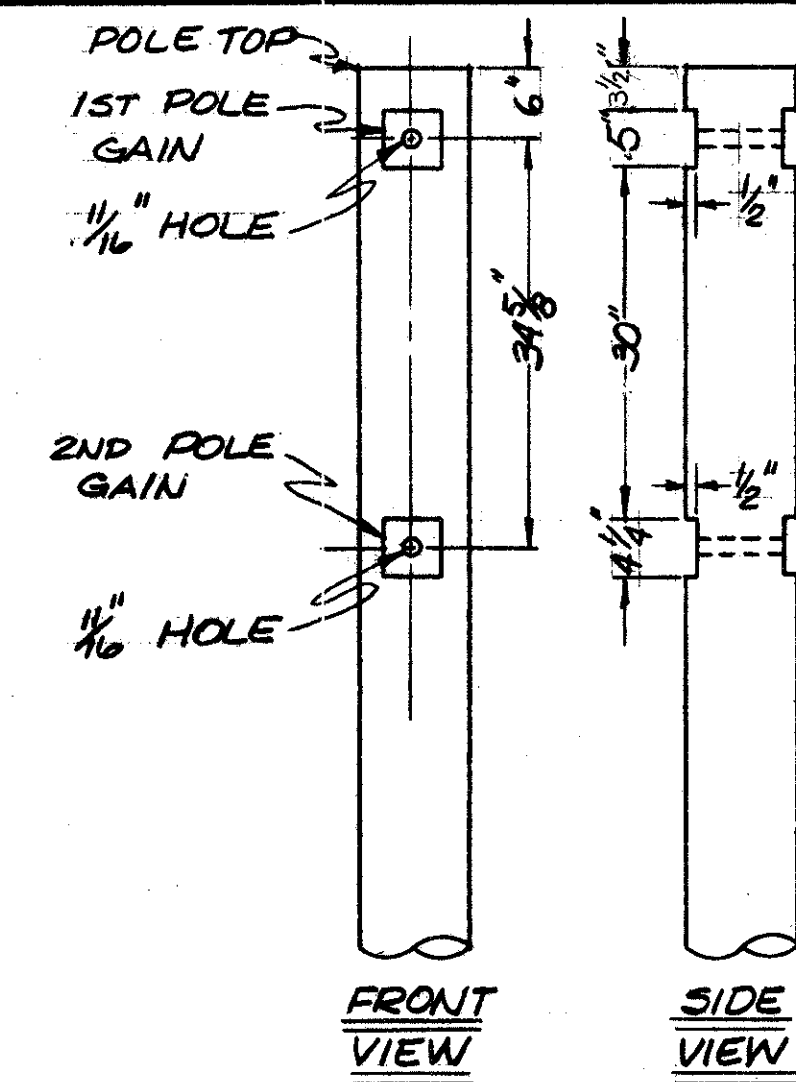
DETAIL "A"



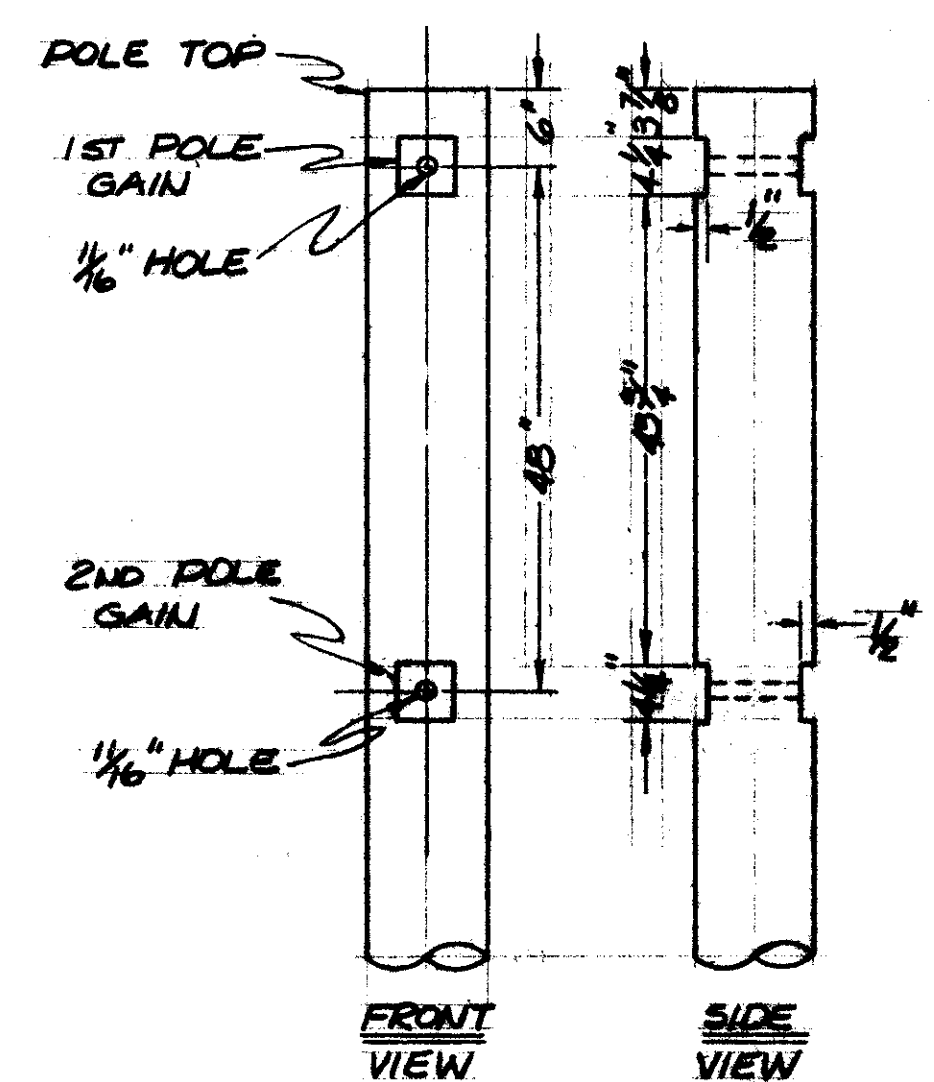
DETAIL "B"



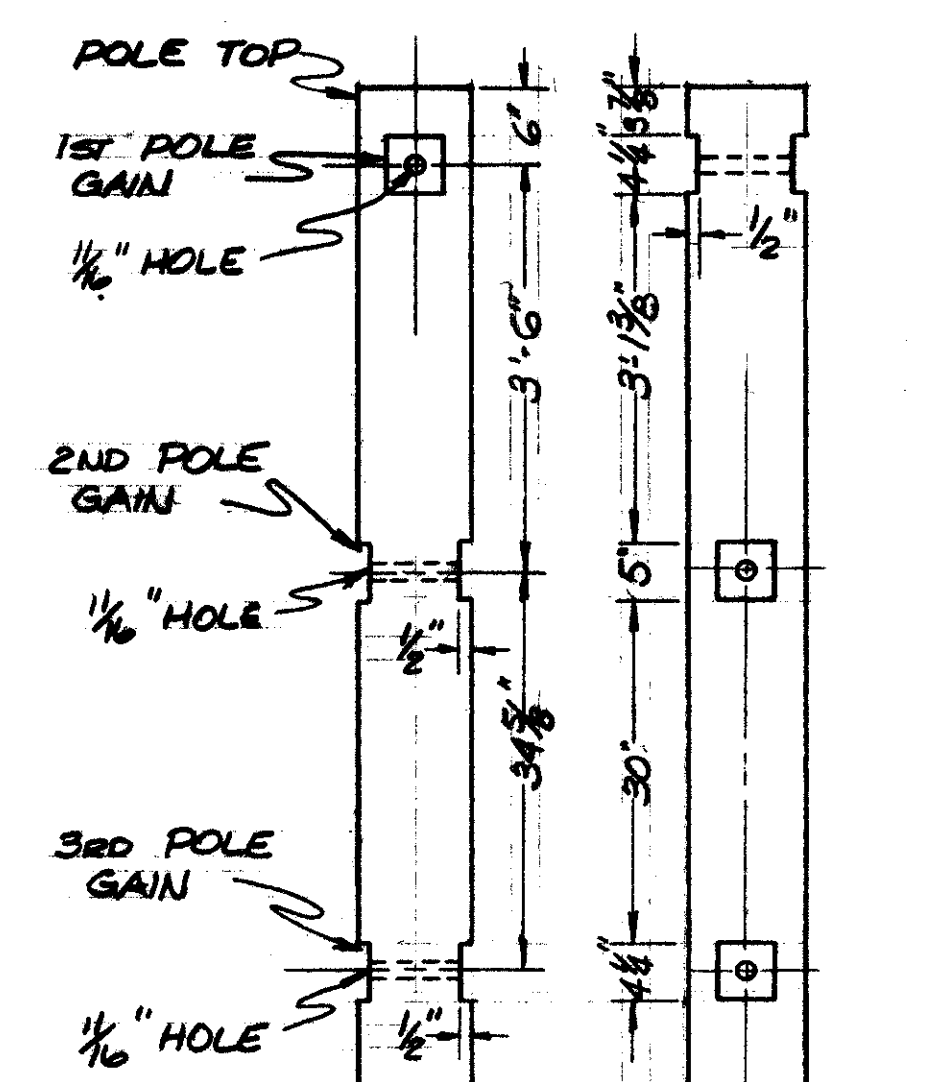
DETAIL "C"



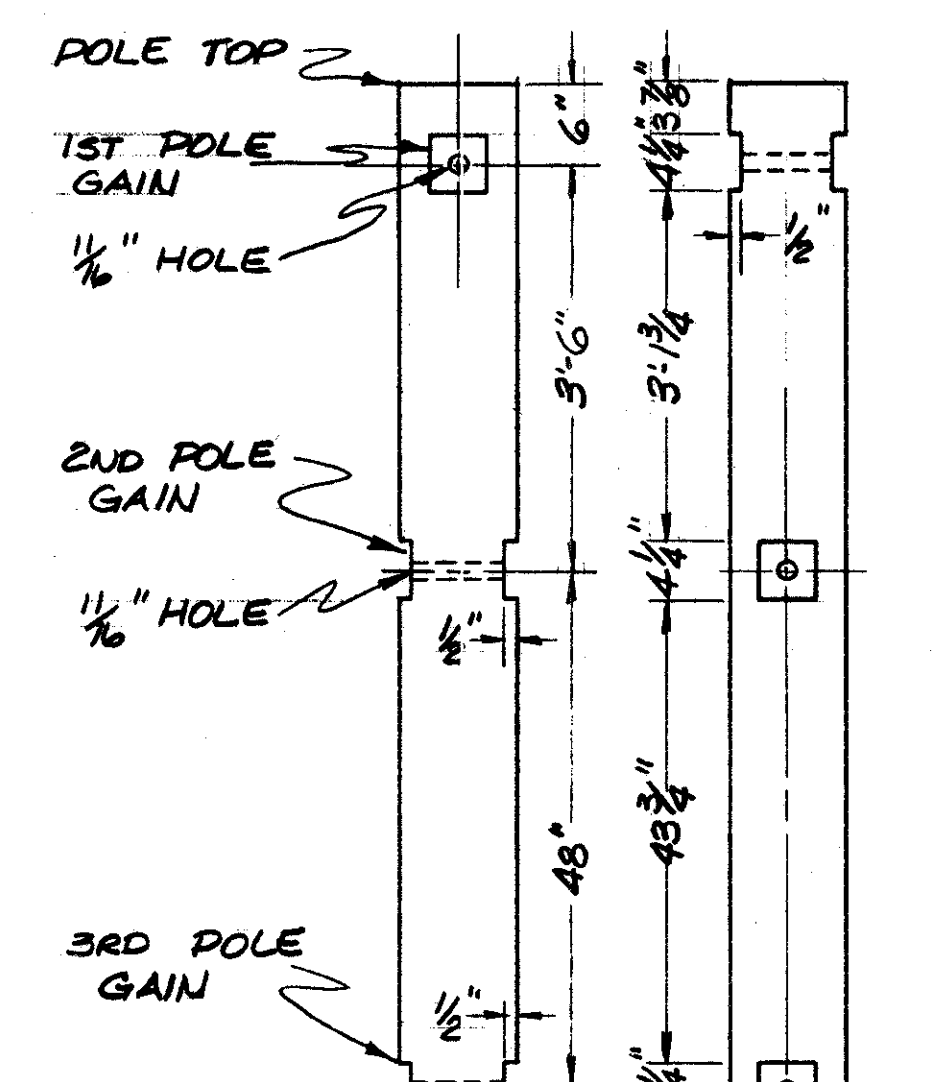
DETAIL "D"



DETAIL "E"



DETAIL "F"



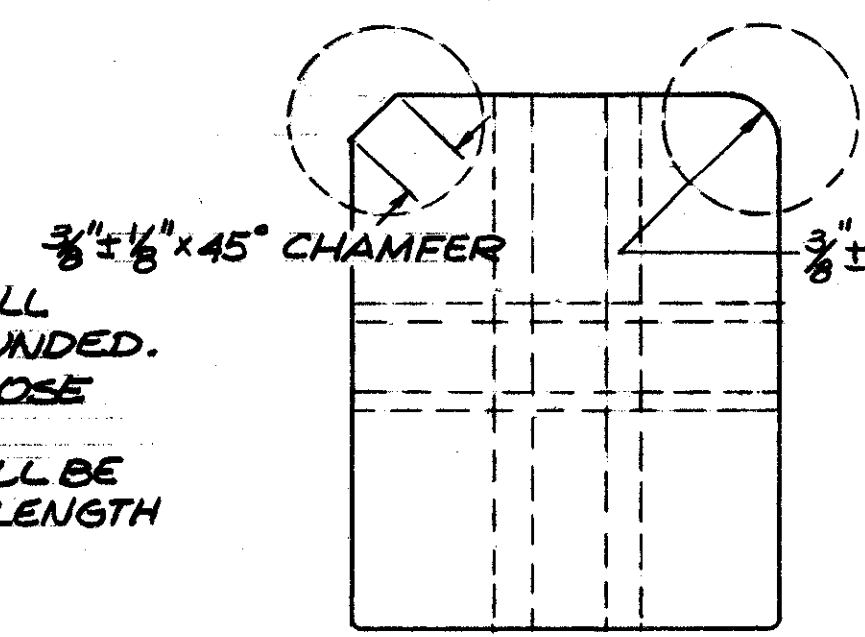
DETAIL "G"

POLE GAINING DETAILS

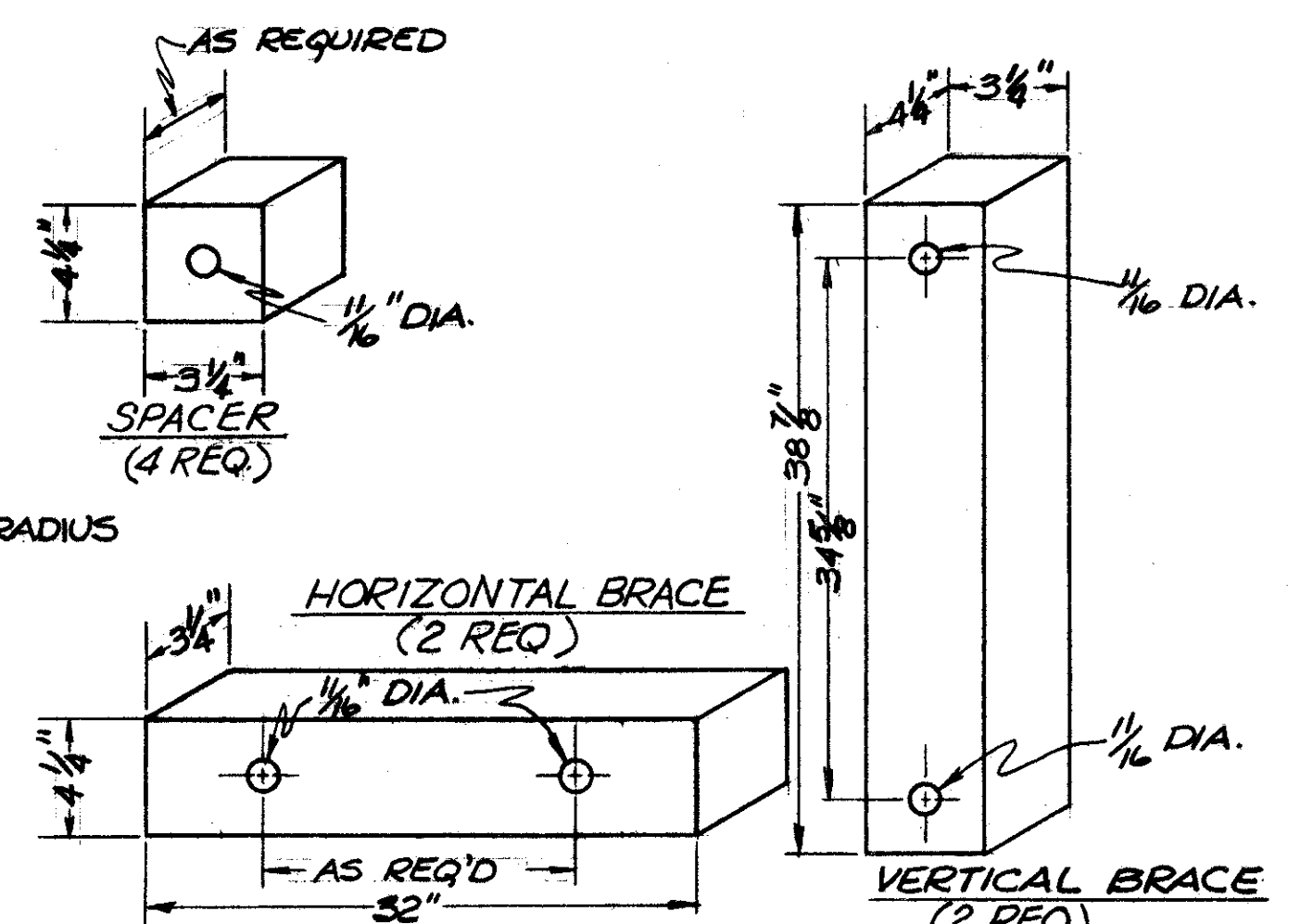
TYPE	NO. PINS	LENGTH ARM	PIN HOLES				CENTER AND END HOLE INCHES	BOLT BRACE HOLES				END BOLT HOLE FOR SPACING BLOCK			
			SPACING INCHES SIDES	SPACING INCHES CENTER	SIZE INCHES ENDS	SIZE INCHES		SPACING INCHES ANGLE IRON	SPACING INCHES PLATE	SIZE INCHES	J	K	L	M	N
STANDARD	4	5'-7" ± 1/4"	14 1/2" ± 1/8"	15" ± 1/8"	4" ± 1/8"	1 11/32"	1 1/16"	24" ± 1/8"	18" ± 1/8"	9 1/16"	7 1/16"	31 1/2" ± 1/8"			
	6	8'-0" ± 1/4"	"	"	"	"	"	"	"	"	"	41" ± 1/8"			
4"x5" HEAVY DUTY	6	8'-0" ± 1/4"	"	"	"	"	"	"	OMIT	"	OMIT	41" ± 1/8"			
	8	10'-5" ± 1/4"	"	"	"	"	"	"	OMIT	"	OMIT	51 1/2" ± 1/8"			

CROSSARM DETAILS

NOTES:  
THE TWO TOP EDGES (ONLY) SHALL BE EITHER CHAMFERED OR ROUNDED. (THE MANUFACTURER MAY CHOOSE THE SHAPE HE PREFERS.)  
THE TWO BOTTOM EDGES SHALL BE SLIGHTLY EASED FOR ENTIRE LENGTH 1/8" ± 1/16" RADIUS.



TYPICAL FOR ALL CROSSARMS



LATERAL POLE WOOD BRACING DETAILS

NOTE: MAY BE CUT FROM STANDARD CROSSARMS

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
ENGINEER OF DESIGN

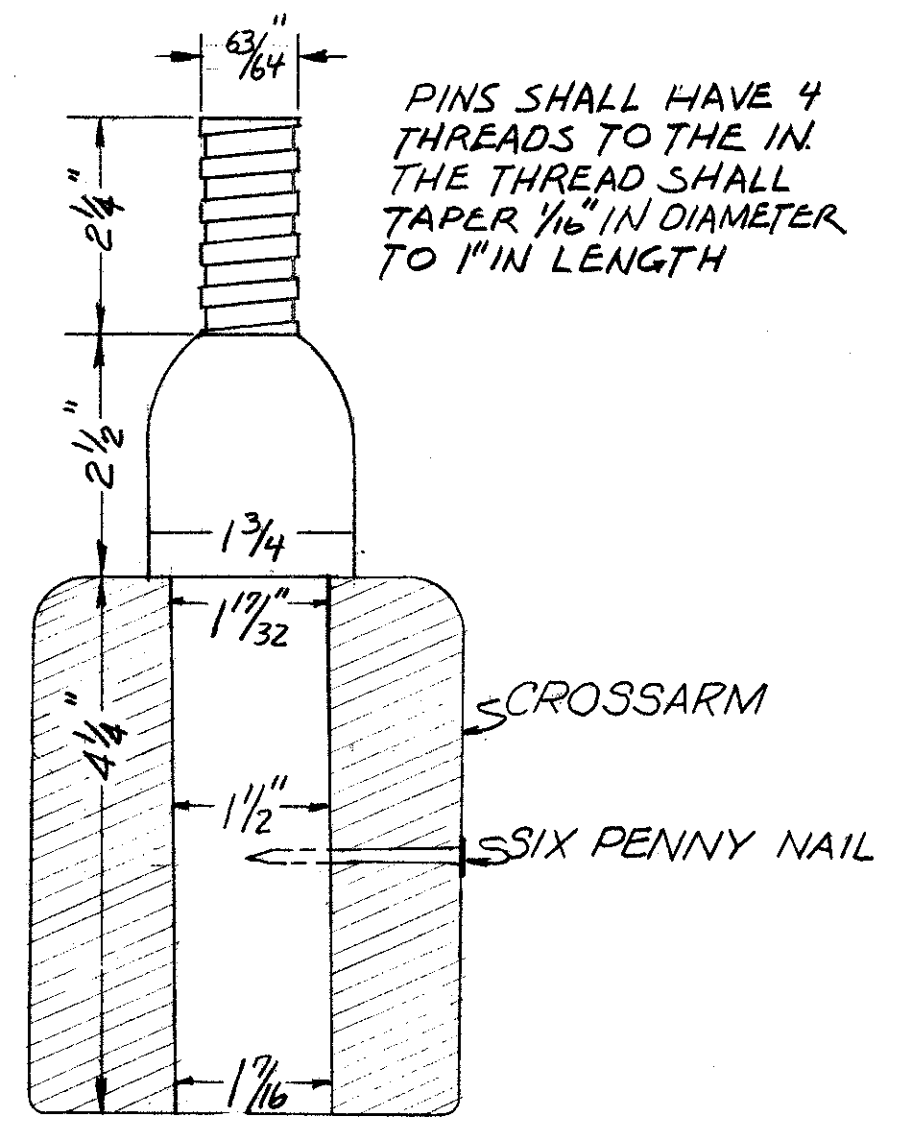
DIVISION OF LIGHT & POWER  
CITY OF CLEVELAND

OVERHEAD  
DETAILS-SHEET No 2

SCALE No SCALE  
DATE

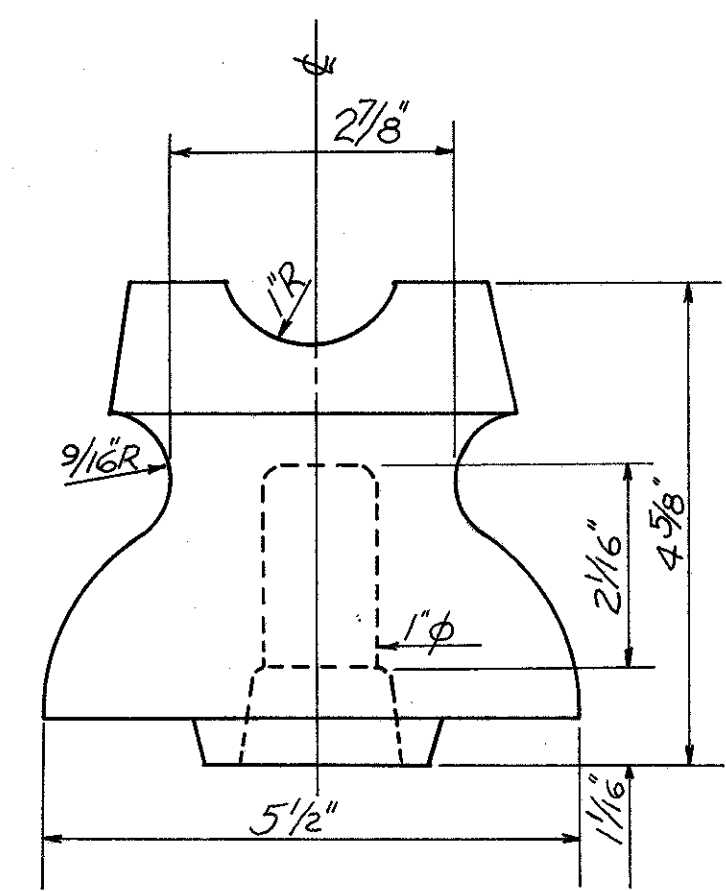
DRAWN BY E.F.  
DATE

DRAWING NUMBER  
6600-3U

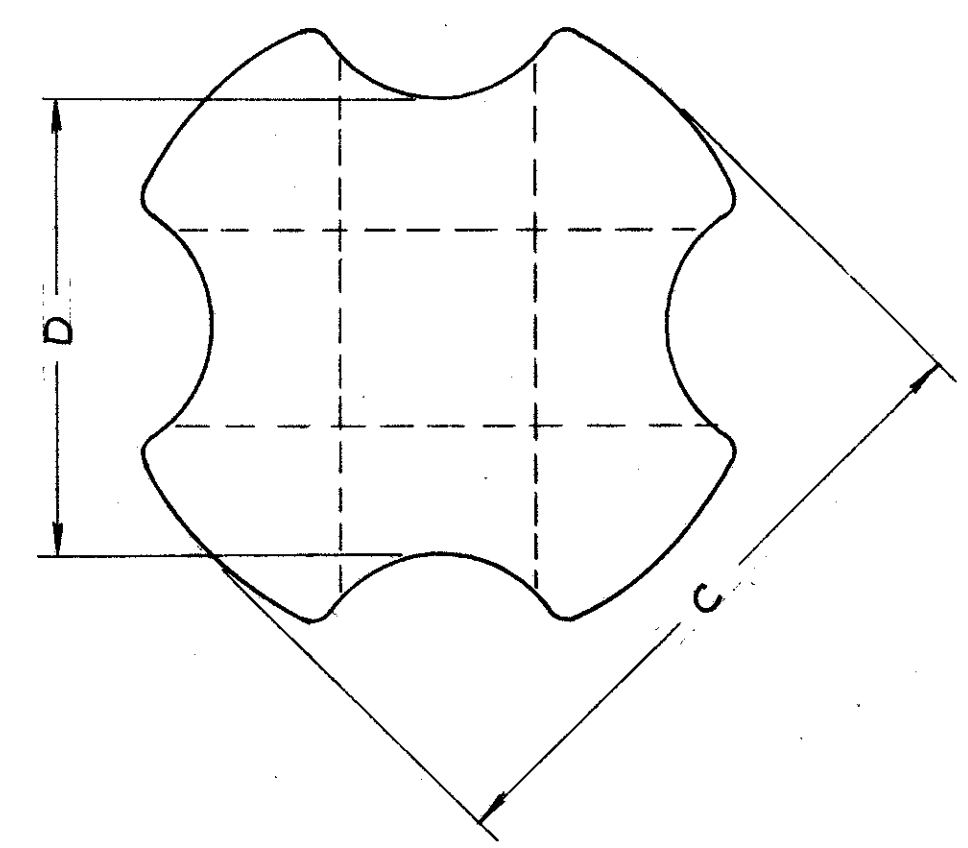
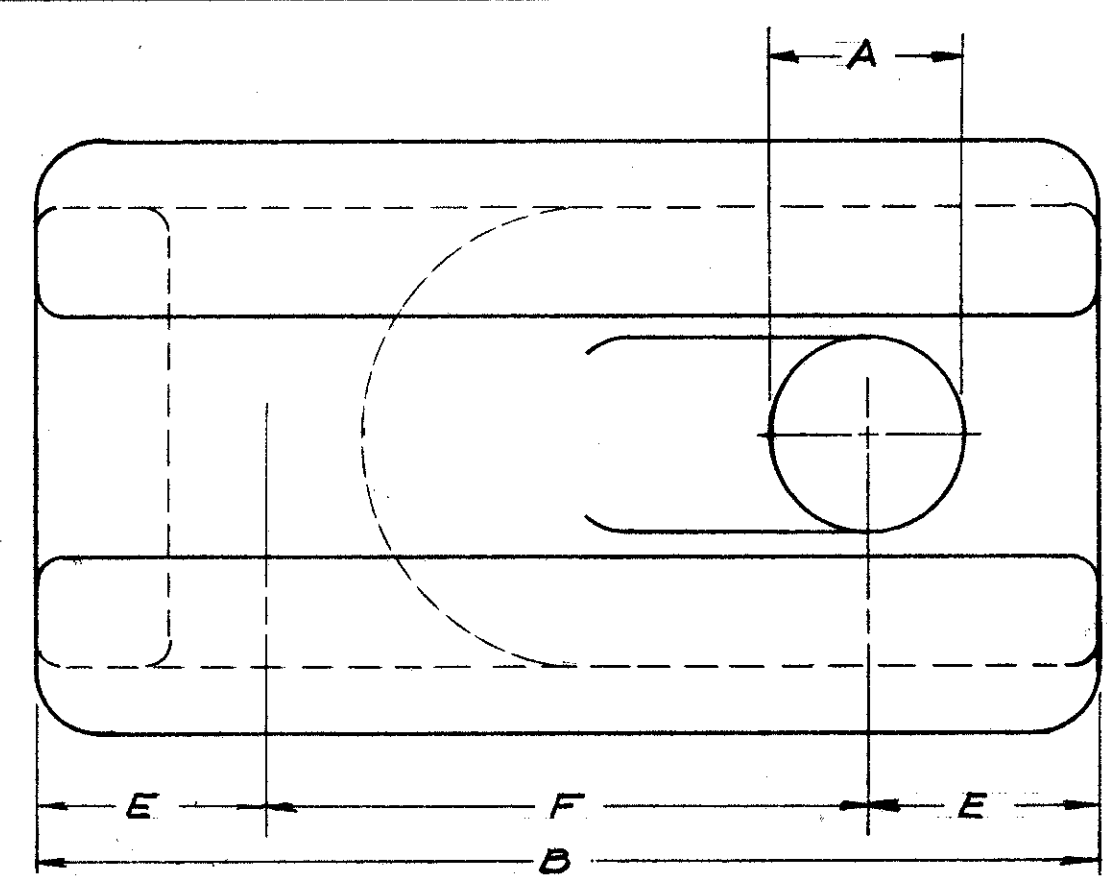


**WOOD LOCUST PIN DETAIL**  
(SPECS. : OC-13)

PINS SHALL HAVE 4  
THREADS TO THE IN.  
THE THREAD SHALL  
TAPER 1/16" IN DIAMETER  
TO 1" IN LENGTH

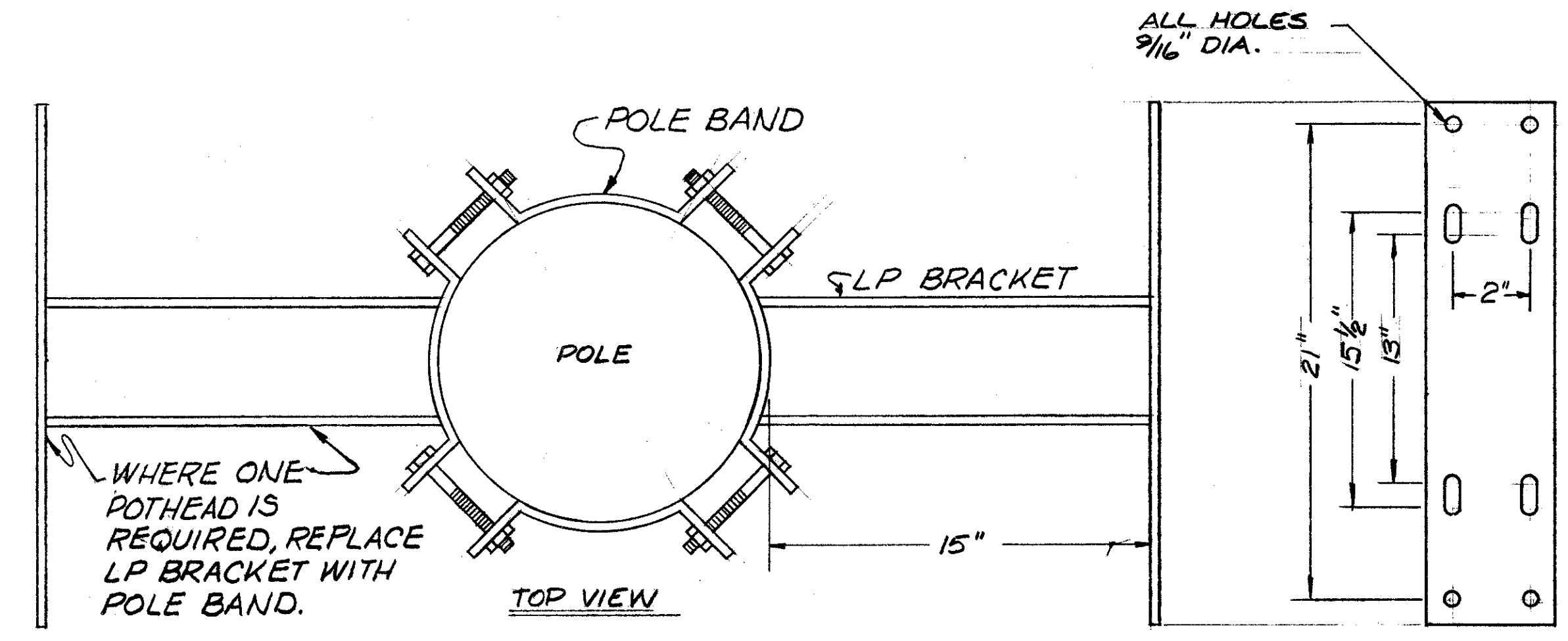


**PIN TYPE INSULATOR**  
(SPECS. : OC-13)



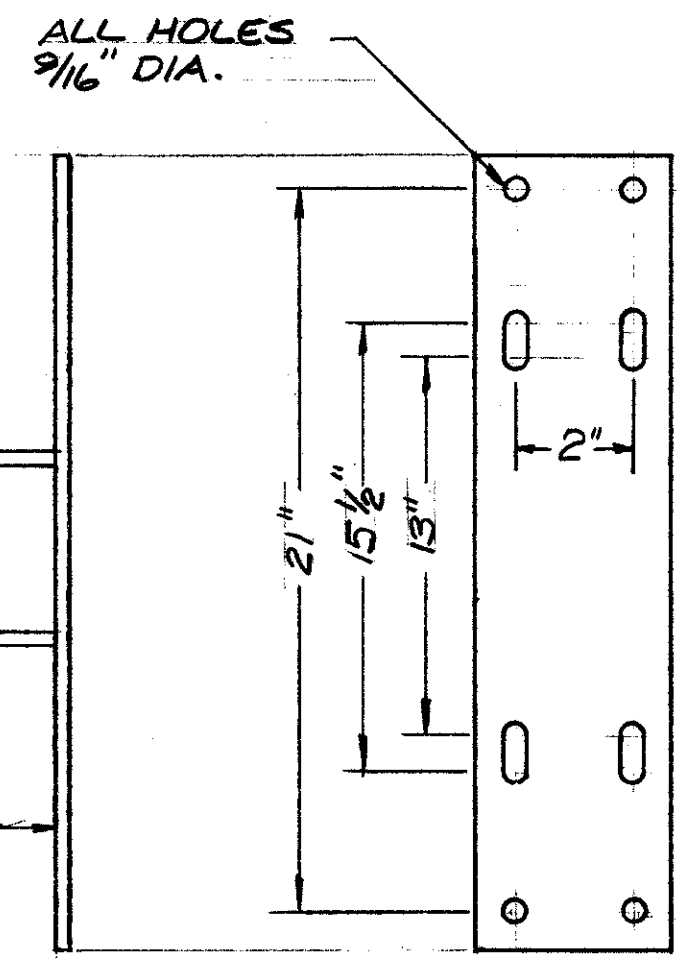
ASA CLASS	DIMENSIONS IN INCHES						MECH. STRENGTH EACH	APPROX. W/FLASHOVER	KV DRY	KV WET	LEAKAGE DISTANCE	MAX. CABLE DIA.
	A	B	C	D	E	F						
54-1	5/8 ± 1/16	3 1/2	2 1/2	1 3/4 ± 1/16	1 3/4 ± 1/16	1 3/4 ± 1/16	10,000 LBS	7/8	25	12	1 5/8"	3/8"
54-2	7/8 ± 1/16	4 1/8	2 7/8	2 1/8 ± 1/16	1 5/8 ± 1/16	2 1/4 ± 1/8	12,000 LBS	1 1/8	30	15	1 3/8"	1/2"

**STRAIN TYPE INSULATOR**  
(SPECS. : OC-11)

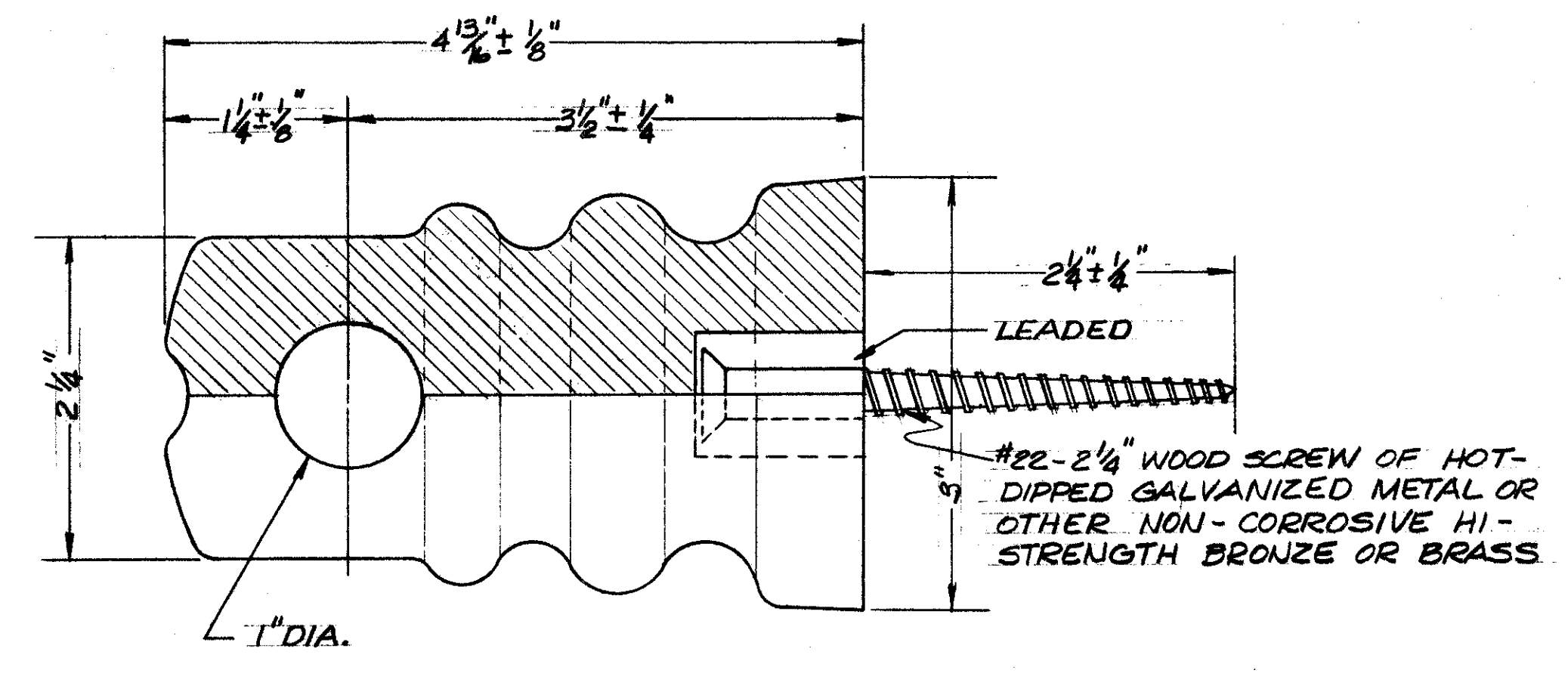


**POTHEAD POLE BRACKET**  
(SPECS. : OC-15)

WHERE ONE  
POTHEAD IS  
REQUIRED, REPLACE  
LP BRACKET WITH  
POLE BAND.

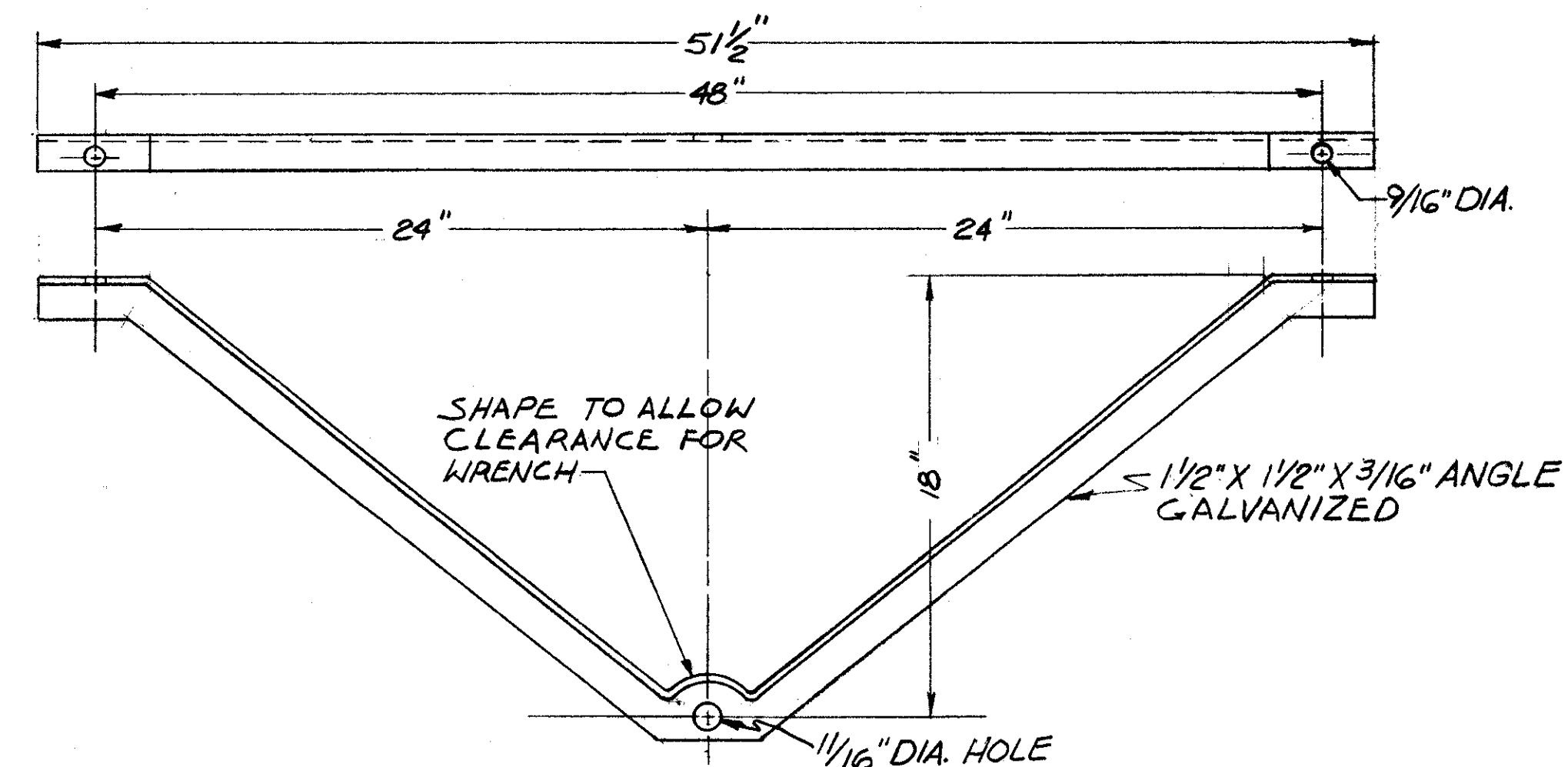


**MTG. PLATE END VIEW**

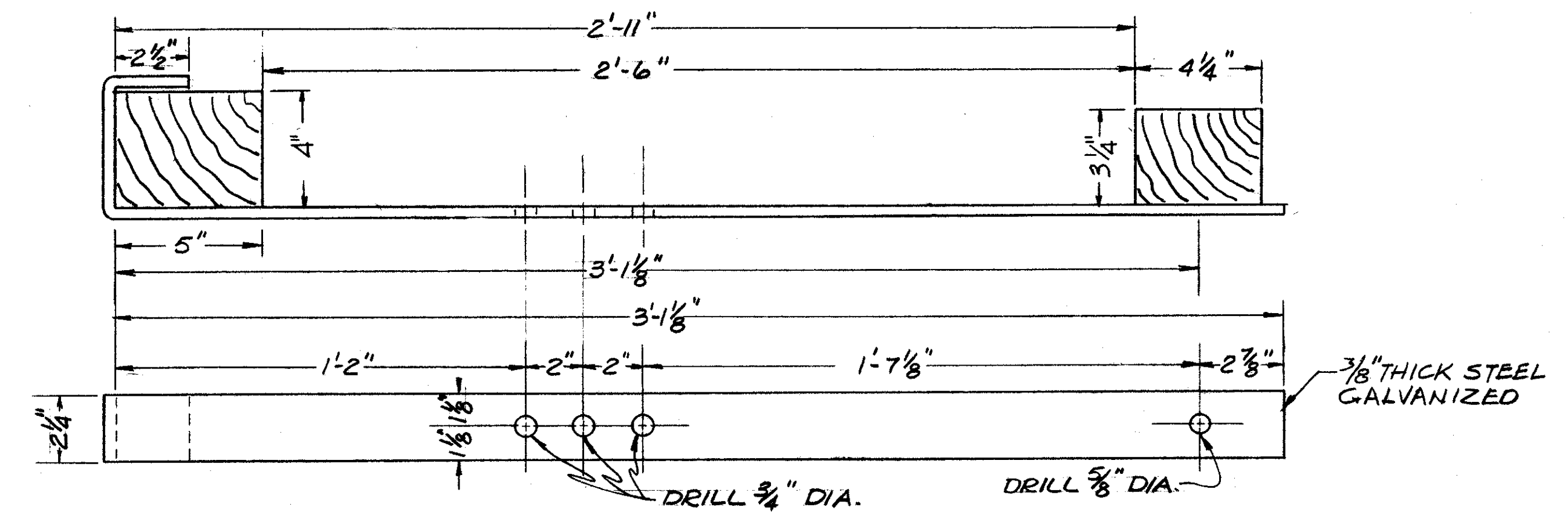


**PRIMARY WIRE HOLDER**  
(SPECS. : OC-19)

#22-2 1/4" WOOD SCREW OF HOT-DIPPED GALVANIZED METAL OR OTHER NON-CORROSIVE HI-STRENGTH BRONZE OR BRASS.



**CROSSARM BRACE**  
(SPECS. : OC-25)



**OIL SWITCH MOUNTING HANGER**  
(SPECS. : OC-21)

3/8" THICK STEEL GALVANIZED

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CITY ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
ENGINEER OF DESIGN

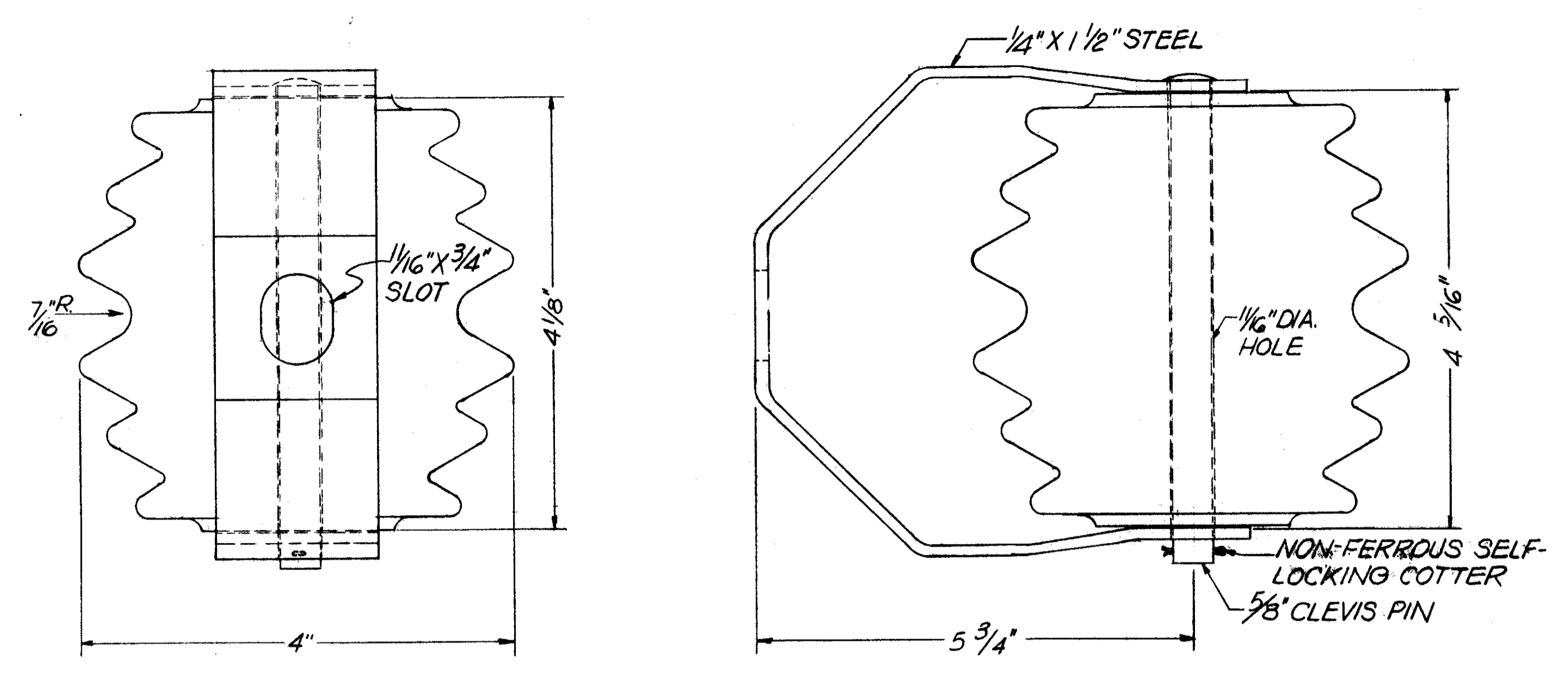
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
OVERHEAD DETAILS SHEET No 3	
SCALE No SCALE	DRAWING NUMBER 6600-3V
DATE 3/75	CHK'D BY J.M.

FED. RD.	STATE	PROJECT
2	OHIO	

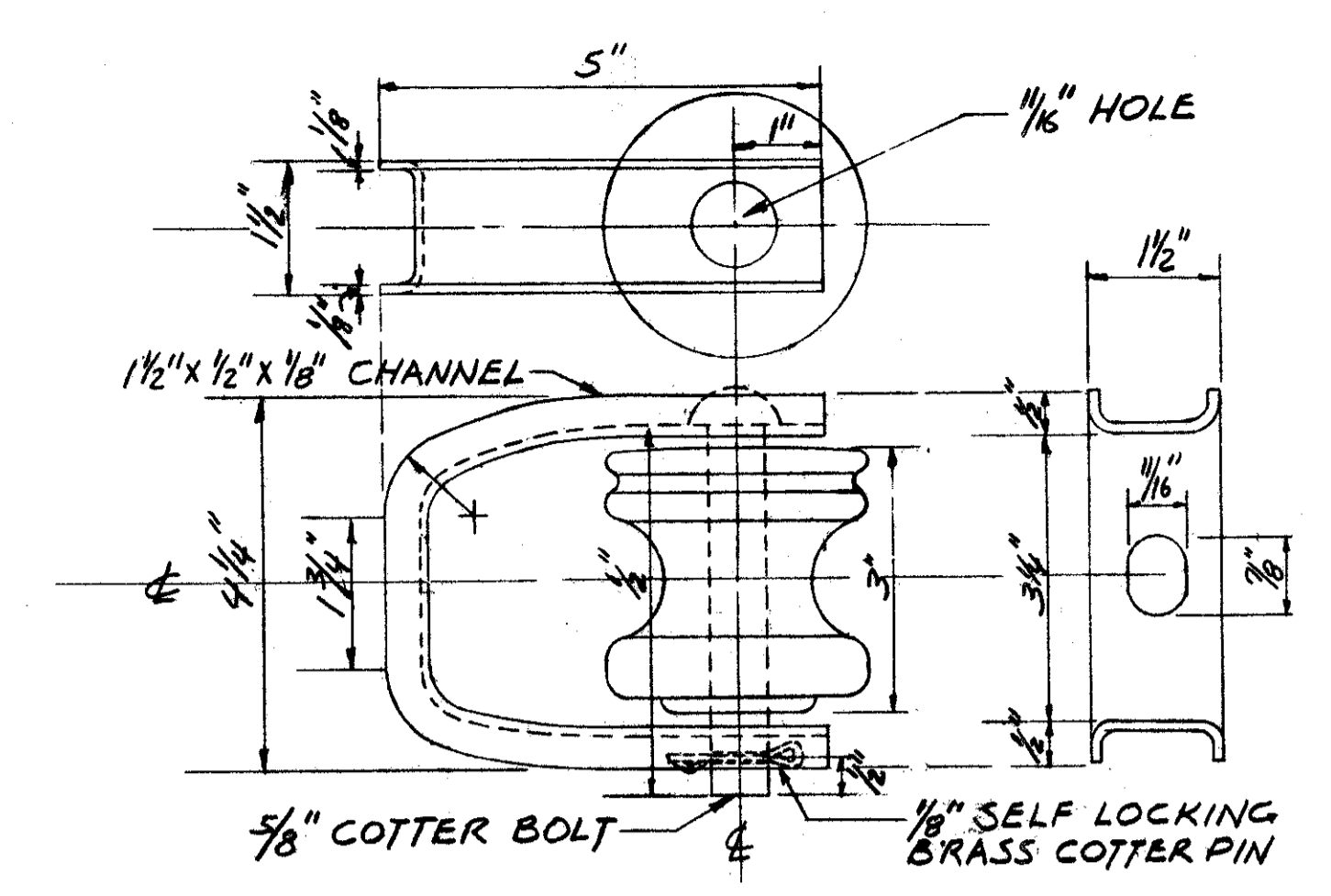
466  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

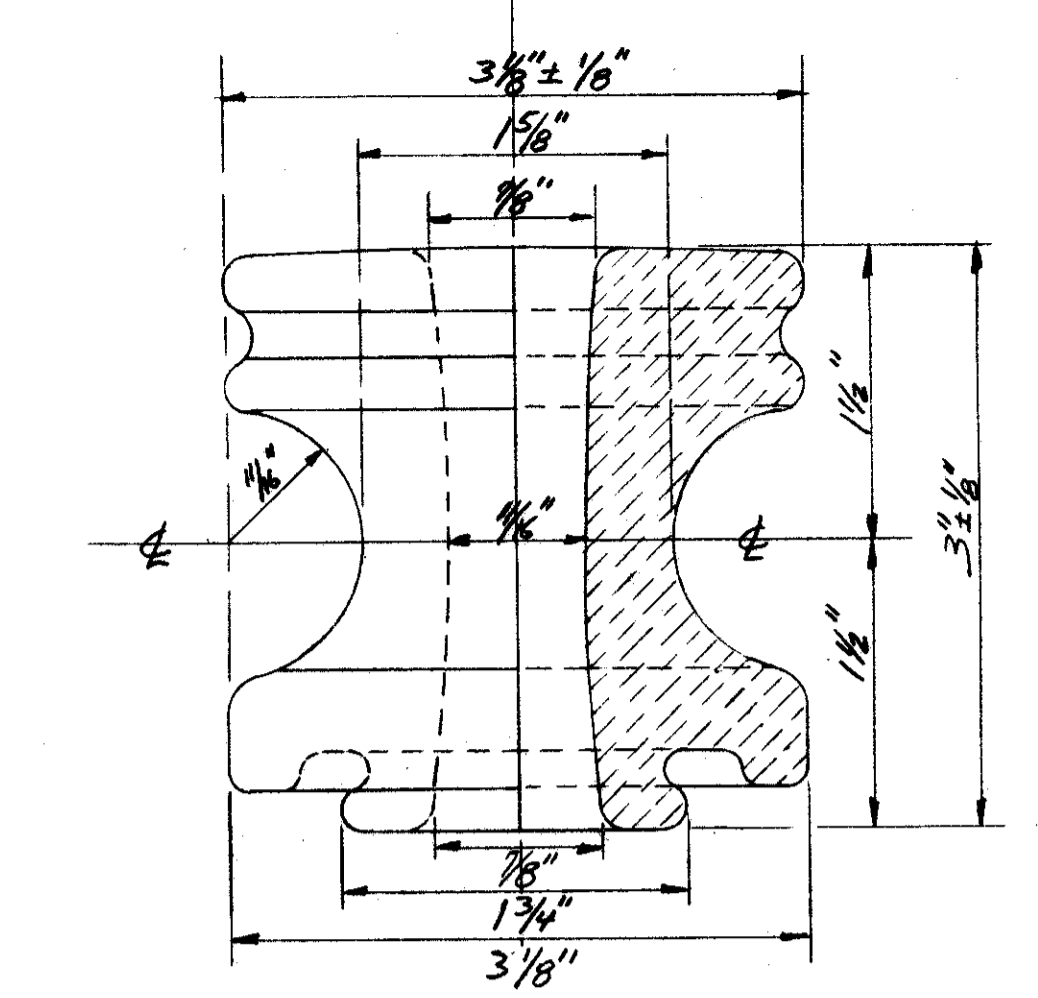
42  
58



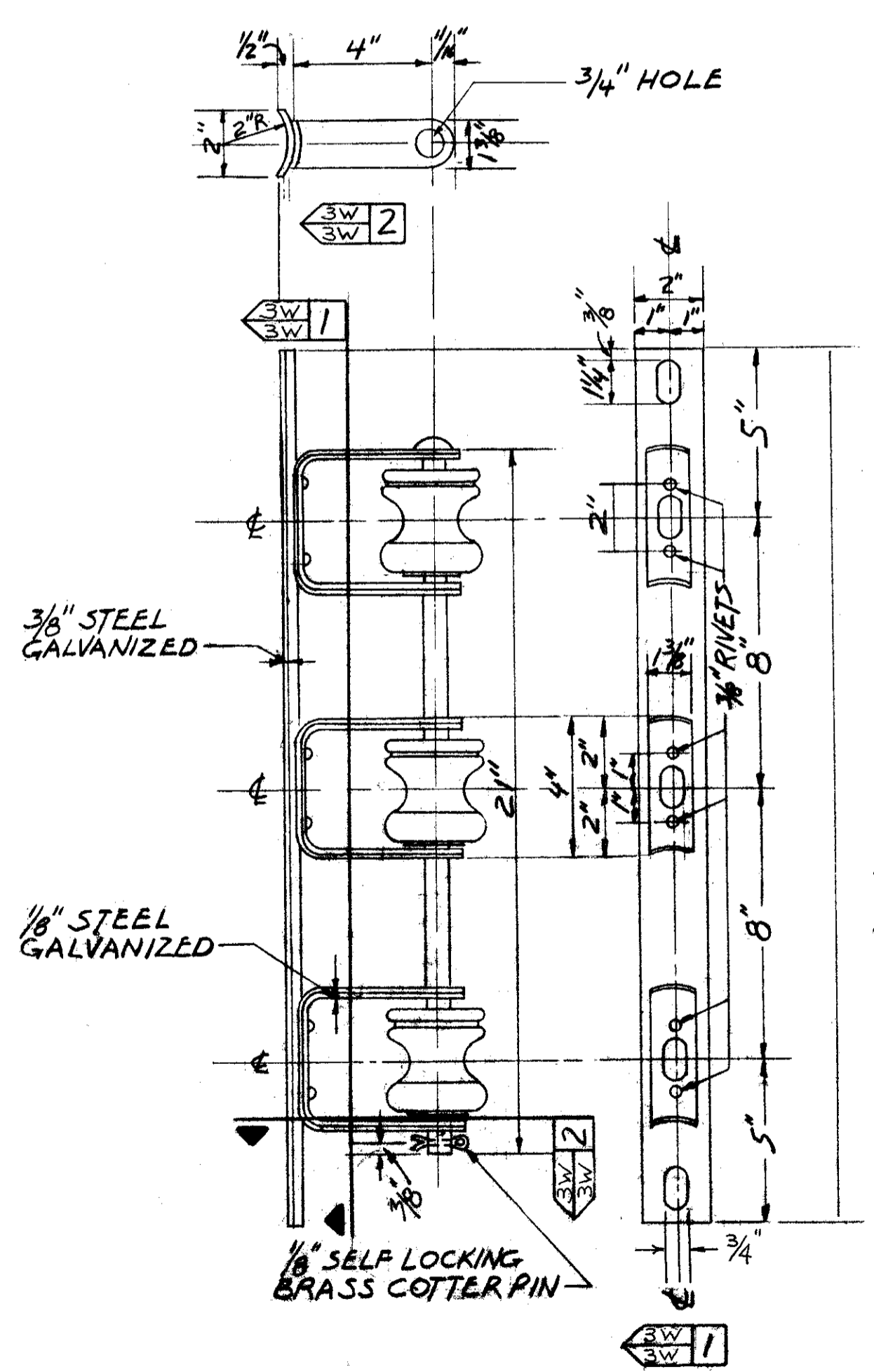
DEAD END CLEVIS  
(SPECS.: OC-14)



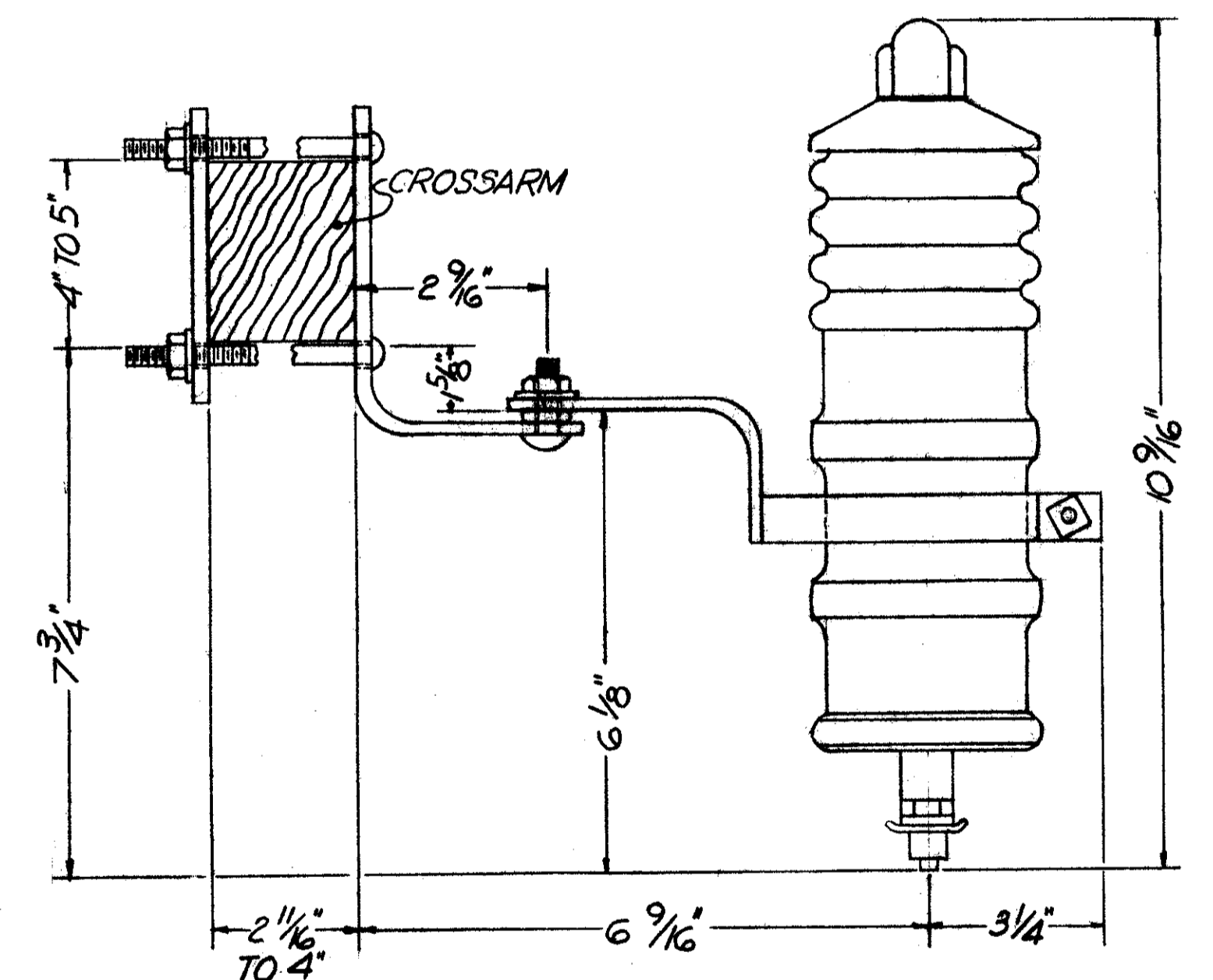
1 PT SECONDARY PORCELAIN RACK  
(SPECS.: OC-17)



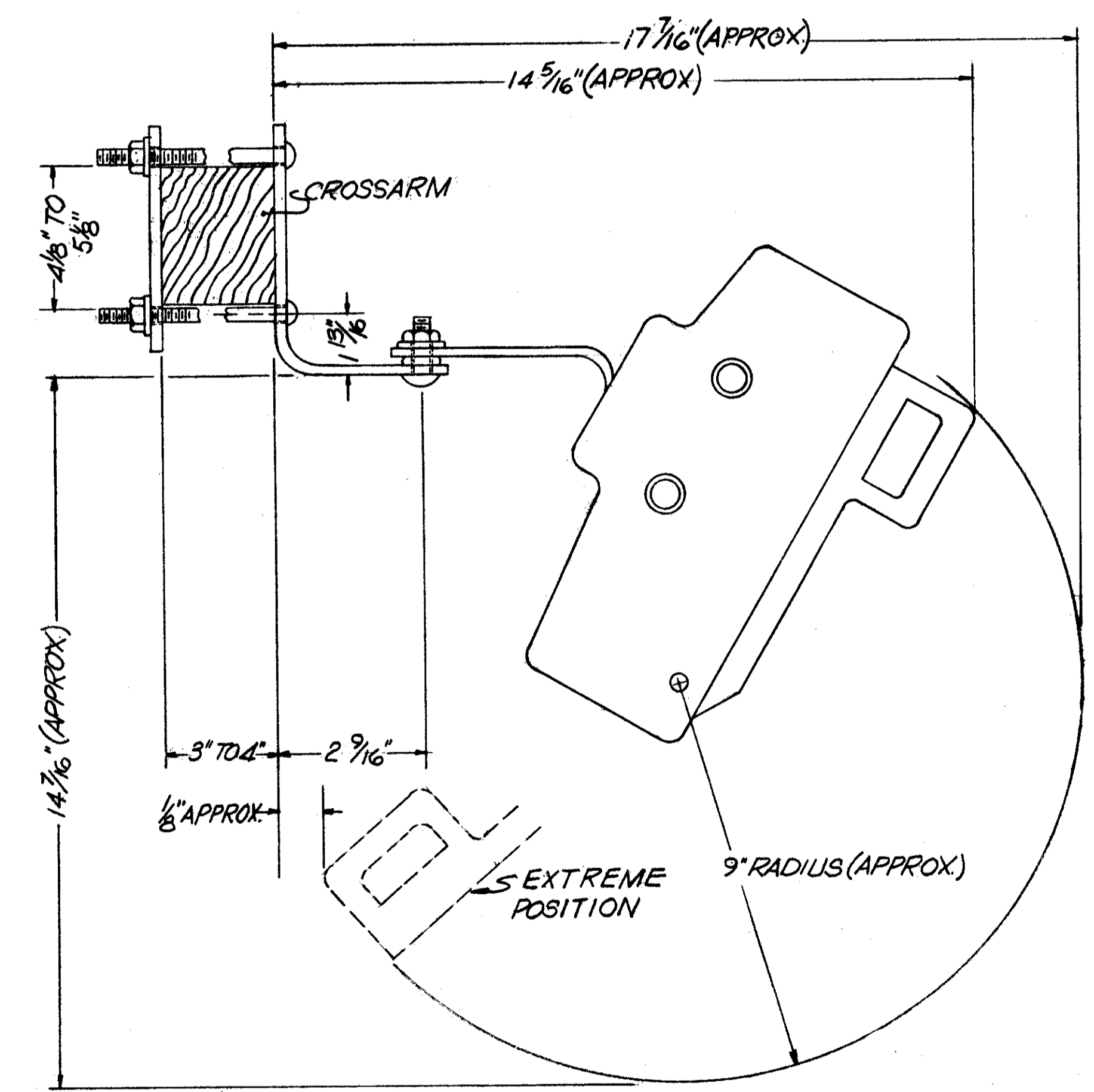
DETAIL - WET PROCESS  
PORCELAIN SPOOL



THREE POINT SECONDARY RACK  
(SPECS.: OC-17)



LIGHTNING ARRESTER  
(SPECS.: OC-16)

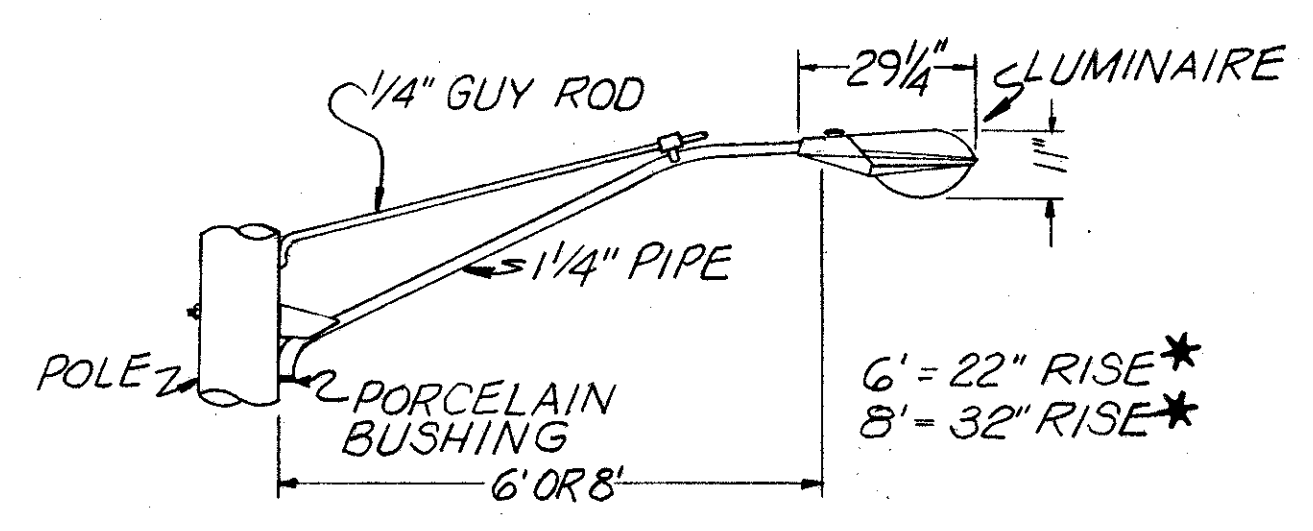


FUSED CUTOUTS  
(SPECS.: OC-19)

APPROVED BY

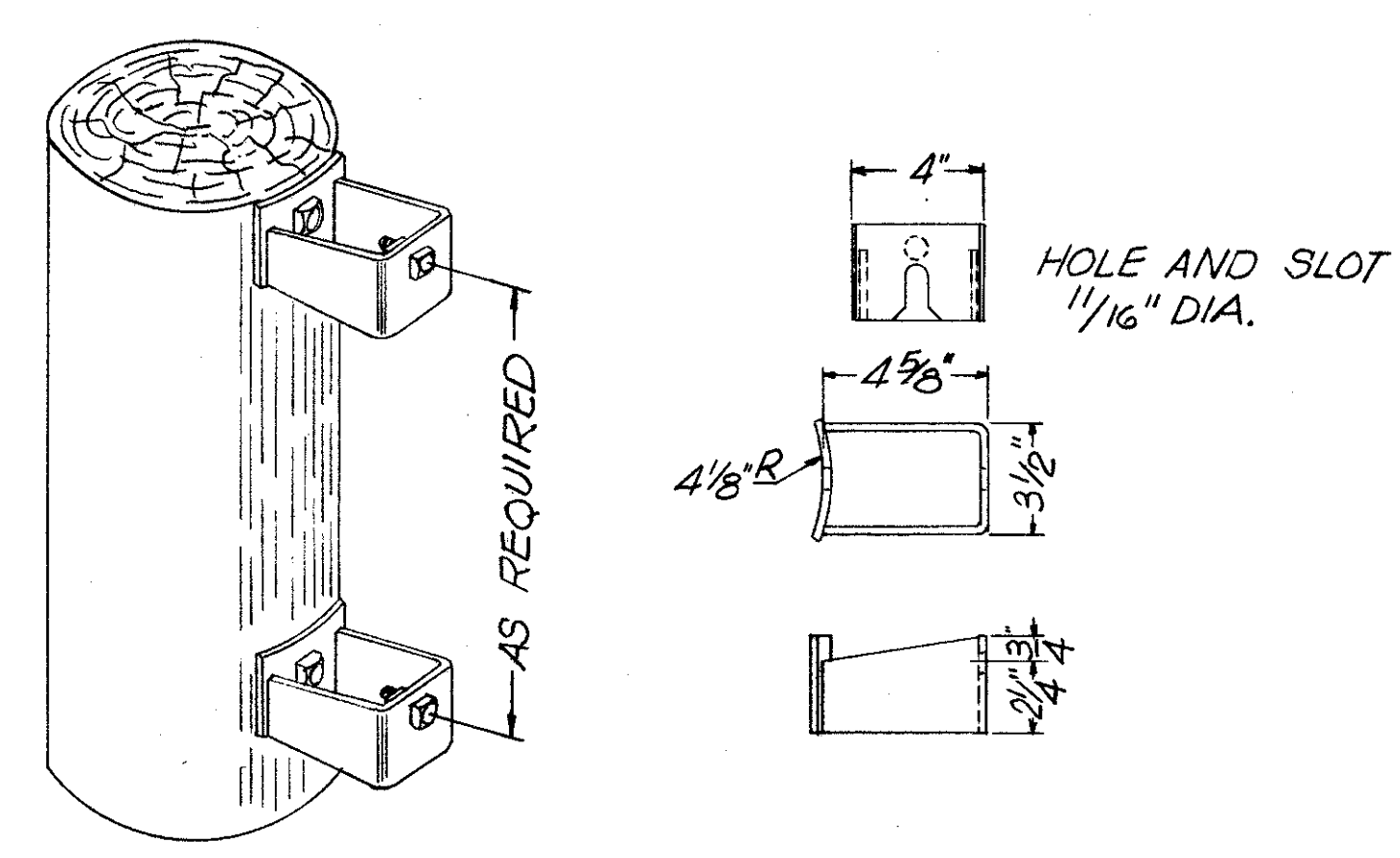
Robert J. Albach  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND			
OVERHEAD DETAILS-SHEET N <sup>o</sup> 4			
DRAWN BY	E.F.	SCALE	NO SCALE
DATE	3/75	GRAPHIC NUMBER	6600-3W
CHECKED BY	J.M.		

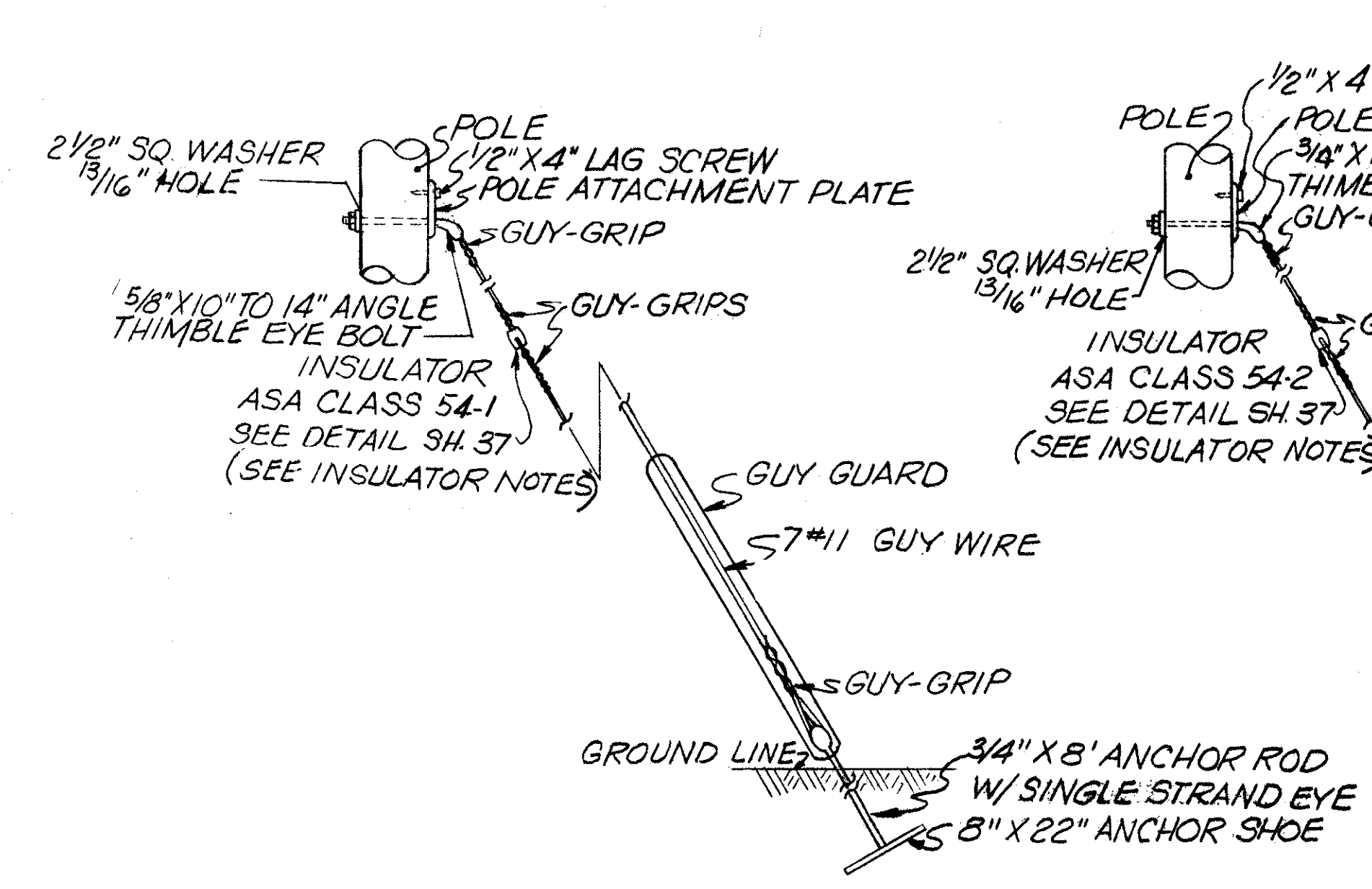


\*RISE DIMENSION IS FROM TOP OF POLE PLATE TO CENTERLINE OF BRACKET.

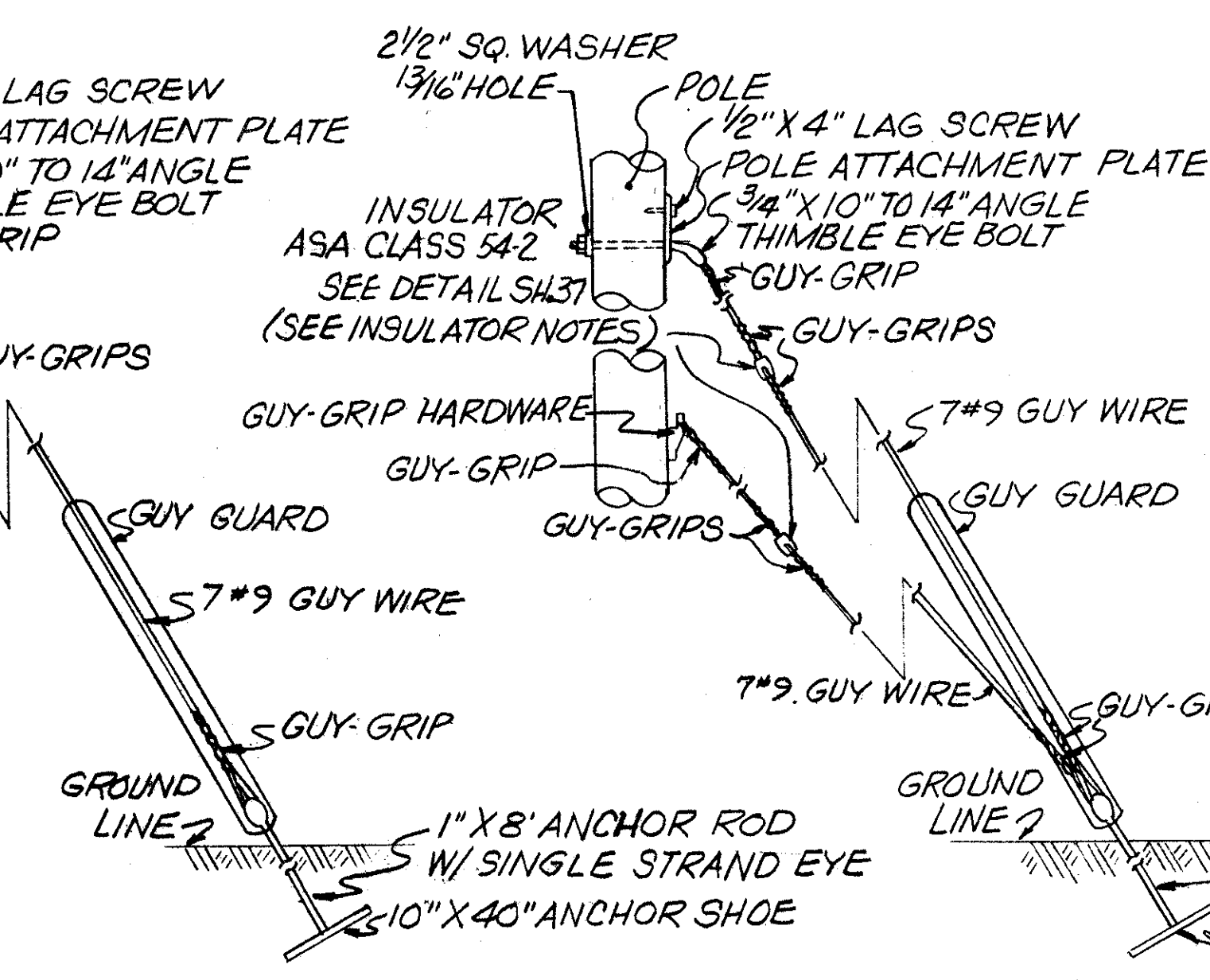
LIGHTING FIXTURE W/BRACKET ARM



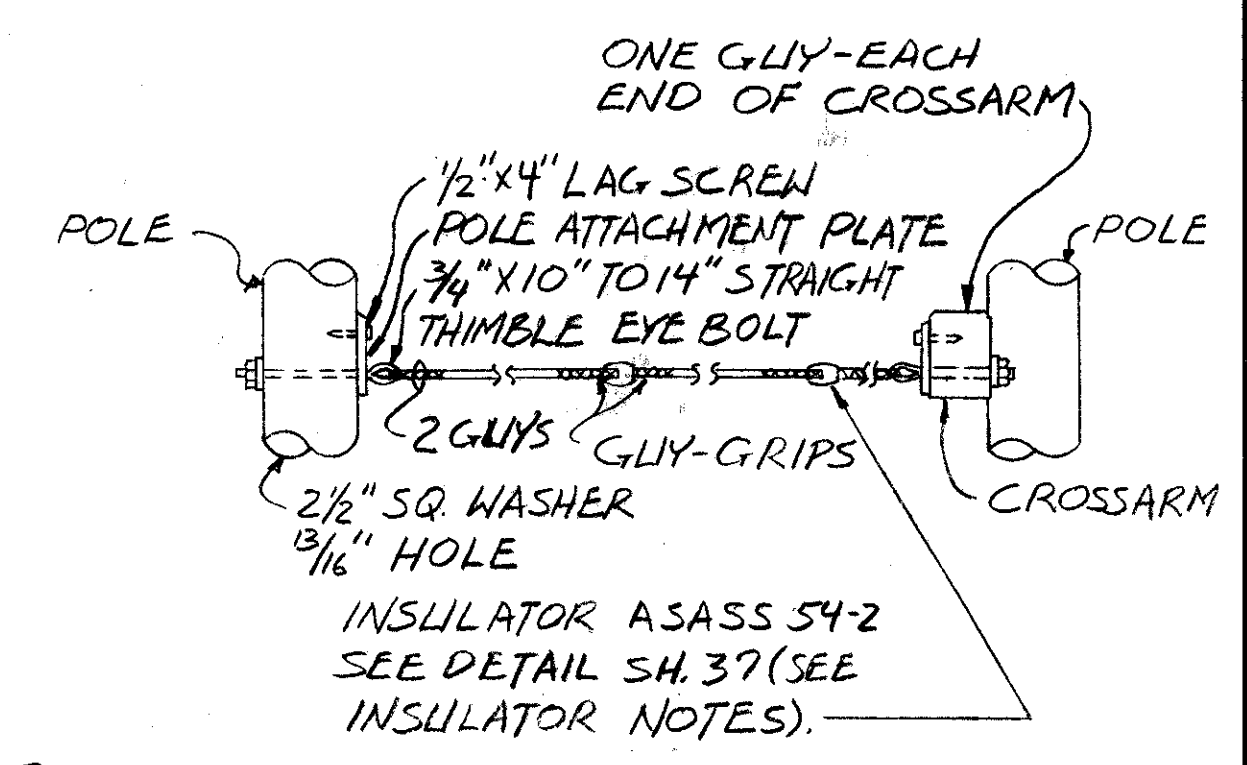
TRANSFORMER MOUNTING BRACKET



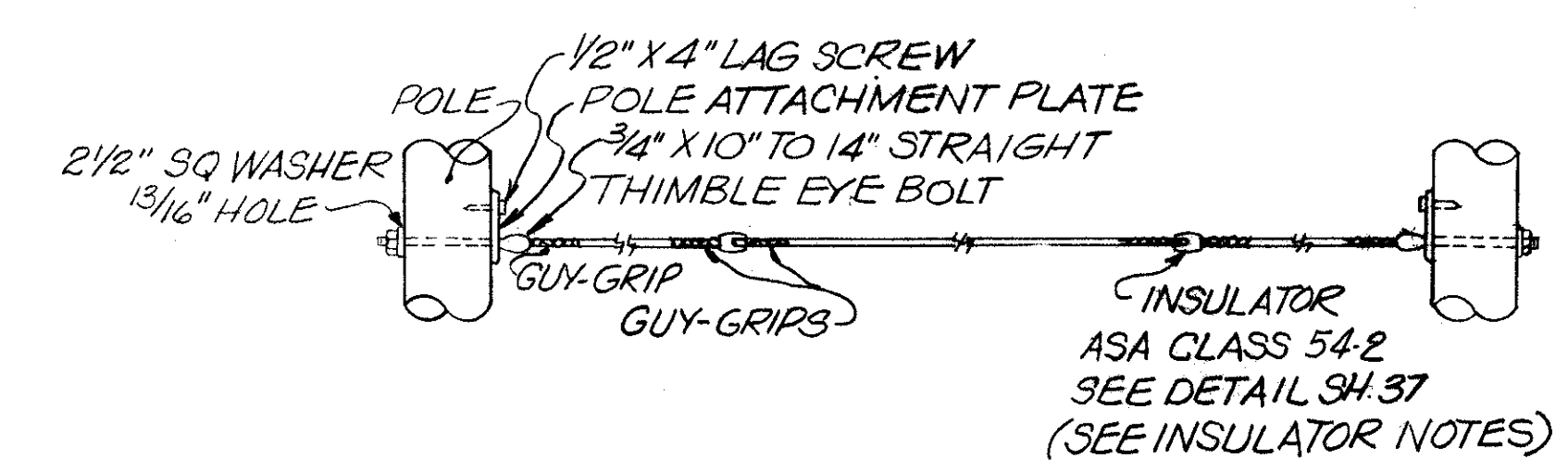
STANDARD ANCHOR GUY W/INSULATOR



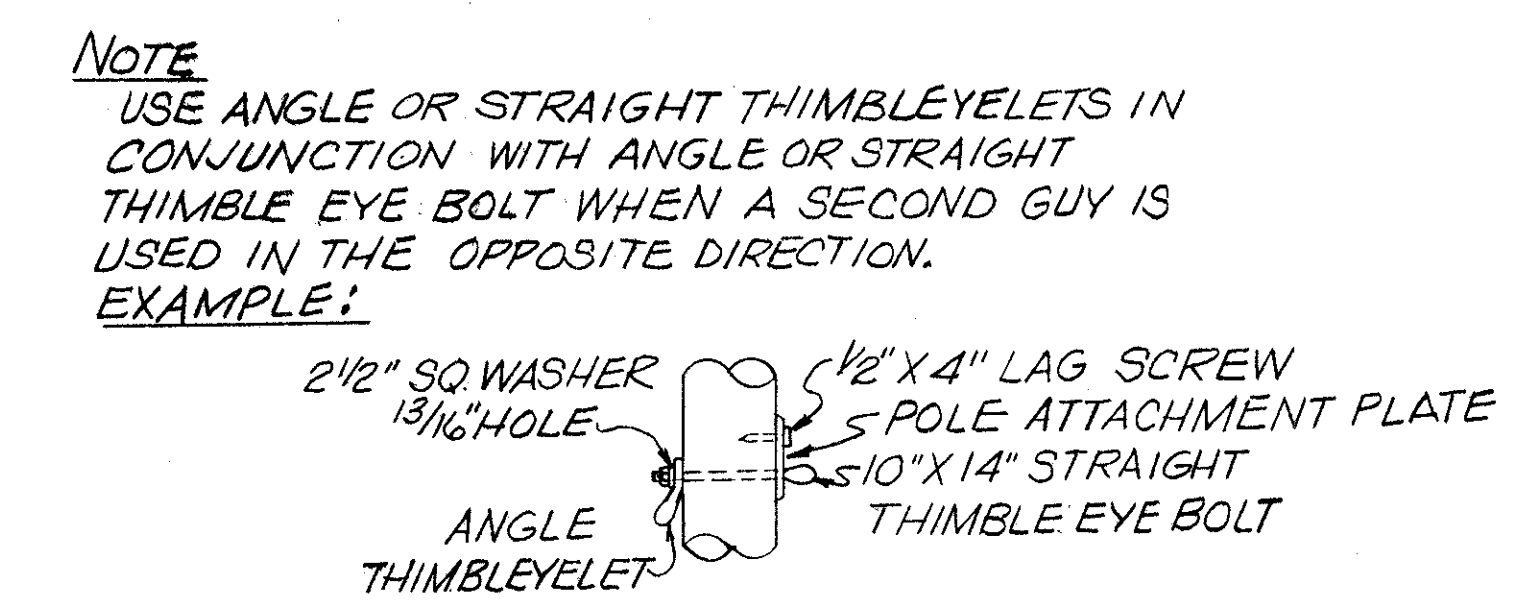
HEAVY DUTY ANCHOR GUY W/INSULATOR



ARM GUY W/INSULATORS



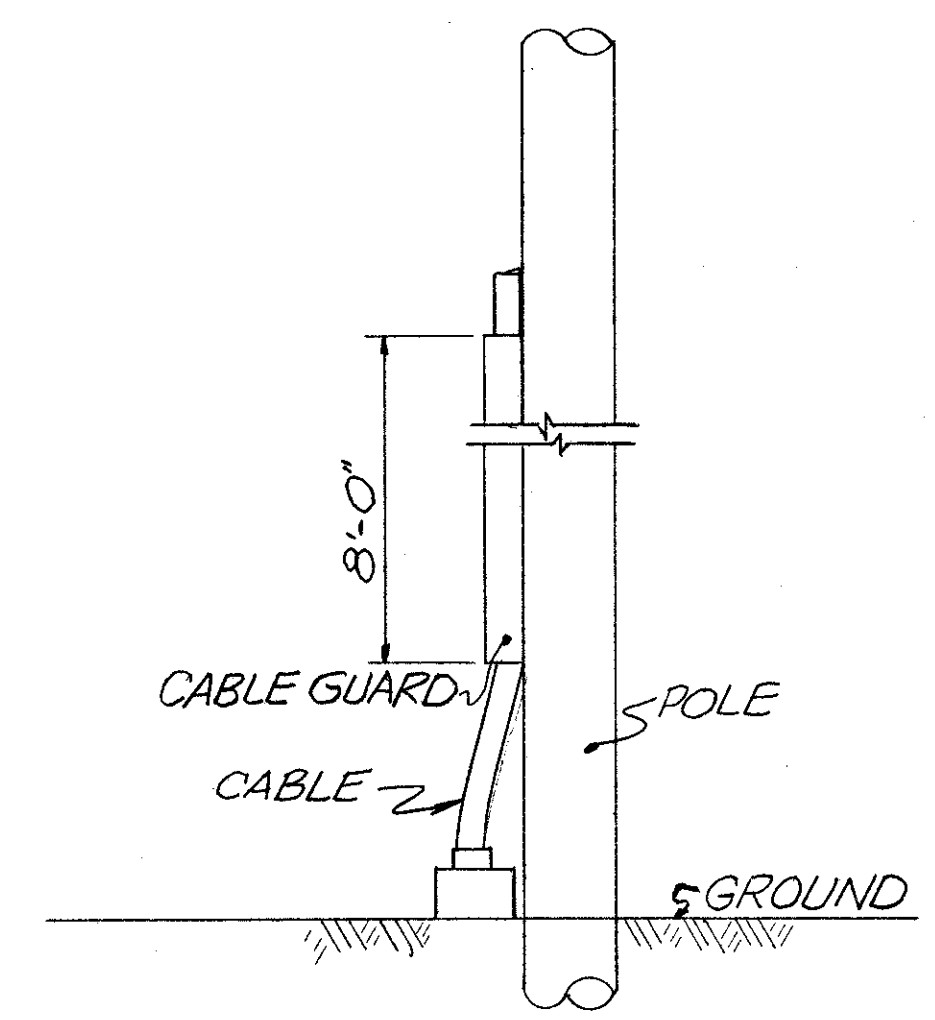
HEAD-GUY W/INSULATORS



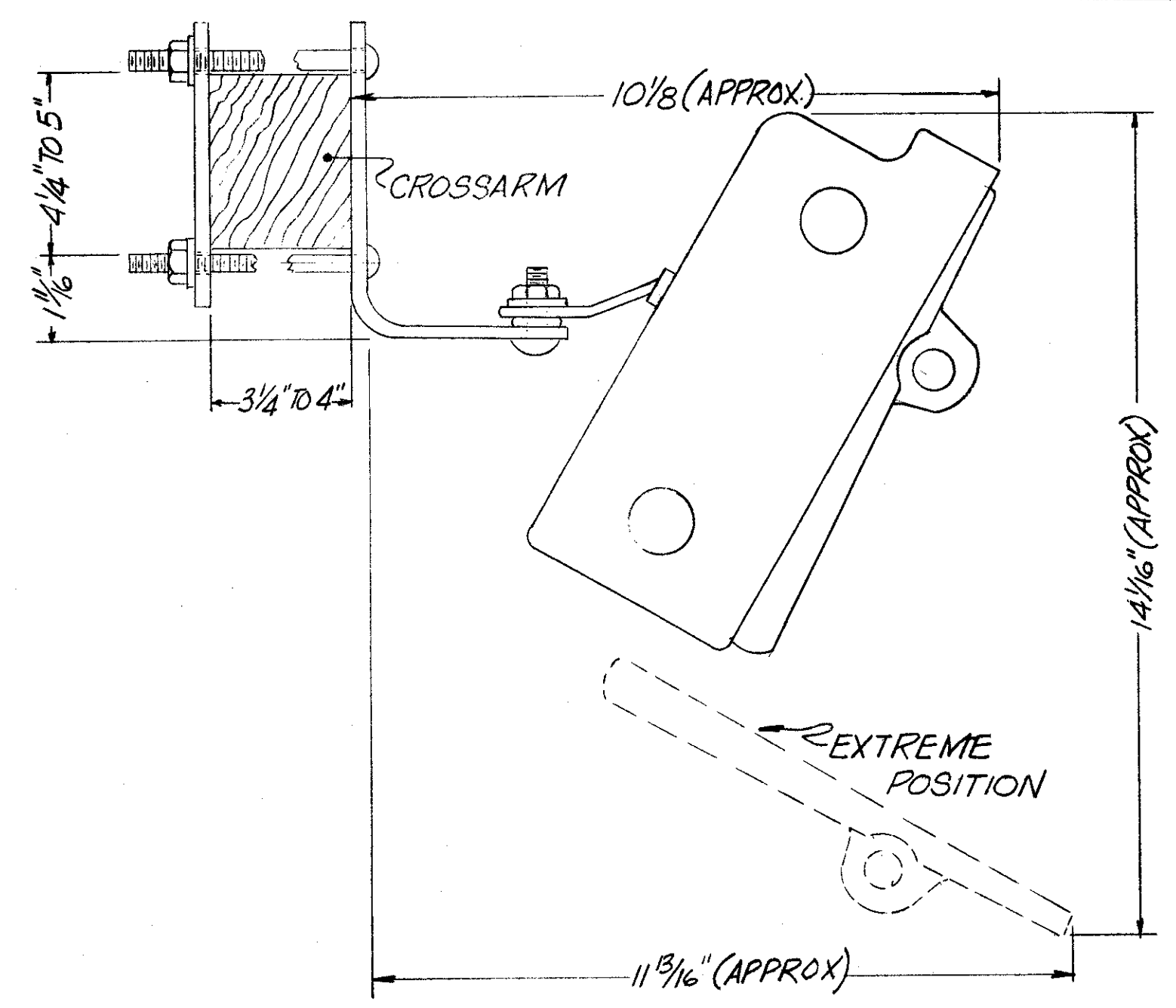
**NOTE**  
USE ANGLE OR STRAIGHT THIMBLEYELETS IN CONJUNCTION WITH ANGLE OR STRAIGHT THIMBLE EYE BOLT WHEN A SECOND GUY IS USED IN THE OPPOSITE DIRECTION.  
**EXAMPLE:**

**INSULATOR NOTES**  
(AS PER NATIONAL ELECT. SAFETY CODE)

- INSULATORS ARE NOT REQUIRED IN GUYS UNDER THE FOLLOWING CONDITIONS:
  - WHERE THE GUY IS ELECTRICALLY CONNECTED TO GROUNDED STEEL STRUCTURES OR TO A GROUND CONNECTION ON WOOD POLES.
  - WHERE THE GUYS ARE UNIFORMLY GROUNDED THROUGHOUT ANY SYSTEM OF OVERHEAD LINES.
  - WHERE A GUY IS ATTACHED TO A POLE ON PRIVATE RIGHT OF WAY CARRYING NO SUPPLY CIRCUITS WHERE VOLTAGE EXCEEDS 550V OR WHOSE TRANSMITTED POWER EXCEEDS 3200 WATTS.
- AN INSULATOR SHALL BE LOCATED IN EACH GUY WHICH IS ATTACHED TO A POLE OR A STRUCTURE CARRYING ANY SUPPLY CONDUCTORS OF MORE THAN 300V TO GROUND AND NOT MORE THAN 15000V BETWEEN CONDUCTORS, OR IN ANY GUY EXPOSED TO SUCH VOLTAGES. THIS GUY INSULATOR SHALL BE LOCATED AT LEAST 8'-0" ABOVE GROUND.
- WHERE A GUY ATTACHED TO ANY POLE CARRYING COMMUNICATION OR SUPPLY CONDUCTORS OR BOTH, IS CARRIED OVER OR UNDER ANY OVERHEAD SUPPLY CONDUCTORS OF MORE THAN 300V TO GROUND AND WHERE HAZARD OTHERWISE WOULD EXIST, TWO OR MORE GUY INSULATORS SHALL BE PLACED SO AS TO INCLUDE THE EXPOSED SECTION OF THE GUY BETWEEN THEM AS FAR AS POSSIBLE. NEITHER INSULATOR SHALL BE WITHIN 8'-0" OF THE GROUND.



CABLE AND CABLE GUARD



ENCLOSED THROTTLE CUTOUT

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHECK ELECTRICAL ENGINEER  
*Robert D. Albrecht*  
ENGINEER OF DESIGN

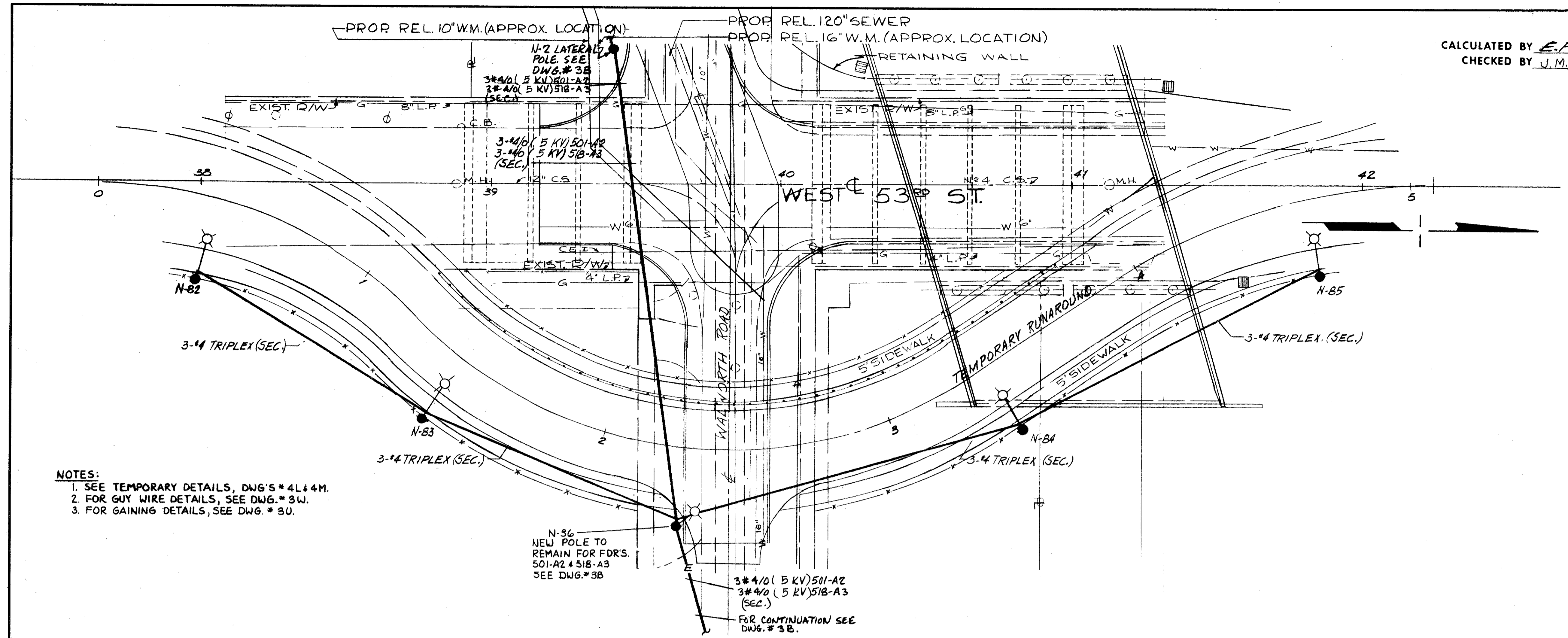
DIVISION OF LIGHT & POWER CITY OF CLEVELAND		
OVERHEAD DETAILS-SHEET No 5		
DRAWN BY E.F.	SCALE No SCALE	DRAWING NUMBER 6600-3X
CHK'D BY J.M.	DATE 3/75	

FED. RD.	STATE	PROJECT
2	OHIO	

468  
838  
44  
58

CUYAHOGA COUNTY  
CUY - 90 - 11.64

CALCULATED BY E.F. DATE 4/74  
CHECKED BY J.M. DATE 3/75



- NOTES:  
1. SEE TEMPORARY DETAILS, DWG'S \* 4L & 4M.  
2. FOR GUY WIRE DETAILS, SEE DWG. \* 3W.  
3. FOR GAINING DETAILS, SEE DWG. \* 3U.

NEW POLE SCHEDULE

NO.	HEIGHT	CLASS	SETTING	GAINING DETAIL	LOCATION SHEET NO.	ASSEMBLY DET. NO.	SHT. NO.	REMARKS
N-40	40'-0"		6'-6"	C	4B	4	4M	
N-41	40'-0"		6'-6"	C	4B	4	4M	
N-42	40'-0"		6'-6"	C	4B	4	4M	
N-43	40'-0"		6'-6"	C	4B	4	4M	
N-44	40'-0"		6'-6"	C	4C	4	4M	TRANSFORMER ADDED
N-45	40'-0"		6'-6"	C	4C	4	4M	
N-46	40'-0"		6'-6"	C	4C	4	4M	
N-47	40'-0"		6'-6"	C	4C	4	4M	
N-48	40'-0"		6'-6"	C	4C	4	4M	
N-49								
N-50								
N-51								
N-52								
N-53								
N-54	35'-0"		6'-0"		4F	6	4M	
N-55	60'-0"		8'-0"	SPECIAL	4J	1	4M	
N-56	45'-0"		7'-0"	SPECIAL	4J	2	4M	
N-57	60'-0"		8'-0"	SPECIAL	4J	3	4M	
N-58	45'-0"		7'-0"	SPECIAL	4J	2	4M	
N-59	60'-0"		8'-0"	SPECIAL	4J	3	4M	
N-60	45'-0"		7'-0"	SPECIAL	4J	2	4M	
N-61	45'-0"		7'-0"	SPECIAL	4J	2	4M	
N-62	60'-0"		8'-0"	SPECIAL	4J	3	4M	
N-63	35'-0"		6'-0"		4J	6	4M	
N-64	35'-0"		6'-0"		4J	6	4M	
N-65	45'-0"		7'-0"	SPECIAL	4J	2	4M	
N-66	60'-0"		8'-0"	SPECIAL	4J	3	4M	
N-67	45'-0"		7'-0"	SPECIAL	4K	2	4M	
N-68	60'-0"		8'-0"	SPECIAL	4K	3	4M	
N-69	45'-0"		7'-0"	SPECIAL	4K	2	4M	
N-70	60'-0"		8'-0"	SPECIAL	4K	3	4M	
N-71	60'-0"		8'-0"	SPECIAL	4K	2	4M	
N-72	60'-0"		8'-0"	SPECIAL	4K	3	4M	
N-73	45'-0"		7'-0"	SPECIAL	4K	2	4M	
N-74								
N-75	40'-0"		6'-6"	SPECIAL	4L	4L	4M	LAT. POLE DETAIL
N-76	40'-0"		6'-6"	SPECIAL	4L	4L	4M	LAT. POLE DETAIL
N-77								
N-78								
N-79								
N-80	40'-0"		6'-6"	SPECIAL	4J	6	4L	LAT. POLE DETAIL
N-81	40'-0"		6'-6"	SPECIAL	4J	6	4L	LAT. POLE DETAIL
N-82	35'-0"		6'-0"		4A	6	4M	
N-83	35'-0"		6'-0"		4A	6	4M	
N-84	35'-0"		6'-0"		4A	6	4M	

NEW POLE SCHEDULE

NO.	HEIGHT	CLASS	SETTING	GAINING DETAIL	LOCATION SHEET NO.	ASSEMBLY DET. NO.	SHT. NO.	REMARKS
N-85	35'-0"		6'-0"		4A	6	4M	
N-86								
N-87								
N-88								
N-89								
N-90	40'-0"		6'-6"	E	4G	5	4M	
N-91	40'-0"		6'-6"	C	4G	4	4M	
N-92	40'-0"		6'-6"	C	4G	4	4M	
N-93	40'-0"		6'-6"	C	4G	4	4M	
N-94	40'-0"		6'-6"	C	4G	4	4M	
N-95	40'-0"		6'-6"	C	4G	4	4M	
N-96	40'-0"		6'-6"	C	4G	4	4M	
N-97	40'-0"		6'-6"	C	4G	4	4M	
N-98	40'-0"		6'-6"	C	4G	4	4M	
N-99	40'-0"		6'-6"	C	4G	4	4M	
N-100	40'-0"		6'-6"	E	4G	5	4M	
N-101	40'-0"		6'-6"	C	4G	4	4M	
N-102								
N-103								
N-104								
N-105	35'-0"		6'-0"		4H	6	4M	
N-106	35'-0"		6'-0"		4H	6	4M	
N-107	35'-0"		6'-0"		4H	6	4M	
N-108	35'-0"		6'-0"		4H	6	4M	
N-109	35'-0"		6'-0"		4H	6	4M	
N-110	35'-0"		6'-0"		4H	6	4M	
N-111	35'-0"		6'-0"		4H	6	4M	
N-112	35'-0"		6'-0"		4HA	6	4M	
N-113	35'-0"		6'-0"		4HA	6	4M	
N-114	35'-0"		6'-0"		4HA	6	4M	
N-115								
N-116								
N-117								
N-118								
N-119								
N-120	35'-0"		6'-0"		4E	6	4M	
N-121	35'-0"		6'-0"		4E	6	4M	
N-122	35'-0"		6'-0"		4F	6	4M	
N-123	35'-0"		6'-0"		4F	6	4M	
N-124	35'-0"		6'-0"		4F	6	4M	
N-125	35'-0"		6'-0"		4F	6	4M	
N-126	35'-0"		6'-0"		4F	6	4M	
N-127								
N-128								
N-129								

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
*Robert J. Alvarado*  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER  
CITY OF CLEVELAND  
TEMPORARY PLAN—  
W.53 ST. & WALWORTH RD.  
DRAWN BY R.J.Z. SCALE 1"=20' DRAWING NUMBER 6600-4A  
DATE CH'K'D BY

CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75

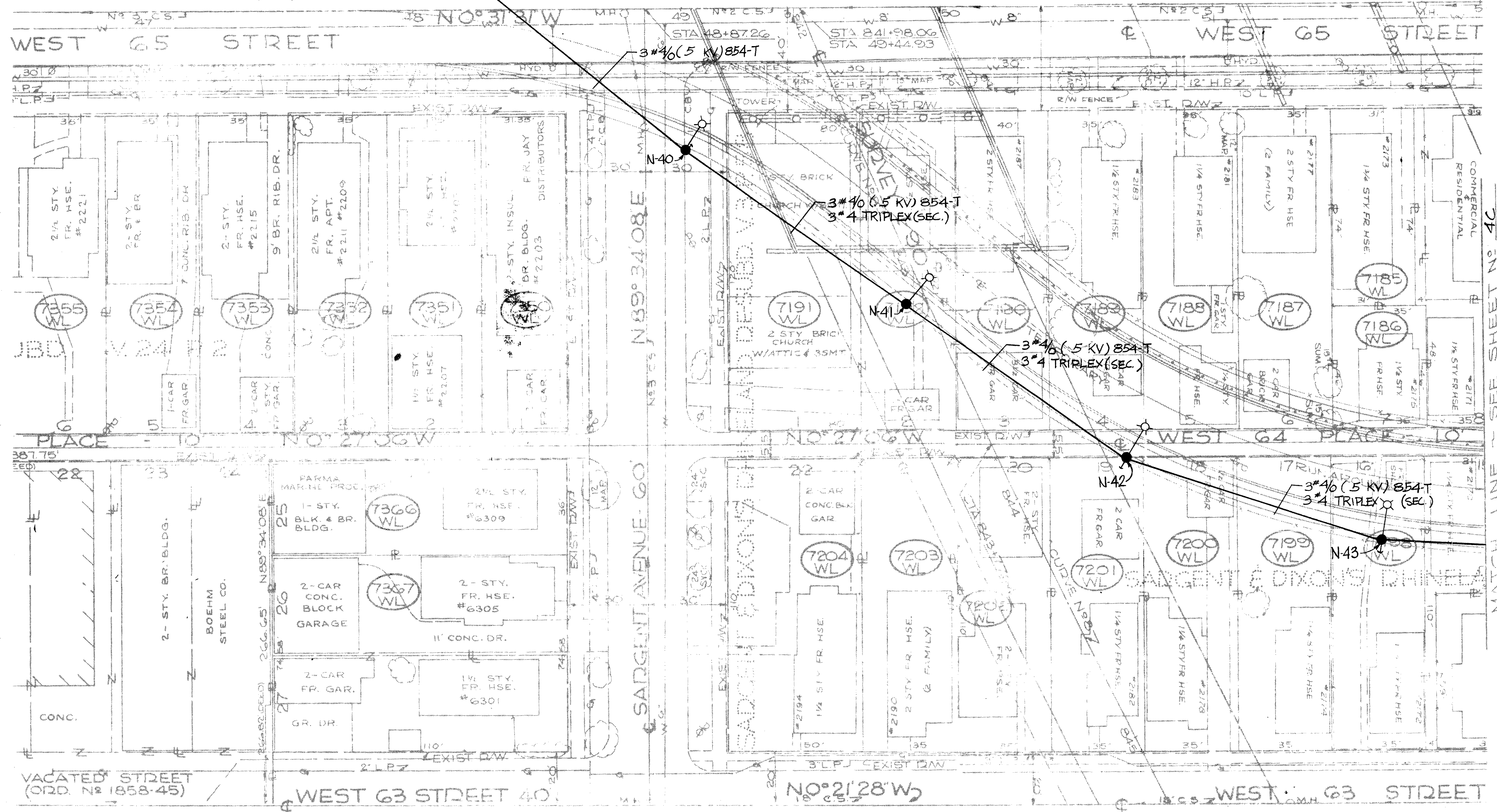
FED. RD.	STATE	PROJECT
2	OHIO	

469  
838

CUYAHOGA COUNTY  
 CUY-90-11.64

45  
58

TEMP. GUY  
 (HEAVY DUTY GUY)  
 MODIFIED POLE # 32646  
 3 # 4/0 (5 KV) 854-T  
 (SEC)  
 FROM POLE # 32648  
 SEE SHT. 3D



MATCH LINE - SEE SHEET NO. 4C

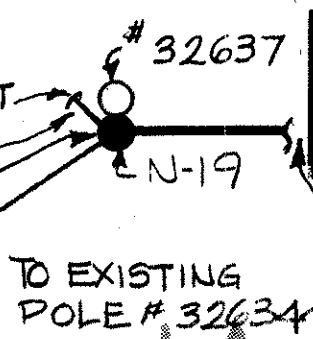
APPROVED BY

DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

<b>DIVISION OF LIGHT &amp; POWER</b> <b>CITY OF CLEVELAND</b>	
TEMPORARY PLAN W.65 <sup>th</sup> ST. - SHEET N <sup>o</sup> 1	
DRAWN BY: RJZ DATE:	SCALE: 1" = 20' DATE:
CH'K'D BY:	DRAWING NUMBER: <b>6600-4B</b>

CALCULATED BY E.F. DATE 4-74  
CHECKED BY J.M. 3-75

TEMP. GUY PLACEMENT  
HEAVY DUTY GUY  
SEE DWG #3E

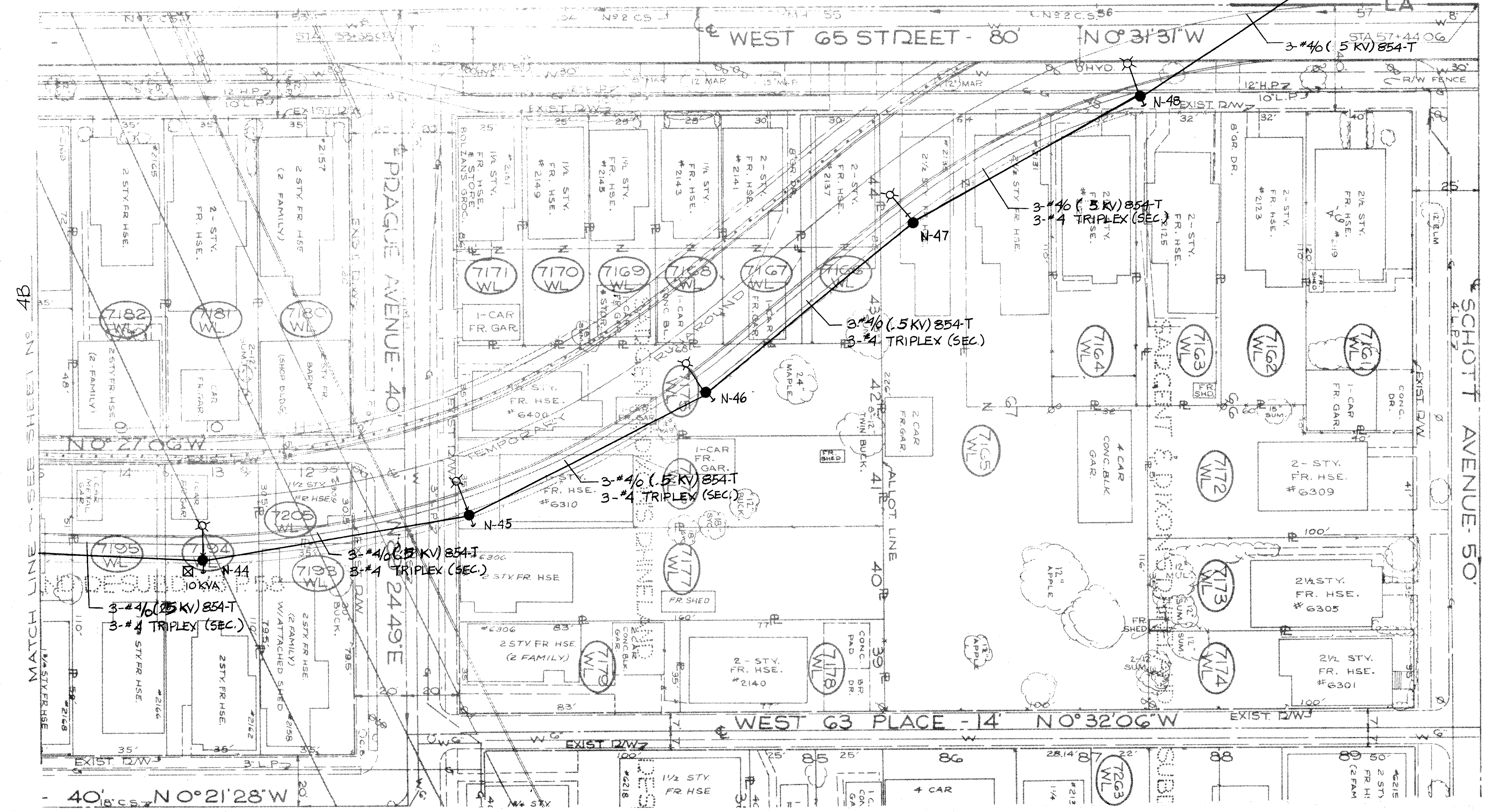


FED. RD.	STATE	PROJECT
2	OHIO	

CUYAHOGA COUNTY  
CUY-90-11.64

470  
838

46  
58



4B  
MATCH LINE SEE SHEET 2

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
TEMPORARY PLAN W65 <sup>th</sup> ST. SHEET No 2	
SCALE 1"=20'	DATE
DRAWN BY RJE	6600-4C



CALCULATED BY E.F. DATE 4/74  
 CHECKED BY J.M. DATE 3-75

FED. RD.	STATE	PROJECT
2	OHIO	

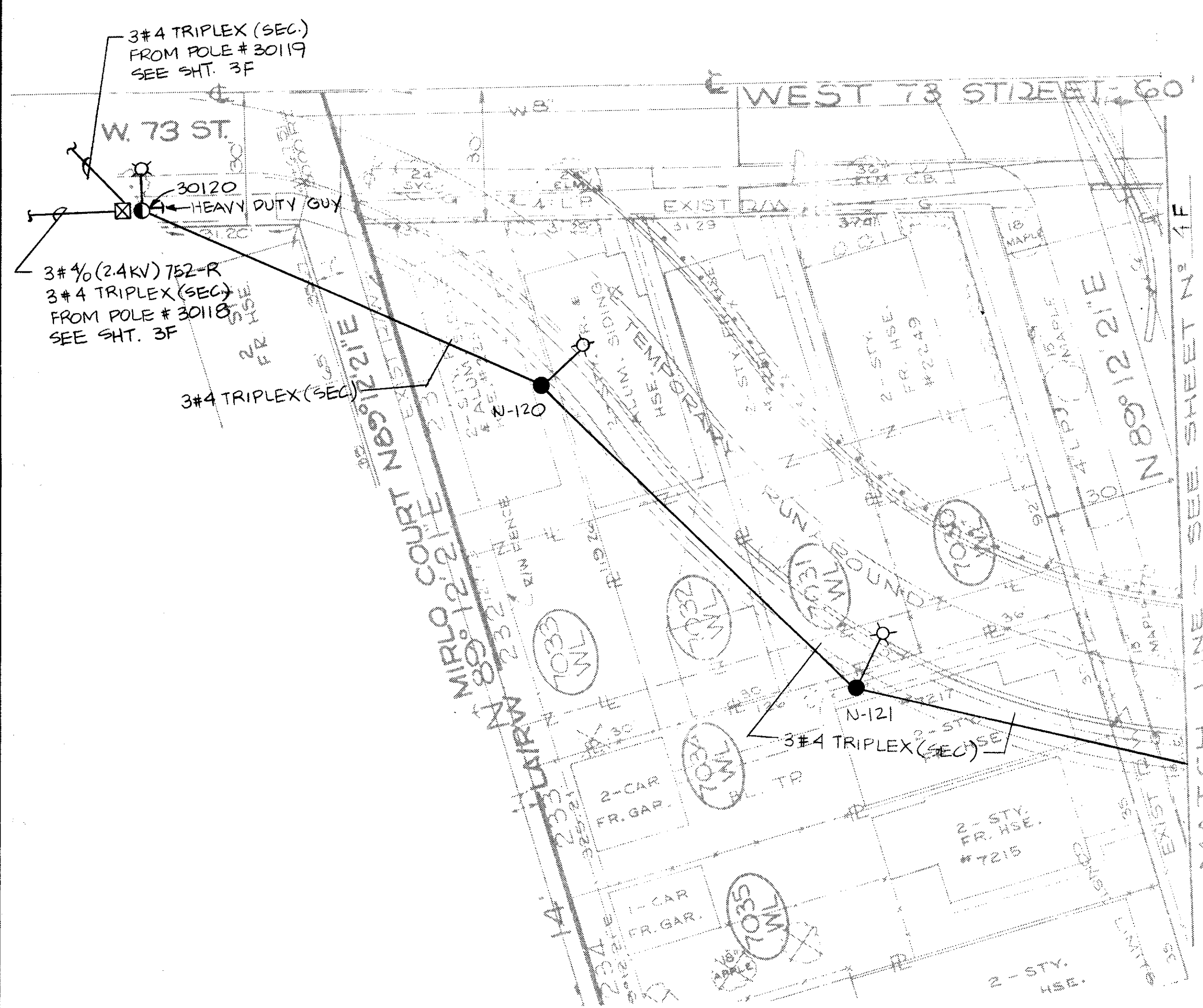
471  
838

CUYAHOGA COUNTY  
 CUY - 90 - 11.64

47  
58

TEMPORARY MEASUREMENT

ITEM	SHEET NUMBERS										GRAND TOTAL	UNIT	DESCRIPTION
	4A	4B	4C	4E	4F	4G	4H	4I	4J	4K			
OC-12	4			2				9	2		17	EA.	POLE 35'-0" LENGTH CLASS 4
OC-12		4	5		6	12			2	2	31	EA.	POLE 40'-0" LENGTH CLASS 1
OC-12									5	3	8	EA.	POLE 45'-0" LENGTH CLASS 1
OC-12								1	5	4	10	EA.	POLE 60'-0" LENGTH CLASS 1
OC-11 & TC-04									6	2	8	EA.	HEAVY DUTY ANCHOR GUY WITH 15KV INSULATORS
OC-11	2	4	5						2		13	EA.	STANDARD ANCHOR GUY WITH INSULATORS
OC-11		1				2	2		7		12	EA.	HEAVY DUTY ANCHOR GUY WITH INSULATORS
OC-11						2	1			1	4	EA.	DOUBLE HEAVY DUTY ANCHOR GUY WITH INSULATORS
OC-11									1	2	3	EA.	HEAD GUY OR ARM GUY WITH INSULATORS
OC-14									6	6	12	EA.	STRAIN CLAMPS FOR 3/4 ACSR WIRE (15KV)
OC-13								2	1		3	EA.	HEAVY DUTY 6 PIN CROSS ARM WITH 3 PIN INSULATORS & 3 DISK STR. INS-S (15KV) & STRAIN CLAMPS
OC-13								2	11	8	21	EA.	HEAVY DUTY 6 PIN CROSS ARM W/3 PIN INSULATORS (15KV)
OC-13		4	5			24	2	11	10		56	EA.	HEAVY DUTY 6 PIN CROSS ARM W/3 PIN INSULATORS (5KV)
OC-13 & 14						4		2	1		7	EA.	HEAVY DUTY 6 PIN CROSS ARM W/3 PIN INSULATORS & 3 DEAD END CLEAVES (5KV)
OC-17	6	4	5	2	6	12	10	13	8		61	EA.	1 PT. SECONDARY RACK
OC-25		4	5			28	2	13	11		63	EA.	CROSS ARM BRACE, ANGLE IRON
OC-25								2	1		3	PAIR	CROSS ARM BRACE, WOOD
OC-10								1695	1460	3155	LIN. FT.	NO. 3/0 WIRE, COPPER, WEATHER PROOF	
OC-10								1695	1460	3155	LIN. FT.	NO. 3/0 ACSR WIRE	
OC-10		1410	1695			3650				6755	LIN. FT.	NO. 4/0 WIRE, COPPER, WEATHER PROOF	
OC-10	360	340	460	280	520	1215	1000	500	445	5120	LIN. FT.	NO. 4 WIRE, TRIPLEX	
UC-18								1690	1545	3235	FT.	3/C 15KV PIL #4/0 CABLE	
UC-18								560	515	1075	FT.	3/C 5KV PIL #4/0 CABLE	
TC-09								2260	2060	4320	FT.	MESSENGER WIRE 12.5M	
OC-18	4	4	5	2	6	12	10	7	4		50	EA.	MERCURY LIGHTING FIXTURES W. 12" LG. BRACKET ARM
OC-19								1			1	EA.	TRANSFORMER
OC-09								1	1		2	EA.	GROUNDING
UC-13								25	15		40	FT.	NON REINFORCED CONCRETE ENCASED 4-4" DUCT BANK
								2			2	EA.	FUSED CUTOUPS
GS-10	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP		LUMP	LUMP	LUMP	LUMP	LUMP	REMOVAL
UC-02 & 05								25	15		40	FT.	EXCAVATION & BACKFILL



NOTES:  
 1. FOR TEMPORARY DETAILS, SEE DWGS # 4L & 4M.  
 2. FOR GUY WIRE DETAILS, SEE DWG # 3W.  
 3. FOR CROSS ARM & POLE GANNING DETAILS, SEE DWG. # 3T.

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
 ENGINEER OF DESIGN  
*Robert J. Albrecht*

DIVISION OF LIGHT & POWER  
 CITY OF CLEVELAND  
 TEMPORARY PLAN  
 W. 73<sup>RD</sup> ST. - SHEET N.01  
 SCALE 1"=20'  
 DRAWING NUMBER 6600-4E  
 DRAWN BY RJZ  
 DATE  
 CH'KD BY

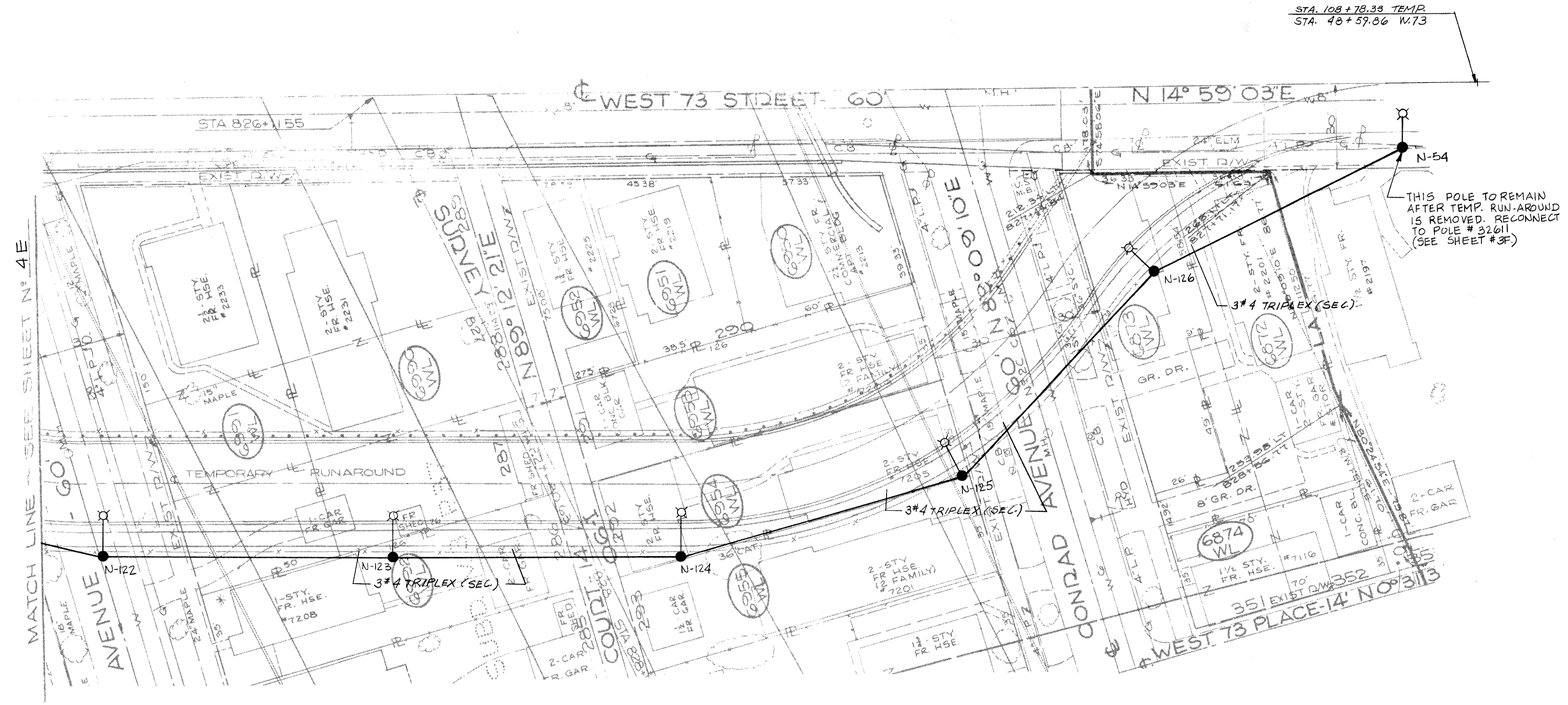
CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75

FED. RD.	STATE	PROJECT
2	OHIO	

472  
838

CUYAHOGA COUNTY  
 CUY - 90 - 11.64

48  
58



NOTES:  
 1. FOR TEMPORARY DETAILS, SEE DWGS # 4L44M.

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF DESIGN

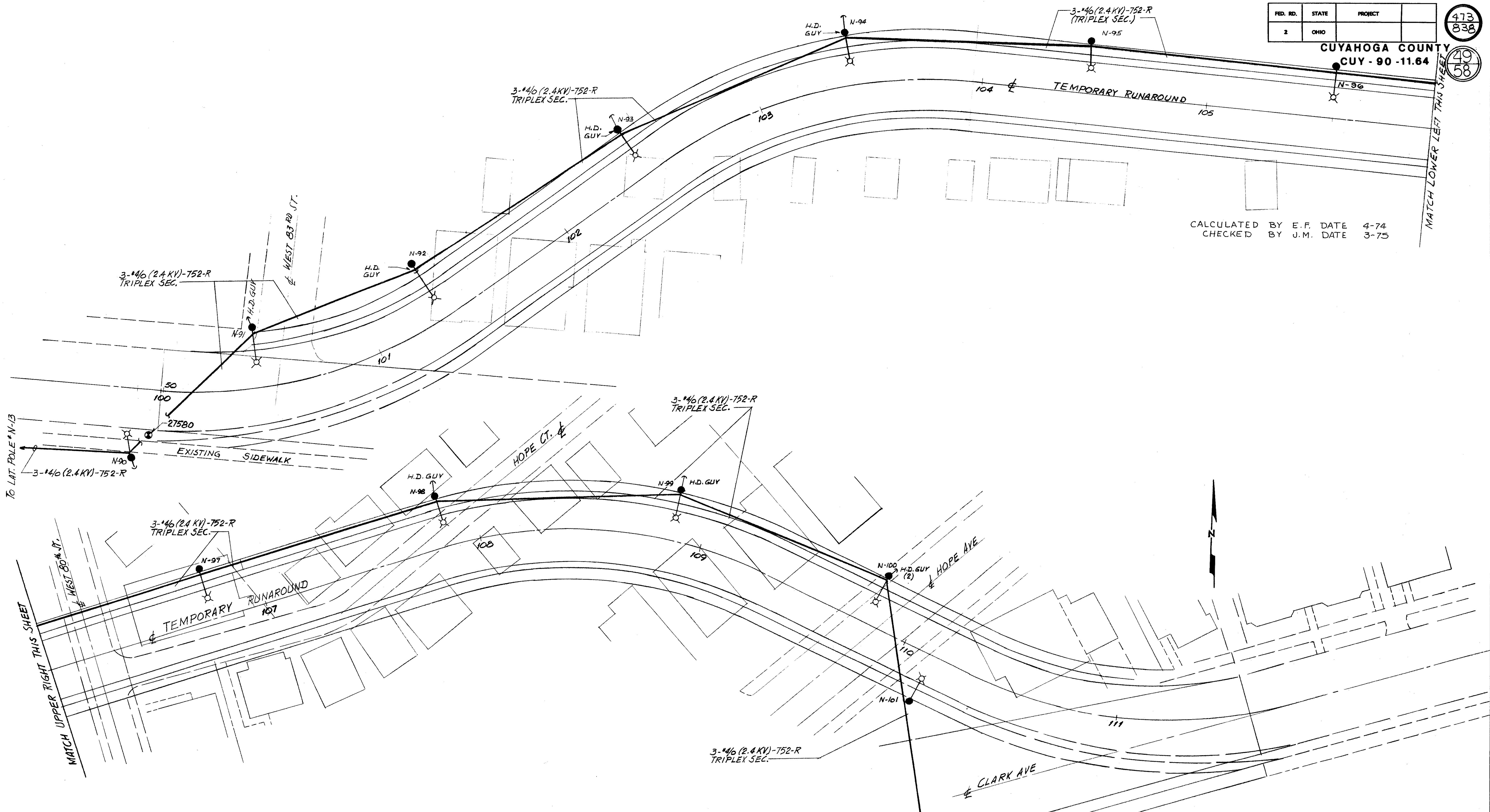
DIVISION OF LIGHT & POWER CITY OF CLEVELAND		TEMPORARY PLAN —	
		W.73 <sup>RD</sup> ST.—SHEET NO 2	
DRAWN BY: RJE	SCALE: 1"=20'	DRAWING NUMBER: 6600-4F	
CH'K'D BY:	DATE:		

FED. RD.	STATE	PROJECT
2	OHIO	

473  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

49  
58



CALCULATED BY E.F. DATE 4-74  
CHECKED BY J.M. DATE 3-75

APPROVED BY

DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING

CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
TEMPORARY PLAN- CLARK AVENUE	
DRAWN BY: <i>HK</i>	SCALE: 1"=20'
DATE:	DRAWING NUMBER: <b>6600-4G</b>
CHK'D BY:	

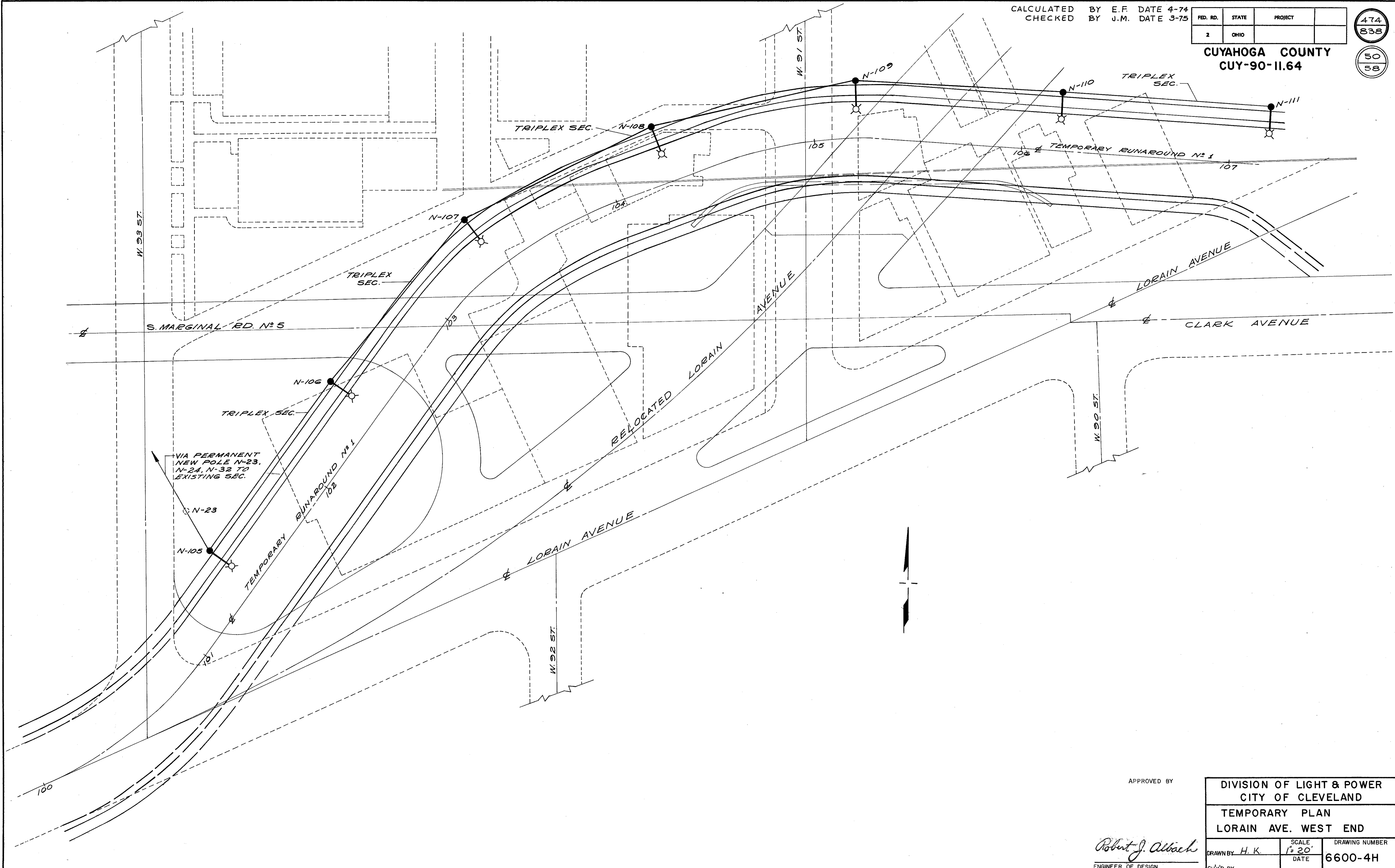
ADD TEMPORARY GUY TO THIS POLE IF NECESSARY  
30154  
SEE DWG: 6600-35

CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75

FED. RD.	STATE	PROJECT
2	OHIO	

474  
 838  
 50  
 58

CUYAHOGA COUNTY  
 CUY-90-II.64



VIA PERMANENT  
 NEW POLE N-23,  
 N-24, N-32 TO  
 EXISTING SEC.

APPROVED BY

*Robert J. Albach*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
TEMPORARY PLAN LORAIN AVE. WEST END	
DRAWN BY H. K.	SCALE 1"=20'
DATE	DRAWING NUMBER
CHK'D BY	6600-4H

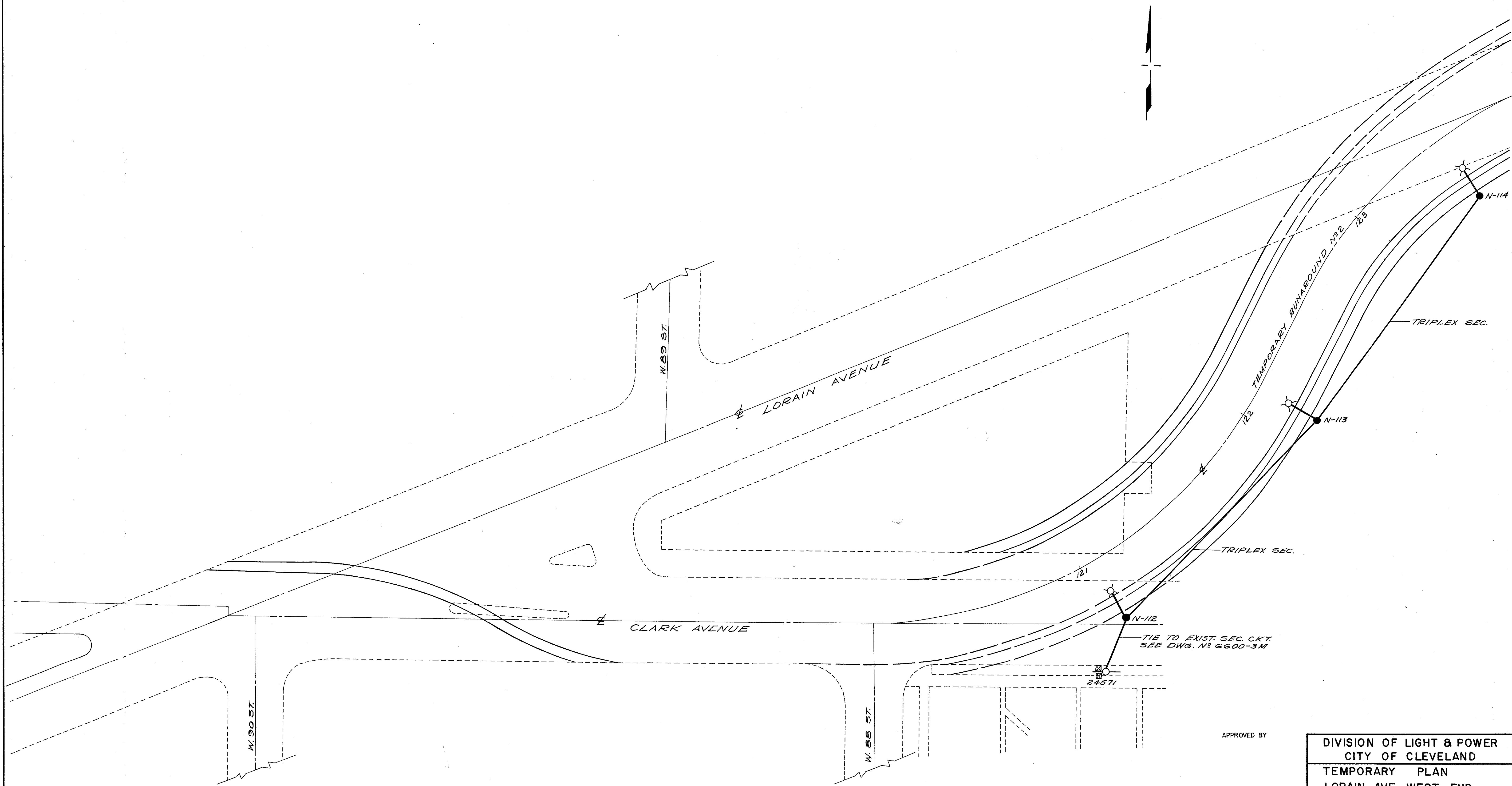
CALCULATED BY E.F. DATE 4-74  
 CHECKED BY J.M. DATE 3-75

FED. RD.	STATE	PROJECT
2	OHIO	

474A  
838

50A  
58

CUYAHOGA COUNTY  
 CUY-90-11.64



APPROVED BY

*Robert J. Albach*  
 ENGINEER OF DESIGN

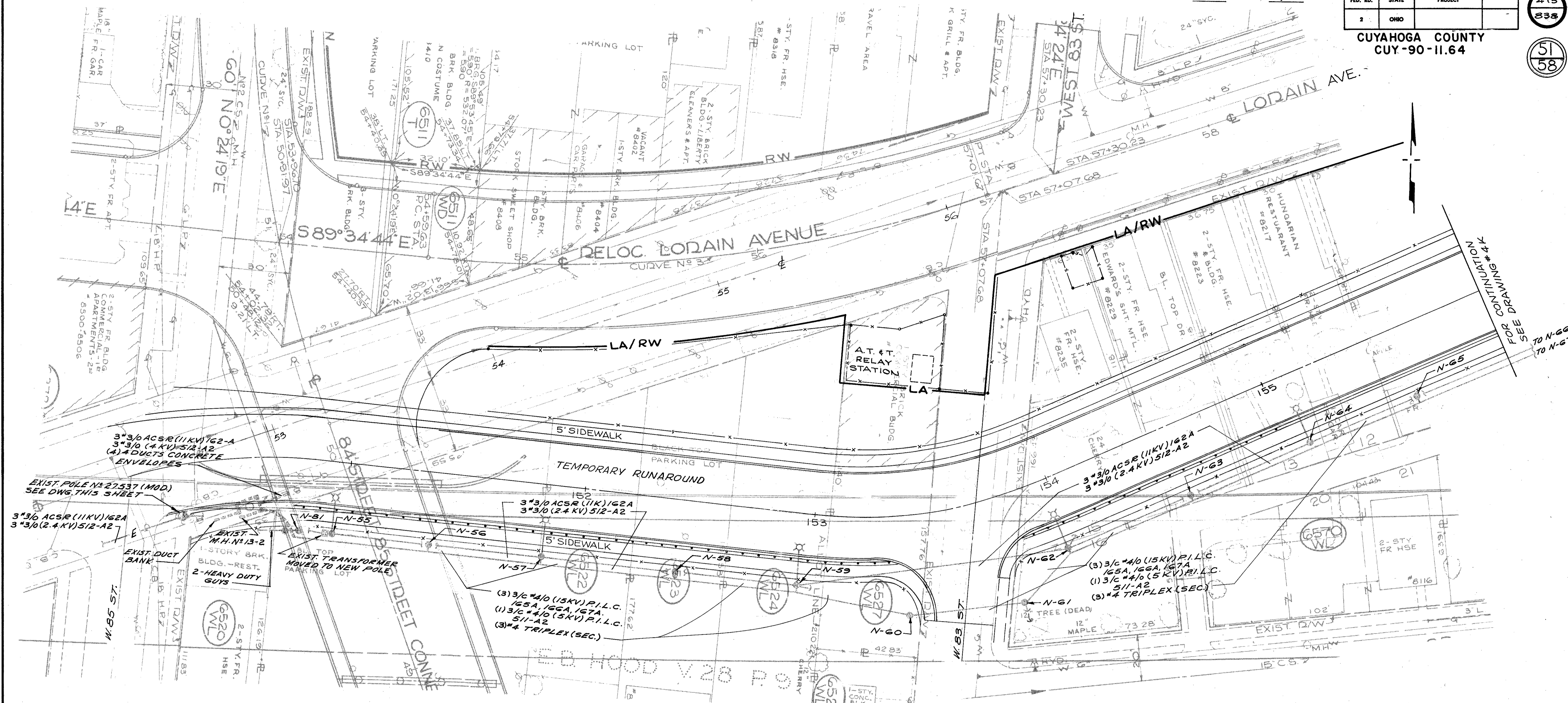
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
TEMPORARY PLAN LORAIN AVE. WEST END	
SCALE 1" = 20'	DRAWING NUMBER 6600-4HA
DATE	CHK'D BY
DRAWN BY H.K.	

CALCULATED BY E.F. DATE 4/74  
 CHECKED BY J.M. DATE 3/75

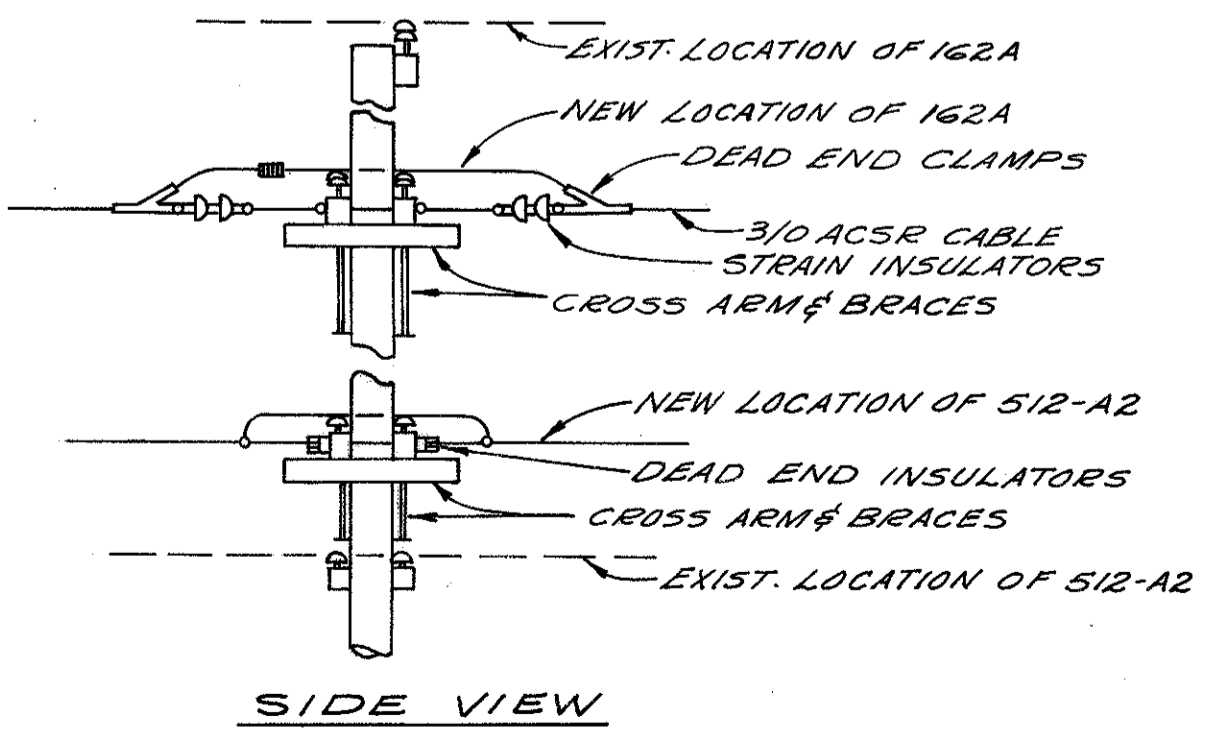
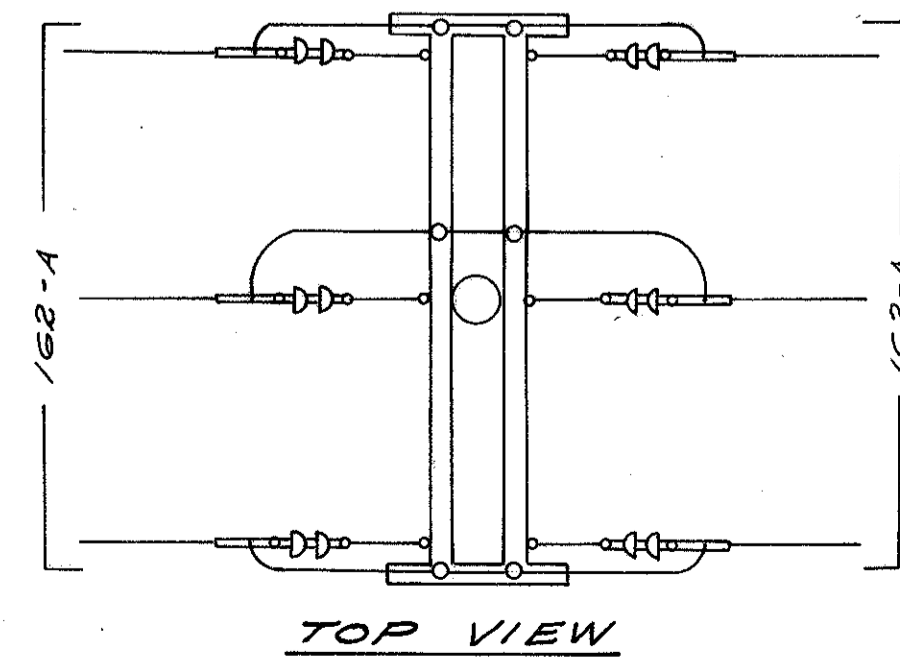
FED. RD.	STATE	PROJECT	475
2	OHIO		838

CUYAHOGA COUNTY  
 CUY-90-11.64

51  
58



- NOTE:
1. SEE TEMPORARY DETAILS, DWGS. NO 4L & 4M.
  2. MODIFIED POLE NO 27537 SHALL BECOME A DEAD END POLE FOR THE TEMPORARY RUN-AROUND. SEE POLE DETAIL, THIS SHEET.
  3. FOR GUY WIRE DETAIL, SEE DWG. NO 3W.
  4. FOR CROSS ARM & POLE GAINING DETAIL, SEE DWG. NO 3T.



MODIFIED POLE NO 27537  
 N. T. S.

APPROVED BY

DIRECTOR OF PUBLIC UTILITIES

COMMISSIONER OF LIGHT & POWER

COMMISSIONER OF UTILITIES ENGINEERING

CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER		CITY OF CLEVELAND	
TEMPORARY PLAN - LORAIN AVE. EAST END SHEET NO 1			
DRAWN BY	E.J.Z	SCALE	1"=20'
DATE		DATE	
CH'KD BY		DRAWING NUMBER	6600-4J

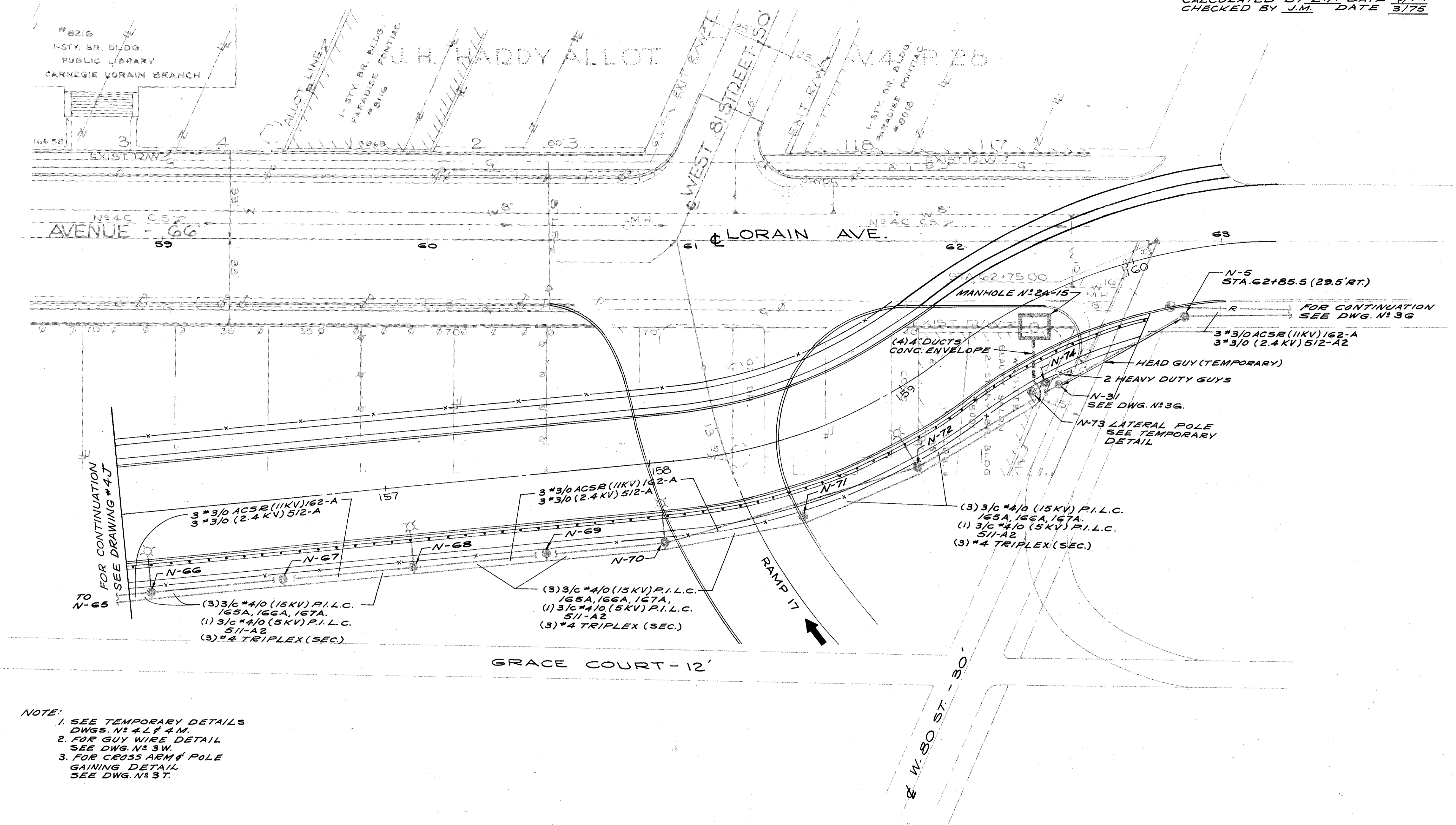
CALCULATED BY E.F. DATE 4/74  
 CHECKED BY J.M. DATE 3/75

FED. RD.	STATE	PROJECT
2	OHIO	

476  
838

CUYAHOGA COUNTY  
 CUY-90-11.64

52  
58



FOR CONTINUATION  
SEE DRAWING #4J  
TO N-65

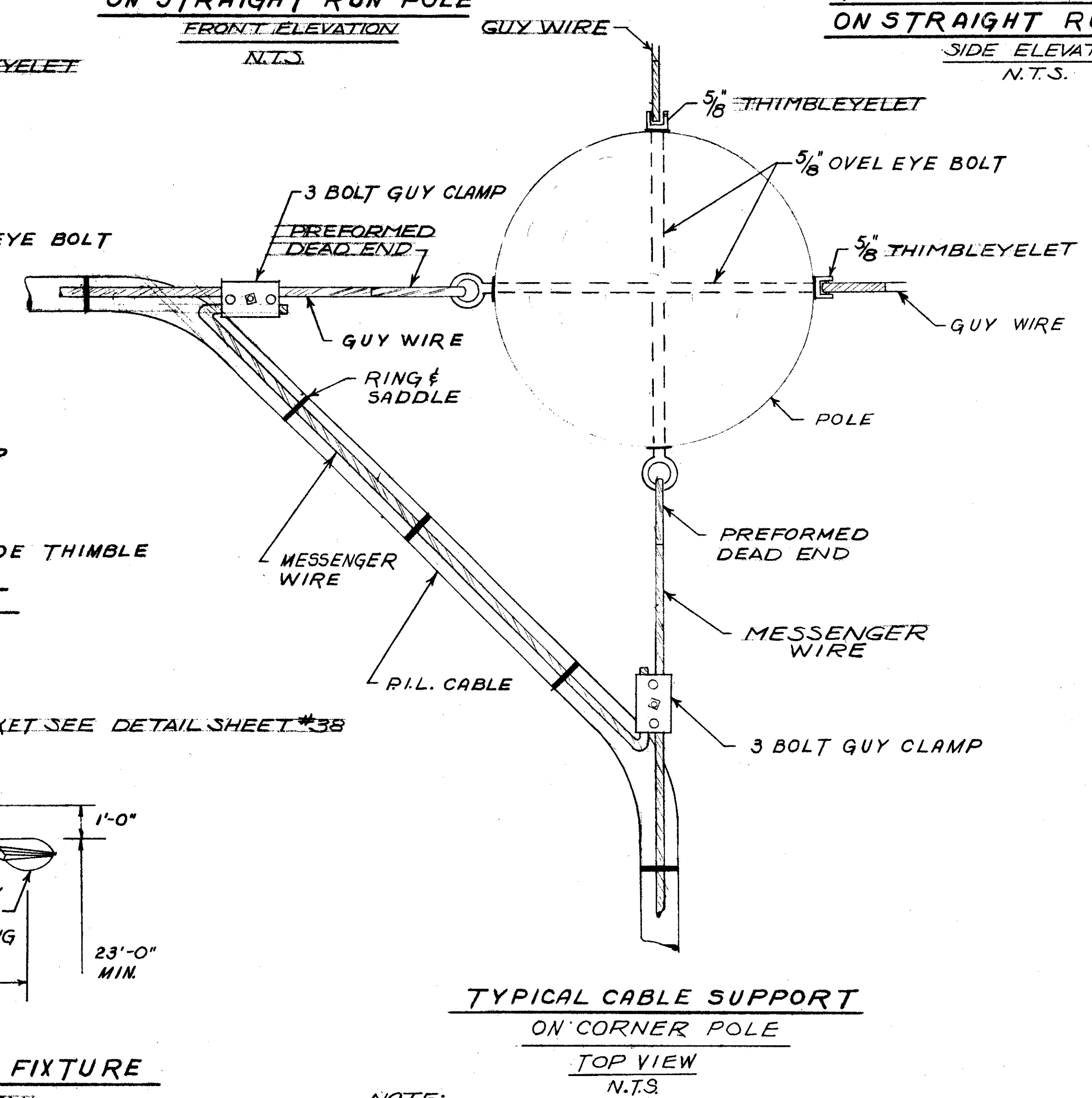
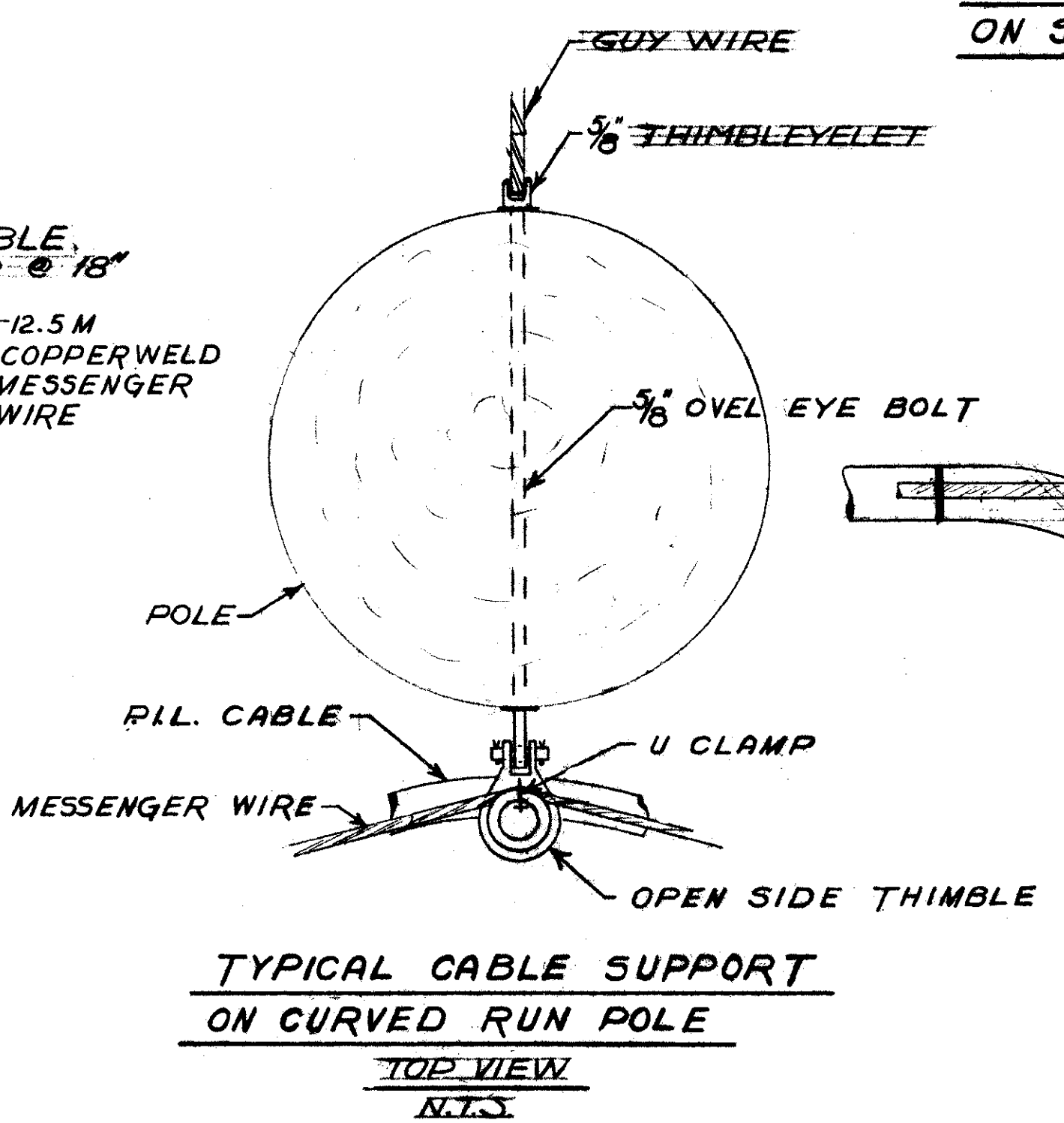
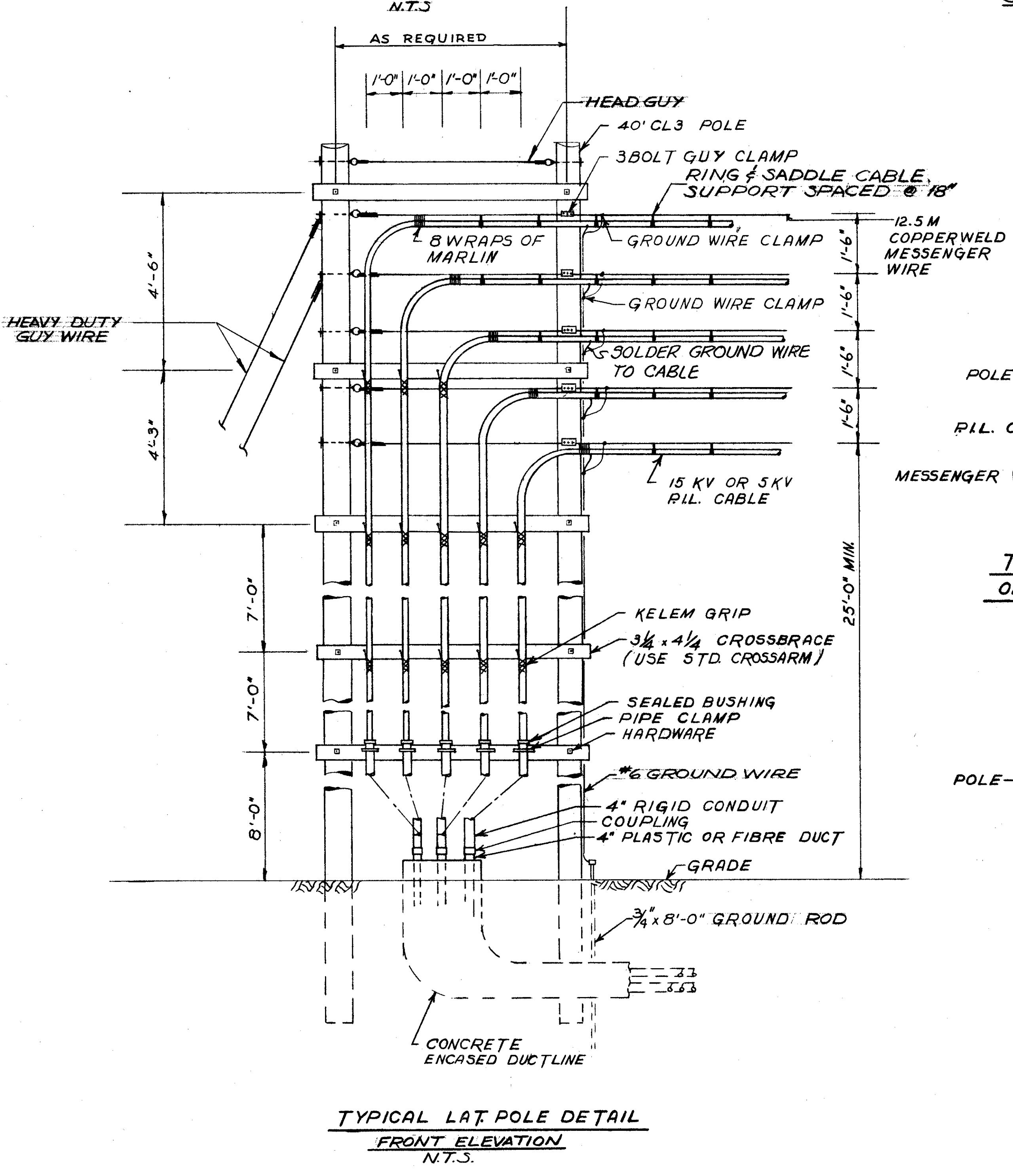
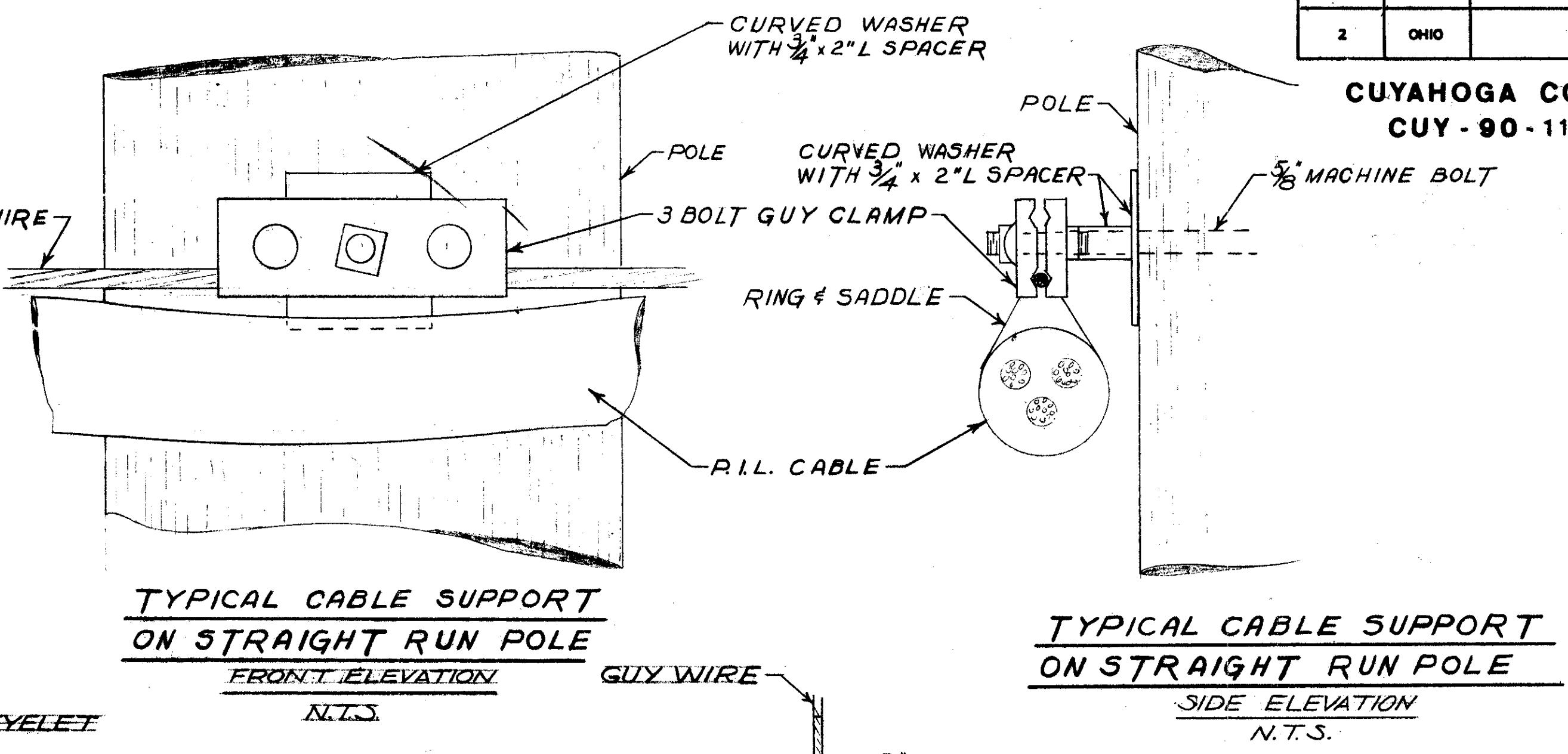
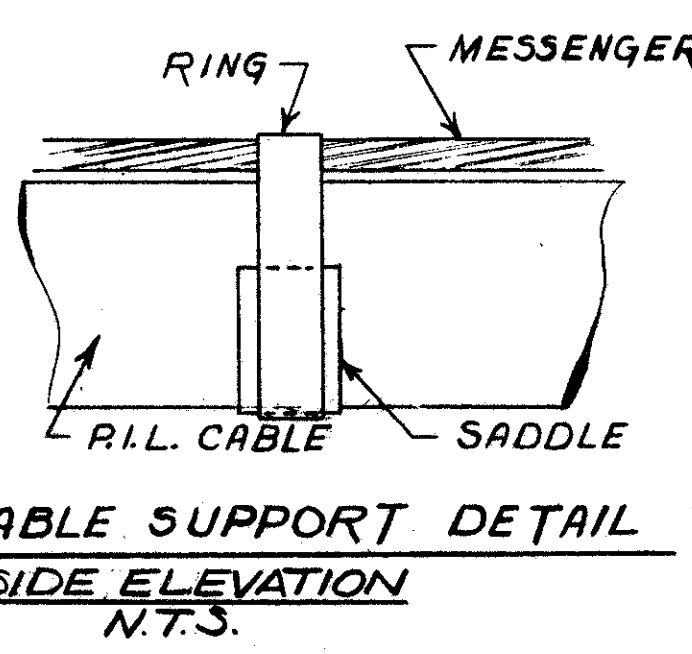
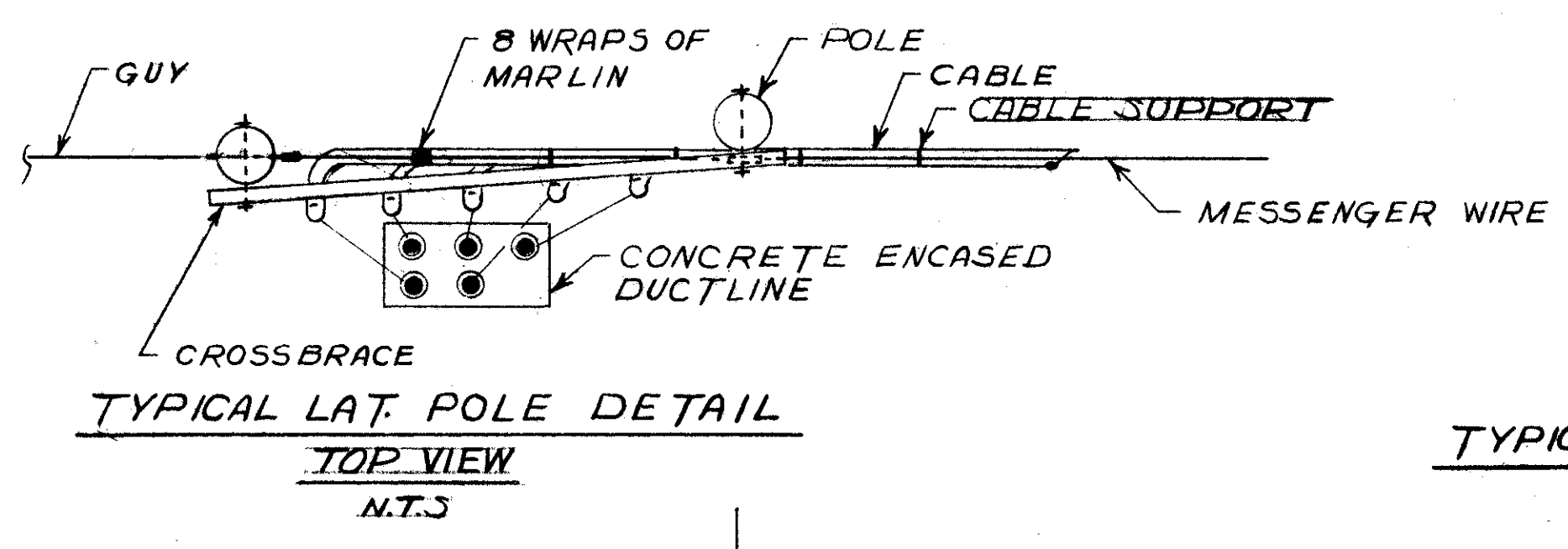
FOR CONTINUATION  
SEE DWG. N° 3G

- NOTE:
1. SEE TEMPORARY DETAILS DWGS. N° 4 L & 4 M.
  2. FOR GUY WIRE DETAIL SEE DWG. N° 3 W.
  3. FOR CROSS ARM & POLE GAINING DETAIL SEE DWG. N° 3 T.

APPROVED BY

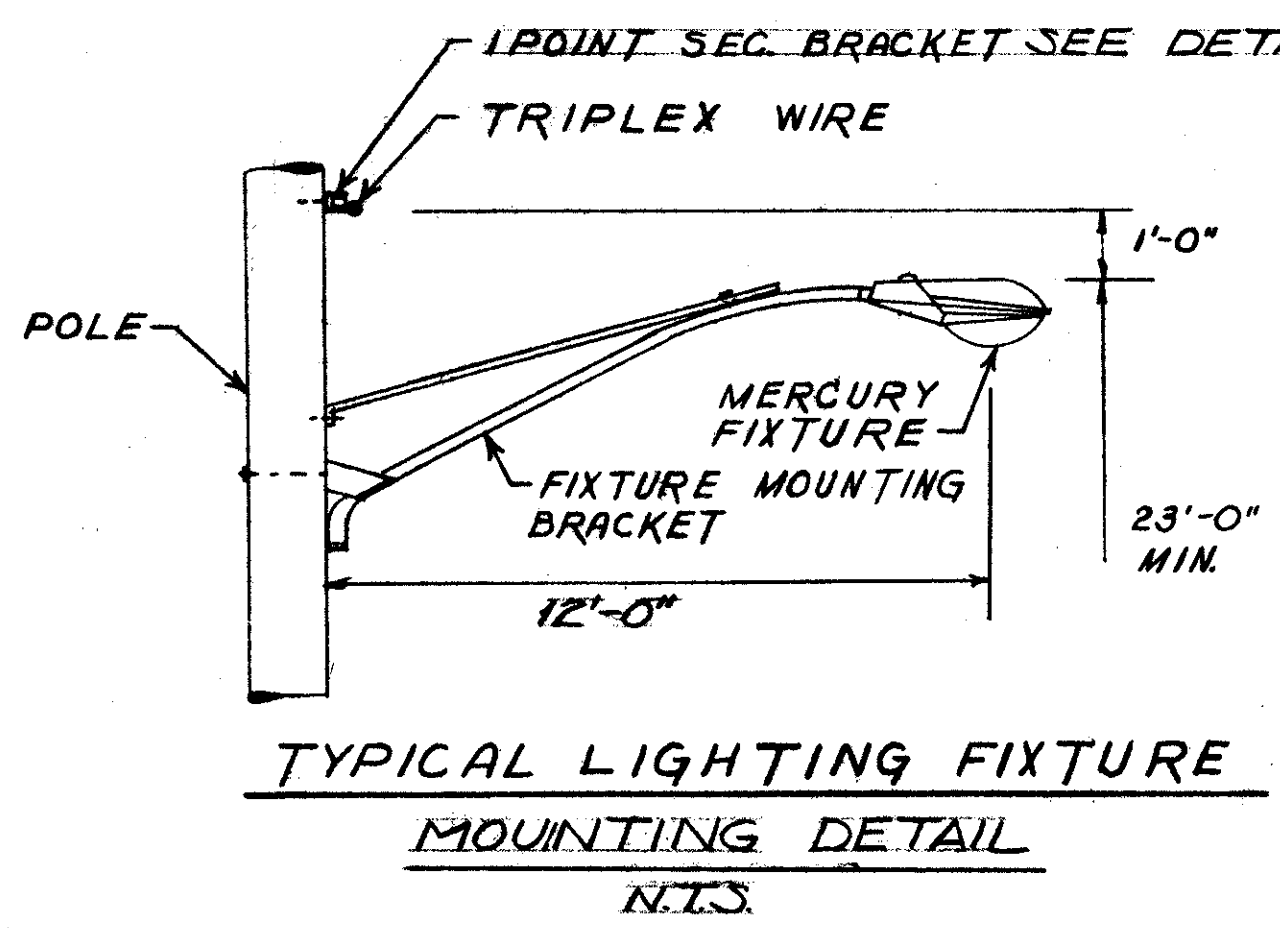
*Robert J. Albach*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND		
TEMPORARY PLAN - LORAIN AVE. EAST END SHEET N° 2		
DRAWN BY R.J.Z.	SCALE 1"=20'	DRAWING NUMBER 6600-4K
DATE		



MESSENGER STRESS TABLE

TEMP	SAG INCH	TENSION LBS
0°F	3/4	2760
30°F	3/4	2430
60°F	1	2100
90°F	1	1770
120°F	1 1/4	1470



NOTE:  
1) NO STRAIN INSULATORS ARE REQUIRED FOR GUY WIRES ON TEMPORARY RUN-AROUNDS  
2) GUY ASSEMBLIES SEE SHEET #3W  
3) GROUND ALL CABLES, MESSENGER WIRES, ANCHOR GUYS TO GROUND WIRE ON LATERAL POLE.

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
Robert J. Albach  
ENGINEER OF DESIGN

**DIVISION OF LIGHT & POWER**  
**CITY OF CLEVELAND**

TEMPORARY  
DETAILS-SHEET N°1

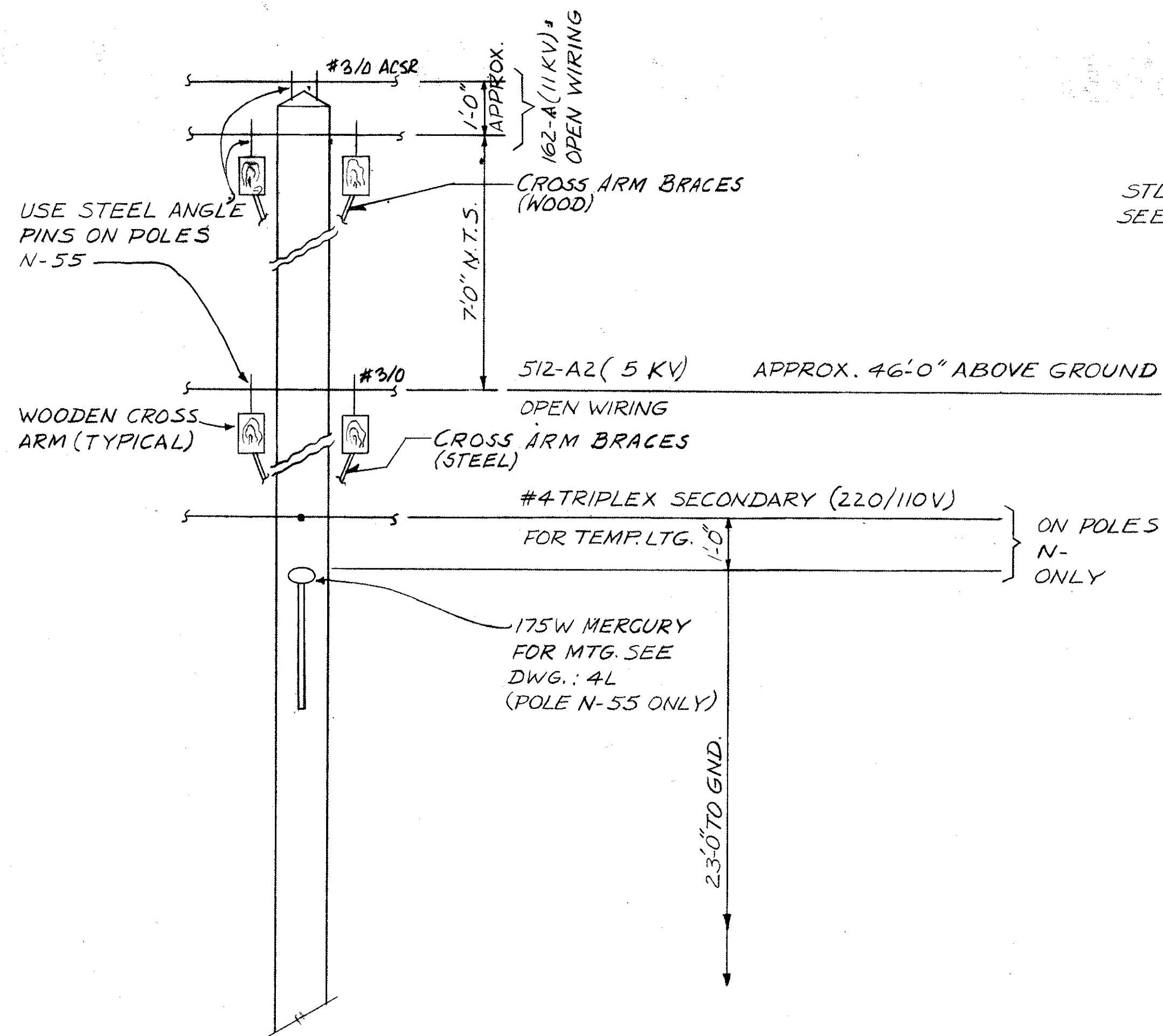
SCALE As NOTED	DRAWING NUMBER 6600-4L
DATE 3/75	



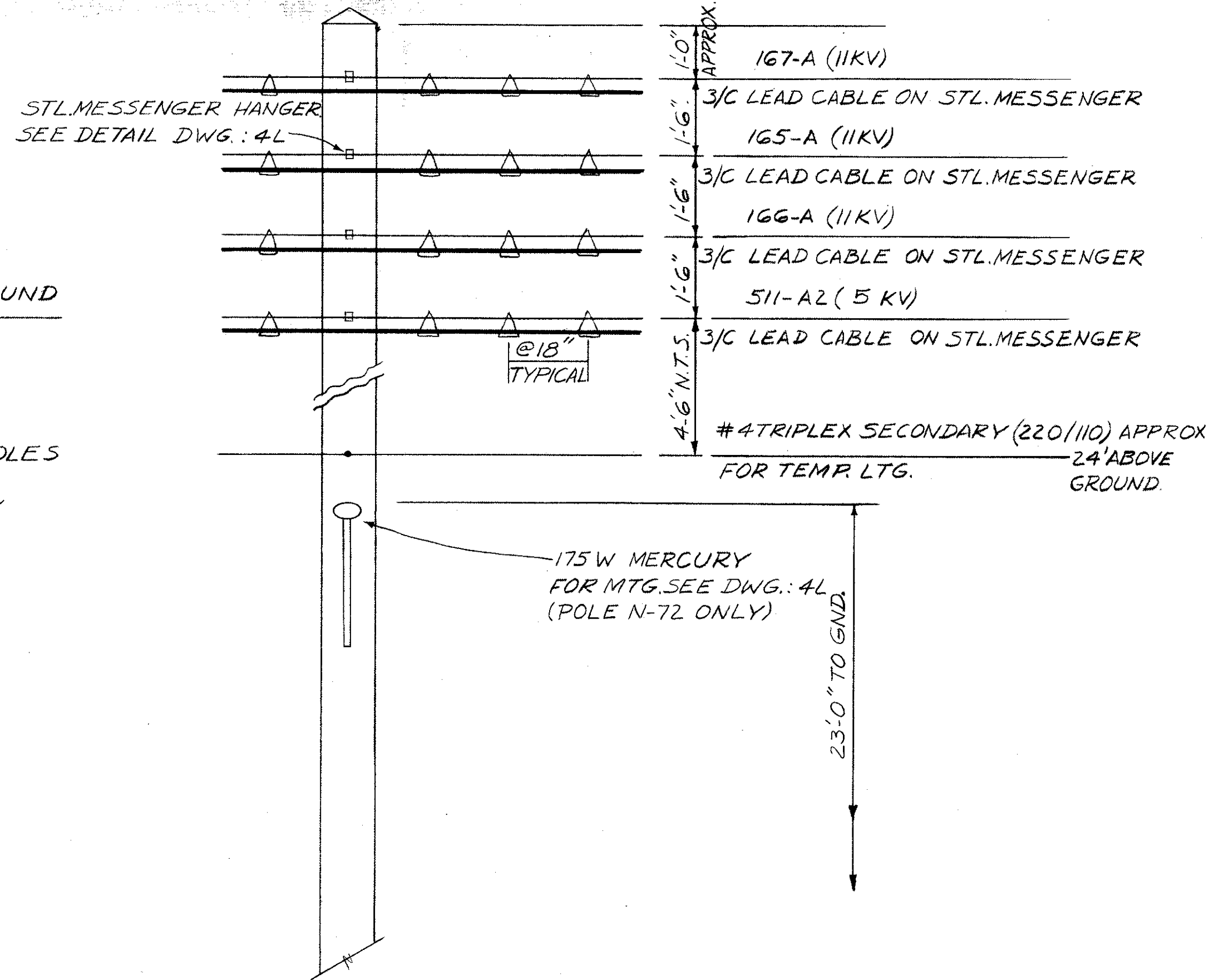
FED. RD.	STATE	PROJECT
2	OHIO	

478  
838

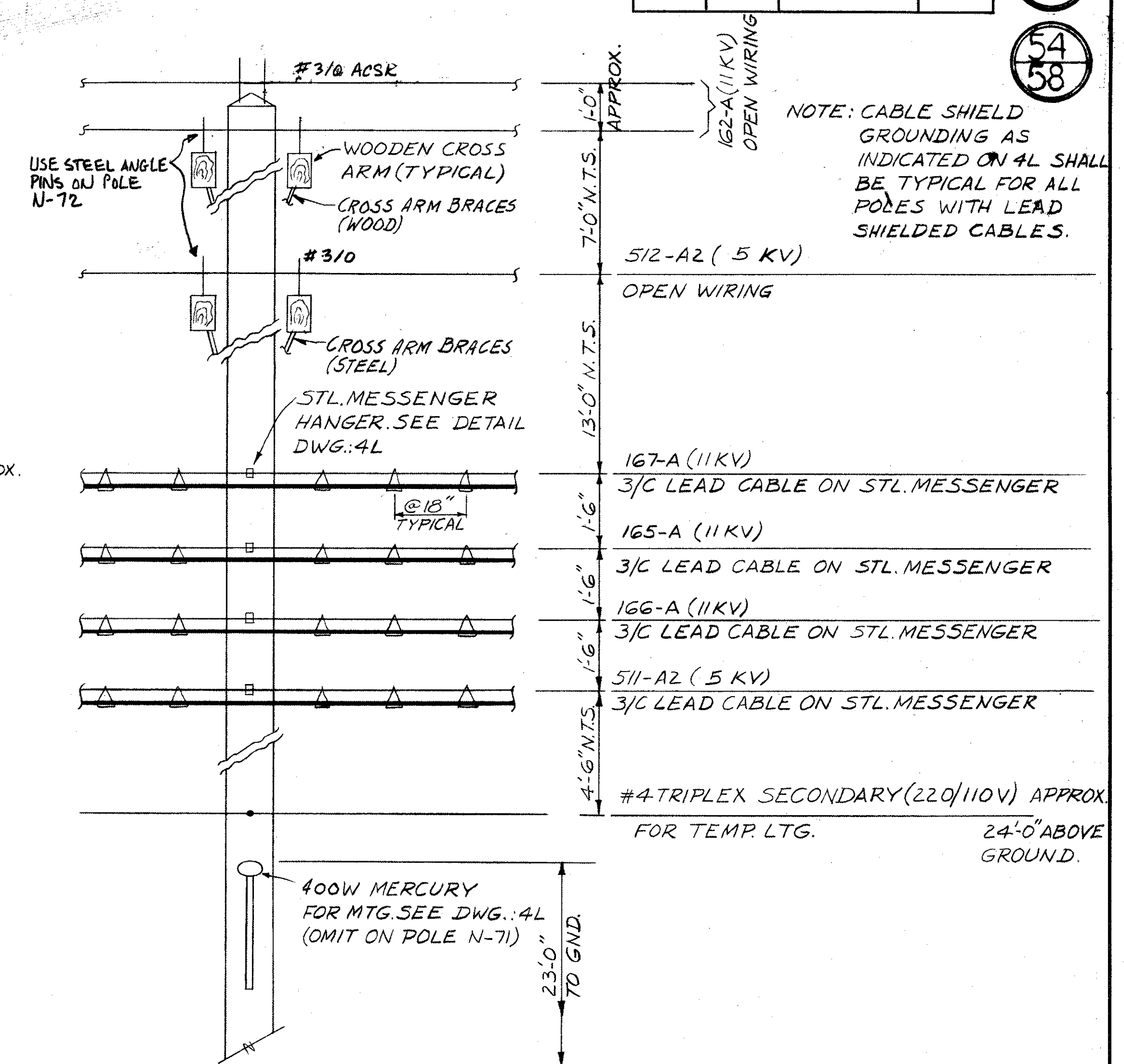
54  
58



DETAIL "1"

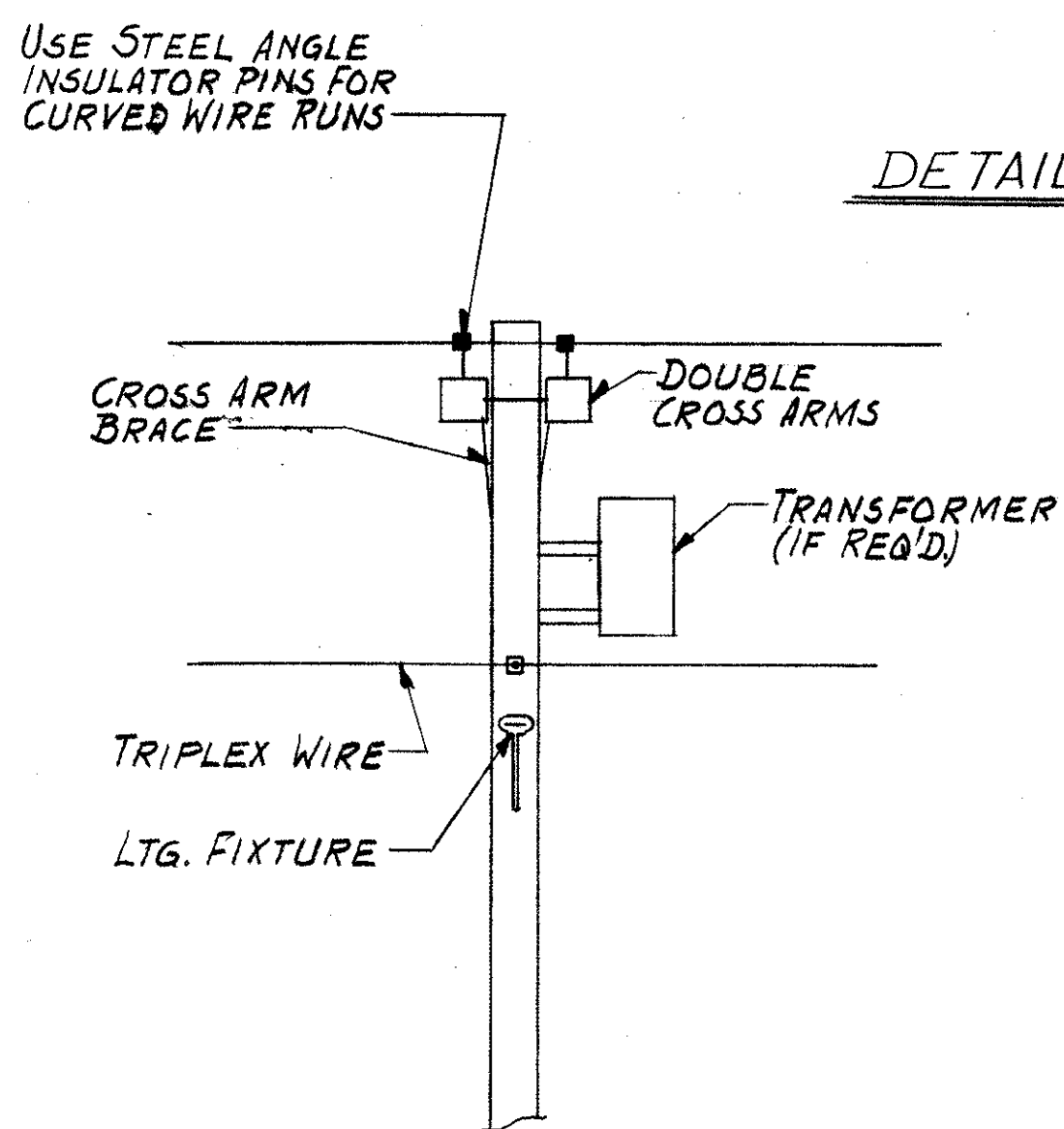


DETAIL "2"

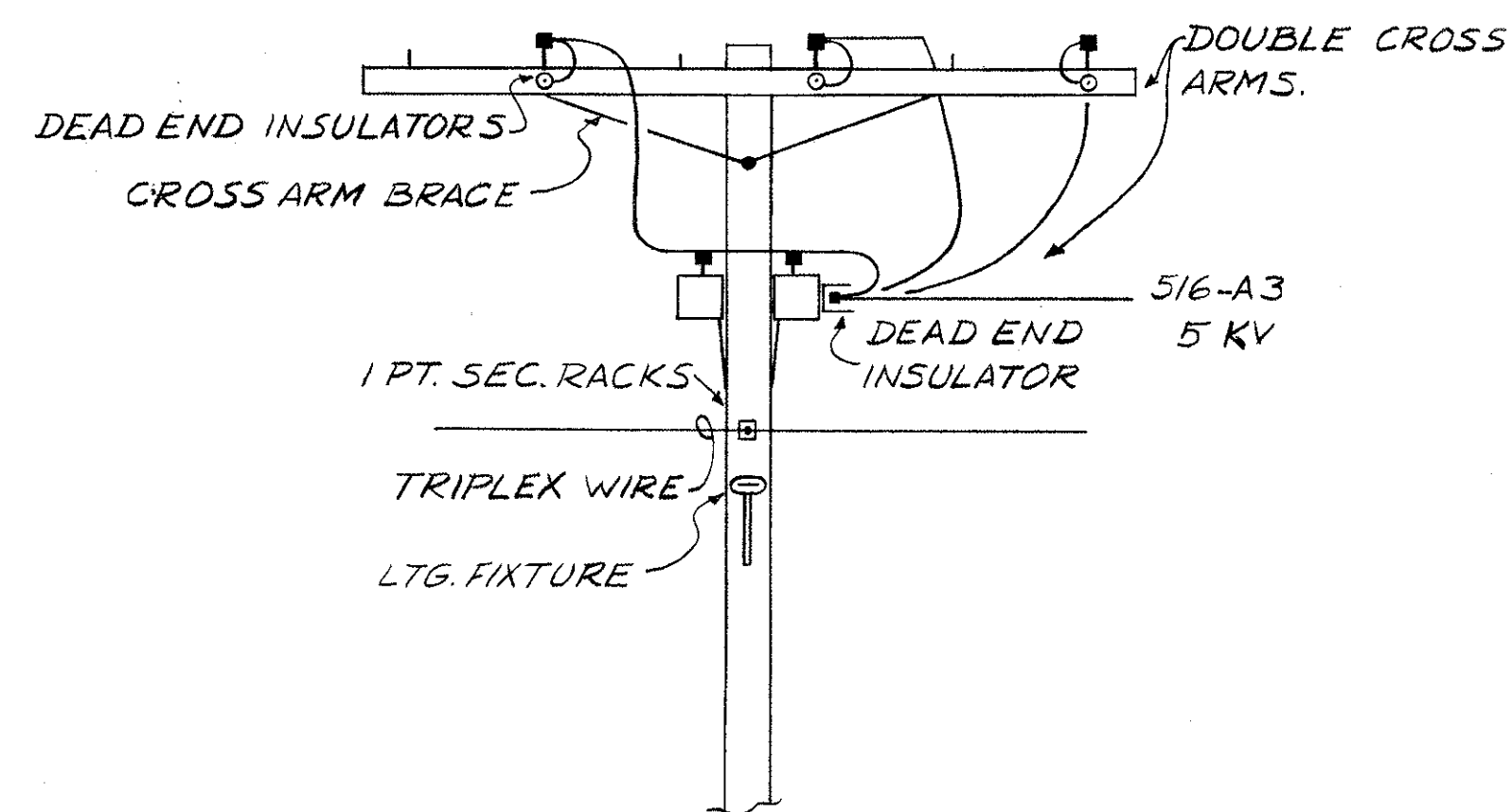


DETAIL "3"

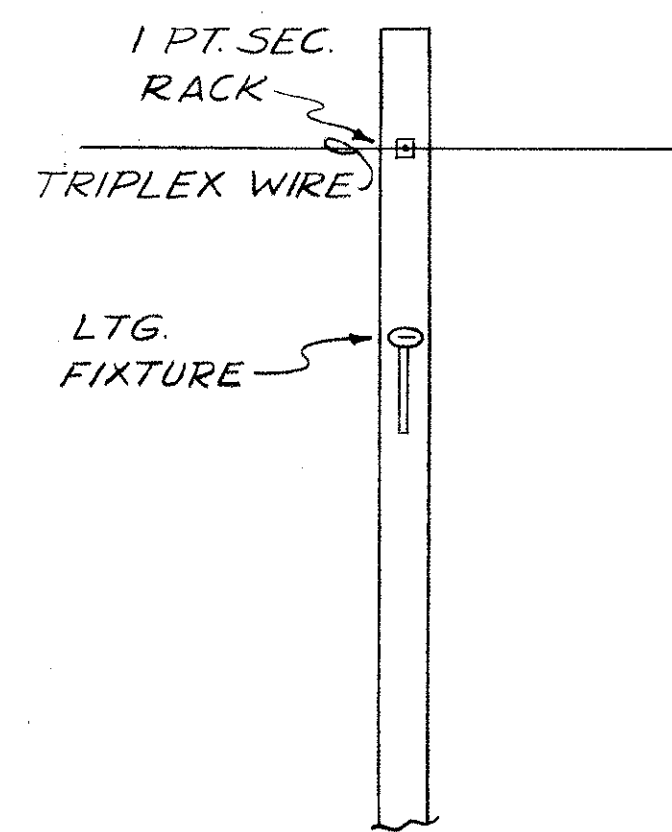
NOTE: CABLE SHIELD GROUNDING AS INDICATED ON 4L SHALL BE TYPICAL FOR ALL POLES WITH LEAD SHIELDED CABLES.



DETAIL "4"



DETAIL "5"



DETAIL "6"

NOTE: GUY WIRES SHOWN ON PLAN DRAWINGS.

APPROVED BY  
DIRECTOR OF PUBLIC UTILITIES  
COMMISSIONER OF LIGHT & POWER  
COMMISSIONER OF UTILITIES ENGINEERING  
CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
TEMPORARY DETAILS-SHEET NO 2	
DRAWN BY: E.F.	SCALE: NO SCALE
CH'KD BY:	DATE: 6600-4M

CALCULATED BY E.F. DATE 9-72  
 CHECKED BY J.M. DATE 10-72

FED. RD.	STATE	PROJECT
2	OHIO	

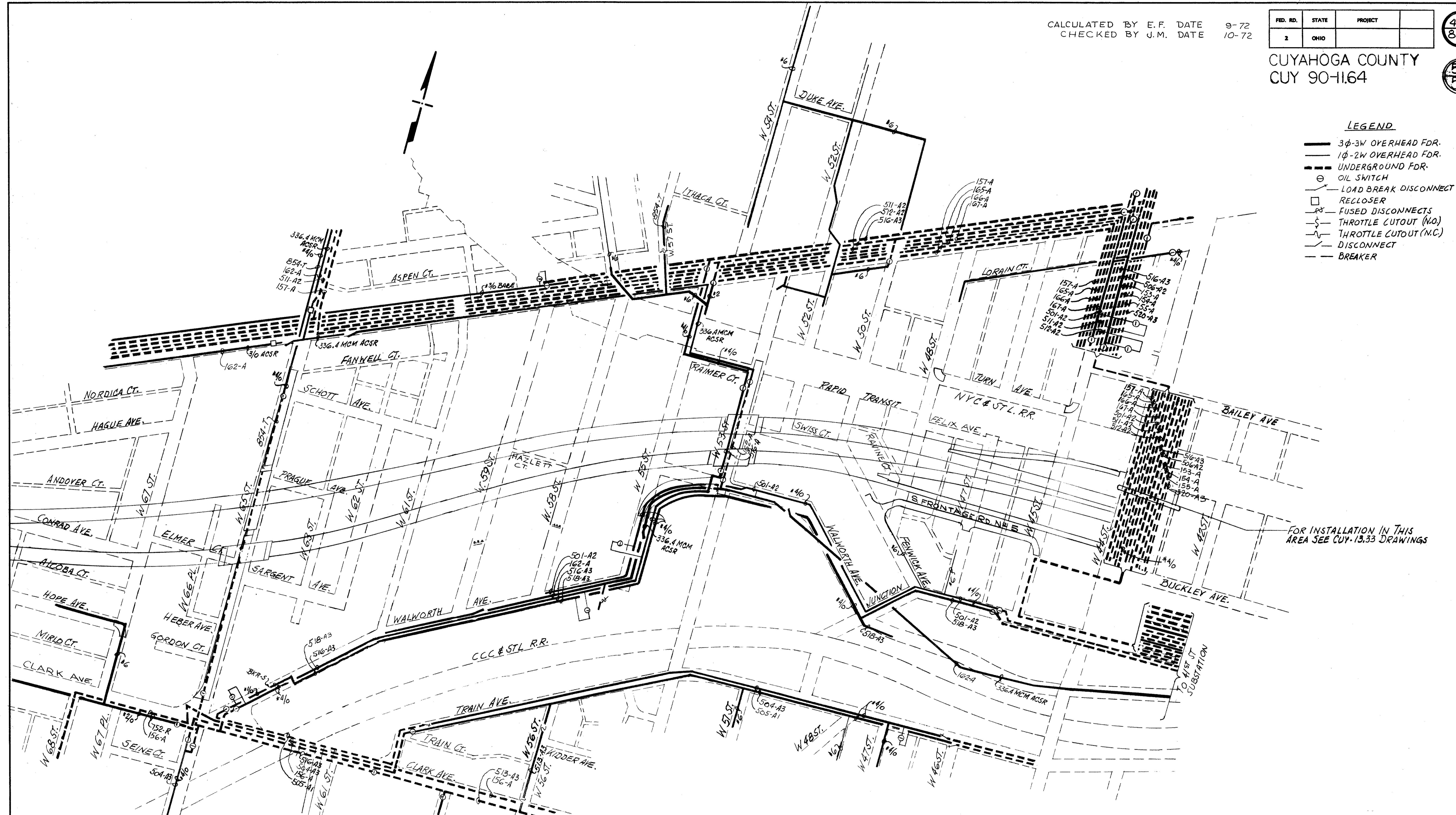
479  
838

CUYAHOGA COUNTY  
 CUY 90-11.64

55  
58

**LEGEND**

- 3φ-3W OVERHEAD FDR.
- 1φ-2W OVERHEAD FDR.
- - - UNDERGROUND FDR.
- ⊙ OIL SWITCH
- ⊖ LOAD BREAK DISCONNECT
- RECLOSER
- PS FUSED DISCONNECTS
- ⤵ THROTTLE CUTOUT (N.O.)
- ⤴ THROTTLE CUTOUT (N.C.)
- ⊘ DISCONNECT
- BREAKER



APPROVED BY

DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albrecht*  
 ENGINEER OF DESIGN

<b>DIVISION OF LIGHT &amp; POWER</b>	
<b>CITY OF CLEVELAND</b>	
<b>FEEDER PLAN (NEW) EAST</b>	
<b>IN PATH OF INTERSTATE-90</b>	
SCALE NONE	DRAWING NUMBER <b>6600-5A</b>
DRAWN BY <i>E. FORDOS</i>	DATE 10-11-72
CH'KD BY <i>J.M.</i>	

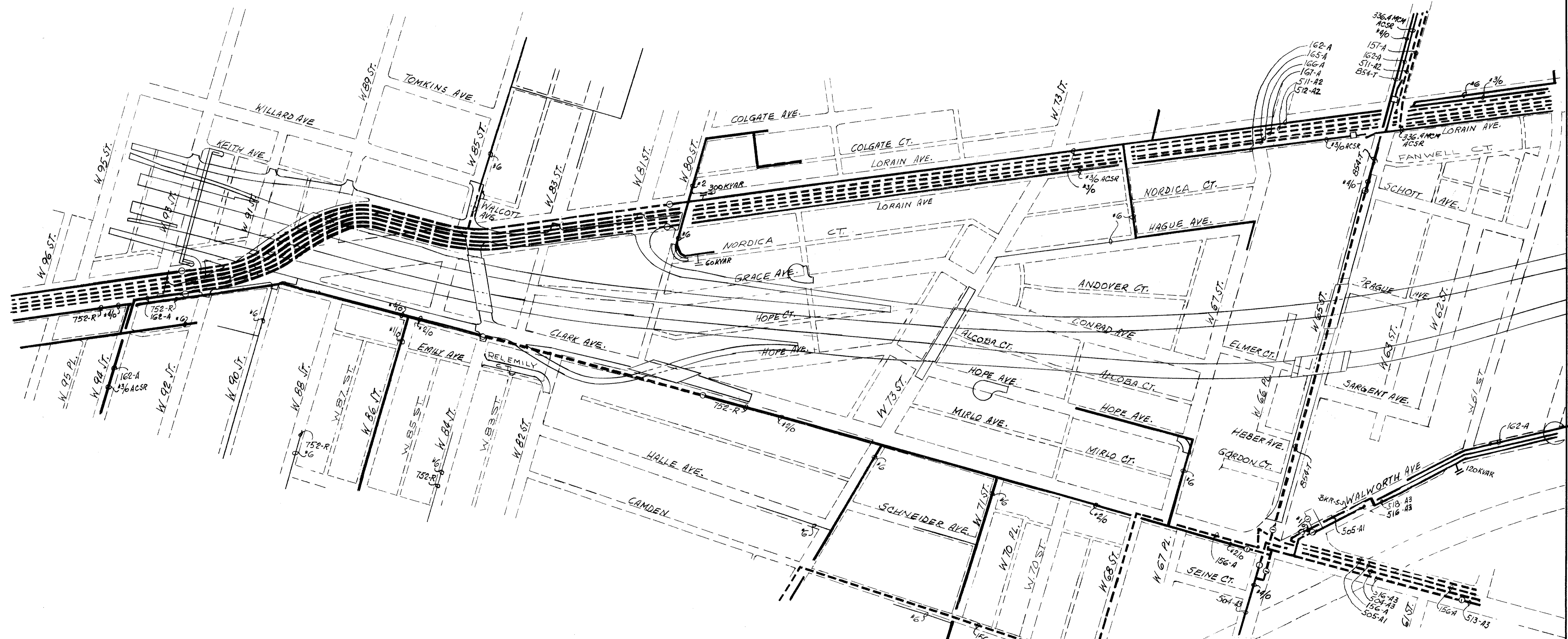
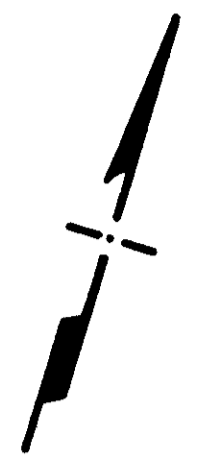
CALCULATED BY E.F. DATE 9-72  
 CHECKED BY J.M. DATE 10-72

FED. RD.	STATE	PROJECT
2	OHIO	

480  
338

CUYAHOGA COUNTY  
 CUY 90-1164

56  
58



APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albaugh*  
 ENGINEER OF DESIGN

DIVISION OF LIGHT & POWER CITY OF CLEVELAND		
FEEDER PLAN (NEW) WEST IN PATH OF INTERSTATE-90		
SCALE NONE	DRAWING NUMBER 6600-5B	
DRAWN BY E.FORDOS	DATE 10-11-72	
CH'KD BY J.M.		

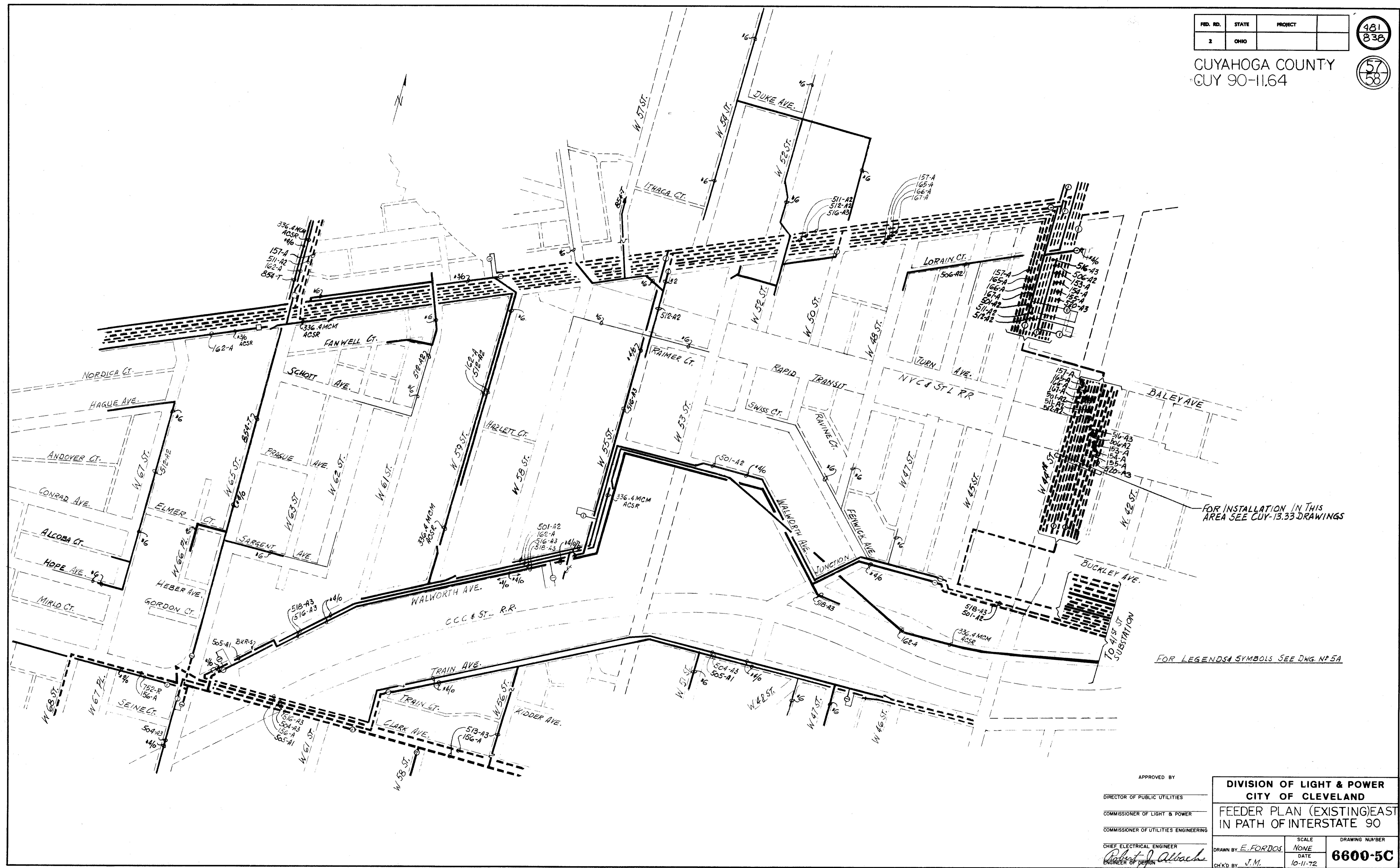
FOR LEGEND & SYMBOLS SEE DWG. NO. 5A

FED. NO.	STATE	PROJECT
2	OHIO	

481  
838

CUYAHOGA COUNTY  
CUY 90-11.64

57  
58



FOR INSTALLATION IN THIS AREA SEE CUY-13.33 DRAWINGS

FOR LEGENDS & SYMBOLS SEE DWG. NO 5A

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albracht*  
 ENGINEER OF DESIGN

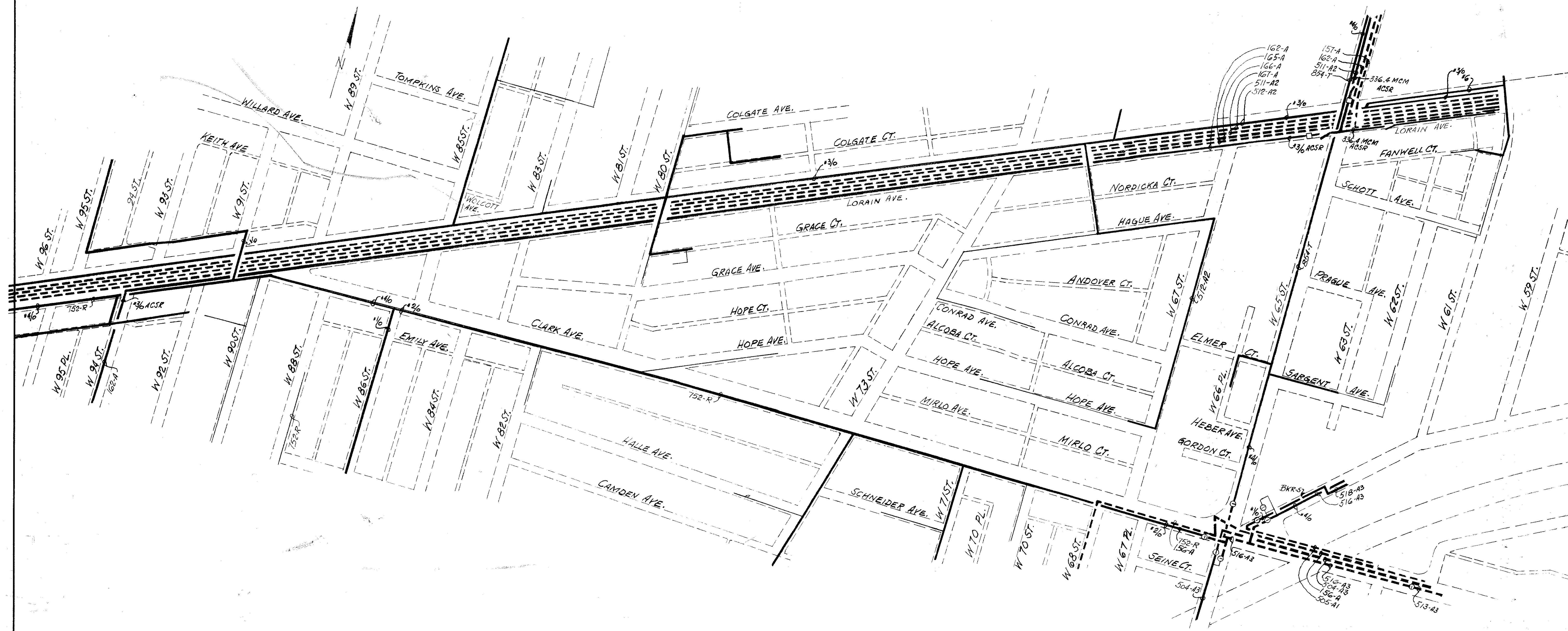
DIVISION OF LIGHT & POWER CITY OF CLEVELAND	
FEEDER PLAN (EXISTING) EAST IN PATH OF INTERSTATE 90	
SCALE NONE	DRAWING NUMBER 6600-5C
DRAWN BY E. FORDOS	DATE 10-11-72
CHK'D BY J.M.	

FED. RD.	STATE	PROJECT
2	OHIO	

482  
838

CUYAHOGA COUNTY  
CUY 90-11.64

58  
58



FOR LEGEND & SYMBOLS SEE DWG. NO 5A

APPROVED BY  
 DIRECTOR OF PUBLIC UTILITIES  
 COMMISSIONER OF LIGHT & POWER  
 COMMISSIONER OF UTILITIES ENGINEERING  
 CHIEF ELECTRICAL ENGINEER  
*Robert J. Albach*  
 ENGINEER OF DESIGN

<b>DIVISION OF LIGHT &amp; POWER CITY OF CLEVELAND</b>	
<b>FEEDER PLAN (EXISTING) WEST IN PATH OF INTERSTATE-90</b>	
SCALE None	DRAWING NUMBER <b>6600-5D</b>
DATE 10-11-72	CH'K'D BY J.M.
DRAWN BY F. FORDOS	ENGINEER OF DESIGN J.M.

1-0

# TRAFFIC CONTROL GENERAL NOTES

FED. RD.	STATE	PROJECT
	OHIO	I-90-(138)21



CUYAHOGA COUNTY  
CUY - 90 - 11.64

## ITEM 202 REMOVAL

### 202 REMOVAL OF EXISTING SIGNAL INSTALLATION

THIS WORK SHALL CONSIST OF THE REMOVAL OF THE SIGNAL HEADS, CONTROLLER, STRAIN POLES, POLE FOUNDATIONS, CABLES, MESSENGER WIRES, AND ALL OTHER PORTIONS OF THE EXISTING TRAFFIC SIGNAL INSTALLATION.

WITH THE EXCEPTION OF ITEMS TO BE RELOCATED AND INCORPORATED INTO NEW INSTALLATIONS OR WHOSE REMOVAL IS OTHERWISE NECESSARY TO PERMIT THE INSTALLATION OF THE NEW SIGNAL EQUIPMENT, NO ITEM SHALL BE REMOVED UNTIL THE NEW INSTALLATION IS IN FULL OPERATION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. (SEE 614 MAINTENANCE OF EXISTING SIGNAL INSTALLATION)

PAYMENT FOR 202 REMOVAL OF EXISTING SIGNAL INSTALLATION WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH INSTALLATION WHEREIN EXISTING SIGNAL EQUIPMENT IS TO BE REMOVED. ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

### REMOVAL OF EXISTING SIGN INSTALLATIONS

THIS WORK SHALL CONSIST OF THE REMOVAL OF ALL EXISTING SIGN INSTALLATIONS ON MAIN ROADWAY, RAMPS AND APPROACH ROADWAYS WITHIN WORK LIMITS OF THIS PROJECT.

WORK SHALL ALSO INCLUDE REMOVAL OF SIGN SUPPORTS AND FOUNDATIONS AS REQUIRED IN SECTION 202.

ALL SIGNS, SUPPORTS, AND ACCESSORIES REMOVED SHALL BE STORED NEATLY WITHIN THE LIMITS OF THE PROJECT AT LOCATIONS APPROVED BY THE ENGINEER FOR REMOVAL BY STATE FORCES. THIS WORK SHALL INCLUDE DISPOSAL OF ALL WASTE MATERIAL.

TO ASSURE MAINTENANCE OF ADEQUATE TRAFFIC CONTROL AT ALL TIMES, NO SIGNS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

PAYMENT FOR REMOVAL OF EXISTING SIGNS SHALL INCLUDE ALL NECESSARY LABOR AND EQUIPMENT REQUIRED TO PERFORM THE REQUIRED WORK AS INDICATED ABOVE.

1. BASIS OF PAYMENT SHALL BE AS FOLLOWS FOR SIGNS FORTY (40) SQUARE FEET OR GREATER:

REMOVAL OF EXISTING MAJOR SIGN INSTALLATIONS AS PER PLAN AT THE CONTRACT PRICE PER EACH.

2. BASIS OF PAYMENT SHALL BE AS FOLLOWS FOR ALL OTHER SIGNS:

REMOVAL OF EXISTING SIGN INSTALLATIONS AS DIRECTED BY THE ENGINEER AND INCLUDED WITH ITEM 201 CLEARING AND GRUBBING.

## ITEM 606 BARRELS

### 606 INTERIM BARRELS

THIS WORK SHALL CONSIST OF 1) FURNISHING, INSTALLING, AND MAINTAINING AND/OR 2) THE REMOVAL AND DISPOSAL OF 55 GALLON BARRELS AS SPECIFIED IN 606.04 AND LOCATED ON THE PLANS.

BASIS OF PAYMENT WILL BE AS FOLLOWS:

1) 606 INTERIM BARRELS, AT THE CONTRACT BID PRICE PER EACH WHICH PRICE WILL BE FULL COMPENSATION FOR FURNISHING, INSTALLING, AND MAINTAINING OF THE BARRELS.

2) 606 REMOVAL OF INTERIM BARRELS, AT THE CONTRACT LUMP SUM PRICE WHICH PRICE WILL BE FULL COMPENSATION FOR THE REMOVAL AND DISPOSAL OF THE BARRELS.

## ITEM 614 MAINTENANCE OF TRAFFIC

### 614 EXISTING SIGNS

EXISTING SIGNS LOCATED WITHIN THE ROADWORK AREAS WHICH ARE NECESSARY FOR INTERIM OR PERMANENT TRAFFIC CONTROL SHALL BE REMOVED AND RE-ERECTED IN LOCATIONS INDICATED BY THE PLANS OR AS APPROVED BY THE ENGINEER. STOP SIGNS SHALL BE MAINTAINED AT ALL TIMES WHILE TRAFFIC IS MAINTAINED. THE COST OF REMOVAL, REERECTION AND SUBSEQUENT REMOVAL IF REQUIRED WILL BE CONSIDERED A SUBSIDIARY WORK ITEM, THE COST OF WHICH WILL BE INCLUDED IN THE PRICE BID FOR THE ROADWAY ITEMS. THE SIGNS WHICH ARE TO BE RE-ERECTED OUTSIDE THE PAVED BERMS SHALL BE LOCATED WITH THE CENTER LINE OF SUPPORT ON THE POINT OF INTERSECTION (P.I.) OF THE SHOULDER.

### MAINTENANCE OF CONSTRUCTION SIGNING

THE STANDARD W-43-30 "NO OUTLET" SIGNS AND CITY OF CLEVELAND STANDARD "NOT A THRU STREET - LOCAL ACCESS ONLY", 24" X 48" BLACK ON WHITE REFLECTORIZED SHEETING-TYPE SIGNS SHALL BE ERRECTED IN PLACE OF THE "ROAD CLOSED AHEAD" SIGNS ONLY AFTER THE CONSTRUCTION WORK ON THE AFFECTED CITY STREETS IS COMPLETED.

### 614 MAINTENANCE OF EXISTING SIGNAL INSTALLATION

THE EXISTING TRAFFIC SIGNAL(S) SHALL BE KEPT IN OPERATION UNTIL THE NEW SIGNAL IS OPERATIONAL. IF EXISTING ITEMS ARE TO BE INCORPORATED INTO THE NEW SIGNAL, SUCH ITEMS SHALL NOT BE REMOVED AND REINSTALLED UNTIL ALL OTHER NEW WORK WHICH CAN BE DONE PRIOR TO THE RELOCATION WORK IS COMPLETED. AT THIS TIME, THE EXISTING SIGNAL MAY BE TURNED OFF AND THE REMAINING WORK COMPLETED. SIGNAL HEADS SHALL BE COVERED WHEN NOT IN OPERATION AND TRAFFIC MAINTAINED AT THE INTERSECTION THROUGH THE USE OF STOP SIGNS

SIGNAL CONTROL OF THE INTERSECTION SHALL NOT BE INTERRUPTED DURING THE HOURS OF 6:00 AM TO 9:00 AM AND 3:00 PM TO 6:00 PM ON WEEKDAYS. SIGNALS SHALL BE INOPERATIVE NO LONGER THAN SIX HOURS.

PAYMENT WILL BE INCLUDED IN THE LUMP SUM PRICE BID FOR 614, MAINTENANCE OF TRAFFIC.

### MAINTENANCE OF NEW TRAFFIC SIGNAL INSTALLATIONS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF EACH TRAFFIC SIGNAL HE HAS IN PART OR FULLY CONSTRUCTED UNTIL SUCH TIME AS THE TESTING REQUIREMENTS ARE SATISFIED, AND THE SIGNAL INSTALLATION IS COMPLETE AND ACCEPTED BY THE ENGINEER.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE CITY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES ARE LOCATED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO TROUBLE CALLS. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAULTS, EQUIPMENT MALFUNCTIONS, AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTORS NOTIFICATION OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT, EXCEPT POLES AND CONTROL EQUIPMENT, SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTORS NOTIFICATION OF THE OUTAGE.

ALL POLES AND CONTROL EQUIPMENT WHICH ARE DAMAGED AND WHICH MUST BE REPLACED SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTORS NOTIFICATION OF THE OUTAGE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICULAR ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT AT THOSE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE FROM THE CITY OF CLEVELAND FOR POLICE SERVICES AND MAINTENANCE BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE MAINTENANCE SERVICE IN ONE OR MORE OF THE FOLLOWING MANNERS:

- 7:00 AM - 7:00 PM WITH THE CITY PROVIDING COVERAGE FROM 7:00 PM - 7:00 AM AT THE CONTRACTORS EXPENSE, AS PREVIOUSLY PROVIDED HEREIN.
- 24-HOUR SERVICE BY THE CONTRACTOR.
- COMPLETE CITY MAINTENANCE AT THE CONTRACTORS EXPENSE, AS PREVIOUSLY PROVIDED HEREIN.

THE CONTRACTOR SHALL INDICATE THE MANNER IN WHICH HE PROPOSES TO PROVIDE THE ABOVE SERVICE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEMS.

THIS ITEM SHALL BE CONSIDERED A SUBSIDIARY WORK ITEM AND THE COST THEREOF INCLUDED IN THE PRICE BID FOR THE RESPECTIVE TRAFFIC SIGNAL BID ITEMS.

### 614 MAINTENANCE OF TRAFFIC

MODIFYING SPECIFICATION 104.04 THIS ITEM OF WORK SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH TRAFFIC CONTROL DETAILS SHOWN ON SHEET 29.30 IN ADDITION TO REQUIREMENTS OF THIS STANDARD SPECIFICATION.

## ITEM 620 DELINEATORS

### 620 DELINEATORS, BY TYPE

THE CONTRACTOR SHALL HAVE THE OPTION OF DRIVING OR CONCRETE EMBEDDING DELINEATOR POSTS IN ACCORDANCE WITH DETAILS SHOWN ON SHEET 548

POSTS MAY BE TRIMMED ON THE EMBEDDED END TO ADJUST FOR GRADE AND REQUIRED DELINEATOR MOUNTING HEIGHT. CONCRETE SHALL BE 499 CLASS C.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO UNDERGROUND UTILITIES OR CABLE DURING PERFORMANCE OF THIS WORK.

COMPENSATION FOR THE ABOVE ITEM WILL BE INCIDENTAL TO VARIOUS DELINEATOR ITEMS INCLUDED WITHIN THIS PROJECT.

### 620 INTERIM DELINEATORS

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING INTERIM DELINEATORS AS SPECIFIED.

THE WORK SHALL INCLUDE NO. 2 POSTS; 4'-0" LONG BOLTED TO THE INSIDE OF INTERIM BARRELS FURNISHED UNDER 606 USING A MINIMUM OF THREE 5/16" STEEL BOLTS SPACED ON 12" CENTERS. POST FLANGES SHALL BE 90 DEGREES TO INTERIM EDGE LINES FACING APPROACHING TRAFFIC. TYPE D DELINEATORS SHALL BE MOUNTED ON THE DRIVE POST FLANGES WITH THE TOP OF THE DELINEATOR 4' ABOVE THE PAVEMENT.

THE QUANTITY FURNISHED AND INSTALLED WILL BE PAID FOR AT THE PRICE BID PER EACH, 620 INTERIM DELINEATORS, WHICH PRICE WILL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING DRIVE POSTS AND DELINEATORS INCLUDING NECESSARY HARDWARE, LABOR AND EQUIPMENT.

## ITEM 625 ELECTRICAL EQUIPMENT

### 625 POWER SUPPLY FOR TRAFFIC SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FROM THE CITY OF CLEVELAND MUNICIPAL LIGHT & POWER AT THE LOCATION SHOWN ON THE PLANS. THE VOLTAGE SUPPLIED SHALL BE 120 VOLTS. ALSO SEE M.E.L.P. PLANS.

ALL NECESSARY WORK TO INSTALL A COMPLETE OPERATIVE SYSTEM WILL BE INCLUDED IN THE VARIOUS ELECTRICAL BID ITEMS IN THIS CONTRACT.

### 625 PLAN SPECIFICATION REFERENCES (S-625 & S-713)

REFERENCES TO ITEM 625 AND 713 IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS S625 AND S713.

### 625 GROUNDING OF EACH SIGN AND SIGNAL SUPPORT

EACH SIGN SUPPORT OR STRUCTURE SHALL BE GROUNDING WITH A #4 INSULATED CONDUCTOR. THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO THE SWITCH THEN TO THE COMPRESSION CONNECTOR IN THE SIGN SUPPORT THEN TO A 1"X10" GROUND ROD. GROUND CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO GROUND ROD AND THEN TAPED WITH PLASTIC ELECTRICAL TAPE AT EACH EXPOSED PORTION OF CONDUCTOR. THE WELDED CONNECTION AND TAPED PORTION SHALL BE PAINTED 2 COATS OF INSULATING ENAMEL.

### CONCRETE PULLBOXES

PULLBOXES SPECIFIED IN THE TRAFFIC SIGNAL ITEMS AS "SINGLE PULLBOX, CONCRETE AS PER PLAN" SHALL BE THE SAME AS THOSE SPECIFIED IN THE ROADWAY LIGHTING GENERAL NOTES AND DETAILS EXCEPT THAT AIR BELLS SHALL NOT BE USED AND AGGREGATE DRAINS SHALL BE PROVIDED IN THE BOTTOMS OF ALL PULLBOXES.

## ITEM 842 TRAFFIC SIGNAL EQUIPMENT

### 842 TEMPORARY TRAFFIC SIGNAL INSTALLATION

THIS ITEM OF WORK SHALL INCLUDE INSTALLATION, MAINTENANCE AND REMOVAL OF A COMPLETE TEMPORARY TRAFFIC SIGNAL SYSTEM.

MATERIALS MAY BE "USED" BUT MUST BE IN GOOD OPERATING CONDITION.

TRAFFIC SIGNALS SHALL BE ALL 12" LENSES.

THE SIGNALS SHALL BE PAINTED FEDERAL YELLOW.

ALL CABLE AND WIRING DEVICES SHALL BE NEW.

EACH SIGNAL INDICATION SHALL BE ILLUMINATED WITH A NEW 150 WATT STANDARD TRAFFIC SIGNAL LAMP WITH A 3 INCH LIGHT CENTER.

THE QUANTITY AND PLACEMENT OF TRAFFIC SIGNAL HEADS SHALL BE AS INDICATED ON SHEET NO. 522 THRU 526 OF THIS PLAN.

THE CONTROLLER SHALL BE EQUIPPED WITH A MANUAL HAND-HELD PUSH BUTTON AND WIRED SO THE CONTROLLER COULD BE OPERATED MANUALLY.

(CONTINUED)

REMOVAL OF THE TRAFFIC SIGNAL EQUIPMENT SHALL BE AS DIRECTED BY THE PROJECT ENGINEER AFTER THE TEMPORARY ROADWAY IS PERMANENTLY CLOSED TO TRAFFIC.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT BID PRICE FOR EACH INTERSECTION WHERE TRAFFIC SIGNALS ARE REQUIRED AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, INCIDENTALS, MAINTENANCE, AND REMOVAL.

## ITEM 844 SIGNS - GENERAL

### 844 SIGNS FURNISHED BY THE STATE

THE CONTRACTOR SHALL SUBMIT, IN TRIPPLICATE, A SCHEDULE FOR SIGN ERECTION TO THE ENGINEER AT LEAST 120 CALENDAR DAYS PRIOR TO THE START OF ANY SCHEDULED ERECTION WORK. THE SCHEDULE SHALL INCLUDE PROPOSED DATES, SIGN NUMBERS AND DELIVERY POINT. THE ENGINEER WILL FURNISH COPIES OF THE SCHEDULE TO THE DISTRICT TRAFFIC ENGINEER AND TO THE ENGINEER OF DESIGN SERVICES, 25 SOUTH FRONT STREET, COLUMBUS, OHIO 43215.

### 844 MILE MARKER LOCATION

THE LOCATIONS SHOWN IN THE PLANS FOR MILE MARKERS ARE APPROXIMATE. THE BUREAU OF TRANSPORTATION TECHNICAL SERVICES WILL LOCATE THE LONGITUDINAL POSITION OF THE MILE MARKERS BY A PAINT MARK ON THE COMPLETED PAVEMENT EDGE. ON DIVIDED HIGHWAYS ONLY ONE PAVEMENT EDGE WILL BE MARKED. MARKERS FOR THE OPPOSITE DIRECTION SHALL BE SET ACROSS FROM THOSE ON THE MARKED EDGE. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER 30 DAYS IN ADVANCE OF THE PLANNED MARKER INSTALLATION. THE PROJECT ENGINEER WILL THEN NOTIFY THE BUREAU OF TRANSPORTATION TECHNICAL SERVICES. ANY DELINEATOR WITHIN 50 FEET OF A MILE MARKER SHALL BE OMITTED.

### 844 INTERIM OVERLAY REMOVED AND DISPOSED OF

THIS WORK SHALL CONSIST OF THE REMOVAL OF RIVETS IN THE INTERIM OVERLAY AND THE DISPOSAL OF THE OVERLAY TO THE SATISFACTION OF THE ENGINEER.

RIVETS TO BE REMOVED SHALL BE DRILLED OUT AND THE OVERLAY REMOVED IN SUCH A WAY AS NOT TO HARM THE SURFACE OF THE SIGN. REMAINING RIVETS IN THE SIGN SHALL BE CHECKED AND ANY LOOSE OR DAMAGED RIVETS SHALL BE REPLACED.

THE QUANTITY OF INTERIM OVERLAY REMOVED AND DISPOSED OF WILL BE PAID FOR AT THE PRICE BID PER SQUARE FOOT, 844 INTERIM OVERLAY REMOVED AND DISPOSED OF, WHICH PRICE WILL BE FULL COMPENSATION FOR THE REMOVAL AND DISPOSAL OF THE INTERIM OVERLAY SIGN AND RIVETS, THE REPLACEMENT OF LOOSE OR DAMAGED RIVETS, AND ALL LABOR AND EQUIPMENT NECESSARY TO PERFORM THE REQUIRED WORK.

### 844 ALTERNATE DESIGNS FOR SIGN SUPPORTS

IF THE CONTRACTOR DESIRES TO FURNISH ALTERNATE DESIGN(S) OR MATERIALS FOR SIGN SUPPORTS, THE ALTERNATE DESIGN(S) SHALL BE SUBMITTED TO THE STATE AT LEAST 21 DAYS PRIOR TO OPENING OF BIDS. THE BIDDER WILL BE NOTIFIED AS TO ACCEPTANCE OR REJECTION OF ALTERNATE DESIGN AT LEAST 7 DAYS BEFORE BIDS ARE TO BE OPENED. SUBMISSIONS SHALL BE MADE TO THE OHIO DEPARTMENT OF TRANSPORTATION, BUREAU OF DESIGN SERVICES, 25 SOUTH FRONT STREET, COLUMBUS, OHIO 43215.

# TRAFFIC CONTROL GENERAL NOTES

FED. RD.	STATE	PROJECT
	OHIO	I-90-(38)21

489  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

## ITEM 844 GROUND MOUNTED SIGNS & SUPPORTS

### 844 GROUND MOUNTED SUPPORTS, NO. 6 POST, AS PER PLAN

THIS WORK SHALL CONSIST OF THE FURNISHING, ASSEMBLY AND INSTALLATION OF TWO (2) NO. 3 DRIVE POSTS (NO. 6 POST) IN COMBINATION WITH A SQUARE WELDED OR SEAMLESS GALVANIZED TUBULAR POST EXTENSION SPLICED TO THE TOP OF THE NO. 6 POST. DETAILS ARE SHOWN ON SHEET 560

SQUARE TUBULAR POST MATERIAL SHALL CONFORM TO ASTM A 570 GRADE B.

WORK SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND HARDWARE NECESSARY TO PERFORM THE REQUIRED WORK.

BASIS OF PAYMENT WILL BE FOR 844 GROUND MOUNTED SUPPORTS, NO. 6 POST, AS PER PLAN, PER LINEAR FOOT MEASURED BY THE TOTAL OVERALL LENGTH OF COMBINATION POST.

## ITEM 844 OVERHEAD SIGNS & SUPPORTS

### 844 COMBINATION OVERHEAD SIGN SUPPORT AND LIGHT POLE, BY TYPE

THIS WORK SHALL CONSIST OF THE FURNISHING AND INSTALLATION OF THE COMBINATION OVERHEAD SIGN SUPPORT AND LIGHT POLE AS DETAILED ON SHEET(S) 503 & 532 AND TC-22.10.

THE SUPPORT SHALL ALSO CONFORM TO ALL APPLICABLE REQUIREMENTS OF 844.

PAYMENT FOR SIGN(S), SIGN SUPPORT FOUNDATION, ROADWAY LIGHTING ITEMS AND BRACKET ARM IS COVERED UNDER SEPARATE PAY ITEMS.

PAYMENT FOR THIS WORK WILL BE MADE AT THE CONTRACT PRICE BID PER EACH, 844 COMBINATION OVERHEAD SIGN SUPPORT AND LIGHT POLE, BY TYPE, INSTALLED IN PLACE AND ACCEPTED, WHICH PRICE WILL BE FULL COMPENSATION FOR FURNISHING ALL ANCHOR BOLTS, 2" AND 3/4" EMT CONDUIT ELLS AND FOR FURNISHING AND INSTALLING ALL SIGN BRACKETS, SIGN LIGHTING SUPPORT ARMS, SWITCH ENCLOSURE MOUNTING BRACKET(S), AND ALL COMPONENT PARTS NECESSARY TO MAKE A COMPLETE WORKABLE INSTALLATION.

## ITEM 844 SIGN LIGHTING

### 844 BALLASTS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 844.10, BALLASTS FOR MERCURY VAPOR LUMINAIRES SHALL BE LOCATED WITHIN THE LUMINAIRE HOUSING OR CONTAINED IN A WEATHERPROOF HOUSING CONTIGUOUS TO THE LUMINAIRE.

### 844 DISCONNECT SWITCH ENCLOSURE MOUNTING BRACKETS

THIS WORK SHALL INCLUDE THE FABRICATING, FURNISHING AND INSTALLATION OF DISCONNECT SWITCH ENCLOSURE MOUNTING BRACKETS WHEN ENCLOSURES ARE MOUNTED ON EXISTING OVERHEAD SIGN SUPPORTS (NOT PART OF THIS PROJECT) OR ATTACHED TO CONCRETE BRIDGE COLUMNS OR ABUTMENTS.

WORK SHALL CONSIST OF FIELD DRILLING, ATTACHMENT AND HARDWARE AS DETAILED ON SHEET(S) 547

BASIS OF PAYMENT WILL BE AT THE CONTRACT BID PRICE PER EACH, 844 DISCONNECT SWITCH ENCLOSURE MOUNTING BRACKET WHICH PRICE WILL BE FULL

COMPENSATION FOR FURNISHING, FABRICATION AND INSTALLATION INCLUDING ALL LABOR, MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK.

### 844 PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE PADLOCKS EQUAL TO MASTER NO. 4 BKA OR WILSON BOHANNAN 660 AND SHALL BE KEYED IN ACCORDANCE WITH 844.10.

PAYMENT WILL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

## ITEM 844 SPECIAL MOUNTINGS

### 844 POLE MOUNTED SIGN ATTACHMENT

THIS WORK SHALL CONSIST OF THE FURNISHING AND INSTALLATION OF STAINLESS STEEL STRAPS, MOUNTING BRACKETS, AND HARDWARE AS DETAILED ON SHEET 545

BASIS OF PAYMENT WILL BE AT THE CONTRACT BID PRICE PER EACH 844 POLE MOUNTED SIGN ATTACHMENT WHICH PRICE WILL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED ITEM OF WORK.

### 844 SPAN WIRE MOUNTED SIGN ATTACHMENT

THIS WORK SHALL CONSIST OF THE FURNISHING AND INSTALLATION OF SPAN WIRE HANGER AND SIGN HANGER BRACE AS DETAILED ON SHEET 546

BASIS OF PAYMENT WILL BE AT THE CONTRACT BID PRICE PER EACH, 844 SPAN WIRE MOUNTED SIGN ATTACHMENT, WHICH PRICE WILL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED WORK.

### 844 MAST ARM MOUNTED SIGN ATTACHMENT

THIS WORK SHALL CONSIST OF THE FURNISHING AND INSTALLATION OF THE MAST ARM ATTACHMENT AND SIGN HANGER BRACKET AS DETAILED ON SHEET 546

BASIS OF PAYMENT WILL BE AT THE CONTRACT BID PRICE PER EACH, 844 MAST ARM MOUNTED SIGN ATTACHMENT, WHICH PRICE WILL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED WORK.

### 844 SIGNS MOUNTED ON SPAN WIRES OR MAST ARMS

IN ADDITION TO 844.07, ALL SIGNS MOUNTED ON SPAN WIRES OR MAST ARMS SHOULD BE FIELD DRILLED.

### 844 DRIVE POSTS

DRIVE POSTS SHALL BE STEEL AS PER 712.20.1

# CONTROLLER SPECIFICATIONS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1 (38)21

490  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

## SIGNAL CONTROLLERS

THIS ITEM OF WORK SHALL INCLUDE FURNISHING AND INSTALLATION OF THE CONTROLLER BY THE CONTRACTOR. FOLLOWING INSTALLATION THE CONTRACTOR SHALL TURN OVER TO THE ENGINEER WHO SHALL FORWARD TO THE CITY OF CLEVELAND TRAFFIC ENGINEERING OFFICE COPIES OF ALL NECESSARY COLOR CODE CHARTS USED IN FIELD WIRING OF THE CONTROLLER; DIAGRAMS; ETC. WHICH ARE NECESSARY TO INTERPRET THE COLOR CODING AND LABELS USED TO IDENTIFY THE FIELD WIRING ENTERING AND LEAVING THE CONTROLLER.

THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNAL EQUIPMENT FOLLOWING THE INSTALLATION UNTIL SUCH TIME AS THE TESTING REQUIREMENTS ARE SATISFIED AND THE INSTALLATION IS COMPLETE AND ACCEPTED. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMMEDIATE ACTION TO CORRECT ANY FAILURES OR DEFECTS IN THE TRAFFIC SIGNAL EQUIPMENT DURING OPERATION THAT OCCUR PRIOR TO ACCEPTANCE OF THE INSTALLATION.

FULL-ACTUATED CONTROLLERS SHALL BE SOLID STATE, FIVE MODULE WITH CONCURRENT PEDESTRIAN PHASES. FULL-ACTUATED CONTROLLERS SHALL MEET THE FOLLOWING SPECIFICATIONS:

THESE CONTROLLERS SHALL MEET ALL REQUIREMENTS AS OUTLINED IN THE INSTITUTE OF TRAFFIC ENGINEERS TECHNICAL REPORT #3 DATED 1958, OR LATEST REVISION.

THE CONTROL SYSTEM SHALL BE OF MODULAR PLUG-IN TYPE. ALL CONTROLLER COMPONENTS SHALL BE SOLID-STATE.

THE CONTROL SYSTEM SHALL BE DESIGNED TO OPERATE ON 105V TO 125V AC, 60 HZ.

ALL CONTROL CIRCUITS SHALL EMPLOY INTEGRATED CIRCUIT COMPONENTS FOR MAXIMUM RELIABILITY.

THE CONTROL SYSTEM SHALL BE DESIGNED TO OPERATE IN AMBIENT TEMPERATURES OF -30 F TO 160 F.

THE CONTROLLER SHALL CONTINUE NORMAL OPERATION IN THE EVENT OF A 0.25 SECOND POWER INTERRUPTION.

ALL CIRCUIT BOARDS SHALL CONSIST OF PRINTED COPPER CIRCUITS.

ALL PRINTED CIRCUIT BOARDS SHALL BE CONSTRUCTED TO INSURE TROUBLE-FREE OPERATION.

THE CONTROLLER SHALL BE DESIGNED FOR FAIL-SAFE OPERATION.

ALL VEHICLE PHASE MODULES SHALL BE FURNISHED WITH MULTIPLE EXTENSION LIMITS AND ALL-RED TIMING CAPABILITY.

ALL VEHICLE ACTUATED PHASE MODULES SHALL BE PROVIDED WITH GUARANTEED PASSAGE TIME.

ALL ACTUATED PHASE MODULES SHALL HAVE REMOTE RECALL CAPABILITY.

ALL VEHICLE ACTUATED PHASES WITH CONCURRENT PEDESTRIAN PHASES SHALL BE PROVIDED WITH GUARANTEED PEDESTRIAN WALK AND CLEARANCE TIME.

THE PHASE MODULES SHALL INCLUDE AN INDIVIDUAL ILLUMINATED INDICATOR FOR INDICATING THE INTERVAL TIMING AND MAXIMUM TIMING TERMINATION.

THE MODULE SHALL PROVIDE FOR THE SETTING UP OF EACH INTERVAL OR PERIOD BY MEANS OF SETTING CALIBRATED DIALS. THE TIMING DIALS SHALL BE CALIBRATED IN SECONDS AND SHALL GIVE A CLEAR VISUAL INDICATION OF THE LENGTH OF EACH INTERVAL. THE TIMING DIALS SHALL BE ON THE FRONT OF THE MODULE. IT SHALL NOT BE NECESSARY TO REMOVE OR CHANGE WIRES OR CONTACTS OR USE ANY TOOLS IN MAKING INTERVAL ADJUSTMENT.

IN THE ABSENCE OF OPPOSING CALLS THE CONTROLLER SHALL REMAIN IN A REST CONDITION ON THE LAST CALLED PHASE. ALSO, SWITCHES SHALL BE PROVIDED FOR RECALLING ANY ONE OR ALL PHASES.

THE CONTROLLER SHALL BE PROVIDED WITH INPUTS FOR AUTOMATIC PHASE SKIPPING ABILITY.

THE AFOREMENTIONED TYPE OF FULL-ACTUATED CONTROLLERS SHALL BE CROUSE-HINDS SFT2 SERIES, OR EAGLE SIGNAL DIVISION ET600 SERIES, OR ECONOLITE SERIES D-4000 OR EQUAL.

THE CONTROLLER SHALL HAVE THE CAPABILITY TO BE COORDINATED BY AUXILIARY EQUIPMENT TO FUNCTION IN AN INTERCONNECTED PROGRESSIVE SYSTEM.

THE COORDINATION EQUIPMENT SHALL BE INCLUDED WITHIN THIS ITEM AND SHALL BE EAGLE ET-228-AAA, CROUSE-HINDS PCU-153 OR ANY OTHER APPROVED EQUAL, THREE DIAL, THREE OFFSET TYPE EQUIPMENT.

(CONTINUED)

SEMI-ACTUATED CONTROLLERS SHALL HAVE CONCURRENT PEDESTRIAN PHASES AND INCLUDE A THREE DIAL BACKGROUND COORDINATING UNIT.

SEMI-ACTUATED CONTROLLERS SHALL MEET THE FOLLOWING SPECIFICATIONS:

THIS CONTROLLER SHALL MEET ALL REQUIREMENTS AS OUTLINED IN THE INSTITUTE OF TRAFFIC ENGINEERS TECHNICAL REPORT #3 DATED 1958 OR LATEST REVISION.

THE CONTROL SYSTEM SHALL BE OF MODULAR CONSTRUCTION AND ALL COMPONENTS SHALL BE SOLID-STATE.

THE CONTROL SYSTEM SHALL BE DESIGNED TO OPERATE ON 105 V TO 125 V AC 60 HZ.

THE CONTROL SYSTEM SHALL BE DESIGNED TO OPERATE IN AMBIENT TEMPERATURES OF -30 F TO 160 F.

THE CONTROLLER SHALL CONTINUE NORMAL OPERATION IN THE EVENT OF A 0.25 SECOND POWER INTERRUPTION.

ALL PRINTED CIRCUIT BOARDS SHALL BE CONSTRUCTED TO INSURE TROUBLE-FREE OPERATION.

THE CONTROLLER SHALL HAVE THE CAPABILITY OF MANUAL CONTROL THROUGH EACH INTERVAL.

THE CONTROLLER SHALL BE DESIGNED FOR FAIL-SAFE OPERATION.

THE VEHICLE ACTUATED PHASE WITH CONCURRENT PEDESTRIAN PHASE SHALL BE PROVIDED WITH GUARANTEED PEDESTRIAN WALK AND CLEARANCE TIME.

THE CONTROLLER SHALL INCLUDE INDIVIDUAL ILLUMINATED INDICATORS FOR INDICATING THE INTERVAL TIMING AND MAXIMUM TIMING TERMINATION.

THE MODULE SHALL PROVIDE FOR THE SETTING UP OF EACH INTERVAL OR PERIOD BY MEANS OF SETTING CALIBRATED DIALS. THE TIMING DIALS SHALL BE CALIBRATED IN SECONDS AND SHALL GIVE A CLEAR VISUAL INDICATION OF THE LENGTH OF EACH INTERVAL. THE TIMING DIALS SHALL BE ON THE FRONT OF THE MODULE. IT SHALL NOT BE NECESSARY TO REMOVE OR CHANGE WIRES OR CONTACTS OR TO USE ANY TOOLS IN MAKING INTERVAL ADJUSTMENT.

THE CONTROLLER SHALL ALWAYS REMAIN IN A REST CONDITION IN THE NON-ACTUATED PHASE, CHANGING TO THE ACTUATED PHASE ONLY AS A RESULT OF VEHICLE DETECTION OR PEDESTRIAN PUSH BUTTON ACTUATION.

THE CONTROLLER SHALL HAVE THE CAPABILITY TO BE COORDINATED BY AUXILIARY EQUIPMENT TO FUNCTION IN AN INTERCONNECTED PROGRESSIVE SYSTEM.

THE AFOREMENTIONED TYPE OF SEMI-ACTUATED CONTROLLER WITH A THREE DIAL BACKGROUND COORDINATING UNIT SHALL BE EAGLE ET-495 SEMI-ACTUATED SOLID STATE CONTROLLER AND WITH EAGLE ET-228-AAA TYPE COORDINATING UNIT, OR CROUSE-HINDS SERIES SST-23 SEMI-ACTUATED CONTROLLER AND WITH A CROUSE-HINDS DCU-153 COORDINATING UNIT OR EQUAL.

## CONTROLLER CABINET:

THE CABINET SHALL BE CLEAN-CUT IN DESIGN AND APPEARANCE AND SHALL CONFORM TO THE FOLLOWING:

IT SHALL BE MADE OF DIE CAST ALUMINUM ALLOY WITH A WALL THICKNESS OF APPROXIMATELY ONE-QUARTER INCH AND MINIMUM OF 18,000 PSI YIELD STRENGTH.

THE MINIMUM INSIDE DIMENSIONS SHALL BE : HEIGHT 38", WIDTH 28" AND DEPTH 12-7/16".

THE CABINET SHALL CONTAIN AT LEAST 7.7 CUBIC FEET OF USABLE VOLUME.

A HINGED DOOR, WITH SPLICE PANEL, SHALL BE PROVIDED ON THE FRONT OF THE CABINET WHICH SHALL INCLUDE SUBSTANTIALLY THE FULL AREA OF THE FRONT OF THE CABINET.

ALL DOORS SHALL BE FULLY GASKETED WITH ELASTOMERIC GASKETING MATERIAL SO THAT WHEN CLOSED THEY SHALL FIT CLOSELY TO THE GASKETING MATERIAL, MAKING THE CABINET WEATHER RESISTENT AND DUST TIGHT. THREE POINT LATCHING SHALL BE PROVIDED FOR THIS PURPOSE.

THE DOOR SHALL BE PROVIDED WITH LOCK WITH PERMANENT TYPE LUBRICATION AND A WEATHERPROOF TAB AND FURNISHED WITH TWO KEYS FOR BOTH THE DOOR AND THE POLICE PANEL.

AN ELBOW VENT SHALL BE MOUNTED ON BOTH SIDES OF THE CABINET BASE AND SHALL BE MECHANICALLY SCREENED AND BAFFLED TO PROTECT AGAINST RAIN, DUST AND ALL TYPES OF FOREIGN OBJECTS.

THERE SHALL BE ONE BAR DOOR STOP AT APPROXIMATELY 135 DEGREES.

THE DOOR PINS, RECESSED TO PREVENT BREAK AND ENTRY, SHALL BE GREASE LUBRICATED AND FABRICATED OF A NONCORRODING MATERIAL.

CABINET SHALL CONTAIN TWO CAST METAL SHELVES FOR THE SUPPORT OF TRAFFIC CONTROL EQUIPMENT. THE SHELVES SHALL BE ADJUSTABLE ON A MINIMUM OF 1-1/2" CENTERS FROM A MINIMUM OF 10" FROM THE TOP OF THE CABINET TO THE BOTTOM OF THE CABINET.

(CONTINUED)

THE CABINET SHALL BE EQUIPPED WITH A POLICE PANEL DOOR AND THE FOLLOWING EQUIPMENT:

1 EACH THYRECTOR PROVIDING STEADY STATE INPUT VOLTAGE OF 150 RMS OR 210 PEAK AND PROVIDING A MAXIMUM CURRENT OF 3 AMPS AT 0.001 SEC. PULSE AT 60 HZ. FOR LIGHTNING PROTECTION OF TRAFFIC CONTROL EQUIPMENT FOR CONNECTION ACROSS THE LINE AFTER THE FUSE AND BEFORE FLASHER FILTERS, MOUNTED USING 150 V. MINIMUM BREAKDOWN INSULATED HOLLOW RIVET USING #8-32 SCREW.

10 EACH 12 WIRE TERMINAL BLOCKS (PENN UNION #6012 MARATHON #6012 OR APPROVED EQUAL).

3 EACH 4 PDT 10 AMPERE 250 V.A.C. SWITCH (CUTLER-HAMMER #7693, CARLING ELECTRIC IL 253 OR APPROVED EQUAL).

1 EACH GROUND BUS BAR WITH 15 GROUND TERMINAL POINTS.

THE OUTGOING TRAFFIC CONTROL SIGNAL CIRCUITS SHALL BE OF THE SAME POLARITY AS THE LINE SIDE OF THE POWER SUPPLY; THE COMMON RETURN OF THE SIGNAL CIRCUIT SHALL BE OF THE SAME POLARITY AS THE GROUND SIDE OF THE POWER SUPPLY.

THE GROUNDED SIDE OF THE POWER SUPPLY SHALL BE GROUNDED TO THE CONTROLLER CABINET IN AN APPROVED MANNER.

THE CABINET SHALL BE BASE MOUNTED AND FURNISHED WITH TWO 3/4" X 16" ANCHOR BOLTS FOR KEYING TO A CONCRETE-FOUNDATION. A DRAWING SHOWING PROPER CONSTRUCTION OF THE CABINET FOUNDATION AND METHOD OF MOUNTING THE CABINET SHALL BE FURNISHED WITH THE CABINET BASE.

THE CABINET SHALL BE EQUIPPED WITH A TOP MOUNTED VENTILATION FAN 134 C.F.M. AT 0.160" OF WATER STATIC PRESSURE. SEPARATE ADJUSTABLE THERMOSTAT TO BE INCLUDED.

ALL CAST PIECES SHALL BE CLEAN, SMOOTH, AND FREE FROM FLAWS, CRACKS, BLOWHOLES, AND OTHER IMPERFECTIONS.

A FLEXIBLE PLASTIC OR OTHER INSULATING MATERIAL IS TO BE MOUNTED WITH SHEET METAL SCREWS TO COVER SWITCH TERMINALS ON THE POLICE PANEL.

THE CABINET AND FAN HOUSING SHALL BE PRIME COATED AND SHALL BE FINISHED WITH TWO COATS OF ALUMINUM GRAY ENAMEL PAINT.

PAYMENT FOR ITEM #843 "TRAFFIC SIGNAL CONTROLLER, BY TYPE", AS PER PLAN SHALL BE MADE ON AN EACH BASIS, COMPLETELY INSTALLED IN PLACE, TESTED AND ACCEPTED, AND INCLUDING ALL INCIDENTALS NECESSARY.

## GUARANTEES AND WARRANTIES

THE MANUFACTURER'S NORMAL WARRANTIES FOR TRAFFIC SIGNAL CONTROLLERS, ASSOCIATED CONTROL EQUIPMENT, LOOP DETECTOR AMPLIFIERS AND OTHER MANUFACTURER'S EQUIPMENT FOR WHICH GUARANTEES ARE NORMALLY PROVIDED SHALL BE ASSIGNED AND DELIVERED TO THE STATE.

THE CONTRACTOR SHALL INSTALL AND HANDLE ITEMS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES, PROVIDED SUCH PROCEDURES ARE NOT IN CONFLICT WITH THE PLANS AND SPECIFICATIONS.

COSTS FOR PROVISION AND PERFORMANCE OF GUARANTEES AND WARRANTIES HEREIN DESCRIBED SHALL BE INCIDENTAL TO AND INCLUDED IN THE UNIT PRICE(S) BID FOR THE VARIOUS TRAFFIC CONTROL ITEMS.

ITEM 843

CONTROLLER SPECIFICATIONS





# TRAFFIC CONTROL QUANTITY SUMMARY

CALCULATED BY LCL DATE 4/74  
 CHECKED BY TKI DATE 1/75

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

492  
838

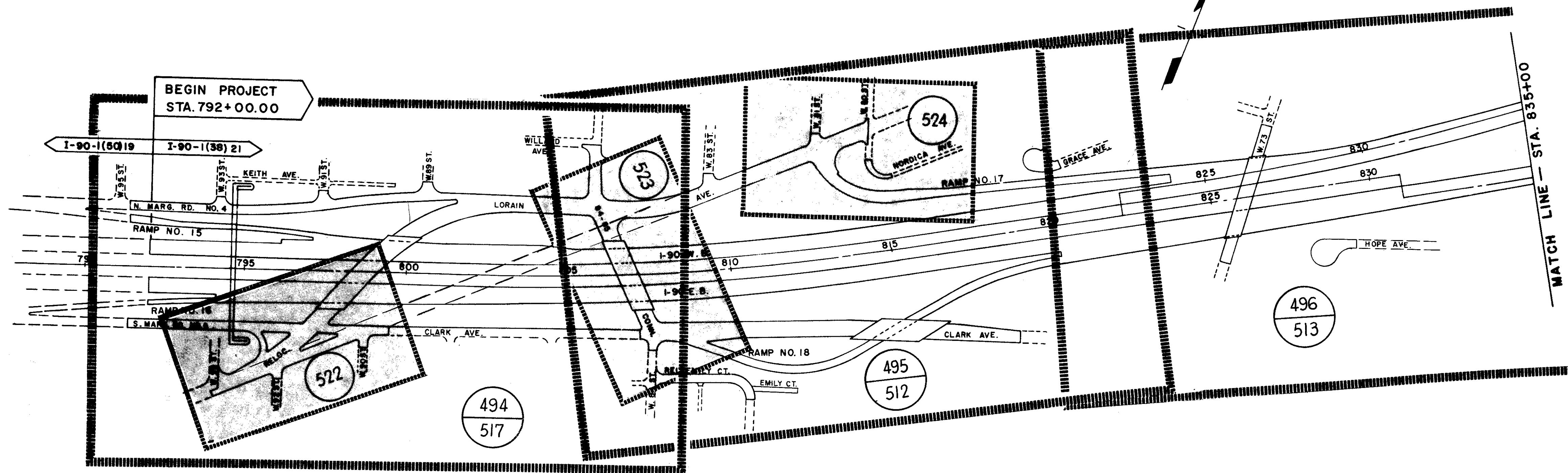
CUYAHOGA COUNTY  
 CUY - 90 -11-64

LINE NO.	GUIDE SIGNS							PAVEMENT MARKING SHEET NUMBER 494 - 500	DELINEATORS SHEET NUMBER 494 - 500	REGULATORY AND WARNING SIGNS							TRAFFIC SIGNALS							PARTICIPATION		TOTAL	ITEM	UNIT	DESCRIPTION	LINE NO.		
	SHEET NUMBER									SHEET NUMBER							INTERSECTION NUMBER							CITY STATE	CITY STATE FEDERAL							
	494	495	496	497	498	499	500			511	512	513	514	515	516	517	522	523	524	17	18	19	20								21	22
	17	18	19	20	21	22	17			18	19	20	21	22																		
1																								2	2	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 12 IN. LENS, TWO WAY	1			
2																							1	1	842	EACH	VEHICULAR SIGNAL HEAD, 1-3 SECTION, 2-8 IN. LENS, 1-12 IN. ARROW LENS, 2-4 SECTION, 3-8 IN. LENS, 1-12 IN. ARROW LENS, THREE WAY	2				
3																							1	1	842	EACH	VEHICULAR SIGNAL HEAD, 1-3 SECTION, 8 IN LENS, 1-3 SECTION, 2-12 IN. LENS, 1-12 IN. ARROW LENS, TWO WAY	3				
4																							1	1	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 2-12 IN. LENS, 1-12 IN. ARROW LENS, ONE WAY	4				
5	686	834	510	487		470	327																	3314	3314	844	SF	SIGNS ERECTED, EXTRUSHEET	5			
6			12	8		8	6			310	515	81	74	28	127	61									1230	1230	844	SF	SIGNS ERECTED, FLAT SHEET	6		
7	1																								1	1	844	EACH	OVERHEAD SIGN SUPPORT, NO. 7.65 DES. 8 MOD. (87 FT. SPAN)	7		
8		2		2																					4	4	844	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, NO. 18.26, DES. 3	8		
9							2																		2	2	844	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, NO. 18.24	9		
10			3																						3	3	844	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, NO. 18.26, DES. 7	10		
11										6	8					1									16	16	844	EACH	POLE MOUNTED SIGN ATTACHMENT	11		
12			30	32		32	15			321	427	61	79	57	158	29										1241	1241	844	LF	GROUND MOUNTED SUPPORTS, NO. 3 POST, STEEL	12	
13	34		17								30	58	40		35										246.0	246.0	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST, STEEL	13		
14										86	89					33									208	208	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST, AS PER PLAN, STEEL	14		
15																	1		1	2	1				5	5	842	EACH	PEDESTAL, (7.5) FEET	15		
16																															16	
17	33.5	18.3		7.6		21.8						6.9													88.1	88.1	844	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS	17		
18																															18	
19																	10.6	12.8	7.7	16.9	14.5	14.8			77.3	77.3	842	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS	19		
20																															20	
21										5	2														7	7	844	EACH	SPAN WIRE MOUNTED SIGN ATTACHMENT	21		
22																						1			1	1	842	EACH	COMB. SIGN & SIGNAL SUPPORT, 0.3125 INCHES X 16.0 INCHES X 28.0 FEET, ARM S = 20'	22		
23																						1			1	1	842	EACH	COMB. SIGNAL AND LIGHT POLE, 0.3125 INCHES X 14.0 INCHES X 30.0 FEET	23		
24																			1	1	2				6	6	842	EACH	COMB. PEDESTRIAN SIGNAL & LIGHT POLE, 0.1196 INCHES X 8.5 INCHES X 30.0 FEET	24		
25																					1				1	1	842	EACH	SIGNAL STRAIN POLE, 0.25 INCHES X 11.0 INCHES X 25.0 FEET	25		
26																									3	3	842	EACH	SIGNAL STRAIN POLE, 0.25 INCHES X 13.0 INCHES X 25.0 FEET	26		
27																	1								1	1	842	EACH	SIGNAL STRAIN POLE, 0.25 INCHES X 12.0 INCHES X 25.5 FEET	27		
28																										2	2	842	EACH	SIGNAL STRAIN POLE, 0.25 INCHES X 16.0 INCHES X 28.0 FEET	28	
29											1															1	1	844	EACH	COMB. SIGN AND LIGHT SUPPORT, NO. 16.10, DES. 4 MOD. POLE = 30.0 FEET, ARM = 25.0 FEET + 18.0 FEET	29	
30																															30	
31		1																							1	1	844	EACH	COMBINATION SIGN, PEDESTRIAN SIGNAL AND LIGHT SUPPORT, NO. 9.12 DES. 2 MOD. ARMS = 10'	31		
32																									1	1	842	EACH	COMB. SIGNAL STRAIN POLE, 0.25 INCHES X 15.0 INCHES X 29.0 FEET	32		
33																									1	1	842	EACH	COMB. SIGNAL STRAIN POLE, 0.25 INCHES X 15.0 INCHES X 28.5 FEET	33		
34																															34	
35				1																						1	1	844	EACH	COMB. SIGN & LIGHT SUPPORT, NO. 12.30, DES. 8 MOD. POLE = 30 FT. ARMS = 26 FT.	35	
36		1																							1	1	844	EACH	COMB. SIGN & LIGHT SUPPORT, NO. 12.30, DES. 2 MOD. POLE = 30 FT. ARMS = 17 FT.	36		
37		1																							1	1	844	EACH	OVERHEAD SIGN SUPPORT, NO. 12.30, DES. 4 MOD. POLE = 23 FT. ARMS = 20 FT.	37		
38	1																								1	1	844	EACH	COMB. SIGN & LIGHT SUPPORT, NO. 12.30, DES. 8 MOD. POLE = 30 FT. ARMS = 34 FT.	38		
39						1																			1	1	844	EACH	OVERHEAD SIGN SUPPORT, NO. 7.65, DES. 8 MOD. (110' SPAN)	39		
40	1																								1	1	844	EACH	OVERHEAD SIGN SUPPORT, NO. 12.30, DES. 6 MOD. POLE = 24 FT. ARMS = 26 FT.	40		
41		1																							1	1	844	EACH	OVERHEAD SIGN SUPPORT, NO. 12.30, DES. 6 MOD. POLE = 23 FT. ARMS = 29 FT.	41		
42											1														1	1	844	EACH	OVERHEAD SIGN SUPPORT, NO. 16.10, DES. 6 MOD. POLE = 17.0 FEET, ARM = 30.0 FEET	42		
43																															43	
44							255.																		255.	255	202	SF	INTERIM OVERLAY REMOVED AND DISPOSED OF	44		
45																									3	3	202	EACH	REMOVAL OF EXISTING TRAFFIC SIGNAL INSTALLATION	45		
46	8	4									5														17	17	844	EACH	BALLAST, 480 VOLTS, 100 WATTS	46		
47	6	9	2			4	2																		23	23	844	EACH	BALLAST, 480 VOLTS, 175 WATTS	47		
48			4	6		3	2																		15	15	844	EACH	BALLAST, 480 VOLTS, 250 WATTS	48		
																										1	1	842	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION NO. 1	49	
																										1	1	842	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION NO. 2	50	

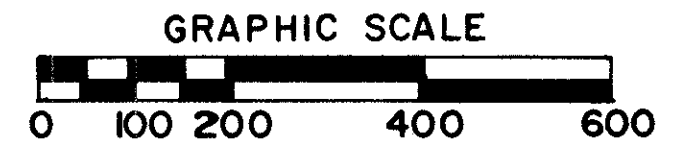
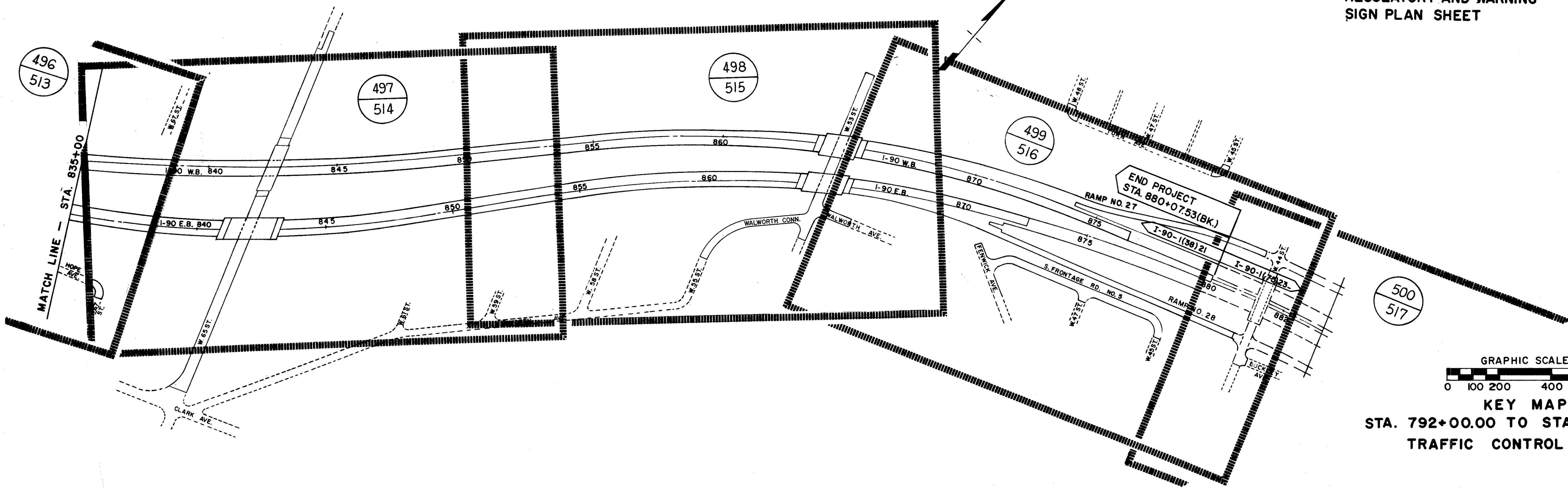
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

493  
838

CUYAHOGA COUNTY  
CUY-90-11.64



○ GUIDE SIGN PLAN SHEET  
○ REGULATORY AND WARNING SIGN PLAN SHEET



KEY MAP  
STA. 792+00.00 TO STA. 880+07.53  
TRAFFIC CONTROL PLANS

FED. RD. NO.	STATE	PROJECT
2	OHIO	I-90-1(38)Z1

494  
838

CUYAHOGA COUNTY  
CUY-90-11.64

CUY-90-10.40  
END PROJECT  
STA. 792+00.00

CUY-90-11.64  
BEGIN PROJECT  
STA. 792+00.00

END POINT  
STA. 70+50

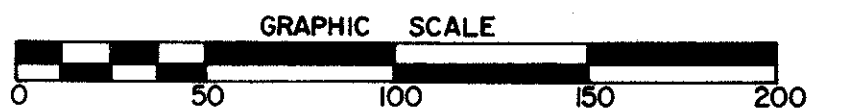
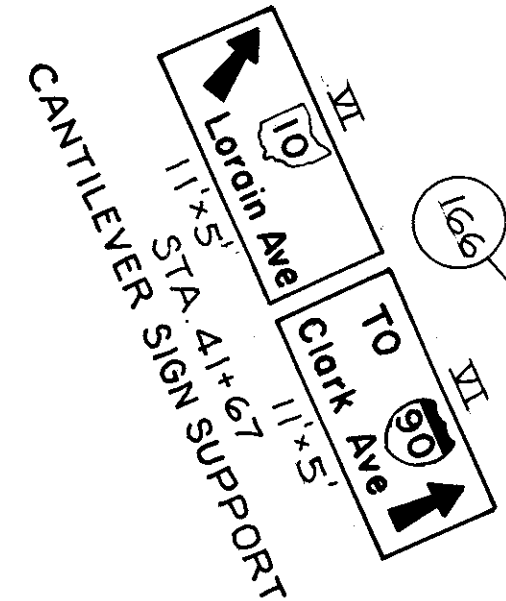
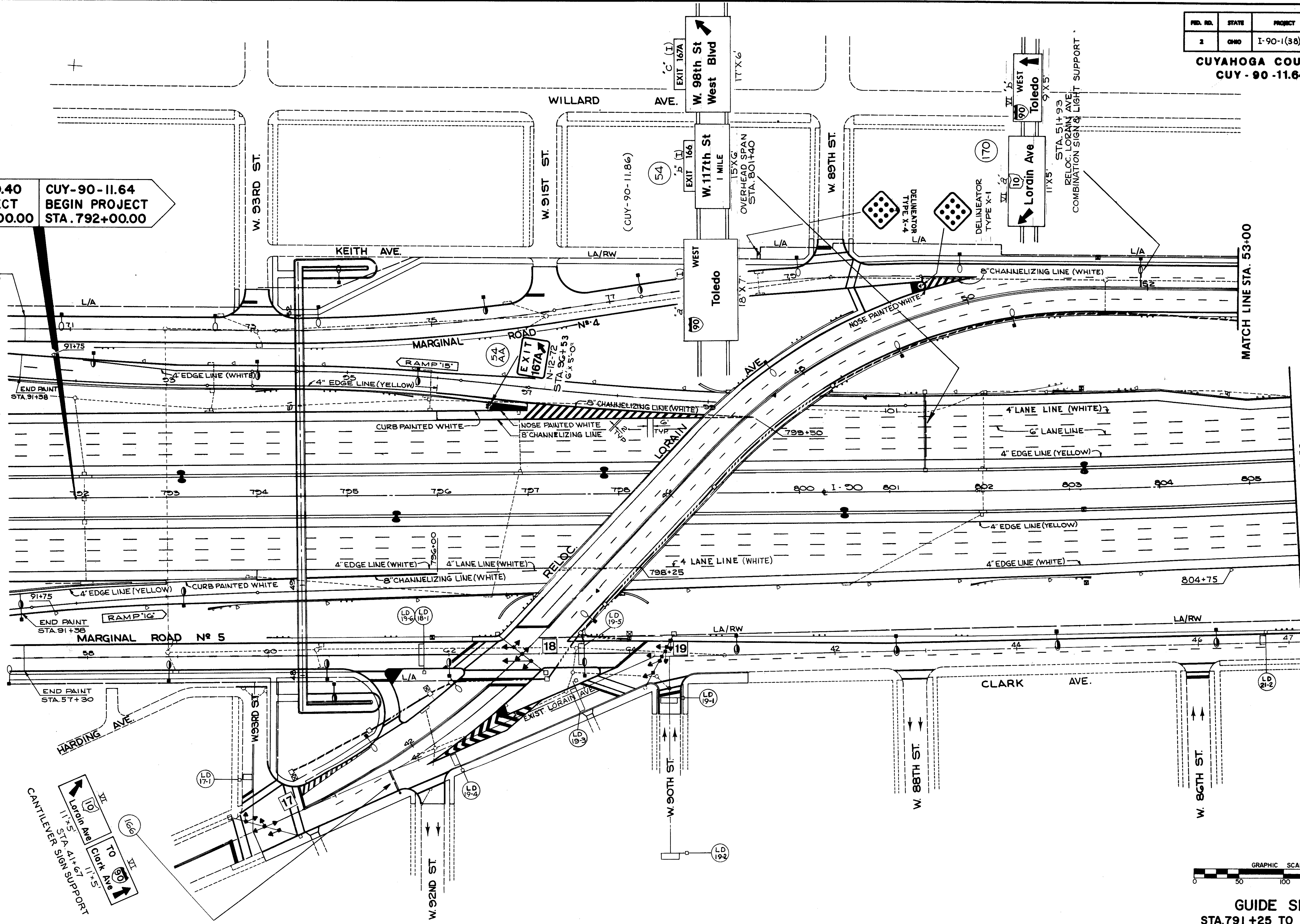
END POINT  
STA. 91+58

END POINT  
STA. 91+58

END POINT  
STA. 57+30

MATCH LINE STA. 53+00

MATCH LINE STA. 805+50  
SEE SHEET NO. 495

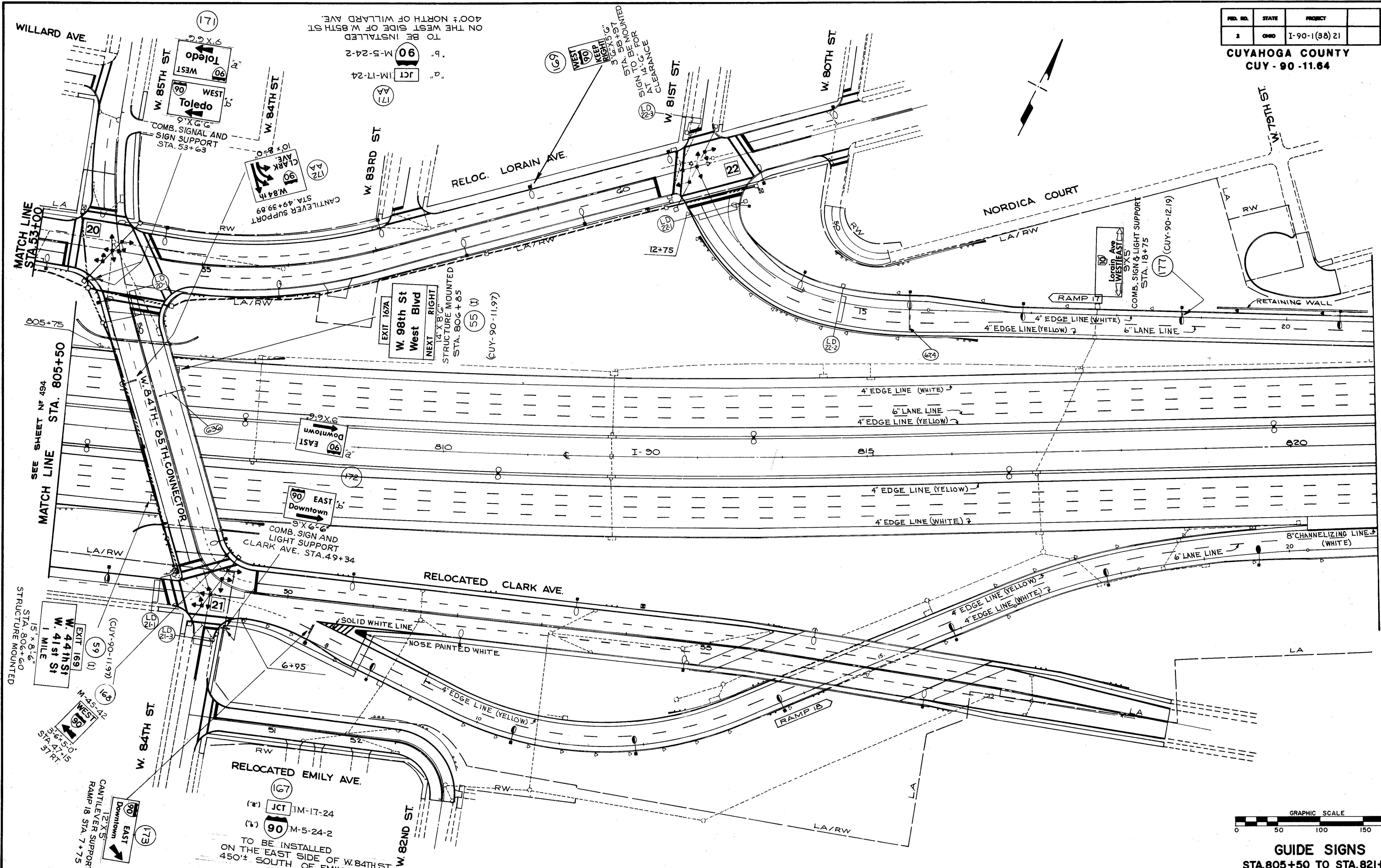


GUIDE SIGNS  
STA. 791+25 TO STA. 805+50  
TRAFFIC CONTROL PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38) 21

495  
838

CUYAHOGA COUNTY  
CUY-90-11.64



MATCH LINE  
STA. 53+00

SEE SHEET NO. 494  
MATCH LINE STA. 805+50

STA. 806+60  
STRUCTURE MOUNTED

MATCH LINE STA. 821+00  
SEE SHEET NO. 496

GRAPHIC SCALE  
0 50 100 150 200

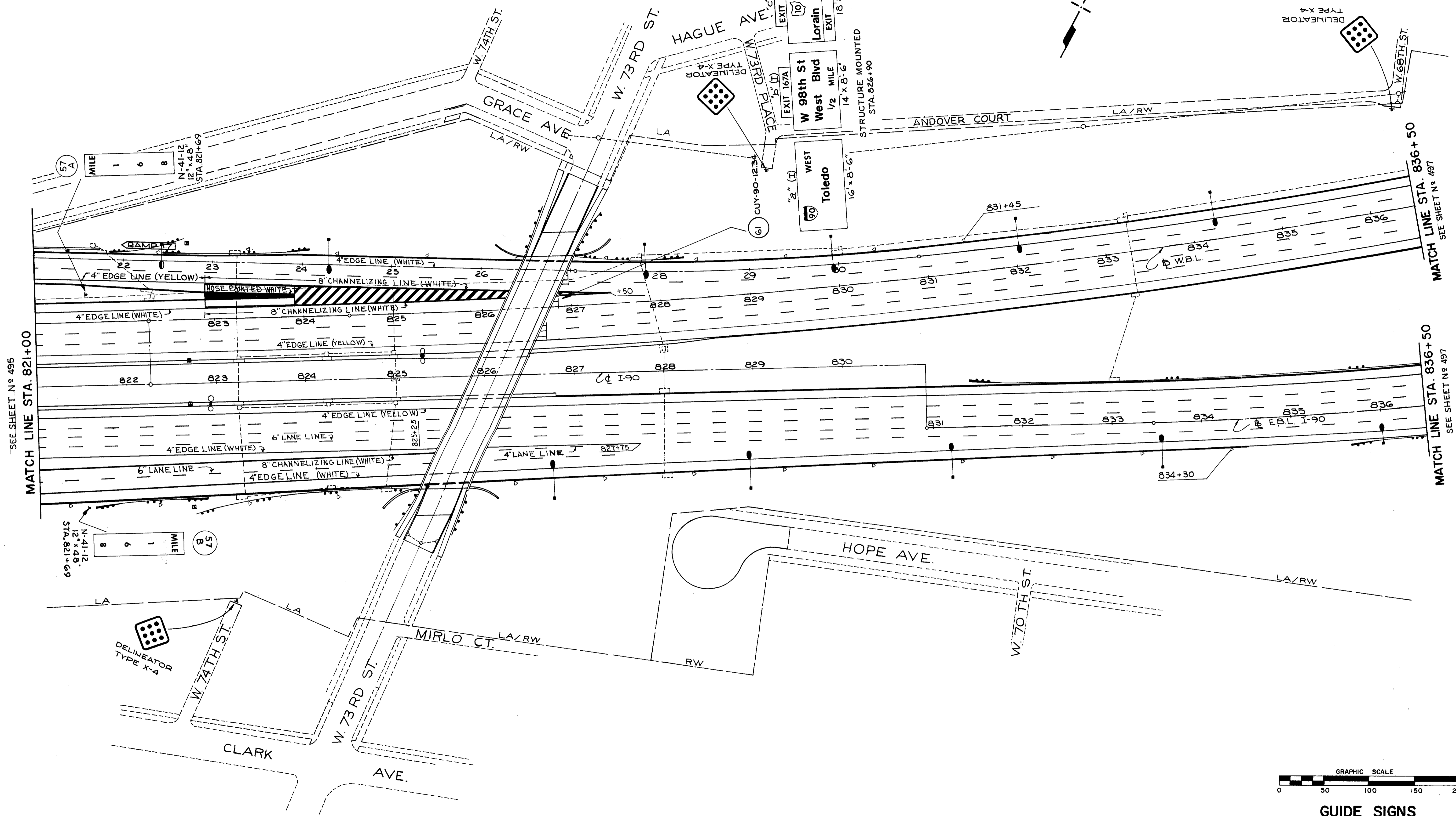
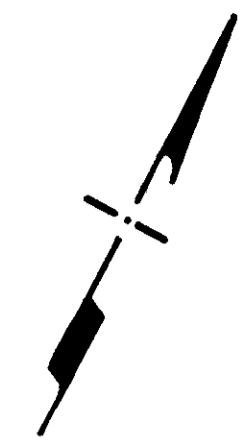
**GUIDE SIGNS**  
STA. 805+50 TO STA. 821+00  
**TRAFFIC CONTROL PLANS**

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

496  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

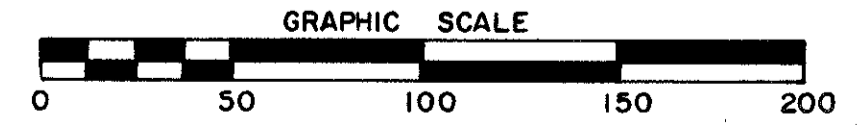
DELINEATOR  
TYPE X-4



SEE SHEET N 495  
MATCH LINE STA. 821+00

MATCH LINE STA. 836+50  
SEE SHEET N 497

MATCH LINE STA. 836+50  
SEE SHEET N 497

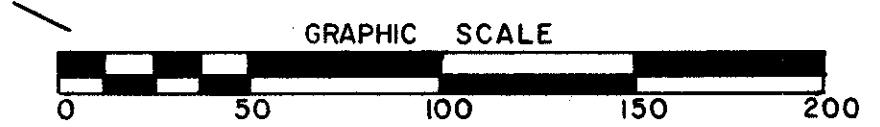
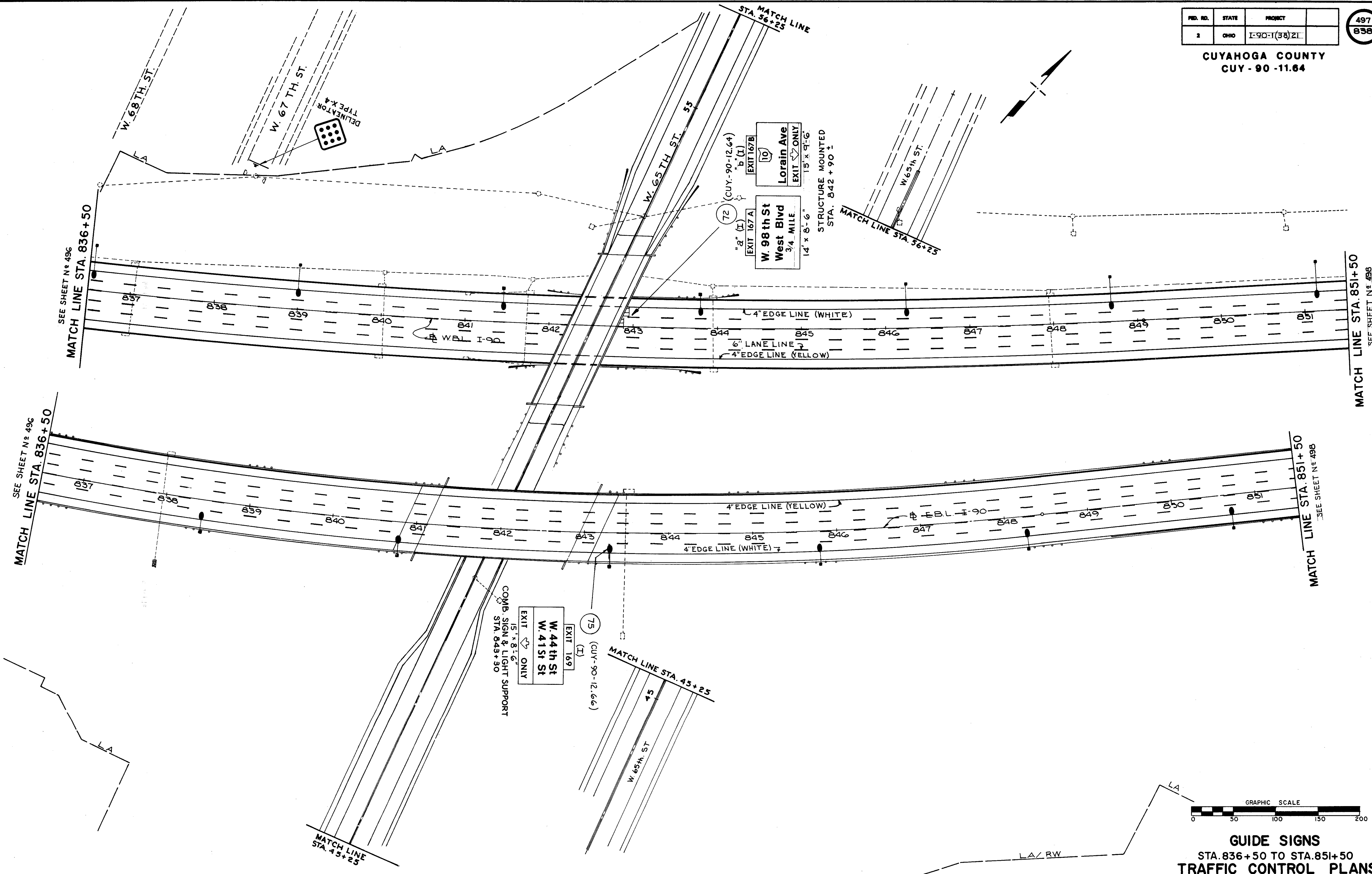


GUIDE SIGNS  
STA. 821+00 TO STA. 836+50  
TRAFFIC CONTROL PLANS

PID. NO.	STATE	PROJECT	
2	OHIO	I-90-(38)Z	

497  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

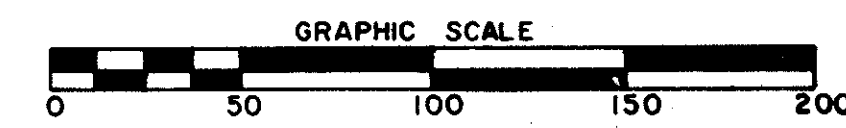
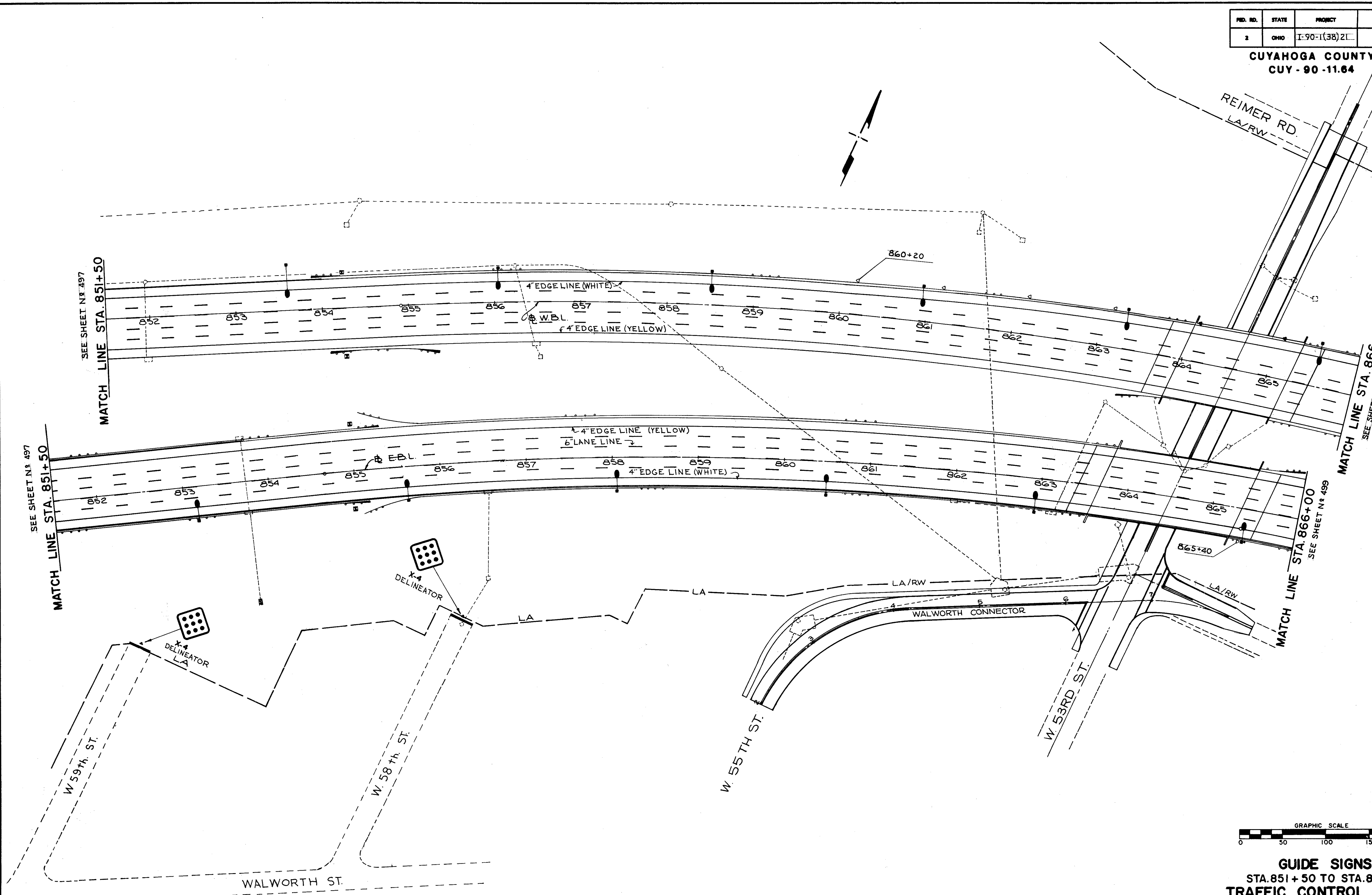
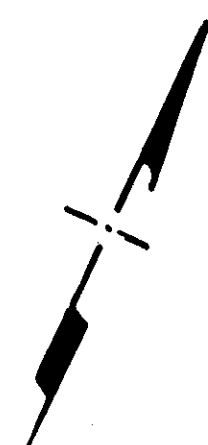


**GUIDE SIGNS**  
STA. 836+50 TO STA. 851+50  
**TRAFFIC CONTROL PLANS**

FED. RD.	STATE	PROJECT
2	OHIO	I-90-I(38)2I

498  
838

CUYAHOGA COUNTY  
CUI - 90 - 11.64



**GUIDE SIGNS**  
STA. 851 + 50 TO STA. 866 + 00  
**TRAFFIC CONTROL PLANS**



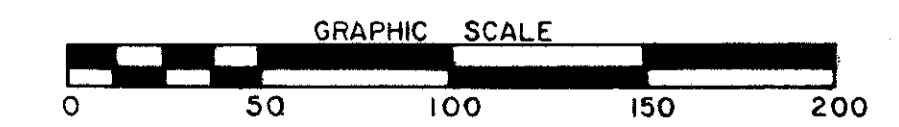
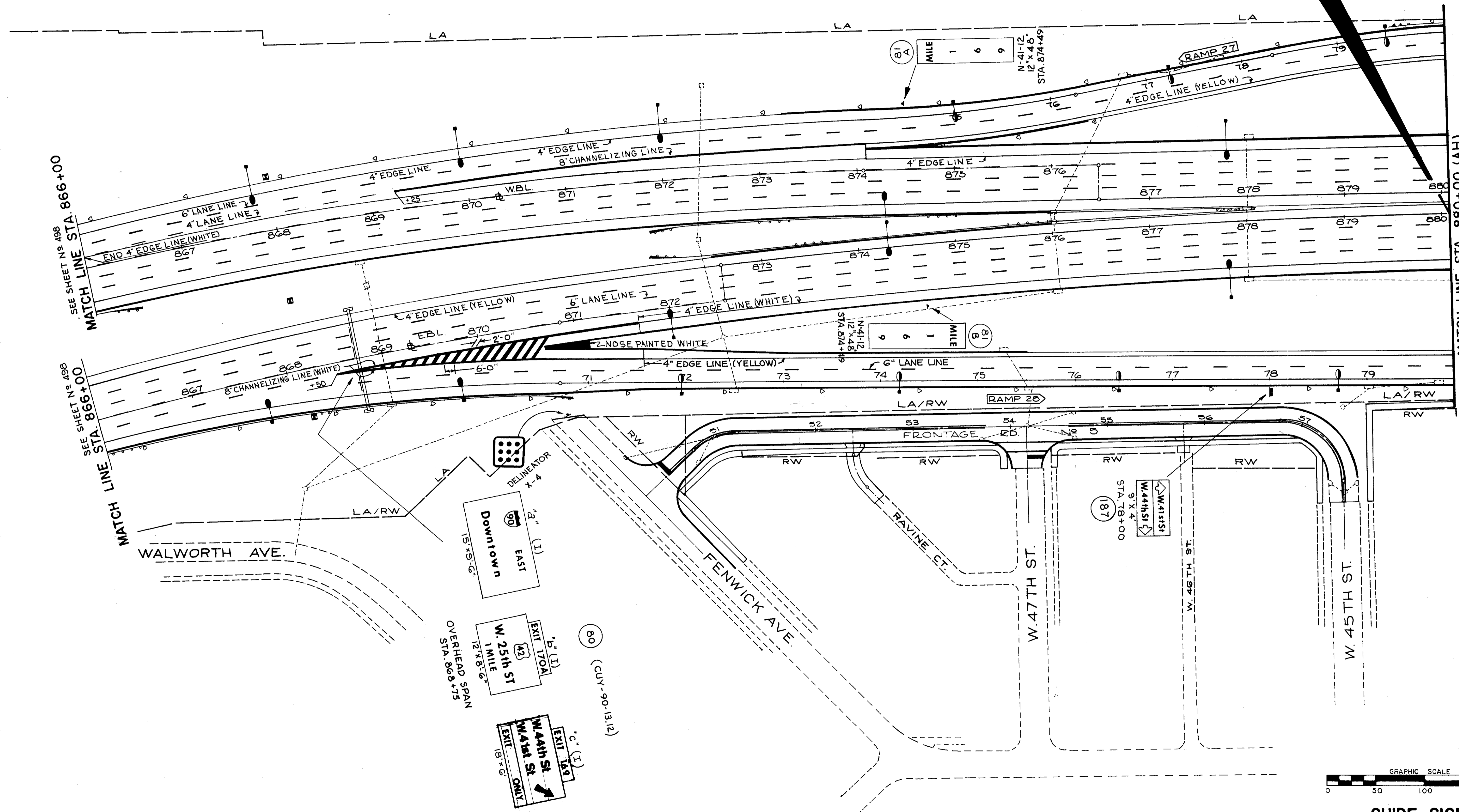
FED. RD.	STATE	PROJECT
2	OHIO	I-90-I(38)2I

499  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

CUY 90-11.64  
END PROJECT  
E.B.L. STA. 880+07.53 (BK)

CUY 90-13.33  
BEGIN PROJECT  
C. STA. 880+00.00 (AH)



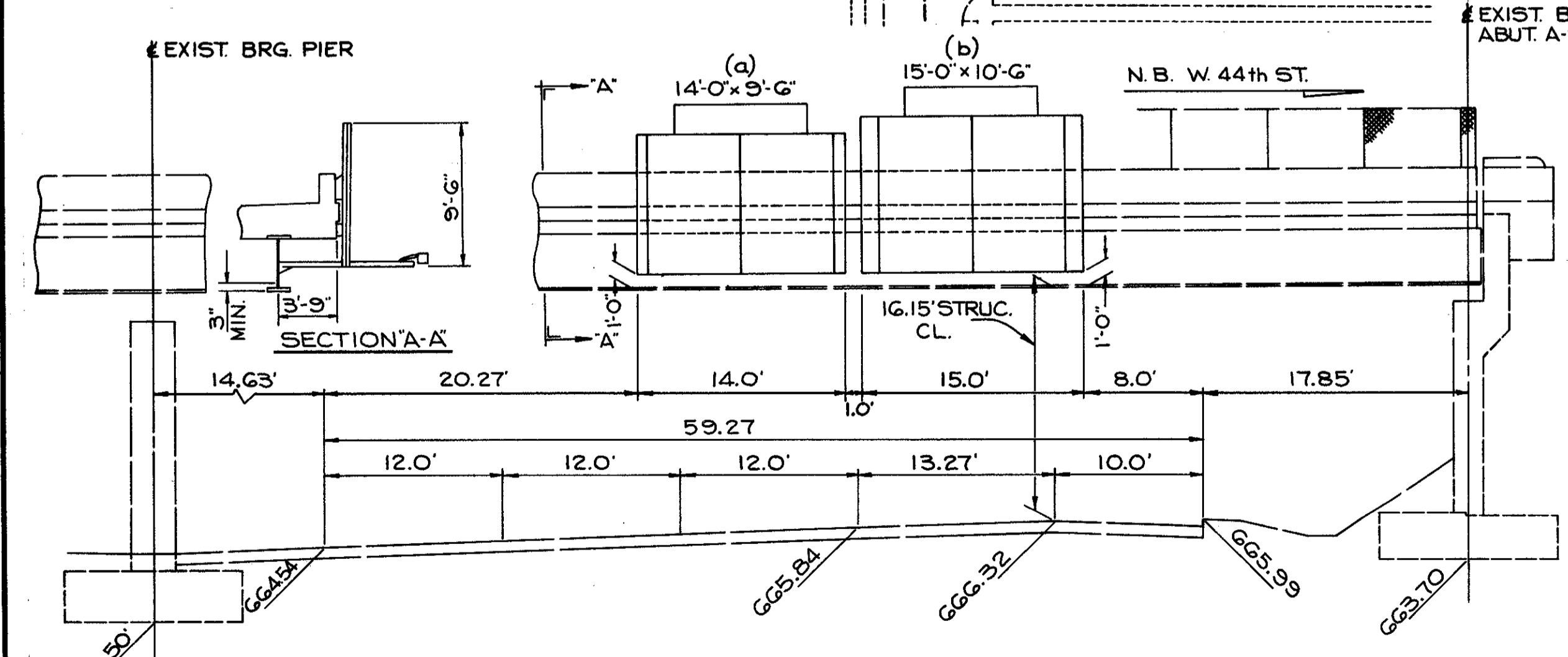
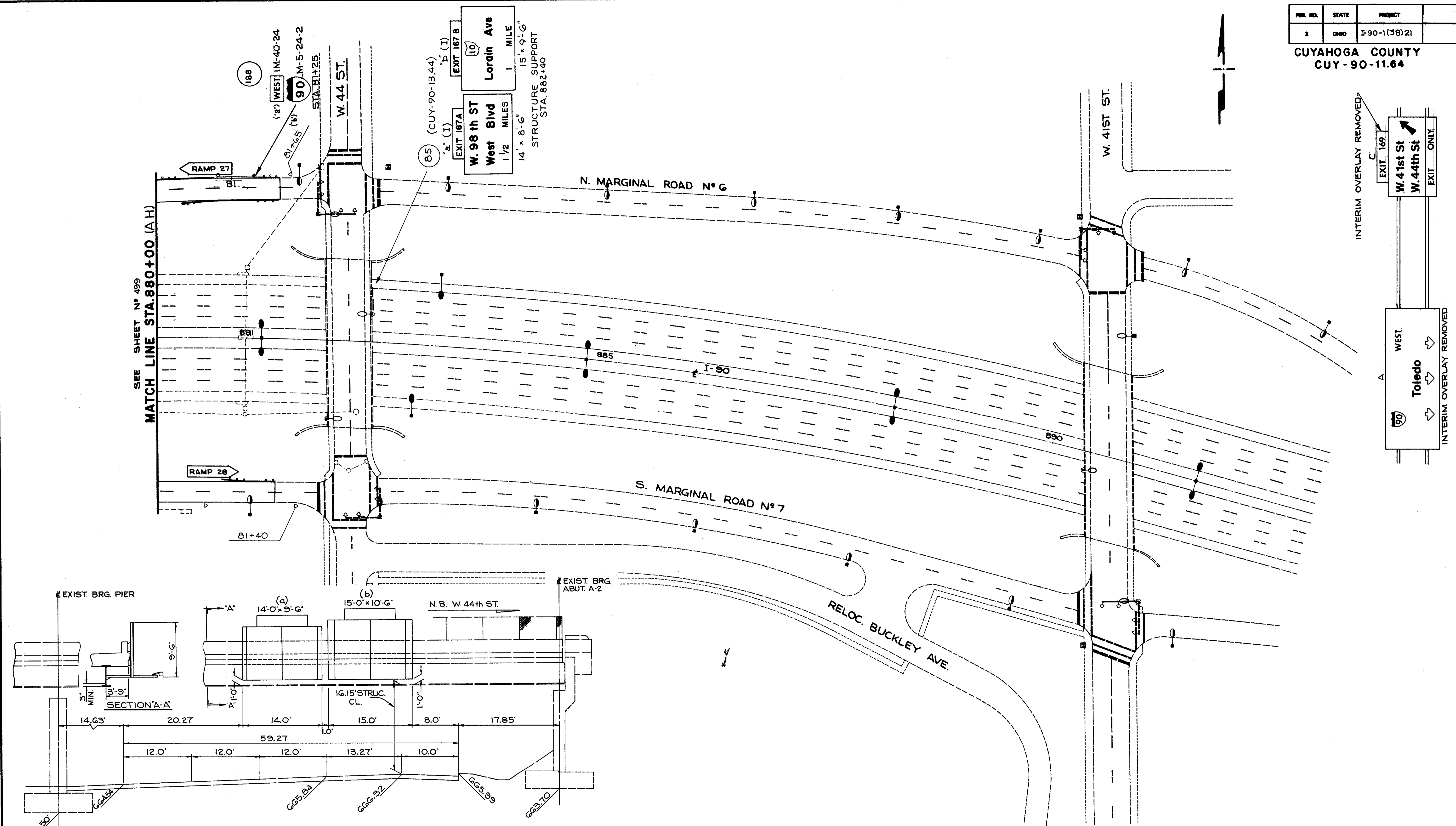
GUIDE SIGNS  
STA. 866+00 TO STA. 880+07.53  
TRAFFIC CONTROL PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

500  
838

CUYAHOGA COUNTY  
CUY-90-11.64

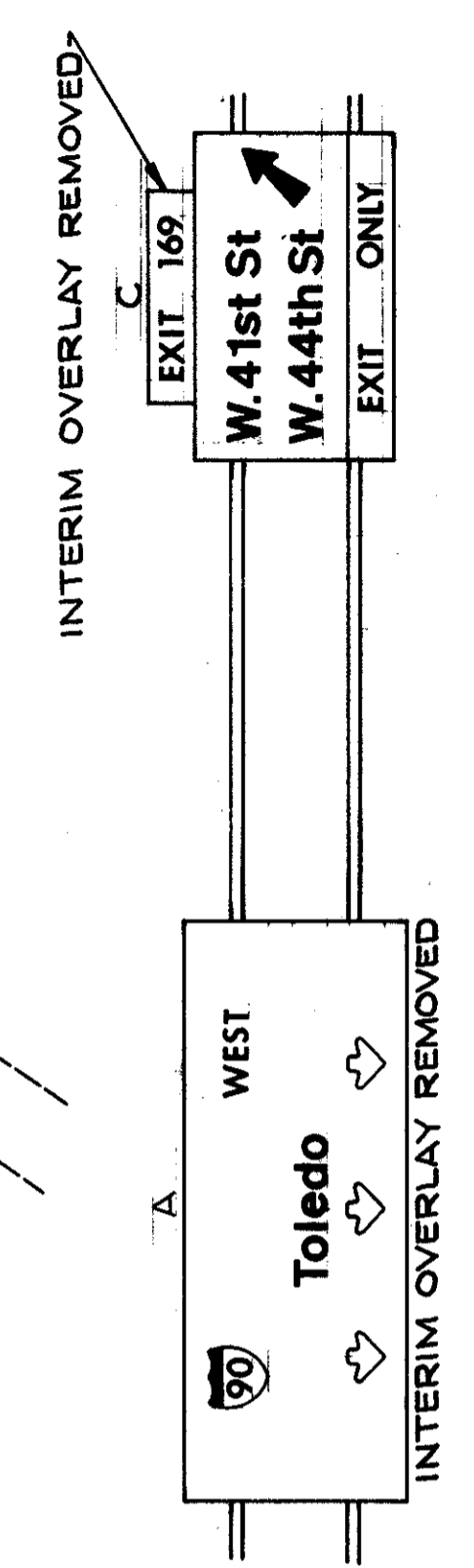
SEE SHEET N° 499  
MATCH LINE STA. 880+00 (AH)



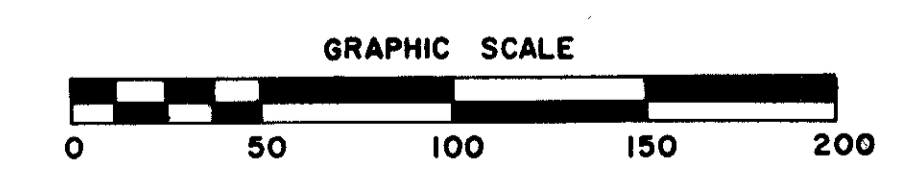
85

MAINLINE STA. 882+40 WESTBOUND  
OVERPASS STRUCTURE MOUNTED SIGN SUPPORT  
TC-18.24

(a)	(b)
14'-0" x 9'-6" = 133.05 SQ. FT. } 151.0 SQ. FT.	15'-0" x 10'-6" = 157.5 SQ. FT. } 175.5 SQ. FT.
9'-0" x 2'-0" = 18.0 SQ. FT. } TOTAL	9'-0" x 2'-0" = 18.0 SQ. FT. } TOTAL
SPACING = 8 5/8", 7 5/8", 7 5/8", 8 5/8"	SPACING = 14 5/8", 7 5/8", 7 5/8", 14 5/8"
N° OF BRACKETS = 3, HT. = 9'-6", TYPE Z	N° OF BRACKETS = 3, HT. = 10'-6", TYPE Z
FIXTURES = 2 @ 4'-0", 6'-0", 4'-0" (175W)	FIXTURES = 2 @ 4'-6", 6'-0", 4'-6" (250W)
BRIDGE SKEW = 3° 01' 27"	BRIDGE SKEW = 3° 01' 27"
SIGN SKEW = 3° 01' 27"	SIGN SKEW = 3° 01' 27"



EXISTING SIGN  
STA. 896+38  
4 (CUY-90-13.64)

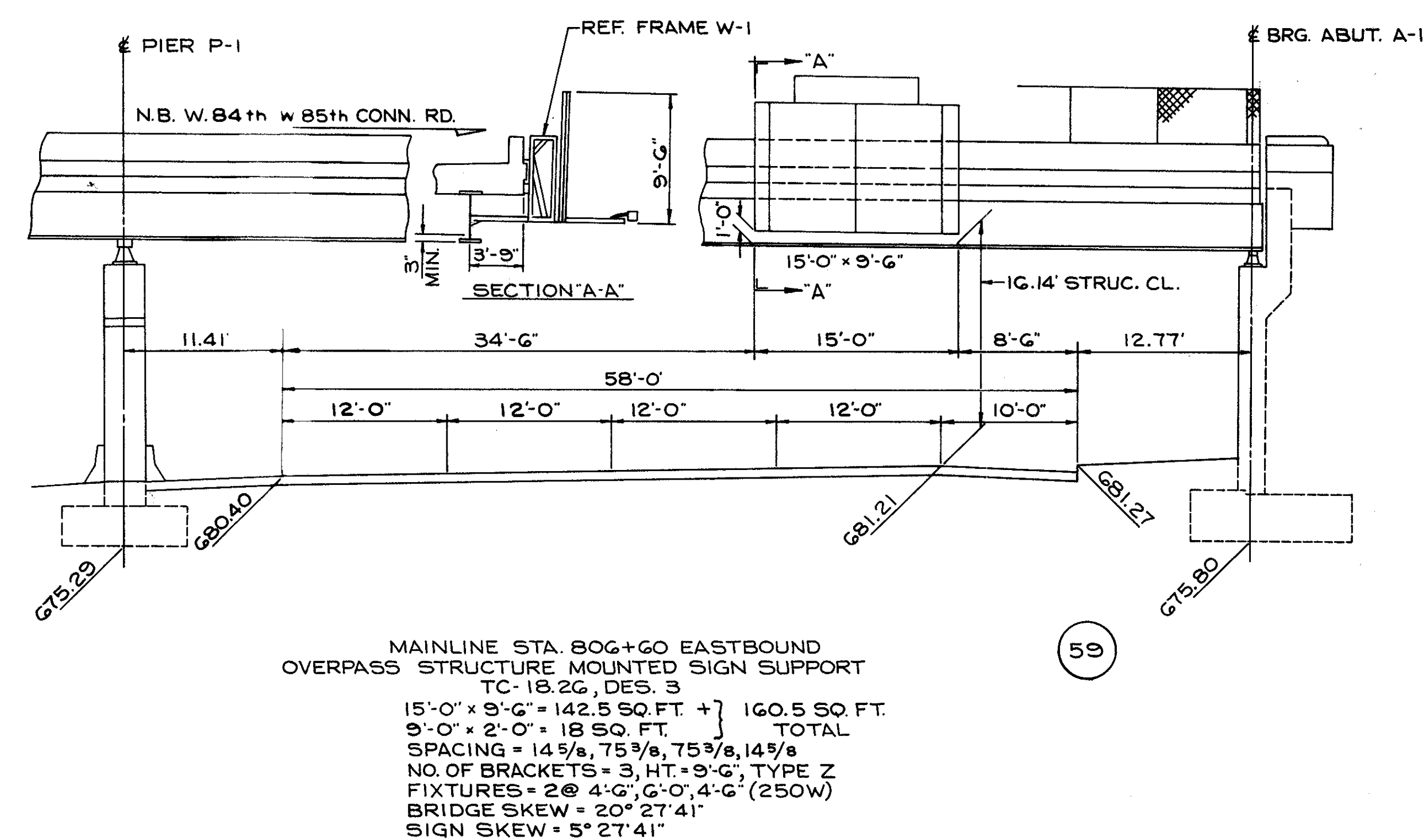
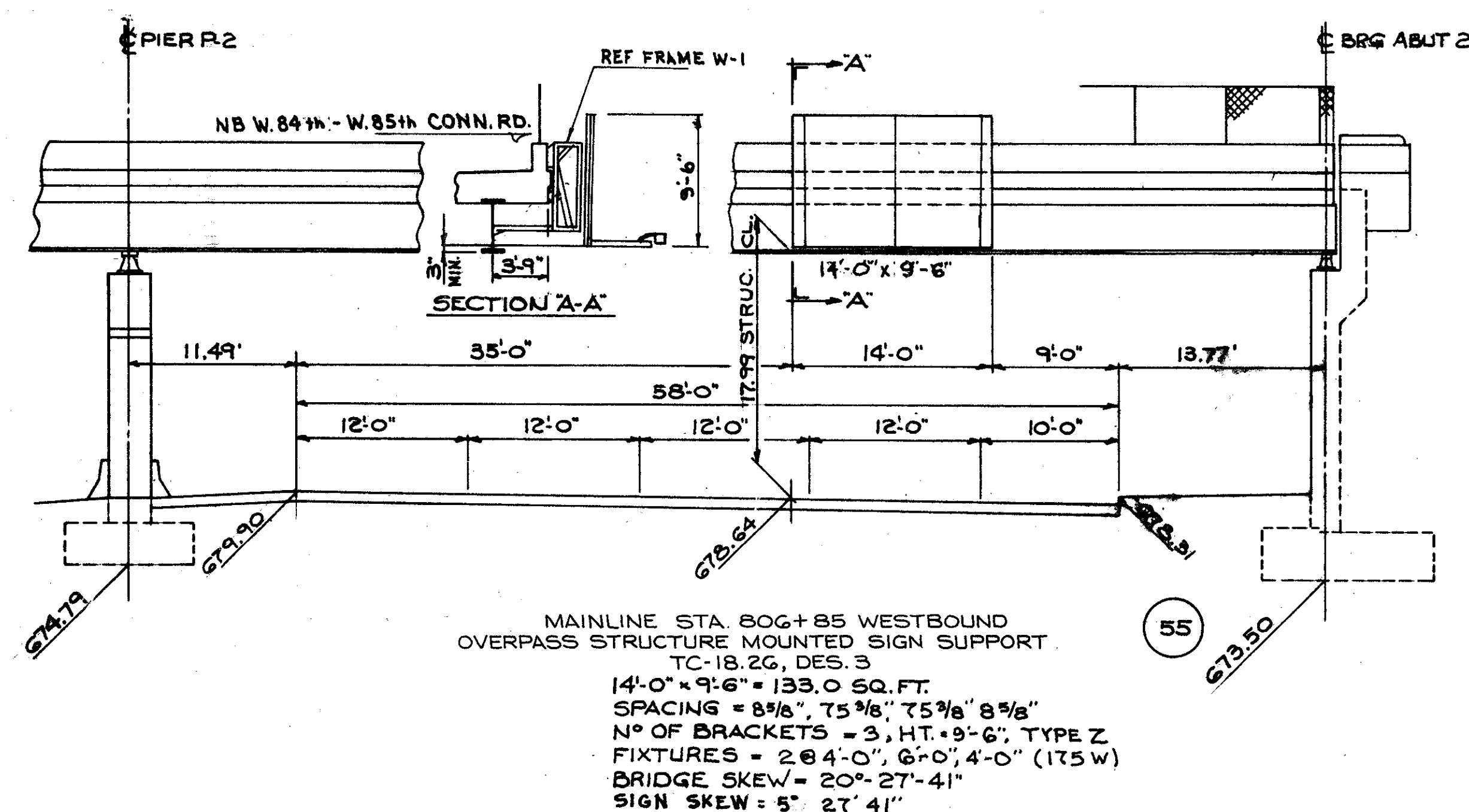
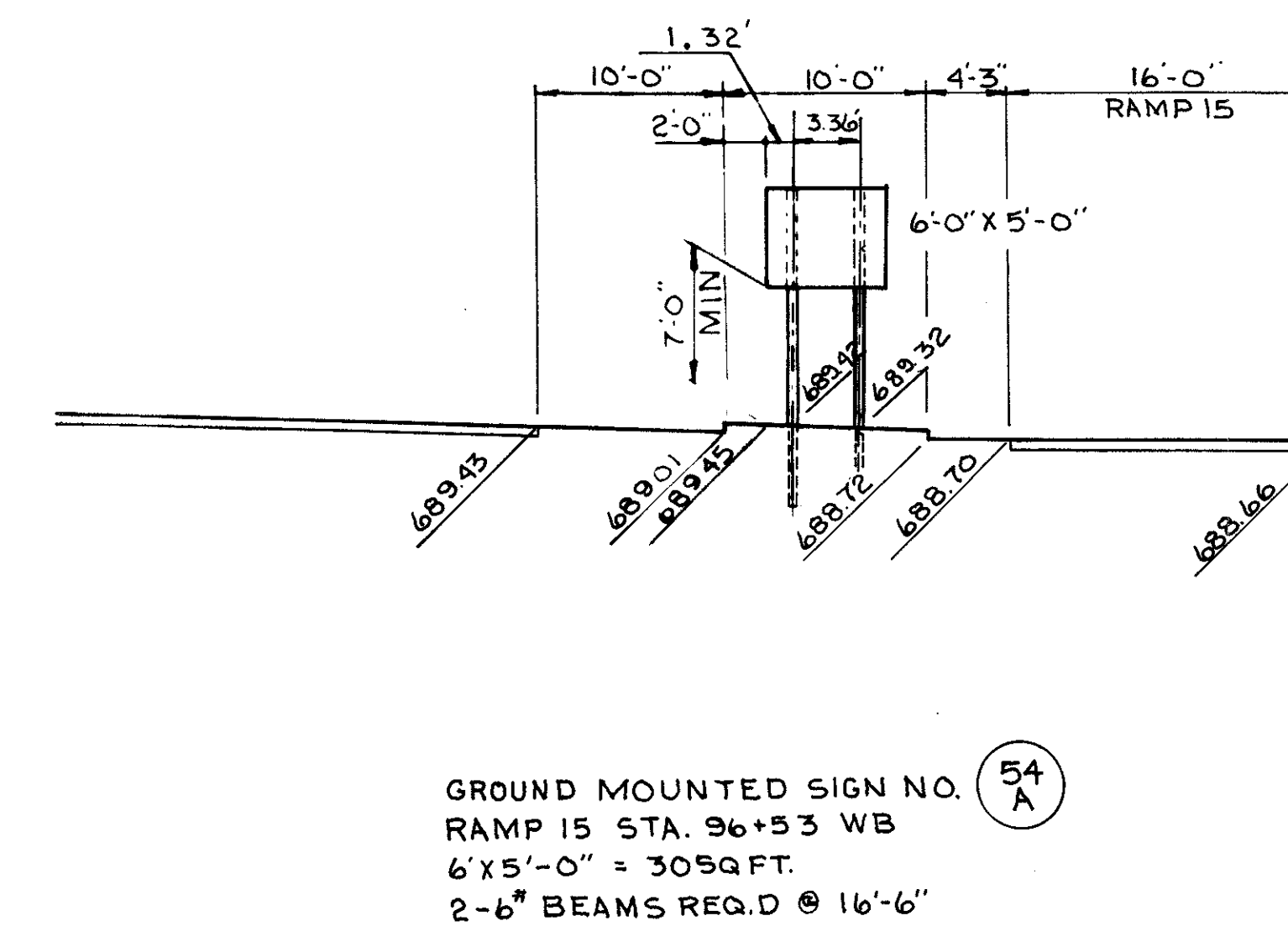
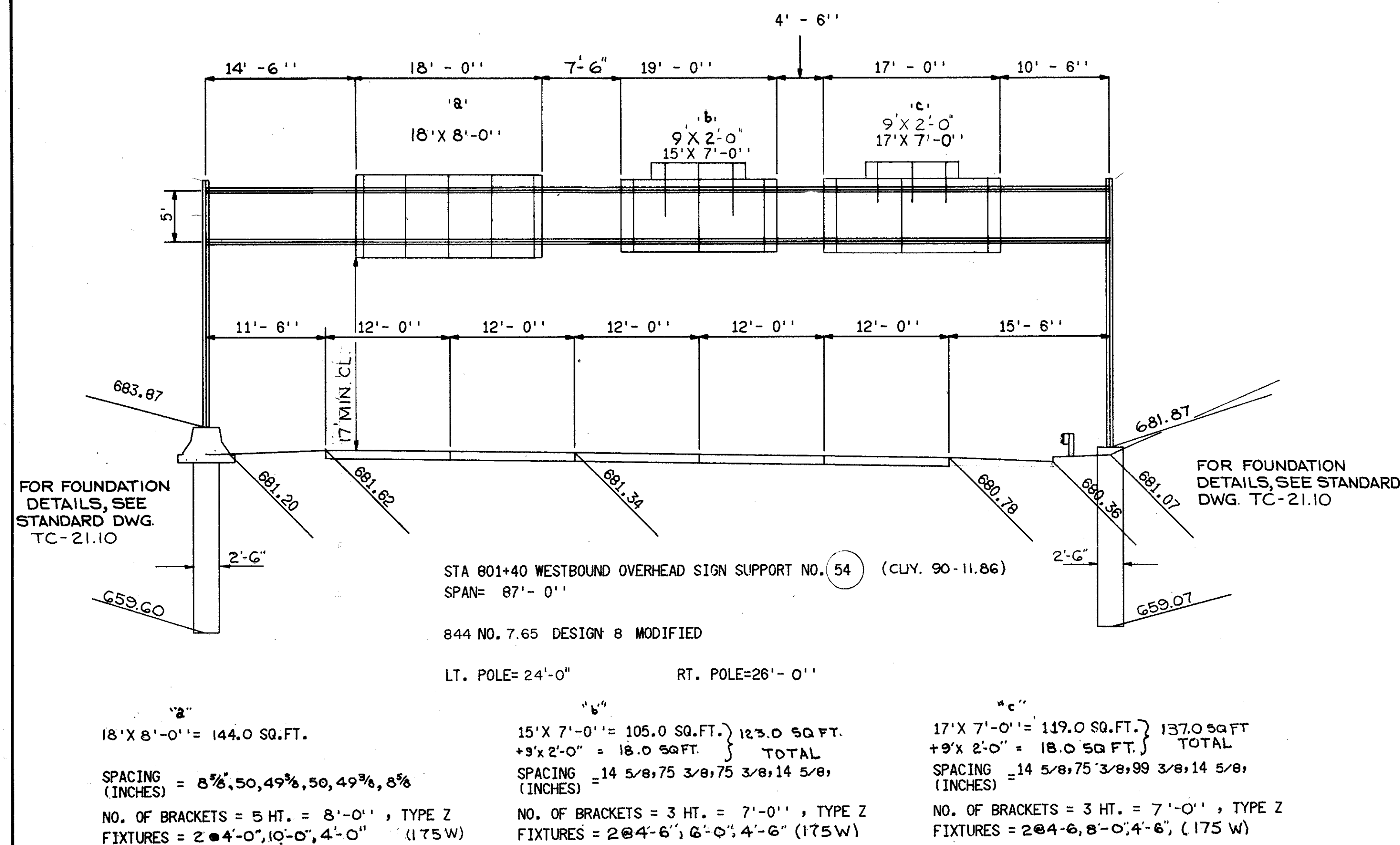


GUIDE SIGNS  
(EXISTING) STA. 880+00.00 (AH)  
TRAFFIC CONTROL PLANS

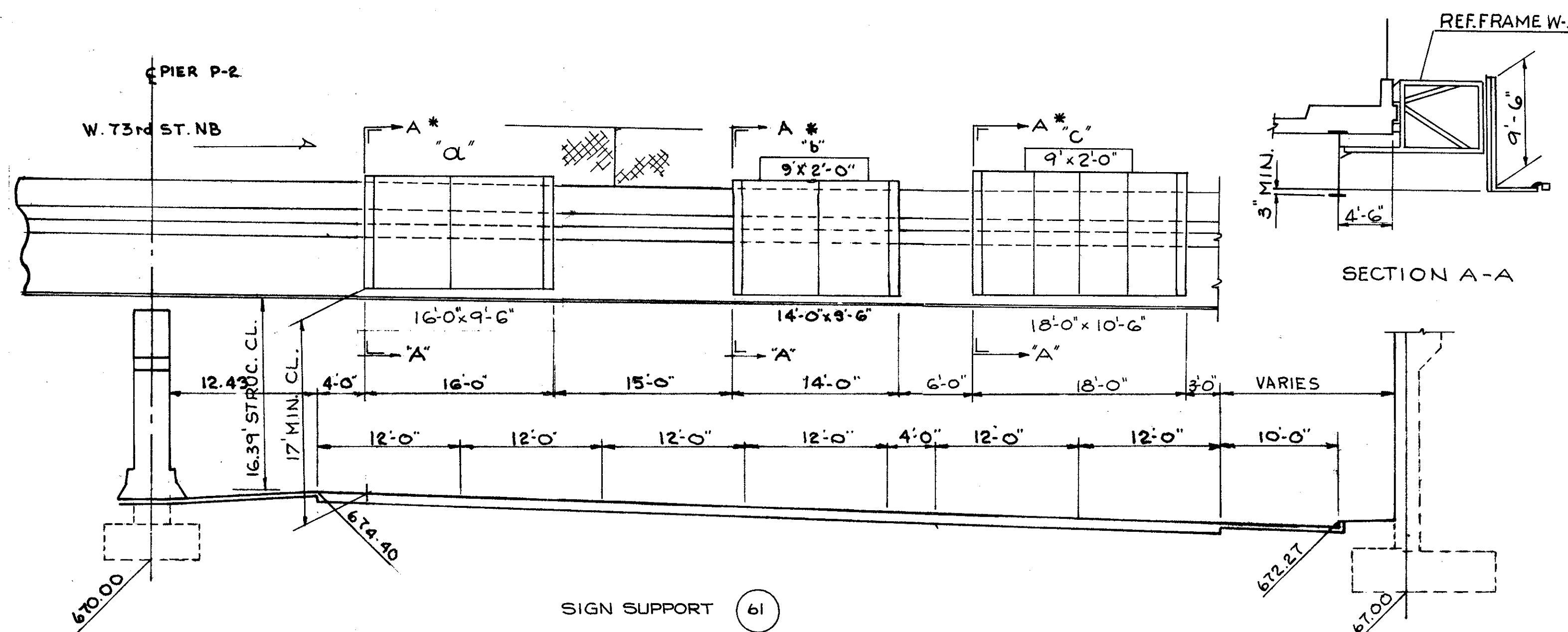
FED. RD.	STATE	PROJECT
2	OHIO	I-90-(138)2I

501  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



GUIDE SIGN DETAILS

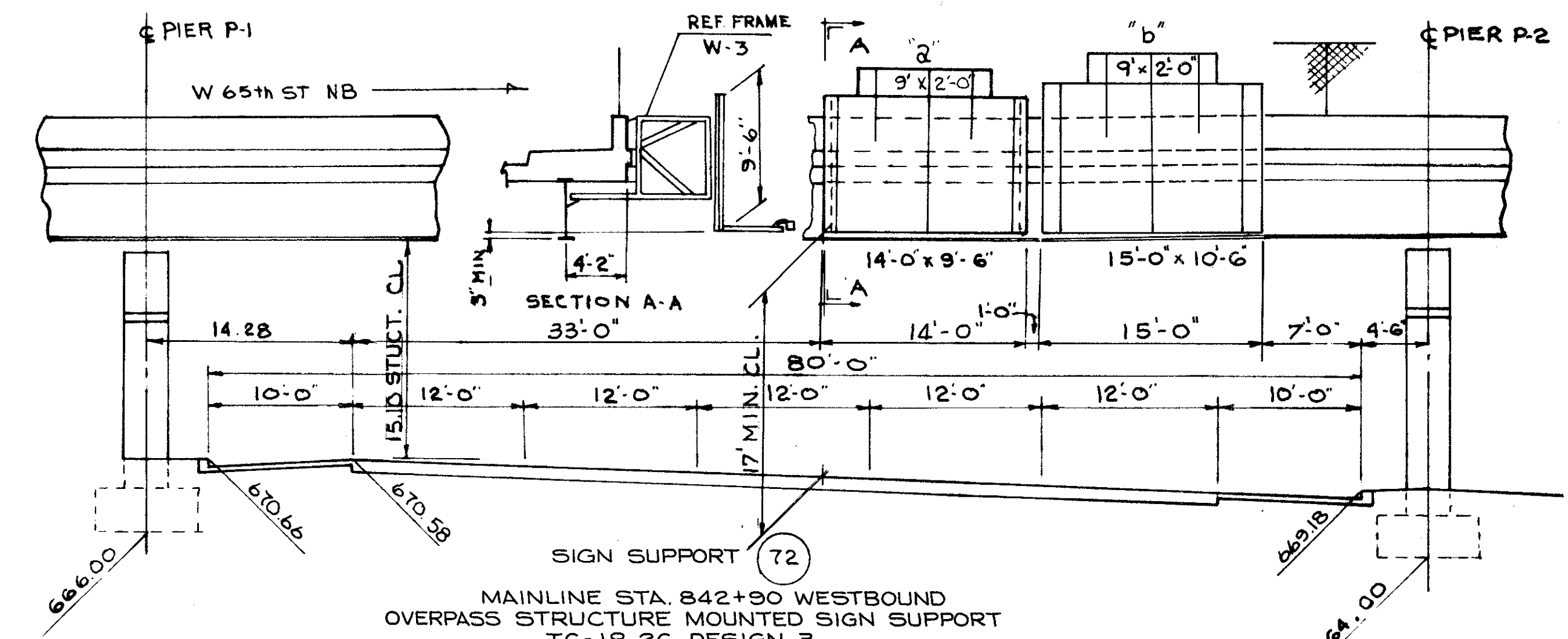


SIGN SUPPORT (61)  
MAINLINE STA. 826+90 WESTBOUND  
OVERPASS STRUCTURE MOUNTED SIGN SUPPORT TC-18.2G  
(FOR DESIGN, SEE BELOW)

**"a"**  
16'-0" x 9'-6" = 152.0 SQ.FT.  
SPACING = 8 5/8, 7 5/8, 9 3/8, 8 5/8  
N° OF BRACKETS = 3, HT. = 9'-6", TYPE Z  
FIXTURES = 2 @ 4'-0", 8'-0", 4'-0" (175 W)  
TC-18.2G DESIGN 7 MOD.  
BRIDGE SKEW = 25° 14' 49"  
SIGN SKEW = 0° 14' 49"

**"b"**  
14' x 9'-6" = 133.0 SQ.FT. } 151.0 SQ.FT.  
+ 9' x 2'-0" = 18.0 SQ.FT. } TOTAL  
SPACING = 8 5/8, 7 5/8, 7 5/8, 8 5/8  
N° OF BRACKETS = 3, HT. = 9'-6", TYPE Z  
FIXTURES = 2 @ 4'-0", 6'-0", 4'-0" (250 W)  
TC-18.2G DESIGN 7  
BRIDGE SKEW = 25° 14' 49"  
SIGN SKEW = 0° 14' 49"

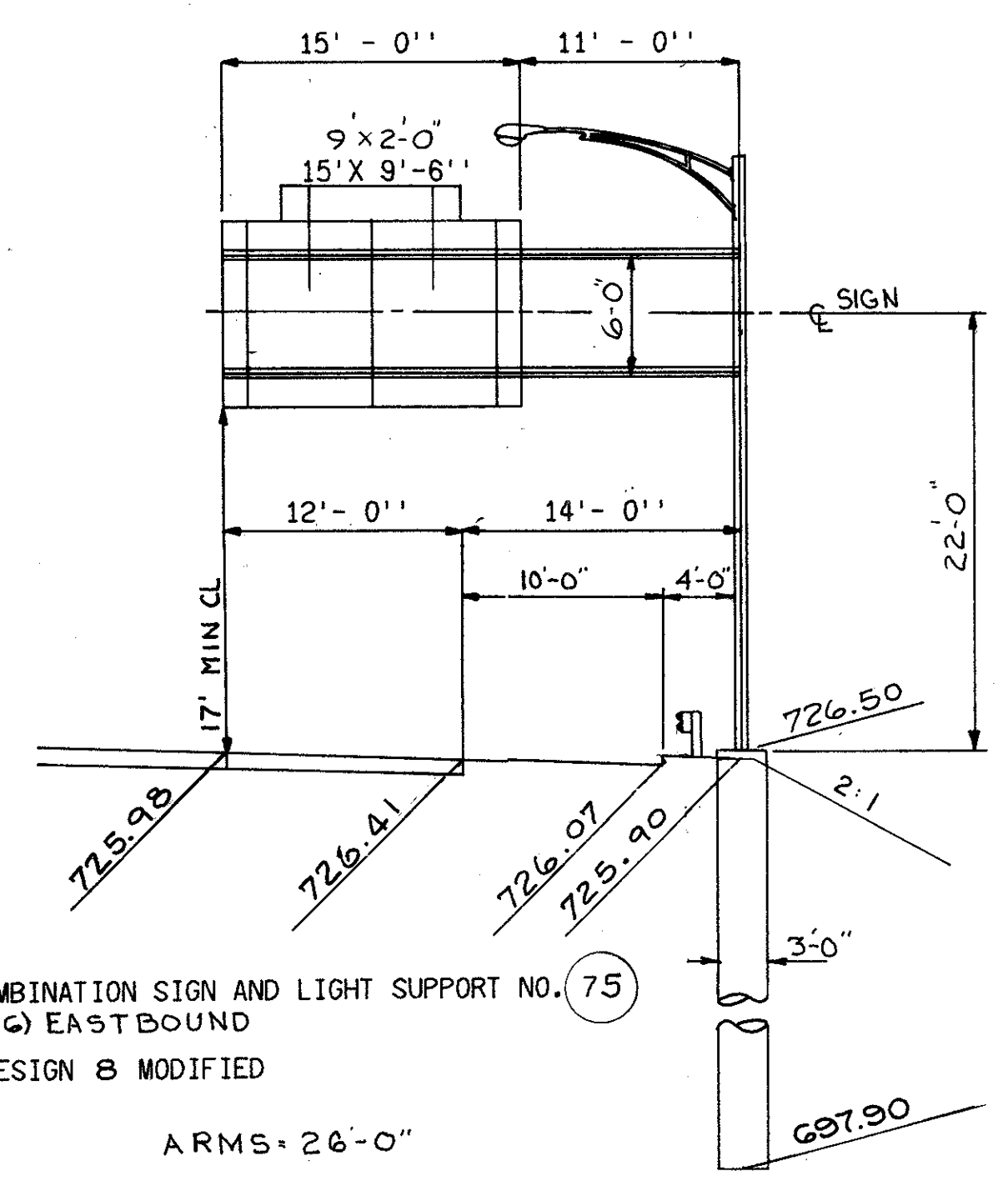
**"c"**  
18' x 10'-6" = 189.0 SQ.FT. } 207.0 SQ.FT. TOTAL  
+ 9' x 2'-0" = 18.0 SQ.FT. }  
SPACING = 8 5/8, 5 0, 4 9/8, 5 0, 4 9/8, 8 5/8  
N° OF BRACKETS = 5, HT. = 10'-6", TYPE Z  
FIXTURES = 2 @ 4'-0", 10'-0", 4'-0" (250 W)  
TC-18.2G DESIGN 7 MOD.  
BRIDGE SKEW = 25° 14' 49"  
SIGN SKEW = 0° 14' 49"



SIGN SUPPORT (72)  
MAINLINE STA. 842+90 WESTBOUND  
OVERPASS STRUCTURE MOUNTED SIGN SUPPORT  
TC-18.2G DESIGN 3

**"a"**  
14'-0" x 9'-6" = 133.0 SQ.FT. +  
9' x 2'-0" = 18.0 SQ.FT. = 151.0 SQ.FT.  
SPACING = 8 5/8, 7 5/8, 7 5/8, 8 5/8  
N° OF BRACKETS = 3, HT. = 9'-6", TYPE Z  
FIXTURES = 2 @ 4'-0", 6'-0", 4'-0" (250 W)  
BRIDGE SKEW = 23° 19' 21"  
SIGN SKEW = 8° 19' 21"

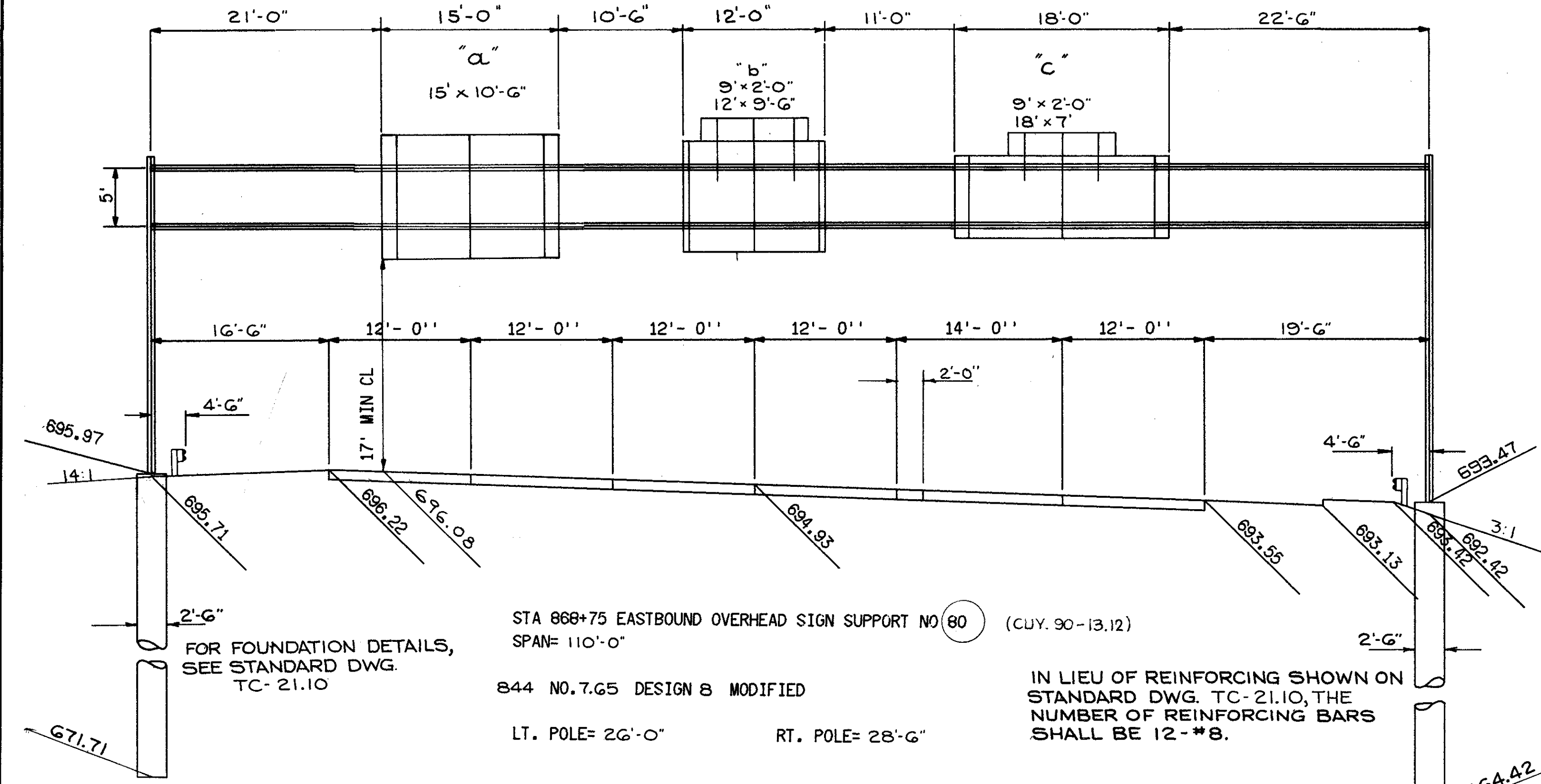
**"b"**  
15'-0" x 10'-6" = 157.5 SQ.FT. } 175.5 SQ.FT. TOTAL  
+ 9' x 2'-0" = 18.0 SQ.FT. }  
SPACING = 14 1/8, 7 5/8, 7 5/8, 14 1/8  
N° OF BRACKETS = 3, HT. = 10'-6", TYPE Z  
FIXTURES = 2 @ 4'-0", 6'-0", 4'-0" (250 W)  
BRIDGE SKEW = 23° 19' 21"  
SIGN SKEW = 8° 19' 21"



STA. 843+90 COMBINATION SIGN AND LIGHT SUPPORT NO. (75)  
(CUY-90-12.6) EASTBOUND  
844 NO. 12.30 DESIGN 8 MODIFIED  
POLE = 30'-0" ARMS = 26'-0"

15' x 9'-6" = 142.5 SQ.FT.  
9' x 2' = 18' = 160.5 SQ.FT. TOTAL  
SPACING = 14 5/8, 7 5/8, 3 7/8, 7 5/8, 14 5/8,  
(INCHES)  
NO. OF BRACKETS = 3 HT. = 9'-6", TYPE Z  
FIXTURES = 2 @ 4'-6", 6'-0", 4'-6" (250 W)

IN LIEU OF REINFORCING SHOWN ON  
STANDARD DWG. TC-21.10, THE  
NUMBER OF REINFORCING BARS  
SHALL BE 10-#9.



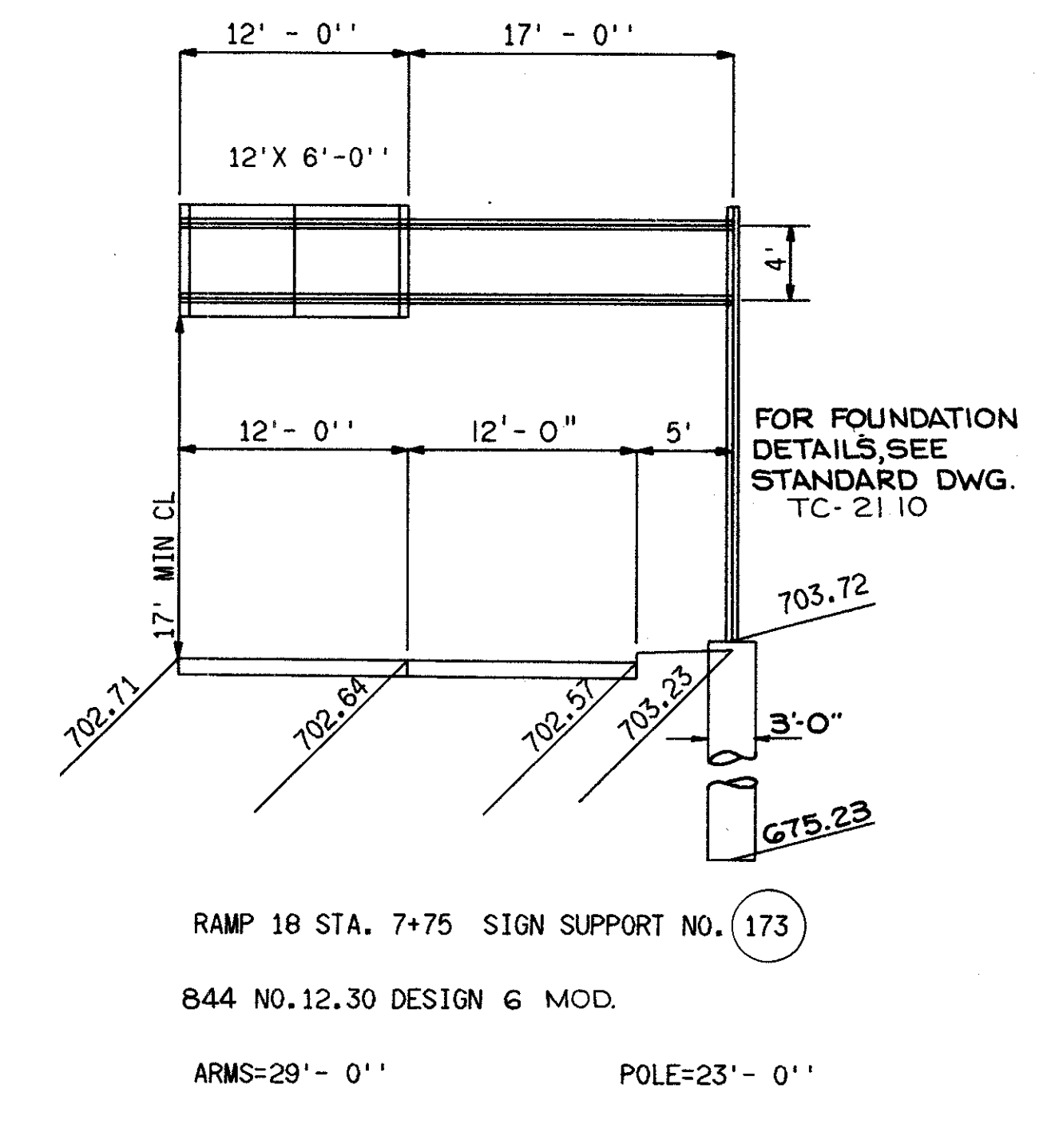
STA 868+75 EASTBOUND OVERHEAD SIGN SUPPORT NO (80) (CUY. 90-13.12)  
SPAN= 110'-0"  
844 NO. 7.65 DESIGN 8 MODIFIED  
LT. POLE= 26'-0" RT. POLE= 28'-6"

**"a"**  
15'-0" x 10'-6" = 157.5 SQ.FT.  
SPACING = 14 5/8, 7 5/8, 7 5/8, 14 5/8  
(INCHES)  
N° OF BRACKETS = 3 HT. = 10'-6", TYPE Z  
FIXTURES = 2 @ 4'-6", 6'-0", 4'-6" (175 W)

**"b"**  
12'-0" x 9'-6" = 114.5 SQ.FT. } 132.0 SQ.FT.  
9'-0" x 2'-0" = 18 SQ.FT. } TOTAL  
SPACING = 6, 66, 66, 6,  
(INCHES)  
NO. OF BRACKETS = 3 HT. = 9'-6", TYPE Z  
FIXTURES = 3 @ 3'-0", 6'-0", 3'-0" (250 W)

**"c"**  
18'-0" x 7'-0" = 126 SQ.FT. } 144.0 SQ.FT.  
9'-0" x 2'-0" = 18 SQ.FT. } TOTAL  
SPACING = 14 5/8, 9 3/8, 9 3/8, 14 5/8  
(INCHES)  
N° OF BRACKETS = 3 HT. = 7'-0", TYPE Z  
FIXTURES = 2 @ 4'-0", 10'-0", 4'-0" (175 W)

IN LIEU OF REINFORCING SHOWN ON  
STANDARD DWG. TC-21.10, THE  
NUMBER OF REINFORCING BARS  
SHALL BE 12-#8.



RAMP 18 STA. 775 SIGN SUPPORT NO. (173)  
844 NO. 12.30 DESIGN 6 MOD.  
ARMS=29'-0" POLE=23'-0"

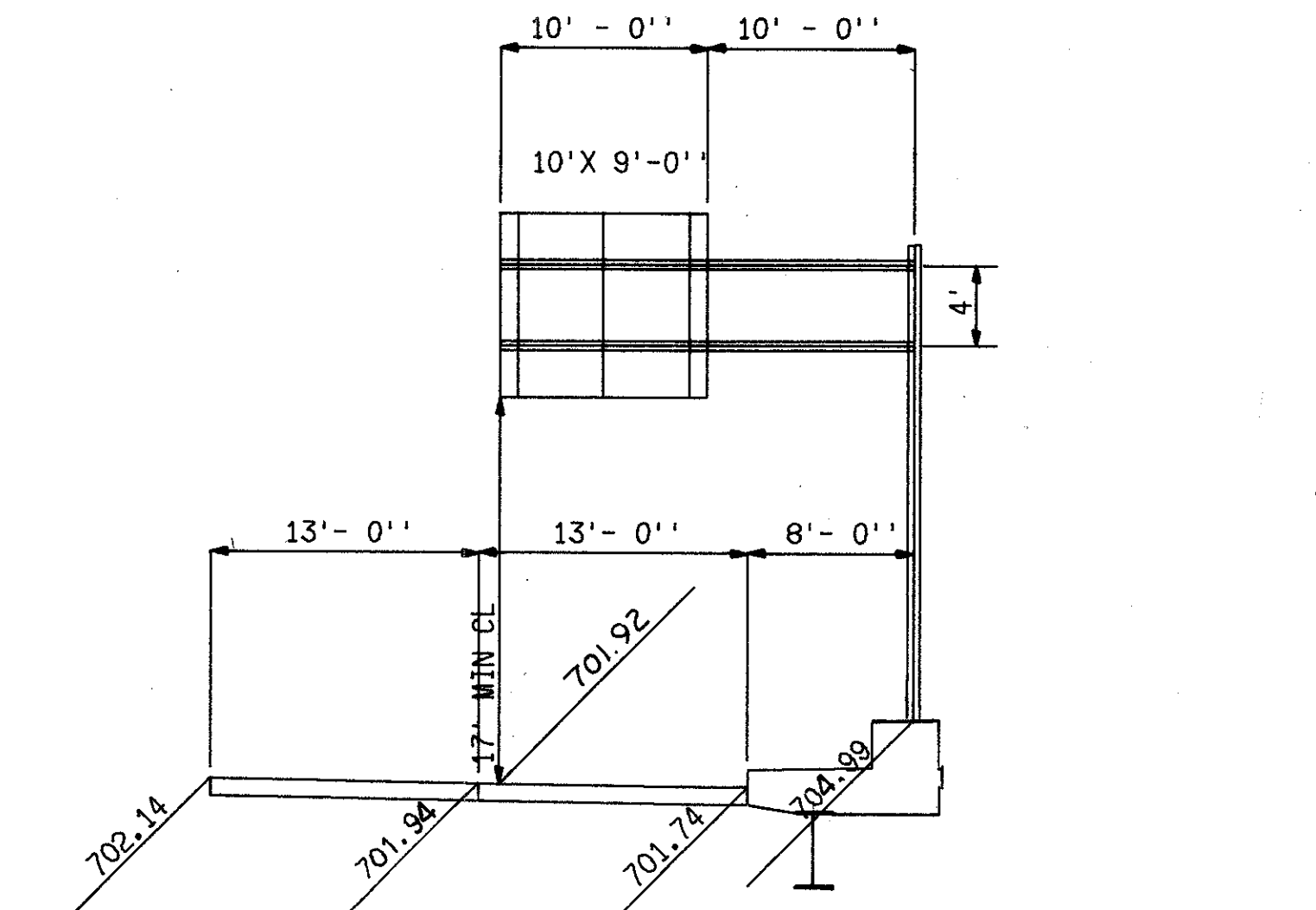
12' x 6'-0" = 72.0 SQ.FT.  
SPACING = 6, 66, 66, 6,  
(INCHES)  
NO. OF BRACKETS = 3 HT. = 6'-0", TYPE Z  
FIXTURES = 2 @ 3'-0", 6'-0", 3'-0" (100 W)

GUIDE SIGN DETAILS

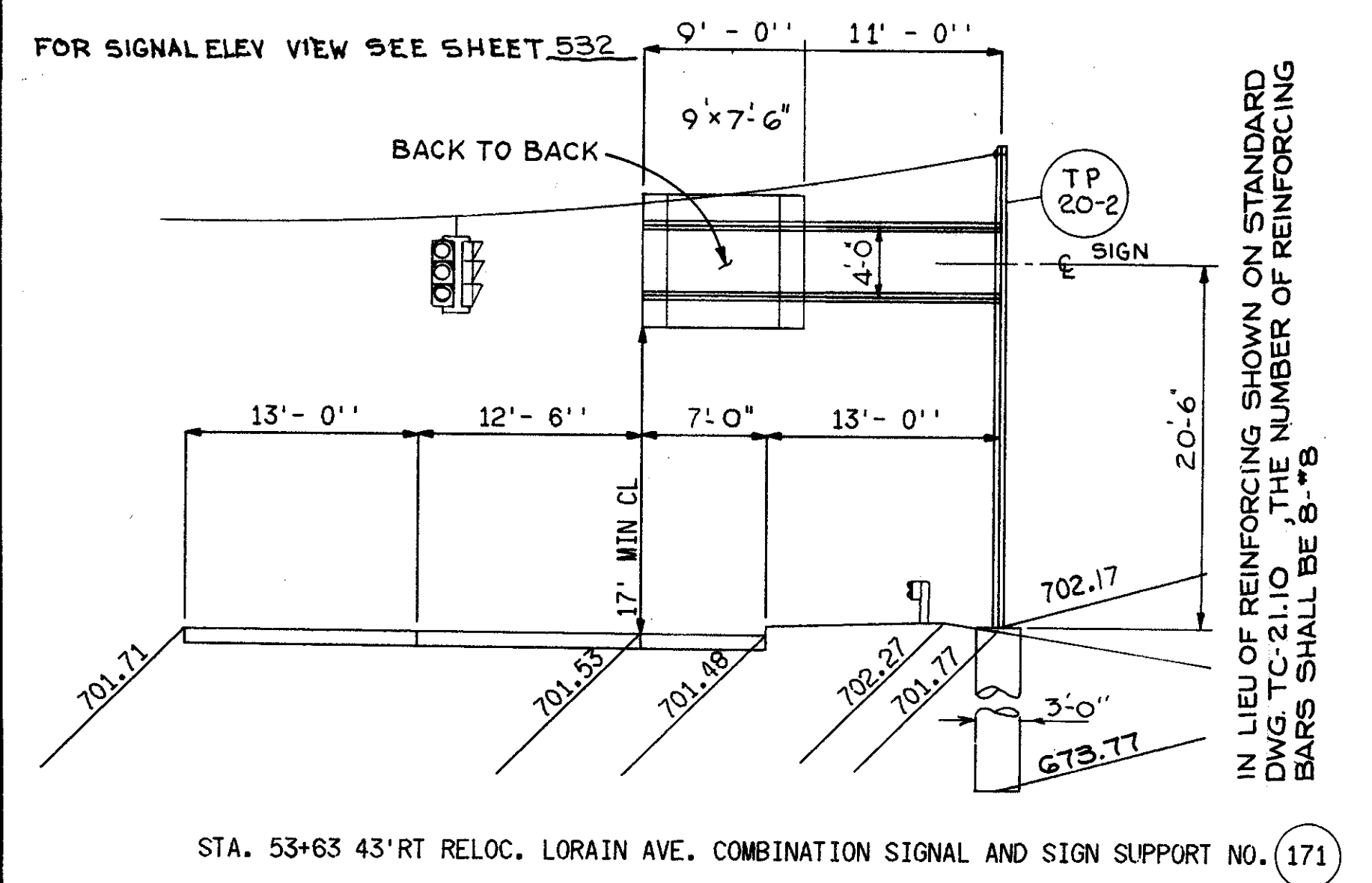
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38) 21

503  
838

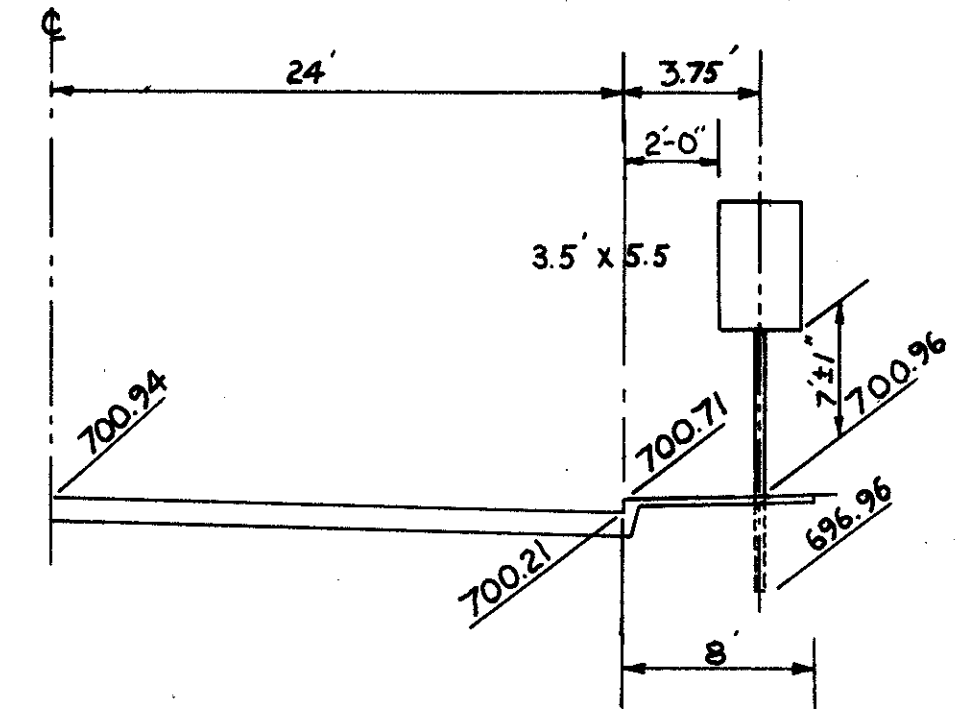
CUYAHOGA COUNTY  
CUY - 90 - 11.64



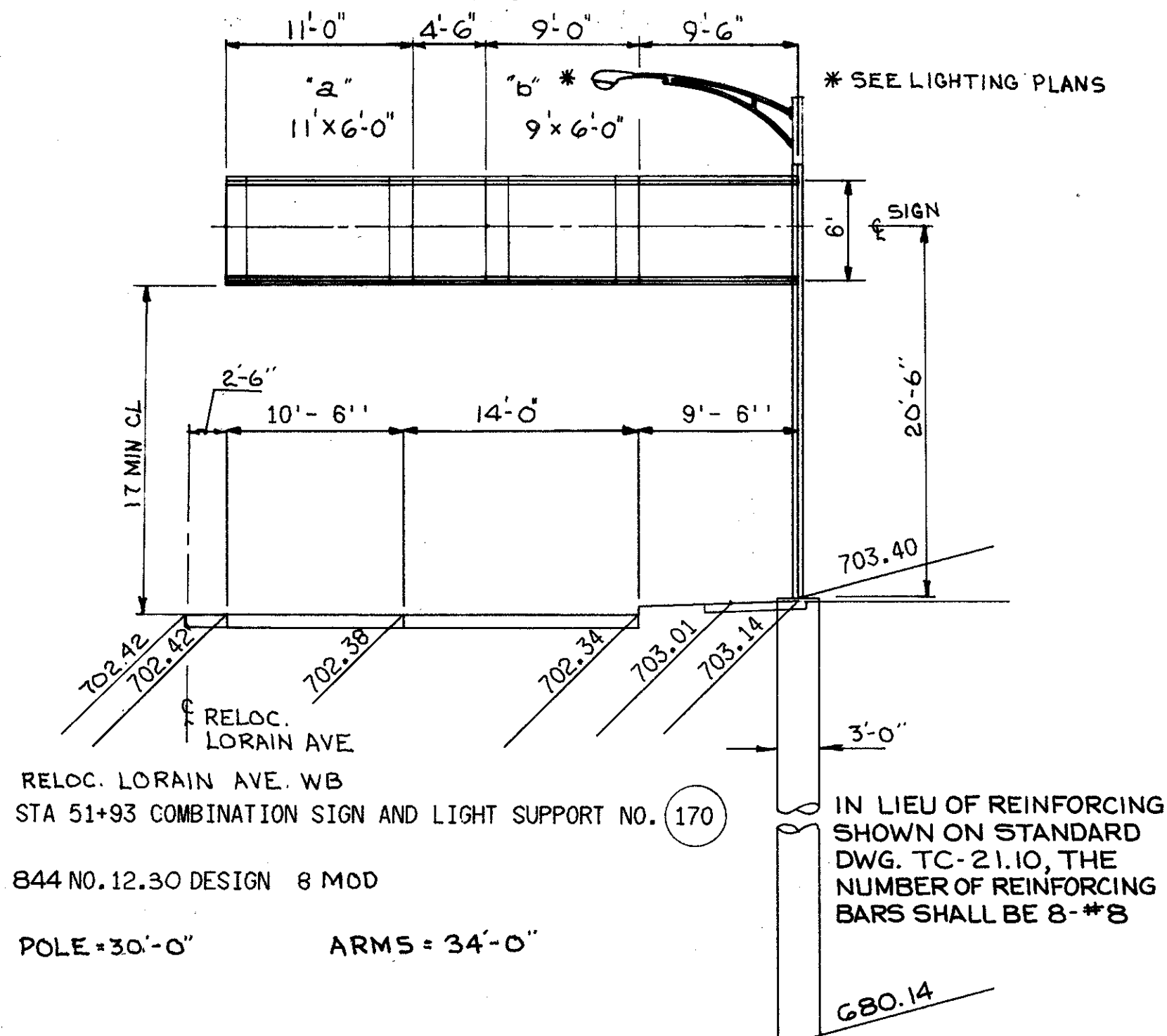
STA. 49+39.89 W. 84-85 CONNECTOR OVERHEAD SIGN SUPPORT NO. 172AA  
SOUTH BOUND  
844 NO.12.30 DESIGN 4 (MOD)  
POLE = 23'-0" ARMS = 20'-0"  
10' X 9'-0" = 90.0 SQ.FT.  
SPACING = 10 3/8, 50, 49 3/8, 10 1/4 (INCHES)  
NO. OF BRACKETS = 3 HT. = 9'-0", TYPE Z  
FIXTURES = 1 @ 5'-0", 5'-0" (175 W)



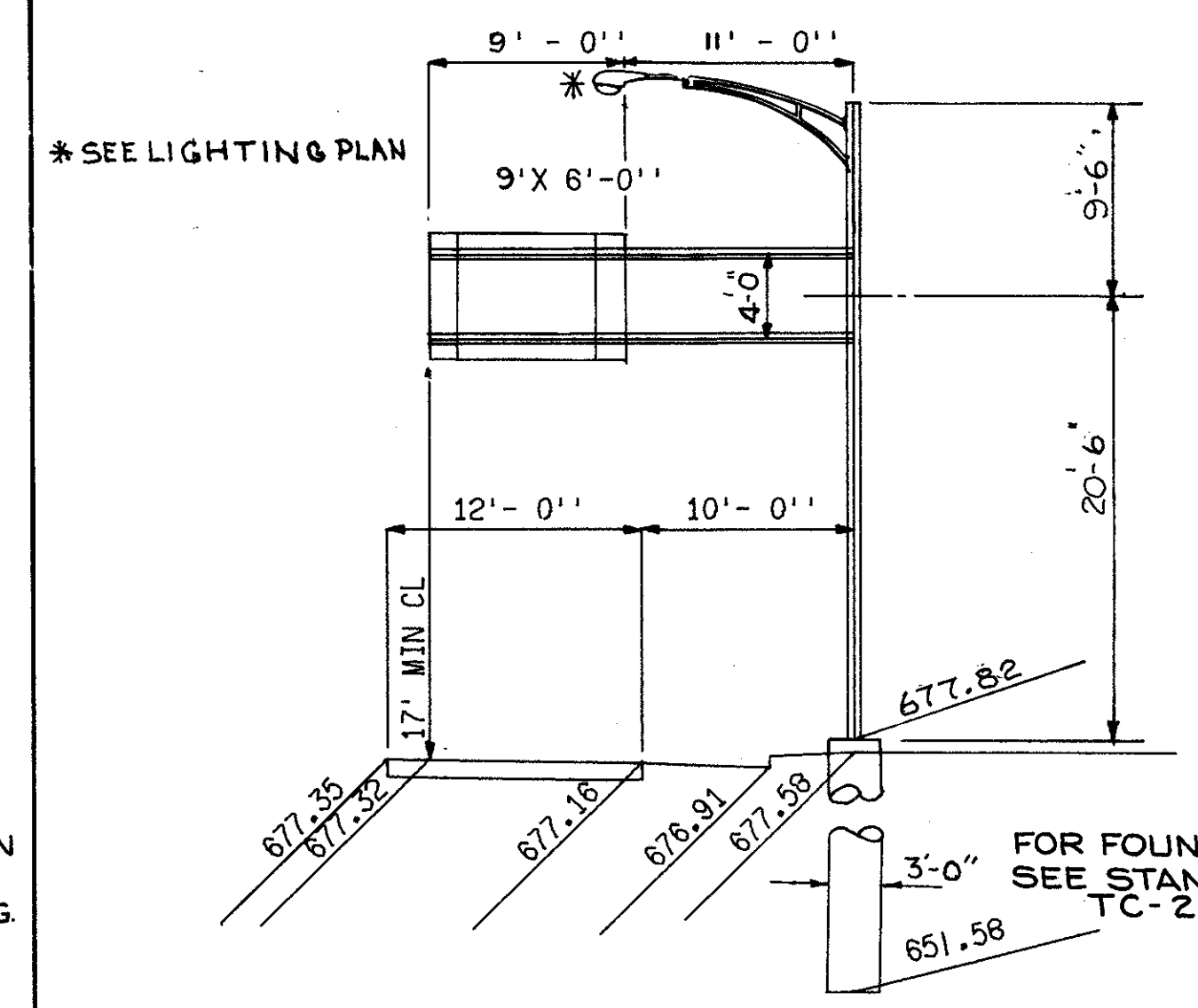
FOR SIGNAL ELEV VIEW SEE SHEET 532  
STA. 53+63 43' RT RELOC. LORAIN AVE. COMBINATION SIGNAL AND SIGN SUPPORT NO. 171  
POLE = OGA. 16.0" X 12.08" X 28'-0"  
(SEE 844 NO.12.30 DESIGN 3 MOD.)  
ARM = 20'-0"  
9' X 7'-6" = 67.5 SQ.FT. 9' X 7'-6" = 67.5 SQ.FT.  
SPACING = 16 3/8, 75 3/8, 16 1/4 (INCHES) SPACING = 16 3/8, 75 3/8, 16 1/4 (INCHES)  
NO. OF BRACKETS = 2 HT. = 7'-6", TYPE Z NO. OF BRACKETS = 2 HT. = 7'-6" TYPE Z  
FIXTURES = 1 @ 4'-6", 4'-6" (175 W) FIXTURES = 1 @ 4'-6", 4'-6" (175 W)



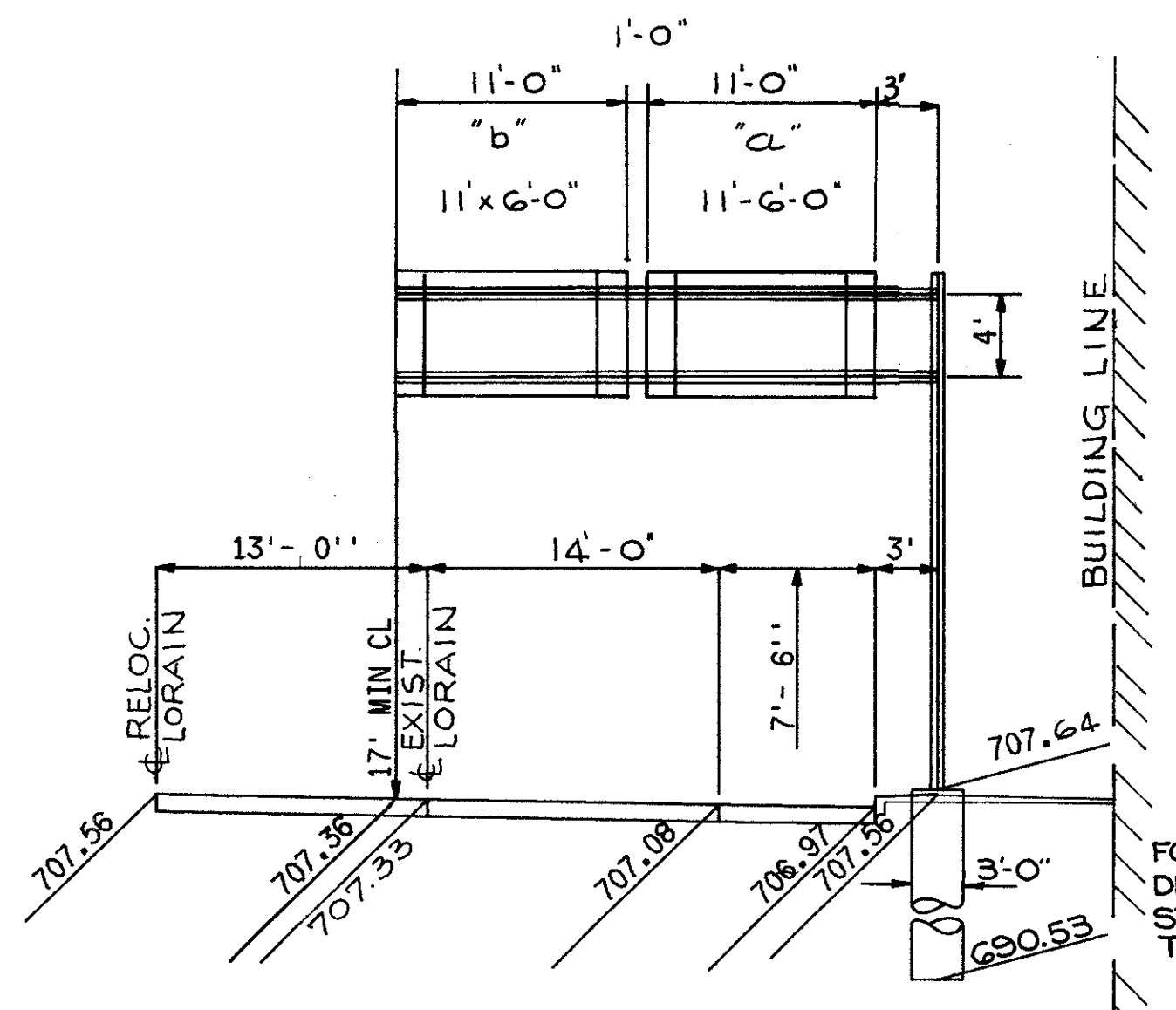
RELOC. LORAIN AVENUE STA. 59+00 WESTBOUND  
GROUND MOUNTED SIGN NO. 169  
3.5 X 5.5 = 19.25 S.F.  
1 - 6" BEAM 16.5 L.F.



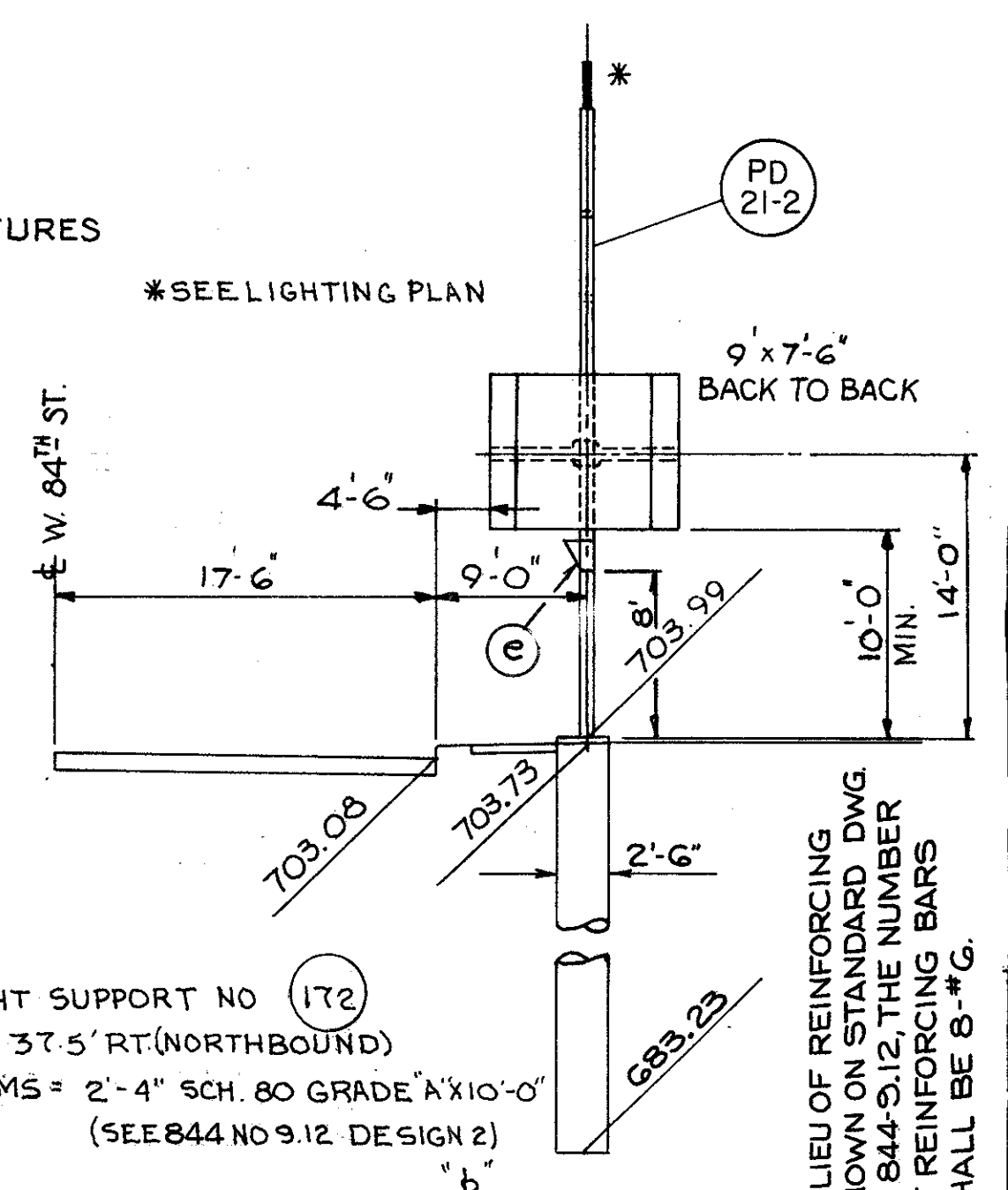
RELOC. LORAIN AVE. WB  
STA 51+93 COMBINATION SIGN AND LIGHT SUPPORT NO. 170  
844 NO.12.30 DESIGN 8 MOD  
POLE = 30'-0" ARMS = 34'-0"  
IN LIEU OF REINFORCING SHOWN ON STANDARD DWG. TC-21.10, THE NUMBER OF REINFORCING BARS SHALL BE 8-#8  
11' X 6'-0" = 66.0 SQ.FT. 9' X 6'-0" = 54.0 SQ.FT.  
SPACING (INCHES) = 16 3/8, 99 3/8, 16 1/4 SPACING (INCHES) = 16 3/8, 75 3/8, 16 1/4  
NO. OF BRACKETS = 2 HT. = 6'-0", TYPE Z NO. OF BRACKETS = 2 HT. = 6'-0", TYPE Z  
FIXTURES = 1 @ 5'-6", 5'-6" (100 W) FIXTURES = 1 @ 4'-6", 4'-6" (100 W)



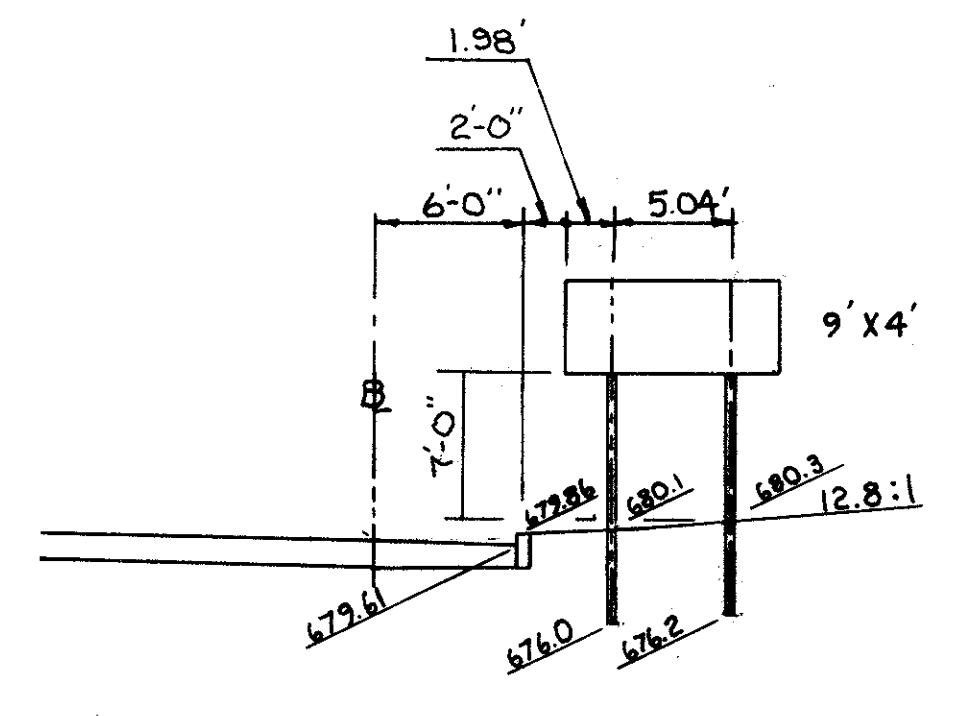
STA 18+75 RAMP 17 COMBINATION SIGN AND LIGHT SUPPORT NO. 177  
WESTBOUND  
844 NO.12.30 DESIGN 2 MODIFIED  
POLE = 30'-0" ARMS = 20'-0"  
9' X 6'-0" = 54.0 SQ.FT.  
SPACING (INCHES) = 16 3/8, 99 3/8, 16 1/4  
NO. OF BRACKETS = 2 HT. = 6'-0", TYPE Z  
FIXTURES = 1 @ 4'-6", 4'-6" (100 W)



LORAIN AVE. STA. 41+67 SIGN SUPPORT NO. 166  
844 NO.12.30 DESIGN 6 MODIFIED  
ARMS = 26' POLE = 24'  
11' X 6'-0" = 66.0 SQ.FT. 11' X 6'-0" = 66.0 SQ.FT.  
SPACING = 16 3/8, 99 3/8, 16 1/4 (INCHES) SPACING = 16 3/8, 99 3/8, 16 1/4 (INCHES)  
NO. OF BRACKETS = 2 HT. = 6'-0", TYPE Z NO. OF BRACKETS = 2 HT. = 6'-0", TYPE Z  
FIXTURES = 1 @ 5'-6", 5'-6" (100 W) FIXTURES = 1 @ 5'-6", 5'-6" (100 W)



COMBINATION SIGN AND LIGHT SUPPORT NO. 172  
STA. 49+34 CLARK AVE. 37.5' RT (NORTHBOUND)  
POLE = 30'-0" SIGN ARMS = 2'-4" SCH. 80 GRADE A X 10'-0"  
(SEE 844 NO.9.12 DESIGN 2)  
9' X 7'-6" = 67.5 SQ.FT. 9' X 7'-6" = 67.5 SQ.FT.  
SPACING = 16 3/8, 38, 37 3/8, 16 1/4 SPACING = 16 3/8, 38, 37 3/8, 16 1/4  
NO. OF BRACKETS = 3 HT. = 10', TYPE Z NO. OF BRACKETS = 3 HT. = 10' TYPE Z  
FIXTURES = 1 @ 4'-6", 4'-6" (175 W) FIXTURES = 1 @ 4'-6", 4'-6" (175 W)



RAMP 28 STA. 78+00 EASTBOUND  
GROUND MOUNTED SIGN SUPPORT NO. 187  
9' X 4' = 36 S.F.  
2-6" BEAMS @ 15'-0"

NOTE: FOR ELEVATION VIEW OF GUIDE SIGN NO. 85, SEE SHEET NO. 500

GUIDE SIGN DETAILS

# GUIDE SIGNS QUANTITIES SUB-SUMMARY

CALCULATED BY EK DATE 2/74  
 CHECKED BY FB DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)2I

504  
838

CUYAHOGA COUNTY  
CUY - 90 -11.64

**PLAN SHEET NO. 494**

ITEM DESCRIPTION	UNIT
844 SIGNS ERECTED, EXTRUSHEET	SF
* PLAN SHEET NO. 494	
* AREA SIGN NO. STRUCTURE NO. STATION REFERENCE TO	
18X8 / 54A (I) CUY 90-11.86 801+40 WB MAINLINE I-90	144.00
15X7+9X2 / 54B (I)	123.00
17X7 +9X2 / 54C (I)	137.00
6X5 / 54AA 96+53 LT RAMP 15	30.00
11X6 / 166A (VI) 41+67 RT EXIST. LORAIN AVE.	66.00
11X6 / 166B (VI) 51+93 LT RELOC LORAIN AVE	66.00
11X6 / 170A (VI)	54.00
9X6 / 170B (VI)	54.00
TOTAL	686.00 SF

ITEM DESCRIPTION	UNIT
844 OVERHEAD SIGN SUPPORT, NO. 765 DES. 8 MOD. ( 87 FT. SPAN)	EACH
1 / SIGN NO. 54 (CUY 90-11.86) STA. 801+40 WB MAINLINE SPAN = 87 FT.	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
844 GROUND MOUNTED SUPPORTS, NO. 6 POST	LF
* LF SIGN NO. STATION REFERENCE TO	
17+17 / 54AA 96+53 RT RAMP 15	34.00
TOTAL	34.00 LF

ITEM DESCRIPTION	UNIT
844 OVERHEAD SIGN SUPPORT NO. 12.30, DES. 6 MOD. POLE = 24 FT. ARMS = 26 FT.	EACH
1 / SIGN NO. 166 (VI) STA. 41 + 67 RT. EXIST. LORAIN AVE.	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
625 GROUND ROD	EACH
* EACH SIGN NO.	
1 / 54 (I)	1.00
1 / 170(VI)	1.00
1 / 166(VI)	1.00
TOTAL	3.00

ITEM DESCRIPTION	UNIT
844 DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH
* EACH SIGN NO.	
1 / 54 (I)	1.00
1 / 170(VI)	1.00
1 / 166 (VI)	1.00
TOTAL	3.00

ITEM DESCRIPTION	UNIT
844 SIGNS WIRED	EACH
* EACH SIGN NO.	
1 / 54A	1.00
1 / 54B	1.00
1 / 54C	1.00
1 / 170A	1.00
1 / 170B	1.00
1 / 166A	1.00
1 / 166B	1.00
TOTAL	7.00

ITEM DESCRIPTION	UNIT
844 SIGN SERVICE	EACH
* EACH SIGN NO.	
1 / 54 (I)	1.00
1 / 170 (VI)	1.00
1 / 166 (VI)	1.00
TOTAL	3.00

ITEM DESCRIPTION	UNIT
844 COMB. SIGN & LIGHT SUPPORT NO. 12.30, DES. 8 MOD. POLE = 30 FT. ARMS = 34 FT.	EACH
* EACH SIGN NO.	
1 / 170	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
844 MERCURY VAPOR LUMINAIRE, WITH TYPE 100 WATT LAMP	EACH
* EACH SIGN NO.	
2 / 170A	2.00
2 / 170B	2.00
2 / 166A	2.00
2 / 166B	2.00
TOTAL	8.00

ITEM DESCRIPTION	UNIT
844 MERCURY VAPOR LUMINAIRE, WITH TYPE 175 WATT LAMP	EACH
* EACH SIGN NO.	
2 / 54A	2.00
2 / 54B	2.00
2 / 54C	2.00
TOTAL	6.00

ITEM DESCRIPTION	UNIT
844 CONCRETE FOR ANCHOR BASE FOUNDATIONS	CF
UNITS CF SIGN NO. STATION REFERENCED TO	
(4.71+4.00+6.87) X10 54 801+40 W.B. MAINLINE I-90	155.80
0.7854 X 2.5 X 2.5 X 20.75 X 2	203.71
2.5 X 2.5 X 1.3 X 2	16.25
2.5 X 2.5 X 6.58	41.13
0.7854 X 2.5 X 2.5 X 2.5	12.27
0.7854 X 2.5 X 2.5 X 19 X 2	186.53
0.7854 X 3 X 3 X 16.5	116.63
3 X 3 X 0.58	5.22
0.7854 X 3 X 3 X 22.5	159.04
3 X 3 X 0.76	6.84
TOTAL	903.42

**SUB-TOTAL PLAN SHEET NO. 494**

CUY 90-11.64 GUIDE SIGNS			
TOTAL	ITEM	UNIT	DESCRIPTION
1	844	EACH	COMB. SIGN & LIGHT SUPPORT NO. 12.30, DES. 8 MOD. POLE = 30 FT. ARMS = 34 FT.
3	625	EACH	GROUND ROD
3	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
8	844	EACH	MERCURY VAPOR LUMINAIRE, WITH TYPE 100 WATT LAMP
6	844	EACH	MERCURY VAPOR LUMINAIRE, WITH TYPE 175 WATT LAMP
1	844	EACH	OVERHEAD SIGN SUPPORT NO. 12.30 DES. 6 MOD. POLE = 24 FT. ARMS = 26 FT.
3	844	EACH	SIGN SERVICE
7	844	EACH	SIGNS WIRED
686	844	SF	SIGNS ERECTED, EXTRUSHEET
1	844	EACH	OVERHEAD SIGN SUPPORT, NO. 765 DES. 8 MOD. ( 87 FT. SPAN)
34	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST
335	844	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS

**PLAN SHEET NO. 495**

ITEM DESCRIPTION	UNIT
844 SIGNS ERECTED, EXTRUSHEET	SF
* PLAN SHEET NO. 495	
* AREA SIGN NO. STRUCTURE NO. STATION REFERENCE TO	
18X9.5+9X2 / 55 (I) CUY 90 11.97 806+85 WB MAINLINE I-90	151.00
3.5X5 / 168 47+15 RT W.84TH-W.85TH CONNECTOR	17.50
3.5X5.5 / 169 58+97 LT RELOC LORAIN AVE	19.25
9 X 7.5 / 171A 53+63 RT RELOC LORAIN AVE	67.5
9 X 7.5 / 171B	67.5
9X7.5 / 172A 49+34 CLARK AVE	67.5
9X7.5 / 172B	67.5
10X9 / 172AA 49+39.89 LT W 84TH-85TH CONNECTOR	90.00
12X6 / 173 49+32.5 CLARK AVE	72.00
9X6 / 177 CUY 90-12.19 18+75 LT RAMP 17	54.00
15X9.5+9X2 / 59 (I) CUY 90-11.97 806+60RT. MAINLINE I-90	160.50
TOTAL	834.25 SF

ITEM DESCRIPTION	UNIT
844 OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE 18.26, DES. 3	EACH
1 / SIGN NO. 55 (I) (CUY 90-11.97) 806+85 WB MAINLINE I-90	1.00
1 / SIGN NO. 59 (I) (CUY 90-11.97) 806+60 EB MAINLINE I-90	1.00
TOTAL	2.00

ITEM DESCRIPTION	UNIT
844 GROUND MOUNTED SUPPORT, NO. 4 POST	LF
* LF SIGN NO. STATION REFERENCE TO	
15 / 167 EAST SIDE OF W.84TH ST. 450' S. OF EMILY AVE	15.00
15 / 171AA WEST SIDE OF W.85TH ST. 400' N. OF WILLARD AVE	15.00
TOTAL	30.00 LF

ITEM DESCRIPTION	UNIT
844 GROUND MOUNTED SUPPORT, NO. 6 POST	LF
* LF SIGN NO. STATION REFERENCED TO	
17 / 168 47+15 RT. W. 84 TH-W.85 TH CONNECTOR	17.00
TOTAL	17.00 LF

ITEM DESCRIPTION	UNIT
844 OVERHEAD SIGN SUPPORT NO. 12.30 DES. 6 MOD. POLE = 23 FT. ARMS = 29 FT.	EACH
1 / SIGN NO. 173 STA. 7 + 75 RT. RAMP 18	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
844 OVERHEAD SIGN SUPPORT NO. 12.30, DES. 4 MOD. POLE = 23 FT. ARMS = 20 FT.	EACH
1 / SIGN NO. 172AA STA. 49+39.89 LT W 84-85 CONNECTOR	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
844 COMB. SIGN & LIGHT SUPPORT NO. 12.30, DES. 2MOD. POLE = 30 FT. ARMS = 17 FT.	EACH
1 / SIGN NO. 177 (CUY 90-12.19) STA. 18+75 LT RAMP 17	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
625 GROUND ROD	EACH
* EACH SIGN NO.	
1 / 172.	1.00
1 / 172AA	1.00
1 / 177	1.00
1 / 173	1.00
TOTAL	4.00

ITEM DESCRIPTION	UNIT
844 SWITCH ENCLOSURE MOUNTING BRACKET	EACH
* EACH SIGN NO.	
2 / 55	2.00
2 / 59	2.00
TOTAL	4.00

# GUIDE SIGNS QUANTITIES SUB-SUMMARY

CALCULATED BY EK DATE 2/74  
CHECKED BY FB DATE 3/74

FED. RD.	STATE	PROJECT	
2	OHIO	I-90-1(38)21	

505  
838

CUYAHOGA COUNTY  
CUY - 90 -11.64

ITEM	DESCRIPTION	UNIT
844	SIGNS ERECTED, FLAT SHEET	SF
* AREA	SIGN NO. STATION REFERENCED TO	
2X1 /	167A EAST SIDE OF W.84TH ST. 450' S. OF EMILY AVE	2.00
2X2 /	167B	4.00
2X1 /	171AA(a) WEST SIDE OF W.85TH ST. 400' N. OF WILLARD	2.00
2X2 /	171AA(b)	4.00
TOTAL		12.00 SF

ITEM	DESCRIPTION	UNIT
844	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH
* EACH	SIGN NO.	
1 /	55	1.00
1 /	171	1.00
1 /	172	1.00
1 /	172AA	1.00
1 /	173	1.00
1 /	177	1.00
1 /	59	1.00
TOTAL		7.00

ITEM	DESCRIPTION	UNIT
844	SIGNS WIRED, OVERPASS STRUCTURE MOUNTED	EACH
* EACH	SIGN NO.	
1 /	55	1.00
1 /	59	1.00
TOTAL		2.00

ITEM	DESCRIPTION	UNIT
844	SIGNS WIRED	EACH
* EACH	SIGN NO.	
1 /	171A	1.00
1 /	171B	1.00
1 /	172A	1.00
1 /	172B	1.00
1 /	172AA	1.00
1 /	173	1.00
1 /	177	1.00
TOTAL		7.00

ITEM	DESCRIPTION	UNIT
844	SIGN SERVICE	EACH
* EACH	SIGN NO.	
1 /	55	1.00
1 /	59	1.00
1 /	171	1.00
1 /	172	1.00
1 /	172AA	1.00
1 /	173	1.00
1 /	177	1.00
TOTAL		7.00

ITEM	DESCRIPTION	UNIT
844	MERCURY VAPOR LUMINAIRE, WITH TYPE 100 WATT LAMP	EACH
* EACH	SIGN NO.	
2 /	173	2.00
2 /	177	2.00
TOTAL		4.00

ITEM	DESCRIPTION	UNIT
844	MERCURY VAPOR LUMINAIRE, WITH TYPE 175 WATT LAMP	EACH
* EACH	SIGN NO.	
2 /	55	2.00
1 /	171A	1.00
1 /	171B	1.00
1 /	172A	1.00
1 /	172B	1.00
1 /	172AA	1.00
2 /	59	2.00
TOTAL		9.00

ITEM	DESCRIPTION	UNIT
844	CONCRETE FOR ANCHOR BASE FOUNDATIONS	CF
* CU. FT.	SIGN NO. STATION REFERENCED TO	
0.7854 X 2.5 X 2.5 X 2.0	172 49+32.5 CLARK AVE	98.18
2.5 X 2.5 X 0.76		4.75
0.7854 X 3 X 3 X 25.5	177 18+75 LT RAMP 17	180.25
3 X 3 X 0.74		6.66
0.7854 X 3 X 3 X 27.5	173 7+75 RAMP 18	194.39
3 X 3 X 0.99		8.91
TOTAL		493.14 CF

ITEM	DESCRIPTION	UNIT
844	POLE MOUNTED SIGN ATTACHMENT	EACH
EACH	SIGN NO. STATION REFERENCED TO	
1	169 58+97 LT. RELOCATED LORAIN AVE.	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
844	COMBINATION SIGN, PED. SIGNAL AND LIGHT SUPPORT NO. 9.12 DES. 2 (MOD.) ARMS 10'-0"	E.A.
EACH	SIGN NO.	
1	172	1.00
TOTAL		1.00

### SUB-TOTAL PLAN SHEET NO. 495

TOTAL	ITEM	UNIT	DESCRIPTION
1	844	EACH	COMB. SIGN & LIGHT SUPPORT NO. 12.30. DES. 2MOD. POLE = 30 FT. ARMS = 17 FT.
1	844	EACH	OVERHEAD SIGN SUPPORT NO. 12.30. DES. 4 MOD. POLE = 23 FT. ARMS = 20 FT.
4	625	EACH	GROUND ROD
7	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
4	844	EACH	MERCURY VAPOR LUMINAIRE, WITH TYPE 100 WATT LAMP
9	844	EACH	MERCURY VAPOR LUMINAIRE, WITH TYPE 175 WATT LAMP
7	844	EACH	SIGN SERVICE
7	844	EACH	SIGNS WIRED
2	844	EACH	SIGNS WIRED, OVERPASS STRUCTURE MOUNTED
4	844	EACH	SWITCH ENCLOSURE MOUNTED BRACKET
834	844	SF	SIGNS ERECTED, EXTRUSHEET
12	844	SF	SIGNS ERECTED, FLAT SHEET
2	844	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE 18.26, DES. 3
30	844	LF	GROUND MOUNTED SUPPORTS, NO. 4 POST
17	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST
18.3	844	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS
1	844	EACH	POLE MOUNTED SIGN ATTACHMENT
1	844	EACH	OVERHEAD SIGN SUPPORT NO. 12.30 DES. 4 MOD POLE = 23 FT. ARMS = 29 FT.
1	844	EACH	COMBINATION SIGN, PED. SIGNAL AND LIGHT SUPPORT NO. 9.12 DES. 2 (MOD) ARMS 10'

### PLAN SHEET NO. 496

ITEM	DESCRIPTION	UNIT
844	SIGNS ERECTED, EXTRUSHEET	SF
* PLAN SHEET NO. 496		
* AREA	SIGN NO. STRUCTURE NO. STATION REFERENCED TO	
16X9.5 /	61A (I) CUY 90-12.34 826+90 WB MAINLINE I-90	152.00
14X9.5+9X2 /	61B (I)	191.00
18X10.5+9X2 /	61C (I)	207.00
TOTAL		510.00 SF

ITEM	DESCRIPTION	UNIT
844	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT TYPE 18.26, DES. 7	EACH
1 /	SIGN NO. 61A (I) (CUY 90-12.34) STA. 826+90 WB MAINLINE I-90	1.00
1 /	SIGN NO. 61B (I) (CUY 90-12.34) STA. 826+90 WB MAINLINE I-90	1.00
1 /	SIGN NO. 61C (I) (CUY 90-12.34) STA. 826+90 WB MAINLINE I-90	1.00
TOTAL		3.00

ITEM	DESCRIPTION	UNIT
844	SWITCH ENCLOSURE MOUNTING BRACKET	EACH
* EACH	SIGN NO.	
2 /	61	2.00
TOTAL		2.00

ITEM	DESCRIPTION	UNIT
844	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH
* EACH	SIGN NO.	
1 /	61	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
844	SIGNS WIRED, OVERPASS STRUCTURE MOUNTED	EACH
* EACH	SIGN NO.	
1 /	61A	1.00
1 /	61B	1.00
1 /	61C	1.00
TOTAL		3.00

ITEM	DESCRIPTION	UNIT
844	SIGN SERVICE	EACH
* EACH	SIGN NO.	
1 /	61	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
844	MERCURY VAPOR LUMINAIRE, WITH TYPE 175 WATT LAMP	EACH
* EACH	SIGN NO.	
2 /	61A	2.00
TOTAL		2.00

ITEM	DESCRIPTION	UNIT
844	MERCURY VAPOR LUMINAIRE, WITH TYPE 250 WATT LAMP	EACH
* EACH	SIGN NO.	
2 /	61B	2.00
2 /	61C	2.00
TOTAL		4.00

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 4 POST	LF
* LF	SIGN NO. STATION REFERENCED TO	
16 /	57A 821+69 WB MAINLINE I-90	16.00
16 /	57B 821+69 EB	16.00
TOTAL		32.00 LF

ITEM	DESCRIPTION	UNIT
844	SIGNS ERECTED, FLAT SHEET	SF
* AREA	SIGN NO. STATION REFERENCED TO	
1X4 /	57A 821+69 WB MAINLINE I-90	4.00
1X4 /	57B 821+69 EB MAINLINE I-90	4.00
TOTAL		8.00 SF

# GUIDE SIGNS QUANTITIES SUB-SUMMARY

CALCULATED BY EK DATE 2/74  
 CHECKED BY FB DATE 3/74

FED. RD.	STATE	PROJECT	
2	OHIO	I-90-1(38)21	

506  
838

**CUYAHOGA COUNTY**  
**CUY - 90 -11.64**

PLAN SHEET NO. 499

ITEM	DESCRIPTION	UNIT	SF
844	SIGNS ERECTED, EXTRUSHEET	EACH	
* PLAN SHEET NO. 499			
* AREA	SIGN NO. STRUCTURE NO. STATION REFERENCE TO		
15X10.5 /	80A (I) CUY 90-13.12 868+75 WB MAINLINE I-90		157.50
12X9.5+9X2 /	80B (I)		132.00
18X7+9X2 /	80C (I)		144.00
9X4 /	167 78+00 RT RAMP 28		36.00
TOTAL			469.50 SF

ITEM	DESCRIPTION	UNIT	EACH
844	OVERHEAD SIGN SUPPORT, NO. 765 DES. 8 MOD. (110 FT. SPAN)	EACH	
1 /	SIGN NO. 80 (CUY 90-13.12) STA. 866+75 EB MAINLINE I-90 SPAN = 110 FT.		1.00
TOTAL			1.00

ITEM	DESCRIPTION	UNIT	LF
844	GROUND MOUNTED SUPPORTS, NO. 4 POST	LF	
* LF	SIGN NO. STATION REFERENCED TO		
16 /	81A 874+49 WB MAINLINE I-90		16.00
16 /	81B 874+49 EB		16.00
TOTAL			32.00 LF

SUB-TOTAL PLAN SHEET NO. 496  
 CUY-90-11.64

TOTAL	ITEM	UNIT	DESCRIPTION
	1 844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
	2 844	EACH	MERCURY VAPOR LUMINAIRE, WITH 175 WATT LAMP
	4 844	EACH	MERCURY VAPOR LUMINAIRE, WITH 250 WATT LAMP
	1 844	EACH	SIGN SERVICE
	3 844	EACH	SIGNS WIRED, OVERPASS STRUCTURE MOUNTED
	2 844	EACH	SWITCH ENCLOSURE MOUNTING BRACKET
	510. 844	SF	SIGNS ERECTED, EXTRUSHEET
	8. 844	SF	SIGNS ERECTED, FLAT SHEET
	3 844	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE 18.26, DES. 7
	32 844	LF	GROUND MOUNTED SUPPORTS, NO. 4 POST

PLAN SHEET NO. 497

ITEM	DESCRIPTION	UNIT	SF
844	SIGNS ERECTED, EXTRUSHEET	SF	
* PLAN SHEET NO. 497			
* AREA	SIGN NO. STRUCTURE NO. STATION REFERENCE TO		
14X9.5+9X2 /	72A (I) CUY 90-12.64 842+90 WB MAINLINE I-90		151.00
15X10.5+9X2 /	72B (I)		175.50
15X9.5+9X2 /	75 (I) CUY 90-12.66 843+30 EB MAINLINE I-90		160.50
TOTAL			487.00 SF

ITEM	DESCRIPTION	UNIT	EACH
844	COMB. SIGN & LIGHT SUPPORT NO. 12.30, DES. 8 MOD. POLE = 30 FT. ARMS = 26 FT.	EACH	
1 /	SIGN NO. 75 (I) (CUY 90-12.66) STA. 843+30 EB MAINLINE I-90		1.00
TOTAL			1.00

ITEM	DESCRIPTION	UNIT	EACH
844	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE 18.26, DES. 3	EACH	
1 /	SIGN NO. 72A (I) (CUY 90-12.64) STA. 842+90 WB MAINLINE I-90		1.00
1 /	SIGN NO. 72B (I) (CUY 90-12.64) STA. 842+90 WB		1.00
TOTAL			2.00

ITEM	DESCRIPTION	UNIT	EACH
625	GROUND ROD	EACH	
* EACH	SIGN NO.		
1 /	75 (I)		1.00
TOTAL			1.00

ITEM	DESCRIPTION	UNIT	EACH
844	SWITCH ENCLOSURE MOUNTING BRACKET	EACH	
* EACH	SIGN NO.		
2 /	72		2.00
TOTAL			2.00

ITEM	DESCRIPTION	UNIT	EACH
844	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH	
* EACH	SIGN NO.		
1 /	72		1.00
1 /	75 (I)		1.00
TOTAL			2.00

ITEM	DESCRIPTION	UNIT	EACH
844	SIGNS WIRED, OVERPASS STRUCTURE MOUNTED	EACH	
* EACH	SIGN NO.		
1 /	72A		1.00
1 /	72B		1.00
TOTAL			2.00

ITEM	DESCRIPTION	UNIT	EACH
844	SIGNS WIRED	EACH	
* EACH	SIGN NO.		
1 /	75 (I)		1.00
TOTAL			1.00

ITEM	DESCRIPTION	UNIT	EACH
844	SIGN SERVICE	EACH	
* EACH	SIGN NO.		
1 /	72		1.00
1 /	75 (I)		1.00
TOTAL			2.00

ITEM	DESCRIPTION	UNIT	EACH
844	MERCURY VAPOR LUMINAIRE, WITH TYPE 250 WATT LAMP	EACH	
* EACH	SIGN NO.		
2 /	72A		2.00
2 /	72B		2.00
2 /	75 (I)		6.00
TOTAL			10.00

ITEM	DESCRIPTION	UNIT	CF
844	CONCRETE FOR ANCHOR BASE FOUNDATIONS	CF	
* CU. YDS.	SIGN NO. STATION REFERENCE TO		
6.7854X3X3X27.5	75 (I) 843+30 EB MAINLINE I 90		194.39
3X3X1.10			9.90
TOTAL			204.29 CF

SUB-TOTAL PLAN SHEET NO. 497

TOTAL	ITEM	UNIT	DESCRIPTION
	1 844	EACH	COMB. SIGN & LIGHT SUPPORT NO. 12.30, DES. 8 MOD. POLE = 30 FT. ARMS = 26 FT.
	1 625	EACH	GROUND ROD
	2 844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
	6 844	EACH	MERCURY VAPOR LUMINAIRE, WITH TYPE 250 WATT LAMP
	2 844	EACH	SIGN SERVICE
	1 844	EACH	SIGNS WIRED
	2 844	EACH	SIGNS WIRED, OVERPASS STRUCTURE MOUNTED
	2 844	EACH	SWITCH ENCLOSURE MOUNTING BRACKET
	487. 844	SF	SIGNS ERECTED, EXTRUSHEET
	2 844	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE 18.26, DES. 3
	7.6 844	CF	CONCRETE ANCHOR BASE FOUNDATIONS



# GUIDE SIGNS QUANTITIES SUB-SUMMARY

CALCULATED BY EK DATE 2/74  
 CHECKED BY FB DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1 (38)21

507  
838

**CUYAHOGA COUNTY**  
**CUY - 90 -11.64**

### SUB-TOTAL PLAN SHEET NO. 499

ITEM DESCRIPTION	UNIT
844 GROUND MOUNTED SUPPORTS, NO. 6 POST	LF
* LF SIGN NO. STATION REFERENCED TO	
32 / 187 78+00 RT RAMP 28	
TOTAL	32.00 32.00 LF

ITEM DESCRIPTION	UNIT
625 GROUND ROD	EACH
* EACH SIGN NO.	
1 / 80	
TOTAL	1.00 1.00

ITEM DESCRIPTION	UNIT
844 DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH
* EACH SIGN NO.	
1 / 80	
TOTAL	1.00 1.00

ITEM DESCRIPTION	UNIT
844 SIGNS WIRED	EACH
* EACH SIGN NO.	
1 / 80A	1.00
1 / 80B	1.00
1 / 80C	1.00
TOTAL	3.00

ITEM DESCRIPTION	UNIT
844 SIGN SERVICE	EACH
* EACH SIGN NO.	
1 / 80	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
844 MERCURY VAPOR LUMINAIRE, WITH TYPE 250 WATT LAMP	EACH
* EACH SIGN NO.	
3 / 80B	3.00
TOTAL	3.00

ITEM DESCRIPTION	UNIT
844 CONCRETE FOR ANCHOR BASE FOUNDATIONS	CF
* CU. YDS. LEFT SIDE SIGN NO. STATION REFERENCE TO	
2.5X2.5X0.75X2 / 80 866+75 EB MAINLINE I 90	9.38
2.5X2.5X6.58	41.13
0.7854X2.5X2.5X2.5	12.27
0.7854X2.5X2.5X21X2	206.17
2.5X2.5X1.55X2 RIGHT SIDE	19.38
2.5X2.5X6.58	41.13
0.7854X2.5X2.5X2.5	12.27
0.7854X2.5X2.5X25X2	245.44
TOTAL	567.17 CF

ITEM DESCRIPTION	UNIT
844 SIGNS ERCTED, FLAT SHEET	SF
* AREA SIGN NO. STATION REFERENCED TO	
1X4 / 81A 874+49 WB I-90	4.00
1X4 / 81B 874+49 EB I-90	4.00
TOTAL	8.00 SF

ITEM DESCRIPTION	UNIT
844 MERCURY VAPOR LUMINAIRE, WITH TYPE 175 WATT LAMP	EACH
EACH SIGN NO.	
2 / 80A	2.00
2 / 80C	2.00
TOTAL	4.00

TOTAL	ITEM	UNIT	DESCRIPTION
1	625	EACH	GROUND ROD
1	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
3	844	EACH	MERCURY VAPOR LUMINAIRE, WITH TYPE 250 WATT LAMP
1	844	EACH	SIGN SERVICE
3	844	EACH	SIGNS WIRED
470	844	SF	SIGNS ERCTED, EXTRUSHEET
8	844	SF	SIGNS ERCTED, FLAT SHEET
1	844	EACH	OVERHEAD SIGN SUPPORT NO. 7.65 DES. 8 MOD. ( 110 FT. SPAN)
32	844	LF	GROUND MOUNTED SUPPORTS, NO. 4 POST
21.8	844	CF	CONCRETE FOR ANCHOR BASE FOUNDATIONS
4	844	EACH	MERCURY VAPOR LUMINAIRE, WITH TYPE 175 WATT LAMP

### PLAN SHEET NO. 500

ITEM DESCRIPTION	UNIT
844 SIGNS ERCTED, FLAT SHEET	SF
* AREA SIGN NO. STATION REFERENCED TO	
2X1 / 188A 81+25 LT RAMP 27	2.00
2X2 / 188B	4.00
TOTAL	6.00 SF

ITEM DESCRIPTION	UNIT
844 SIGNS ERCTED, EXTRUSHEET	SF
* AREA SIGN NO. STRUCTURE NO. STATION REFERENCE TO	
15X10.5+9X2 / 85B(I) CUY 90 13.44 882+40 WB MAINLINE I-90	175.50
14X9.5+9X2 / 85A (I) CUY 90 13.44 882+40 WB	151.00
TOTAL	326.50

ITEM DESCRIPTION	UNIT
844 MERCURY VAPOR LUMINAIRE, WITH TYPE 250 WATT LAMP	EACH
* EACH SIGN NO.	
2 / 85B(I)	2.00
TOTAL	2.00

ITEM DESCRIPTION	UNIT
844 MERCURY VAPOR LUMINAIRE, WITH TYPE 175 WATT LAMP	EACH
* EACH SIGN NO.	
2 / 85A (I)	2.00
TOTAL	2.00

ITEM DESCRIPTION	UNIT
844 GROUND MOUNTED SUPPORTS, NO. 4 POST	LF
* SIGN NO. STATION REFERENCE TO	
15 / 188 81+25 LT RAMP 27	15.00
TOTAL	15.00 LF

ITEM DESCRIPTION	UNIT
844 SIGN SERVICE	EACH
* EACH SIGN NO.	
1 / 85	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
844 OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, NO. 18.24	EACH
1 / SIGN NO. 85A (CUY 90-13.44) STA. 882 + 40 WB MAINLINE I-90	1.00
1 / SIGN NO. 85B (I) (CUY 90-13.44) STA. 882 + 40 WB MAINLINE I-90	1.00
TOTAL	2.00

ITEM DESCRIPTION	UNIT
844 SWITCH ENCLOSURE MOUNTING BRACKET	EACH
* EACH SIGN NO.	
2 / 85	2.00
TOTAL	2.00

ITEM DESCRIPTION	UNIT
844 DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH
* EACH SIGN NO.	
1 / 85	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
844 SIGNS WIRED, OVERPASS STRUCTURE MOUNTED	EACH
* EACH SIGN NO.	
1 / 85A	1.00
1 / 85B	1.00
TOTAL	2.00

### SUB-TOTAL PLAN SHEET NO. 500

TOTAL	ITEM	UNIT	DESCRIPTION
2	844	EACH	MERCURY VAPOR LUMINAIRE, WITH TYPE 250 WATT LAMP
327	844	SF	SIGNS ERCTED, EXTRUSHEET
6	844	SF	SIGNS ERCTED, FLAT SHEET
15	844	LF	GROUND MOUNTED SUPPORTS, NO. 4 POST
2	844	EACH	MERCURY VAPOR LUMINAIRE, WITH TYPE 175 WATT LAMP
1	844	EACH	SIGN SERVICE
2	844	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, NO. 18.24
2	844	EACH	SWITCH ENCLOSURE MOUNTING BRACKET
1	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
2	844	EACH	SIGNS WIRED OVERPASS STRUCTURE MOUNTED

# PAVEMENT MARKING QUANTITIES SUB-SUMMARY

CALCULATED BY EK DATE 3/74  
CHECKED BY FB DATE 4/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-(138)21

508  
838

**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

**PLAN SHEET NO. 494 - 500**

ITEM DESCRIPTION						UNIT
621 4 IN. LANE LINES						MILE
UNITS	LF					
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
105 /	796+00	798+80	88' TO 83' RT	I 90	105.00	
165 /	799+50	803+88	84' TO 84' LT	I 90	165.00	
90 /	825+25	827+75	85' TO 83' RT	I 90	90.00	
120 /	866+00	869+25	12' TO 20' LT	I 90	120.00	
				<b>TOTAL</b>	<b>480.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 6 IN. LANE LINES						MILE
UNITS	LF					
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
1125X6 /	792+00	822+25.93	47' 59' & 71'	I 90	6750.00	
*			LT & RT			
210X3 /	822+25.93	828+00	47' 59' & 71' RT	I 90	630.00	
105X4 /	828+00	830+92.94	47' 59' 71'	I 90	420.00	
*			& 83' RT			
315X3 /	822+25.93	830+92.94	BL 12' & 24' RT	I 90 WB BL SHIFT 71'	945.00	
1320X4 /	830+92.94	866+03	BL 12' LT & RT	I 90 WB	5280.00	
*			& 24' RT			
1320X4 /	830+92.94	866+03	BL 12' LT & RT	I 90 EB BL SHIFT 71'	5280.00	
*			& 24' LT			
240X3 /	266+03	872+57.53	BL 12' & 24' LT	I 90 EB	720.00	
285X3 /	872+57.53	880+00	12' 24' & 36' RT	I 90 EB	855.00	
390X3 /	866+03	876+48.54	BL 12' & 24' RT	I 90 WB	1170.00	
135X3 /	876+48.54	880+07.53	12' 24' & 36' LT	I 90 WB	405.00	
				<b>TOTAL</b>	<b>22455.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 4 IN. EDGE LINES (WHITE)						MILE
UNITS	LF					
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
400 /	792+00	796+00	83' TO 84' LT	I 90	400.00	
419 /	797+00	801+19.41	118' TO 95' LT	I 90	419.00	
281 /	801+19.41	804+00	95' TO 95' LT	I 90	281.00	
100 /	804+00	805+00	95' TO 83' LT	I 90	100.00	
1790 /	805+00	822+90	83' TO 84' LT	I 90	1790.00	
4319 /	830+89.93	874+08.68	24' TO 52' LT WBL	I 90 WB	4319.00	
1049 /	866+00	876+48.54	12' TO 12' LT	I 90 WB	1049.00	
359 /	876+48.54	880+07.53	48' TO 48' LT	I 90 WB BL SHIFT 36'	359.00	
625 /	792+00	798+25	83' TO 84' RT	I 90	625.00	
1000 /	794+00	804+00	108' TO 83' RT	I 90	1000.00	
2375 /	804+00	827+75	83' TO 83' RT	I 90	2375.00	
1076 /	820+16.66	830+92.94	123' TO 102' RT	I 90 CL	1076.00	
324 /	830+92.94	834+16.66	27' TO 24' RT	I 90 EBL	324.00	
3122 /	834+16.66	865+38.29	24' TO 24' RT	I 90 EB	3122.00	
529 /	865+38.29	870+66.90	24' TO 60' RT	I 90 EB	529.00	
91 /	871+67	872+57.53	12' TO 12' RT	I 90	91.00	
750 /	872+57.53	880+07.53	48' TO 48' RT	I 90 EB BL SHIFT 36'	750.00	
				<b>TOTAL</b>	<b>18609.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 4 IN. EDGE LINES (YELLOW)						MILE
UNITS	LF					
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
3026X2 /	792+00	822+25.93	35' LT & RT	I 90	6052.00	
867 /	822+25.93	830+92.94	35' RT	I 90	867.00	
5423 /	822+25.93	876+48.54	36' RT	I 90 WBL	5423.00	
359 /	876+48.54	880+07.53	BL	I 90 WB BL SHIFT 36'	359.00	
4165 /	830+92.94	872+57.53	36' LT	I 90 EBL	4165.00	
750 /	872+57.53	880+07.53	BL	I 90 EB BL SHIFT 36'	750.00	
				<b>TOTAL</b>	<b>17616.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 24 IN. BROAD TRANSVERSE LINES (WHITE)						MILE
UNITS	LF					
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
227 /	796+97	799+50	83' TO 102' LT	I 90	227.00	
448 /	823+90	827+50	35' TO 12' LT	I 90 WBL	448.00	
225 /	868+50	870+73	12' TO 35' RT	I 90 EBL	225.00	
				<b>TOTAL</b>	<b>900.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 8 IN. CHANNELIZING LINES						LF
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
350 /	796+00	799+50	83' TO 83' LT	I 90	350.00	
200 /	794+00	796+00	93' TO 88' RT	I 90	200.00	
460 /	822+90	827+50	12' TO 12' LT	I 90 WBL	460.00	
508 /	820+16.66	825+25	100' TO 84' RT	I 90	508.00	
484 /	869+25	874+08.68	19' TO 27' LT	I 90 WB	484.00	
317 /	868+50	871+67	12' TO 12' RT	I 90 EB	317.00	
				<b>TOTAL</b>	<b>2319.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 CURB MARKING (WHITE)						LF
* LF	FROM STATION	TO STATION	OFFSET	REFERENCED TO		
124 /	91+38	92+62	16' TO 15' LT	RAMP 16	124.00	
55 /	796+00	796+55	93' TO 93' LT	I 90	55.00	
54 /	96+01	96+55	21' TO 21' RT	RAMP 15	54.00	
175 /	17+90	19+65	29' TO 29' LT	RAMP 18	175.00	
51 /	871+16	871+67	22' TO 22' RT	I 90 EBL	51.00	
51 /	71+04	71+55	34' TO 34' LT	RAMP 28	51.00	
178 /	74+63	76+41	28' TO 28' RT	RAMP 27	178.00	
				<b>TOTAL</b>	<b>688.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 ISLAND MARKING (WHITE)						SF
* SF	FROM STATION	TO STATION	OFFSET	REFERENCED TO		
552 /	792+62	794+00	93' TO 93' RT	I 90	552.00	
391 /	796+54	797+00	93' TO 93' LT	I 90	391.00	
252 /	819+53.66	820+16.66	93' TO 93' RT	I 90	252.00	
850 /	822+90.03	823+90.03	93' TO 93' LT	I 90	850.00	
408 /	870+66.90	871+14.90	22' TO 22' RT	I 90 EBL	408.00	
240 /	874+08.68	874+68.68	22' TO 22' LT	I 90 WBL	240.00	
				<b>TOTAL</b>	<b>2693.00</b>	<b>SF</b>

ITEM DESCRIPTION						UNIT
621 6 IN. LANE LINES						MILE
UNITS	LF					
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
30 /	91+38	92+00	12' TO 12' LT	RAMP 15	30.00	
60X2 /	14+00	15+60	2' TO 14' RT	RAMP 17	120.00	
570 /	15+60	30+89.93	12' RT	RAMP 17	570.00	
480 /	6+95	20+30	13' LT	RAMP 18	480.00	
270 /	820+44	827+43	110' TO 97' RT	RAMP 18	270.00	
600 /	66+00	81+67	12' RT	RAMP 27	600.00	
585 /	66+00	81+65	12' LT	RAMP 28	585.00	
				<b>TOTAL</b>	<b>4655.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 4 IN. EDGE LINES (WHITE)						MILE
UNITS	LF					
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
69 /	91+38	92+06.8	25' LT	RAMP 15	69.00	
100 /	92+06.8	93+06.8	24' TO 16' LT	RAMP 15	100.00	
93 /	93+06.8	94+00	16' LT	RAMP 15	93.00	
301 /	94+00	97+00.9	BL	RAMP 15	301.00	
262 /	91+38	94+00	BL	RAMP 16	262.00	
50 /	13+50	14+00	14' TO 10' LT	RAMP 17	50.00	
175 /	14+00	15+75	10' LT	RAMP 17	175.00	
100 /	15+75	16+75	10' TO CL LT	RAMP 17	100.00	
1415 /	16+75	30+89.93	BL	RAMP 17	1415.00	
1231 /	7+91.67	20+22.32	BL	RAMP 18	1231.00	
743 /	74+08.68	81+52	BL	RAMP 27	743.00	
1060 /	70+55.89	81+15	BL	RAMP 28	1060.00	
				<b>TOTAL</b>	<b>5599.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 4 IN. EDGE LINES (YELLOW)						MILE
UNITS	LF					
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
262 /	91+38	94+00	BL	RAMP 15	262.00	
200 /	94+00	96+00	16' RT	RAMP 15	200.00	
162 /	91+38	93+00	16' LT	RAMP 16	162.00	
1019 /	22+72	22+91.98	24' RT	RAMP 17	1019.00	
1110 /	9+22.21	20+22.32	24' LT	RAMP 18	1110.00	
743 /	74+08.68	81+52	24' RT	RAMP 27	743.00	
959 /	71+56	81+15	24' LT	RAMP 28	959.00	
				<b>TOTAL</b>	<b>4355.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 8 IN. CHANNELIZING LINES						LF
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
351 /	96+00	99+50	16' RT	RAMP 15	351.00	
358 /	22+91.98	27+50	24' RT	RAMP 17	458.00	
140 /	12+69	14+00	14' RT	RAMP 17	140.00	
94 /	12+75	13+69	19' LT TO BL	RAMP 17	94.00	
31 /	13+69	14+00	BL TO 2' RT	RAMP 17	31.00	
306 /	68+50	71+56	24' LT	RAMP 28	306.00	
355 /	23+90	27+45	16' RT	RAMP 17	355.00	
				<b>TOTAL</b>	<b>1735.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 24 IN. STOP LINE						LF
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
69 /	12+57.62	12+76.25	32.5' RT TO 37' LT	RAMP 17	69.00	
33 /	81+65	81+67	24' LT TO 9' RT	RAMP 28	33.00	
				<b>TOTAL</b>	<b>102.00</b>	<b>LF</b>

ITEM DESCRIPTION						UNIT
621 4 IN. CHANNELIZING LINES						LF
* LF	FROM STATION	TO STATION	OFFSET	REFERENCE TO		
145 /	7+77	9+21	24' LT	RAMP 18	145.00	
				<b>TOTAL</b>	<b>145.00</b>	<b>LF</b>

PAVEMENT MARKING QUANTITIES SUB-SUMMARY

CALCULATED BY E.K DATE 3/74 CHECKED BY FB DATE 4/74

Table with columns: FED. RD., STATE, PROJECT. Values: 2, OHIO, I-90-1(38)2I.



CUYAHOGA COUNTY CUY - 90 -11.64

Table with columns: ITEM, DESCRIPTION, UNIT. Multiple sub-headers for 1/4 in. centerlines, channelizing lines, 12 in. crosswalk lines, and 12 in. broad transverse lines.

Table with columns: ITEM, DESCRIPTION, UNIT. Multiple sub-headers for 12 in. crosswalk lines, 8 in. channelizing lines, and 12 in. broad transverse lines.

Table with columns: ITEM, DESCRIPTION, UNIT. Sub-headers for 24 in. stop lines and various line types with stationing and offsets.

Table with columns: ITEM, DESCRIPTION, UNIT. Sub-headers for curb marking (white) and 4 in. edge lines (white).

Table with columns: ITEM, DESCRIPTION, UNIT. Sub-headers for 4 in. channelizing lines and 4 in. dotted lines.

Table with columns: ITEM, DESCRIPTION, UNIT. Sub-headers for 4 in. channelizing lines and 4 in. dotted lines.

Table with columns: ITEM, DESCRIPTION, UNIT. Sub-headers for 4 in. dotted lines.

# PAVEMENT MARKING QUANTITIES SUB-SUMMARY

CALCULATED BY EK DATE 3/74  
 CHECKED BY FB DATE 4/74

FED. RD.	STATE	PROJECT	
2	OHIO	I-90-(50)21	

510  
838

CUYAHOGA COUNTY  
 CUY - 90 - 11.64

ITEM	DESCRIPTION	UNIT
621	ISLAND MARKING (WHITE)	SF
* SF	FROM STATION TO STATION OFFSET REFERENCE TO	
180 /	61+32 61+50 14' RT MARGINAL RD. 5	180.00
100 /	42+96 43+07.5 6' LT EXIST. LORAIN AVE	100.00
100 /	50+81.5 50+96.5 32' TO 30' RT RELOC. CLARK AVE	100.00
120 /	80+40 80+44 7' TO 10' RT MARGINAL RD. 4	120.00
	<b>TOTAL</b>	<b>500.00 SF</b>

ITEM	DESCRIPTION	UNIT
621	WORD ("ONLY") ON PAVEMENT, AS PER PLAN	EACH
* EACH	STATION REF. TO	
1 /	48+92 NB RELOC W. 84TH 85TH ST.	1.00
2 /	13+45 RAMP 17	2.00
2 /	14+45 RAMP 17	2.00
1 /	52+12 W. 85TH ST.	1.00
	<b>TOTAL</b>	<b>6.00</b>

ITEM	DESCRIPTION	UNIT
621	LANE ARROWS	EACH
* EACH	STATION REF. TO	
2 /	50+93 WB CLARK AVE	2.00
2 /	49+93 WB CLARK AVE	2.00
1 /	49+31 NB W. 84TH ST.	1.00
2 /	48+29 EB CLARK AVE	2.00
2 /	47+40 SB RELOC W. 84TH 85TH ST.	2.00
2 /	47+92 NB RELOC W. 84TH 85TH ST.	2.00
2 /	49+40 SB RELOC W. 84TH 85TH ST.	2.00
2 /	49+92 NB RELOC W. 84TH 85TH ST.	2.00
3 /	13+00 RAMP 17	3.00
3 /	14+00 RAMP 17	3.00
3 /	15+00 RAMP 17	3.00
2 /	51+73 W. 85TH ST.	2.00
2 /	52+50 W. 85TH ST.	2.00
	<b>TOTAL</b>	<b>26.00</b>

SUB - TOTAL  
 PLAN SHEET NO. 494-500

TOTAL	ITEM	UNIT	DESCRIPTION
0.99	621	MILE	4 IN. LANE LINES
4.76	621	MILE	6 IN. LANE LINES
2.95	621	MILE	4 IN. CENTERLINES
4.60	621	MILE	4 IN. EDGE LINES (WHITE)
4.19	621	MILE	4 IN. EDGE LINES (YELLOW)
1614.	621	LF	4 IN. CHANNELIZING LINES
4562.	621	LF	8 IN. CHANNELIZING LINES
144.	621	LF	4 IN. DOTTED LINE
3274.	621	LF	12 IN. CROSSWALK LINE
910.	621	LF	24 IN. STOP LINE
407.	621	LF	12 IN. BROAD TRANSVERSE LINES (WHITE)
900.	621	LF	24 IN. BROAD TRANSVERSE LINES (WHITE)
1329.	621	LF	CURB MARKING (WHITE)
3193.	621	SF	ISLAND MARKING (WHITE)
26	621	EACH	LANE ARROWS
6	621	EACH	WORD ("ONLY") ON PAVEMENT, AS PER PLAN

## DELINEATORS PLAN SHEET NO. 494-500

ITEM	DESCRIPTION	UNIT
620	DELINEATORS, TYPE D POST MOUNTED	EACH
* EACH	FROM STATION TO STATION SIDE INTERVAL REFERENCED TO	
2 /	92+75 93+75 RIGHT 100 FT. RAMP 16	2.00
3 /	794+75 796+75 RIGHT 100 FT. I-90	3.00
7 /	798+75 804+75 RIGHT 100 FT. I-90	7.00
7 /	92+75 98+75 LEFT 100 FT. RAMP 15	7.00
5 /	801+75 805+75 LEFT 100 FT. I-90	5.00
3 /	6+95 7+55 RIGHT 30 FT. RAMP 18	3.00
2 /	8+15 9+15 RIGHT 100 FT. RAMP 18	2.00
9 /	9+85 13+05 RIGHT 40 FT. RAMP 18	9.00
3 /	13+75 15+75 RIGHT 100 FT. RAMP 18	3.00
1 /	16+55 RIGHT RAMP 18	1.00
4 /	16+55 18+05 LEFT 50 FT. RAMP 18	4.00
2 /	18+80 19+60 LEFT 80 FT. RAMP 18	2.00
1 /	19+60 RIGHT RAMP 18	1.00
5 /	820+30 824+30 RIGHT 100 FT. I-90	6.00
9 /	826+30 834+30 RIGHT 100 FT. E.B.L.	9.00
9 /	12+75 14+90 RIGHT 30 FT. RAMP 17	9.00
1 /	15+45 RIGHT RAMP 17	1.00
4 /	15+45 18+45 LEFT 100 FT. RAMP 17	4.00
9 /	22+40 30+40 LEFT 100 FT. RAMP 17	9.00
1 /	831+45 LEFT W.B.L.	1.00
6 /	865+40 870+45 RIGHT 100 FT. E.B.L.	6.00
11 /	71+40 81+40 RIGHT 100 FT. RAMP 28	11.00
4 /	860+20 863+20 LEFT 100 FT. W.B.L.	4.00
9 /	866+15 874+05 LEFT 100 FT. W.B.L.	9.00
1 /	874+85 LEFT W.B.L.	1.00
1 /	874+90 LEFT W.B.L.	1.00
2 /	75+60 76+40 RIGHT 80 FT. RAMP 27	2.00
3 /	76+40 78+40 LEFT 100 FT. RAMP 27	3.00
1 /	80+00 LEFT RAMP 27	1.00
1 /	80+85 LEFT RAMP 27	1.00
1 /	81+65 LEFT RAMP 27	1.00
	<b>TOTAL</b>	<b>127.00</b>

ITEM	DESCRIPTION	UNIT
620	DELINEATORS, TYPE D BRACKET MOUNTED	EACH
* EACH	FROM STATION TO STATION SIDE INTERVAL REFERENCED TO	
1 /	797+75 RIGHT I-90	1.00
2 /	799+75 800+75 LEFT 100 FT. I-90	2.00
3 /	19+40 21+40 LEFT 100 FT. RAMP 17	3.00
1 /	825+30 RIGHT I-90	1.00
2 /	864+20 865+20 LEFT 100 FT. W.B.L.	2.00
	<b>TOTAL</b>	<b>9.00</b>

ITEM	DESCRIPTION	UNIT
620	DELINEATORS, TYPE X-1 POST MOUNTED	EACH
* PLAN SHEET NO. 494		
* EACH	SIGN NO.	
1 /	607A	1.00
	<b>TOTAL</b>	<b>1.00</b>

ITEM	DESCRIPTION	UNIT
620	DELINEATORS, TYPE X-4 POST MOUNTED	EACH
* EACH	REFERENCED TO	
1 /	N. END OF KLITH AVE. (N. OF I-90 STA. 799+00)	1.00
* PLAN SHEET NO. 496		
1 /	N. END OF W. 74TH ST. (S. OF I-90 STA. 823+00)	1.00
1 /	S. END OF W. 73RD ST. (N. OF I-90 STA. 829+00)	1.00
1 /	S. END OF W. 68TH ST. (N. OF I-90 STA. 836+00)	1.00
* PLAN SHEET NO. 496		
1 /	S. END OF W. 67TH ST. (N. OF I-90 STA. 836+00)	1.00
* PLAN SHEET NO. 498		
1 /	N. END OF W. 59TH ST. (S. OF I-90 STA. 853+00)	1.00
1 /	N. END OF W. 58TH ST. (S. OF I-90 STA. 856+00)	1.00
* PLAN SHEET NO. 499		
1 /	N. END OF FENWICK AVE. (S. OF I-90 STA. 871+00)	1.00
	<b>TOTAL</b>	<b>8.00</b>

SUB - TOTAL  
 PLAN SHEET NO. 494-500

TOTAL	ITEM	UNIT	DESCRIPTION
127	620	EACH	DELINEATORS, TYPE D POST MOUNTED
9	620	EACH	DELINEATORS, TYPE D BRACKET MOUNTED
1	620	EACH	DELINEATORS, TYPE X-1 POST MOUNTED
8	620	EACH	DELINEATORS, TYPE X-4 POST MOUNTED

DELINEATOR SUB-SUMMARY

AND

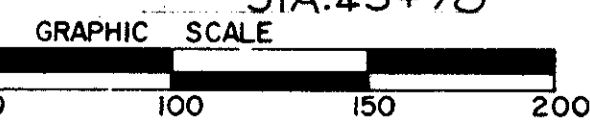
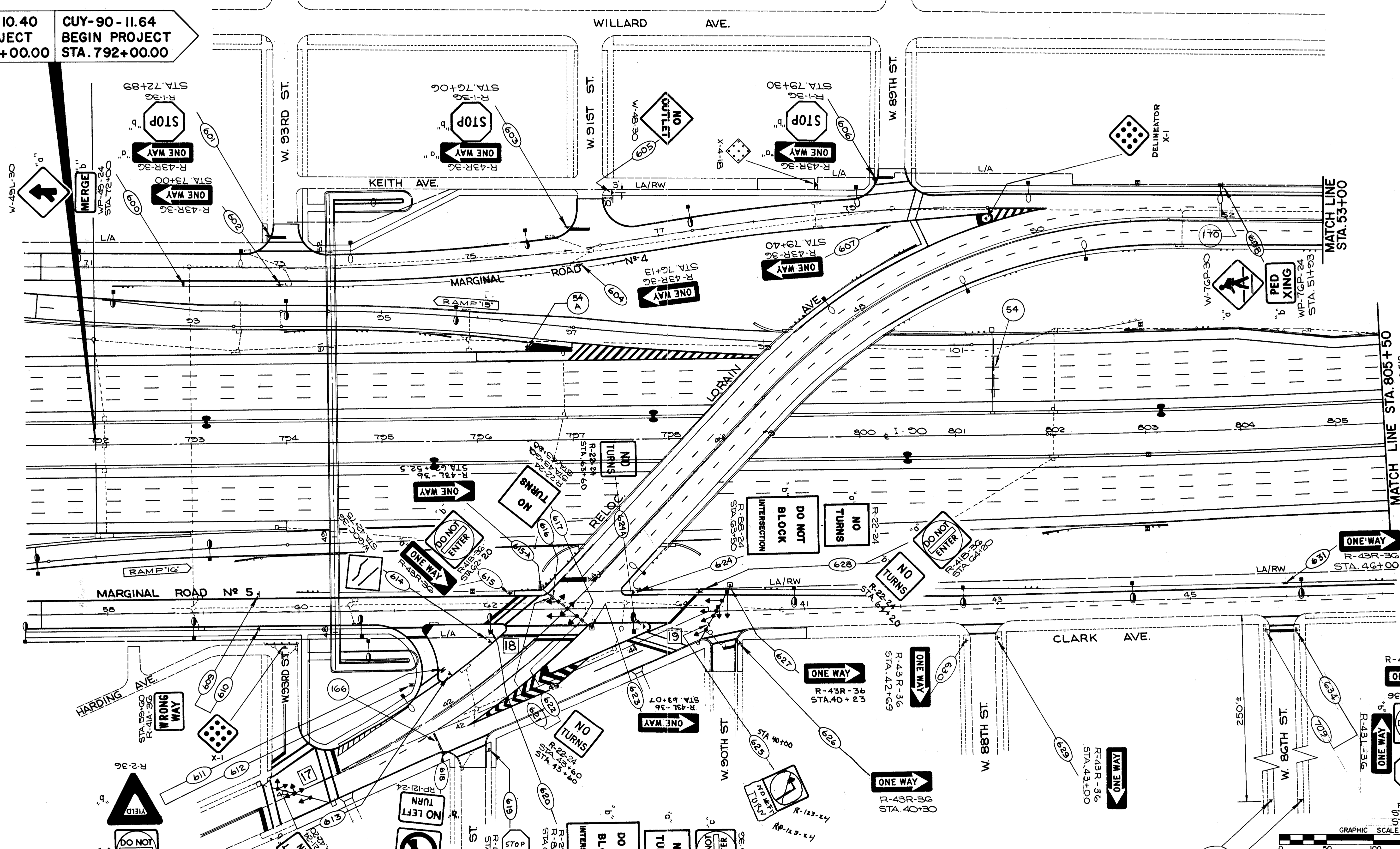
PAVEMENT MARKING QUANTITIES SUB-SUMMARY

FED. NO.	STATE	PROJECT		511 838
2	OHIO	I-90-1(38)21		

CUYAHOGA COUNTY  
CUY - 90 - 11.64

CUY-90-10.40  
END PROJECT  
STA. 792+00.00

CUY-90-11.64  
BEGIN PROJECT  
STA. 792+00.00



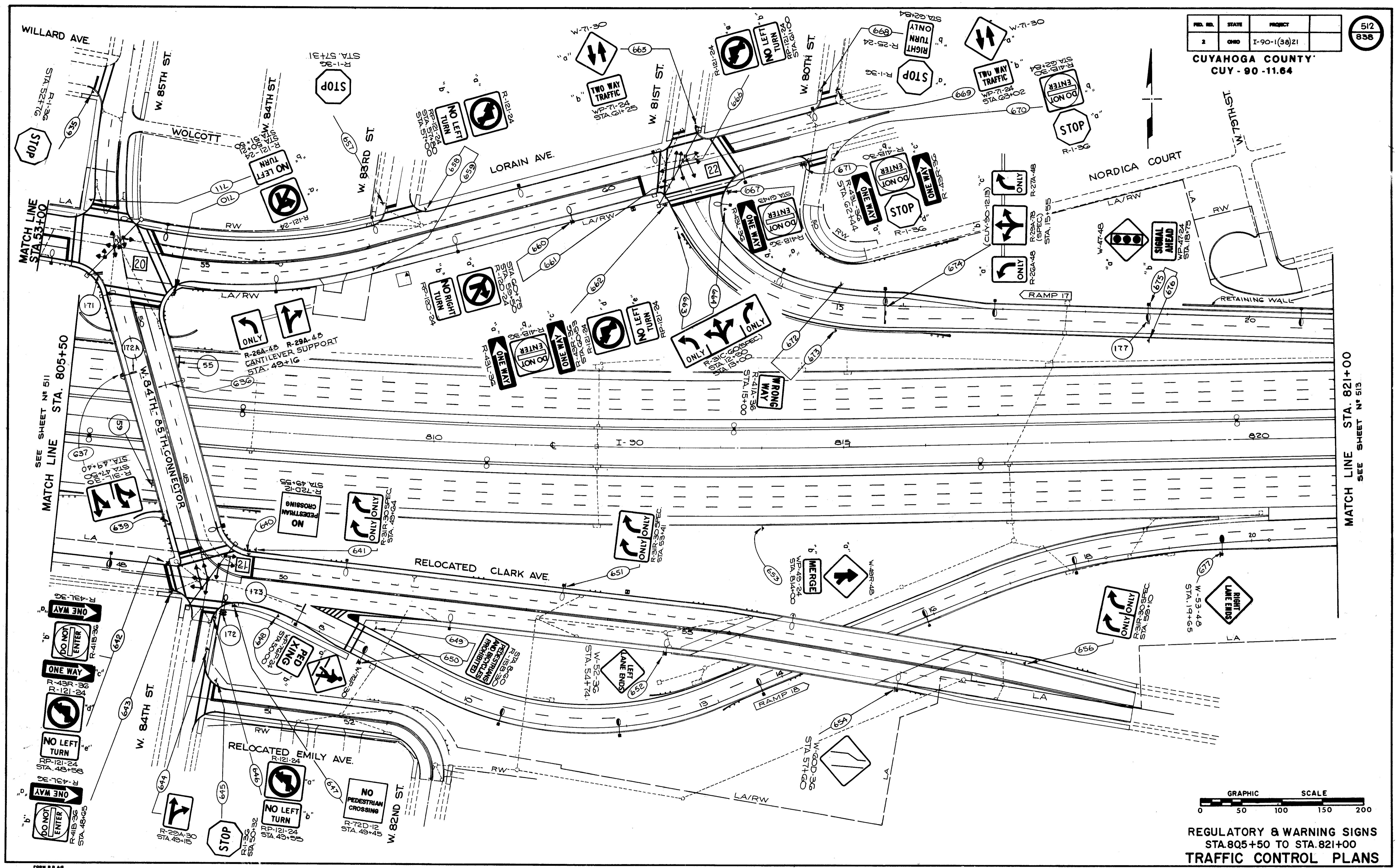
REGULATORY & WARNING SIGNS  
STA. 791+25 TO STA. 805+50  
TRAFFIC CONTROL PLANS

NOTE: SEE SHEET N<sup>o</sup> 489  
FOR ADDITIONAL SIGNING

FIG. NO.	STATE	PROJECT
2	OHIO	I-90-1(38)21

512  
838

CUYAHOGA COUNTY  
CUI-90-11.64



SEE SHEET NO 511  
MATCH LINE STA. 805+50

MATCH LINE STA. 821+00  
SEE SHEET NO 513



REGULATORY & WARNING SIGNS  
STA. 805+50 TO STA. 821+00  
TRAFFIC CONTROL PLANS

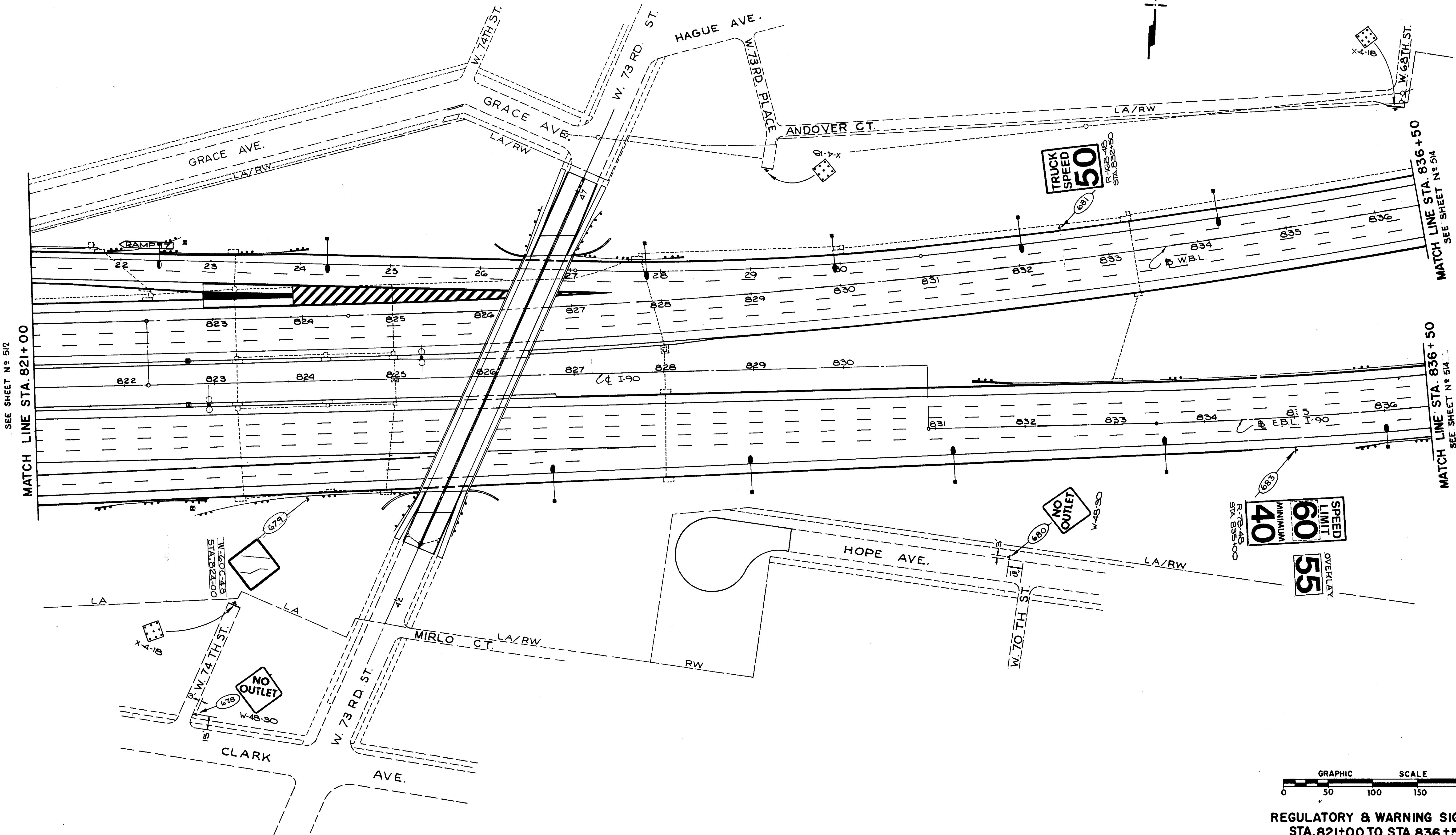
FED. RD.	STATE	PROJECT	
2	OHIO	I-90-(138)21	

513  
838

CUYAHOGA COUNTY  
CUY-90-11.64



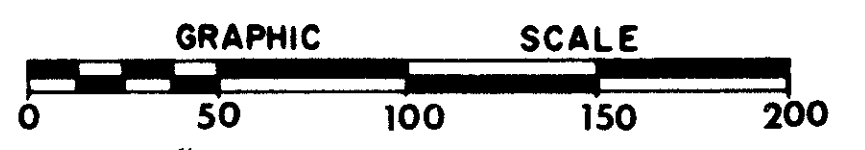
X-4-16



SEE SHEET N<sup>o</sup> 512  
MATCH LINE STA. 821+00

MATCH LINE STA. 836+50  
SEE SHEET N<sup>o</sup> 514

MATCH LINE STA. 836+50  
SEE SHEET N<sup>o</sup> 514

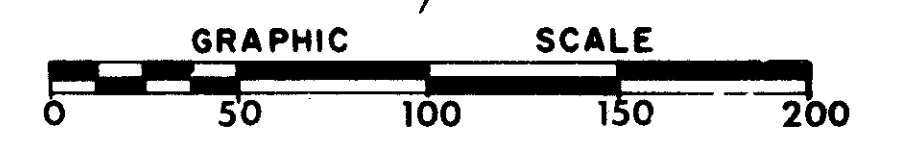
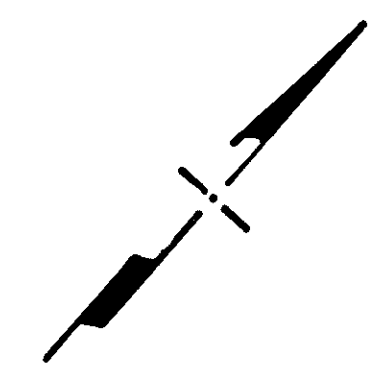
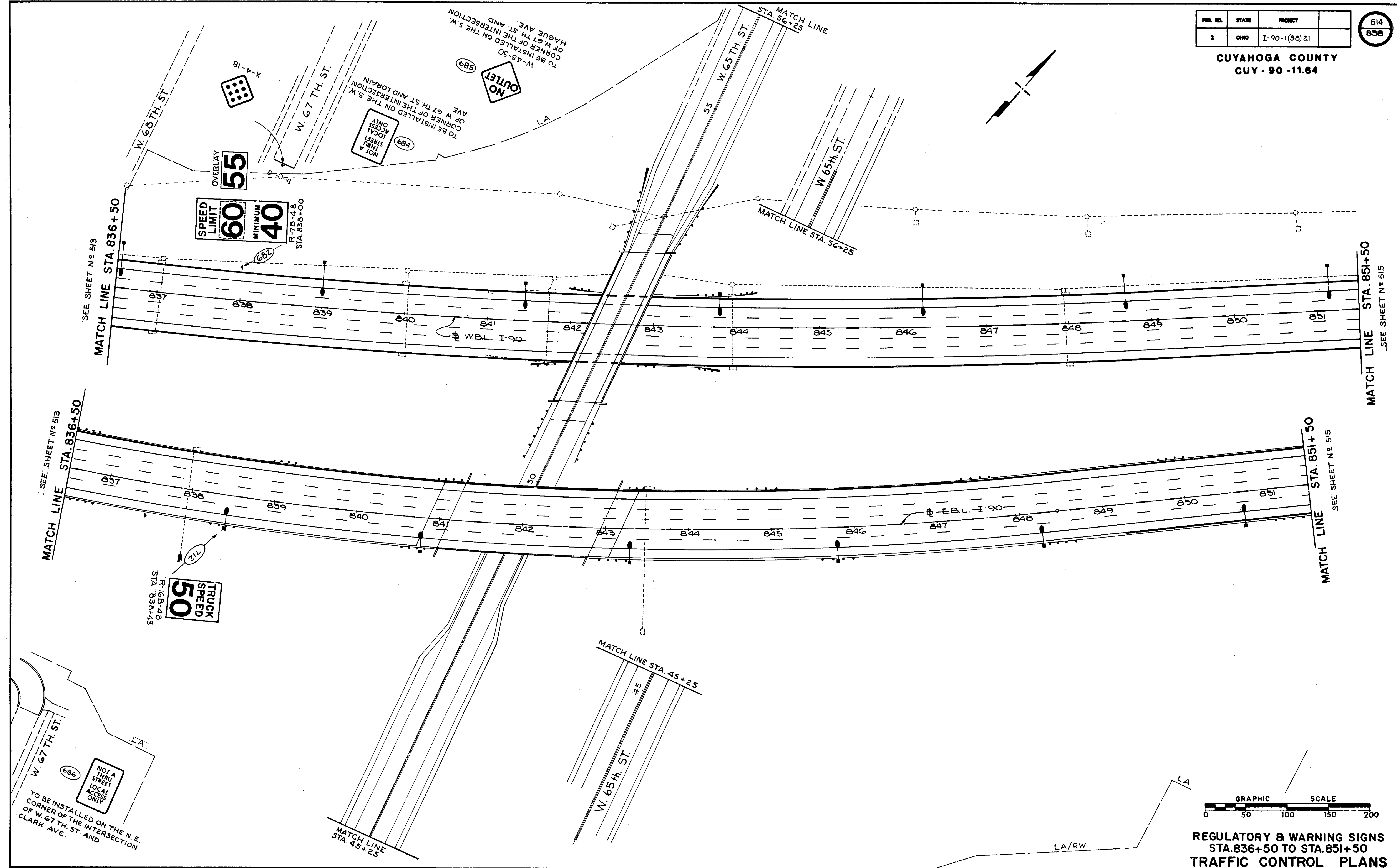


REGULATORY & WARNING SIGNS  
STA. 821+00 TO STA. 836+50  
TRAFFIC CONTROL PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

514  
838

CUYAHOGA COUNTY  
CUY-90-11.64



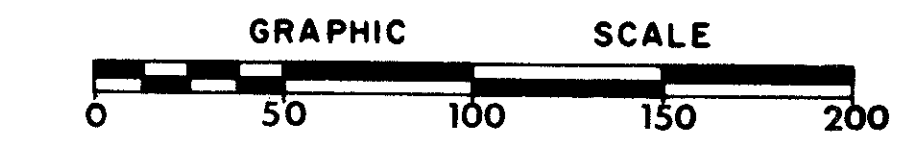
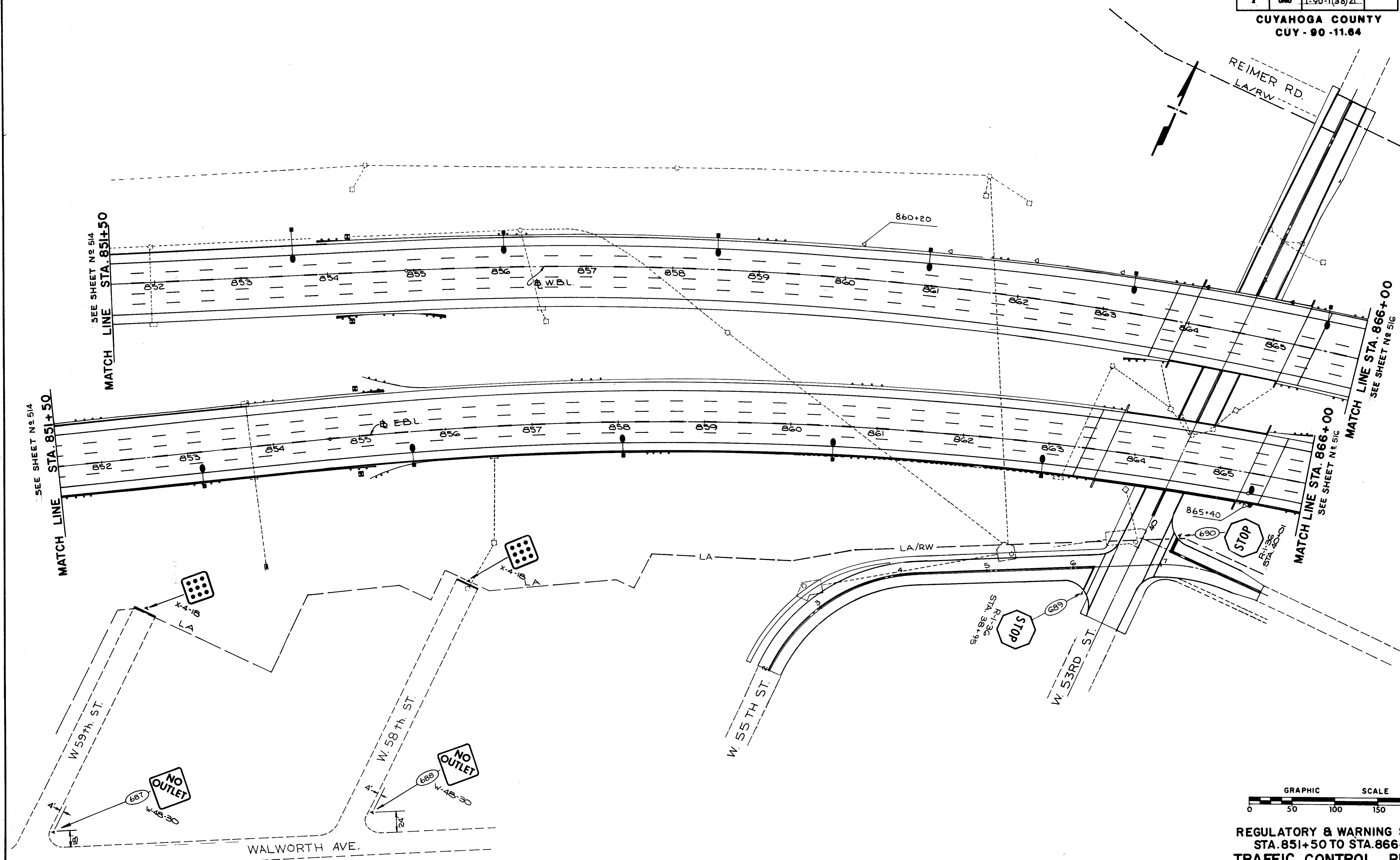
REGULATORY & WARNING SIGNS  
STA. 836+50 TO STA. 851+50  
TRAFFIC CONTROL PLANS



FED. RD.	STATE	PROJECT
2	OHIO	I-90-I(38)Z

515  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



REGULATORY & WARNING SIGNS  
STA. 851+50 TO STA. 866+00  
TRAFFIC CONTROL PLANS

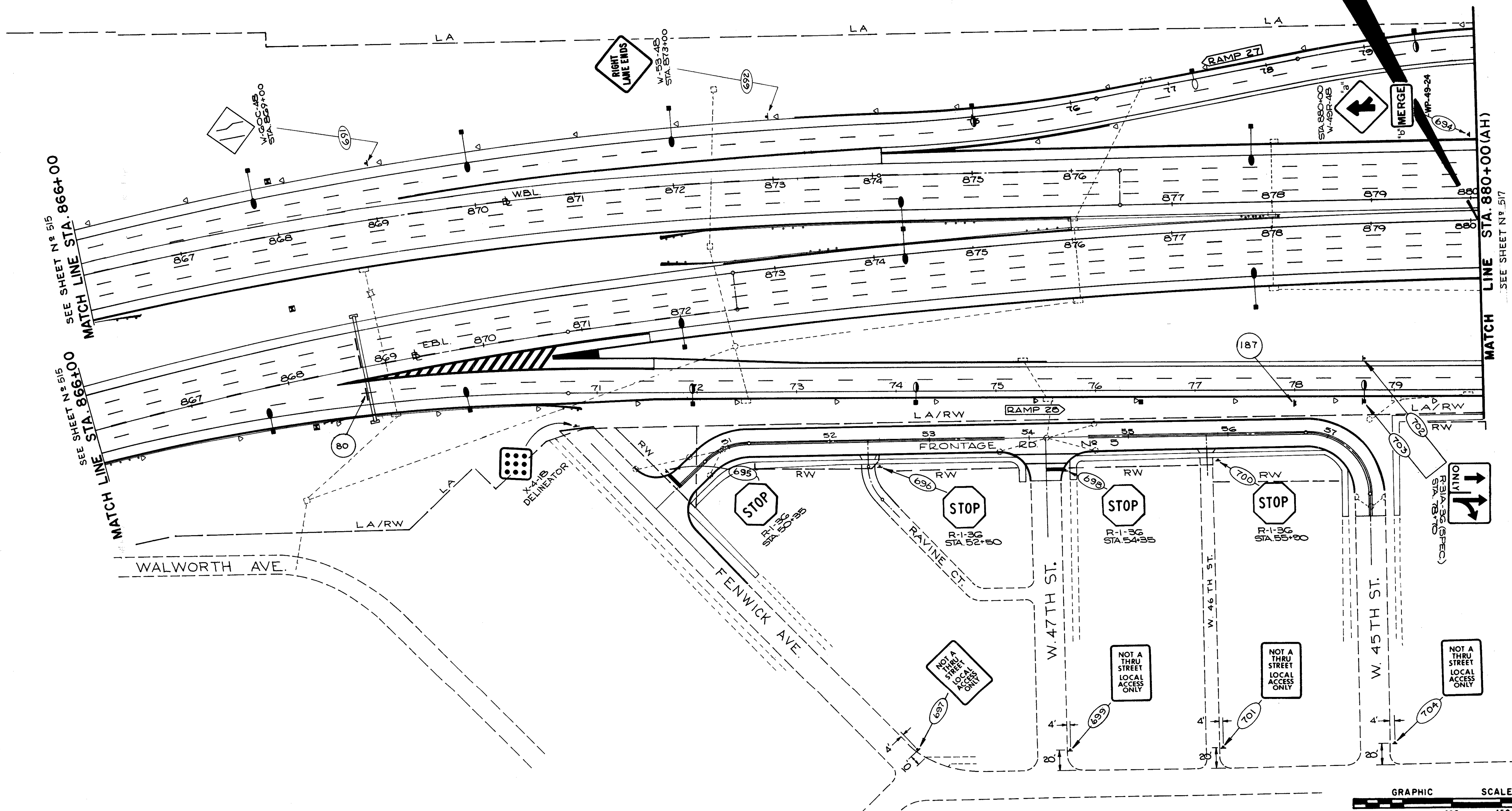
FIG. NO.	STATE	PROJECT
2	OHIO	I-90-1(3A) 21

516  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

CUY 90-11.64  
END PROJECT  
E.B.L. STA. 880+07.53 (BK)

CUY 90-13.33  
BEGIN PROJECT  
C.L. STA. 880+00.00 (AH)



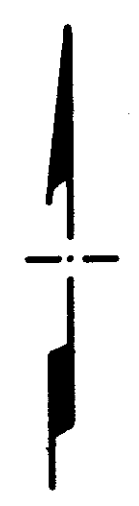
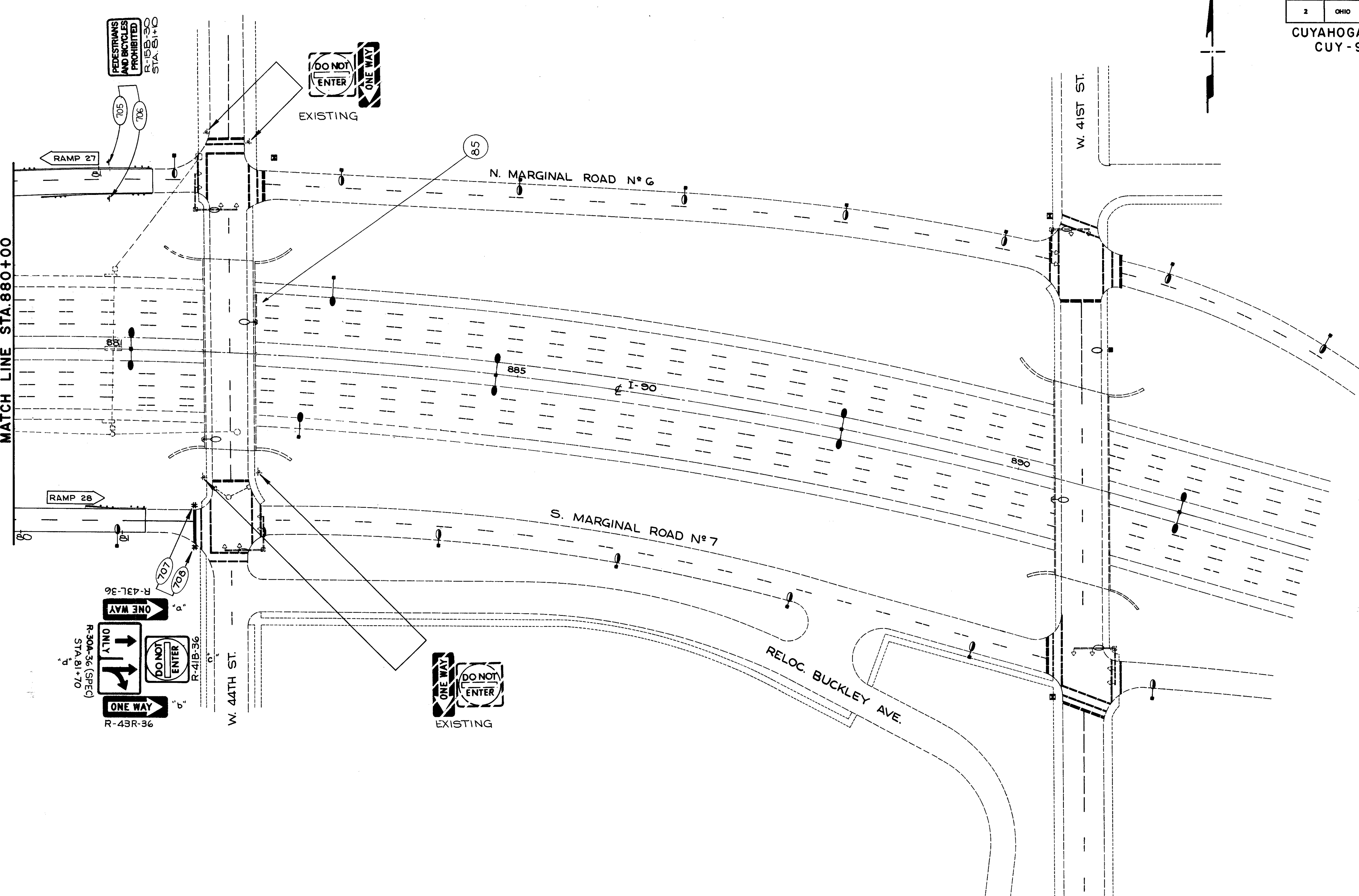
REGULATORY & WARNING SIGNS  
STA. 866+00 TO STA. 880+07.53  
TRAFFIC CONTROL PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-(38)21

517  
838

CUYAHOGA COUNTY  
CUY-90-11.64

SEE SHEET N° 516  
MATCH LINE STA. 880+00

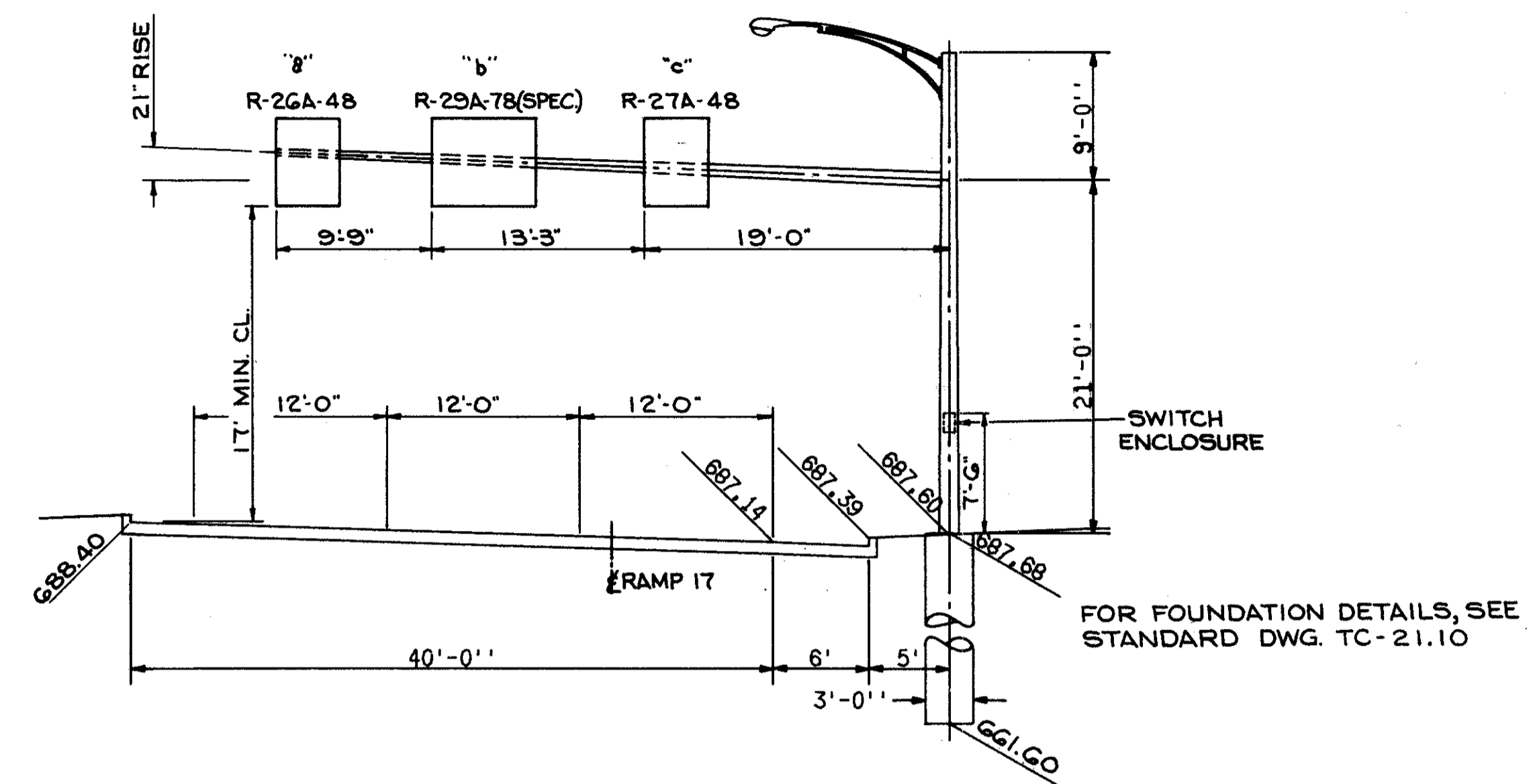


REGULATORY & WARNING SIGNS  
(EXISTING) STA. 880+00.00(AH)  
TRAFFIC CONTROL PLANS

FED. RD.	STATE	PROJECT	
2	OHIO	I-90-1(38)21	

518  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

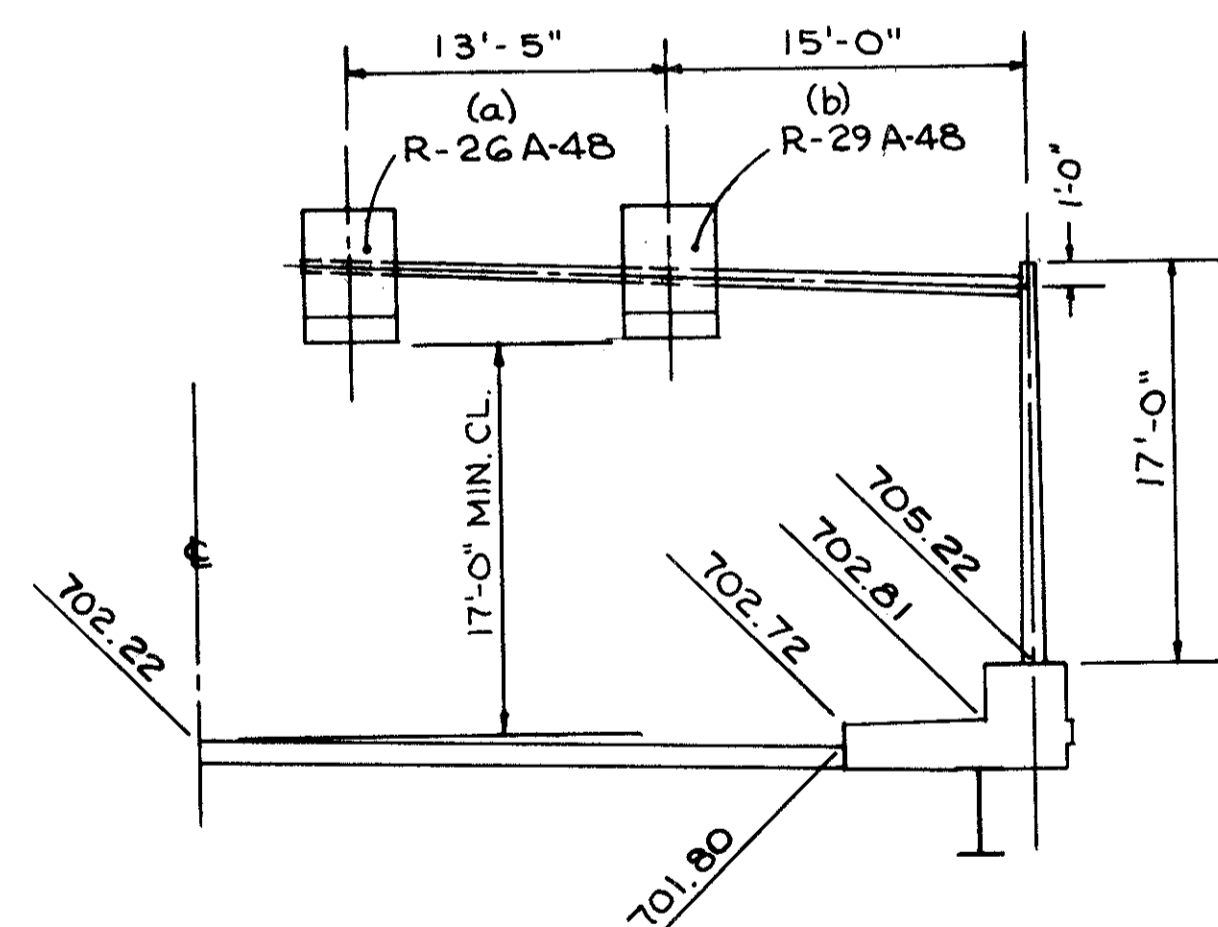


RAMP 17 STA. 15+55  
COMBINATION REGULATORY SIGN AND LIGHT SUPPORT NO. (674)  
844 NO. 16.10 DESIGN 4 MOD.  
ARM = 2 PLY - 3 GA. - 10.0" x 6.50" x 25'-0"  
3 GA. - 7.0" x 4.48" x 18'-0"  
POLE = 0 GA. - 15.0" x 10.80" x 30'-0"

"a"  
SIGN = 4'-0" X 5'-6" = 22.0 SQ. FT.  
SPACING = 6", 36", 6"  
No. OF BRACKETS = 2, HT. = 5'-6", TYPE Z  
FIXTURES = 1 @ 2'-0", 2'-0" (100W)

"b"  
SIGN = 6'-6" X 5'-6" = 35.75 SQ. FT.  
SPACING = 6", 66", 6"  
No OF BRACKETS = 2, HT. = 5'-6", TYPE Z  
FIXTURES = 1 @ 3'-3", 3'-3" (100W)

"c"  
SIGN = 4'-0" X 5'-6" = 22.0 SQ. FT.  
SPACING = 6", 36", 6"  
No OF BRACKETS = 2, HT. = 5'-6", TYPE Z  
FIXTURES = 1 @ 2'-0", 2'-0" (100W)



STA. 49+16 W 84-85 TH CONNECTOR NORTHBOLND  
CANTILEVER REGULATORY SIGN SUPPORT NO. (636)

844 NO. 16.10 DESIGN 6 (MOD.)  
ARM = 3 GA. - 8.0" X 3.80" X 30'-0"  
POLE = 3 GA. 11.0" X 8.62" X 17'-0"

(a) SIGN = 4'-0" X 5'-6" = 22.0 SQ. FT.  
SPACING = 6", 36", 6"  
No. OF BRACKETS = 2, HT. = 5'-6", TYPE Z  
FIXTURES = 1 @ 2'-0", 2'-0" (100W)

(b) SIGN = 4'-0" X 5'-6" = 22.0 SQ. FT.  
SPACING = 6", 36", 6"  
No. OF BRACKETS = 2, HT. = 5'-6", TYPE Z  
FIXTURES = 1 @ 2'-0", 2'-0" (100W)

REGULATORY SIGN DETAILS

# REGULATORY & WARNING QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-I(38)21

519  
838

CUYAHOGA COUNTY  
CUY - 90-11.64

PLAN SHEET NO. 511

ITEM	DESCRIPTION	UNIT	ITEM	DESCRIPTION	UNIT
844	SIGNS ERECTED, FLAT SHEET	SF	844	SPAN WIRE MOUNTED SIGN ATTACHMENT	EACH
* AREA (SF)	SIGN NO.	OHIO MUTCD	STATION	LOCATION	
6.3 /	600A	W-49L-30	72+00 LT	MARGINAL ROAD NO. 4	6.30
2 /	600B	WP-49-24			2.00
3.6 /	601A	K-43R-36	72+69 RT	MARGINAL ROAD NO. 4	3.60
7.6 /	601B	K-1-36			7.60
3.8 /	602	R-43R-36	73+04 LT	MARGINAL ROAD NO. 4	3.80
3.8 /	603A	R-43R-36	76+06 RT	MARGINAL ROAD NO. 4	3.80
7.6 /	603B	R-1-36			7.60
3.8 /	604	R-43R-36	76+14 LT	MARGINAL ROAD NO. 4	3.80
6.3 /	605	W-48-30		KEITH AVE.	6.30
3.6 /	606A	K-43R-36	79+30 RT	MARGINAL ROAD NO. 4	3.60
7.6 /	606B	K-1-36			7.60
3.8 /	607	R-43R-36	79+40 LT	MARGINAL ROAD NO. 4	3.80
6.3 /	608A	W-76P-30	51+93 LT	RELOC. LORAIN AVE.	6.30
3 /	608B	WP-76P-24			3.00
6 /	609	K-41A-36	59+60 LT	MARGINAL ROAD NO. 5	6.00
6 /	610	K-41A-36	59+60 RT	MARGINAL ROAD NO. 5	6.00
4.5 /	611A	R-2-36	42+14 LT	RELOC. LORAIN AVE	4.50
9 /	611B	K-41B-36			9.00
4.5 /	612A	R-2-36	41+76 LT	RELOC. LORAIN AVE	4.50
9 /	612B	K-41B-36			9.00
4 /	613A	R-121-24	42+20 LT	RELOC LORAIN AVE	4.00
3 /	613B	RP-121-24			3.00
9 /	614	W-60C-36	42+75 LT	RELOC LORAIN AVE	9.00
3.6 /	615A	R-43R-36	62+20 LT	MARGINAL ROAD NO. 5	3.60
9 /	615B	R-41B-36			9.00
3.6 /	615-A	K-43L-36	62+52.5 LT	RELOC. LORAIN AVE.	3.60
4 /	616	K-22-24	43+60 LT	RELOC LORAIN AVE	4.00
4 /	617	R-22-24	43+60 RT		4.00
3 /	618A	R-121-24	41+72 RT	LORAIN AVE	3.00
3 /	618B	RP-121-24			3.00
7.6 /	619A	R-1-36			7.60
5 /	619B	R-25-14	42+13 RT	LORAIN AVE	5.00
4 /	620A	R-22-24	62+05 RT	MARGINAL ROAD NO. 5	4.00
5 /	620B	K-88-24			5.00
9 /	620C	R-41B-36			9.00
4 /	621	K-22-24	43+60 LT	RELOC. LORAIN AVE.	4.00
4 /	622	K-22-24	43+60 RT		4.00
3.8 /	623	R-43L-36	63+07 RT	MARGINAL ROAD NO. 5	3.80
4 /	624A	R-22-24	63+50 LT	MARGINAL ROAD NO. 5	4.00
5 /	624B	K-88-24			5.00
4 /	624-A	R-22-24	63+60 RT	MARGINAL ROAD NO. 5	4.00
4 /	625	R-121-24	40+00 RT	CLARK AVE.	4.00
3 /	625	RP-121-24			3.00
3.8 /	626	R-43R-36	40+30 RT	CLARK AVE	3.80
3.8 /	627	R-43R-36	40+23 LT	CLARK AVE.	3.80
9 /	628A	K-41B-36	64+20 LT	MARGINAL ROAD NO. 5	9.00
4 /	628B	R-22-24			4.00
3.8 /	629	R-43R-36	43+00 RT	CLARK AVE.	3.80
3.8 /	630	R-43R-36	42+09 RT	CLARK AVE.	3.80
3.8 /	631	K-43R-36	46+00 LT	CLARK AVE.	3.80
3.8 /	634A	R-43R-36	46 + 10 RT	CLARK AVE.	3.80
3.8 /	634B	R-43L-36			3.80
9 /	634C	R-41B-36			9.00
7.6 /	634D	R-1-36			7.60
3.8 /	709A	R-43R-36	45 + 78 RT	CLARK AVE.	3.80
3.8 /	709B	R-43L-36			3.80
9 /	709C	R-41B-36			9.00
7.6 /	709D	R-1-36			7.60
6 /	713	R-41A-36			6.00
6 /	714	R-41A-36			6.00
TOTAL					329.90 SF

ITEM	DESCRIPTION	UNIT
844	SPAN WIRE MOUNTED SIGN ATTACHMENT	EACH
* EACH	SIGN NO.	
1 /	616	1.00
1 /	617	1.00
1 /	621	1.00
1 /	622	1.00
1 /	625	1.00
TOTAL		5.00

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 3 POST	LF
* LF	SIGN NO.	
16.5 /	600	16.50
16.3 /	601	16.30
13.3 /	602	13.30
18.3 /	603	18.30
13.3 /	604	13.30
18.3 /	605	18.30
16.3 /	606	16.30
13.3 /	607	13.30
14 /	609	14.00
14 /	610	14.00
15 /	611	15.00
15 /	612	15.00
15.5 /	613	15.50
16.3 /	614	16.30
16.5 /	624	16.50
14.5 /	624A	14.50
13.3 /	626	13.30
13.3 /	629	13.30
13.3 /	630	13.30
13.3 /	631	13.30
14 /	713	14.00
14 /	714	14.00
TOTAL		320.60 LF

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 6 POST, AS PER PLAN	LF
* LF	SIGN NO.	
16.25 /	615	16.25
16.25 /	619	16.25
17 /	628	17.00
18 /	634	18.00
18 /	707	18.00
TOTAL		85.50 LF

ITEM	DESCRIPTION	UNIT
844	POLE MOUNTED SIGN ATTACHMENT	EACH
* EACH	SIGN NO.	
1 /	608	1.00
1 /	615-A	1.00
1 /	623	1.00
1 /	627	1.00
1 /	618	1.00
1 /	620	1.00
TOTAL		6.00

SUB-TOTAL PLAN SHEET NO. 511

CUY 90-11.64 REGULATORY & WARNING SIGNS

TOTAL	ITEM	UNIT	DESCRIPTION
310	844	SF	SIGNS ERECTED, FLAT SHEET
6	844	EACH	POLE MOUNTED SIGN ATTACHMENT
321	844	LF	GROUND MOUNTED SUPPORTS, NO. 3 POST
86	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST, AS PER PLAN
5	844	EACH	SPAN WIRE MOUNTED SIGN ATTACHMENT

PLAN SHEET NO. 512

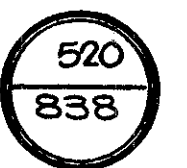
ITEM	DESCRIPTION	UNIT
844	SIGNS ERECTED, FLAT SHEET	SF
* AREA	SIGN NO.	OHIO MUTCD
7.6 /	635	R-1-36
18 /	636A	R-26A-48
18 /	636B	R-29A-48
6.3 /	637	R-31L-30
6.3 /	639	R-31L-30
1.5 /	640	R-72D-12
6.3 /	641	R-31R-30SP.
3.8 /	642 A	R-43L-36
9.0 /	642 B	R-41B-36
3.8 /	642 C	K-43R-36
4.0 /	642 D	R-121-24
3.0 /	642 E	RP-121-24
3.6 /	643 A	R-43L-36
9.0 /	643 B	R-41B-36
7.5 /	644	R-29A-30
7.6 /	645	K-1-36
4.0 /	646 A	R-121-24
3.0 /	646 B	RP-121-24
1.5 /	647	R-72D-12
6.3 /	648 A	W-76P-30
3.0 /	648 B	WP-76P-24
6.3 /	649	R-15B-30
6.3 /	650	R-15B-30
6.3 /	651	R-31R-30SP.
9.0 /	652	W-52-36
16.0 /	653 A	W-49R-48
2.0 /	653 B	WP-49-24
9.0 /	654	W-60D-36
6.3 /	656	R-31R-30SP.
7.6 /	657	R-1-36
4.0 /	658 A	R-121-24
3.0 /	658 B	RP-121-24
4.0 /	659 A	R-121-24
3.0 /	659 B	RP-121-24
4.0 /	660 A	R-120-24
3.0 /	660 B	RP-120-24
4.0 /	661 A	R-120-24
3.0 /	661 B	RP-120-24
3.8 /	662 A	R-43L-36
5.0 /	662 B	R-41B-36
3.8 /	662 C	R-43R-36
4.0 /	662 D	R-121-24
8.0 /	662 E	RP-121-24
12.5 /	663	R-31C-60SP.
12.5 /	664	R-31C-60SP.
6.3 /	665 A	W-71-30
3.0 /	665 B	WP-71-24
4.0 /	666 A	K-121-24
3.0 /	666 B	RP-121-24
9.0 /	667 A	R-41B-36
3.8 /	667 B	R-43L-36
7.6 /	668 A	R-1-36
5.0 /	668 B	R-25-24
6.3 /	669 A	W-71-30
3.0 /	669 B	WP-71-24
7.6 /	670 A	R-1-36
6.3 /	670 B	R-41B-36
3.8 /	671 A	R-43L-36
6.3 /	671 B	R-41B-30
3.8 /	671 C	R-43R-36
7.6 /	671 D	R-1-36
6.0 /	672	R-41A-36
6.0 /	673	R-41A-36
18.0 /	674 A	R-26A-48
29.3 /	674 B	R-29A-78SP.
18.0 /	674 C	R-27A-48
16.0 /	675 A	W-47-48
3.0 /	675 B	WP-47-24
16.0 /	676 A	W-47-48
3.0 /	676 B	WP-47-24
16.0 /	677	W-53-48

REGULATORY & WARNING QUANTITIES SUB-SUMMARY

# REGULATORY & WARNING QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(58)21



CUYAHOGA COUNTY  
CUY - 90-11.64

PLAN SHEET NO. 512 (CON'T.)

ITEM	DESCRIPTION	UNIT
844	SIGNS ERECTED, FLAT SHEET	SF
4 /	710A R-121-24 50 + 21 RT. W.84TH - W.85TH CONNECTOR	4.00
3 /	710B RP-121-24	3.00
4 /	711A R-121-24 51 + 50 LT. W.84TH - W.85TH CONNECTOR	4.00
3 /	711B RP-121-24	3.00
TOTAL		515.40 SF

ITEM	DESCRIPTION	UNIT
844	POLE MOUNTED SIGN ATTACHMENT	EACH
* EACH	SIGN NO.	
1 /	637	1.00
1 /	650	1.00
1 /	651	1.00
1 /	652	1.00
1 /	654	1.00
1 /	660	1.00
1 /	675	1.00
1 /	677	1.00
TOTAL		8.00

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 3 POST	LF
* LF	SIGN NO.	
15.0 /	635	15.00
14.5 /	639	14.50
13.5 /	640	13.50
14.5 /	641	14.50
15.0 /	644	15.00
15.0 /	645	15.00
15.5 /	646	15.50
13.5 /	647	13.50
16.0 /	648	16.00
14.5 /	649	14.50
35.5 /	653	35.50
14.5 /	656	14.50
15.0 /	657	15.00

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 2 POST (CONTINUED)	LF
15.5 /	658	15.50
15.5 /	659	15.50
15.5 /	665	15.50
15.5 /	669	15.50
14.0 /	672	14.00
14.0 /	673	14.00
35.5 /	676	35.50
29.0 /	663	29.00
29.0 /	664	29.00
15.5 /	710	15.50
15.5 /	711	15.50
TOTAL		426.50 LF

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 6 POST	LF
* LF	SIGN NO.	
15.0 /	668	15.00
15.0 /	670	15.00
TOTAL		30.00 LF

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 6 POST, AS PER PLAN	LF
* LF	SIGN NO.	
20.0 /	642	20.00
16.3 /	643	16.30
20.0 /	662	20.00
16.3 /	667	16.30
16.3 /	671	16.30
TOTAL		88.90 LF

ITEM	DESCRIPTION	UNIT
844	SPAN WIRE MOUNTED SIGN ATTACHMENT	EACH
* EACH	SIGN NO.	
1 /	661	1.00
1 /	666	1.00
TOTAL		2.00

ITEM	DESCRIPTION	UNIT
844	COMB SIGN AND LIGHT SUPPORT, NO. 16.10, DES 4 MOD POLE = 30 FEET ARMS = 25.0 FEET + 18.0 FEET	EACH
* EACH	SIGN NO.	
1 /	674	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
844	OVERHEAD SIGN SUPPORT NO. 16.10 DES. 6 MOD. POLE = 17.0 FEET ARM = 30.0 FEET	EACH
* EACH	SIGN NO.	
1 /	636	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
625	GROUND ROD	EACH
* EACH	SIGN NO.	
1 /	674	1.00
1 /	636	1.00
TOTAL		2.00

ITEM	DESCRIPTION	UNIT
844	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH
* EACH	SIGN NO.	
1 /	674	1.00
1 /	636	1.00
TOTAL		2.00

ITEM	DESCRIPTION	UNIT
844	MERCURY VAPOR LUMINAIRE, WITH TYPE 100 WATT LAMP	EACH
* EACH	SIGN NO.	
1 /	674A	1.00
1 /	674B	1.00
1 /	674C	1.00
1 /	636A	1.00
1 /	636B	1.00
TOTAL		5.00

ITEM	DESCRIPTION	UNIT
844	SIGN SERVICE	EACH
* EACH	SIGN NO.	
1 /	674	1.00
1 /	636	1.00
TOTAL		2.00

ITEM	DESCRIPTION	UNIT
844	SIGNS WIRED	EACH
* EACH	SIGN NO.	
3 /	674	3.00
2 /	636	2.00
TOTAL		5.00

ITEM	DESCRIPTION	UNIT
844	CONCRETE FOR ANCHOR BASE FOUNDATIONS	CY
UNITS	CF	
*	SIGN NO. STATION LOCATION	
0.7854X3X3X25.5 /	674 15+55 LT. HAMP 17	180.25
0.58X3X3 /		5.22
TOTAL		185.47 CF

### SUB-TOTAL PLAN SHEET NO. 512

TOTAL	ITEM	UNIT	DESCRIPTION
1	844	EACH	COMB SIGN AND LIGHT SUPPORT, NO. 16.10, DES 4 MOD. POLE = 30 FEET ARMS = 25.0 FEET + 18.0 FEET
2	625	EACH	GROUND ROD
2	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
5	844	EACH	MERCURY VAPOR LUMINAIRE, WITH 100 WATT LAMP
2	844	EACH	SIGN SERVICE
5	844	EACH	SIGNS WIRED
515.	844	SF	SIGNS ERECTED, FLAT SHEET
8	844	EACH	POLE MOUNTED SIGN ATTACHMENT
427.	844	LF	GROUND MOUNTED SUPPORTS, NO. 3 POST
30.	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST,
89.	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST, AS PER PLAN
6.9	844	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS
2	844	EACH	SPAN WIRE MOUNTED SIGN ATTACHMENT
1	844	EACH	OVERHEAD SIGN SUPPORT NO. 16.10 DES. 6 MOD. POLE = 17.0 FEET ARM = 30.0 FEET

### PLAN SHEET NO. 513

ITEM	DESCRIPTION	UNIT
844	SIGNS ERECTED, FLAT SHEET	SF
* AREA	SIGN NO. OHIO MUTCD STATION LOCATION	
6.25 /	678 W-48-30 824+00 EB W 74TH ST.	6.25
16 /	679 W-60C-48 824+00 EB MAINLINE I-90	16.00
6.25 /	680 W-48-30 HOPE AVE	6.25
20 /	681 R-16B-48 832+50 WB MAINLINE I-90	20.00
32 /	683 R-7B-48 835+00 EB	32.00
TOTAL		80.50 SF

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 3 POST	LF
* LF	SIGN NO.	
13.3 /	678	13.30
13.3 /	680	13.30
34 /	681	34.00
TOTAL		60.60 LF

# REGULATORY & WARNING QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(30)21

521  
838

CUYAHOGA COUNTY  
CUY - 90-11.64

**PLAN SHEET NO. 513 (CONT'D)**

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 6 POST	LF
* LF	SIGN NO.	
40 /	683	40.00
17.65 /	679	17.65
TOTAL		57.65 LF

**PLAN SHEET NO. 515**

ITEM	DESCRIPTION	UNIT
844	SIGNS ERCTED, FLAT SHEET	SF
* PLAN SHEET NO. 24		
* AREA	SIGN NO. OHIO MUTCD STATION LOCATION	
6.25 /	687 W-48-30 W. 59TH ST.	6.25
6.25 /	688 W-48-30 W. 58TH ST.	6.25
7.6 /	689 R-1-36 39+38 LT W. 53RD ST.	7.60
7.6 /	690 R-1-36 40+01 RT	7.60
TOTAL		27.70 SF

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORT, NO. 3 POST	LF
* EACH	SIGN NO.	
35.5 /	694	35.50
15 /	695	15.00
15 /	696	15.00
16 /	697	16.00
15 /	698	15.00
16 /	699	16.00
15 /	700	15.00
16 /	701	16.00
14.5 /	702	14.50
TOTAL		158.00 LF

**SUB-TOTAL PLAN SHEET NO. 513**

TOTAL	ITEM	UNIT	DESCRIPTION
81.	844	SF	SIGNS ERCTED, FLAT SHEET
61.	844	LF	GROUND MOUNTED SUPPORTS, NO. 3 POST
58.	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 3 POST	LF
* LF	SIGN NO.	
13.3 /	687	13.30
13.3 /	688	13.30
15 /	689	15.00
15 /	690	15.00
TOTAL		56.60 LF

**SUB-TOTAL PLAN SHEET NO. 515**

TOTAL	ITEM	UNIT	DESCRIPTION
28.	844	SF	SIGNS ERCTED, FLAT SHEET
57.	844	LF	GROUND MOUNTED SUPPORTS, NO. 3 POST

**SUB-TOTAL PLAN SHEET NO. 516**

TOTAL	ITEM	UNIT	DESCRIPTION
127.	844	SF	SIGNS ERCTED, FLAT SHEET
1	844	EACH	POLE MOUNTED SIGN ATTACHMENT
158.	844	LF	GROUND MOUNTED SUPPORTS, NO. 3 POST
35.	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST

**PLAN SHEET NO. 514**

ITEM	DESCRIPTION	UNIT
844	SIGNS ERCTED, FLAT SHEET	SF
* AREA	SIGN NO. OHIO MUTCD STATION LOCATION	
8 /	684 CLEVE. ST'D. W. 67TH ST. & LORAIN AVE	8.00
6.25 /	685 W-48-30 W. 67TH ST. & HAGUE AVE	6.25
8 /	686 CLEVE. ST'D. W. 67TH ST. & CLARK AVE	8.00
32 /	682 R-7B-48 WB. 838+00 MAINLINE I-90	32.00
20 /	712 R-16B-48 E.B. 838+43	20.00
TOTAL		74.25 SF
844	GROUND MOUNTED SUPPORT, NO. 3 POST	LF
* LF	SIGN NO.	
16 /	684	16.00
13.3 /	685	13.30
16 /	686	16.00
34 /	712	34.00
TOTAL		79.30 LF

**PLAN SHEET NO. 516**

ITEM	DESCRIPTION	UNIT
844	SIGNS ERCTED, FLAT SHEET	SF
* AREA	SIGN NO. OHIO MUTCD STATION LOCATION	
16 /	691 W-60C-48 869+00 WB MAINLINE I-90	16.00
16 /	692 W-53-48 873+00 WB	16.00
16 /	694A W-49R-48 880+00 WB MAINLINE I-90	16.00
2 /	694B WP-49-24	2.00
7.6 /	695 R-1-36 50+35 LT FRONTAGE RD. NO. 5	7.60
7.6 /	696 R-1-36 52+50 RT FRONTAGE RD. NO. 5	7.60
8 /	697 CLEVE. ST'D. NB FENWICK AVE	8.00
7.6 /	698 R-1-36 54+35 RT FRONTAGE RD. NO. 5	7.60
8 /	699 CLEVE. ST'D. NB W. 47TH ST.	8.00
7.6 /	700 R-1-36 55+90 RT FRONTAGE RD. NO. 5	7.60
8 /	701 CLEVE. ST'D. NB W. 46TH ST.	8.00
7.5 /	702 R-31A-36 (SPEC) 78+70 LT RAMP 28	7.50
7.5 /	703 R-31A-36 (SPEC) 78+70 RT RAMP 28	7.50
8 /	704 CLEVE. ST'D. NB W. 45TH ST.	8.00
TOTAL		127.40 SF

**PLAN SHEET NO. 517**

ITEM	DESCRIPTION	UNITS
844	GROUND MOUNTED SUPPORTS, NO. 3 POST	LF
* LF	SIGN NO.	
14.5 /	705	14.5
14.5 /	706	14.5
TOTAL		29.0

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 6 POST	LF
* LF	SIGN NO.	
40 /	682	40.00
TOTAL		40.00 LF

ITEM	DESCRIPTION	UNIT
844	POLE MOUNTED SIGN ATTACHMENT	EACH
* EACH	SIGN NO.	
1 /	703	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
844	SIGNS ERCTED, FLAT SHEET	SF
* AREA	SIGN NO. OHIO MUTCD STATION LOCATION	
6.25 /	705 R-15B-30 81+10 LT RAMP 27	6.25
6.25 /	706 R-15B-30 81+10 RT	6.25
3.8 /	707A R-43R-36 81 + 70 LT RAMP 28	3.80
3.8 /	707B R-43L-36	3.80
9 /	707C R-41B-36	9.00
7.5 /	707D R-31A-36 (SPEC)	7.50
3.8 /	708A R-43R-36 81 + 70 RT	3.80
3.8 /	708B R-43L-36	3.80
9 /	708C R-41B-36	9.00
7.5 /	708D R-31A-36 (SPEC)	7.50
TOTAL		60.70 LF

**SUB-TOTAL PLAN SHEET NO. 514**

TOTAL	ITEM	UNIT	DESCRIPTION
74.	844	SF	SIGNS ERCTED, FLAT SHEET
79.	844	LF	GROUND MOUNTED SUPPORTS, NO. 3 POST
40	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 6 POST	LF
* EACH	SIGN NO.	
17.65 /	691	17.65
17.65 /	692	17.65
TOTAL		35.30 LF

ITEM	DESCRIPTION	UNIT
844	GROUND MOUNTED SUPPORTS, NO. 6 POST, AS PER PLAN	LF
* LF	SIGN NO.	
16.3 /	707	16.30
16.3 /	708	16.30
TOTAL		32.60 LF

**SUB-TOTAL PLAN SHEET NO. 517**

TOTAL	ITEM	UNIT	DESCRIPTION
61.0	844	SF	SIGNS ERCTED, FLAT SHEET
29.0	844	LF	GROUND MOUNTED SUPPORTS, NO. 3 POST
30.0	844	LF	GROUND MOUNTED SUPPORTS, NO. 6 POST, AS PER PLAN

70

REF. NO.	DESCRIPTION	LOCATION
TC 19-1	CONTROLLER	S. MARG. RD. 5 STA. 64+00 LT.
TP 19-1	TRAFFIC SIGNAL SUPPORT	CLARK AVE. STA. 40+23 LT.
PD 19-1	PEDESTRIAN SIGNAL SUPPORT	CLARK AVE. STA. 40+37 RT.
PD 19-2	COMB. PED. SIGNAL + LIGHT SUPPORT	S. MARG. RD. 5 STA. 63+50 RT.
LD 19-1	LOOP DETECTOR (20' X 6')	W. 90th ST. STA. 49+53
LD 19-2	LOOP DETECTOR (20' X 6')	W. 90th ST. STA. 47+78
LD 19-3	LOOP DETECTOR (24' X 6')	EXIST. LORAIN AVE. STA. 43+93
LD 19-4	LOOP DETECTOR (10' X 6')	EXIST. LORAIN AVE. STA. 42+34
LD 19-6	LOOP DETECTOR (24' X 6')	S. MARG. RD. 5 STA. 61+73
LD 19-5	LOOP DETECTOR (24' X 6')	S. MARG. RD. 5 STA. 63+90

PHASE	ACTUATED							
	1	2	3	4	5	6	7	8
SIGNAL INTERVAL	G	G	Y	R	R	R	R	Y
4, b.	R	R	R	R	G	G	Y	R
a, b, e, f	DW	DW	DW	DW	W	FLDW	DW	DW
c, d	W	FLDW	DW	DW	DW	DW	DW	OUT
FIXED TIME	36	9	3	2		7	3	2
INITIAL INTERVAL					3			
VEHICLE INTERVAL					2			
MAXIMUM (SEC)					13			
PED. TIMER #					7			
OFFSET	66.0							
*UPON PEDESTRIAN ACTUATION ONLY								

PHASE	ACTUATED							
	1	2	3	4	5	6	7	8
SIGNAL INTERVAL	G	G	Y	R	R	R	R	Y
1, 2, 3, 4	R	R	R	R	G	G	Y	R
5, 6	R	R	R	R	G	G	Y	R
a, b	DW	DW	DW	DW	W	FLDW	DW	DW
c, d	W	FLDW	DW	DW	DW	DW	DW	OUT
FIXED TIME	37	8	3	2		11	3	2
INITIAL INTERVAL					3			
VEHICLE INTERVAL					2			
MAXIMUM (SEC)					9			
PED. TIMER #					7			
OFFSET	69.0 (3% GREATER THAN INTERSECTION 17)							
*UPON PEDESTRIAN ACTUATION ONLY								

PHASE	ACTUATED											
	1	2	3	4	5	6	7	8	9	10	11	12
SIGNAL INTERVAL	R	R	R	R	R	G	G	Y	R	R	R	R
1, 2	R	R	R	R	R	R	R	R	R	R	R	R
3, 4	R	R	R	R	R	R	R	R	R	R	R	R
5, 6	G	G	Y	R	R	R	R	R	R	R	R	R
a, b	W	FLDW	DW	DW	DW	DW	DW	DW	W	W	W	W
c, d	W	W	W	W	W	W	W	W	DW	DW	DW	DW
FIXED TIME	6	3	2			6	3	2		3	3	2
INITIAL INTERVAL						3						
VEHICLE INTERVAL						2						
MAXIMUM (SEC)						14				17		
PED. TIMER #						7				7		
OFFSET	93.0 (27% GREATER THAN INTERSECTION 17)											
*UPON PEDESTRIAN ACTUATION ONLY												

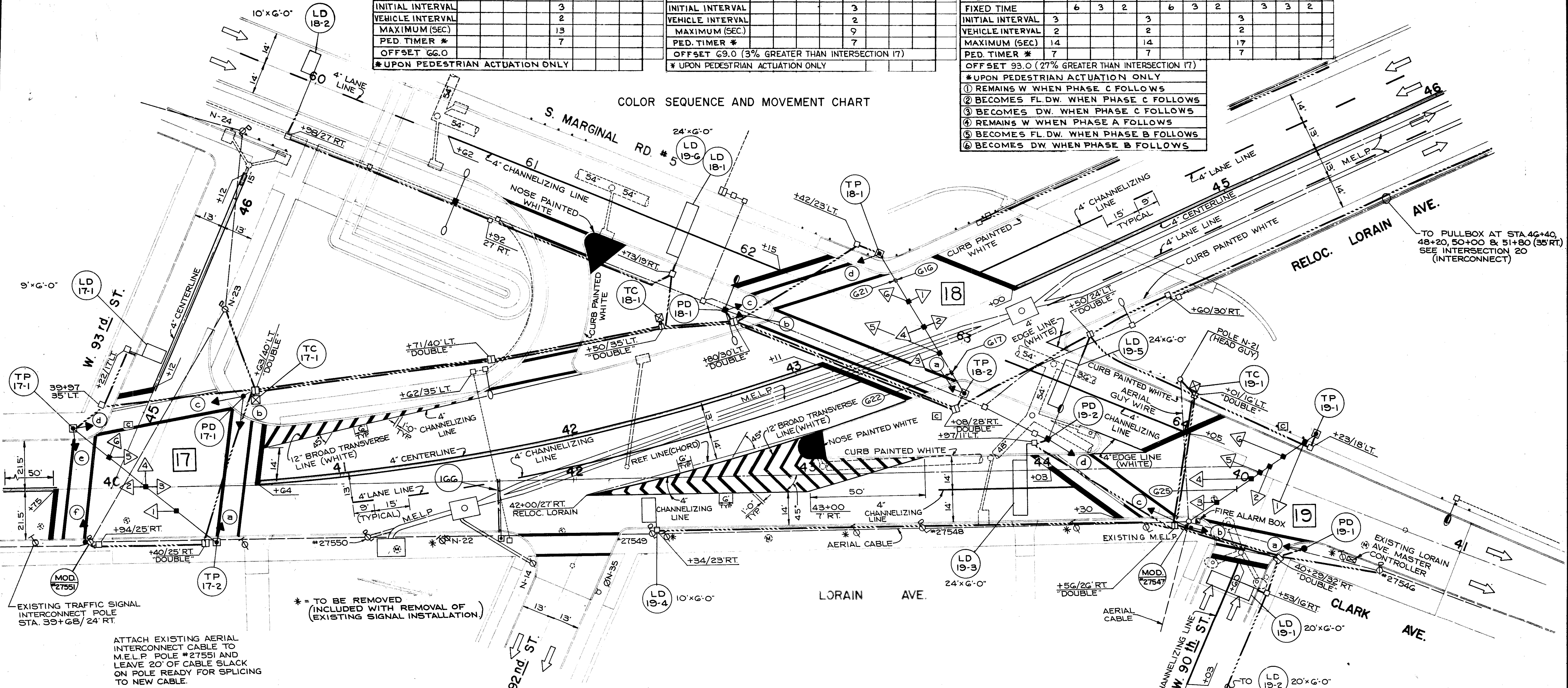
PROJ. NO.	STATE	PROJECT
2	OHIO	I-90-1(38)21

**CUYAHOGA COUNTY**  
**CUY - 90-11.64**

NOTE:  
INTERSECTION 19 CONTROLLER  
TO DWELL IN PHASE C IF NO CALLS  
RECEIVED ON OTHER APPROACHES

COLOR SEQUENCE AND MOVEMENT CHART

- ① REMAINS W WHEN PHASE C FOLLOWS
- ② BECOMES FL.DW. WHEN PHASE C FOLLOWS
- ③ BECOMES DW. WHEN PHASE C FOLLOWS
- ④ REMAINS W WHEN PHASE A FOLLOWS
- ⑤ BECOMES FL.DW. WHEN PHASE B FOLLOWS
- ⑥ BECOMES DW. WHEN PHASE B FOLLOWS



REF. NO.	DESCRIPTION	LOCATION
TC 17-1	CONTROLLER	EXIST. LORAIN AVE. STA. 40+63 LT.
TP 17-1	TRAFFIC SIGNAL SUPPORT	EXIST. LORAIN AVE. STA. 39+84 LT.
TP 17-2	TRAFFIC SIGNAL SUPPORT	EXIST. LORAIN AVE. STA. 40+45 RT.
PD 17-1	PEDESTRIAN SIGNAL SUPPORT	EXIST. LORAIN AVE. STA. 40+57.5 LT.
LD 17-1	LOOP DETECTOR (9' X 6')	W. 93rd ST. STA. 45+22

REF. NO.	DESCRIPTION	LOCATION
TC 18-1	CONTROLLER	RELOC. LORAIN AVE. STA. 42+50 LT.
TP 18-1	TRAFFIC SIGNAL SUPPORT	S. MARG. RD. 5 STA. 62+52.5 LT.
TP 18-2	TRAFFIC SIGNAL SUPPORT	S. MARG. RD. 5 STA. 63+08 RT.
PD 18-1	COMB. PED. SIGNAL + LIGHT SUPPORT	S. MARG. RD. 5 STA. 62+00 RT.
LD 18-2	LOOP DETECTOR (10' X 6')	S. MARG. RD. 5 STA. 59+98
LD 18-1	LOOP DETECTOR (24' X 6')	S. MARG. RD. 5 STA. 61+73

GRAPHIC SCALE  
0 20 40 60

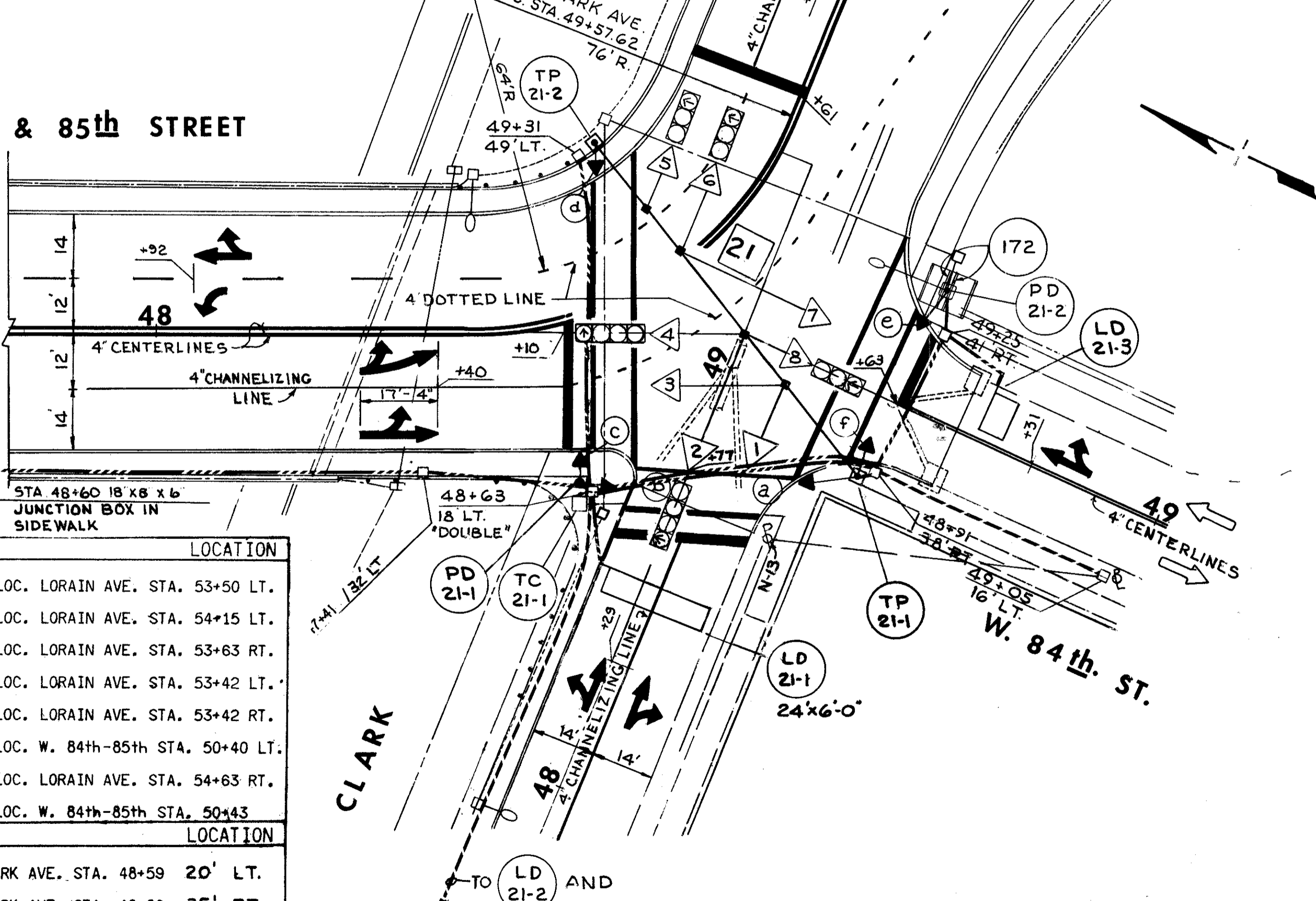
**TRAFFIC CONTROL**  
**RELOC. LORAIN AVE.**  
**AT CLARK AVE.**  
**& MARGINAL RD. N. 5**



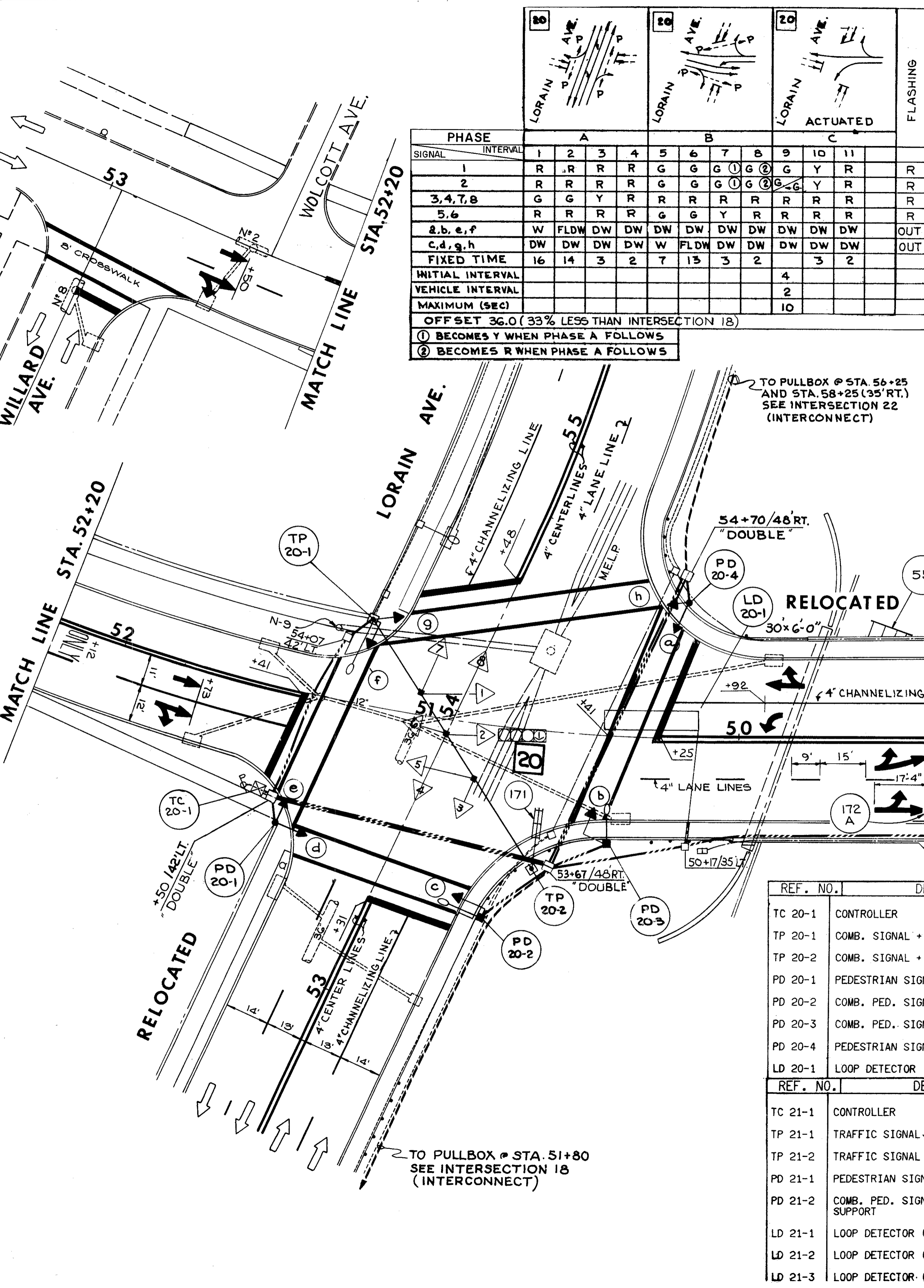
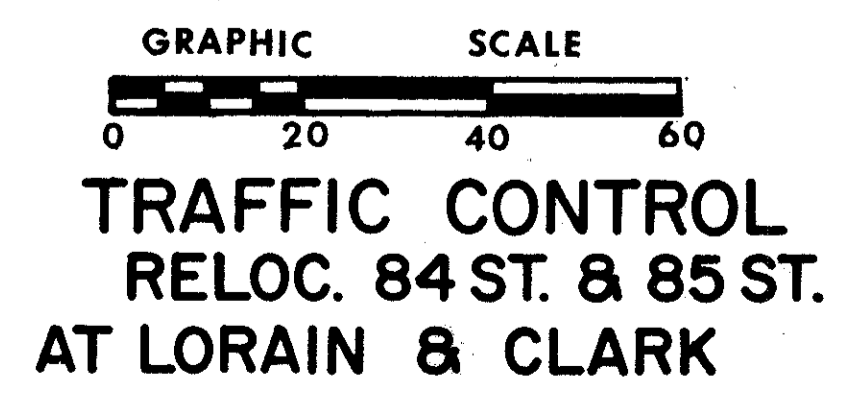
CUYAHOGA COUNTY  
CUY-90-11.64

PHASE	LORAIN AVE.											FLASHING	PHASE	CLARK AVE.														FLASHING
	A				B				C					A				B				C				D		
SIGNAL INTERVAL	1	2	3	4	5	6	7	8	9	10	11		1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1	R	R	R	R	G	G	G	G	G	Y	R		R	R	R	R	G	Y	G	G	Y	R	R	R	R	R		
2	R	R	R	R	G	G	G	G	G	Y	R		R	R	R	R	G	Y	G	G	Y	R	R	R	R	R		
3,4,7,8	G	G	Y	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	G	G	Y	R		
5,6	R	R	R	R	G	Y	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	G	G	Y	R		
a,b,e,f	W	FLDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	R	R	R	R	R	R	R	R	R	R	G	G	Y	R		
c,d,g,h	DW	DW	DW	DW	W	FLDW	DW	DW	DW	DW	DW	OUT	R	R	R	R	R	R	R	R	R	R	G	G	Y	R		
FIXED TIME	16	14	3	2	7	13	3	2	4	3	2		12	3	2	14	5	3	2	14	5	3	2					
INITIAL INTERVAL									4				3			3												
VEHICLE INTERVAL									2				2			2												
MAXIMUM (SEC)									10				7			7												
OFF SET 36.0 (33% LESS THAN INTERSECTION 18)														OFF SET 97.0 (61% GREATER THAN INTERSECTION 20)														
① BECOMES Y WHEN PHASE A FOLLOWS														NOTE: IF PHASE C IS CALLED BY A PEDESTRIAN ACTUATION, SKIP PHASE B. OTHERWISE USE PHASE B AND SKIP PHASE C.														
② BECOMES R WHEN PHASE A FOLLOWS																												

COLOR SEQUENCE AND MOVEMENT CHART



REF. NO.	DESCRIPTION	LOCATION
TC 20-1	CONTROLLER	RELOC. LORAIN AVE. STA. 53+50 LT.
TP 20-1	COMB. SIGNAL + LIGHT SUPPORT	RELOC. LORAIN AVE. STA. 54+15 LT.
TP 20-2	COMB. SIGNAL + SIGN SUPPORT	RELOC. LORAIN AVE. STA. 53+63 RT.
PD 20-1	PEDESTRIAN SIGNAL SUPPORT	RELOC. LORAIN AVE. STA. 53+42 LT.
PD 20-2	COMB. PED. SIGNAL + LIGHT SUPPORT	RELOC. LORAIN AVE. STA. 53+42 RT.
PD 20-3	COMB. PED. SIGNAL + LIGHT SUPPORT	RELOC. W. 84th-85th STA. 50+40 LT.
PD 20-4	PEDESTRIAN SIGNAL SUPPORT	RELOC. LORAIN AVE. STA. 54+63 RT.
LD 20-1	LOOP DETECTOR (30' X 6')	RELOC. W. 84th-85th STA. 50+43
REF. NO.	DESCRIPTION	LOCATION
TC 21-1	CONTROLLER	CLARK AVE. STA. 48+59 20' LT.
TP 21-1	TRAFFIC SIGNAL SUPPORT	CLARK AVE. STA. 48+89 35' RT.
TP 21-2	TRAFFIC SIGNAL SUPPORT	CLARK AVE. STA. 49+36 46.5' LT.
PD 21-1	PEDESTRIAN SIGNAL SUPPORT	CLARK AVE. STA. 48+66 21' LT.
PD 21-2	COMB. PED. SIGNAL, SIGN + LIGHT SUPPORT	CLARK AVE. STA. 49+34 37.5' RT.
LD 21-1	LOOP DETECTOR (24' X 6')	CLARK AVE. STA. 48+50
LD 21-2	LOOP DETECTOR (10' X 6')	CLARK AVE. STA. 46+75
LD 21-3	LOOP DETECTOR (9' X 6')	W. 84th ST. STA. 49+44

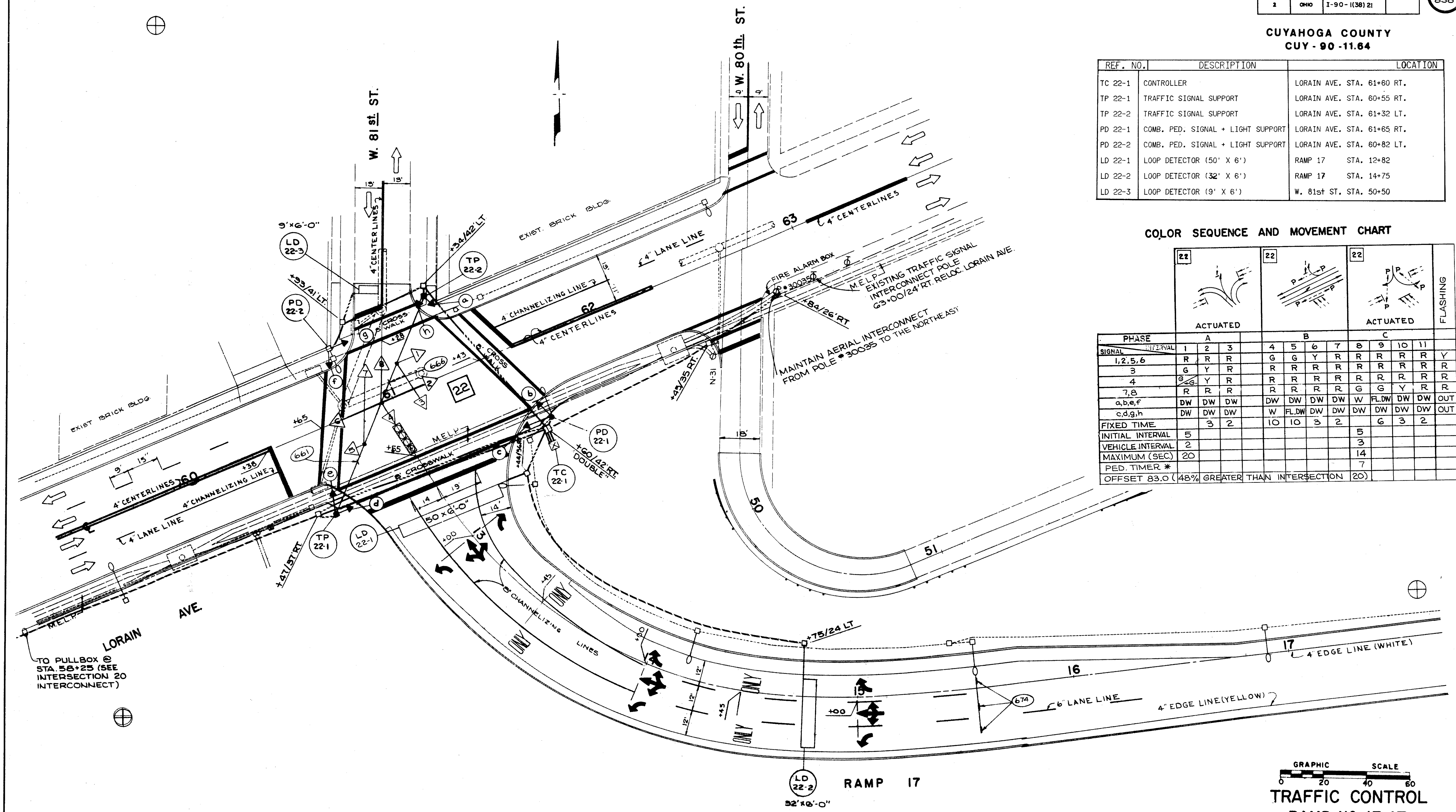


CUYAHOGA COUNTY  
CUY - 90 - 11.64

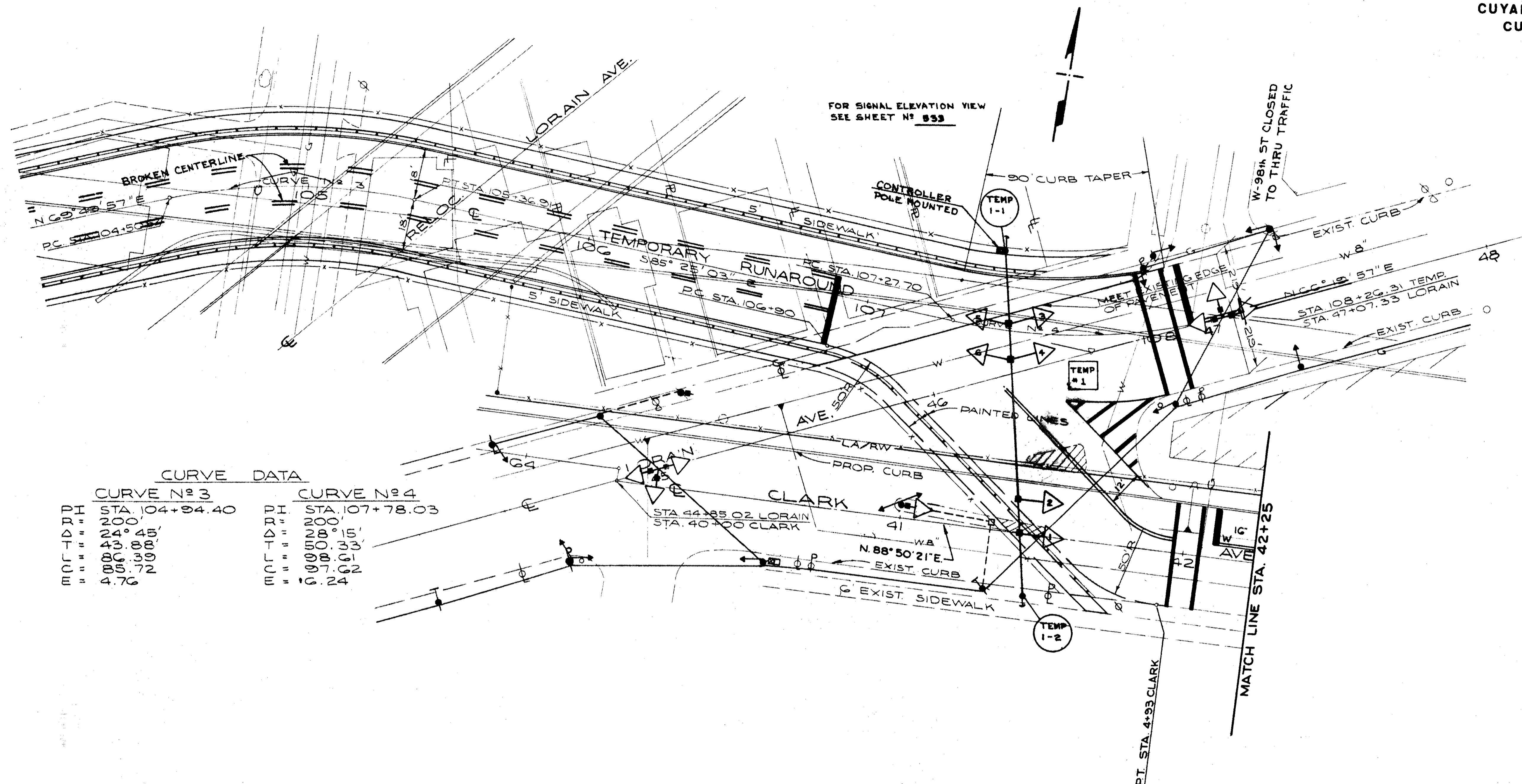
REF. NO.	DESCRIPTION	LOCATION
TC 22-1	CONTROLLER	LORAIN AVE. STA. 61+60 RT.
TP 22-1	TRAFFIC SIGNAL SUPPORT	LORAIN AVE. STA. 60+55 RT.
TP 22-2	TRAFFIC SIGNAL SUPPORT	LORAIN AVE. STA. 61+32 LT.
PD 22-1	COMB. PED. SIGNAL + LIGHT SUPPORT	LORAIN AVE. STA. 61+65 RT.
PD 22-2	COMB. PED. SIGNAL + LIGHT SUPPORT	LORAIN AVE. STA. 60+82 LT.
LD 22-1	LOOP DETECTOR (50' X 6')	RAMP 17 STA. 12+82
LD 22-2	LOOP DETECTOR (32' X 6')	RAMP 17 STA. 14+75
LD 22-3	LOOP DETECTOR (9' X 6')	W. 81st ST. STA. 50+50

COLOR SEQUENCE AND MOVEMENT CHART

PHASE	ACTUATED			ACTUATED			ACTUATED			FLASHING		
	A	B	C	A	B	C	A	B	C			
SIGNAL INTERVAL	1	2	3	4	5	6	7	8	9	10	11	
1,2,5,6	R	R	R	G	G	Y	R	R	R	R	R	Y
3	G	Y	R	R	R	R	R	R	R	R	R	R
4	G	Y	R	R	R	R	R	R	R	R	R	R
7,8	R	R	R	R	R	R	R	G	G	Y	R	R
a,b,e,f	DW	DW	DW	DW	DW	DW	DW	W	FLDW	DW	DW	OUT
c,d,g,h	DW	DW	DW	W	FLDW	DW	DW	DW	DW	DW	DW	OUT
FIXED TIME		3	2	10	10	3	2		6	3	2	
INITIAL INTERVAL	5								5			
VEHICLE INTERVAL	2								3			
MAXIMUM (SEC.)	20								14			
PED. TIMER *									7			
OFFSET 83.0 (48% GREATER THAN INTERSECTION)									20			



GRAPHIC SCALE  
0 20 40 60  
TRAFFIC CONTROL  
RAMP NO 17 AT  
LORAIN AVE. & W. 81 ST.



**CURVE DATA**

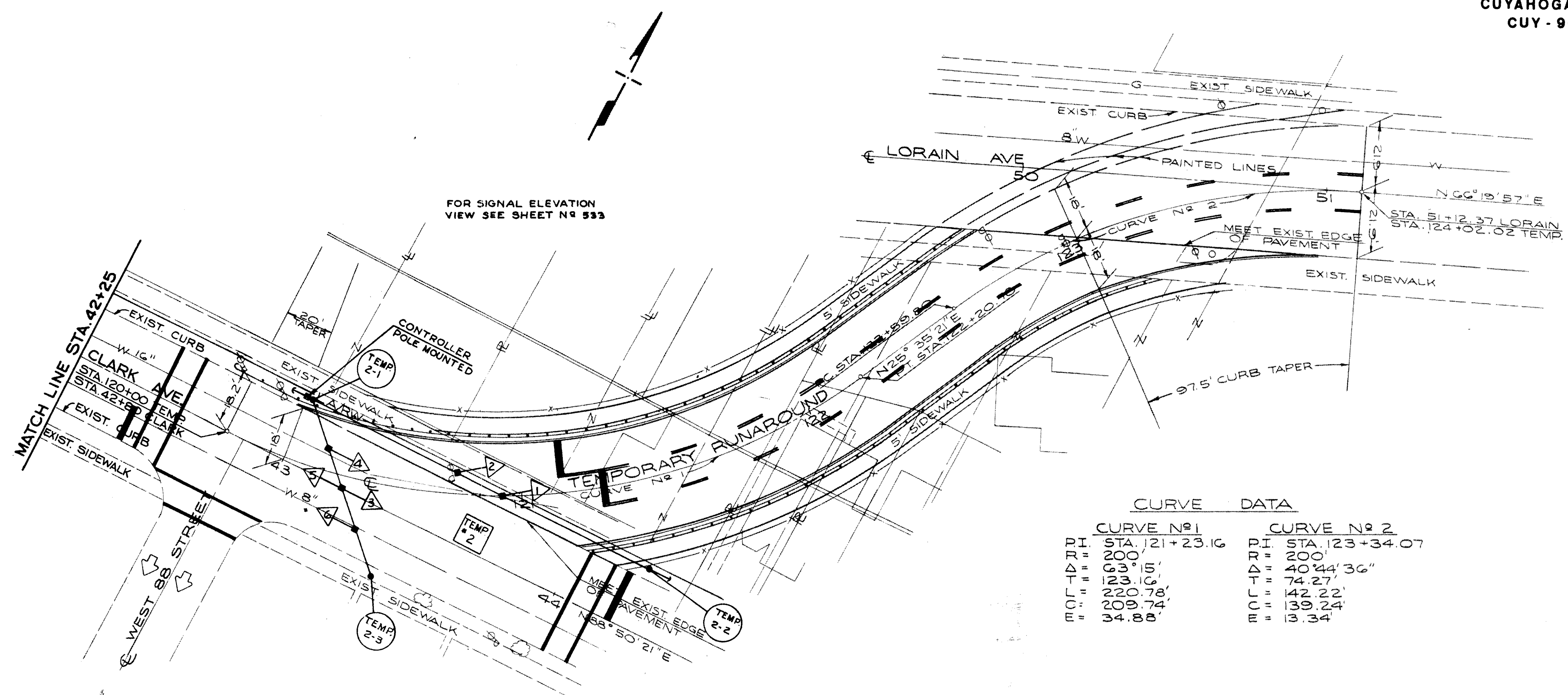
CURVE N° 3		CURVE N° 4	
PI	STA. 104+34.40	PI	STA. 107+78.03
R	200'	R	200'
Δ	24° 45'	Δ	28° 15'
T	43.88'	T	50.33'
L	86.39'	L	98.61'
E	85.72'	C	97.62'
M	4.76'	E	6.24'

COLOR SEQUENCE AND MOVEMENT CHART

	LORAIN →			← LORAIN			FLASHING
	CLARK ↓			↑ CLARK			
PHASE	A			B			
SIGNAL INTERVAL	1	2	3	4	5	6	
1,2	R	R	R	G	Y	R	R
3,4,5,6	G	Y	R	R	R	R	R
FIXED TIME	40	3	2	25	3	2	
% CYCLE	53	4	3	33	4	3	
DIAL SETTING	53	57	60	93	97	0	

DURING ALL TWENTY FOUR (24) HOURS OF DAY, THE LINE SEPERATING THE TWO(2) DIRECTIONS OF TRAVEL SHALL BE DEFINED WITH BARRELS.

STA. 104+00 TO STA. 108+26  
LORAIN AVE.  
TEMPORARY RUNAROUND #1



CURVE DATA

CURVE NO 1		CURVE NO 2	
PI	STA. 121+23.16	PI	STA. 123+34.07
R	200'	R	200'
Δ	63° 15'	Δ	40° 44' 36"
T	123.16'	T	74.27'
L	220.78'	L	142.22'
C	209.74'	C	139.24'
E	34.88'	E	13.34'

COLOR SEQUENCE AND MOVEMENT CHART

PHASE	A			B			FLASHING
	1	2	3	4	5	6	
SIGNAL INTERVAL							
1, 2	G	Y	R	R	R	R	R
3, 4	R	R	R	G	Y	R	R
5, 6	G	Y	R	R	R	R	R
FIXED TIME	47	3	2	18	3	2	
% CYCLE	63	4	3	23	4	3	
DIAL SETTING	63	67	70	93	97	0	

DURING ALL TWENTY FOUR (24) HOURS OF DAY THE LINE SEPARATING THE TWO (2) DIRECTIONS OF TRAVEL SHALL BE DEFINED WITH BARRELS.

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

527  
838

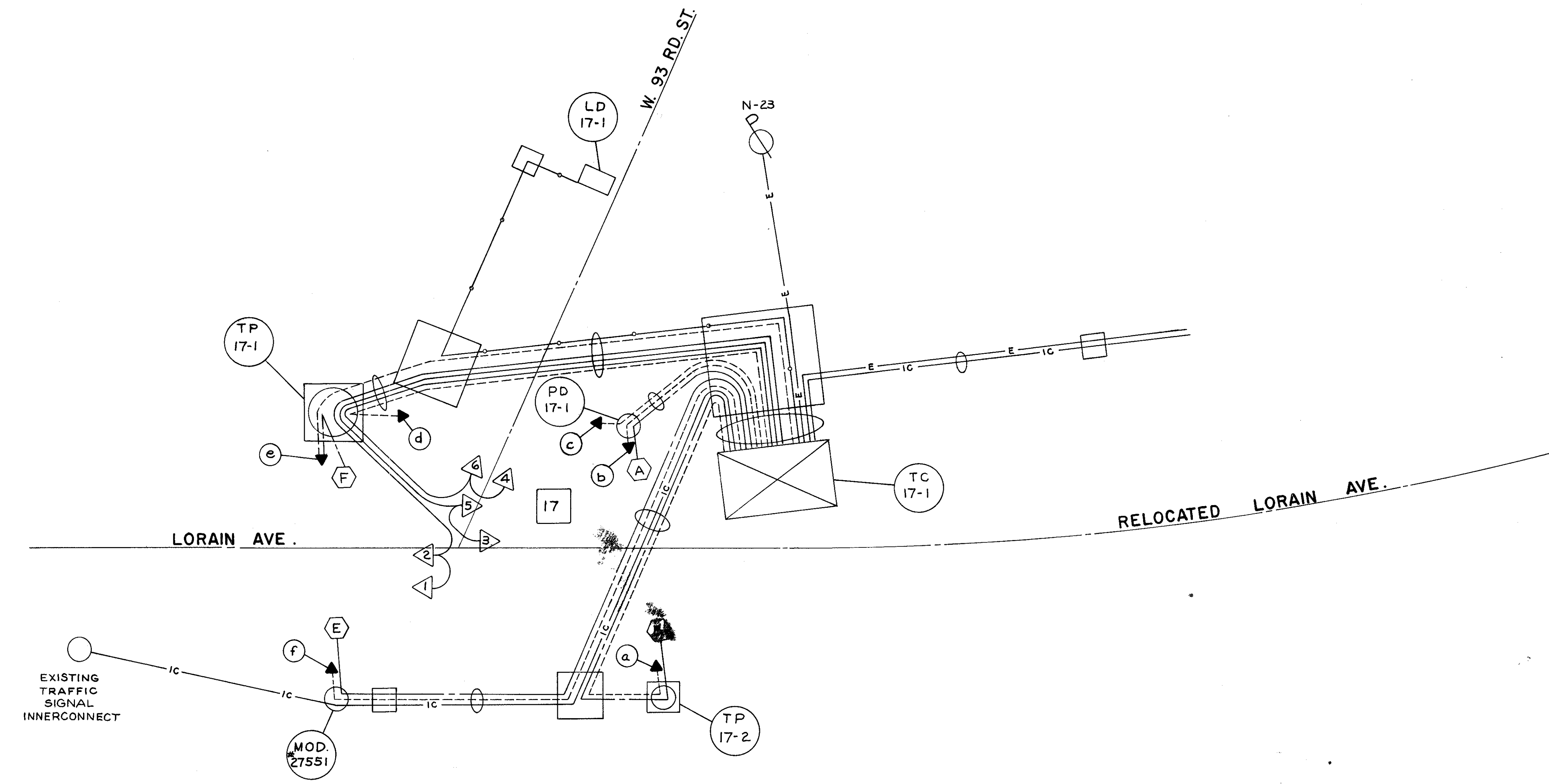
CUYAHOGA COUNTY  
CUY-90-11.64

**SYMBOL LEGEND**

- PULL BOX
- ⊕ PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL
- △ TRAFFIC SIGNAL
- ⊗ TRAFFIC CONTROLLER
- ▭ LOOP DETECTOR

**CABLE LEGEND**

- SIGNAL CABLE, STRANDED 7/c No.12 AWG
- - - SIGNAL CABLE, STRANDED 2/c No.12 AWG
- LOOP DETECTOR LEAD-IN CABLE, STRANDED 2/c No.12 AWG, TWISTED PAIR, SHIELDED
- E — POWER CABLE 3/c No.6 AWG STRANDED RHW
- IC — INTERCONNECT CABLE, STRANDED, 12/c No.12 AWG



RELOCATED LORAIN AVE.  
WIRING DIAGRAM

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

528  
838

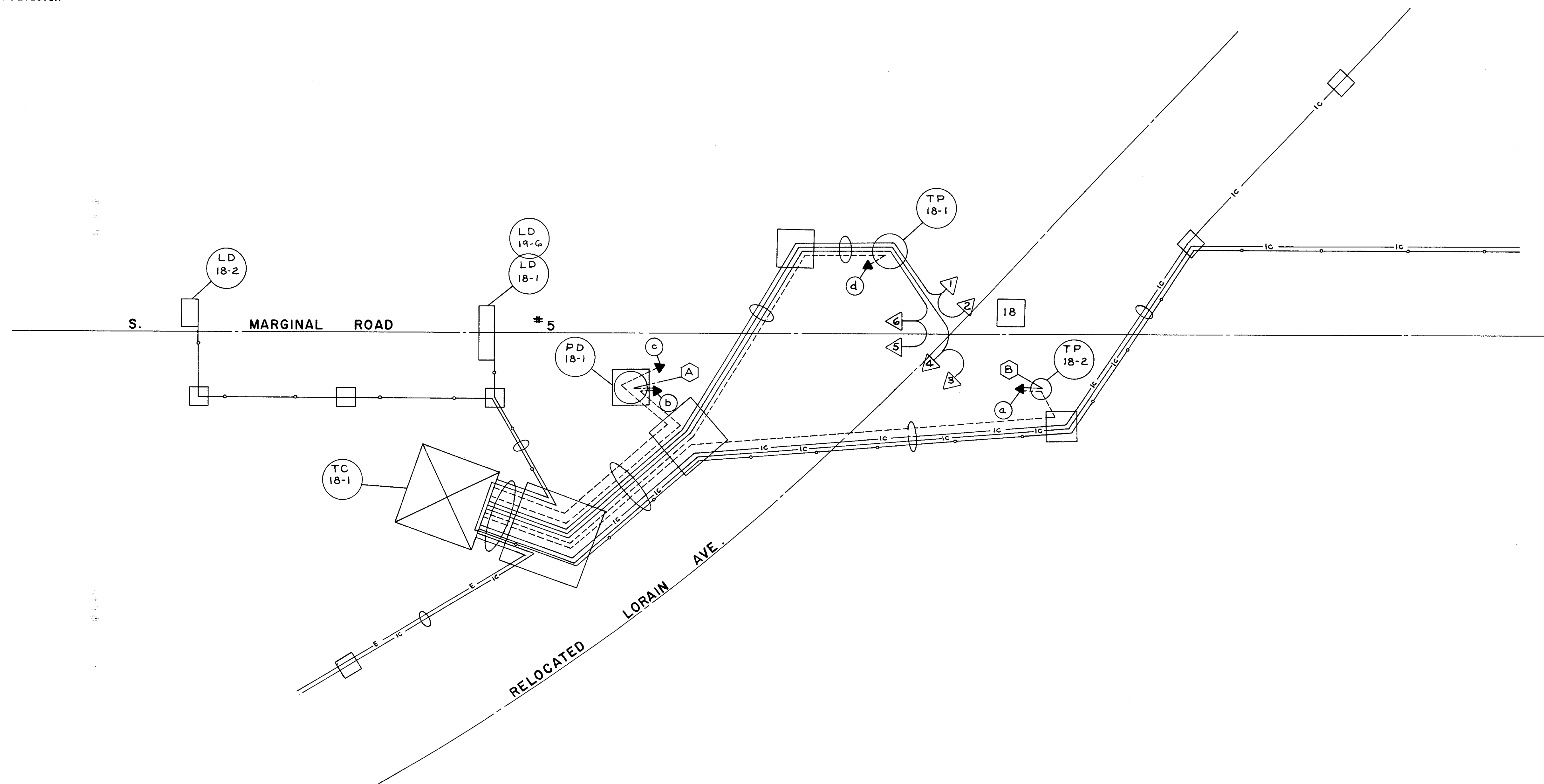
CUYAHOGA COUNTY  
CUY-90-11.64

**SYMBOL LEGEND**

- PULL BOX
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL
- TRAFFIC SIGNAL
- TRAFFIC CONTROLLER
- LOOP DETECTOR

**CABLE LEGEND**

- SIGNAL CABLE, STRANDED 7/c No 12 AWG
- SIGNAL CABLE, STRANDED 2/c No 12 AWG
- LOOP DETECTOR LEAD-IN CABLE, STRANDED, 2/c No 12 AWG, TWISTED PAIR, SHIELDED
- POWER CABLE 3/c No 6 AWG STRANDED RHW
- INTERCONNECT CABLE, STRANDED, 12/c No 12 AWG



RELOCATED LORAIN AVE .

WIRING DIAGRAM

FED. RD.	STATE	PROJECT
2	OHIO	I-90-(138) 21

529  
838

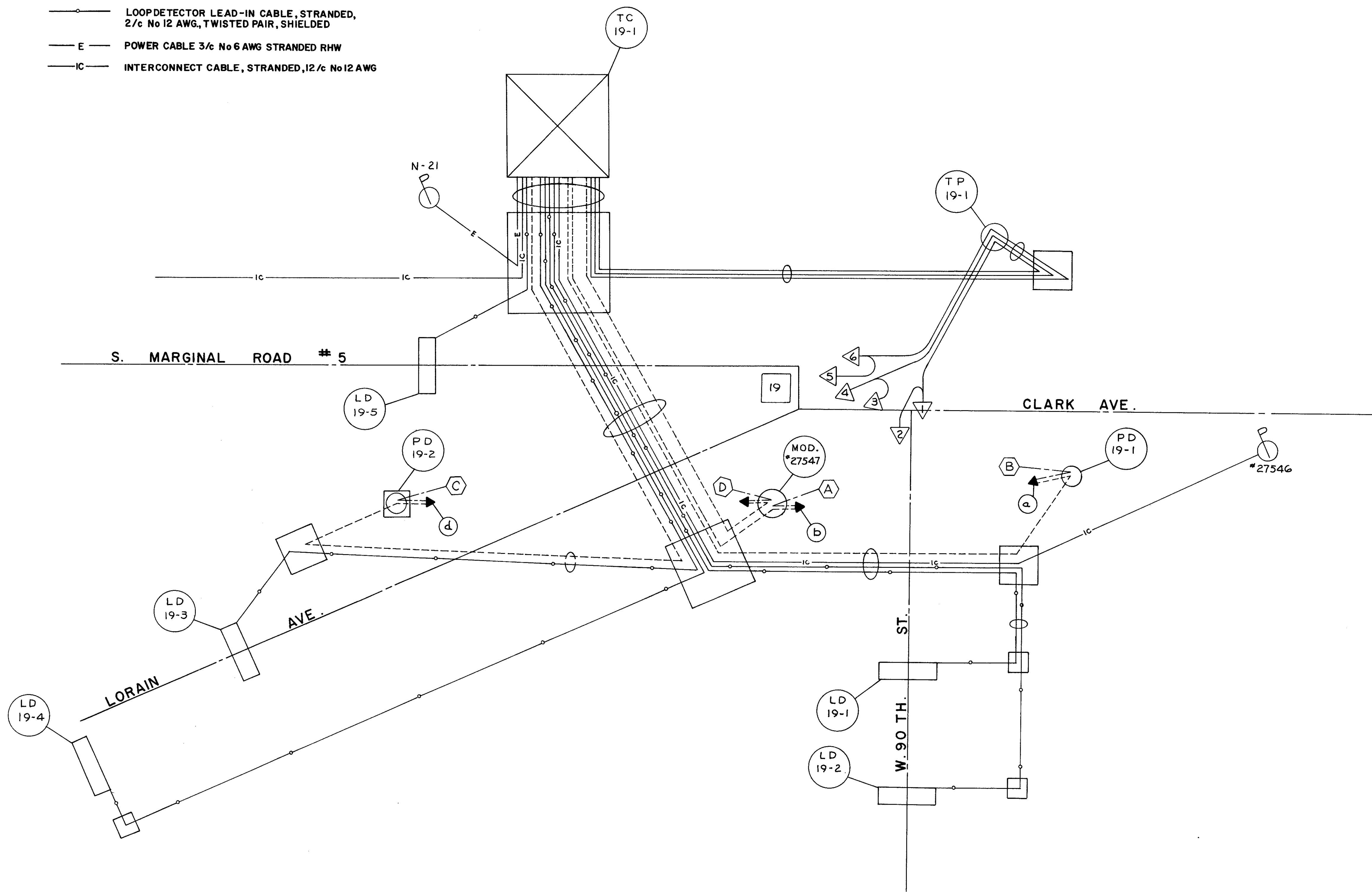
CUYAHOGA COUNTY  
CUY-90-11.64

**SYMBOL LEGEND**

- PULL BOX
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL
- TRAFFIC SIGNAL
- TRAFFIC CONTROLLER
- LOOP DETECTOR

**CABLE LEGEND**

- SIGNAL CABLE, STRANDED 7/c No 12 AWG
- SIGNAL CABLE, STRANDED 2/c No 12 AWG
- LOOP DETECTOR LEAD-IN CABLE, STRANDED, 2/c No 12 AWG, TWISTED PAIR, SHIELDED
- POWER CABLE 3/c No 6 AWG STRANDED RHW
- INTERCONNECT CABLE, STRANDED, 12/c No 12 AWG



LORAIN AVE.  
WIRING DIAGRAM

PROJ. NO.	STATE	PROJECT
2	OHIO	I-90-1(38)21

530  
838

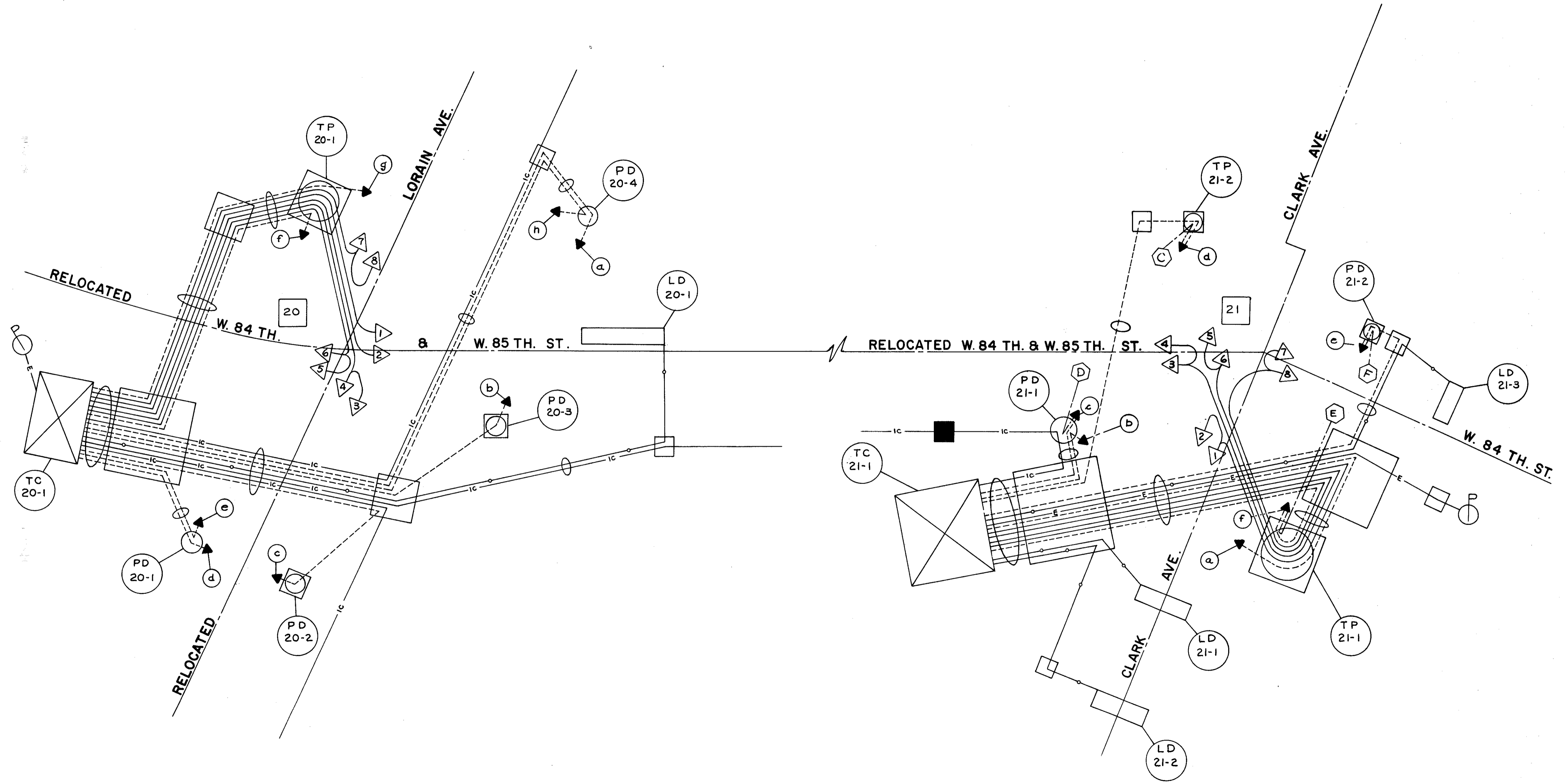
CUYAHOGA COUNTY  
CUY-90-11.64

**SYMBOL LEGEND**

- PULL BOX
- JUNCTION BOX
- ⊕ PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL
- △ TRAFFIC SIGNAL
- ⊗ TRAFFIC CONTROLLER
- LOOP DETECTOR

**CABLE LEGEND**

- SIGNAL CABLE, STRANDED 7/c No12 AWG
- SIGNAL CABLE, STRANDED 2/c No12 AWG
- LOOP DETECTOR LEAD-IN CABLE, STRANDED, 2/c No 12 AWG, TWISTED PAIR, SHIELDED
- E— POWER CABLE 3/c No6 AWG STRANDED RHW
- IC— INTERCONNECT CABLE, STRANDED, 12/c No 12 AWG



RELOCATED LORAIN AVE.

WIRING DIAGRAM



FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)2I

531  
838

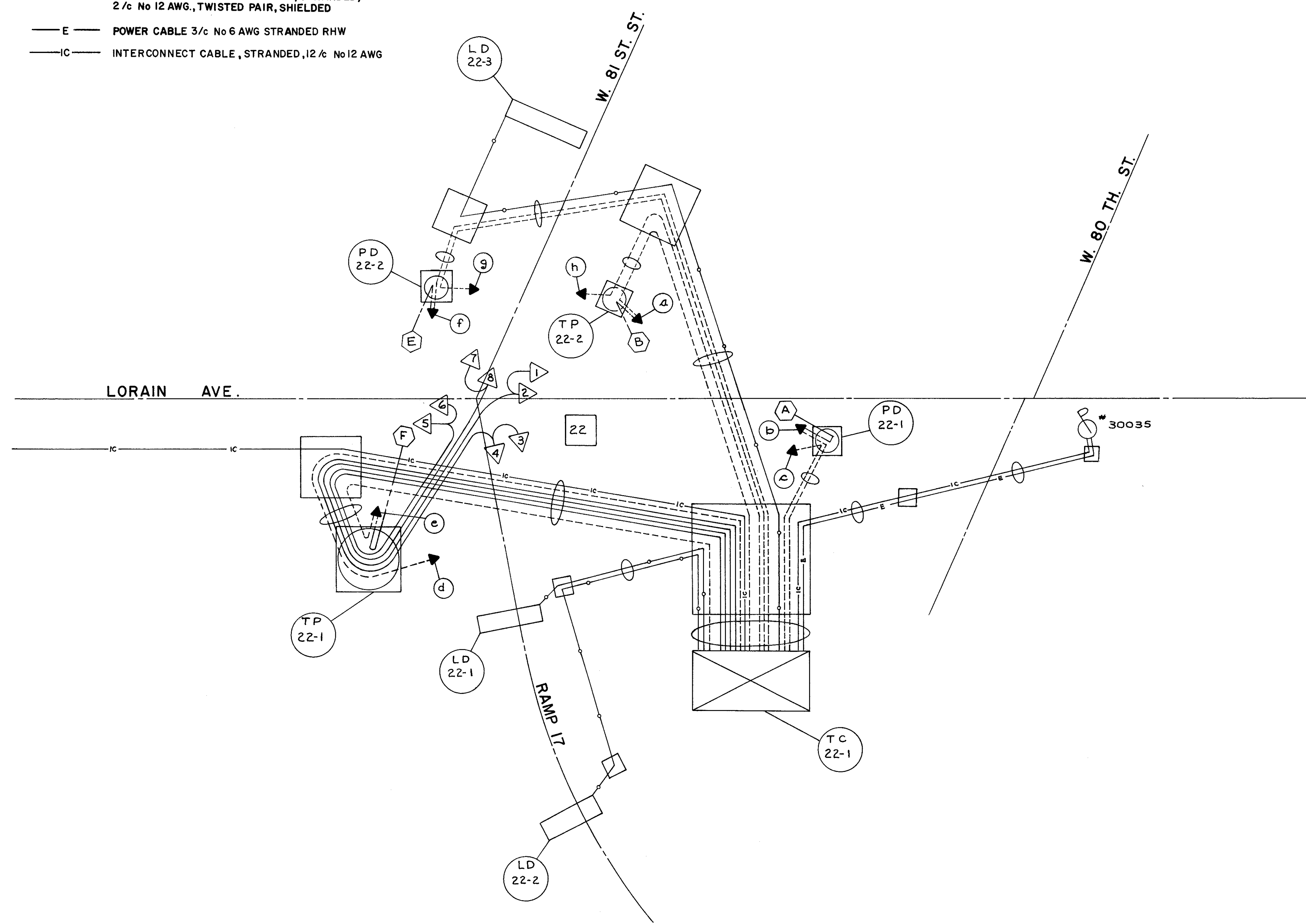
CUYAHOGA COUNTY  
CUI-90-11.64

**SYMBOL LEGEND**

- PULL BOX
- ⊠ PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL
- △ TRAFFIC SIGNAL
- ⊗ TRAFFIC CONTROLLER
- ▭ LOOP DETECTOR

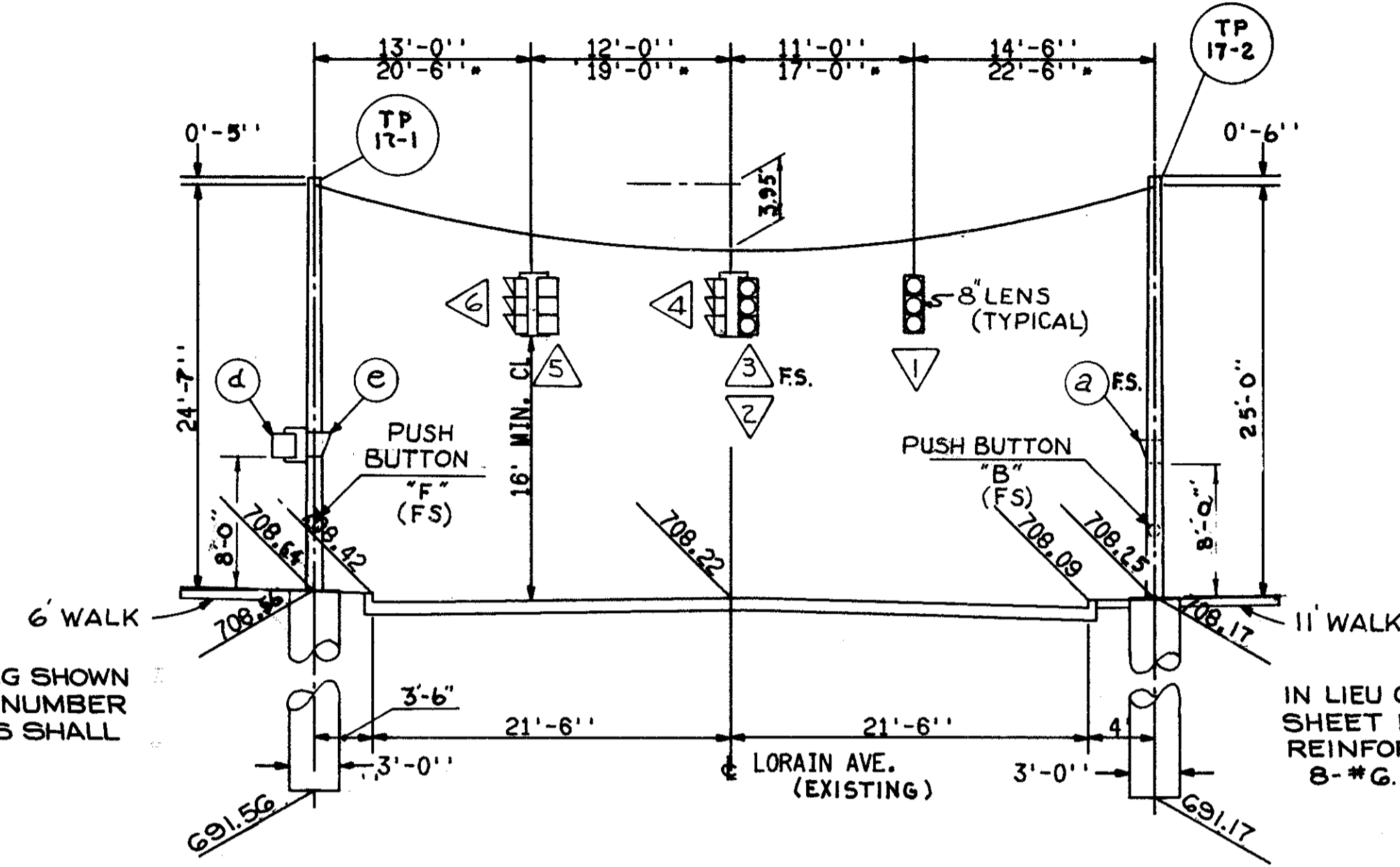
**CABLE LEGEND**

- SIGNAL CABLE, STRANDED 7/c No 12 AWG
- SIGNAL CABLE, STRANDED 2/c No 12 AWG
- LOOP DETECTOR LEAD-IN CABLE, STRANDED, 2/c No 12 AWG, TWISTED PAIR, SHIELDED
- E— POWER CABLE 3/c No 6 AWG STRANDED RHW
- IC— INTERCONNECT CABLE, STRANDED, 12/c No 12 AWG



LORAIN AVE.  
WIRING DIAGRAM

POLE = 3 GA.-12.0''X 8.50''X 25'- 0'' (TP 17-1)  
POLE = 3 GA.-12.0''X 8.43''X 25'- 6'' (TP 17-2)  
• DISTANCES AS MEASURED ALONG SPAN WIRE ON PLAN VIEW

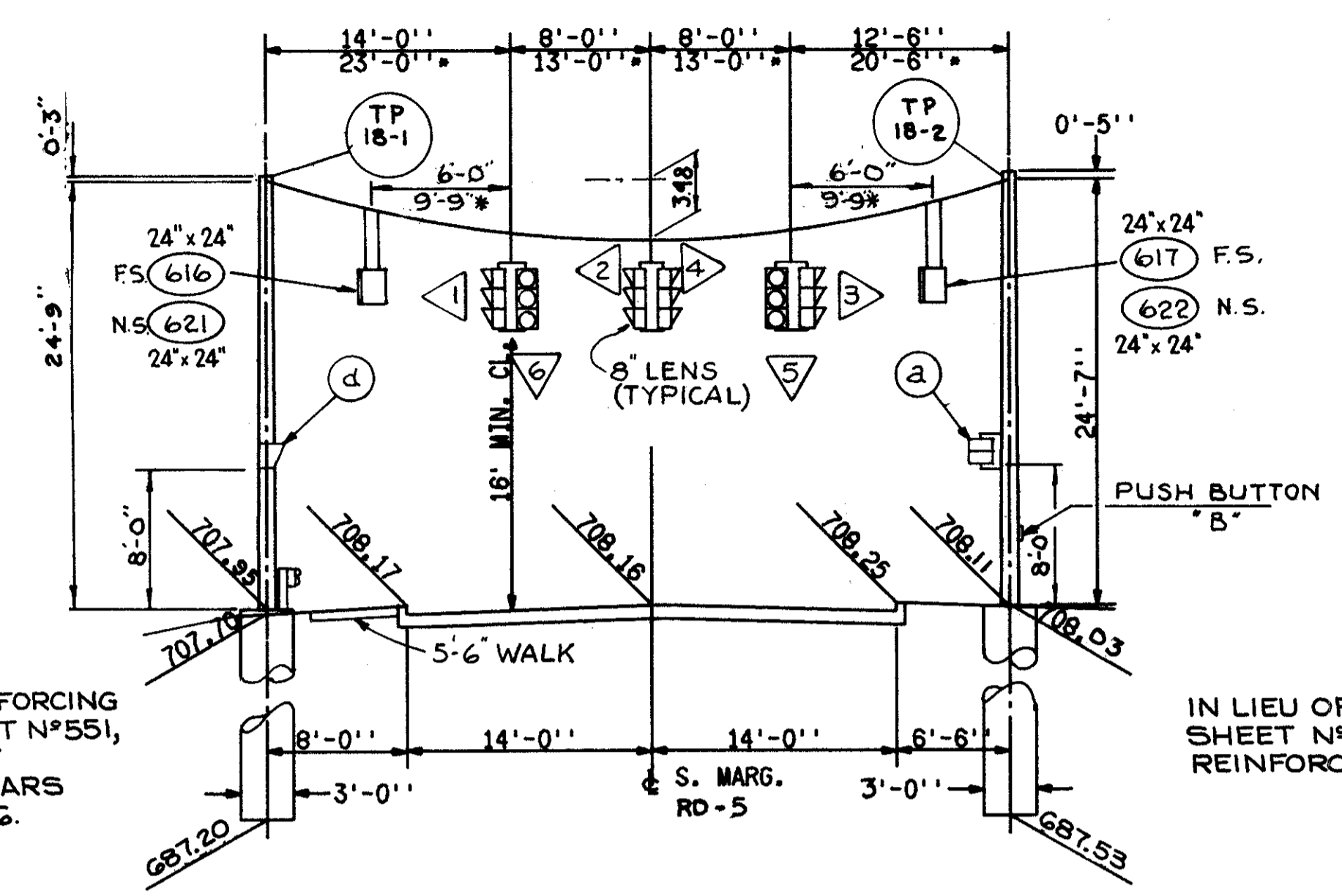


IN LIEU OF REINFORCING SHOWN ON SHEET N° 551, THE NUMBER OF REINFORCING BARS SHALL BE 8-#6.

IN LIEU OF REINFORCING SHOWN ON SHEET N° 551, THE NUMBER OF REINFORCING BARS SHALL BE 8-#6.

TRAFFIC SIGNAL SUPPORT TP 17-1 AND TP 17-2  
LORAIN AVE. STA. 39+84.00 25' LT AND LORAIN AVE. STA. 40+45.00 25.5' RT.  
EASTBOUND

POLE = 3 GA.-12.0''X 8.50''X 25'- 0'' (TP 18-1)  
POLE = 3 GA.-12.0''X 8.60''X 25'- 0'' (TP 18-2)  
• DISTANCES AS MEASURED ALONG SPAN WIRE ON PLAN VIEW



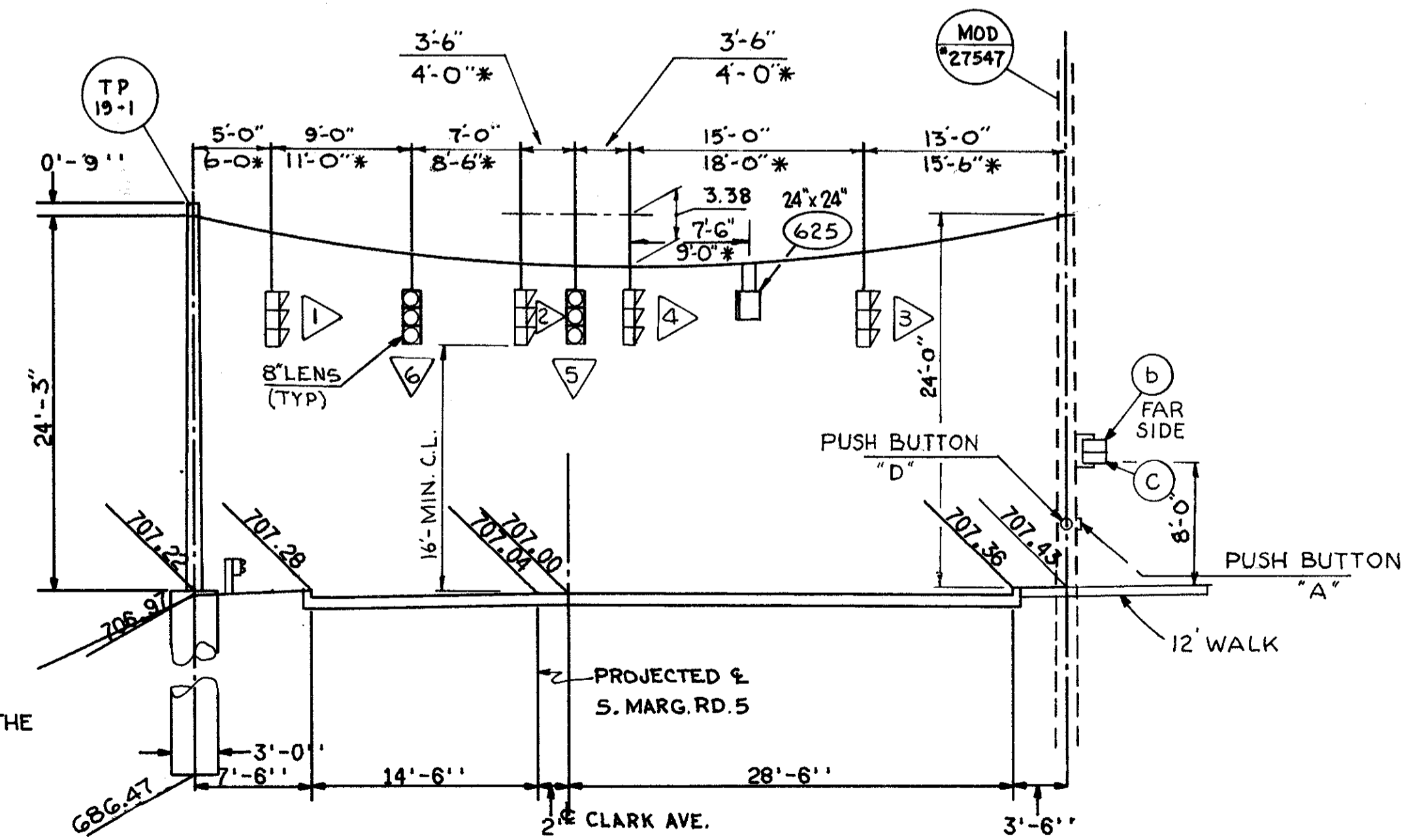
IN LIEU OF REINFORCING SHOWN ON SHEET N° 551, THE NUMBER OF REINFORCING BARS SHALL BE 8-#6.

IN LIEU OF REINFORCING SHOWN ON SHEET N° 551, THE NUMBER OF REINFORCING BARS SHALL BE 8-#6.

TRAFFIC SIGNAL SUPPORT TP 18-1 AND TP 18-2  
S. MARGINAL RD. 5 STA. 62+52.5 22' LT. AND STA. 63+08 20.5' RT.  
EASTBOUND

POLE = 3 GA.-11.0''X 7.50''X 25'- 0'' (TP 19-1)  
• DISTANCES AS MEASURED ALONG SPAN WIRE ON PLAN VIEW

NOTE: EXISTING TRAFFIC SIGNAL EQUIPMENT AND AERIAL INTERCONNECT CABLE TO BE REMOVED AFTER NEW SYSTEM HAS BEEN INSTALLED AND APPROVED - REF POLE NO. 27547

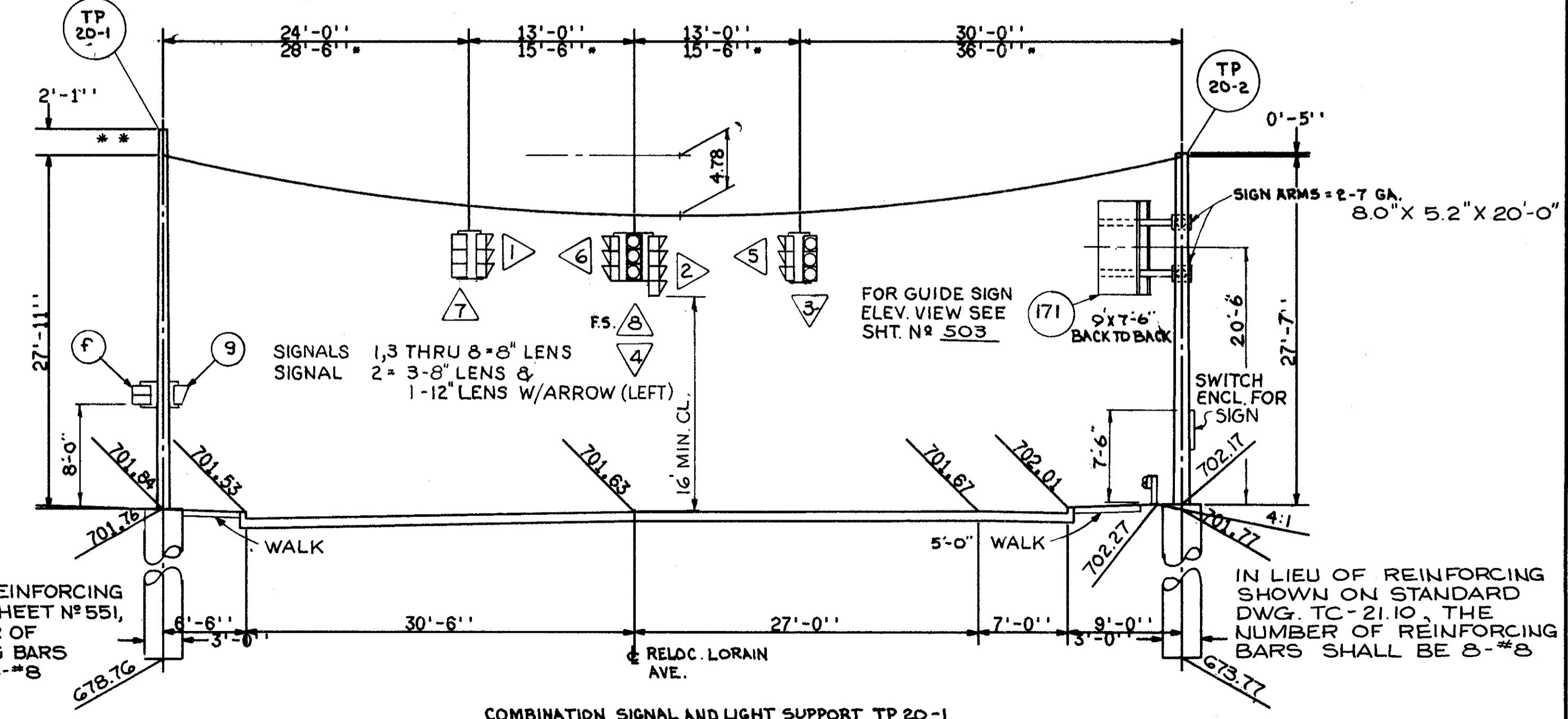


IN LIEU OF REINFORCING SHOWN ON SHEET N° 551, THE NUMBER OF REINFORCING BARS SHALL BE 8-#6.

TRAFFIC SIGNAL SUPPORT TP 19-1 AND EXIST. POLE NO. 27547 (MOD.)  
CLARK AVE. STA. 40+23 24' LT AND LORAIN AVE. STA. 44+60 24' RT.  
EASTBOUND

\*\* SEE LIGHTING PLAN LUMINAIRE NOT SHOWN

POLE = 0 GA.-14.0''X 9.80''X 30'- 0'' (TP 20-1)  
POLE = 0 GA.-16.0''X 12.08''X 28'- 0'' (TP 20-2)  
• DISTANCES AS MEASURED ALONG SPAN WIRE ON PLAN VIEW



IN LIEU OF REINFORCING SHOWN ON SHEET N° 551, THE NUMBER OF REINFORCING BARS SHALL BE 8-#8

IN LIEU OF REINFORCING SHOWN ON STANDARD DWG. TC-21.10, THE NUMBER OF REINFORCING BARS SHALL BE 8-#8

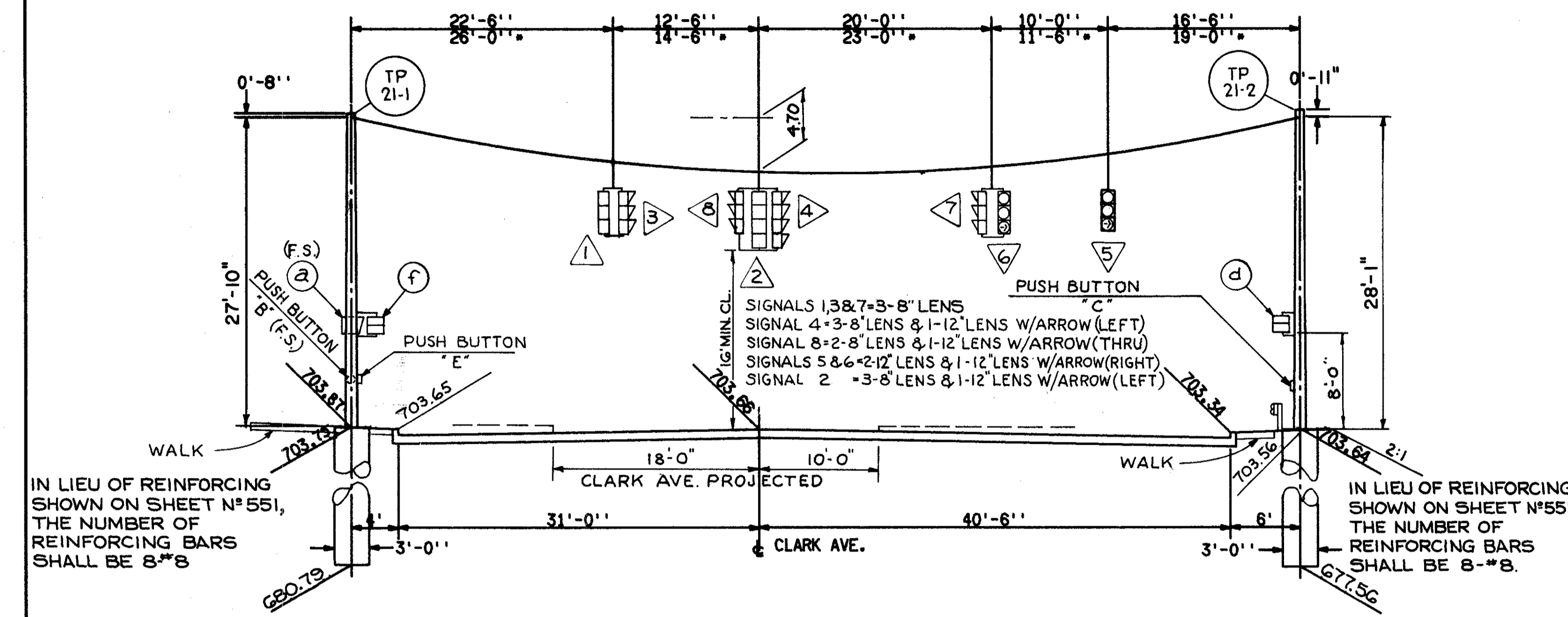
COMBINATION SIGNAL AND LIGHT SUPPORT TP 20-1  
AND COMBINATION SIGNAL AND SIGN SUPPORT TP 20-2  
RELOC. LORAIN AVE. STA. 54+15 37' LT AND RELOC. LORAIN AVE. STA. 53+63 43' RT.  
EASTBOUND

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(58)21

533  
836

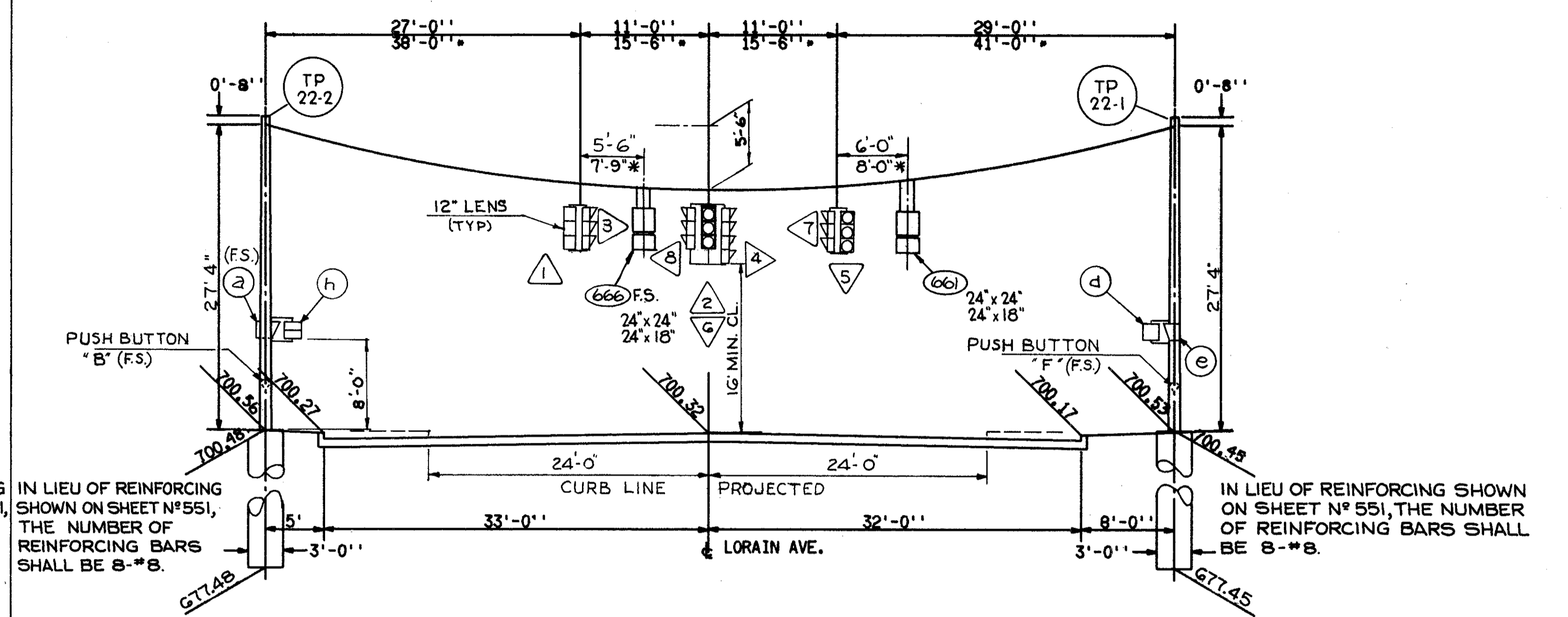
CUYAHOGA COUNTY  
CUY - 90 - 11.64

POLE = 3 GA.-15.0'X11.01'X 28'-6" (TP 21-1)  
POLE = 3 GA.-15.0'X10.94'X 29'-0" (TP 21-2)  
\* DISTANCES AS MEASURED ALONG SPAN WIRE ON PLAN VIEW



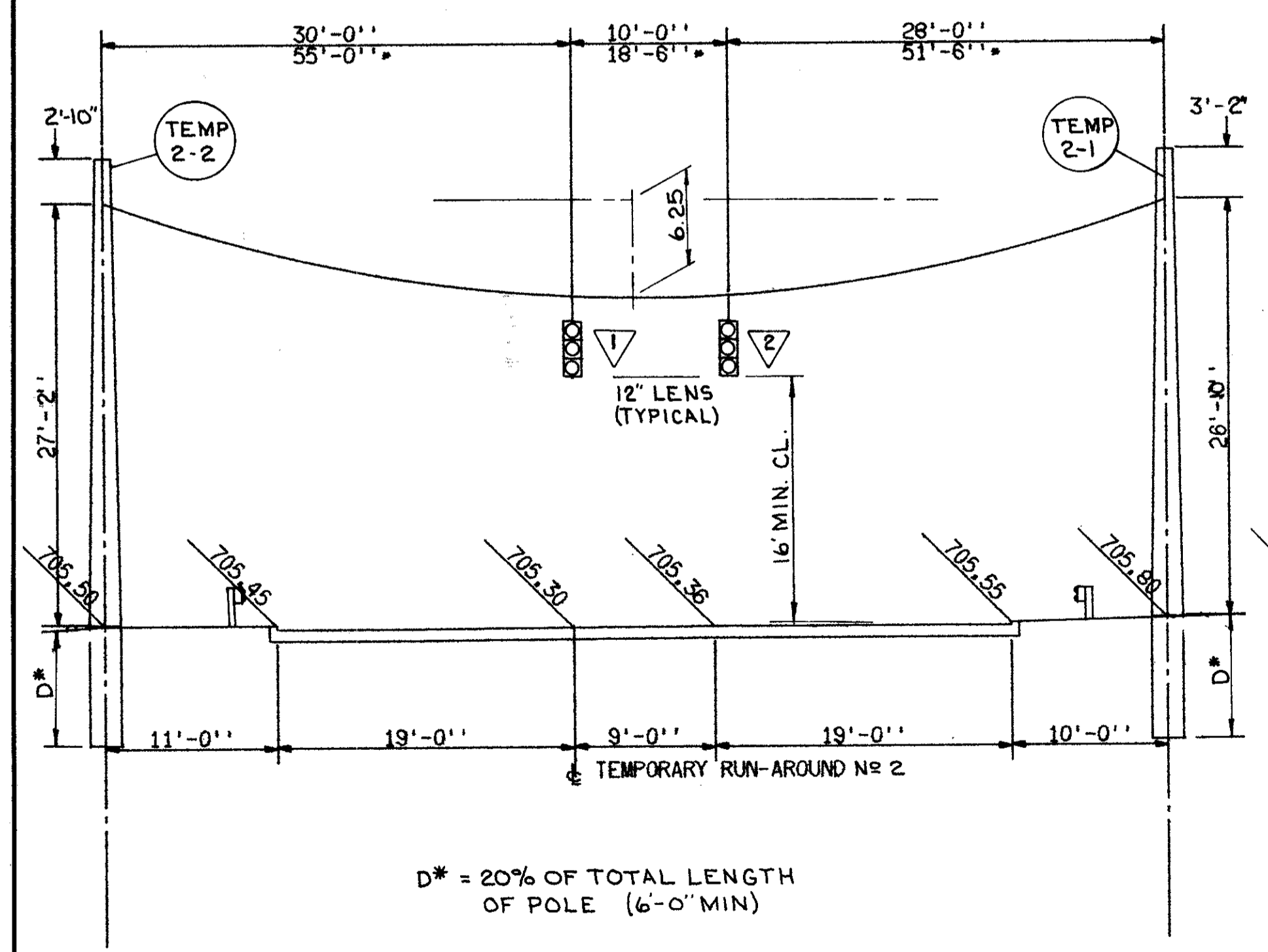
TRAFFIC SIGNAL SUPPORT NO. TP 21-1 AND TP 21-2  
CLARK AVE. STA. 48+89.0 35' RT. AND STA. 49+36 46.5' LT.  
WESTBOUND

POLE = 3 GA.-16.0'X12.08'X 28'-0" (TP 22-1)  
POLE = 3 GA.-16.0'X12.08'X 28'-0" (TP 22-2)  
\* DISTANCES AS MEASURED ALONG SPAN WIRE ON PLAN VIEW



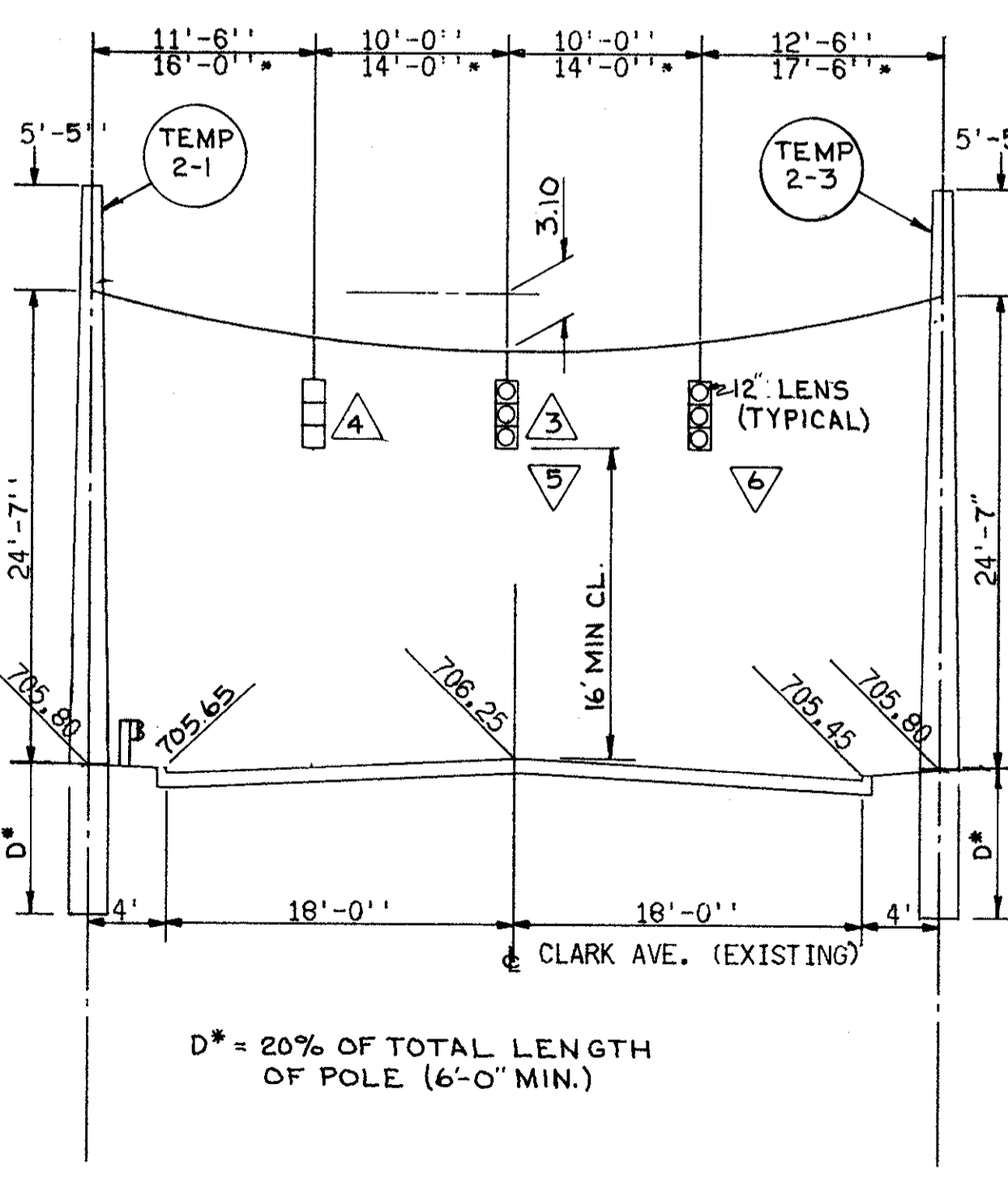
TRAFFIC SIGNAL SUPPORT NO. TP 22-2 AND TP 22-1  
LORAIN AVE. STA. 61+32 38' LT. AND STA. 60+55 40' RT.  
EASTBOUND

\* DISTANCES AS MEASURED ALONG SPAN WIRE ON PLAN VIEW



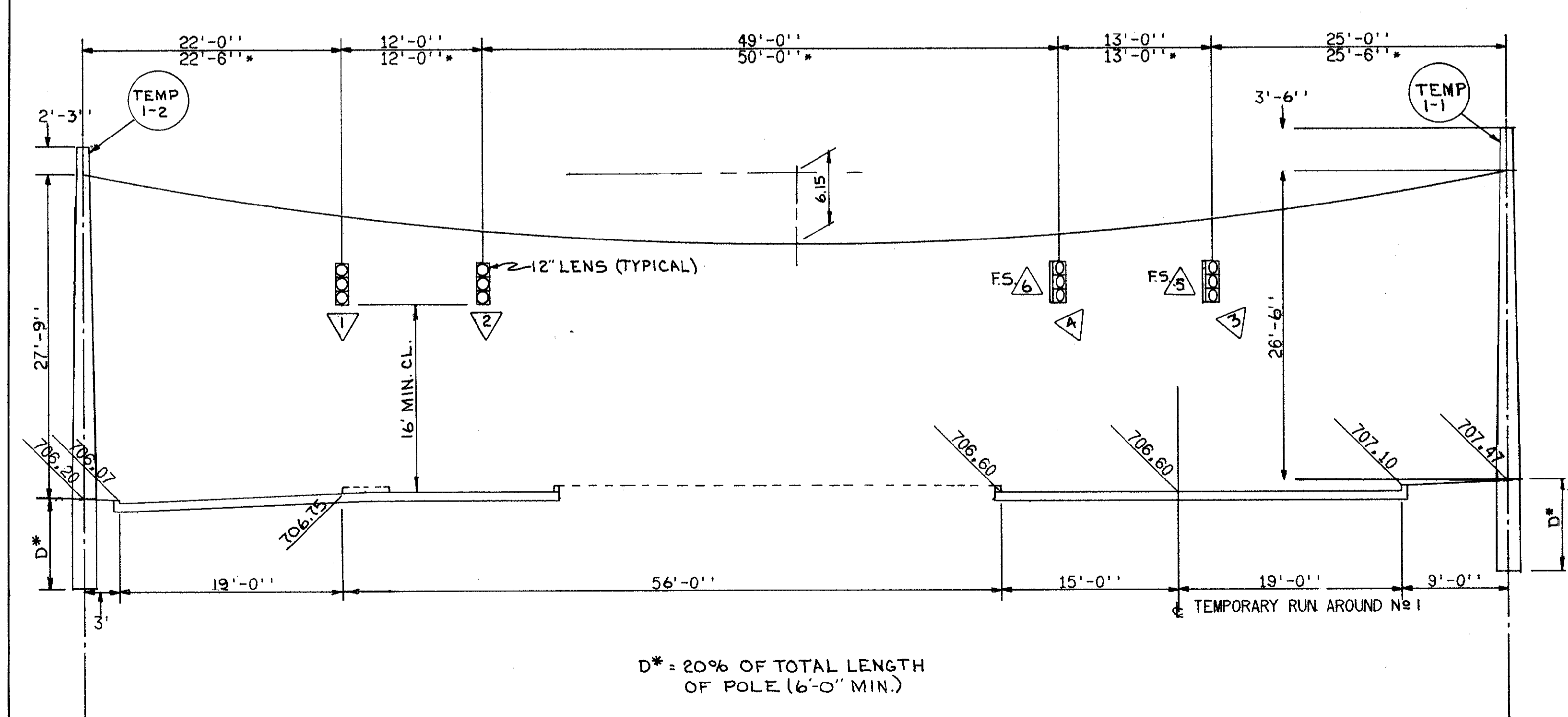
TEMPORARY TRAFFIC SIGNAL INSTALLATION  
TEMPORARY RUN-AROUND NO. 2 AT LORAIN AVE.  
SOUTHBOUND

\* DISTANCES AS MEASURED ALONG SPAN WIRE ON PLAN VIEW



TEMPORARY TRAFFIC SIGNAL INSTALLATION  
TEMPORARY RUN-AROUND NO. 2 AT LORAIN AVE.  
EASTBOUND

\* DISTANCES AS MEASURED ALONG SPAN WIRE ON PLAN VIEW



TEMPORARY TRAFFIC SIGNAL INSTALLATION  
TEMPORARY RUN-AROUND NO. 1  
WESTBOUND

TRAFFIC SIGNAL DETAILS

# TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

534  
838

CUYAHOGA COUNTY  
CUY - 90 -11.64

INTERSECTION 17  
PLAN SHEET NO. 522

\* LORAIN AVE. - W. 93RD ST. INTERSECTION 17

ITEM	DESCRIPTION	UNIT
202	REMOVAL OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH
* EACH LOCATION REFERENCED TO		
1 /	LORAIN AVE. AND CLARK AVE.	1.00
1 /	LORAIN AVE. AND W. 83RD ST.	1.00
1 /	CLARK AVE. AND W. 82ND ST.	1.00
* LORAIN AVE. AND W. 93RD ST. INTERSECTION - NO. 17		
TOTAL		3.00

ITEM	DESCRIPTION	UNIT
625	TRENCH	LF
* LF FROM LOCATION TO LOCATION REFERENCED TO		
38 /	45+54 W. 93RD TO 40+63 LORAIN POLE N-23	38.00
6 /	40+58 LORAIN TO 40+63 LORAIN PD 17-1	6.00
82 /	39+84 LORAIN TO 40+63 LORAIN TP 17-1	82.00
75 /	40+45 LORAIN TO 40+63 LORAIN TP 17-2	75.00
50 /	39+91 LORAIN TO 40+40 LORAIN MOD. POLE 27551	50.00
27 /	45+22 W. 93RD TO 39+97 LORAIN LD 17-1	27.00
102 /	40+63 LORAIN TO 41+71 LORAIN INTERCONNECT	102.00
75 /	41+62 26' RT. TO 41+72 35' LT. EXIST. LORAIN AND RELOC. LORAIN AVE.	75.00
NOTE: TRENCHING FOR THE REMAINING RUNS ARE COMBINED WITH LIGHTING QUANTITIES		TOTAL 455.00 LF

ITEM	DESCRIPTION	UNIT
625	CONDUIT, 3 IN., 713.04	LF
* LF FROM STATION TO STATION REF. TO		
38 /	45+54 RT TO 40+63 LT POLE N-23	38.00
6 /	40+58 LT TO 40+63 LT PD 17-1	6.00
66 /	39+97 LT TO 40+63 LT TC 17-1	66.00
16 /	39+84 LT TO 39+97 LT TP 17-1	16.00
27 /	45+22 LT TO 39+97 LT LD 17-1	27.00
70 /	40+40 RT TO 40+63 LT TP 17-2	70.00
5 /	40+40 RT TO 40+45 RT TP 17-2	5.00
46 /	39+95 RT TO 40+40 RT MOD POLE 27551	46.00
4 /	39+91 RT TO 39+95 RT MOD POLE 27551	4.00
102x2 /	40+63 TO 41+71 INTERCONNECT	204.00
TOTAL		482.00 LF

ITEM	DESCRIPTION	UNIT
625	'SINGLE' PULL BOX, CONCRETE AS PER PLAN	EACH
* EACH LOCATION REFERENCED TO		
1 /	39+94 RT. LORAIN TO MOD. POLE 27551	1.00
1 /	39+97 LT. LORAIN TO TP 17-1	1.00
1 /	45+22 LT. W. 93RD TO LD 17-1	1.00
1 /	41+62 35' LT. TO RELOC. LORAIN	1.00
TOTAL		4.00

ITEM	DESCRIPTION	UNIT
625	'DOUBLE' PULL BOX, CONCRETE AS PER PLAN	EACH
* EACH LOCATION REFERENCED TO		
1 /	40+40 RT. TO TP 17-2	1.00
1 /	40+63 LT. LORAIN TO TC 17-1	1.00
1 /	41+71 LT. LORAIN TO INTERCONNECT	1.00
TOTAL		3.00

ITEM	DESCRIPTION	UNIT
625	GROUND ROD	EACH
* EACH LOCATION REFERENCED TO		
1 /	40+63 LT. LORAIN TO TC 17-1	1.00
1 /	39+84 LT. LORAIN TO TP 17-1	1.00
1 /	40+45 RT. LORAIN TO TP 17-2	1.00
1 /	40+57 LT. LORAIN TO PD 17-1	1.00
TOTAL		4.00

ITEM	DESCRIPTION	UNIT
844	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH
* EACH LOCATION REFERENCED TO		
1 /	40+63 LT. LORAIN TO TC 17-1	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	CABLE SUPPORT ASSEMBLY	EACH
* EACH LOCATION REFERENCED TO		
3 /	39+84 LT. LORAIN TO TP 17-1	3.00
TOTAL		3.00

ITEM	DESCRIPTION	UNIT
842	SIGNAL CABLE, 2/C NO. 12 AWG (STRANDED)	LF
* LF+10 FROM TO		
4 + 10 /	PUSHBUTTON A PED. SIGNAL b	14.00
4 + 10 /	PUSHBUTTON B PED. SIGNAL a	14.00
4 + 10 /	PUSHBUTTON E PED. SIGNAL f	14.00
4 + 10 /	PUSHBUTTON F PED. SIGNAL e	14.00
TOTAL		56.00 LF

ITEM	DESCRIPTION	UNIT
842	SIGNAL CABLE, 7/C NO. 12 AWG (STRANDED)	LF
* LF+10 FROM CONTROLLER TO		
5+10+70+5+10+5 /	PEDESTRIAN SIGNAL A	105.00
5+10+6+10+5 /	PEDESTRIAN SIGNAL B	36.00
5+10+6+10+5 /	PEDESTRIAN SIGNAL C	36.00
5+10+66+16+10+5 /	PEDESTRIAN SIGNAL D	112.00
5+10+66+16+10+5 /	PEDESTRIAN SIGNAL E	112.00
5+10+70+46+4+10+5 /	PEDESTRIAN SIGNAL F	150.00
5+10+66+16+27+40+5+5+17+5 /	TRAFFIC SIGNAL 1 AND 2	196.00
5+10+66+16+27+19+5+5+20+5 /	TRAFFIC SIGNAL 4 AND 6	178.00
5+10+66+16+27+19+5+5+20+5 /	TRAFFIC SIGNAL 5 AND 3	178.00
TOTAL		1103.00 LF

ITEM	DESCRIPTION	UNIT
842	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG (STRANDED)	LF
* LF+10		
5+27+44+46+70+10+5 /	FROM MOD. POLE 27551 TO CONTROLLER TC 17-1	167.00
5+10+177+10+5 /	FROM CONTROLLER 17-1 TO CONTROLLER TC 18-1	207.00
TOTAL		374.00 LF

ITEM	DESCRIPTION	UNIT
842	POWER CABLE, 3/C NO. 6 AWG	LF
* LF+10		
5+27+38+10+5 /	FROM POLE N-23 TO CONTROLLER TC 17-1	85.00
TOTAL		85.00 LF

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR WIRE	LF
* LOOP PERIMETER X NO. OF TURNS REFERENCED TO		
30x3+7x2 /	LD 17-1 W. 93RD ST.	104.00
TOTAL		104.00 LF

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR LEAD IN CABLE	LF
* LF+10		
5+27+66+10+5 /	FROM LD 17-1 TO CONTROLLER TC 17-1	113.00
TOTAL		113.00 LF

ITEM	DESCRIPTION	UNIT
842	MESSENGER WIRE, 7 STRAND, 3/8 IN. WITH ACCESSORIES	LF
* LF		
20+20+17+22 /	SPANNING TP 17-1 TO TP 17-2	79.00
TOTAL		79.00 LF

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR PAVEMENT CUTTING	LF
* LF LOOP PERIMETER + LEAD-IN REFERENCED TO		
30+3 /	LD 17-1	33.00
TOTAL		33.00 LF

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR AMPLIFIER	EACH
* EACH REFERENCED TO		
1 /	LD 17-1	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	PEDESTRIAN SIGNAL PUSHBUTTON WITH SIGN	EACH
* EACH REFERENCED TO		
1 /	PD 17-1 (PUSHBUTTON A)	1.00
1 /	TP 17-2 (PUSHBUTTON B)	1.00
1 /	MOD. 27551 (PUSHBUTTON E)	1.00
1 /	TP 17-1 (PUSHBUTTON F)	1.00
TOTAL		4.00

ITEM	DESCRIPTION	UNIT
842	PEDESTRIAN SIGNAL HEAD, TYPE B2	EACH
* EACH PED. SIGNAL REFERENCED TO		
1 /	A TP 17-2	1.00
1 /	B PD 17-1	1.00
1 /	C PD 17-1	1.00
1 /	D TP 17-1	1.00
1 /	E TP 17-1	1.00
1 /	F MOD. POLE 27551	1.00
TOTAL		6.00

ITEM	DESCRIPTION	UNIT
843	SIGNAL CONTROLLER, 2 PHASE, SEMI-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT	EACH
* EACH REF. TO		
1 /	TC 17-1 EXIST. LORAIN AVE. 40+63 LT.	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, ONE WAY	EACH
* EACH REFERENCED TO		
1 /	SIGNAL HEAD 1	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, TWO WAY	EACH
* EACH REFERENCED TO		
1 /	SIGNAL HEAD 5 AND 6	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, THREE WAY	EACH
* EACH REFERENCED TO		
1 /	SIGNAL HEAD 2, 3 AND 4	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	WEATHERHEAD AND CONDUIT RISER (3 IN.) DIA.	EACH
* EACH REFERENCED TO		
1 /	SERVICE POLE N-23	1.00
1 /	MOD. POLE 27551	1.00
TOTAL		2.00

ITEM	DESCRIPTION	UNIT
842	SIGNAL STRAIN PULE, 0.25 INCHES X 12.0 INCHES X 25.0 FEET	EACH
* EACH REFERENCED TO		
1 /	TP 17-1 39+84 LT. LORAIN AVE.	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	SIGNAL STRAIN PULE, 0.25 INCHES X 12.0 INCHES X 25.5 FEET	EACH
* EACH REFERENCED TO		
1 /	TP 17-2 40+45 RT. LORAIN AVE.	1.00
TOTAL		1.00

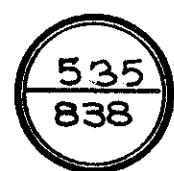
ITEM	DESCRIPTION	UNIT
842	PEDESTAL (7.5) FEET	EACH
* EACH REFERENCED TO		
1 /	PD 17-1 40+57.5 LT. LORAIN AVE.	1.00
TOTAL		1.00

TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

# TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT	
2	OHIO	I-90-(38)21	



**CUYAHOGA COUNTY**  
CUY - 90 - 11.64

**INTERSECTION 17 (CONT'D)**

ITEM	DESCRIPTION	UNIT
842	CONCRETE FOR ANCHOR BASE FOUNDATIONS	CY
UNITS	CF	
*	REFERENCED TO	
0.7854 X 3X3X16.5	TP 17-1	116.63
3X3X0.58		5.22
0.7854 X 3X3X16.5	TP 17-2	116.63
3X3X0.58		5.22
2X2X0.50+0.7854X2X2X2.50	PD 17-1	9.85
2.25X2.83X3	TC 17-1	19.10
5X5X0.5	CONC. PAD	12.50
<b>TOTAL</b>		<b>285.16 CF</b>

ITEM	DESCRIPTION	UNIT
625	CONDUIT, 3 IN., 713.04	LF
* LF	FROM STATION TO STATION	
75X2 /	41+71 LT 42+50 LT	150.00
24 /	42+50 LT 61+73 RT	24.00
5 /	61+73 RT 61+73 RT	5.00
79 /	60+92 RT 61+73 RT	79.00
97 /	59+98 RT 60+92 RT	97.00
11 /	59+98 RT 59+98 RT	11.00
6 /	42+80 LT 62+00 RT	6.00
31X2 /	42+50 LT 42+80 LT	62.00
63 /	42+80 LT 62+42 LT	63.00
10 /	62+42 LT 62+52.5 LT	10.00
102X2 /	42+80 LT 63+08 RT	204.00
8 /	63+08 RT 63+08 RT	8.00
67 /	63+08 RT 63+50 LT	67.00
37 /	63+50 LT 44+60 RT	37.00
180 /	44+60 RT 46+40 RT	180.00
180 /	46+40 RT 48+20 RT	180.00
180 /	48+20 RT 50+00 RT	180.00
<b>TOTAL</b>		<b>1363.00 LF</b>

ITEM	DESCRIPTION	UNIT
842	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG	LF
* LF+10	FROM CONTROLLER TO	
5+10+31+102+8+10+5 /	PEDESTRIAN SIGNAL A	171.00
5+10+31+6+10+5 /	PEDESTRIAN SIGNAL B	67.00
5+10+31+6+10+5 /	PEDESTRIAN SIGNAL C	67.00
5+10+31+63+10+10+5 /	PEDESTRIAN SIGNAL D	134.00
5+10+31+63+10+27+24+5+5+13 /	TRAFFIC SIGNAL 1 AND 2	193.00
5 /		5.00
5+10+31+63+10+27+37+5+5+13 /	TRAFFIC SIGNAL 4 AND 3	206.00
5 /		5.00
5+10+31+63+10+27+24+5+5+26 /	TRAFFIC SIGNAL 6 AND 5	206.00
5 /		5.00
<b>TOTAL</b>		<b>1059.00 LF</b>

**INTERSECTION 17  
SUB-TOTAL PLAN SHEET NO. 522**

TOTAL	ITEM	UNIT	DESCRIPTION
1	842	EACH	SIGNAL STRAIN POLE, 0.25 INCHES X 12.0 INCHES X 25.5 FEET
1	842	EACH	SIGNAL STRAIN POLE, 0.25 INCHES X 12.0 INCHES X 25.0 FEET
3	202	EACH	REMOVAL OF EXISTING TRAFFIC SIGNAL INSTALLATION
455	625	LF	TRENCH
482	625	LF	CONDUIT, 3 IN., 713.04
4	625	EACH	*SINGLE* PULL BOX, CONCRETE AS PER PLAN
3	625	EACH	*DOUBLE* PULL BOX, CONCRETE AS PER PLAN
4	625	EACH	GROUND ROD
1	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP.
3	842	EACH	CABLE SUPPORT ASSEMBLY
56	842	LF	SIGNAL CABLE, STRANDED, 2/C NO. 12 AWG
1103	842	LF	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG
374	842	LF	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG
85	842	LF	POWER CABLE, 3/C NO. 6 AWG
104	842	LF	LOOP DETECTOR WIRE
113	842	LF	LOOP DETECTOR LEAD IN CABLE
79	842	LF	MESSENGER WIRE, 7 STRAND, 3/8 IN. WITH ACCESSORIES
33	842	LF	LOOP DETECTOR PAVEMENT CUTTING
1	842	EACH	LOOP DETECTOR AMPLIFIER
4	842	EACH	PEDESTRIAN SIGNAL PUSHBUTTON WITH SIGN (R-73C-9)
6	842	EACH	PEDESTRIAN SIGNAL HEAD, TYPE B2
1	843	EACH	SIGNAL CONTROLLER, 2 PHASE, SEMI-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT
1	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, ONE WAY
1	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, TWO WAY
1	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, THREE WAY
2	842	EACH	WEATHERHEAD AND CONDUIT RISER (ON POLE MOD. NO. 27551)
1	842	EACH	PEDESTAL (7.5 FEET)
10.7	842	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS

ITEM	DESCRIPTION	UNIT
625	*SINGLE* PULL BOX, CONCRETE AS PER PLAN	EACH
* EACH	LOCATION REFERENCED TO	
1 /	61+73 RT S MAR RD LD 18-1	1.00
1 /	60+92 RT S MAR RD	1.00
1 /	59+98 RT S MAR RD LD 18-2	1.00
1 /	62+42 LT S MAR RD TP 18-1	1.00
1 /	44+60 RT LORAIN	1.00
1 /	46+40 RT LORAIN	1.00
1 /	48+20 RT LORAIN	1.00
1 /	50+00 RT LORAIN	1.00
<b>TOTAL</b>		<b>8.00</b>

ITEM	DESCRIPTION	UNIT
842	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG	LF
* LF+10	FROM CONTROLLER TC 18-1 TO PULL-BOX 50+00 RT LORAIN AVE.	
5+10+31+102+67+37+180+180+180 /		792.00
* FROM CONTROLLER TC 18-1 TO CONTROLLER TC 19-1		
5+10+31+102+67+53+10+5 /		283.00
<b>TOTAL</b>		<b>1075.00 LF</b>

ITEM	DESCRIPTION	UNIT
625	*DOUBLE* PULL BOX, CONCRETE AS PER PLAN	EACH
* EACH	LOCATION REFERENCED TO	
1 /	42+50 LT LORAIN TC 18-1	1.00
1 /	42+80 LT LORAIN PD 18-1	1.00
1 /	63+08 RT S MAR RD TP 18-2	1.00
1 /	63+50 LT S MAR RD	1.00
<b>TOTAL</b>		<b>4.00</b>

ITEM	DESCRIPTION	UNIT
842	POWER CABLE, 3/C NO. 6 AWG	LF
* LF+10	FROM CONTROLLER TC 17-1 TO CONTROLLER TC 18-1	
5+10+102+75+10+5 /		207.00
<b>TOTAL</b>		<b>207.00 LF</b>

ITEM	DESCRIPTION	UNIT
625	GROUND ROD	EACH
* EACH	LOCATION REFERENCED TO	
1 /	62+00 RT S MAR RD PD 18-1	1.00
1 /	42+50 LT LORAIN TC 18-1	1.00
1 /	62+52 LT S MAR RD TP 18-1	1.00
1 /	63+08 RT S MAR RD TP 18-2	1.00
<b>TOTAL</b>		<b>4.00</b>

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR WIRE	LF
* LOOP PERIMETER X NO. OF TURNS	REFERENCED TO	
60X2+7X2 /	LD 18-1 S MAR RD	134.00
32X3+35X2	LD 18-2	166.00
<b>TOTAL</b>		<b>300.00</b>

ITEM	DESCRIPTION	UNIT
844	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP.	EACH
* EACH	LOCATION REFERENCED TO	
1 /	42+50 LT LORAIN TC 18-1	1.00
<b>TOTAL</b>		<b>1.00</b>

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR LEAD IN CABLE, STRANDED	LF
* LF+10	FROM CONTROLLER TO	
5+10+24+5 /	LD 18-1	44.00
5+10+24+79+97+5 /	LD 18-2	220.00
<b>TOTAL</b>		<b>264.00 LF</b>

ITEM	DESCRIPTION	UNIT
842	CABLE SUPPORT ASSEMBLY	EACH
3 /	62+52 LT S MAR RD TP 18-1	3.00
<b>TOTAL</b>		<b>3.00</b>

ITEM	DESCRIPTION	UNIT
842	MESSENGER WIRE, 7 STRAND, 3/8 IN. WITH ACCESSORIES	LF
* LF		
24+13+13+21 /	SPANNING TP 18-1 TO TP 18-2	71.00
<b>TOTAL</b>		<b>71.00 LF</b>

ITEM	DESCRIPTION	UNIT
842	SIGNAL CABLE, STRANDED, 2/C NO. 12 AWG	LF
* LF + 10	FROM TO	
4 + 10 /	PUSHBUTTON A PED. SIGNAL b	14.00
4 + 10 /	PUSHBUTTON B PED. SIGNAL a	14.00
<b>TOTAL</b>		<b>28.00 LF</b>

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR PAVEMENT CUTTING	LF
* LF LOOP PERIMETER + LEAD-IN	REFERENCED TO	
60+3 /	LD 18-1	63.00
32+18 /	LD 18-2	50.00
<b>TOTAL</b>		<b>113.00 LF</b>

**INTERSECTION 18  
PLAN SHEET NO. 522**

\* REALOCATED LORAIN AVE. - S. MARGINAL ROAD INTERSECTION 18

ITEM	DESCRIPTION	UNIT
625	TRENCH	LF
* LF	FROM LOCATION TO LOCATION REFERENCED TO	
75 /	41+71 LORAIN 42+50 LORAIN INTERCONNECT	75.00
24 /	61+73 S MAR RD. 42+50 LORAIN LD 18-1	24.00
37 /	62+00 S MAR RD. 42+50 LORAIN PD 18-1	37.00
73 /	42+80 LORAIN 62+52 S MAR RD. TP 18-1	73.00
37 /	63+50 S MAR RD. 44+60 LORAIN INTERCONNECT	37.00
180 /	48+20 LORAIN 50+00 LORAIN INTERCONNECT	180.00
<b>TOTAL</b>		<b>426.00 LF</b>

NOTE: TRENCHING FOR THE REMAINING RUNS ARE COMBINED WITH LIGHTING QUANTITIES.

# TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT	
2	OHIO	I-90-(138)21	

536  
838

CUYAHOGA COUNTY  
CUY - 90 -11.64

### INTERSECTION 18 (CONT'D)

ITEM	DESCRIPTION	UNIT
842	PEDESTRIAN SIGNAL PUSHBUTTON WITH SIGN (R-73C-9)	EACH
* EACH	REFERENCED TO	
1 /	PD 18-1 (PUSHBUTTON A)	1.00
1 /	TP 18-1 (PUSHBUTTON B)	1.00
	<b>TOTAL</b>	<b>2.00</b>

ITEM	DESCRIPTION	UNIT
842	PEDESTRIAN SIGNAL HEAD, TYPE B2	EACH
* EACH	PED. SIGNAL REFERENCED TO	
1 /	A TP 18-2	1.00
1 /	B PD 18-1	1.00
1 /	C PD 18-1	1.00
1 /	D TP 18-1	1.00
	<b>TOTAL</b>	<b>4.00</b>

ITEM	DESCRIPTION	UNIT
843	SIGNAL CONTROLLER, 2 PHASE, SEMI-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT	EACH
* EACH	REFERENCED TO	
1 /	TC 18-1 42+50 LT LORAIN AVE.	1.00
	<b>TOTAL</b>	<b>1.00</b>

ITEM	DESCRIPTION	UNIT
842	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, TWO WAY	EACH
* EACH	REFERENCED TO	
1 /	SIGNAL HEAD 1 & 6	1.00
1 /	SIGNAL HEAD 2 & 4	1.00
1 /	SIGNAL HEAD 3 & 5	1.00
	<b>TOTAL</b>	<b>3.00</b>

ITEM	DESCRIPTION	UNIT
842	SIGNAL STRAIN POLE, 0.25 INCHES X 13.0 INCHES X 25.0 FEET	EACH
* EACH	REFERENCED TO	
1 /	TP 18-1 82+52.5 LT S MARGINAL ROAD	1.00
1 /	TP 18-2 63+08 RT S MARGINAL ROAD	1.00
	<b>TOTAL</b>	<b>2.00</b>

ITEM	DESCRIPTION	UNIT
842	COMBINATION PED. SIGNAL AND LIGHT POLE, 0.1196 INCHES X 8.5 INCHES X 30.0 FEET	EACH
* EACH	REFERENCED TO	
1 /	PD 18-1	1.00
	<b>TOTAL</b>	<b>1.00</b>

ITEM	DESCRIPTION	UNIT
842	CONCRETE FOR ANCHOR BASE FOUNDATIONS	CY
UNITS	CF	
* QUAN/TOTAL / INTERSECTION 18	REFERENCED TO	
9X0.75+0.7854X9X20 /	TP 18-1	148.12
9X0.56+0.7854X9X20 /	TP 18-2	146.59
2X2X0.50+0.7854X4X5.5 /	PD 18-1	19.28
2.25X2.83X3 /	TC 18-1	19.10
5X5X0.50 /	CONC. PAD	12.50
	<b>TOTAL</b>	<b>345.59</b>

### INTERSECTION 18 SUB-TOTAL PLAN SHEET NO. 522 CUY-90-11.64 TRAFFIC SIGNALS

TOTAL	ITEM	UNIT	DESCRIPTION
1	842	EACH	COMBINATION PED. SIGNAL AND LIGHT POLE, 0.1196 INCHES X 8.5 INCHES X 30 FEET
2	842	EACH	SIGNAL STRAIN POLE, 0.25 INCHES X 13.0 INCHES X 25.0 FEET
426.	625	LF	TRENCH
1363.	625	LF	CONDUIT, 3 IN., 713.04
8	625	EACH	'SINGLE' PULL BOX, CONCRETE AS PER PLAN
4	625	EACH	'DOUBLE' PULL BOX, CONCRETE AS PER PLAN
4	625	EACH	GROUND ROD
1	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
3	842	EACH	CABLE SUPPORT ASSEMBLY
28	842	LF	SIGNAL CABLE, STRANDED, 2/C NO. 12 AWG
1059.	842	LF	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG
1075.	842	LF	INTERCONNECT CABLE, STRANDED 12 /C NO. 12 AWG
207.	842	LF	POWER CABLE, 3/C NO. 6 AWG
300.	842	LF	LOOP DETECTOR WIRE
264.	842	LF	LOOP DETECTOR LEAD IN CABLE
71.	842	LF	MESSENGER WIRE, 7 STRAND, 3/8 IN. WITH ACCESSORIES
113.	842	LF	LOOP DETECTOR PAVEMENT CUTTING
1	842	EACH	LOOP DETECTOR AMPLIFIER
2	842	EACH	PEDESTRIAN SIGNAL PUSHBUTTON WITH SIGN
4	842	EACH	PEDESTRIAN SIGNAL HEAD, TYPE B2
1	843	EACH	SIGNAL CONTROLLER, 2 PHASE, SEMI-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT
3	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, TWO WAY
12.8	842	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS

### INTERSECTION 19 PLAN SHEET NO. 522

\* LORAIN AVE., S. MARGINAL ROAD AND W. 90TH ST. INTERSECTION 19

ITEM	DESCRIPTION	UNIT
625	TRENCH	LF
* LF	FROM STATION TO STATION REFERENCED TO	
222 /	42+34 LORAIN 44+56 LORAIN LD 19-4	222.00
70 /	43+97 LORAIN 44+56 LORAIN PD 19-2	70.00
175 /	47+78 W.90TH 49+53 W.90TH LD 19-2	175.00
15 /	49+53 W.90TH 40+29 CLARK LD 19-1	15.00
44 /	40+29 CLARK 40+71 CLARK POLE 27546	44.00
12 /	40+29 CLARK 40+37 CLARK PD 19-1	12.00
47 /	44+56 LORAIN 40+29 CLARK POLE 27547	47.00
57 /	44+56 LORAIN 64+01 S MAR RD TC 19-1	57.00
55 /	64+01 S MAR RD 40+23 CLARK TP 19-1	55.00
10 /	63+50 S MAR RD 63+50 S MAR RD LD 19-5	10.00
53 /	63+50 S MAR RD 64+01 S MAR RD TC 19-1	53.00
9 /	63+93 S MAR RD 64+01 S MAR RD POLE N-21	9.00
	<b>TOTAL</b>	<b>769.00 LF</b>

NOTE: TRENCHING FOR THE REMAINING RUNS ARE COMBINED WITH LIGHTING QUANTITIES

ITEM	DESCRIPTION	UNIT
625	CONDUIT, 3 IN., 713.04	LF
* LF	FROM STATION TO STATION REF. TO	
53 /	63+50 LT 64+01 LT TC 19-1	53.00
9 /	63+93 LT 64+01 LT POLE N-21	9.00
10 /	63+50 LT 63+50 LT LD 19-5	10.00
55 /	64+01 LT 40+23 LT TP 19-1	55.00
57 /	44+56 RT 64+01 LT TC 19-1	57.00
70 /	43+97 LT 44+56 RT PD 19-2	70.00
222 /	42+34 RT 44+56 RT LD 19-4	222.00
47 /	44+56 RT 40+29 RT POLE 27547	47.00
175 /	47+78 RT 49+53 RT LD 19-2	175.00
15 /	49+53 RT 40+29 RT LD 19-1	15.00
12 /	40+29 RT 40+38 RT PD 19-1	12.00
44 /	40+29 RT 40+71 RT POLE 27546	44.00
	<b>TOTAL</b>	<b>769.00 LF</b>

ITEM	DESCRIPTION	UNIT
625	'SINGLE' PULL BOX, CONCRETE AS PER PLAN	EACH
* EACH	LOCATION REFERENCED TO	
1 /	40+23 LT CLARK TP 19-1	1.00
1 /	43+97 LT LORAIN PD 19-2	1.00
1 /	42+34 RT LORAIN LD 19-4	1.00
1 /	47+78 RT W.90TH LD 19-2	1.00
1 /	49+53 RT W.90TH LD 19-1	1.00
	<b>TOTAL</b>	<b>5.00</b>

ITEM	DESCRIPTION	UNIT
625	'DOUBLE' PULL BOX, CONCRETE AS PER PLAN	EACH
* EACH	LOCATION REFERENCED TO	
1 /	64+01 LT S MAR RD TC 19-1	1.00
1 /	44+56 RT LORAIN POLE 27547	1.00
1 /	40+29 RT CLARK PD 19-1	1.00
	<b>TOTAL</b>	<b>3.00</b>

ITEM	DESCRIPTION	UNIT
625	GROUND ROD	EACH
* EACH	STATION REFERENCED TO	
1 /	40+23 LT CLARK TP 19-1	1.00
1 /	63+50 RT S MAR RD PD 19-2	1.00
1 /	40+37 RT CLARK PD 19-1	1.00
1 /	64+00 LT S MAR RD TC 19-1	1.00
	<b>TOTAL</b>	<b>4.00</b>

ITEM	DESCRIPTION	UNIT
844	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH
* EACH	LOCATION REFERENCED TO	
1 /	64+00 LT S MAR RD TC 19-1	1.00
	<b>TOTAL</b>	<b>1.00</b>

ITEM	DESCRIPTION	UNIT
842	CABLE SUPPORT ASSEMBLY	EACH
* EACH	LOCATION REFERENCED TO	
3 /	40+23 LT CLARK TP 19-1	3.00
	<b>TOTAL</b>	<b>3.00</b>

ITEM	DESCRIPTION	UNIT
842	SIGNAL CABLE, STRANDED 2/C NO. 12 AWG	LF
* LF + 10	FROM TO	
4 + 10 /	PUSHBUTTON A PED. SIGNAL b	14.00
4 + 10 /	PUSHBUTTON B PED. SIGNAL a	14.00
4 + 10 /	PUSHBUTTON C PED. SIGNAL d	14.00
4 + 10 /	PUSHBUTTON D PED. SIGNAL c	14.00
	<b>TOTAL</b>	<b>56.00</b>

ITEM	DESCRIPTION	UNIT
842	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG	LF
* LF + 10	FROM CONTROLLER TO	
5+10+57+47+12+10+5 /	PEDESTRIAN SIGNAL A	146.00
5+10+57+6+10+5 /	PEDESTRIAN SIGNAL B	93.00
5+10+57+6+10+5 /	PEDESTRIAN SIGNAL C	93.00
5+10+57+70+10+5 /	PEDESTRIAN SIGNAL D	157.00
5+10+55+6+26+5+5+19+5 /	TRAFFIC SIGNALS 1 AND 2	141.00
5+10+55+6+26+33+5+5+18+5 /	TRAFFIC SIGNALS 4 AND 3	168.00
5+10+55+6+26+17+5+5+12+5 /	TRAFFIC SIGNALS 6 AND 5	146.00
	<b>TOTAL</b>	<b>944.00 LF</b>

ITEM	DESCRIPTION	UNIT
842	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG	LF
* LF+10	FROM CONTROLLER TC 19-1 TO EXIST. POLE 27546	
5+10+57+47+44+27+5 /		195.00
	<b>TOTAL</b>	<b>195.00 LF</b>

ITEM	DESCRIPTION	UNIT
842	POWER CABLE, 3/C NO. 6 AWG	LF
* LF+10	FROM EXIST. POLE N-21 TO CONTROLLER TC 19-1	
5+27+9+10+5 /		56.00
	<b>TOTAL</b>	<b>56.00 LF</b>

### TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

# TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

537  
838

CUYAHOGA COUNTY  
CUY - 90 -11.64

## INTERSECTION 19 (CONT'D)

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR WIRE, NO. 12 AWG	LF
* LOOP PERIMETER X NO. OF TURNS REFERENCED TO		
52X2+2X2 /	LD 19-1 W. 90TH	108.00
52X2+2X2 /	LD 19-2 W. 90TH	108.00
60X2+4X2 /	LD 19-3 LORAIN	128.00
32X3+2X2 /	LD 19-4 LORAIN	100.00
60X2+3X2 /	LD 19-5 S MAR RD	126.00
TOTAL		570.00 LF

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR LEAD IN CABLE	LF
* LF +10 FROM CONTROLLER TO		
5+10+57+47+15+4+5 /	LD 19-1	143.00
5+10+57+47+15+175+4+5 /	LD 19-2	318.00
5+10+57+70+5+5 /	LD 19-3	152.00
5+10+57+222+1+5 /	LD 19-4	300.00
5+10+11+5 /	LD 19-5	31.00
5+10+24+30+102+67+52+5 /	LD 19-6	295.00
TOTAL		1239.00

ITEM	DESCRIPTION	UNIT
842	MESSENGER WIRE, 7 STRAND, 3/8 IN. WITH ACCESSORIES	LF
* LF		
5+11+8+4+4+16+15 /	SPANNING TP 19-1 TO MOD. 27547	65.00
TOTAL		65.00

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR PAVEMENT CUTTING	LF
* LF LOOP PERIMETER + LEAD-IN REFERENCED TO		
52+2 /	LD 19-1	54.00
52+2 /	LD 19-2	54.00
60+3 /	LD 19-3	63.00
32+2 /	LD 19-4	34.00
60+3 /	LD 19-5	63.00
TOTAL		268.00 LF

ITEM	DESCRIPTION	UNIT
842	LOOP DETECTOR AMPLIFIER	EACH
* EACH REFERENCED TO		
1 /	LD 19-1 AND LD 19-2	1.00
1 /	LD 19-3 AND LD 19-4	1.00
1 /	LD 19-5	1.00
1 /	LD 19-6	1.00
TOTAL		4.00

ITEM	DESCRIPTION	UNIT
842	PEDESTRIAN SIGNAL PUSHBUTTON WITH SIGN (R-73C-9)	EACH
* EACH REFERENCED TO		
1 /	MOD. 27547 (PUSHBUTTON A)	1.00
1 /	PD 19-1 (PUSHBUTTON B)	1.00
1 /	PD 19-2 (PUSHBUTTON C)	1.00
1 /	MOD. 27547 (PUSHBUTTON D)	1.00
TOTAL		4.00

ITEM	DESCRIPTION	UNIT
842	PEDESTRIAN SIGNAL HEAD, TYPE B2	EACH
* EACH PED. SIGNAL REFERENCED TO		
1 /	A PD 19-1	1.00
1 /	B MOD. 27547	1.00
1 /	C MOD. 27547	1.00
1 /	D PD 19-2	1.00
TOTAL		4.00

ITEM	DESCRIPTION	UNIT
843	SIGNAL CONTROLLER, 3 PHASE, FULL-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT	EACH
* EACH REF. TO.		
1 /	TC 19-1 SIA, 64+00 S. MAR. RD.	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, ONE WAY	EACH
* EACH REFERENCED TO		
1 /	SIGNAL HEAD 1	1.00
1 /	SIGNAL HEAD 2	1.00
1 /	SIGNAL HEAD 3	1.00
1 /	SIGNAL HEAD 4	1.00
1 /	SIGNAL HEAD 5	1.00
1 /	SIGNAL HEAD 6	1.00
TOTAL		6.00

ITEM	DESCRIPTION	UNIT
842	WEATHERHEAD AND CONDUIT RISER (3 IN.) DIA.	EACH
* EACH REFERENCED TO		
1 /	POLE N-21	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	SIGNAL STRAIN POLE, 0.25 INCHES X 11.0 INCHES X 25.0 FEET	EACH
* EACH REFERENCED TO		
1 /	TP 19-1 40+23 L1 CLARK AVE.	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	COMBINATION PEDESTRIAN SIGNAL AND LIGHT POLE, 0.1196 INCHES X 8.5 INCHES X 30.0 FEET	EACH
* EACH REFERENCED TO		
1 /	PD 19-2 63+50 RT S MAR RD	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	PEDESTAL, 7.5 FEET	EACH
* EACH REFERENCED TO		
1 /	PD 19-1 40+37 RT CLARK AVE.	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	CONCRETE FOR ANCHOR BASE FOUNDATIONS	CY
UNITS CF		
* REFERENCED TO		
0.7854 X 3 X 3 X 20 /	TP 19-1	141.37
3 X 3 X 0.75 /	TP 19-1	6.75
2.25 X 2.83 X 3 /	TC 19-1	19.10
5 X 5 X 0.5 /	CONC. PAD	12.50
2 X 2 X 0.5 + 0.7854 X 2 X 2 X 2.5	PD 19-1	9.85
2 X 2 X 0.5 + 0.7854 X 2 X 2 X 5.5	PD 19-2	19.28
TOTAL		208.85 CF

## INTERSECTION 19 SUB-TOTAL PLAN SHEET NO. 522

TOTAL	ITEM	UNIT	DESCRIPTION
1	842	EACH	COMBINATION PEDESTRIAN SIGNAL AND LIGHT POLE, 0.1196 INCHES X 8.5 INCHES X 30.0 FEET
1	842	EACH	SIGNAL STRAIN POLE, 0.25 INCHES X 11.0 INCHES X 25.0 FEET
769.	625	LF	TRENCH
769.	625	LF	CONDUIT, 3 IN., 713.04
5	625	EACH	'SINGLE' PULL BOX, CONCRETE AS PER PLAN
3	625	EACH	'DOUBLE' PULL BOX, CONCRETE AS PER PLAN
4	625	EACH	GROUND ROD
1	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP.
3	842	EACH	CABLE SUPPORT ASSEMBLY
56.	842	LF	SIGNAL CABLE, STRANDED, 2/C NO. 12 AWG
944.	842	LF	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG
195.	842	LF	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG
56.	842	LF	POWER CABLE, 3/C NO. 6 AWG
570.	842	LF	LOOP DETECTOR WIRE, NO. 12 AWG
1239.	842	LF	LOOP DETECTOR LEAD IN CABLE
65.	842	LF	MESSENGER WIRE, 7 STRAND, 3/8 IN. WITH ACCESSORIES
268.	842	LF	LOOP DETECTOR PAVEMENT CUTTING
4	842	EACH	LOOP DETECTOR AMPLIFIER
4	842	EACH	PEDESTRIAN SIGNAL PUSHBUTTON WITH SIGN (R-73C-9)
4	842	EACH	PEDESTRIAN SIGNAL HEAD, TYPE B2
1	843	EACH	SIGNAL CONTROLLER, 3 PHASE, FULL-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT
6	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, ONE WAY
1	842	EACH	WEATHERHEAD AND CONDUIT RISER (ON POLE NO. 2754C)
1	842	EACH	PEDESTAL, 7.5 FEET
7.7	842	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS

## INTERSECTION 20 PLAN SHEET NO. 523

* LORAIN AVE. AND RELOCATED WEST 84TH & 85TH STREET INTERSECTION 20					
ITEM	DESCRIPTION	UNIT	FROM STATION	TO STATION	
625	TRENCH	LF			
* LF					
180 /	50+00 RT	51+80 RT	RELOC. LORAIN	180.00	
187 /	51+80 RT	53+67 RT		187.00	
27 /	53+42 RT	53+67 RT		27.00	
20 /	50+40 LT 84885	53+67 RT		20.00	
45 /	50+17 LT 84885	53+67 RT		45.00	
5 /	53+50 LT	53+50 LT		5.00	
92 /	53+50 LT	53+67 RT		92.00	
57 /	53+50 LT	54+07 LT		57.00	
10 /	54+07 LT	54+15 LT		10.00	
103 /	53+67 RT	54+70 RT		103.00	
155 /	54+70 RT	56+25 RT		155.00	
200 /	56+25 RT	58+25 RT		200.00	
9 /	53+42 LT	53+50 LT		9.00	
9 /	54+63 RT	54+70 RT		9.00	
15 /	50+02 LT	50+17 LT	W. 84TH 85TH ST.	15.00	
NOTE: TRENCHING FOR THE REMAINING RUNS ARE COMBINED WITH LIGHTING QUANTITIES				TOTAL	1114.00 LF

# TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

538  
838

CUYAHOGA COUNTY  
CUY - 90 -11.64

## INTERSECTION 20 (CONT'D)

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
625	CONDUIT, 3 IN., 713.04	LF		
* LF	FROM STATION TO STATION REFERENCE TO			
27 /	53+42 RT 53+67 RT RELOC. LORAIN	27.00		
10 /	53+50 LT 53+50 LT	10.00		
92X2 /	53+50 LT 53+67 RT	184.00		
57 /	53+50 LT 54+07 LT	57.00		
10 /	54+07 LT 54+15 LT	10.00		
103X2 /	53+67 RT 54+70 RT	206.00		
9 /	53+42 LT 53+50 LT	9.00		
45 /	50+17 LT 8485 53+67 RT	45.00		
20 /	50+40 LT 8485 53+67 RT	20.00		
9 /	54+63 RT 54+70 RT	9.00		
15 /	50+02 LT 50+17 LT W. 84TH 85TH ST.	15.00		
<b>TOTAL</b>				<b>592.00 LF</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
625	CONDUIT, 3 IN., PVC	LF		
* LF	FROM STATION TO STATION REFERENCE TO			
180 /	50+00 RT 51+80 RT RELOC. LORAIN AVE	180.00		
187 /	51+80 RT 53+67 RT RELOC. LORAIN AVE	187.00		
155 /	54+70 RT 56+25 RT RELOC. LORAIN AVE	155.00		
200 /	56+25 RT 58+25 RT RELOC. LORAIN AVE	200.00		
<b>TOTAL</b>				<b>722.00 LF</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
625	'SINGLE' PULL BOX, CONCRETE AS PER PLAN	EACH		
* EACH	STREET STATION REFERENCE TO			
1 /	RELOC. LORAIN 56+25 RT INTERCONNECT	1.00		
1 /	RELOC. LORAIN 51+80 RT INTERCONNECT	1.00		
1 /	W. 84 85 ST. 50+17 LT PD 20-3	1.00		
1 /	RELOC LORAIN 54+07 LT TP 20-1	1.00		
<b>TOTAL</b>				<b>4.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
625	'DOUBLE' PULL BOX, CONCRETE AS PER PLAN	EACH		
* EA.	STREET STATION REFERENCE TO			
1 /	RELOC. LORAIN 53+67 RT TP 20-2	1.00		
1 /	RELOC. LORAIN 53+50 LT TC 20-1	1.00		
1 /	RELOC. LORAIN 54+70 RT PD 20-4	1.00		
<b>TOTAL</b>				<b>3.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
625	GROUND ROD	EACH		
* EA.	STA. STREET REF. TO			
1 /	53+42 RT RELOC. LORAIN PD 20-2	1.00		
1 /	53+42 LT RELOC. LORAIN PD 20-1	1.00		
1 /	53+63 RT RELOC. LORAIN TP 20-2	1.00		
1 /	53+50 LT RELOC. LORAIN TC 20-1	1.00		
1 /	54+15 LT RELOC. LORAIN TP 20-1	1.00		
1 /	54+63 RT RELOC. LORAIN PD 20-4	1.00		
1 /	50+40 LT W. 84 85 ST. PD 20-3	1.00		
<b>TOTAL</b>				<b>7.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
844	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH		
* EA	STATION STREET REF. TO			
1 /	53+50 LT RELOC. LORAIN TC 20-1	1.00		
<b>TOTAL</b>				<b>1.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	CABLE SUPPORT ASSEMBLY	EACH		
* EA	REF. TO			
5 /	TP 20-1	5.00		
<b>TOTAL</b>				<b>5.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG	LF		
* LF+10	FROM CONTROLLER TO			
10+5+57+10+30+28+5 /	SIGNAL HEAD 1	145.00		
10+5+57+10+30+45+5 /	SIGNAL HEAD 2	162.00		
10+5+57+10+30+45+17+15 /	SIGNAL HEAD 3 & 4	189.00		
10+5+57+10+30+45+17+15 /	SIGNAL HEAD 5 & 6	189.00		
10+5+57+10+30+28+15+15 /	SIGNAL HEAD 7 & 8	170.00		
10+5+9+10+5 /	PED. SIGNAL D	39.00		
10+5+9+10+5 /	PED. SIGNAL E	39.00		
10+5+57+10+10+5 /	PED. SIGNAL F	97.00		
10+5+57+10+10+5 /	PED. SIGNAL G	97.00		
10+5+92+27+10+5 /	PED. SIGNAL C	149.00		
10+5+92+20+10+5 /	PED. SIGNAL B	142.00		
10+5+92+103+9+10+5 /	PED. SIGNAL A	234.00		
10+5+92+103+9+10+5 /	PED. SIGNAL H	234.00		
<b>TOTAL</b>				<b>1886.00 LF</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG	LF		
* LF+5	FROM CONTROLLER TO PULL BOX STA.			
10+5+92+187+180 /	TC 20-1 50+00	474.00		
<b>TOTAL</b>				<b>474.00 LF</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	POWER CABLE, 3/C NO. 6 AWG	LF		
* LF+5	FROM CONTROLLER TO SERVICE POLE STA.			
10+35 /	TC 20-1 53+50 LT	45.00		
<b>TOTAL</b>				<b>45.00 LF</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	MESSENGER WIRE, 7 STRAND, 3/8 IN. WITH ACCESSORIES	LF		
* LF	FROM TO			
96 /	TP 20-2 TP 20-1	96.00		
<b>TOTAL</b>				<b>96.00 LF</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	PEDESTRIAN SIGNAL HEAD, TYPE B2	EACH		
* EACH	REF. TO			
1 /	PED. SIGNAL A (PD 20-4)	1.00		
1 /	PED. SIGNAL H (PD 20-4)	1.00		
1 /	PED. SIGNAL B (PD 20-3)	1.00		
1 /	PED. SIGNAL C (PD 20-2)	1.00		
1 /	PED. SIGNAL D (PD 20-1)	1.00		
1 /	PED. SIGNAL E (PD 20-1)	1.00		
1 /	PED. SIGNAL F (TP 20-1)	1.00		
1 /	PED. SIGNAL G (TP 20-1)	1.00		
<b>TOTAL</b>				<b>8.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	LOOP DETECTOR WIRE	LF		
* LF	LOOP PERIMETER X NO. OF TURNS REF. TO			
72X2+35X2 /	LD 20-1	214.00		
<b>TOTAL</b>				<b>214.00 LF</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	LOOP DETECTOR LEAD IN CABLE	LF		
* LF+10	FROM CONTROLLER TO			
15+92+45+5 /	LD 20-1	157.00		
<b>TOTAL</b>				<b>157.00 LF</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	LOOP DETECTOR PAVEMENT CUTTING	LF		
* LF	LOOP PERIMETER & LEAD-IN REF. TO			
72+35 /	LD 20-1	107.00		
<b>TOTAL</b>				<b>107.00 LF</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	LOOP DETECTOR AMPLIFIER	EACH		
* EACH	FOR LOOP DETECTOR			
1 /	LD 20-1	1.00		
<b>TOTAL</b>				<b>1.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
843	SIGNAL CONTROLLER, 3 PHASE, SEMI-ACTUATED, SOLID STATE W/ CABINET AND COORDINATION UNIT	EACH		
* EACH	REF. TO			
1 /	TC 20-1	1.00		
<b>TOTAL</b>				<b>1.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, TWO WAY	EACH		
* EACH	REF. TO			
1 /	SIGNAL HEAD 1 AND 7	1.00		
1 /	SIGNAL HEAD 3 AND 5	1.00		
<b>TOTAL</b>				<b>2.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	VEHICULAR SIGNAL HEAD, 4 SECTION, 3-8 IN. LENS, 1-12 IN. ARROW LENS 3-3 SECTION, 8 IN. LENS, FOUR WAY	EACH		
* EACH	SIGNAL NO.			
1 /	2+4, 6 & 8	1.00		
<b>TOTAL</b>				<b>1.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	WEATHERHEAD AND CONDUIT RISER (3 IN.) DIA.	EACH		
* EA	REF. TO			
1 /	SERVICE POLE	1.00		
<b>TOTAL</b>				<b>1.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	COMB. PEDESTRIAN SIGNAL & LIGHT POLE, 0.1196 INCHES X 8.5 INCHES X 30.0 FEET	EACH		
* EACH	REF. TO			
1 /	PD 20-2 LORAIN AVE STA. 53+42 RT	1.00		
1 /	PD 20-3 W. 84 85 ST. STA. 50+40 LT	1.00		
<b>TOTAL</b>				<b>2.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	COMB. SIGNAL AND LIGHT POLE, 0.3125 INCHES X 14.0 INCHES X 30.0 FEET	EACH		
* EACH	REF. TO			
1 /	TP 20-1 LORAIN AVE STA. 54+15 LT	1.00		
<b>TOTAL</b>				<b>1.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	COMB. SIGN & SIGNAL SUPPORT, 0.3125 INCHES X 16.0 INCHES X 28.0 FEET ARMS = 20'-0"	EACH		
* EACH	REF. TO			
1 /	TP 20-2 LORAIN AVE STA. 53+63 RT	1.00		
<b>TOTAL</b>				<b>1.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	PEDESTAL, (75) FEET	EACH		
* EACH	REF. TO			
1 /	PD 20-1	1.00		
1 /	PD 20-4	1.00		
<b>TOTAL</b>				<b>2.00</b>

ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
842	CONCRETE FOR ANCHOR BASE FOUNDATIONS	CF		
UNITS	CF			
* SUPPORI REF. NO.				
3X3X0.58 /	TP 20-1	5.22		
0.7854X3X3X22.5 /		159.04		
3X3X0.90 /	TP 20-2	8.10		
0.7854X3X3X27.5 /		194.39		
<b>TOTAL</b>				<b>366.75 CF</b>



# TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	T-90-1(38)21



**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

### INTERSECTION 20 (CONT'D)

ITEM	DESCRIPTION	UNIT	CY
842	CONCRETE FOR ANCHOR BASE FOUNDATIONS	CY	
UNITS	CF		
*	REF. TO		
0.7854x2x2x2.5 /	PD 20-1	7.85	
4x0.5		2.00	
0.7854x2x2x2.5 /	PD 20-4	7.85	
4x0.5		2.00	
2.25x2.83x3 /	TC 20-1	19.10	
5x5x0.5 /	CONC. PAD	12.50	
2x2x0.5 + 0.7854 x 2 x 2 x 5.5	PD 20-2	19.28	
2x2x0.5 + 0.7854 x 2 x 2 x 5.5	PD 20-3	19.28	
<b>TOTAL</b>			<b>456.61 C.F.</b>

### INTERSECTION 20 SUB-TOTAL PLAN SHEET NO. 523

CUY-90-11.64 TRAFFIC SIGNALS

27 ITEMS

TOTAL	ITEM	UNIT	DESCRIPTION
1	842	EACH	COMB. SIGN & SIGNAL SUPPORT, 0.3125 INCHES X 16.0 INCHES X 28.0 FEET ARMS = 20'-0"
1	842	EACH	COMB. SIGNAL AND LIGHT POLE, 0.3125 INCHES X 14.0 INCHES X 30.0 FEET
2	842	EACH	COMB. PEDESTRIAN SIGNAL AND LIGHT POLE, 0.1196 INCHES X 8.5 INCHES X 30.0 FEET
1114.	625	LF	TRENCH
592.	625	LF	CONDUIT, 3 IN., 713.04
722.	625	LF	CONDUIT, 3 IN., PVC
4	625	EACH	'SINGLE' PULL BOX, CONCRETE AS PER PLAN
3	625	EACH	'DOUBLE' PULL BOX, CONCRETE AS PER PLAN
7	625	EACH	GROUND ROD
1	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
5	842	EACH	CABLE SUPPORT ASSEMBLY
1886.	842	LF	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG
474.	842	LF	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG
45.	842	LF	POWER CABLE, 3/C NO. 6 AWG
214.	842	LF	LOOP DETECTOR WIRE
157.	842	LF	LOOP DETECTOR LEAD IN CABLE
96.	842	LF	MESSENGER WIRE, 7 STRAND, 3/8 IN. WITH ACCESSORIES
107.	842	LF	LOOP DETECTOR PAVEMENT CUTTING
1	842	EACH	LOOP DETECTOR AMPLIFIER
8	842	EACH	PEDESTRIAN SIGNAL HEAD, TYPE B2
1	843	EACH	SIGNAL CONTROLLER, 3 PHASE, SEMI-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT
1	842	EACH	VEHICULAR SIGNAL HEAD, 1-4 SECTION, 3-8 IN. LENS, 1-12 IN. ARROW LENS, 3-3 SECTION, 8 IN. LENS, FOUR WAY
2	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, TWO WAY
1	842	EACH	WEATHERHEAD AND CONDUIT RISER (3 IN.) DIA.
2	842	EACH	PEDESTAL (7.5) FEET
16.9	842	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS

### INTERSECTION 21 PLAN SHEET NO. 523

\* CLARK AVE., RELOCATED WEST 84TH 85TH STREET INTERSECTION 21

ITEM	DESCRIPTION	UNIT	LF
625	TRENCH	LF	
* LF	FROM STATION TO STATION REFERENCE TO		
16 /	48+49 LT 48+63 LT CLARK AVE		16.00
37 /	47+41 LT W84 85 48+63 LT CLARK		37.00
19 /	47+41 LT 47+60 LT W. 84TH 85TH ST.		19.00
4 /	48+59 LT 48+63 LT CLARK AVE		4.00
5 /	49+31 LT 49+36 LT CLARK AVE		5.00
64 /	48+63 LT 48+91 RT CLARK AVE		64.00
55 /	48+91 RT 49+05 LT W 84TH ST		55.00
34 /	48+91 RT 49+25 RT CLARK AVE		34.00
8 /	49+25 RT 49+32 RT CLARK AVE		8.00
18 /	49+25 RT CLARK 49+44 RT W. 84TH ST.		18.00
4 /	48+63 LT 48+64 LT CLARK AVE		4.00
4 /	48+89 RT. 48+91 RT CLARK AVE		4.00
<b>TOTAL</b>			<b>268.00 LF</b>

NOTE: TRENCHING FOR THE REMAINING RUNS ARE COMBINED WITH LIGHTING QUANTITIES.

ITEM	DESCRIPTION	UNIT	LF
625	CONDUIT, 3 IN., 713.04	LF	
* LF	FROM STATION TO STATION REFERENCE TO		
16 /	48+49 LT 48+63 LT CLARK AVE		16.00
37 /	47+41 LT 48+49 LT W. 84TH 85TH ST		37.00
19 /	47+41 LT 47+60 LT W. 84TH 85TH ST		19.00
75 /	48+63 LT 49+31 LT CLARK AVE		75.00
64x2 /	48+63 LT 48+91 RT CLARK AVE		128.00
4 /	48+89 RT 48+91 RT CLARK AVE		4.00
34 /	48+91 RT 49+25 RT CLARK AVE		34.00
8 /	49+25 RT 49+44 RT CLARK AVE		8.00
18 /	49+25 RT CLARK 49+44 RT W. 84TH		18.00
100 /	47+60 LT 48+60 LT RELOC. W. 84TH 85TH		100.00
142 /	48+60 LT 50+02 LT RELOC. W. 84TH 85TH		142.00
<b>TOTAL</b>			<b>581.00 LF</b>

ITEM	DESCRIPTION	UNIT	LF
625	CONDUIT, 3 IN., PVC	LF	
* LF	FROM STATION TO STATION REFERENCE TO		
188 /	46+75 LT 48+63 LT CLARK AVE		188.00
55 /	48+91 RT CLARK 49+05 LT W. 84TH ST		55.00
<b>TOTAL</b>			<b>243.00 LF</b>

ITEM	DESCRIPTION	UNIT	EACH
625	'SINGLE' PULL BOX, CONCRETE AS PER PLAN	EACH	
* EACH	STATION STREET REF. TO		
1 /	47+41 LT RELOC. W. 84 85 PD 21-1		1.00
1 /	49+31 LT CLARK AVE TP 21-2		1.00
1 /	48+91 RT CLARK AVE TP 21-1		1.00
1 /	49+05 LT W. 84TH ST		1.00
1 /	46+75 LT CLARK AVE		1.00
<b>TOTAL</b>			<b>5.00</b>

ITEM	DESCRIPTION	UNIT	EACH
625	'DOUBLE' PULL BOX, CONCRETE AS PER PLAN	EACH	
* EACH	STATION STREET REF. TO		
1 /	48+63 LT CLARK AVE TC 21-1		1.00
<b>TOTAL</b>			<b>1.00</b>

ITEM	DESCRIPTION	UNIT	EACH
625	JUNCTION BOX, 18 IN. X 8 IN. X 6 IN., 713.10	EACH	
* EACH	STATION STREET REF. TO		
1 /	48+60 RELOC. W. 84TH 85TH		1.00
<b>TOTAL</b>			<b>1.00</b>

ITEM	DESCRIPTION	UNIT	EACH
625	GROUND ROD	EACH	
* EACH	STATION STREET REF. TO		
1 /	48+64 LT CLARK AVE PD 21-1		1.00
1 /	49+36 LT CLARK AVE TP 21-2		1.00
1 /	48+89 RT CLARK AVE TP 21-1		1.00
1 /	48+59 LT CLARK AVE TC 21-1		1.00
<b>TOTAL</b>			<b>4.00</b>

ITEM	DESCRIPTION	UNIT	EACH
844	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP.	EACH	
* EACH	STATION STREET REF. TO		
1 /	48+59 LT CLARK AVE TC 21-1		1.00
<b>TOTAL</b>			<b>1.00</b>

ITEM	DESCRIPTION	UNIT	LF
842	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG	LF	
* LF+10	FROM CONTROLLER TO		
5+9+64+4+31+26+10+14+5 /	SIGNAL HEAD 1 AND 2		168.00
5+9+64+4+31+26+10+14+5 /	SIGNAL HEAD 3 AND 4		168.00
5+9+64+4+31+63+10+12+5 /	SIGNAL HEAD 5 AND 6		203.00
5+9+64+4+31+40+10+23+5 /	SIGNAL HEAD 7 AND 8		191.00
5+9+4+10+5 /	PED. SIGNAL B		33.00
5+9+4+10+5 /	PED. SIGNAL C		33.00
5+9+75+5+10+5 /	PED. SIGNAL D		109.00
5+9+64+4+10+5 /	PED. SIGNAL A		97.00
5+9+64+4+10+5 /	PED. SIGNAL F		97.00
5+9+64+34+8+10+5 /	PED. SIGNAL E		135.00
<b>TOTAL</b>			<b>1234.00 LF</b>

ITEM	DESCRIPTION	UNIT	LF
842	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG	LF	
* LF+5	FROM CONTROLLER TO CONTROLLER		
5+9+37+276+45+92+13 /	TC 21-1 TC 20-1		477.00
<b>TOTAL</b>			<b>477.00 LF</b>

ITEM	DESCRIPTION	UNIT	LF
842	POWER CABLE, 3/C NO. 6 AWG	LF	
* LF+5	FROM CONTROLLER TO SERVICE POLE		
5+9+64+55+35 /	TC 21-1 STA. 49+05 LT W. 84TH ST.		168.00
<b>TOTAL</b>			<b>168.00 LF</b>

ITEM	DESCRIPTION	UNIT	EACH
842	CABLE SUPPORT ASSEMBLY	EACH	
* EACH	REF. TO		
4 /	TP 21-1		4.00
<b>TOTAL</b>			<b>4.00</b>

ITEM	DESCRIPTION	UNIT	LF
842	LOOP DETECTOR WIRE	LF	
* LF	LOOP PERIMETER X NO OF TURNS REF. TO		
60x2+18x2 /	LD 21-1		156.00
32x3+10x2 /	LD 21-2		116.00
30x3+20x2 /	LD 21-3		130.00
<b>TOTAL</b>			<b>402.00 LF</b>

ITEM	DESCRIPTION	UNIT	LF
842	LOOP DETECTOR LEAD IN CABLE	LF	
* LF+10	REF. TO		
10+9 /	LD 21-1		19.00
10+9+188 /	LD 21-2		207.00
10+9+64+34 /	LD 21-3		117.00
<b>TOTAL</b>			<b>343.00 LF</b>

ITEM	DESCRIPTION	UNIT	LF
842	LOOP DETECTOR PAVEMENT CUTTING	LF	
* LF	LOOP PERIMETER + LEAD-IN REF. TO		
60+2 /	LD 21-1		62.00
32+2 /	LD 21-2		34.00
30+3 /	LD 21-3		33.00
<b>TOTAL</b>			<b>129.00 LF</b>

ITEM	DESCRIPTION	UNIT	EACH
842	LOOP DETECTOR AMPLIFIER	EACH	
* EACH	FOR LOOP DETECTOR		
1 /	LD 21-1		1.00
1 /	LD 21-2 & LD 21-3		1.00
<b>TOTAL</b>			<b>2.00</b>

ITEM	DESCRIPTION	UNIT	EACH
842	PEDESTRIAN SIGNAL PUSHBUTTON WITH SIGN (R-73C-9)	EACH	
* EACH	REF. TO		
1 /	TP 21-1 (PUSHBUTTON E)		1.00
1 /	PD 21-2 (PUSHBUTTON F)		1.00
1 /	PD 21-1 (PUSHBUTTON D)		1.00
1 /	TP 21-2 (PUSHBUTTON C)		1.00
<b>TOTAL</b>			<b>4.00</b>

# TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT	
2	OHIO	I-90-1(38)21	

540  
838

CUYAHOGA COUNTY  
CUY - 90 -11.64

### INTERSECTION 21

ITEM	DESCRIPTION	UNIT
842	PEDESTRIAN SIGNAL HEAD, TYPE B2	EACH
* EACH	PED. SIGNAL A (TP 21-1)	
1 /	PED. SIGNAL F (TP 21-1)	1.00
1 /	PED. SIGNAL E (PD 21-2)	1.00
1 /	PED. SIGNAL B (PD 21-1)	1.00
1 /	PED. SIGNAL C (PD 21-1)	1.00
1 /	PED. SIGNAL D (TP 21-2)	1.00
TOTAL		5.00

ITEM	DESCRIPTION	UNIT
843	SIGNAL CONTROLLER, 3 PHASE, SEMI-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT	EACH
* EACH	REF. TO	
1 /	TC 21-1	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	VEHICULAR SIGNAL HEAD, 3 SECTION, 2-12 IN. LENS, 1-12 IN. ARROW LENS, ONE WAY	EACH
* EACH	SIGNAL REF. NO.	
1 /	5	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	VEHICULAR SIGNAL HEAD, 1-3 SECTION, 8 IN. LENS, 1-12 IN. ARROW LENS, TWO WAY	EACH
* EACH	SIGNAL REF. NO.	
1 /	6 AND 7	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	VEHICULAR SIGNAL HEAD, 1-3 SECTION, 2-8 IN. LENS, 1-12 IN. ARROW LENS, 2-4 SECTION, 3-8 IN. LENS, 1-12 IN. ARROW LENS, THREE WAY	EACH
* EACH	SIGNAL REF. NO.	
1 /	2, 4 AND 8	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, TWO WAY	EACH
* EACH	SIGNAL REF. NO.	
1 /	1 AND 3	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	COMB. SIGNAL STRAIN POLE, 0.25 INCHES X 15.0 INCHES X 28.5 FEET	EACH
* EACH	REF. TO	
1 /	TP 21-1 CLARK AVE. STA. 48+89 RT	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	COMB. SIGNAL STRAIN POLE, 0.25 INCHES X 15.0 INCHES X 29.0 FEET	EACH
* EACH	REF. TO	
1 /	TP 21-2 CLARK AVE. STA. 49+36 LT	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	PEDESTAL (7.5) FEET	EACH
* EACH	REF. TO	
1 /	PD 21-1 CLARK AVE. STA. 48+64 LT	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
842	SIGNAL CABLE, STRANDED, 2/C NO. 12 AWG	LF
* LF + 10	FROM TO	
4 + 10 /	PUSHBUTTON C PED. SIGNAL d	14.00
4 + 10 /	PUSHBUTTON D PED. SIGNAL c	14.00
4 + 10 /	PUSHBUTTON E PED. SIGNAL f	14.00
4 + 10 /	PUSHBUTTON F PED. SIGNAL e	14.00
TOTAL		56.00 LF

ITEM	DESCRIPTION	UNIT
842	CONCRETE FOR ANCHOR BASE FOUNDATIONS	CY
UNITS	CF	
*	SUPPORT REF. NO.	
0.7854X3X3X22.5 /	TP 21-1	159.04
3X3X0.58 /		5.22
0.7854X3X3X25.5 /	TP 21-2	180.25
3X3X0.58 /		5.22
0.7854X2X2X2.5 /	PD 21-1	7.85
4X0.5 /		2.00
2.25X2.83X3 /	TC 21-1	19.10
5X5X0.5 /	CONC. PAD	12.50
TOTAL		391.18 CF

### INTERSECTION 21 SUB-TOTAL PLAN SHEET NO. 523 CUY-90-11.64 TRAFFIC SIGNALS

TOTAL	ITEM	UNIT	DESCRIPTION
1	842	EACH	COMB. SIGNAL STRAIN POLE, 0.25 INCHES X 15.0 INCHES X 29.0 FEET
1	842	EACH	COMB. SIGNAL STRAIN POLE, 0.25 INCHES X 15.0 INCHES X 28.5 FEET
1	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 8 IN. LENS, TWO WAY
1	842	EACH	VEHICULAR SIGNAL HEAD, 1-3 SECTION, 2-8 IN. LENS, 1-12 IN. ARROW LENS, 2-4 SECTION, 3-8 IN. LENS, 1-12 IN. ARROW LENS, THREE WAY
1	842	EACH	VEHICULAR SIGNAL HEAD, 1-3 SECTION, 8 IN. LENS, 1-12 IN. ARROW LENS, TWO WAY
1	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 2-12 IN. LENS, 1-12 IN. ARROW LENS, ONE WAY
268	625	LF	TRENCH
581	625	LF	CONDUIT, 3 IN., 713.04
243	625	LF	CONDUIT, 3 IN., PVC
9	625	EACH	*SINGLE* PULL BOX, CONCRETE AS PER PLAN
1	625	EACH	*DOUBLE* PULL BOX, CONCRETE AS PER PLAN
1	625	EACH	JUNCTION BOX, 18 IN. X 8 IN. X 6 IN., 713.10
4	625	EACH	GROUND ROD
1	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP.
4	842	EACH	CABLE SUPPORT ASSEMBLY
56	842	LF	SIGNAL CABLE, STRANDED, 2/C NO. 12 AWG
1234	842	LF	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG
477	842	LF	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG
166	842	LF	POWER CABLE, 3/C NO. 6 AWG
402	842	LF	LOOP DETECTOR WIRE
343	842	LF	LOOP DETECTOR LEAD IN CABLE
129	842	LF	LOOP DETECTOR PAVEMENT CUTTING
2	842	EACH	LOOP DETECTOR AMPLIFIER
4	842	EACH	PEDESTRIAN SIGNAL PUSHBUTTON WITH SIGN (R-73C-9)
5	842	EACH	PEDESTRIAN SIGNAL HEAD, TYPE B2
1	843	EACH	SIGNAL CONTROLLER, 3 PHASE, SEMI-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT
1	842	EACH	PEDESTAL (7.5) FEET
14.5	842	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS

### INTERSECTION 22 PLAN SHEET NO. 524

\* LORAIN AVE., W. 81ST ST. AND RAMP 17 - INTERSECTION 22

ITEM	DESCRIPTION	UNIT
625	TRENCH	LF
* LF	FROM STATION TO STATION REFERENCE TO	
14 /	60+82 LT 60+93 LT LORAIN AVE	14.00
14 /	60+93 LT 50+50 LT W. 81ST ST	14.00
41 /	60+93 LT 61+34 LT LORAIN AVE	41.00
5 /	61+32 LT 61+34 LT LORAIN AVE	5.00
82 /	61+34 LT 61+60 RT LORAIN AVE	82.00
6 /	61+60 RT 61+65 RT LORAIN AVE	6.00
7 /	61+60 RT 61+60 RT LORAIN AVE	7.00
64 /	61+60 RT 62+45 RT LORAIN AVE	84.00
23 /	61+44 RT 61+60 RT LORAIN AVE	23.00
113 /	60+47 RT 61+60 RT LORAIN AVE	113.00
8 /	60+47 RT 60+55 RT LORAIN AVE	8.00
41 /	62+45 RT 62+84 RT LORAIN AVE	41.00
222 /	58+25 RT 60+47 RT LORAIN AVE	222.00
TOTAL		666.00 LF

NOTE: TRENCHING FOR THE REMAINING RUNS ARE COMBINED WITH LIGHTING QUANTITIES.

ITEM	DESCRIPTION	UNIT
625	CONDUIT, 3 IN., 713.04	LF
* LF	FROM STATION TO STATION REFERENCE TO	
14 /	60+82 LT 60+93 LT LORAIN AVE	14.00
14 /	60+93 LT 50+50 LT W. 81ST ST	14.00
41 /	60+93 LT 61+34 LT LORAIN AVE	41.00
5 /	61+32 LT 61+34 LT LORAIN AVE	5.00
82 /	61+34 LT 61+60 RT LORAIN AVE	82.00
113X2 /	60+47 RT 61+60 RT LORAIN AVE	226.00
8 /	60+47 RT 60+55 RT LORAIN AVE	8.00
23 /	61+44 RT 61+60 RT LORAIN AVE	23.00
6 /	61+60 RT 61+65 RT LORAIN AVE	6.00
7X3 /	61+60 RT 61+60 RT LORAIN AVE	21.00
41 /	62+45 RT 62+84 RT LORAIN AVE	41.00
TOTAL		487.00 LF

ITEM	DESCRIPTION	UNIT
625	CONDUIT, 3 IN., PVC	LF
* LF	FROM STATION TO STATION REFERENCE TO	
64 /	61+60 RT 62+45 RT LORAIN AVE	84.00
186 /	61+44 RT 14+75 LT RAMP 17	186.00
222 /	58+25 RT 60+47 RT LORAIN AVE	222.00
TOTAL		492.00 LF

ITEM	DESCRIPTION	UNIT
625	*SINGLE* PULL BOX, CONCRETE AS PER PLAN	EACH
* EACH	STREET STATION REFERENCE TO	
1 /	LORAIN AVE 60+47 RT TP 22-1	1.00
1 /	LORAIN AVE 61+34 LT TP 22-2	1.00
1 /	LORAIN AVE 62+45 RT INTERCONNECT	1.00
1 /	LORAIN AVE 62+84 RT INTERCONNECT	1.00
1 /	LORAIN AVE 60+93 LT PD 22-2	1.00
1 /	RAMP 17 14+75 LT LD 22-2	1.00
1 /	LORAIN AVE 61+44 RT TC 22-1	1.00
1 /	LORAIN AVE 58+25 RT INNERCONNECT	1.00
TOTAL		8.00

ITEM	DESCRIPTION	UNIT
625	*DOUBLE* PULL BOX, CONCRETE AS PER PLAN	EACH
* EACH	STREET STATION REFERENCE TO	
1 /	LORAIN AVE 61+60 RT PD 22-1 & TC 22-1	1.00
TOTAL		1.00

ITEM	DESCRIPTION	UNIT
625	GROUND ROD	EACH
* EACH	STATION STREET REFERENCE TO	
1 /	60+55 RT LORAIN AVE TP 22-1	1.00
1 /	61+60 RT LORAIN AVE TC 22-1	1.00
1 /	61+65 RT LORAIN AVE PD 22-1	1.00
1 /	61+32 LT LORAIN AVE TP 22-2	1.00
1 /	60+82 LT LORAIN AVE PD 22-2	1.00
TOTAL		5.00

# TRAFFIC SIGNAL QUANTITIES SUB-SUMMARY

CALCULATED BY FB DATE 2/74  
 CHECKED BY EK DATE 3/74

FED. RD.	STATE	PROJECT
2	OHIO	I-90-(38)21

541  
838

CUYAHOGA COUNTY  
 CUY - 90 -11.64

INTERSECTION 22 (CONT'D)

ITEM DESCRIPTION	UNIT
844 DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP	EACH
* EACH STATION STREET REFERENCE TO	
1 / 61+60 LORAIN AVE TC 22-1	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
842 CABLE SUPPORT ASSEMBLY	EACH
* EACH REFERENCE TO	
4 / TP 22-1	4.00
TOTAL	4.00

ITEM DESCRIPTION	UNIT
842 SIGNAL CABLE, STRANDED, 2/C NO. 12 AWG	LF
* LF + 10 FROM TO	
4 + 10 / PUSHBUTTON A PED. SIGNAL b	14.00
4 + 10 / PUSHBUTTON B PED. SIGNAL a	14.00
4 + 10 / PUSHBUTTON E PED. SIGNAL f	14.00
4 + 10 / PUSHBUTTON F PED. SIGNAL e	14.00
TOTAL	56.00 LF

ITEM DESCRIPTION	UNIT
842 SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG	LF
* LF+10 FROM CONTROLLER TO	
5+13+113+8+29+56+10+20+5 / SIGNAL HEAD 1 + 2	259.00
5+13+113+8+29+56+10+20+5 / SIGNAL HEAD 3 + 4	259.00
5+13+113+8+29+35+10+21+5 / SIGNAL HEAD 5 + 6	239.00
5+13+113+8+29+35+10+21+5 / SIGNAL HEAD 7 + 8	239.00
5+13+6+10+5 / PED. SIGNAL C	39.00
5+13+6+10+5 / PED. SIGNAL B	39.00
5+13+113+8+10+5 / PED. SIGNAL E	154.00
5+13+113+8+10+5 / PED. SIGNAL D	154.00
5+13+88+5+10+5 / PED. SIGNAL A	126.00
5+13+88+5+10+5 / PED. SIGNAL H	126.00
5+13+88+4+14+10+5 / PED. SIGNAL G	176.00
5+13+88+4+14+10+5 / PED. SIGNAL F	176.00
TOTAL	1986.00 LF

ITEM DESCRIPTION	UNIT
842 INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG	LF
* LF+10 CONTROLLER TO CONTROLLER	
15+92+105+155+200+222+113+7+10 / TC 20-1 TC 22-1	919.00
TOTAL	919.00 LF

ITEM DESCRIPTION	UNIT
842 POWER CABLE, 3/C NO. 6 AWG	LF
* LF+10 FROM CONTROLLER TO	
5+13+88+4+1+27+5 / EXIST. POLE 30035	175.00
TOTAL	175.00 LF

ITEM DESCRIPTION	UNIT
842 LOOP DETECTOR WIRE	LF
* LF PERIMETER X NO. OF TURNS REF. TO.	
112X2+14X2 / LD 22-1	252.00
76X2+16X2 / LD 22-2 RAMP 17 STA. 14+75	184.00
30X3+17X2 / LD 22-3 W. 81ST. ST	124.00
TOTAL	560.00 LF

ITEM DESCRIPTION	UNIT
842 LOOP DETECTOR LEAD IN CABLE	LF
* LF+10 FROM CONTROLLER TO	
5+13+23+5 / LD 22-1	46.00
5+13+23+186+5 / LD 22-2	232.00
5+13+88+4+1+4+5 / LD 22-3	166.00
TOTAL	444.00 LF

ITEM DESCRIPTION	UNIT
842 MESSENGER WIRE, 7 STRAND, (3/8 IN.) WITH ACCESSORIES	LF
* LF FROM TO	
110 / TP 22-1 TP 22-2	110.00
TOTAL	110.00 LF

ITEM DESCRIPTION	UNIT
842 LOOP DETECTOR PAVEMENT CUTTING	LF
* LF LOOP PERIMETER + LEAD IN REF. TO	
112+5 / LD 22-1	117.00
76+9 / LD 22-2	85.00
30+3 / LD 22-3	33.00
TOTAL	235.00 LF

ITEM DESCRIPTION	UNIT
842 LOOP DETECTOR AMPLIFIER	EACH
* EACH FOR LOOP DETECTORS	
1 / LD 22-1	1.00
1 / LD 22-2	1.00
1 / LD 22-3	1.00
TOTAL	3.00

ITEM DESCRIPTION	UNIT
842 PEDESTRIAN PUSHBUTTON, WITH SIGN (R-73C-9)	EACH
* EACH REFERENCE TO	
1 / PD 22-1 (PUSHBUTTON A)	1.00
1 / TP 22-2 (PUSHBUTTON B)	1.00
1 / PD 22-2 (PUSHBUTTON E)	1.00
1 / TP 22-1 (PUSHBUTTON F)	1.00
TOTAL	4.00

ITEM DESCRIPTION	UNIT
842 PEDESTRIAN SIGNAL HEAD, TYPE B2	EACH
* EACH REFERENCE TO	
1 / PED. SIGNAL A	1.00
1 / PED. SIGNAL B	1.00
1 / PED. SIGNAL C	1.00
1 / PED. SIGNAL D	1.00
1 / PED. SIGNAL E	1.00
1 / PED. SIGNAL F	1.00
1 / PED. SIGNAL G	1.00
1 / PED. SIGNAL H	1.00
TOTAL	8.00

ITEM DESCRIPTION	UNIT
843 SIGNAL CONTROLLER, 3 PHASE, SEMI-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT	EACH
* EACH REF. TO	
1 / TC 22-1	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
842 VEHICULAR SIGNAL HEAD, 3 SECTION, 12 IN. LENS, TWO WAY	EACH
* EACH REF. TO	
1 / SIGNAL HEAD 1 AND 3	1.00
1 / SIGNAL HEAD 5 AND 7	1.00
TOTAL	2.00

ITEM DESCRIPTION	UNIT
842 VEHICULAR SIGNAL HEAD, 3-3 SECTION, 12 IN. LENS, 1-4 SECTION, 3-12 IN. LENS, 1-12 IN. ARROW LENS, FOUR WAY	EACH
* EACH REF. TO	
1 / SIGNAL 2, 4, 6 & 8	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
842 SIGNAL STRAIN POLE, 0.25 INCHES X 16.0 INCHES X 28.0 FEET	EACH
* EACH REF. TO.	
1 / TP 22-1 LORAIN AVE STA. 60+55 RT.	1.00
1 / TP 22-2 LORAIN AVE STA. 61+32 LT.	1.00
TOTAL	2.00

ITEM DESCRIPTION	UNIT
842 COMB PEDESTRIAN SIGNAL & LIGHT POLE, 0.1196 INCHES X 8.5 INCHES X 30.0 FEET	EACH
* EACH REF. TO	
1 / PD 22-1 LORAIN AVE STA. 61+65 RT	1.00
1 / PD 22-2 LORAIN AVE STA. 60+82 LT	1.00
TOTAL	2.00

ITEM DESCRIPTION	UNIT
842 WEATHERHEAD AND CONDUIT RISER (3IN.) DIA.	EACH
* EACH REFERENCED TO	
1 / EXIST. POLE 30035	1.00
TOTAL	1.00

ITEM DESCRIPTION	UNIT
842 CONCRETE FOR ANCHOR BASE FOUNDATIONS	CY
* UNITS CF REF. TO.	
3X3X0.58 / 1P 22-2	5.22
0.7854X3X3X22.5 /	159.04
3X3X0.58 / TP 22-1	5.22
0.7854X3X3X22.5 /	159.04
0.7854X2X2X5.5 / PD 22-1	17.28
2X2X0.5 / PD 22-2	2.00
2.25X 2.83X3 TC 22-1	19.10
5X5X0.5 CONC. PAD.	12.50
QUAN / TOTAL / INTERSECTION 22	TOTAL 338.68 CF

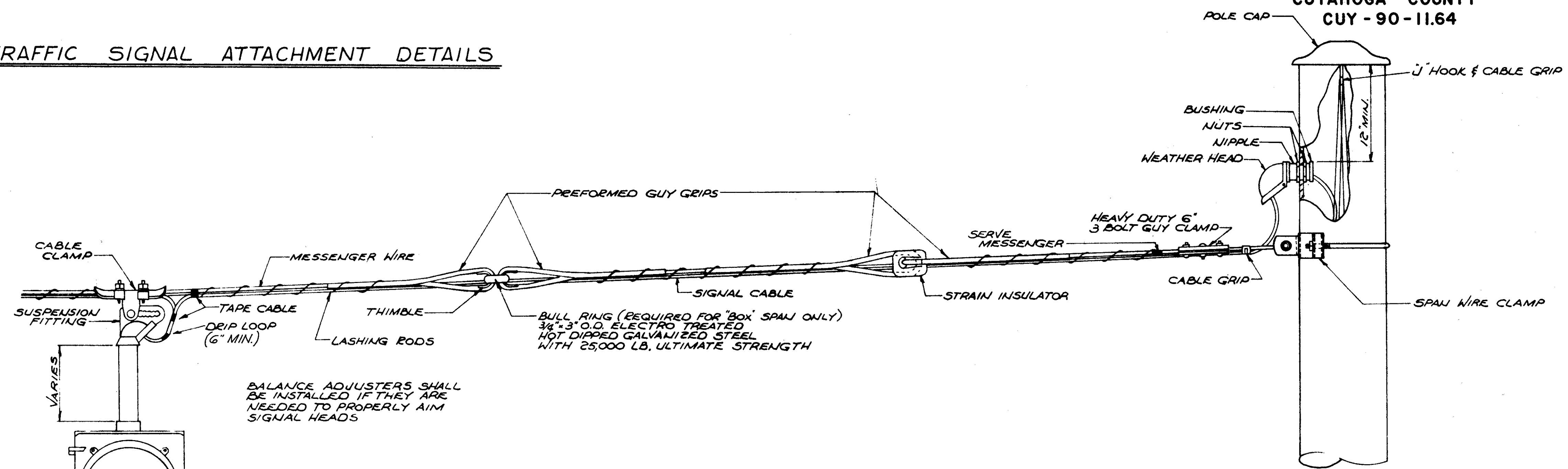
INTERSECTION 22 SUB-TOTAL PLAN SHEET NO. 524 CUY-90-11.64 TRAFFIC SIGNALS			
TOTAL	ITEM	UNIT	DESCRIPTION
2	842	EACH	COMB. PEDESTRIAN SIGNAL & LIGHT POLE, 0.1196 INCHES X 8.5 INCHES X 30.0 FEET
2	842	EACH	SIGNAL STRAIN POLE, 0.25 INCHES X 16.0 INCHES X 28.0 FEET
606.	625	LF	TRENCH
487.	625	LF	CONDUIT, 3 IN., 713.04
492.	625	LF	CONDUIT, 3 IN., PVC
8	625	EACH	'SINGLE' PULL BOX, CONCRETE AS PER PLAN
1	625	EACH	'DOUBLE' PULL BOX, CONCRETE AS PER PLAN
5	625	EACH	GROUND ROD
1	844	EACH	DISCONNECT SWITCH WITH ENCLOSURE, 30 AMP
4	842	EACH	CABLE SUPPORT ASSEMBLY
56	842	LF	SIGNAL CABLE, STRANDED, 2/C NO. 12 AWG
1986.	842	LF	SIGNAL CABLE, STRANDED, 7/C NO. 12 AWG
919.	842	LF	INTERCONNECT CABLE, STRANDED 12/C NO. 12 AWG
175.	842	LF	POWER CABLE, 3/C NO. 6 AWG
560.	842	LF	LOOP DETECTOR WIRE
444.	842	LF	LOOP DETECTOR LEAD IN CABLE
110.	842	LF	MESSENGER WIRE, 7 STRAND, 3/8 IN. WITH ACCESSORIES
235.	842	LF	LOOP DETECTOR PAVEMENT CUTTING
3	842	EACH	LOOP DETECTOR AMPLIFIER
4	842	EACH	PEDESTRIAN PUSHBUTTON, WITH SIGN (R-73C-9)
8	842	EACH	PEDESTRIAN SIGNAL HEAD, TYPE B2
1	843	EACH	SIGNAL CONTROLLER, 3 PHASE, SEMI-ACTUATED, SOLID STATE W/CABINET AND COORDINATION UNIT
2	842	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 12 IN. LENS, TWO WAY
1	842	EACH	VEHICULAR SIGNAL HEAD, 3-3 SECTION, 12 IN. LENS, 1-4 SECTION, 3-12 IN. LENS, 1-12 IN. ARROW LENS, FOUR WAY
1	842	EACH	WEATHERHEAD AND CONDUIT RISER (3IN.) DIA.
14.8	842	CY	CONCRETE FOR ANCHOR BASE FOUNDATIONS

NO. NO.	STATE	PROJECT
2	OHIO	I-90-1(38)21

542  
838

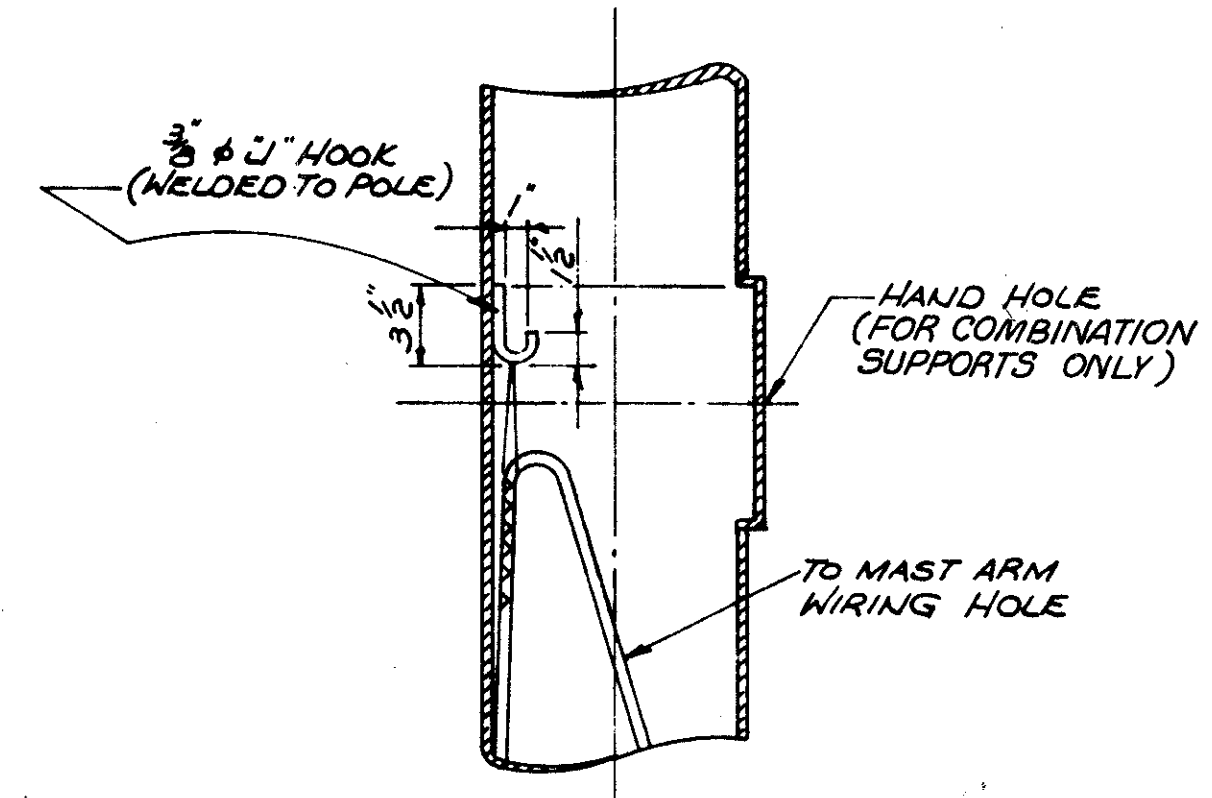
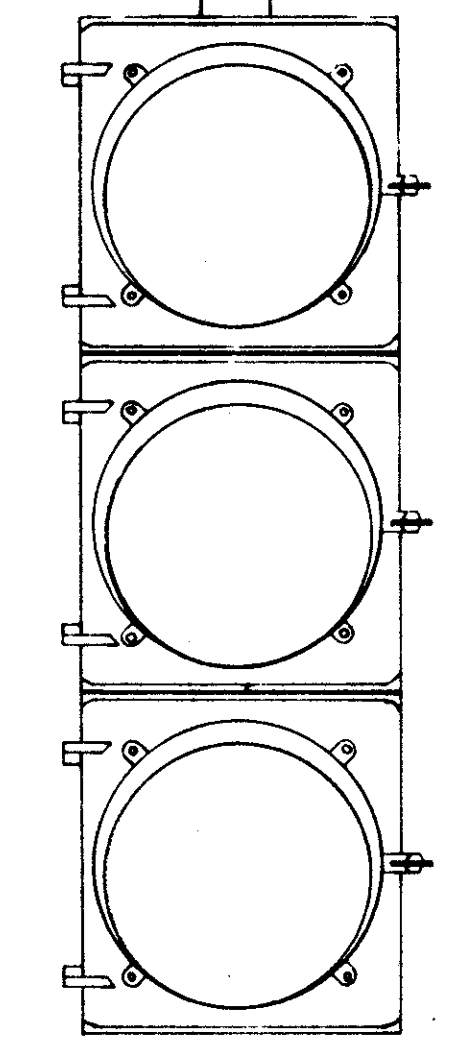
CUYAHOGA COUNTY  
CUY-90-11.64

TRAFFIC SIGNAL ATTACHMENT DETAILS

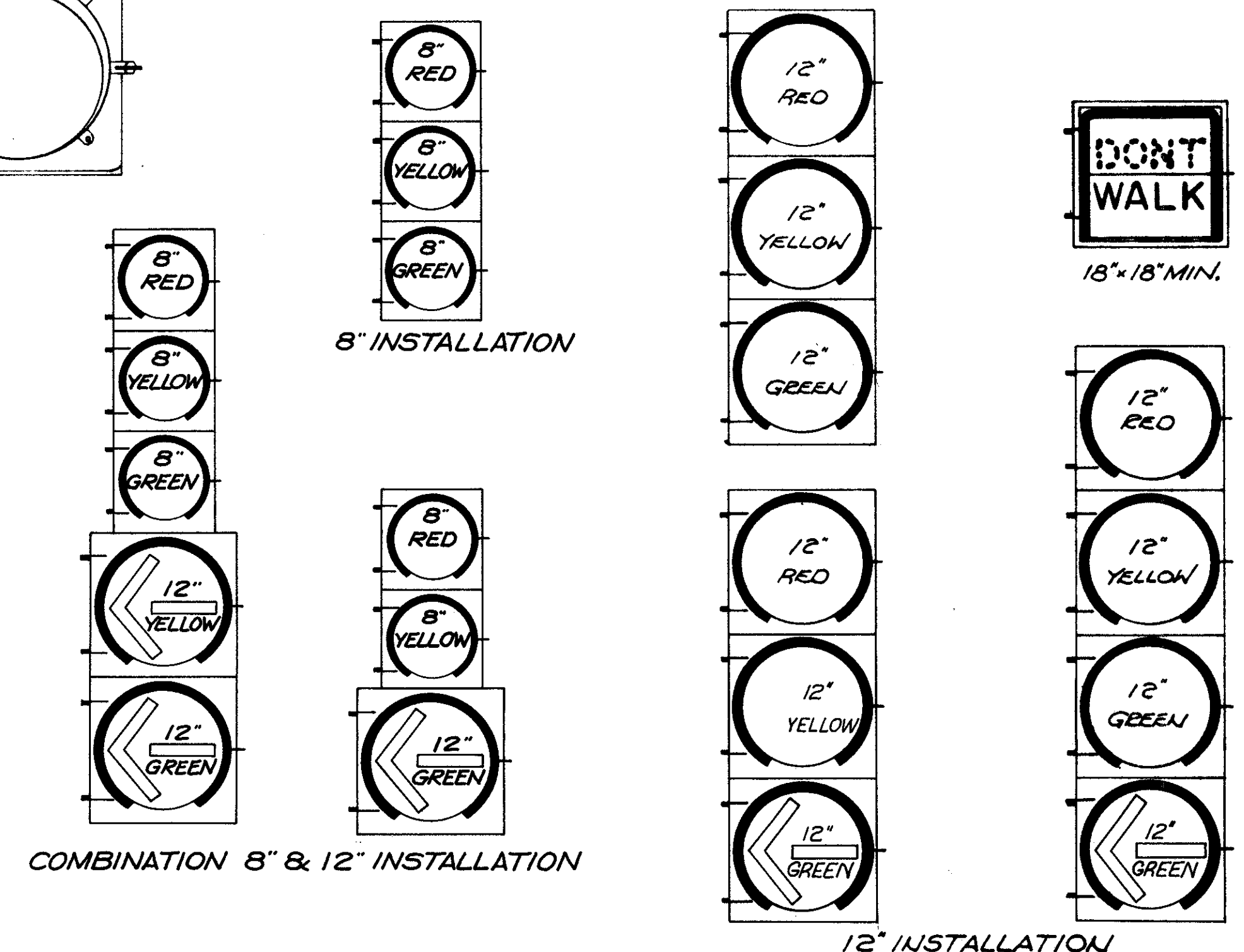


BALANCE ADJUSTERS SHALL BE INSTALLED IF THEY ARE NEEDED TO PROPERLY AIM SIGNAL HEADS

MESSENGER WIRE DETAIL



J HOOK DETAIL

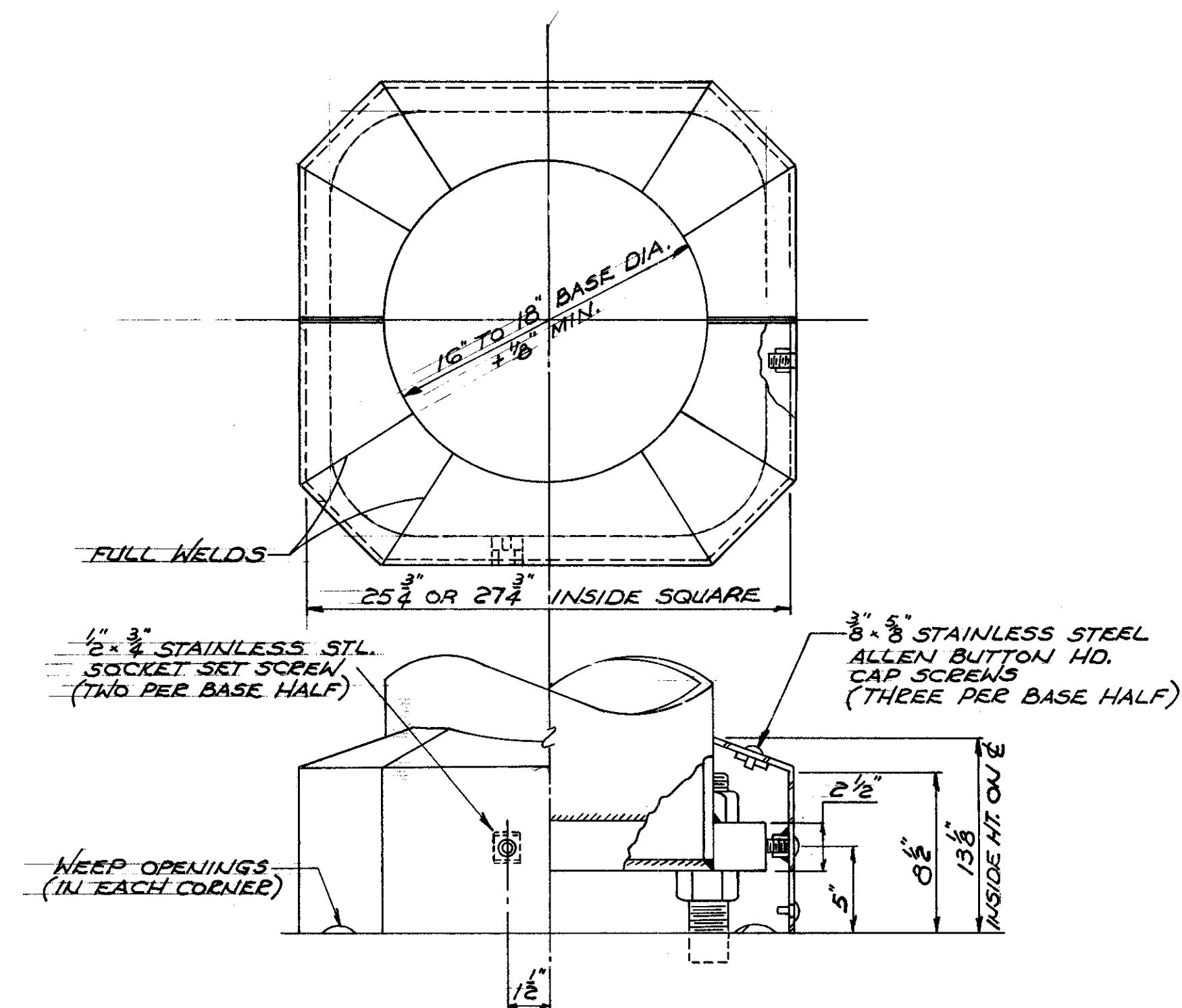


TYPICAL SIGNAL DETAILS

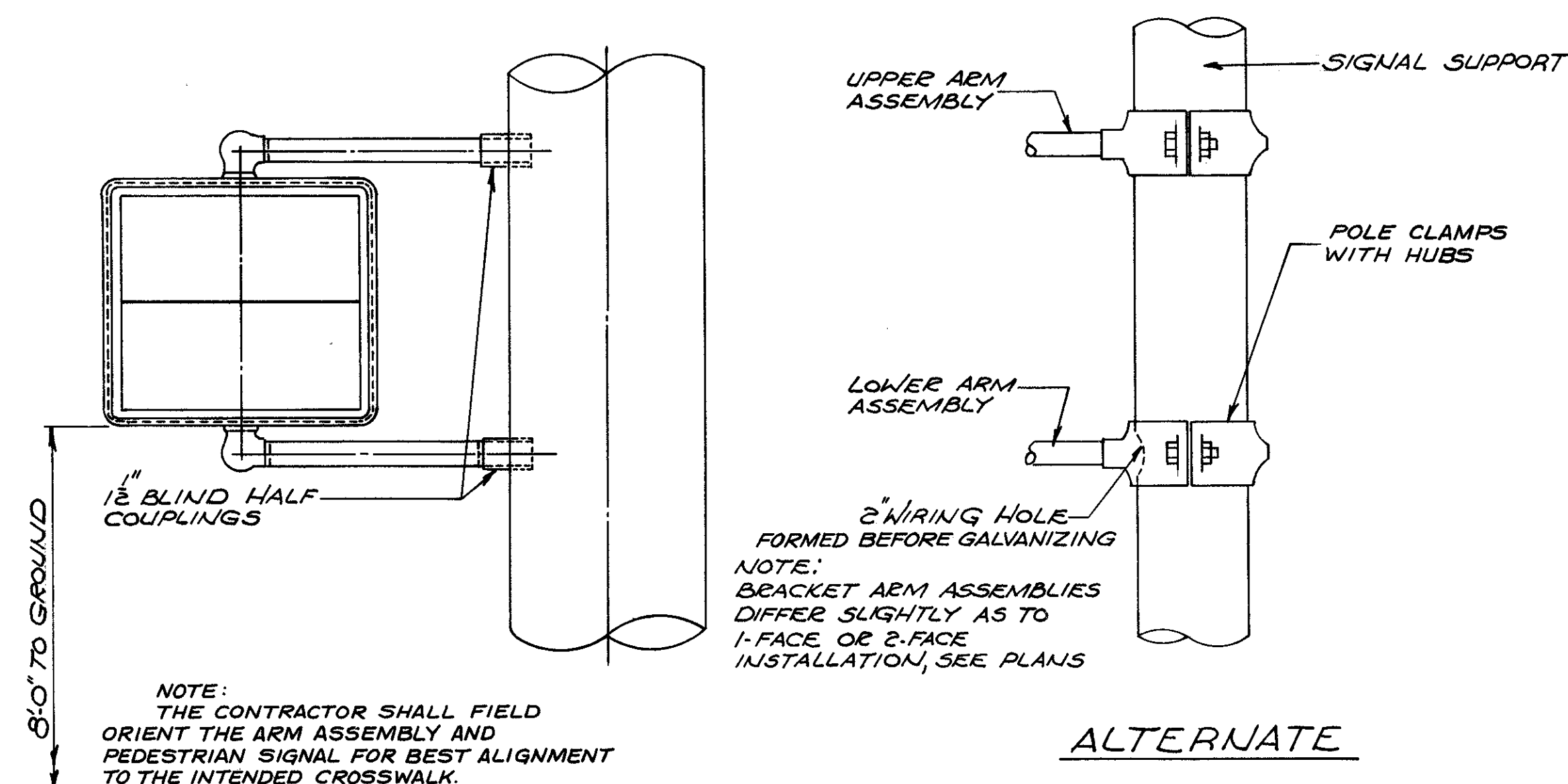
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

543  
838

CUYAHOGA COUNTY  
CUY-90-11.64

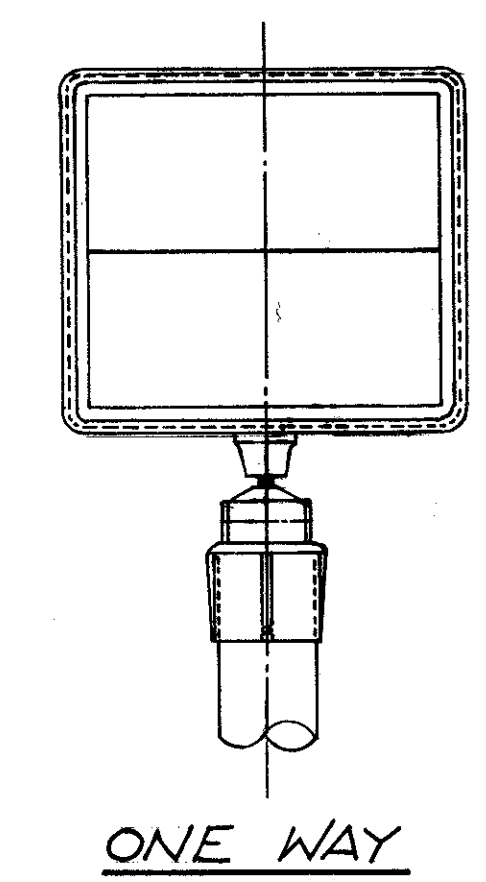


SPLIT COVER BASE  
FOR PLATE BASE POLES ONLY

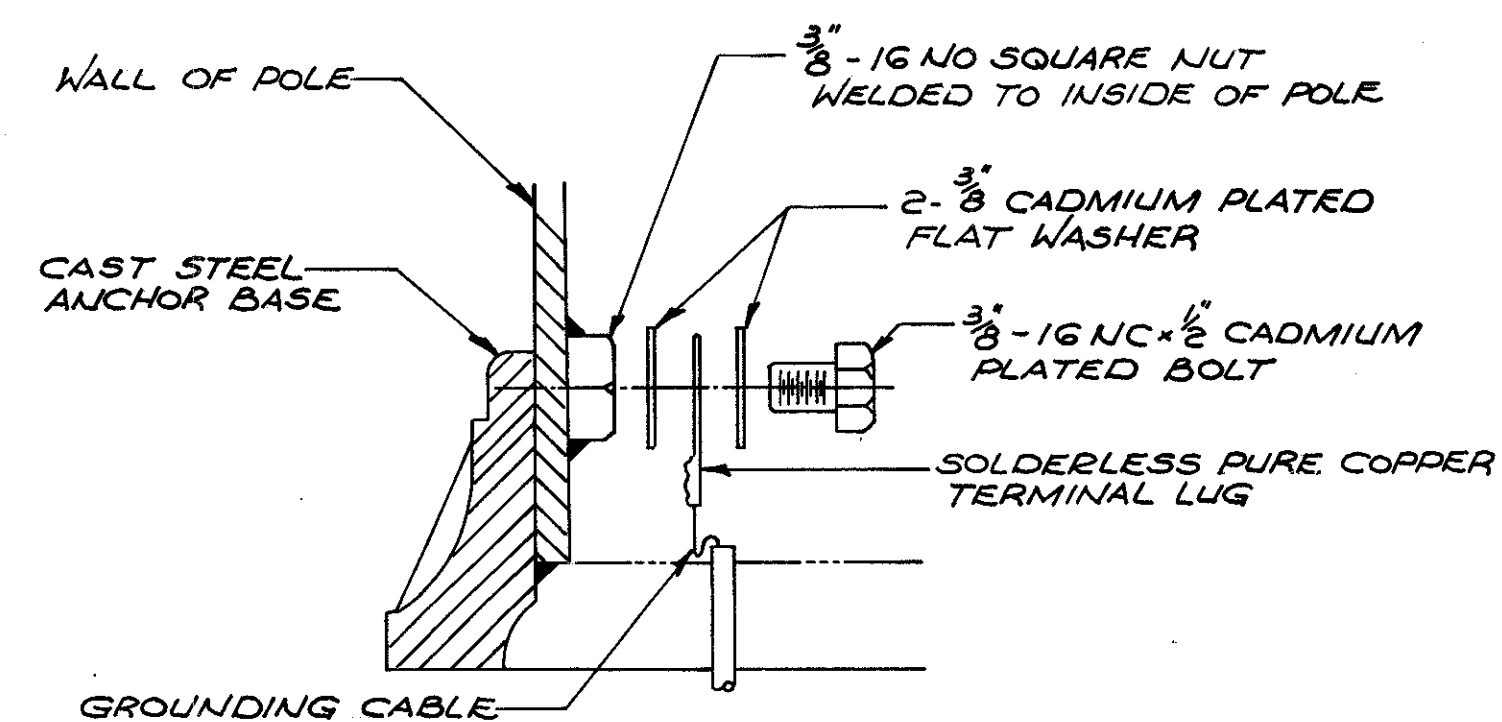
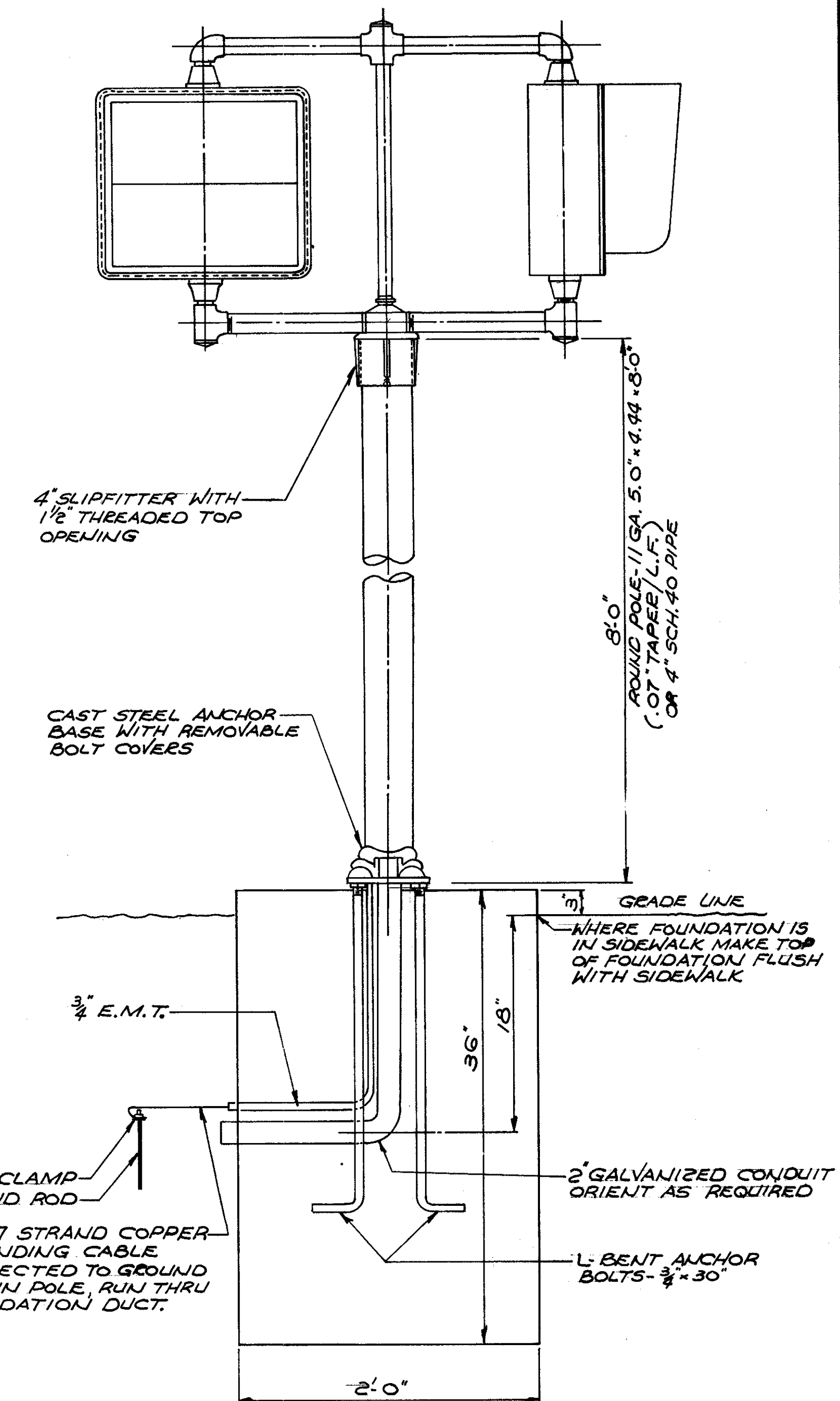


ALTERNATE

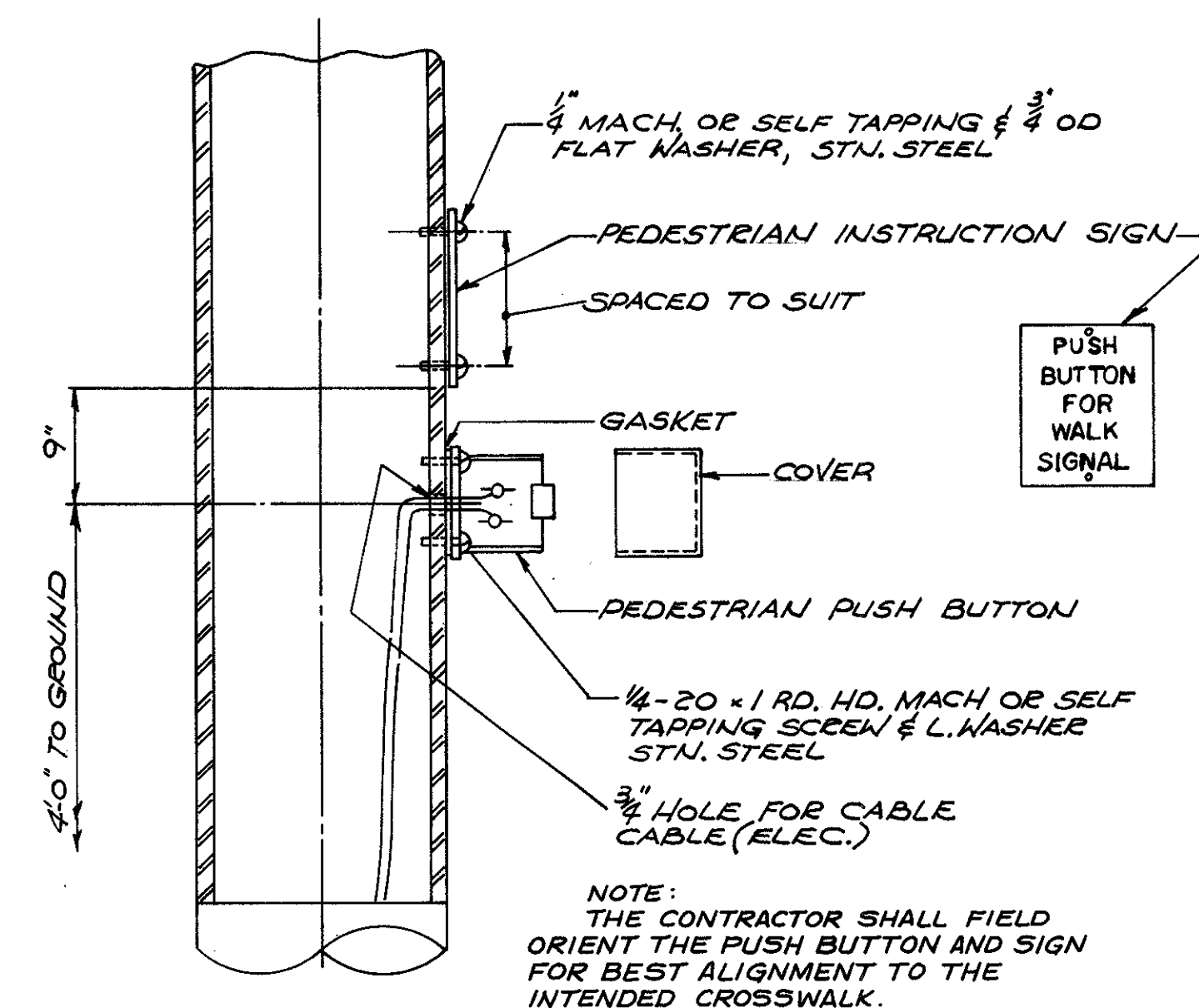
PEDESTRIAN SIGNAL HEAD INSTALLATION DETAILS



ONE WAY



TYPICAL GROUNDING CABLE CONNECTION



PEDESTRIAN PUSH BUTTON  
INSTALLATION DETAILS

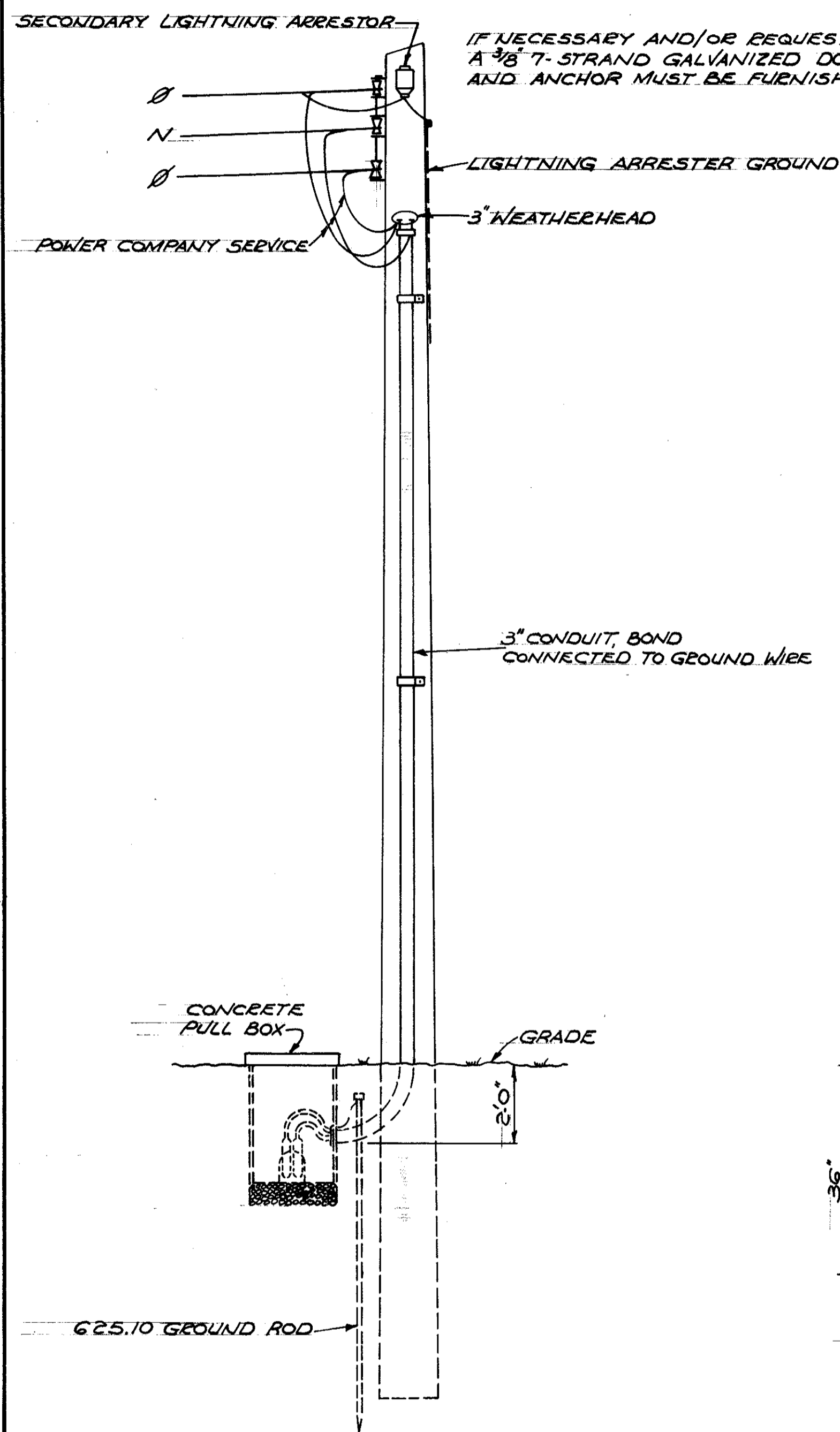
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(38)21

544  
838

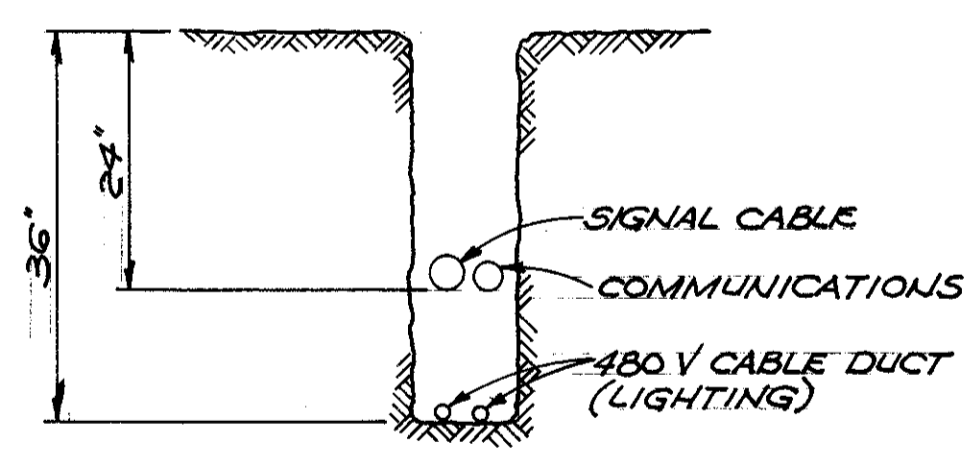
CUYAHOGA COUNTY  
CUY-90-11.64

CONTRACTOR SHALL FIELD DETERMINE THE BEST ORIENTATION FOR MOUNTING THE EQUIPMENT ON THE POLE TO SUIT THE PARTICULAR LOCATION AND FACILITATE THE CONNECTION OF SUPPLY SERVICE BY THE POWER COMPANY

IF NECESSARY AND/OR REQUESTED BY THE POWER COMPANY A 3/8" 7-STRAND GALVANIZED DOWN GUY, INSULATOR, GUARD, AND ANCHOR MUST BE FURNISH AND INSTALLED.

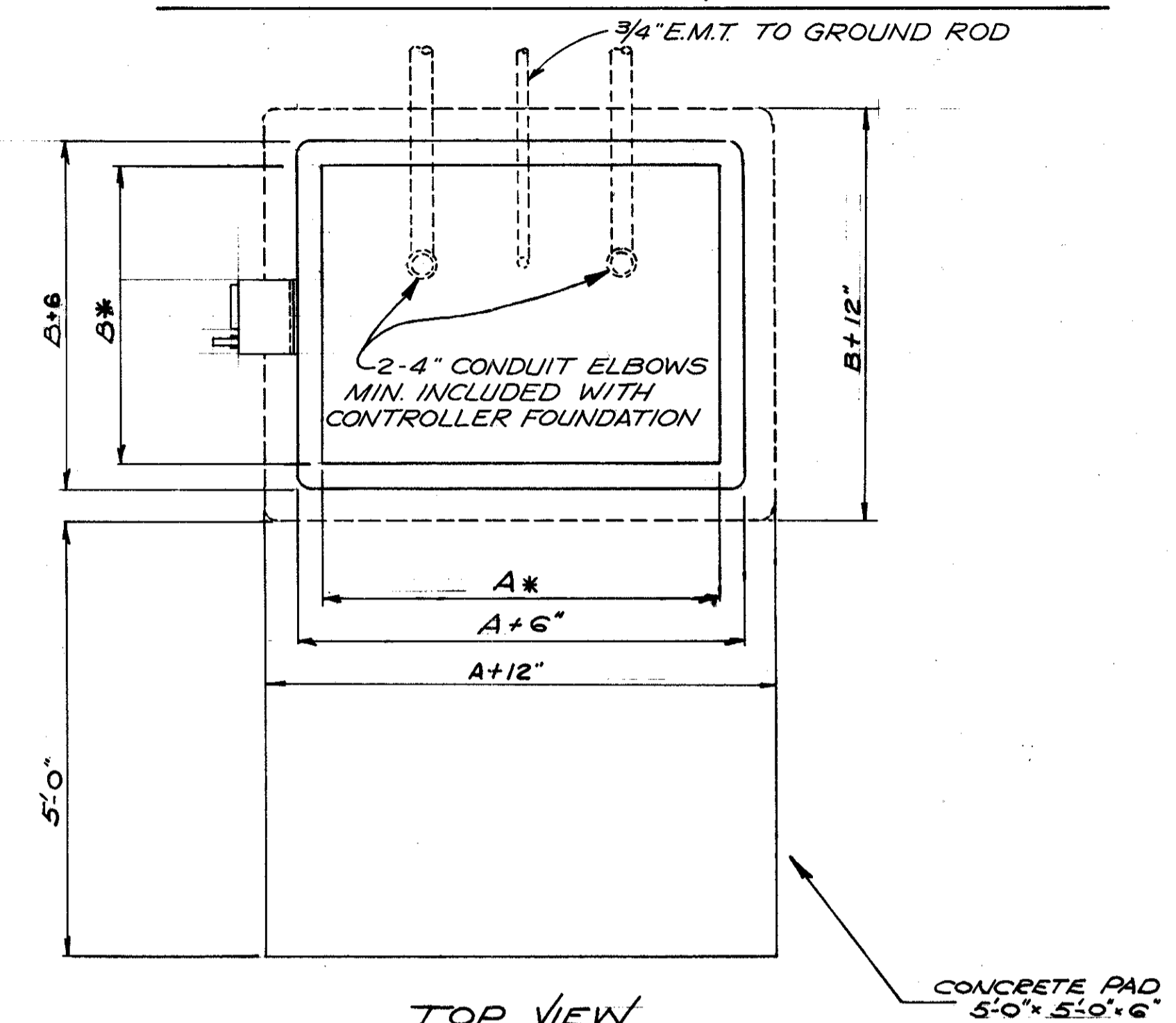


FRONT VIEW  
SERVICE POLE



COMBINATION TRENCH

CONTROLLER ASSEMBLY & FOUNDATION

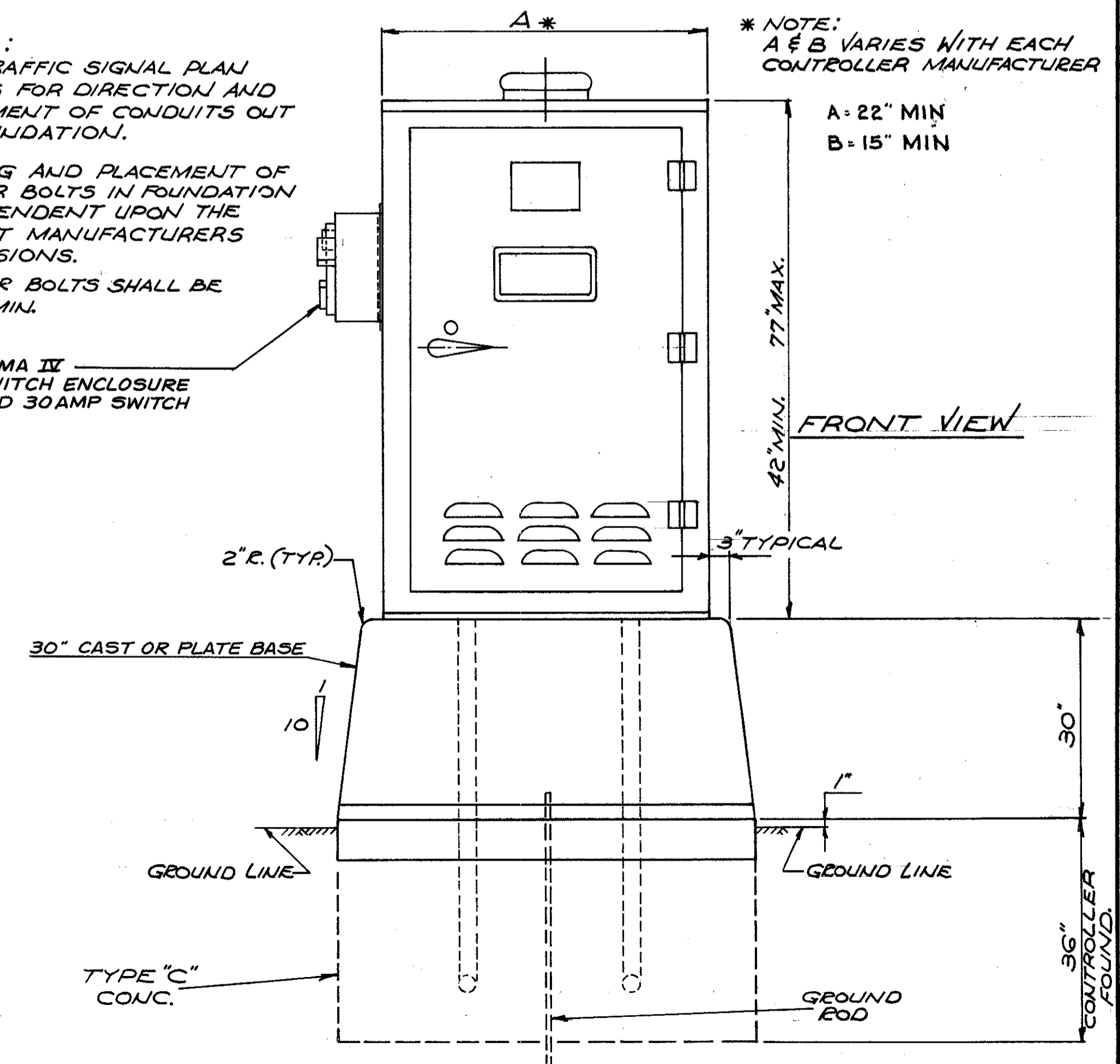


TOP VIEW

NOTES:  
SEE TRAFFIC SIGNAL PLAN SHEETS FOR DIRECTION AND PLACEMENT OF CONDUITS OUT OF FOUNDATION.  
SPACING AND PLACEMENT OF ANCHOR BOLTS IN FOUNDATION IS DEPENDENT UPON THE CABINET MANUFACTURERS DIMENSIONS.  
ANCHOR BOLTS SHALL BE 3/8" x 60" MIN.

\* NOTE:  
A & B VARIES WITH EACH CONTROLLER MANUFACTURER  
A = 22" MIN  
B = 15" MIN

NEMA II SWITCH ENCLOSURE AND 30 AMP SWITCH



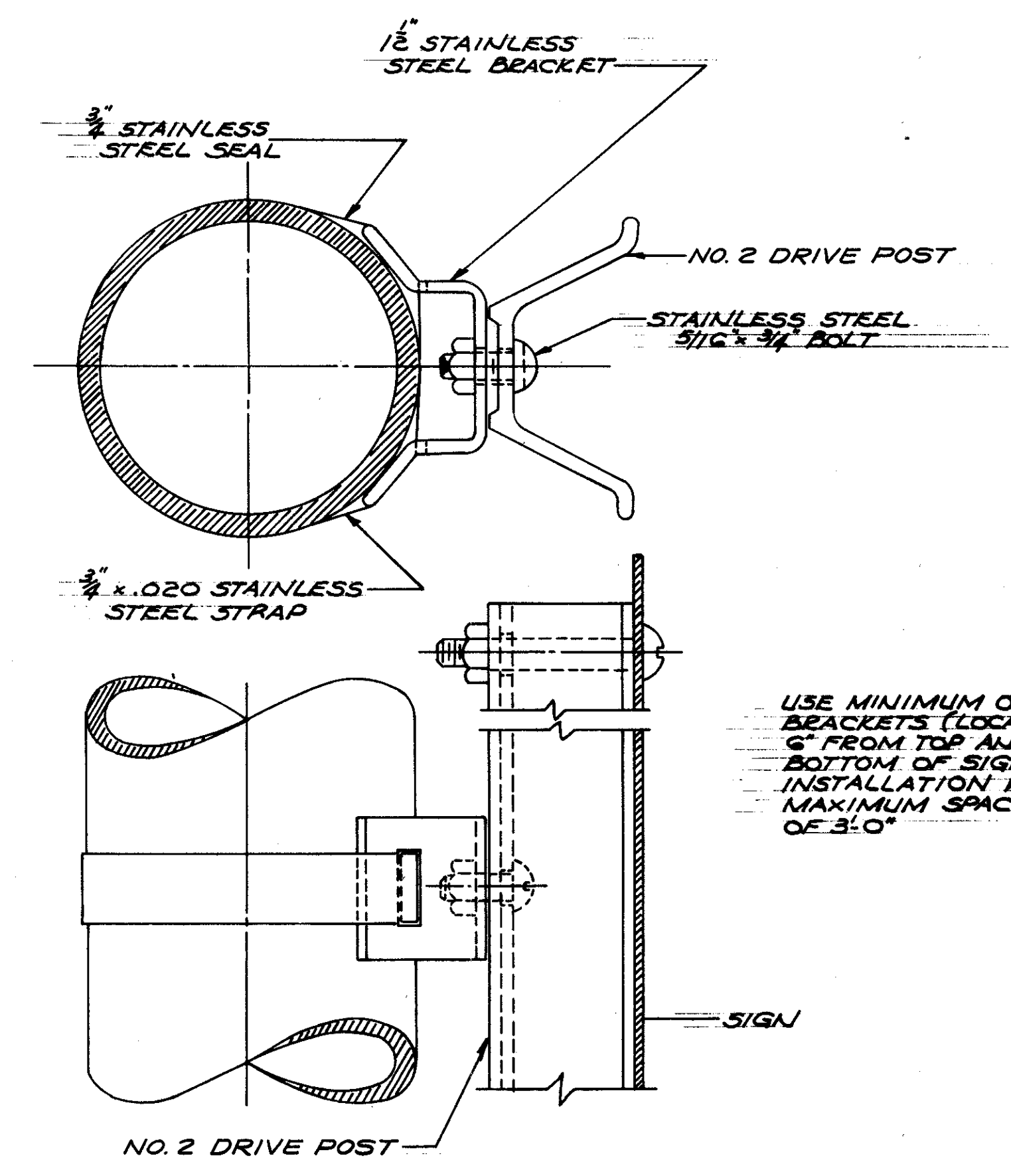
FRONT VIEW

TRAFFIC SIGNAL DETAILS

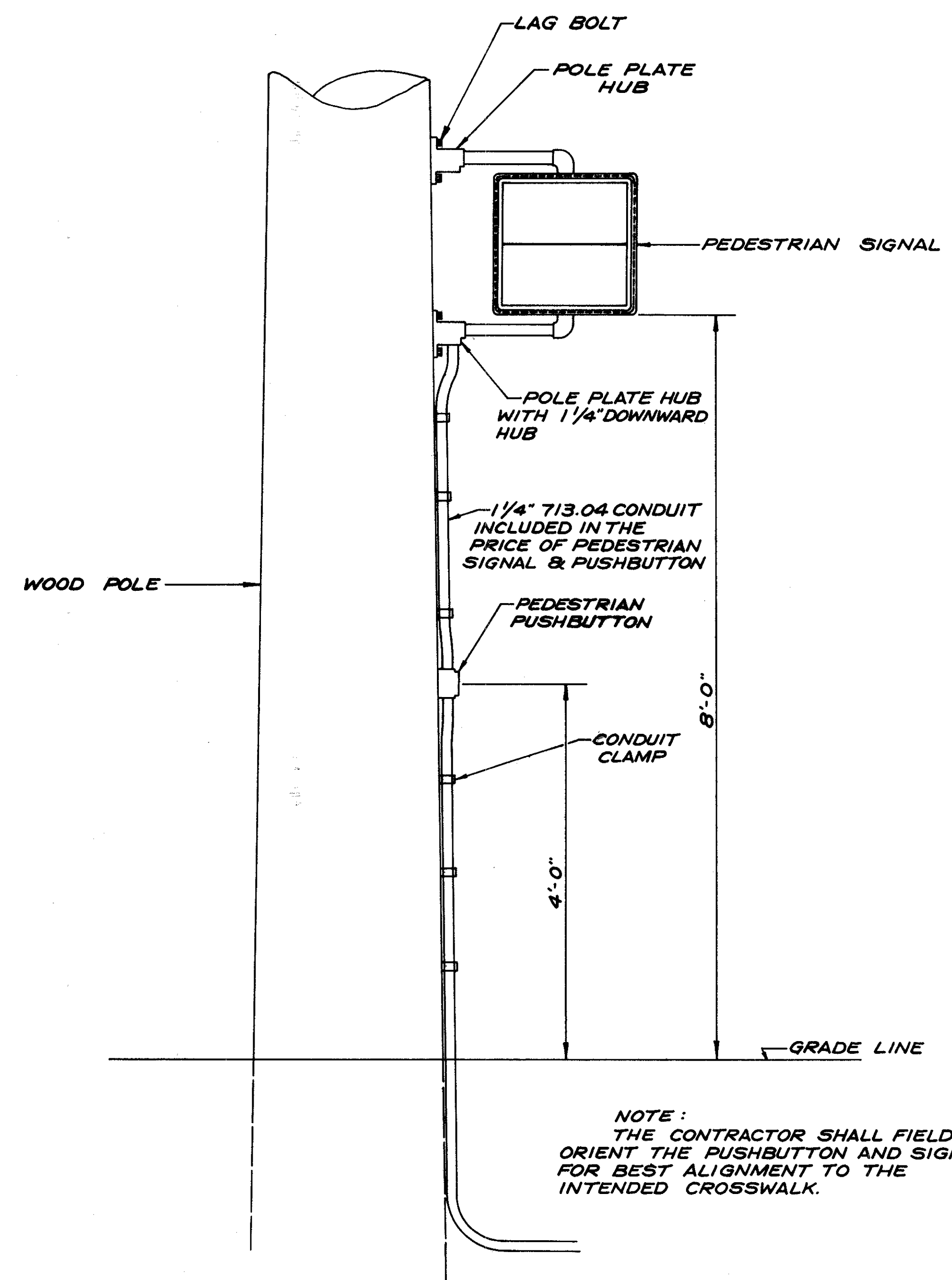
FED. RD.	STATE	PROJECT	
2	OHIO	I-90-1(38)21	

545  
838

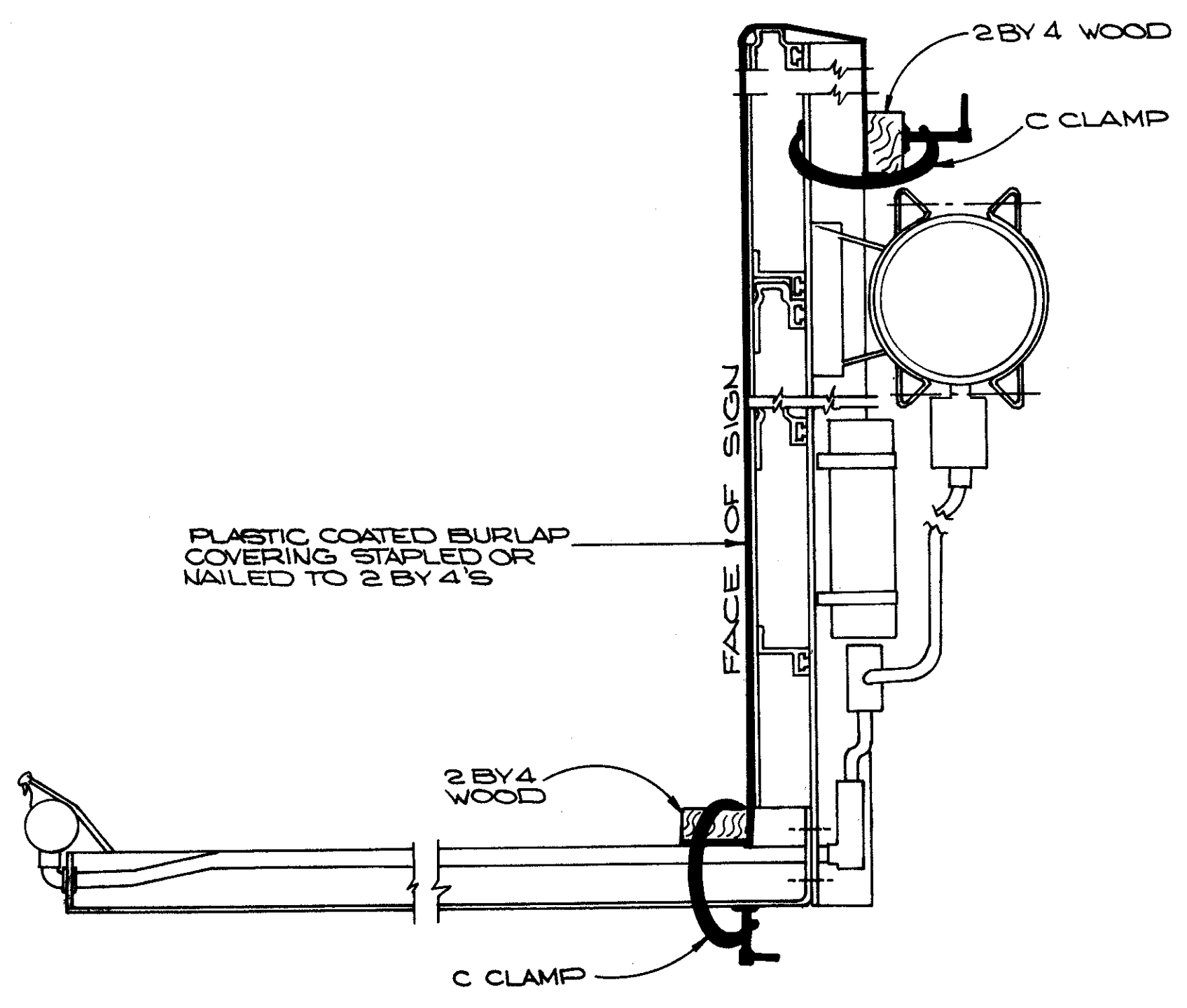
CUYAHOGA COUNTY  
CUY-90-11.64



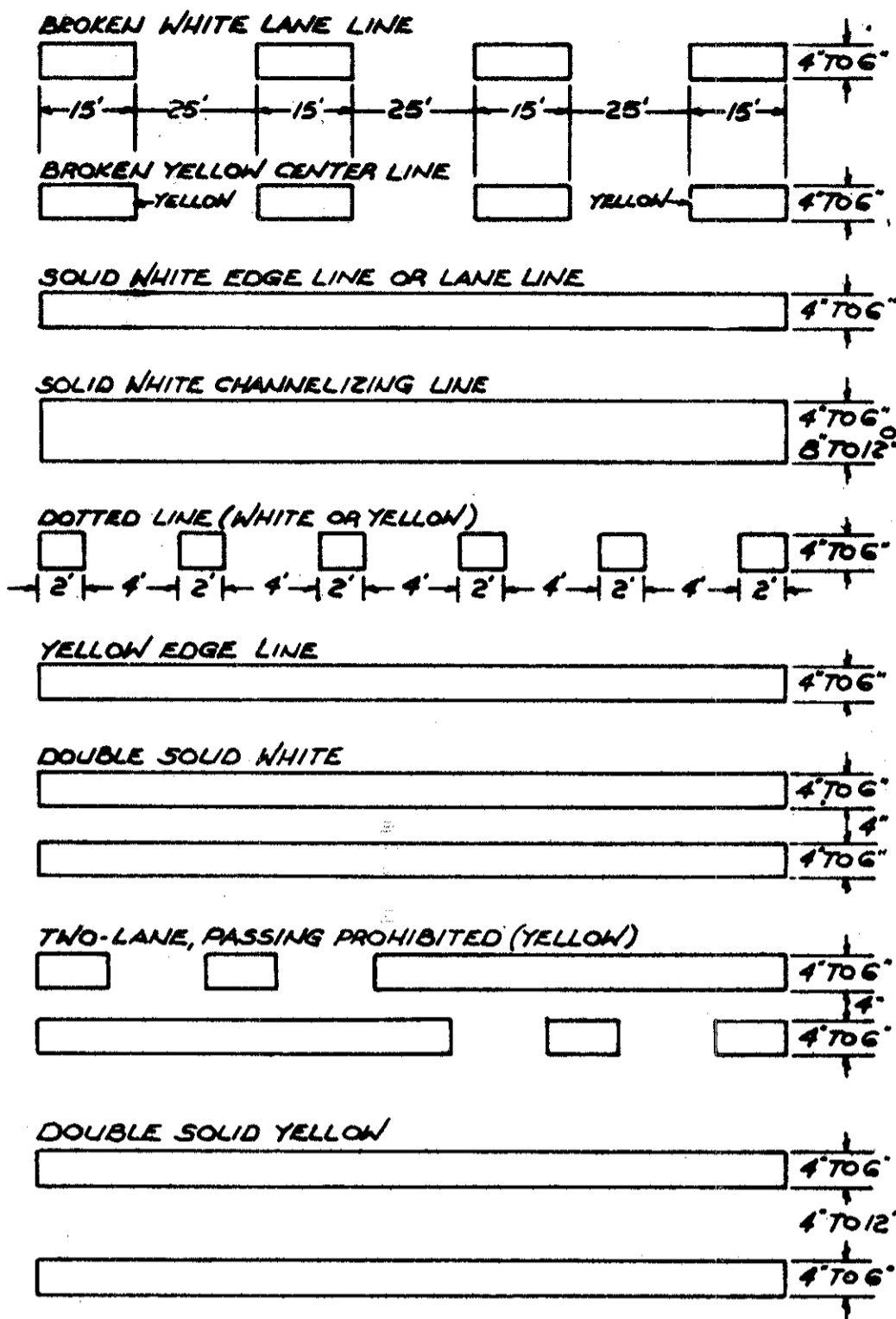
POLE MOUNTED SIGNS.



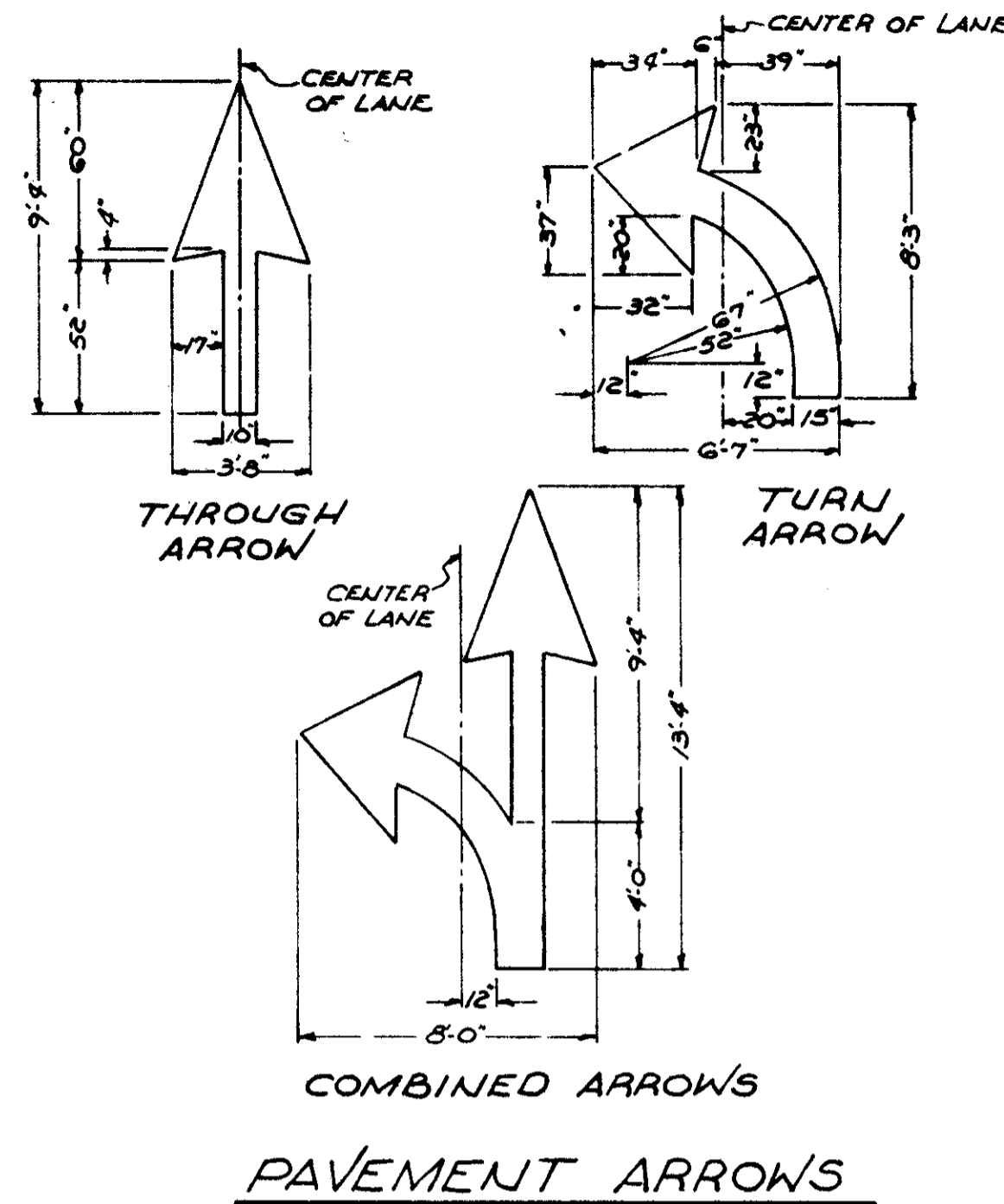
PEDESTRIAN SIGNAL AND PUSHBUTTON  
INSTALLATION DETAIL FOR  
WOOD POLES



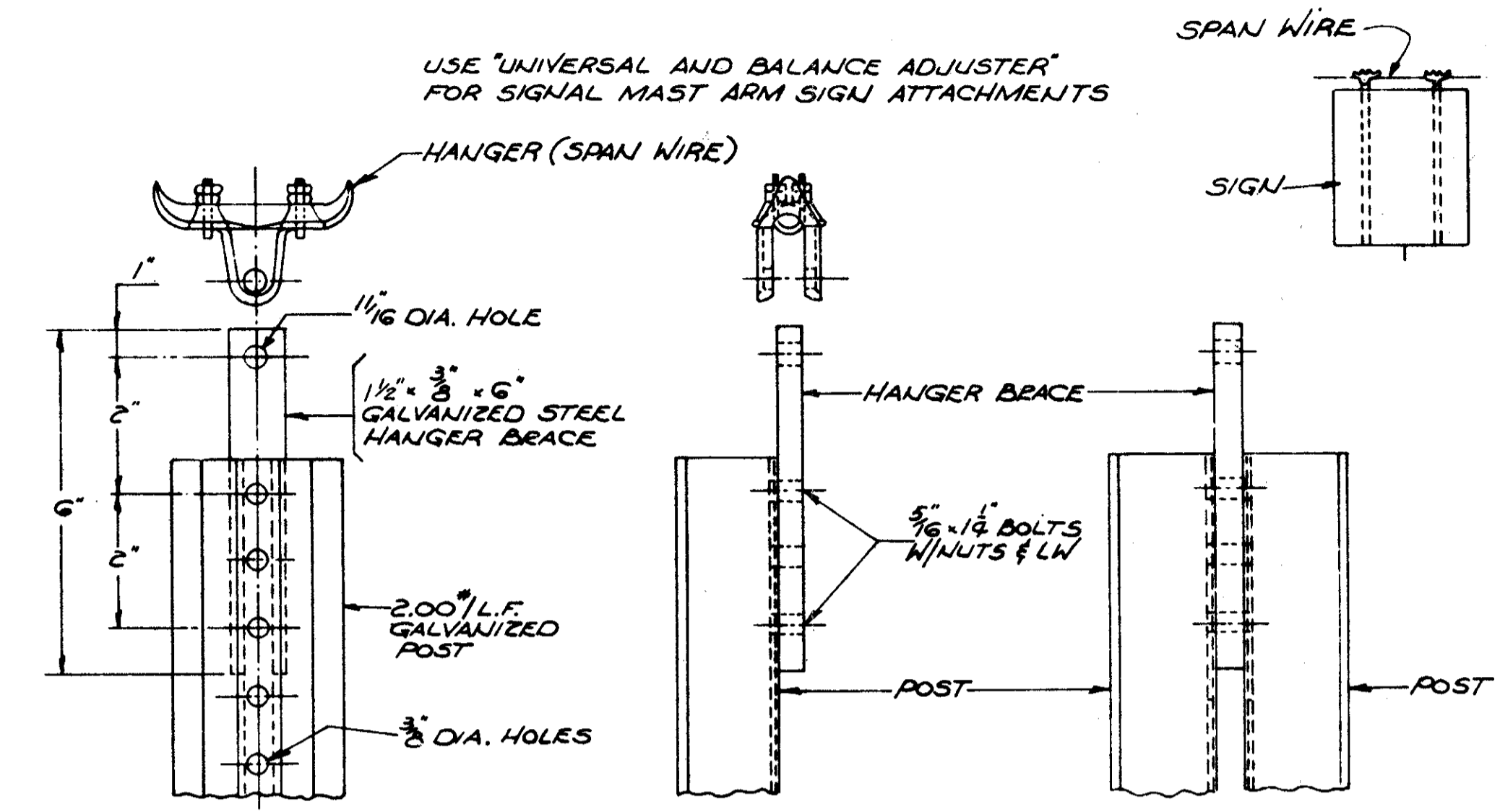
INTERIM COVERING ATTACHMENT



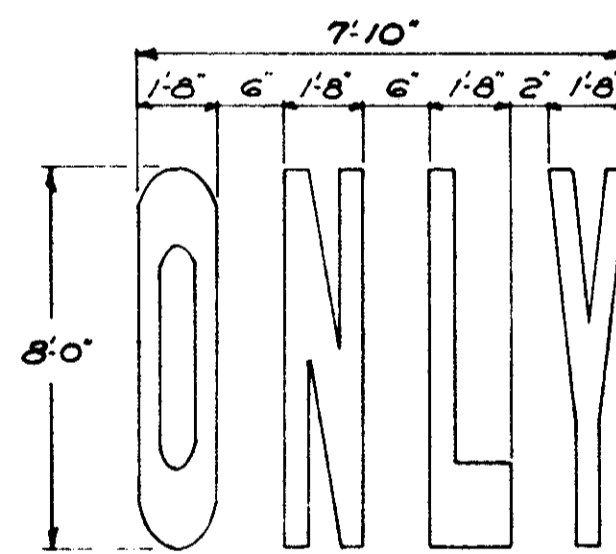
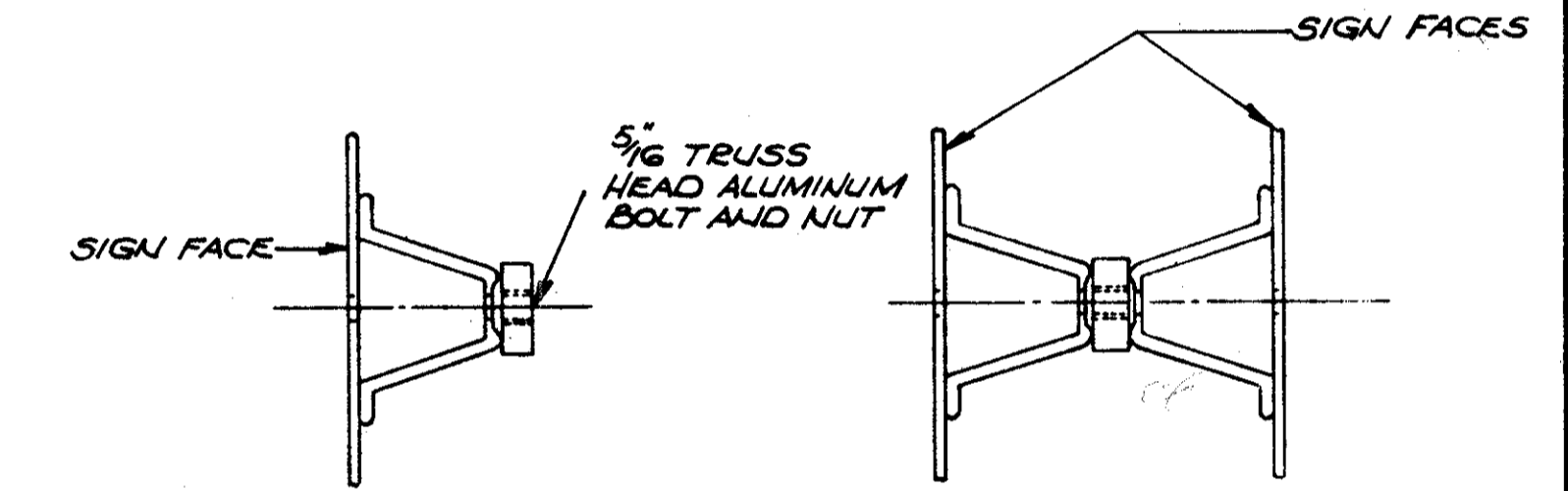
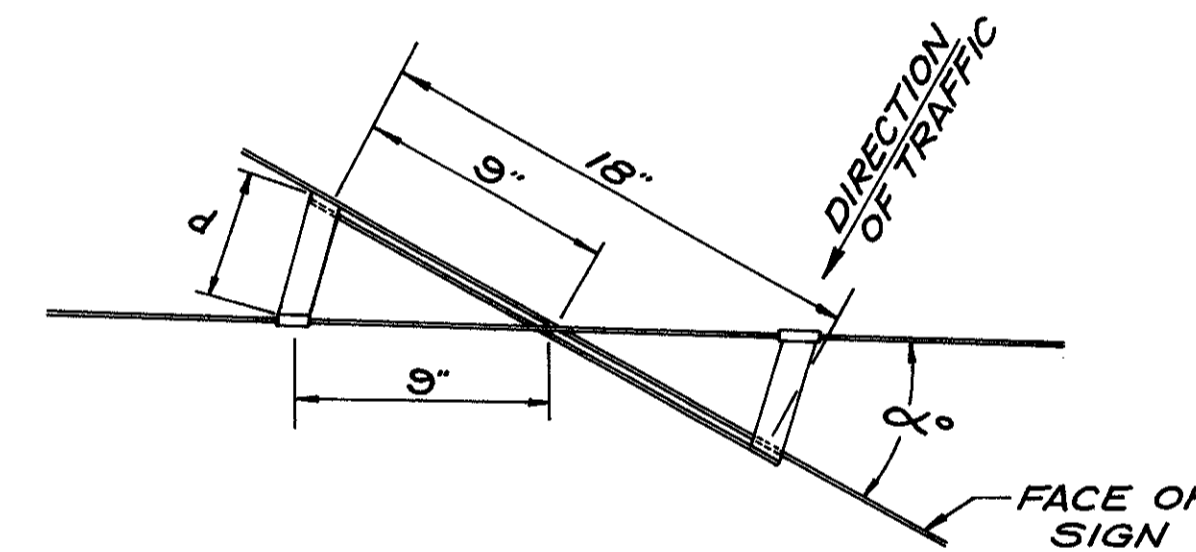
TYPES OF LONGITUDINAL LINES.



PAVEMENT ARROWS

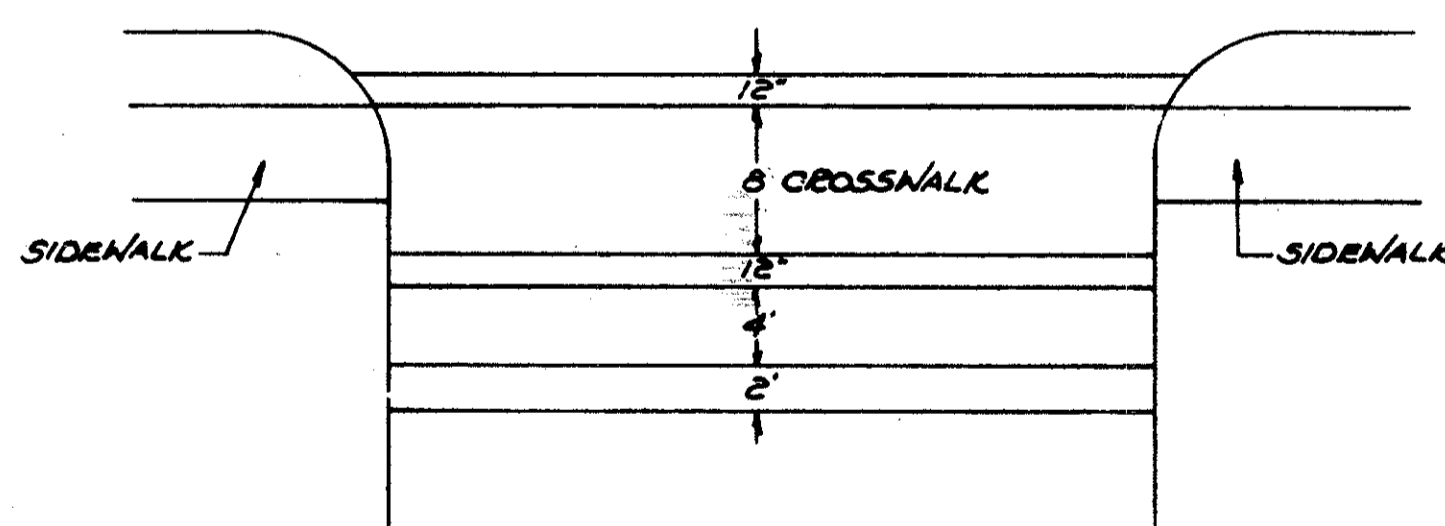


SIGN ATTACHMENT DETAILS

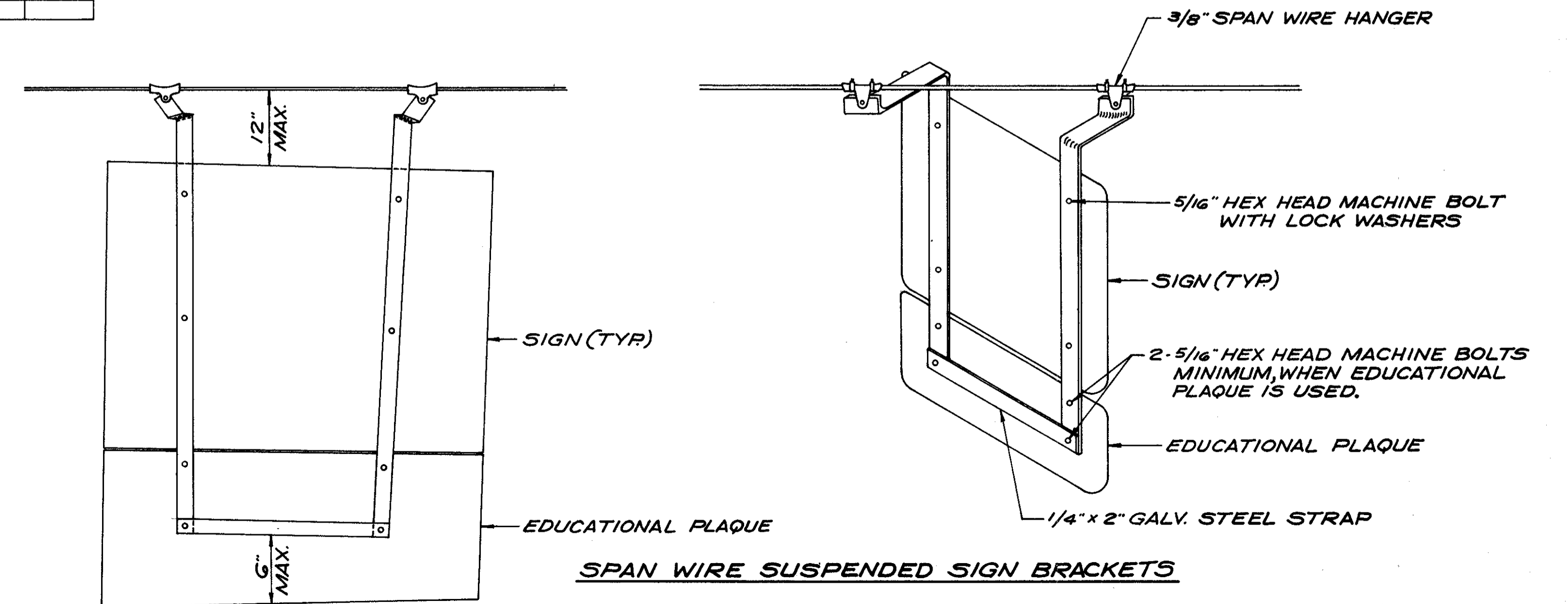


WORD TYPICAL

$\alpha^\circ$	d (IN)
0°	0
10°	1.6
20°	3.1
30°	4.7
40°	6.2
50°	7.6
60°	9



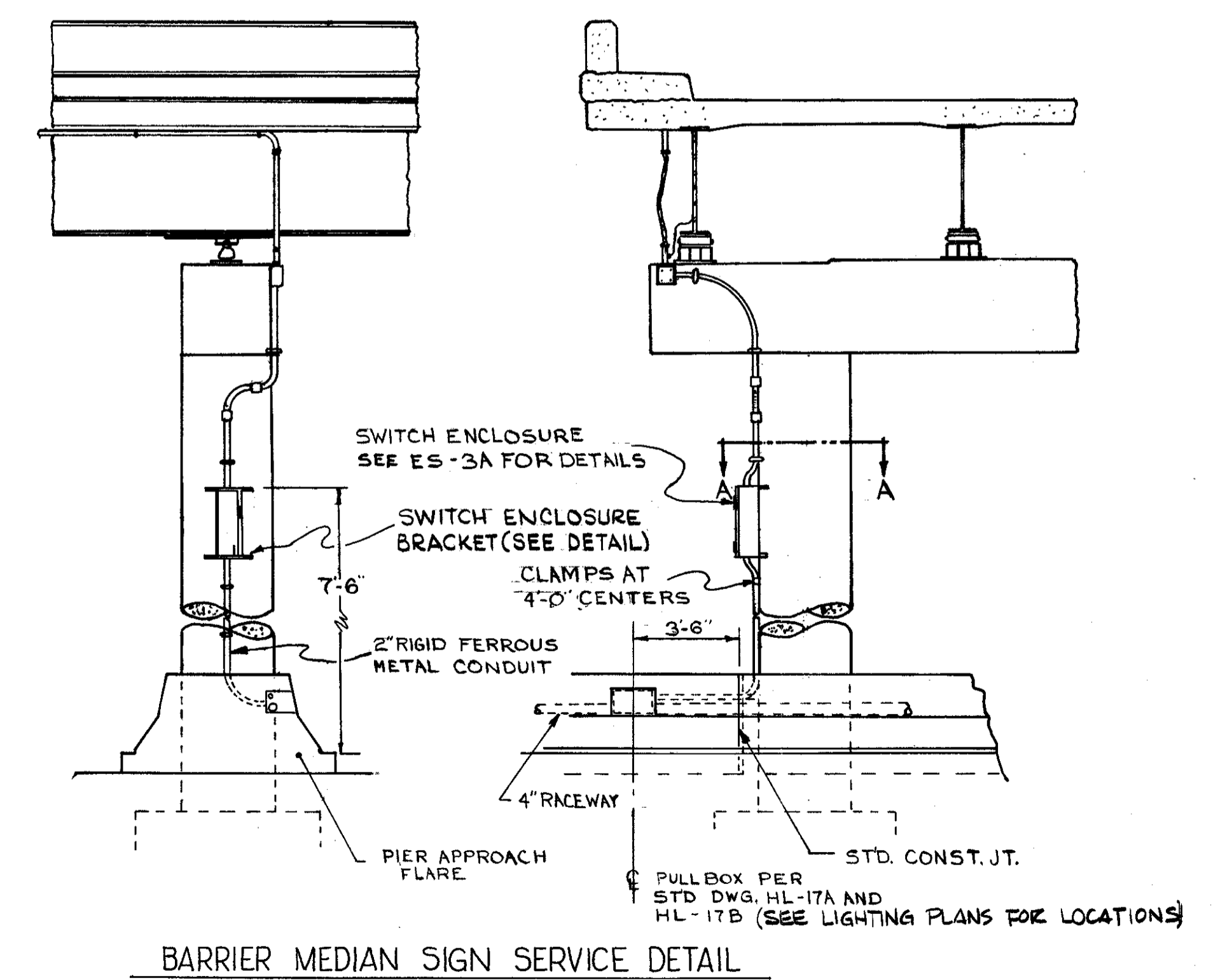
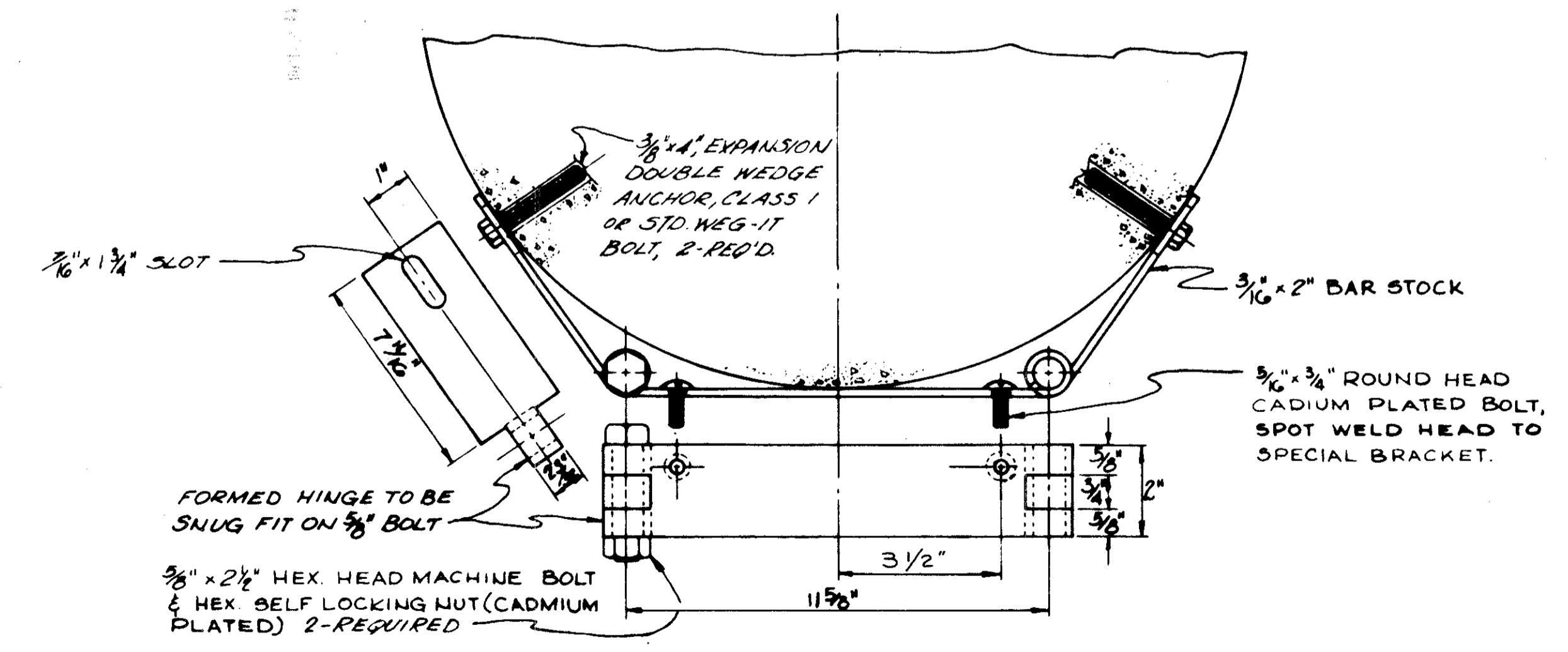
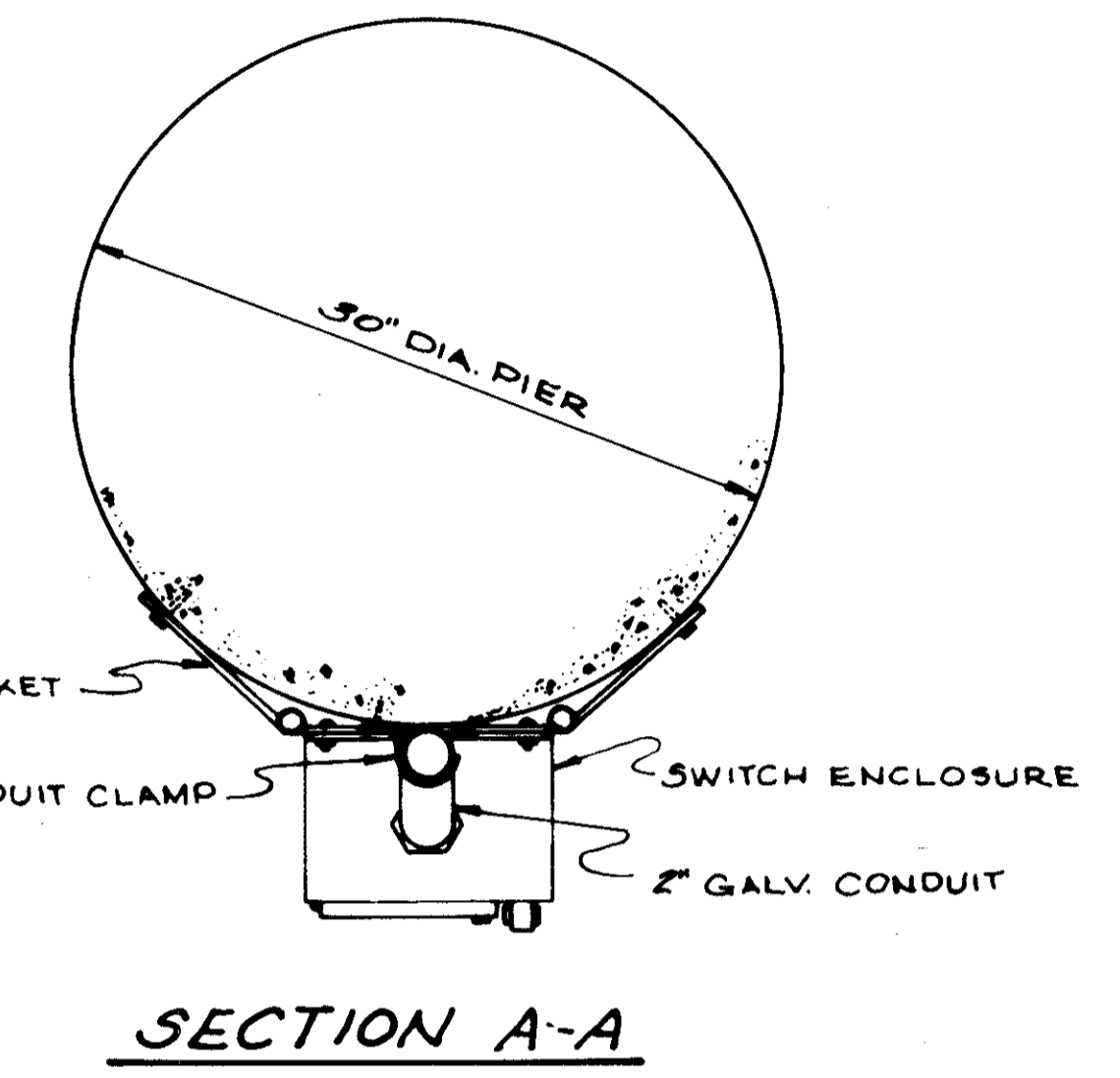
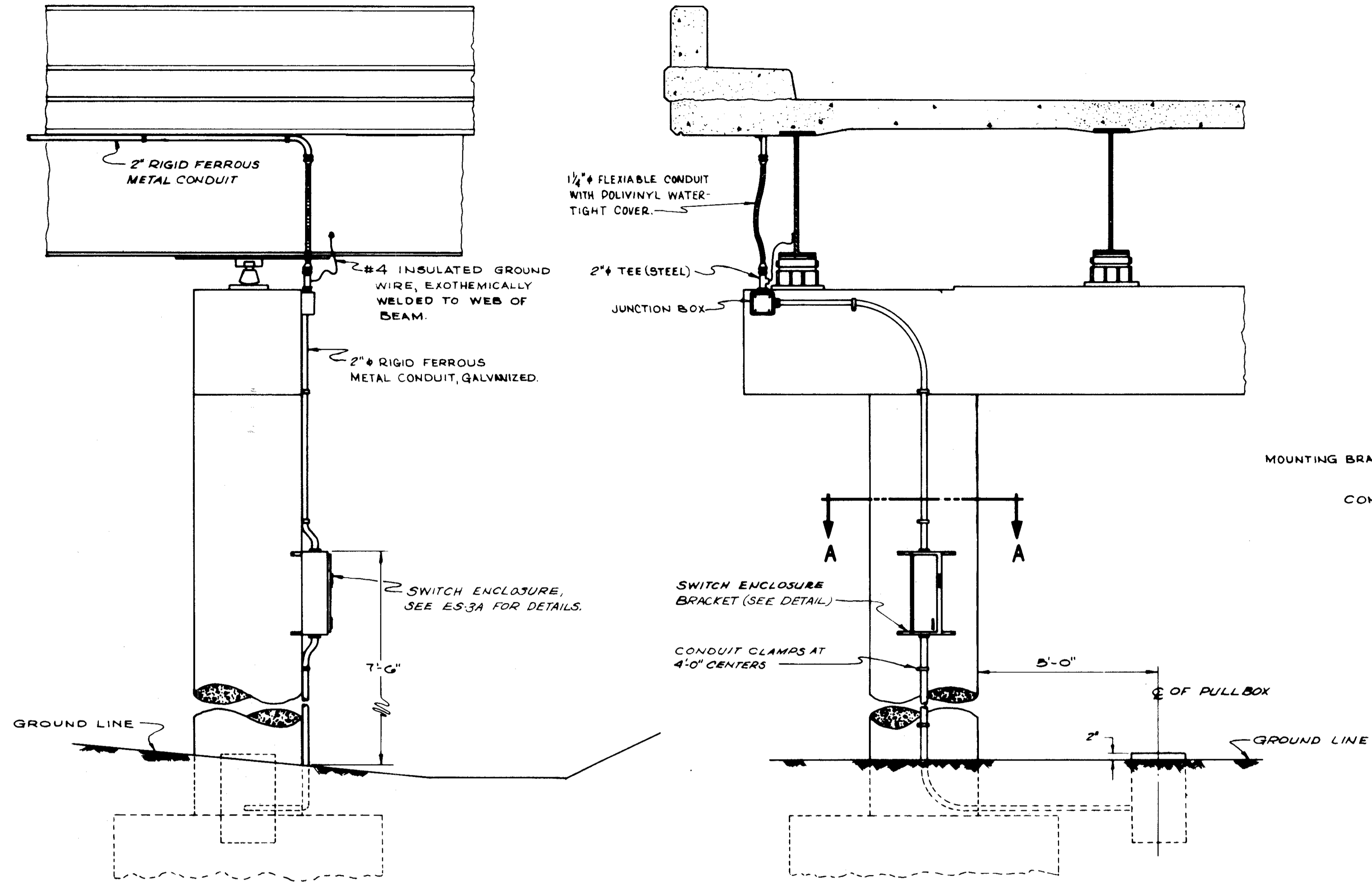
CROSSWALK TYPICAL



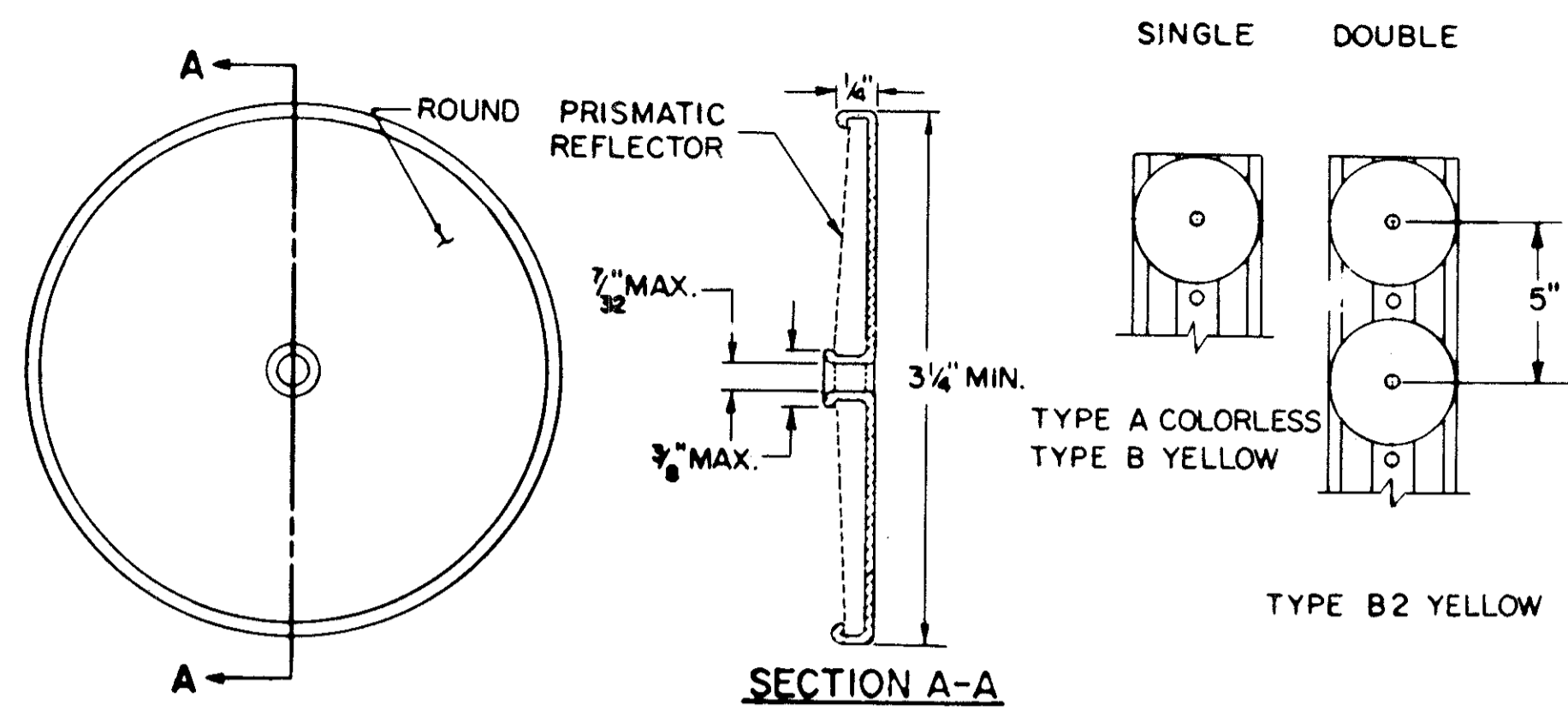
TRAFFIC CONTROL DETAILS



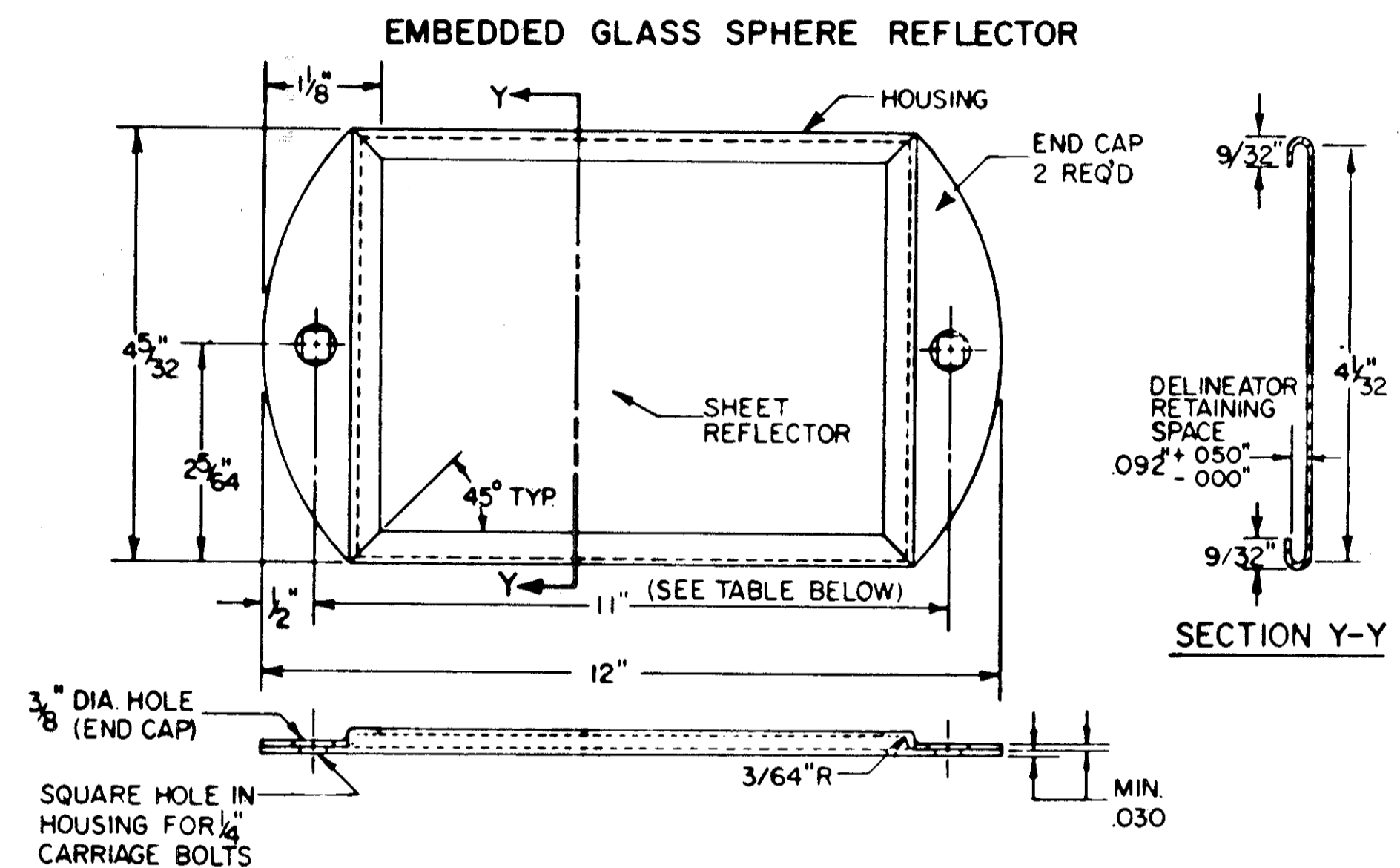
CUYAHOGA COUNTY  
 CUY-90-11.64



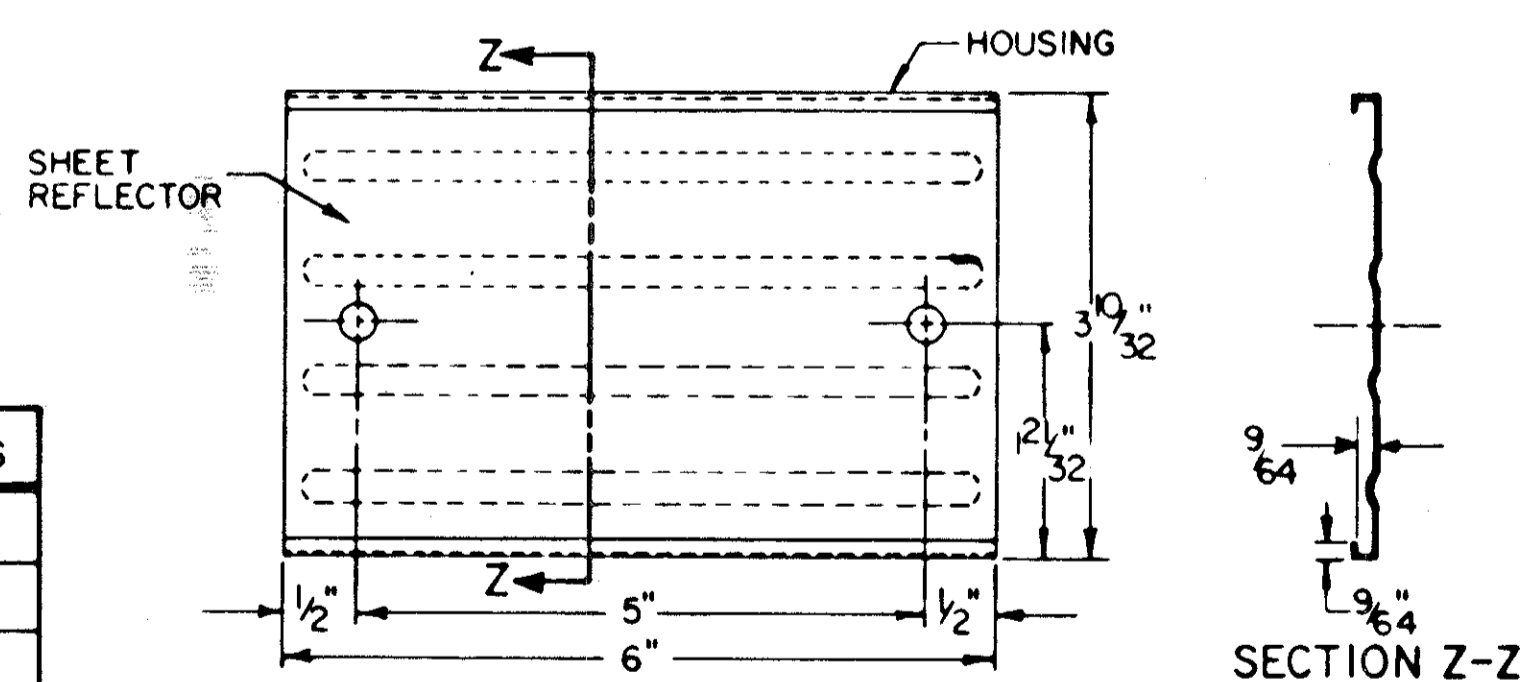
**ROUND DELINEATORS**



**RECTANGULAR SHEET DELINEATORS**

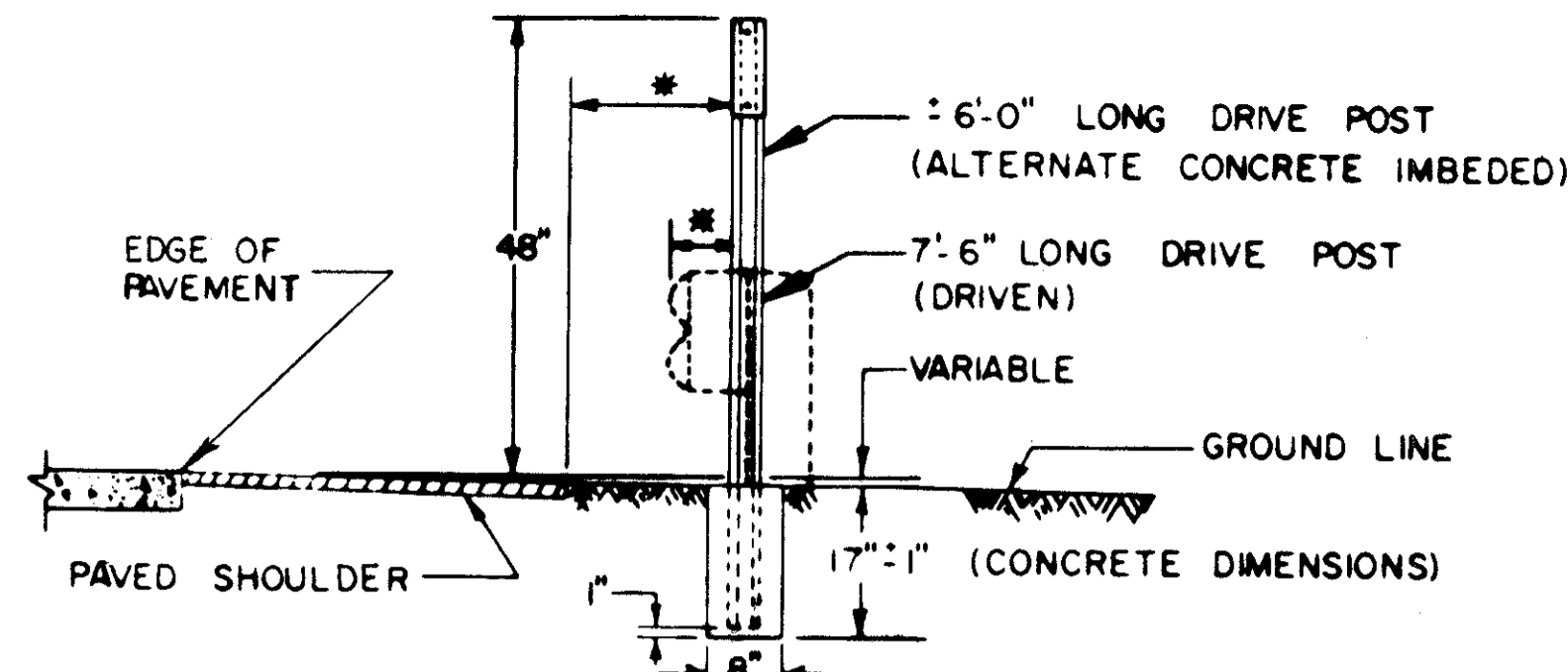
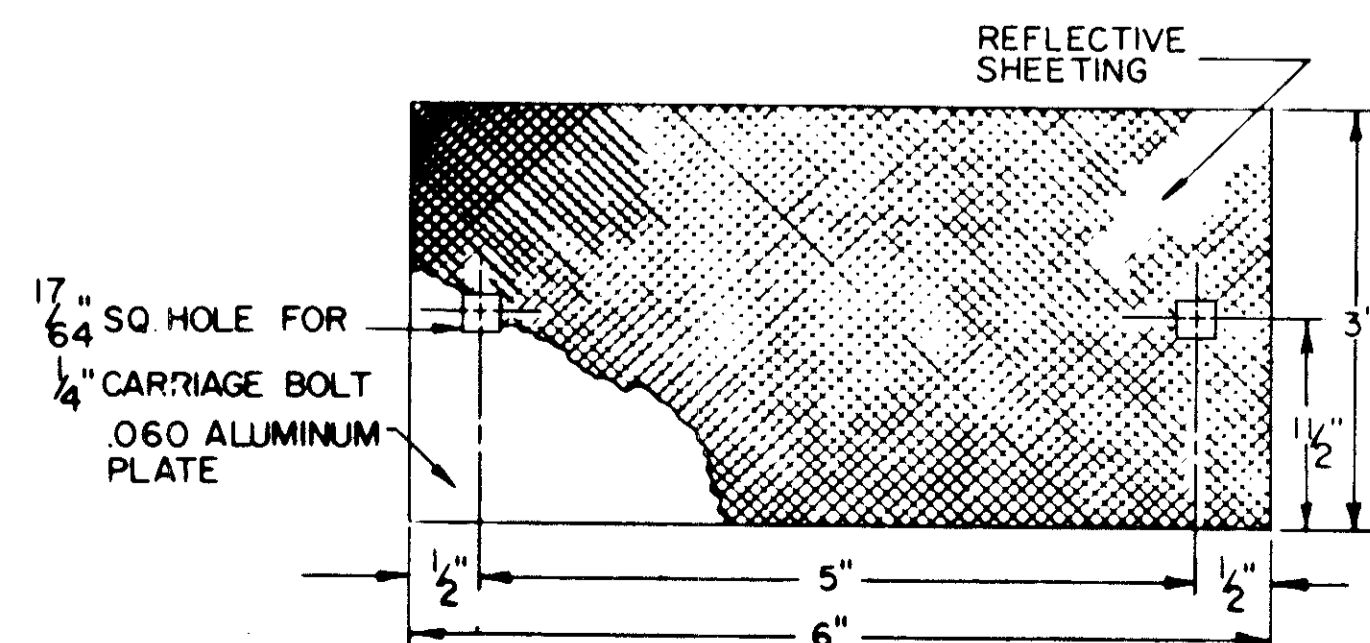


**ACRYLIC PLASTIC PRISMATIC REFLECTOR**



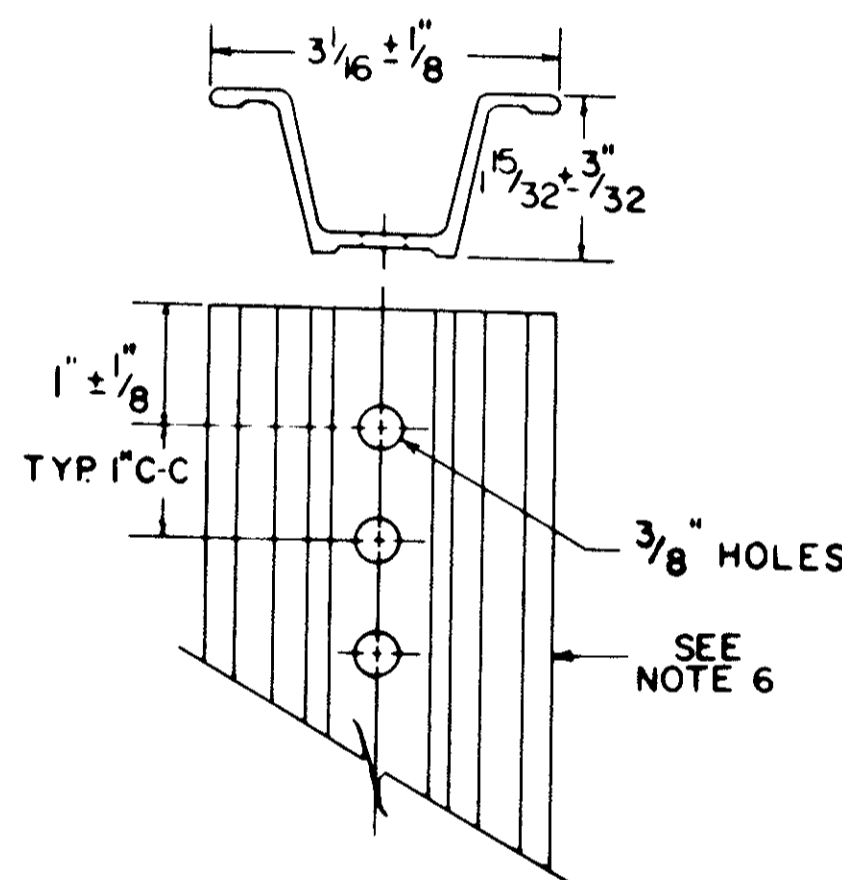
RECTANGULAR TYPES
C - COLORLESS
D - YELLOW
E - RED

**REFLECTIVE SHEETING REFLECTOR**

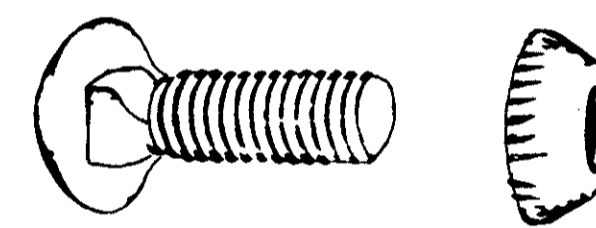


**LATERAL PLACEMENT OF DELINEATORS**

\* DELINEATORS SHALL BE 6" BEHIND FACE OF TYPICAL GUARDRAIL LOCATION BUT WITH A MINIMUM DISTANCE OF 2'-6" FROM EDGE OF PAVED SHOULDER WHERE GUARDRAIL IS NOT PRESENT.

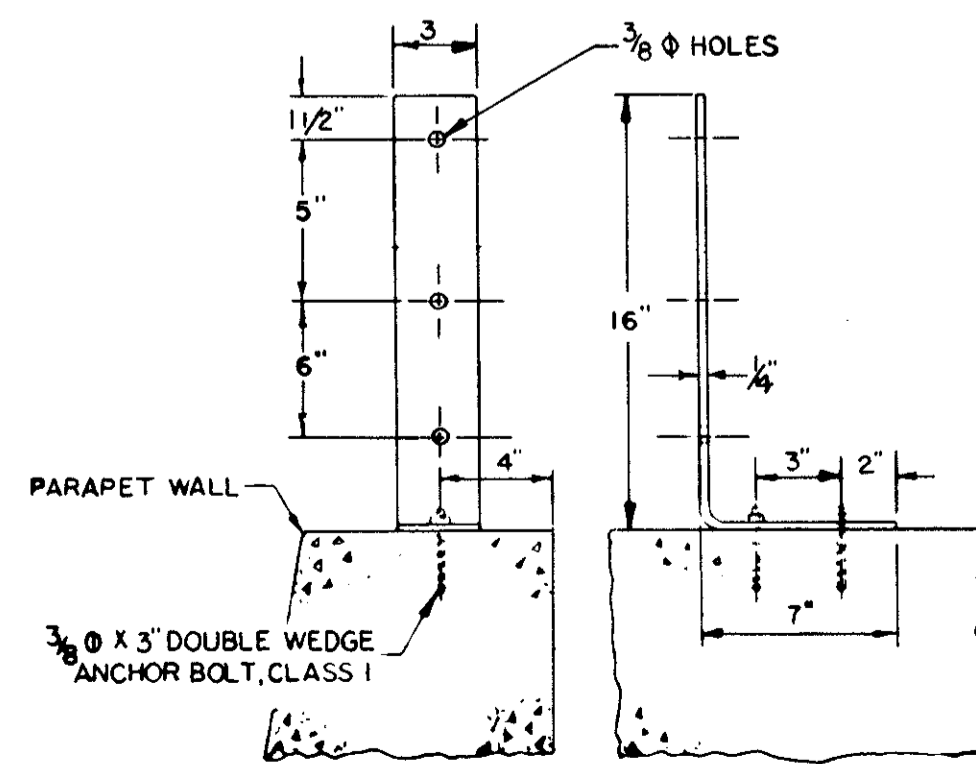


**2 LB./FT. DELINEATOR DRIVE POST**

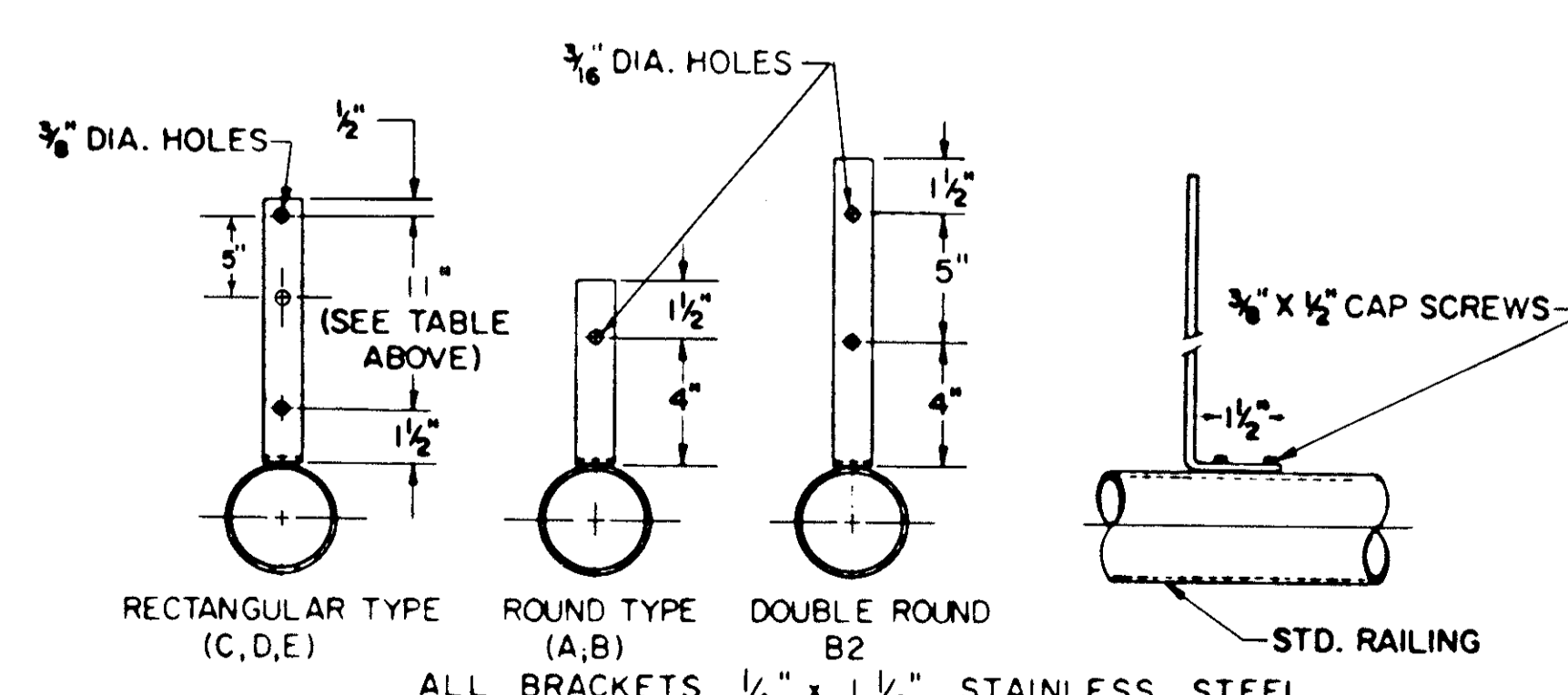


TAMPER RESISTANT FASTENERS SHALL BE USED TO FASTEN DELINEATORS TO POST AS/OR SIMILAR TO ONE SHOWN ABOVE.

**TAMPER RESISTANT FASTENERS**



**BRIDGE PARAPET BRACKET**



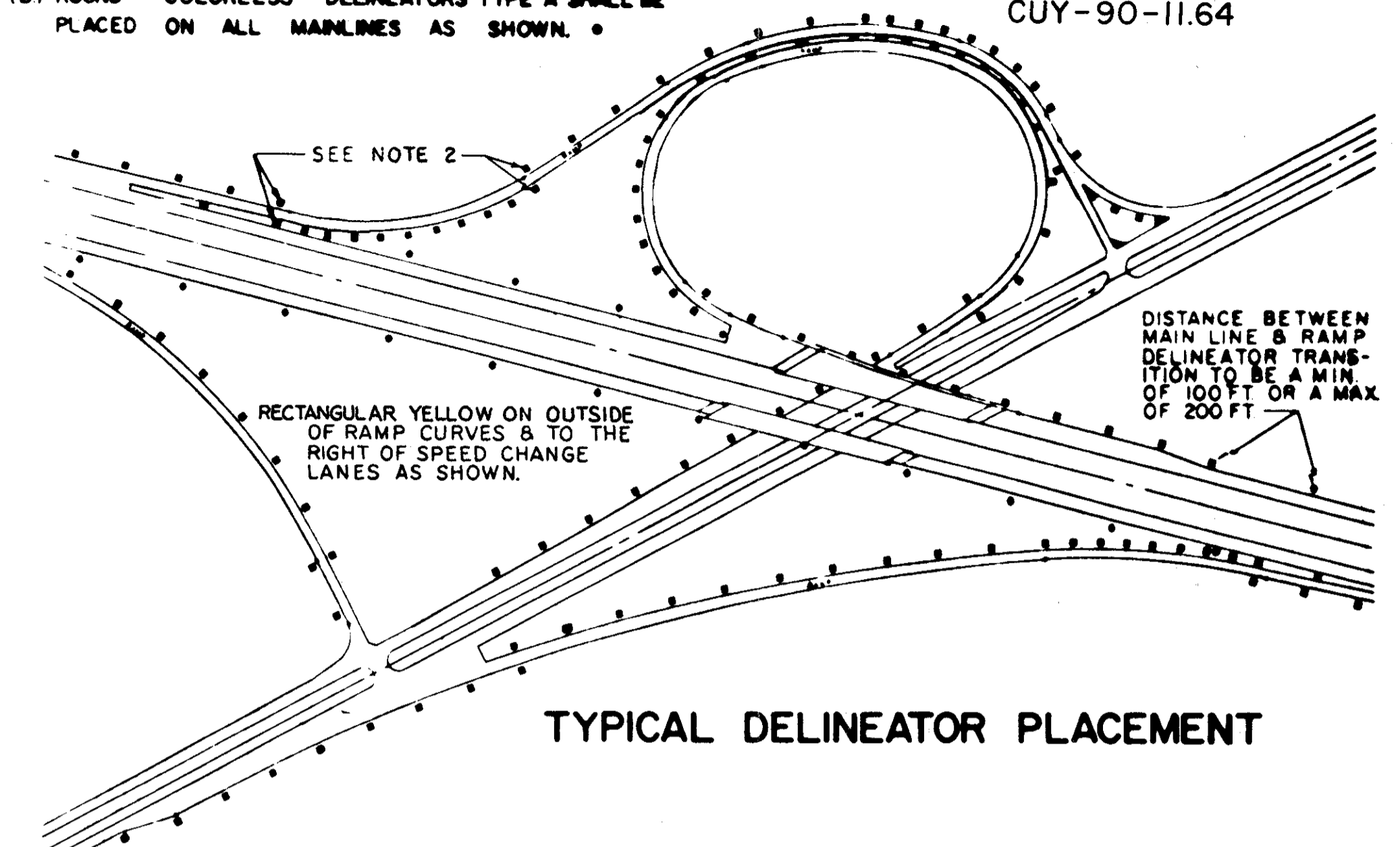
**BRIDGE RAIL BRACKET**

NOTE:

- (A) RECTANGULAR YELLOW DELINEATORS TYPE D SHALL BE PLACED ON ALL RAMP AS SHOWN.
- (B) ROUND COLORLESS DELINEATORS TYPE A SHALL BE PLACED ON ALL MAINLINES AS SHOWN.

FED. RD.	STATE	PROJECT	548 838
2	OHIO	I-90-1(38)21	

CUYAHOGA COUNTY  
CUY-90-11.64



**TYPICAL DELINEATOR PLACEMENT**

**NOTES**

- TYPE A DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES.
- WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMP THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.
- NO DELINEATORS ARE TO BE PLACED IN PAVED BERM.
- WHEN RADII OF CURVE ON RAMP REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.
- IN ADDITION TO MATERIALS LISTED IN 620.02, RECTANGULAR SHEET REFLECTORS MAY CONSIST OF REFLECTIVE SHEETING COMPOSED OF GLASS SPHERES IMBEDDED IN A WEATHER PROOF SYNTHETIC RESIN SHEET, THE REFLECTIVE FACE OF WHICH SHALL BE PLACED BEHIND AND SEALED TO A WEATHERPROOF RIGID PLASTIC FACE OF METHYL METHACRYLATE OF 0.060 INCHES MINIMUM THICKNESS.
- SUPPLEMENTING THE DRIVE POST DETAILS SHOWN, ALTERNATE POST SECTIONS MAY BE FURNISHED. ANY ALTERNATE SECTION FURNISHED SHALL MEET ALL THE MATERIAL REQUIREMENTS OF 620, HAVE A SHAPE APPROXIMATELY AS DETAILED, AND HAVE A MOMENT OF INERTIA EQUAL TO OR GREATER THAN THE SECTION DETAILED. THE REQUIREMENTS OF 712.20 RELATIVE TO MAXIMUM WEIGHT TOLERANCE ARE HEREBY WAIVED. NO ALTERNATE SECTION FURNISHED SHALL EXCEED THE WEIGHT OF THE CORRESPONDING SECTION BY MORE THAN 10 PERCENT.

**DELINEATOR SPACING ON RAMP HORIZONTAL CURVES**

RADI, FT.	FROM TO	SPACING ON CURVE	* TRANSITION SPACING	
			100'	100'
TANGENT	1,801	100'	100'	100'
	1,800	80'	100'	100'
	1,400	70'	100'	100'
	1,000	60'	100'	100'
	750	50'	80'	100'
	550	40'	70'	100'
	325	30'	60'	100'

\* SUCH AS 40' TO 70' TO 100' OR 100' TO 80' TO 50' OR ANY OTHER COMBINATION SHOWN ABOVE.

BUREAU OF DESIGN SERVICES  
DIVISION OF HIGHWAYS  
OHIO DEPARTMENT OF TRANSPORTATION

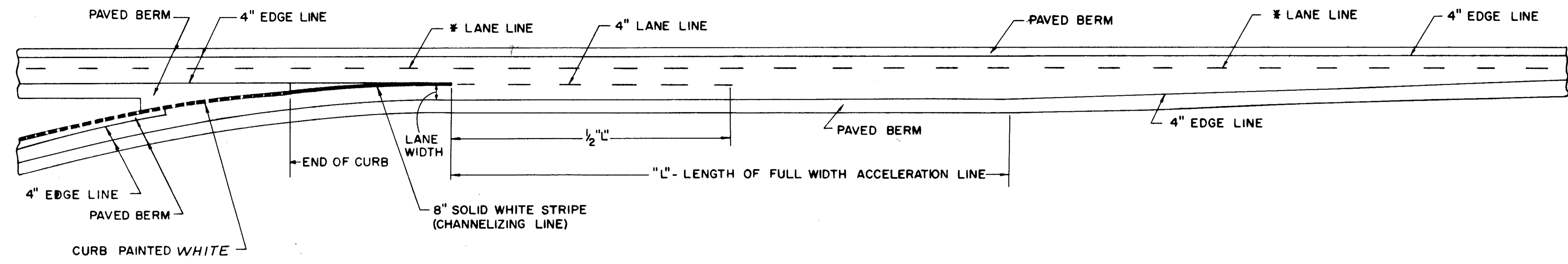
**DELINEATOR DETAILS**

DATE  
1/1/73  
3/12/73

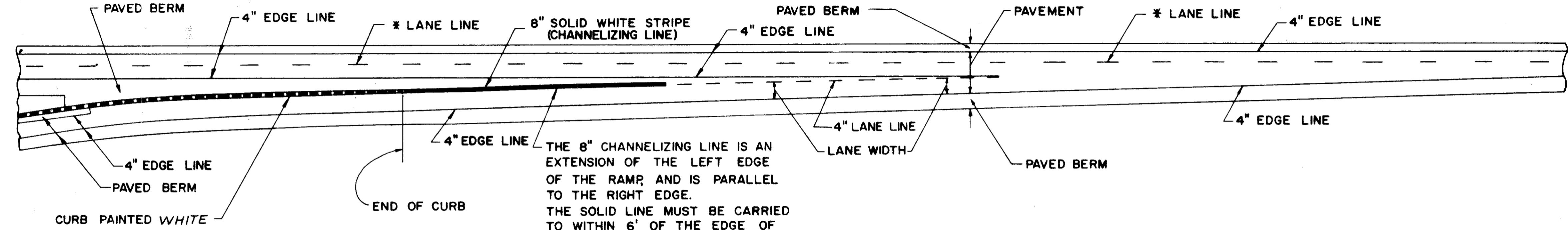
APPROVED \_\_\_\_\_  
ENGINEER OF DESIGN SERVICES

CUYAHOGA COUNTY  
CUY-90-11.64

**ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE**



**ENTRANCE TERMINAL - TAPERED ACCELERATION LANE**

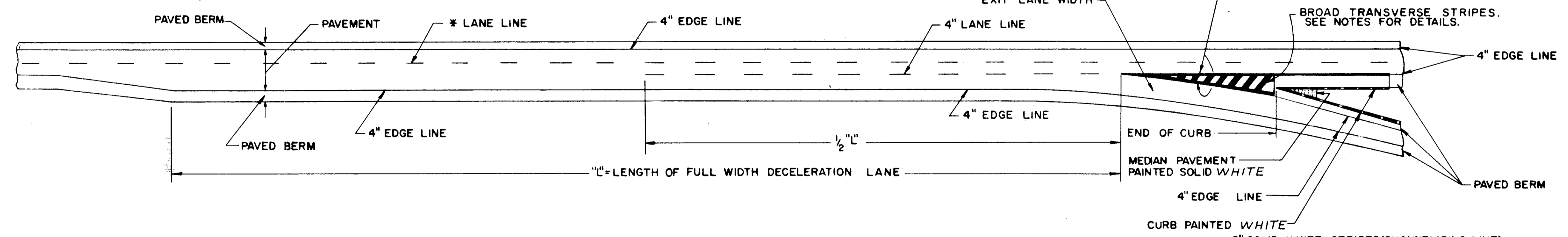


THE 8" CHANNELIZING LINE IS AN EXTENSION OF THE LEFT EDGE OF THE RAMP AND IS PARALLEL TO THE RIGHT EDGE. THE SOLID LINE MUST BE CARRIED TO WITHIN 6' OF THE EDGE OF THE THROUGH LANE, OR TO THE END OF THE RAMP CURVE IF CLOSER. THE 4" DASHED LINE SHOULD CONTINUE TO THE EDGE OF THE THROUGH LANE.

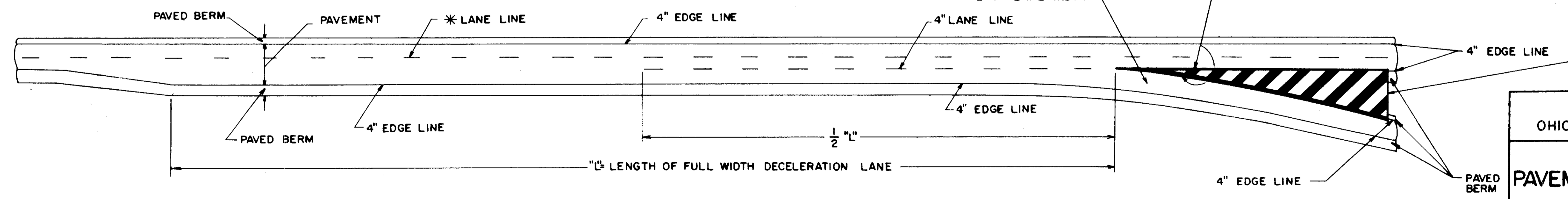
**NOTES**

DIAGONAL STRIPES AT EXIT RAMP SHALL BE 24" BROAD TRANSVERSE STRIPES, 621.11, WITH A 6' SPACE BETWEEN STRIPES.  
\* 6" LANE LINE ON INTERSTATE HIGHWAYS ONLY.  
4" LANE LINE ON ALL OTHER HIGHWAYS.

**CURBED EXIT TERMINAL - PARALLEL DECELERATION LANE**



**UNCURBED EXIT TERMINAL - PARALLEL DECELERATION LANE**



BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS	
PAVEMENT MARKING	621
APPROVED <i>Robert Clower</i> ENGINEER OF TRAFFIC	DATE 7-17-61 4-6-62 5-24-65 9-2-67 4-17-68 1-11-72

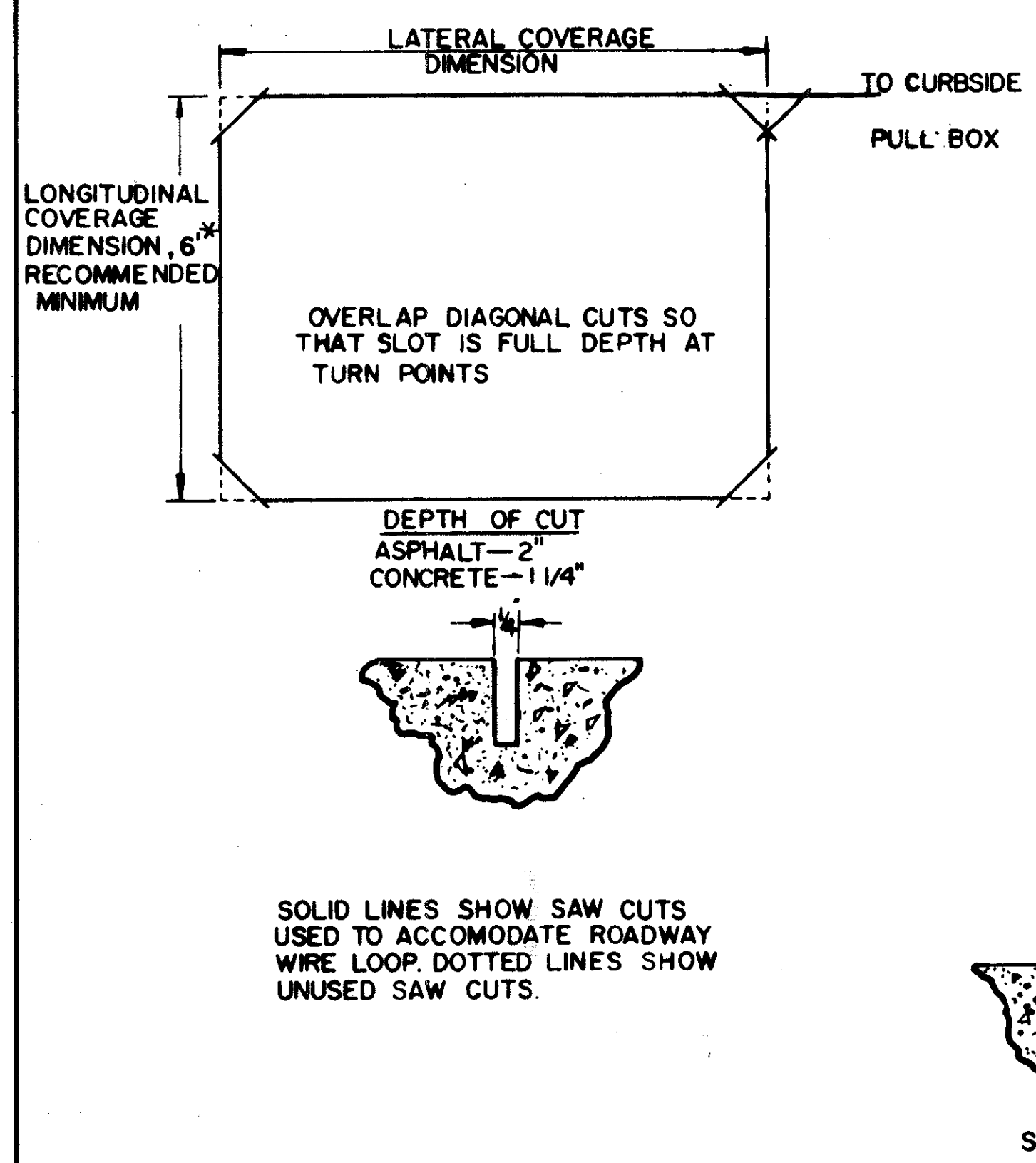


FIGURE 1  
TYPICAL LOOP SLOT CONSTRUCTION

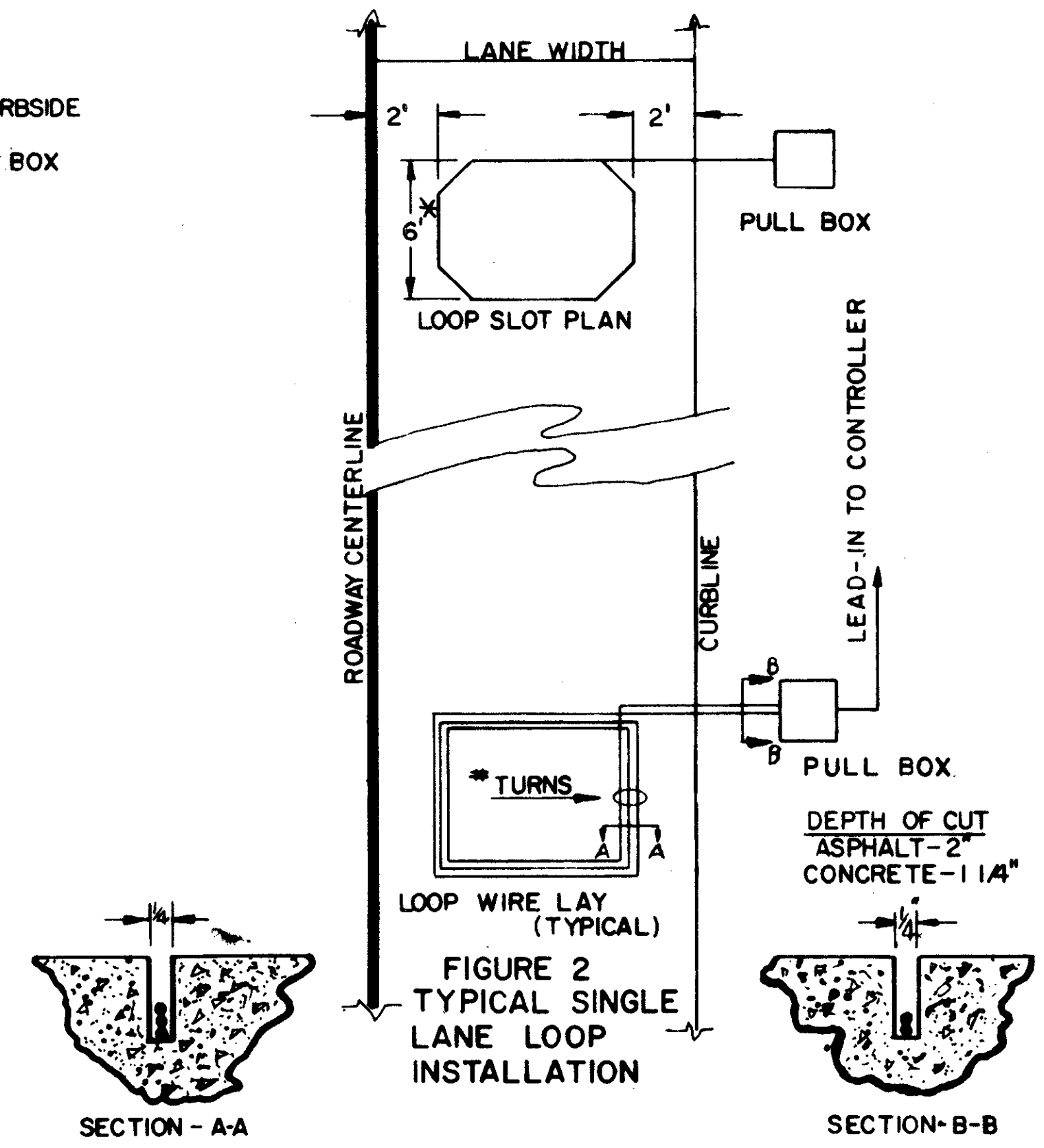


FIGURE 2  
TYPICAL SINGLE LANE LOOP INSTALLATION

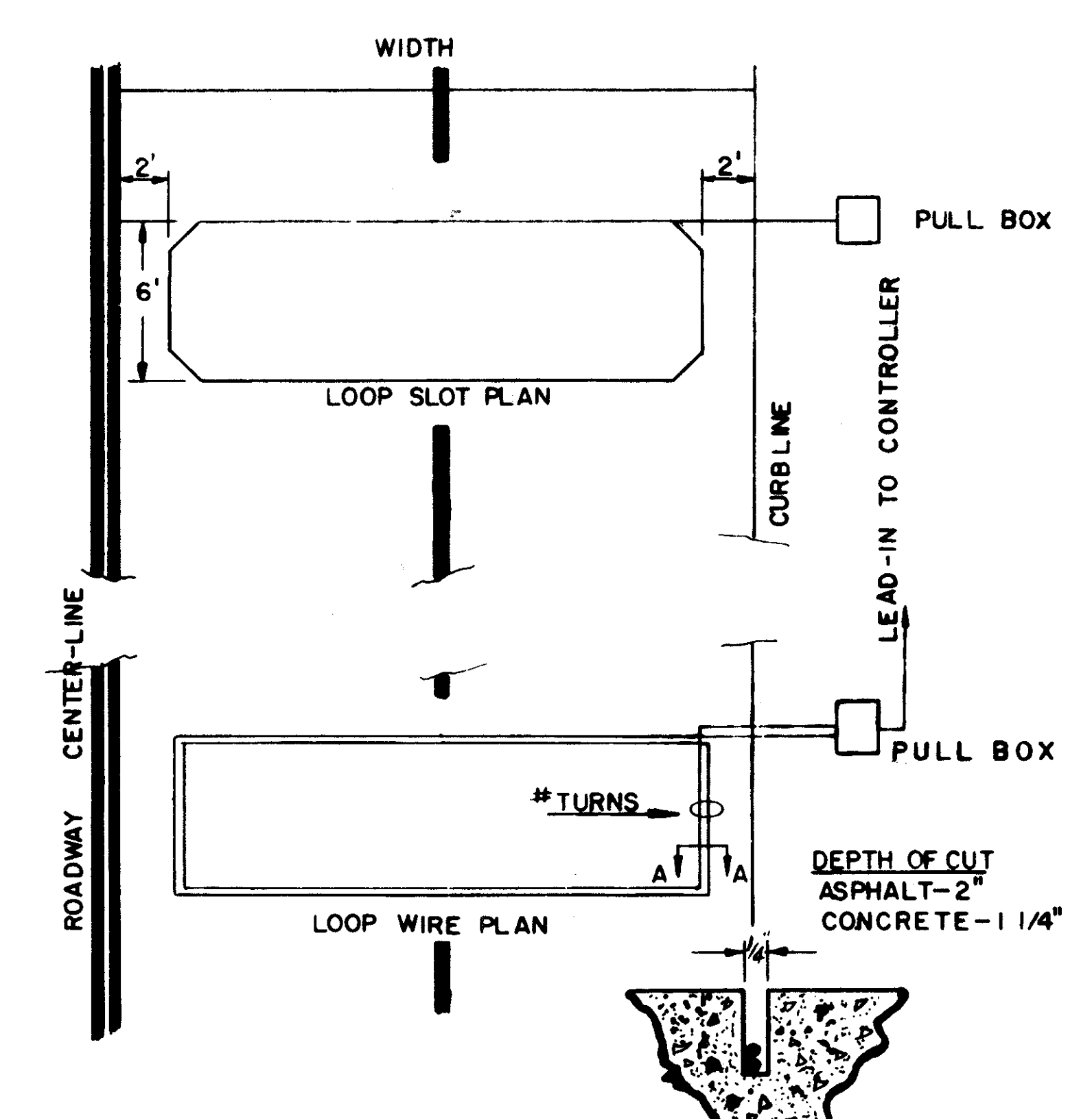


FIGURE 3  
TYPICAL TWO LANE LOOP INSTALLATION

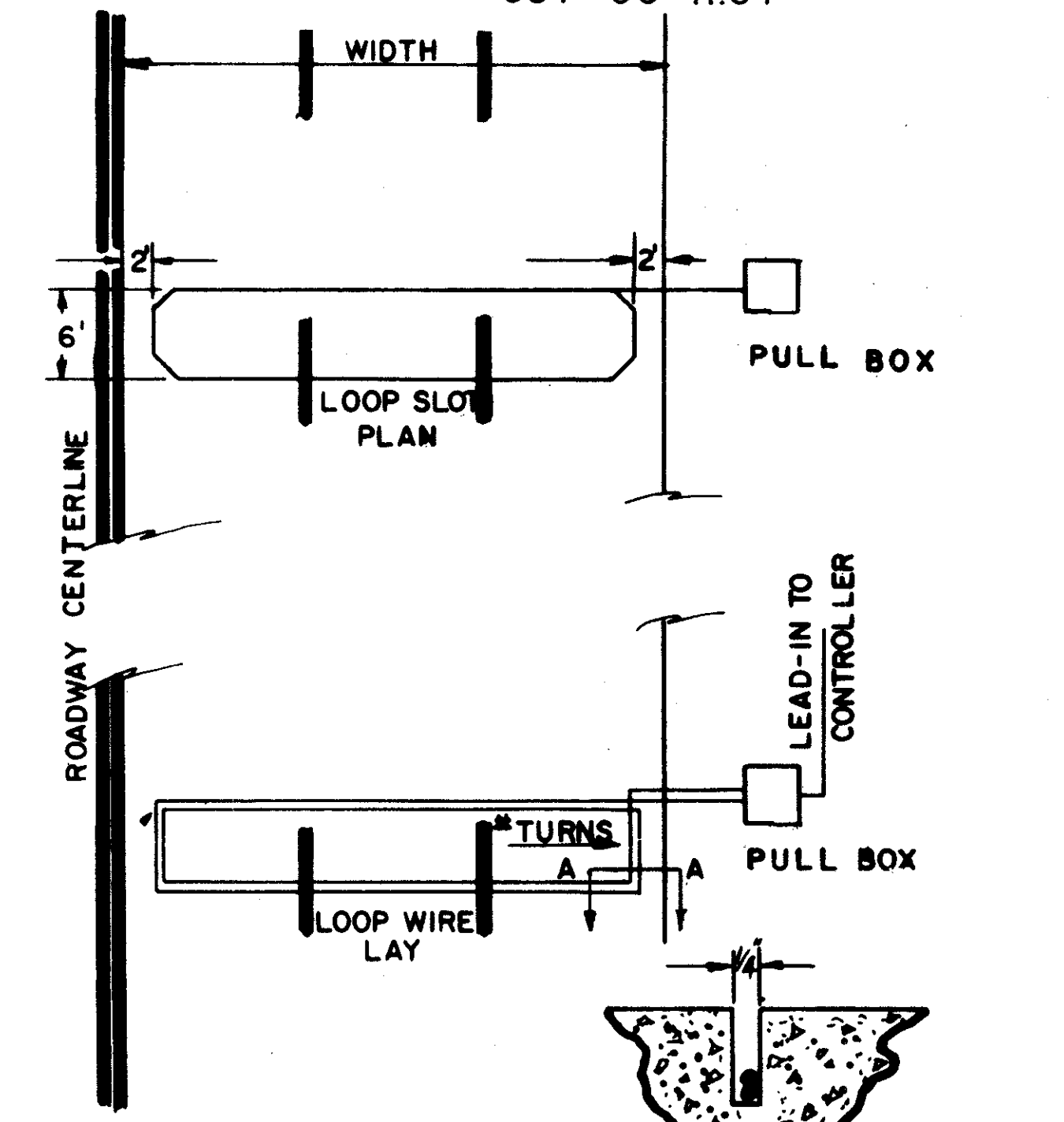
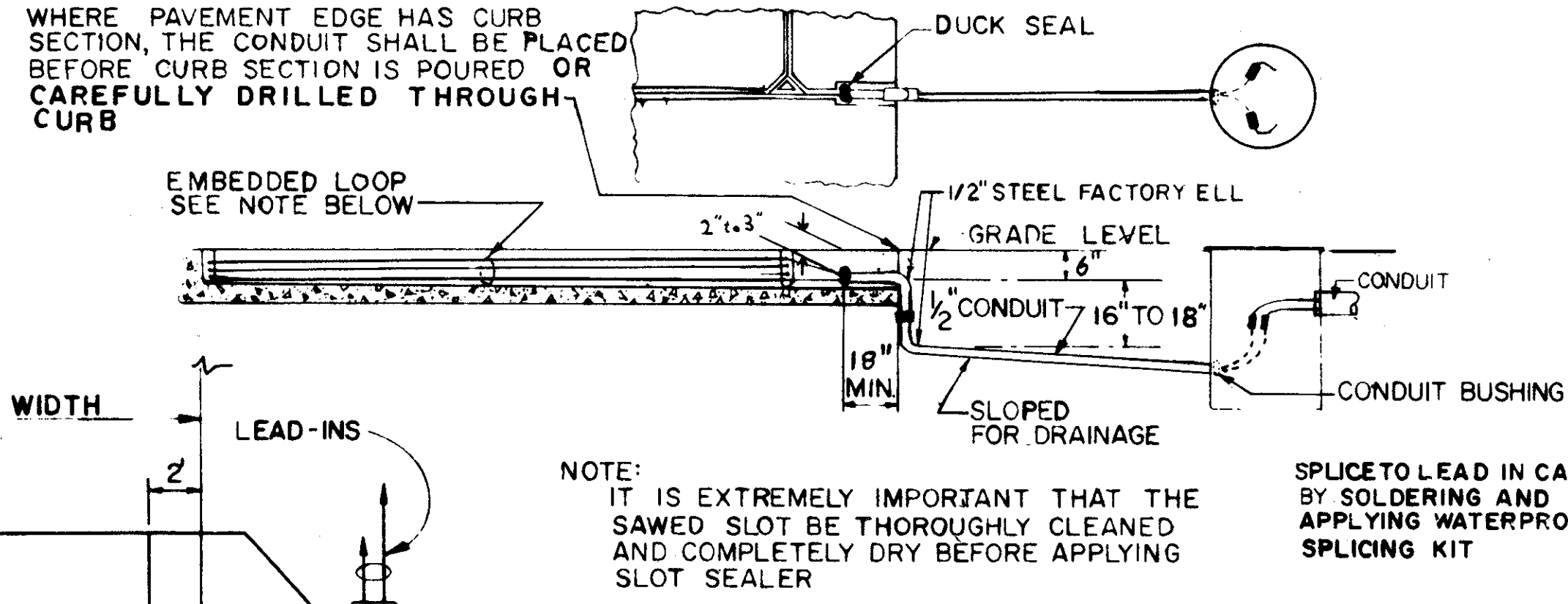


FIGURE 4  
TYPICAL THREE LANE LOOP INSTALLATION

LOOP PERIMETER	NO. OF TURNS
UP TO 40 FEET	3
40 TO 160 FEET	2
160 AND UP	1

MAINTAIN 6' MINIMUM DIMENSION IN DIRECTION OF TRAVEL.



NOTE: IT IS EXTREMELY IMPORTANT THAT THE SAWED SLOT BE THOROUGHLY CLEANED AND COMPLETELY DRY BEFORE APPLYING SLOT SEALER.

SPlicing TO LEAD IN CABLE BY SOLDERING AND APPLYING WATERPROOF SPlicing KIT

FIGURE 8  
INTERFACE BETWEEN EMBEDDED LOOP AND ROAD SIDE PULL BOX

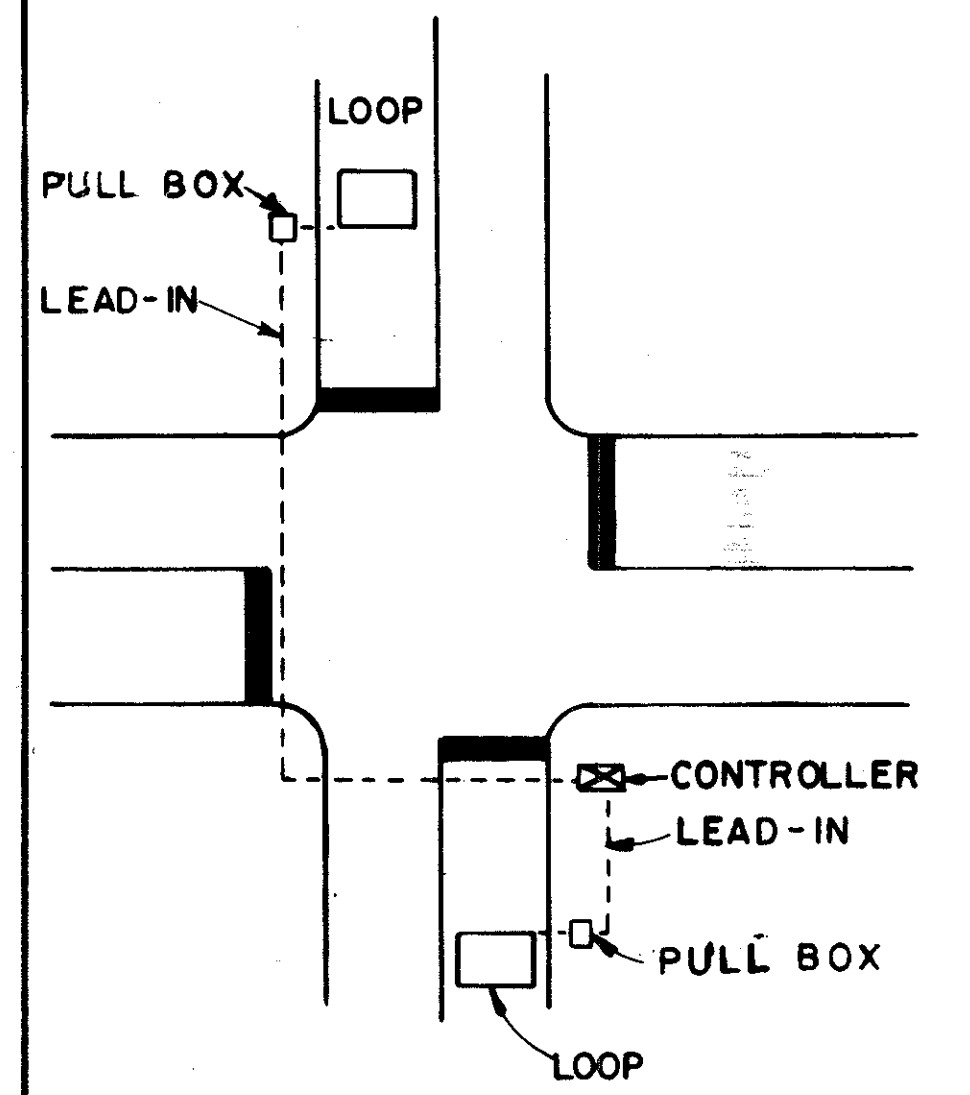


FIGURE 5  
TYPICAL LEAD-IN DETAIL

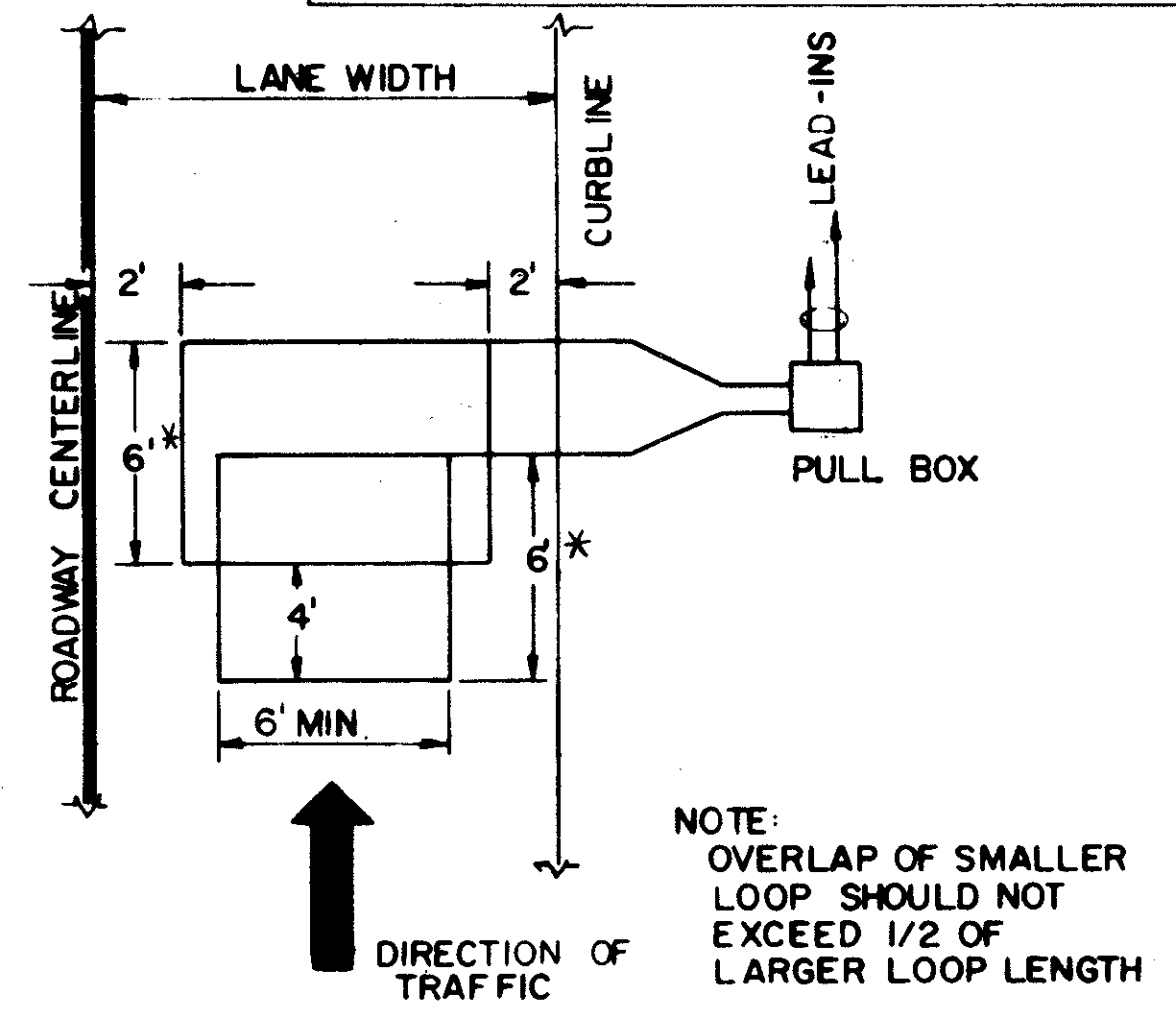


FIGURE 6  
TYPICAL DIRECTIONAL DETECTION LOOP INSTALLATION (OVERLAPPED)

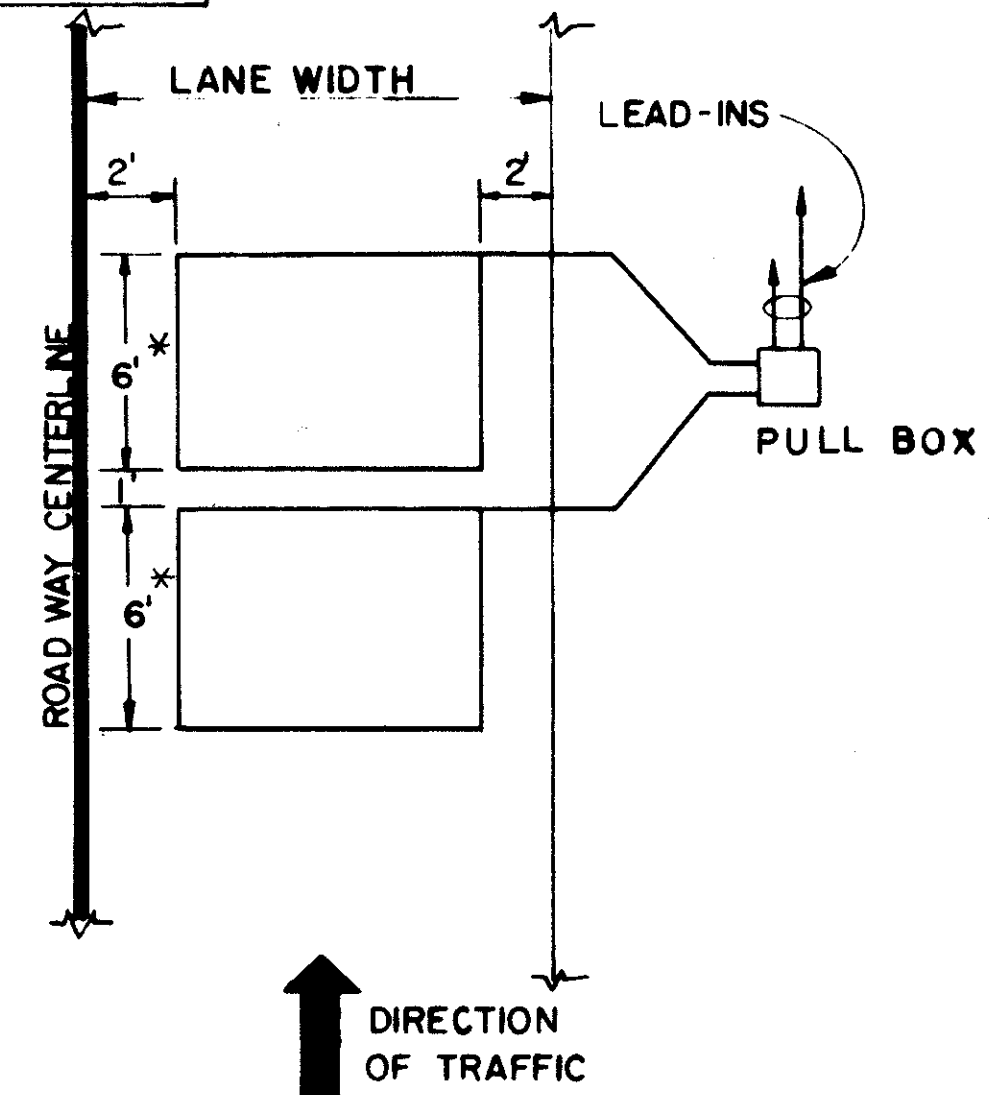


FIGURE 7  
TYPICAL DIRECTIONAL DETECTION LOOP INSTALLATION (ADJACENT)

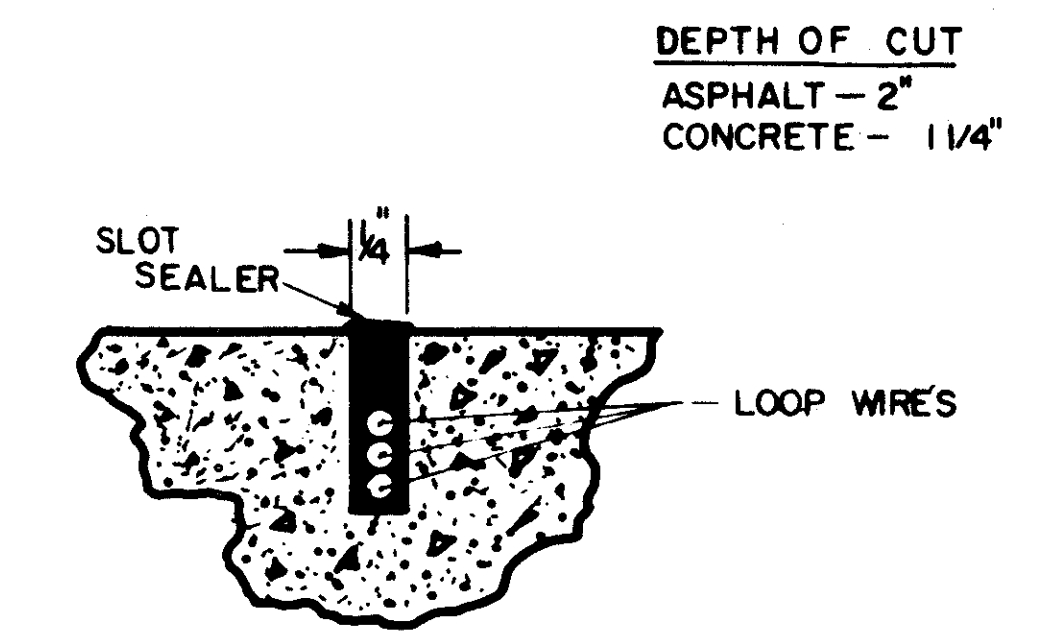


FIGURE 9  
TYPICAL SLOT SEALING DETAIL

**ROADWAY LOOP INSTALLATION**

THE ROADWAY WIRE LOOP IS POSITIONED IN THE PAVEMENT IN A SAWED SLOT THAT OUTLINES THE REQUIRED DETECTION AREA. THE SLOT SHALL BE 1/4" WIDE AND FROM 1/4" OR 2" DEEP. RIGHT ANGLE TURNS SHALL BE CHAMFERED TO PREVENT SHARP BENDS OF WIRE (SEE FIG. 1). THE SLOT MUST BE BRUSHED AND BLOWN CLEAN OF ALL LOOSE MATERIAL. THE LOOP WIRE MUST BE CAREFULLY PUSHED INTO THE SLOT WITH A BLUNT STICK TO AVOID DAMAGING ITS INSULATION. RESISTANCE OF THE WIRE LOOP TO GROUND SHOULD BE CHECKED AFTER THE WIRE IS PLACED IN THE SLOT, BOTH BEFORE AND AFTER THE SLOT IS SEALED. THIS IS ESPECIALLY IMPORTANT IF THE ROADWAY WIRE LOOP IS SPLICED TO LEAD-IN CABLE AT CURBSIDE JUNCTION BOX. A RESISTANCE OF LESS THAN 10 MEGOHMS INDICATES A FAULTY SPlice OR WIRE INSTALLATION WHICH MUST BE CORRECTED BEFORE THE ROADWAY LOOP IS SEALED IN PLACE. INSTALLATIONS IN NEW ASPHALT PAVEMENT SHALL BE MADE IN THE SUBBASE PRIOR TO PLACING THE TOP COURSE.

**SEALING**

A FLEXIBLE EMBEDDING SEALANT NO. 491-HR MANUFACTURED BY EUCLID CHEMICAL CO. OF CLEVELAND, OHIO OR E-702 MANUFACTURED BY THE BONDO CORP. OF NORTHFORD, CONNECTICUT OR EQUIVALENT. SHALL BE MIXED ACCORDING TO DIRECTIONS, POURED INTO THE SAW SLOTS AND LEFT UNDISTURBED UNTIL CURED INTO A SOLID MASS.

**\*DIMENSIONS**

IN CASES WHERE THE LATERAL DIMENSION WOULD BE LESS THAN EIGHT (8) FEET, THE LONGITUDINAL DIMENSION SHALL BE INCREASED TO OBTAIN A MINIMUM AREA OF 48 S.F.

BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS	
<b>EMBEDDED VEHICLE DETECTOR LOOP DETAILS</b>	
APPROVED _____	ENGINEER OF TRAFFIC

Rev 11-3-67  
Rev 6-1-71  
Rev 2-3-72

NOTES:

- MATERIAL SPECIFICATIONS**
- TAPERED TUBES (S.A.E.-1020 STEEL PROCESSED TO MINIMUM YIELD STRESS OF 55,000 P.S.I.)
  - CAST ANCHOR BASE & HANDHOLE FRAME - ASTM-A27- GRADE 65-35
  - HANDHOLE COVER PLATE - 11 GA. STEEL SAE-1015
  - CAST ALUMINUM POLE TOP - ALUMINUM ALLOY 43
  - SPAN WIRE CLAMP - LOW ALLOY, HIGH STRENGTH STEEL ASTM-A242 - OR 375, LOAD PRODUCING DISTORTION 12,500 LBS. DIRECT TENSION
  - ALL BOLTS & NUTS LESS THAN 5/8" DIA. PASSIVATED STAINLESS STEEL AISI-300 SERIES - COMMERCIAL GRADE.
  - ALL OTHER NUTS & BOLTS 5/8" DIA. & OVER - ASTM-A307 AND GALVANIZED IN ACCORDANCE WITH ASTM-A153
  - ANCHOR BASE & U-BOLTS - HIGH STRENGTH STEEL - MINIMUM YIELD STRESS 55,000 LBS. SQ. IN. - MIN. ULTIMATE 90,000 P.S.I.
  - WELDING ROD - ASTM-A233 - CLASS E60XX OR 70XX.
  - GALVANIZING - WHEN SPECIFIED - ASTM-A123.

**TRAFFIC SIGNAL POLE FOUNDATIONS**

THE CONTRACTOR SHALL STAKE THE LONGITUDINAL AND LATERAL LOCATION, AND THE ELEVATION OF THE TOP OF EACH FOUNDATION SUBJECT TO THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER ELEVATION, OFFSET, AND LEVEL OF EACH FOUNDATION. THE FOUNDATION LOCATIONS MAY BE CHANGED AS DIRECTED BY THE ENGINEER, IN CASE OF SLOPE OR SUBSURFACE DIFFICULTIES. EXCAVATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 503. EXCAVATION SHALL BE TO THE DIMENSIONS SHOWN ON THE PLANS, AND SHALL BE PERFORMED BY MEANS OF AN EARTH AUGER OF THE SPECIFIED DIA. UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

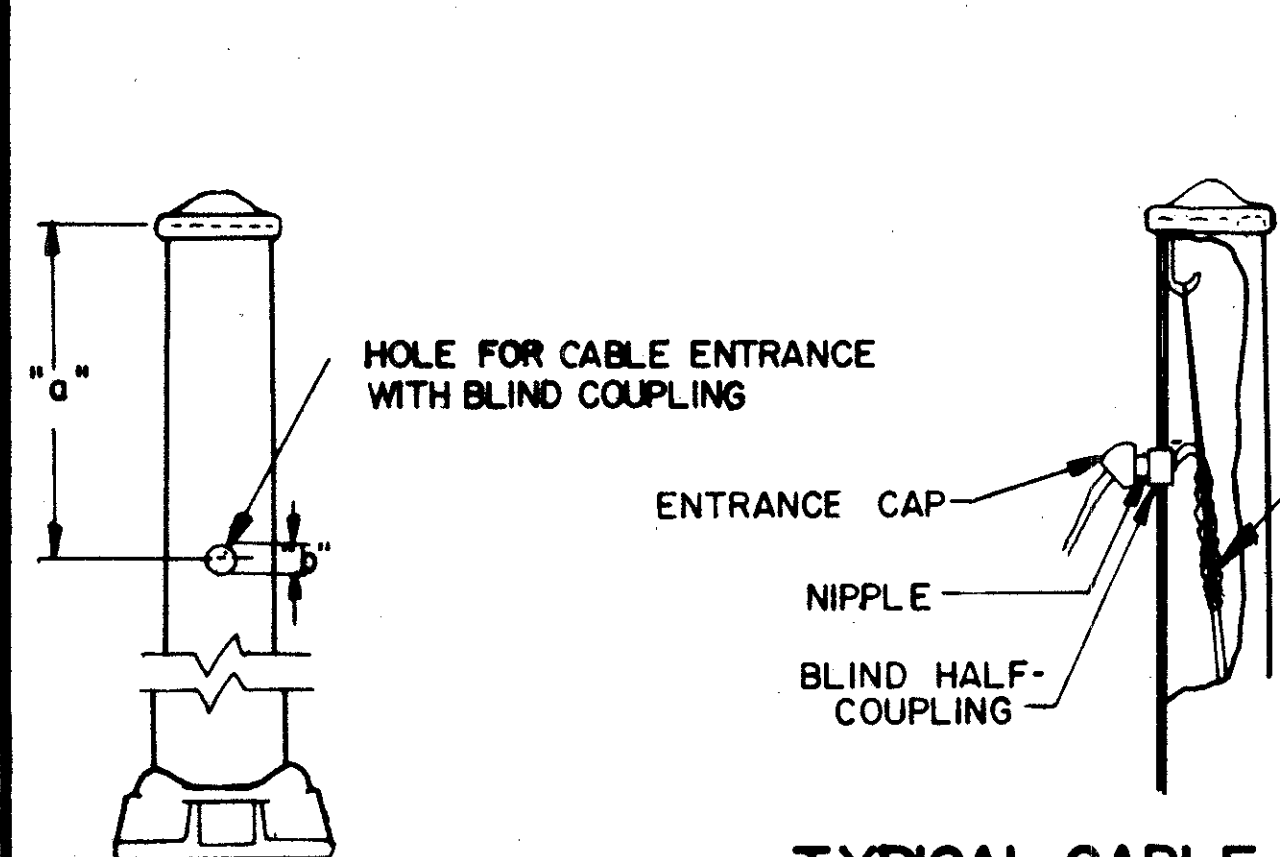
WHERE SUBSURFACE OBSTRUCTIONS ARE ENCOUNTERED, THE ENGINEER MAY REQUIRE THE CONTRACTOR TO REMOVE THE OBSTRUCTION OR TO REPLACE THE EXCAVATED MATERIAL AND RELOCATE THE FOUNDATION. IF CAVING OF THE EXCAVATION OCCURS, THE CONTRACTOR SHALL EXCAVATE THE SPECIFIED DEPTH MAINTAINING THE SIDES AS NEARLY VERTICAL AS POSSIBLE. NO PAYMENT SHALL BE MADE FOR ANY EXCAVATION, CONCRETE, OR REINFORCING STEEL USED IN EXCESS OF THE PLAN QUANTITIES.

CONCRETE, CLASS C, SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 511, AND SHALL BE PLACED AGAINST UNDISTURBED SOIL OR COMPACTED EMBANKMENT. STEEL REINFORCEMENT BARS, WHERE REQUIRED, SHALL BE POSITIONED AS SHOWN ON THE PLANS AND PLACED IN ACCORDANCE WITH ITEM 509. CYLINDRICAL ANCHOR BASE TYPE FOUNDATIONS FOR TRAFFIC SIGNAL POLES SHALL HAVE ANCHOR BOLTS AND CONDUIT ACCURATELY HELD IN POSITION WITH A TEMPLAT WHILE CONCRETE IS PLACED. FORMS SHALL BE USED FOR THE UPPER PORTIONS OF ALL FOUNDATIONS AND NO BACKFILLING SHALL BE PERMITTED FROM THE BOTTOM TO SIX INCHES BELOW THE GRADE LEVEL. NO GROUTING OF CONCRETE SHALL BE PERMITTED BETWEEN THE FOUNDATION TOP AND THE POLE BASE.

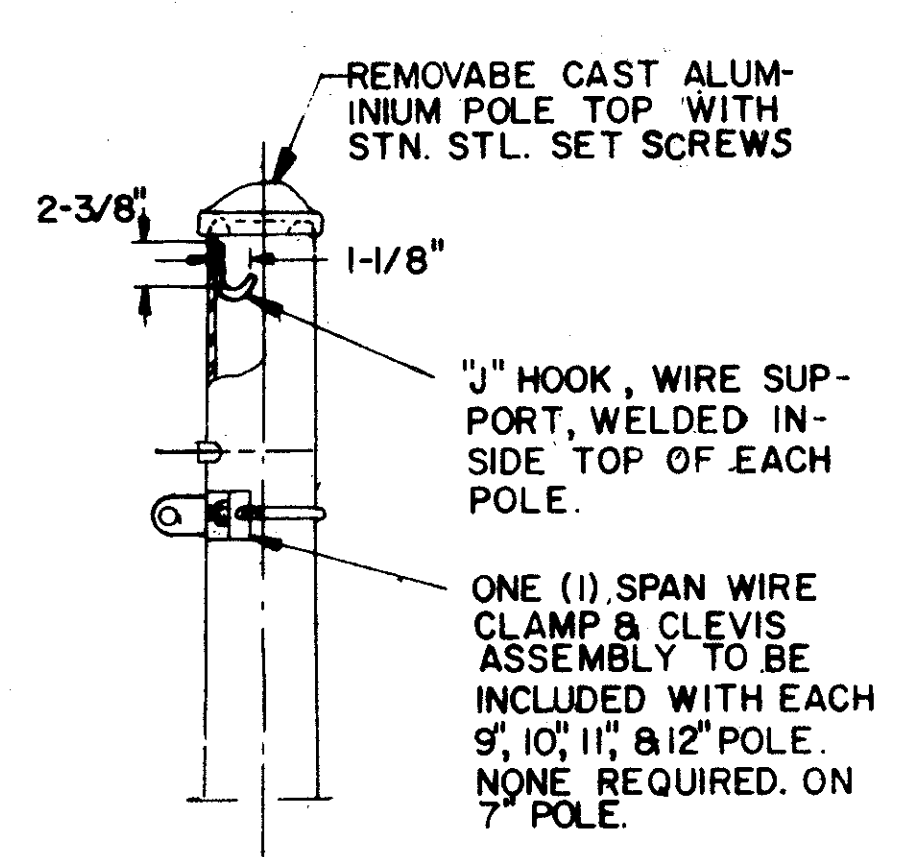
**TRAFFIC SIGNAL POLE**  
WHERE A WIRE ENTRANCE IS REQUIRED, THE SERVICE ENTRANCE HEAD SHALL BE LOCATED APPROXIMATELY 12" BELOW SPAN WIRE CLAMP.

**GROUND ROD**

GROUND ROD SHALL BE IN ACCORDANCE WITH TYPICAL GROUND ROD DETAIL AND TESTED IN ACCORDANCE WITH 625.22 CONSTRUCTION AND MATERIAL SPECIFICATIONS.



TYPICAL CABLE STRAIN RELIEF & ENTRANCE CAP DETAILS



POLE TOP DETAILS

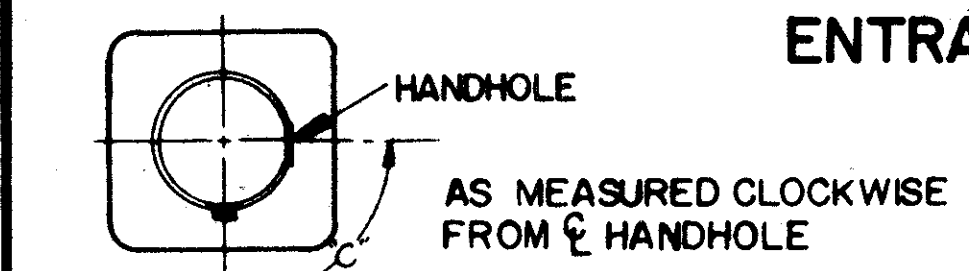
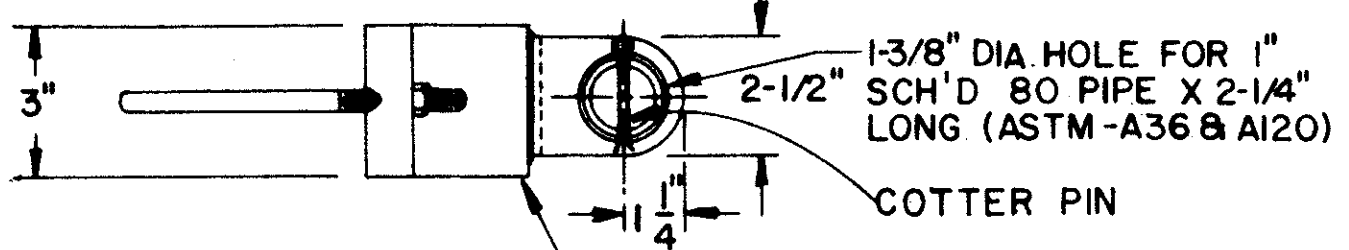
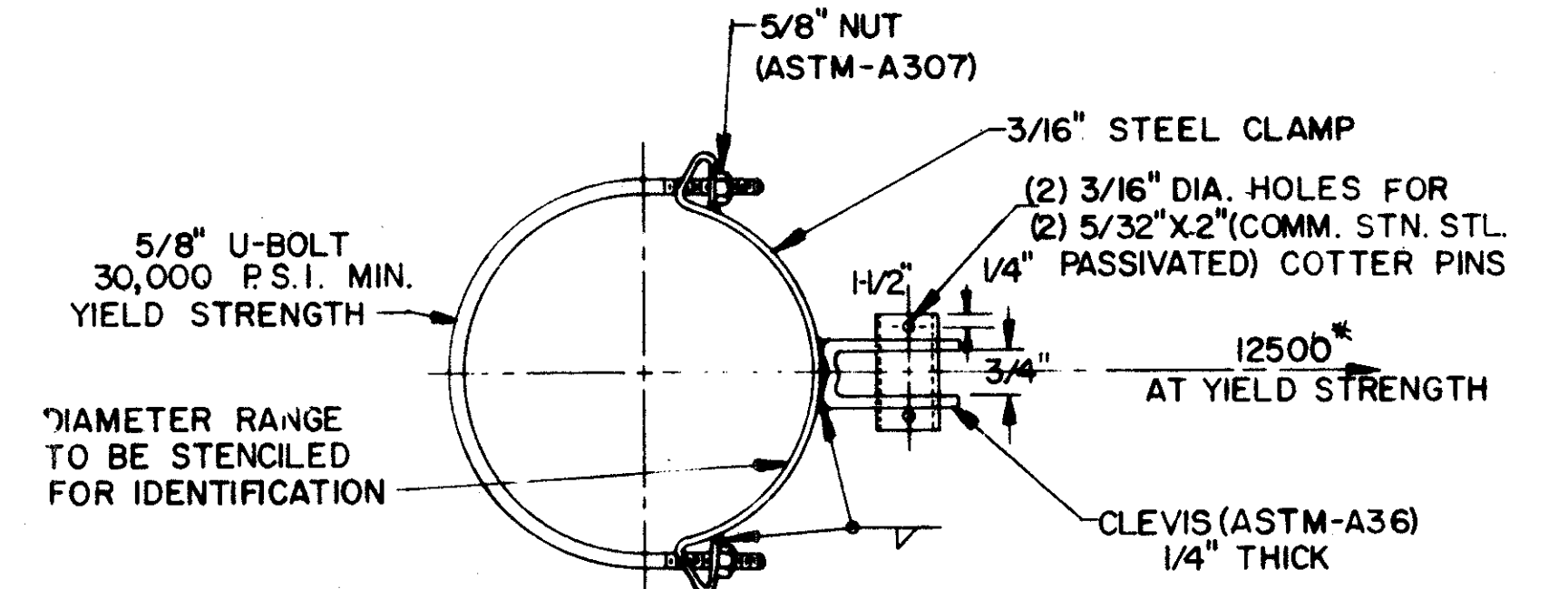


TABLE 2

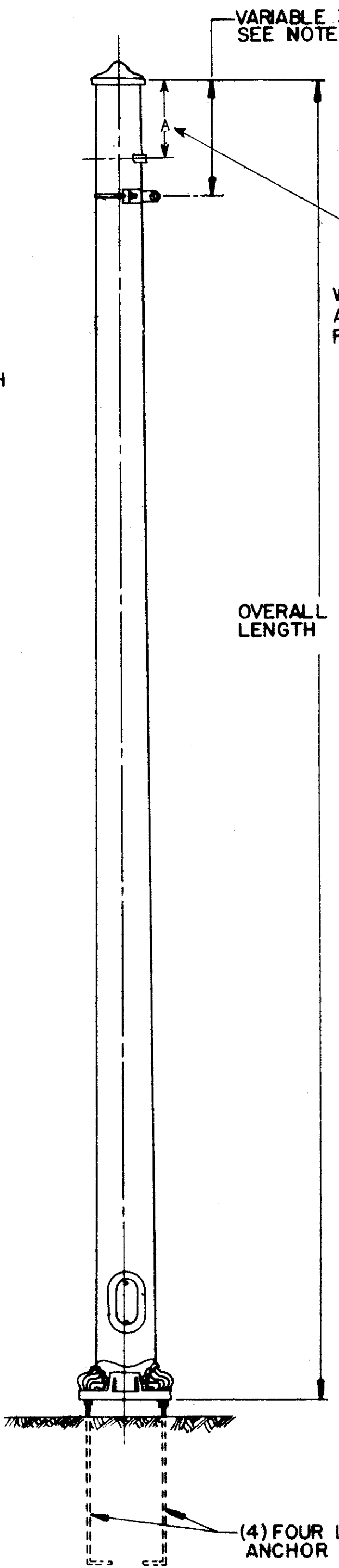
CONFIG.	"a"	"b"	"c"
A	30"	2"	90°
B	30"	2"	180°
C	30"	2"	270°
D	48"	2"	90°
E	48"	2"	180°
F	48"	2"	270°
G	NO HOLE REQUIRED		

CABLE ENTRANCE LOCATION DETAIL



TYPE	CLAMP RANGE MIN.	CLAMP RANGE MAX.
I	3.1"	3.6"
II	3.6"	4.4"
III	4.4"	5.2"
IV	5.2"	5.8"
V	5.8"	6.8"
VI	6.8"	7.9"
VII	7.9"	9.0"
VIII	9.0"	10.1"
IX	10.1"	11.3"
X	11.3"	12.1"
XI	12.1"	13.4"
XII	13.4"	14.5"
XIII	14.5"	15.5"
XIV	15.5"	16.5"

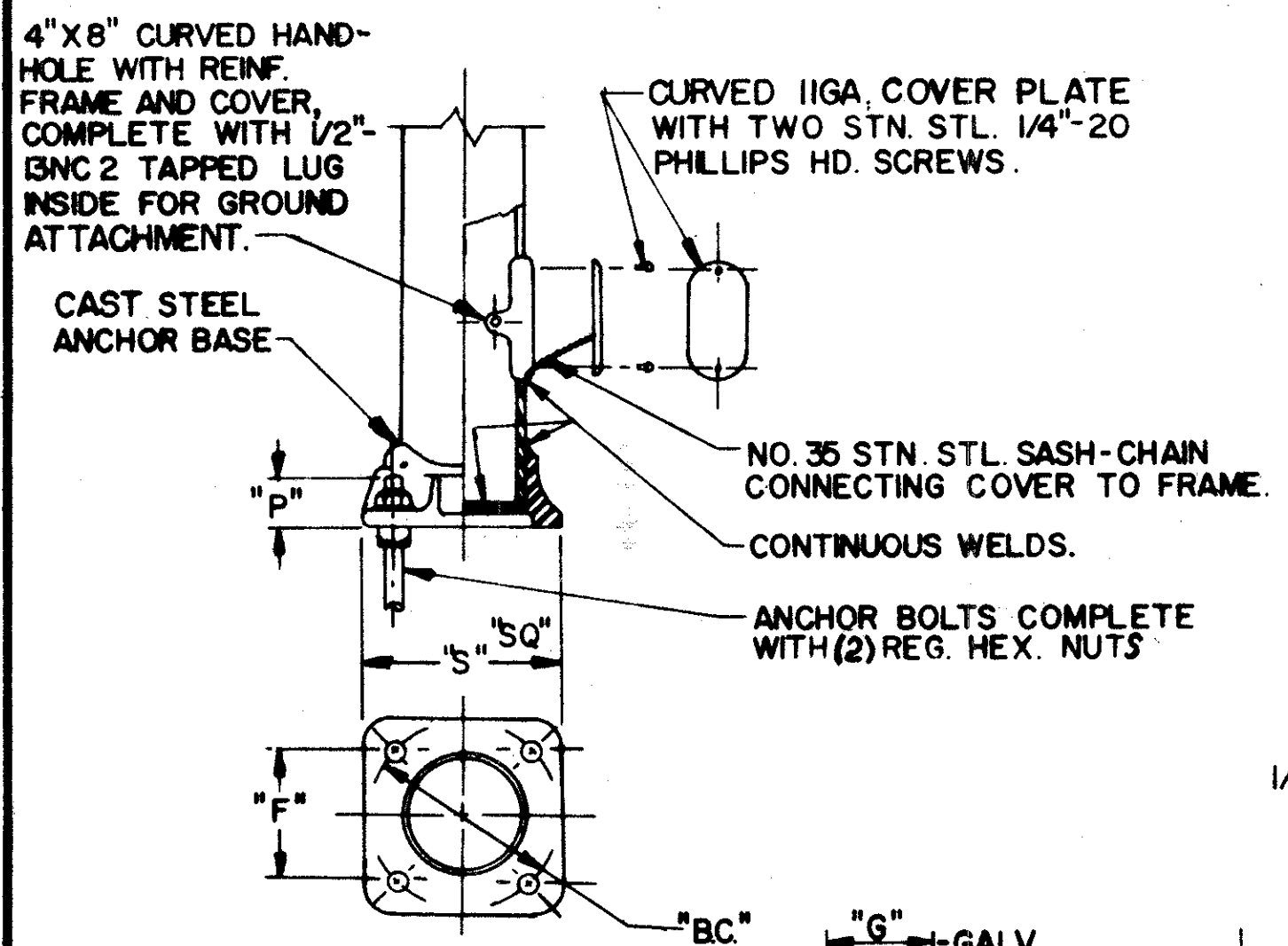
SPAN WIRE CLAMP DETAILS



**STEEL STRAIN POLE**

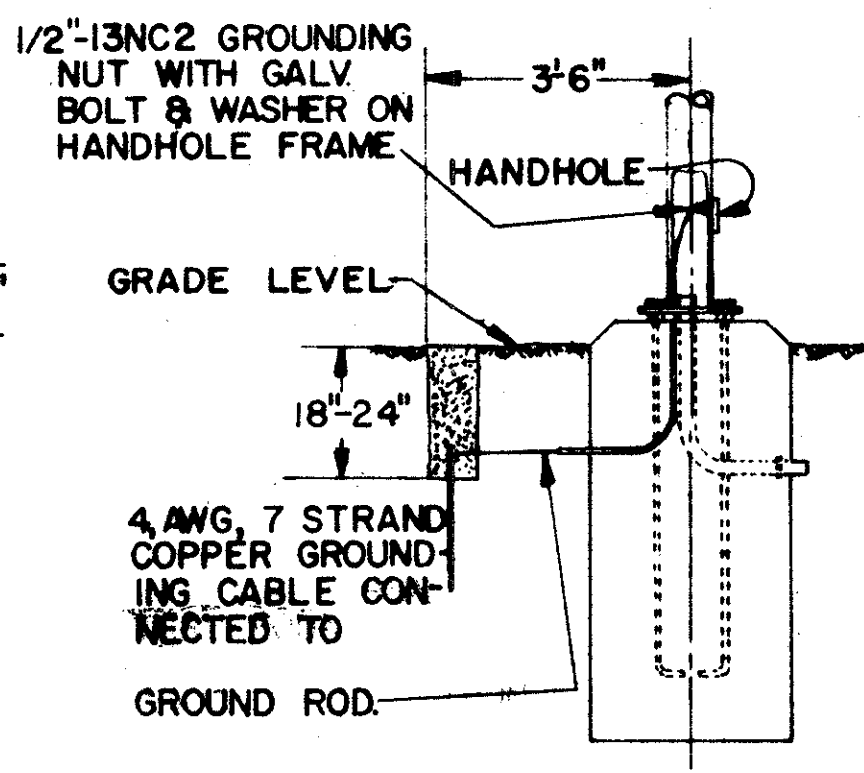
TYPE	BASE DIA.	TOP DIA.	OVERALL LENGTH	WALL THICKNESS	DESIGN DATA FOR TRANSVERSE LOAD AT 18" DOWN FROM TOP EL. AT YIELD STRENGTH	"H"	"D"
1	7.0"	4.20"	20.0'	(3 GA.) .250"	59/100" 2135"	42"	24"
2	9.0"	5.36"	26.0'		64/100" 2730"	54"	24"
3	10.0"	6.36"	26.0'		44/100" 3400"	54"	24"
4	11.0"	7.36"	26.0'		32/100" 4140"	84"	30"
5	12.0"	8.36"	26.0'		24/100" 4960"	84"	36"
6	9.0"	5.08"	28.0'		84/100" 2520"	54"	24"
7	10.0"	6.08"	28.0'		54/100" 3140"	54"	24"
8	11.0"	7.08"	28.0'		41/100" 3690"	84"	30"
9	12.0"	8.08"	28.0'		31/100" 4590"	84"	36"
10	9.0"	4.80"	30.0'		110/100" 2350"	54"	24"
11	10.0"	5.80"	30.0'		74/100" 2920"	54"	24"
12	11.0"	6.80"	30.0'		53/100" 3560"	84"	30"
13	12.0"	7.80"	30.0'		39/100" 4260"	84"	36"

STRAIN POLE TYPES



ANCHOR BASE DATA				ANCHOR BOLT DATA			
POLE DIA.	"BC"	"F"	"S"	SIZE	"L"	"T"	"G"
7"	10"	7 1/16"	1/2"	2 1/4"	H/4" X 48"	42"	8" 10"
9"	12-1/2"	8-7/8"	1/2"	3"	H/2" X 60"	54"	9" 11"
10"	13-1/2"	9-9/16"	1/2"	3-3/8"	H/2" X 60"	54"	9" 11"
11"	15"	10-5/8"	5/8"	3-5/8"	1-3/4" X 90"	84"	9" 11"
12"	16"	11-5/16"	17"	4"	1-3/4" X 90"	84"	9" 11"

TYPICAL HANDHOLE, ANCHOR BASE & ANCHOR BOLT DETAILS

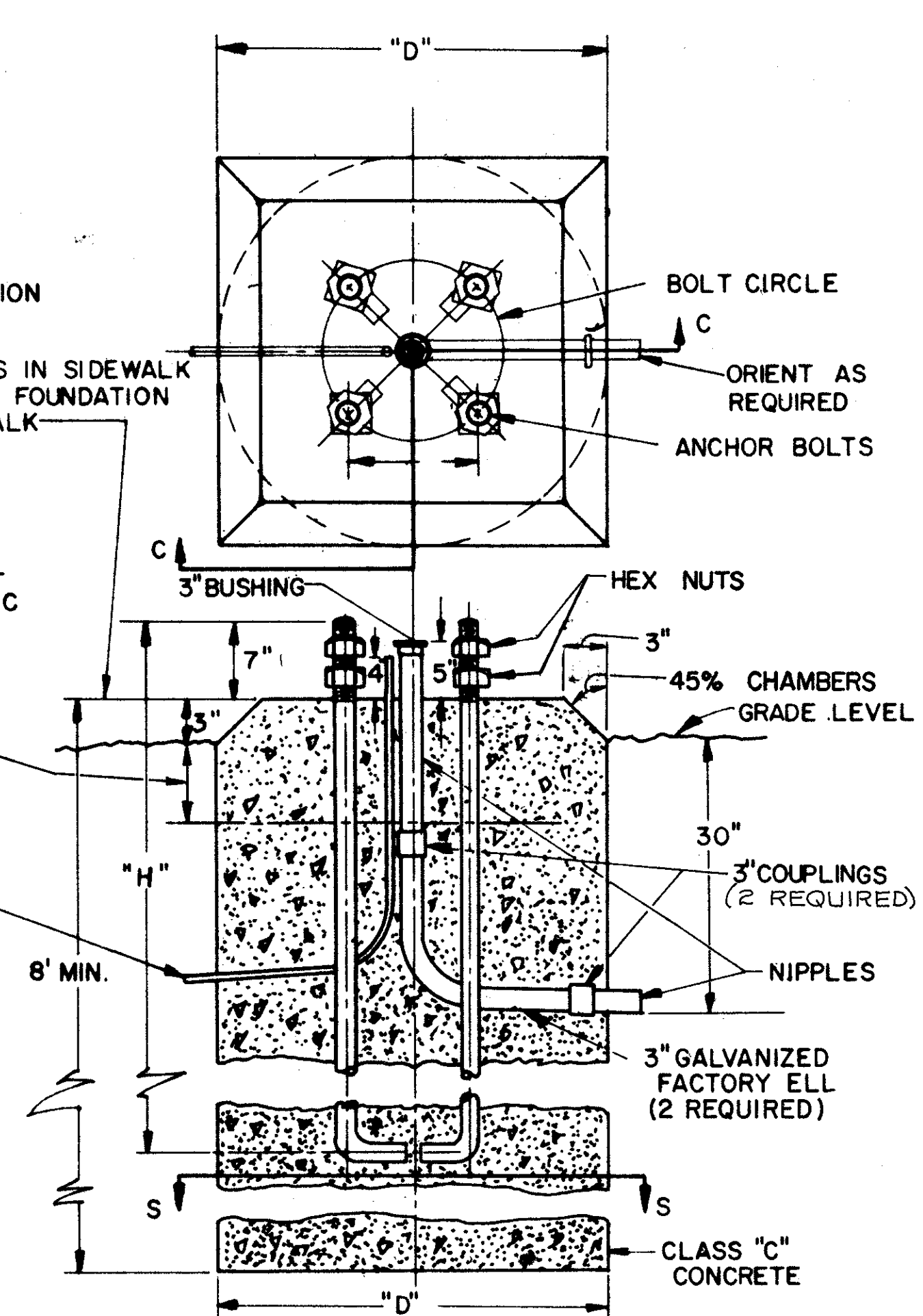


TYPICAL GROUND ROD DETAIL

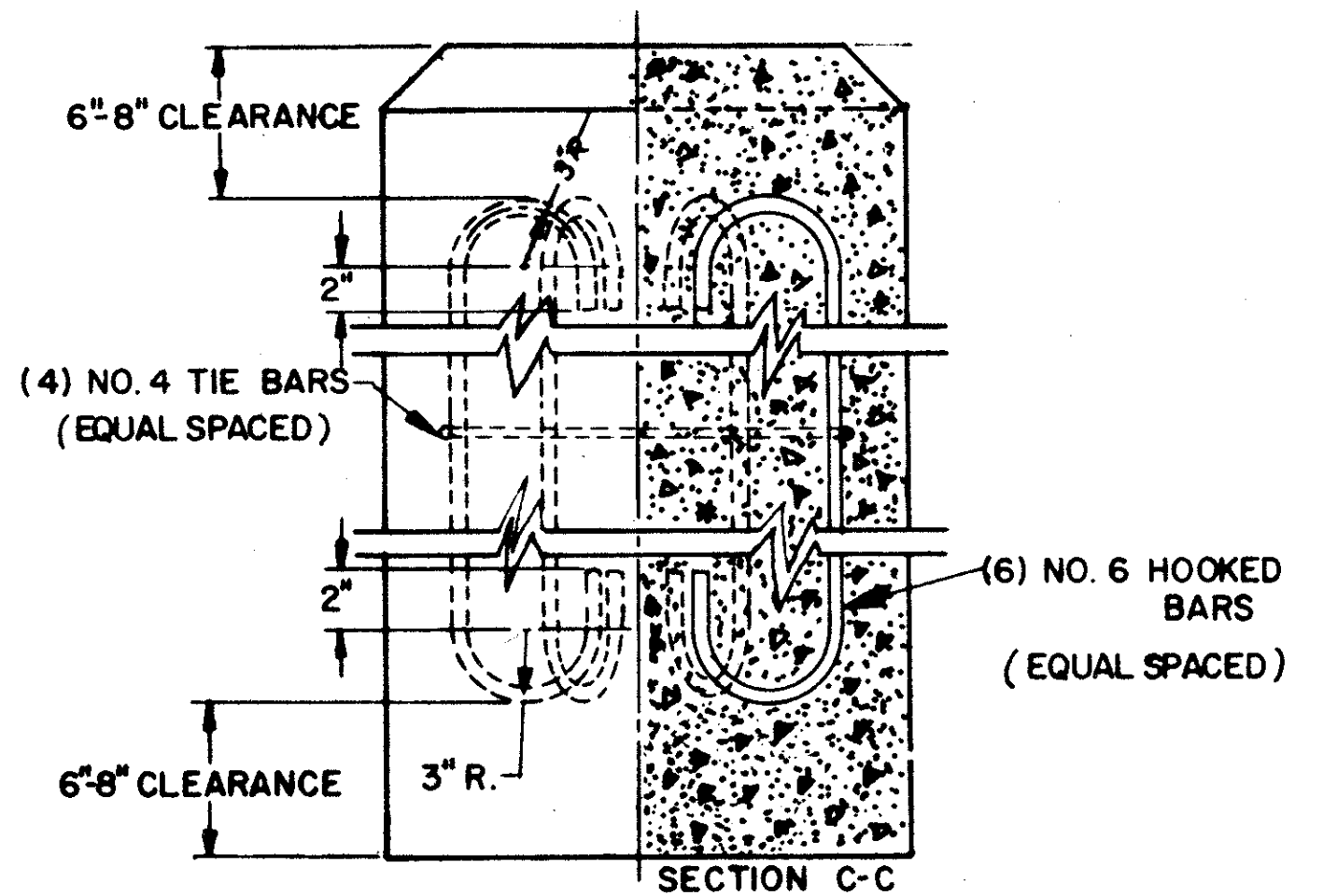
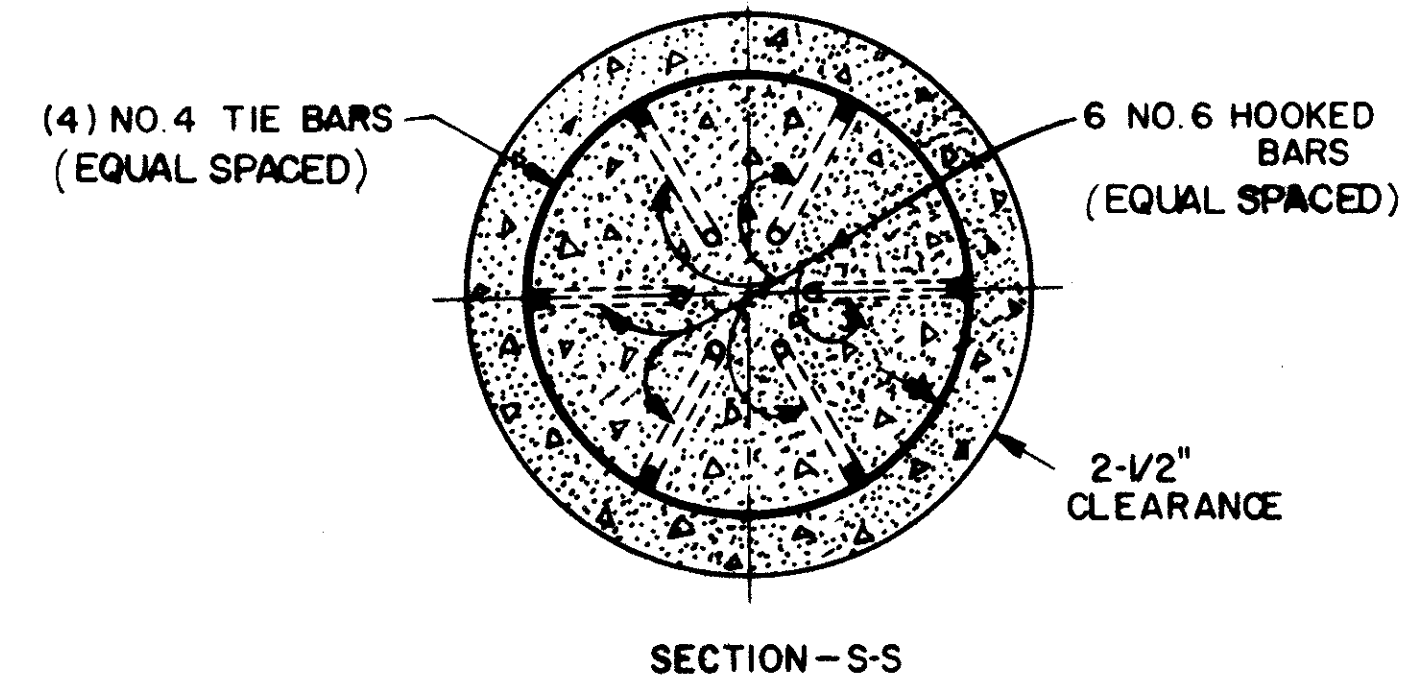
(SEE CABLE ENTRANCE LOCATION DETAIL)  
WHEN FOUNDATION IS IN SIDEWALK AREA, MAKE TOP OF FOUNDATION FLUSH WITH SIDEWALK

NOTE:  
FOR REINFORCING STEEL DETAILS SEE SECTIONS S-S & C-C BELOW.

SQUARE BASE FORMED A MINIMUM OF 6"  
3/4" EMT FOR GROUND ROD CABLE



TYPICAL STRAIN POLE FOUNDATION



TYPICAL REINFORCING STEEL SECTIONS

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

**STEEL STRAIN POLE & FOUNDATION DETAILS**

APPROVED \_\_\_\_\_  
ENGINEER OF TRAFFIC



**NOTES**

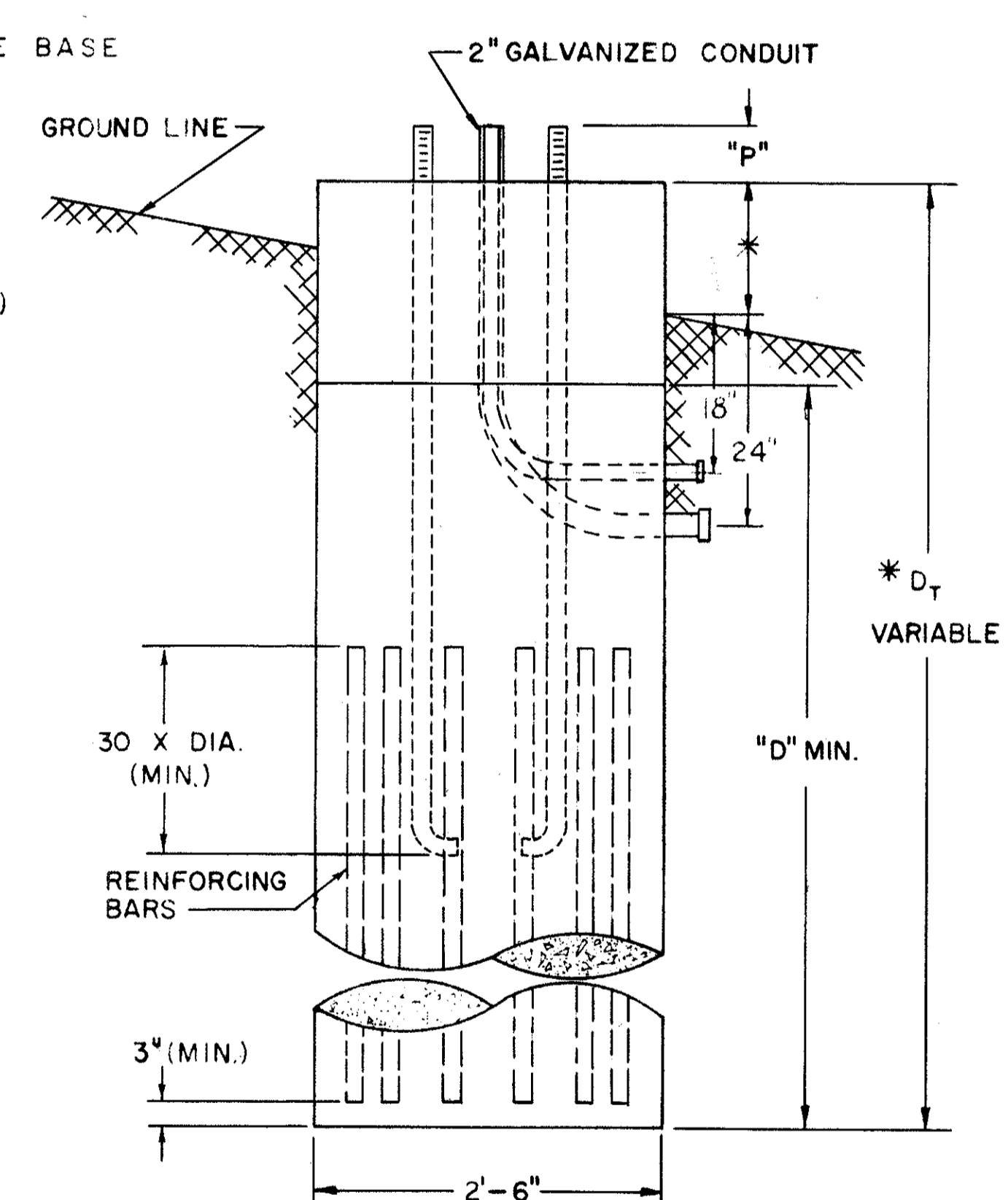
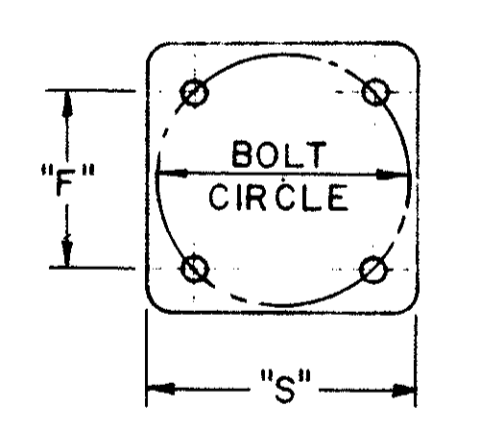
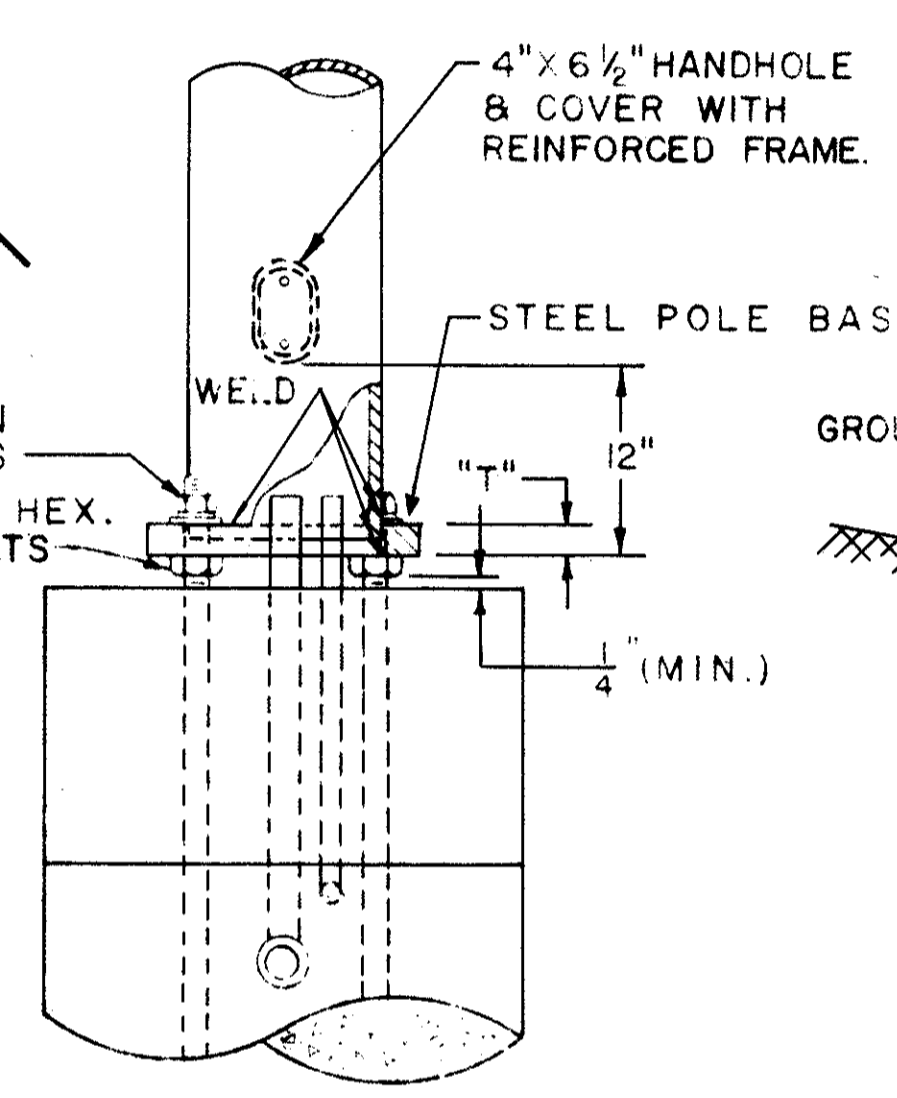
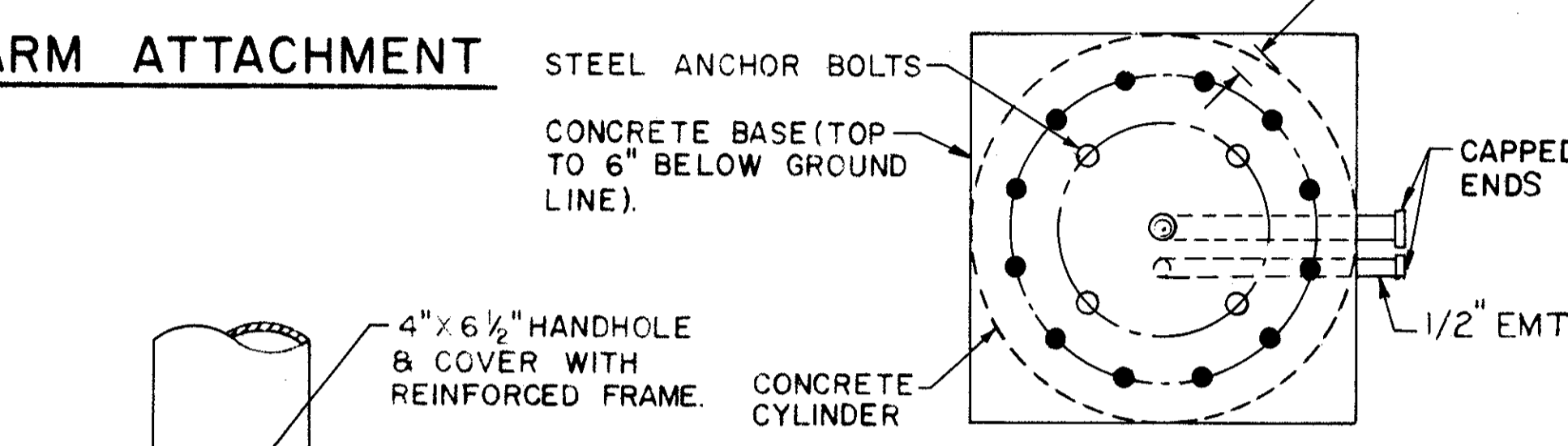
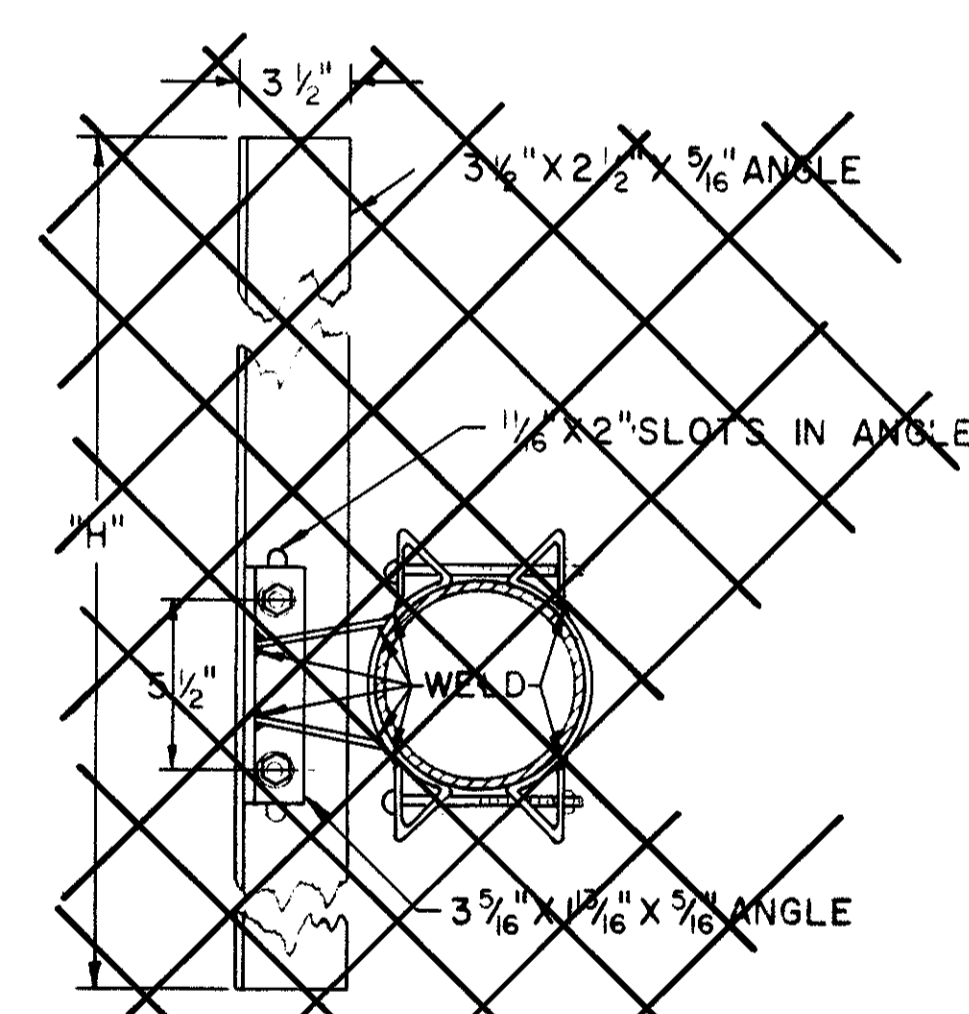
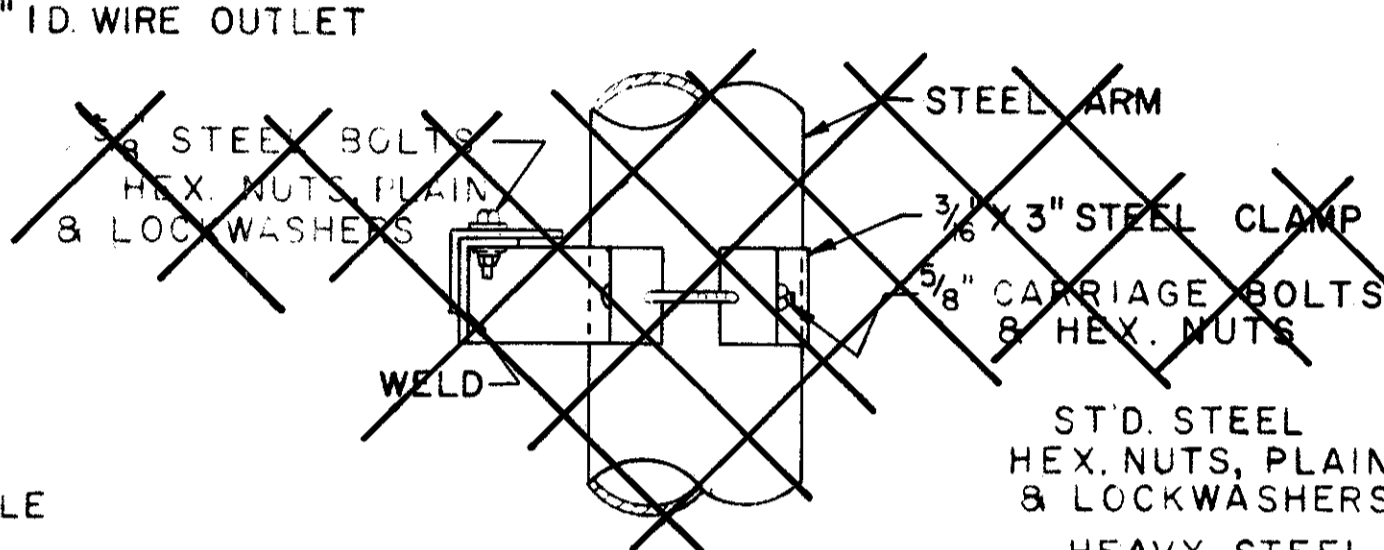
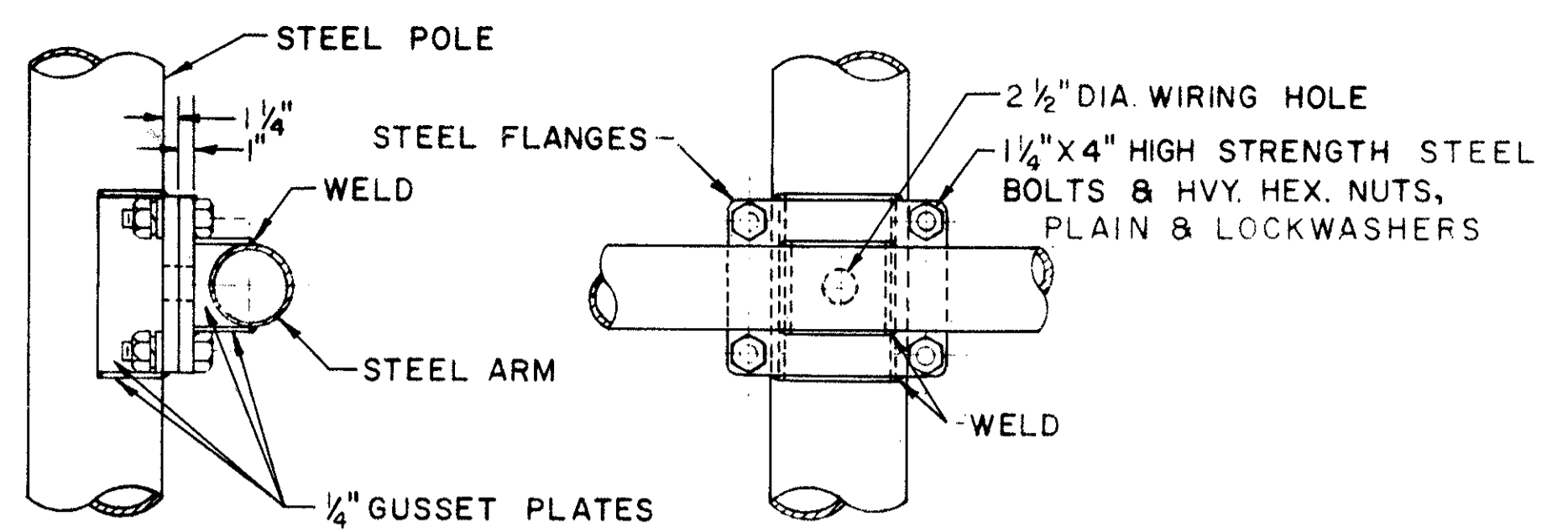
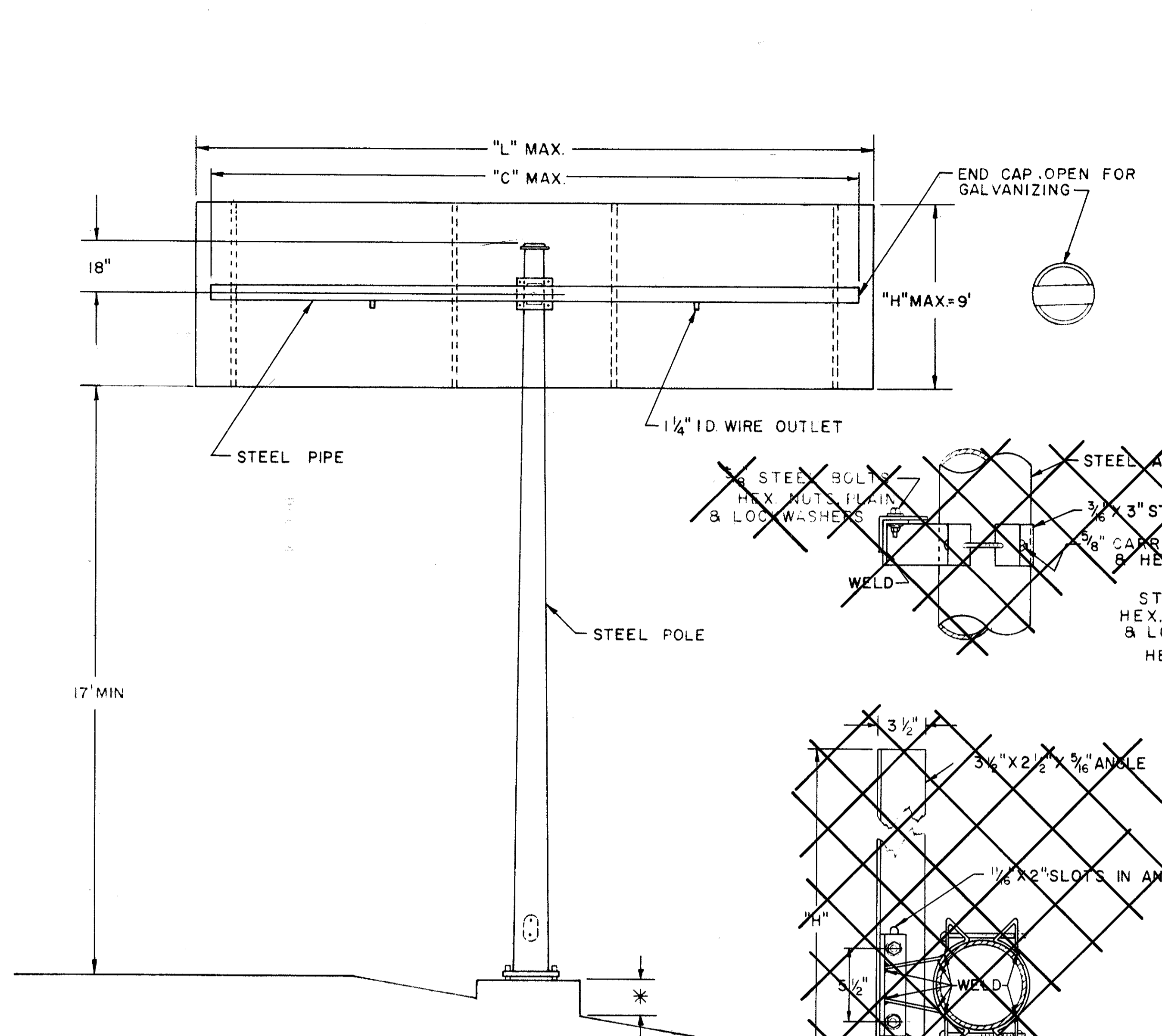
**FABRICATION** - ALL PORTIONS OF THE SIGN SUPPORT, INCLUDING SIGN ATTACHMENTS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. DESIGNATIONS A-123 AND A-153. THE CONDUIT SHALL BE GALVANIZED IN ACCORDANCE WITH SEC 625.13 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

\* **FOUNDATION** - THE TOP ELEVATION OF FOUNDATIONS SHALL BE VARIED SO AS TO MAINTAIN A MINIMUM CLEARANCE OF 17' BETWEEN THE BOTTOM OF THE SIGN AND THE HIGHWAY CROWN.

**MATERIAL** - STEEL POLE BASES, FLANGES, AND END CAPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30 GRADE B. HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A 193 GRADE B7. AFTER FABRICATION TAPERED POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

**SOILS** - THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

**REINFORCING STEEL** - REINFORCING STEEL AS SHOWN IN TABLE SHALL BE INSTALLED WHEN "D" EXCEEDS THE ANCHOR BOLT LENGTH BY MORE THAN 3 FT. THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR 816 CONCRETE FOR SIGN SUPPORT FOUNDATION.



**SIGN ATTACHMENT DETAIL**

**POLE DETAIL**

**FOUNDATION DETAIL**

DESIGN NO.	POLE SIZE	PIPE SIZE	DIM C	DIM F	DIM P	DIM S	DIM T	BOLT CIRCLE	ANCHOR BOLT SIZE	MAX SIGN AREA	MAX. "L" WITH MAX SIGN AREA	"D" MIN.	REINF. BARS TYPE	NO.
1	7ga, 11" X 7.99 X 21'-6"	4" SCH. 40 GRADE A	18'	10 5/8"	6 1/2"	15 3/8"	1 1/2"	15"	1/2" X 60"	60	24'-9"	7'-0"	*6	8
2	3ga, 13" X 9.99 X 21'-6"	4" SCH. 80 GRADE A	14'	12 3/4"	7 3/4"	18 1/2"	2"	18"	3/4" X 90"	120	16'-9"	8'-6"	*7	12
3	3ga, 13" X 9.99 X 21'-6"	6" SCH. 40 GRADE A	20'	12 3/4"	7 3/4"	18 1/2"	2"	18"	3/4" X 90"	120	24'-0"	9'-0"	*7	12

**DESIGN**  
THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS		DATE 1-19-62 3-30-62
OVERHEAD SIGN SUPPORT	844 No.912	
APPROVED <i>Robert E. Loman</i> ENGINEER OF TRAFFIC		

**NOTES**

**MATERIALS**

STEEL	SAE 1020
POLES & ARMS	A 36 AND A 441
PLATES	A 36 AND A 441
ARM CAP & HANDHOLE COVER	
ARM ATTACHMENT BOLT & NUTS	A 325
U-BOLTS	
ANCHOR BOLTS	A 307
BOLT FOR ARM CAP & NUTS	
CLAMP BODY	A 242 AND A 375
CAST BASE & HANDHOLE FRAME	A 27 GRADE 65-35
ALL OTHERS	300 SERIES, STAINLESS CLASS "C"
CONCRETE	ALUMINUM NO.
ALUMINUM ALLOY	
3/4 PIPE	6063-T6
4 ZEE (SIGN BRACKETS)	6061-T6
PLATES	6061-T6
POLE TOP	# 43
FINISH	ASTM
GALVANIZING, STRUCTURAL STEEL	A 123
GALVANIZING STEEL HARDWARE	A 153
STAINLESS STEEL	PASSIVATED
ALUMINUM ALLOY	NATURAL

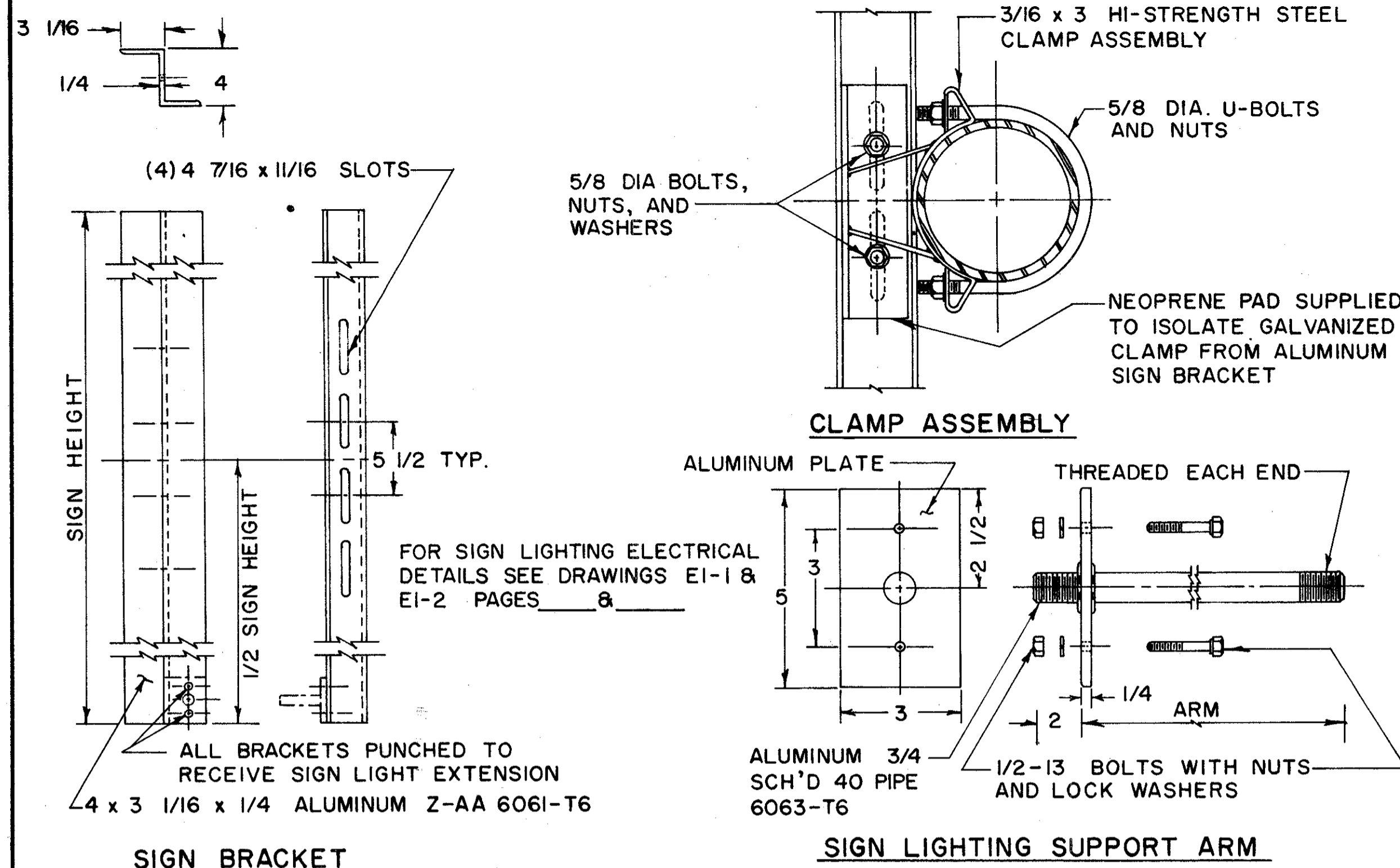
AFTER FABRICATION TAPERED POLES & ARMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 55,000 PSI.  
ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO, CONSTRUCTIONS & MATERIALS SPECIFICATION, AND THE SUPPLEMENTAL SPECIFICATIONS 816, OR AS OTHER-WISE SPECIFIED.

**SOILS**

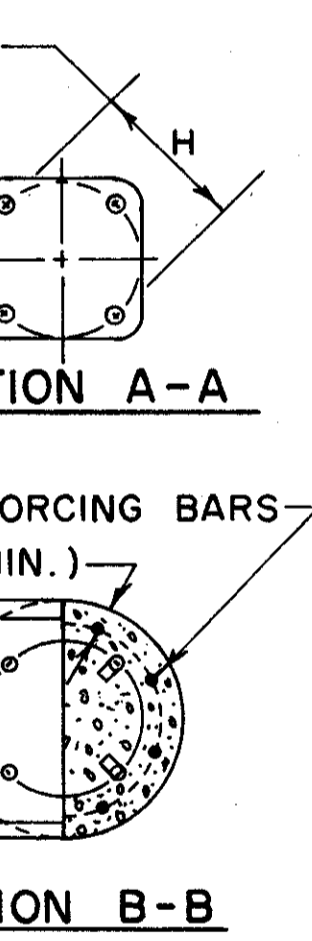
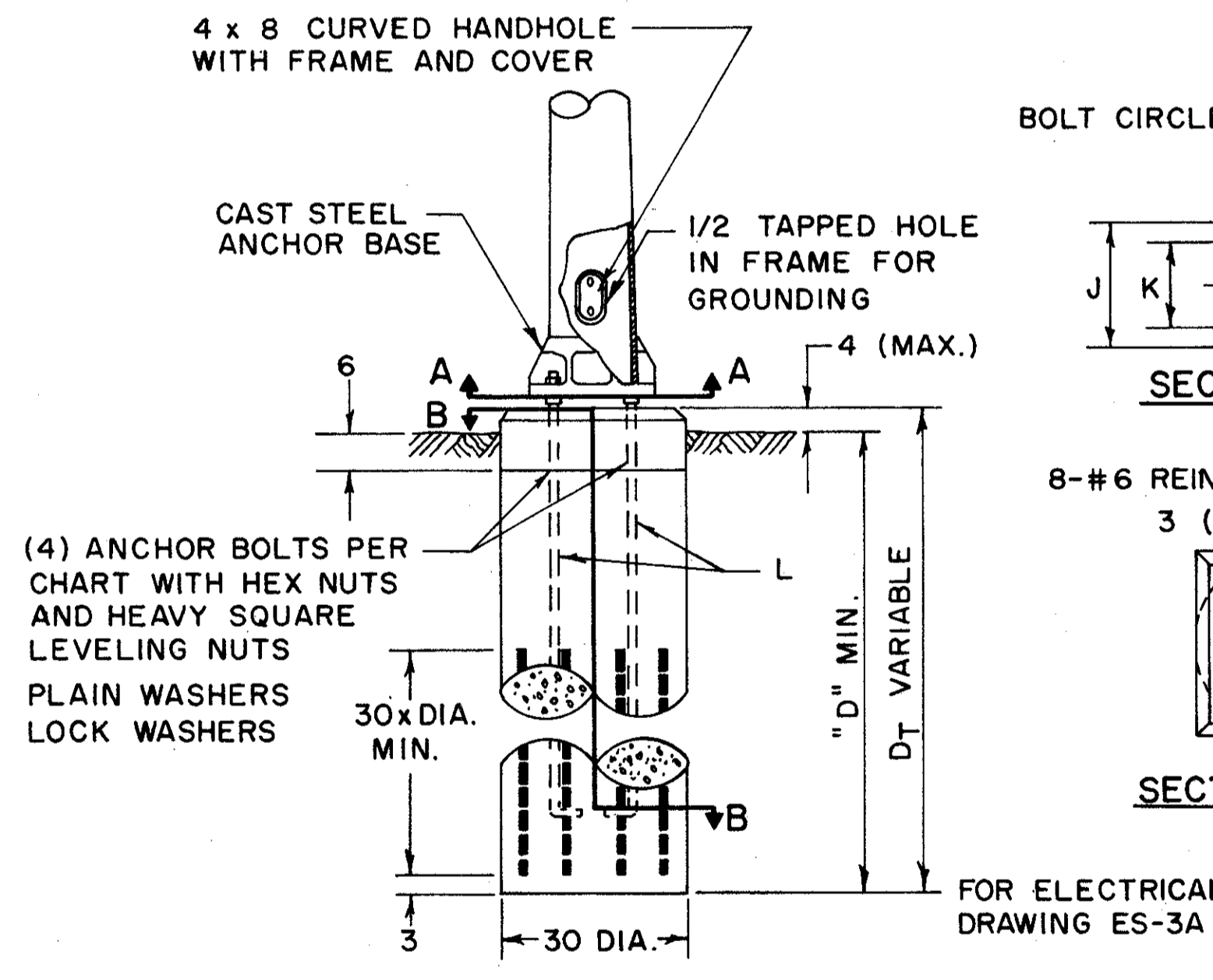
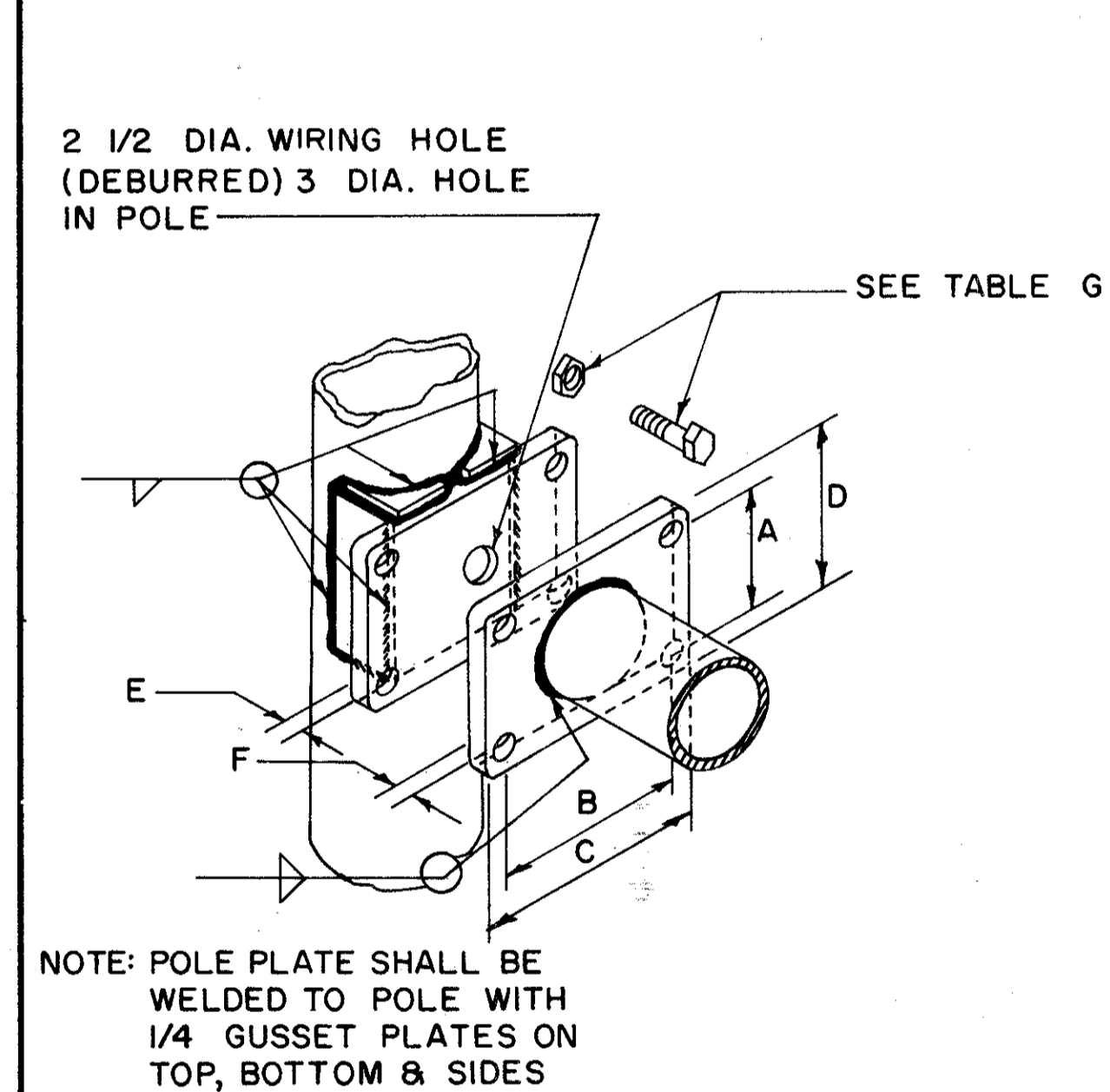
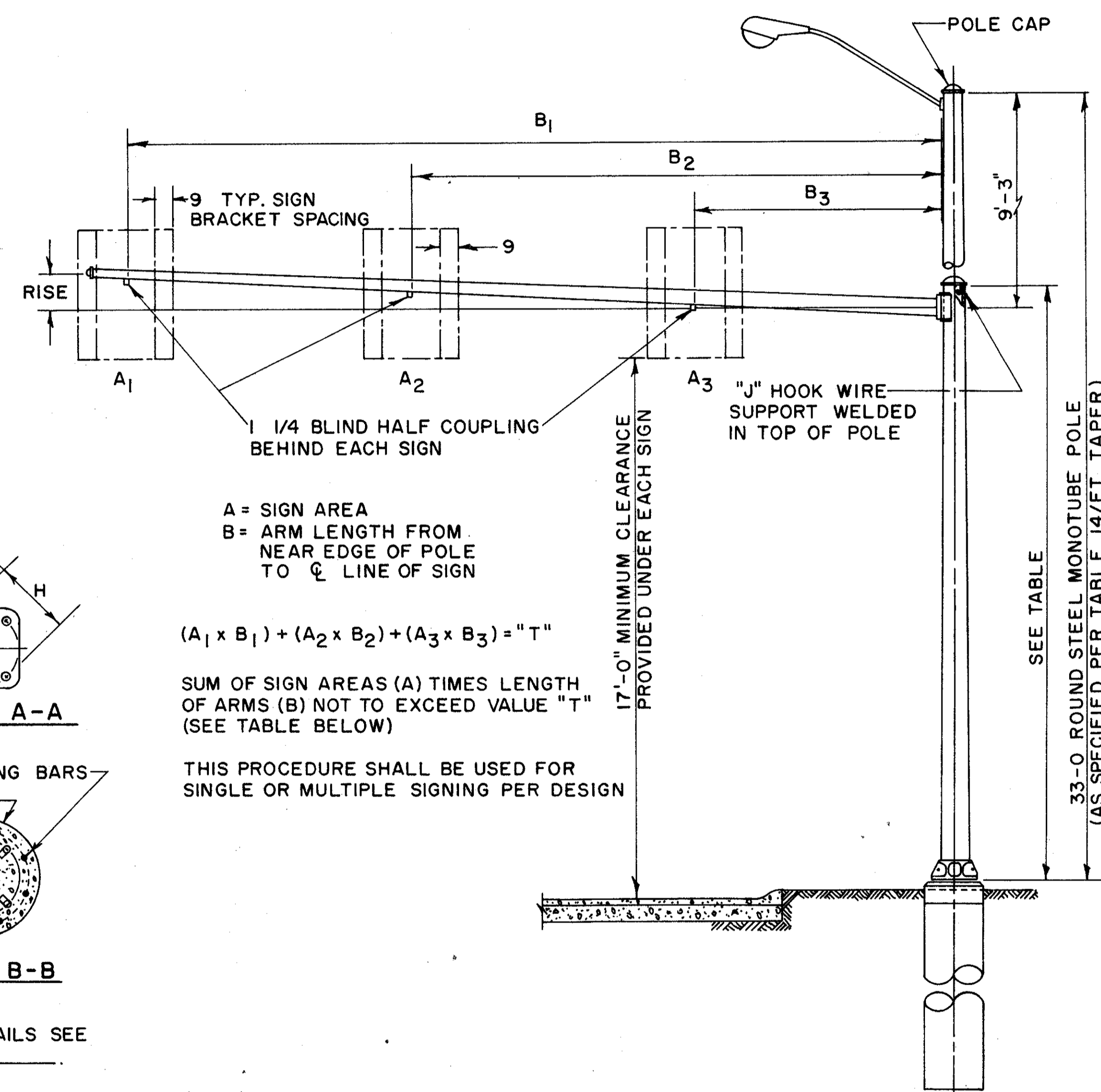
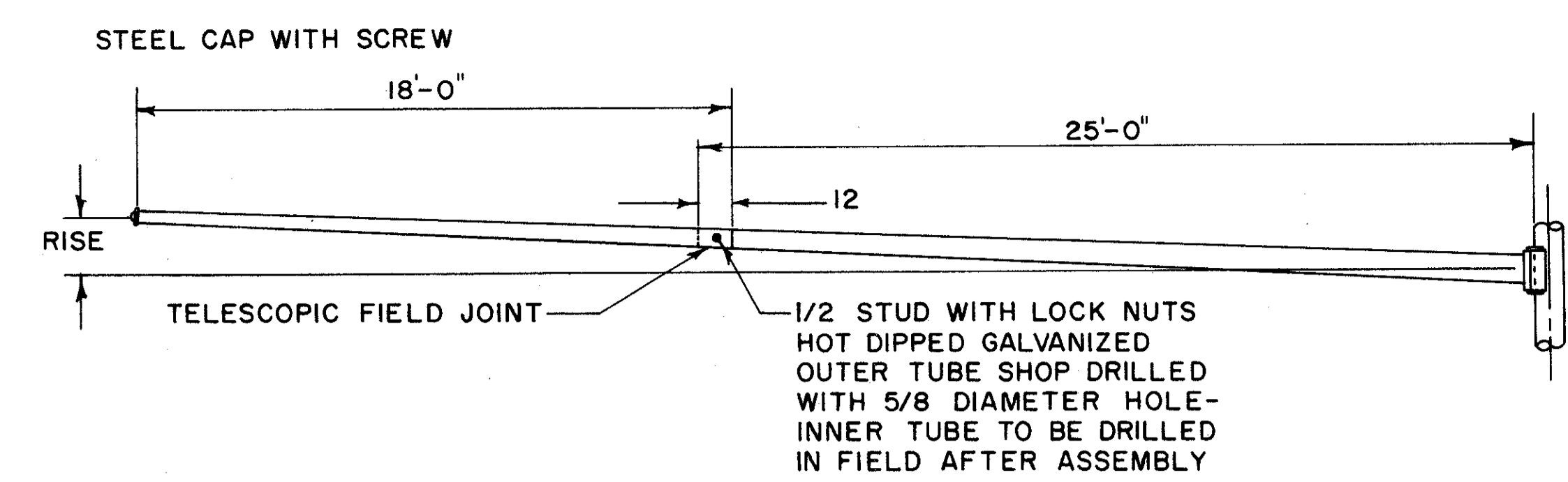
THE FOUNDATION DETAIL SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY.)  
FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

**FOUNDATIONS**

THE TOP ELEVATION OF ALL FOUNDATIONS SHALL BE FORMED TO BE FLUSH WITH ADJOINING CONCRETE CONSTRUCTION, OR A MAXIMUM OF 4" ABOVE FINISHED GRADE.



DES. NO.	ARM SIZE
3	2'-9"
4	2'-9"
5	3'-3"
6	3'-3"
7	4'-3"



**ARM ATTACHMENT DETAIL**

**FOUNDATION & POLE BASE DETAIL**

**FRONT ELEVATION & SIGN PLACEMENT DETAIL**

DES. NO.	POLE SIZE	SIGN SIZE	MAX. SIGN AREA	VALUE "T"	RISE		ARM SIZE	ARM ATTACHMENT DATA							ANCHOR BOLT DATA				REINF. BAR TYPE	NO. REQ'D	FOUNDATIONS "D" MIN.
					MIN	MAX		A	B	C	D	E	F	G	H	J	K	L			
1.	0ga 12" x 9.27" x 19'-6"	2'-6" 3'-0"	22.5	585	11	24	2-7ga-9.0" x 3.68" x 38'-0"	9	13 1/2	17 1/2	13	2	1 1/4	1 1/4	16	17	11 5/16	1 3/4 x 90	6	8	7'-0"
2.	7ga 11" x 8.27" x 19'-6"	2'-6" 3'-0"	22.5	315	9	18	7ga-8.0" x 4.08" x 28'-0"	8	12	16	12	1 1/4	1	1	15	15 5/8	10 5/8	1 1/2 x 60	6	8	5'-0"
3.	0ga 14" x 10.54" x 24'-9" 0ga 14" x 9.38" x 33'-0"	4'-0" 5'-6"	66.0	1485	11	23	2-7ga-9.0" x 3.96" x 36'-0"	9	13 1/2	17 1/2	13	2	1 1/4	1 1/4	20	20 1/2	14 1/8	2 x 96	6	8	8'-0"
4.	0ga 14" x 10.54" x 24'-9" 0ga 14" x 9.38" x 33'-0"	4'-0" 5'-6"	66.0	1881	12	28	2-7ga-10.0" x 6.50" x 25'-0" 7ga-7.0" x 4.48" x 18'-0"	11	14 1/2	18 1/2	15	2	1 1/4	1 1/4	20	20 1/2	14 1/8	2 x 96	6	8	8'-0"
5.	3ga 14" x 11.06" x 21'-0"	4'-0" 6'-0"	72.0	1848	11	24	3ga-11" x 5.68" x 38'-0"	11	15 1/2	19 1/2	15	2	1 1/4	1 1/4	20	20 1/2	14 1/8	1 3/4 x 90	6	8	7'-6"
6.	3ga 11" x 8.06" x 21'-0"	4'-0" 6'-0"	72.0	984	9	18	3ga-8.0" x 4.08" x 28'-0"	8	12	16	12	1 1/2	1	1	15	15 5/8	10 5/8	1 3/4 x 90	6	8	7'-6"
7.	0ga 12" x 9.06" x 21'-0"	5'-0" 7'-0"	105.0	1435	9	18	2-7ga-8.0" x 4.08" x 28'-0"	8	13 1/2	17 1/2	12	2	1 1/4	1 1/4	16	17	11 5/16	1 3/4 x 90	6	8	7'-6"

NOTE: ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

**BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS**

**OVERHEAD SIGN SUPPORT**

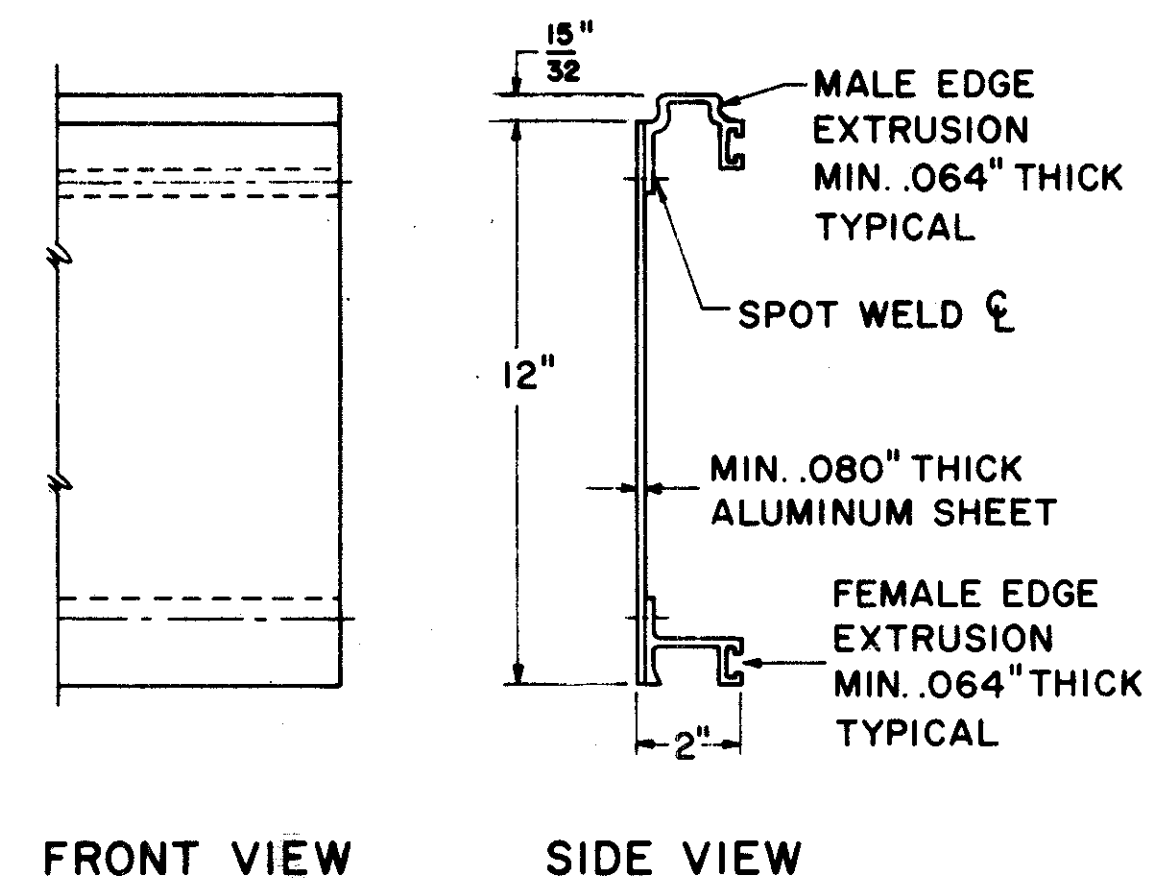
**844-16.10**

APPROVED \_\_\_\_\_  
ENGINEER OF TRAFFIC

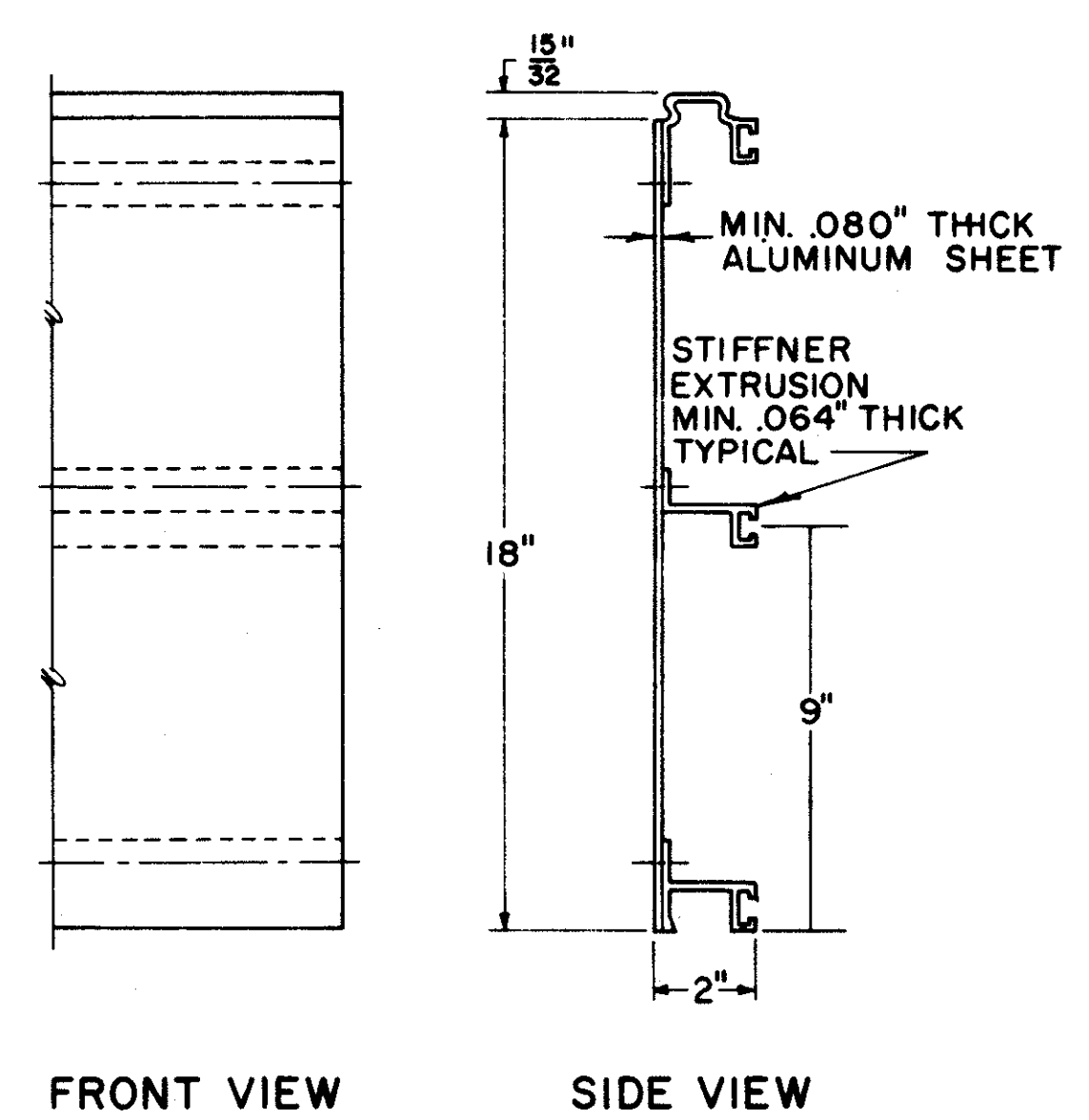
DATE  
5-31-68



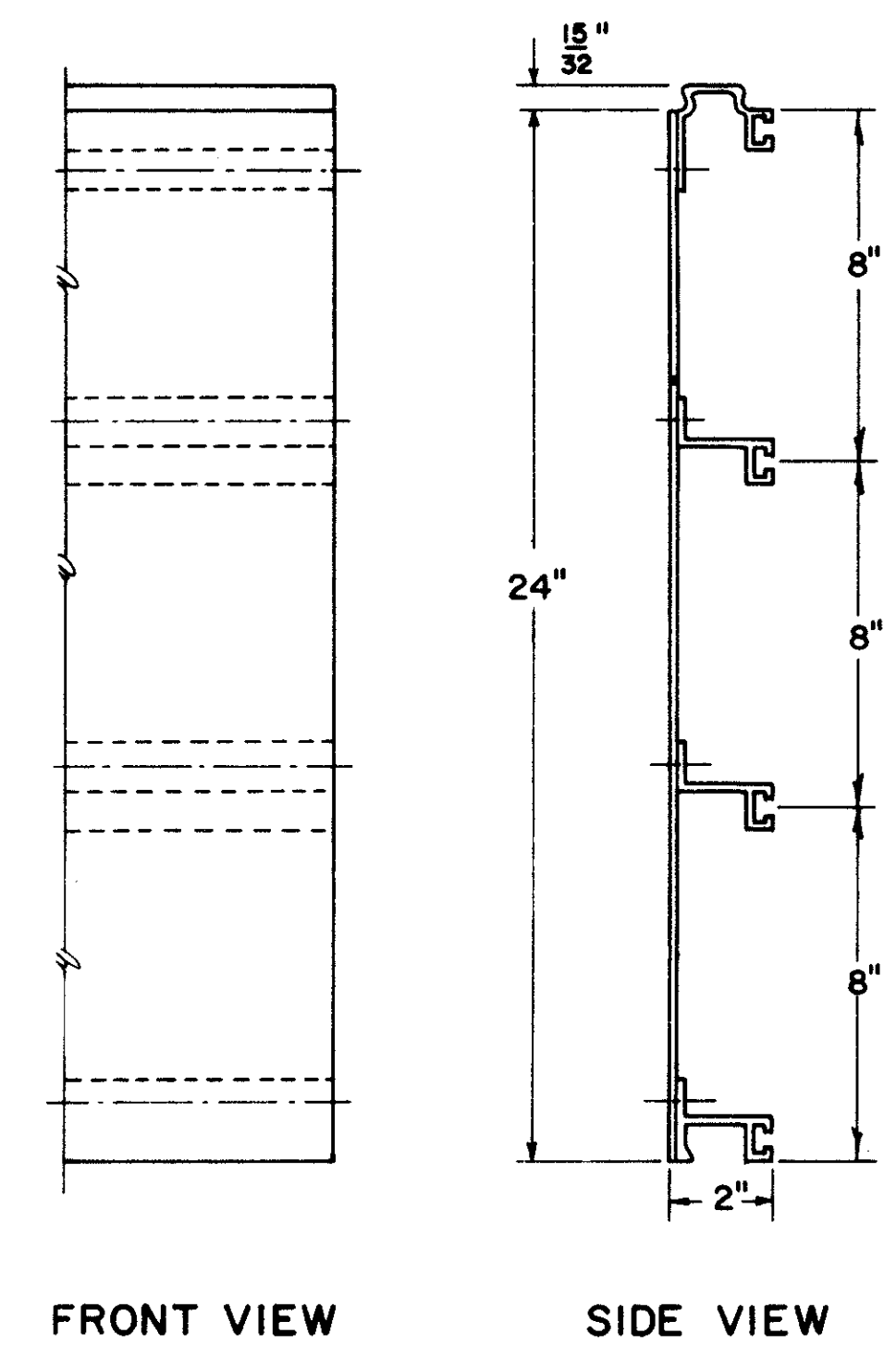
12" EXTRUSHEET PANEL



18" EXTRUSHEET PANEL

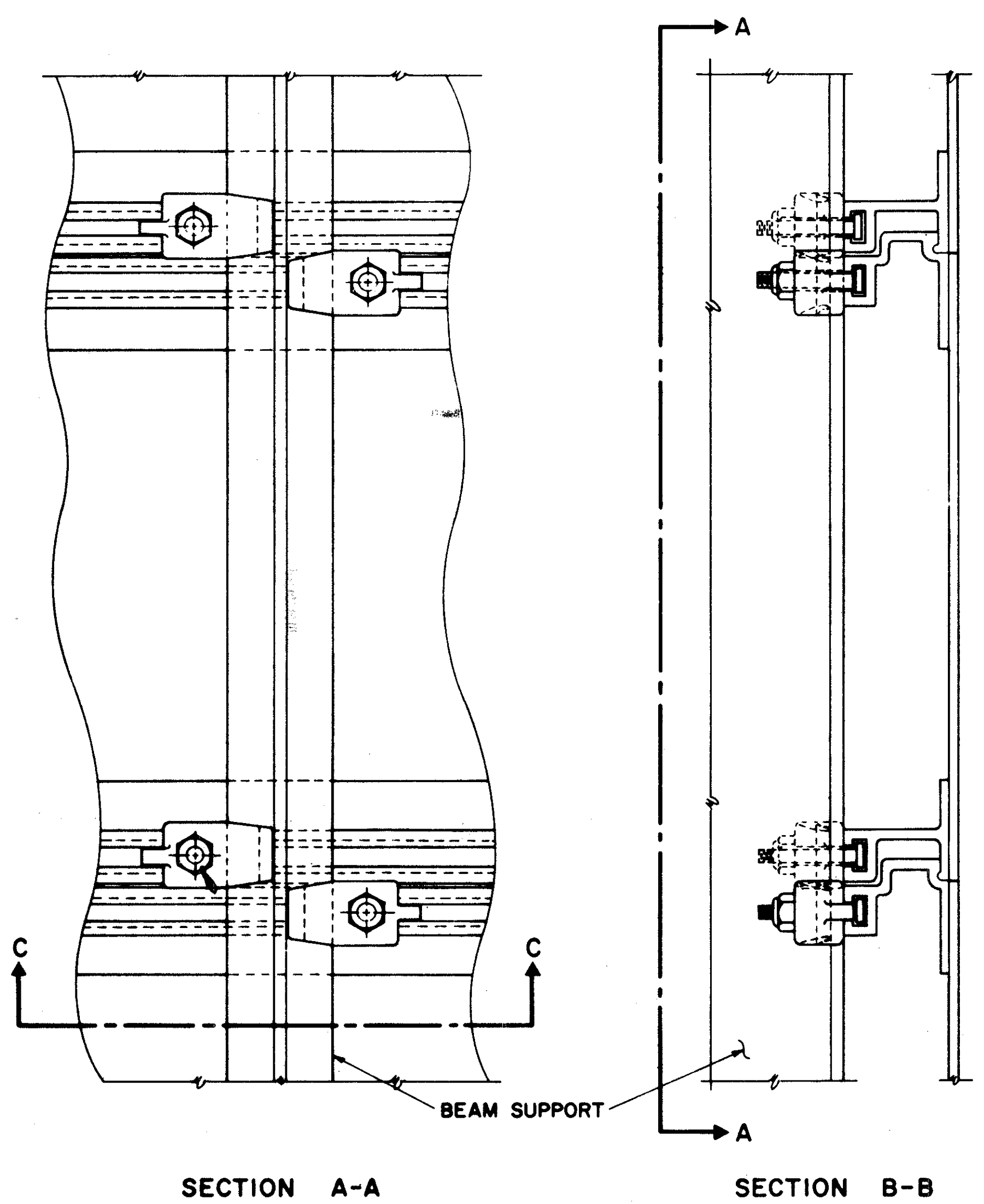


24" EXTRUSHEET PANEL

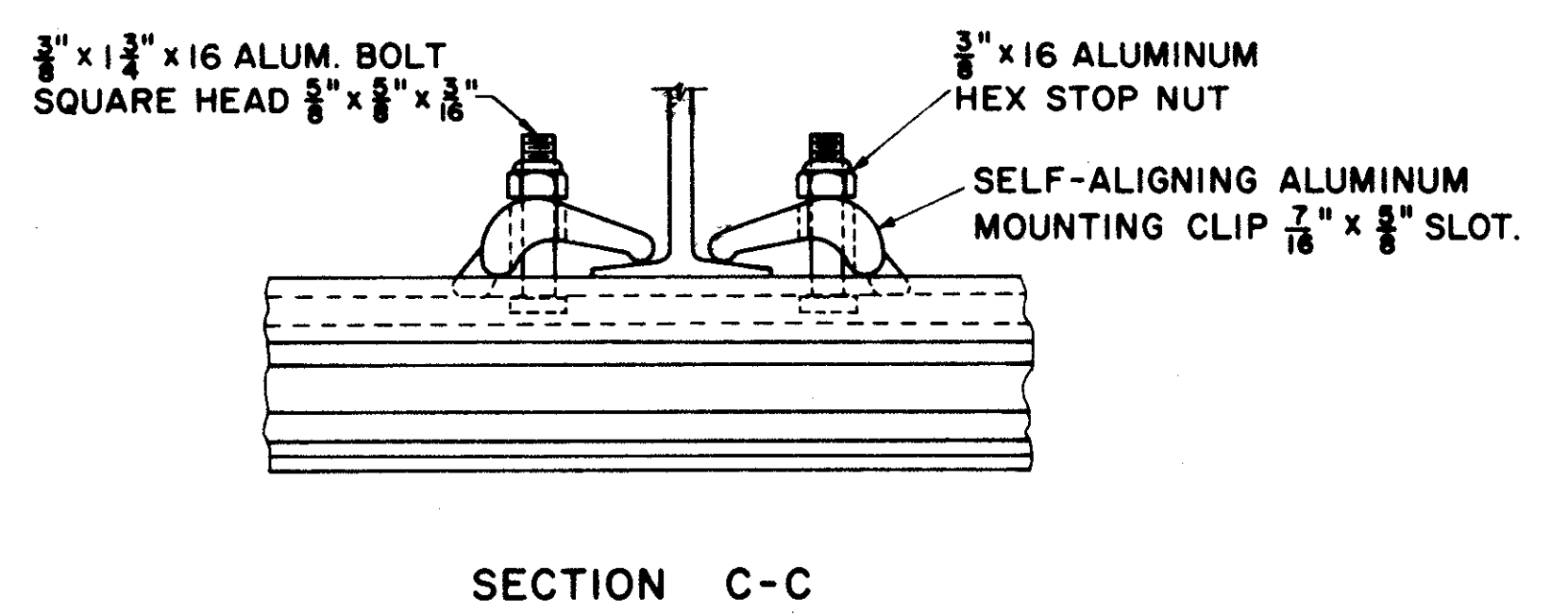
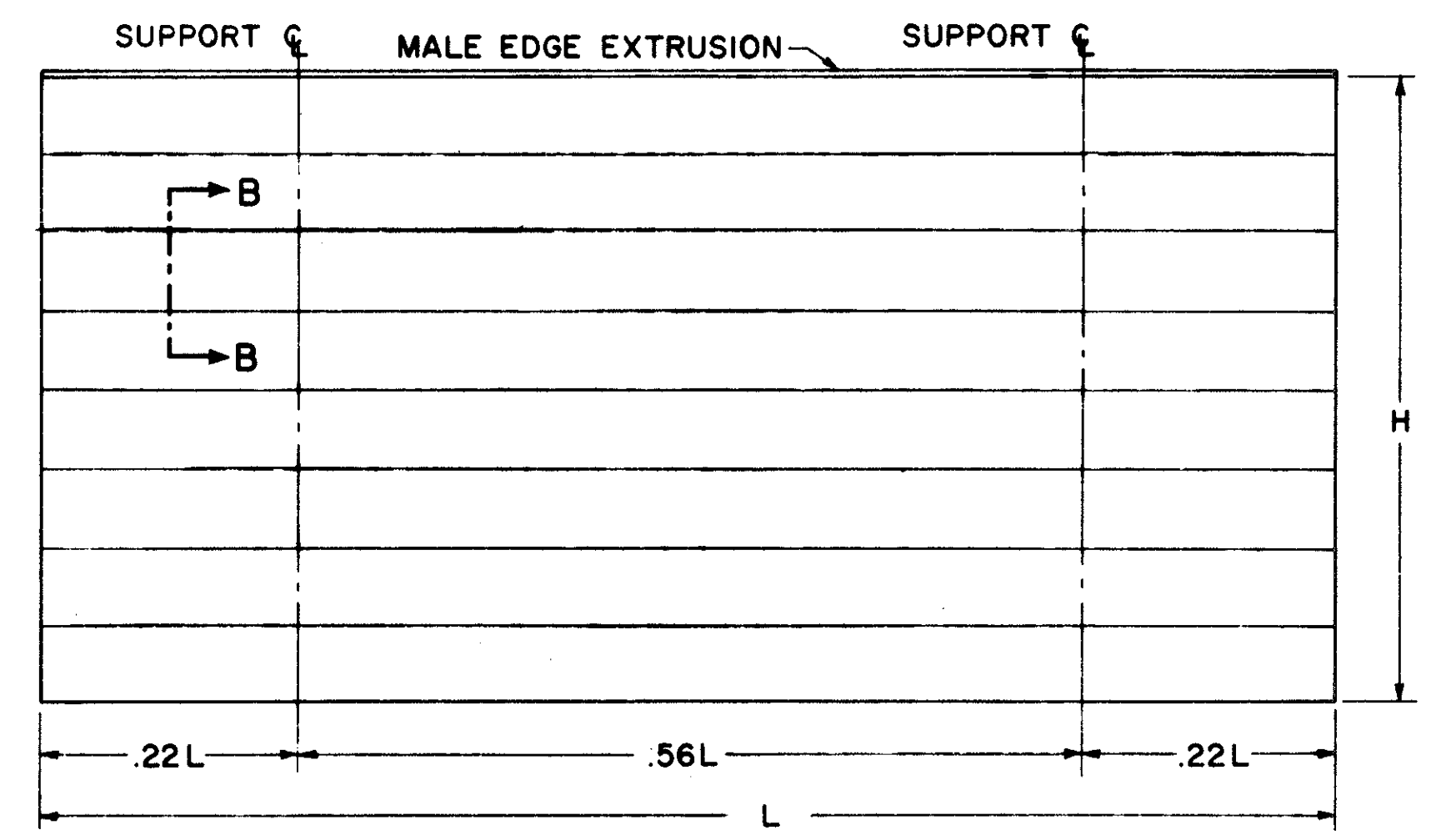


NOTES:

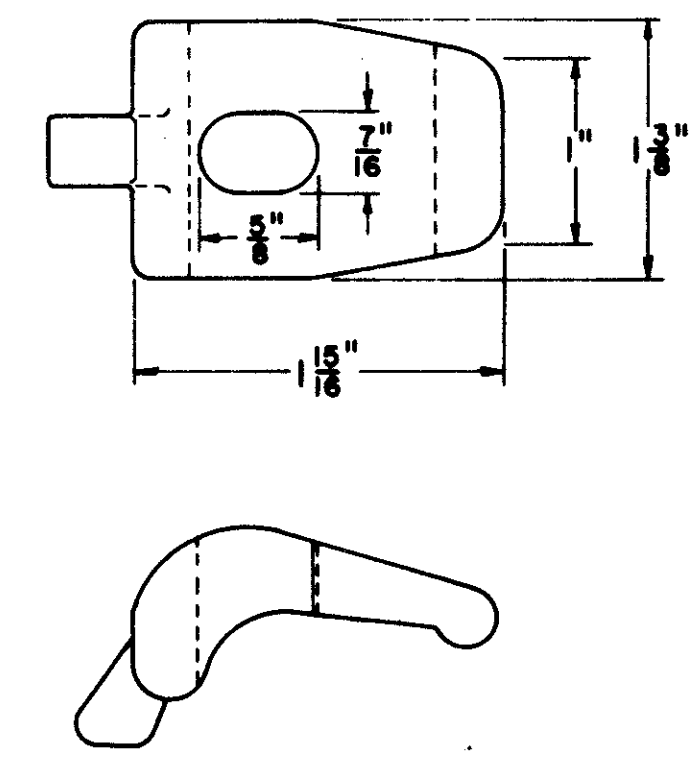
- EXTRUSHEET PANELS SHALL BE ALUMINUM; SPOT WELDING AND ALL MATERIALS SHALL CONFORM WITH SUPPLEMENTAL SPECIFICATION NO. 815
- COMBINATIONS OF 12", 18", AND 24" PANELS ARE USED TO ATTAIN REQUIRED SIGN HEIGHT.
- INDIVIDUAL PANELS SHALL BE THE SAME LENGTH AS THE HORIZONTAL LENGTH OF SIGN WITH NO SPLICES.
- PANELS SHALL BE INTERLOCKED AND ERECTED WITH THE MALE EXTRUSION LOCATED AT THE TOP EDGE OF THE SIGN.
- EXTRUSHEET PANELS SHALL BE FASTENED TO EACH VERTICAL SUPPORT MEMBER WITH MOUNTING CLIPS; ALTERNATELY AT EACH HORIZONTAL EXTRUSION; BOTH SIDES AT EACH JOINT AND ON BOTH SIDES AT TOP AND BOTTOM EDGE OF SIGN.
- THE PANELS SHALL BE DESIGNED TO WITHSTAND A WIND LOAD OF 35 POUNDS PER SQUARE FOOT, IN ACCORDANCE WITH THE A.A.S.H.O. SPECIFICATION FOR DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS.
- THE MAXIMUM SIGN LENGTH FOR TWO SUPPORTS IS 19'-0".
- THE MAXIMUM SIGN LENGTH FOR THREE SUPPORTS IS 29'-0".



GENERAL ARRANGEMENT



CLIP DETAIL



SPOT WELDS

PANEL SIZE	MAXIMUM SPOT WELD SPACING	
	CENTER TO CENTER	BETWEEN ROWS
12 INCH	4 INCH	10 INCH
18 & 24 INCH	4 INCH	8 INCH

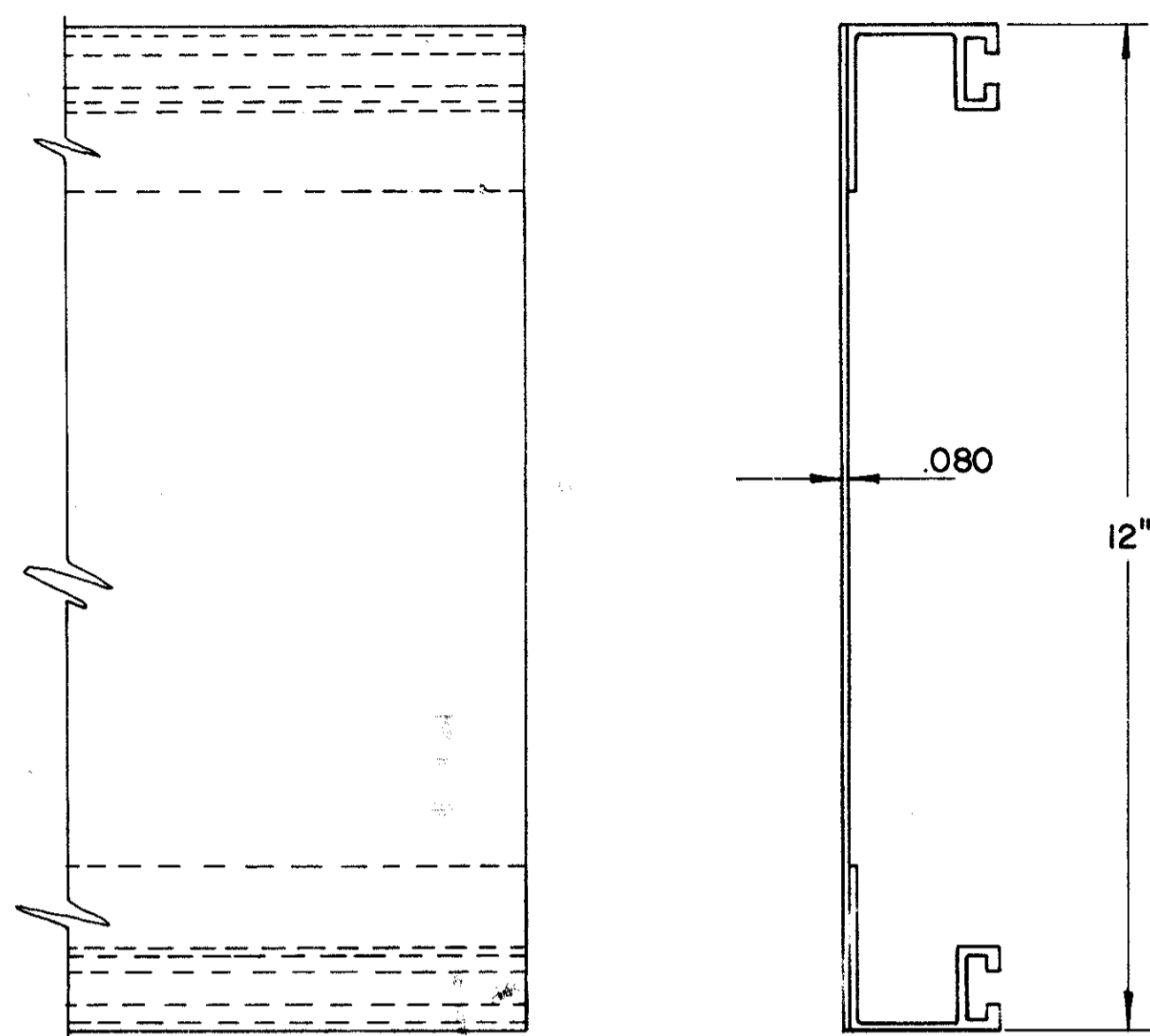
BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

ALUMINUM EXTRUSHEET PANEL SIGN

APPROVED *Fred C. Taylor*  
ENGINEER OF TRAFFIC

DATE  
9-28-63  
5-19-64  
10-21-65  
5-24-67

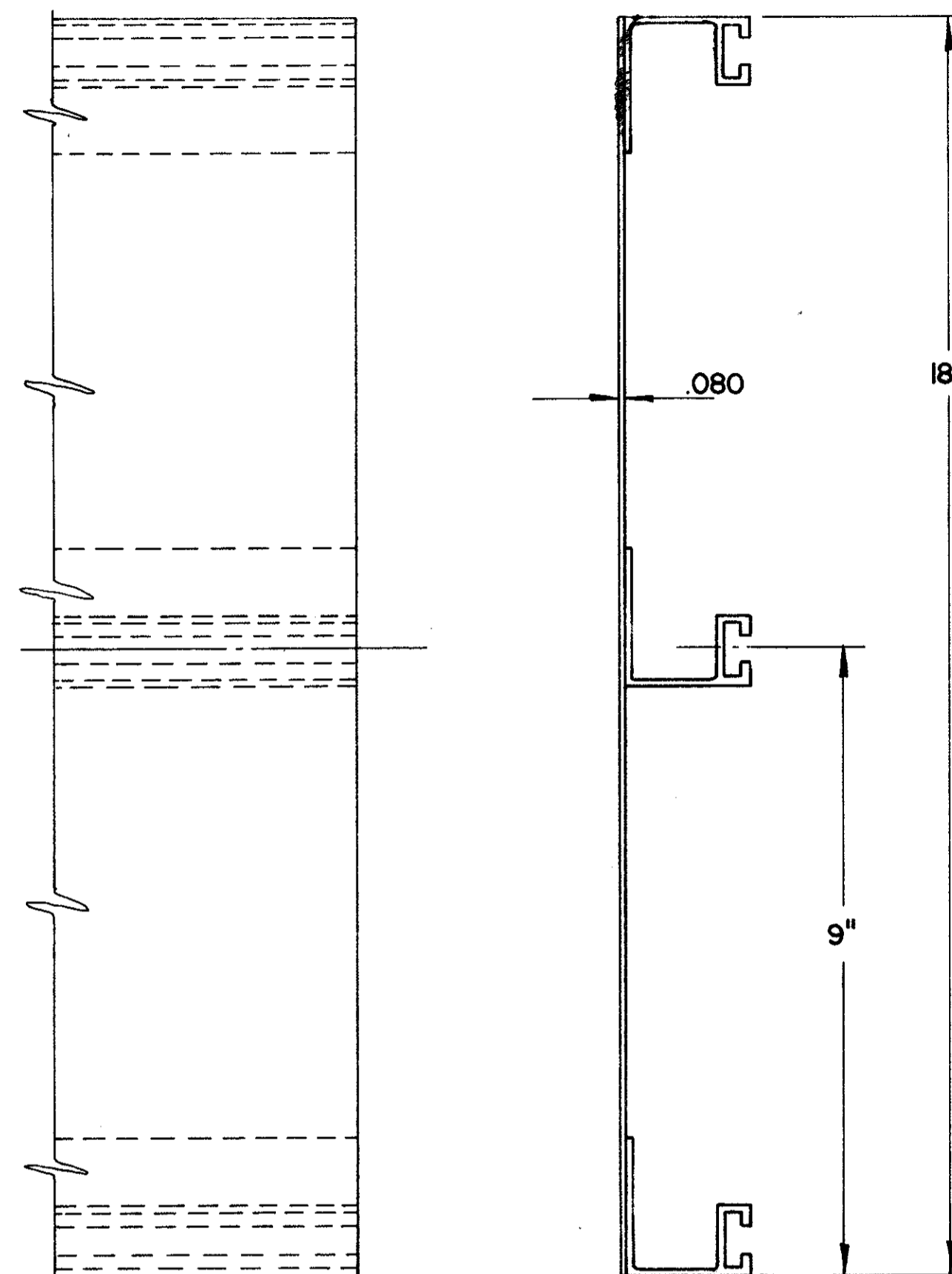
12" BOLTED-EXTRUSHEET PANEL



FRONT VIEW

SIDE VIEW

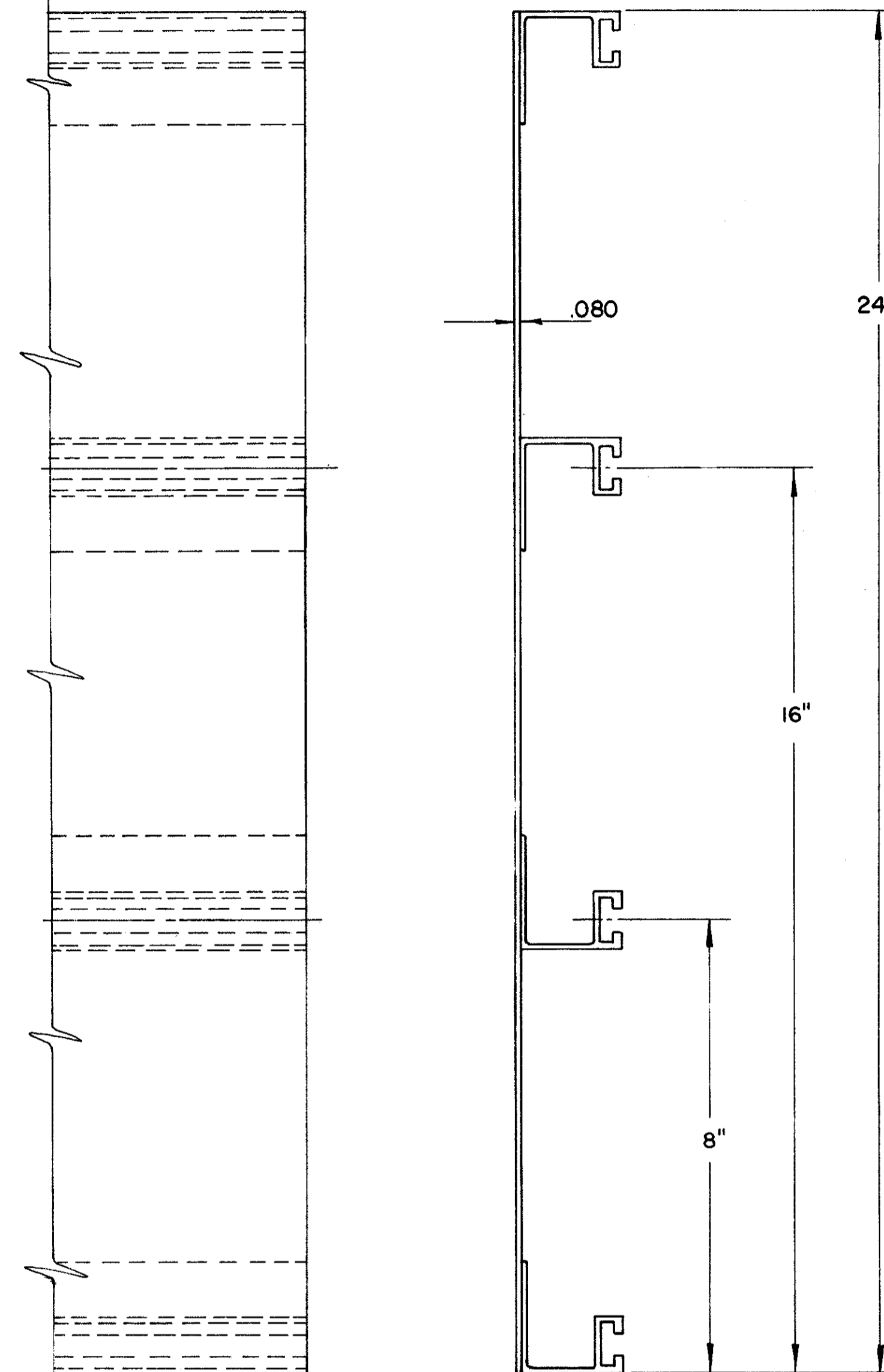
18" BOLTED-EXTRUSHEET PANEL



FRONT VIEW

SIDE VIEW

24" BOLTED-EXTRUSHEET PANEL



FRONT VIEW

SIDE VIEW

NOTES

EXTRU-SHEET PANELS SHALL BE ALUMINUM; SPOT WELDING, MATERIALS AND HARDWARE SHALL CONFORM WITH SPECIFICATION NO. 815

COMBINATIONS OF 12", 18" AND 24" PANELS ARE TO BE USED TO ATTAIN REQUIRED SIGN HEIGHT.

INDIVIDUAL PANELS SHALL BE THE SAME LENGTH AS THE HORIZONTAL LENGTH OF SIGN, WITH NO SPLICES.

THE PANELS SHALL BE ERECTED HORIZONTALLY AND BOLTED ON 24" CENTERS.

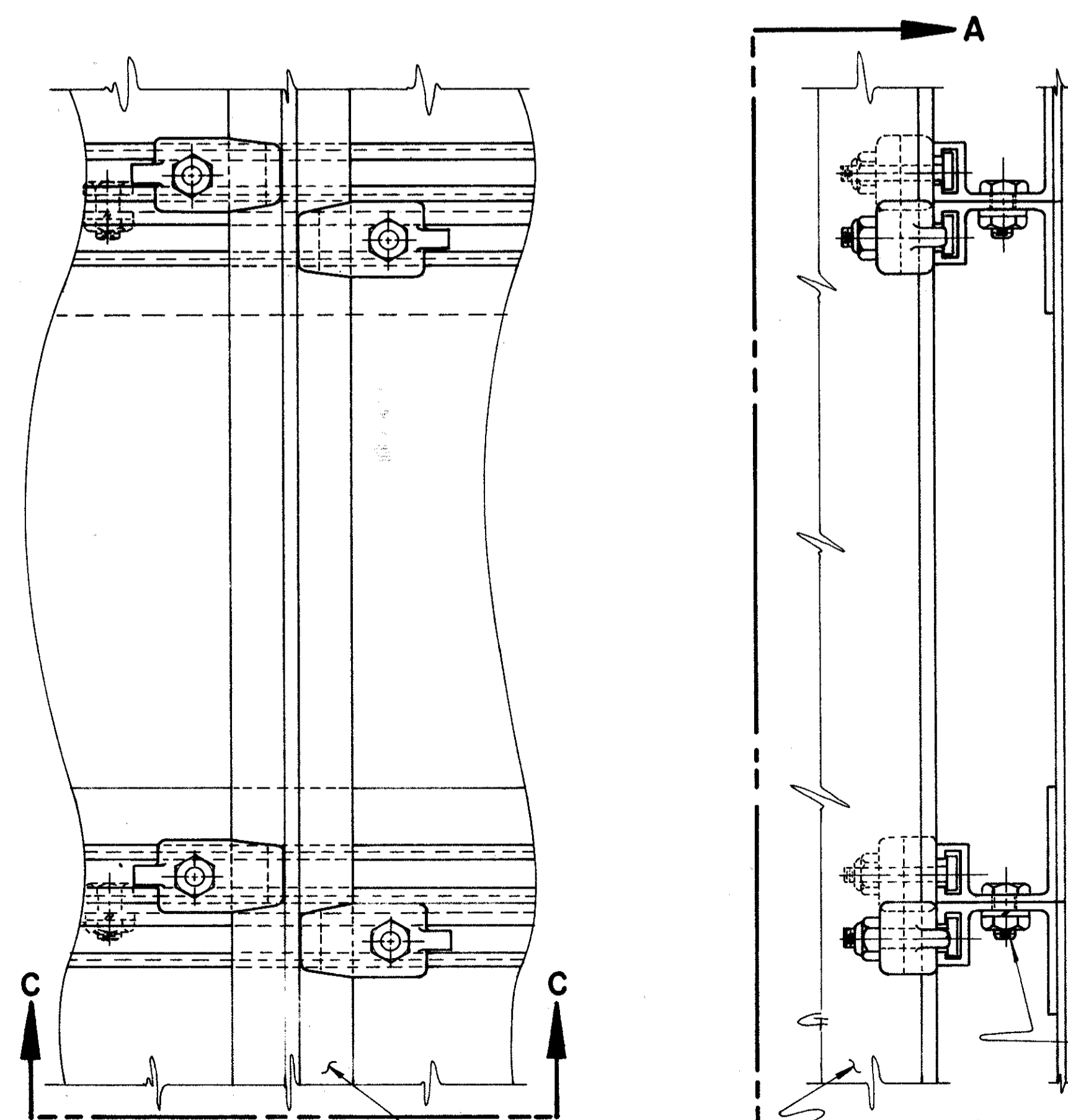
THE PANELS SHALL BE FASTENED TO EACH VERTICAL SUPPORT MEMBER WITH MOUNTING CLIPS; ALTERNATELY AT EACH HORIZONTAL EXTRUSION; BOTH SIDES AT EACH JOINT, AND BOTH SIDES AT TOP AND BOTTOM EDGES OF SIGN.

THE PANELS SHALL BE DESIGNED IN ACCORDANCE WITH THE A.A.S.H.O SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, BASE ON A WIND LOAD OF 35#/SQ.FT.

THE MAXIMUM SIGN LENGTH FOR TWO SUPPORTS IS 19'-0".  
THE MAXIMUM SIGN LENGTH FOR THREE SUPPORTS IS 29'-0".

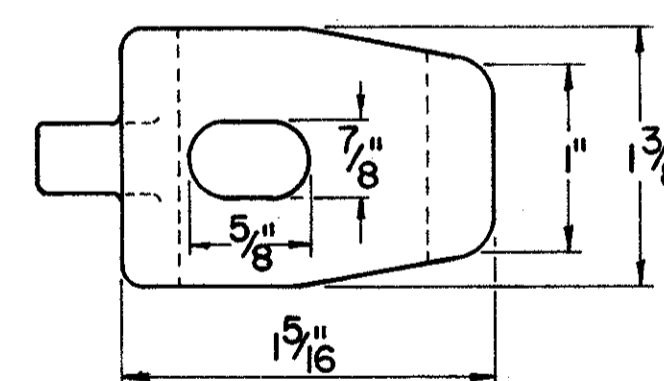
SPOT WELDS

PANEL SIZE	MAXIMUM SPOT WELD SPACING CENTER TO CENTER BETWEEN ROWS	
	4 INCH	10 INCH
12 INCH	4 INCH	10 INCH
18 & 24 INCH	4 INCH	8 INCH

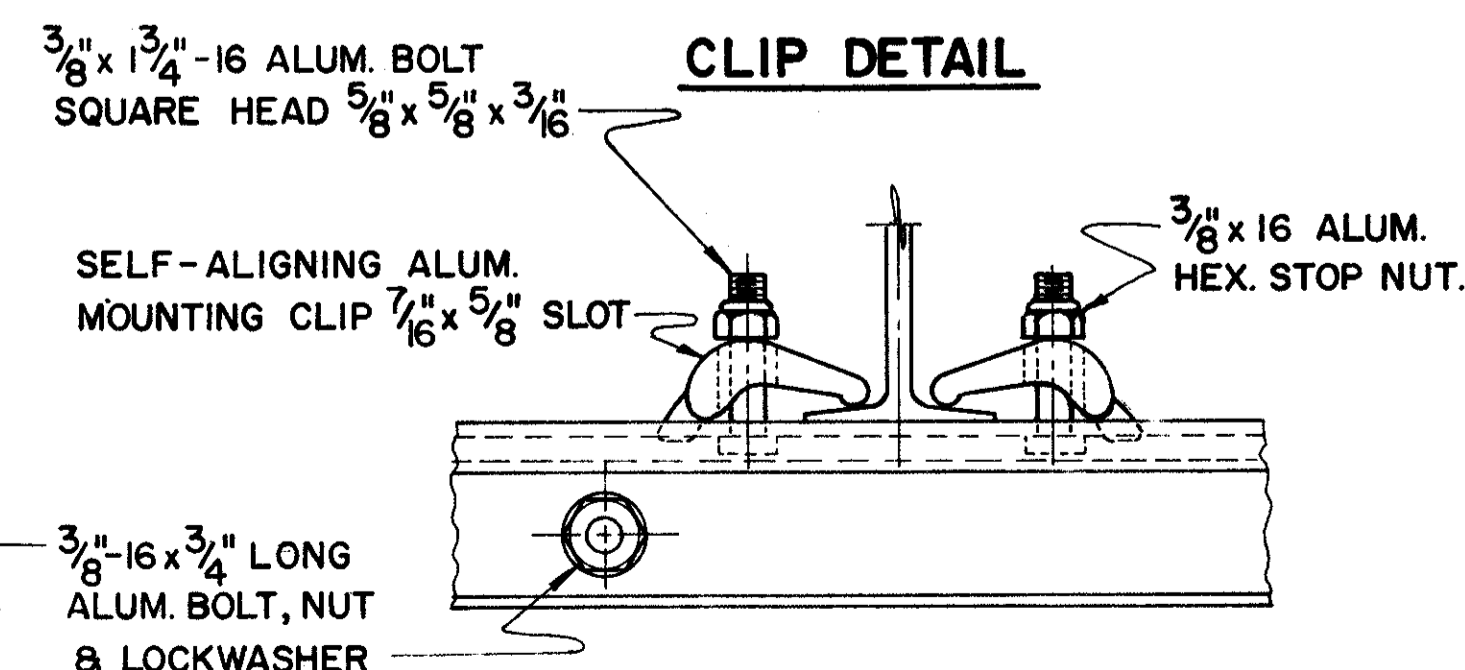


SECTION A-A

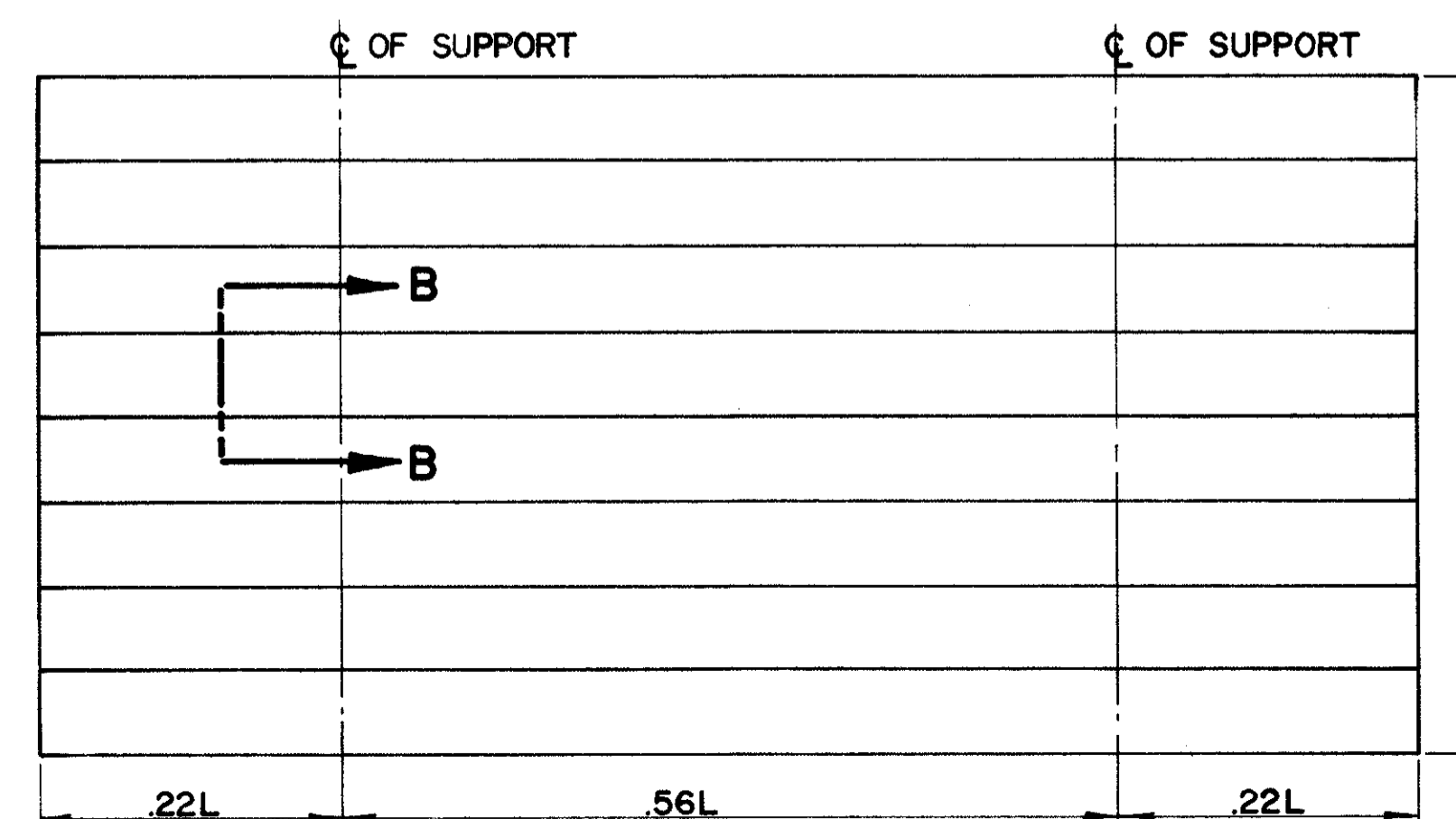
SECTION B-B



CLIP DETAIL



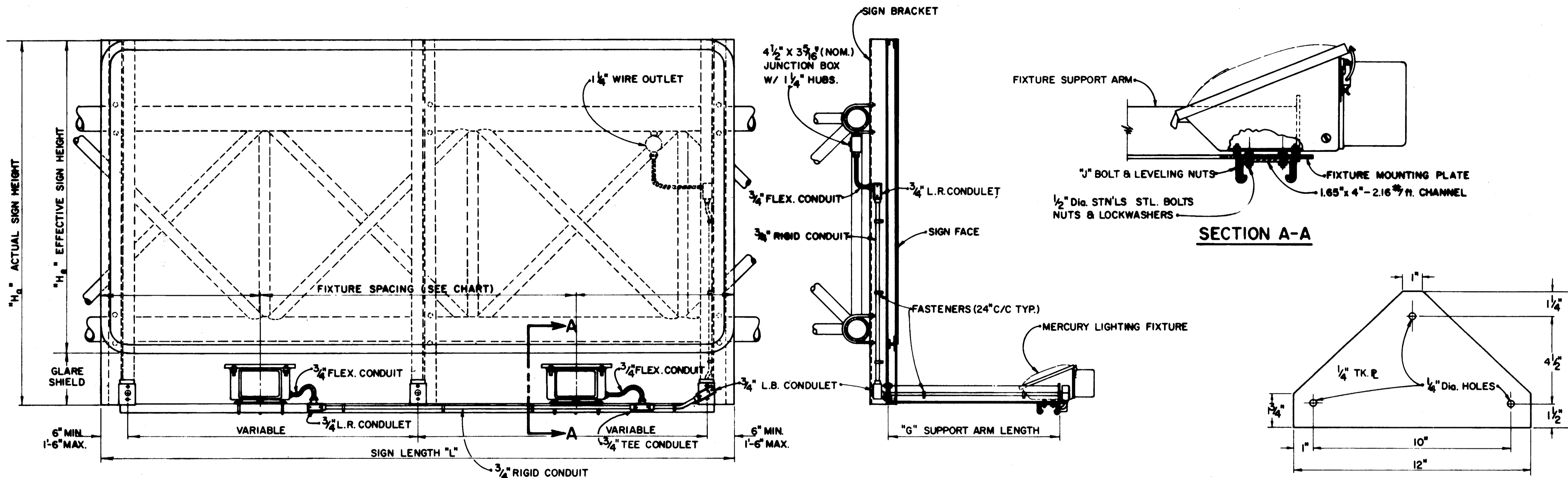
SECTION C-C



GENERAL ARRANGEMENT

BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS		
ALUMINUM BOLTED EXTRUSHEET PANEL SIGN	ECD 2	DATE 10-14-65
APPROVED <i>Fred C. Taylor</i> ENGINEER OF TRAFFIC		

ALUMINUM BOLTED-EXTRUSHEET PANEL SIGN

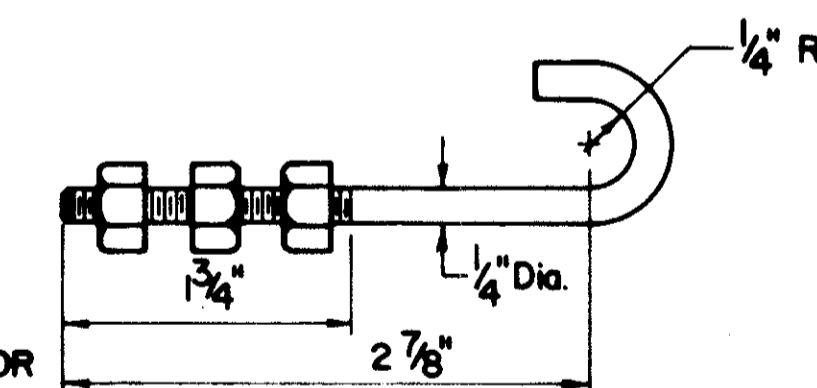


SIGN LENGTH $L$	NO. OF FIXTURES	LIGHT FIXTURE SPACING				SUPPORT ARM SPACING				NO. OF SIGN BRACKETS		
4'-0"	1	2'-0"	2'-0"			6"	36"	6"		2		
5'-0"	1	2'-6"	2'-6"			6"	48"	6"		2		
6'-0"	1	3'-0"	3'-0"			6"	60"	6"		2		
7'-0"	1	3'-6"	3'-6"			6"	72"	6"		2		
8'-0"	1	4'-0"	4'-0"			10 3/8"	75 3/8"	10 1/4"		2		
9'-0"	1	4'-6"	4'-6"			16 3/8"	75 3/8"	16 1/4"		2		
10'-0"	1	5'-0"	5'-0"			10 3/8"	99 3/8"	10 1/4"		2		
11'-0"	1	5'-6"	5'-6"			16 3/8"	99 3/8"	16 1/4"		2		
12'-0"	2	3'-0"	6'-0"	3'-0"		6"	66"	66"	6"	3		
13'-0"	2	3'-6"	6'-0"	3'-6"		6"	72"	72"	6"	3		
14'-0"	2	4'-0"	6'-0"	4'-0"		8 5/8"	75 3/8"	75 3/8"	8 5/8"	3		
15'-0"	2	4'-6"	6'-0"	4'-6"		14 5/8"	75 3/8"	75 3/8"	14 5/8"	3		
16'-0"	2	4'-0"	8'-0"	4'-0"		8 5/8"	75 3/8"	99 3/8"	8 5/8"	3		
17'-0"	2	4'-6"	8'-0"	4'-6"		14 5/8"	75 3/8"	99 3/8"	14 5/8"	3		
18'-0"	2	4'-0"	10'-0"	4'-0"		8 5/8"	99 3/8"	99 3/8"	8 5/8"	3		
19'-0"	2	4'-6"	10'-0"	4'-6"		14 5/8"	99 3/8"	99 3/8"	14 5/8"	3		
20'-0"	3	4'-0"	6'-0"	6'-0"	4'-0"	7"	75 3/8"	75 3/8"	75 3/8"	6 7/8"	4	
21'-0"	3	4'-6"	6'-0"	6'-0"	4'-6"	13"	75 3/8"	75 3/8"	75 3/8"	12 7/8"	4	
22'-0"	3	4'-0"	7'-0"	7'-0"	4'-0"	7"	75 3/8"	75 3/8"	99 3/8"	6 7/8"	4	
23'-0"	3	4'-6"	7'-0"	7'-0"	4'-6"	13"	75 3/8"	75 3/8"	99 3/8"	12 7/8"	4	
24'-0"	3	4'-0"	8'-0"	8'-0"	4'-0"	7"	75 3/8"	99 3/8"	99 3/8"	6 7/8"	4	
25'-0"	3	4'-6"	8'-0"	8'-0"	4'-6"	13"	75 3/8"	99 3/8"	99 3/8"	12 7/8"	4	
26'-0"	4	4'-0"	6'-0"	6'-0"	6'-0"	4'-0"	7"	99 3/8"	99 3/8"	99 3/8"	6 7/8"	4
27'-0"	4	4'-6"	6'-0"	6'-0"	6'-0"	4'-6"	13"	99 3/8"	99 3/8"	99 3/8"	12 7/8"	4

EFFECTIVE SIGN HEIGHT $H_e$	SUPPORT ARM LENGTH $G$	APPROX. AIMING ANGLE	LAMP WATTS	ANSI LAMP CODE	BALLAST TYPE
3'-0" to 5'-0"	2'-9"	0°	100	H38-4HT	CMRI-100-(a)
5'-1" to 6'-6"	3'-3"	0°	175	H39-22KB	CMRI-175-(a)
6'-7" to 10'-0"	4'-3"	2°	175	H39-22KB	CMRI-175-(a)
10'-1" to 13'-0"	5'-9"	8°	250	H37-5KB	CMRI-250-(a)
13'-1" to 15'-0"	7'-3"	8°	250	H37-5KB	CMRI-250-(a)

(a) = OPERATING VOLTAGE  
(120V, 208V, 240V, 277V, OR 480V.)

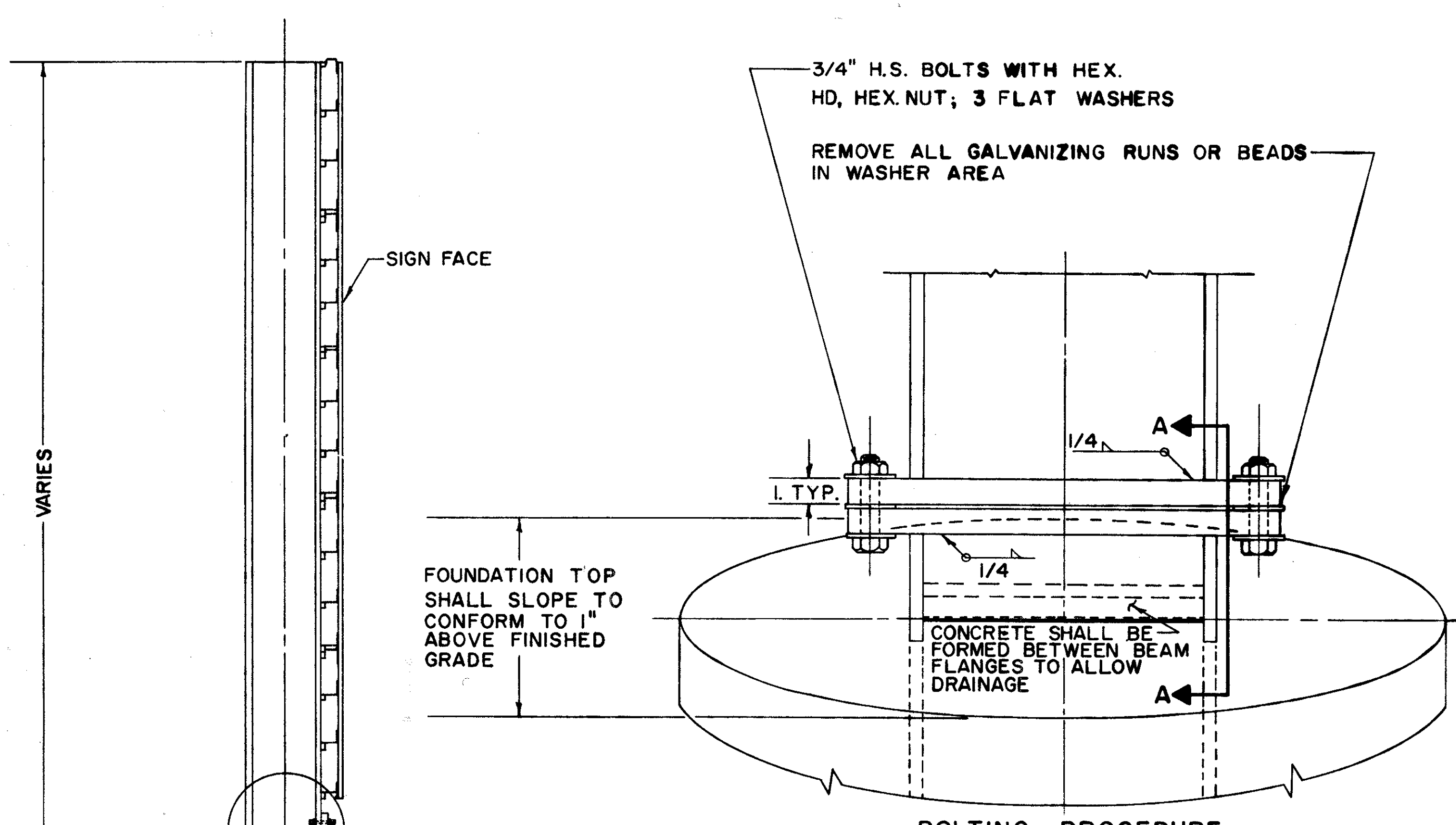
FIXTURE MOUNTING PLATE  
(ALUMINUM)



"J" BOLT  
(STAINLESS STEEL BOLT, NUTS & LOCKWASHERS)

BUREAU OF DESIGN SERVICES OHIO DEPARTMENT OF HIGHWAYS	
MERCURY VAPOR SIGN LIGHTING DETAILS	DATE 4-13-72
STANDARD CONSTRUCTION DRAWING	
APPROVED _____	ENGINEER OF DESIGN SERVICES

CUYAHOGA COUNTY  
CUY-90-11.64

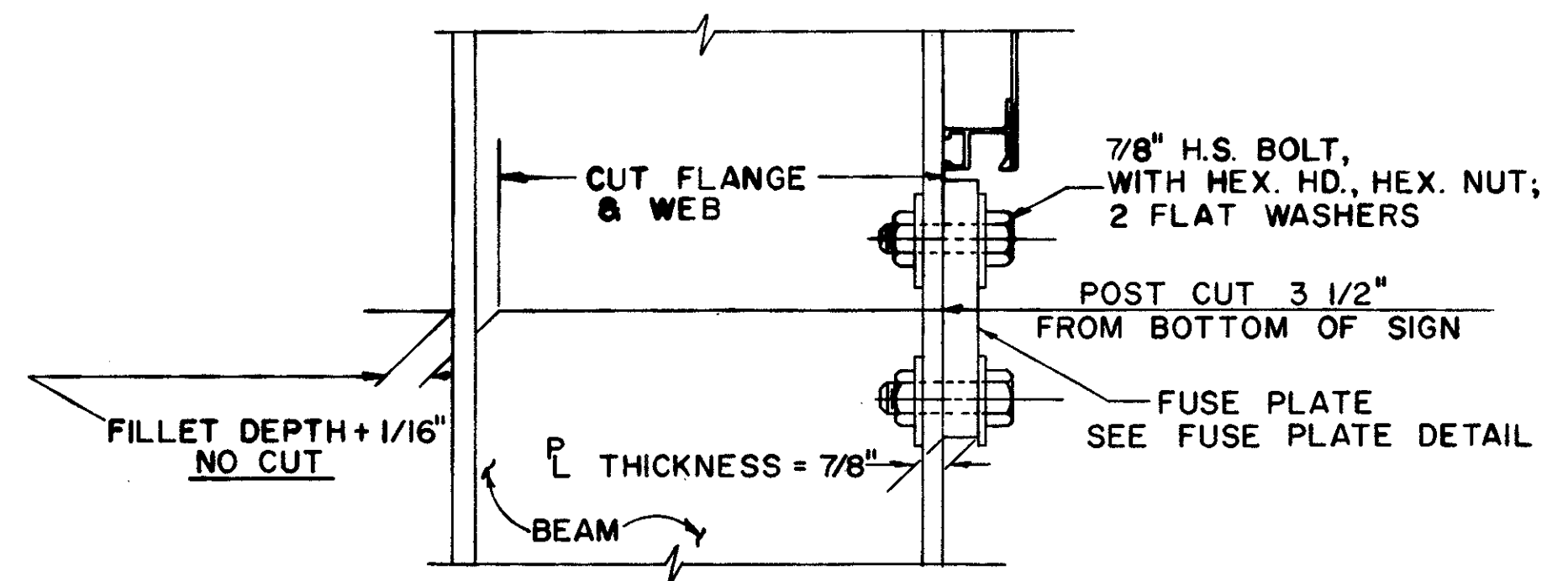


**BOLTING PROCEDURE**

1. ASSEMBLE POST TO STUB W/BOLTS & ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES.
2. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE W/1/2" TO 15" WRENCH TO BED & TO CLEAN BOLT THREADS. LOOSEN EACH BOLT IN TURN & RETIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE OF 750 IN. LBS.
3. BURR THREADS AT JUNCTION W/NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE: TIGHTEN THE H.S. BOLTS IN THE BASE CONNECTION ONLY TO GIVEN TORQUE DO NOT OVER TIGHTEN

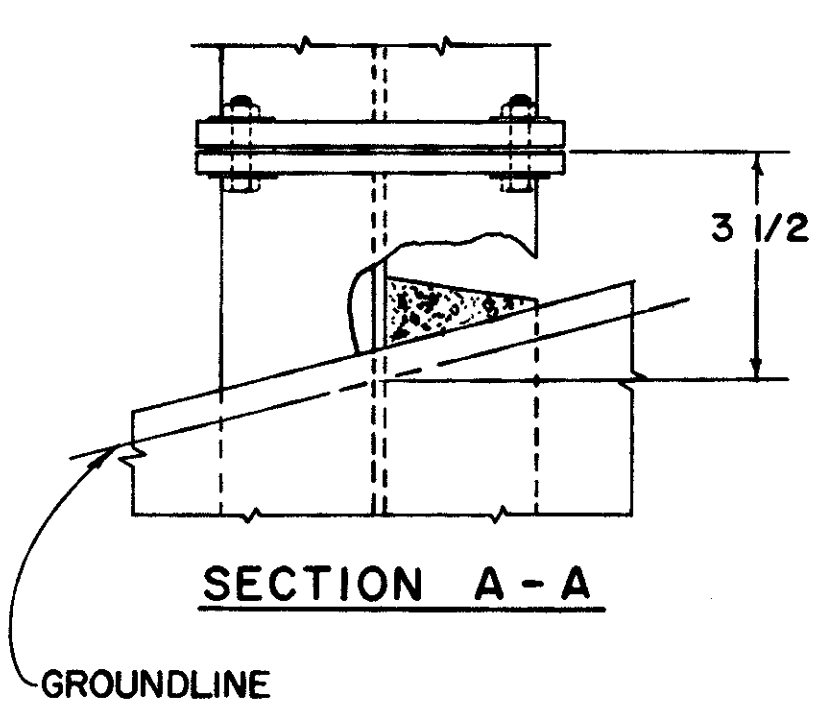
VIEW "A" ROTATED 180°



FABRICATOR NOTE: ALL FRICTION FUSE BOLTS SHALL BE TIGHTENED IN THE SHOP FOLLOWING A METHOD APPROVED BY THE ENGINEER. TIGHTENING SHALL BE TO SUCH A DEGREE AS TO OBTAIN MINIMUM RESIDUAL TENSION IN EACH BOLT OF 36,050 LBS.

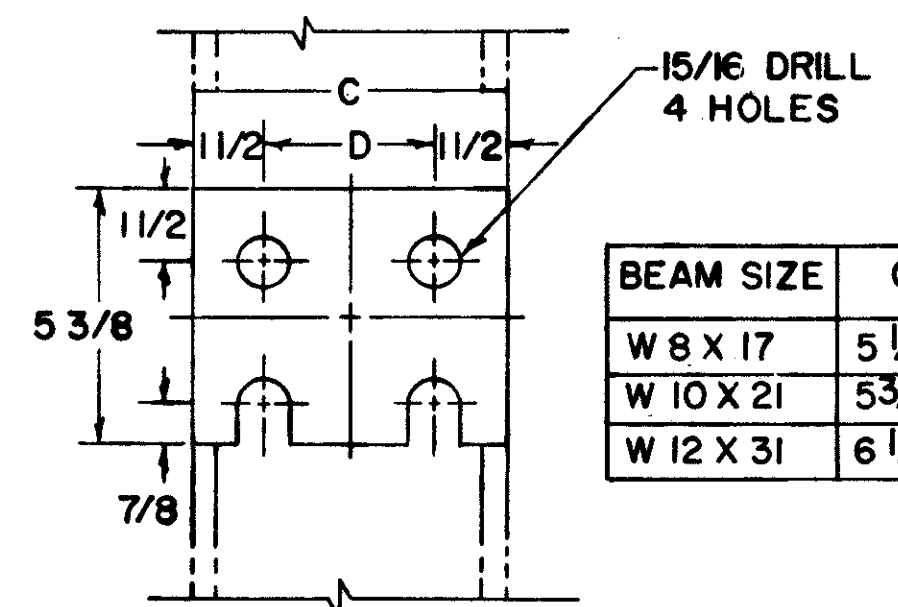
NOTE: INSTALL FUSE PLATE WITH NOTCHES TOWARD BASE

DETAIL "B"



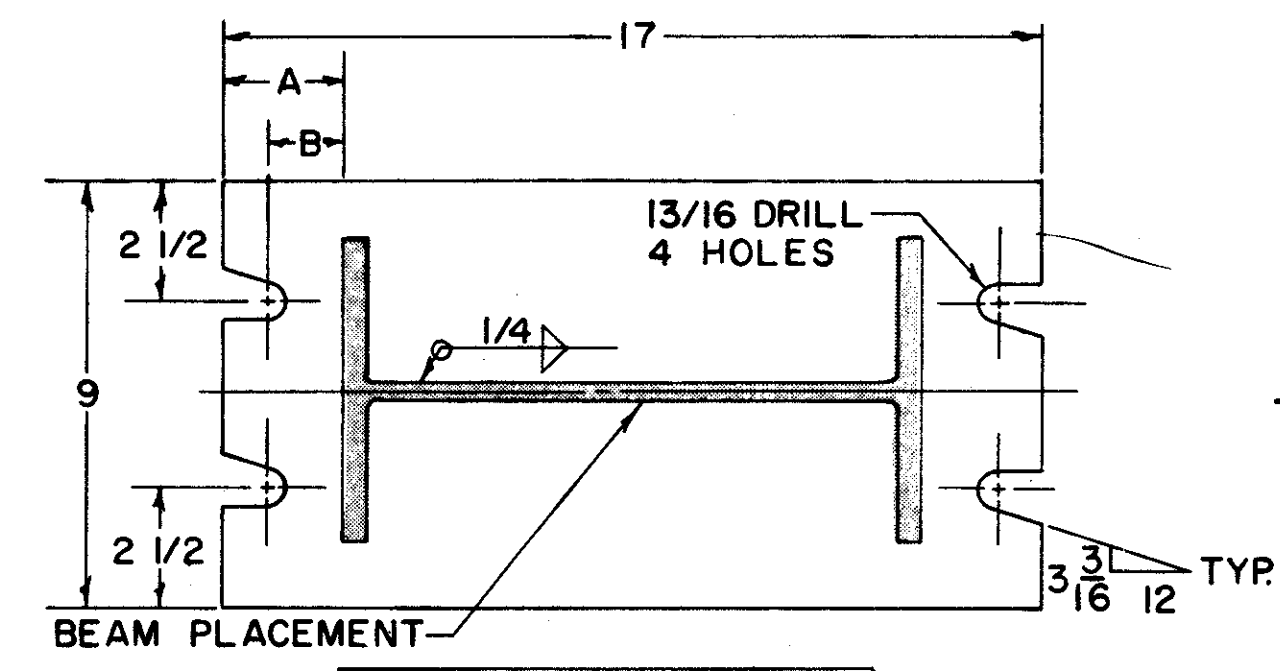
SECTION A - A

GROUNDLINE



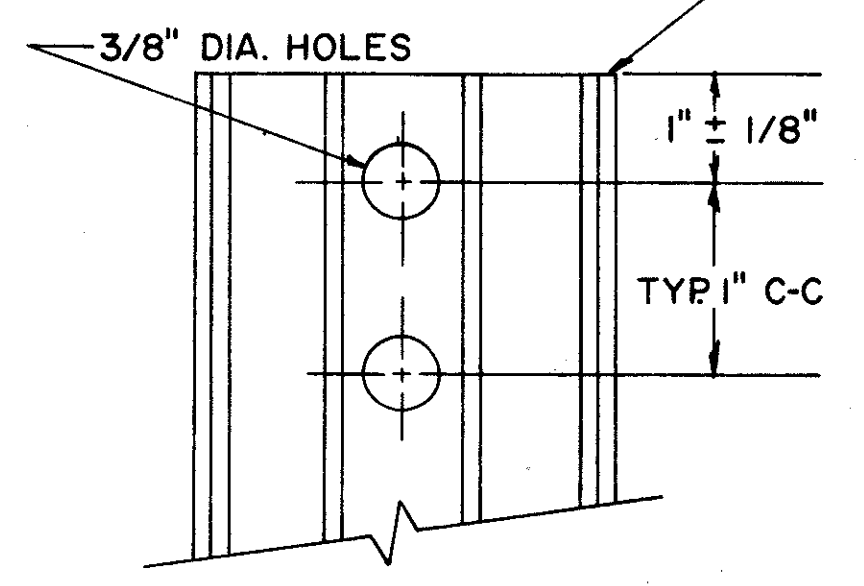
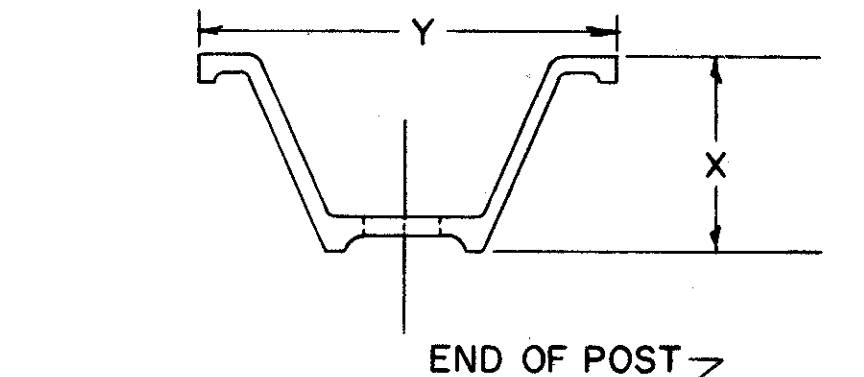
BEAM SIZE	C	D
W 8 X 17	5 1/4"	2 1/4"
W 10 X 21	5 3/4"	2 3/4"
W 12 X 31	6 1/2"	3 1/2"

FUSE PLATE DETAIL



BEAM SIZE	A	B
W 8 X 17	4 1/2"	3 5/8"
W 10 X 21	3 1/2"	2 5/8"
W 12 X 31	2 1/2"	1 5/8"

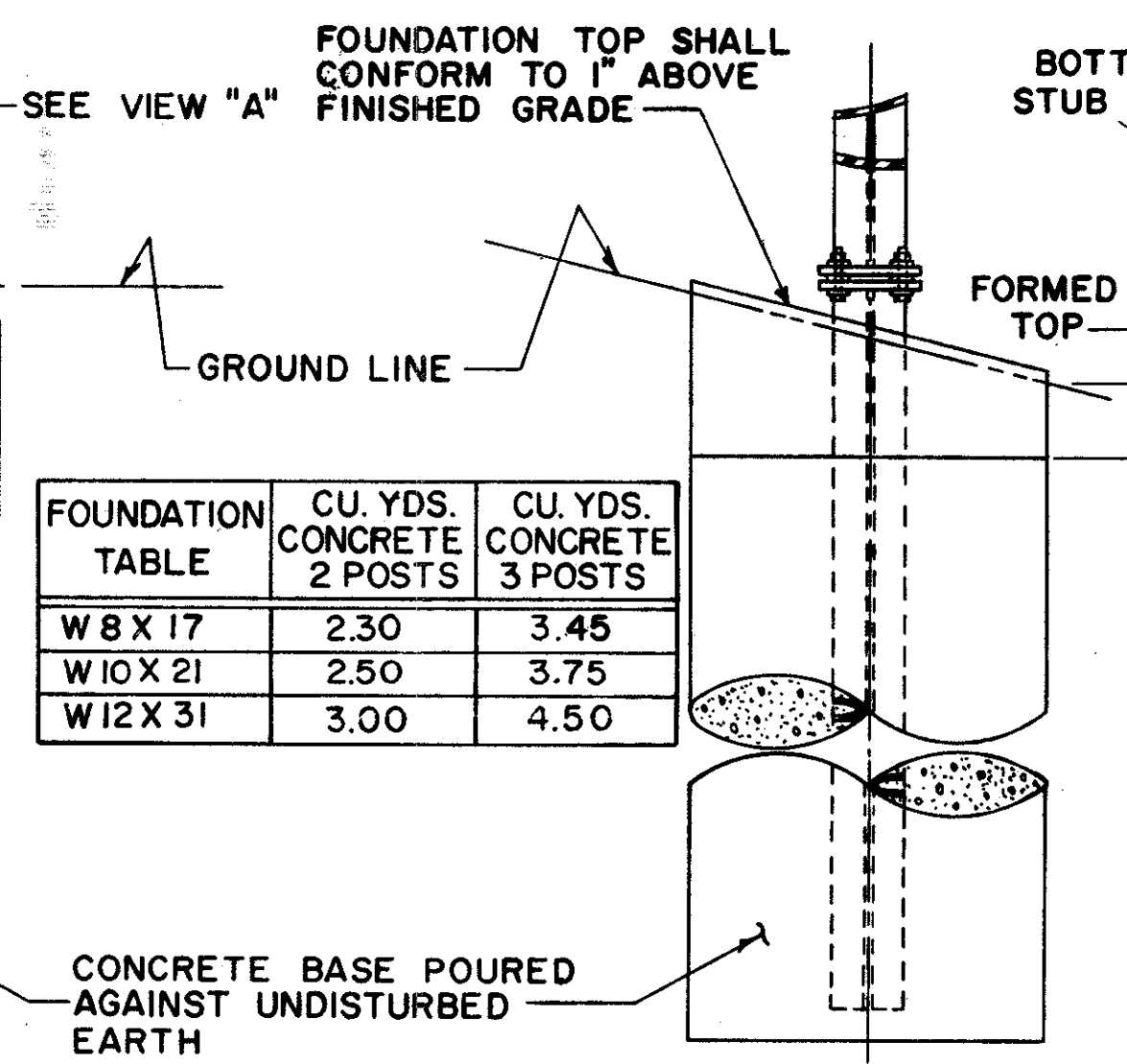
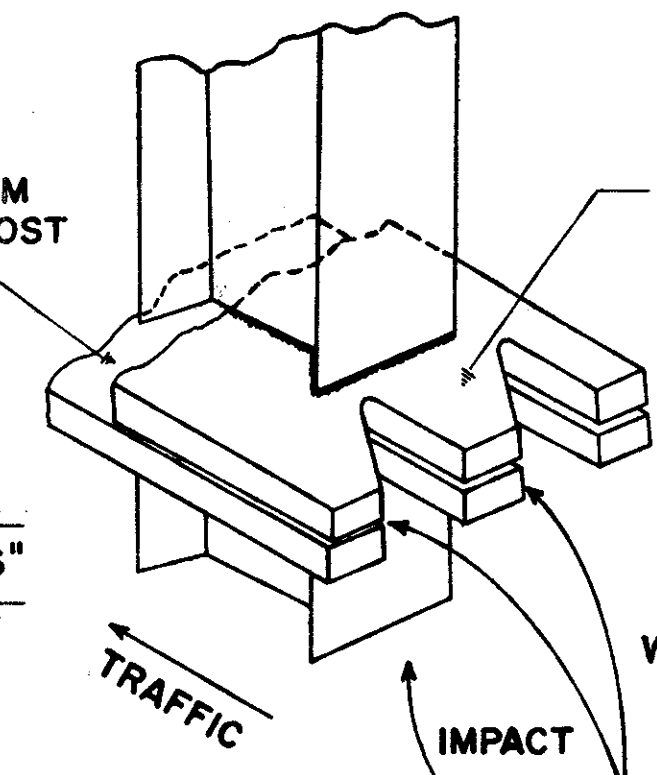
BASE PLATE DETAIL  
(TOP VIEW)



WEIGHT PER FOOT	X ± 3/32"	Y ± 1/8"
2.00 #	1 15/32"	3 1/16"
3.00 #	1 7/8"	3 1/2"
4.00 #	2"	3 5/8"

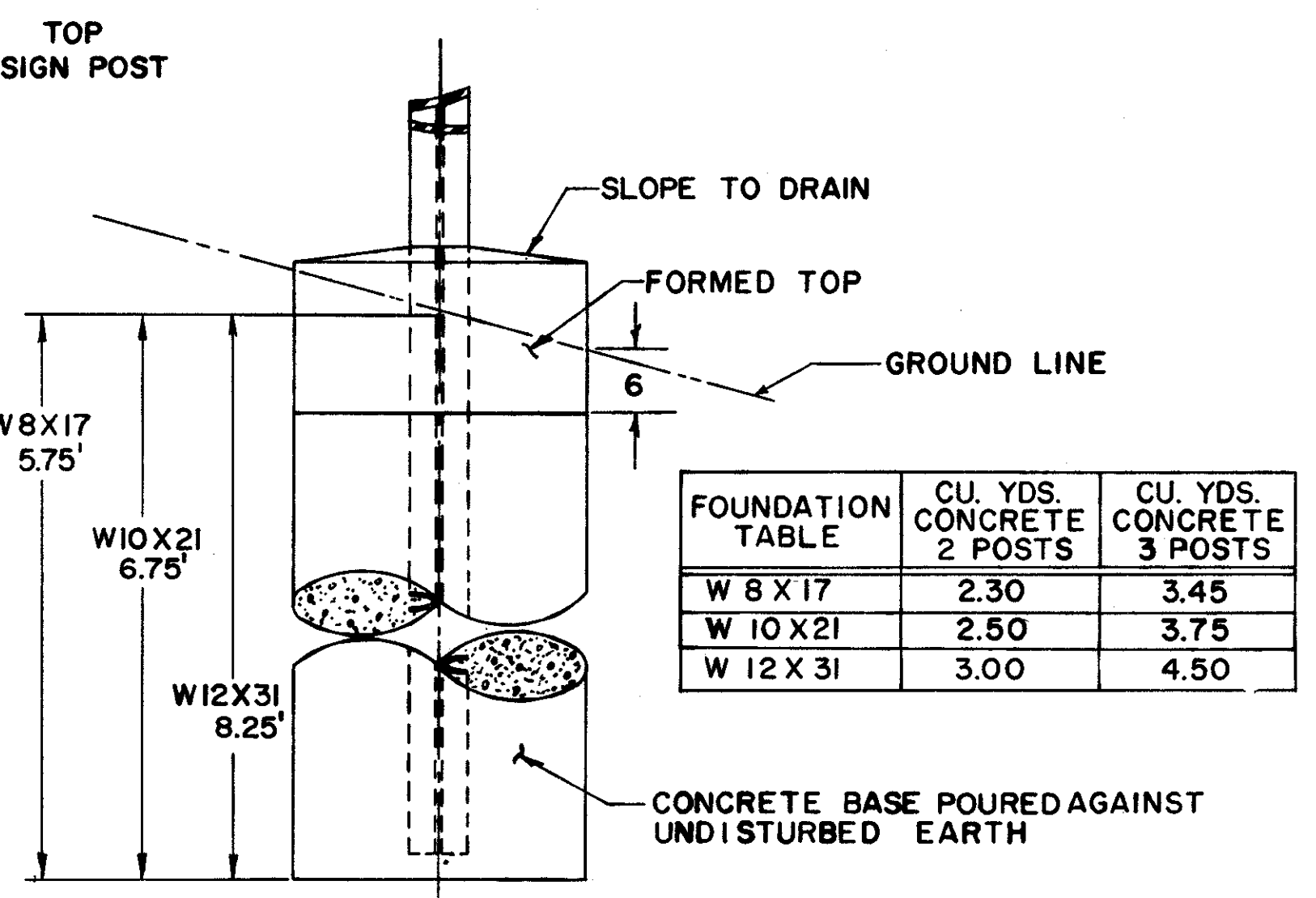
DRIVE POST DETAIL

BREAKAWAY SIGN SUPPORT  
BASE PLATE ORIENTATION



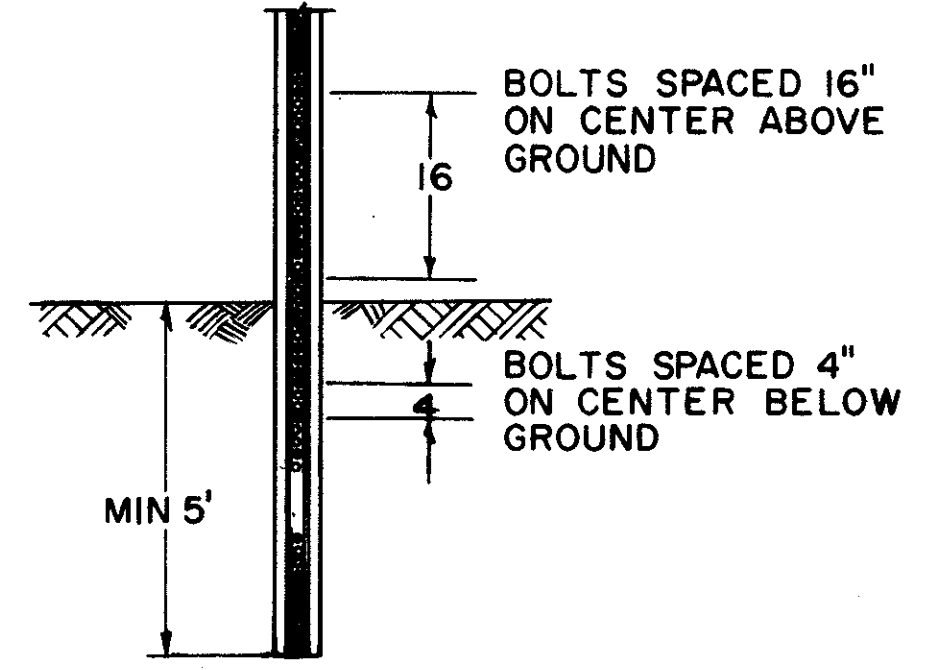
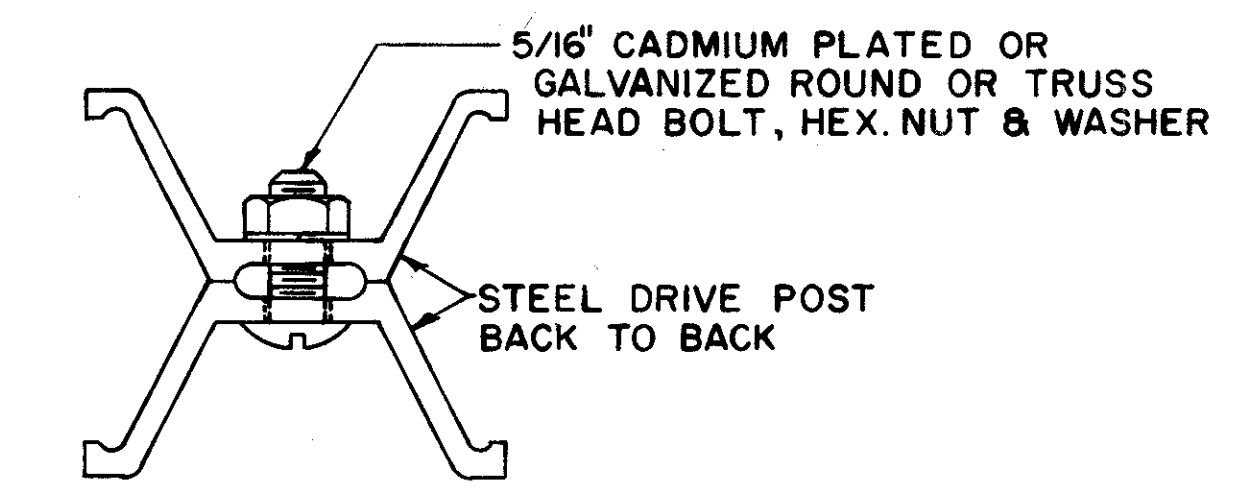
FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
W 8 X 17	2.30	3.45
W 10 X 21	2.50	3.75
W 12 X 31	3.00	4.50

FRONT ELEVATION  
BREAK-AWAY SUPPORT



FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
W 8 X 17	2.30	3.45
W 10 X 21	2.50	3.75
W 12 X 31	3.00	4.50

FRONT ELEVATION  
STANDARD SUPPORT



6# BEAM DETAIL

NOTES: ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO, CONSTRUCTION & MATERIALS SPECIFICATIONS OR AS OTHERWISE SPECIFIED

- 1) 511 FOUNDATIONS
- 2) 711.01 STRUCTURAL STEEL SHAPES & PLATES
- 3) 711.09 H.S. STEEL BOLTS, NUTS & WASHERS

ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SHOWN

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

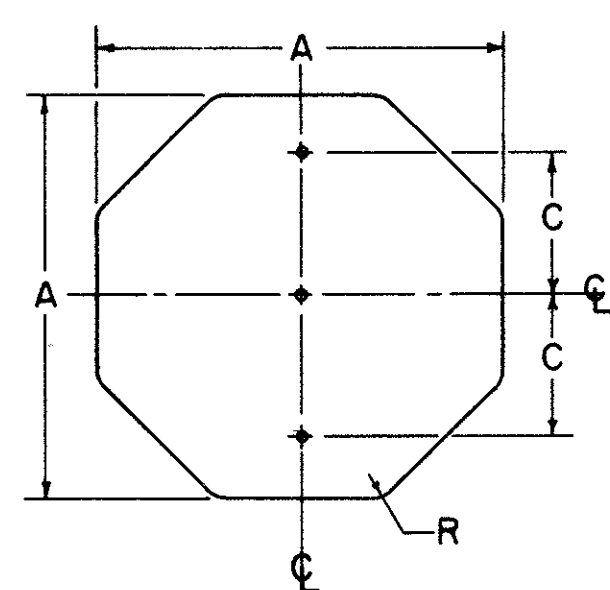
GROUND MOUNTED  
SIGN SUPPORTS

GMSS

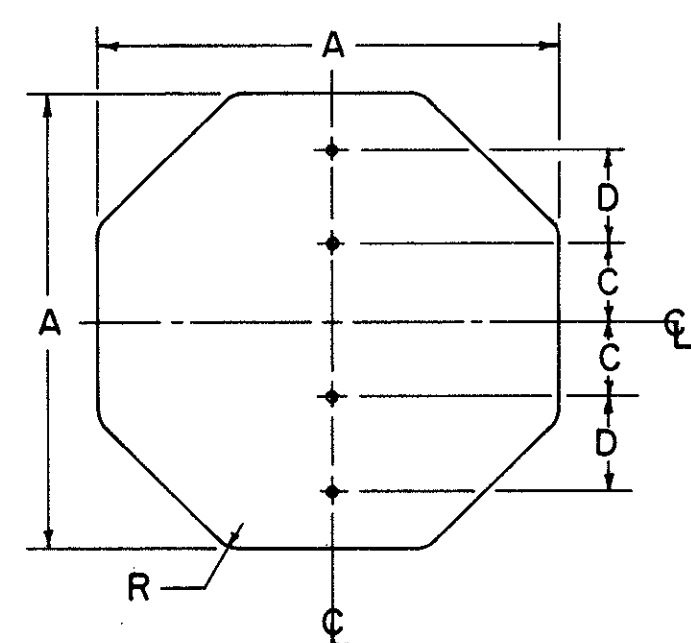
APPROVED \_\_\_\_\_  
ENGINEER OF TRAFFIC

DATE  
5-10-68  
7-12-68  
5-23-69  
9-16-69  
12-20-71

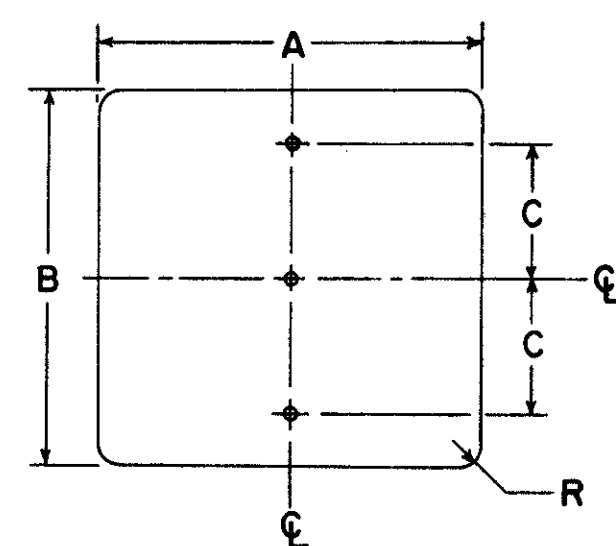
STRUCTURAL SUPPORTS



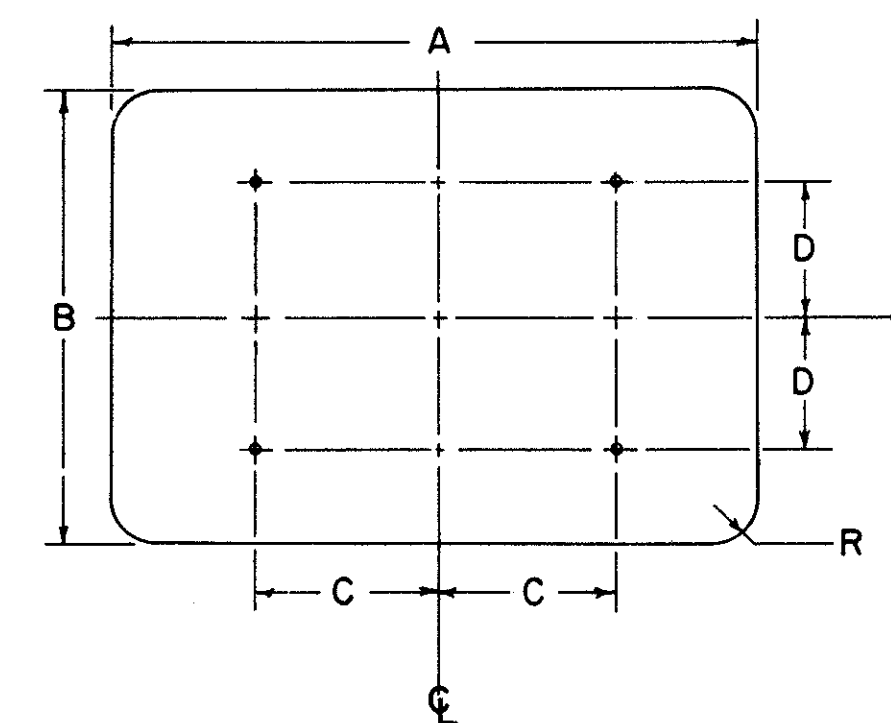
A	C	R	GAUGE
30	8	1 1/2	.080
36	8	1 1/2	.080



A	C	D	R	GAUGE
48	8	10	1 1/2	.100

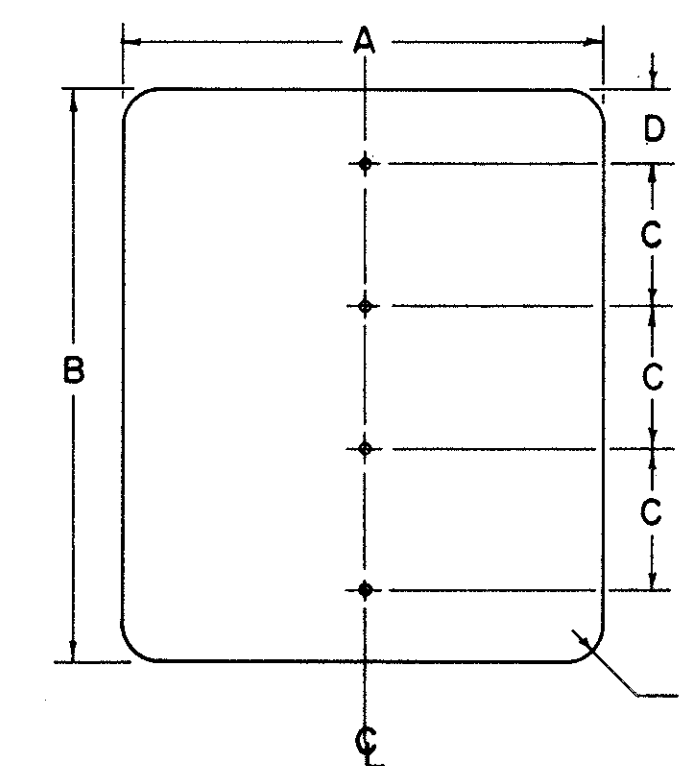


A	B	C	R	GAUGE
24	30	8	1 1/2	.063
24	48	15	1 1/2	.100
30	36	11	1 1/2	.080
30	42	12	1 1/2	.080
36	36	11	1 1/2	.080
36	42	15	1 1/2	.080
36	48	15	1 1/2	.080
48	24	10	3	.100
48	36	13	3	.100

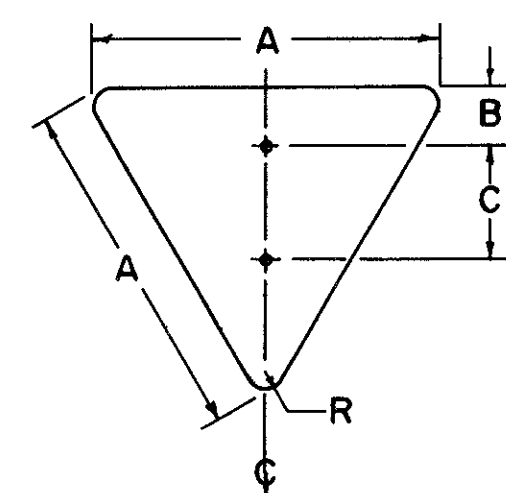


A	B	C	D	R	GAUGE
48	48	22	16	3	.100
48	60	22	22	3	.100

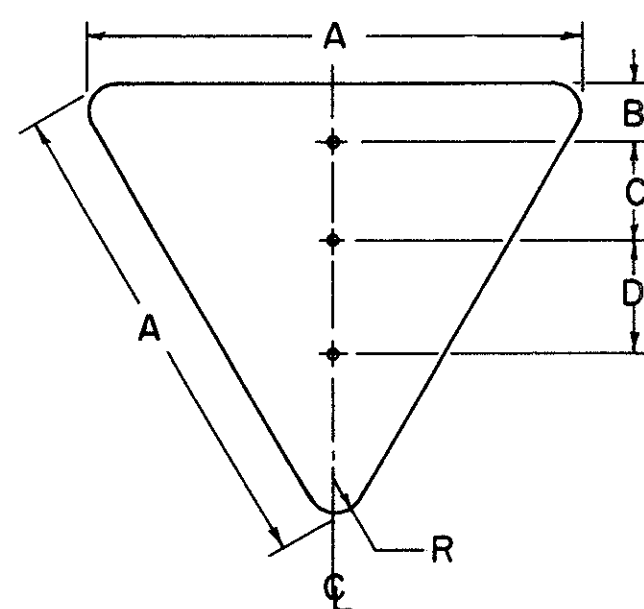
SPEED LIMIT SIGNS ON TWO SUPPORTS



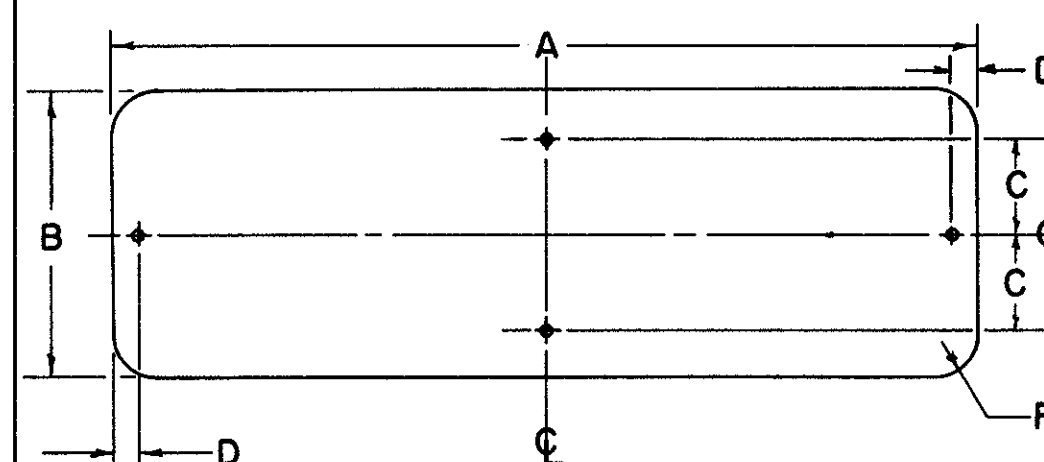
A	B	C	D	R	GAUGE
48	48	12	6	3	.100
48	60	15	7 1/2	3	.100



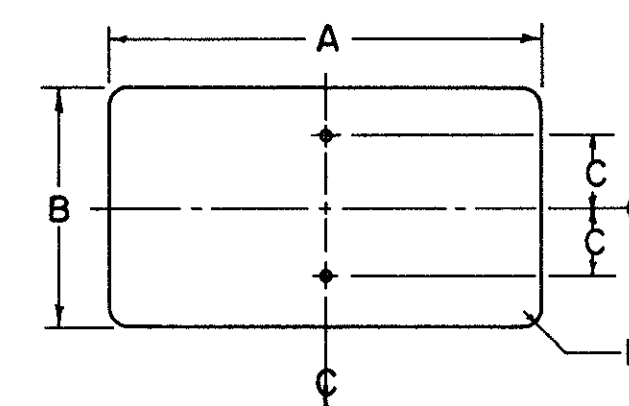
A	B	C	R	GAUGE
36	3	16	2 1/2	.080



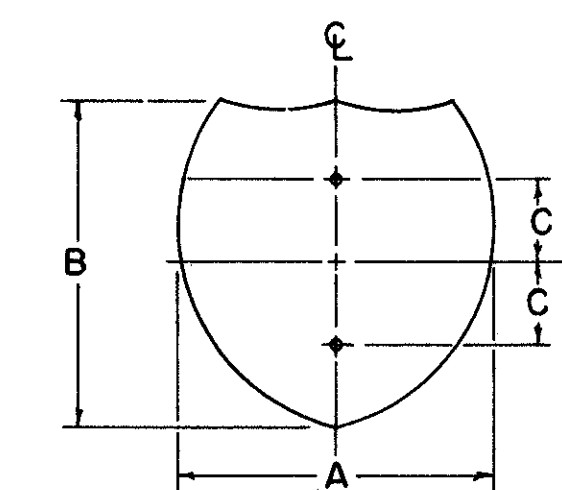
A	B	C	D	R	GAUGE
48	4	10	15	3	.100
60	5	10	15	4	.100



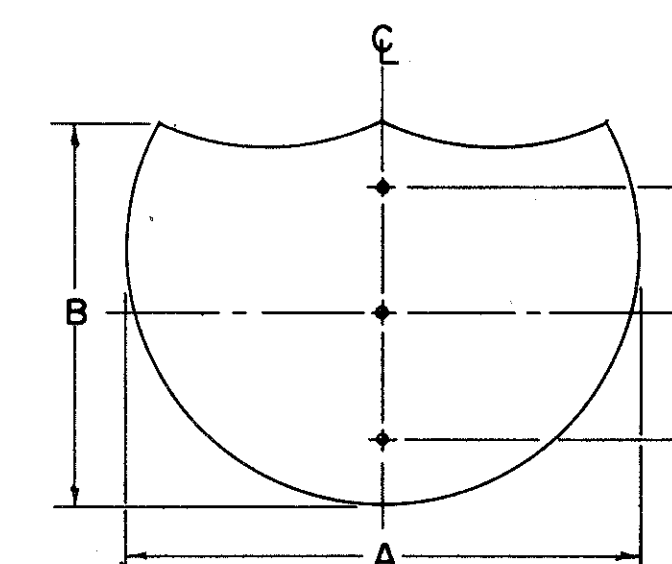
A	B	C	D	R	GAUGE
36	12	4	1	1 1/2	.080
72	12	-	16	1 1/2	.100
60	12	-	13	1 1/2	.100



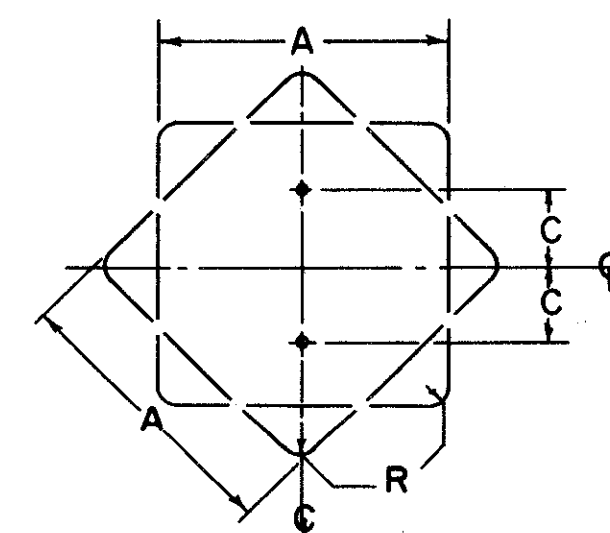
A	B	C	R	GAUGE
12	6	1 1/2	1 1/2	.063
20	15	6	1 1/2	.063
24	12	4 1/2	1 1/2	.063
24	18	7 1/2	1 1/2	.063
8	26	8	1	.063
36	18	7 1/2	1 1/2	.080



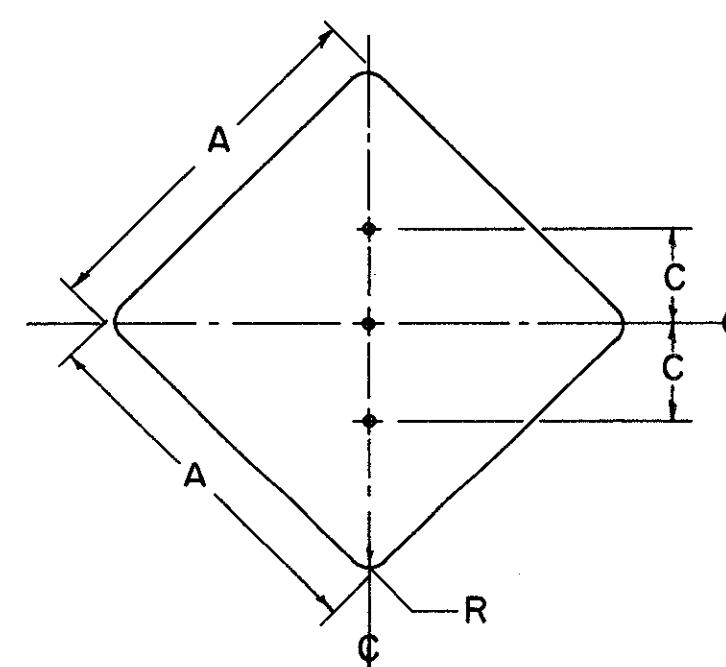
A	B	C	GAUGE
24	24	8	.063
30	24	8	.080



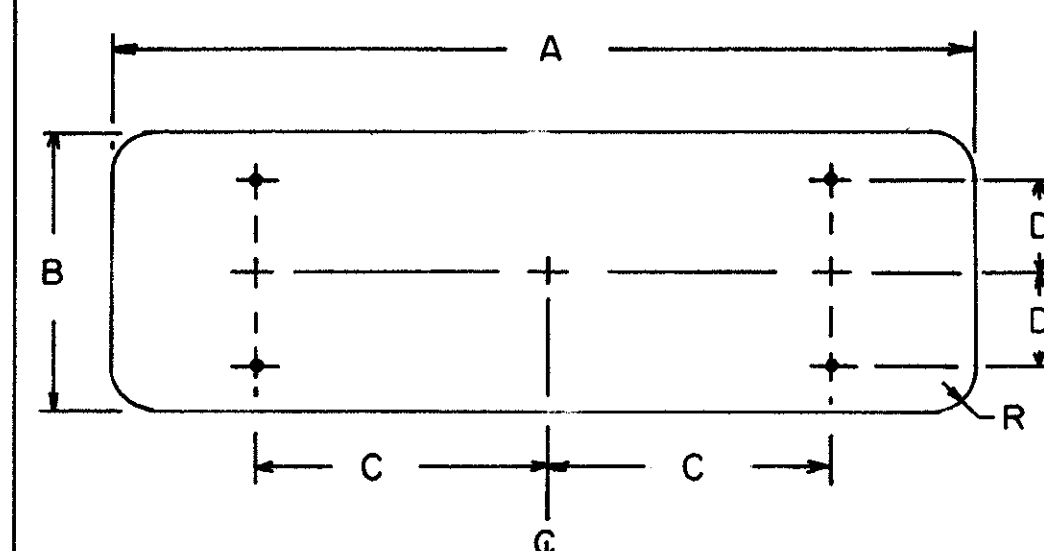
A	B	C	GAUGE
36	36	11	.080
48	36	11	.100



A	C	R	GAUGE
18	7 1/2	1 1/2	.063
24	8	1 1/2	.063
30	8	1 1/2	.080

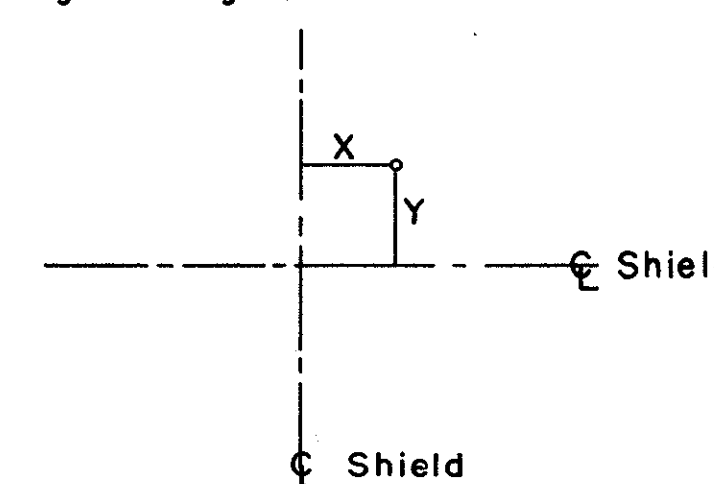


A	C	R	GAUGE
36	12	1 1/2	.080
48	14	3	.100



A	B	C	D	R	GAUGE
72	18	20	6	1 1/2	.100
72	24	20	8	1 1/2	.100
60	30	17	10	1 1/2	.100
96	18	27	6	1 1/2	.100

Location of holes on "Demountable Shields" (attached to guide signs)



SIZE	NO. HOLES	X	Y
(26) 24X24	4	7	7
30X24	4	8	8
(39) 36X36	4	10	10
		0	10
48X36	6	15	10

For notes on fastening see drawing for miscellaneous "Signing Items" sheet.

NOTES:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

MATERIAL

FLAT SIGN BLANKS SHALL BE FURNISHED IN ALUMINUM ALLOY 6061-T6, (ASTM-B209, GS11A-T6) WITH MILL FINISH.

BOLT HOLES

THE BOLT HOLES SHALL BE 3/8" IN DIAMETER, AND MAY BE DRILLED, BLANKED OR PUNCHED TO FINISHED SIZE.

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

SIGN BLANK  
DETAILS

SBD

APPROVED \_\_\_\_\_  
ENGINEER OF TRAFFIC

DATE  
4-14-68  
5-10-68  
10-1-68  
5-27-69  
6-18-69

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-90-1(38)21	

560  
838

CUYAHOGA COUNTY  
CUY-90-11.64

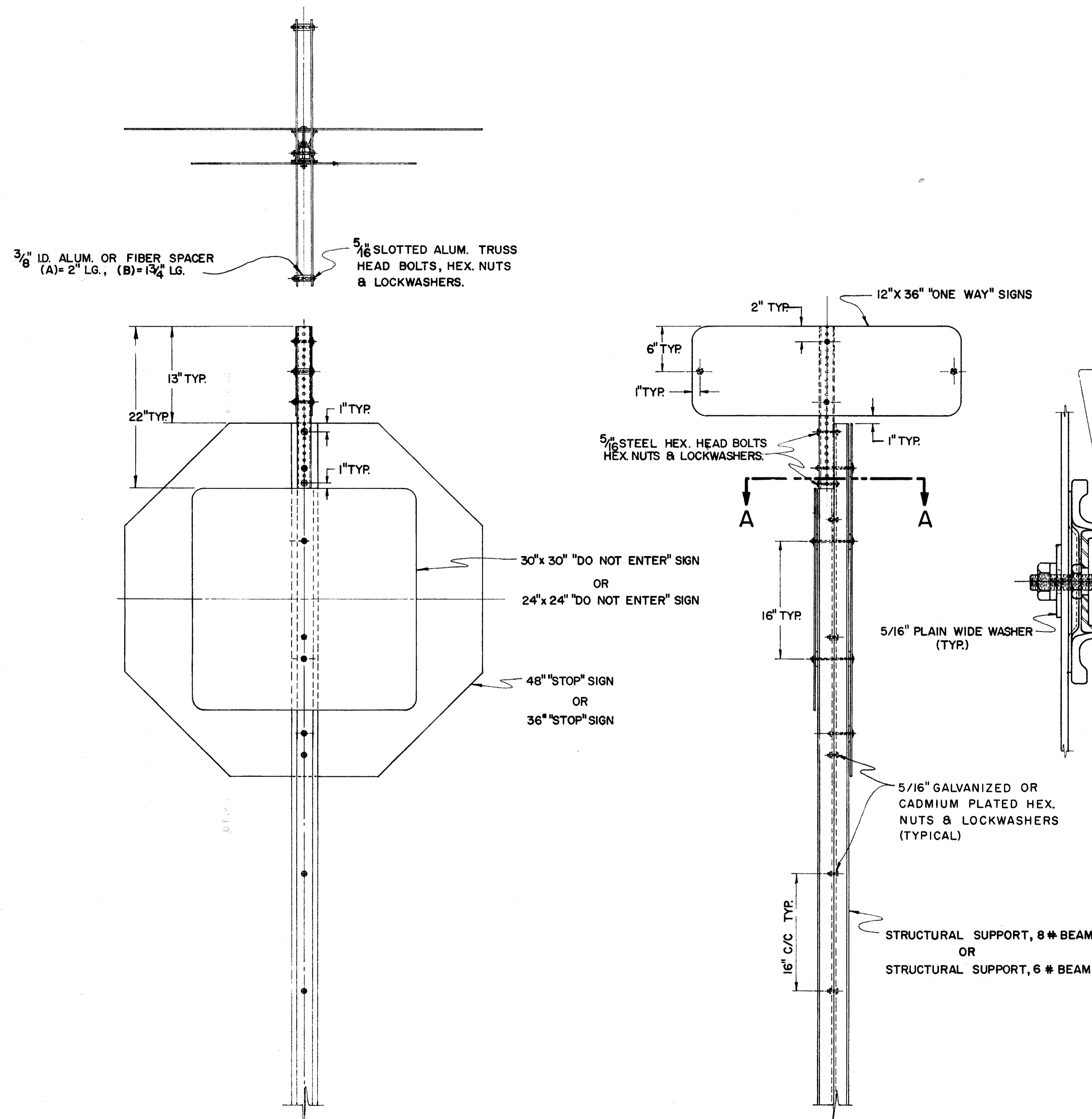
**NOTES**

**MATERIALS**

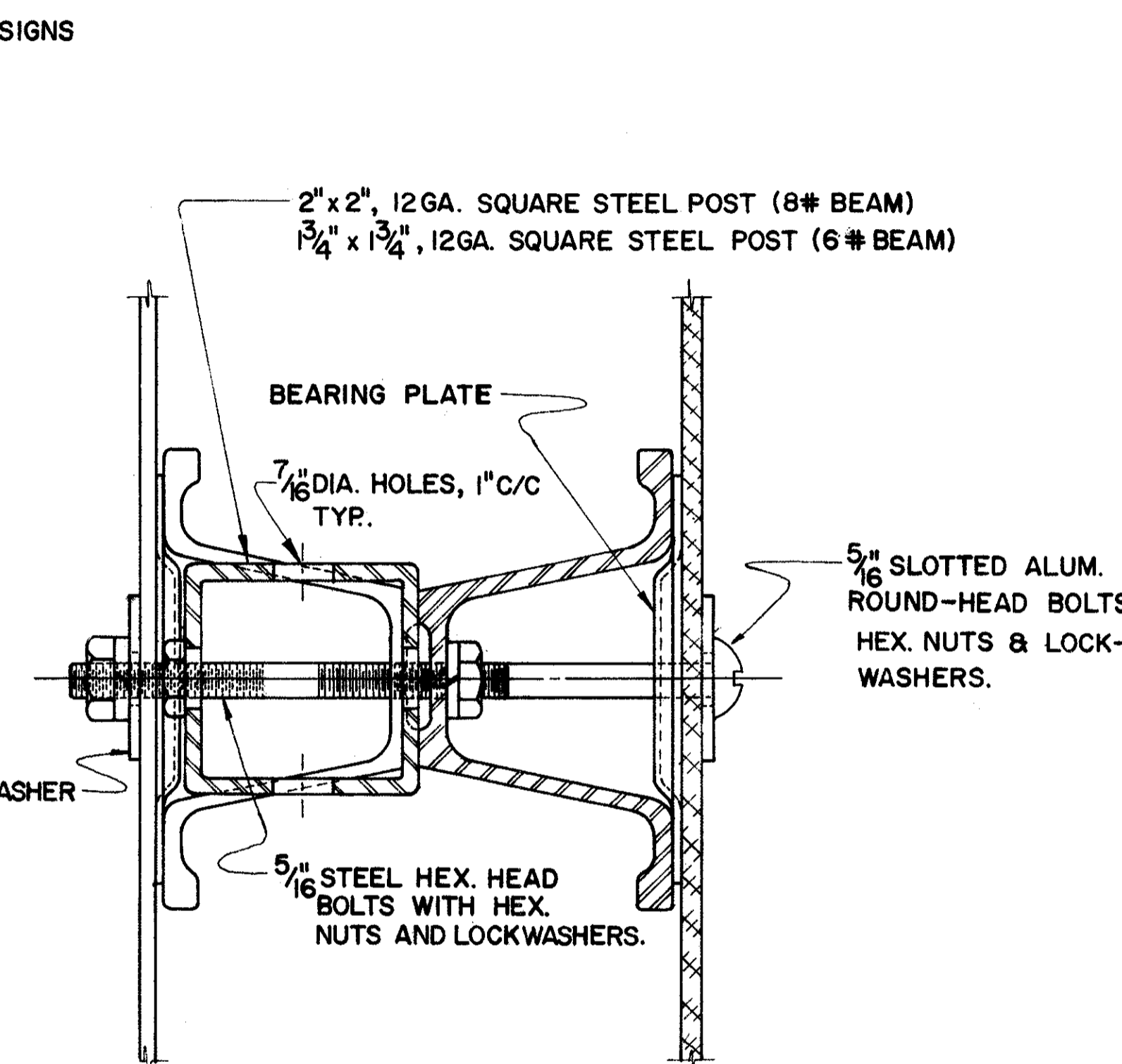
ALL SIGN MATERIALS SHALL BE IN ACCORDANCE WITH SUPPLEMENT SPECIFICATION 815.

ALL STRUCTURAL MATERIALS SHALL BE IN ACCORDANCE WITH SUPPLEMENT SPECIFICATION 816.

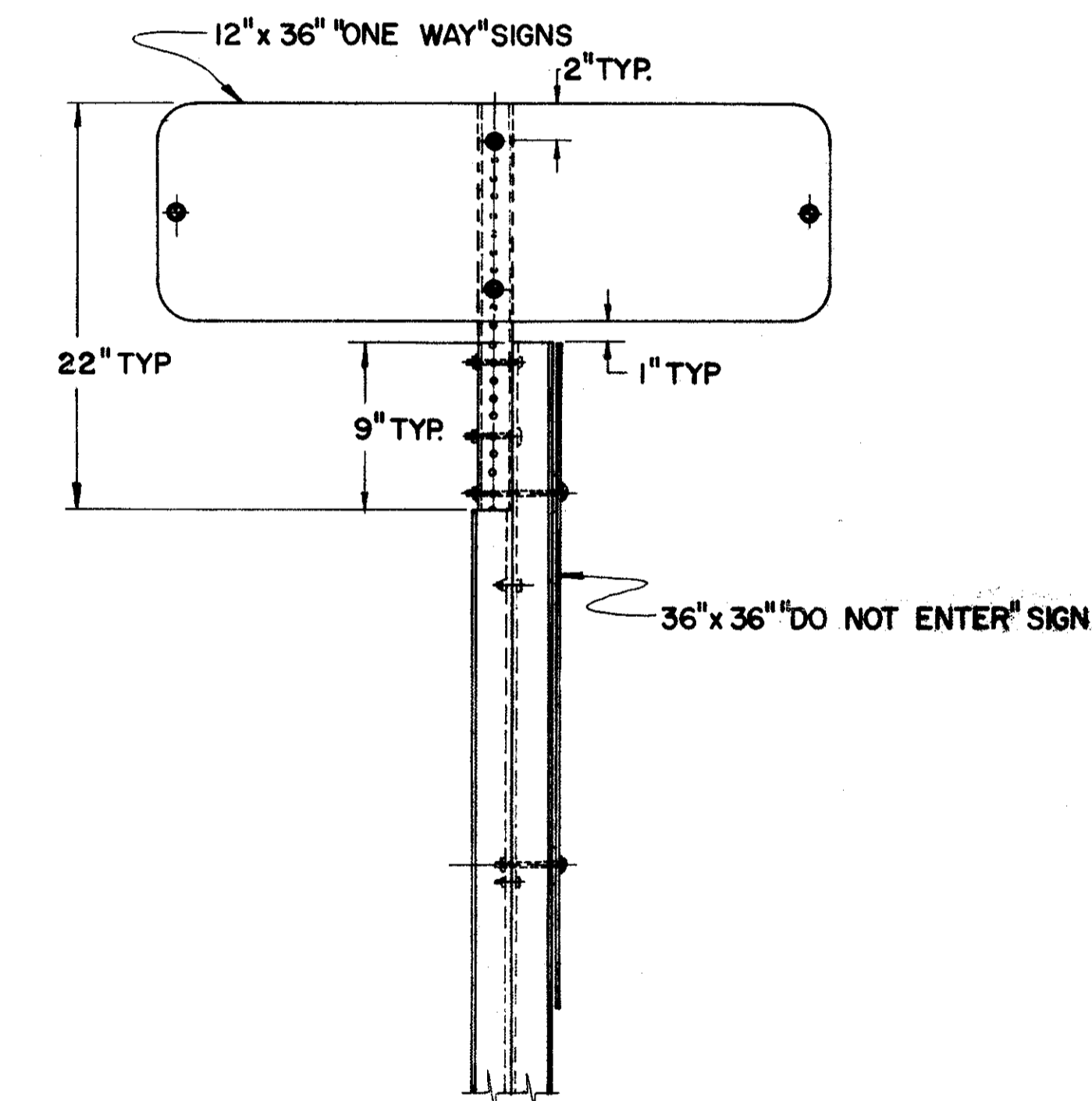
FOR SPECIFICATIONS FOR THE 2" & 1 3/4" SQUARE STEEL POST SEE GENERAL NOTES, SHEET NO. 488.



**"ONE WAY", "STOP", "DO NOT ENTER",  
SIGN INSTALLATION.**



**SECTION A-A**

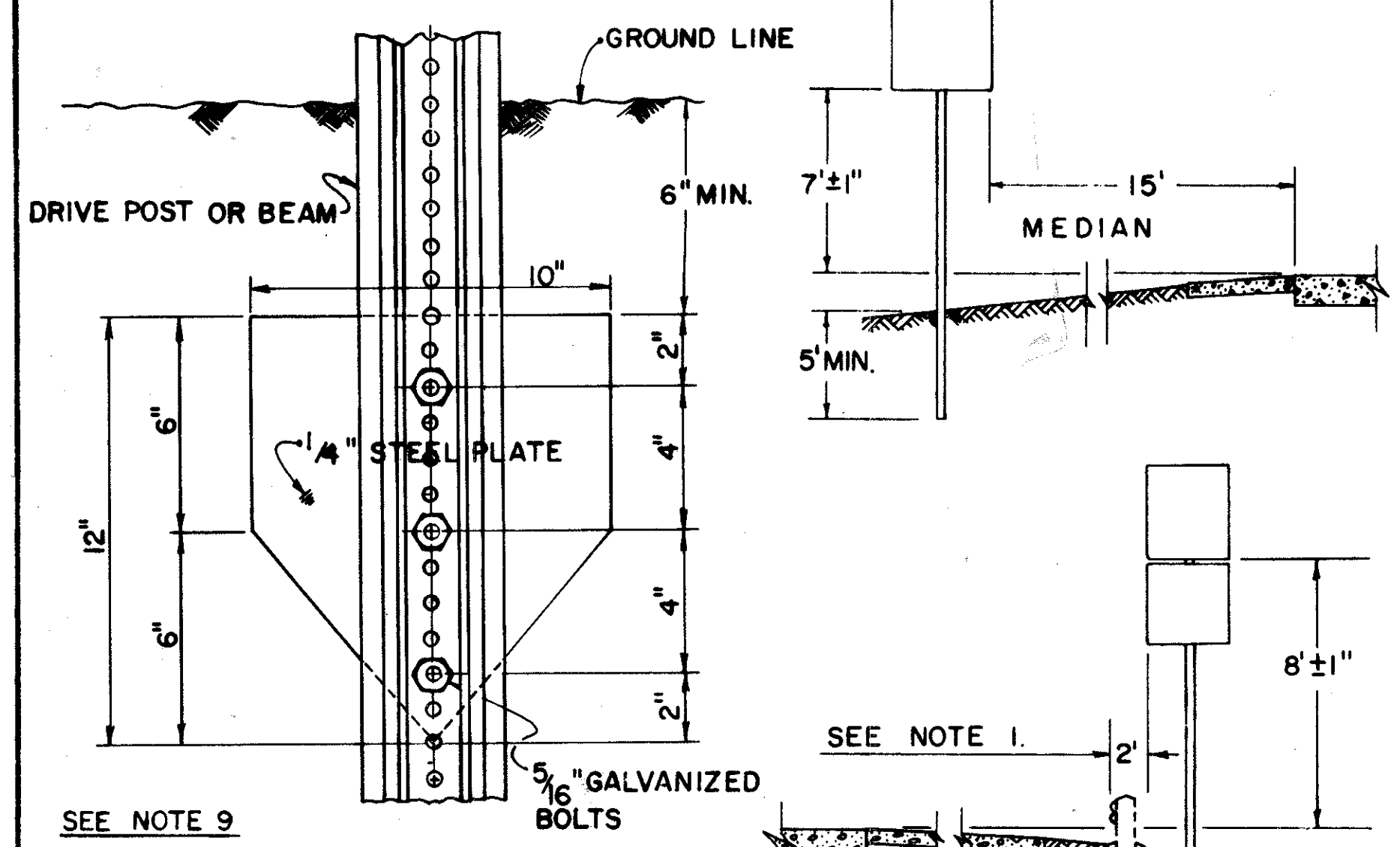


**"ONE WAY", "DO NOT ENTER"  
SIGN INSTALLATION**

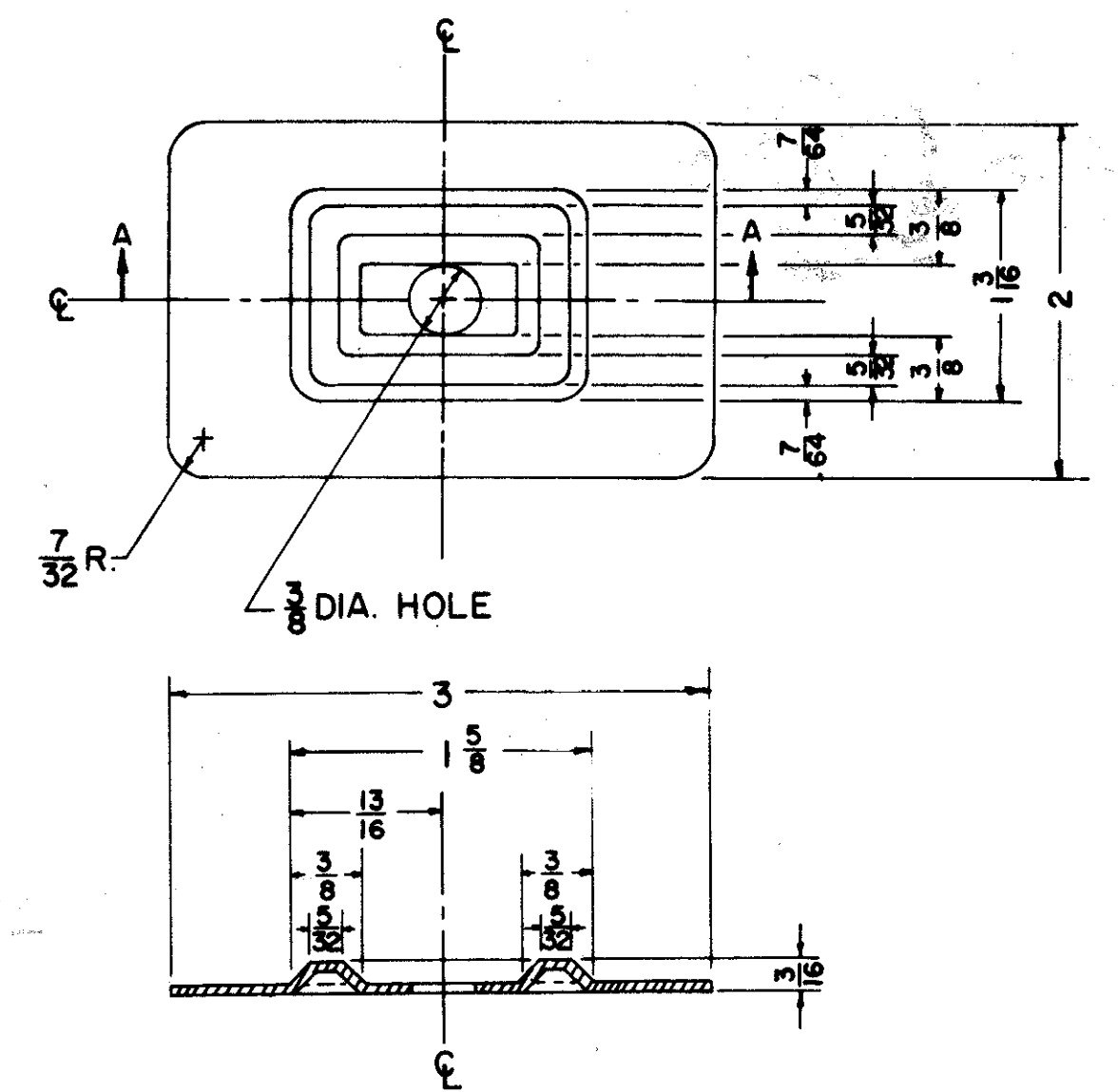
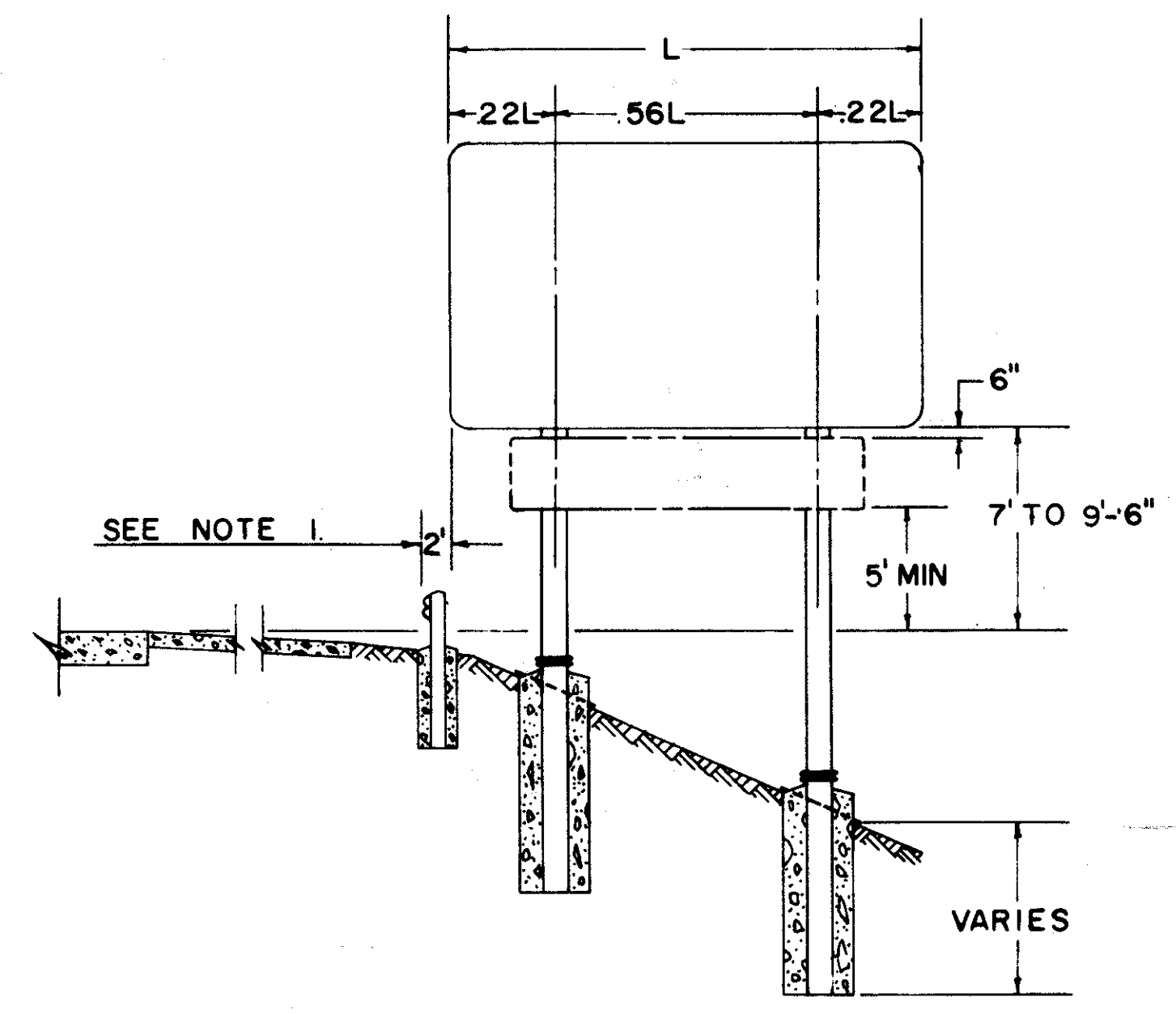
BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS	
SPECIAL "ONE WAY" SIGN SUPPORT DETAILS	SOW
APPROVED _____ ENGINEER OF TRAFFIC	DATE 2-7-66 4-18-67

**NOTES**

- THE NEAR EDGE OF ALL MAIN LINE SIGNS, EXCEPT GORE INSTALLATIONS, SHALL BE LOCATED TWO FEET (2') BACK OF GUARD RAIL FACE. THIS DIMENSION SHALL BE DETERMINED BY ROADWAY TYPICAL SECTION & USED WHETHER OR NOT GUARD RAIL IS PRESENT.  
ON RAMP THE NEAR EDGE OF SIGNS SHALL BE LOCATED TWO FEET (2') BACK OF GUARD RAIL FACE. THIS DIMENSION WILL BE DETERMINED AND USED AS FOR MAIN LINE ABOVE.  
ON APPROACHES THE NEAR EDGE OF SIGNS SHALL BE  
(A) TWO FOOT (2') BEHIND EXISTING GUARD RAIL  
(B) TWO FEET (2') FROM THE EDGE OF PAVED OR TRAVELED SHOULDER WITH A MINIMUM OF 6' FROM EDGE OF ROADWAY PAVEMENT.
- POSTS PLACED IN CONCRETE MEDIANS SHALL BE INSTALLED BY DRIVING THROUGH A 6" SLEEVE OR CORE DRILLED HOLE. THE HOLE SHALL BE FILLED WITH ASPHALTIC CONCRETE AFTER THE POST IS IN THE PROPER POSITION.
- HORIZONTAL BACK BRACING SHALL ALWAYS BE MOUNTED ON THE FRONT FLANGE OF THE SUPPORT EXCEPT WHERE SIGNS ARE MOUNTED BACK TO BACK. BACK BRACING SHALL NEVER EXTEND ABOVE TOP EDGE OF UPPERMOST SIGN PLATE AND SHALL BE ATTACHED TO SUPPORTS USING 5/16" GALVANIZED STEEL BOLTS.
- SCREWS, NUTS, AND WASHERS FOR SIGN ERECTION SHALL BE ALUMINUM EXCEPT AS NOTED ABOVE. 5/16" TRUSS HEAD SLOTTED MACHINE SCREWS WITH HEX. NUTS PLAIN AND LOCKWASHERS SHALL BE USED. PLAIN WASHERS SHALL BE 5/4" WIDE, USED ON SIGN FACE ONLY.
- SIGN INSTALLATIONS SHALL BE PLACED SO THAT SUPPORTS ARE NOT PLACED IN DRAINAGE DITCHES.
- HORIZONTAL CLEARANCES SHOWN PERTAIN TO NON-CURBED SECTIONS. SECTIONS WITH UNMOUNTABLE CURB SHALL HAVE A HORIZONTAL CLEARANCE OF 2'-0" MINIMUM FROM THE CURB FACE TO THE SIGN EDGE.
- VERTICAL AND HORIZONTAL CLEARANCE BETWEEN SIGNS ON ONE ASSEMBLY SHALL BE A MAXIMUM OF 2" AND A MINIMUM OF 1".
- GALVANIZED STEEL BEARING PLATES SHALL BE INCLUDED BETWEEN ALL SHEET ALUMINUM SIGNS ATTACHED TO VERTICAL SUPPORTS AT EACH SIGN BOLT LOCATION.
- SOIL PLATES SHALL BE ATTACHED TO ALL 6 LB. BEAMS BETWEEN POSTS AS DETAILED ON THIS SHEET, EXCEPT WHERE BEAMS ARE PLACED IN CONCRETE MEDIANS AS COVERED IN NOTE 2.



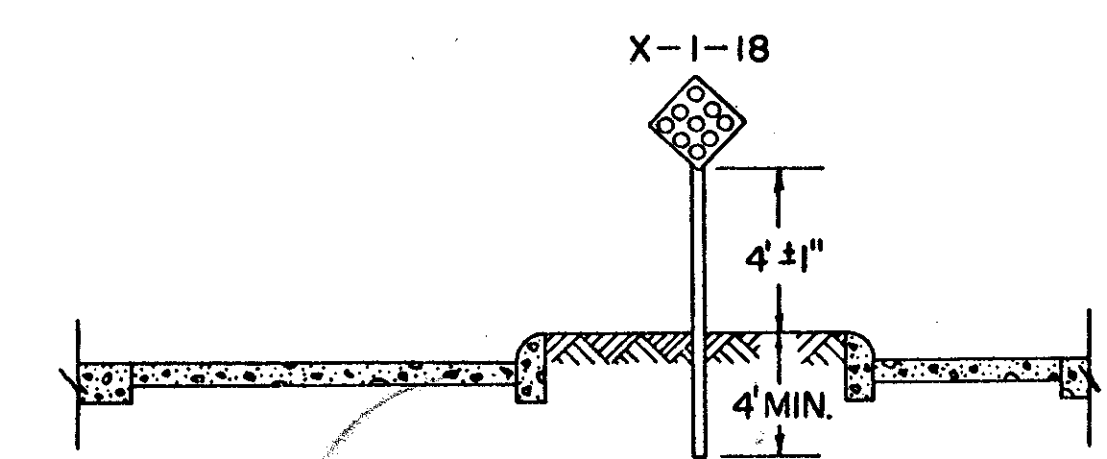
**SOIL PLATE DETAIL**



**SECTION AA**

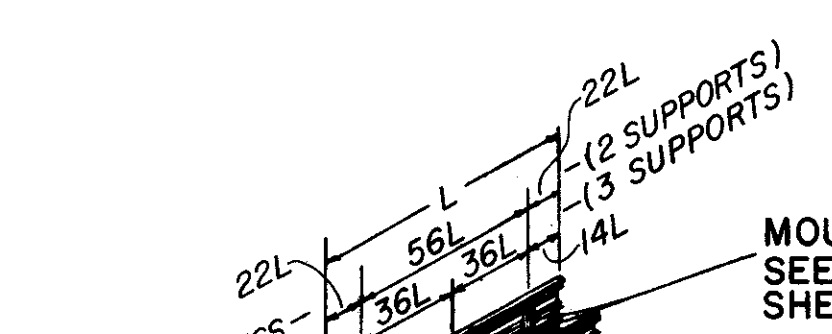
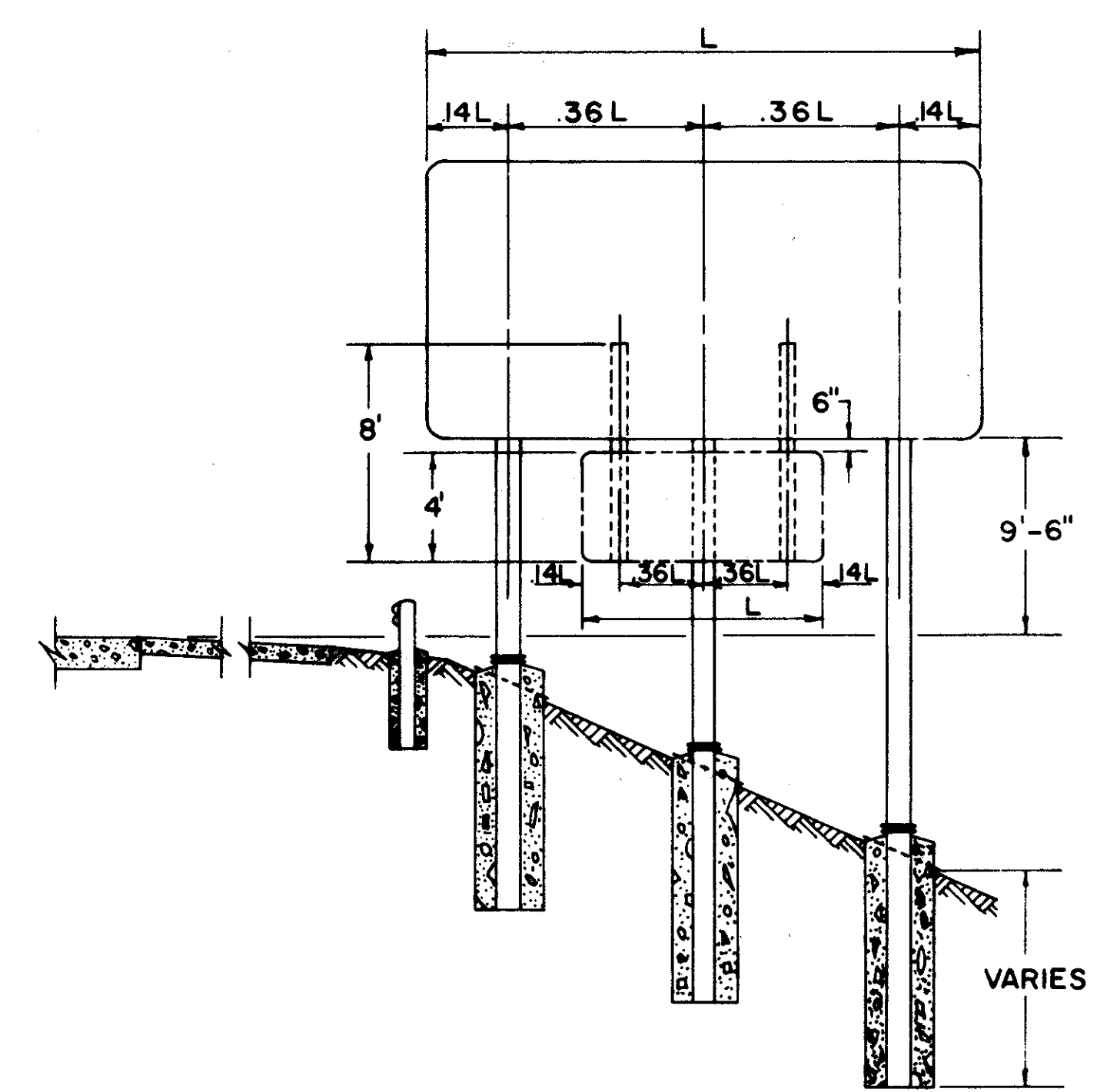
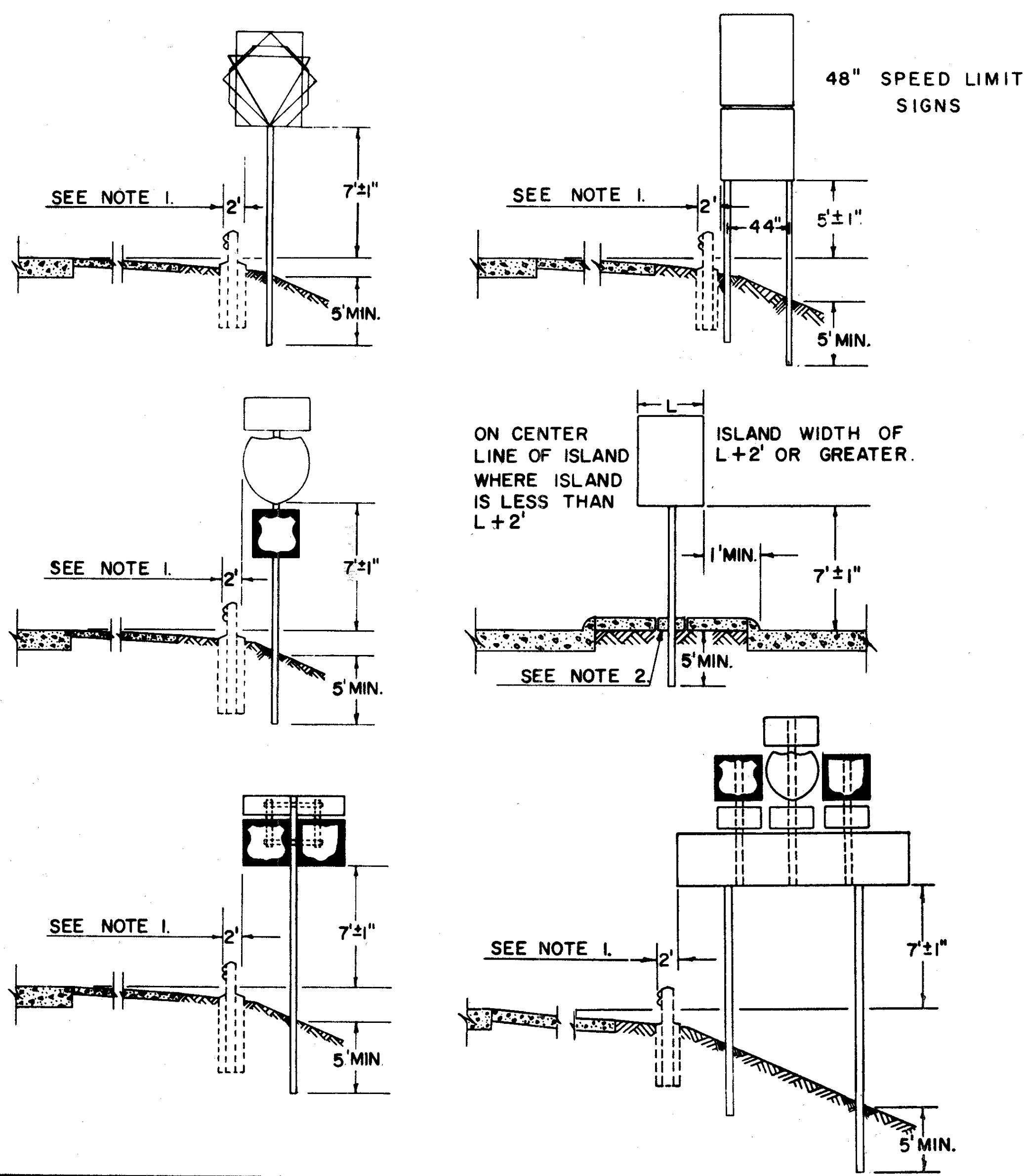
NOTE:  
THE PLATE IS SYMMETRICAL ABOUT EITHER CENTERLINE.  
METAL SHALL BE 16 GAUGE STEEL.  
ALL DIMENSIONS ARE IN INCHES.

**BEARING PLATE DETAIL**

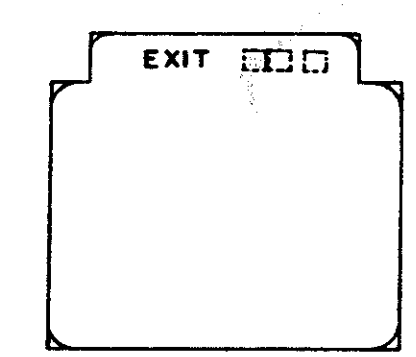


**SIGN SUPPORT SPACING**

L=FT	2 SUPPORTS				3 SUPPORTS				L=FT	2 SUPPORTS				3 SUPPORTS			
	.22	.56	.14	.36	.22	.56	.14	.36		.22	.56	.14	.36	.22	.56	.14	.36
5.0	1.10	2.80	0.70	1.80	17.0	3.74	9.52	2.38	6.12								
6.0	1.32	3.36	0.84	2.16	18.0	3.96	10.08	2.52	6.48								
7.0	1.54	3.92	0.98	2.52	19.0	4.18	10.64	2.66	6.84								
8.0	1.76	4.48	1.12	2.88	20.0			2.80	7.20								
9.0	1.98	5.04	1.26	3.24	21.0			2.94	7.56								
10.0	2.20	5.60	1.40	3.60	22.0			3.08	7.92								
11.0	2.42	6.16	1.54	3.96	23.0			3.22	8.28								
12.0	2.64	6.72	1.68	4.32	24.0			3.36	8.64								
13.0	2.86	7.28	1.82	4.68	25.0			3.50	9.00								
14.0	3.08	7.84	1.96	5.04	26.0			3.64	9.36								
15.0	3.30	8.40	2.10	5.40	27.0			3.78	9.72								
16.0	3.52	8.96	2.24	5.76	28.0			3.92	10.08								

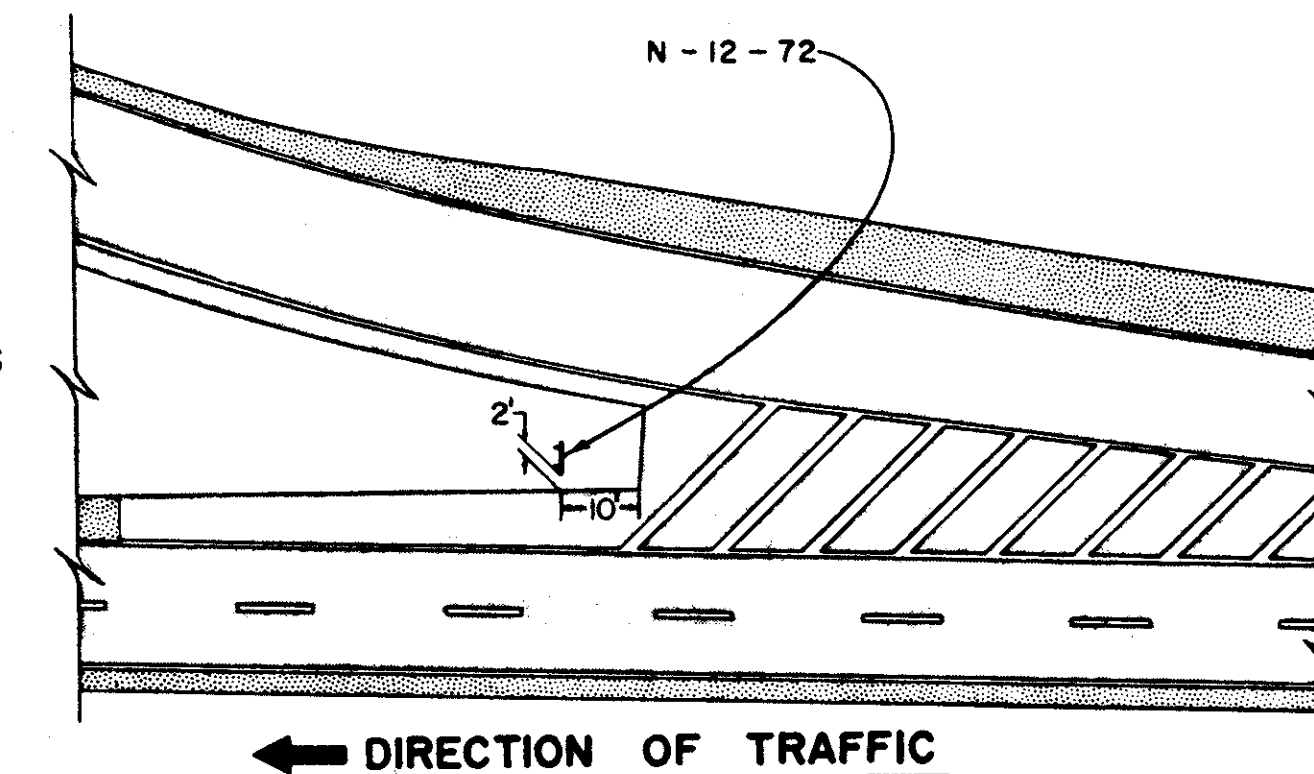


MOUNTING CLIPS -  
SEE DWG. ECD-1  
SHEET NO. 557



**"EXIT" SIGN ATTACHMENT DETAIL**

OVERHEAD SIGN BRACKETS  
OR GROUND MOUNTED  
SUPPORTS



BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

**TYPICAL  
PLACEMENT OF  
SIGNS**

APPROVED \_\_\_\_\_  
ENGINEER OF TRAFFIC

DATE  
9-27-67  
7-12-68  
5-13-69  
3-5-71  
12-21-71  
3-7-72

TPS-1

# GENERAL LIGHTING NOTES

CALCULATED BY E.B.R. DATE 5/15/72  
 CHECKED BY MM DATE 5/26/72

FED. RD.	STATE	PROJECT
	OHIO	I-90-1(3B)21

567  
838

CUYAHOGA COUNTY  
 CUY - 90 - 11.64

## LIGHTING PLAN INDEX

GENERAL NOTES	567-568
QUANTITY SUMMARY	569-570
LIGHTING QUANTITIES SUB-SUMMARY	571-576
COMMUNICATION QUANTITIES SUB-SUMMARY	577
LIGHTING PLANS	578-588
LIGHTING DETAILS	589-593
CONTROL CENTER AND LIGHTING CIRCUIT DIAGRAMS	594-598
COMMUNICATION DETAILS	599-600

## SPECIFICATIONS

THESE NOTES ARE SUPPLEMENTAL TO ITEMS S625 AND S713 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. REFERENCE SHALL BE MADE TO STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET OF THESE PLANS.

### 625.03 - GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS: THE CITY OF CLEVELAND DIVISION OF LIGHT AND POWER, 1825 LAKESIDE AVE., CLEVELAND, OHIO, 44114. THE PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP PERMISSIBLE ON BRANCH CIRCUITS. THE PROJECT WILL RECEIVE 480-VOLT TWO-WIRE SECONDARY SERVICE ONE SIDE GROUNDED FROM THE POWER SUPPLYING AGENCY.

THE PROJECT HAS BEEN DESIGNED ON THE BASIS OF CONTINUOUS LIGHTING WITH 1.2 FOOT CANDLE AVERAGE INITIAL, WITH A MAXIMUM UNIFORMITY RATIO OF 4.0 TO 1.

### 625.04 - 713.00 TEMPORARY LIGHTING, AS PER PLAN

THIS ITEM SHALL CONSIST OF MAINTAINING EXISTING LIGHTING OR PROVIDING TEMPORARY LIGHTING FOR ROADWAYS AS FURTHER DESCRIBED BELOW:

EXISTING LIGHTING ON ALL EXISTING ROADWAYS REMAINING OPEN TO TRAFFIC THROUGH THE PROJECT AREA SHALL BE MAINTAINED. SHOULD THE CONTRACTOR REQUIRE THE REMOVAL OF LIGHTING FROM AN EXISTING ROADWAY, THE CONTRACTOR SHALL THEN BE RESPONSIBLE FOR ADEQUATE TEMPORARY LIGHTING OF THAT PORTION OF THE EXISTING ROADWAY AFFECTED BY THE REMOVAL OF THE EXISTING LIGHTING.

ON TEMPORARY ROADWAYS; SEE M.E.L.P. PLANS.

ON PERMANENT NEW ROADWAYS OPENED TO TRAFFIC, EITHER THE PERMANENT NEW LIGHTING SHALL BE INSTALLED BEFORE OPENING, OR TEMPORARY LIGHTING PROVIDING AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES SHALL BE INSTALLED BEFORE OPENING.

UNDER BRIDGES WHEN UNDERPASS LIGHTING IS SPECIFIED, WHERE TRAFFIC IS MAINTAINED THROUGH THE UNDERPASS AND WHEN THE BRIDGE IS IN A STATE OF CONSTRUCTION THAT THE SLAB OR DECK IS FORMED OR CLOSED OFF OVERHEAD, THE UNDERPASS LIGHTING SHALL BE ENERGIZED TEMPORARILY OR FROM THE PERMANENT CIRCUITS. THIS SHALL BE PERFORMED WITHIN THE SAME EIGHT HOUR PERIOD THAT THE UNDERPASS IS CLOSED OFF OVERHEAD.

WHEN TEMPORARY LIGHTING IS TO BE INSTALLED, AND A DETAILED LAYOUT IS NOT SHOWN IN THE PLANS, THE CONTRACTOR SHALL SUBMIT FOUR (4) SETS OF THE PROPOSED DETAILED PLANS TO THE ENGINEER FOR REVIEW AND APPROVAL. THESE PLANS SHALL SHOW LOCATION OF POLES, LENGTH OF BRACKET ARMS, TYPE AND SIZE OF LUMINAIRES AND LAMPS, MOUNTING HEIGHT, AND OTHER PERTINENT INFORMATION. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED BY THE CONTRACTOR AND THE TEMPORARY LIGHTING INSTALLATIONS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR WHEN NO LONGER NEEDED.

RECONDITIONED OR APPROVED USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE A FOR STRENGTH REQUIREMENT AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. MOUNTING HEIGHT FOR TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 27 FEET AND MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET.

THE CITY OF CLEVELAND WILL PAY FOR ELECTRICAL ENERGY AND MAINTENANCE FOR UNDISTURBED LIGHTING ON EXISTING ROADWAYS AND FOR PERMANENT LIGHTING PLACED IN OPERATION. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL, AND MAINTENANCE OF ANY TEMPORARY LIGHTING REQUIRED.

THE LUMP SUM BID PRICE FOR 'ITEM 625 - TEMPORARY LIGHTING, AS PER PLAN' SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO PROVIDE THE TEMPORARY LIGHTING AS SPECIFIED.

### 625.05 - 713.01 LIGHT POLE ANCHOR BOLTS FOR BRIDGES AND RETAINING WALLS

ANCHOR BOLTS FOR MOUNTING LIGHT POLES ON BRIDGES AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF 713.01 AND DETAILS SHOWN ON THE STANDARD DRAWINGS FOR THE RESPECTIVE POLES TO BE PLACED THEREON. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH SET OF THE SIZE REQUIRED AND NECESSARY TO INSTALL ONE POLE, AND THIS PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PLACING THE BOLTS.

## ESTIMATED QUANTITIES

AN ESTIMATED QUANTITY OF " 100 LIN. FT. OF 605 , 4- INCH SHALLOW PIPE UNDERDRAINS" IS PROVIDED IN THE LIGHTING GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN PROVIDING POSITIVE DRAINAGE FOR PULL BOXES IN FILL AREAS. IT IS INTENDED THAT ALL PULL BOXES IN THESE AREAS BE PROVIDED WITH SUCH DRAINAGE ; PROVIDED THE LENGTH OF UNDERDRAIN NECESSARY TO OBTAIN A SATISFACTORY OUTFALL DOES NOT EXCEED 20 FEET APPROXIMATELY. A PERFORATED PVC PIPE OR CONDUIT MATERIAL APPROVED BY THE ENGINEER MAY BE USED IN THE CONSTRUCTION OF THIS ITEM.

### 625.07 - 713.11 LUMINAIRES

250-WATT LUMINAIRES, EXCEPT UNDERPASS LUMINAIRES, SHALL HAVE DUAL RATED 240/480 VOLT INTEGRAL REGULATOR BALLASTS AND SHALL BE GENERAL ELECTRIC M250R, WESTINGHOUSE OV-15, MCGRAW-EDISON 'UNISTYLE', OR EQUAL APPROVED BY THE ENGINEER.

400-WATT LUMINAIRES SHALL HAVE DUAL RATED 240/480 VOLT INTEGRAL REGULATOR BALLASTS AND SHALL BE GENERAL ELECTRIC M400, WESTINGHOUSE OV-25, MCGRAW-EDISON 'UNISTYLE', OR EQUAL APPROVED BY THE ENGINEER.

1000-WATT LUMINAIRES SHALL HAVE SINGLE RATED 480-VOLT 1000-WATT INTEGRAL REGULATOR BALLASTS AND SHALL BE GENERAL ELECTRIC M-1000, WESTINGHOUSE OV-50, MCGRAW-EDISON 'UNISTYLE', OR EQUAL APPROVED BY THE ENGINEER.

### 625.07 - 713.13 UNDERPASS LUMINAIRES

250-WATT UNDERPASS LUMINAIRES SHALL BE HOLOPHANE UNDERPASS WALLPACK 600' OR EQUAL WESTINGHOUSE, MCGRAW-EDISON, OR GENERAL ELECTRIC UNDERPASS UNIT APPROVED BY THE ENGINEER, AND SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER AND 10-AMPERE FUSE. THE INTEGRAL BALLAST SHALL BE OF A REGULATOR TYPE RATED FOR 480 VOLTS.

PENDANT MOUNTED 250 - WATT LUMINAIRES FOR THE USE IN UNDERPASS LIGHTING SHALL BE I. E. S. TYPE I, HOLOPHANE "REFRACTOPACK 200", WESTINGHOUSE "ENCLOSED VISCOUNT-VB-15, OR APPROVED EQUAL, TOTALLY ENCLOSED, VERTICAL BURNING LAMP, LUMINAIRE.

## PLAN SPECIFICATION REFERENCES.

REFERENCES TO ITEMS 625 AND 713 IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS S625 AND S713.

### STANDARD CONSTRUCTION DRAWING HL-3.

POLE BASE DETAILS SHOWN ON THIS DRAWING ARE ESSENTIALLY FOR GALVANIZED STEEL POLES. FOR ALUMINUM DESIGNS, OR OTHER PERMITTED STEEL MATERIAL DESIGNS, VARIATIONS FROM THESE DETAILS WILL BE ACCEPTABLE, AS APPROVED BY THE ENGINEER.

### STANDARD CONSTRUCTION DRAWING HL-15.

WEEPHOLE DIAMETERS OF 1/8 INCH SHOWN ON THIS DRAWING SHALL BE INCREASED TO 1/4 INCH.

### 713.21 HIGH MAST LUMINAIRES.

1000-WATT LUMINAIRES FOR HIGH MAST LIGHTING SHALL HAVE A SINGLE RATED 480 VOLT 1000-WATT INTEGRAL PEAK LOAD AUTOTRANSFORMER TYPE BALLAST AND SHALL CONFORM TO THE PHOTOMETRIC REQUIREMENTS FOR ASYMMETRIC DISTRIBUTION OR ANSI-IES TYPE V DISTRIBUTION AS SPECIFIED.

## LAMPS

METAL HALIDE LAMPS SHALL BE GENERAL ELECTRIC " STANDARD LINE " OR EQUAL WESTINGHOUSE, SYLVANIA , OR OTHER APPROVED BY THE ENGINEER.

### 625.12 - TRENCH

EXCAVATION MAY BE ACCOMPLISHED WITH MECHANICAL TRENCHING AND BORING EQUIPMENT EXCEPT THAT THE CONTRACTOR MAY NOT USE A TRENCHER THAT PRODUCES SUCH A LIFTING FORCE AS TO DESTROY THE EDGE OF SIDEWALK.

TRENCH 3' - 6" DEEP SHALL BE EMPLOYED AS SHOWN ON DRAWING NO. 599 WHERE COMMUNICATIONS CONDUIT IS INSTALLED WITH THE LIGHTING DISTRIBUTION CIRCUITS.

### 625 PLASTIC CAUTION TAPE

THE LOCATION OF UNDERGROUND DUCT CABLE AND CONDUIT INSTALLED SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THE TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL APPROX. 6" WIDE POLYETHYLENE PLASTIC, HIGHLY RESISTANT TO ALKALIS, ACID OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE IN BRIGHT YELLOW FOR CONTRAST WITH THE SOIL, WITH IDENTIFYING PRINTING ("ELECTRIC") IN BLACK LETTERS, ONE SIDE ONLY. THE IDENTIFYING LETTERING SHALL BE REPEATED CONTINUOUSLY THE FULL LENGTHS OF THE TAPE. TAPES SHALL BE SUPPLIED IN CONTINUOUS ROLLS. IDENTIFYING TAPES SHALL BE BURIED IN THE ELECTRIC LINE TRENCH. TRENCHES SHALL REQUIRE ONE STRIP PLACED APPROXIMATELY DOWN THE CENTER LINE. THE TAPE SHALL BE LOCATED APPROXIMATELY 8" TO 12" BELOW THE FINAL FINISHED GRADE MINIMUM. THE TAPE SHALL BE PLACED IN THE TRENCH WITH PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO INSURE THAT THE TAPE IS NOT PULLED, DISTORTED, OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILL (ALLEN SYSTEM-TERRA TAPE, TECTA TAPE OR APPROVED EQUAL). THE TAPE SHALL BE PAID FOR PER LIN. FT. OF "625 PLASTIC CAUTION TAPE", COMPLETE AND IN PLACE.

### 625.13 - 713.04 CONDUIT JACKED UNDER PAVEMENT, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING CONDUIT OF THE SIZE OR SIZES INDICATED UNDER EXISTING PAVEMENT AND CONTIGUOUS SHOULDERS BY AN APPROVED METHOD SUCH AS 'DRILLING' OR 'JACKING'.

THE CONTRACTOR SHALL PLACE THE CONDUIT WITH THE LEAST AMOUNT OF DISTURBANCE TO THE EXISTING PAVEMENT, SUBBASE, BERM PAVEMENT, OR SHOULDERS OF THE ROADWAY. ALL PUSH PITS OR ANY NECESSARY EXCAVATIONS SHALL BE BACKFILLED AND RESTORED IN ACCORDANCE WITH 625.01.

MEASUREMENT OF THE CONDUIT SHALL BE THE ACTUAL AMOUNT OF LINEAL FEET INSTALLED UNDER PAVEMENT AND SHOULDERS, MEASURED IN PLACE, AS ACCEPTED BY THE ENGINEER. THE UNIT PRICE BID FOR ITEM 625 'CONDUIT JACKED UNDER PAVEMENT, AS PER PLAN' SHALL BE FULL COMPENSATION FOR EXCAVATION, DRILLING OR JACKING, BACKFILLING, COMPACTION, RESTORATION, AND ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

### 625.13 - 713.04 CONDUIT ON STRUCTURES

EXPANSION FITTINGS FOR CONDUIT ON STRUCTURES SHALL BE OZ TYPE AX, CROUSE-HINDS TYPE XJ-4, APPLETON TYPE XJ-4, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

### 625-713 POLYVINYL CHLORIDE PLASTIC CONDUIT

THIS SPECIFICATION COVERS POLYVINYL CHLORIDE CONDUIT FOR EITHER DIRECT BURIAL IN EARTH OR FOR ENCASEMENT IN CONCRETE AND SHALL BE OF THE SIZE AND TYPE SPECIFIED.

CONDUIT FURNISHED UNDER THIS SPECIFICATION SHALL COMPLY WITH ONE OF THE FOLLOWING:

#### FOR 3" COMMUNICATIONS CONDUIT

(A) CONDUIT CONFORMING TO NEMA STANDARDS PUBLICATION NO. TC1 WITH THE EXCEPTIONS THAT (1) CONDUIT AND CONDUIT FITTINGS COMPOSED OF STYRENE POLYMERS OR COPOLYMERS SHALL NOT BE ACCEPTABLE AND (2) THE PHYSICAL REQUIREMENTS; TC1-3.03 DEFLECTION TEMPERATURE, TC1-3.04 TENSILE PROPERTIES, AND THE TEST METHODS; TC1-4.05 DEFLECTION TEMPERATURES; TC1-4.06 TENSILE PROPERTIES, SHALL NOT BE REQUIRED.

(B) CONDUIT CONFORMING TO NEMA STANDARDS PUBLICATION NO. TC6 WITH THE EXCEPTION THAT CONDUIT AND CONDUIT FITTINGS COMPOSED OF ACRYLONITRILE-BUTADIENE-STYRENE (ABS) SHALL NOT BE ACCEPTABLE.

#### FOR 4" MEDIAN RACEWAY

(C) CONDUIT CONFORMING TO THE REQUIREMENTS OF (A), ABOVE, WITH THE ADDITIONAL EXCEPTIONS THAT WHERE 4 INCH NOMINAL SIZE CONDUIT IS TO BE ENCASED IN CONCRETE IT SHALL BE PERMISSIBLE TO USE CONDUIT HAVING A MINIMUM WALL THICKNESS OF 0.075 INCHES AND AN OUTSIDE DIAMETER NOT LESS THAN 4.202 INCHES NOR MORE THAN 4.360 INCHES INSTEAD OF THOSE DIMENSIONS SPECIFIED IN NEMA STANDARDS PUBLICATION NO. TC1.

FOR ANY GIVEN INSTALLATION THE MIXED USE OF THE CONDUITS DESCRIBED IN (A) AND (B) SHALL BE PROHIBITED.

WHEN THE CONDUIT DESCRIBED IN (C) IS USED IN A GIVEN INSTALLATION ALL SUCH CONDUIT SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.



# GENERAL LIGHTING NOTES

FED. RD.	STATE	PROJECT
	OHIO	I-90-(38)21

568  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

## CONNECTOR KITS

AT THE OPTION OF THE CONTRACTOR, TYPE IX CABLE CONNECTIONS MAY BE SUBSTITUTED WHERE TYPE II OR III CABLE CONNECTIONS ARE SPECIFIED IN HAND HOLES OR TRANSFORMER BASES OF LIGHT POLES.

TYPE I THROUGH TYPE VII CABLE CONNECTIONS IN PULL BOXES, JUNCTION BOXES, AND OTHER ENCLOSURES BELOW GROUND MAY BE ACCOMPLISHED BY THE USE OF EITHER OF THE FOLLOWING.

1. A SLEEVE OR TEE CABLE CONNECTOR CONFORMING TO THE GENERAL REQUIREMENTS OF STYLE "S" OR "H", OR OTHER CONNECTING DEVICE APPROVED BY THE ENGINEER. THE CONNECTOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND THE CONNECTION SHALL BE SEALED AND WATERPROOFED WITH A HI-DIELECTRIC COMPOUND SUCH AS "AQUA SEAL" AS MANUFACTURED BY KEARNEY, OR EQUAL APPROVED BY THE ENGINEER. THE SEALING MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS TO MAKE A WATER-TIGHT CONNECTION. CONNECTIONS NOT ACCOMPLISHED IN-LINE OR IN TEE FORM SHALL BE ADDITIONALLY PROTECTED BY USE OF A HI-DIELECTRIC PVC, OR OTHER APPROVED MATERIAL, BOOT WITH AN APPROVED FASTENING DEVICE.
2. A PREASSEMBLED KIT, AS MANUFACTURED BY JOY OR BUSSMAN, OR APPROVED EQUAL, WITH A WATER-PROOF OR WATER-TIGHT RATING ACCEPTABLE TO THE ENGINEER.

## 625.18 - 713.19 CONTROL CENTER

THE FOLLOWING SPECIFICATION FOR THE CONTROL CENTERS ARE SUPPLEMENTARY TO SECTION 625.18 AND 713.19 INDICATING SPECIFIC ITEMS PERTAINING TO THIS PROJECT:

HEAVY-DUTY SAFETY SWITCH ("SERVICE SWITCH")

VOLTS	AMPS	SQUARE D	COLUMBUS ELEC. WORKS
600	30	W999FA221A	CEW101SS4630
600	60	W999FA231	CEW101SS4660
600	100	W999FA232	CEW101SS46100

LIGHTING CONTROLLER ("CONTACTOR")

VOLTS	AMPS	SQUARE D	COLUMBUS ELEC. WORKS
600	30	W939FA609A	CEW17SS4630
600	60	W939FA610A	CEW17SS4660
600	100	W939FA629A	CEW17SS56100

PHOTOELECTRIC CELL 713.20

PHOTOELECTRIC CELL AND MOUNTING HARDWARE SHALL BE TORK 2000 WITH MOUNTING HARDWARE, FISHER-PIERCE 6660 WITH MOUNTING HARDWARE, GENERAL ELECTRIC C4026200 WITH MOUNTING HARDWARE OR APPROVED EQUAL. SEE LIGHTING PLAN FOR LOCATIONS.

TRANSFORMER ENCLOSURES

TRANSFORMER ENCLOSURES SHALL BE, AT MINIMUM, THE SIZE AND DIMENSIONS AS SHOWN ON THE TRANSFORMER ENCLOSURE DETAIL. TRANSFORMER ENCLOSURES SHALL BE ON A CONCRETE PAD AS DETAILED ON SHEET NUMBER 594.

TRANSFORMER ENCLOSURES SHALL BE MCGRAW-EDISON, GENERAL ELECTRIC COMPANY OR APPROVED EQUAL AND WITH TRANSFORMER IN PLACE, SHALL BE ON "DEAD FRONT" CONSTRUCTION.

TRANSFORMERS

TRANSFORMERS FOR 480 VOLT SECONDARY, TWO-WIRE GROUNDED NEUTRAL SERVICE SHALL BE SINGLE PHASE OIL-FILLED TYPE AND SIMILAR TO THOSE AS SPECIFIED IN THE SUPPLEMENTAL SPECIFICATIONS FOR M.E.L.P. CUY-90-11.64.

SERVICE TO CONTROL CENTERS

THERE WILL BE NO SEPARATE PAYMENT FOR SERVICE TO CONTROL CENTERS UNDER THIS SECTION OF THE PLAN. ALL WORK SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS COVERING WORK PERFORMED FOR THE DIVISION OF LIGHT AND POWER SEE M.E.L.P. SECTION OF THIS PLAN.

PAYMENT FOR ITEM 625 CONTROL CENTER WILL BE MADE UNDER A LUMP SUM PRICE. INCLUDED IS THE TRANSFORMER ENCLOSURE, IN PLACE, CONCRETE MOUNTING PAD WITH ANCHOR BOLTS, IN PLACE, ALL NECESSARY WIRING, CONDUIT, CONDUIT ELLS, GROUND RODS, PHOTOELECTRIC CONTROL, HEAVY DUTY SAFETY SWITCH, LIGHTING CONTROLLER, A SINGLE PHASE, TWO WIRE GROUNDED NEUTRAL SERVICE, OIL-FILLED TRANSFORMER AND ALL INCIDENTALS NECESSARY TO PROVIDE A COMPLETE SERVICE FOR THE CONTROL CENTER.

## 625 - SERVICE TO UNDERPASS LIGHTING, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE, EXCEPT FOR LUMINAIRES, LAMPS, AND STRUCTURE GROUNDING, FOR AN UNDERPASS LIGHTING SYSTEM ON BRIDGES (SEE SUMMARY). THE INSTALLATION WORK SHALL INCLUDE CONDUITS, CONDUIT GROUNDING, MOUNTINGS, FITTINGS, JUNCTION BOXES, CABLES, AND ALL INCIDENTALS NECESSARY TO COMPLETE, READY FOR USE, THE SERVICE AS DETAILED ON SHEET 585-588. THE LUMP SUM PRICE BID FOR 'ITEM 625 - SERVICE TO UNDERPASS LIGHTING, AS PER PLAN' SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE FURNISHED AND CONSIDERED PAID FOR AS PART OF THE ITEM.

## 625 - ELECTRICAL SERVICE FOR ILLUMINATED SIGNS

THE PAY ITEMS IN THE LIGHTING GENERAL SUMMARY INCLUDE THE PULL BOX OR JUNCTION BOX ADJACENT TO EACH LIGHTED SIGN AND THE ELECTRICAL SERVICE CONNECTIONS LEADING INTO THE BOX, INCLUDING CONNECTOR KITS IN THE PULL BOX OR JUNCTION BOX. QUANTITIES FOR ELECTRICAL SERVICE FROM THE CONNECTOR KITS IN THE PULL BOX OR JUNCTION BOX TO THE SIGN ARE INCLUDED IN THE TRAFFIC CONTROL GENERAL SUMMARY.

## 839 - HIGH VOLTAGE DIRECT CURRENT TEST

A HIGH VOLTAGE DIRECT CURRENT TEST, AS DESCRIBED IN SUPPLEMENTAL SPECIFICATION 839, SHALL BE PERFORMED ON ALL DISTRIBUTION CABLE, AND DUCT CABLE SYSTEMS TO BE INSTALLED ON THIS PROJECT. THE TEST SHALL NOT BE PERFORMED UNTIL AFTER ALL NEW CONSTRUCTION, SUCH AS GUARD RAIL, FENCE, DELINEATOR POSTS, SIGN SUPPORTS, ETC., IN THE IMMEDIATE VICINITY OF THE LOCATION OF THE CABLE RUN BEING TESTED, HAS BEEN COMPLETED.

## SPECIFICATIONS - COMMUNICATION SUB-SYSTEM FOR EMERGENCY CALL-BOX INSTALLATION

THE GENERAL NOTES HERIN ARE SUPPLEMENTAL TO ITEMS 625 AND 713 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS.

## EMERGENCY CALL/BOXES AND SUPPORTS

THE FURNISHING AND INSTALLATION OF CALL/BOXES, SUPPORTS, CABLING AND WIRING AS DESIGNATED IN THE PLAN IS BY OTHERS AND THEREFORE IS NOT A PART OF THIS CONTRACT.

## EMERGENCY CALL/BOX FOUNDATIONS

IN ADDITION TO SECTION 625.06 THE CONTRACTOR SHALL FURNISH A 1 INCH PLYWOOD TEMPLATE AND ANCHOR BOLT ASSEMBLY AS DETAILED ON SHEET NO. 599. THIS TEMPLATE AND ANCHOR BOLT ASSEMBLY SHALL REMAIN IN PLACE AND ONLY REMOVED WHEN THE CALL-BOX SUPPORT IS INSTALLED. THE CONTRACTOR, AS DIRECTED BY THE ENGINEER, MAY FURNISH A REINFORCED PRE-CAST FOUNDATION IN LIEU OF CAST-IN-PLACE.

PAYMENT FOR EMERGENCY CALL-BOX FOUNDATIONS SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH AND THIS PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PLACE ALL CONDUITS, ELBOWS, ELECTRICAL METALLIC TUBING AND INCIDENTALS AS DETAILED IN THIS PLAN.

## 625.12 TRENCH

GENERALLY THE TRENCHING FOR THIS SUB-SYSTEM IS IN COMMON WITH LIGHTING OR TRAFFIC CONTROL ALTHOUGH THERE ARE AREAS WHERE TRENCHING IS REQUIRED FOR THE COMMUNICATION SUB-SYSTEM. THIS TRENCHING SHALL NOT EXCEED 12 INCHES IN WIDTH AND SHALL FOLLOW ALL OTHER REQUIREMENTS AS SPECIFIED IN SECTION 625.12 AND AS DIRECTED BY THE ENGINEER.

## 625 PLASTIC CAUTION TAPE

THE LOCATION OF UNDERGROUND COMMUNICATIONS CONDUIT INSTALLED SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THE TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL APPROX. 6" WIDE POLYETHYLENE PLASTIC, HIGHLY RESISTANT TO ALKALIS, ACID OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE IN BRIGHT GREEN FOR CONTRAST WITH THE SOIL, WITH IDENTIFYING PRINTING (TELEPHONE) IN BLACK LETTERS, ONE SIDE ONLY. THE IDENTIFYING LETTERING SHALL BE REPEATED CONTINUOUSLY THE FULL LENGTHS OF THE TAPE. TAPES SHALL BE SUPPLIED IN CONTINUOUS ROLLS. IDENTIFYING TAPES SHALL BE BURIED IN THE ELECTRIC LINE TRENCH. TRENCHES SHALL REQUIRE ONE STRIP PLACED APPROXIMATELY DOWN THE CENTER LINE. THE TAPE SHALL BE LOCATED APPROXIMATELY 8" TO 12" BELOW THE FINAL FINISHED GRADE MINIMUM. THE TAPE SHALL BE PLACED IN THE TRENCH WITH PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO INSURE THAT THE TAPE IS NOT PULLED, DISTORTED, OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILL. (ALLEN SYSTEM-TERRA TAPE, TECTA TAPE OR APPROVED EQUAL). THE TAPE SHALL BE PAID FOR PER LIN. FT. OF "625 PLASTIC CAUTION TAPE", COMPLETE AND IN PLACE.

## 625.13 - 713.04 CONDUIT

RIGID FERROUS METAL CONDUIT, 3 INCH 713-04 SHALL BE USED FOR ALL LATERAL CROSSOVERS UNDER PAVEMENT AND ACROSS STRUCTURES AS PER PLAN FOR THIS SUB-SYSTEM.

## 625 - 713 POLYVINYL CHLORIDE PLASTIC CONDUIT.

THIS SPECIFICATION IS LISTED ON SHEET NO. 567 OF THIS PLAN. 3 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT PVC SHALL BE USED FOR ALL OTHER RUNS AS PER PLAN.

## LIGHT POLE DESIGN DATA CUY - 90 - 11.64

REFERENCE LETTER	DESIGN NUMBER	FOUNDATION ANCHOR BOLTS	TRANSFORMER BASE STYLE
B	A 3BB 80 D	2" X 90" 22.0" BC	ON BARRIER
C	AT 15B 51.7	1" X 40" 17.25" BC	AT-C
D	ST 30B 51.7	1-1/4" X 4-8" 17.25" BC	STEEL
D-D	ST 30BB 51.7	1-1/4" X 4-8" 17.25" BC	STEEL
E	AT 20B 51.7	1" X 40" 17.25" BC	AT-C
F	AT 12B 36.7	1" X 40" 15.0" BC	AT-A
F-F	AT 12BB 36.7	1" X 40" 15.0" BC	AT-A
G	AT 10B 36.7	1" X 40" 15.0" BC	AT-A
M	AT ON 15.4	1" X 40" 12.5" BC	AT-X
R	AT15B 20	1" X 40" 15.0" BC	(ON WALL #3) AT-A

## LEGEND

- 2-1000W. METAL HALIDE SYMMETRIC LUMINAIRES 80' MOUNTING HEIGHT
- 2-1000W. METAL HALIDE ASYMMETRIC LUMINAIRES 80' MOUNTING HEIGHT
- LIGHT POLE AND LUMINAIRE, 1000W. MERCURY VAPOR TYPE III, 51.7' MOUNTING HEIGHT
- LIGHT POLE AND LUMINAIRE, 400W. MERCURY VAPOR TYPE III, 36.7' MOUNTING HEIGHT
- LIGHT POLE AND LUMINAIRE, 400W. MERCURY VAPOR TYPE II, 36.7' MOUNTING HEIGHT
- INDICATES GLARE SHIELD
- CALL-BOX FOUNDATION
- UNDERPASS LUMINAIRE, 250W. ASYMMETRIC 15' MOUNTING HEIGHT

- 713.04 CONDUIT FOR LIGHTING
- 713.04 CONDUIT FOR COMMUNICATIONS
- POLYVINYL CHLORIDE PLASTIC CONDUIT
- UNIT TYPE DUCT-CABLE SYSTEM
- SINGLE PULL BOX
- DOUBLE PULL BOX
- JUNCTION BOX
- CONTROL CENTER
- OVERHEAD SIGN SUPPORTS
- PROPOSED M.E.L.P. UNDERGROUND DUCTS

## LIGHT POLE PLAN DESIGNATION

24+90/11'  
(F) 17BE16  
D"

STATION / OFFSET (FROM EDGE OF PAVEMENT)  
(F) = POLE REFERENCE LETTER  
17 = CIRCUIT NUMBER  
BE = CONTROL CENTER ID  
16 = POLE NUMBER WITHIN CIRCUIT  
D = FOUNDATION DEPTH FOR HIGH MAST



# QUANTITY SUMMARY

## LIGHTING & COMMUNICATIONS

CALCULATED BY EDR DATE 5/15/72  
 CHECKED BY JM DATE 5/16/72  
 REVISED BY EDL DATE 4/19/74  
 CHECKED BY FB DATE 5/1/74

FED. RD.	STATE	PROJECT
	OHIO	I-90-1(38)21

570  
838

**CUYAHOGA COUNTY**  
 CUY - 90 - 11.64

LINE NO.	ITEM	STRUCTURE NO. CUY-90-						ROADWAY SHEET NO.						SUB-TOTAL CITY STATE FEDERAL	PROJECT GRAND TOTAL	ITEM	UNIT	DESCRIPTION	LINE NO.	
		1181	1196	1210	1233	1261	1264	1304R	1304L	578	579	580	581							582
85															LUMP	LUMP	5625	LUMP	CONTROL CENTER "WH" (WALWORTH AND W. 53RD ST.)	85
86																				86
87																				87
88																				88
89																				89
90																				90
91																	5625	EACH	STRUCTURE GROUND, STRUCTURE # CUY-90-1181 RELOC. LORAIN AVE.	91
92																	5625	EACH	STRUCTURE GROUND, STRUCTURE # CUY-90-1196 W. 84th W 85th CONN RD.	92
93																	5625	EACH	STRUCTURE GROUND, STRUCTURE # CUY-90-1210 CLARK AVE.	93
94																	5625	EACH	STRUCTURE GROUND, STRUCTURE # CUY-90-1233 W. 73rd. ST.	94
95																	5625	EACH	STRUCTURE GROUND, STRUCTURE # CUY-90-1261 W. 65th ST. E.B.L.	95
96																	5625	EACH	STRUCTURE GROUND, STRUCTURE # CUY-90-1264 W. 65th ST. W.B.L.	96
97																	5625	EACH	STRUCTURE GROUND, STRUCTURE # CUY-90-1304 RT. W. 53rd. ST. E.B.L.	97
98																	5625	EACH	STRUCTURE GROUND, STRUCTURE # CUY-90-1304 LT. W. 53rd. ST. W.B.L.	98
99																				99
100																				100
101																				101
102																				102
103																				103
104																				104
105																				105
106															15	15	5625	EACH	JUNCTION BOX, 18"x6"x6", 713.10	106
107																				107
108															LUMP	LUMP	5625	LUMP	SERVICE TO UNDERPASS LIGHTING, STRUCTURE # CUY-90-1181	108
109															LUMP	LUMP	5625	LUMP	SERVICE TO UNDERPASS LIGHTING, STRUCTURE # CUY-90-1210	109
110															LUMP	LUMP	5625	LUMP	SERVICE TO UNDERPASS LIGHTING, STRUCTURE # CUY-90-1261	110
111															LUMP	LUMP	5625	LUMP	SERVICE TO UNDERPASS LIGHTING, STRUCTURE # CUY-90-1304 RT.	111
112															LUMP	LUMP	5625	LUMP	SERVICE TO UNDERPASS LIGHTING, STRUCTURE # CUY-90-1304 LT.	112
113																				113
114																				114
115																				115
116															1	1	5625	EACH	PORTABLE POWER UNIT	116
117																				117
118																				118
119																				119
120																				120
121																				121
122																				122
123																				123
124																				124
125																				125
126																				126
127																				127
128																				128
129																				129
130															2	2	5625	SET	LIGHT POLE ANCHOR BOLTS	130
131																				131
132																				132
133																				133
134																				134
135															LUMP	LUMP	5625	LUMP	TEMPORARY LIGHTING	135
136															LUMP	LUMP	839	LUMP	HIGH VOLTAGE TEST	136
137																				137
138																				138
139																				139
140																				140
141																				141
142																				142
143																				143
144																				144
145																				145
146																				146
147																				147
148																				148
149																				149
150																				150
151																				151
152																				152
153																				153
154																				154
155																				155
156																				156
157																				157
158																				158
159																				159
160																				160
161																				161
162																				162
163																				163
164																				164
165																				165
166																				166
167																				167
168																				168















# COMMUNICATIONS QUANTITIES SUB-SUMMARY

LINE NUMBER	STATION		SIDE	CALL BOX FOUNDATION AS PER PLAN			GROUND ROD	CONCRETE ENCASMENT	SINGLE PULL BOX	DOUBLE PULL BOX	GREEN PLASTIC CAUTION TAPE	TRENCH, 12" MAX. WIDTH x 24" MIN. DEPTH		3" PVC CONDUIT	3" PVC AS PER PLAN		18" x 8" x 6" JUNCTION BOX	
	FROM	TO		EA	E.A.	E.A.						L.F.	L.F.		L.F.	EA		EA
619	STATIONING REFERENCED TO & I-90 ETAL.																	
620	91+00	93+20	RT.											220				
621	93+20	95+85	RT.											265				
622	95+85	61+80	RD. SLOPE			45							45	45	45			
623	95+85	61+85	RD. SLOPE															
624	95+85	61+90	RD. SLOPE															
625	95+85	798+30	RT.										245	245	245			
626	95+85	800+70	RT.										240	240	240			
627	95+85	803+10	RT.										235	235	235			
628	803+10	803+15	24 RT.										80	80	80			
629	803+10	803+20	18 LT.										130	130	420			
630	803+10	803+15	18 RT.															
631	803+10	803+20	18 LT.															
632	803+10	803+15	18 RT.															
633	803+10	803+20	18 RT.															
634	803+10	803+15	24 RT.															
635	803+10	803+15	RT/LT.															
636	803+10	803+10	15 LT.															
637	803+10	803+15	15 LT.															
638	803+10	51+35L	LT.										80	80	160			
639	51+35	51+60	RT/LT.										70	70	70			
640	51+35	51+65	RT/LT.															
641	803+10	805+50	RT.										230	230	230			
642	STATIONING REFERENCED TO & LORAIN AVE.																	
643	43+98	43+98	LT.															
644	43+98	47+45	LT.										20	20	347			
645	43+98	47+45	LT.															
* 646	SUB-TOTAL STRUCTURE #1181																	
* 647	SUB-TOTAL ROADWAY SH #578																	
648	STATIONING REFERENCED TO & I-90 ETAL.																	
649	805+50	47+50 (84-85)	RT.										120	120	120			
650	47+50 (84-85)	47+40 (84-85)	XING										75	75	150			
651	47+40 (84-85)	810+00	RT.										255	255	255			
652	810+00	812+65	RT.										265	265	265			
653	812+65	815+25	RT.										260	260	260			
654	815+25	817+80	RT.										255	255	255			
655	817+80	17+80	XING										60	60	120			
656	17+80	19+20	RT.												170			
657	819+60	821+00	RT.										95	95	95			
658	812+65	54+35	CLARK LT.										75	75	150			
659	54+35	54+30	CLARK LT.															
660	54+35	54+25	CLARK LT.															
661	812+65	812+65	LT/RT.										200	200	400			
662	812+65	60+20	LORAIN RT.										185	185	370			
663	60+20	60+25	LORAIN RT.															
664	60+25	60+46	CLARK RT.															
665	STATIONING REFERENCED TO & W. 84TH - 85TH. CONN.																	
* 666	47+50	50+10											20	20	270			
667	STATIONING REFERENCED TO & CLARK AVE.																	
668	54+35	55+86	LT.												151			
669	55+86	58+71	LT.												285			
670	SUB-TOTAL STRUCTURE #1196																	
* 671	SUB-TOTAL STRUCTURE #1210																	
* 672	SUB-TOTAL ROADWAY SH #579																	
673	STATIONING REFERENCED TO & I-90 ETAL.																	
674	821+00	822+65	RT.										165	165	165			
675	822+65	824+80	RT.										215	215	215			
676	824+80	827+20	RT.										195	195	240			
677	827+20	829+50	RT.										230	L	230			
678	829+50	831+80	RT.										230	L	230			
679	831+80	834+05	RT.										225	L	225			
680	834+05	836+30	RT.										225	L	225			
681	836+30	836+50	RT.										20	L	20			
682	STATIONING REFERENCED TO & I-90 ETAL.																	
683	821+00	822+65	RT.															
684	822+65	824+80	RT.															
685	824+80	827+20	RT.															
686	827+20	829+50	RT.															
687	829+50	831+80	RT.															
688	831+80	834+05	RT.															
689	834+05	836+30	RT.															
690	836+30	836+50	RT.															
691	STATIONING REFERENCED TO & I-90 ETAL.																	

\* STRUCTURE NO 1181  
 \*\* STRUCTURE NO 1196  
 \*\*\* STRUCTURE NO 1210

LINE NUMBER	STATION		SIDE	CALL BOX FOUNDATION AS PER PLAN			GROUND ROD	CONCRETE ENCASMENT	SINGLE PULL BOX	DOUBLE PULL BOX	GREEN PLASTIC CAUTION TAPE	TRENCH, 12" MAX. WIDTH x 24" MIN. DEPTH		3" PVC CONDUIT	3" PVC AS PER PLAN		18" x 8" x 6" JUNCTION BOX	
	FROM	TO		EA	E.A.	E.A.						L.F.	L.F.		L.F.	EA		EA
692	STATIONING REFERENCED TO & I-90 (CONT'D.)																	
693	822+65	822+70	24 RT.										115	115	115			
694	822+65	822+70	24 LT.										45	45	160			
695	822+65	822+75	12 LT.										120	120	570			
696	822+75	822+70	15 RT.															
697	822+75	822+70	24 RT.												115			
698	822+70	822+70	RT/LT.												45			
699	822+70	822+65	12 LT.												120			
700	822+70	822+70	12 LT.															
701	STATIONING REFERENCED TO & W. 73RD. ST.																	
702	43+10	43+10	LT.															
* 703	43+10	46+25	LT.										20	20	485			
704	43+10	46+25	LT.															
705	SUB-TOTAL STRUCTURE #1233																	
706	SUB-TOTAL ROADWAY SH #580																	
707	STATIONING REFERENCED TO & I-90 E.B.L.																	
708	836+50	838+60	RT.										210	L	210			
709	838+60	838+70	RT/LT.										75	L	75			
710	838+60	838+65	RT.															
711	838+60	838+70	RT.															
712	838+60	838+65	RT/LT.															
713	838+60	838+65	LT.															
714	838+60	840+85	RT.										225	L	225			
715	840+85	843+15	RT.										20	L	460			
716	843+15	845+50	RT.										235	L	235			
717	843+15	847+80	RT.										230	L	230			
718	847+80	850+15	RT.										235	L	235			
719	850+15	851+50	RT.										135	L	135			
720	840+85	48+55	W.65 LT.										60	L	60			
721	48+55	50+80	W.65 LT.															
722	50+80	54+150	W.65 RT.										50	L	50			
723	54+150	842+95	W.65 RT.										145	L	145			
724	842+95	843+00	W.65 RT.															
725	843+00	843+05	W.65 RT/LT.										100	L	100			
726	843+05	843+00	W.65 LT.															
727	843+00	843+00	W.65 LT															

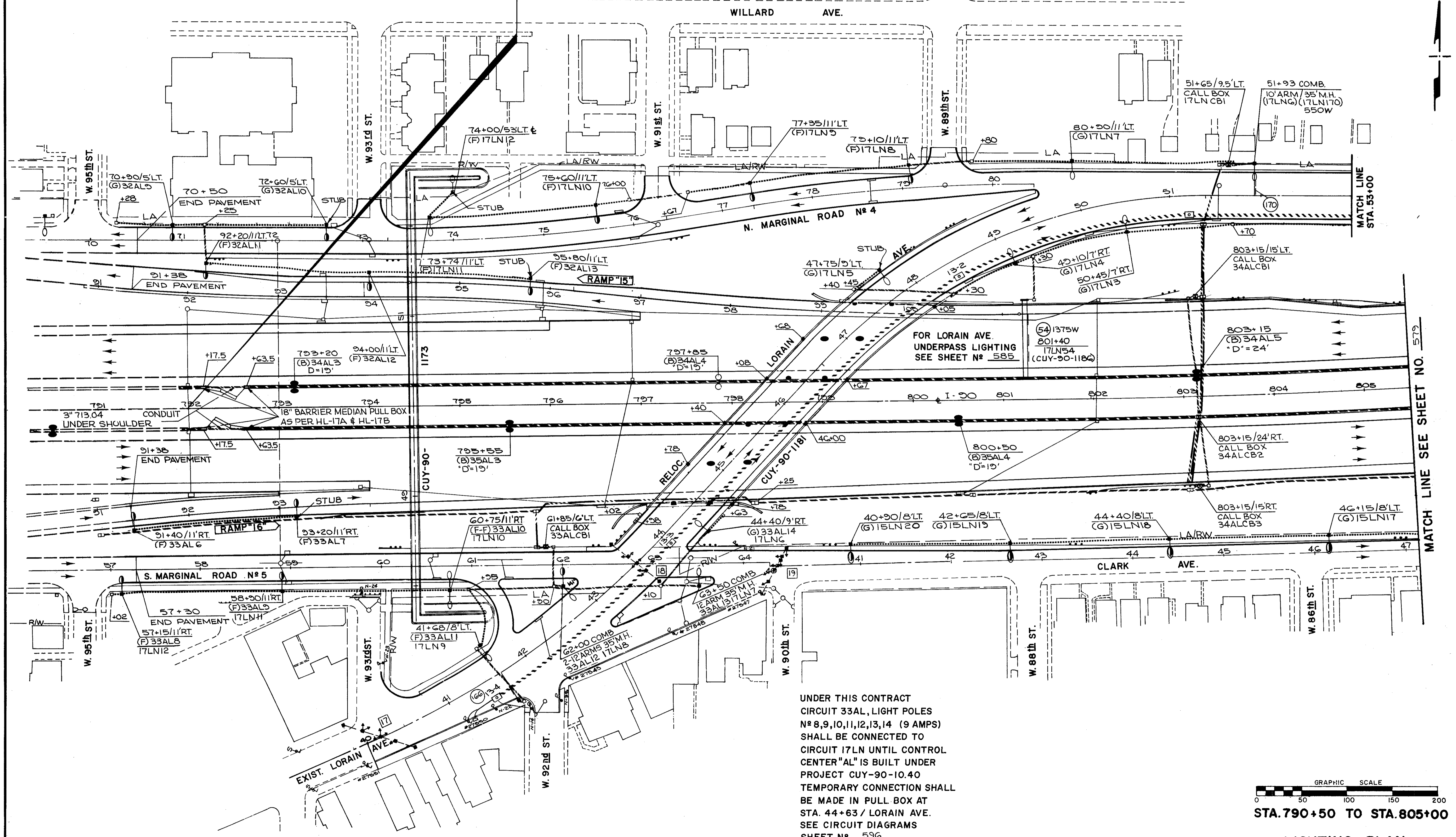
FED. RD.	STATE	PROJECT
	OHIO	I-90-1(38)21

578  
838

CUYAHOGA COUNTY  
CUY - 90 - 11 64

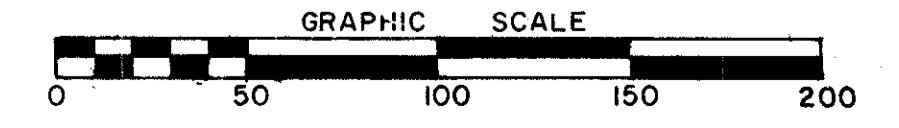
CUY-90-10.40  
END PROJECT  
STA. 792+00

CUY-90-11.64  
BEGIN PROJECT  
STA. 792+00



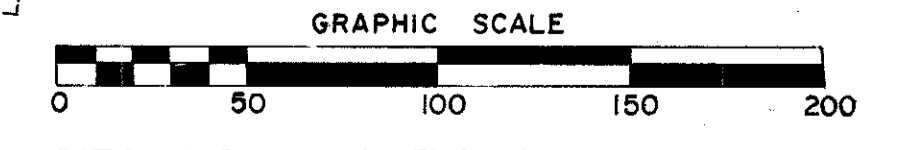
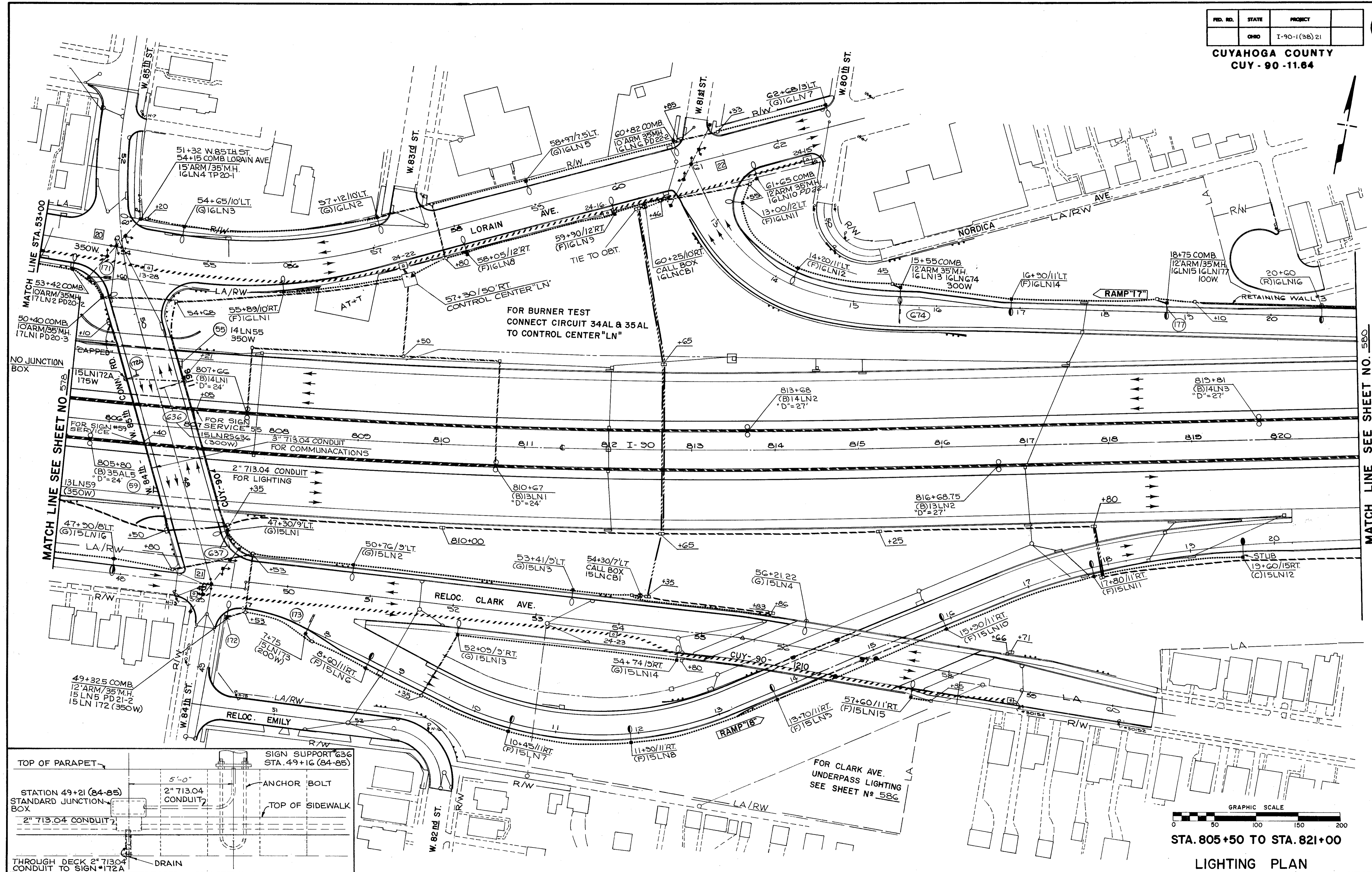
MATCH LINE SEE SHEET NO. 579

UNDER THIS CONTRACT  
CIRCUIT 33AL, LIGHT POLES  
# 8,9,10,11,12,13,14 (9 AMPS)  
SHALL BE CONNECTED TO  
CIRCUIT 17LN UNTIL CONTROL  
CENTER "AL" IS BUILT UNDER  
PROJECT CUY-90-10.40  
TEMPORARY CONNECTION SHALL  
BE MADE IN PULL BOX AT  
STA. 44+63 / LORAIN AVE.  
SEE CIRCUIT DIAGRAMS  
SHEET # 596



STA. 790+50 TO STA. 805+00

LIGHTING PLAN



STA. 805+50 TO STA. 821+00

LIGHTING PLAN

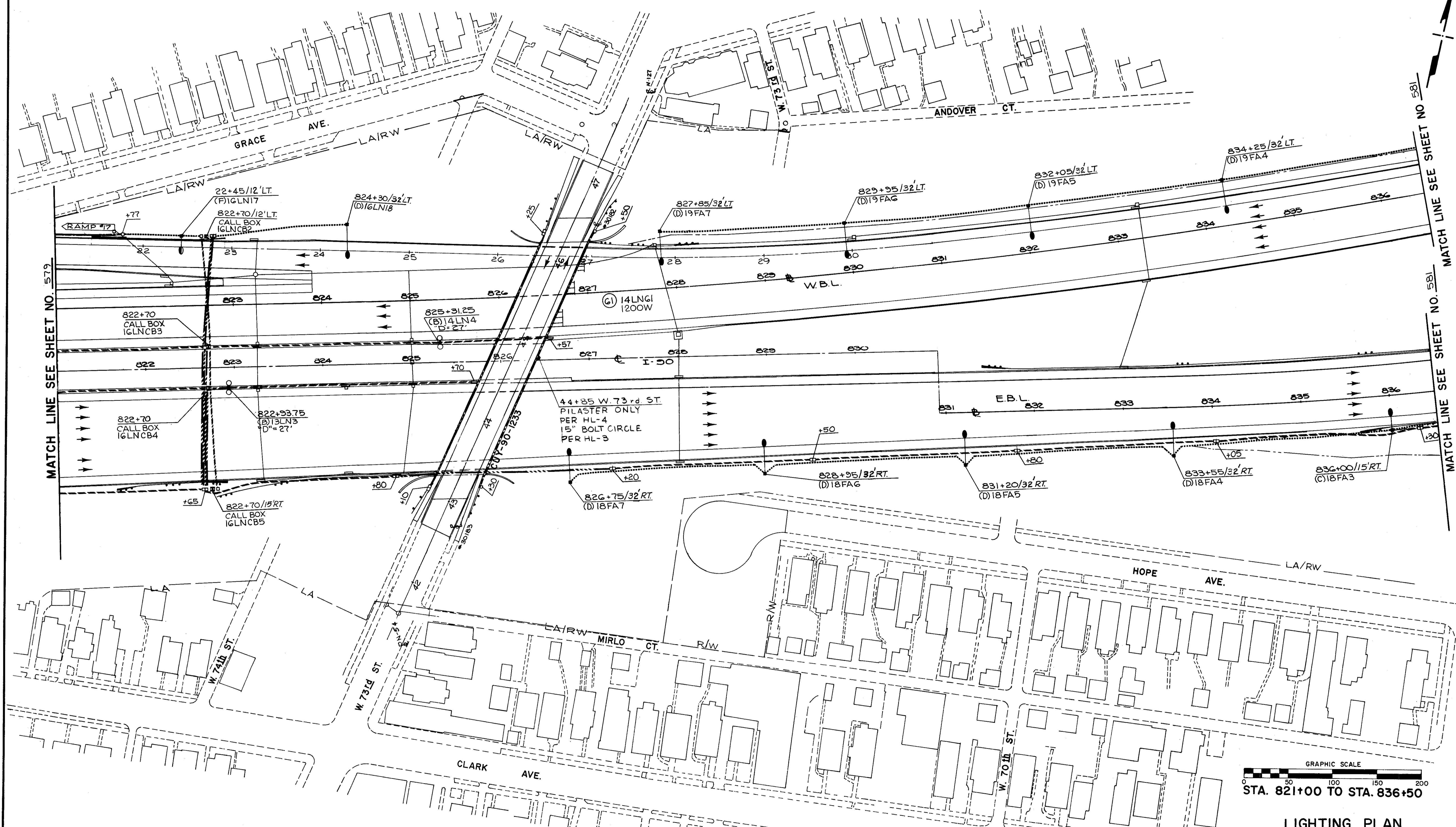
MATCH LINE SEE SHEET NO 57B

MATCH LINE SEE SHEET NO 580

FED. RD.	STATE	PROJECT
	OHIO	I-90-1(38)21

580  
838

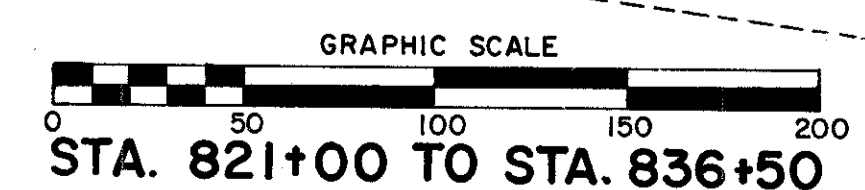
CUYAHOGA COUNTY  
CUY - 90 - 11.64



MATCH LINE SEE SHEET NO. 579

MATCH LINE SEE SHEET NO. 581

MATCH LINE SEE SHEET NO. 581

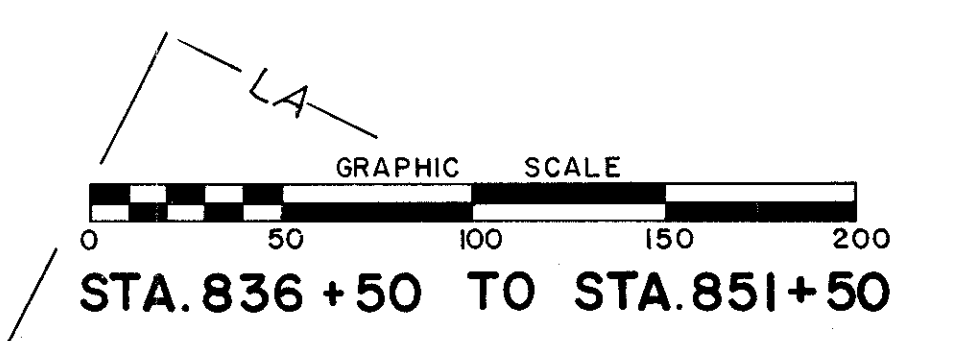
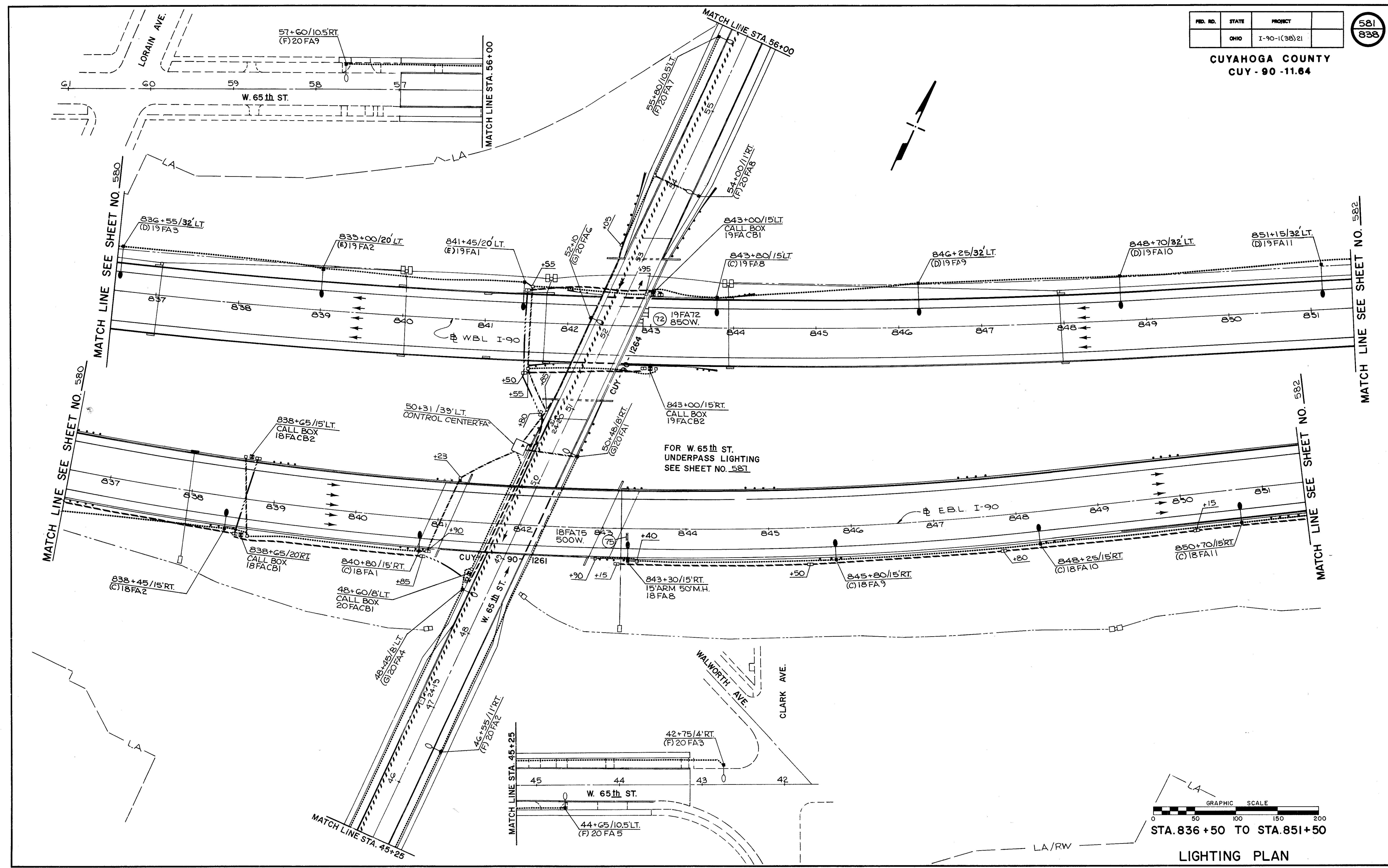


LIGHTING PLAN

FED. RD.	STATE	PROJECT
	OHIO	I-90-(138)21

581  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

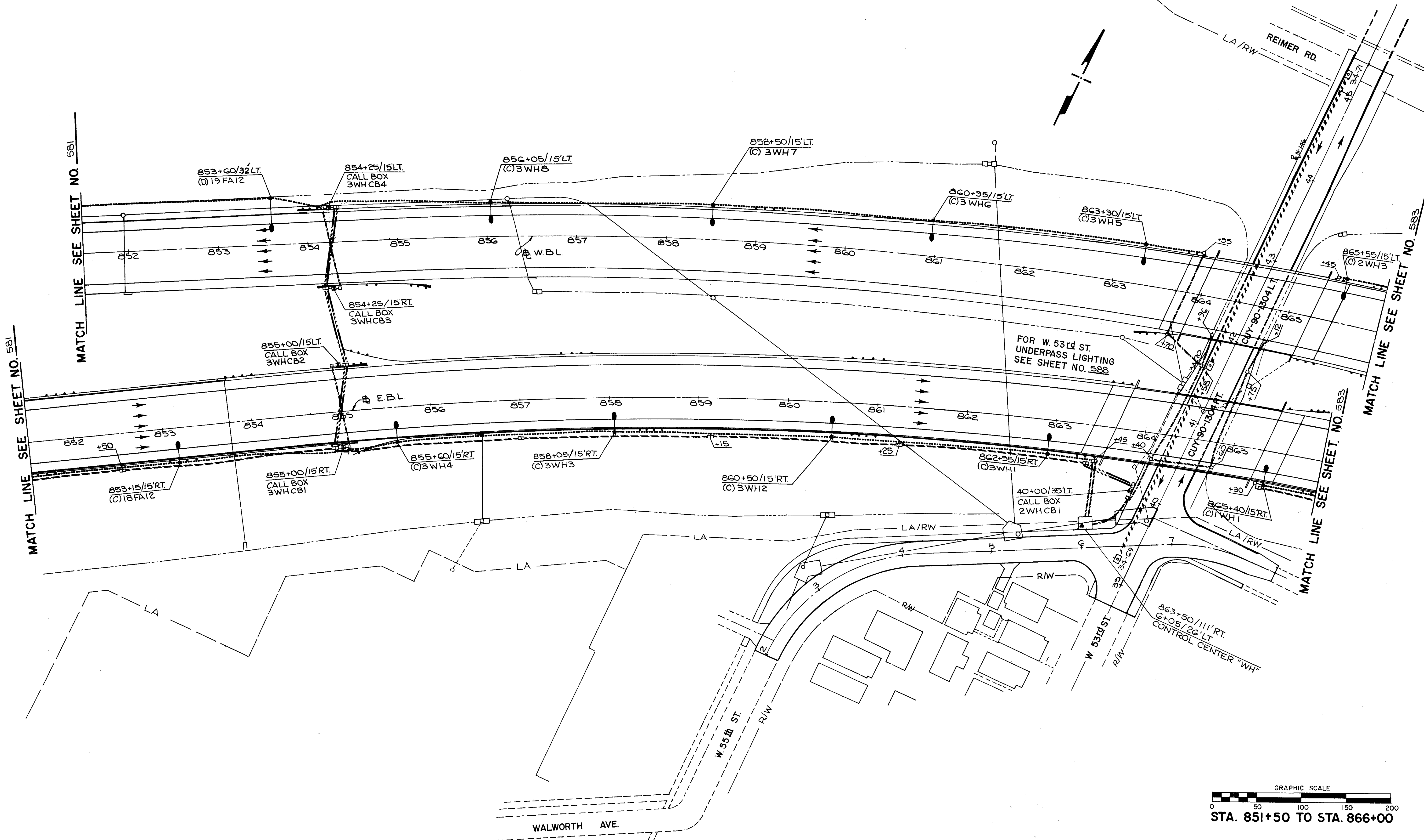


LIGHTING PLAN

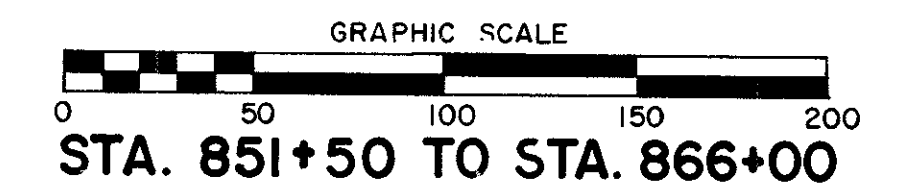
FED. RD.	STATE	PROJECT
	OHIO	I-90-1(38) 21

582  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



FOR W. 53rd ST.  
UNDERPASS LIGHTING  
SEE SHEET NO. 588



STA. 851+50 TO STA. 866+00

LIGHTING PLAN

CUY-90-11.64  
 END PROJECT  
 STA. 880+06.44 W.B.L.  
 STA. 880+07.53 E.B.L.

CUY-90-13.33  
 BEGIN PROJECT  
 STA. 880+00

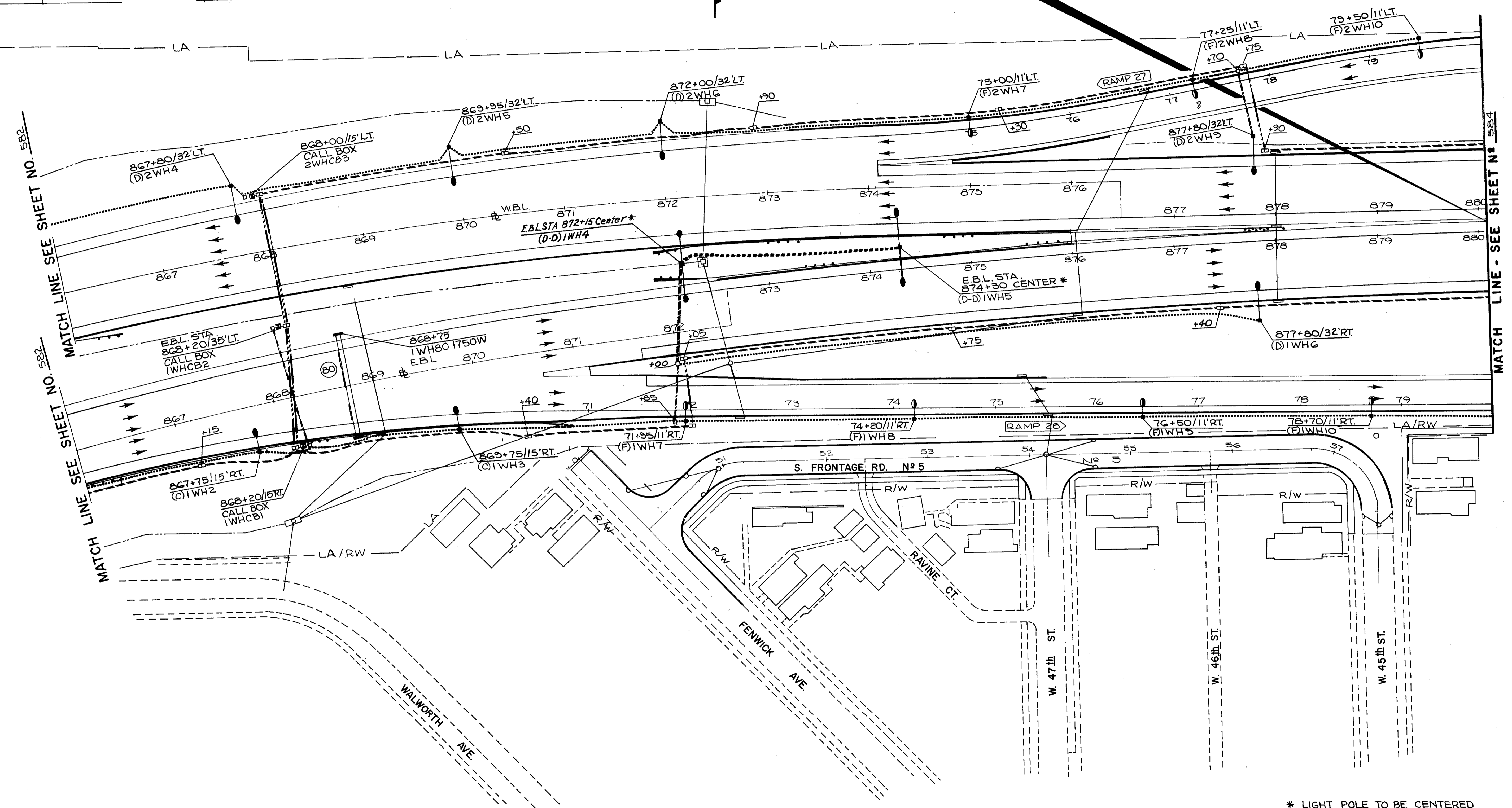
FED. RD.	STATE	PROJECT
	OHIO	I-90-1(38)21

583  
838

CUYAHOGA COUNTY  
 CUY-90-11.64

NORFOLK & WESTERN R.R.

C.T.S. TRACKS

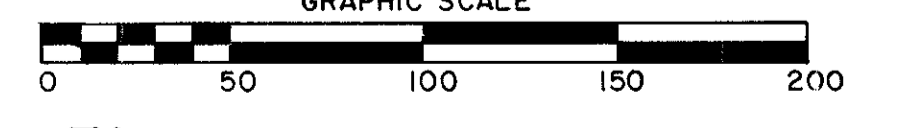


MATCH LINE SEE SHEET NO. 582

MATCH LINE SEE SHEET NO. 582

MATCH LINE - SEE SHEET NO. 584

\* LIGHT POLE TO BE CENTERED BETWEEN E.B.L. & W.B.L.  
 GRAPHIC SCALE



STA. 866+00 TO STA. 880+00

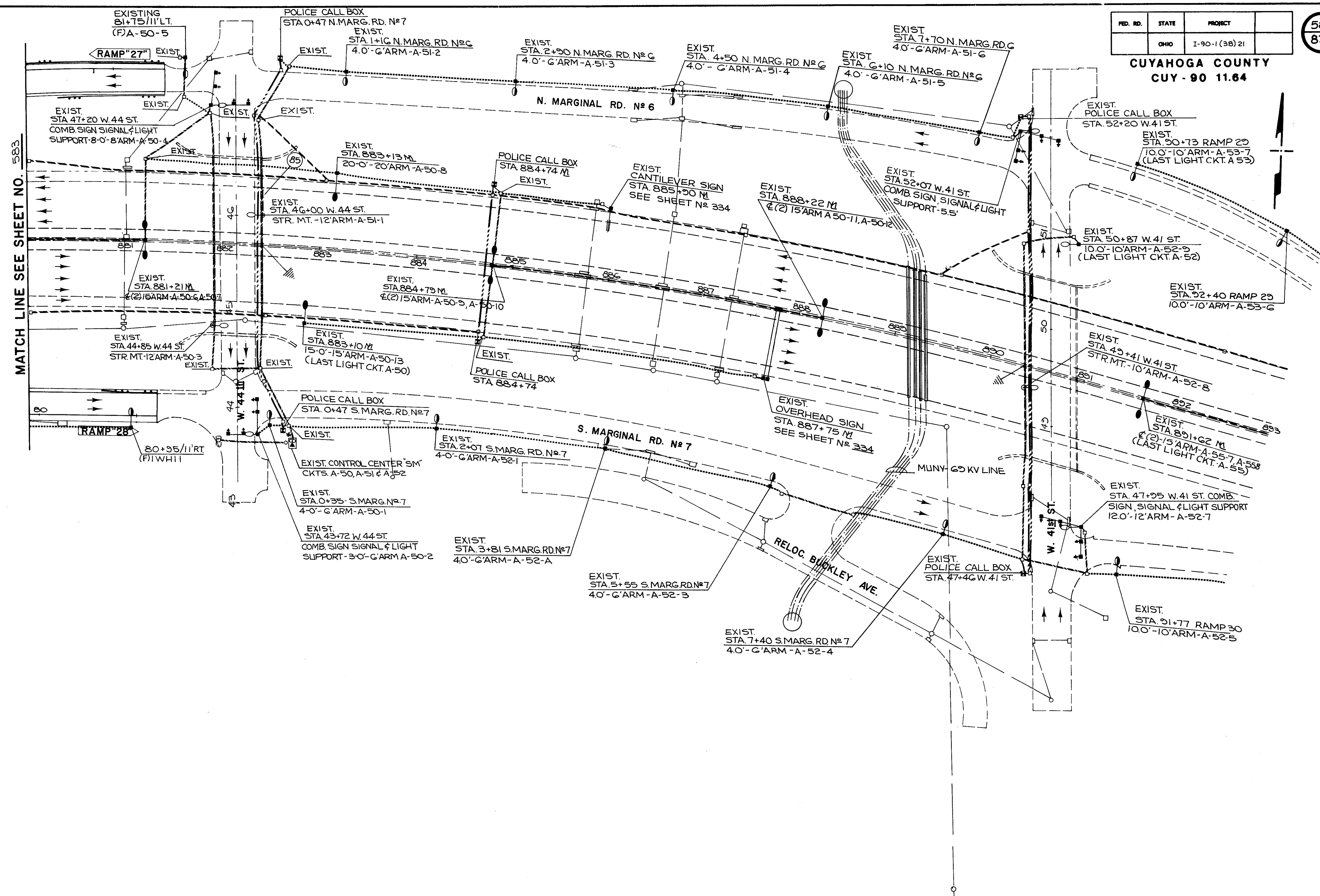
LIGHTING PLAN



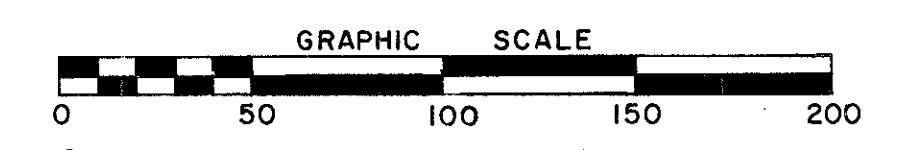
FED. RD.	STATE	PROJECT
	OHIO	I-90-1 (38) 21

584  
838

CUYAHOGA COUNTY  
CUY - 90 11.64




MATCH LINE SEE SHEET NO. 583

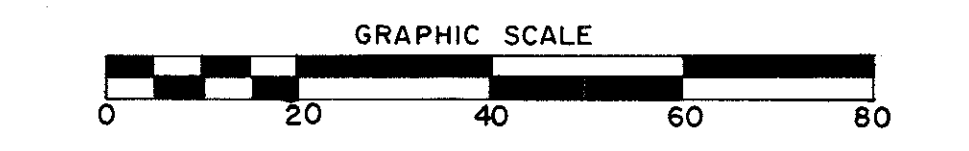
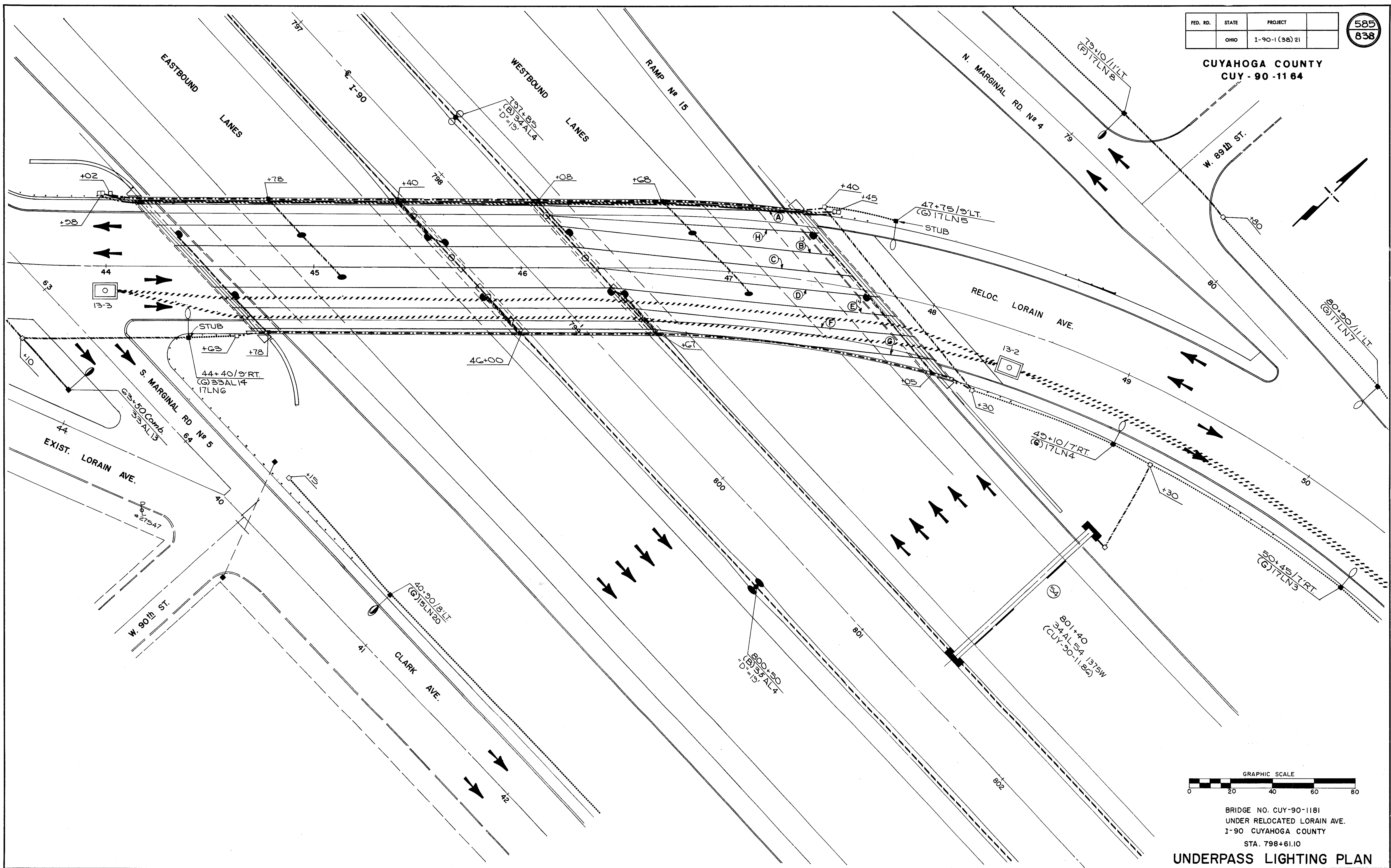


STA. 880+00 TO STA. 893+00

LIGHTING PLAN

FED. RD.	STATE	PROJECT	
	OHIO	I-90-1 (38) 21	

CUYAHOGA COUNTY  
CUY - 90 - 11 64

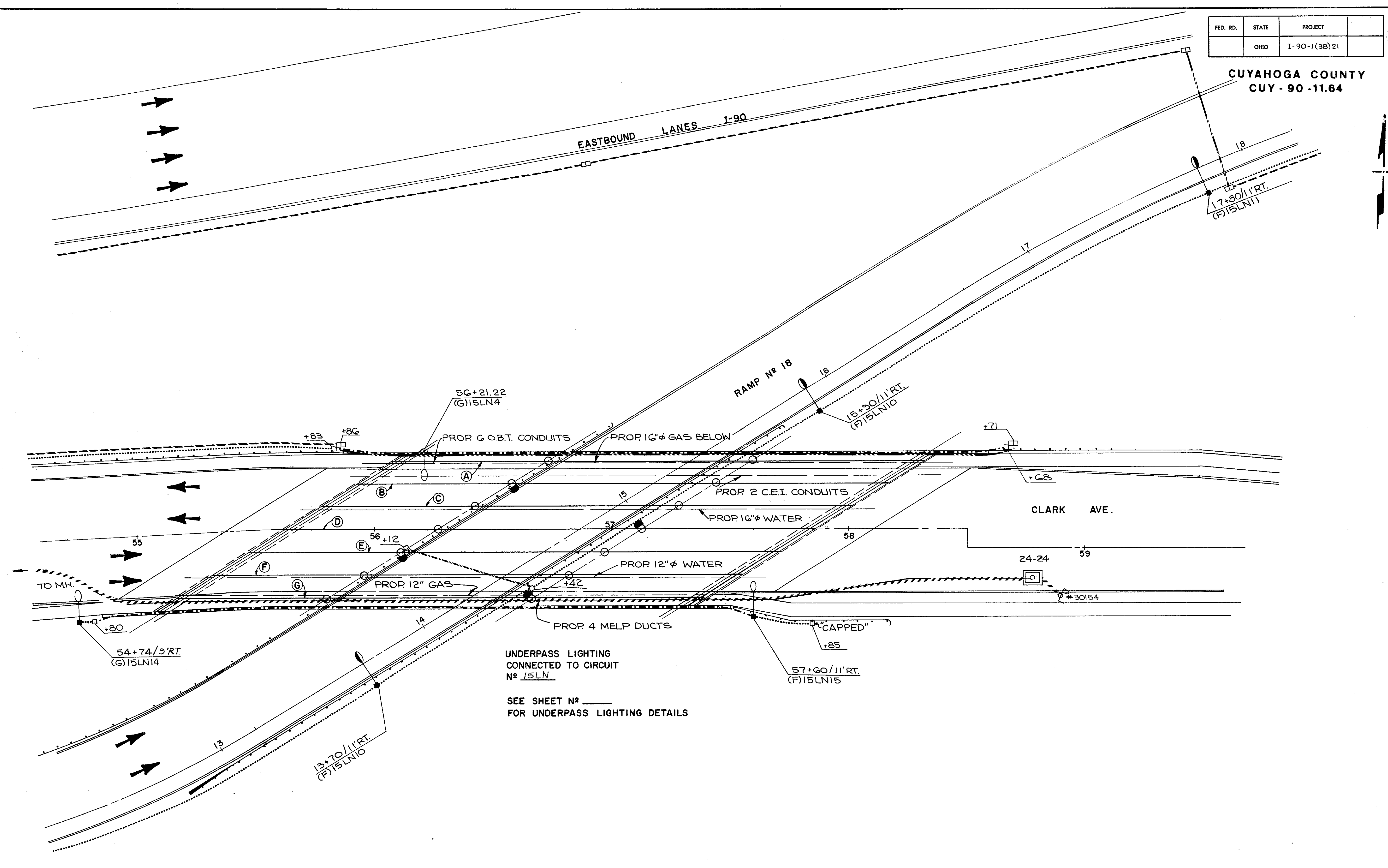


BRIDGE NO. CUY-90-1181  
UNDER RELOCATED LORAIN AVE.  
I-90 CUYAHOGA COUNTY  
STA. 798+61.10  
**UNDERPASS LIGHTING PLAN**

FED. RD.	STATE	PROJECT
	OHIO	I-90-1(36)21

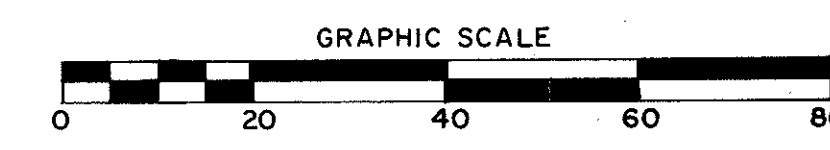
586  
838

CUYAHOGA COUNTY  
CUY-90-11.64



UNDERPASS LIGHTING  
CONNECTED TO CIRCUIT  
NO. 15LN

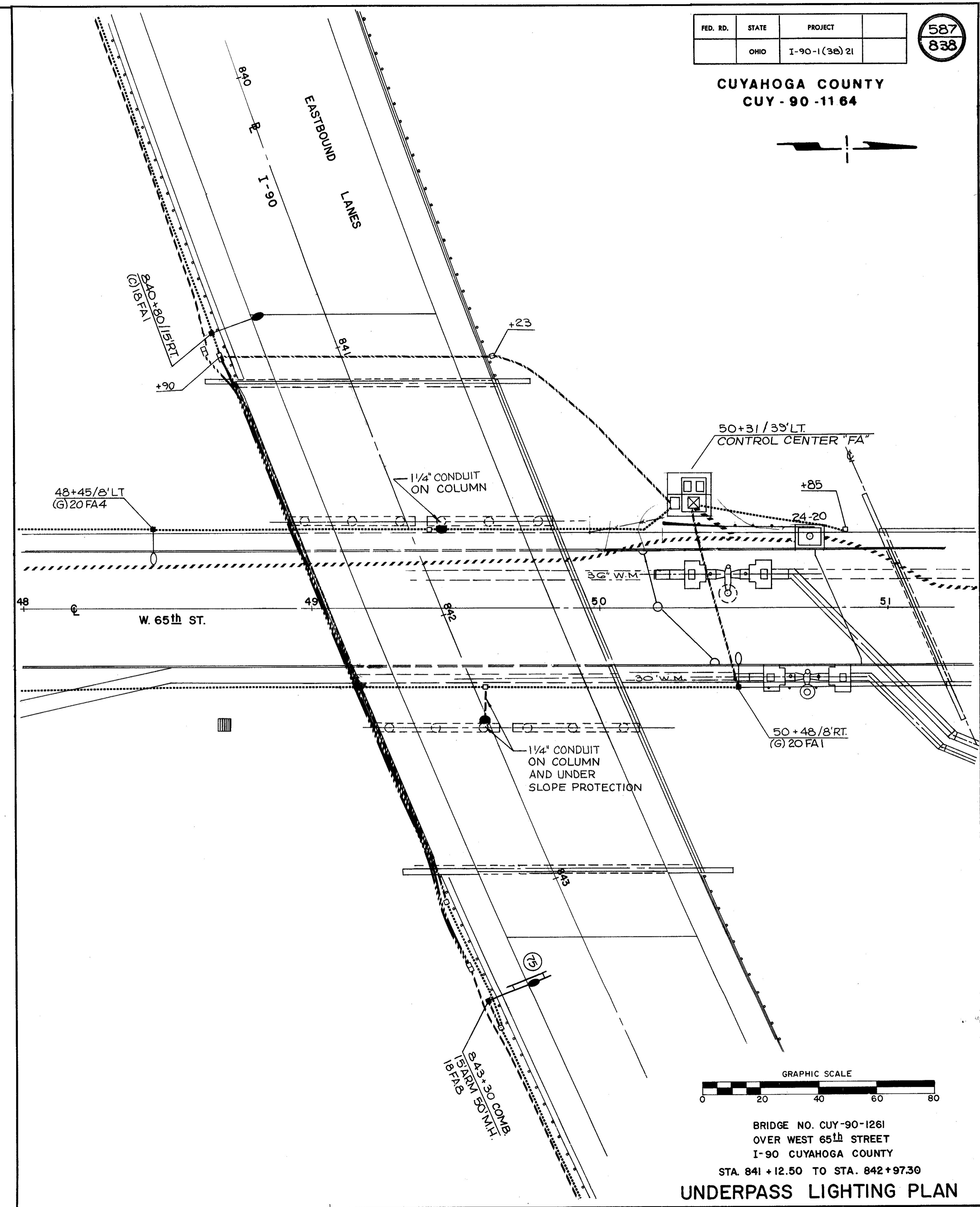
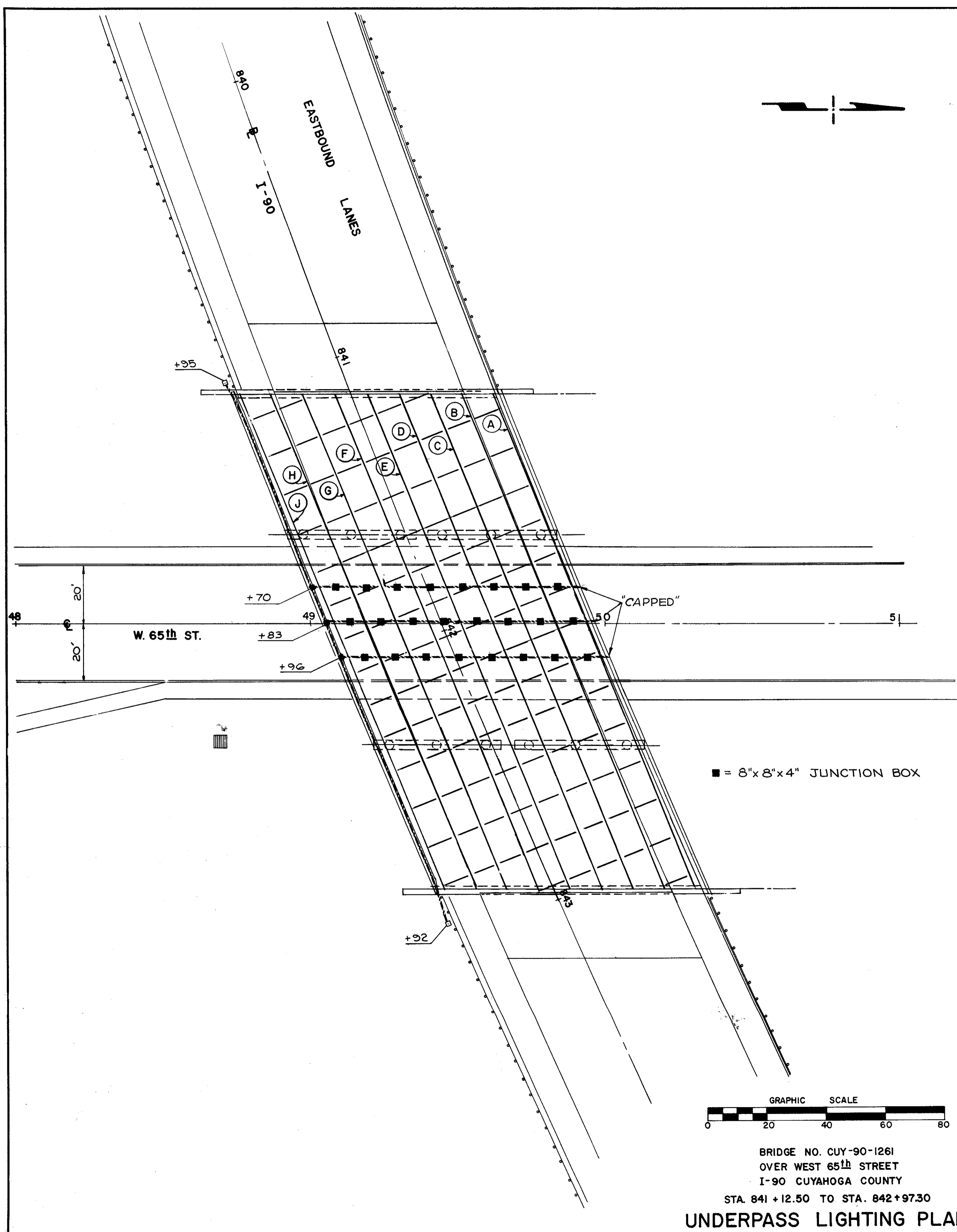
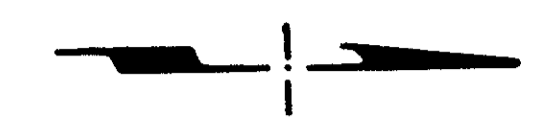
SEE SHEET NO. \_\_\_\_\_  
FOR UNDERPASS LIGHTING DETAILS



BRIDGE NO. CUY-90-1210  
CLARK AVE. OVER RAMP NO. 18  
I-90 CUYAHOGA COUNTY  
STA. 55+62.32 TO STA. 57+85.80  
**UNDERPASS LIGHTING PLAN**

FED. RD.	STATE	PROJECT	587 838
	OHIO	I-90-1(36) 21	

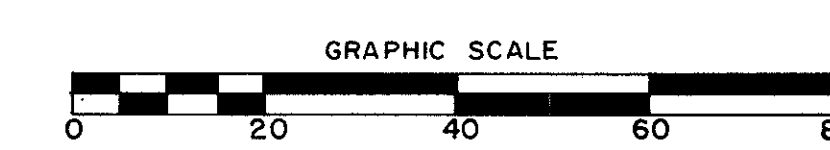
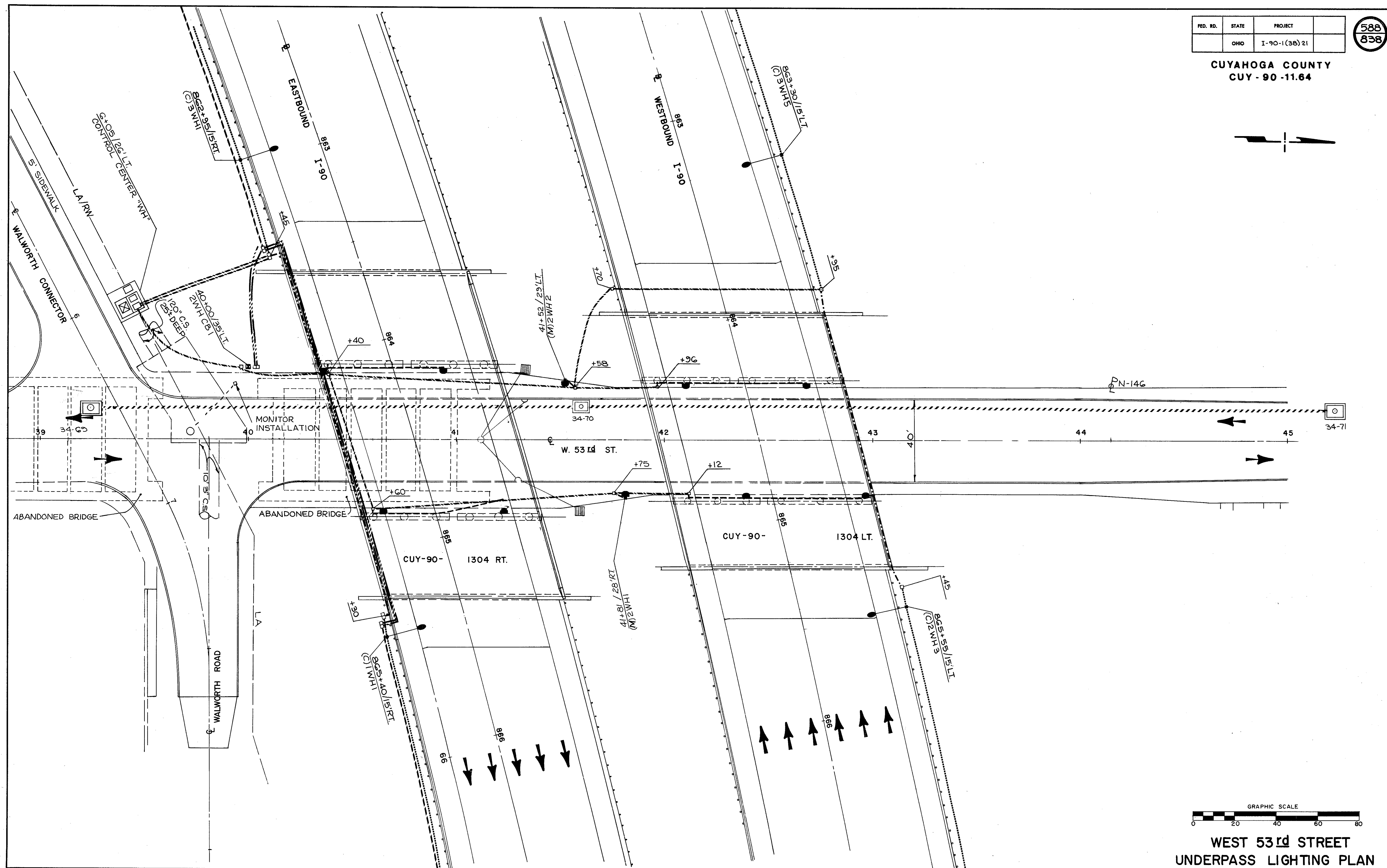
CUYAHOGA COUNTY  
CUY - 90 - 11 64



FED. RD.	STATE	PROJECT
	OHIO	I-90-1(38)21

588  
838

CUYAHOGA COUNTY  
CUY-90-11.64

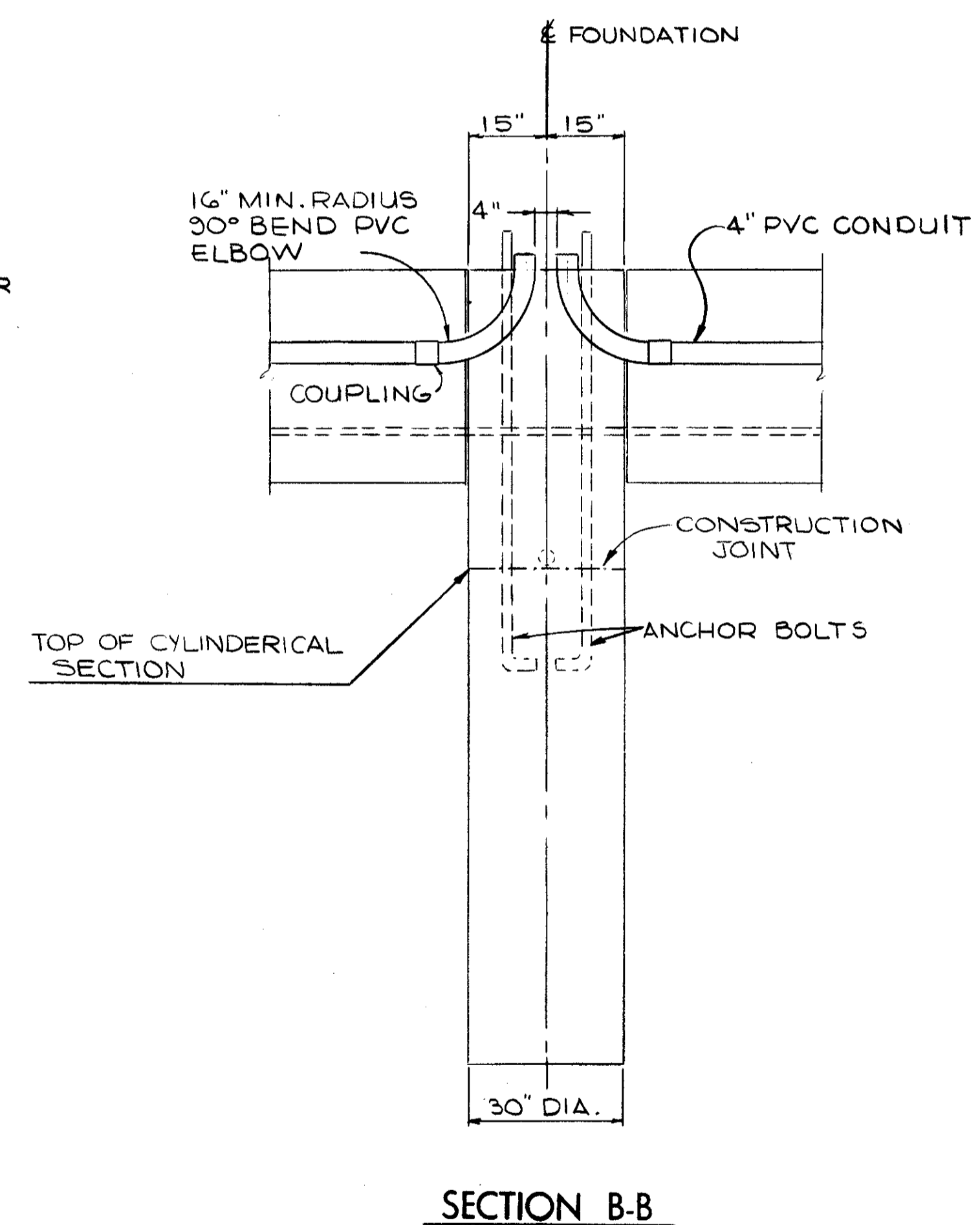
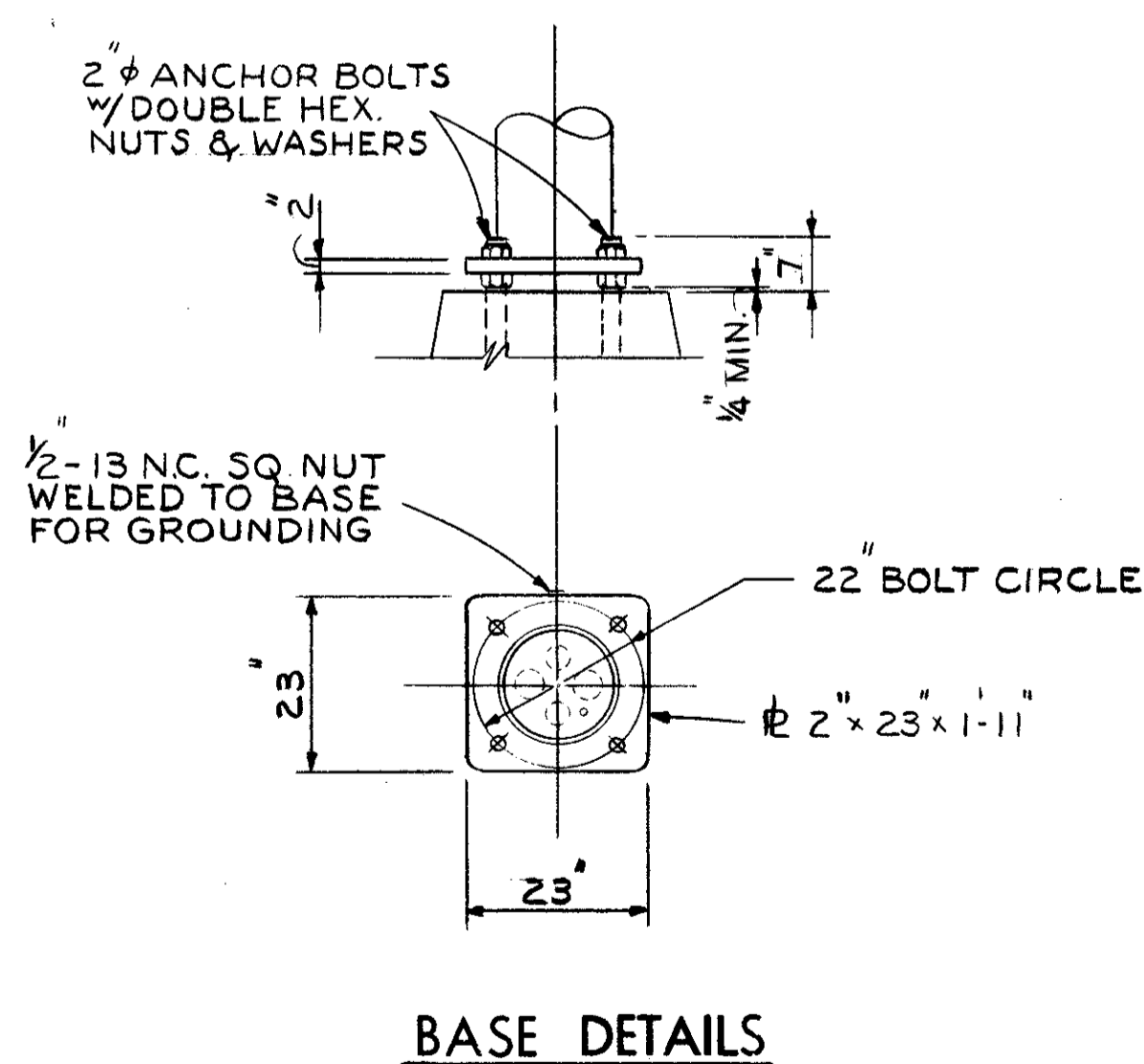
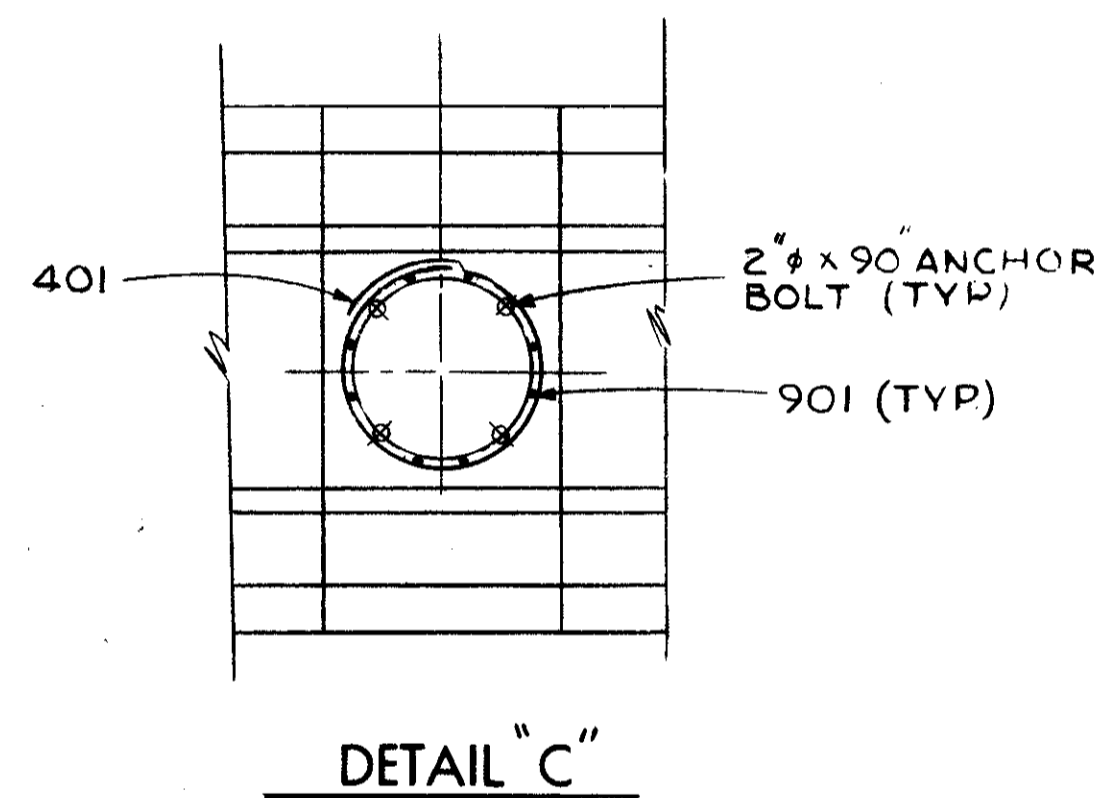
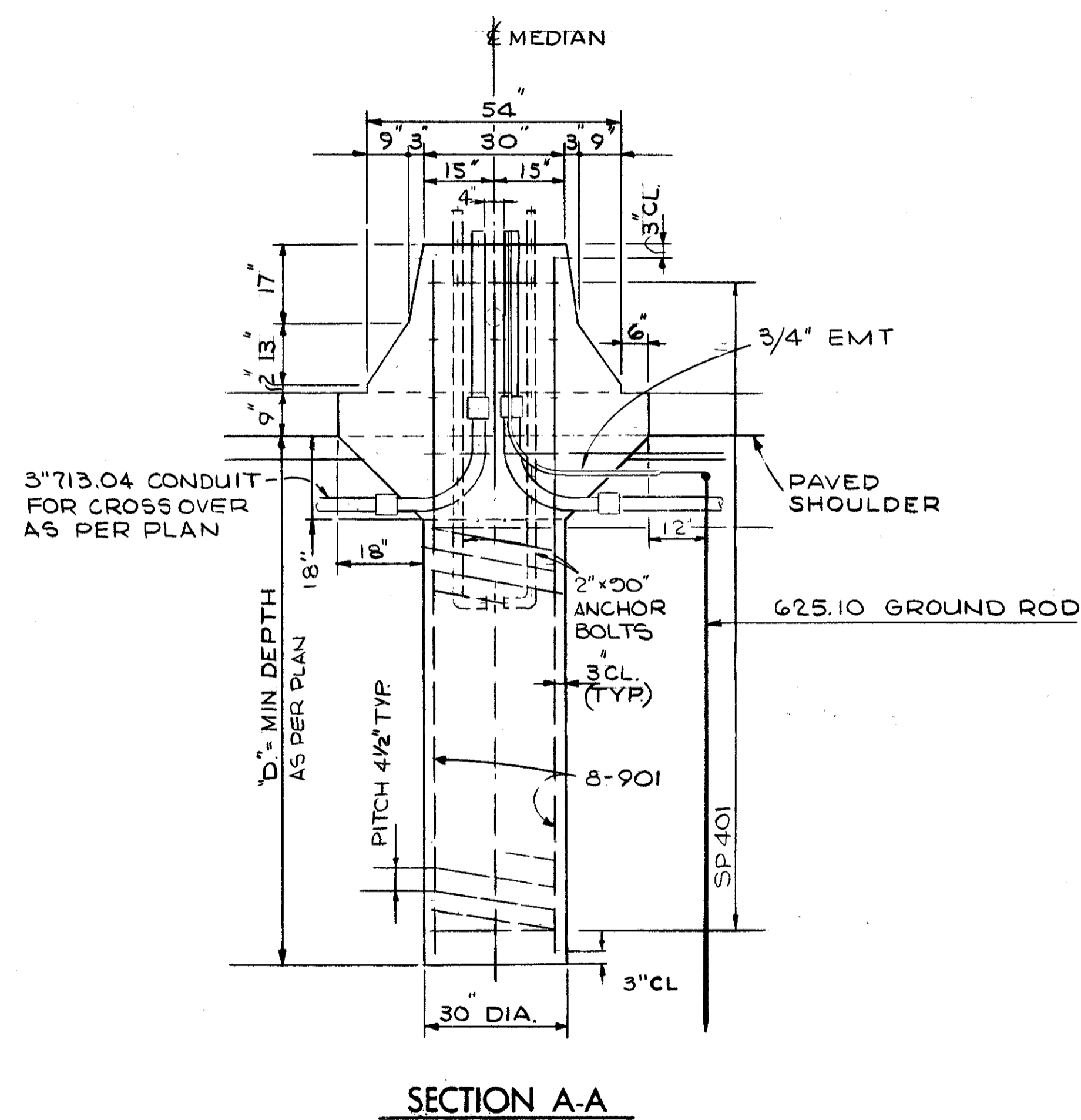
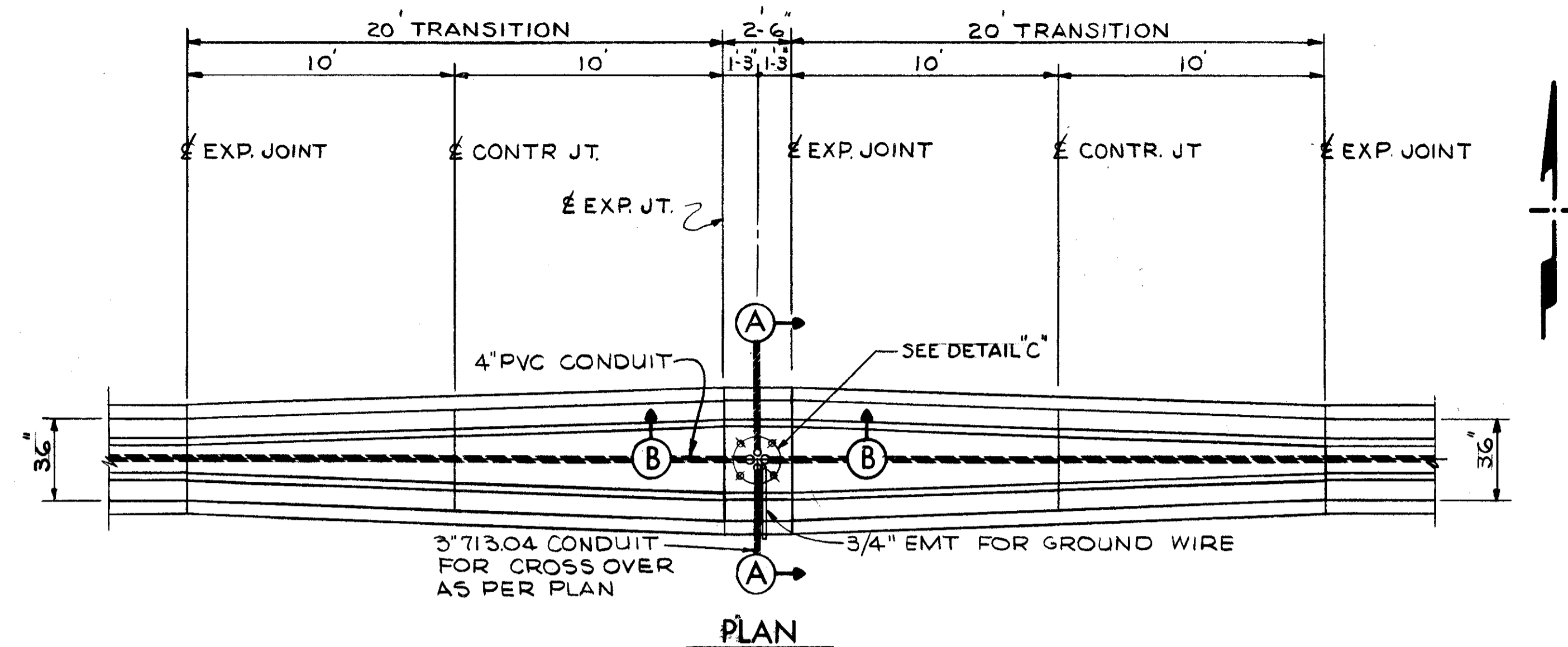


WEST 53rd STREET  
UNDERPASS LIGHTING PLAN

FED. RD.	STATE	PROJECT
	OHIO	I-90-1(30)21

589  
838

CUYAHOGA COUNTY  
CUY - 90 -



SPIRAL REINFORCEMENT SCHEDULE				
MARK	NO. REQD.	COR. DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH
SP401	1	2'-0"	"D" MIN + (30)	4 1/2"
REINFORCEMENT SCHEDULE				
MARK	NO. REQD.	LENGTH	TYPE	
901	8	"D" MIN + 35'	ST.	401

SOILS - THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY 75% IN DRY OR WET SAND, 80% IN SILTY CLAY, 110% IN SOFT CLAY, AND BY 180% IN WET SILT.

RACEWAY - 4" RACEWAY IN THE MEDIAN BARRIER SHALL CONSIST OF POLYVINYL CHLORIDE MATERIAL. PAYMENT FOR FURNISHING AND PLACING THE RACEWAY MATERIAL SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE 622 CONCRETE BARRIER AND FOR 625 FOUNDATION ITEMS.

FOUNDATION - CONSTRUCTION OF THE SPECIAL SECTION FOR MEDIAN LIGHT POLE SUPPORT SHALL CONFORM TO THE REQUIREMENTS OF 625 AND 622. THE UNIT PRICE BID FOR EACH "ITEM 625, LIGHT POLE FOUNDATION, HIGH MAST, 30" BARRIER MEDIAN, D-XX" SHALL BE FULL COMPENSATION FOR EXCAVATION, FORMING AND PLACING THE BARRIER SECTION AS DETAILED, REINFORCING, KEYING AND DOWELING IN TO ADJACENT STANDARD BARRIER SECTIONS, FURNISHING AND PLACING ANCHOR BOLTS, CONDUIT ELLS, AND ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

PULL BOX - WHERE A PULL BOX IS SPECIFIED IN A STANDARD BARRIER SECTION, THE UNIT PRICE BID FOR EACH "ITEM 625, SPECIAL MEDIAN BARRIER PULLBOX, AS PER PLAN" SHALL BE FULL COMPENSATION FOR FORMING THE PULLBOX CAVITY, FURNISHING AND PLACING THE COVER FRAME, COVER PLATE, AND CONDUIT ELLS, AND ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. THE PULLBOX SHALL BE AS DETAILED IN STANDARD DRAWING HL-17A AND HL-17B.

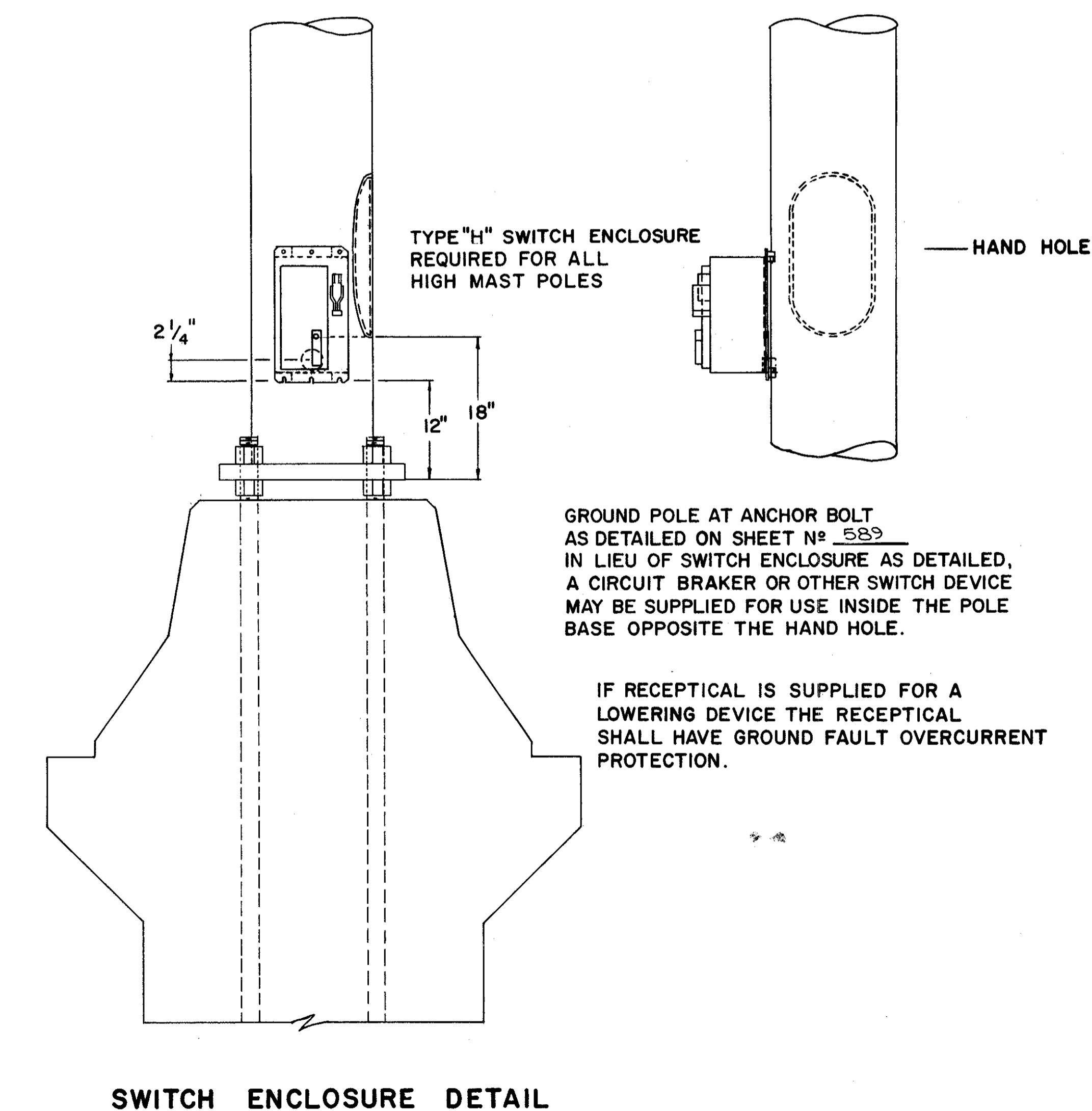
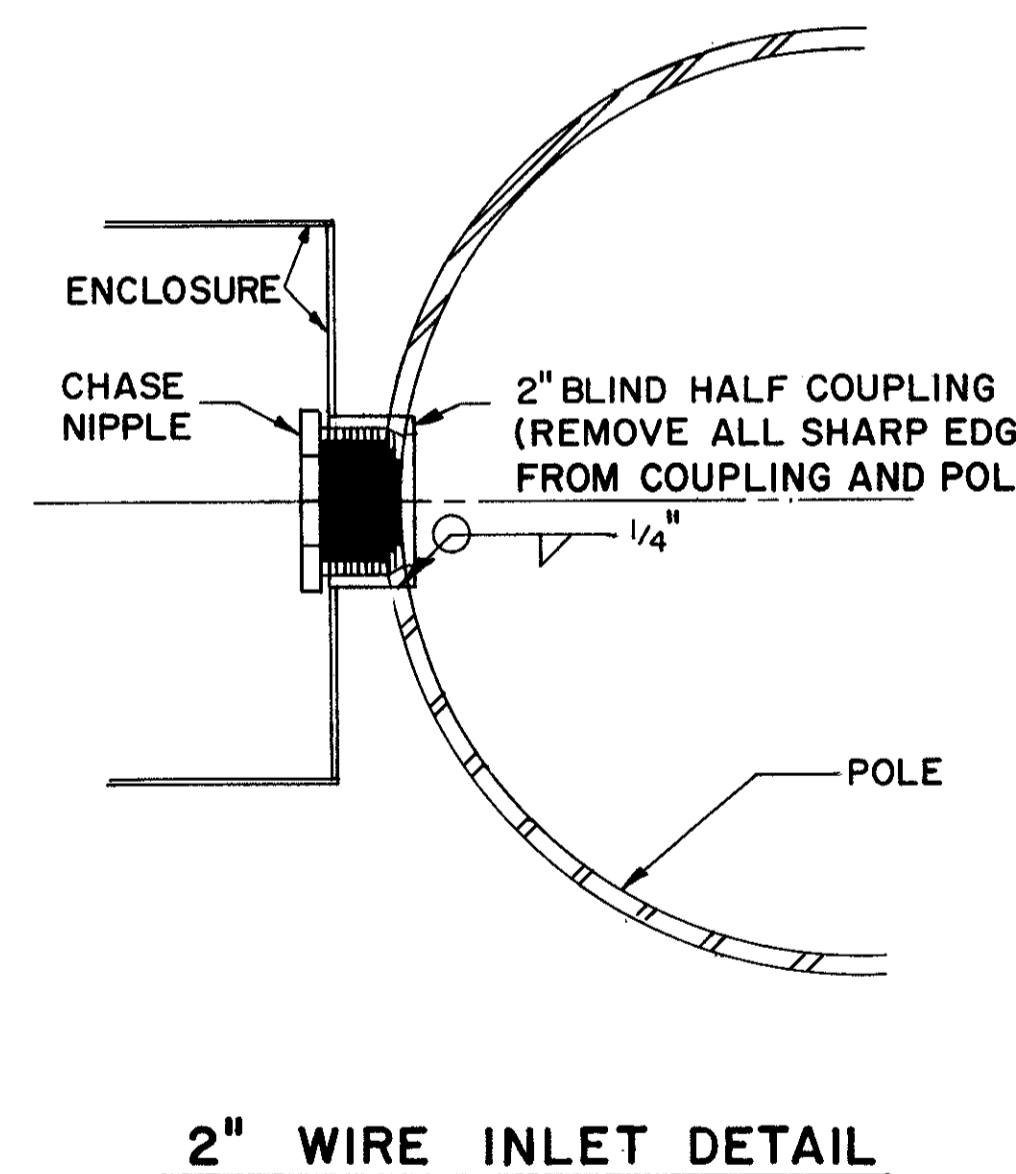
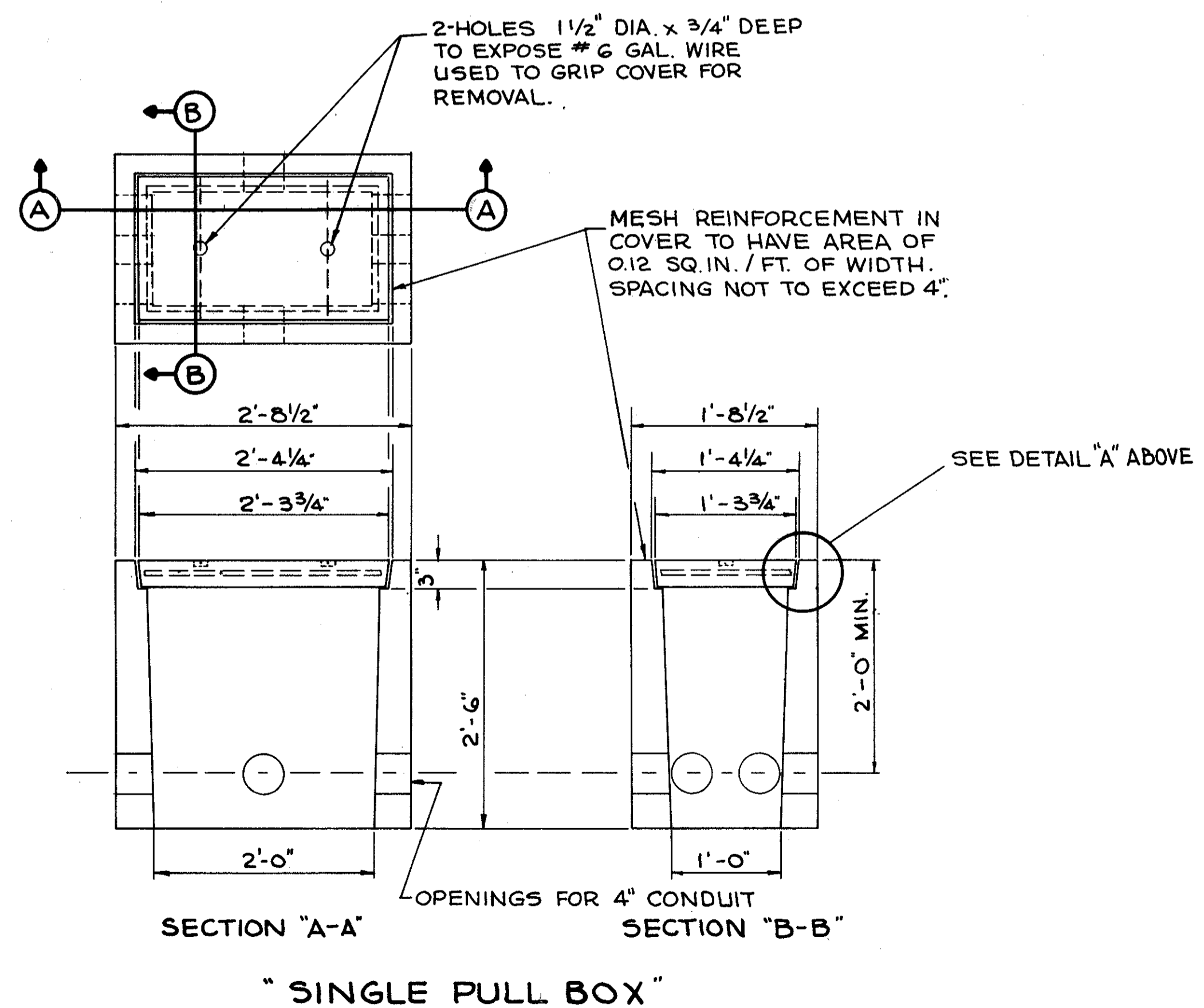
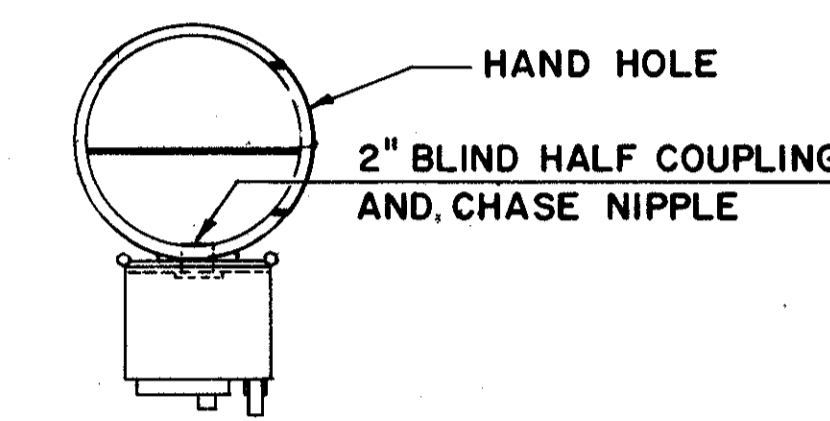
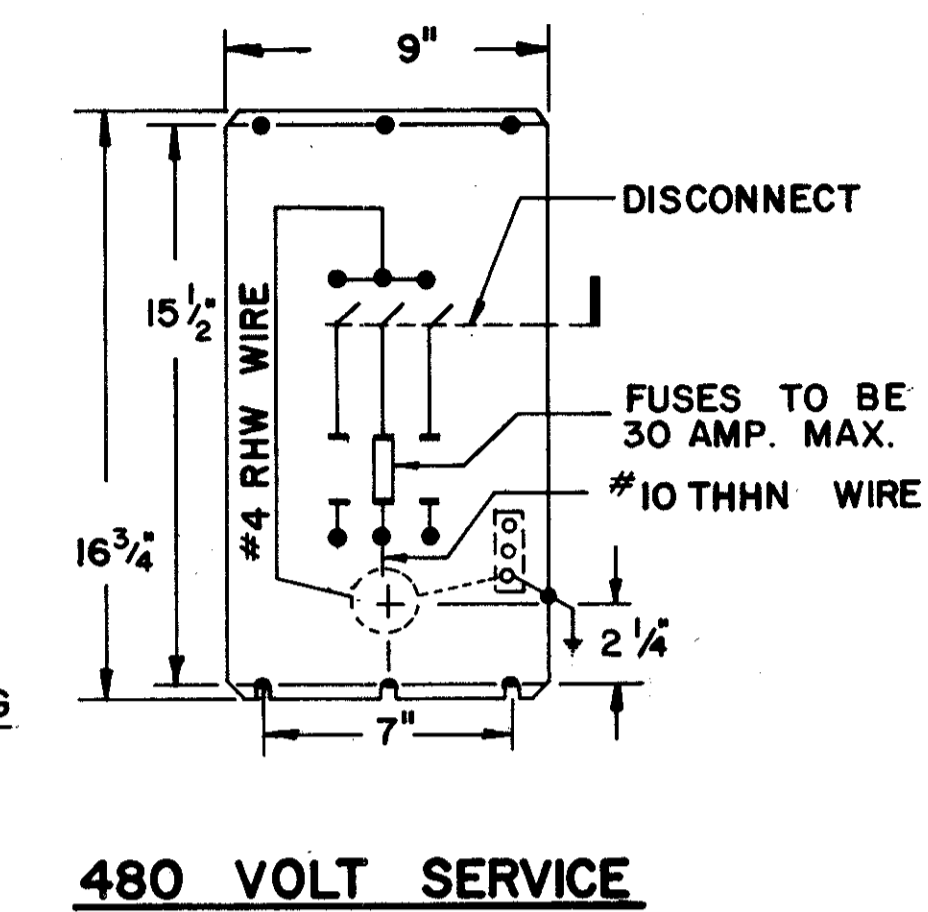
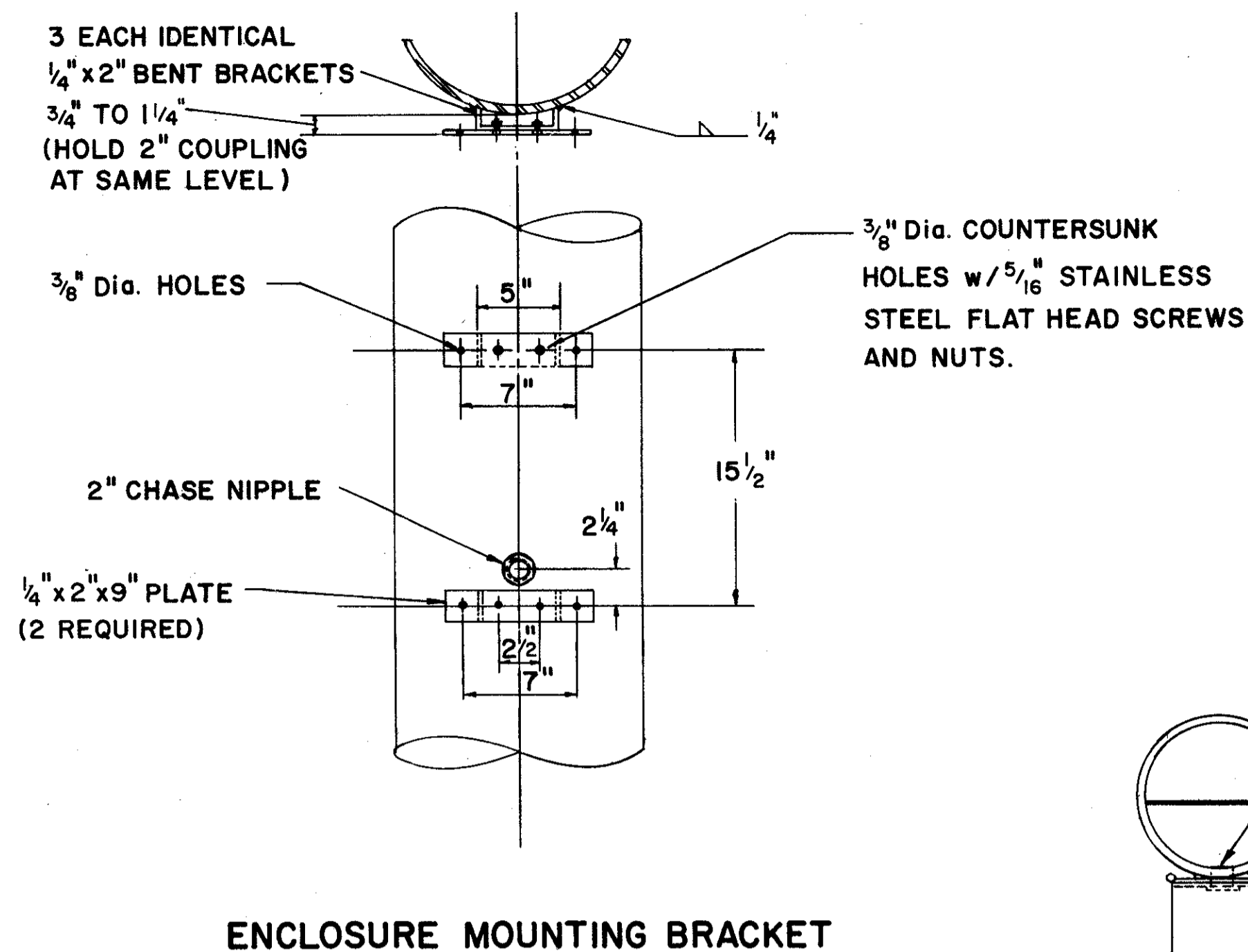
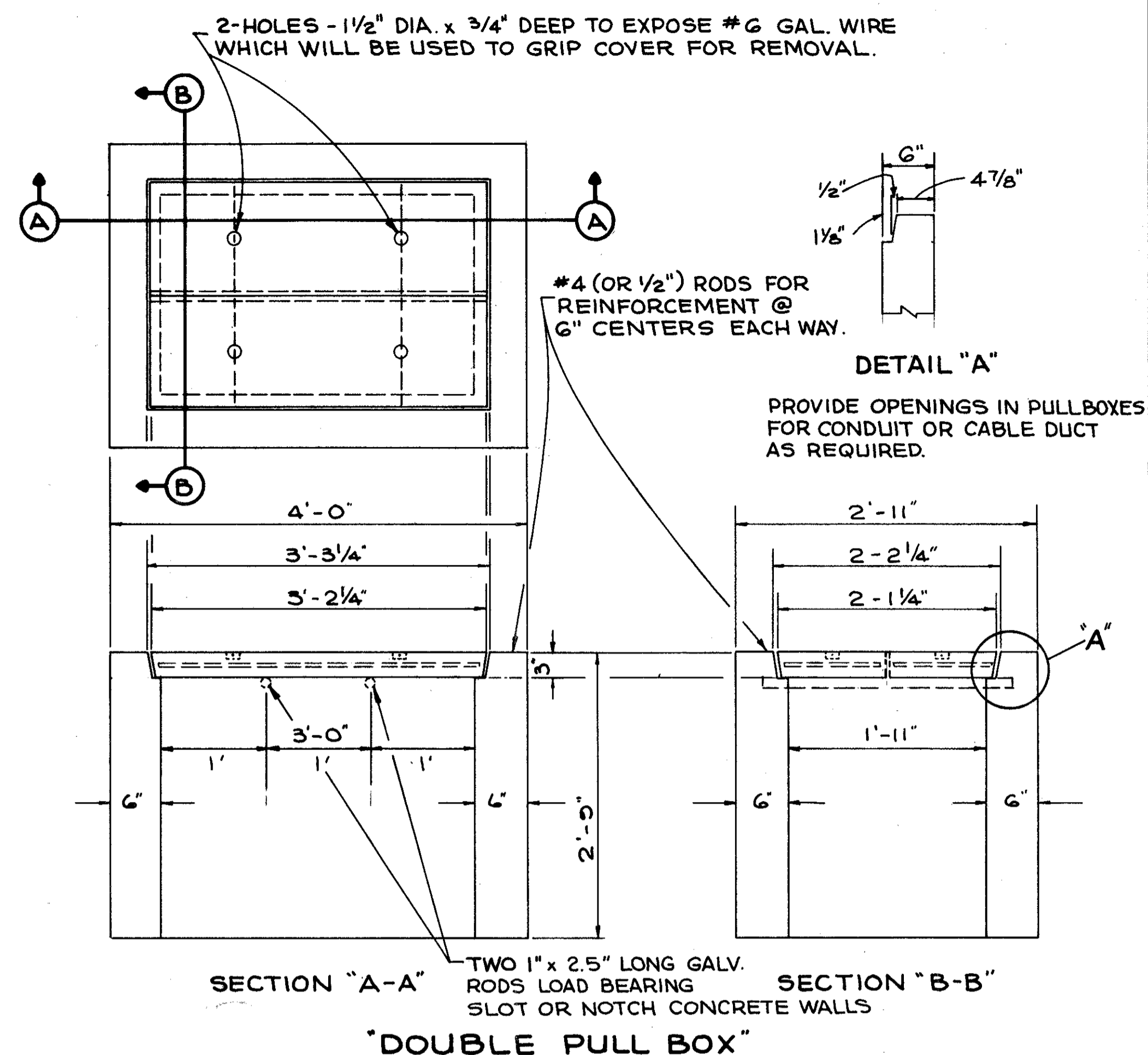
BARRIER MEDIAN FOUNDATION DETAILS  
FOR 80' HIGH MAST POLES  
LIGHTING PLAN

REV. 6-24-75

PED. NO.	STATE	PROJECT
OHIO	I-90-1(3e) 21	

590  
838

CUYAHOGA COUNTY  
CUI-90-11.64



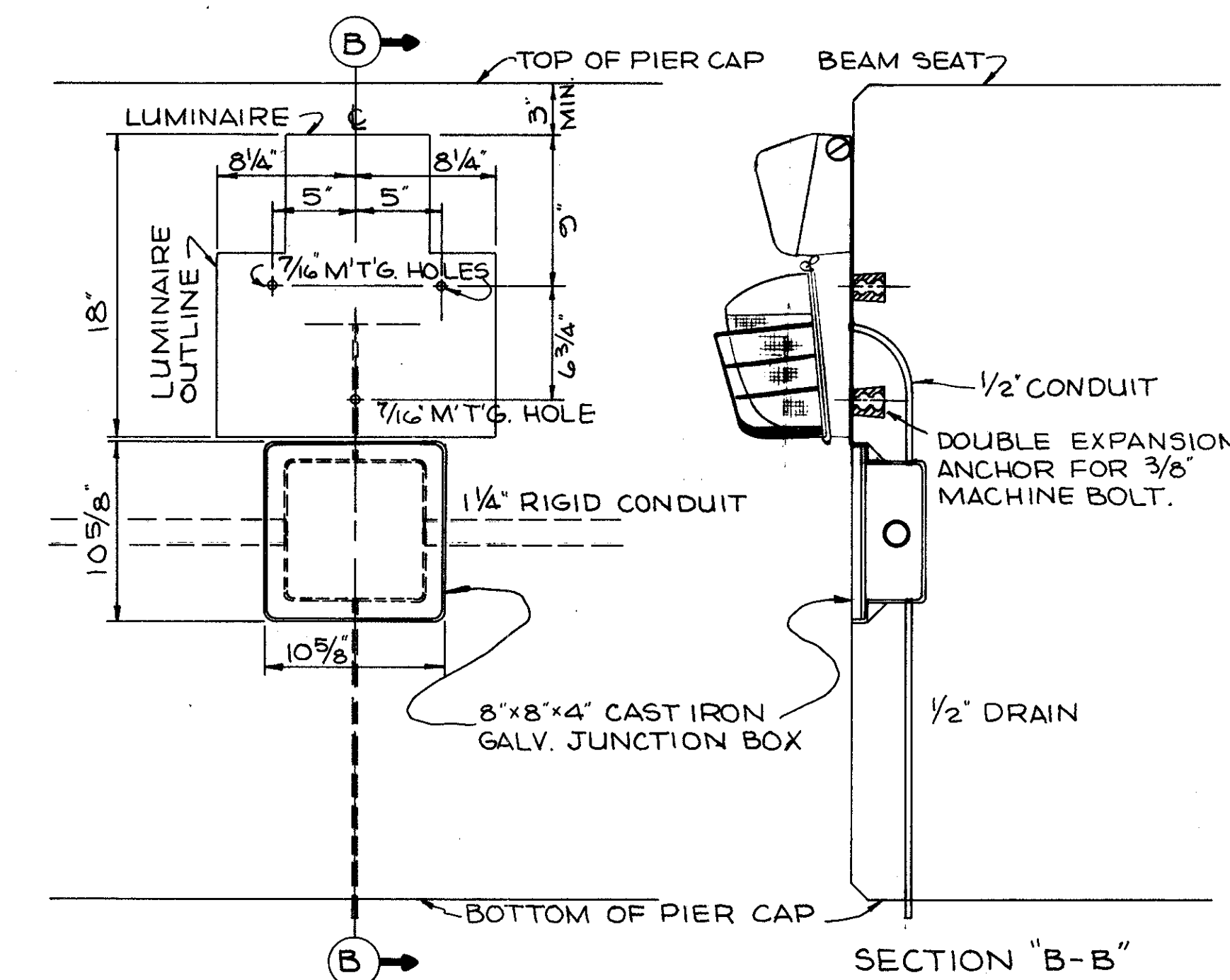
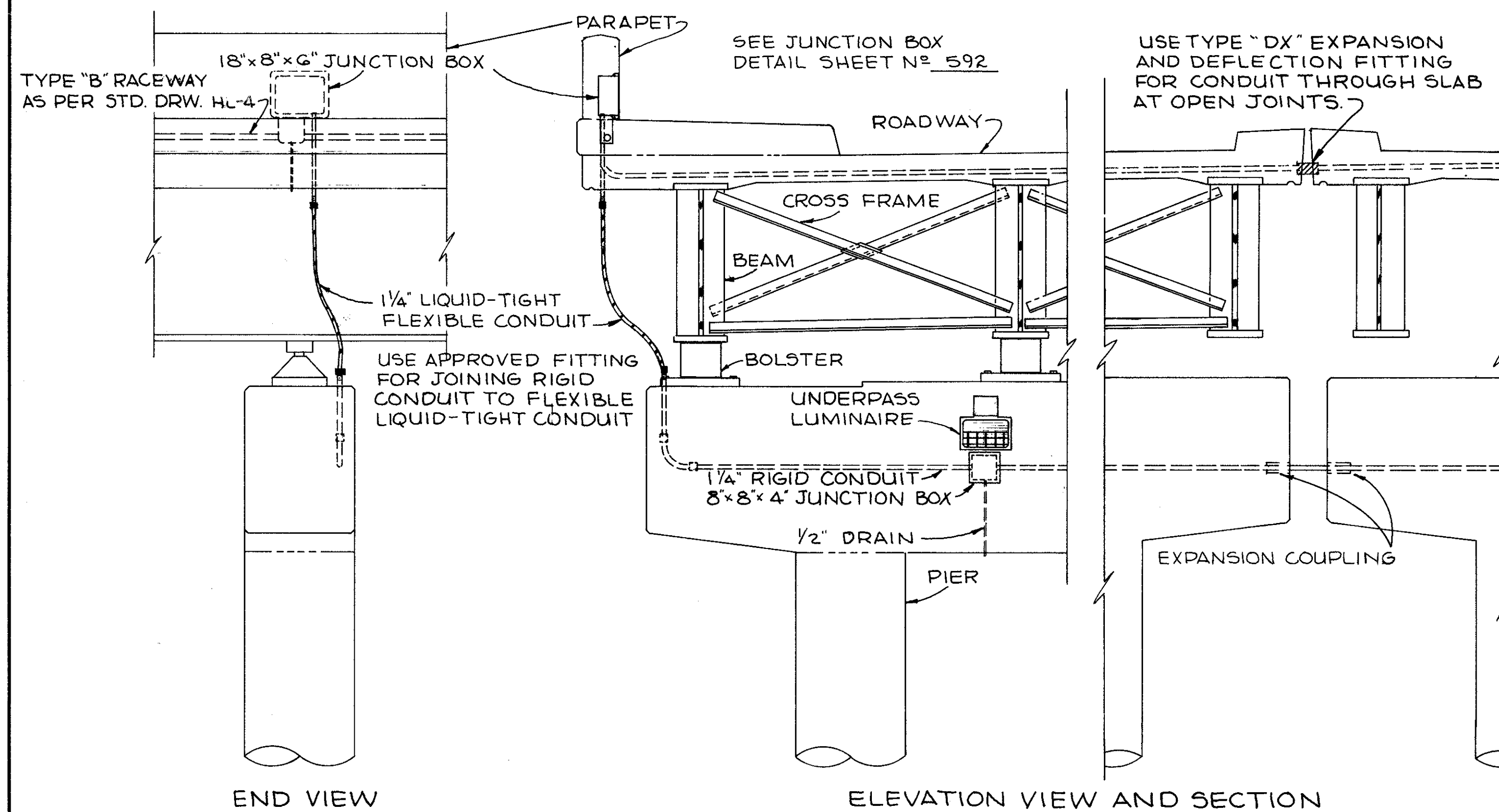
PULL BOX DETAILS

LIGHTING PLAN

FED. RD.	STATE	PROJECT
	OHIO	I-90-1(3B)21

591  
838

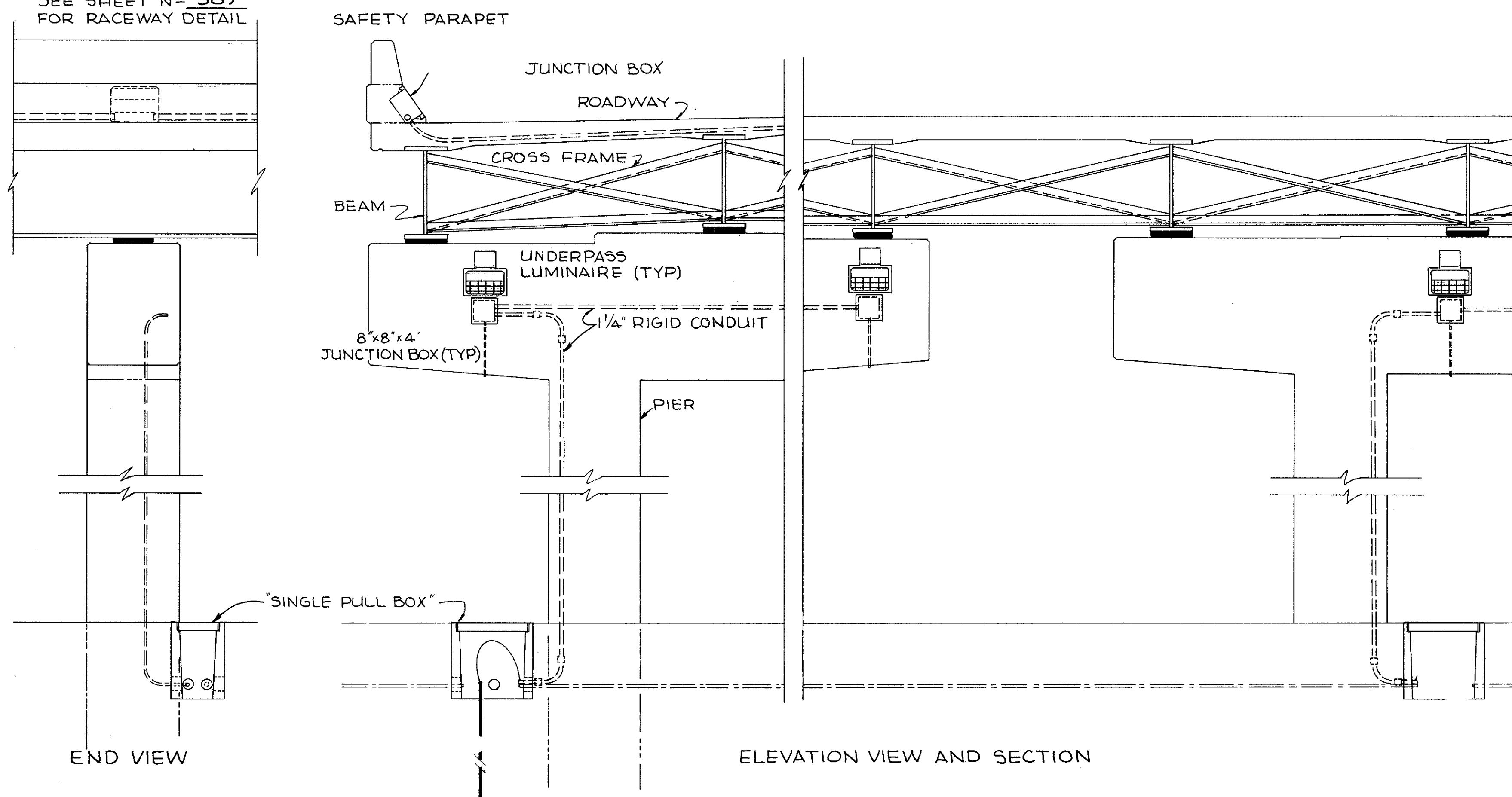
CUYAHOGA COUNTY  
CUY-90-



TYPICAL INSTALLATION FOR WALL MOUNTED  
OR PIER MOUNTED UNDERPASS LUMINAIRES

WALL MOUNTED UNDERPASS LUMINAIRE  
DIMENSIONS AND INSTALLATION DETAIL

SEE SHEET N° 589  
FOR RACEWAY DETAIL



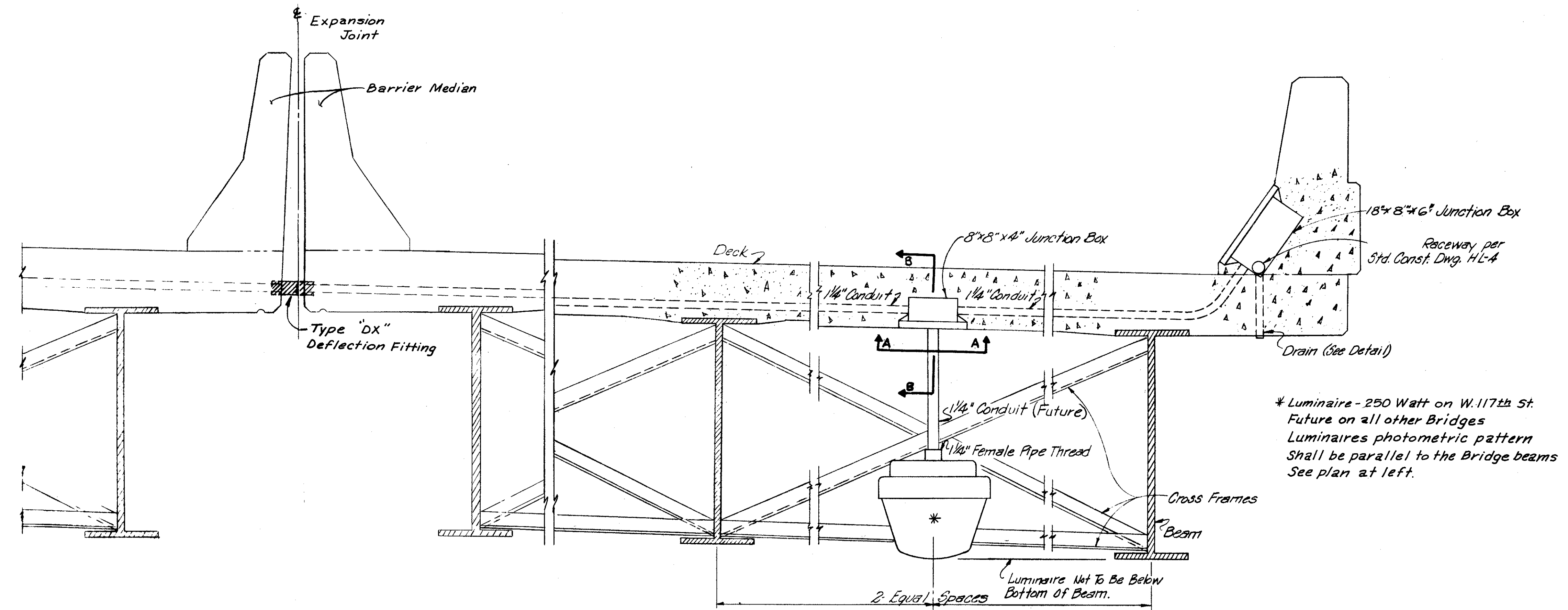
LIGHTING PLAN



FED. RD.	STATE	PROJECT
	OHIO	I-90-(3B)21

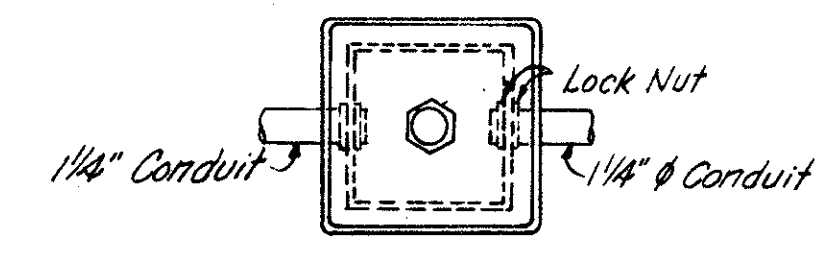
592  
838

CUYAHOGA COUNTY  
CUY - 90 -

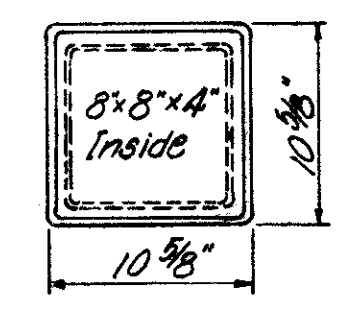


\* Luminaire - 250 Watt on W.117th St.  
Future on all other Bridges  
Luminaires photometric pattern  
shall be parallel to the Bridge beams  
See plan at left.

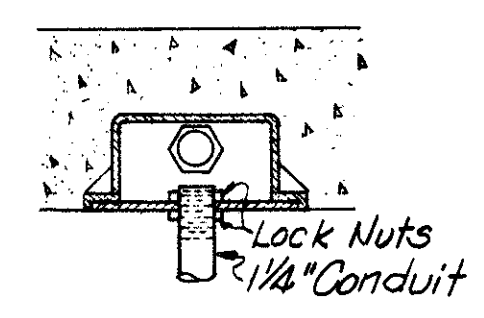
SECTION THROUGH PILASTER SHOWING JUNCTION BOX IN SAFETY CURB AND UNDER STRUCTURE LUMINAIRE MOUNTING



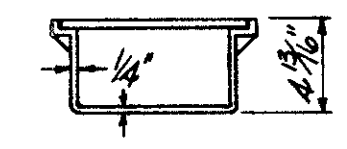
PLAN A-A of Junction Box



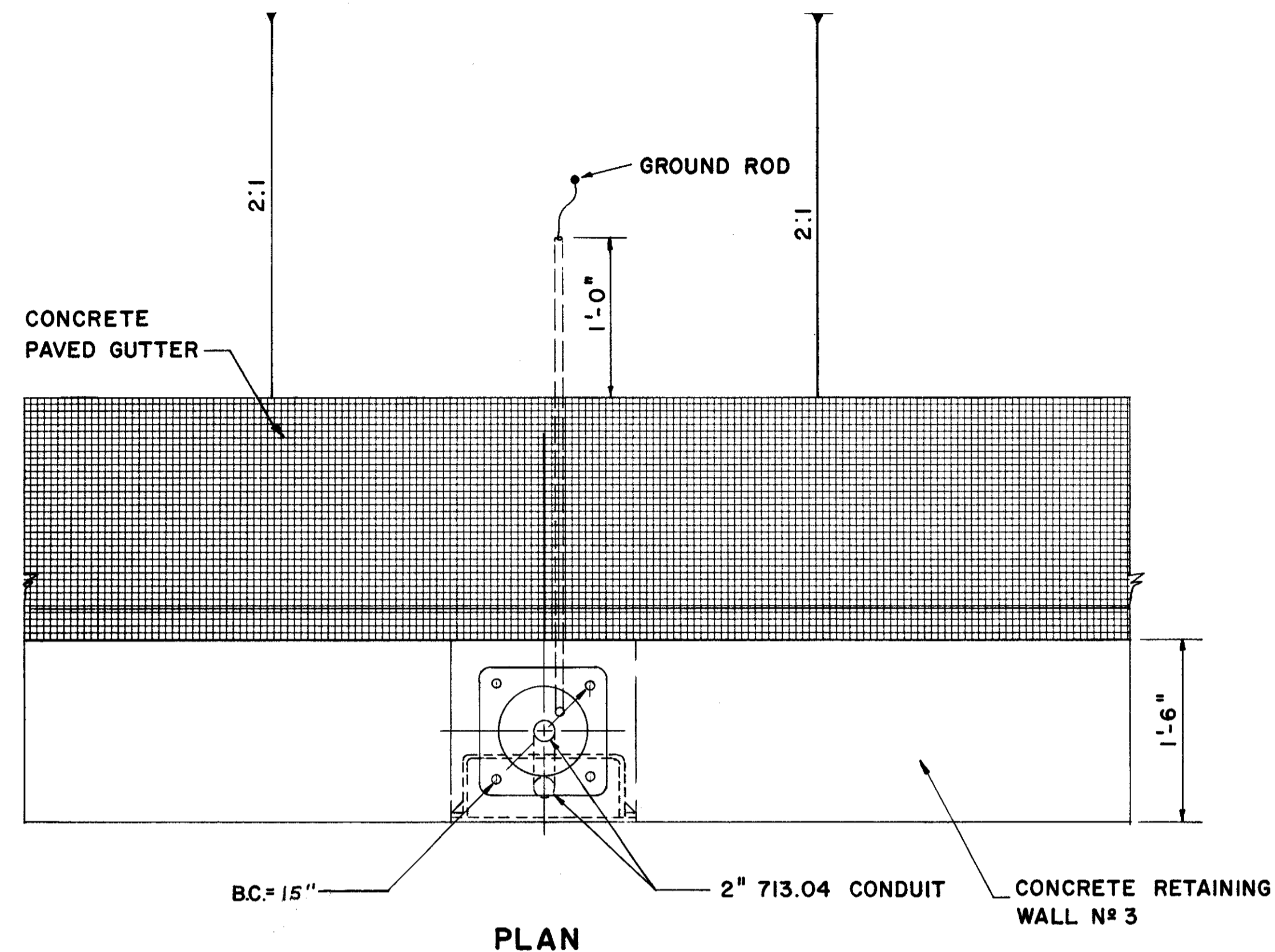
Cover: 1/2" thick



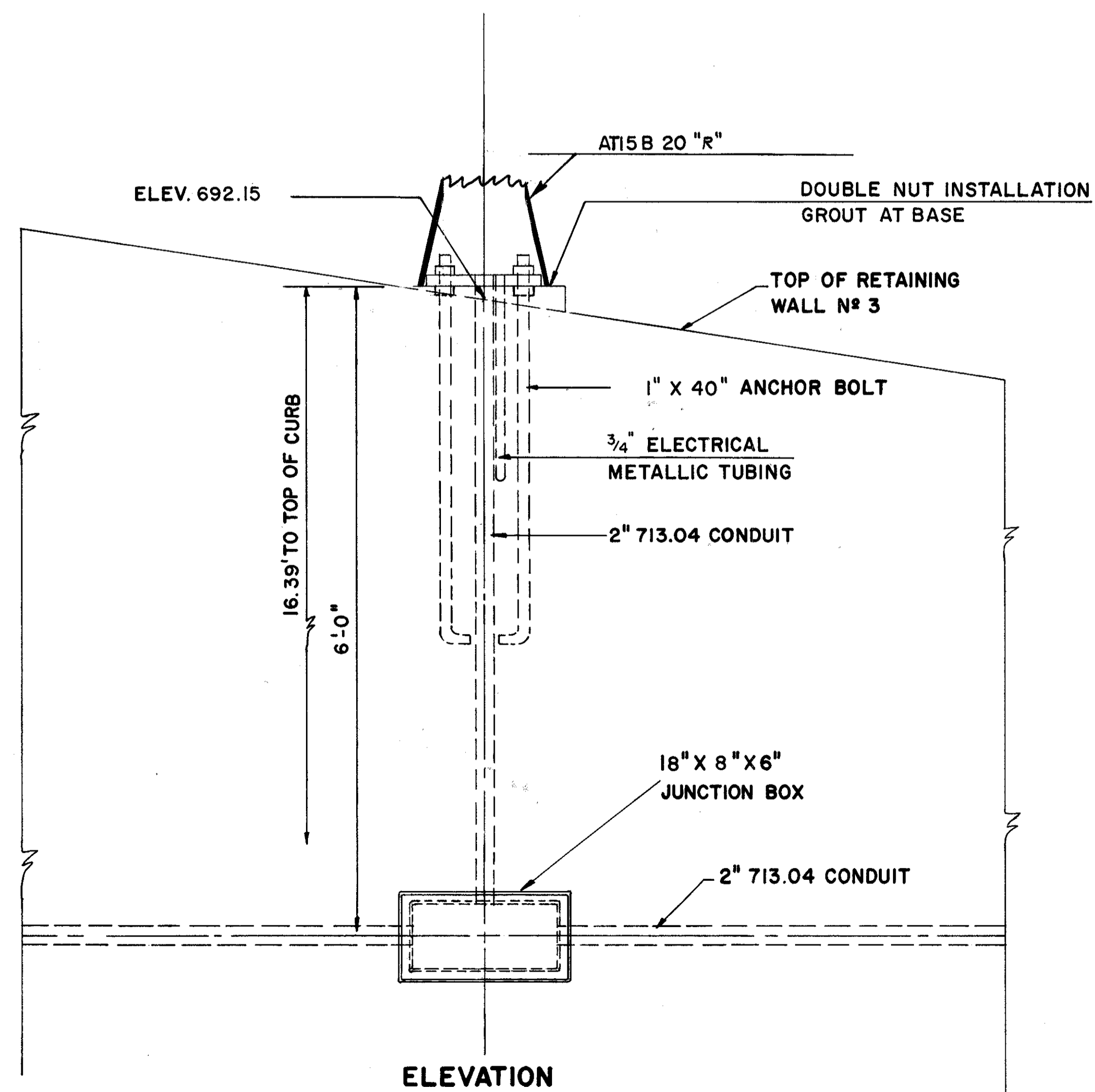
SECTION B-B



JUNCTION BOX DETAILS



PLAN



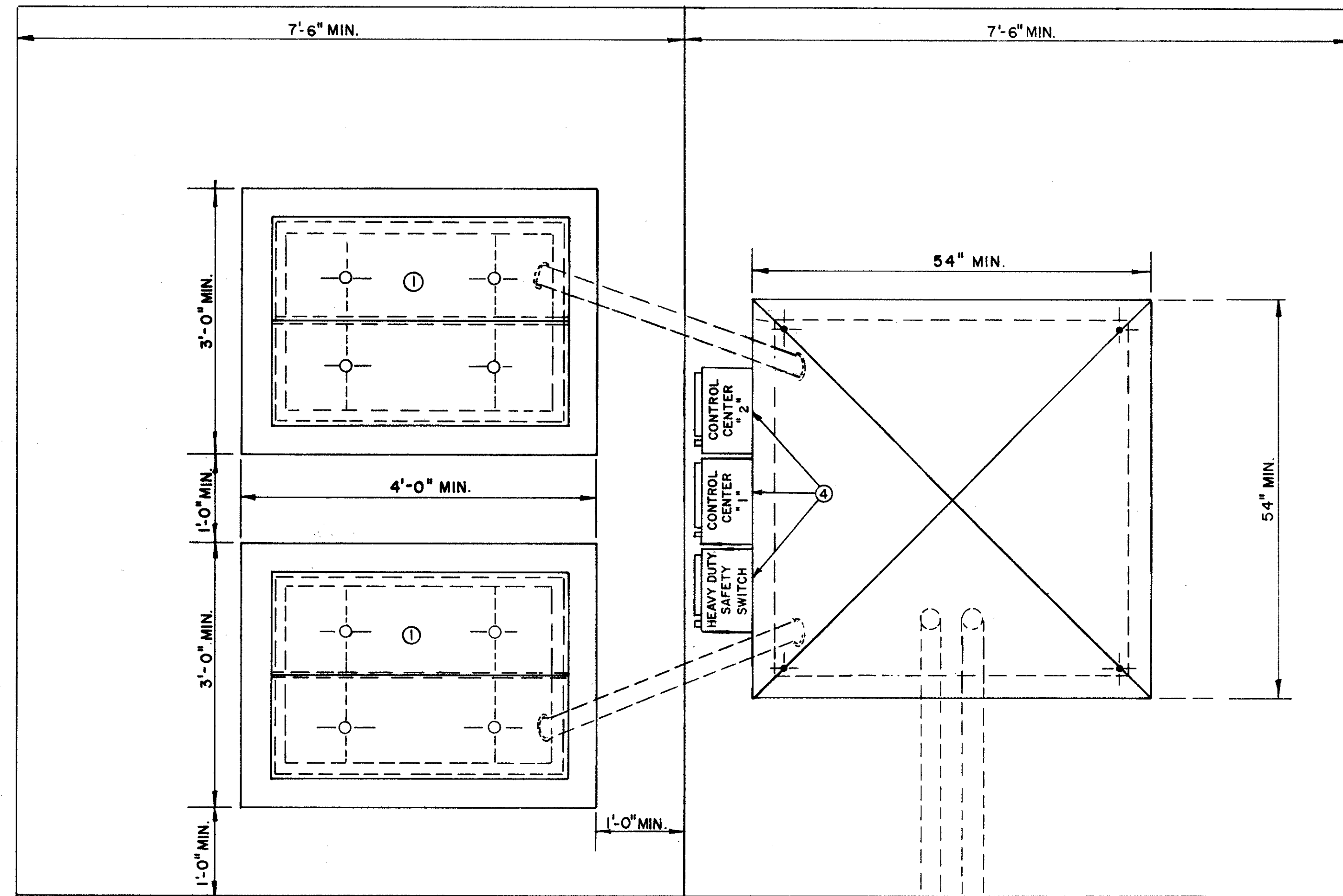
ELEVATION

LIGHT POLE  
AT STA. 20+60  
ON WALL N<sup>o</sup> 3

CONTROL CENTER SCHEDULE													
CONTROL CENTER	LOCATION STA. SIDE	CONNECTED LOAD KVA	SERVICE CONDUCTORS SIZE	CONTROL CENTER AMP	CIRCUIT NO.	FIXTURE						CIRCUITS CONDUCTORS SIZE	CIRCUIT FUSE AMP
						1000 WATTS	400 WATTS	250 WATTS	175 WATTS	150 WATTS	100 WATTS		
"AL"	90+75 35' RT. S. MARG. RD. 5	9.93 11.52 11.52 12.43 45.40	SEE MELP PLANS	30AMP	32AL 33AL 34AL 35AL	10 10 10 20	11 17	16UP	4*	① ③	4*	#4AWG #4AWG #4AWG #4AWG	25AMP 30AMP 30AMP 35AMP
"LN"	57+30 50' RT LORAIN AVE.	9.50 11.38 13.01 10.42 11.42 55.73		30AMP	13LN 14LN 15LN 16LN 17LN	3 4 1 1 9	19	2* 4* 4UP+3* 12	2* 4* 5* 9*	⑤	2* 4* 2* 8	#4AWG #4AWG #4AWG #4AWG	25AMP 30AMP 35AMP 30AMP 30AMP
"FA"	50+31 39' LT W. 65TH ST.	14.49 14.97 3.84 33.30		60AMP	18FA 19FA 20FA	12 12 9 33	2* 2* 4	2*	② ④ ③		#4AWG #4AWG #4AWG	40AMP 40AMP 10AMP	
"WH"	6+40 28' RT. WALWORTH CONN. RD.	11.52 12.38 11.42 35.32		30AMP	1WH 2WH 3WH	7 5 8 20	5 3	7* 10UP 2* 19	② ③ ④ ⑧		#4AWG #4AWG #4AWG	30AMP 35AMP 30AMP	

\* = MERCURY VAROR SIGN LIGHTING UP = UNDERPASS LIGHTING ② = CALL BOX BEACONS

LIGHTING PLAN

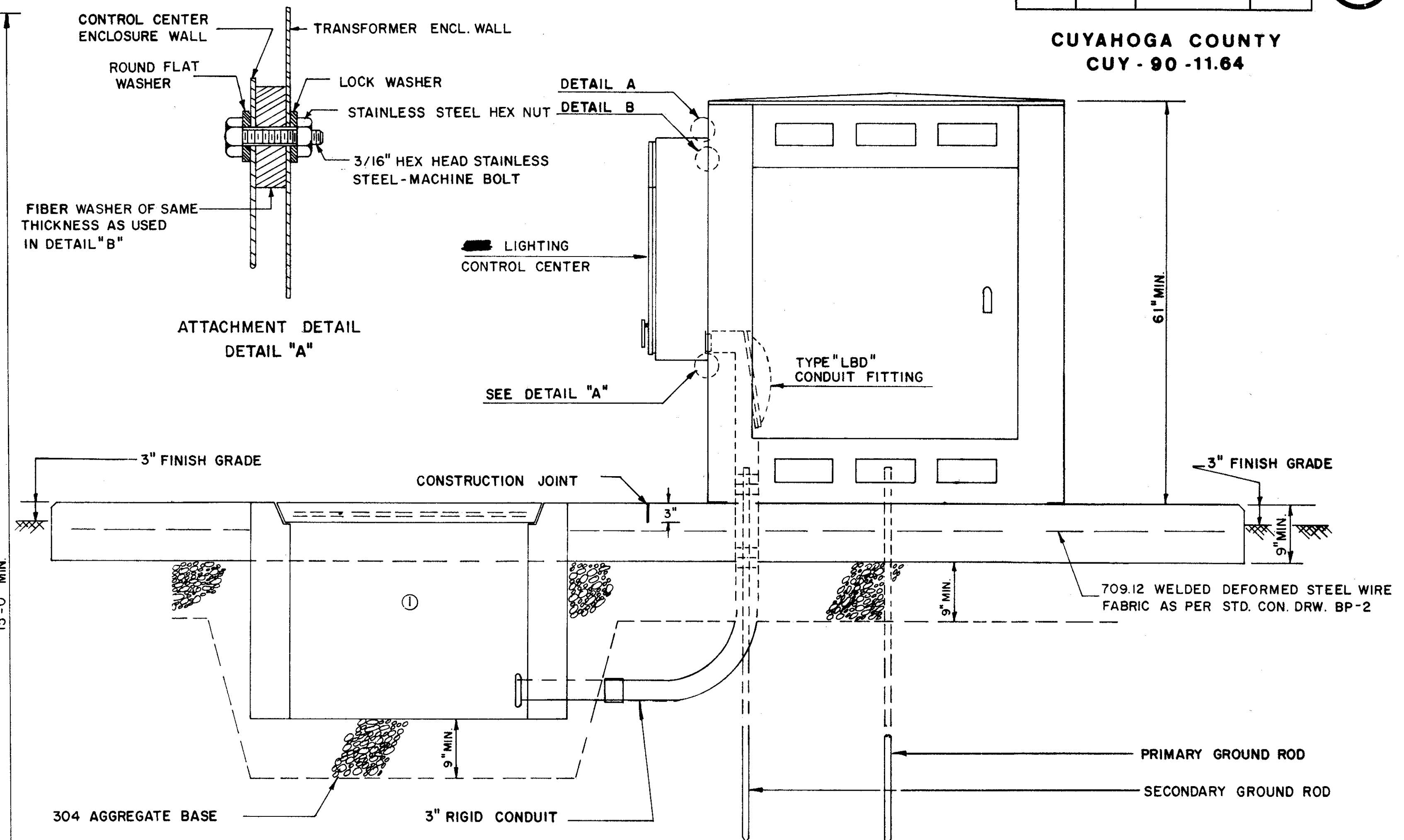
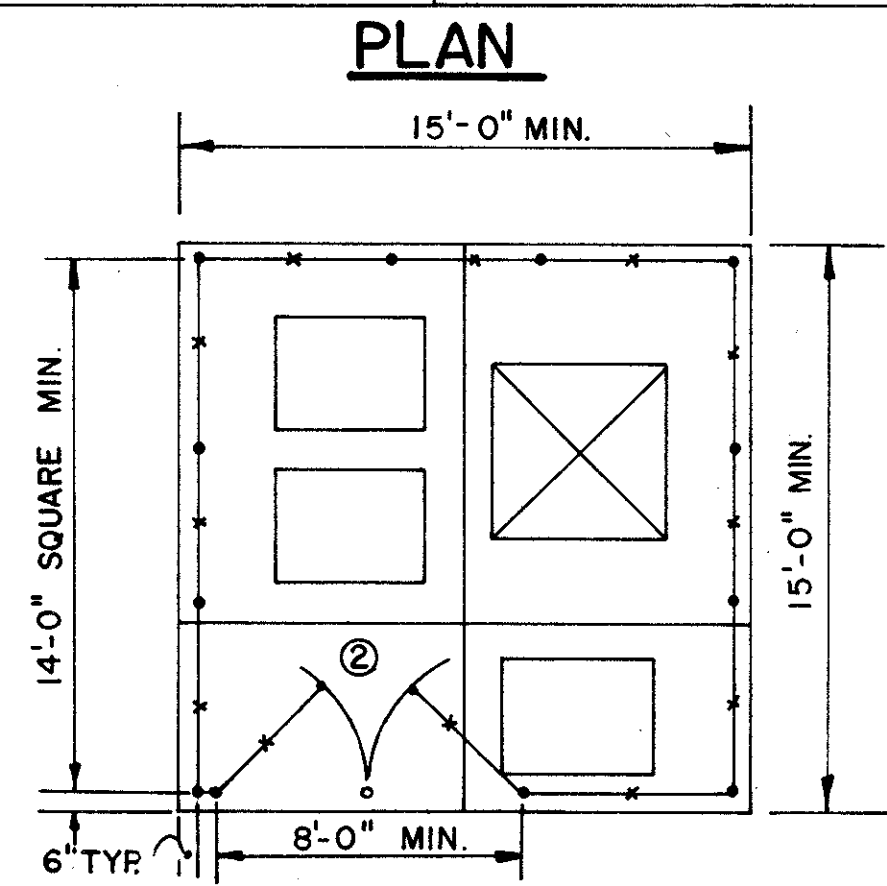
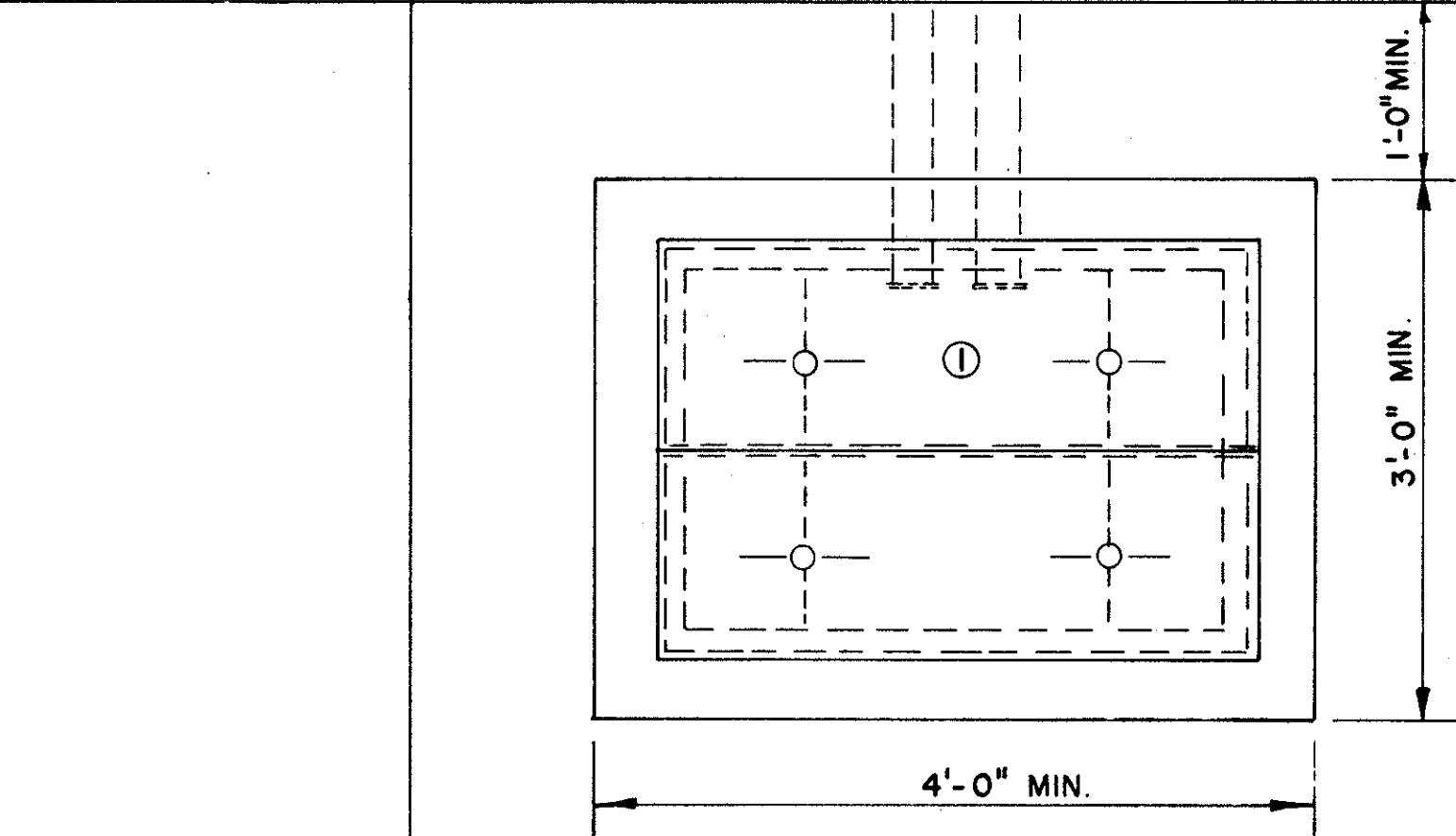


NOTES:  
① PULL BOXES AS PER DETAILS ON SHEET 590

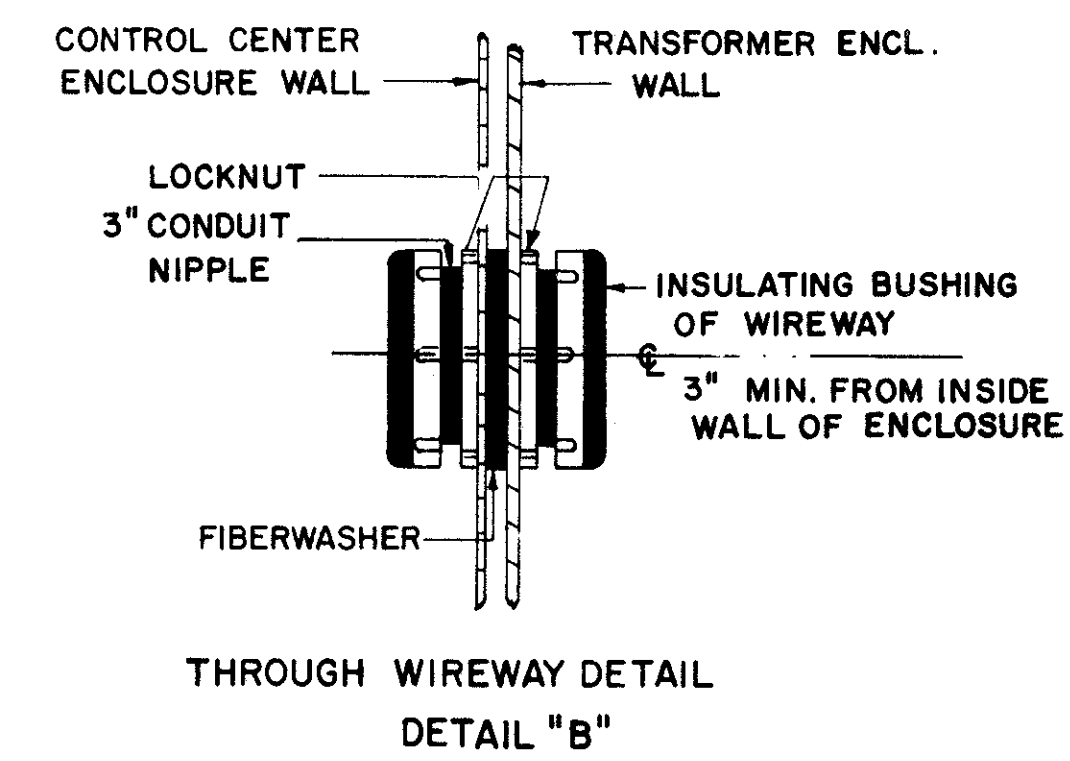
② FENCE SHALL BE 14' SQ. MIN. WITH 8' WIDE GATE. CHAIN LINK FENCE & GATE SHALL BE 8' HIGH PLUS 1' AT 45° ARM WITH 3 STRANDS OF BARBED WIRE AS PER 710.01. MATERIALS AND INSTALLATION SHALL CONFORM TO ITEM 710 OF THE "STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS". LOCK TO BE PROVIDED BY OTHERS.

③ THE PAD SHALL BE 15' SQ. MIN. 9" REINFORCED CLASS "C" CONCRETE.

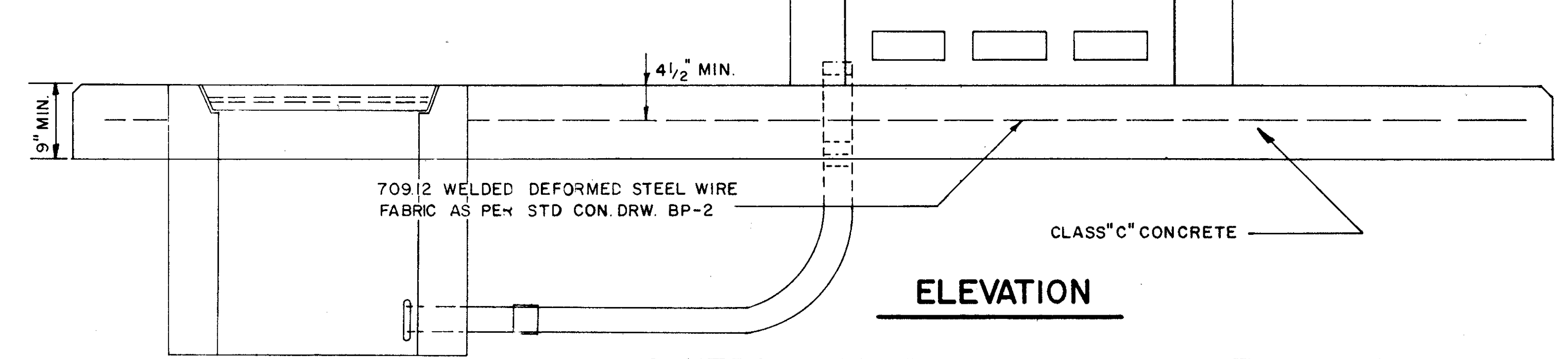
④ EACH ENCLOSURE TO BE PERMANENTLY IDENTIFIED AS PER PLAN.



SIDE VIEW



CONTROL CENTER "LN"



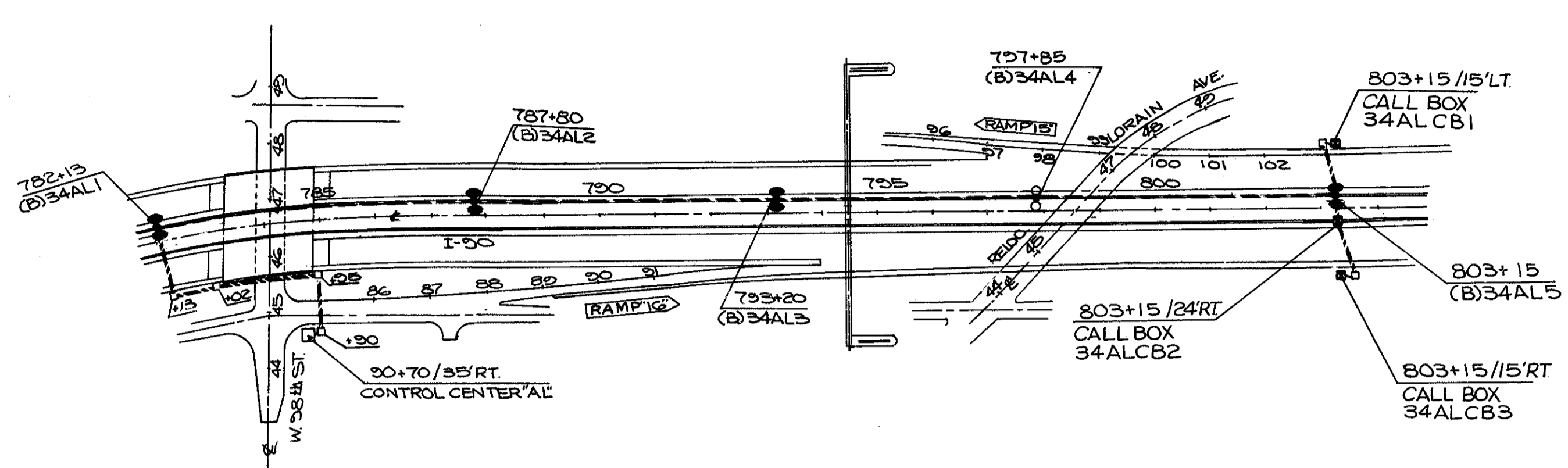
ELEVATION

CONTROL CENTER DETAIL LIGHTING PLANS

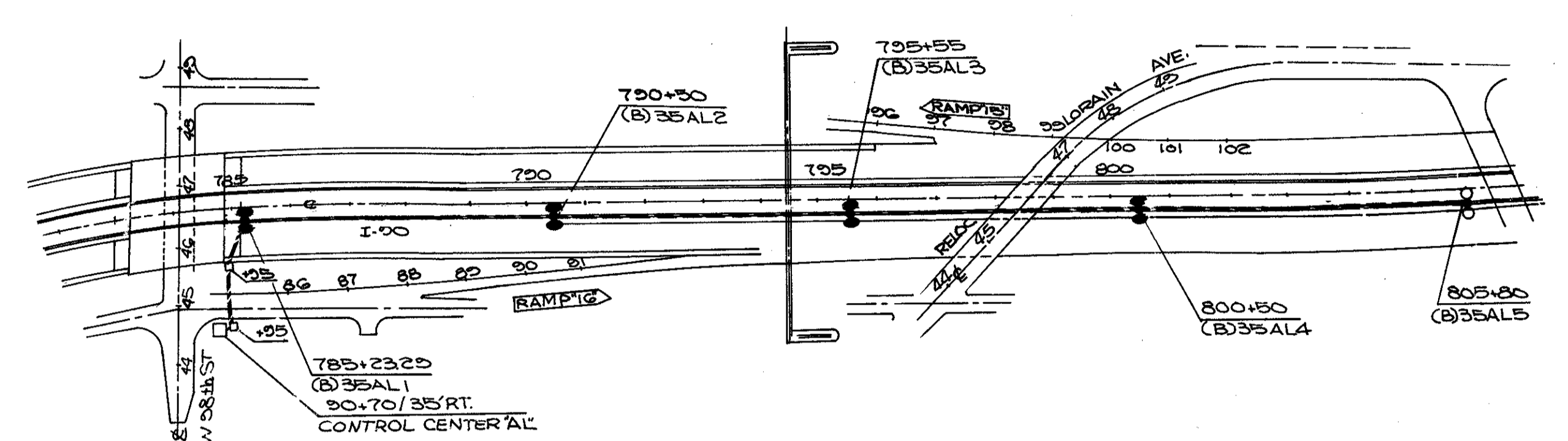
FED. RD.	STATE	PROJECT
	OHIO	I-90-1(38)21

595  
838

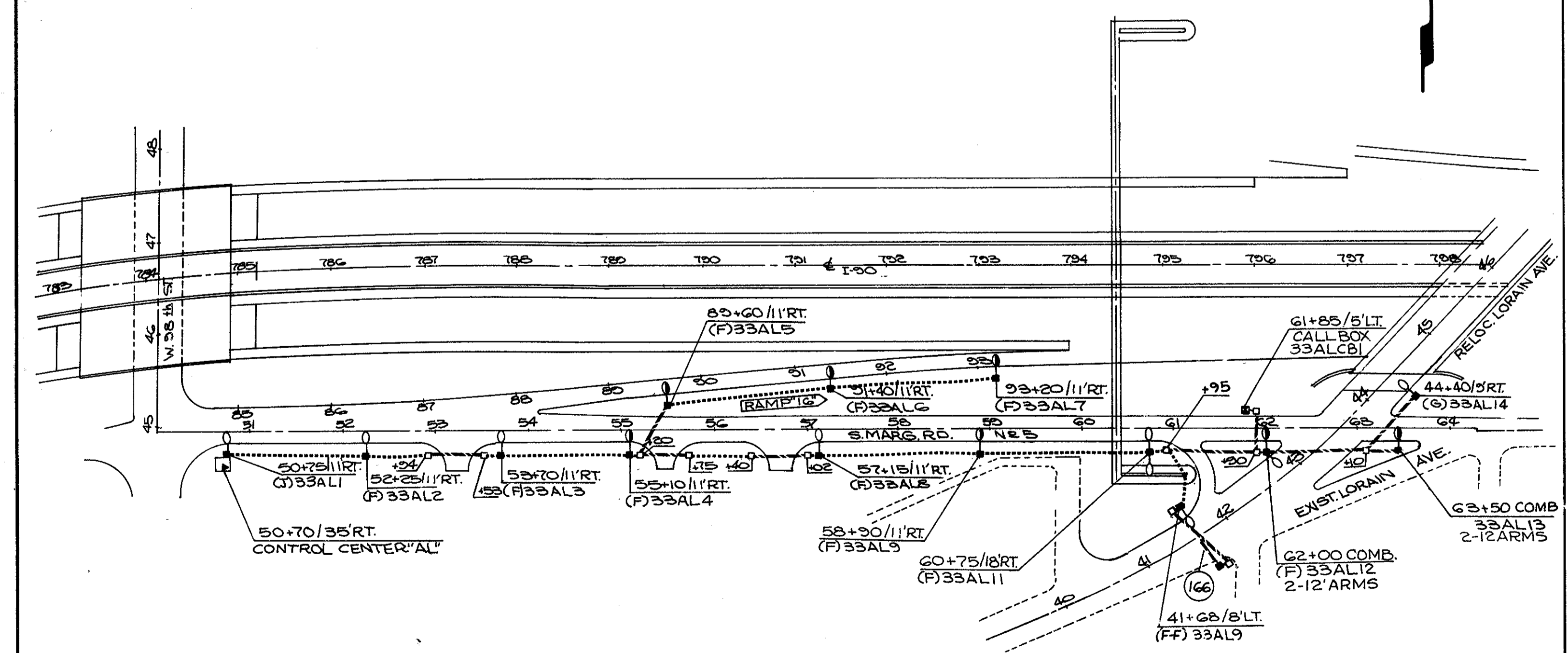
CUYAHOGA COUNTY  
CUY - 90 - 11.64



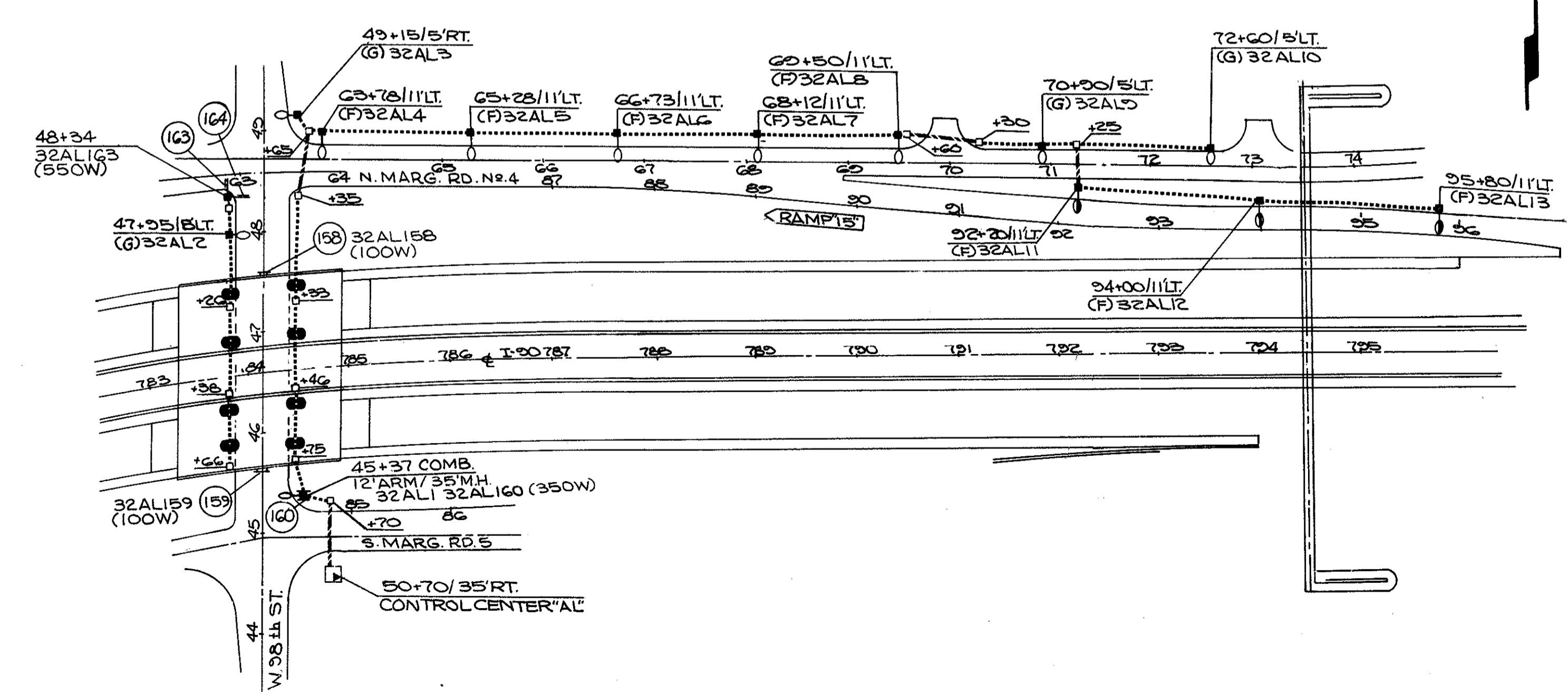
CIRCUIT N<sup>o</sup> 34 AL  
CONNECTED LOAD 11.52 KVA



CIRCUIT N<sup>o</sup> 35 AL  
CONNECTED LOAD 12.43 KVA



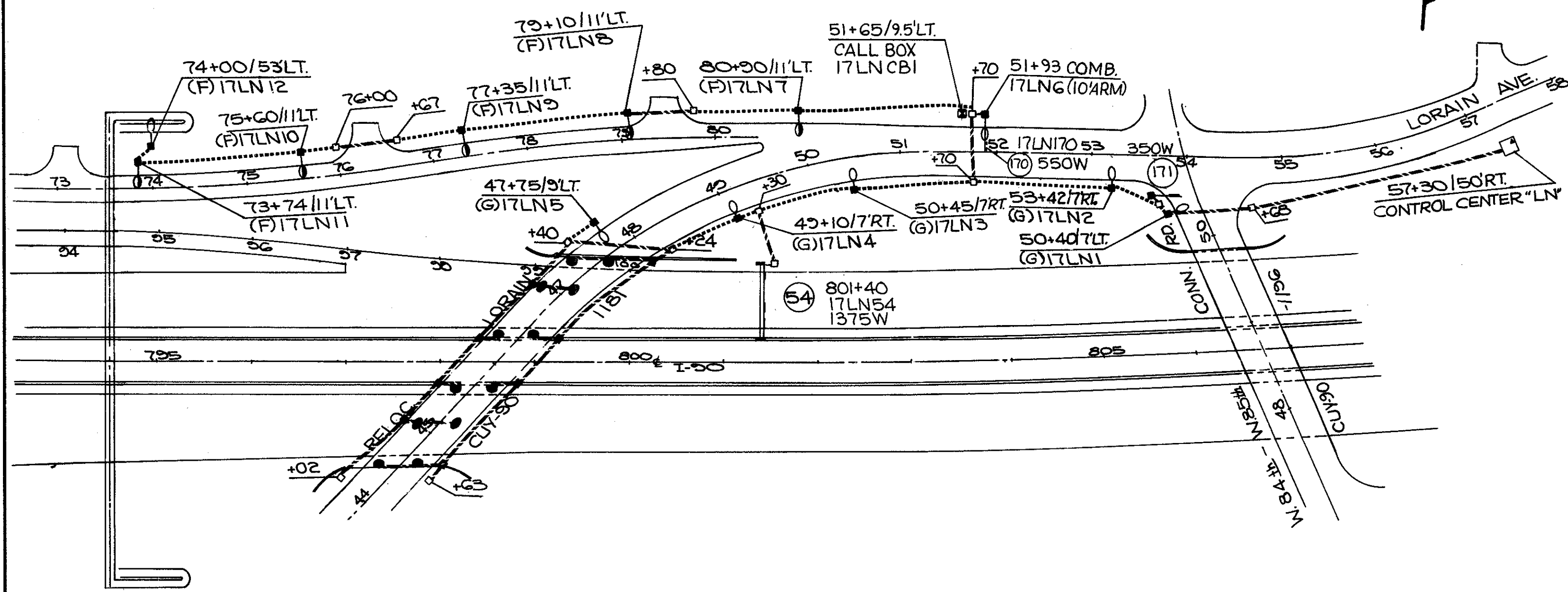
CIRCUIT N<sup>o</sup> 33 AL  
CONNECTED LOAD 11.52 KVA



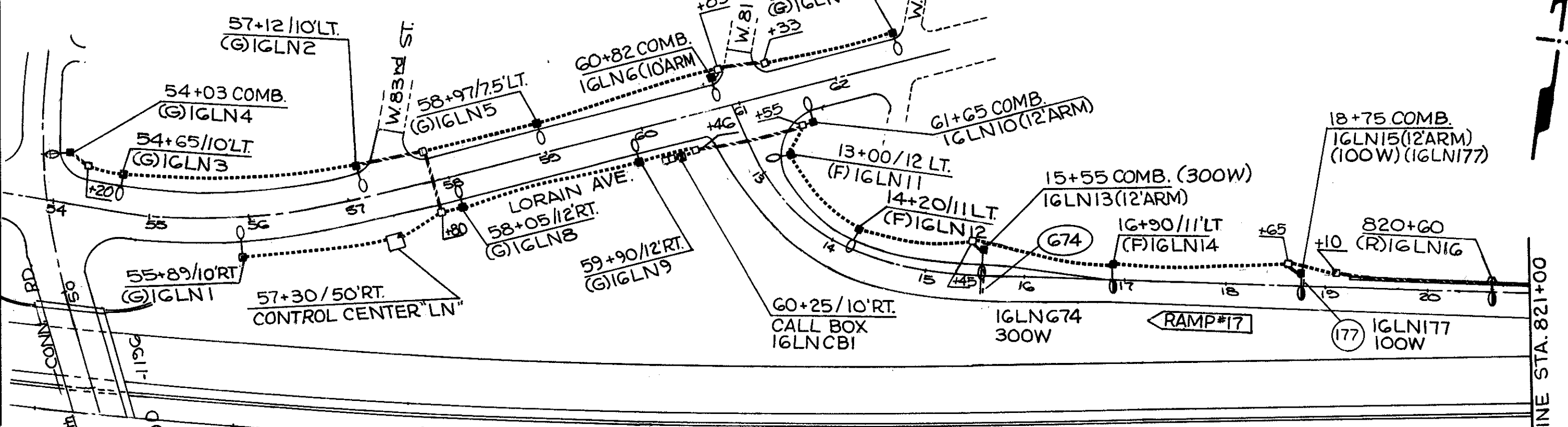
CIRCUIT N<sup>o</sup> 32 AL  
CONNECTED LOAD 9.93 KVA

LIGHTING PLAN

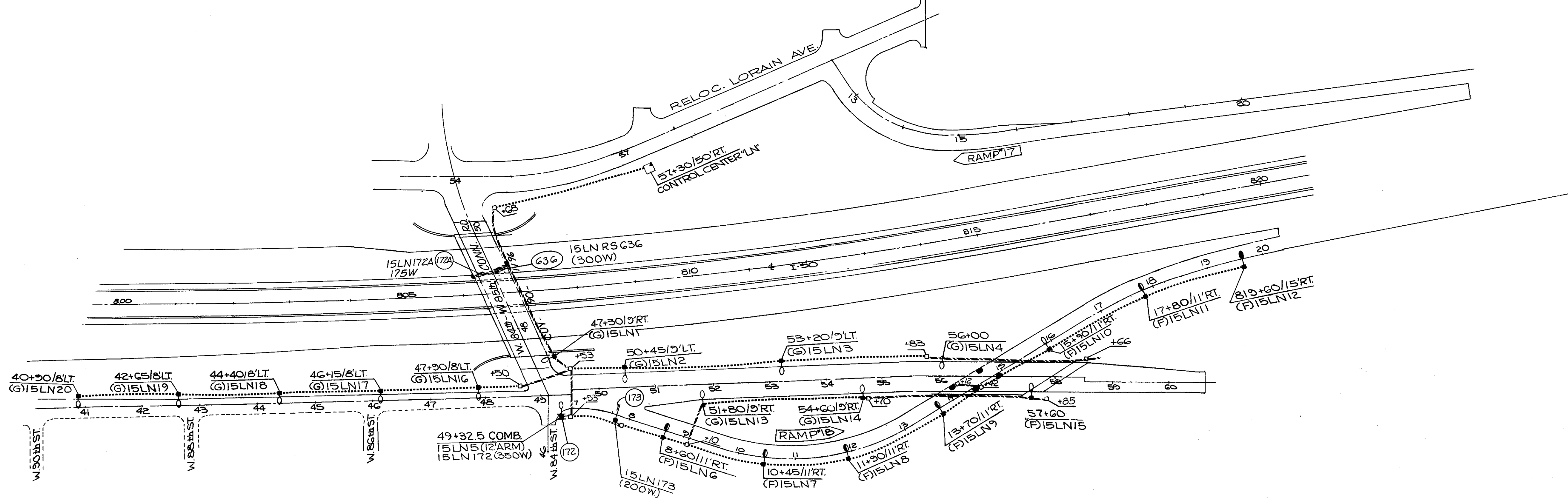
**CUYAHOGA COUNTY**  
CUY - 90 - 11.64



CIRCUIT N<sup>o</sup> 17LN  
CONNECTED LOAD 11.42 KVA



CIRCUIT N<sup>o</sup> 16LN  
CONNECTED LOAD 10.42 KVA



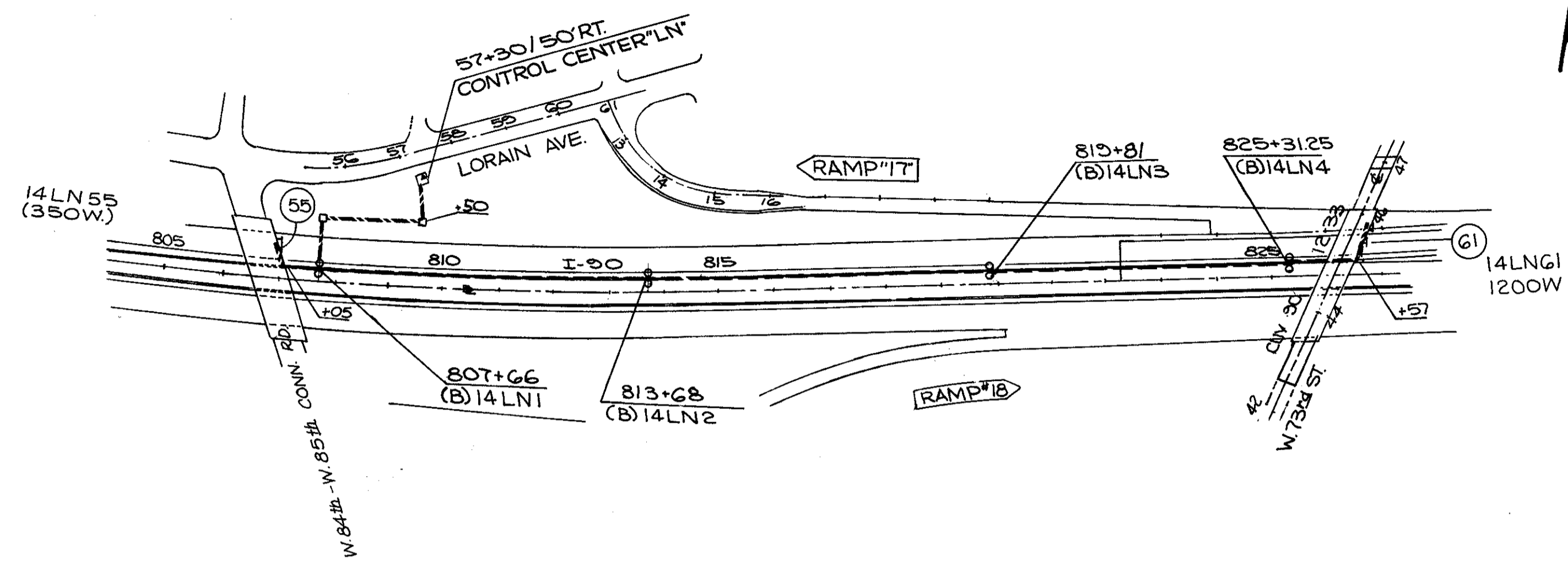
CIRCUIT N<sup>o</sup> 15LN  
CONNECTED LOAD 13.01 KVA

**LIGHTING PLAN**

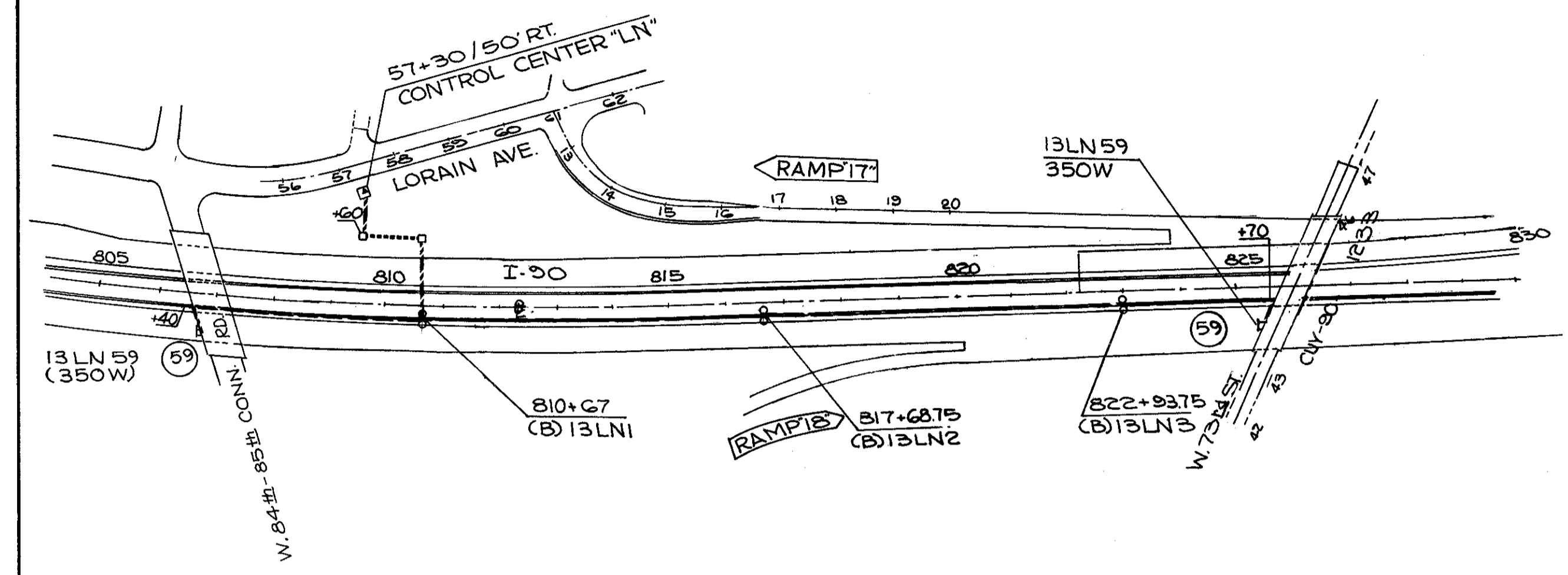
FED. RD.	STATE	PROJECT
	OHIO	I-90-(38)21

597  
838

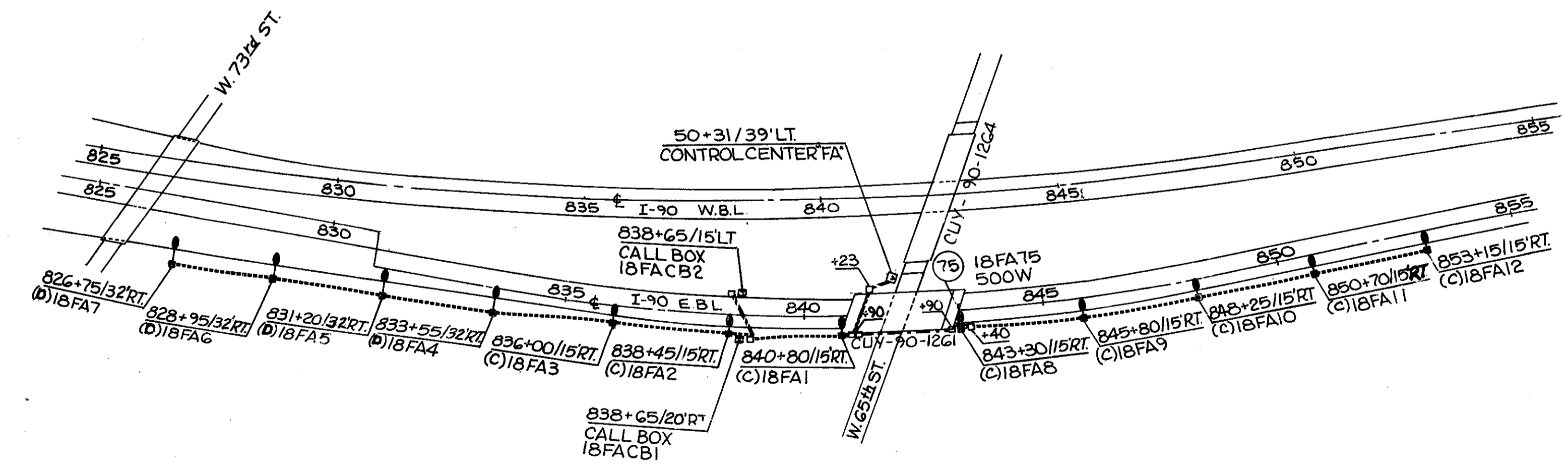
CUYAHOGA COUNTY  
CUY - 90 - 11.64



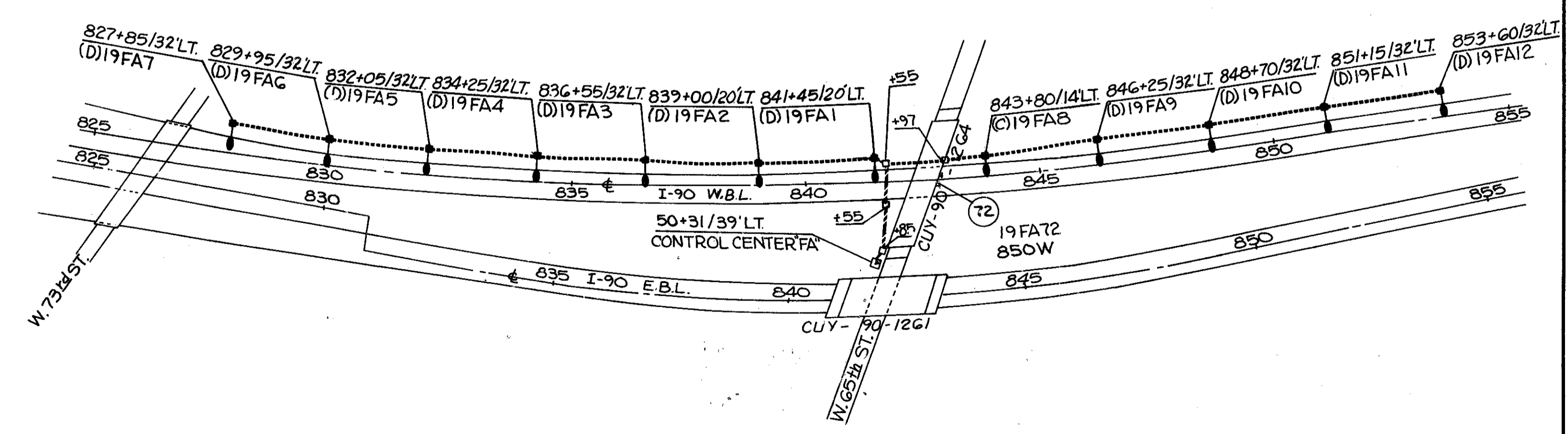
CIRCUIT N<sup>o</sup> 14LN  
CONNECTED LOAD 11.38 KVA



CIRCUIT N<sup>o</sup> 13LN  
CONNECTED LOAD 9.50 KVA

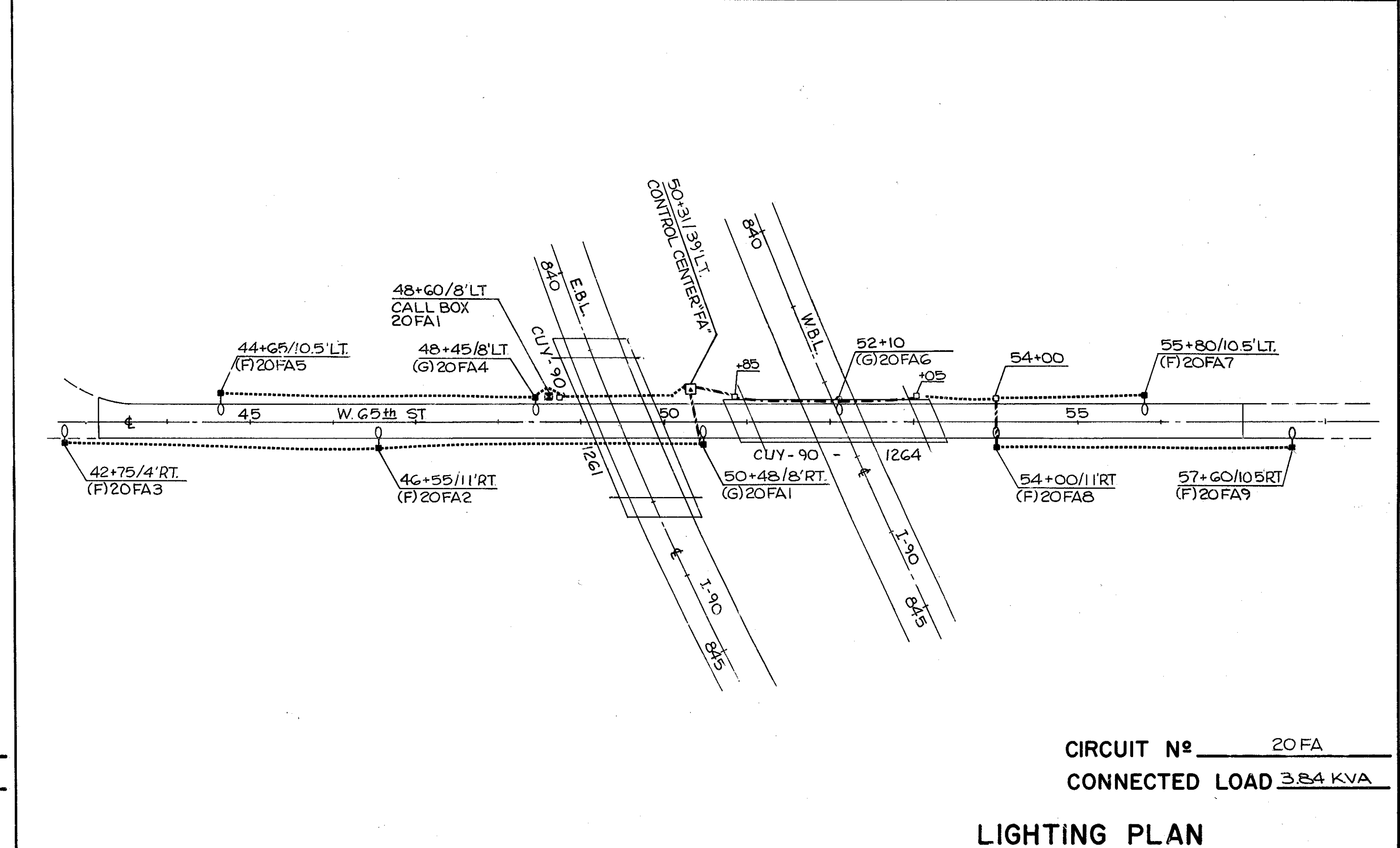
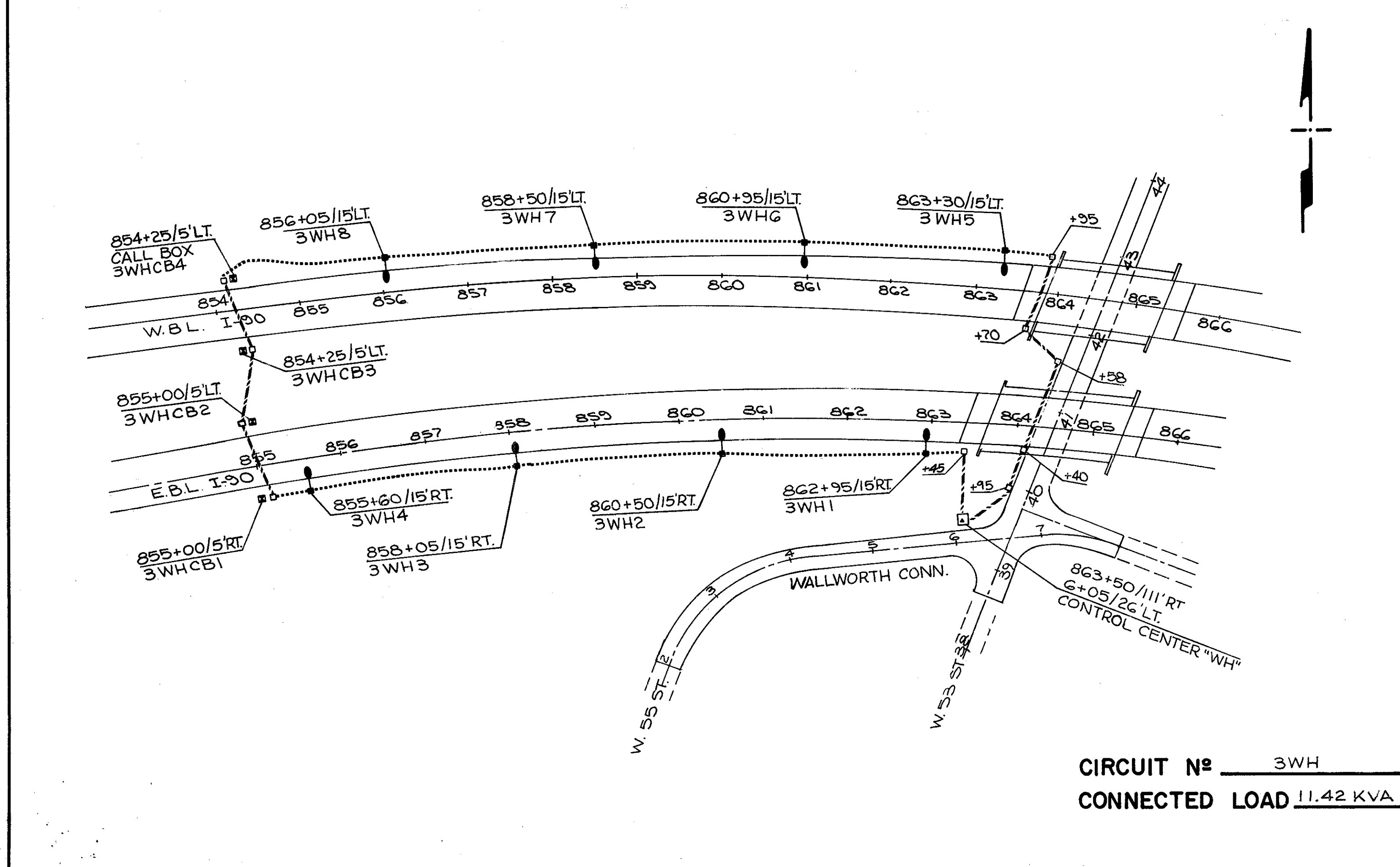
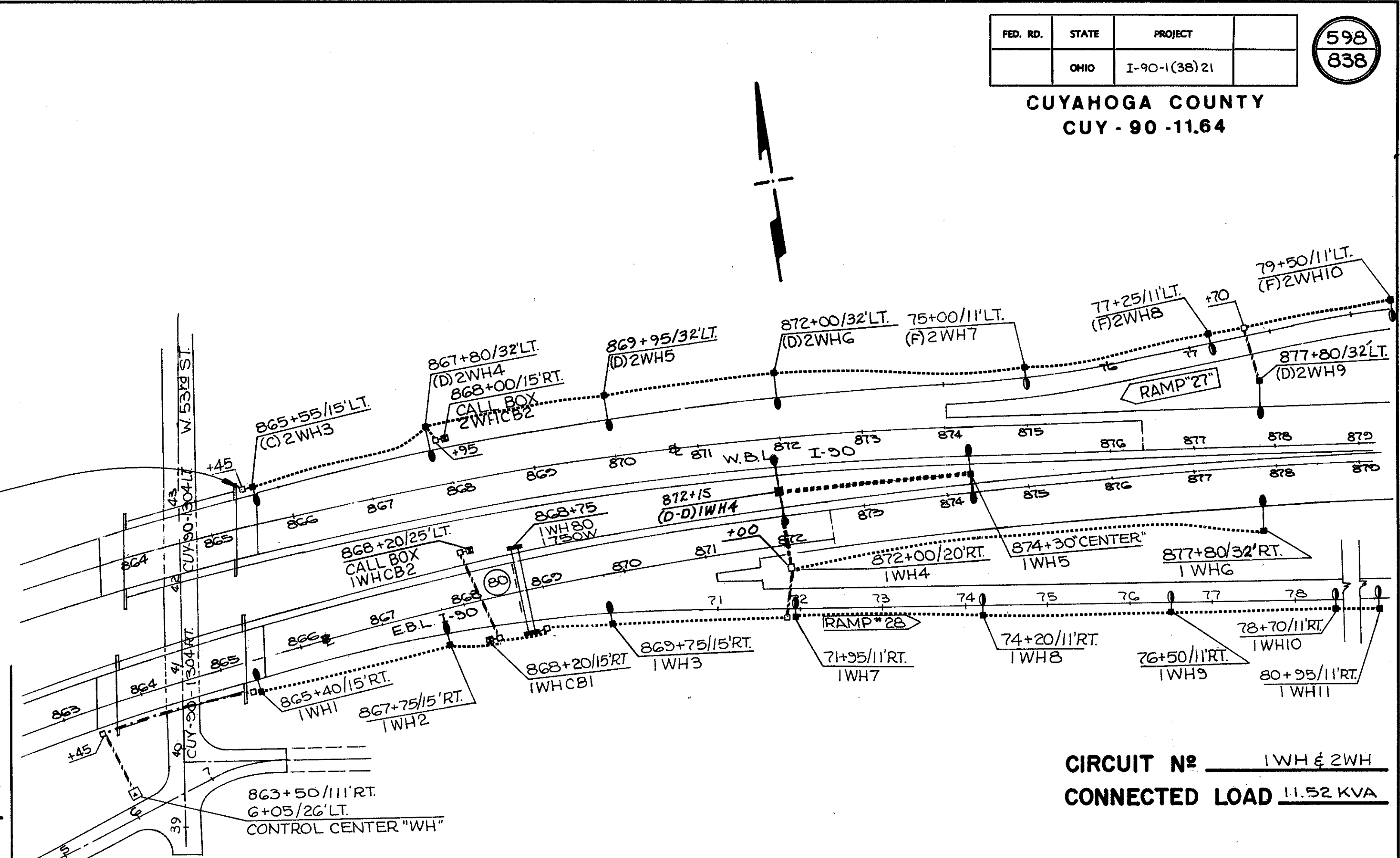
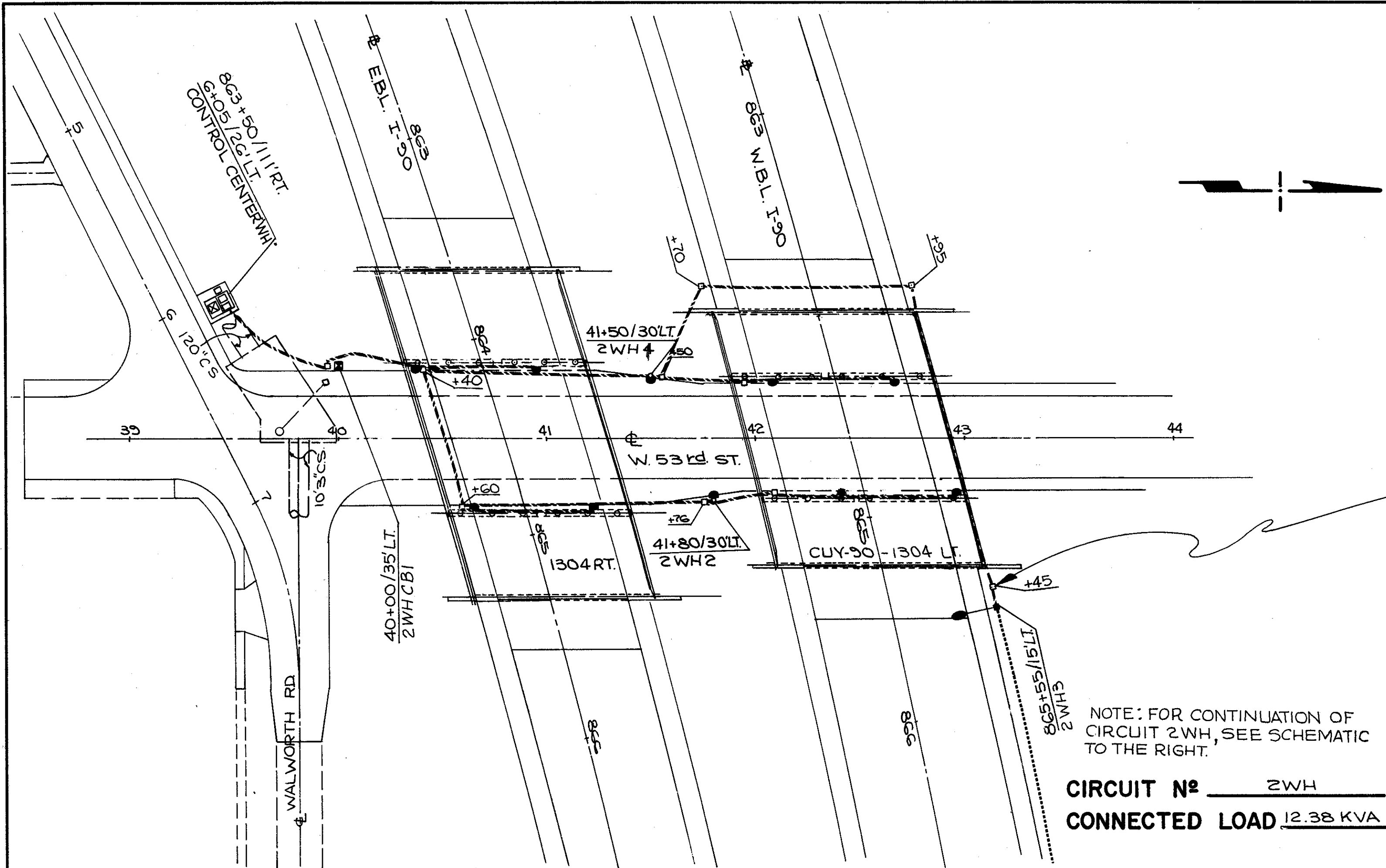


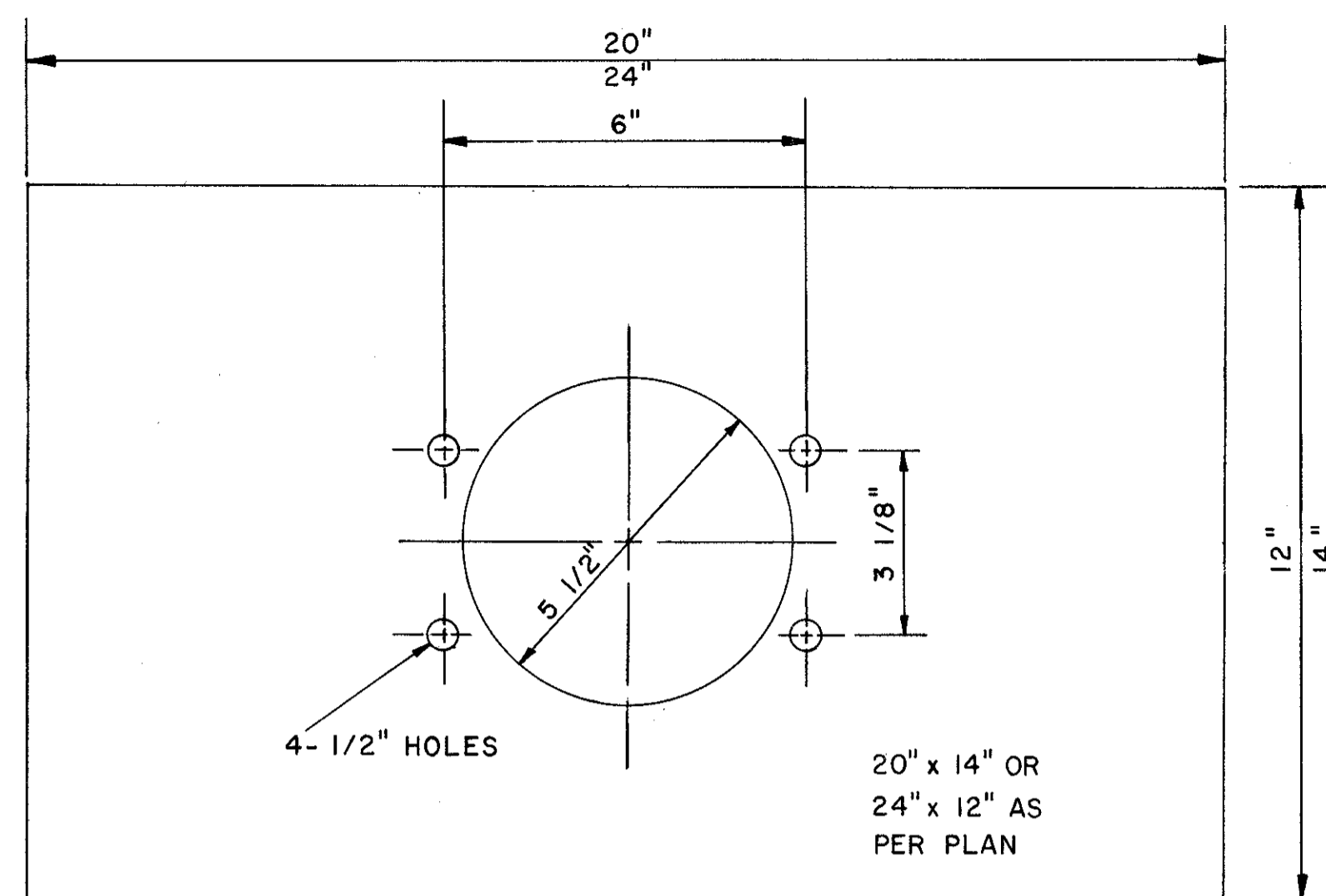
CIRCUIT N<sup>o</sup> 18FA  
CONNECTED LOAD 14.49 KVA



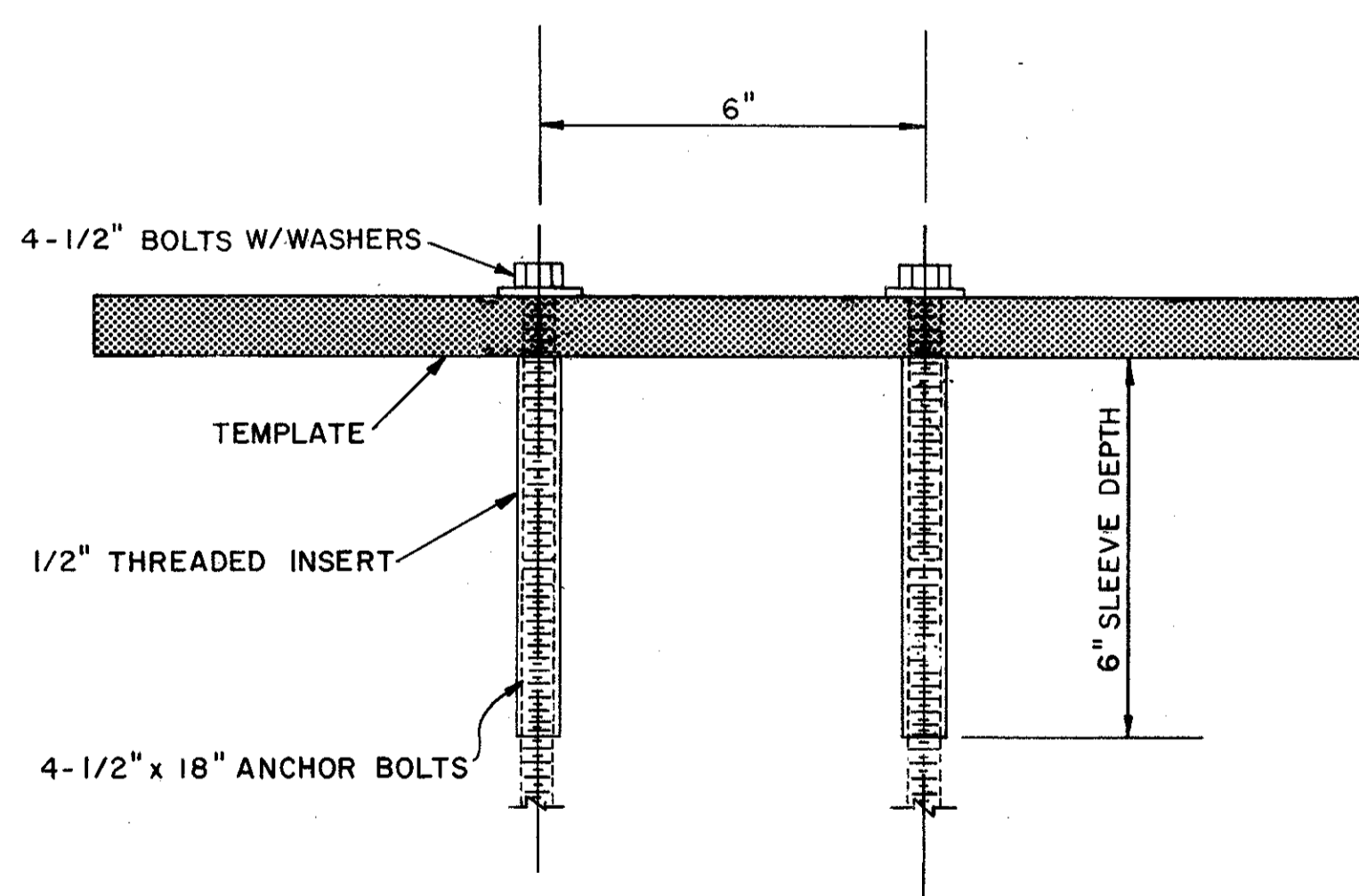
CIRCUIT N<sup>o</sup> 19FA  
CONNECTED LOAD 14.97 KVA

LIGHTING PLAN

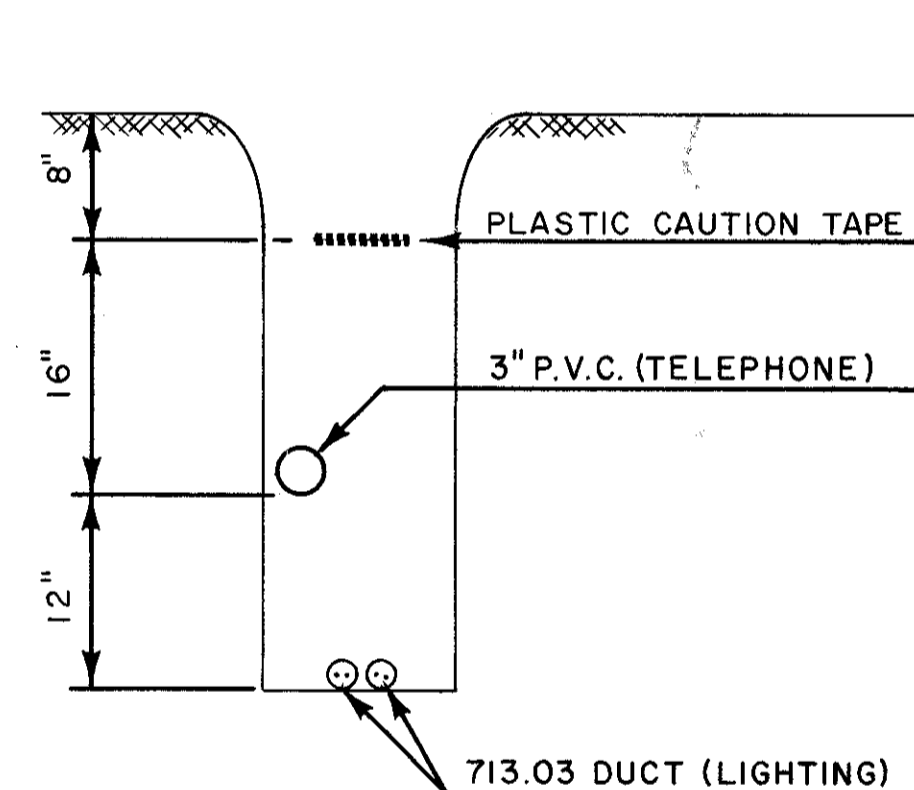




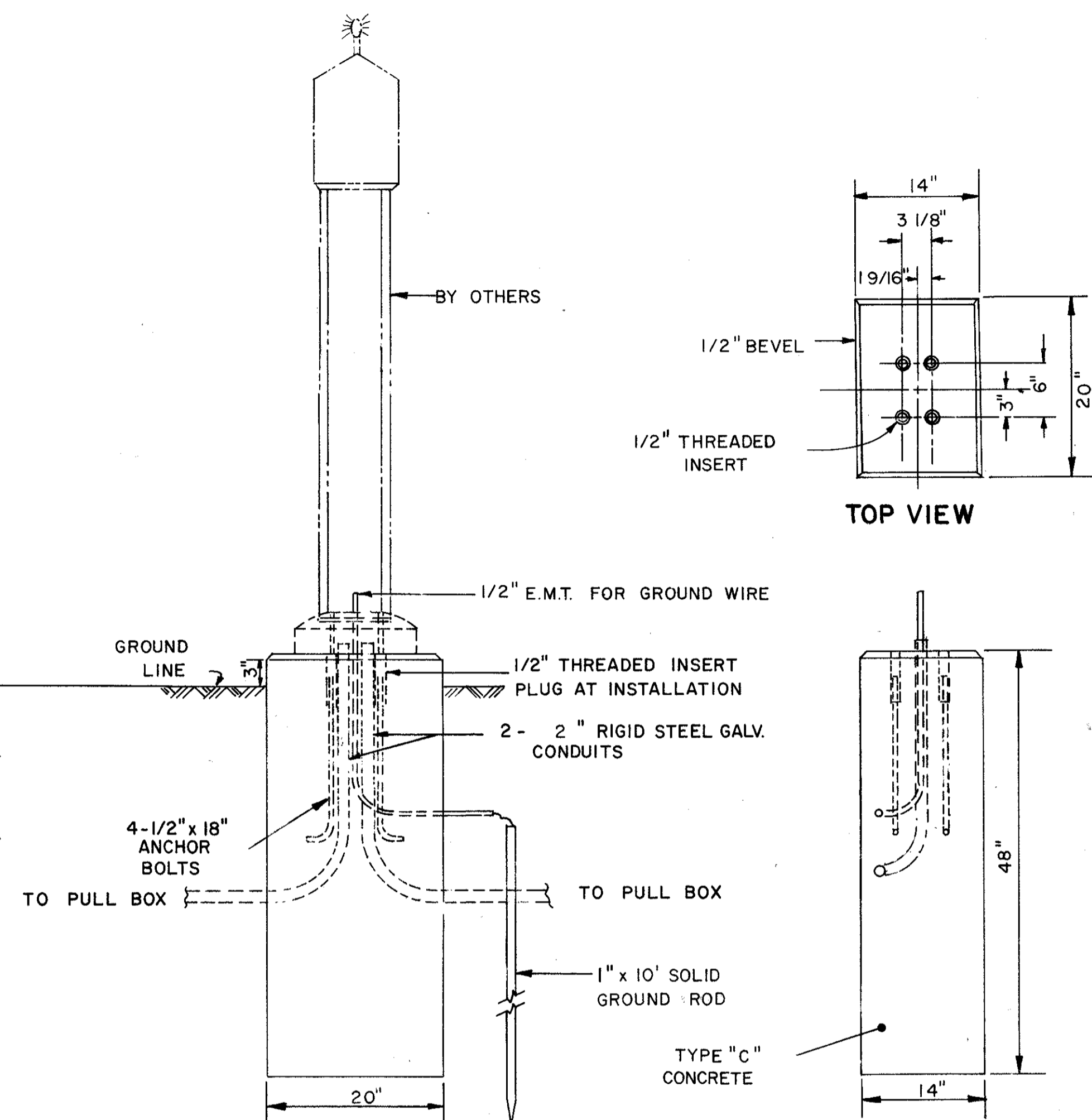
TOP VIEW  
OF TEMPLATE



FRONT VIEW  
TEMPLATE & ANCHOR BOLT ASSEMBLY

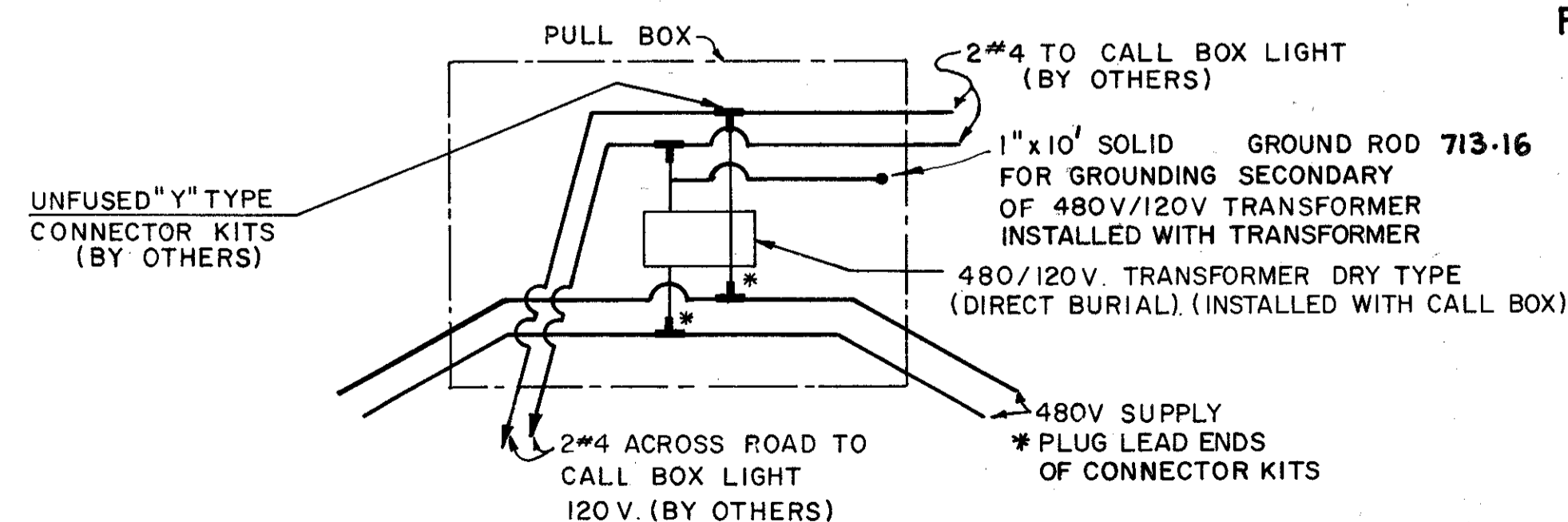


COMMON TRENCH



FRONT VIEW

SIDE VIEW



WIRING IN TRANSFORMER PULL BOX

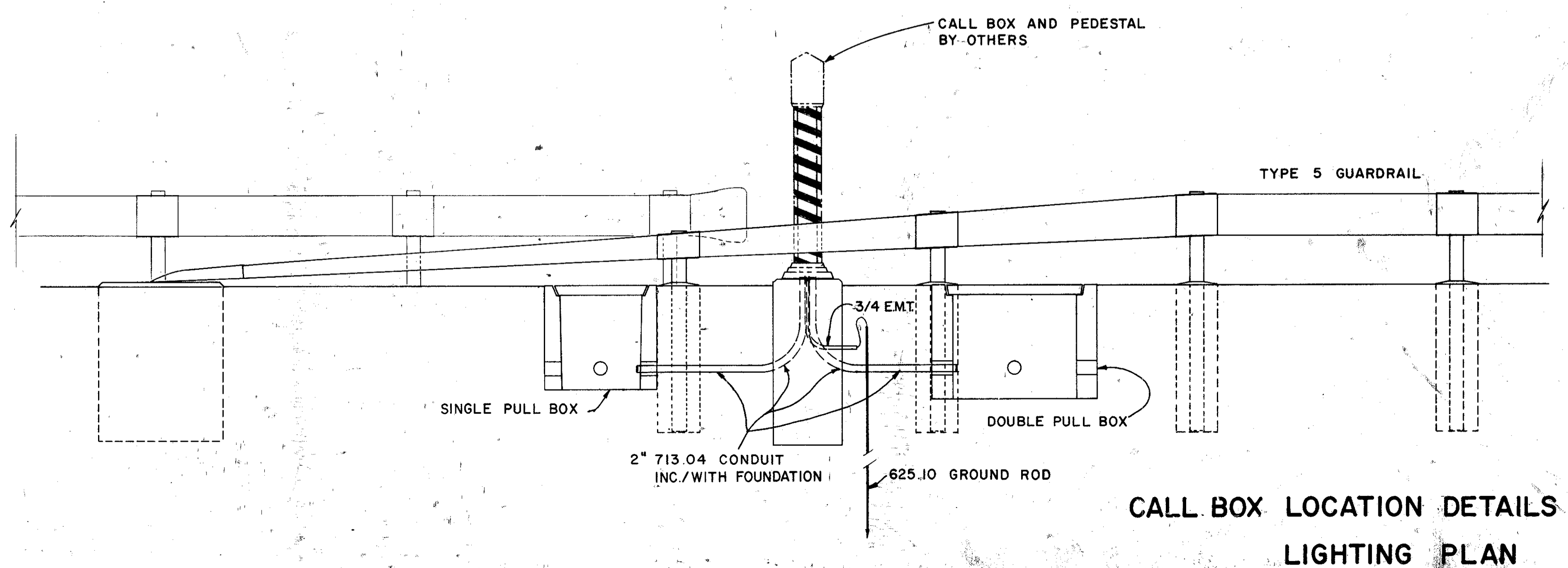
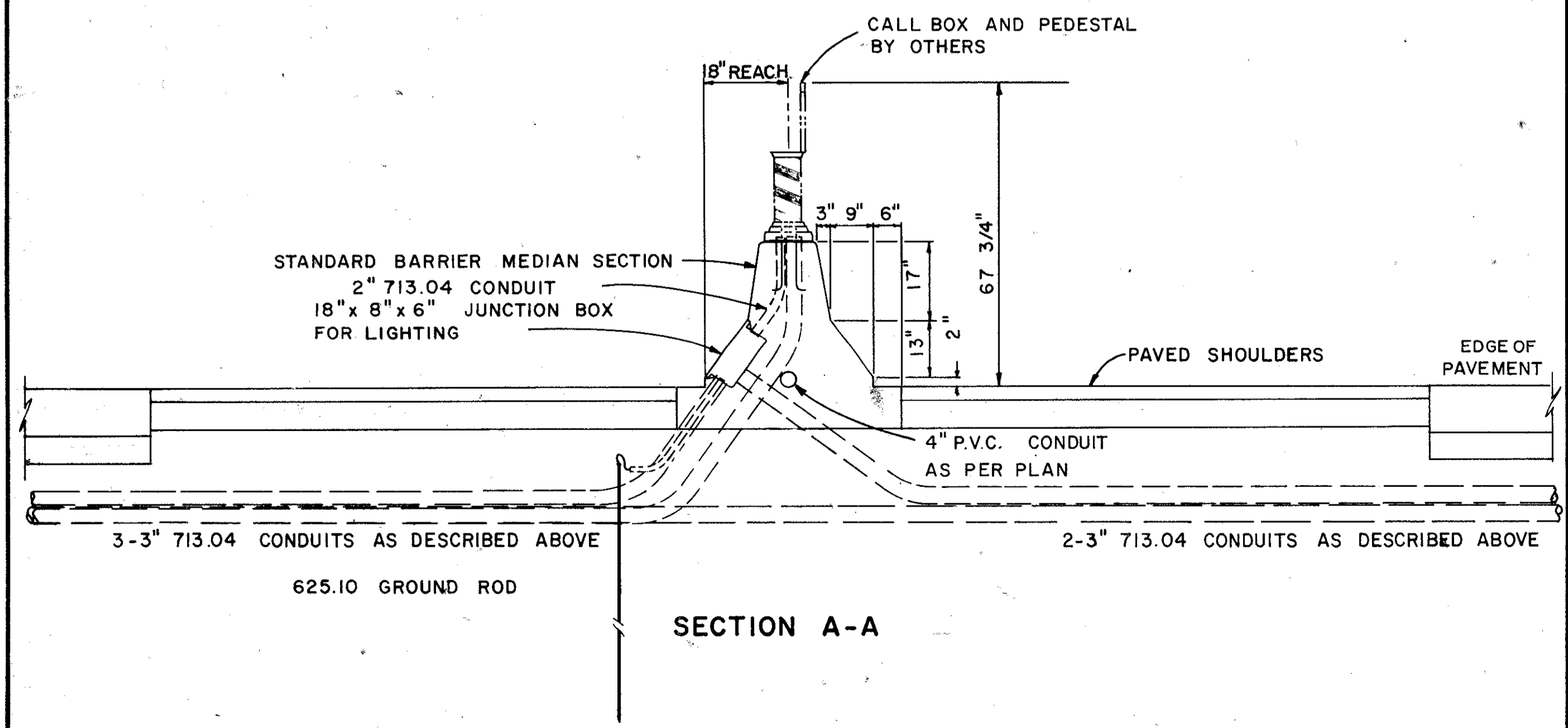
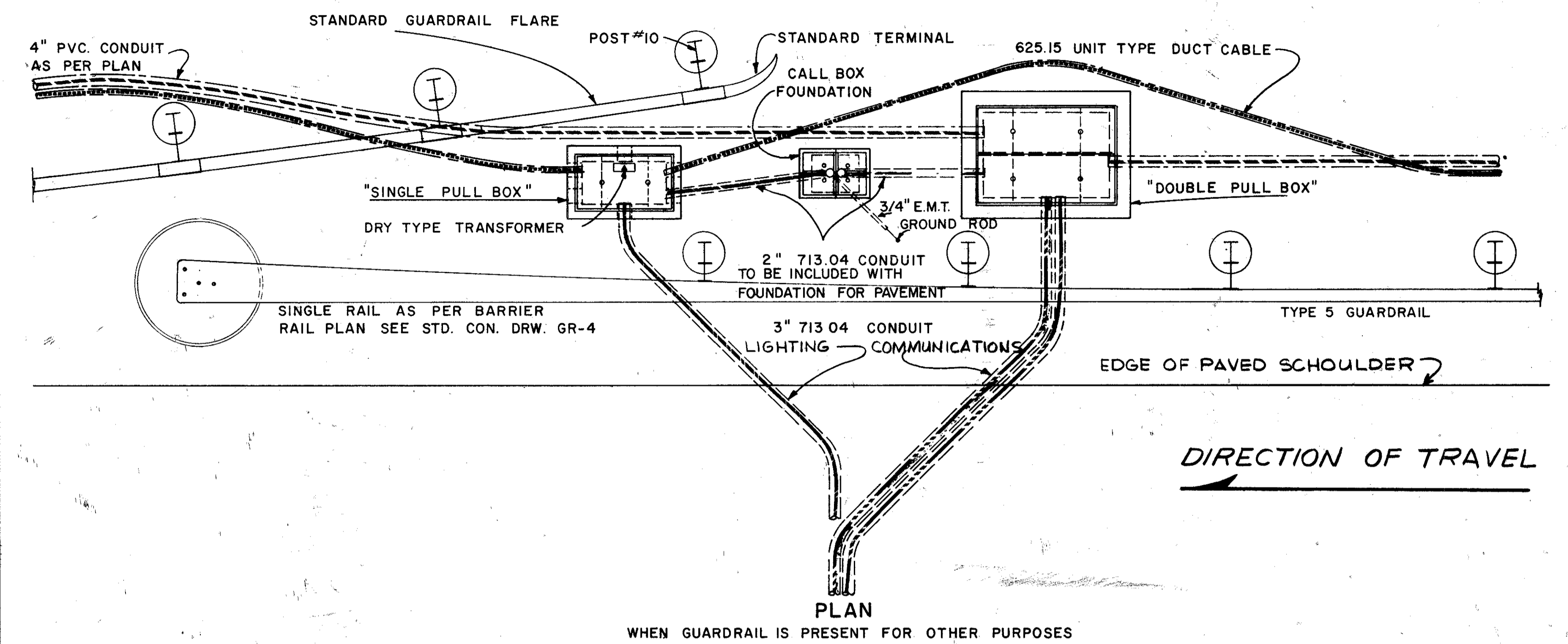
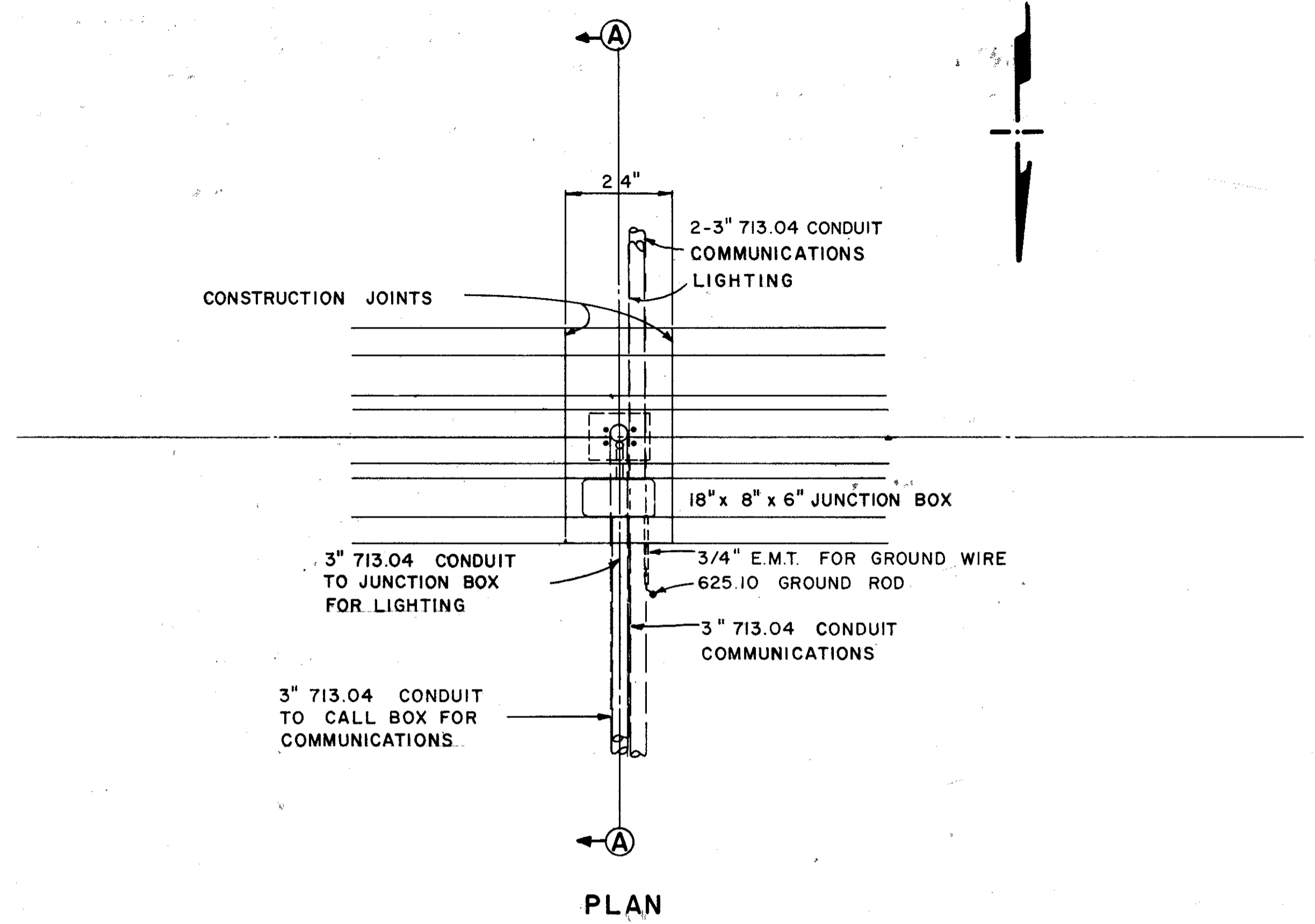
FOUNDATION DETAILS



FED. RD.	STATE	PROJECT
	OHIO	I-90-1(36)21

600  
838

**CUYAHOGA COUNTY  
CUI-90**



**CUYAHOGA COUNTY**  
**CUY - 90 -11.64**

REFERENCE

REFERENCE SHALL BE MADE TO THE FOLLOWING:		BRIDGE NUMBERS								
		1173	1181	1196	1210	1233	1261	1264	1304L	1304R
STANDARD DRAWING BR-1-67, SHEET 1	REVISED 10/15/71						*		*	*
STANDARD DRAWING FSB-1-62	REVISED 1/15/63						*		*	*
STANDARD DRAWING RB-1-55	REVISED 2/2/59	*	*	*	*	*		*		
STANDARD DRAWINGS SD-1-69, SHEETS 1-4	DATED 6/12/69	*	*	*	*	*	*	*	*	*
STANDARD DRAWING AS-1-72	DATED 6/30/72		*	*	*	*	*	*	*	*
SUPPLEMENTAL SPECIFICATION 808	DATED 1/1/71	*	*	*	*	*	*	*	*	*
SUPPLEMENTAL SPECIFICATION 836	DATED 3/12/75	*	*	*	*	*	*	*	*	*
SUPPLEMENTAL SPECIFICATIONS S 625	DATED 1/11/74		*	*	*	*	*	*	*	*

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE "INTERIM SPECIFICATIONS" AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - SEE SITE PLANS.

CONCRETE CLASS C - UNIT STRESS 1200 P.S.I. FOR SUPERSTRUCTURE  
 UNIT STRESS 1333 P.S.I. FOR SUBSTRUCTURE

STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20,000 P.S.I.

REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20,000 P.S.I.  
 SPIRAL REINFORCEMENT MAY BE PLAIN BARS  
 ASTM A82 OR A615.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER BE HELD TO A MINIMUM.

STRIATED CONCRETE

THE DESIRED TYPE OF CONCRETE FINISH MAY BE OBTAINED BY USING "WELWOOD FORMTEX B" CONCRETE FORM PANELS AS MANUFACTURED BY THE U.S. PLYWOOD CORPORATION OR AN APPROVED EQUAL.

APPROACH SLABS

PROVIDE JACKING HOLES FOR ONLY THOSE SLABS WHICH WILL NOT BE SURFACED WITH ASPHALT CONCRETE.

RAILING (CONCRETE PARAPET WITH CHAIN LINK FENCE)

1/4" PREFORMED EXPANSION JOINT FILLER FOR PARAPETS SHALL BE INCLUDED FOR PAYMENT WITH RAILING (CONCRETE PARAPET WITH CHAIN LINK FENCE). THE FILLER SHALL CONSIST OF GRAY SPONGE OR GRAY CELLULAR POLYVINYL CHLORIDE SPONGE. FURTHER THE FILLER SHALL CONFORM TO AASHO M-153, TYPE I, EXCEPT DENSITY OF PVC SPONGE SHALL BE NOT LESS THAN 20 LB. PER CU. FT.

CONCRETE PARAPETS SHALL BE PLACED IN ALTERNATE SECTIONS BY THE USE OF BULKHEADS. CLOSING SECTIONS SHALL BE PLACED AFTER REMOVAL OF BULKHEADS AND AFTER PLACEMENT OF SPONGE FILLER. FILLER SHALL BE FLUSH WITH SURFACE OF CONCRETE AND EXPOSED EDGES SHALL BE FREE OF MORTAR.

FENCE SHALL BE TYPE "CL" CHAIN LINK FENCE, SECTION 710.03 OF THE STATE OF OHIO CONSTRUCTION AND MATERIAL SPECIFICATIONS, MODIFIED FOR HEIGHT AND ANCHOR ASSEMBLY AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 607, EXCEPT AS SHOWN ON BRIDGE PLANS.

ALL POSTS SHALL BE LEADED INTO SLEEVES. ALL PIPE SLEEVES SHALL BE ALLOY STEEL 707.11 OR GALVANIZED STEEL.

GALVANIZED PIPE AND FITTINGS SHALL CONFORM TO SECTION 711.02 OF THE STATE OF OHIO CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE COST OF FURNISHING AND INSTALLING ALL FENCE MATERIALS INCLUDING OUTSIDE POSTS WITH ANCHORS AND BANDS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 517, RAILING (CONCRETE PARAPET WITH CHAIN LINK FENCE).

THIS ITEM SHALL APPLY TO BRIDGE NUMBERS 1181, 1196, 1210, 1233, AND 1264.

SUBDRAINAGE FOR WEARING SURFACE COURSE

SUBDRAINAGE FOR WEARING SURFACE COURSE SHALL BE PROVIDED AS SHOWN ON SHEET 612.

APPROACH SLAB REINFORCING

MINIMUM COVER FOR TOP REINFORCING BARS SHALL BE 3".

FOOTING REINFORCING

MINIMUM COVERING FOR ALL REINFORCING BARS IN FOOTING IS 3".

CHARPY TESTS:

SHAPES OR PLATES MARKED CVN SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS (711.01). THE FABRICATOR SHALL SUBMIT TO THE DIRECTOR A PROCEDURE DESIGNED FOR POSITIVE IDENTIFICATION OF MATERIAL THROUGH ALL PHASES OF FABRICATION. NO MATERIAL SHALL BE FABRICATED UNTIL THE DIRECTOR HAS APPROVED THE PROCEDURE.

ALL FLANGE SPLICE PLATES FOR THE STANDARD SPLICES SHOWN ON SD-1-69, SHEET 4 SHALL BE SUBJECT TO THE CHARPY V NOTCH TEST.

BUTT WELDS

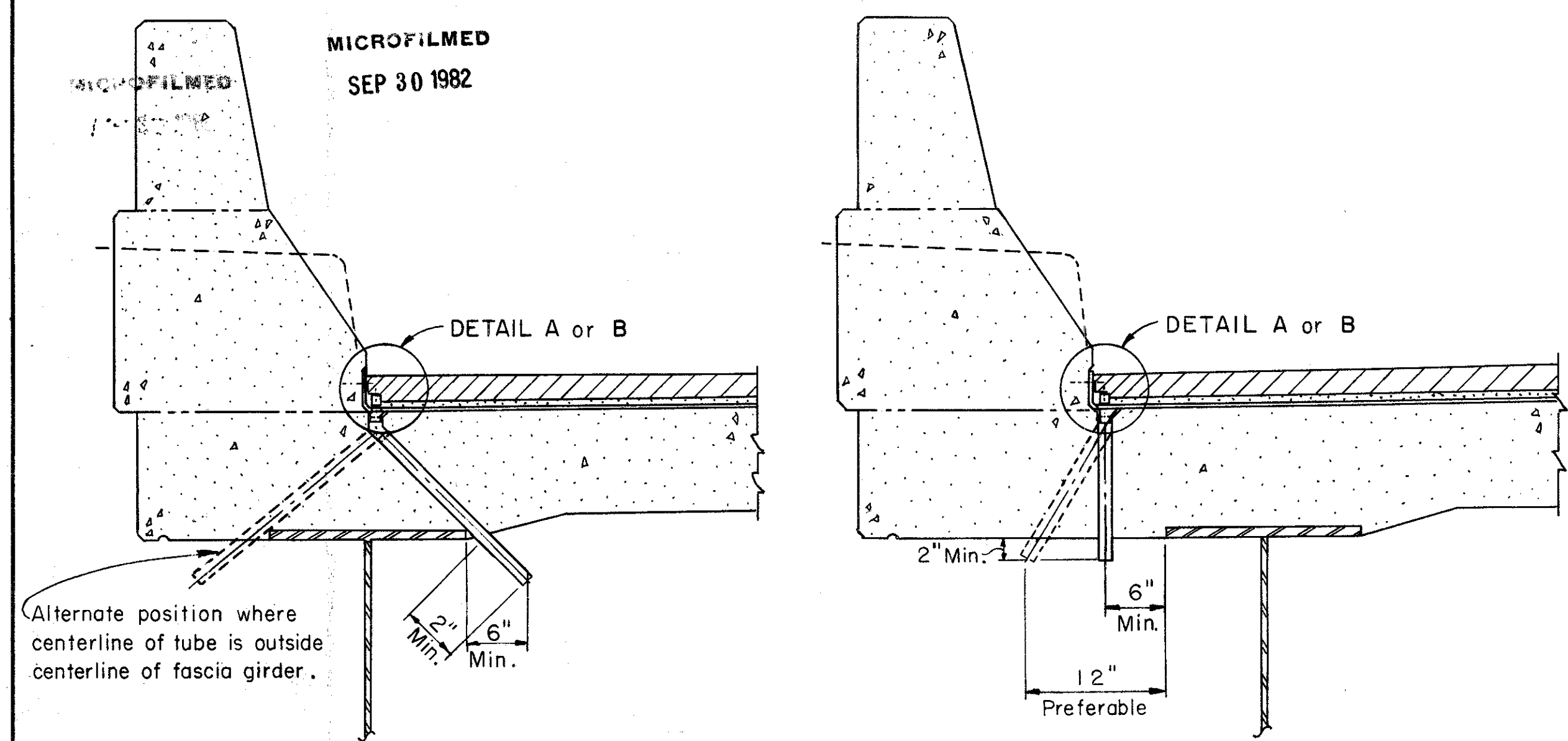
BUTT WELDS IN THE FLANGES OF GIRDERS SHALL BE GROUND FLUSH IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 3.6.3 OF A.W.S. STRUCTURAL WELDING CODE.

**BRIDGE NO. CUY-90-1173**

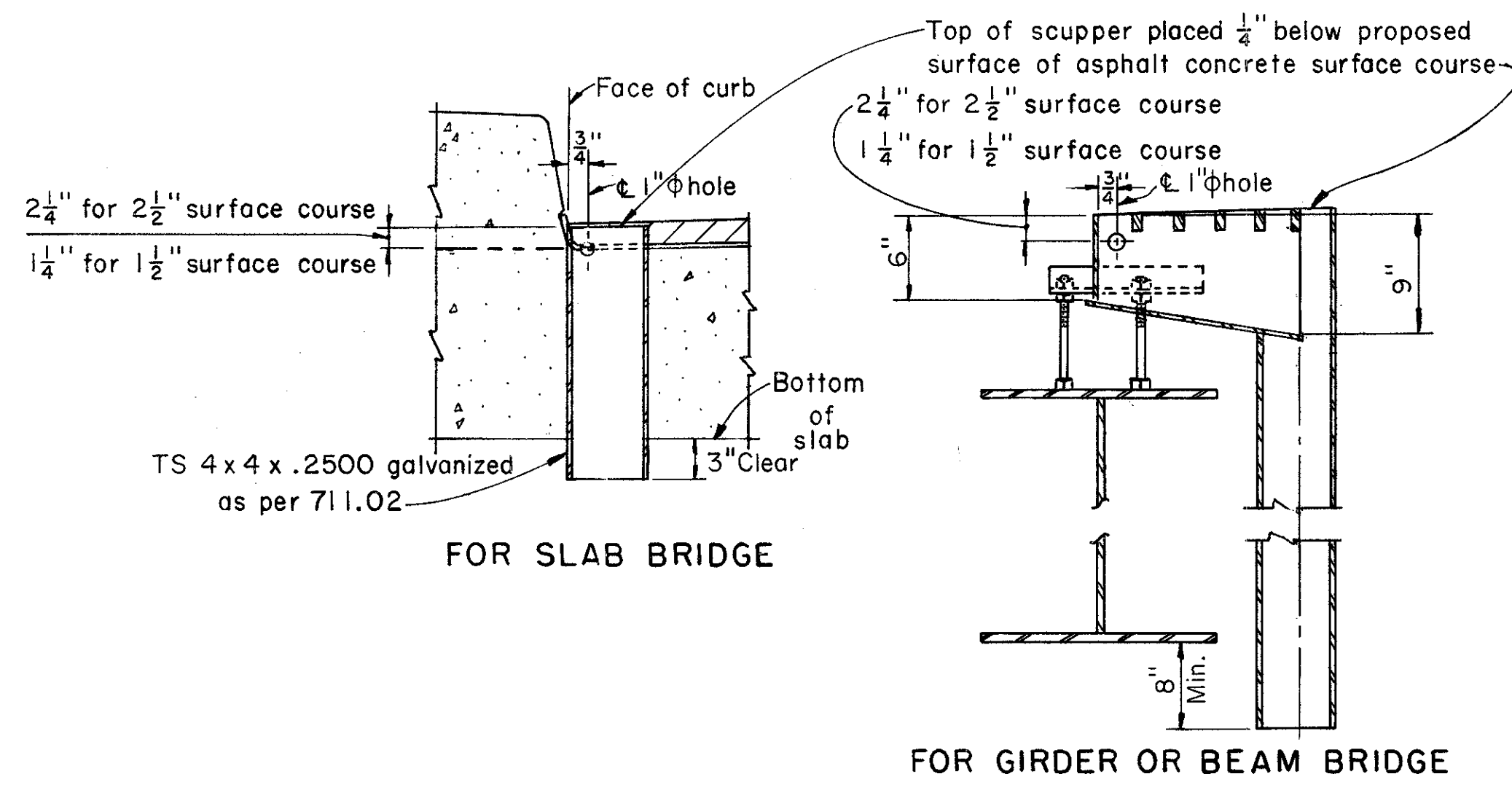
GALVANIZING OF REINFORCING STEEL: SUPERSTRUCTURE REINFORCING STEEL SHALL BE GALVANIZED ACCORDING TO THE CURRENT AMERICAN HOT DIP GALVANIZERS ASSOCIATION GUIDE SPECIFICATIONS. SUPPORT HARDWARE INCLUDING TIE WIRE SHALL BE GALVANIZED ACCORDING TO ASTM A153.

GALVANIZING OF END DAMS: END DAMS INCLUDING GUSSET PLATES AND ALL SHOP WELDED ATTACHMENTS SHALL BE GALVANIZED.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						1/1
<b>DALTON · DALTON ASSOCIATES</b>						
<b>STRUCTURAL GENERAL NOTES</b>						
<b>CUYAHOGA COUNTY</b> <b>CUY - 90 -11.64</b>						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AMC	JWW			EDH	4-17-74	10-31-75



STRUCTURAL STEEL BELOW CURB LINE NO STRUCTURAL STEEL BELOW CURB LINE  
DRAINAGE TUBE ARRANGEMENT



SCUPPER DETAILS  
(Scupper details conform to SD-1-69 except as noted)

**SUBDRAINAGE FOR ASPHALT CONCRETE SURFACE COURSE**  
The subdrainage system shall consist of PVC pipes and fittings and structural tubes as specified on this sheet. The pipes shall be spaced at approximately six foot intervals with a pipe placed within one foot of each expansion joint, except that they shall be relocated or extended as necessary for any discharge to clear bridge seats, structural members such as beams, diaphragms and crossbracing by at least six (6) inches. Pipes shall not be placed over or within four (4) feet of a pavement or sidewalk, within ten (10) feet of the centerline of a railroad track or along curb lines where the deck configuration does not permit water to accumulate.

Where the plans specify a two and one half (2 1/2) inch surface course, the subdrainage shall be as shown on Detail A. The structural tube may be placed in any convenient lengths using butt joints. The price bid per linear foot for this drainage system shall include all PVC pipe and fittings, structural tubes, and all labor necessary to complete the item. The quantity will be the actual length of structural tube required. Payment will be made at the contract price for: Item 518, Lin. Ft., Subdrainage for wearing course, as per plan.

Where the plans specify a one and one half (1 1/2) inch surface course, the subdrainage shall be as shown in Detail B. The price bid for each drain shall include the PVC pipe and fitting, the hardware cloth and all necessary labor to complete the item. Payment will be made at the contract price for: Item 518, Ea., Subdrainage for wearing course, as per plan.

If no asphaltic protective course is specified, the 404 shall be either 2 1/2" place in two 1/4" courses or 1 1/2" placed in one course.

①- 1/4" x 1/4" galvanized, perforated, structural tube with 1/32" ± holes 1" on centers on all four sides as shown. Cut 1 1/2" ± x 1 1/4" opening in bottom, centered over each PVC drain pipe. The steel for the structural tube shall conform to the following: PREGALVANIZED, ASTM A446, Grade A Steel, Galvanizing as per ASTM A525. POSTGALVANIZED, ASTM A569 or A366, Galvanizing as per 711.02.

The minimum steel thickness shall be 0.105". Any damaged galvanizing shall be repaired as per AASHO M36.

②- 1 1/2" PVC DRAIN PIPE AND 45° ELBOW. Position accurately to match 1 1/2" x 1 1/4" openings in perforated tube. Place membrane to lap into the pipe, and seal the hole around the lip of the pipe. (This operation is important to the serviceability of the membrane.) The drain pipe and elbow shall comply with ASTM D2661 or ASTM D2665.

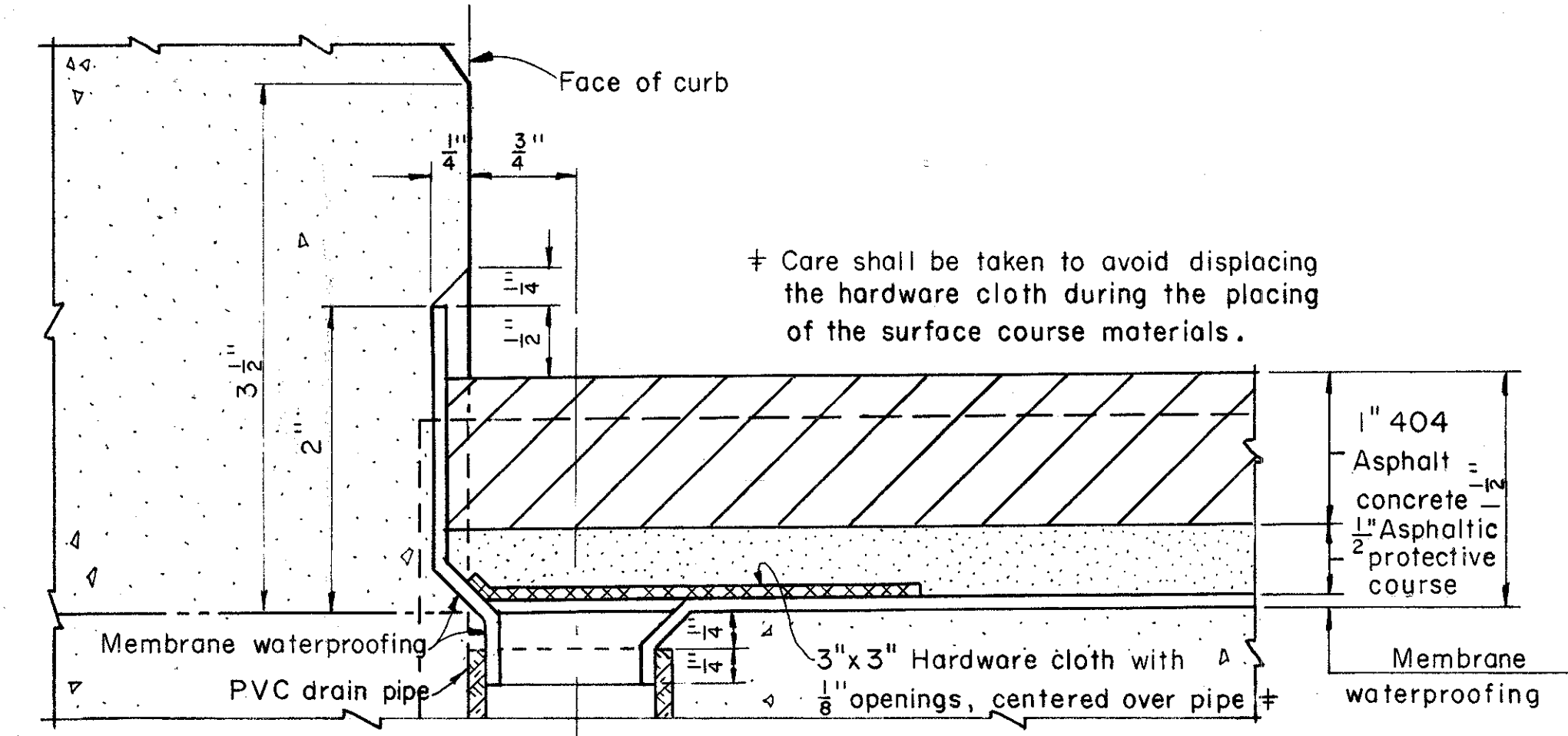
Where the elbow is not adequate to provide clearance between the PVC pipe and the structural steel, the elbow shall be canted as required and cut on a line 1/4" below and parallel with the deck surface. The solvent cement for the pipe and fittings shall conform to ASTM D2235 or ASTM D2564.

③- 1/4" x 5/8" x 1/4" flat head drive pin and washer. Fastening of the structural tube by methods other than shown shall be subject to approval by the Engineer. (Driving pins into bridge deck is prohibited.)

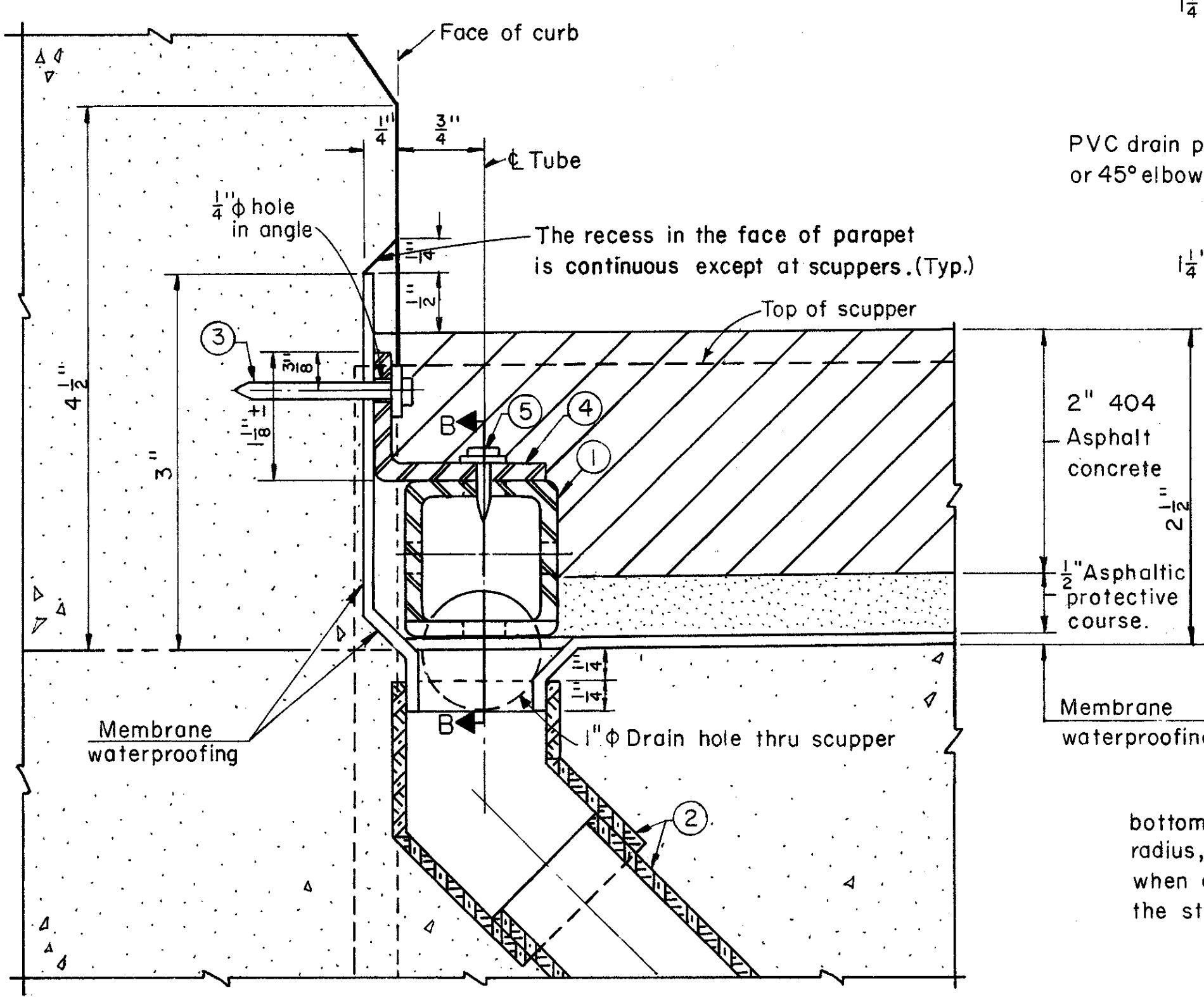
④- L-1 1/2" x 1 1/2" x 1/8", 3" long, clipped and galvanized, or bent galvanized steel plate 2 1/2" x 3" x 0.105" thick. Attach to curb at approximately 10'-0" except near joints, where the angle shall be placed within 6" of the end of each tube section.

⑤- 1/2" x 1/8" x 1/4" flat head drive pin and washer driven thru angle and tube.

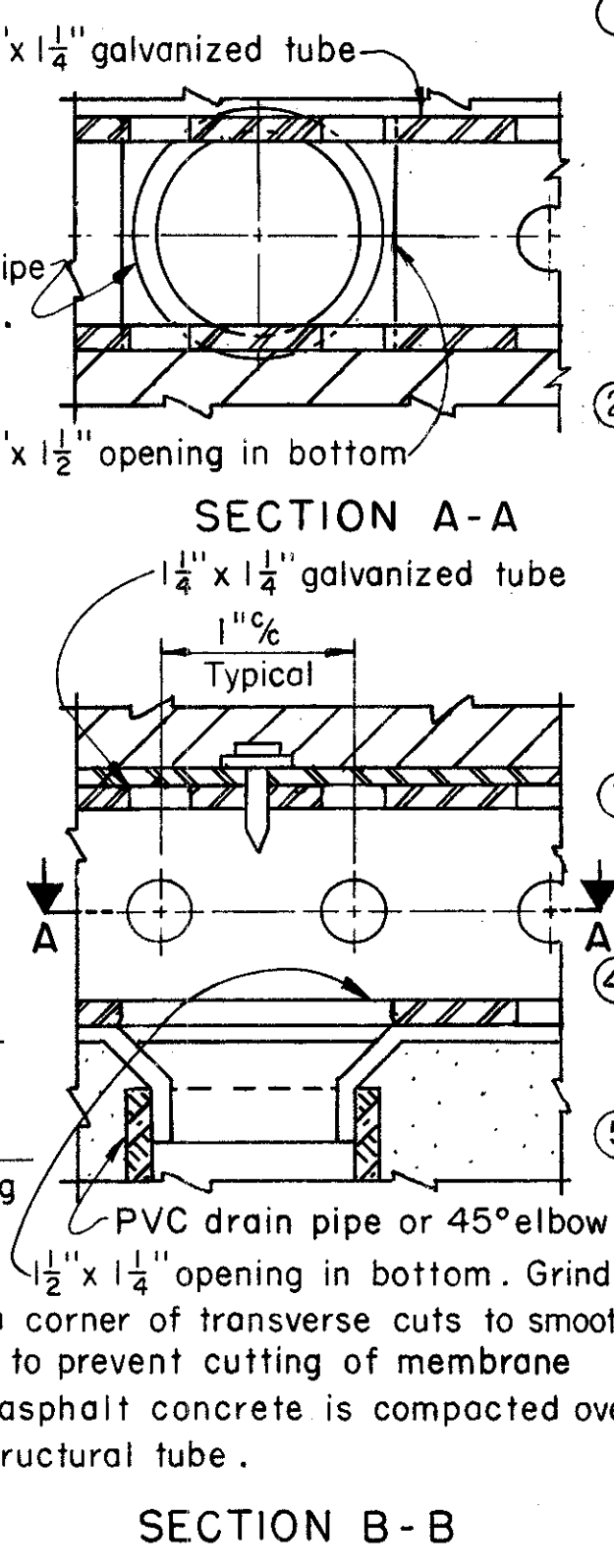
Note: Wherever "PVC" appears it shall be considered to read "PVC or ABS"



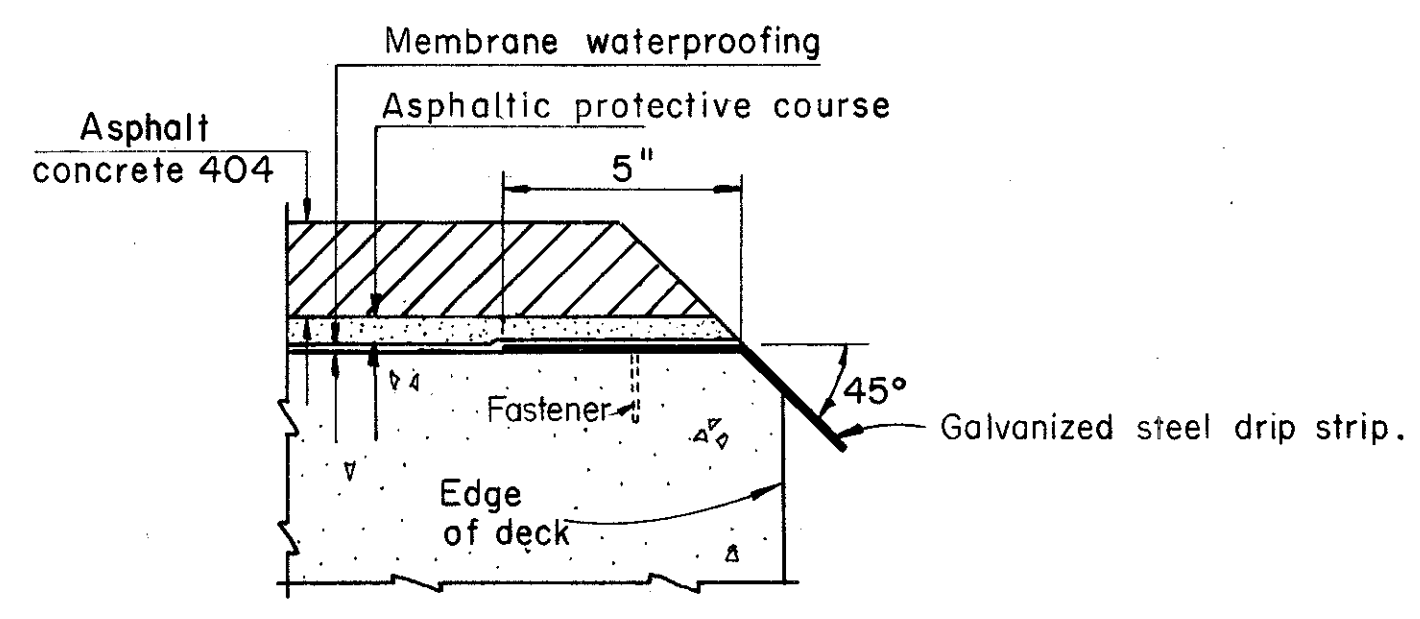
DETAIL B  
SUBDRAINAGE FOR 1 1/2" SURFACE COURSE



DETAIL A  
SUBDRAINAGE FOR 2 1/2" SURFACE COURSE

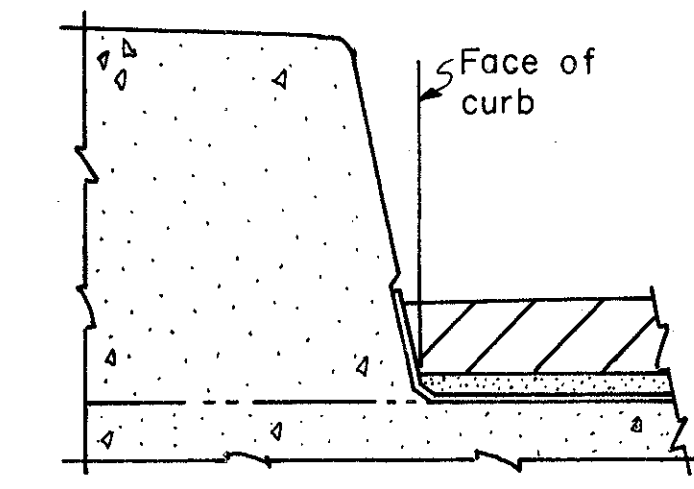


SECTION B-B



D RIP STRIP  
BRIDGES WITHOUT CURBS

**Galvanized Steel Drip Strip:** Prior to applying deck membrane waterproofing a bent galvanized steel drip strip, 8"x0.105" shall be installed along the edges of the deck as shown. The strips shall be fastened at 3'-0" maximum with power driven pins or #10 galvanized expansion screws, subject to the approval of the Engineer. The strips shall be placed the full length of the deck. Where splices are required a 3" (min.) lap shall be used, with a fastener through the lap. Steel shall meet the requirements of ASTM A568 and galvanizing shall be in accordance with 711.02. Payment shall be at the contract price bid for Item Special, Sq. Ft., Galvanized steel drip strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.



SHAPE OF SIDEWALK CURB

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF BRIDGES						
DECK DRAINAGE DETAILS FOR BRIDGES WITH ASPHALT CONCRETE SURFACE COURSE CUYAHOGA COUNTY CUY-90-11.64						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DLM	F		CPD	WJJ	1-2-75	

MICROFILMED  
SEP 30 1982

EARTHWORK LIMITS SHOWN ARE SCHEMATIC. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

FED. RD.	STATE	PROJECT
2	OHIO	

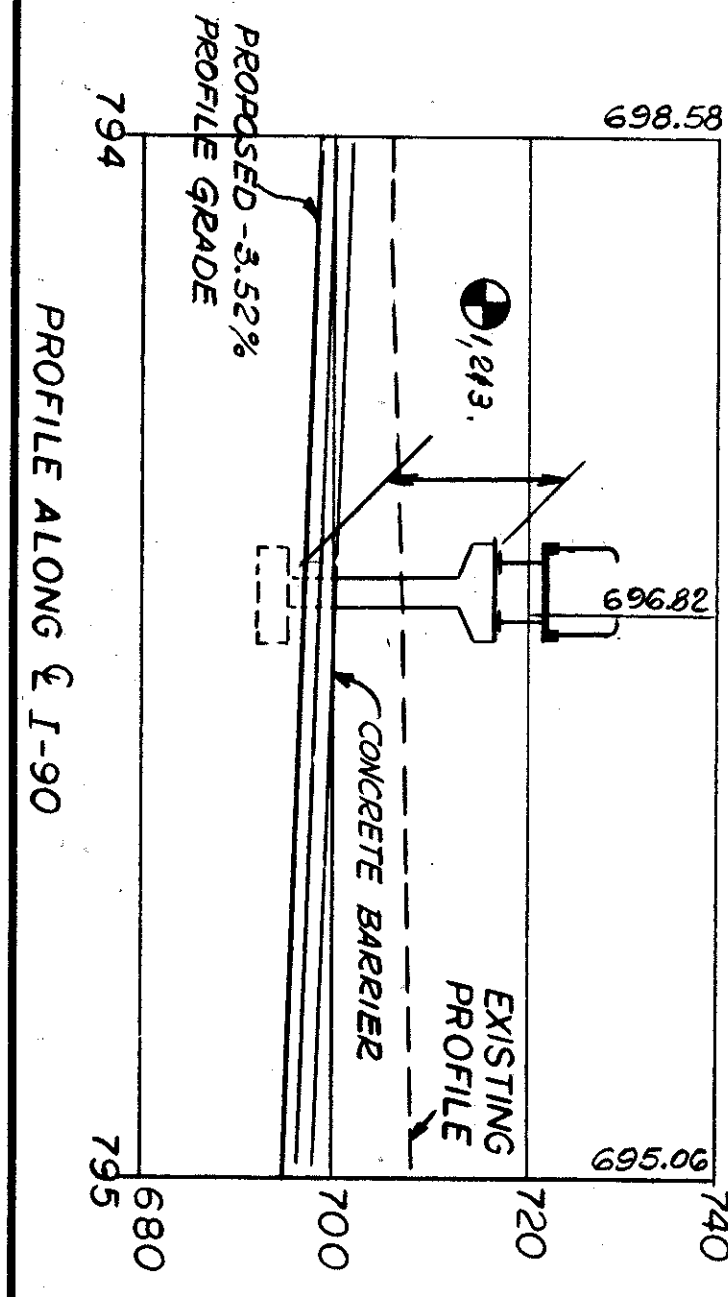
613  
838

CUYAHOGA COUNTY  
CUI-90-11.64

CURVE DATA

**RAMP #15**  
 P.I. STA. 95+35.41  
 $\Delta = 5^{\circ}26'03''$   
 $D_c = 3^{\circ}00'00''$   
 $R = 1909.86'$   
 $T = 90.64'$   
 $L_c = 181.14'$

**MARGINAL RD. #4**  
 P.I. STA. 74+98.33  
 $\Delta = 10^{\circ}5'27''$   
 $D_c = 3^{\circ}00'00''$   
 $R = 1909.86'$   
 $T = 168.62'$   
 $L_c = 336.36'$

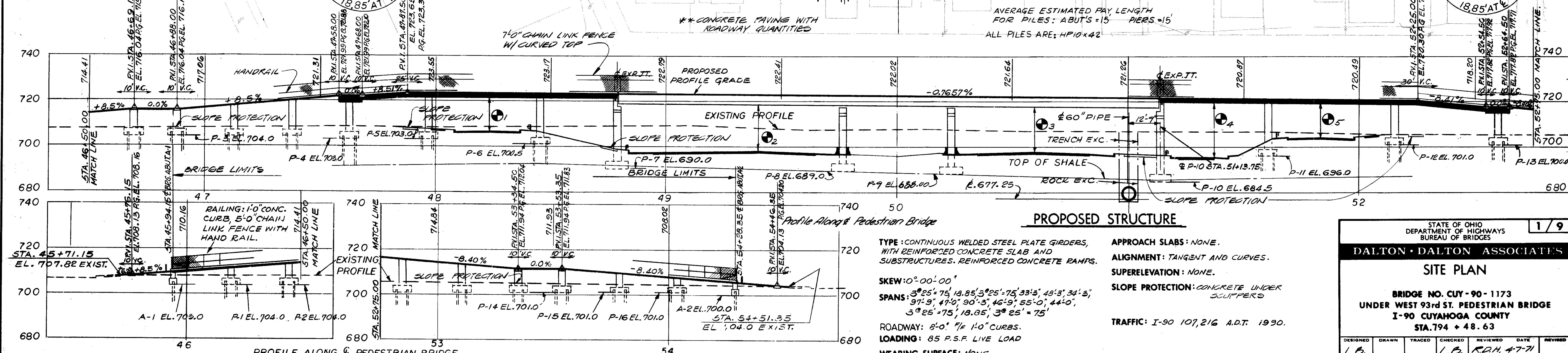
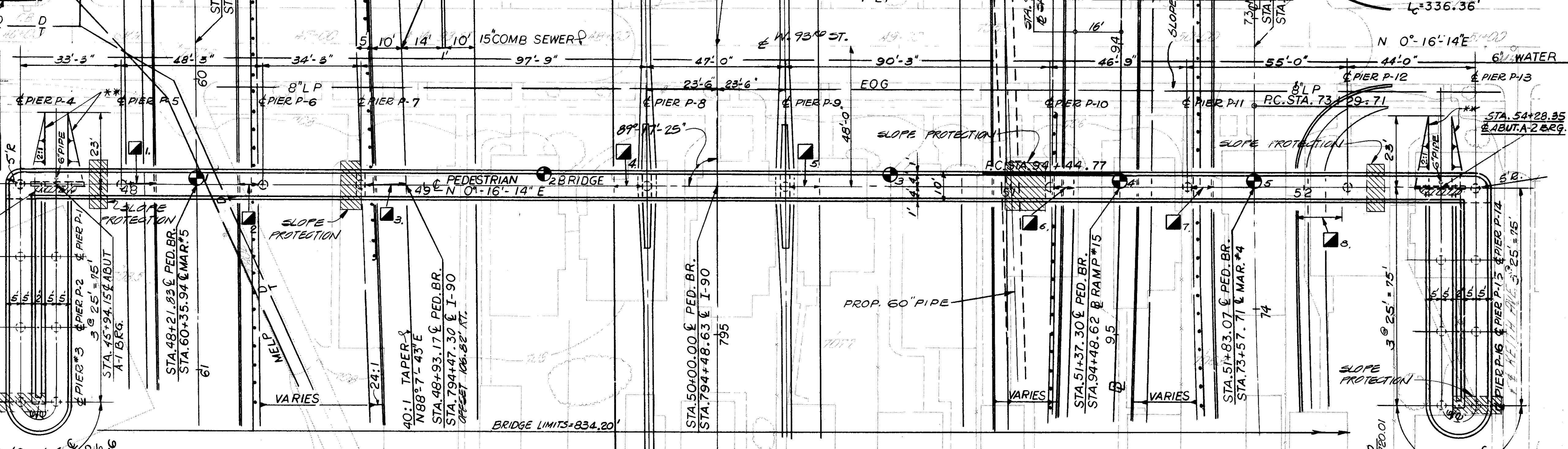


VERTICAL CLEARANCE

LOCATION	VERT. CLEARANCE	REQ'D	ACTUAL
1.	14.50'	14.00'	14.00'
2.	15.00'	20.57'	20.57'
3.	15.00'	19.72'	19.72'
4.	15.00'	23.89'	23.89'
5.	14.50'	14.61'	14.61'

HORIZONTAL CLEARANCE

LOCATION	HORIZ. CLEAR.	REQ'D	ACTUAL
1.	10.00'	10.28'	10.28'
2.	7.00'	7.17'	7.17'
3.	12.75'	12.71'	12.71'
4.	10.00'	10.00'	10.00'
5.	10.00'	10.00'	10.00'
6.	5.75'	6.05'	6.05'
7.	7.00'	7.07'	7.07'
8.	16.00'	16.93'	16.93'



AVERAGE ESTIMATED PILE LENGTH FOR PILES: ABUT'S=15 PIERS=15  
 ALL PILES ARE: HP10x42

PROPOSED STRUCTURE

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS, WITH REINFORCED CONCRETE SLAB AND SUBSTRUCTURES. REINFORCED CONCRETE RAMPS.

SKEW: 0°00'00"

SPANS: 3°25'75", 18.85', 3°25'75", 33'5", 48'3", 34'3", 97'9", 47'0", 90'3", 46'9", 55'0", 44'0", 3°25'75", 18.85', 3°25'75"

ROADWAY: 8'-0" W/ 1'-0" CURBS.

LOADING: 85 P.S.F. LIVE LOAD

WEARING SURFACE: NONE.

APPROACH SLABS: NONE.

ALIGNMENT: TANGENT AND CURVES.

SUPERELEVATION: NONE.

SLOPE PROTECTION: CONCRETE UNDER SCULPTERS

TRAFFIC: I-90 107,216 A.D.T. 1990.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DALTON-DALTON ASSOCIATES

SITE PLAN

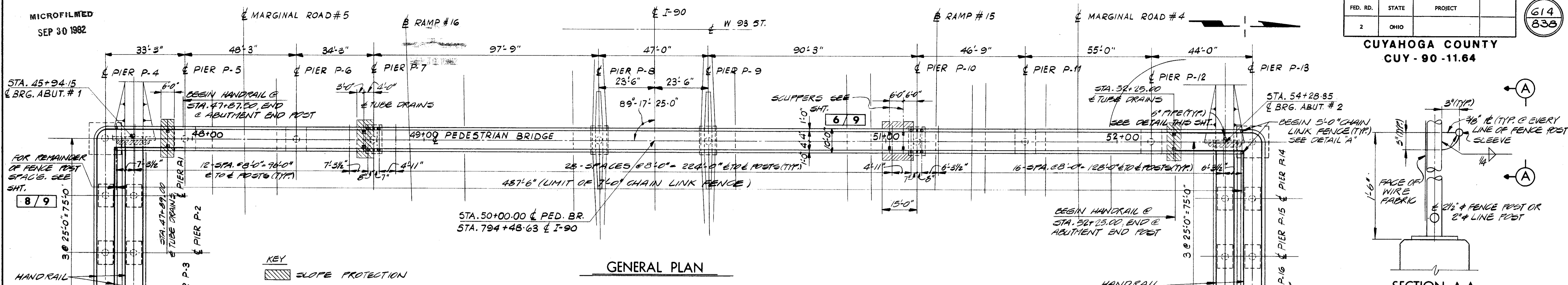
BRIDGE NO. CUY-90-1173  
UNDER WEST 93RD ST. PEDESTRIAN BRIDGE  
I-90 CUYAHOGA COUNTY  
STA. 794 + 48.63

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
L.B.	KENESSY		L.B.	R.D.H.	4-7-71	

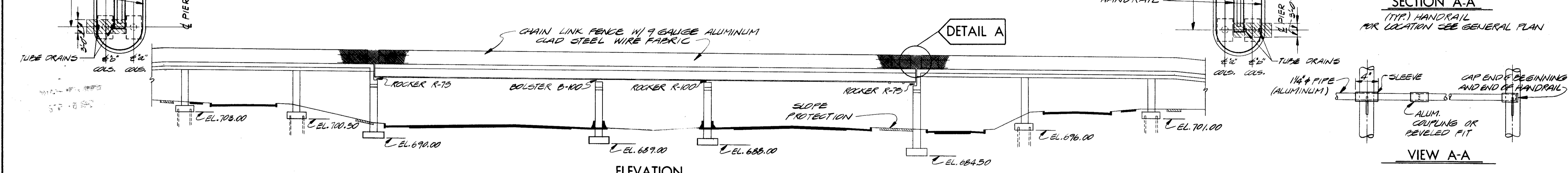
MICROFILMED  
SEP 30 1982

FED. RD.	STATE	PROJECT	614 838
2	OHIO		

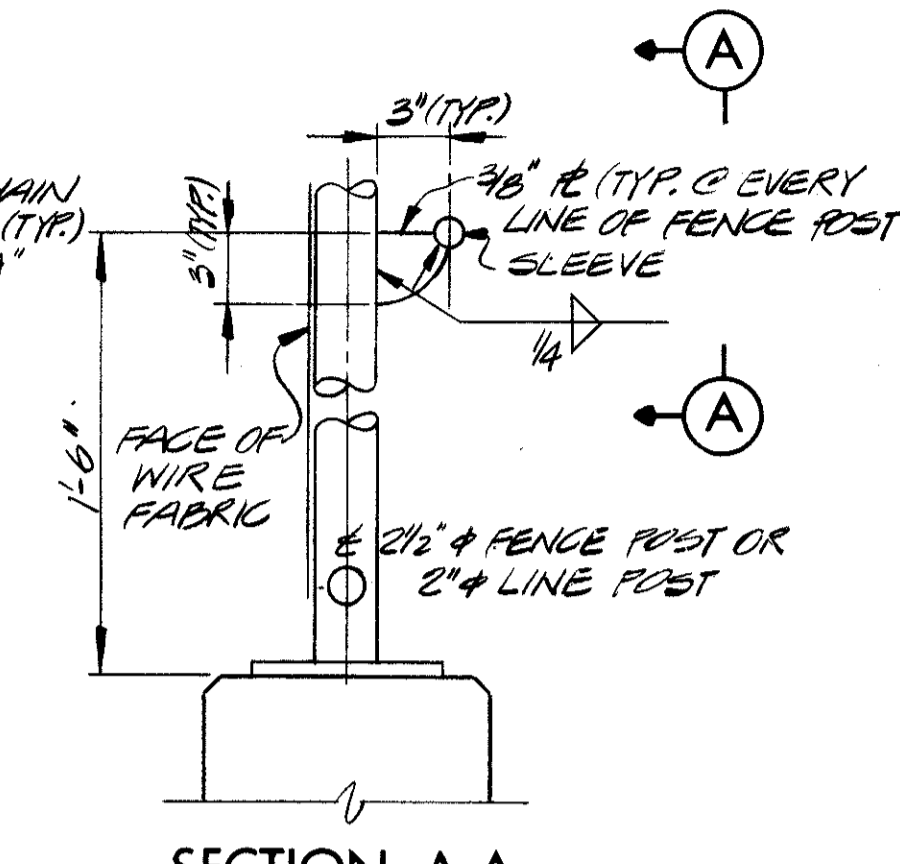
CUYAHOGA COUNTY  
CUY - 90 - 11.64



GENERAL PLAN

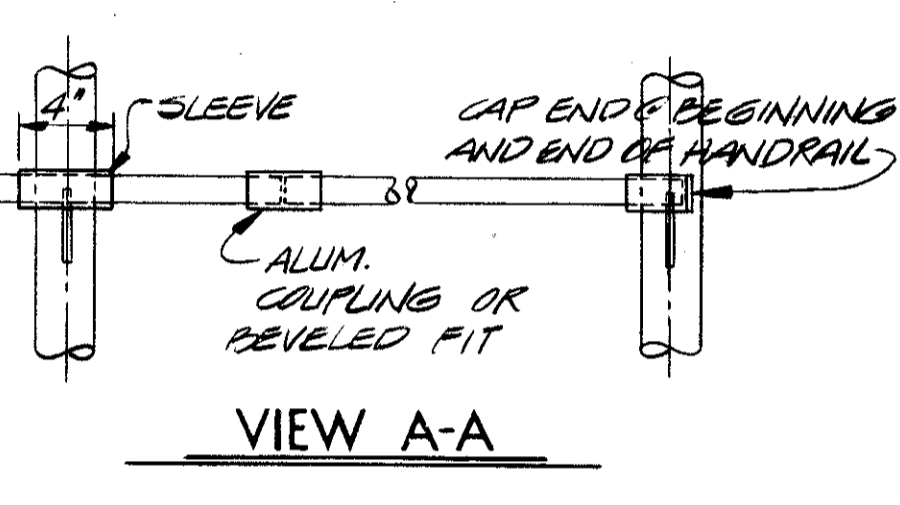


ELEVATION



SECTION A-A

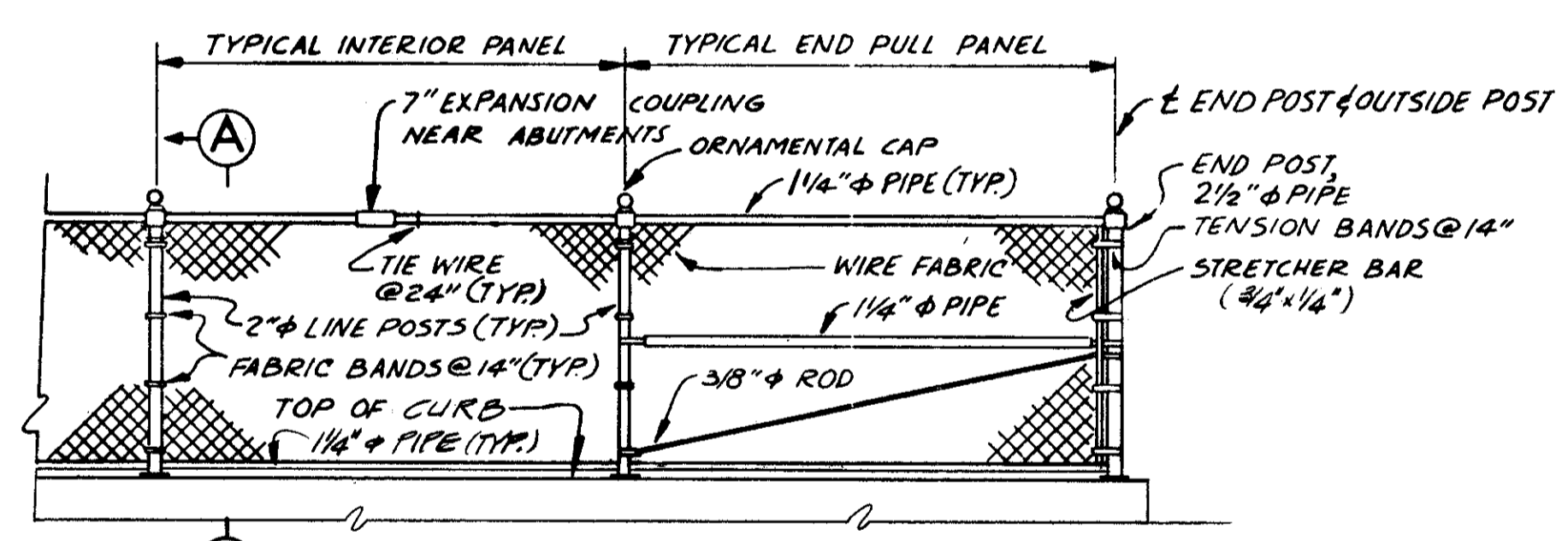
(TYP.) HANDRAIL  
PER LOCATION SEE GENERAL PLAN



VIEW A-A

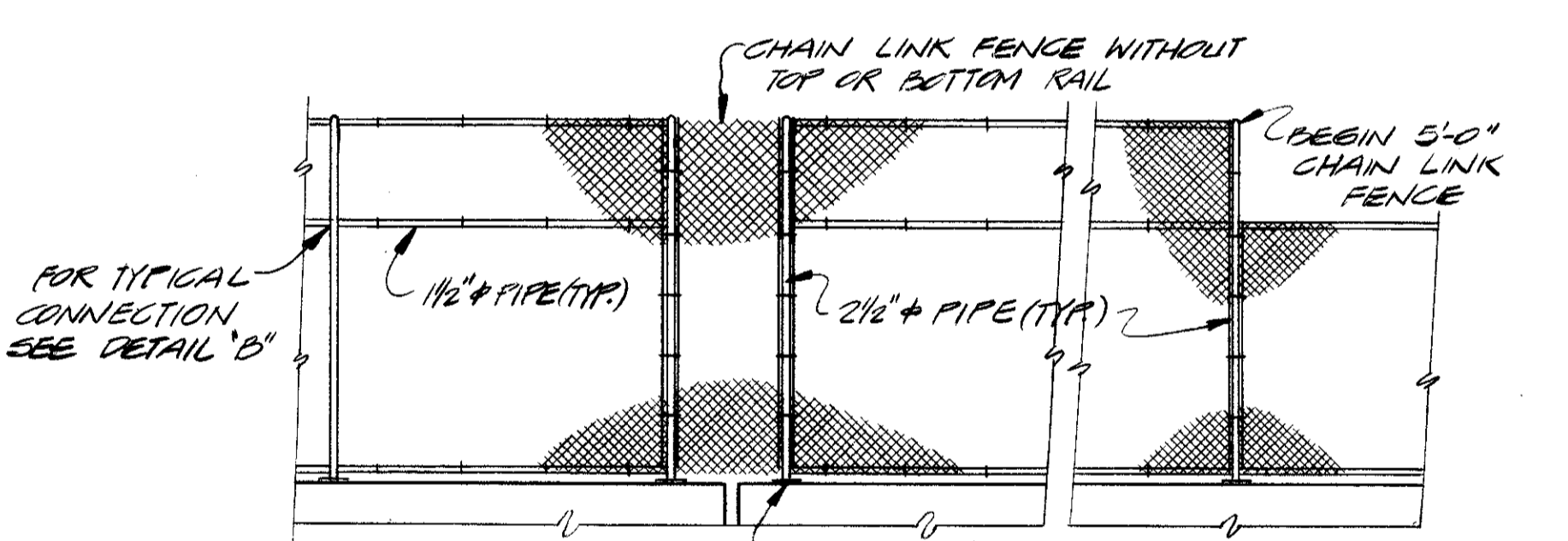
NOTES

- FOR STRUCTURAL GENERAL NOTES, SEE SHEET 611/838
- ALL FENCE POSTS WITH WELDED CONNECTIONS FOR HORIZONTAL PIPE, HANDRAIL, ANCHOR PLATES, AND ANCHOR BRACKETS SHALL BE HOT-DIP GALVANIZED AFTER WELDING IN ACCORDANCE WITH ITEM 711.
- ALUMINUM HANDRAIL IS INCLUDED FOR PAYMENT WITH CHAIN LINK FENCE.
- FOR SCUPPER DETAILS, SEE SHEETS 3/9 & 6/9
- FOR ADDITIONAL FENCE DETAILS, SEE SHEETS 6/9 AND 8/9



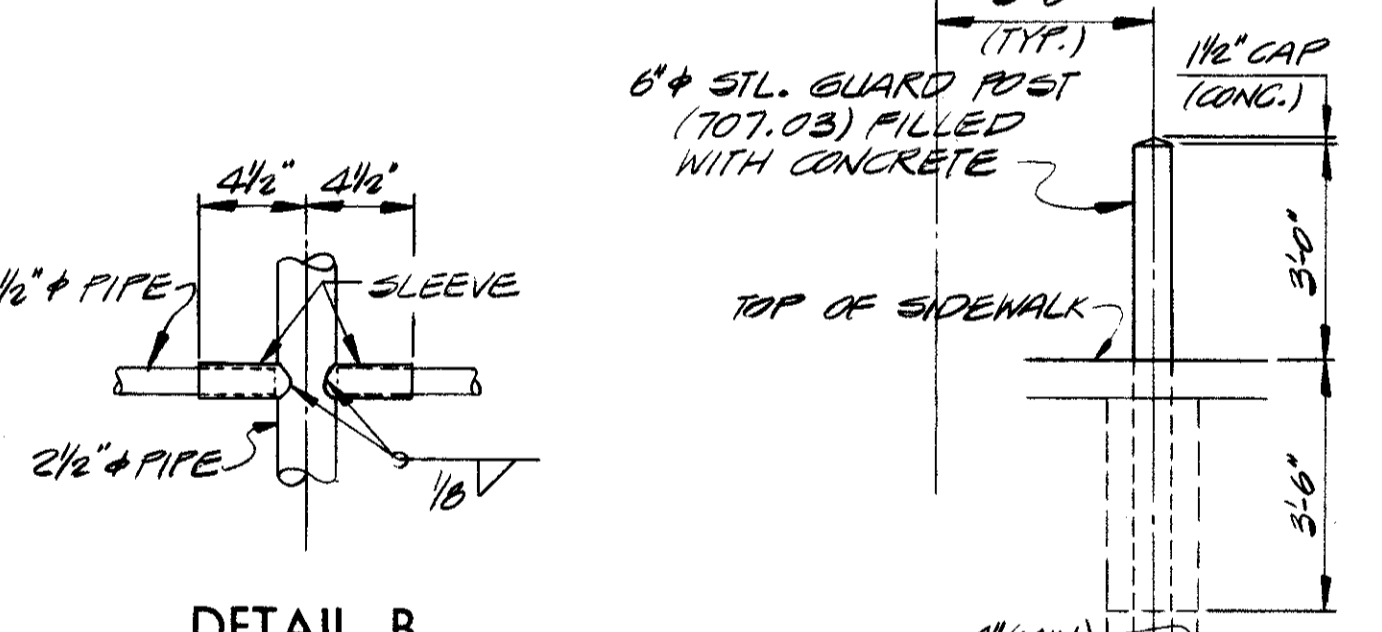
ELEVATION (AT ABUTMENTS)

NOTE: ALL WIRE FABRIC TO BE 9-GAUGE STEEL  
ALL POSTS, PIPES AND FITTINGS TO BE GALV. STL.



DETAIL A

FOR REMAINDER OF CALL-OUTS SEE ELEV. & LEFT



DETAIL B

DETAIL

STA. 43+94.15 (A-1)  
STA. 54+28.35 (A-2)

ESTIMATED QUANTITIES						
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER GEN'L.
503	LUMP	LSUM	COFFERDAMS CRIBS AND SHEETING			LUMP
503	857	CY	UNCLASSIFIED EXCAVATION INCLUDING SHALE		20	537
505	LUMP	LSUM	TEST PILE			LUMP
507	1320	LF	STEEL PILES, HP 10X42		60	1260
509	53,806	LB	REINFORCING STEEL			
509	49,824	LB	REINFORCING STEEL GALVANIZED AS PER PLAN	49,824	959	52847
511	353	CY	CLASS C CONCRETE, SUPERSTRUCTURE	353		
511	83	CY	CLASS C CONCRETE, PIERS ABOVE FOOTINGS			83
511	3	CY	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		3	
511	219	CY	CLASS C CONCRETE, FOOTINGS			214
513	49200	LB	STRUCTURAL STEEL	49200		

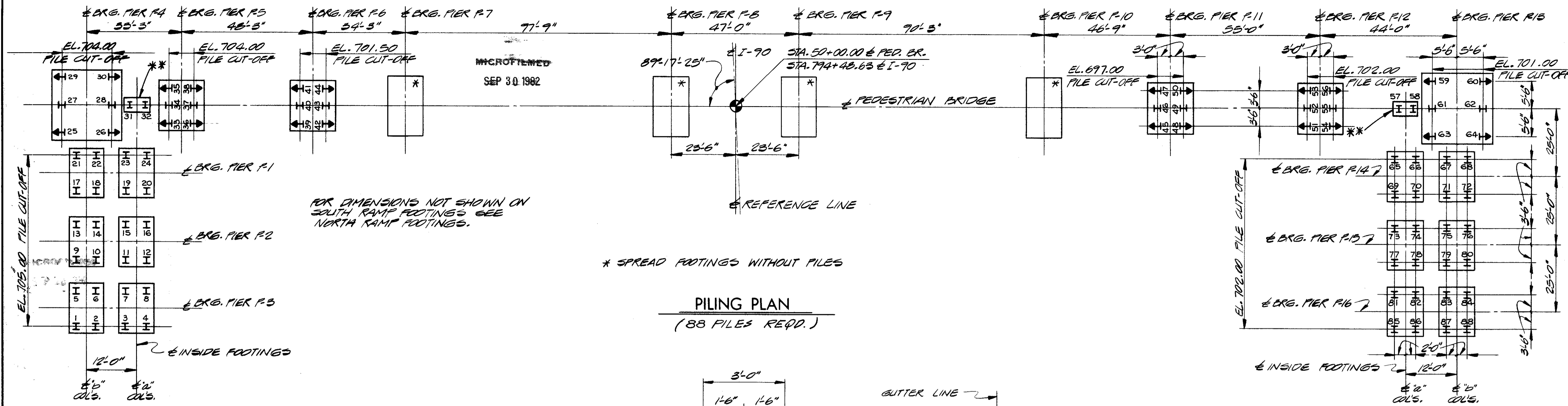
ESTIMATED QUANTITIES						
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER GEN'L.
514	47,900	LB	FIELD PAINTING OF STRUCTURAL STEEL	47,900		
516	27	SF	1 IN. PREFORMED EXPANSION JOINT FILLER		27	
518	4	EACH	SCUPPERS INCLUDING SUPPORTS		4	
518	10	EACH	8 IN. X 6 IN. DRAINS (STL. TUBE)		10	
601	88	SY	CONCRETE SLOPE PROTECTION		6	82
606	2	EACH	6 IN. DIAMETER PIPE GUARD POSTS		2	
607	975	LF	7 FOOT FENCE ENCLOSED, TYPE CL		975	
607	684	LF	5 FOOT FENCE, TYPE CL		684	
608	353	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B, OR D	353		
QUANTITIES CHECKED BY RG 4-09-75						

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES 2 / 9

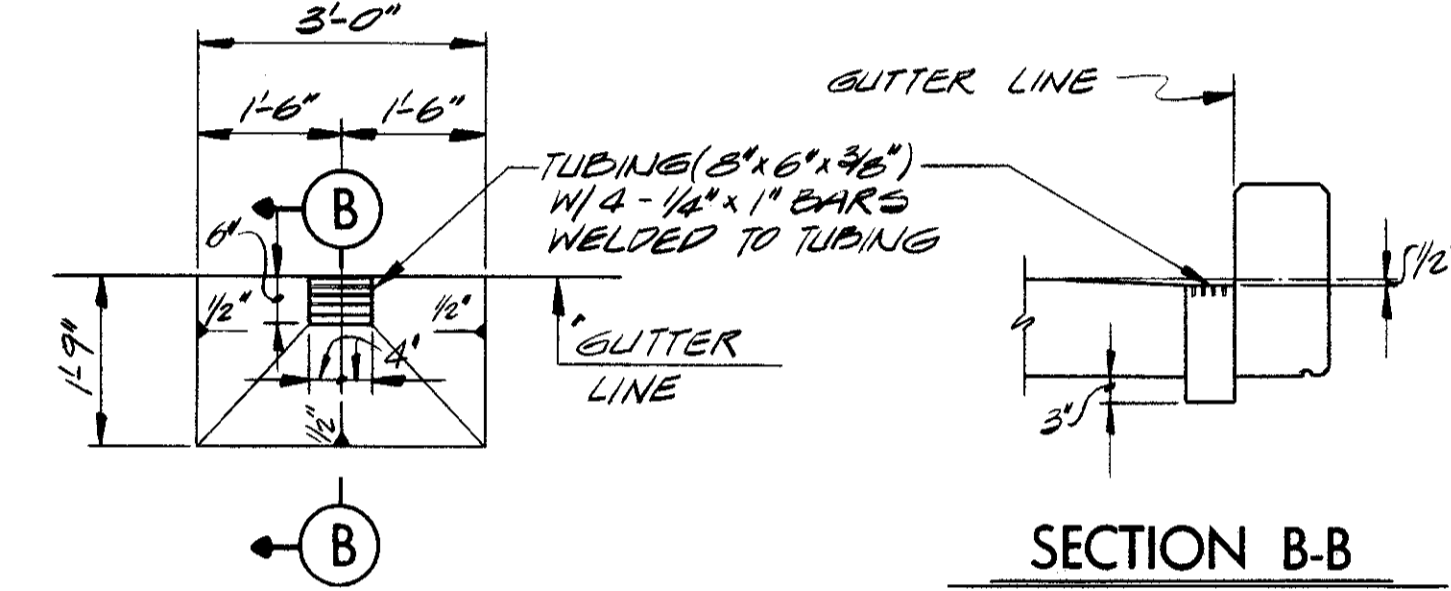
**DALTON · DALTON ASSOCIATES**

**GENERAL PLAN & ELEVATION**  
BRIDGE NO. CUY - 90 - 1173  
UNDER WEST 93rd ST. PEDESTRIAN BRIDGE  
I-90 CUYAHOGA COUNTY  
STA. 794 + 48.63

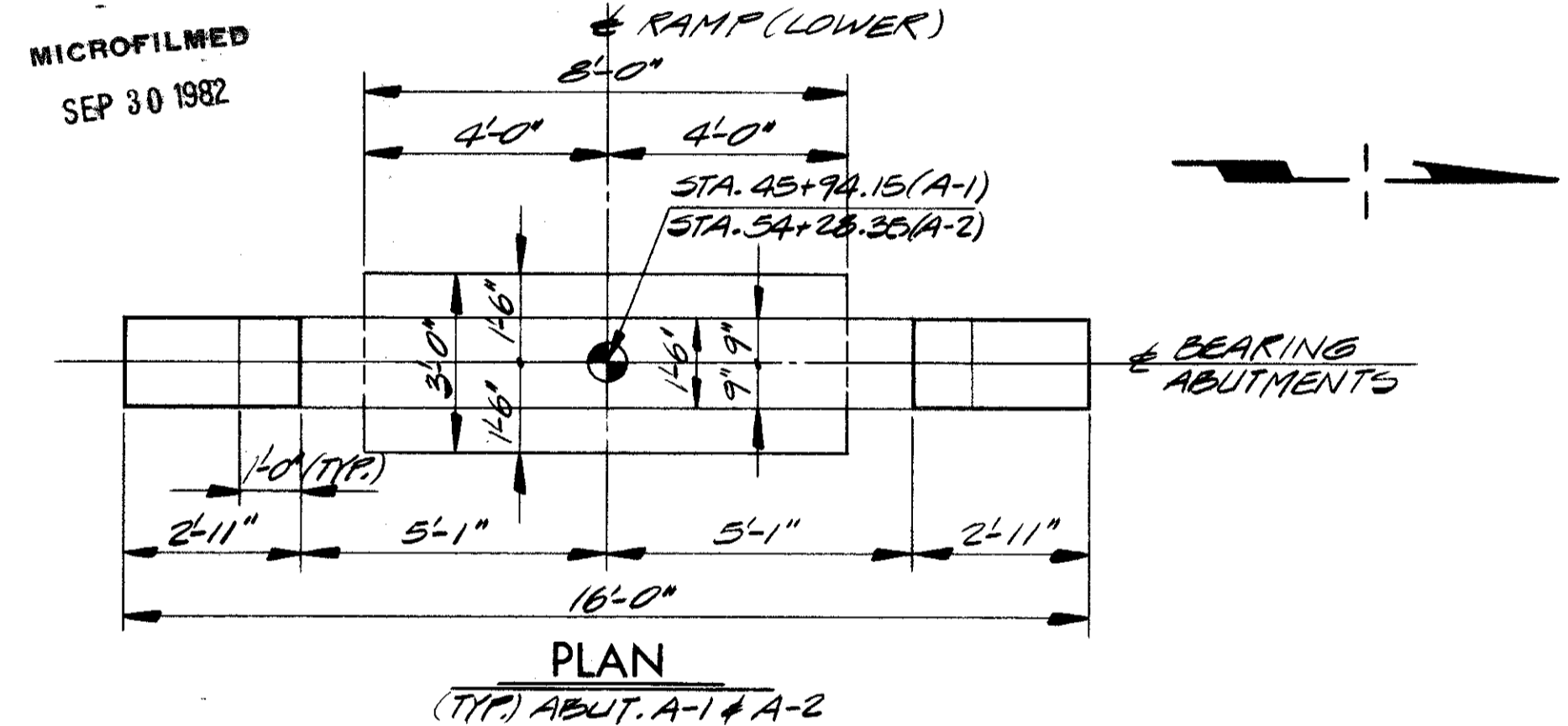
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.B.	D.F.D.	AKS.	HSL	R.D.H.	4-7-71	



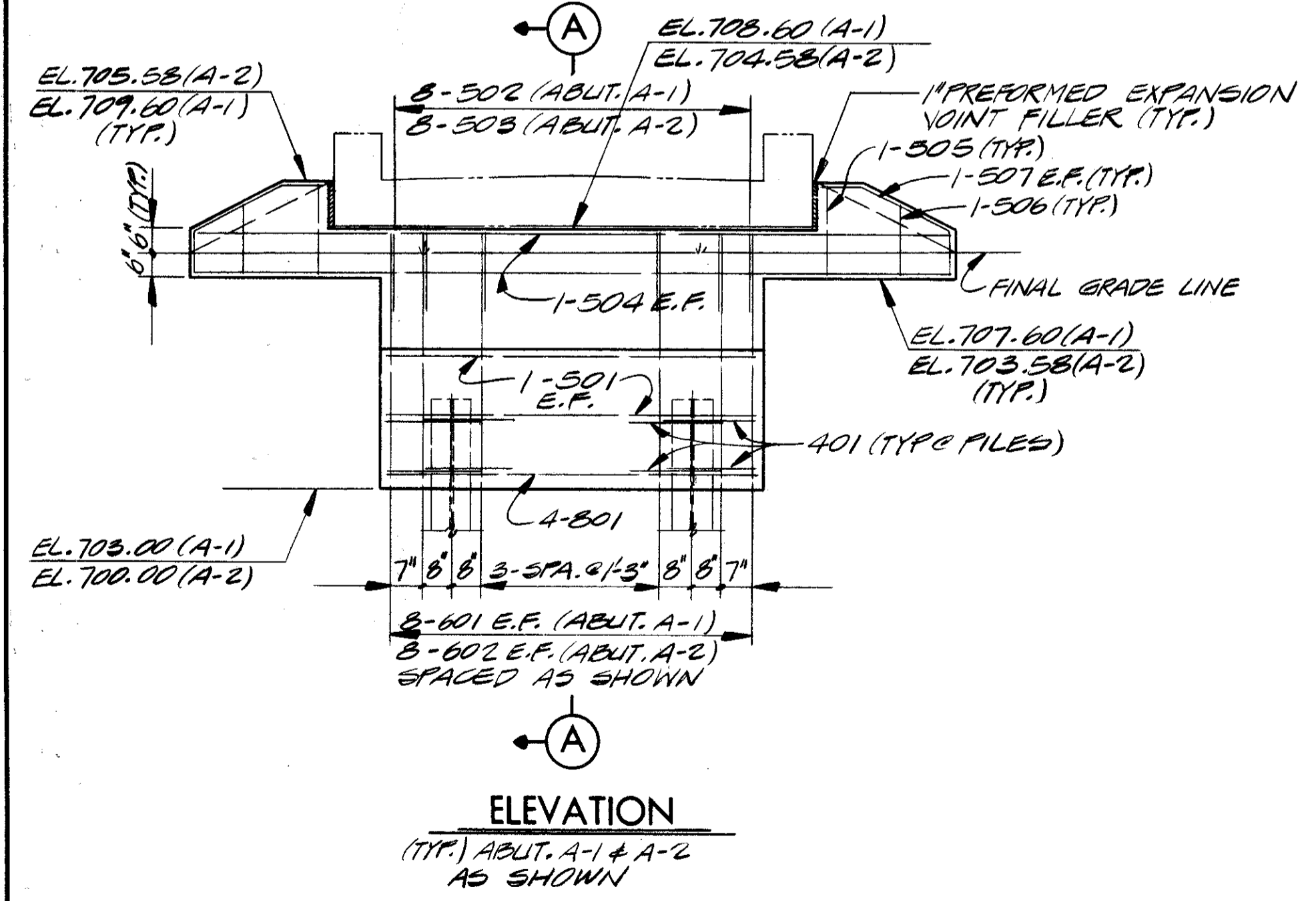
PILING PLAN  
(88 PILES REQ'D.)



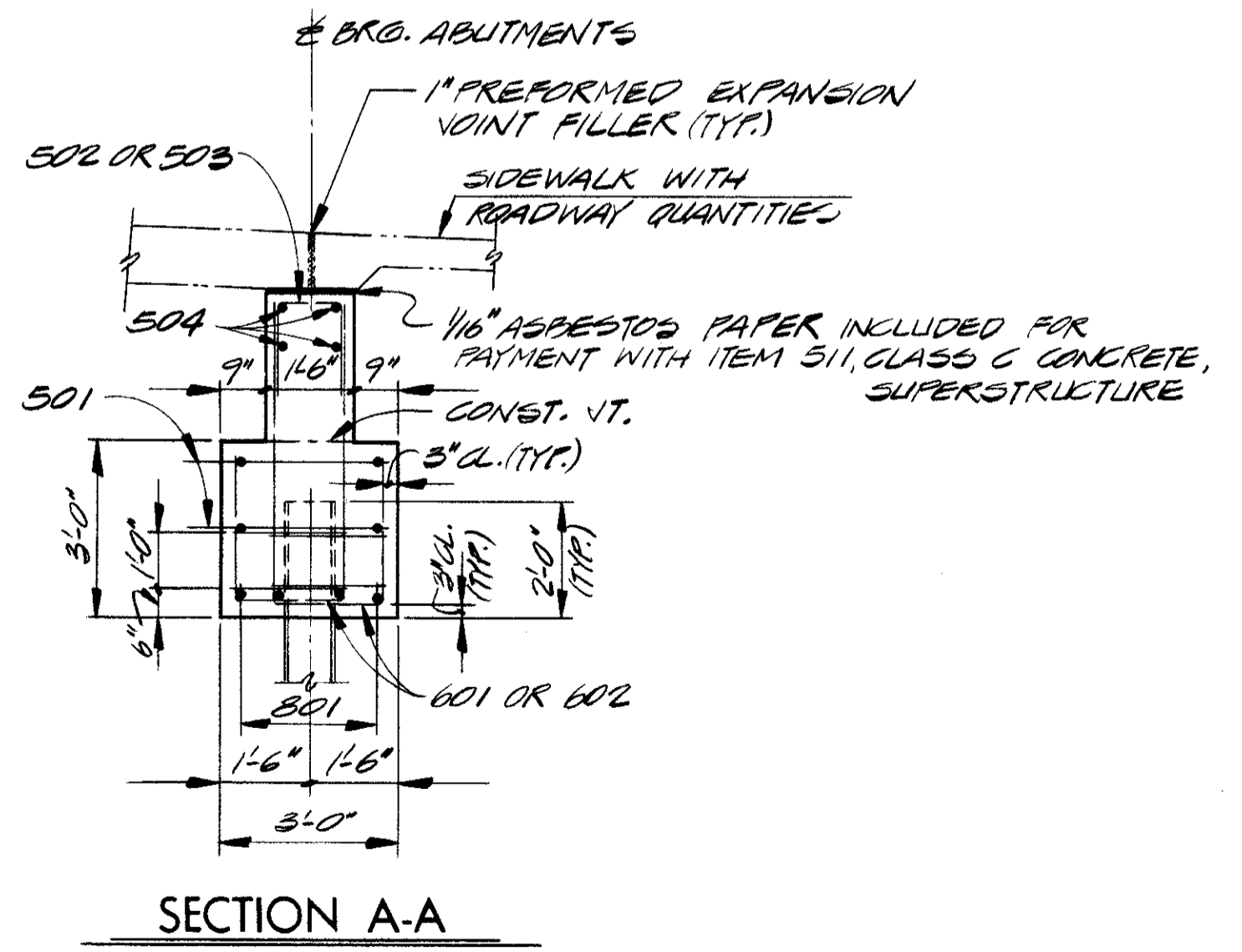
DETAIL  
TUBE DRAIN  
(SHALL BE HOT-DIP GALVANIZED AFTER WELDING IN ACCORDANCE WITH ITEM 711.)



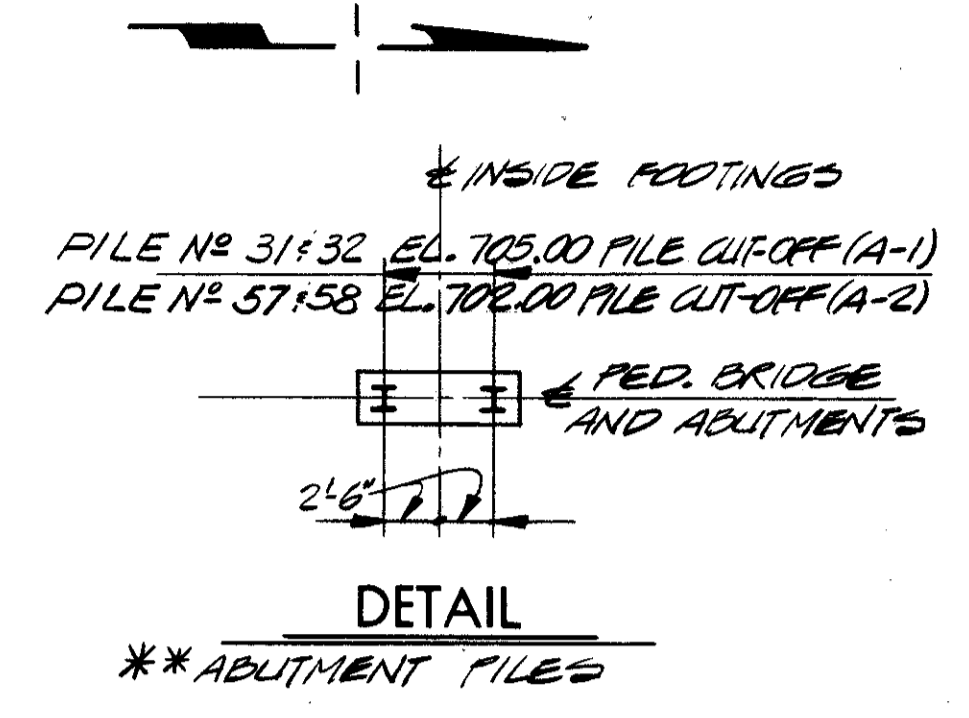
PLAN  
(TYP.) ABUT. A-1 & A-2



ELEVATION  
(TYP.) ABUT. A-1 & A-2 AS SHOWN



SECTION A-A



- NOTES**
- ALL PILES SHALL BE HP10x42 STEEL PILES.
  - FOR PILE CUT-OFF ELEVATIONS, SEE PILING PLAN.
  - PILES SHOWN THUS ↓ SHALL BE BATTERED 1:4 IN THE DIRECTION INDICATED.
  - PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK OR TO (20) BLOWS PER INCH FOR THE LAST FEW INCHES OF PENETRATION. THE DESIGN LOAD IS 15 TONS PER PILE FOR THE ABUTMENT PILES AND 33 TONS PER PILE FOR THE PIER PILES.
  - ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
  - THE PREFIX "A" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE ABUTMENTS UNLESS SHOWN OTHERWISE.

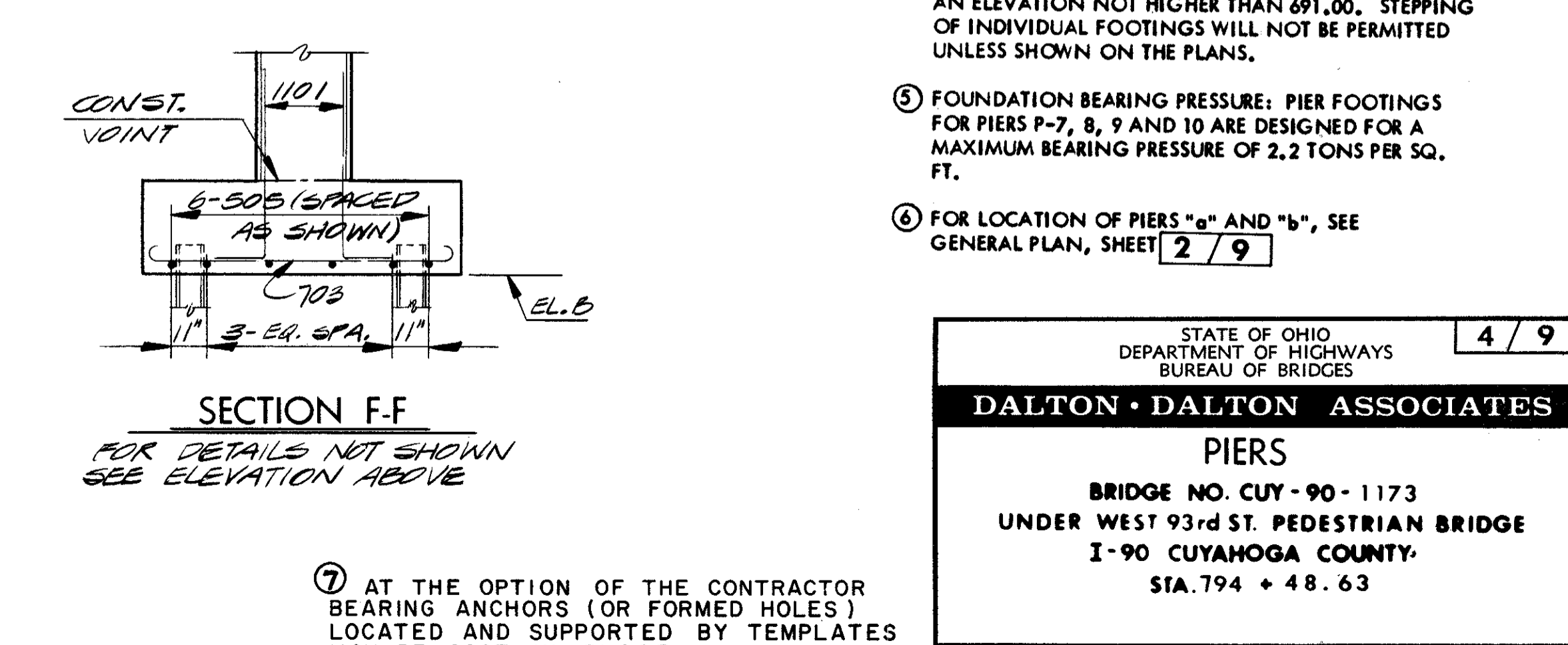
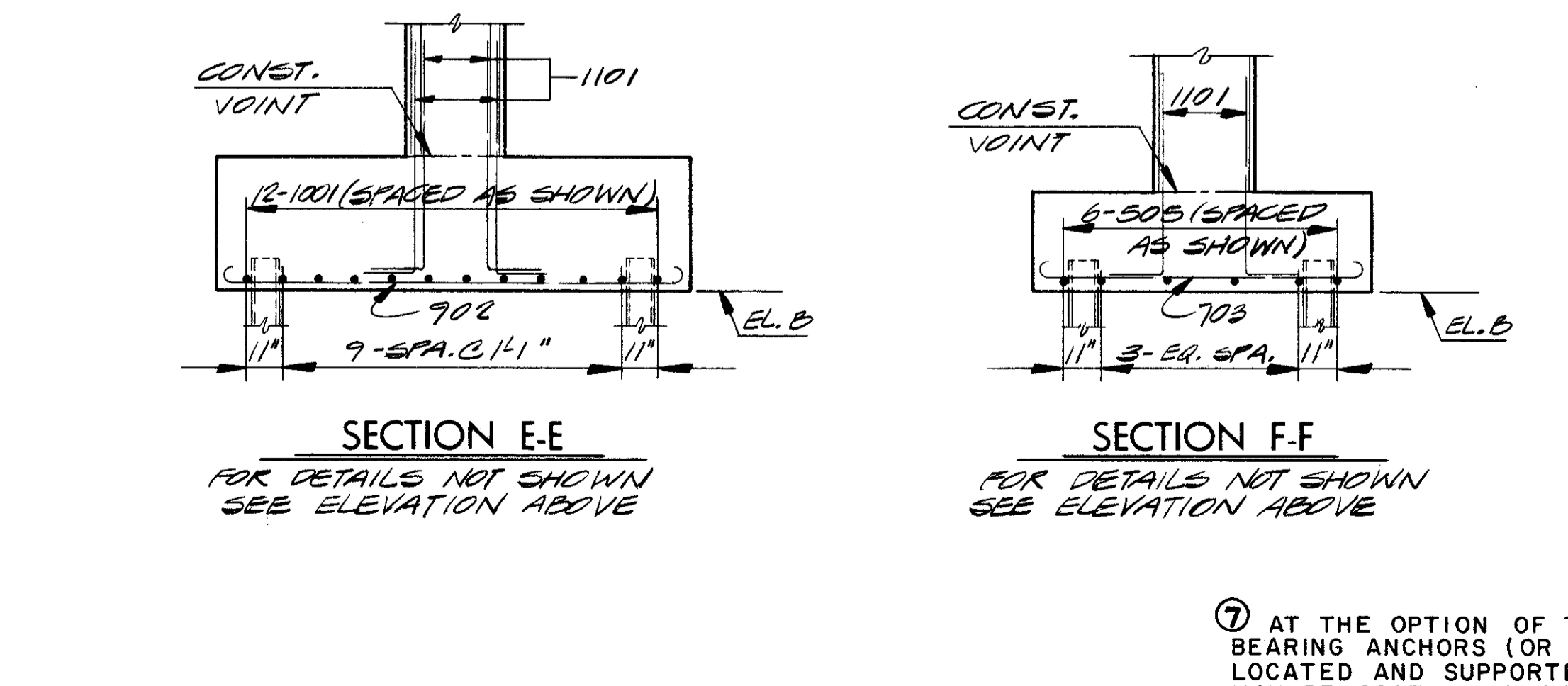
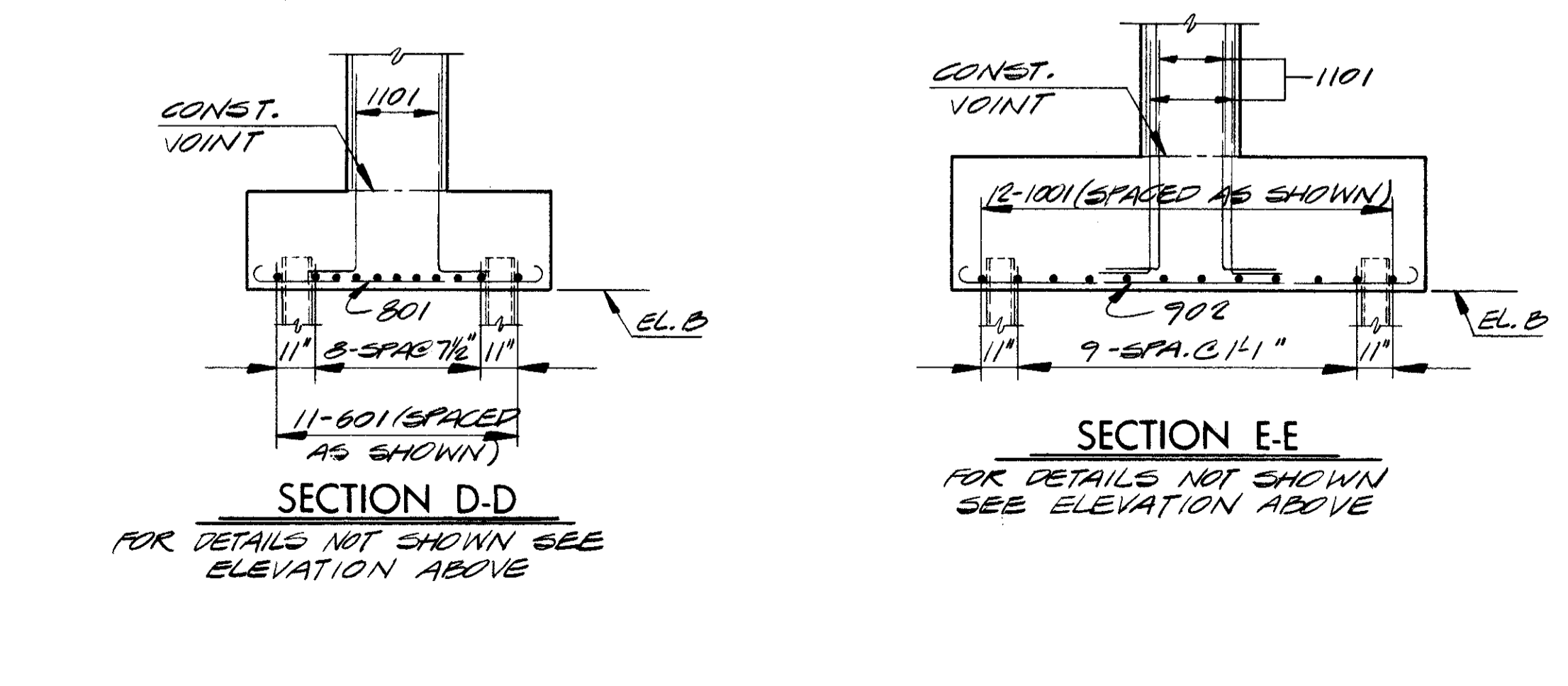
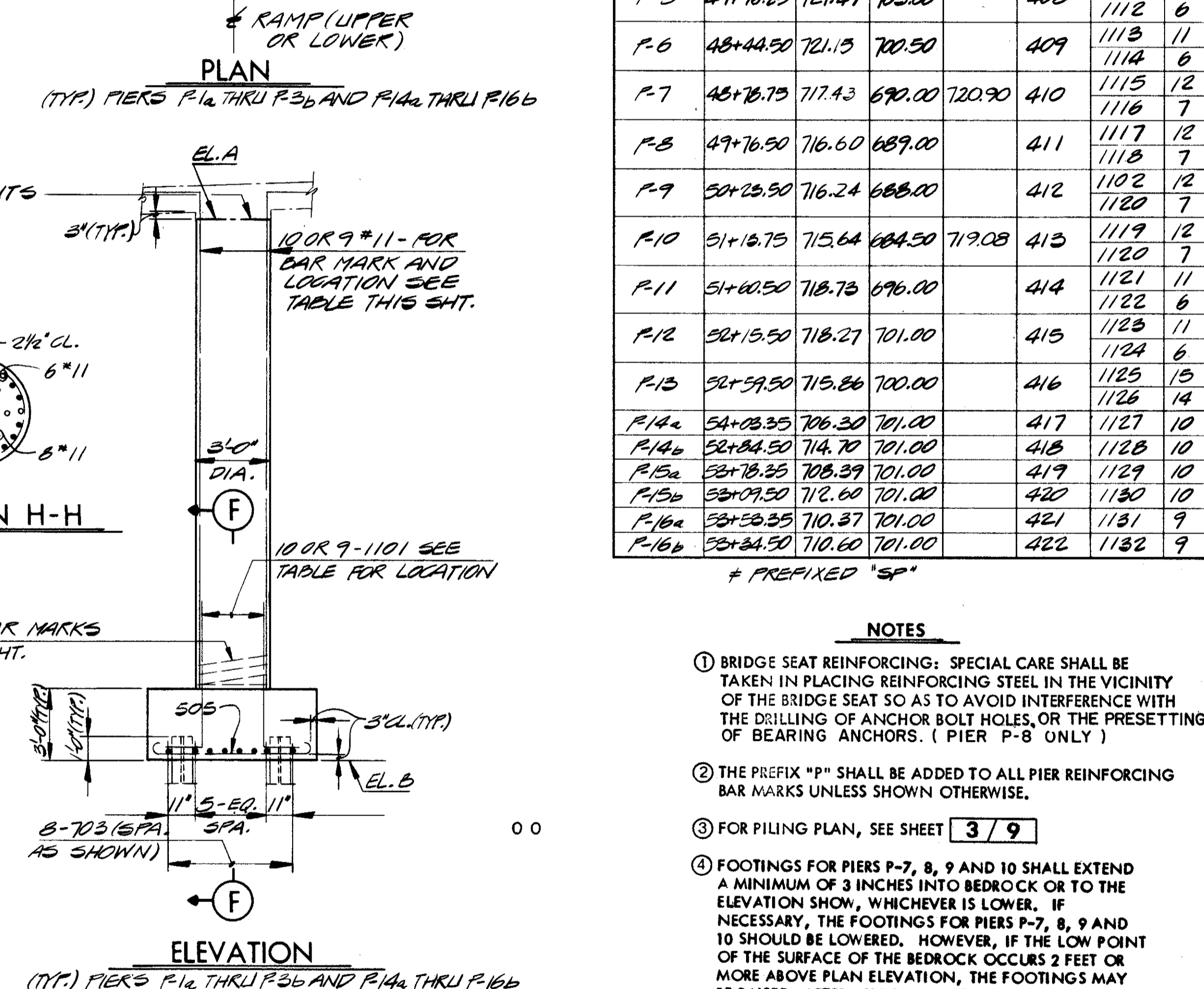
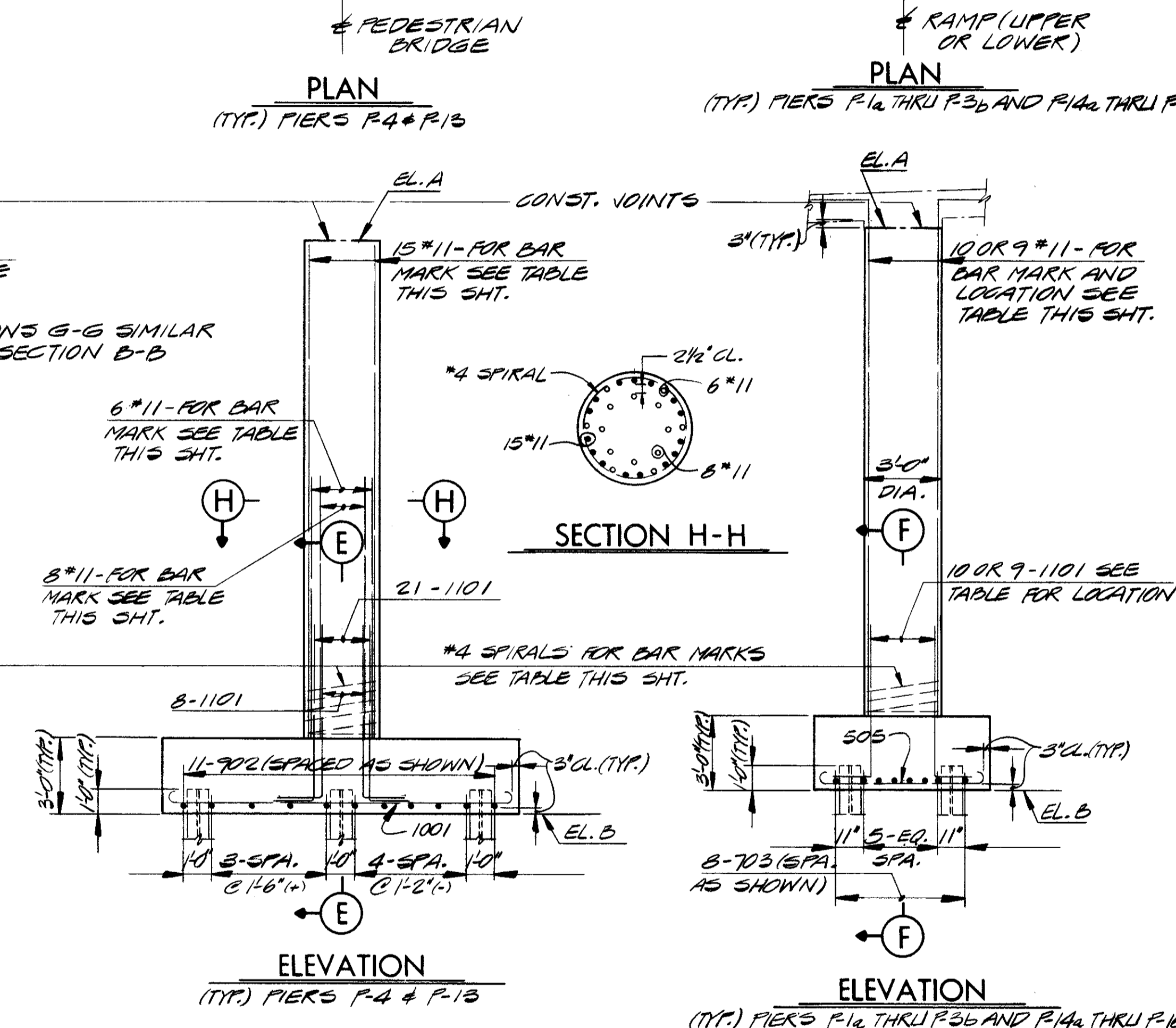
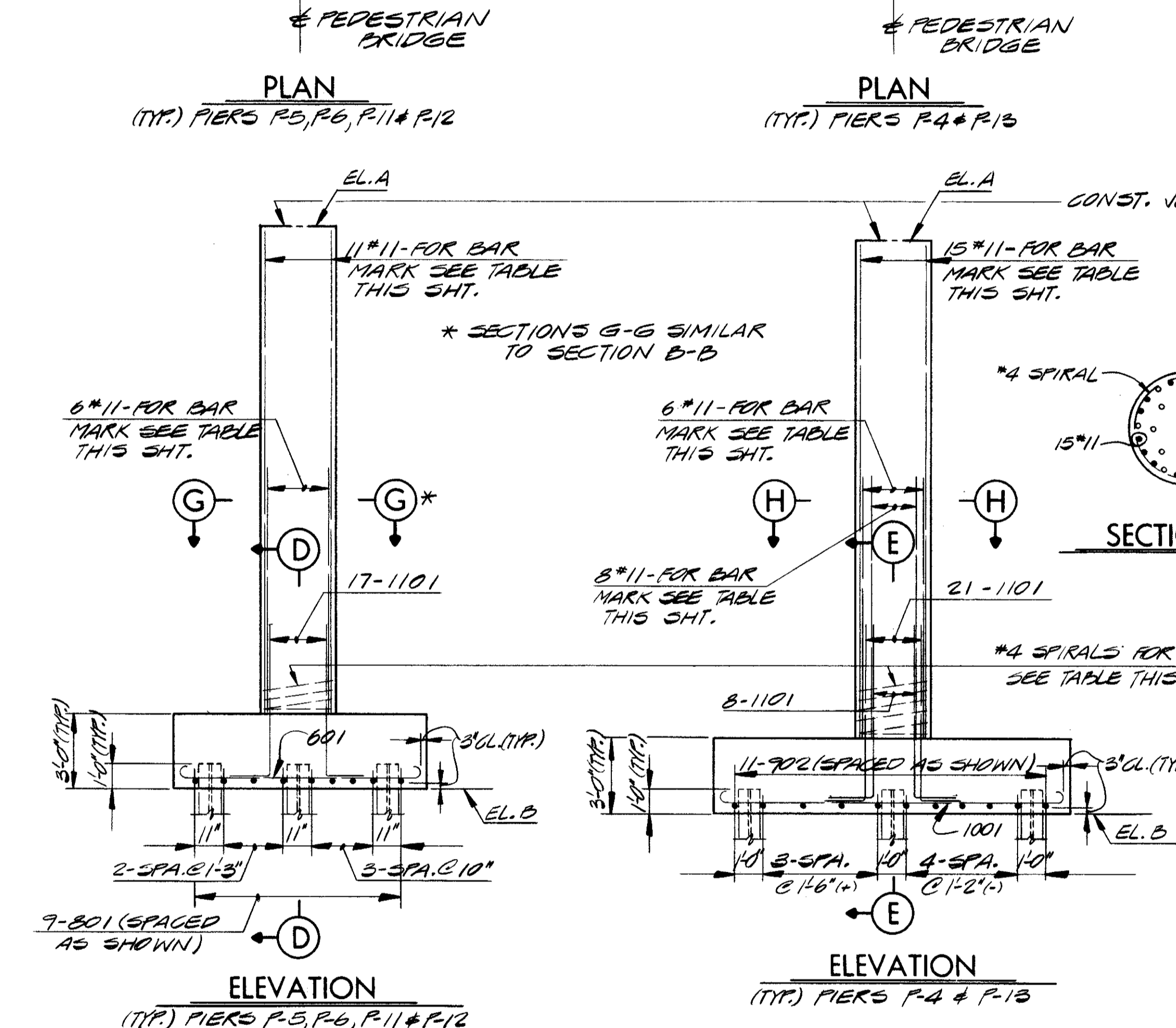
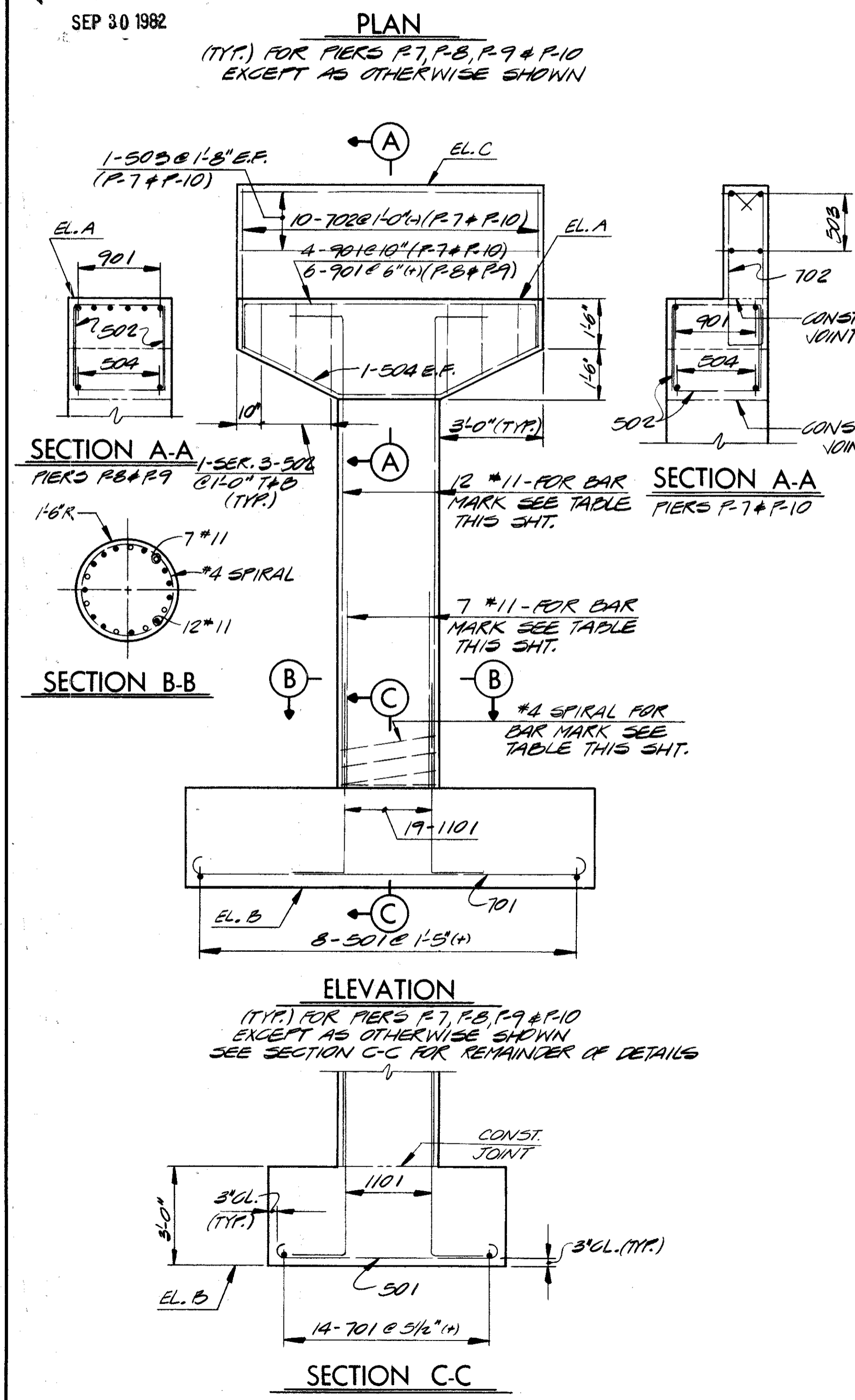
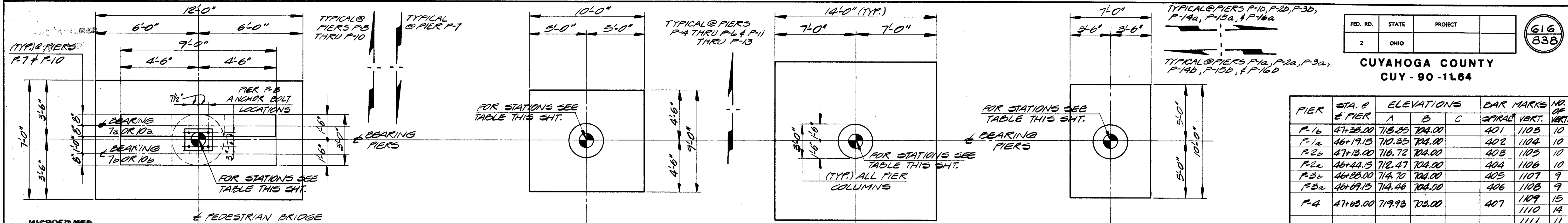
\* PILES SHALL BE DRIVEN WITH A HAMMER OF NOT LESS THAN 11,000 FT. LBS. PER BLOW.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		3 / 9
DALTON · DALTON ASSOCIATES		
PILING PLAN & ABUTMENTS		
BRIDGE NO. CUY - 90 - 1173		
UNDER WEST 93rd ST. PEDESTRIAN BRIDGE		
I-90 CUYAHOGA COUNTY		
STA. 794 + 48.63		
DESIGNED	DRAWN	TRACED
L.B.	D.F.D.	H.S.L.
CHECKED	REVIEWED	DATE
	R.D.H.	4-7-71

CUYAHOGA COUNTY  
CUY - 90 - 11.64

PIER	STA. @ PIER	ELEVATIONS			BAR MARKS		NO. OF VERT.
		A	B	C	SPRAL	VERT.	
P-1a	47+26.00	718.85	704.00		401	1103	10
P-1a	46+19.15	710.35	704.00		402	1104	10
P-2a	47+13.00	716.72	704.00		403	1105	10
P-2a	46+44.15	712.47	704.00		404	1106	10
P-3a	46+55.00	714.70	704.00		405	1107	9
P-3a	46+09.15	714.46	704.00		406	1108	9
P-4	47+03.00	719.93	703.00		407	1109	15
						1110	14
P-5	47+96.25	721.49	703.00		408	1111	11
						1112	6
P-6	48+44.90	721.13	700.50		409	1113	11
						1114	6
P-7	48+76.75	717.43	690.00	720.90	410	1115	12
						1116	7
P-8	49+76.50	716.60	689.00		411	1117	12
						1118	7
P-9	50+23.50	716.24	688.00		412	1102	12
						1120	7
P-10	51+16.75	715.64	684.50	719.08	413	1119	12
						1120	7
P-11	51+00.50	718.73	696.00		414	1121	11
						1122	6
P-12	52+13.50	718.27	701.00		415	1123	11
						1124	6
P-13	52+59.50	715.86	700.00		416	1125	13
						1126	14
P-14a	54+03.35	706.30	701.00		417	1127	10
P-14a	52+84.50	714.70	701.00		418	1128	10
P-15a	53+18.25	708.39	701.00		419	1129	10
P-15a	53+09.50	712.60	701.00		420	1130	10
P-16a	53+53.35	710.37	701.00		421	1131	9
P-16a	53+34.50	710.60	701.00		422	1132	9

- NOTES**
- BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES, OR THE PRESETTING OF BEARING ANCHORS. (PIER P-8 ONLY)
  - THE PREFIX "P" SHALL BE ADDED TO ALL PIER REINFORCING BAR MARKS UNLESS SHOWN OTHERWISE.
  - FOR PILING PLAN, SEE SHEET 3/9
  - FOOTINGS FOR PIERS P-7, 8, 9 AND 10 SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER. IF NECESSARY, THE FOOTINGS FOR PIERS P-7, 8, 9 AND 10 SHOULD BE LOWERED. HOWEVER, IF THE LOW POINT OF THE SURFACE OF THE BEDROCK OCCURS 2 FEET OR MORE ABOVE PLAN ELEVATION, THE FOOTINGS MAY BE RAISED, AFTER APPROVAL BY THE DIRECTOR, BUT TO AN ELEVATION NOT HIGHER THAN 691.00. STEPPING OF INDIVIDUAL FOOTINGS WILL NOT BE PERMITTED UNLESS SHOWN ON THE PLANS.
  - FOUNDATION BEARING PRESSURE: PIER FOOTINGS FOR PIERS P-7, 8, 9 AND 10 ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2.2 TONS PER SQ. FT.
  - FOR LOCATION OF PIERS "a" AND "b", SEE GENERAL PLAN, SHEET 2/9



AT THE OPTION OF THE CONTRACTOR BEARING ANCHORS (OR FORMED HOLES) LOCATED AND SUPPORTED BY TEMPLATES MAY BE CAST-IN-PLACE.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

4/9

**DALTON · DALTON ASSOCIATES**

PIERS  
BRIDGE NO. CUY - 90 - 1173  
UNDER WEST 93rd ST. PEDESTRIAN BRIDGE  
I-90 CUYAHOGA COUNTY  
STA. 794 + 48.63

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.D.	D.F.D.		H.S.L.	R.D.H.	4-7-71	

MICROFILMED  
SEP 30 1982

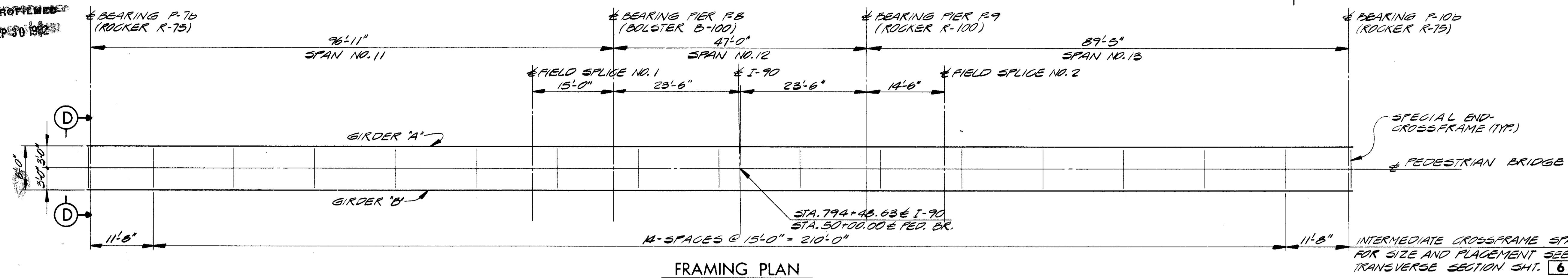
FED. RD.	STATE	PROJECT
2	OHIO	

217  
838

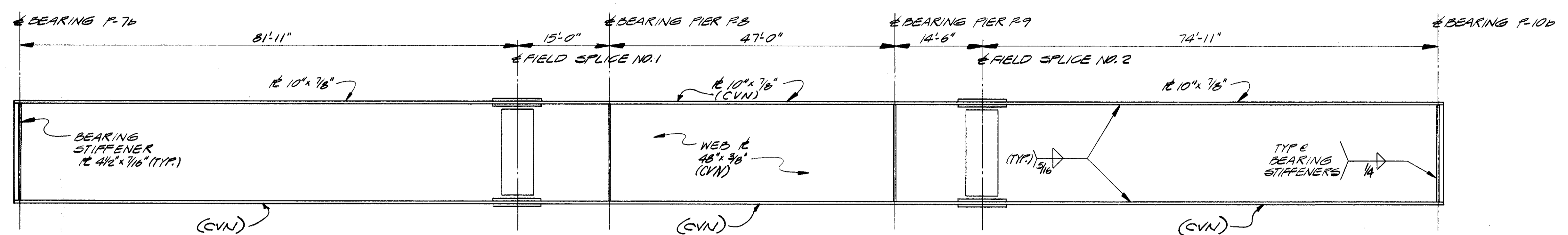
CUYAHOGA COUNTY  
CUY - 90 - 11.64

PAVEMENT ELEVATIONS  
SEE TRANSVERSE SECTION  
AND NOTE 5 SHEET 6/9

LOCATION	A	B
± BRG. P. 7b	722.85	722.94
1/4	722.79	722.86
1/2	722.64	722.70
3/4	722.40	722.46
± BRG. P. 8	722.12	722.20
1/4	722.03	722.09
1/2	721.94	722.00
3/4	721.85	721.92
± BRG. P. 9	721.75	721.84
1/4	721.67	721.75
1/2	721.53	721.60
3/4	721.34	721.40
± BRG. P. 10b	721.10	721.16



FRAMING PLAN

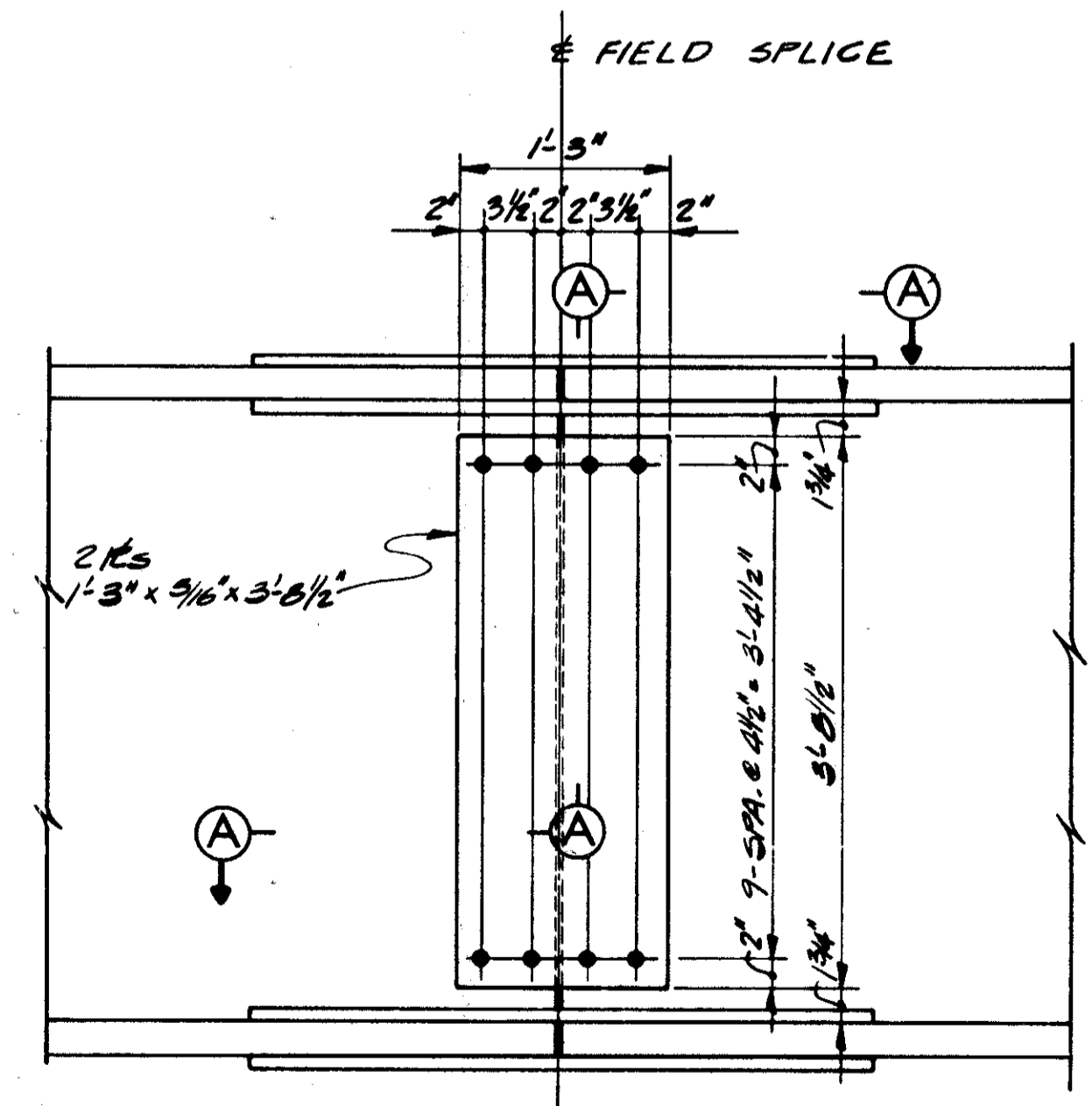


GIRDER ELEVATION

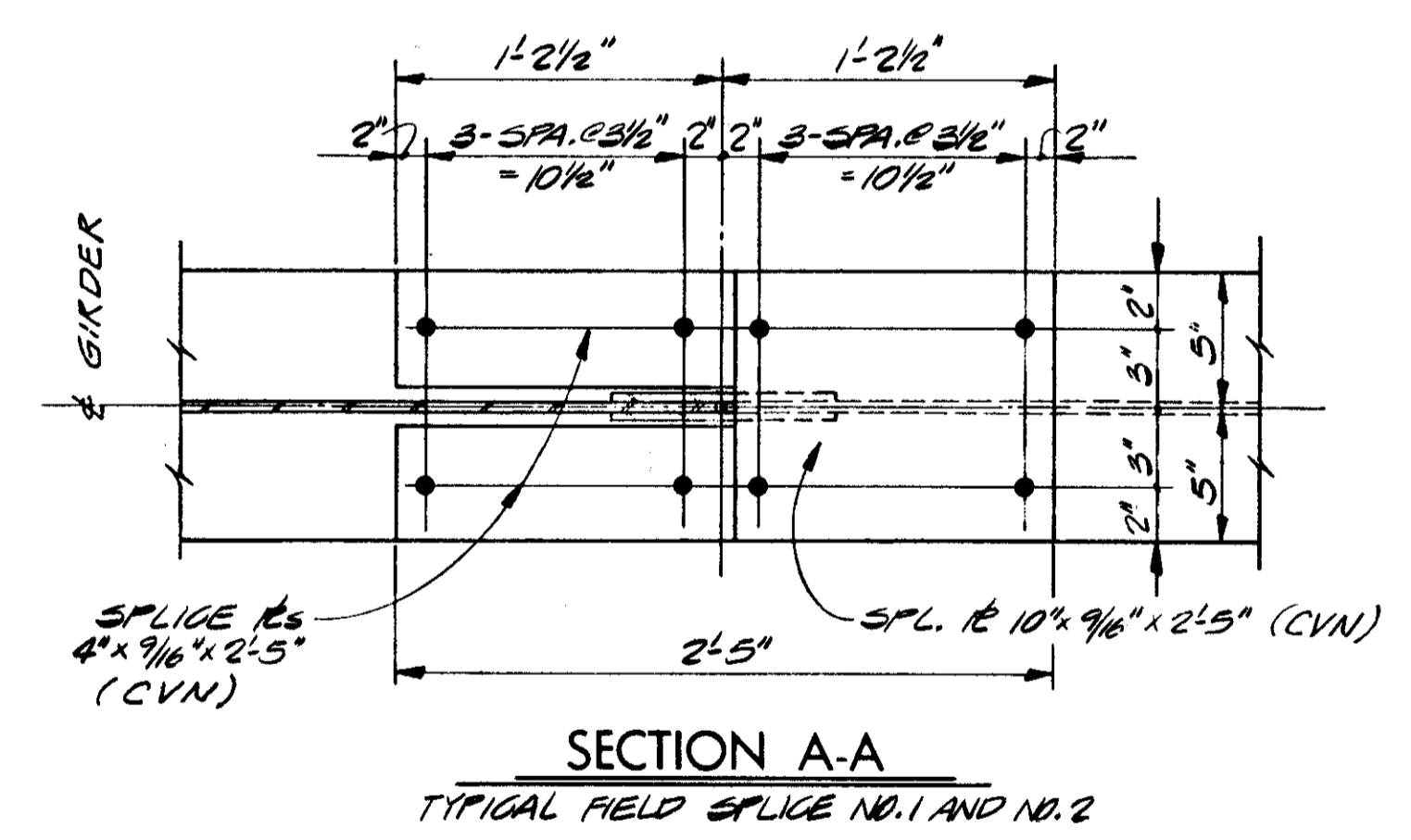
DEFLECTION AND CAMBER											
SPANS	NO. 11				NO. 12			NO. 13			
	1/4	1/2	3/4	FIELD SPL. NO. 1	1/4	1/2	3/4	FIELD SPL. NO. 2	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	3/16"	3/8"	1/4"	1/8"	-1/16"	-1/16"	-1/16"	1/8"	3/16"	5/16"	7/16"
DEFLECTION DUE TO REMAINING DEAD LOAD	1/8"	1/8"	7/16"	9/16"	-1/4"	-1/4"	-3/16"	1/2"	1/16"	1/8"	7/8"
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	0	0	0	0	0	0	0	0	0	0	0
REQUIRED SHOP CAMBER	1/16"	1/8"	1/8"	1/16"	-3/16"	-5/16"	-1/4"	3/8"	7/8"	17/16"	1 1/16"

NOTE: MINUS VALUES INDICATE DIMENSIONS BELOW CHORD BETWEEN BEARINGS FOR REQUIRED SHOP CAMBER.

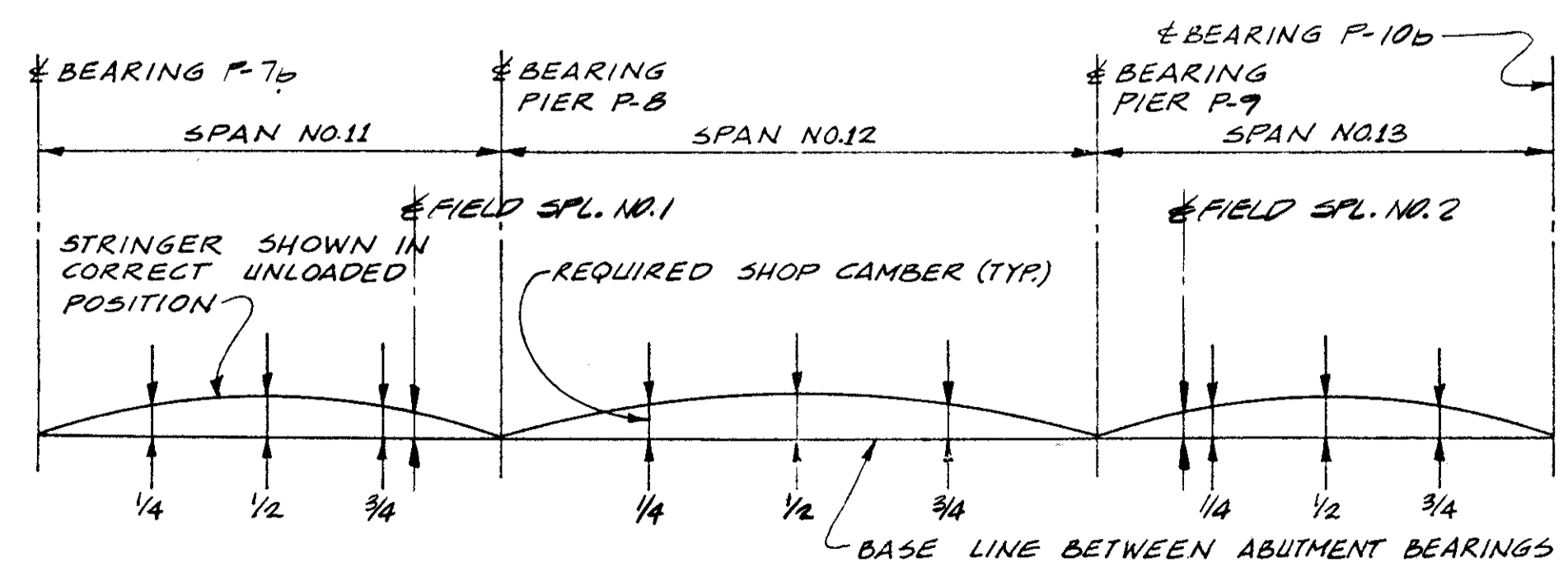
- NOTES
- TOP AND BOTTOM FLANGE PLATES ARE TO BE THE SAME, EXCEPT FOR THE "CVN" REQUIREMENTS, AND SHALL BE SPLICED AT POINTS SHOWN ON THE GIRDER ELEVATION.
  - ALL GIRDER FIELD SPLICES SHALL BE MADE WITH 1" Ø HIGH STRENGTH STEEL BOLTS. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR GIRDERS AND ON THE BOTTOM OF ALL FLANGE PLATES.
  - FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 6/9
  - FOR SECTION C-C, SEE SHEET 6/9
  - STEEL ERECTION: DURING THE ERECTION OF END DAMS AND CROSSFRAMES, CARE SHALL BE TAKEN TO INSURE THAT STRINGERS, BEARING PARTS AND BRIDGE SEATS REMAIN IN BEARING CONTACT.



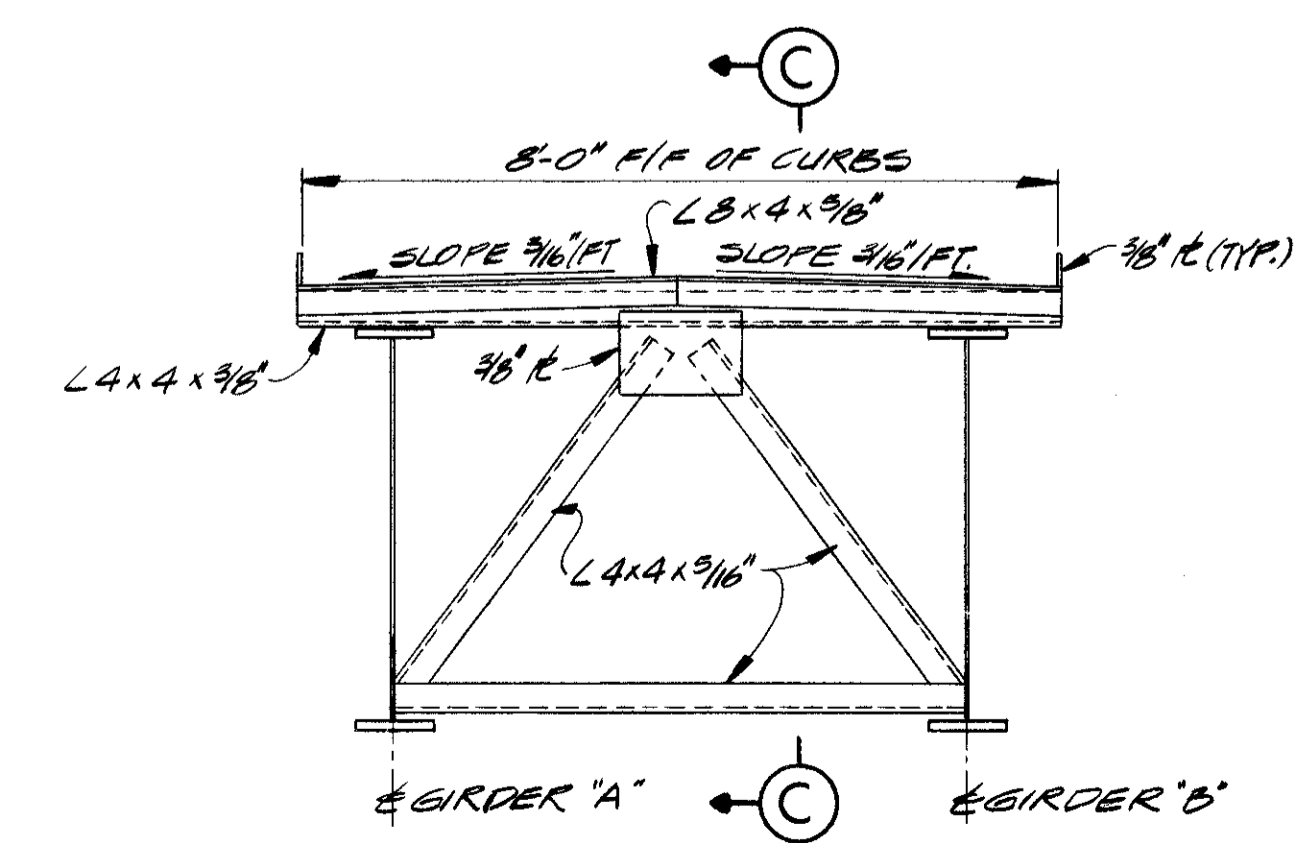
SPlice DETAIL  
TYPICAL FIELD SPLICES NO. 1 & NO. 2  
ALL SPLICE PLATES (CVN)



SECTION A-A  
TYPICAL FIELD SPLICE NO. 1 AND NO. 2



LAYOUT DIAGRAM



VIEW D-D  
SPECIAL END - CROSSFRAME  
SEE STANDARD DRAWING SD-1-65 SHT. NO. 1

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DALTON • DALTON ASSOCIATES

FRAMING PLAN  
BRIDGE NO. CUY - 90 - 1173  
UNDER WEST 93rd ST. PEDESTRIAN BRIDGE  
I - 90 CUYAHOGA COUNTY  
STA. 794 + 48.63

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.B.	R.F.D.		H.S.L.	R.D.H.	4-7-71	

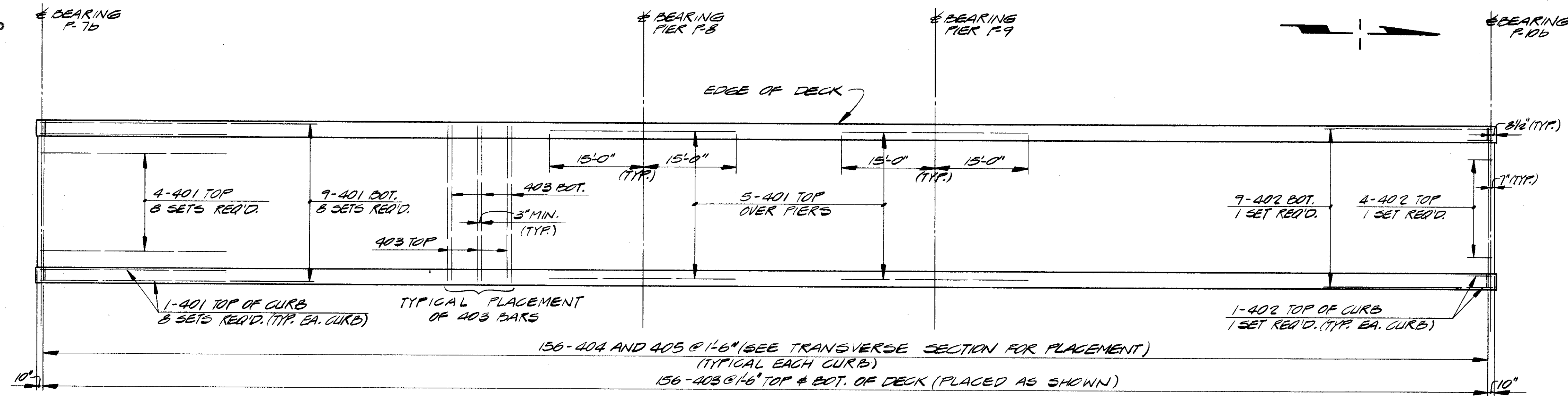


MICROFILMED  
SEP 30 1982

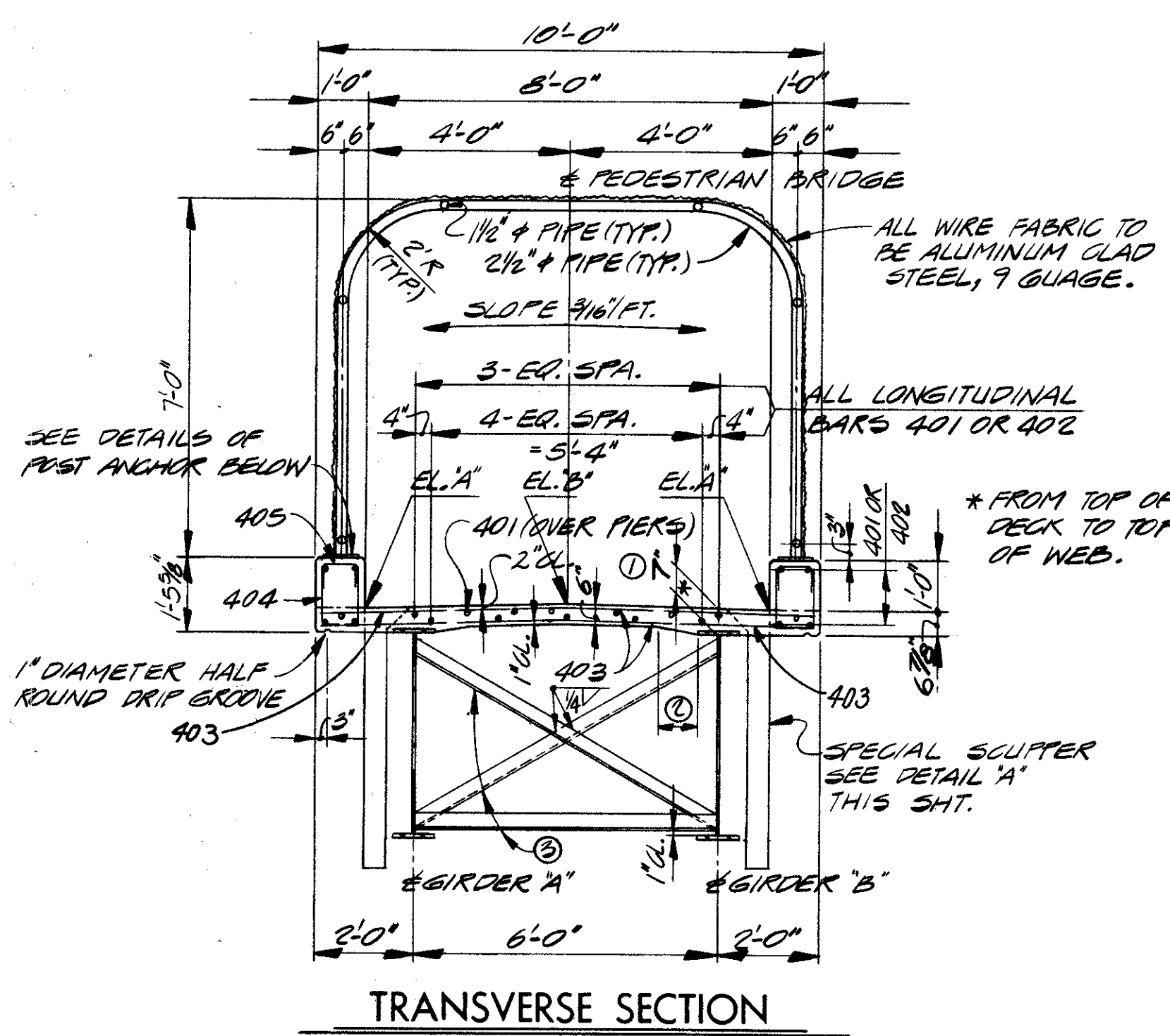
FED. RD.	STATE	PROJECT
2	OHIO	

618  
838

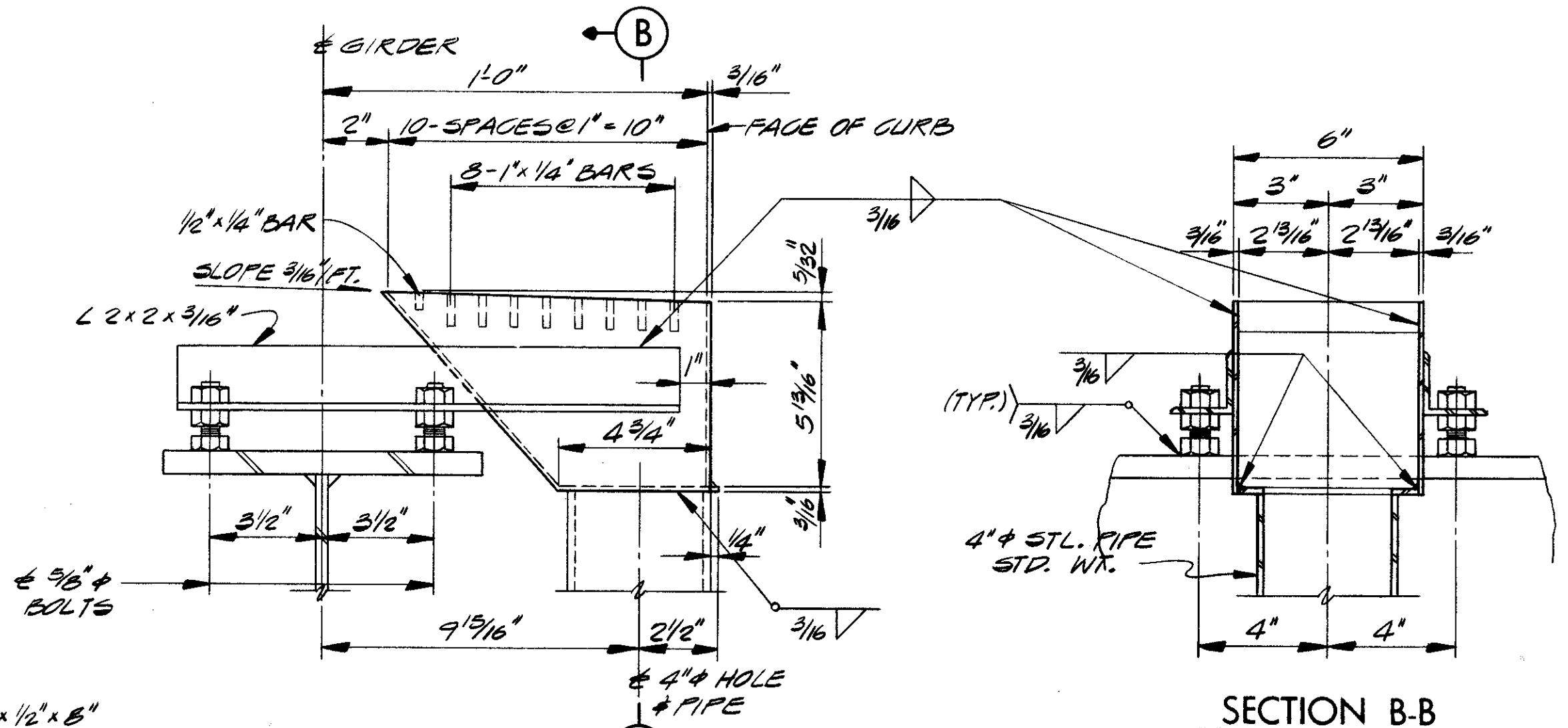
CUYAHOGA COUNTY  
CUY - 90 - 11.64



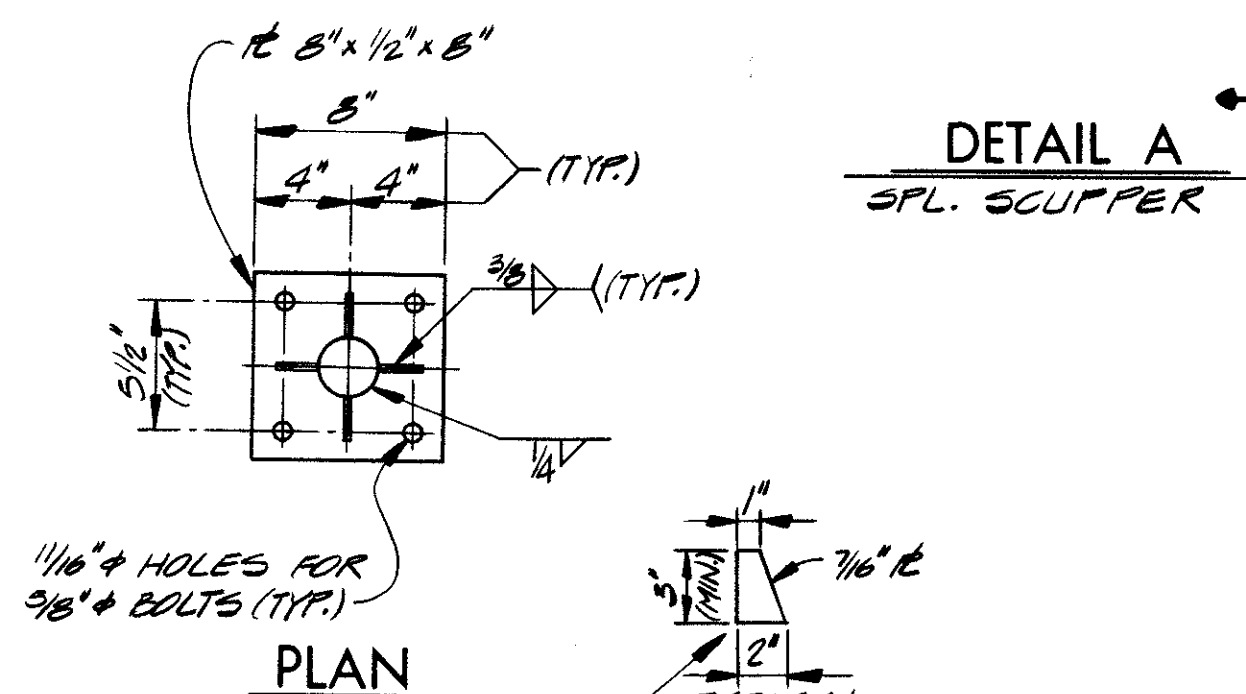
SLAB PLAN



TRANSVERSE SECTION

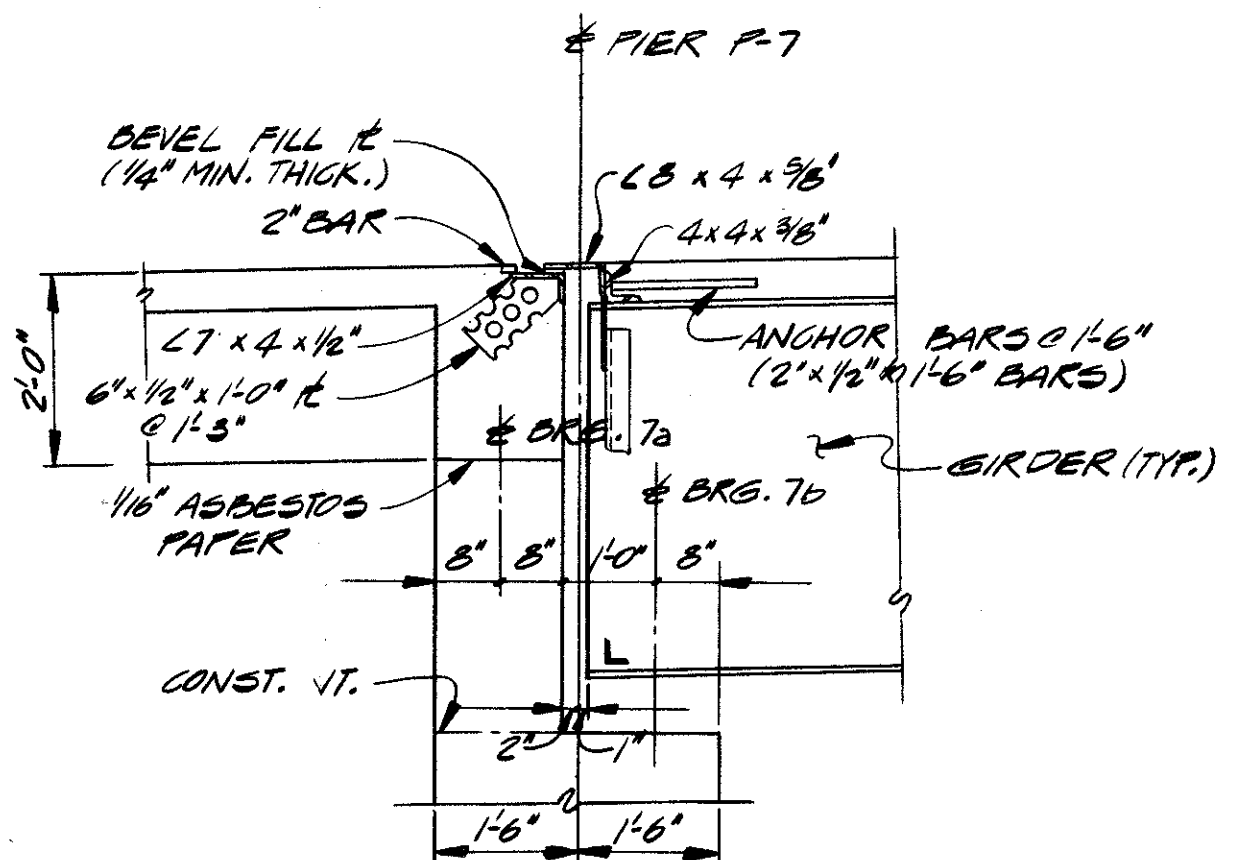


SECTION B-B



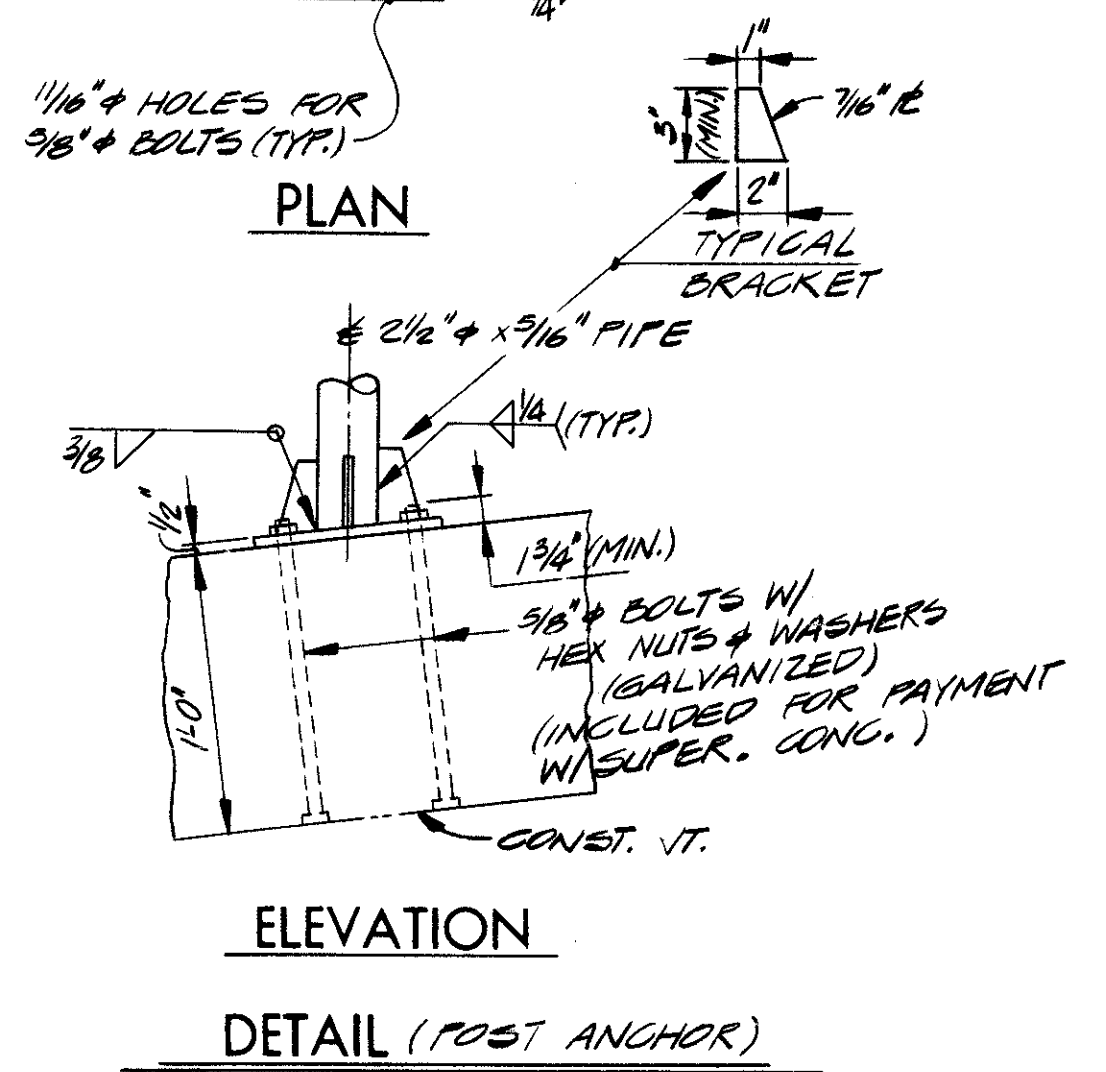
DETAIL A  
SPL. SCUPPER

SCUPPER NOTE:  
FABRICATE FROM 3/16" THK. STEEL PLATE UNLESS OTHERWISE NOTED. (ALL WELDED CONSTRUCTION) FOR DETAILS NOT SHOWN SEE STANDARD DRAWING SD-1-65 SHT. NO. 2



SECTION C-C (PIER P.10 SIMILAR)

SEE STANDARD DRAWING SD-1-65 SHT. NO. 2



ELEVATION  
DETAIL (POST ANCHOR)

NOTES

- DECK SLAB DEPTH: THE DISTANCE SHOWN FROM THE TOP OF DECK SLAB TO TOP OF WEB PLATE IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 511.16.
- A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.
- INTERMEDIATE CROSSFRAME ANGLES 3 x 3 x 5/16. WELD BOTH SIDES OF VERTICAL LEG AND TOP SIDE OF HORIZONTAL LEG TO GIRDER WITH 1/4" CONTINUOUS FILLET WELD.
- THESE ELEVATIONS ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE. FOR PAVEMENT ELEVATION TABLE, SEE SHEET 5/9
- TRANSVERSE REINFORCEMENT SHALL BE FIELD BENT AS REQUIRED AND PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL.
- THE PREFIX "1S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS ON THIS SHEET.
- FOR LOCATION OF SECTION C-C, SEE SHEET 5/9
- ALL SUPERSTRUCTURE BARS SHALL BE GALVANIZED
- END DAMS SHALL BE GALVANIZED. SEE SHEET 1/9

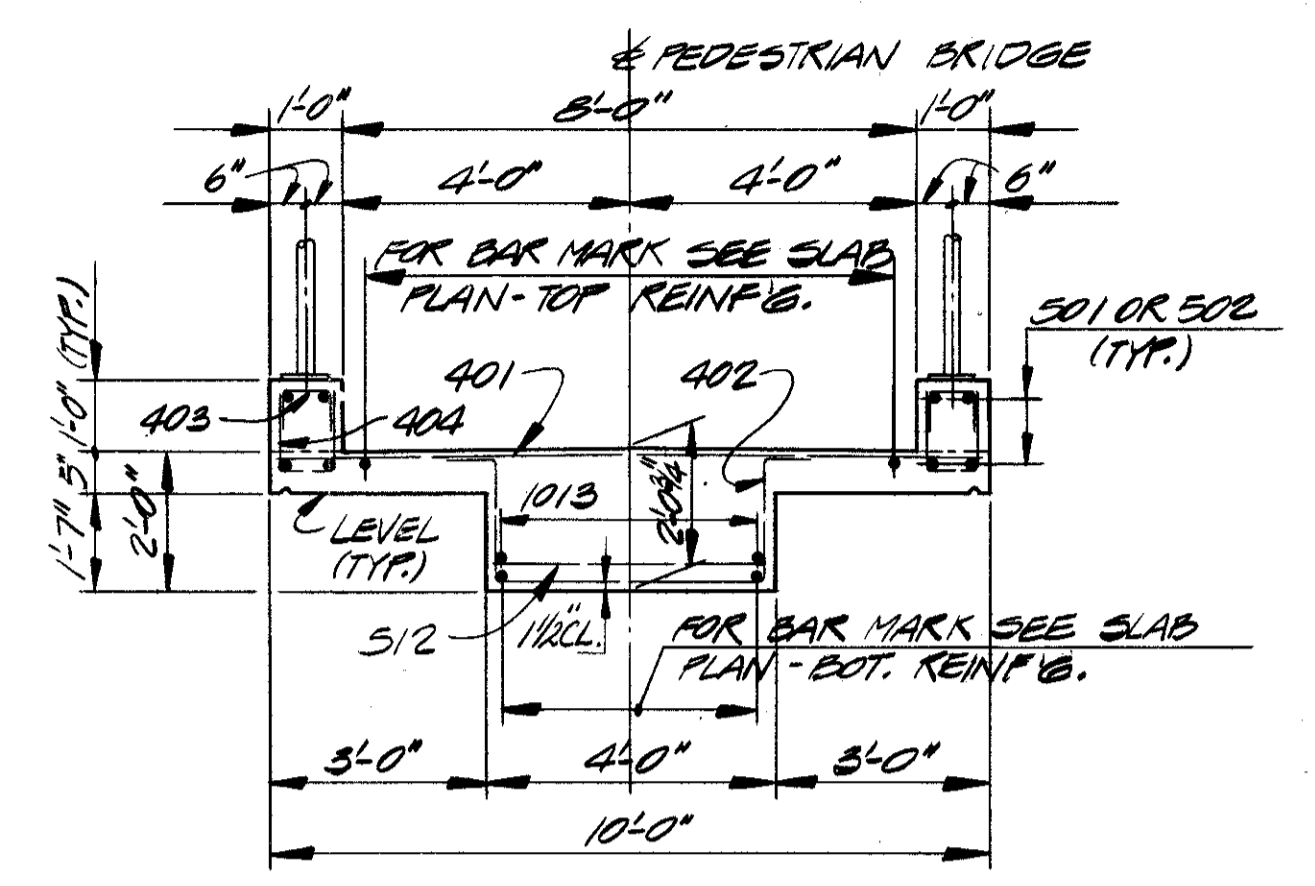
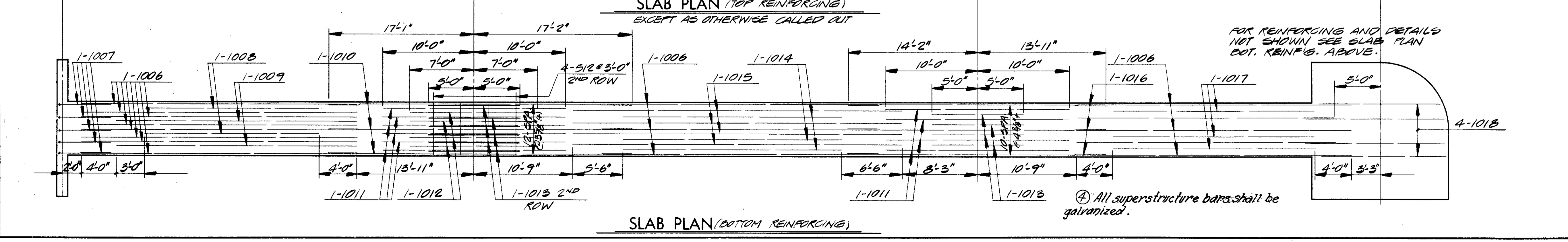
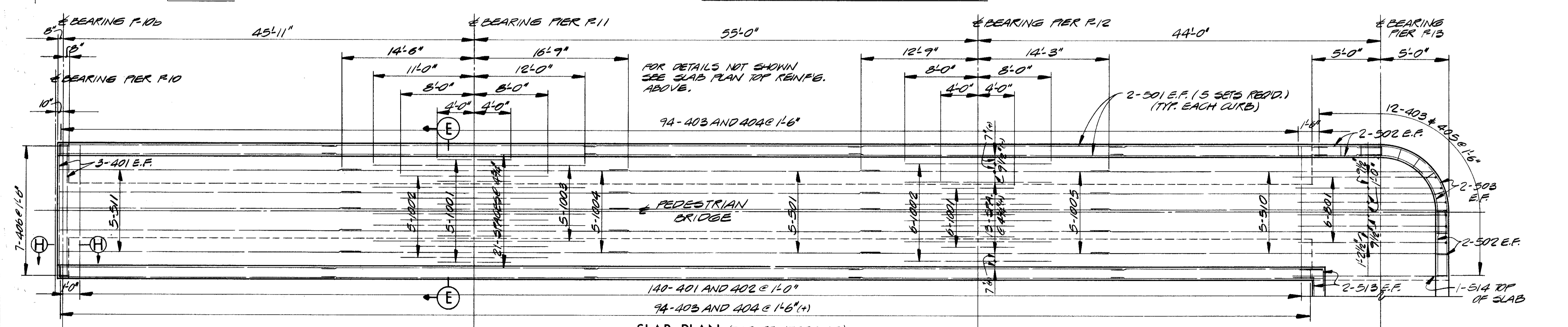
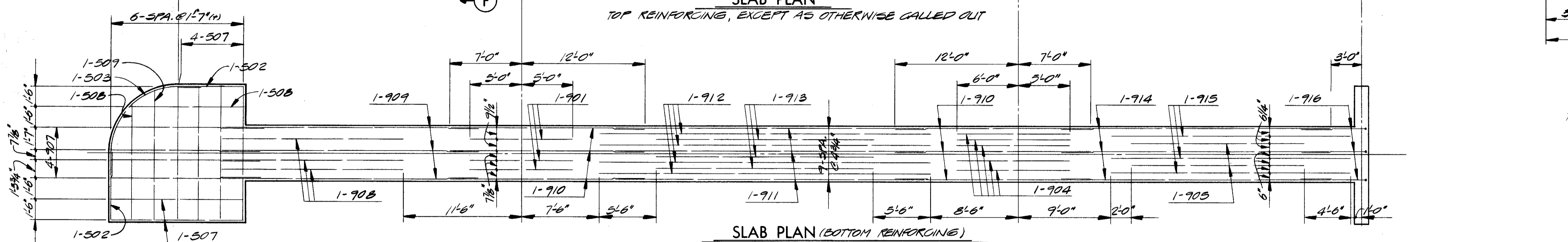
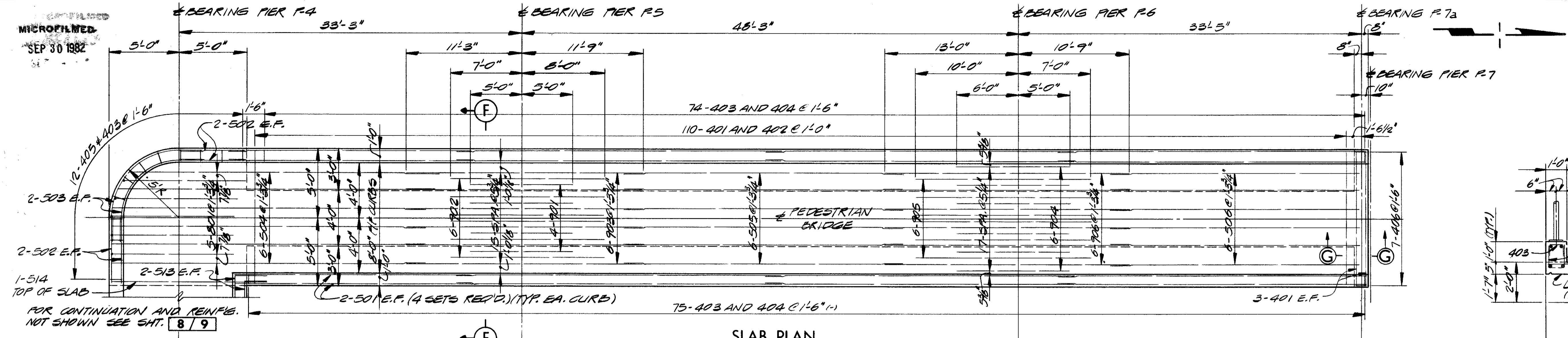
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		6/9
DALTON · DALTON ASSOCIATES		
SLAB PLAN & SECTION		
BRIDGE NO. CUY - 90 - 1173		
UNDER WEST 93rd ST. PEDESTRIAN BRIDGE		
I-90 CUYAHOGA COUNTY		
STA. 794 + 48.63		
DESIGNED	DRAWN	TRACED
L.B.	D.F.D.	
CHECKED	REVIEWED	DATE
H.S.L.	R.D.H.	4-7-71

MICROFILMED  
SEP 30 1982

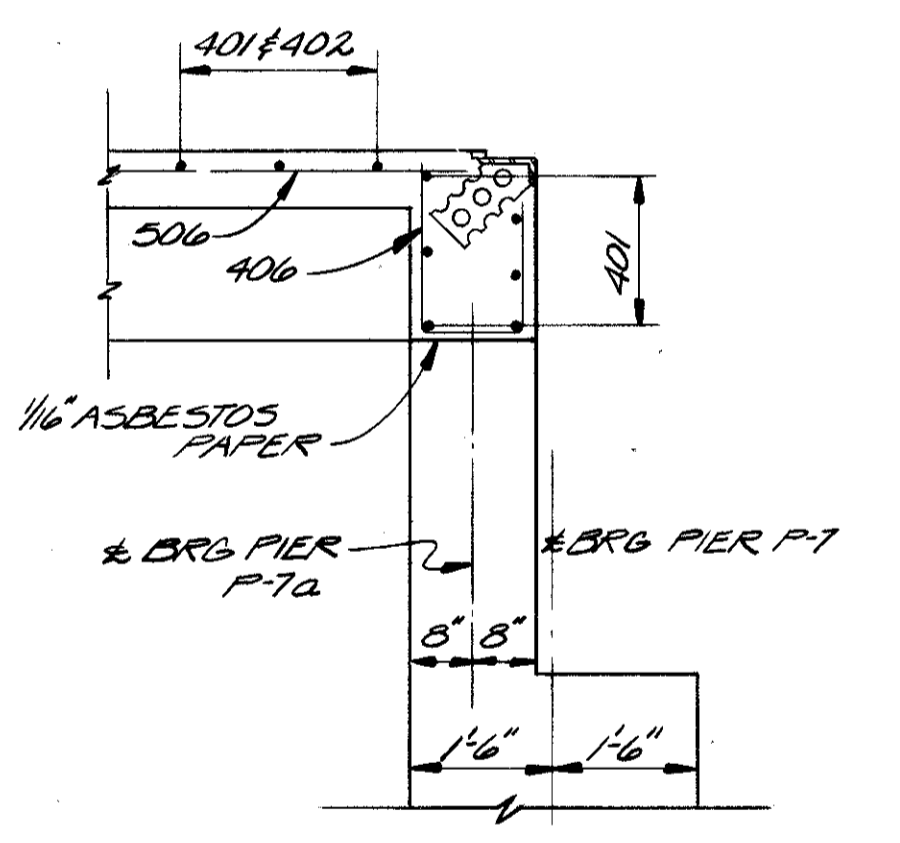
FED. RD.	STATE	PROJECT
2	OHIO	

619  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



**SECTION E-E**  
SECTION F-F SIMILAR FOR DETAILS NOT SHOWN SEE TRANS. SECTION SHT. 6/9



**SECTION G-G (AS SHOWN)**  
SECTION H-H (SIMILAR)

- NOTES**
- 1 THE PREFIX "25" SHALL BE ADDED TO ALL REINFORCING BAR MARKS ON THIS SHEET.
  - 2 CAMBER OF 1/800 OF THE SPAN SHALL BE PROVIDED IN EACH SPAN (IN ADDITION TO THAT REQUIRED FOR CONFORMANCE WITH THE PROFILE OF THE BRIDGE) TO ALLOW FOR DEAD LOAD DEFLECTION. THIS IS THE AMOUNT OF CAMBER REQUIRED BEFORE FALSEWORK IS RELEASED. TO OBTAIN THIS, PROPER ALLOWANCE SHALL BE MADE FOR THE DEFLECTION OF FALSEWORK MEMBERS.
  - 3 FOR FIELD BENDING OF REINFORCING, SEE NOTE 1, SHEET 8/9

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**SLAB PLAN & SECTION**  
BRIDGE NO. CUY - 90 - 1173  
UNDER WEST 93rd ST. PEDESTRIAN BRIDGE  
I-90 CUYAHOGA COUNTY  
STA. 794 + 48.63

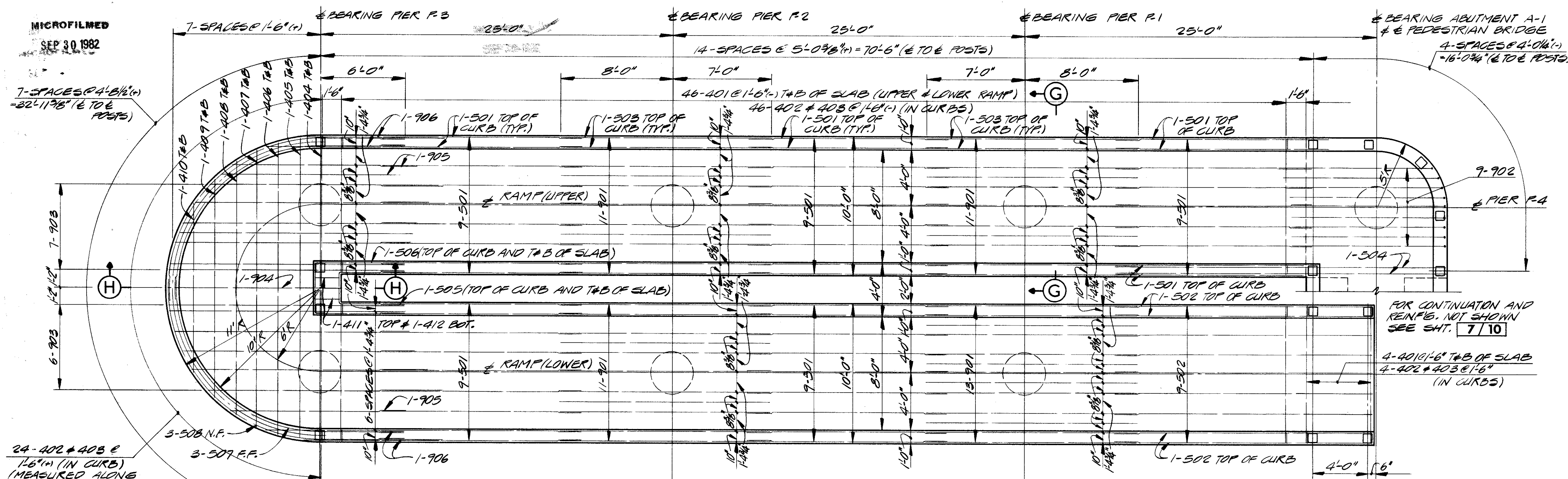
DESIGNED	DRAWN	TRACED	CHECK	REVIEWED	DATE	REVISED
L.B.	R.F.D.		HSL	R.D.H.	4-7-71	

All superstructure bars shall be galvanized.

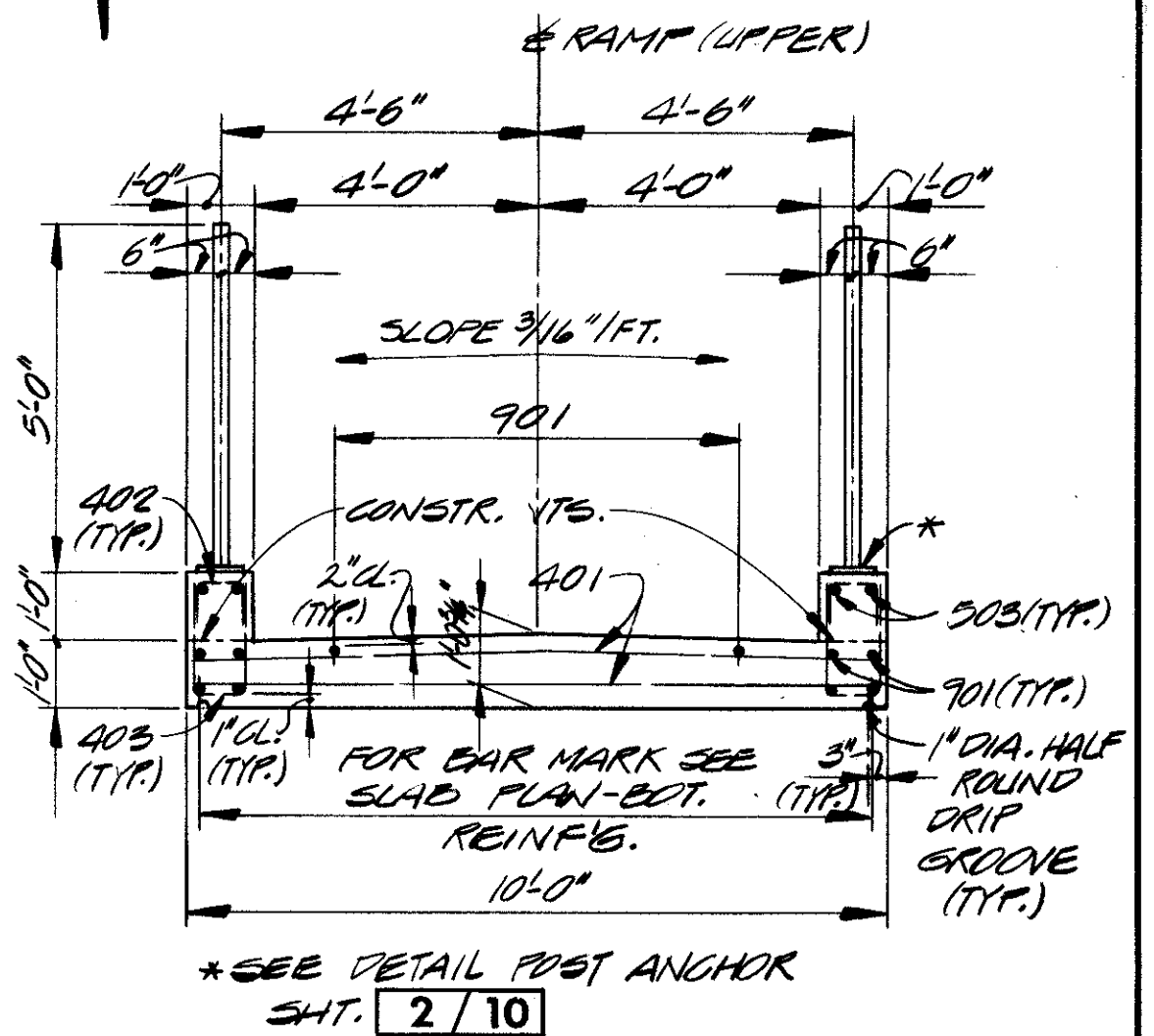
MICROFILMED  
SEP 30 1982

FED. RD.	STATE	PROJECT	620 838
2	OHIO		

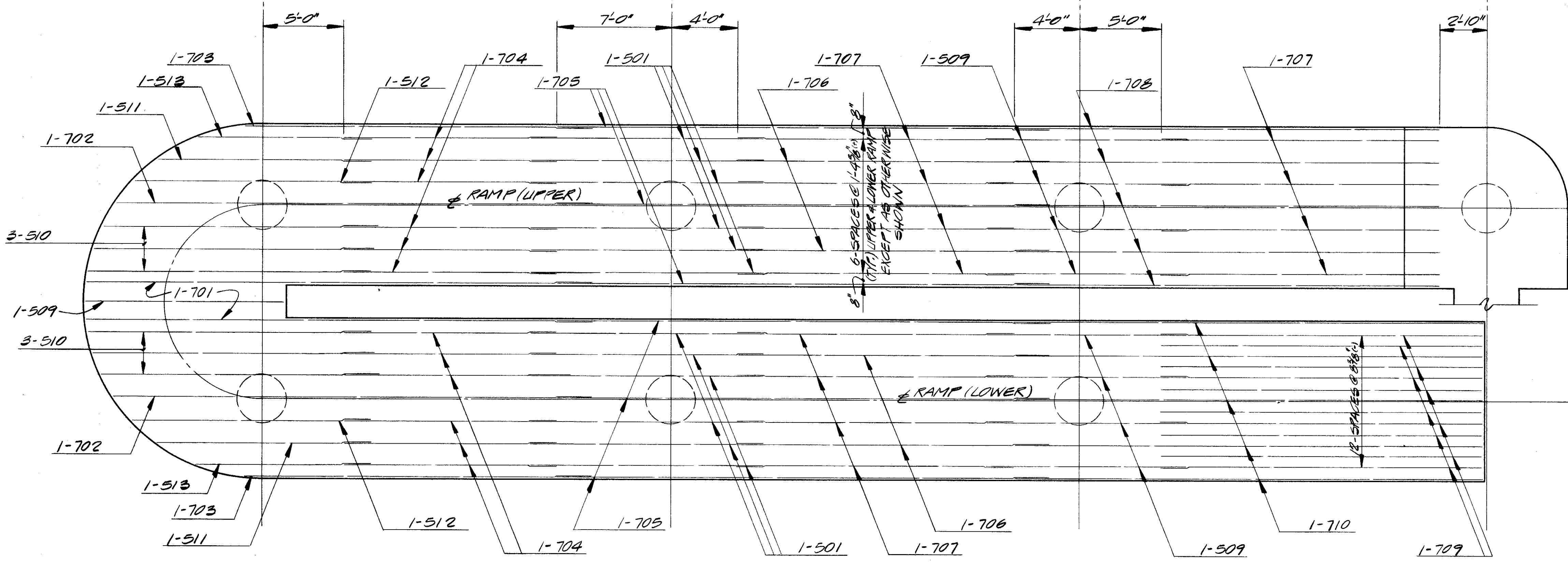
CUYAHOGA COUNTY  
CUY - 90 - 11.64



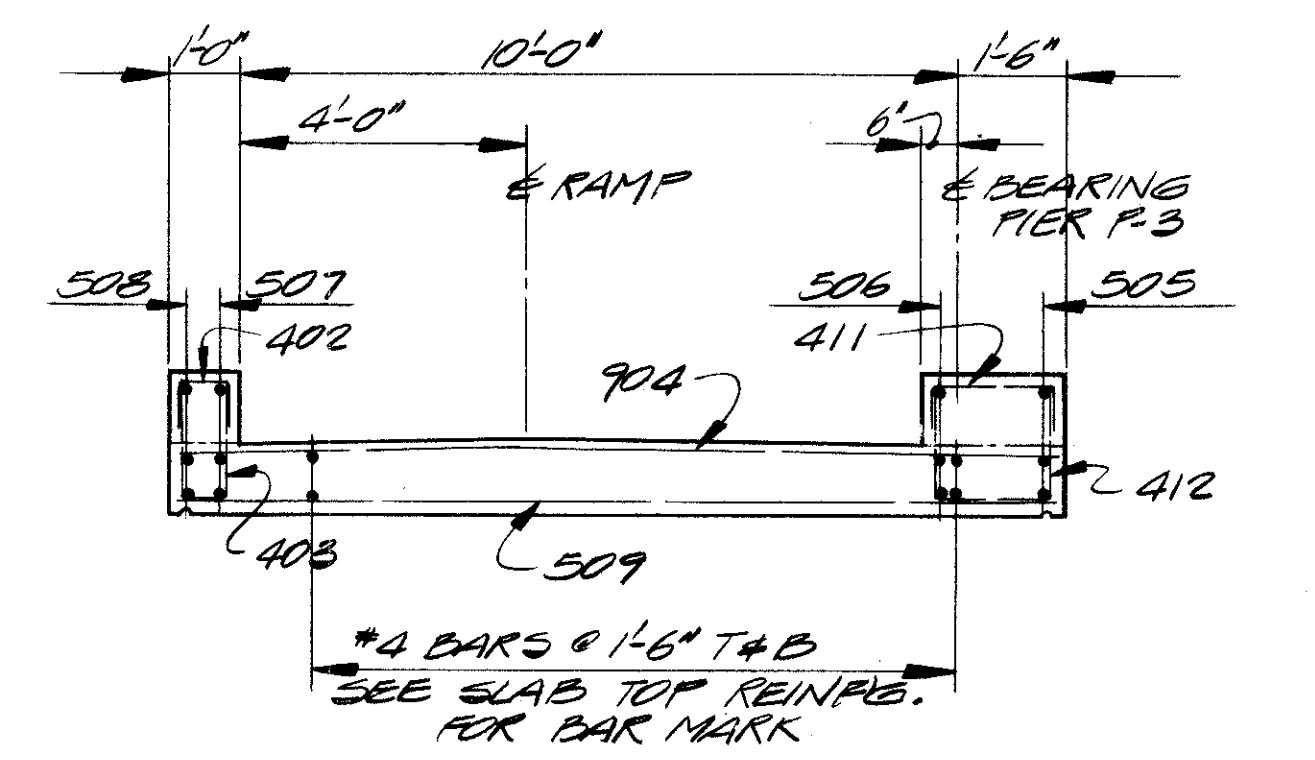
**SLAB PLAN**  
SOUTH RAMP SHOWN NORTH RAMP  
OPPOSITE HAND.  
TOP REINFORCING EXCEPT AS OTHERWISE CALLED OUT.



**SECTION G-G**  
LOWER RAMP SIMILAR



**SLAB PLAN (BOTTOM REINFORCING)**  
SOUTH RAMP SHOWN NORTH RAMP OPPOSITE HAND  
FOR DETAILS AND REINFORCING NOT SHOWN  
SEE SLAB PLAN TOP REINFORCING ABOVE.



**SECTION H-H**  
FOR DETAILS NOT SHOWN  
SEE SECTION G-G ABOVE

**NOTES**

- ① TRANSVERSE AND LONGITUDINAL REINFORCEMENT SHALL BE FIELD BENT AS REQUIRED AND PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL
- ② THE PREFIX "35" SHALL BE ADDED TO ALL REINFORCING BAR MARKS ON THIS SHEET.
- ③ FOR DEFLECTION NOTE, SEE SHEET 7 / 9
- ④ ALL SUPERSTRUCTURE BARS SHALL BE GALVANIZED.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**SLAB PLAN & SECTION**  
BRIDGE NO. CUY - 90 - 1173  
UNDER WEST 93rd ST. PEDESTRIAN BRIDGE  
I-90 CUYAHOGA COUNTY  
STA. 794 + 48.63

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.B.	D.F.D.		H.S.L.	R.D.H.	4-7-71	

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>ABUTMENT</b>									
A 401	16	5-5	2	1-11	1-9			58	
A 501	8	7-6	ST					63	
A 502	8	4-1	2	1-7	1-2			34	
A 503	8	3-9	2	1-5	1-2			31	
A 504	8	15-8	ST					131	
A 505	4	4-3	2	1-8	1-2			18	
A 506	4	3-7	2	1-4	1-2			15	
A 507	8	3-6	19	0-10	1-9	0-10	0-10	29	
A 601	16	9-3	3	5-2	1-10	2-6		222	
A 602	16	8-3	3	4-2	1-10	2-6		198	
A 801	8	7-6	ST					160	
<b>TOTAL ABUTMENT</b>								<b>= 959</b>	
<b>PIER</b>									
P 501	32	7-8	7	6-6				254	
SERIES	16-SETS	5-9	1	1-8	2-8			338	
OF	34	7-0	2	1-0	1-0		1-0	338	
P 502	48 BARS	7-8	2	2-8	2-8			145	
P 503	16	8-8	ST					74	
P 504	8	9-2	17	1-4	2-10	3-0		576	
P 505	72	7-8	7	6-6				650	
P 601	44	9-10	7	8-6				1526	
P 701	56	13-4	7	11-8				443	
P 702	20	10-10	5	1-0	4-6			2191	
P 703	96	11-2	7	9-6				1121	
P 801	36	11-8	7	9-6				720	
P 901	20	10-7	2	1-2	8-8			1197	
P 902	22	16-0	7	13-6				1687	
P1001	24	16-4	7	13-6				12193	
P1101	306	7-6	1	1-6	6-3			1658	
P1102	12	26-0	1	1-6	24-9			806	
P1103	10	15-2	1	3-1	12-4			384	
P1104	10	6-8	1	3-1	3-10			493	
P1105	10	13-0	1	3-1	10-2			465	
P1106	10	8-8	1	3-1	5-11			824	
P1107	9	11-0	1	3-1	8-2			514	
P1108	9	10-9	1	3-1	7-11			1415	
P1109	15	17-9	1	2-6	15-6			921	
P1110	14	7-0	ST					1130	
P1111	11	19-4	1	2-6	17-1			259	
P1112	6	8-0	ST					1299	
P1113	11	21-5	1	2-6	19-2			208	
P1114	6	8-10	ST					1610	
P1115	12	25-3	1	1-6	24-0			408	
P1116	7	10-9	ST					1480	
P1117	12	25-3	1	1-6	24-2			459	
P1118	7	12-4	ST					1849	
P1119	12	29-0	1	1-6	27-9			942	
P1120	14	12-8	ST					1373	
P1121	11	23-6	1	2-6	21-3			313	
P1122	6	9-10	ST					1057	
P1123	11	18-1	1	2-6	15-10			228	
P1124	6	7-2	ST					1328	
P1125	15	16-8	1	2-6	14-5			477	
P1126	14	6-5	ST					288	
P1127	10	5-5	1	3-1	2-7			744	
P1128	10	14-0	1	3-1	11-2			407	
P1129	10	7-8	1	3-1	4-10			633	
P1130	10	11-11	1	3-1	9-1			470	
P1131	9	9-10	1	3-1	7-0			474	
P1132	9	9-11	1	3-1	7-1				
<b>TOTAL PIER</b>								<b>= 47660</b>	
<b>SUPERSTRUCTURE S-1</b>									
1S 401	146	30-0	ST					2926	
1S 402	17	4-2	ST					47	
1S 403	312	9-8	ST					2015	
1S 404	312	2-8	2	1-1	0-8			556	
1S 405	312	1-6	2	0-6	0-8			313	
<b>TOTAL SUPERSTRUCTURE S-1</b>								<b>= 5857</b>	

REVISIONS  
NO. 30-192

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>SUPERSTRUCTURE S-2</b>									
2S 401	262	9-8	ST					1692	
2S 402	250	7-10	4	1-8	3-8	0-7		1308	
2S 403	361	1-8	2	0-7	0-8			402	
2S 404	337	2-8	2	1-1	0-8			600	
2S 405	24	5-10	2	2-8	0-8			94	
2S 406	14	3-11	3	1-8	1-0	1-5		37	
2S 501	77	30-0	ST					2409	
2S 502	24	4-10	ST					121	
2S 503	12	10-6	29	1-7	7-4	1-7	4-10	131	
2S 504	6	28-8	ST					170	
2S 505	6	27-2	ST					175	
2S 506	6	24-4	ST					152	
2S 507	12	9-8	ST					121	
2S 508	4	8-4	ST					35	
2S 509	2	9-6	ST					20	
2S 510	5	36-5	ST					190	
2S 511	5	33-9	ST					176	
2S 512	4	3-8	ST					15	
2S 513	8	3-1	1	1-7	1-7			26	
2S 514	2	11-5	ST					24	
2S 801	11	10-4	1	1-8	8-10			303	
2S 901	7	10-0	ST					238	
2S 902	6	15-0	ST					306	
2S 903	6	23-0	ST					465	
2S 904	11	11-0	ST					411	
2S 905	8	17-0	ST					462	
2S 906	6	23-9	ST					485	
2S 907	4	10-10	ST					147	
2S 908	3	18-7	ST					190	
2S 909	3	26-11	ST					275	
2S 910	6	19-0	ST					368	
2S 911	3	30-0	ST					306	
2S 912	4	38-3	ST					435	
2S 913	3	21-3	ST					217	
2S 914	3	26-3	ST					268	
2S 915	3	23-5	ST					259	
2S 916	3	7-7	6	6-4				77	
2S1001	11	8-0	ST					375	
2S1002	11	16-0	ST					757	
2S1003	5	23-0	ST					495	
2S1004	5	31-3	ST					672	
2S1005	5	27-0	ST					581	
2S1006	14	30-0	ST					1807	
2S1007	5	7-1	6	5-8				152	
2S1008	2	19-0	ST					164	
2S1009	2	26-0	ST					224	
2S1010	3	34-3	ST					442	
2S1011	10	20-0	ST					861	
2S1012	4	14-0	ST					241	
2S1013	10	10-0	ST					430	
2S1014	3	24-0	ST					310	
2S1015	4	36-0	ST					620	
2S1016	3	28-1	ST					363	
2S1017	3	22-0	ST					284	
2S1018	4	13-0	ST					224	
<b>TOTAL SUPERSTRUCTURE S-2</b>								<b>= 22,128</b>	
<b>SUPERSTRUCTURE S-3</b>									
3S 401	384	9-8	ST					2460	
3S 402	432	1-8	2	0-7	0-8			481	
3S 403	432	4-0	2	1-9	0-8			1184	
3S 404	4	21-8	ST					58	
3S 405	4	21-6	ST					57	
3S 406	4	20-9	ST					55	
3S 407	4	19-9	ST					54	
3S 408	4	18-3	ST					49	
3S 409	4	15-9	ST					47	
3S 410	4	12-3	ST					33	
3S 411	4	2-8	2	0-7	1-8			7	
3S 412	4	5-6	2	2-0	1-8			15	
3S 501	154	14-2	ST					2275	
3S 502	26	18-4	ST					497	
3S 503	32	15-0	ST					501	
3S 504	4	10-8	ST					45	
3S 505	6	11-5	2	4-8	2-4			73	
3S 506	6	16-1	2	6-4	3-8			101	
3S 507	6	22-8	29	6-0	16-8	0-0	10-2	142	
3S 508	6	23-9	29	6-0	17-9	0-0	10-10	148	
3S 509	18	12-2	ST					224	
3S 510	12	17-5	ST					216	
3S 511	4	13-2	ST					54	
3S 512	4	14-8	ST					61	
3S 513	4	10-8	ST					45	
3S 701	4	31-0	ST					253	
3S 702	4	29-6	ST					241	
3S 703	4	21-4	ST					174	
3S 704	24	13-0	ST					536	
3S 705	12	30-2	ST					740	
3S 706	8	19-2	ST					313	
3S 707	24	17-2	ST					842	
3S 708	10	26-2	ST					535	
3S 709	20	19-9	ST					807	
3S 710	10	28-9	ST					588	
3S 901	92	15-0	ST					4692	
3S 902	18	12-4	1	1-8	10-10			755	

MICROFILMED

OCT 1 1982

ENTRANCE: 108' RT. @ STA. 794+00.00  
STA. 94+00 @ RAMP #16

EXIT: 102' LT. @ STA. 797+00.00  
16' RT. P.C. STA. 97+00.91 @ RAMP #15

STA. 798+61.10 @ I-90  
STA. 46+03.37 @ RELOC. LORAIN AVE.

FED. RD.	STATE	PROJECT
2	OHIO	

622  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

**CURVE DATA**

RELOCATED LORAIN AVE

**CURVE #1:** P.I. STA. 42+11.47 L.T.

$\Delta = 23^{\circ} 41' 23''$   
 $D_c = 6^{\circ} 00' 00''$   
 $R = 954.93'$   
 $T = 200.28'$   
 $L_c = 394.83'$

**CURVE #2:** P.I. STA. 49+15.09

$\Delta = 47^{\circ} 46' 42.5''$  RT.  
 $D_c = 10^{\circ} 00' 00''$   
 $R = 572.96'$   
 $T = 253.77'$   
 $L_c = 477.78'$

**RAMP #15:**

P.I. STA. 99+10.37  
 $\Delta = 6^{\circ} 16' 39''$  L.T.  
 $D_c = 1^{\circ} 30' 00''$   
 $R = 3819.72'$   
 $T = 209.46'$   
 $L_c = 418.50'$

**PROPOSED STRUCTURE**

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE SLAB AND SUBSTRUCTURES.

SKEW:  $43^{\circ} 04' 55''$  AND  $41^{\circ} 04' 55''$  A-2 ONLY.  
SPANS: 121'-7", 64'-4 1/4", 119'-2" @ TO @ BRG.  
ROADWAY: 54'-0" CURBS & 6'-0" SIDEWALKS.

LOADING: HS 20 - 44.  
WEARING SURFACE: 1 1/2" ASPHALT CONCRETE  
APPROACH SLABS: 30' LONG (AS-1-72)  
ALIGNMENT: TANGENT AND  $10^{\circ} 00' 00''$  CURVE RT.  
SUPERELEVATION: 3/16" FT.  
SLOPE PROTECTION: NONE REQUIRED.

TRAFFIC: I-90 107,216 A.D.T. 1990.  
RELOC. LORAIN 19,670 A.D.T. 1990.

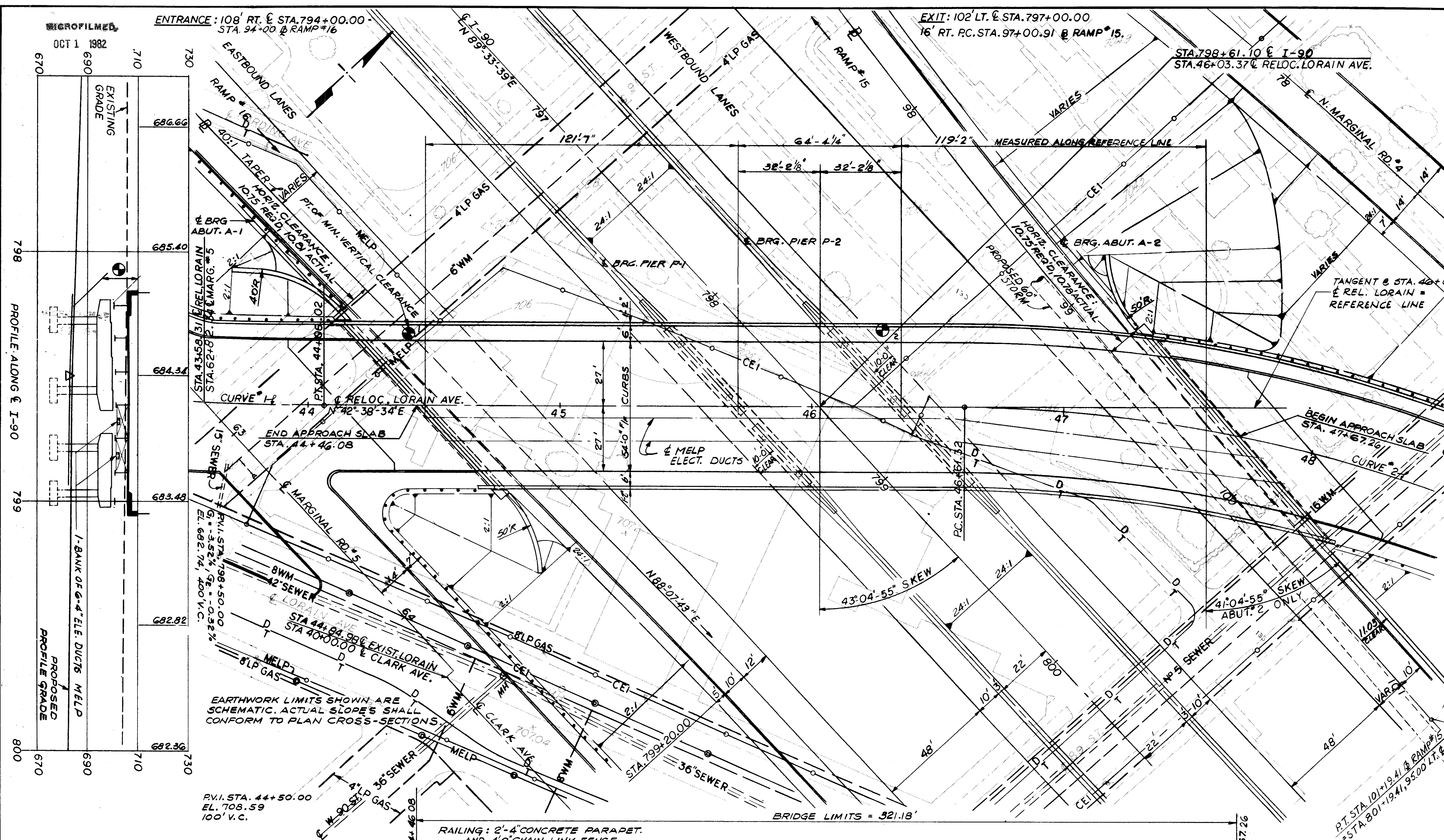
STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

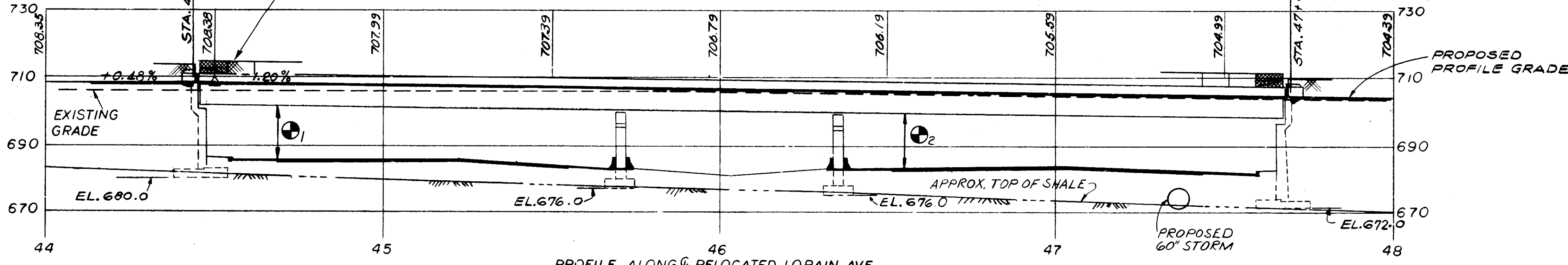
**SITE PLAN**

BRIDGE NO. CUY - 90 - 1181  
UNDER RELOCATED LORAIN AVE.  
I-90 CUYAHOGA COUNTY  
STA. 798 + 61.10

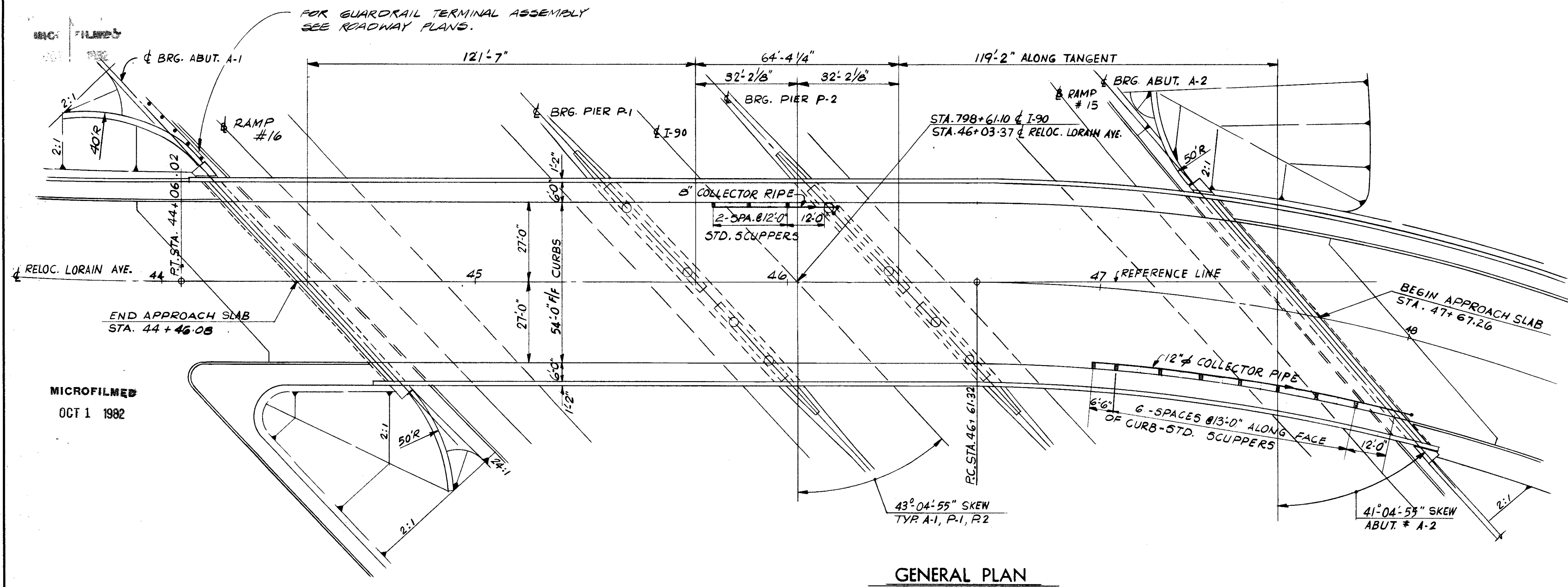
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	J.K.		H.S.L.	R.D.H.	4-30-71	



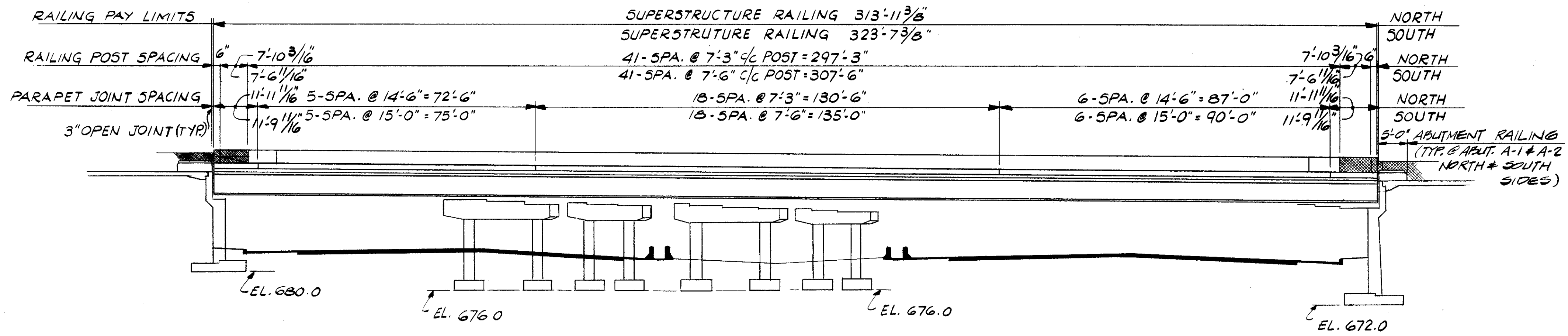
**VERTICAL CLEARANCES:**  
 1. 15.00' REQ'D, 15.02' ACTUAL,  
 2. 15.00' REQ'D, 16.20' ACTUAL,  
 THE VERTICAL CURVE DATA DOES NOT APPLY TO BRIDGE OR GRAPHIC GRADE ELEVATIONS. THE BRIDGE ELEVATIONS WERE OBTAINED BY ADDING 1/2" TO ELEVATIONS OBTAINED FROM VERTICAL CURVE DATA.



PROFILE ALONG @ RELOCATED LORAIN AVE.



GENERAL PLAN



ELEVATION

- NOTES**
- FOR STRUCTURAL GENERAL NOTES, SEE SHEET 61/838
  - FOR RAILING DETAILS, SEE SHEET 15/17
  - FOR LIMITS OF EXCAVATION, SEE SHEET 8/17
  - FOR COLLECTOR PIPE DETAILS, SEE SHEET 15/17
  - FOR PIPE DETAILS AT PIER, SEE SHEET 10/17
  - FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK. IF NECESSARY, THE FOOTINGS SHOULD BE LOWERED. HOWEVER, IF THE LOW POINT OF THE SURFACE OF THE BEDROCK OCCURS 2 FEET OR MORE ABOVE PLAN ELEVATION, THE FOOTINGS MAY BE RAISED, AFTER APPROVAL BY THE DIRECTOR, BUT TO AN ELEVATION NOT HIGHER THAN 680.0 FOR ABUT. A-1 AND ABUT. A-1 EAST WING WALL, 683.0 FOR ABUT. A-1 WEST WING WALL, 686.0 FOR THE SMALLER PORTION OF ABUT. A-1 WEST WING WALL, 676.50 FOR ABUT. A-2, 677.50 FOR ABUT. A-2 WEST WING WALL, 678.50 FOR THE SMALLER PORTION OF ABUT. A-2 WEST WING WALL, 675.50 FOR ABUT. A-2 EAST WING WALL. STEPPING OF INDIVIDUAL FOOTINGS WILL NOT BE PERMITTED UNLESS SHOWN ON THE PLANS.
  - FOUNDATION BEARING PRESSURE: ABUTMENT FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 4 TONS PER SQ. FT. AND PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 6 TONS PER SQ. FT.
  - SEE LIGHTING SHEETS FOR DETAILS
  - SEE TRAFFIC CONTROL SHEETS FOR DETAILS.
  - ON STANDARD DRAWING AS-1-72 CHANGE CLEARANCE FOR TOP REINFORCING STEEL TO 3" FROM 2".

**ESTIMATED QUANTITIES**

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
404	30	CY	ASPHALY CONCRETE (AC-20)	30			
SPEC	1913	SY	MEMBRANE WATERPROOFING, HOT APPLIED LIQUID (SEE PROPOSAL NOTE)	1913			
503		LUMP	COFFERDAMS CRIBS AND SHEETING			25.1	LUMP
503	3719	CY	UNCLASSIFIED EXCAVATION		3468		
503	181	CY	SHALE EXCAVATION		181		
509	406,270	LB	REINFORCING STEEL	206,831	159,224	40,215	
511	822	CY	CLASS C CONCRETE, SUPERSTRUCTURE	822			
511	129	CY	CLASS C CONCRETE, PIERS ABOVE FOOTINGS			129	
511	852	CY	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		852		
511	672	CY	CLASS C CONCRETE, FOOTINGS		594	77	
512	51	SY	TYPE B WATERPROOFING		51		
512	240	LF	PREMOLDED SEALING STRIP		240		
513	889400	LB	STRUCTURAL STEEL	889400			
514	889400	LB	FIELD PAINTING OF STRUCTURAL STEEL	889400			
516	419	SF	1 IN. PREFORMED EXPANSION JOINT FILLER		419		

**ESTIMATED QUANTITIES**

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
517	657.57	LF	RAILING (CONCRETE PARAPET WITH CHAIN LINK FENCE)	637.57	20.00		
518	10	EACH	SCUPPERS INCLUDING SUPPORTS	10			
518	648	CY	POROUS BACKFILL		648		
518	295	LF	6 IN. PERFORATED, HELICAL CMP, 707.01		295		
518	8	LF	6 IN. NON-PERFORATED, HELICAL CMP INCL. SPECIALS, 707.01		8		
518	78	LF	8 IN. PERFORATED CMP INCLUDING SPECIALS, 707.01		78		
518	11	LF	15 IN. NON-PERFORATED CMP INCLUDING SPECIALS, 707.01		11		
518	41	LF	8 IN. COLLECTOR PIPE INCLUDING SPECIALS	41			
518	96	LF	12 IN. COLLECTOR PIPE INCLUDING SPECIALS	96			
518	28	LF	8 IN. STD. PIPE DOWNSPOUTS			28	
518	30	LF	12 IN. STD. PIPE DOWNSPOUTS				
5625			SEE LIGHTING SUMMARY SHEET				
625			SEE TRAFFIC CONTROL SUMMARY SHEET				
808	822	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B, OR D	822			

QUANTITIES CHECKED BY HSL 04-09-75

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**GENERAL PLAN & ELEVATION**

BRIDGE NO. CUY-90-1181  
UNDER RELOCATED LORAIN AVE.  
I-90 CUYAHOGA COUNTY  
STA. 798 + 61.10

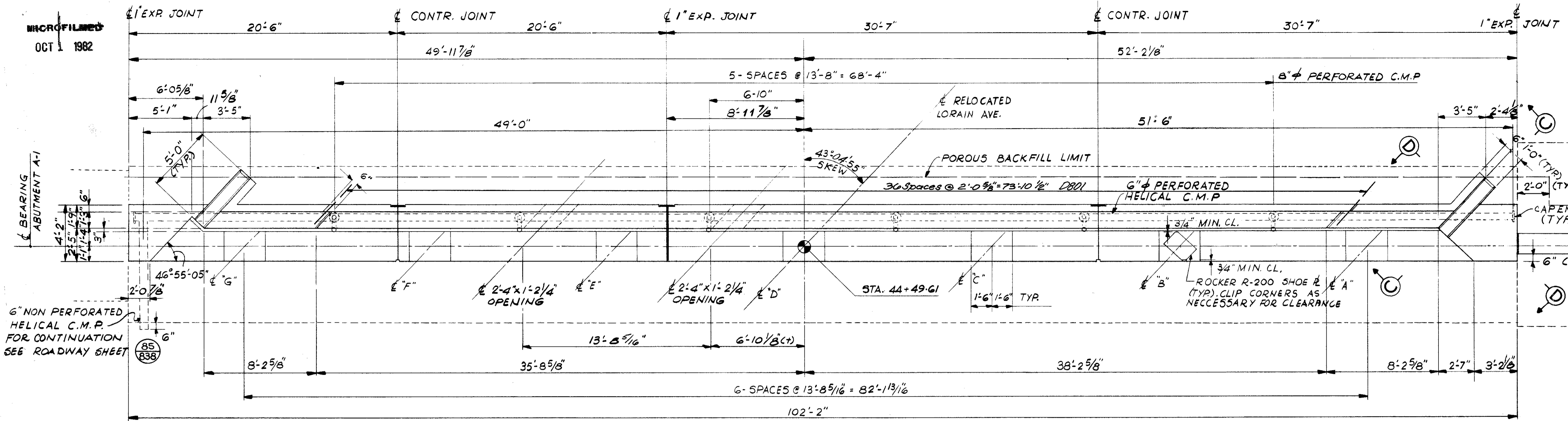
DESIGNED: R.J.P. DRAWN: A.K.S. TRACED: H.S.L. CHECKED: R.D.H. REVIEWED: DATE: 8-14-75 4-23-76

MICROFILMED  
OCT 1 1982

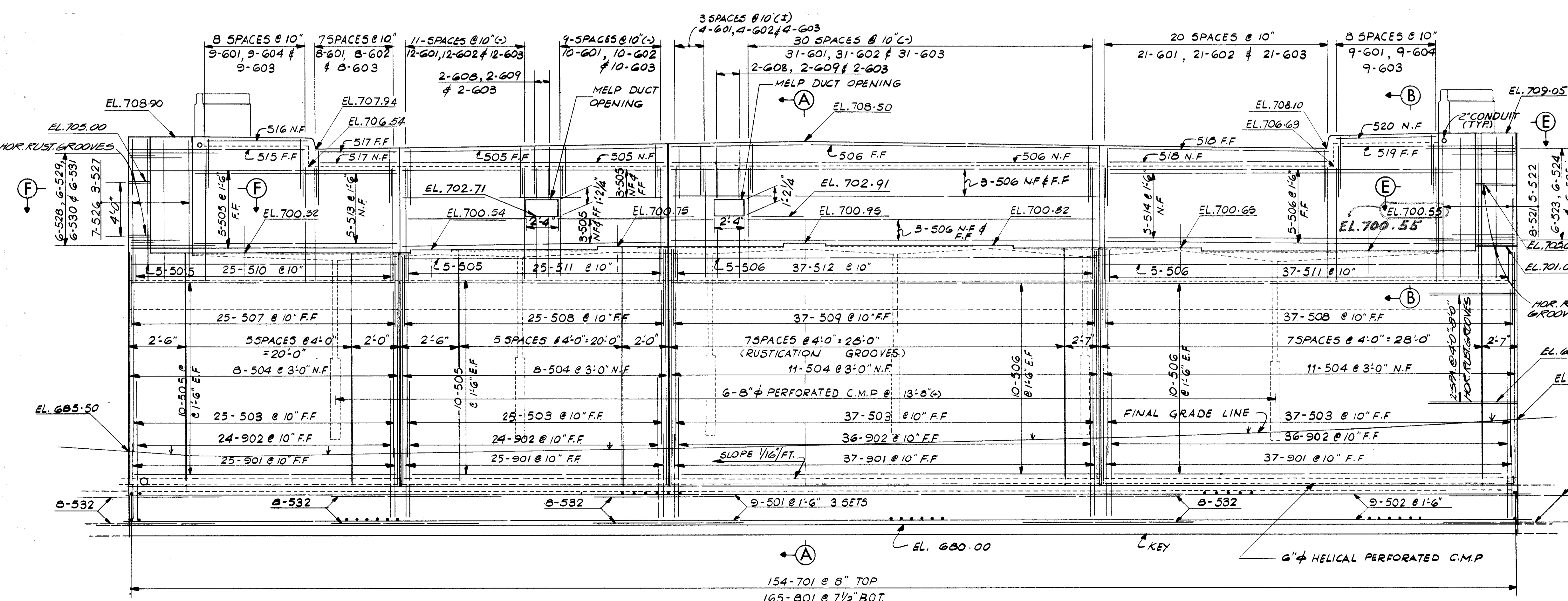
MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT	624 838
2	OHIO		

CUYAHOGA COUNTY  
CUY - 90 - 11.64



PLAN



ELEVATION

- NOTES**
- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
  - BACKWALL ELEVATIONS ARE GIVEN AS SHOWN IN SECTION, SEE SHEET 14/17
  - POROUS BACKFILL, 2 FT. THICK, FULL LENGTH OF ABUTMENT AND WINGS, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE WITHIN THE ROADWAY AREA EXTENDED Laterally TO THE WING WALLS OR TO THE EMBANKMENT SIDE SLOPES.
  - THE PREFIX "1A" OR "2A" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENT A-1 OR A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
  - FOR ADDITIONAL NOTES, SEE SHEET 2/17
  - FOR ALL SECTIONS, SEE SHEET 5/17
  - FOR DETAILS, SEE SHEET 5/17
  - USE ALTERNATE HORIZONTAL AND VERTICAL STRIATED CONCRETE BETWEEN RUSTICATION GROOVES ON THE FACE OF ABUTMENTS AND WINGS. COORDINATE ALL RUSTICATION GROOVES AND STRIATED PANELS BETWEEN ADJACENT ABUTMENT AND WINGS.
- BACKWALL CONCRETE: IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE BACKWALL HAS BEEN PLACED.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**3 / 17**

**DALTON · DALTON ASSOCIATES**

**ABUTMENT A-1**

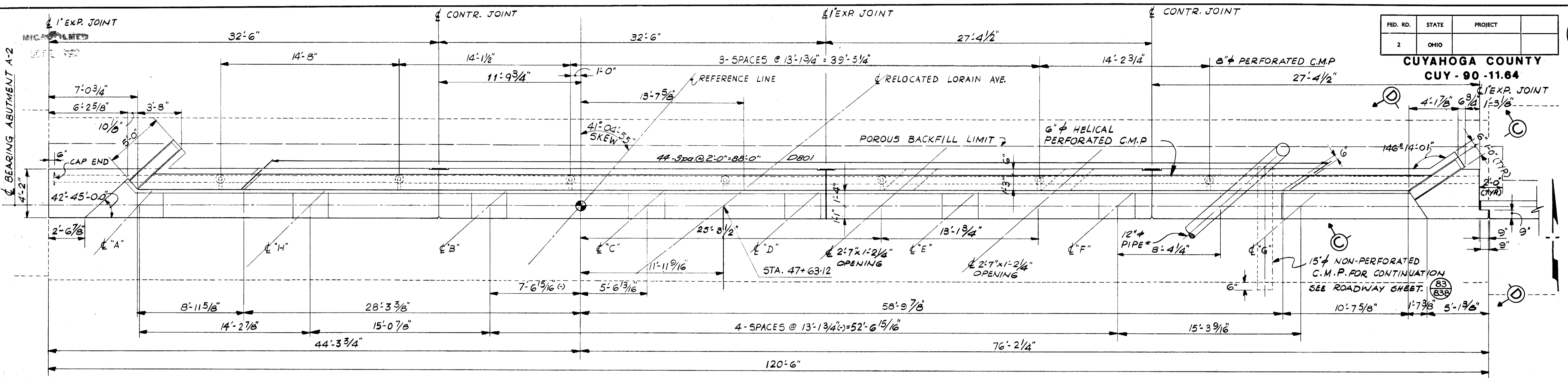
BRIDGE NO. CUY - 90 - 1181  
UNDER RELOCATED LORAIN AVE.  
I - 90 CUYAHOGA COUNTY  
STA. 798 + 61.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	A.K.S.		H.S.L.	R.D.H.	4-30-71	11-14-75

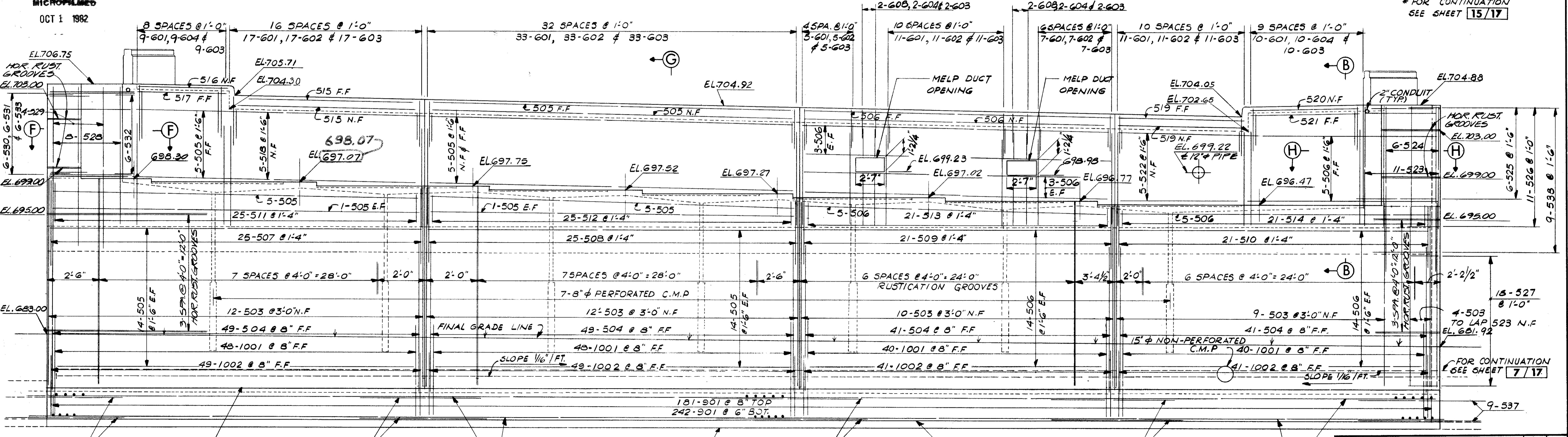
FED. RD.	STATE	PROJECT
2	OHIO	

625  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



PLAN



ELEVATION

\* FOR CONTINUATION  
SEE SHEET 15/17

FOR CONTINUATION  
SEE SHEET 7/17

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**ABUTMENT A-2**

BRIDGE NO. CUY - 90 - 11.81  
UNDER RELOCATED LORAIN AVE.  
I - 90 CUYAHOGA COUNTY  
STA. 798 + 61.10

FOR NOTES, SEE SHEET 3/17

FOR DETAILS & SECTIONS SEE SHEET 5/17

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
R.U.R.	A.K.S.		H.S.L.	R.D.H.	4-30-71	REVISED 11-14-78

4/17

MICROFILMED  
OCT 1 1982

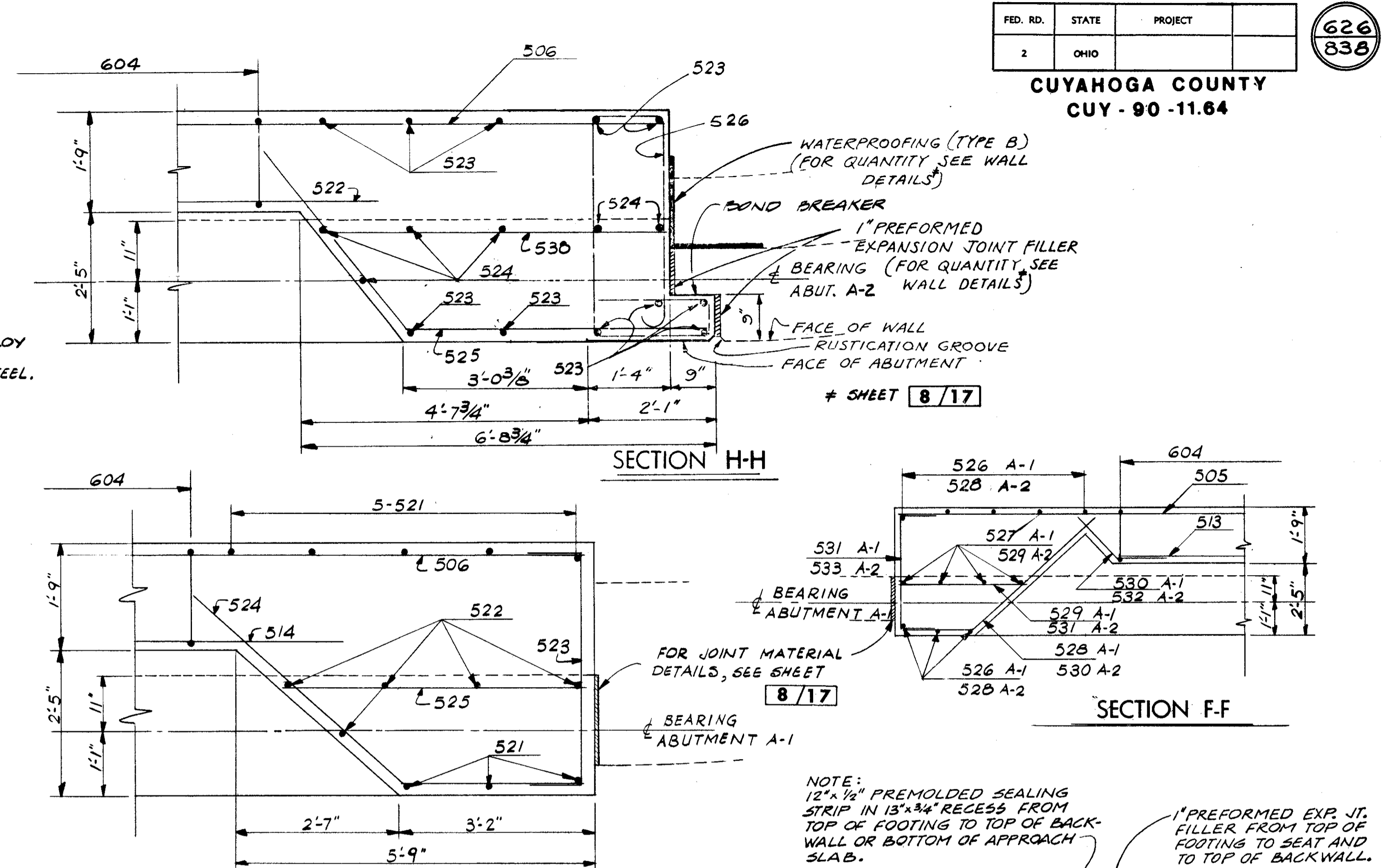
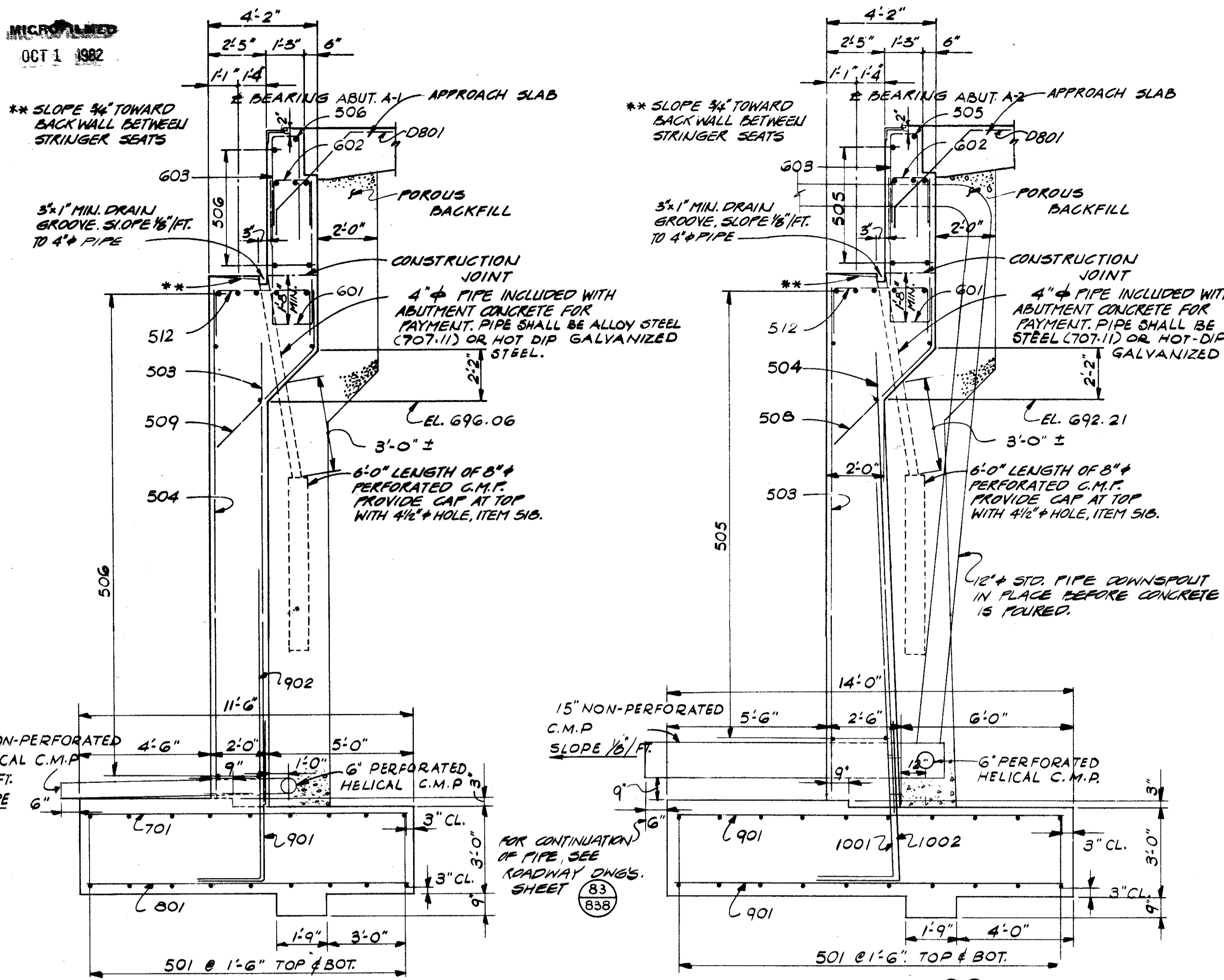


MICROFILMED  
OCT 1 1982

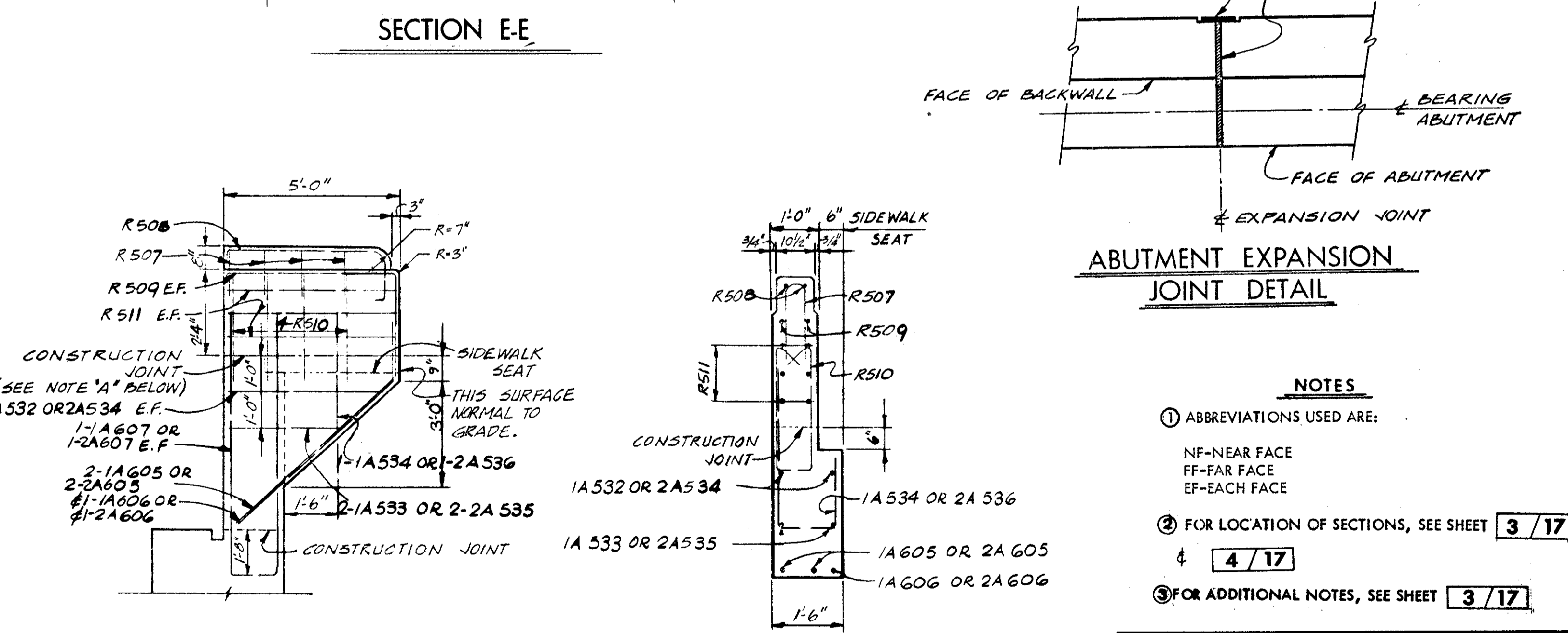
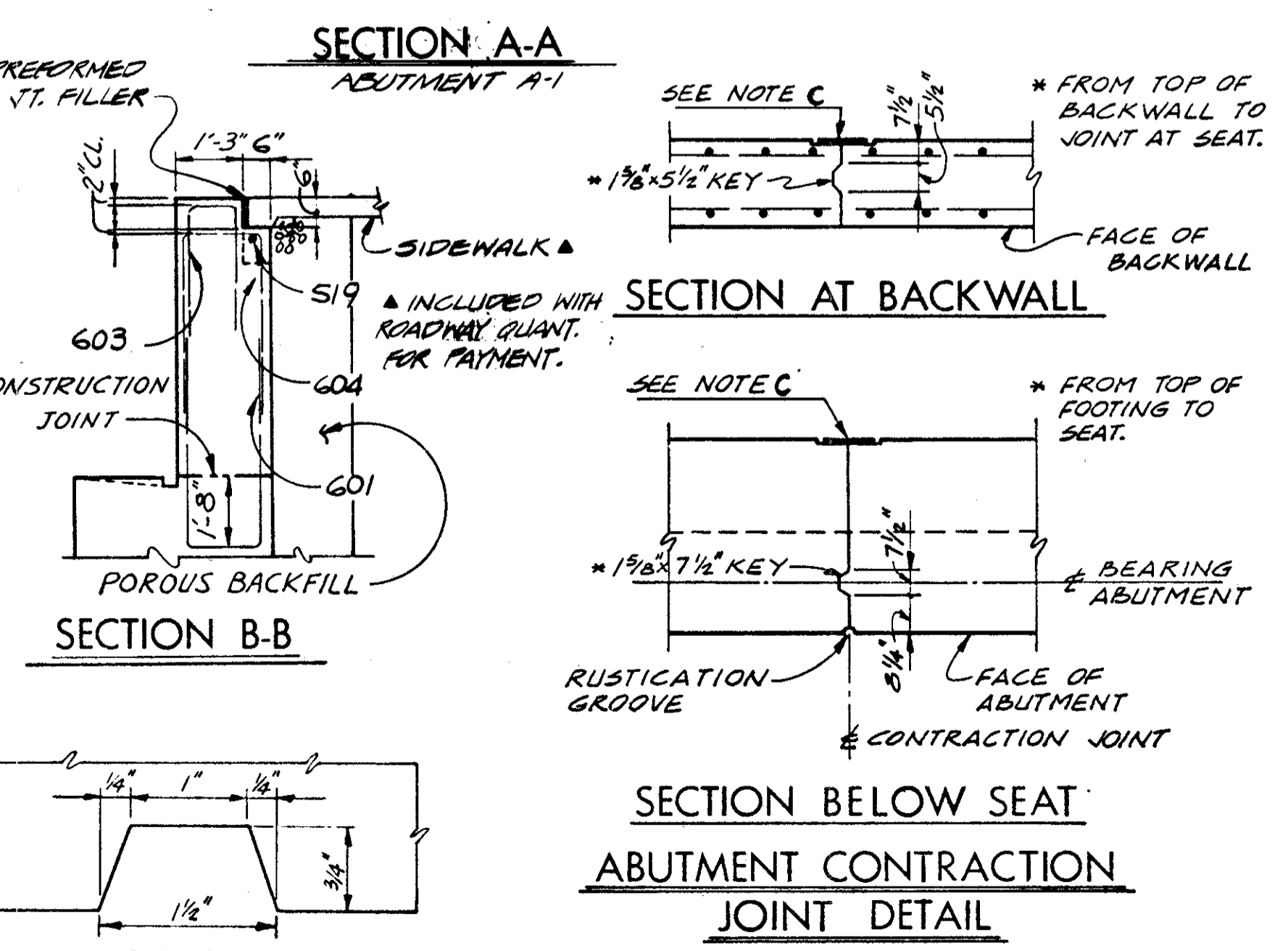
FED. RD.	STATE	PROJECT
2	OHIO	

626  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



NOTE:  
12" x 1/2" PREMOLDED SEALING STRIP IN 13" x 3/4" RECESS FROM TOP OF FOOTING TO TOP OF BACKWALL OR BOTTOM OF APPROACH SLAB.  
1" PREMOLDED EXP. JT. FILLER FROM TOP OF FOOTING TO SEAT AND TO TOP OF BACKWALL.



ABUTMENT EXPANSION JOINT DETAIL

- NOTES
- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
  - FOR LOCATION OF SECTIONS, SEE SHEET 3/17
  - FOR ADDITIONAL NOTES, SEE SHEET 3/17

SECTION C-C  
FOR DETAILS NOT SHOWN SEE SECTION A-A.  
NOTE A: CONCRETE ABOVE THIS JOINT IS INCLUDED WITH RAILING FOR PAYMENT.

SECTION D-D

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DALTON - DALTON ASSOCIATES

ABUTMENT DETAILS

BRIDGE NO. CUY - 90 - 1181  
UNDER RELOCATED LORAIN AVE.  
I-90 CUYAHOGA COUNTY  
STA. 798 + 61.10

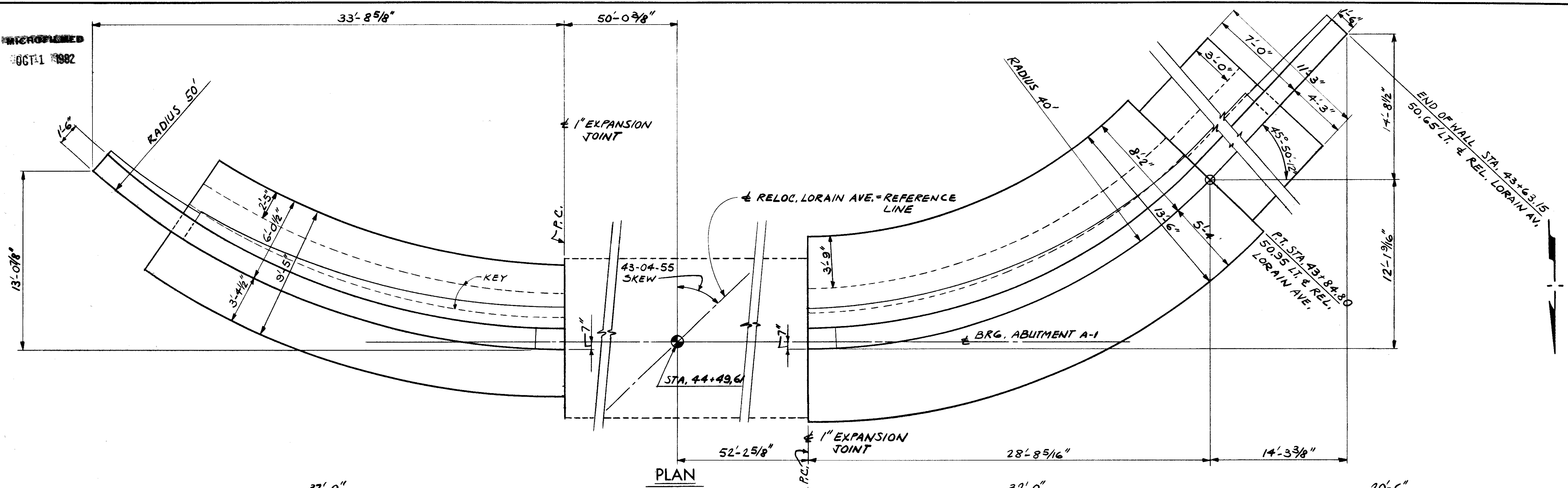
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.R.	A.K.S.		H.S.L.	R.D.H.	4-30-71	

MICROFILMED  
OCT-1 1982

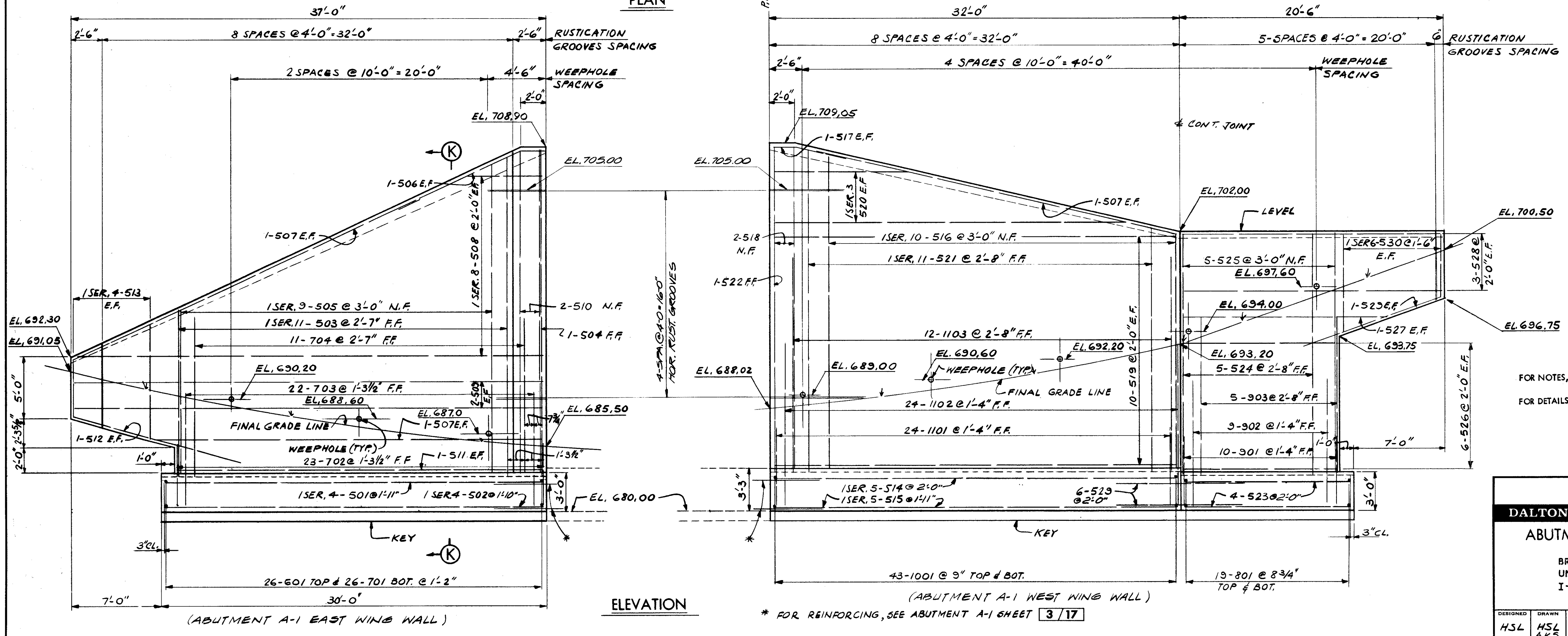
FED. RD.	STATE	PROJECT
2	OHIO	

627  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



PLAN



ELEVATION

FOR NOTES, SEE SHEET 8 / 17

FOR DETAILS & SECTIONS, SEE SHEET 8 / 17

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES  
DALTON · DALTON ASSOCIATES

ABUTMENT A-1 WING WALL

BRIDGE NO. CUY - 90 - 1181  
UNDER RELOCATED LORAIN AVE.  
I - 90 CUYAHOGA COUNTY  
STA. 798 + 61.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HSL	HSL AKS			A.K.S.	R.D.H. 4-30-71	

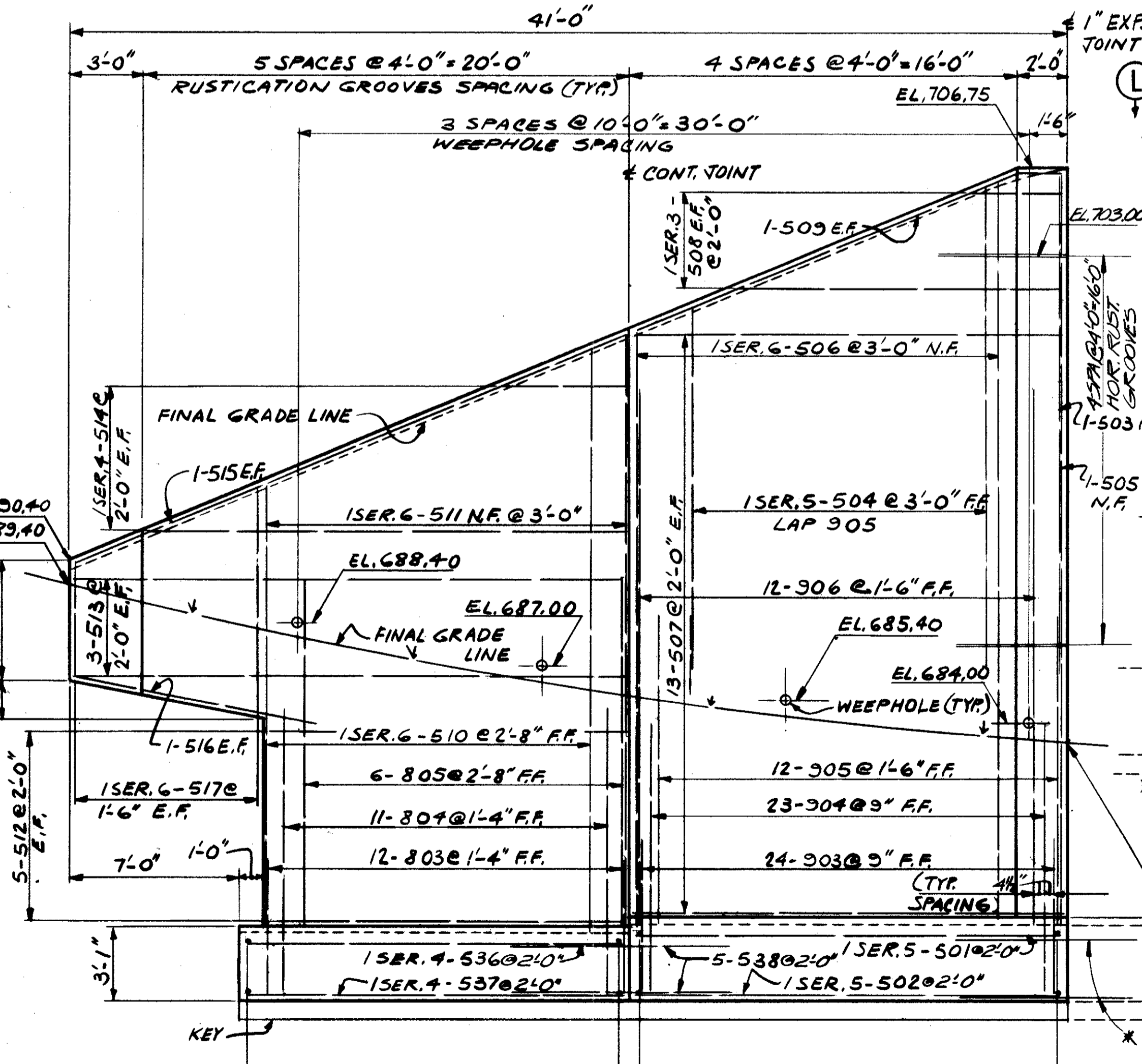
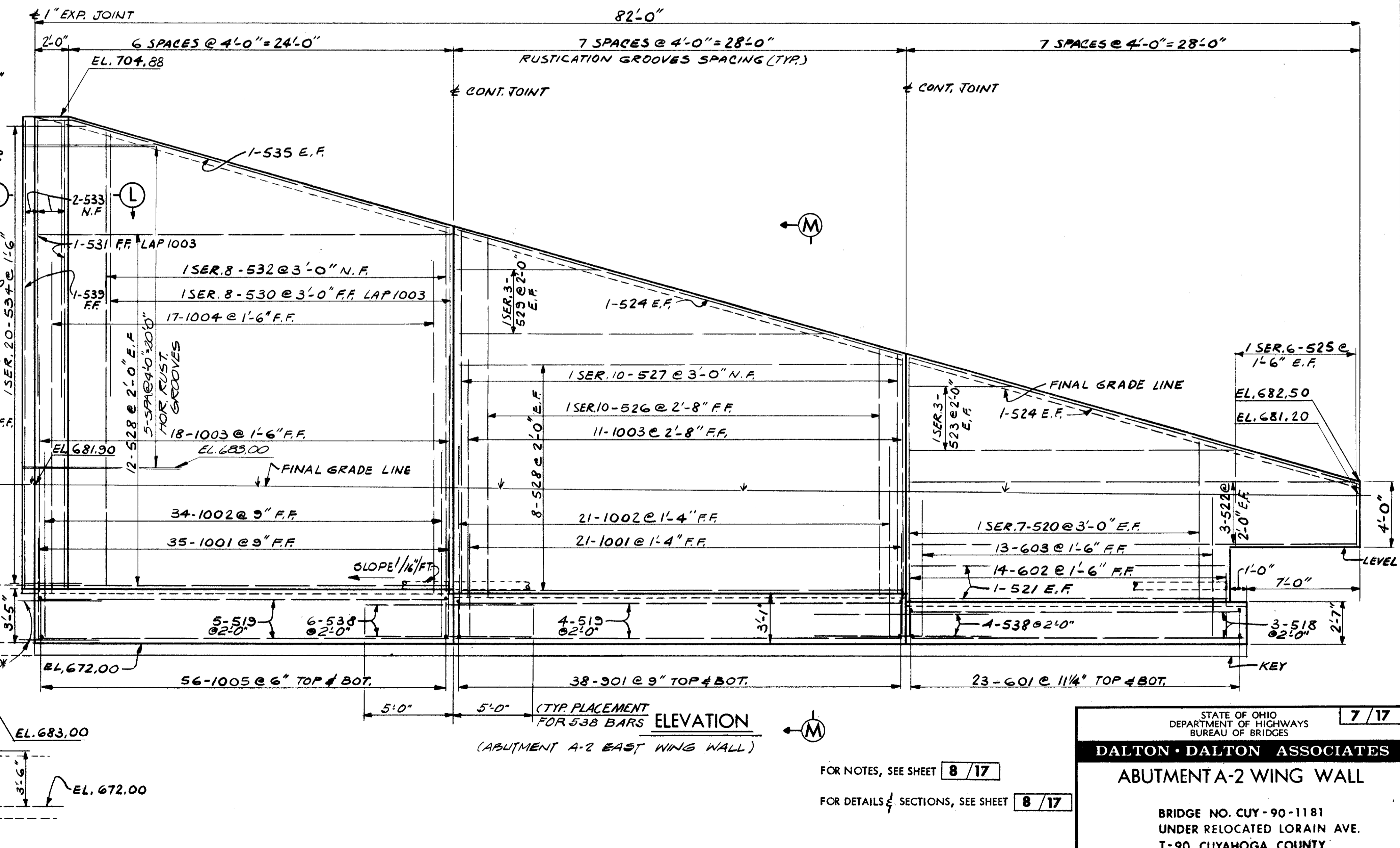
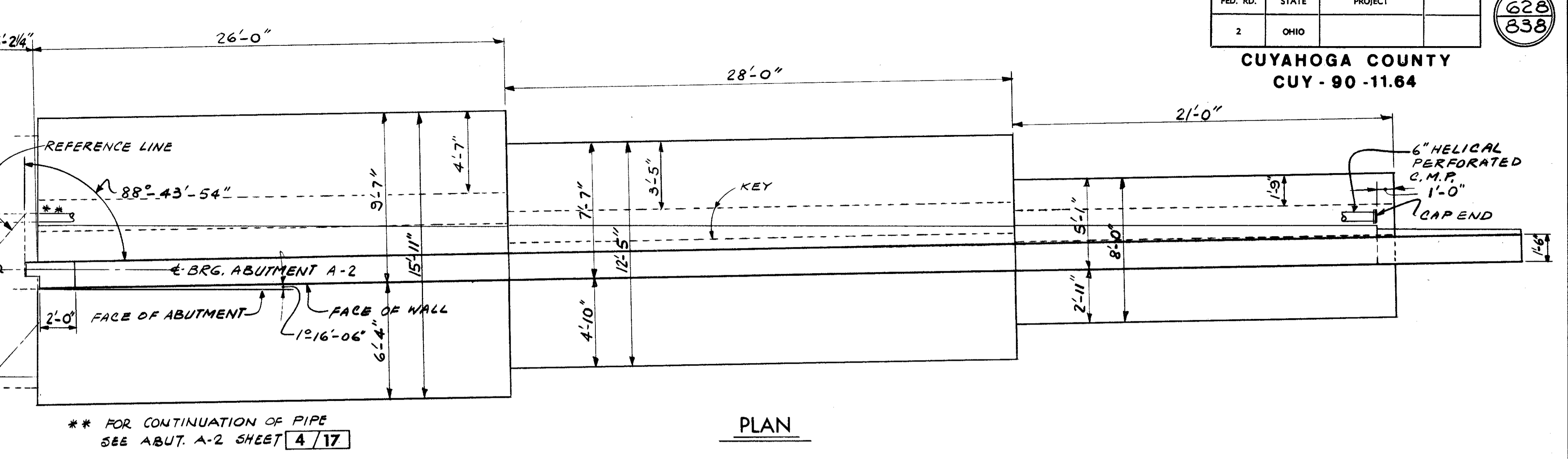
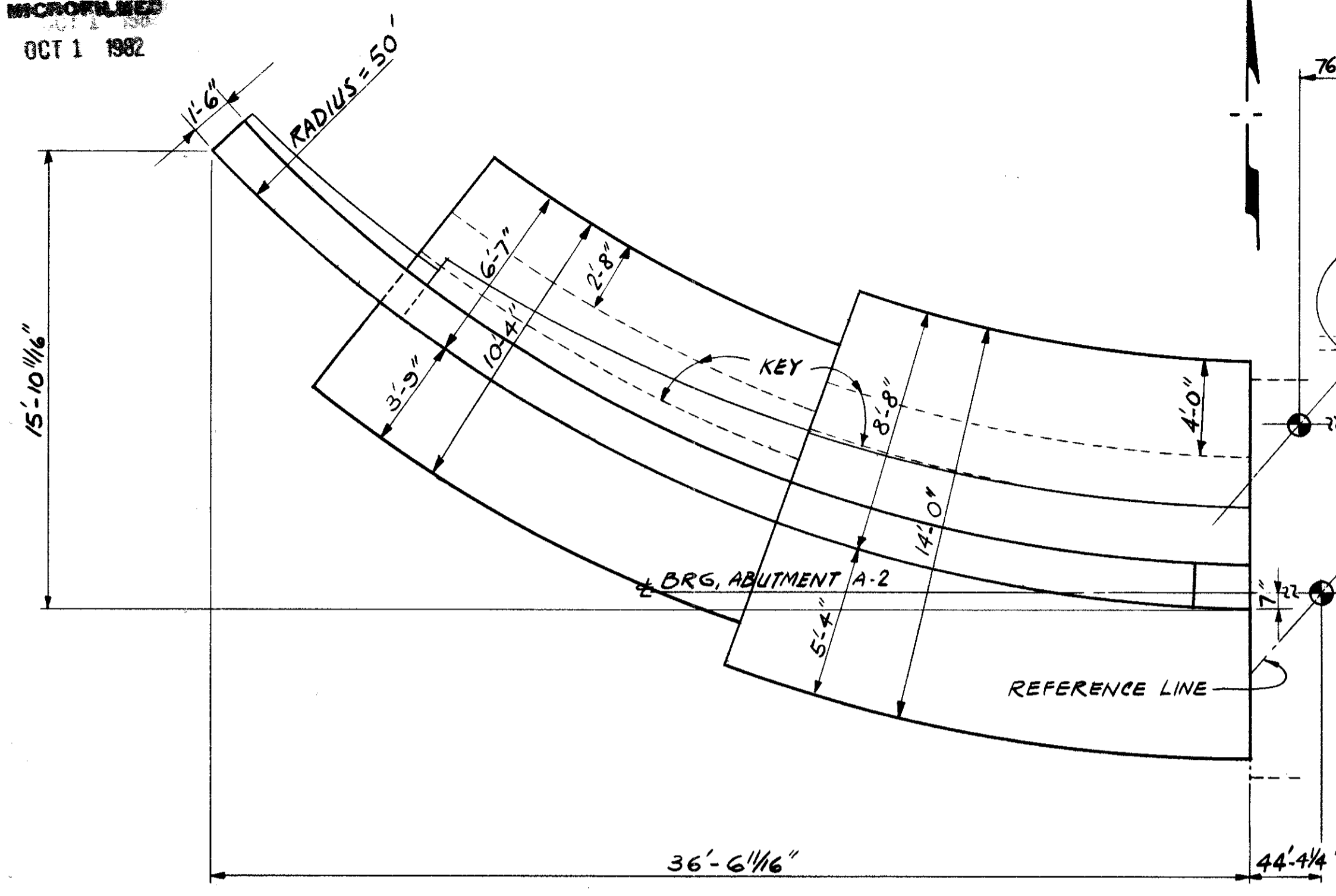
\* FOR REINFORCING, SEE ABUTMENT A-1 SHEET 3 / 17

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT	
2	OHIO		

628  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



\* FOR REINFORCING, SEE ABUTMENT A-2 SHEET 4/17

FOR NOTES, SEE SHEET 8/17

FOR DETAILS & SECTIONS, SEE SHEET 8/17

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

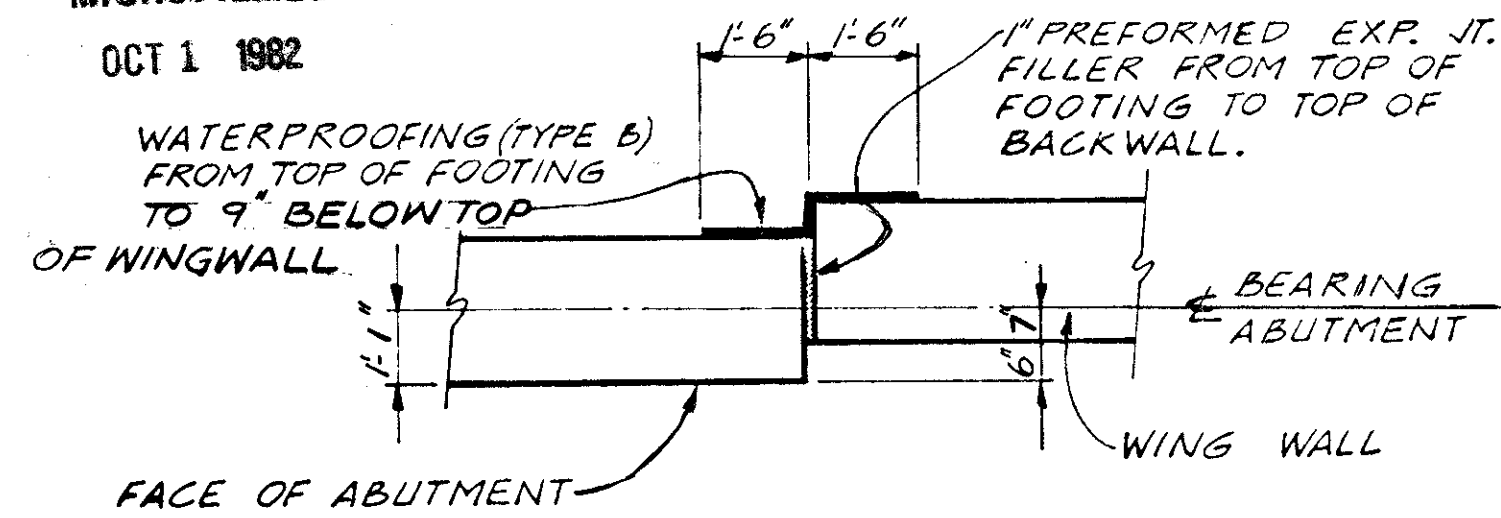
**ABUTMENT A-2 WING WALL**

BRIDGE NO. CUY - 90 - 1181  
UNDER RELOCATED LORAIN AVE.  
I - 90 CUYAHOGA COUNTY  
STA. 798 + 61.10

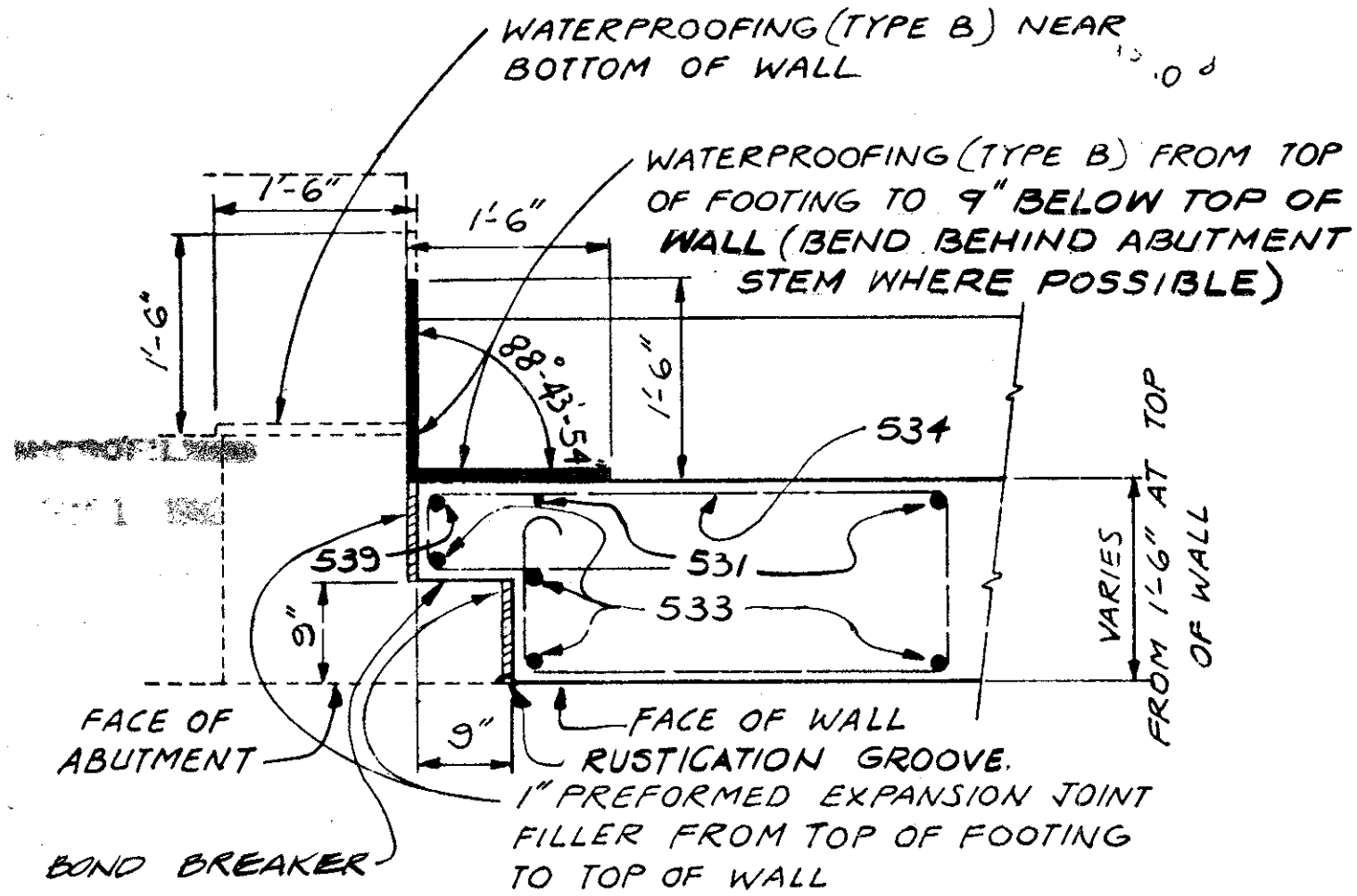
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HSL	HSL		A.K.S.	R.D.H.	4-30-71	

MICROFILMED

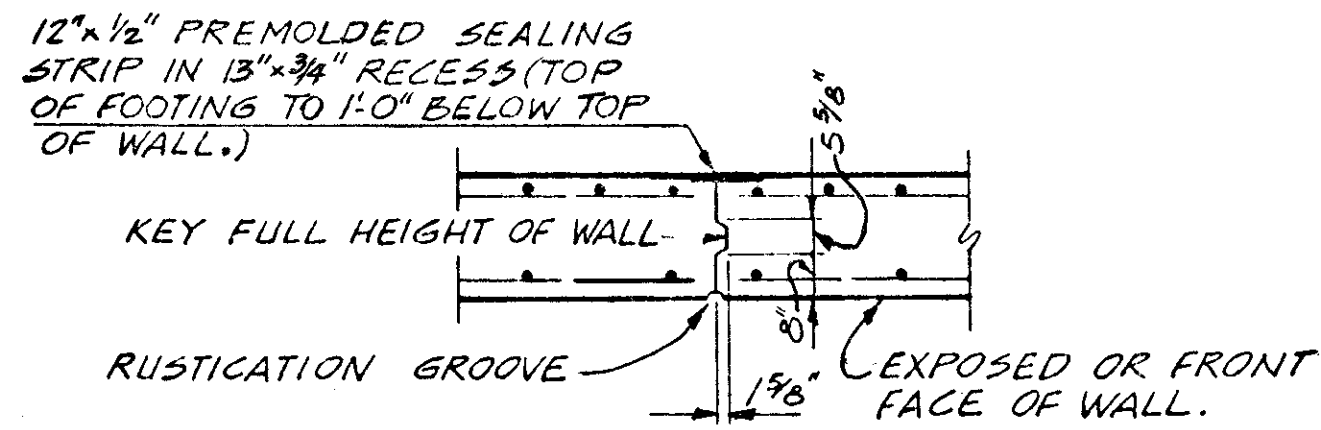
OCT 1 1982



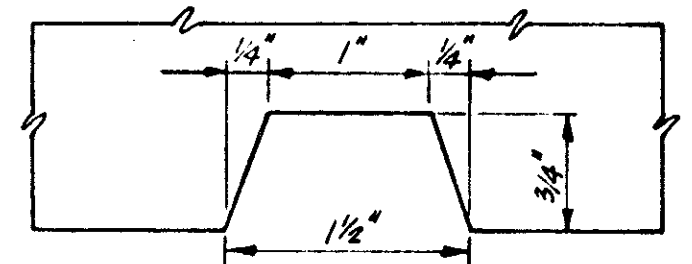
**ABUTMENT - WING WALL  
JOINT DETAIL**  
SECTION BELOW ABUTMENT SEAT



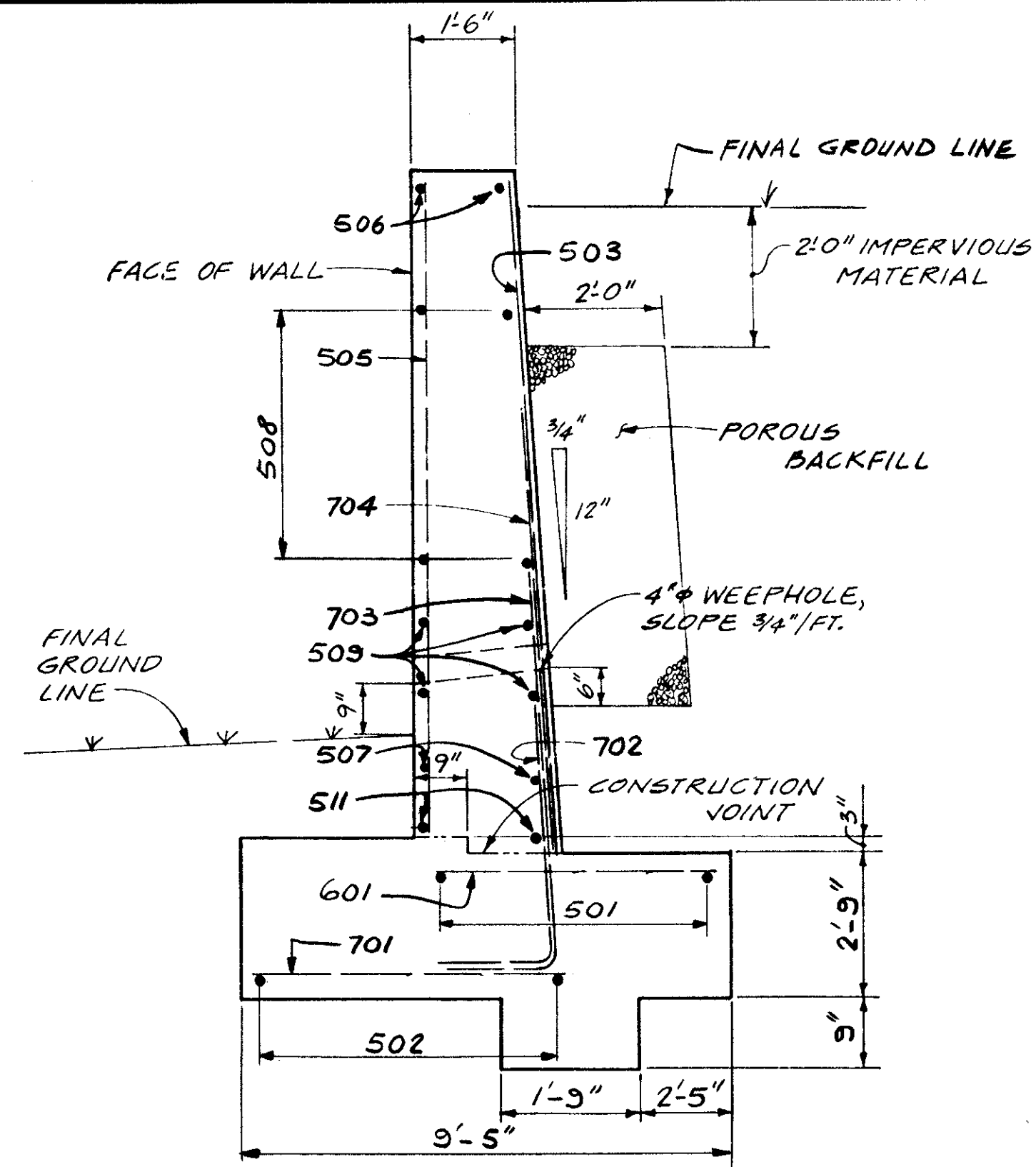
**SECTION L-L**



**CONTRACTION JOINT DETAIL**

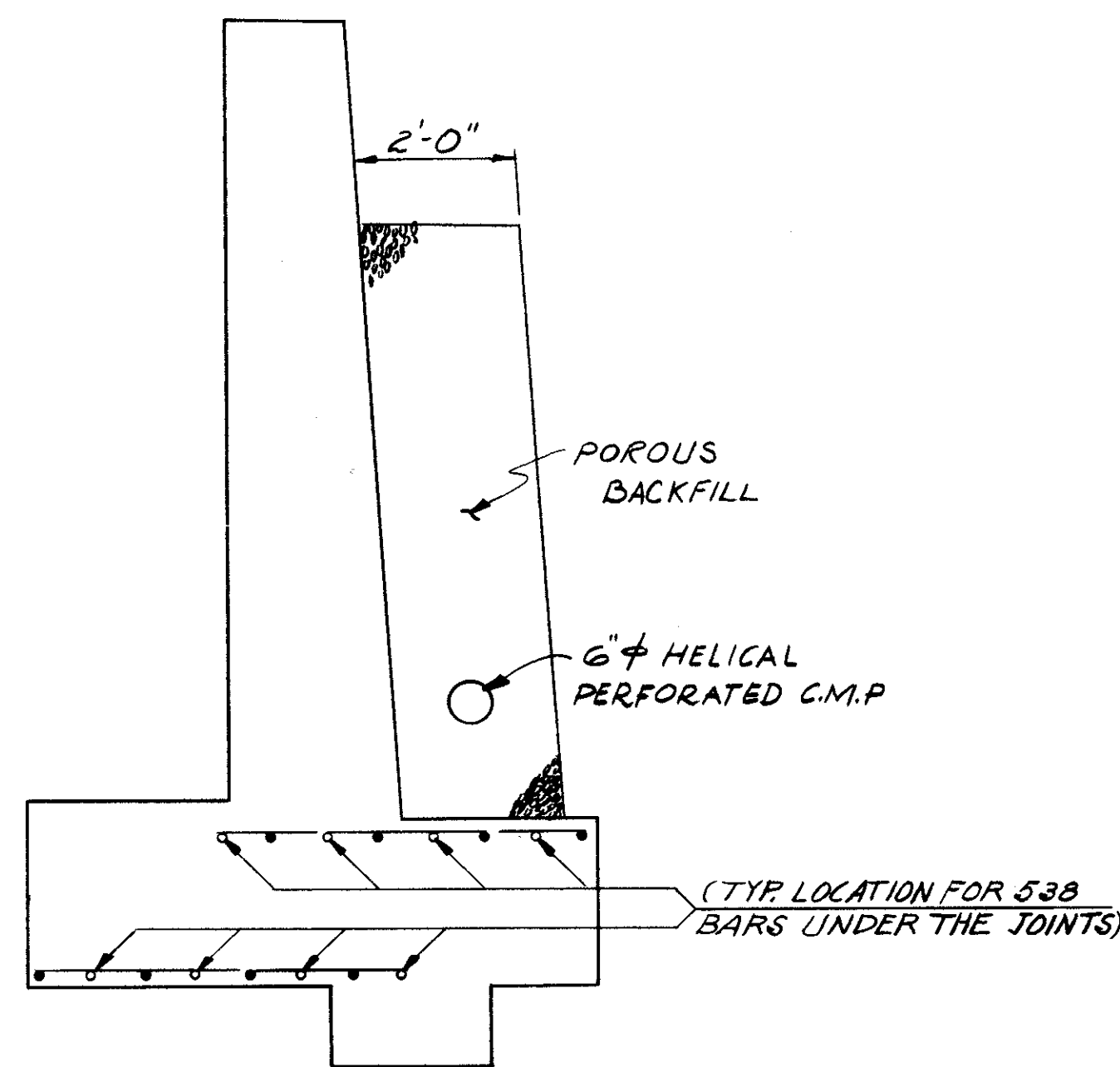


**DETAIL**  
TYPICAL RUSTICATION GROOVE  
SPACED 4'-0" @



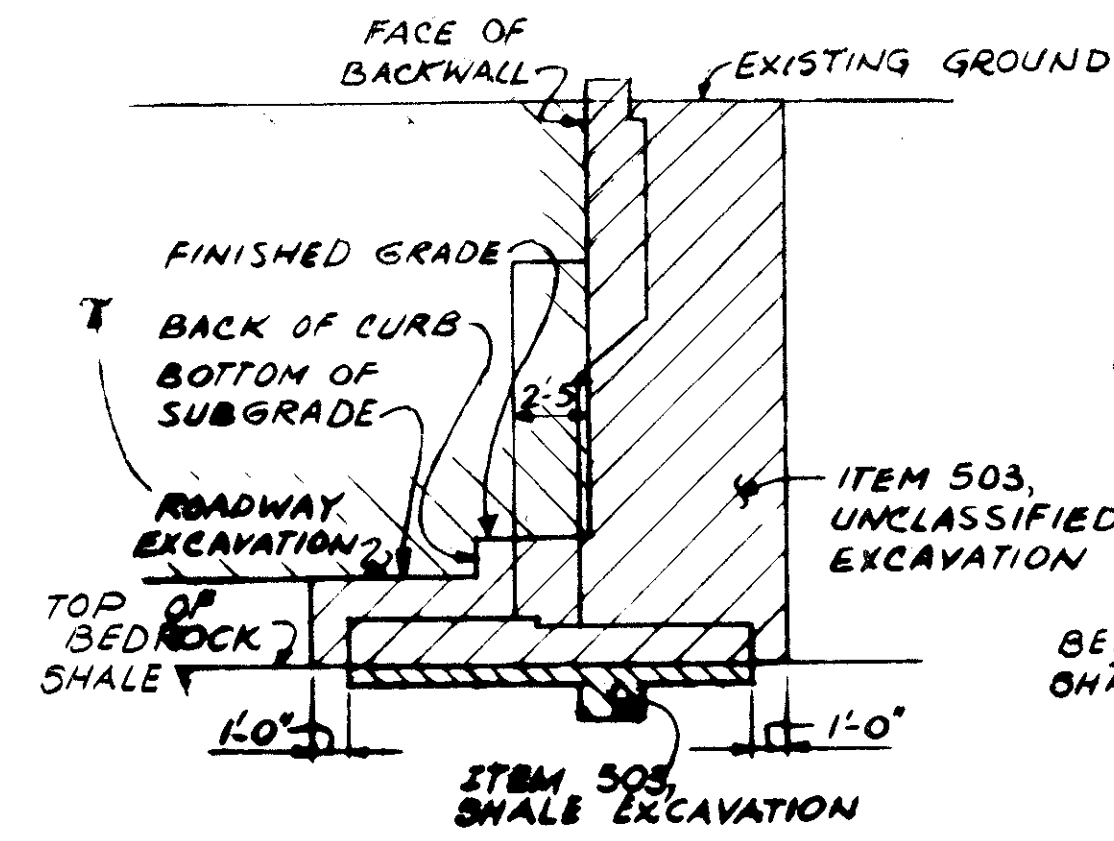
**SECTION K-K**

THIS SECTION SIMILAR FOR OTHER WALLS EXCEPT AS OTHERWISE SHOWN

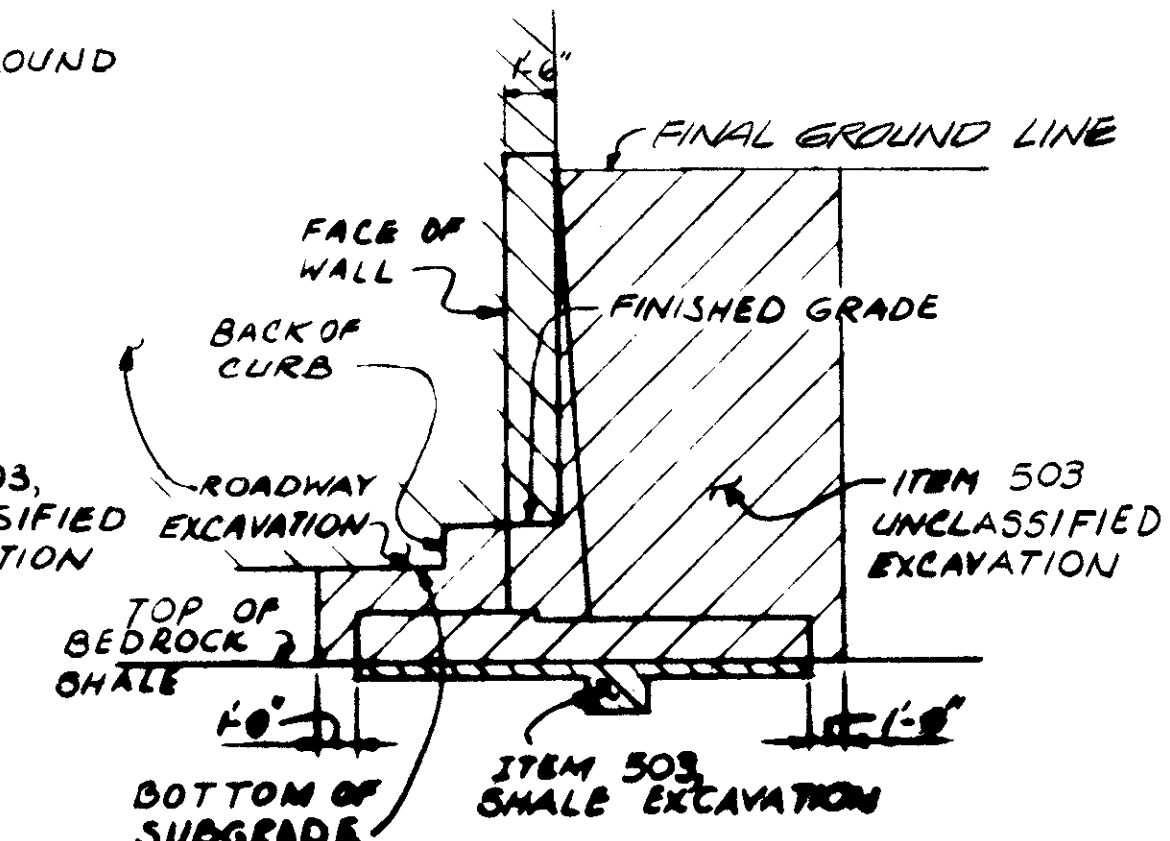


**SECTION M-M**

FOR DETAILS NOT SHOWN, SEE SECTION K-K ABOVE EXCEPT DO NOT PROVIDE WEEPHOLES.



**LIMITS OF EXCAVATION**  
FOR ABUTMENTS



**LIMITS OF EXCAVATION**  
FOR WINGWALLS

FED. RD.	STATE	PROJECT
2	OHIO	

629  
838

CUYAHOGA COUNTY  
CUY - 90 - 11 64

**NOTES**

- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
- THE PREFIX "1W" AND "2W" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN WING WALLS FOR ABUTMENTS A-1 AND A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
- ALL HORIZONTAL DIMENSIONS ARE GIVEN TO FRONT FACE OF WALL UNLESS NOTED OTHERWISE.
- FOR LOCATION OF SECTIONS, SEE SHEET 6/17 & 7/17
- FOR ADDITIONAL NOTES, SEE SHEET 3/17

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

8 / 17

DALTON • DALTON ASSOCIATES

WING WALL DETAILS

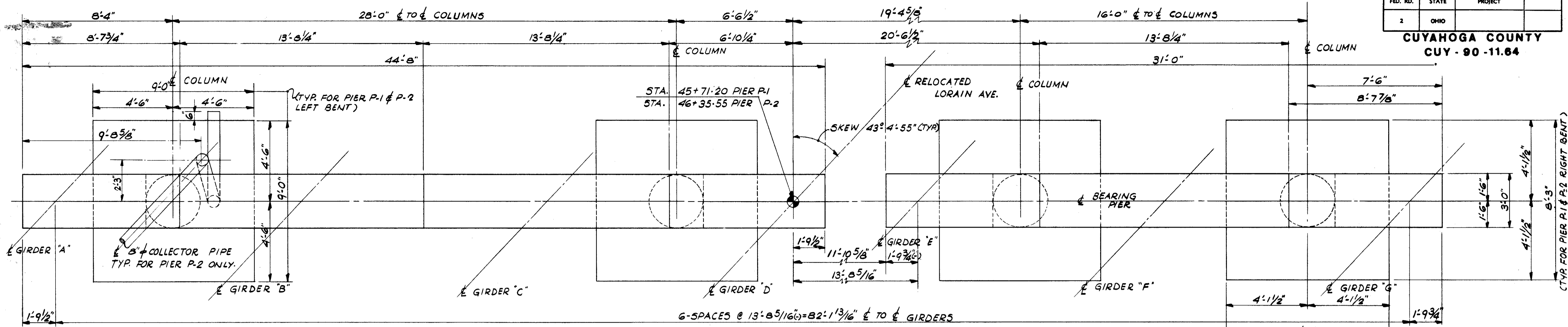
BRIDGE NO. CUY - 90 - 1181  
UNDER RELOCATED LORAIN AVE.  
I - 90 CUYAHOGA COUNTY  
STA. 798 + 61.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HSL	HSL		A.K.S.	R.D.H.	4-30-71	

FED. RD.	STATE	PROJECT
2	OHIO	

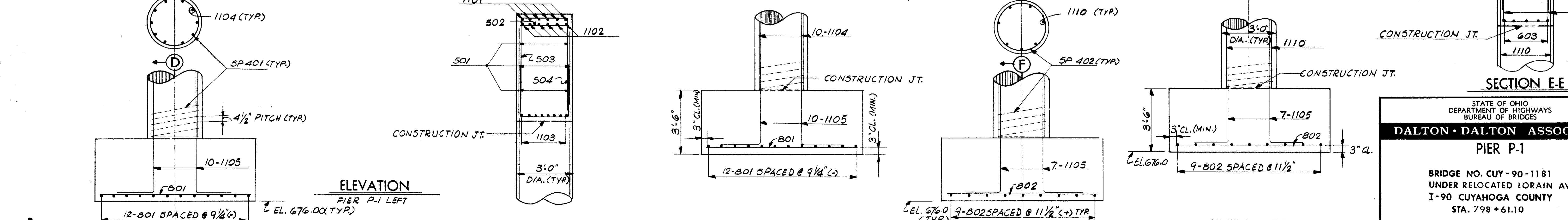
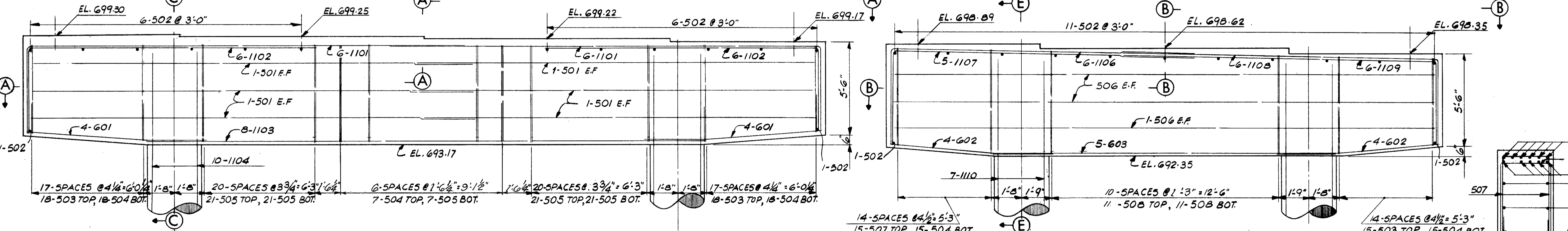
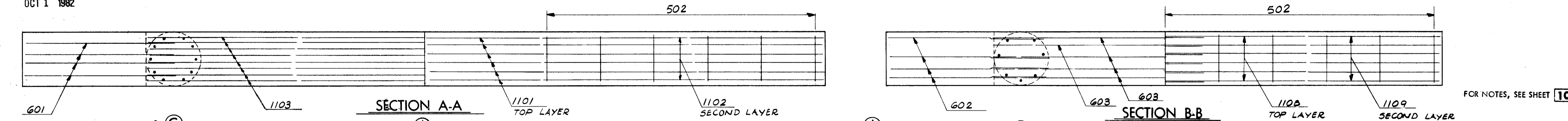
630  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



MICROFILMED  
OCT 1 1982

PLAN  
(TYP FOR PIERS P-1 & P-2)



STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

PIER P-1

BRIDGE NO. CUY-90-1181  
UNDER RELOCATED LORAIN AVE.  
I-90 CUYAHOGA COUNTY  
STA. 798 + 61.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	A.K.S.		L.B.	A.D.H.	4-30-71	

FOR NOTES, SEE SHEET 10/17

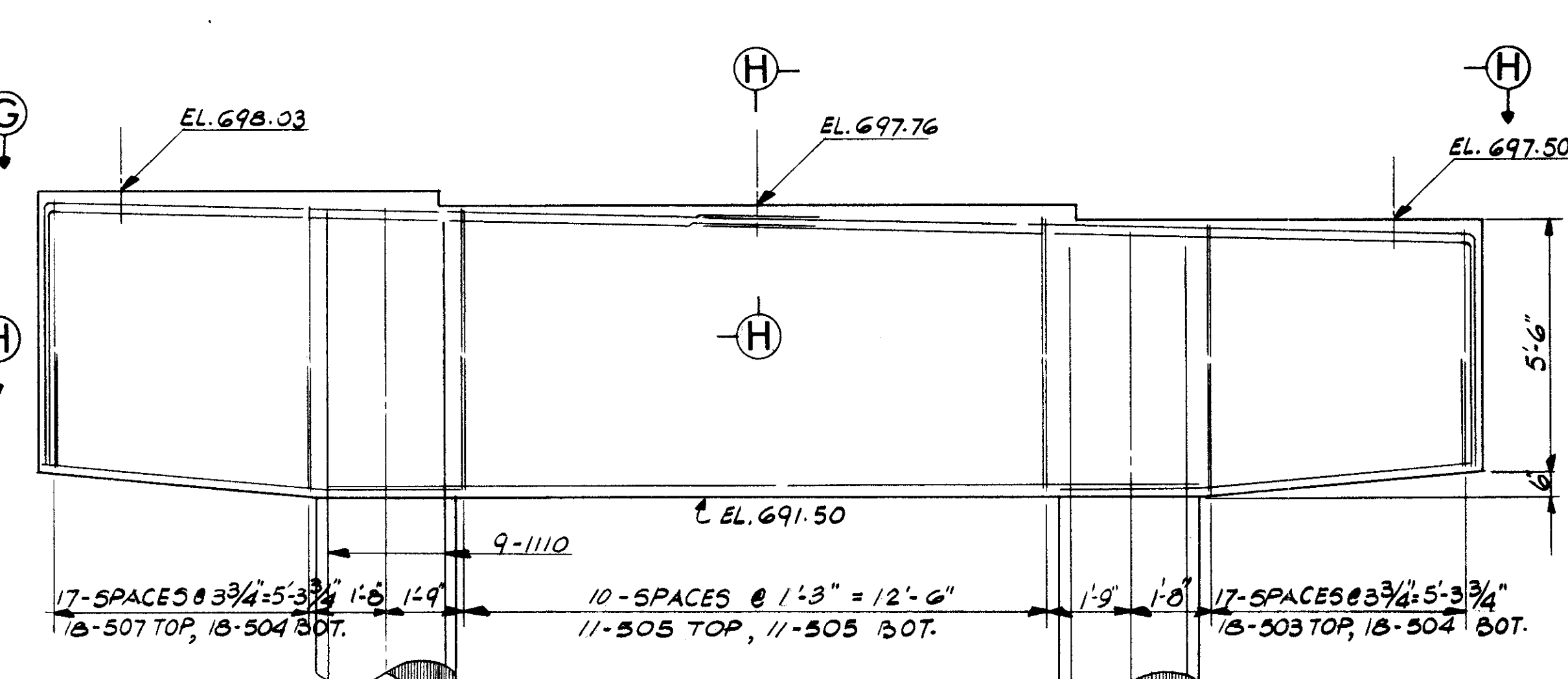
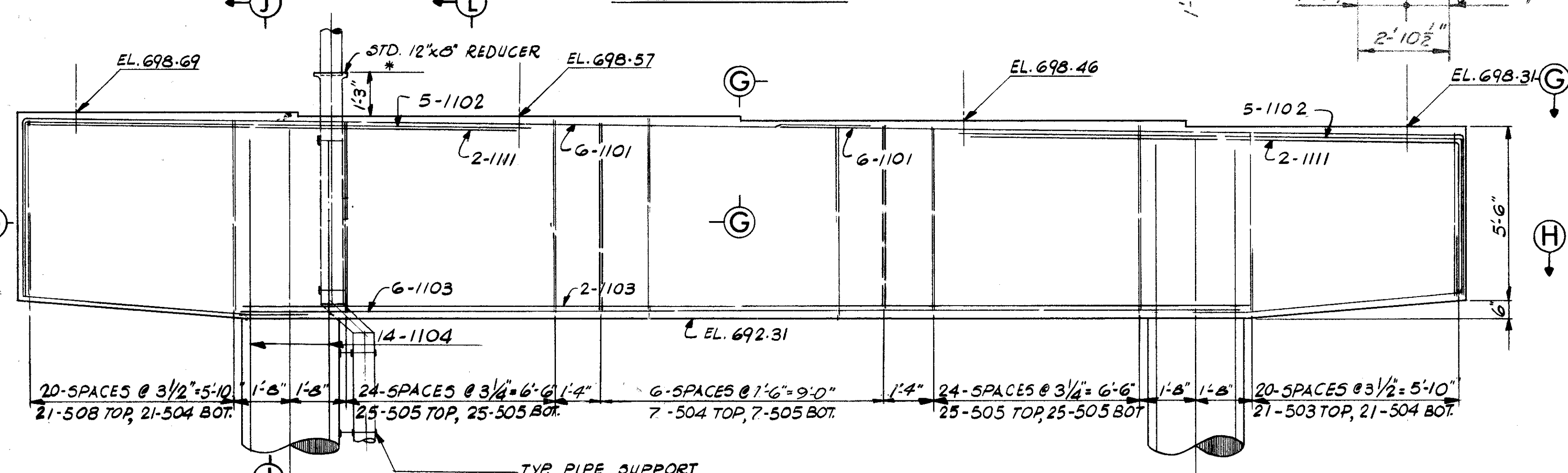
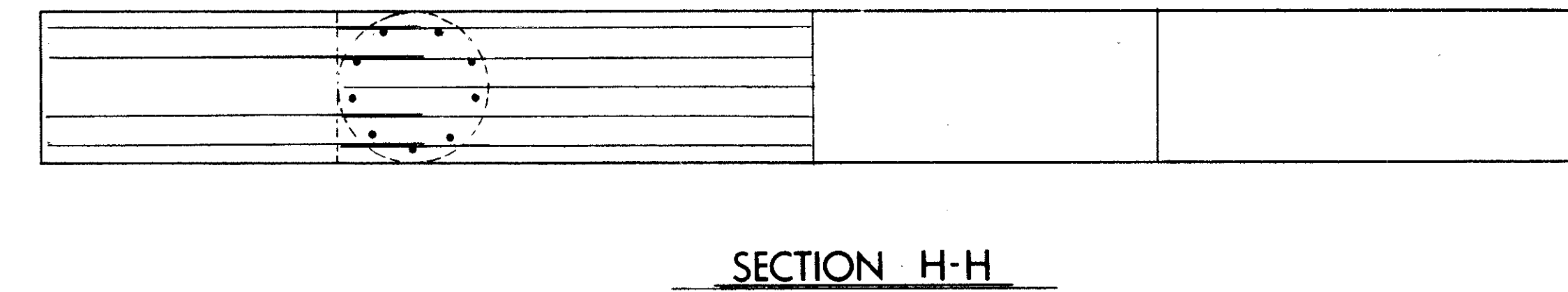
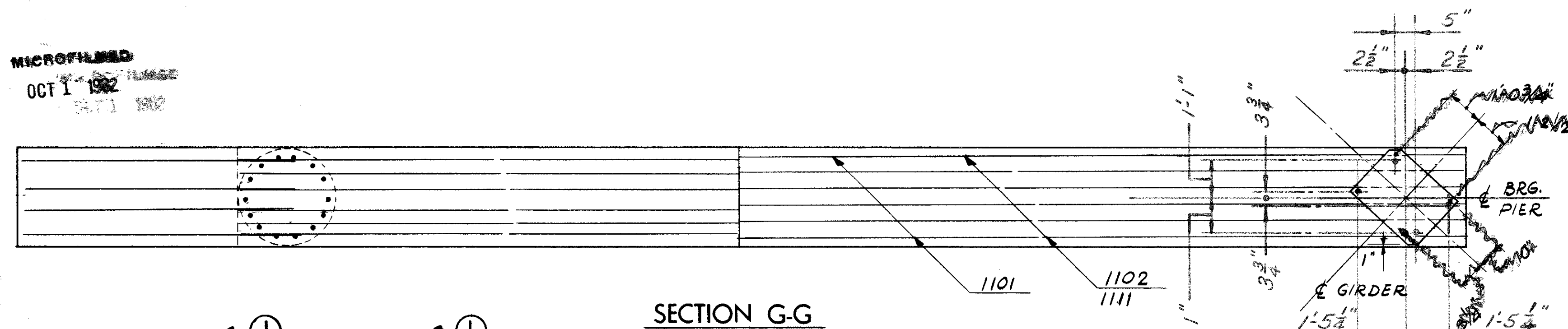
9/17

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

631  
838

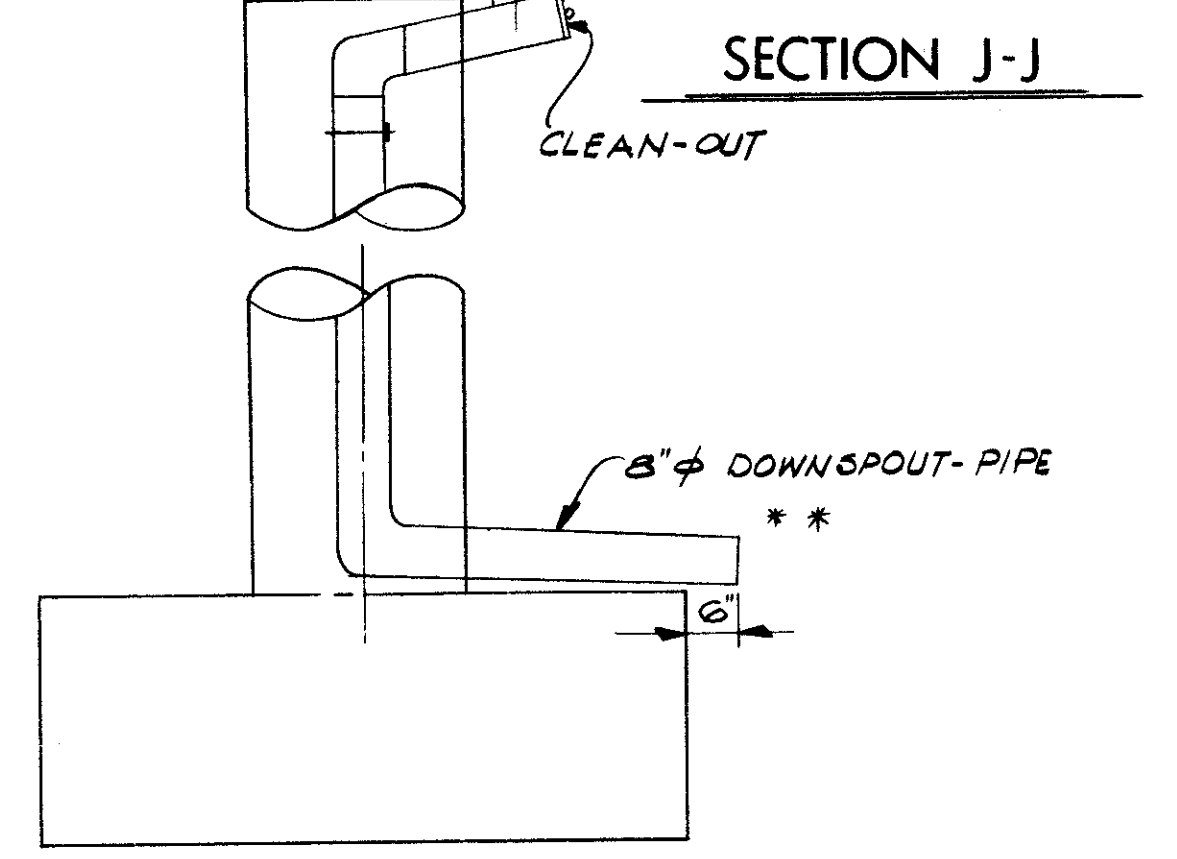
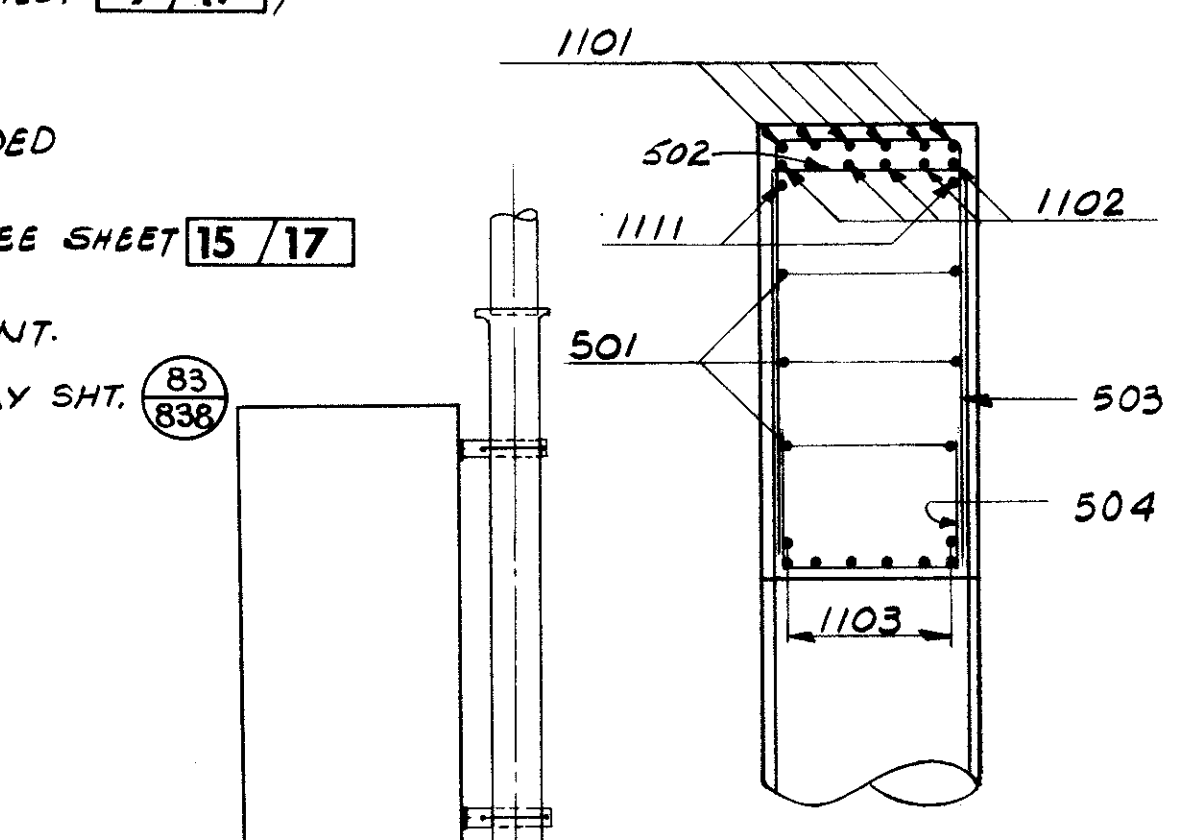
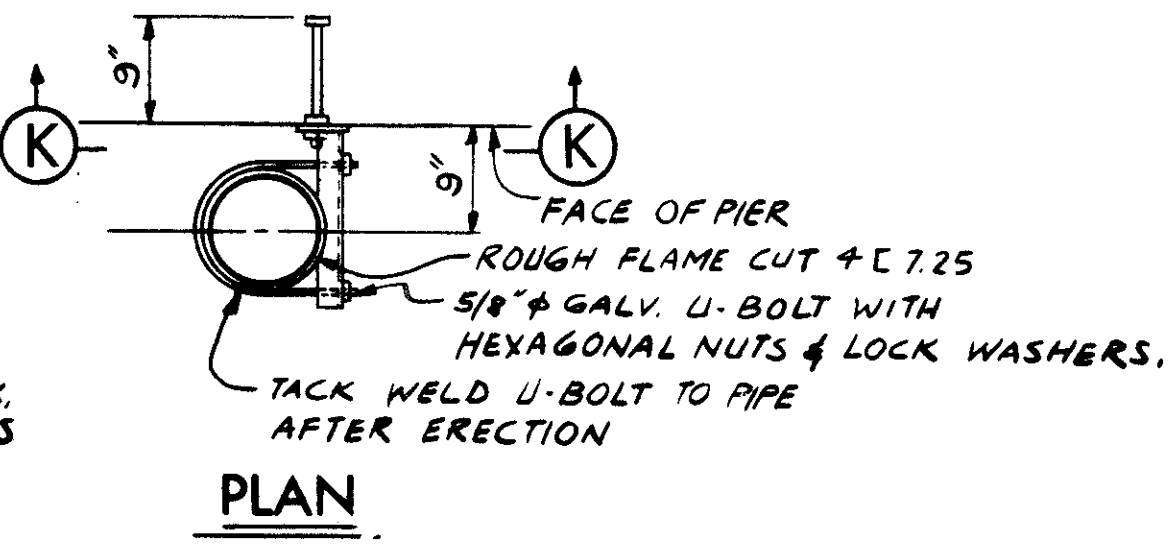
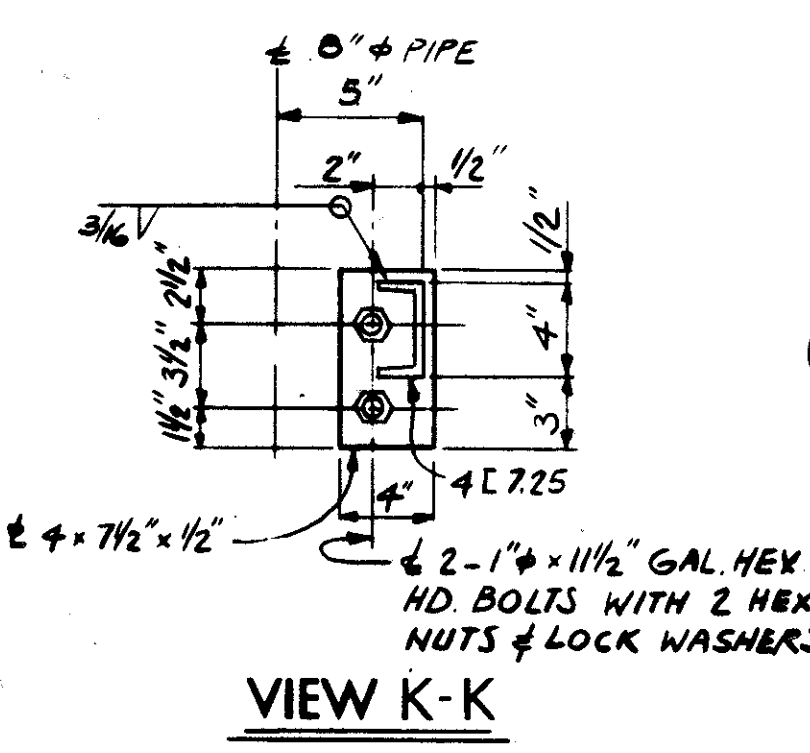
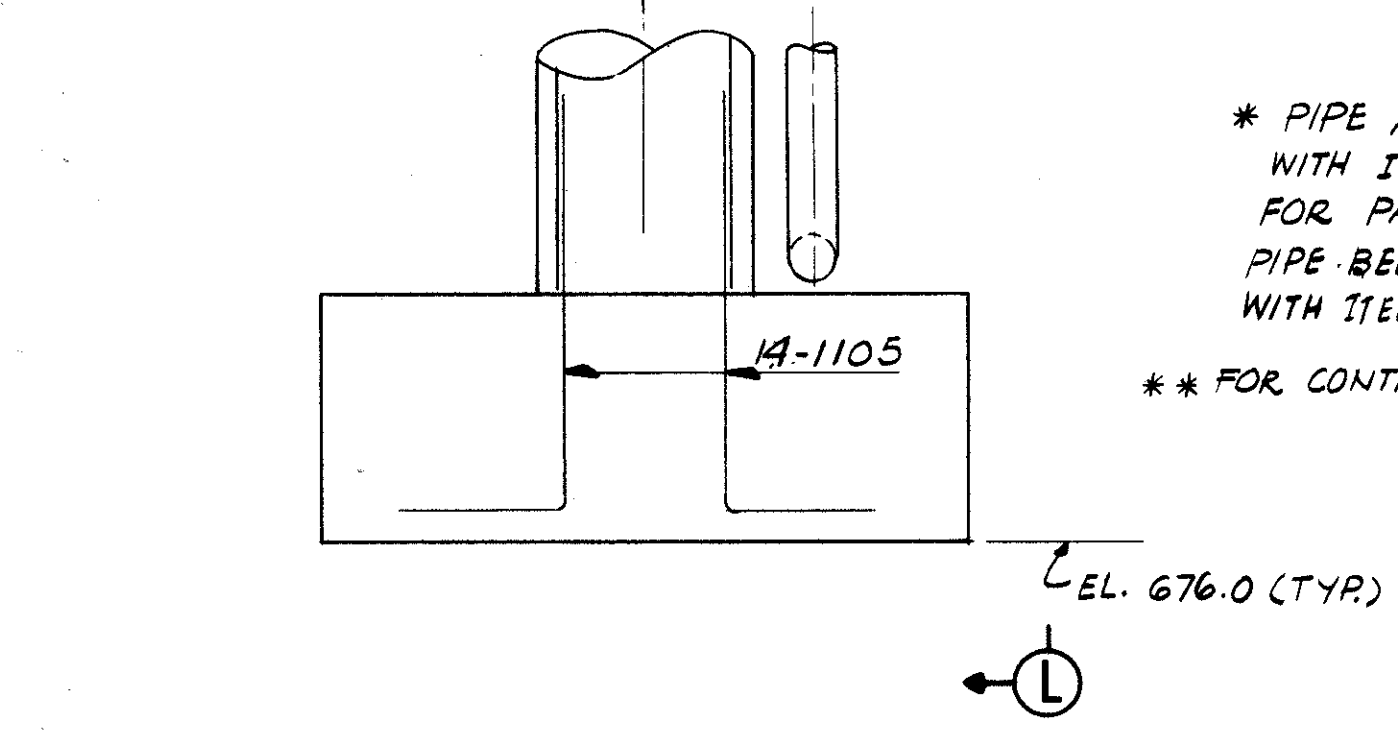
CUYAHOGA COUNTY  
CUY - 90 - 11.64



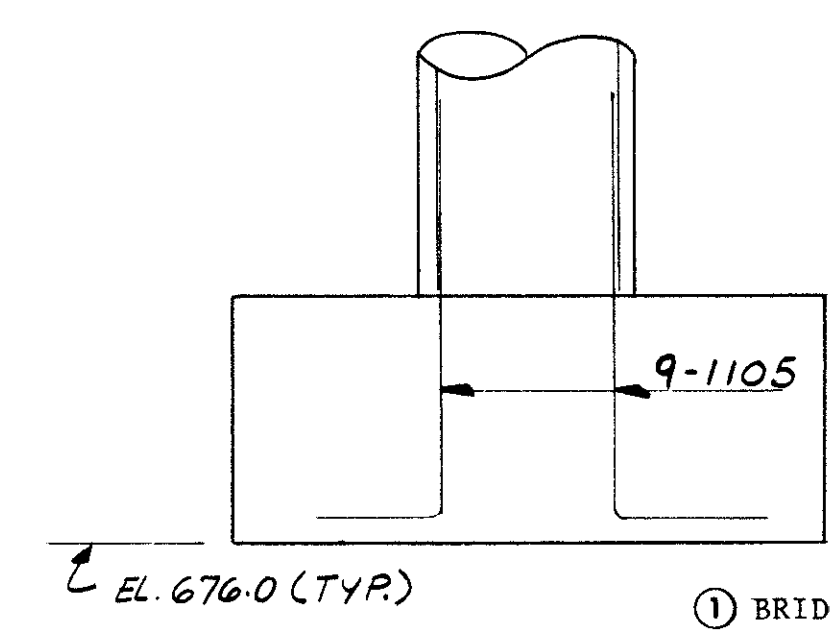
ELEVATION (PIER P-2 LEFT)  
(FOR DETAILS & REINFORCEMENT NOT SHOWN SEE PIER P-1 LEFT BEND SHEET 9/17)

ELEVATION (PIER P-2 RIGHT)  
(FOR DETAILS & REINFORCEMENT NOT SHOWN, SEE PIER P-1 RIGHT BEND SHEET 9/17)

\* PIPE ABOVE THIS LINE TO BE INCLUDED WITH ITEM 518 "COLLECTOR SYSTEM" FOR PAYMENT. FOR CONTINUATION SEE SHEET 15/17  
\*\* FOR CONTINUATION OF PIPE, SEE ROADWAY SHT. 83/838



SECTION L-L  
FOR DETAILS NOT SHOWN, SEE SECTION J-J ABOVE.



- BRIDGE SEAT REINFORCING- SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES OR THE PRESETTING OF BEARING ANCHORS. THIS ONLY APPLIES TO PIER P-2.
- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
- THE PREFIX "1P" OR "2P" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN PIER P-1 OR P-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
- FOR ADDITIONAL DETAILS, SEE SHEETS 9/17
- FOR ADDITIONAL NOTES, SEE SHEET 2/17
- BEARING ANCHORS: AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES) LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.

SHOE R DETAIL  
(TYP. FOR PIER P-2 LEFT & RIGHT BEND)

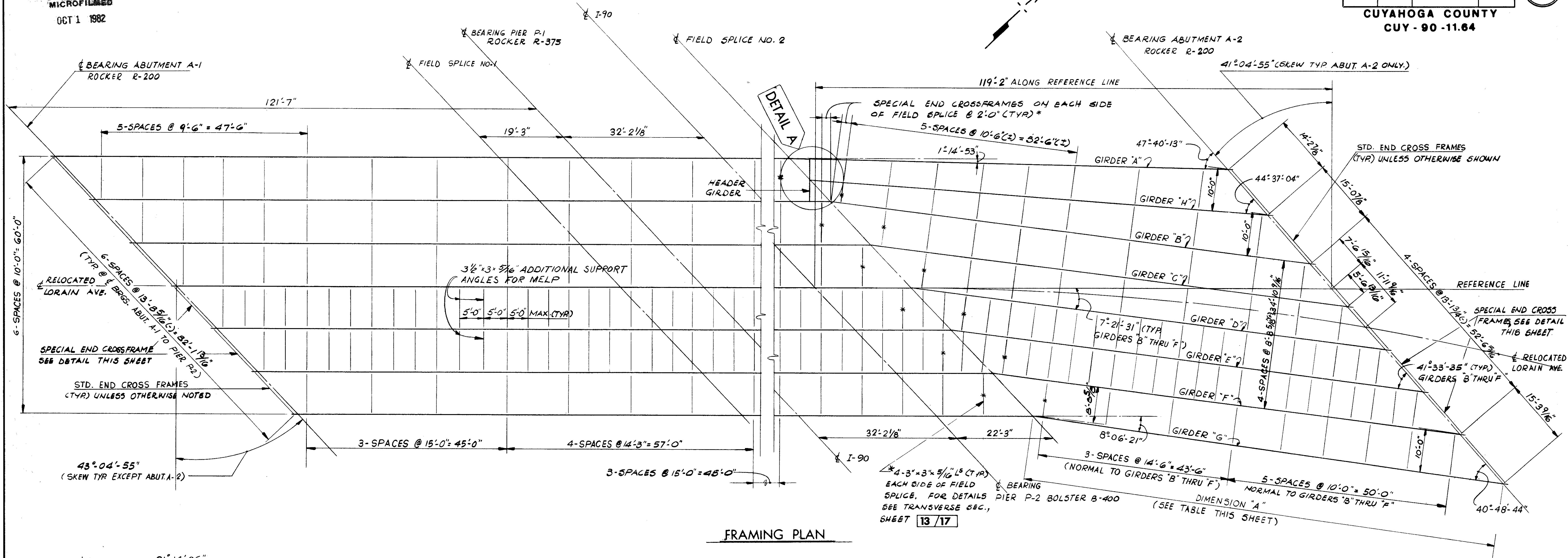
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						10/17
DALTON · DALTON ASSOCIATES						
PIER P-2						
BRIDGE NO. CUY - 90 - 1181 UNDER RELOCATED LORAIN AVE. I-90 CUYAHOGA COUNTY STA. 798 + 61.10						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	A.K.S.		L.B.	R.D.H.	4-30-71	10-31-75

MICROFILMED  
OCT 1 1982

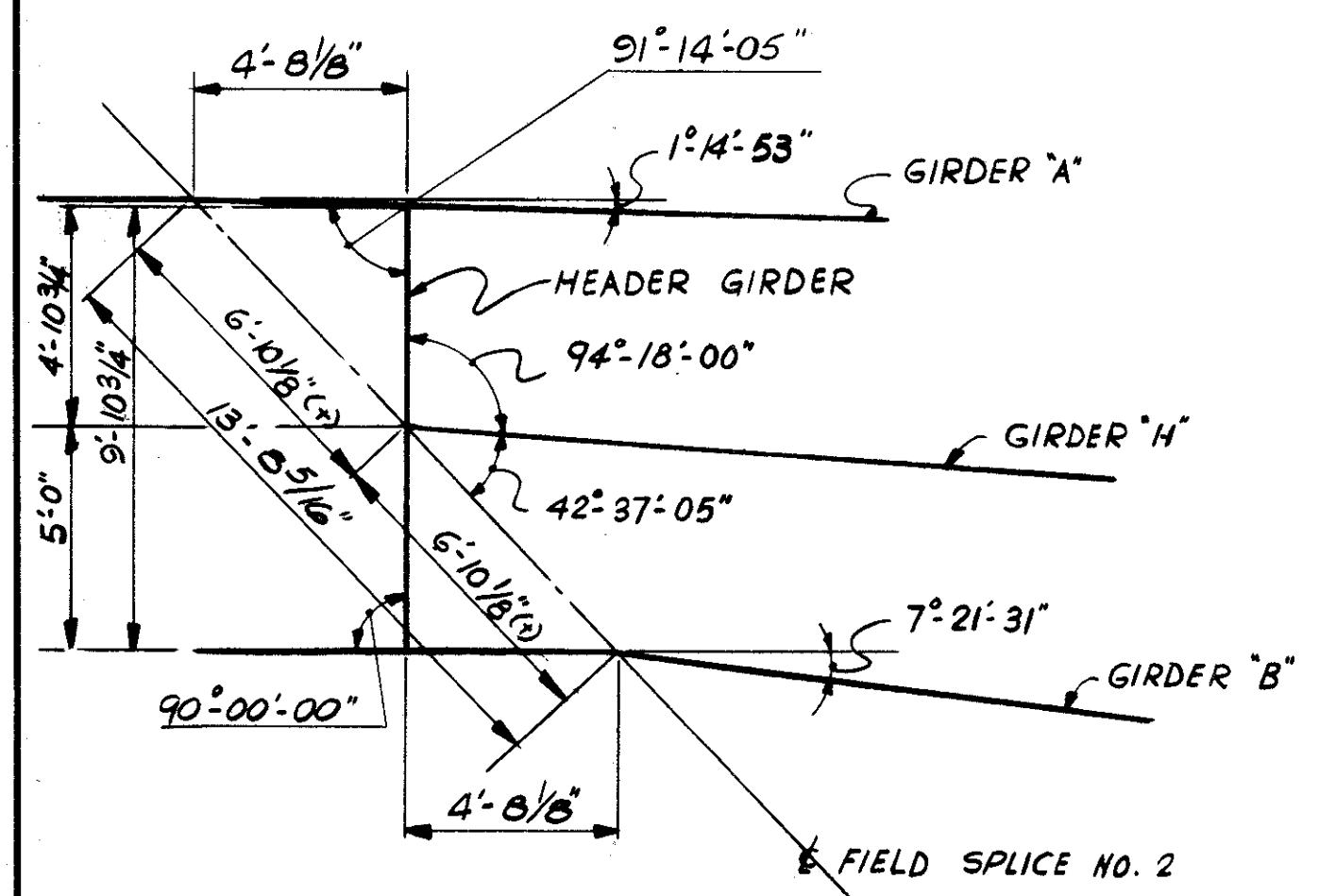
FED. RD.	STATE	PROJECT
2	OHIO	

632  
838

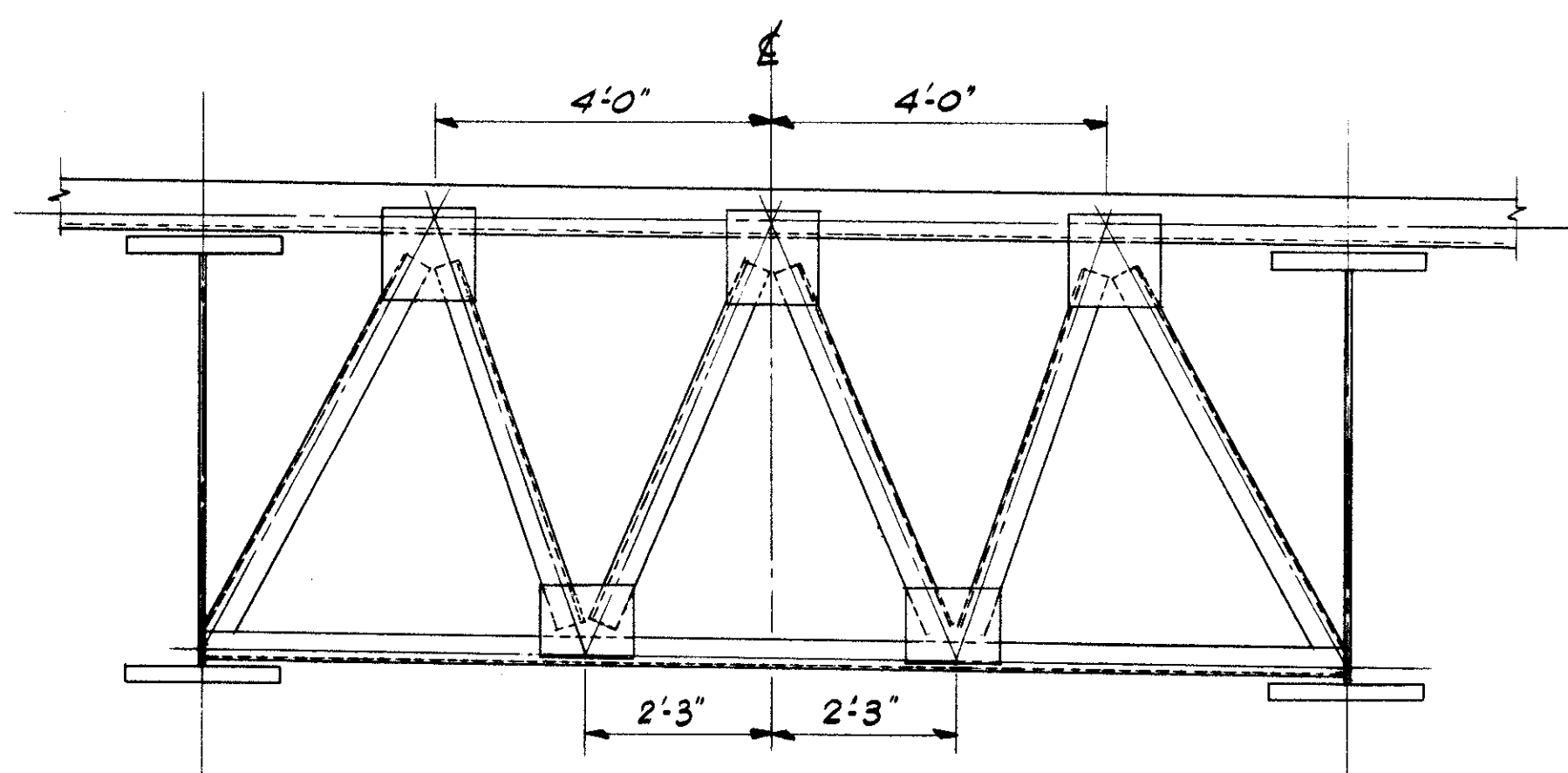
CUYAHOGA COUNTY  
CUY - 90 - 11.64



FRAMING PLAN



DETAIL A



DETAIL  
(SPECIAL END CROSSFRAME)  
FOR DETAILS NOT SHOWN, SEE STD. DRAWING  
50-1-69 SHEET NO. 1.

NOTES

- ① FOR ROCKER AND BOLSTER DETAILS SEE SHEET 14/17
- ② FOR GIRDER DETAILS, SEE SHEET 12/17
- ③ FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 14/17 & 15/17

WELDED ATTACHMENTS FOR FINISHING MACHINE SUPPORTS MAY BE MADE THE FULL LENGTH OF FACIA BEAMS. ATTACHMENT DETAILS SHALL NOT EMPLOY FILLET WELDS LONGER THAN 2 INCHES OR BE CLOSER THAN 1 INCH FROM EDGE OF FLANGE.

GIRDER	DIMENSION
A	100'-9 1/16"
B	111'-6 3/4"
C	110'-10 1/16"
D	110'-17 1/16"
E	109'-4 13/16"
F	108'-8 1/8"
G	109'-6 15/16"
H	105'-8 1/2"

11 / 17

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**FRAMING PLAN**  
BRIDGE NO. CUY - 90 - 11.81  
UNDER RELOCATED LORAIN AVE.  
I-90 CUYAHOGA COUNTY  
STA. 798 + 61.10

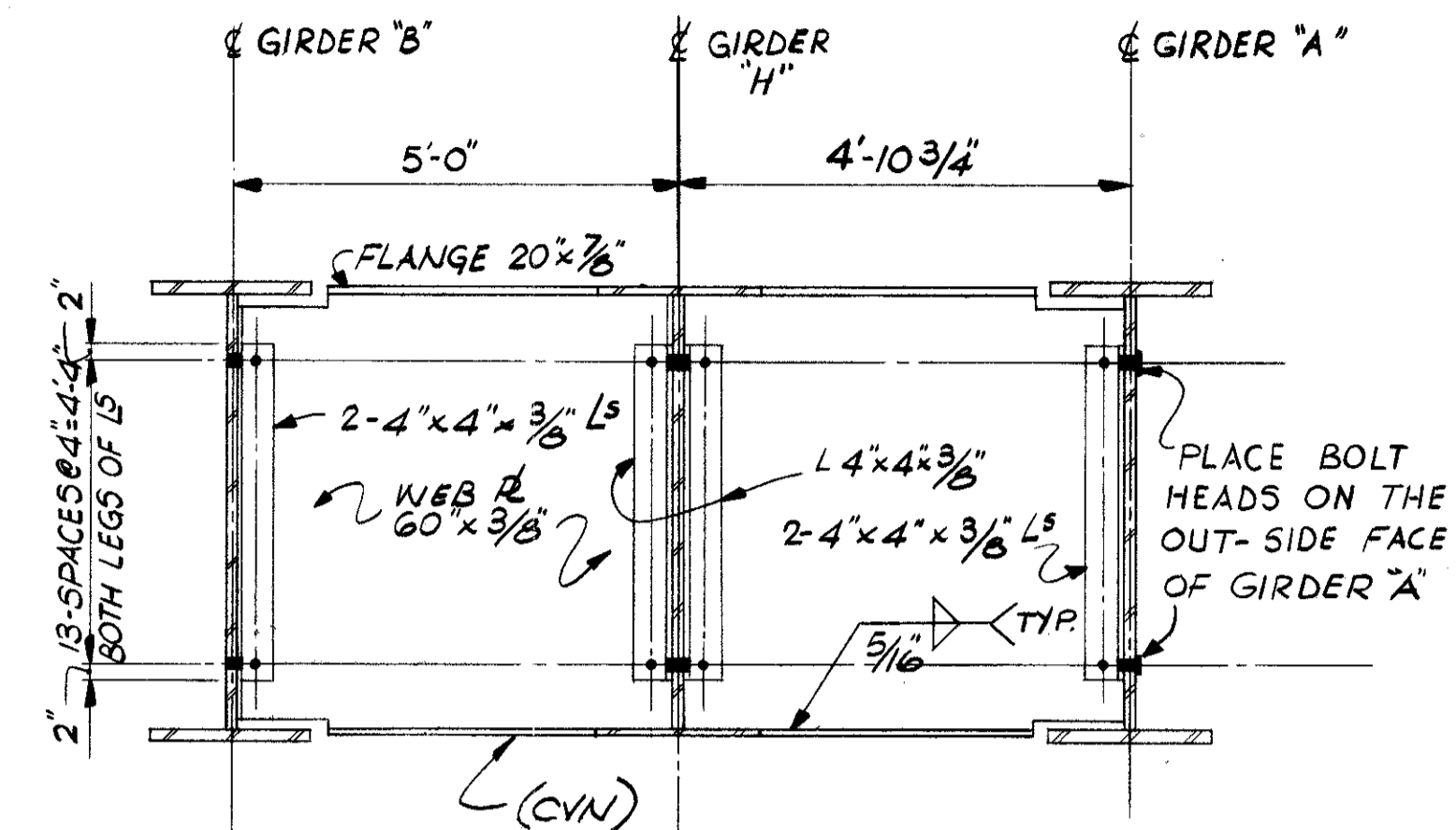
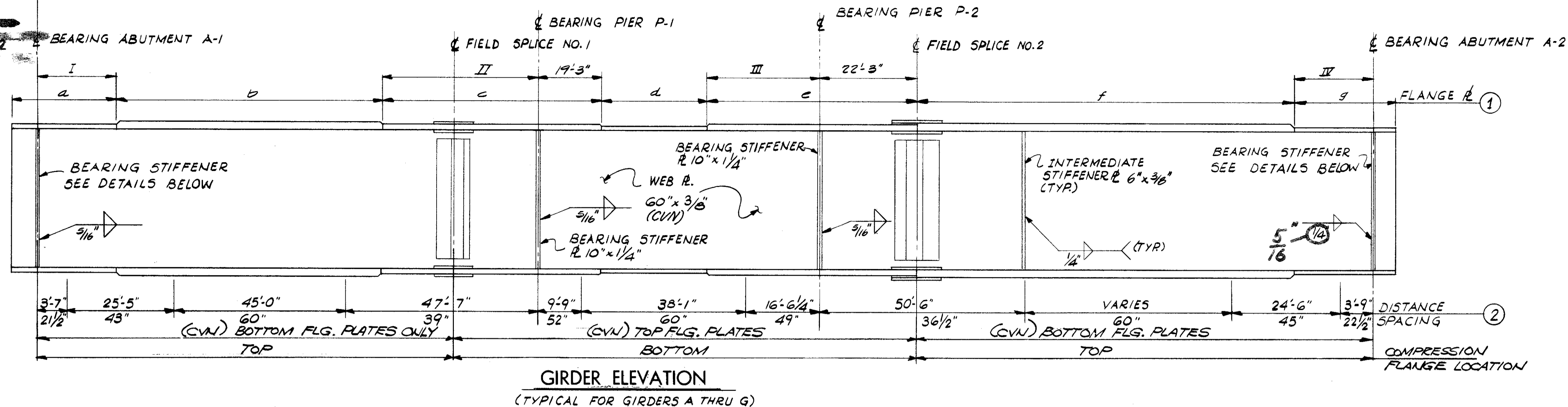
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
A.K.S.	A.K.S.		R.J.P.	R.D.H.	4-30-71	

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT	
2	OHIO		

633  
838

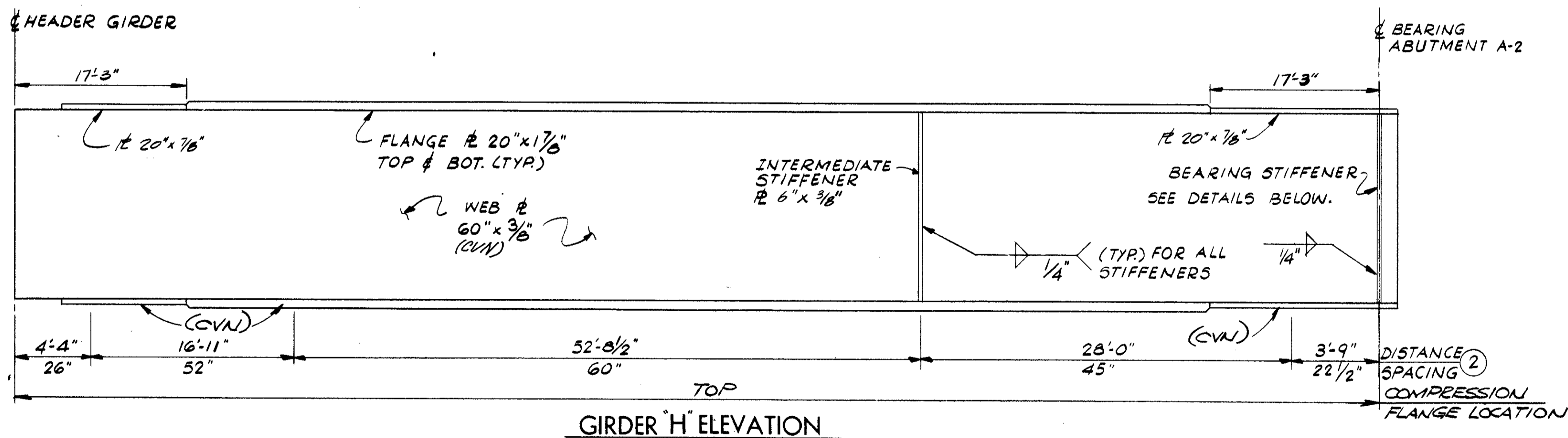
CUYAHOGA COUNTY  
CUY - 90 - 11.64



ALL BOLTS FOR HEADER CONNECTION TO BE 1"  $\phi$  HIGH STRENGTH STEEL BOLTS.

GIRDER DETAIL SCHEDULE

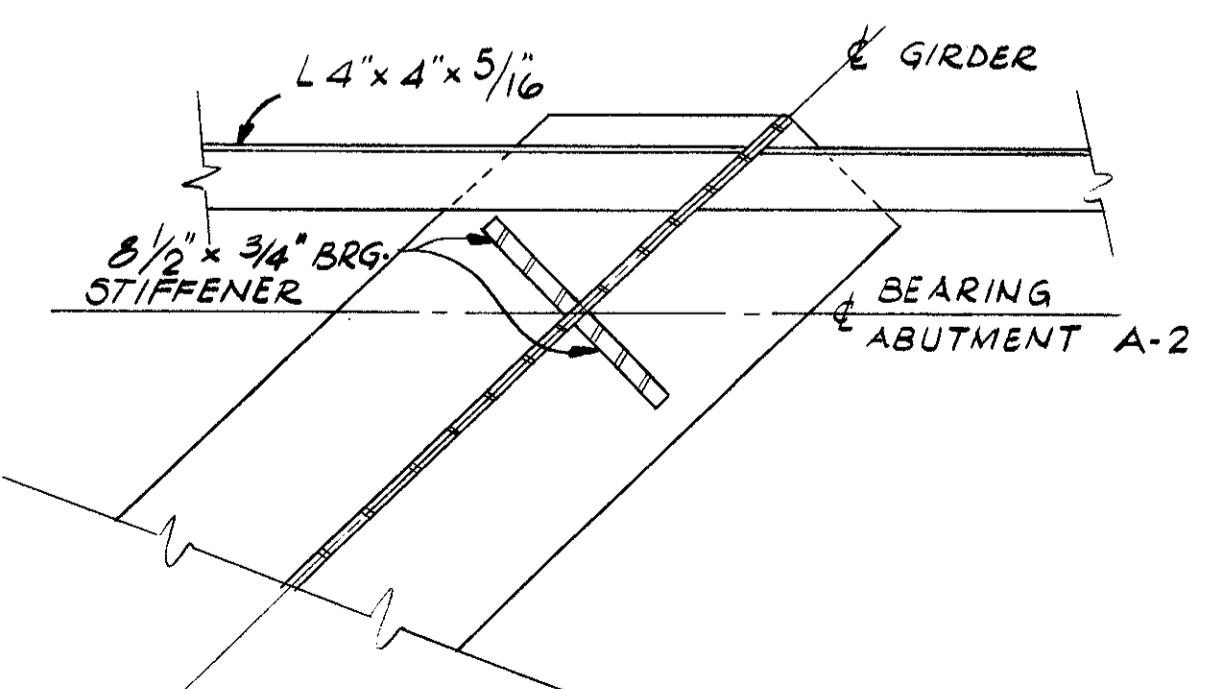
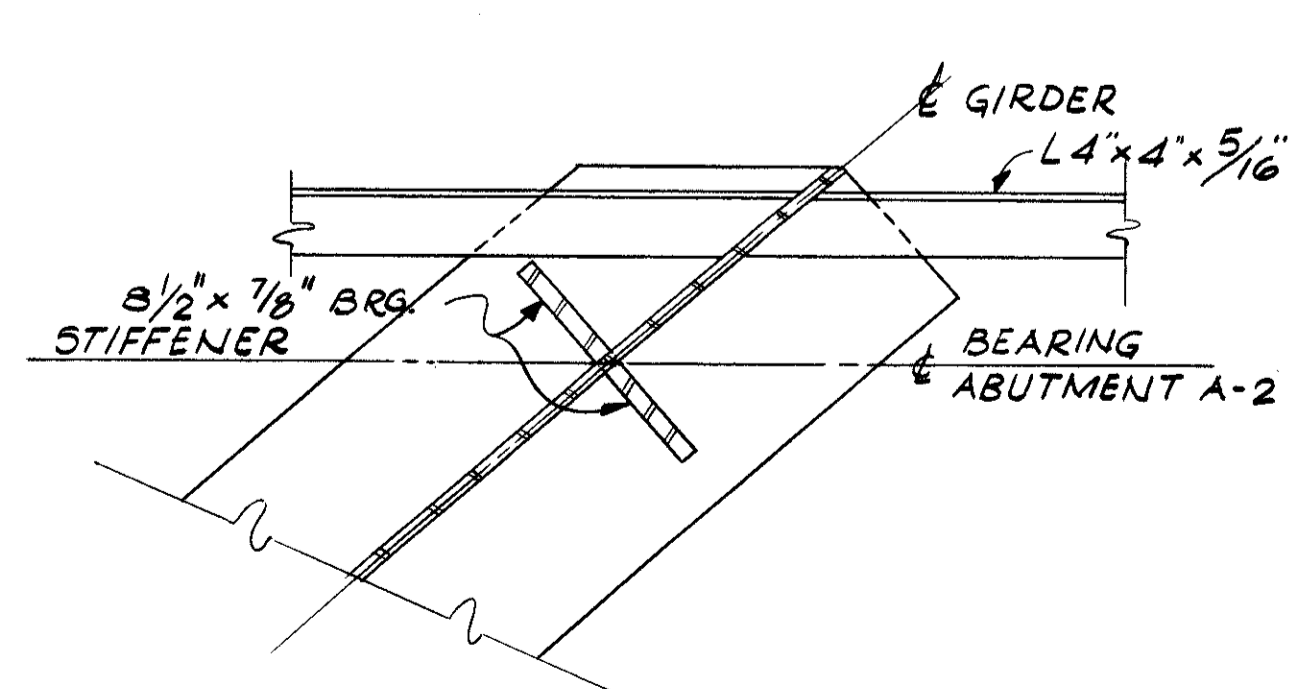
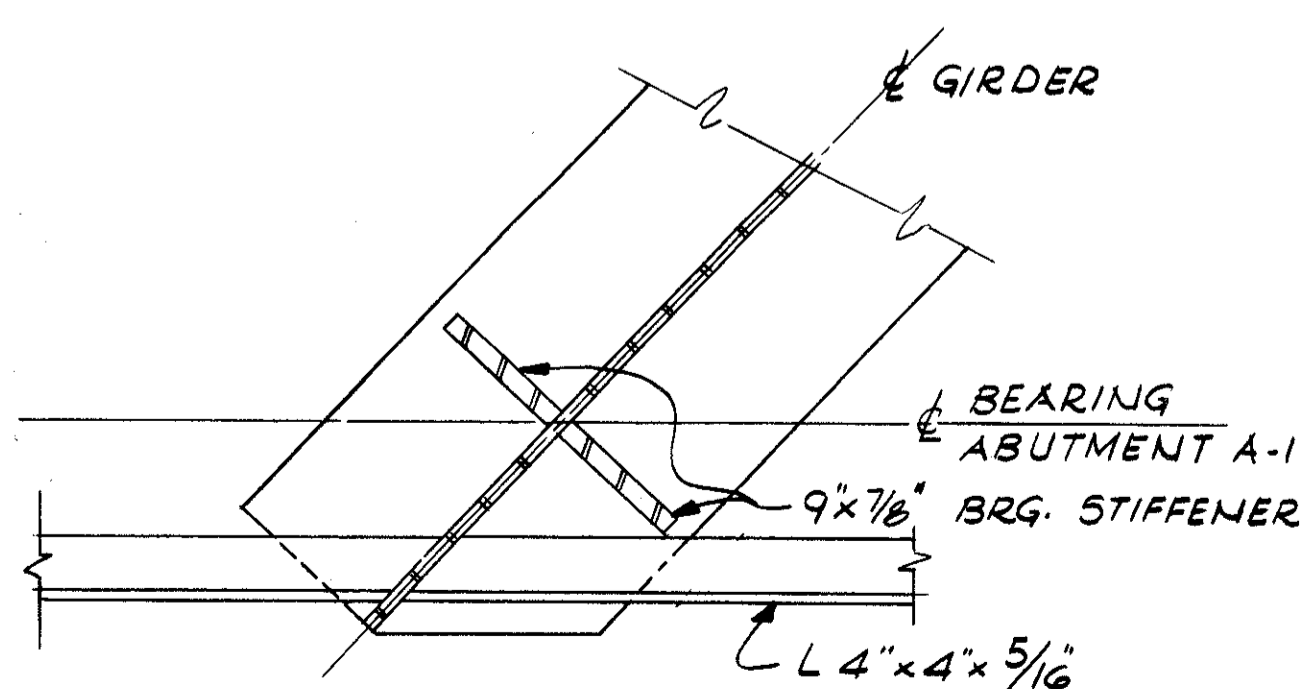
GIRDERS	DIMENSIONS				FLANGE PLATES						
	I	II	III	IV	a	b	c	d	e	f	g
A+B	23'-6"	40'-0"	23'-9"	25'-3"	1 3/8" x 22"	2" x 22"	1 3/8" x 22"	1 1/8" x 22"	2" x 22"	2 1/8" x 22"	1 3/8" x 22"
C & D	16'-3"	43'-0"	19'-3"	17'-0"	1" x 22"	2 1/8" x 22"	1 1/2" x 22"	1 1/8" x 22"	1 3/8" x 22"	2 1/8" x 22"	1" x 22"
E, F & G	15'-3"	43'-0"	19'-3"	16'-3"	1" x 22"	2 1/8" x 22"	1 3/8" x 22"	1 1/8" x 22"	1 3/8" x 22"	2 1/8" x 22"	1" x 22"



NOTES

- TOP AND BOTTOM FLANGE PLATES ARE TO BE THE SAME, EXCEPT FOR THE "CVN" REQUIREMENTS, AND SHALL BE SPICED AT POINTS SHOWN ON THE GIRDER ELEVATION.
- INTERMEDIATE STIFFENERS SHALL BE PLACED IN PAIRS EQUALLY SPACED BETWEEN FIELD SPLICE ANGLES AND/OR CROSSFRAME STIFFENERS AND/OR BEARING STIFFENERS IN ACCORDANCE WITH MAXIMUM STIFFENER SPACING SHOWN ON THE GIRDER ELEVATION.
- ALL GIRDER FIELD SPLICES SHALL BE MADE WITH 1"  $\phi$  HIGH STRENGTH STEEL BOLTS. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR GIRDERS AND ON THE BOTTOM OF ALL FLANGE PLATES.
- FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 14/17 & 15/17
- INTERMEDIATE STIFFENERS FOR GIRDERS D THROUGH F SHALL BE PUT IN PAIRS FOR SUPPORT ANGLES. THEREFORE, INTERMEDIATE STIFFENER SPACING SHALL BE DIFFERENT FROM THE OTHER GIRDERS WHERE REQUIRED.

FLANGE WELD SIZE SCHEDULE	
THICKNESS OF FLANGE (INCHES)	SIZE OF FILLET WELD (INCHES)
7/8", 1", 1 1/8", 1 1/4", 1 1/2"	5/16"
1 5/8", 1 3/4", 1 7/8", 2", 2 1/8"	3/8"



STEEL ERECTION: DURING THE ERECTION OF END DAMS AND CROSSFRAMES, CARE SHALL BE TAKEN TO INSURE THAT STRINGERS, BEARING PARTS AND BRIDGE SEATS REMAIN IN BEARING CONTACT.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**GIRDER DETAILS**

BRIDGE NO. CUY - 90 - 1181  
UNDER RELOCATED LORAIN AVE.  
I - 90 CUYAHOGA COUNTY  
STA. 798 + 61.10

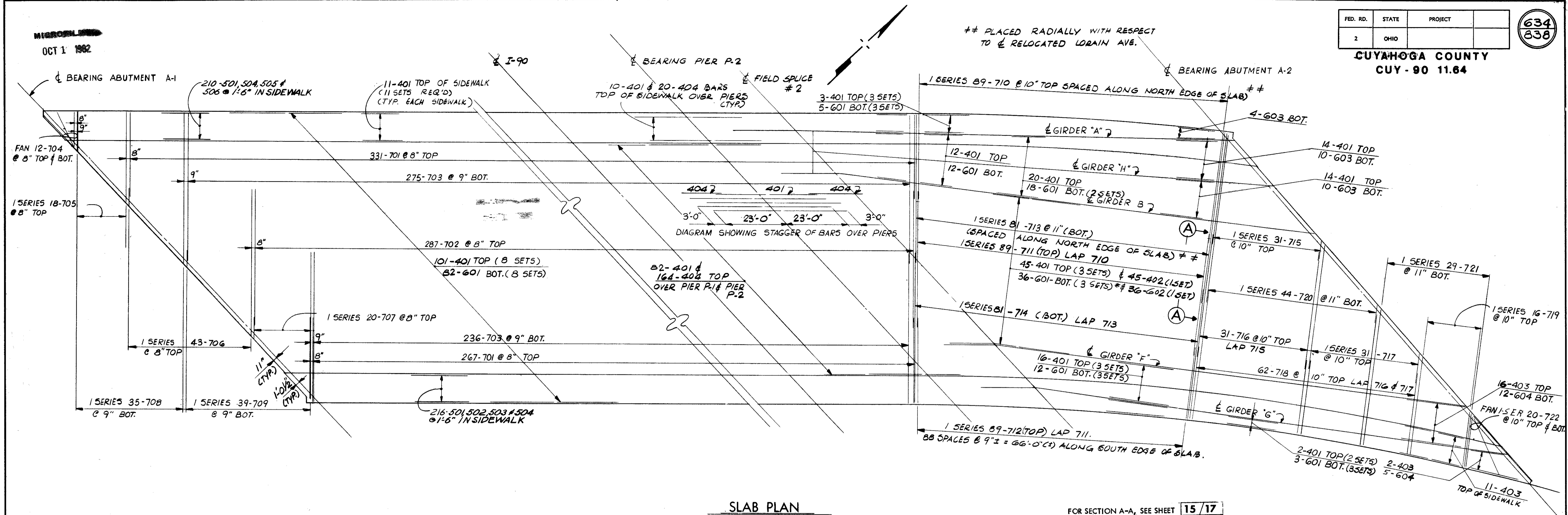
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	A.K.S.		H.S.L.	R.D.H.	4-30-71	10-31-75



MICROFILMED  
OCT 1 1982

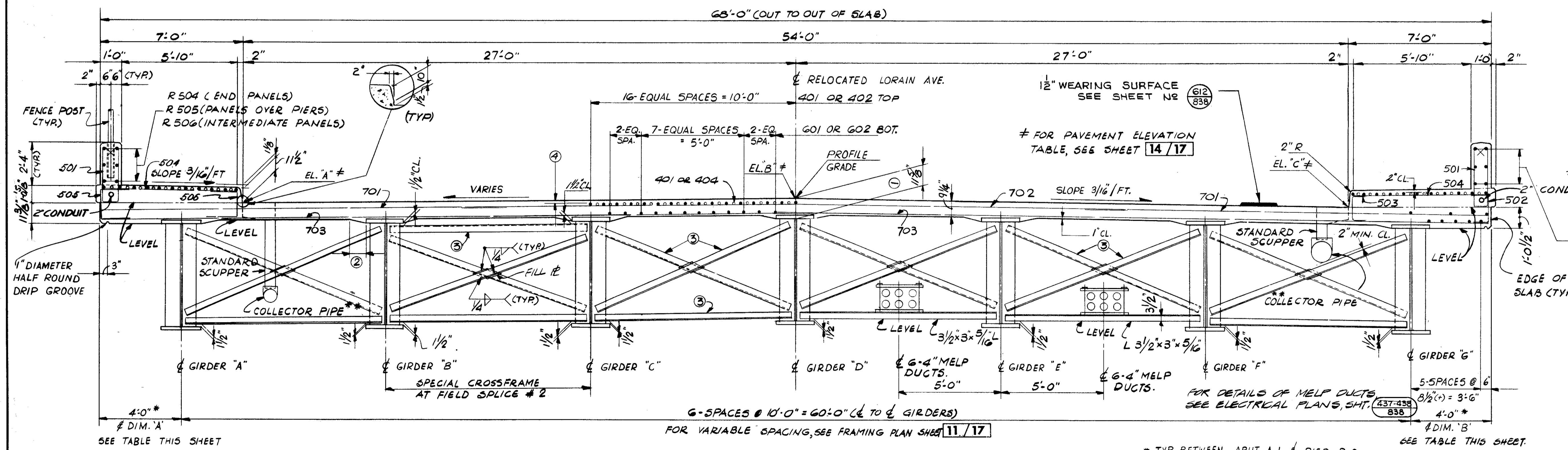
FED. RD.	STATE	PROJECT	634 838
2	OHIO		

CUYAHOGA COUNTY  
CUY-90 11.64



SLAB PLAN

FOR SECTION A-A, SEE SHEET 15/17



TRANSVERSE SECTION

SLAB OFFSETS \*\*\*  
SEE TRANSVERSE SECTION

LOCATION	A	B
CL F.S. #2	4'-0"	4'-6 3/8"
1/4	4'-2 1/4"	3'-7 1/2"
1/2	4'-9 5/8"	2'-1 1/4"
3/4	4'-3 5/8"	2'-7"
CL BRG. A-2	2'-2 3/4"	5'-0 3/4"

\*\*\* SLAB OFFSETS ARE MEASURED FROM THE CENTERLINE OF GIRDER AT THE LOCATION LISTED RADIALLY TO THE EDGE OF SLAB FOR SLAB OFFSET TABLE.  
QUARTER POINTS ARE MEASURED ALONG EXTERIOR GIRDERS.

R 501 (END PANELS)  
R 502 (PANELS OVER PIERS)  
R 503 (INTERMEDIATE PANELS)  
FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 14/17 & 15/17

FOR NOTES, SEE SHEET 14/17

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SLAB PLAN & SECTION  
BRIDGE NO. CUY-90-1181  
UNDER RELOCATED LORAIN AVE.  
I-90 CUYAHOGA COUNTY  
STA. 798 +61.10

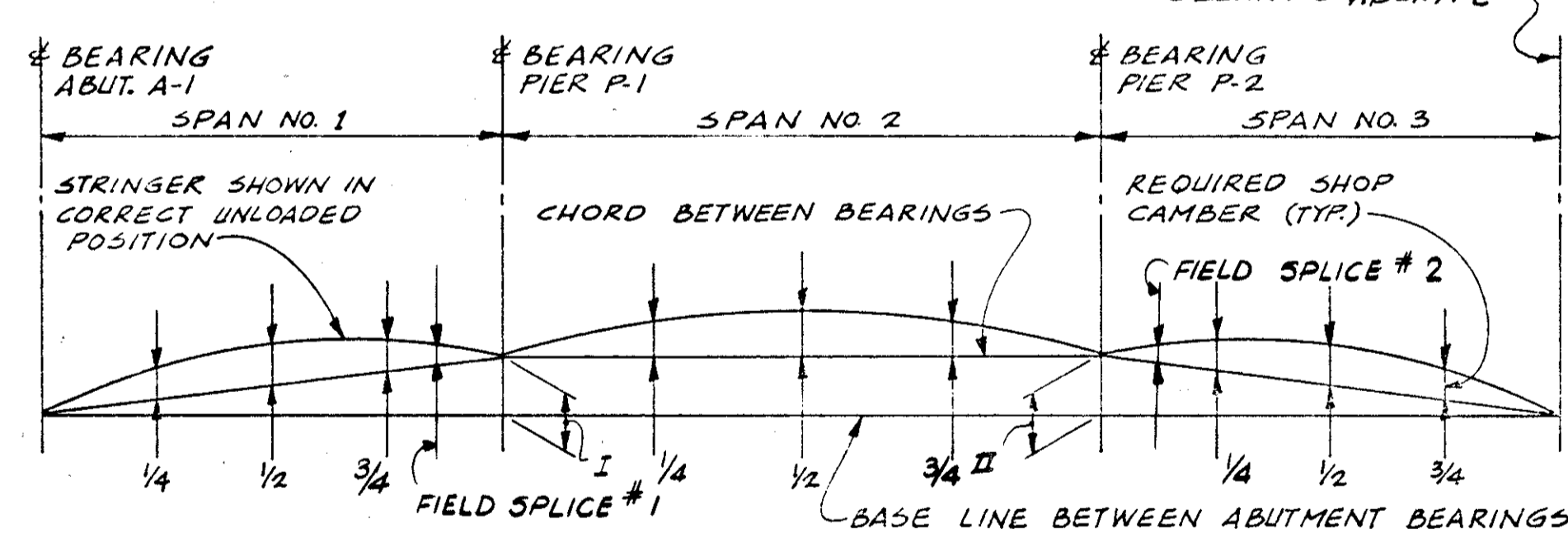
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AKS	AKS		R.J.P.	R.D.H.	4-30-71	

\* TYP. BETWEEN ABUT. A-1 & PIER P-2  
\*\* FOR COLLECTOR SYSTEM DETAILS, SEE SHEET 15/17

**DEFLECTION AND CAMBER**

SPANS		SPAN NO. 1			SPAN NO. 2			SPAN NO. 3				
POINTS	GIRDER	1/4	1/2	3/4	FIELD SPLICE NO. 1	1/4	1/2	3/4	FIELD SPLICE NO. 2	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	A	7/16	9/16	3/8	1/4	-1/8	-3/16	-1/8	5/16	7/16	5/8	7/16
	B									1/2	13/16	5/8
	C&D									1/2	3/4	9/16
	E THRU G	7/16	9/16	3/8	1/4	-1/8	-3/16	-1/8	5/16	7/16	11/16	9/16
DEFLECTION DUE TO REMAINING DEAD LOAD	A	1 1/2"	1 5/8"	1 1/4"	1 3/16"	-3/8"	-1/2"	-3/8"	1 3/16"	1 1/8"	1 3/4"	1 9/16"
	B	1 1/2"	2"	1 1/4"	3/4"				7/8"	1 3/8"	2 1/8"	1 5/8"
	C&D	1 5/16"	1 3/16"	1 1/16"	3/4"				7/8"	1 5/16"	2 1/16"	1 9/16"
	E&F	1 3/4"	1 1/8"	1 1/16"					1 3/16"	1 1/4"	2"	1 1/2"
ADJUSTMENT REQUIRED FOR VERT. & HOR. CURVE	A	1 3/4"	1 3/4"	1/2"	1/4"	0	0	0	1/16"	1/16"	5/16"	3/4"
	B	1 5/8"	1 5/8"	9/16"	5/16"				7/16"	9/16"	1 3/16"	3/8"
	C	1 1/2"	1 3/16"	1 1/16"	3/8"				1/4"	3/8"	1/4"	0
	D	1 9/16"	1 5/16"	5/8"	3/8"				1/4"	1/16"	-3/8"	-5/16"
	E	1 3/16"	7/8"	3/8"	1/4"				1/8"	-1/16"	-7/16"	-3/8"
	F	3/4"	9/16"	3/16"	3/16"				1/16"	-1/8"	-7/16"	-7/16"
	G	5/16"	1/4"	3/16"	1/16"	0	0	0	0	-3/16"	-1/2"	-7/16"
	G	3 11/16"	4 1/4"	2 1/8"	1 5/16"	-1/2"	-1 1/16"	-1/2"	1 3/16"	1 5/8"	2 7/16"	2 1/2"
REQUIRED SHOP CAMBER	A	3 9/16"	3 7/8"	2 3/16"	1 9/16"				1 5/8"	2 7/16"	3 3/4"	2 5/8"
	B	3 1/4"	3 9/16"	2 1/4"	1 3/8"				1 11/16"	2 3/16"	3 1/16"	2 1/8"
	C	3 5/16"	3 11/16"	2 3/16"	1 7/8"				1 7/8"	1 7/8"	2 7/16"	1 9/16"
	D	2 15/16"	3 3/16"	1 7/8"	1 3/16"				1 1/4"	1 5/8"	2 1/4"	1 1/16"
	E	2 1/2"	2 7/8"	1 11/16"	1 1/8"				1 3/16"	1 9/16"	2 1/4"	1 5/8"
	F	2 1/16"	2 5/8"	1 3/4"	1 1/16"				1 3/16"	1 9/16"	2 1/4"	1 5/8"
	G	2 1/16"	2 5/8"	1 3/4"	1 1/16"	1/2"	1 1/8"	1/2"	1 3/16"	1 1/2"	2 1/4"	1 11/16"
	G	3 11/16"	4 1/4"	2 1/8"	1 5/16"	-1/2"	-1 1/16"	-1/2"	1 3/16"	1 5/8"	2 7/16"	2 1/2"

NOTE: MINUS VALUES FOR DEFLECTIONS INDICATE DIMENSIONS ABOVE THE CHORD BETWEEN THE BEARINGS. MINUS VALUES FOR CAMBER INDICATE DIMENSIONS BELOW THE CHORD BETWEEN THE BEARINGS.



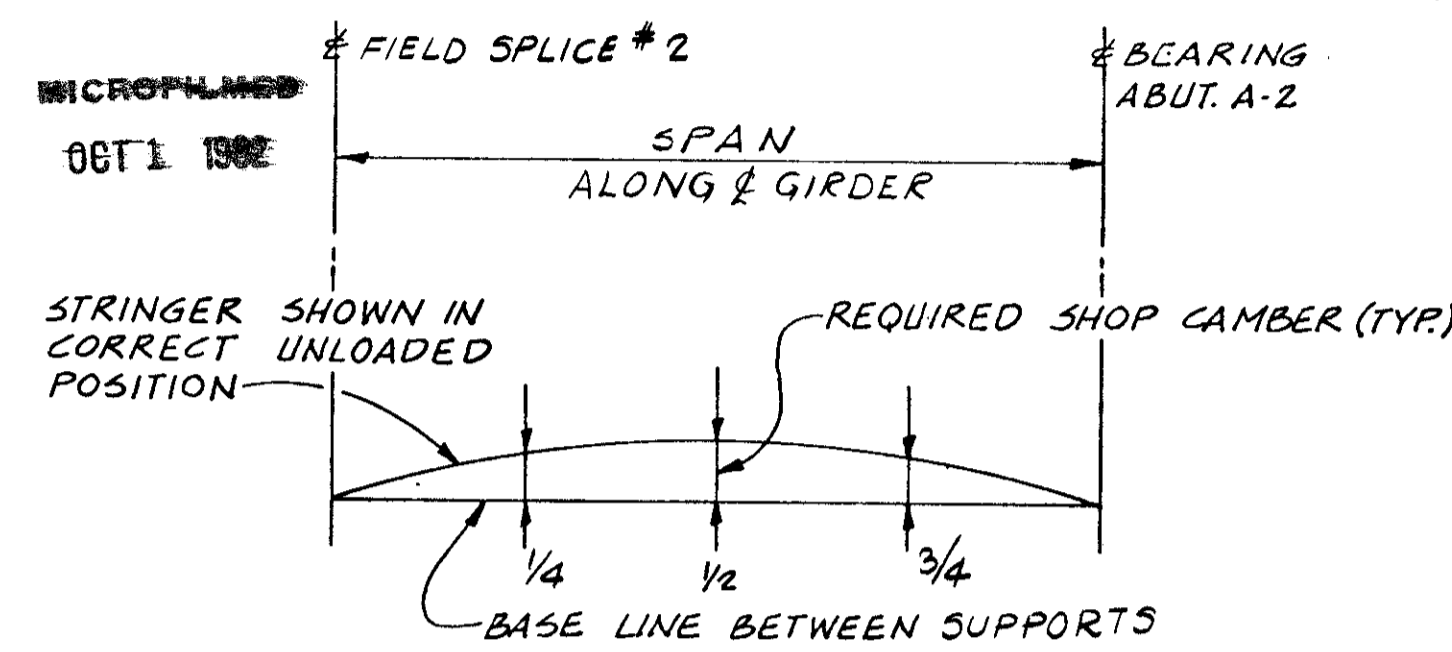
**LAYOUT DIAGRAM**

(TYP.) FOR GIRDERS 'A' THRU 'G'  
SEE LAYOUT DIAGRAM OFFSET TABLE BELOW  
NOTE: DIMENSIONS ARE ALONG G GIRDER

STRINGER	I	II
A	1 3/4"	1 7/16"
B	2 7/16"	2 3/8"
C	2 3/16"	(2 1/4)" - 1 3/8"
D	2"	(1 9/16)" - 1 1/4"
E	1 7/16"	1 1/4"
F	1 5/16"	7/8"
G	5/8"	3/4"

**DEFLECTION AND CAMBER**

GIRDER	"H"		
POINTS	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	5/16"	7/16"	5/16"
DEFLECTION DUE TO REMAINING DEAD LOAD	1"	1 1/16"	1"
ADJUSTMENT REQUIRED FOR HORIZONTAL CURVE	5/16"	5/8"	7/16"
REQUIRED SHOP CAMBER	1 5/8"	2 1/2"	1 3/4"



**LAYOUT DIAGRAM**

FOR GIRDER 'H'

**SCREED ELEVATIONS**

SEE TRANSVERSE SECTION AND NOTE ⑤ AND DETAIL

LOCATION	A	B	C
± BRG. A-1	708.00	708.38	707.82
1/8	708.05	708.37	707.74
1/4	708.08	708.30	707.61
3/8	708.01	708.19	707.47
1/2	707.89	708.01	707.29
5/8	707.71	707.82	707.09
3/4	707.55	707.60	706.87
7/8	707.38	707.37	706.64
± BRG. P-1	707.21	707.14	706.41
1/4	707.05	706.91	706.19
1/2	706.92	706.71	705.98
3/4	706.81	706.53	705.80
± BRG. P-2	706.71	706.36	705.64
1/8	706.64	706.24	705.50
1/4	706.57	706.11	705.37
3/8	706.49	705.97	705.21
1/2	706.39	705.81	705.03
5/8	706.27	705.61	704.81
3/4	706.12	705.38	704.56
7/8	705.88	705.11	704.28
± BRG. A-2	705.63	704.83	703.97

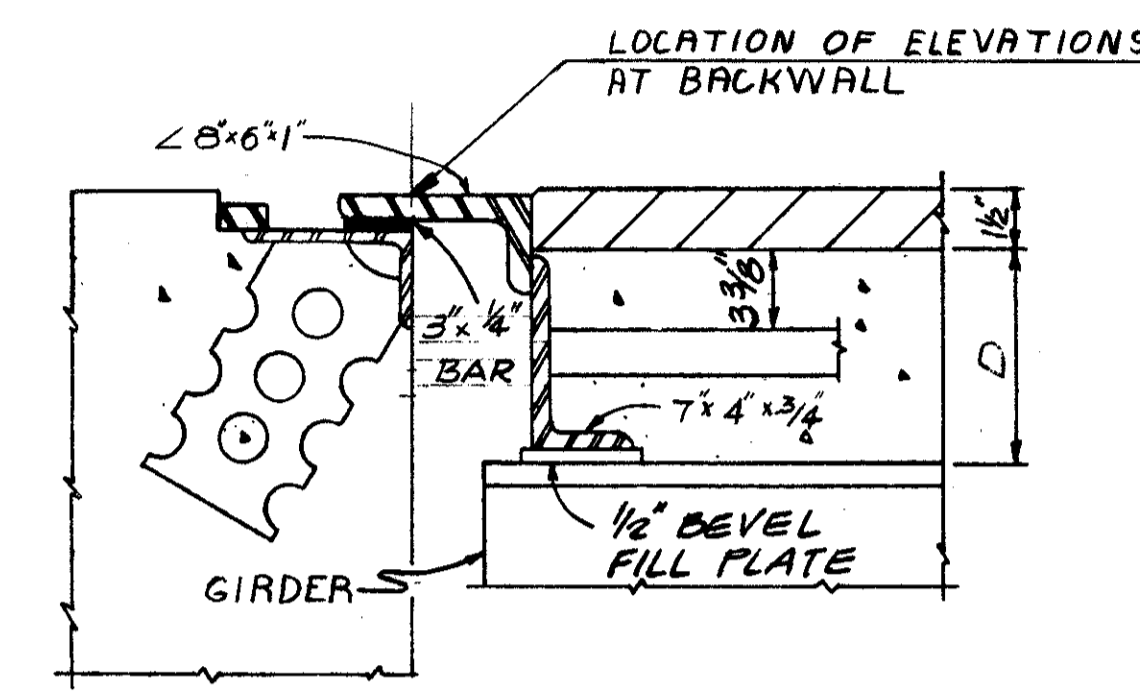
MEASURED ALONG REFERENCE LINE (TYPICAL)

**BEARING UNITS**

BOLSTER NO.	ROCKER NO.	DIMENSIONS (INCHES)												
		A	B	C	D	F	G	H	K	L	M	R	T	Y
B-400		4 1/2	24	4 1/2	4	7/8	14 1/2	23/8	17	33	30	14 1/2	4	2 3/16
	R-375	4	23	4 1/2	3 3/4	7/8	14	22 3/8	16	31	28	14	3 3/4	1 1/16

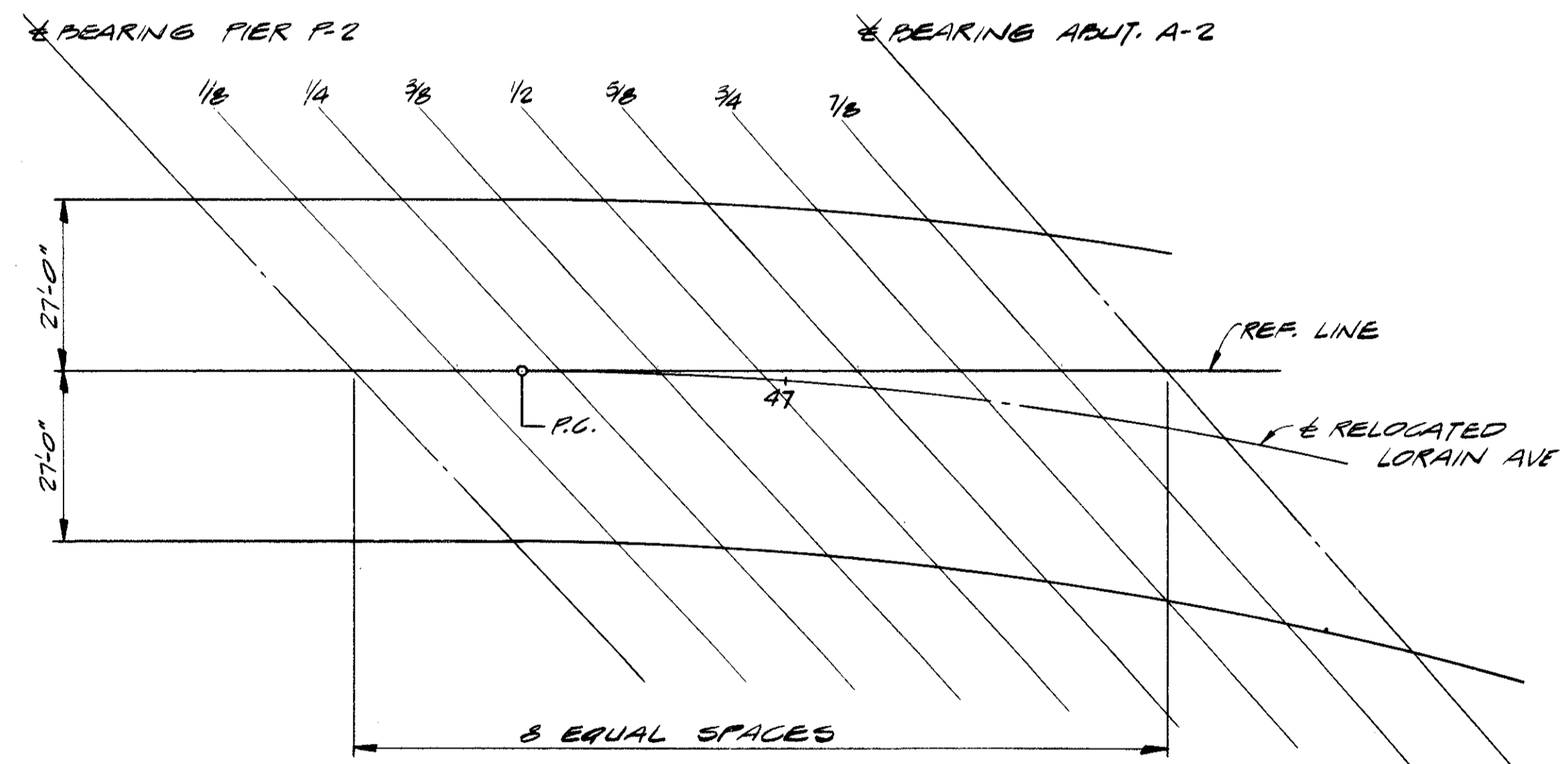
NOTE: FOR DETAILS NOT SHOWN, SEE STANDARD DRAWING RB-1-55. & SHEET 10/17. ANCHOR BOLTS FOR BOLSTER B-400 SHALL BE 1/2" DIAMETER, SET 15" INTO CONCRETE. FOR ADDITIONAL R-200 DETAILS, SEE SHEET 3/17.

KEEPER PLATES ATTACHED TO THE SOLE PLATES OF BEARING UNITS FOR GIRDERS A, B AND H SHALL BE OMITTED.



**SECTION**

ROADWAY END DAM FOR ADDITIONAL DETAILS, SEE STD. DWG. 50-1-69, SHEET 1 OF 4.



**DETAIL**

SHOWING SCREED ELEVATION LOCATIONS IN SPAN NO. 3

DIMENSION "D"		
GIRDER	ABUT. A-1	ABUT. A-2
A & B	10 1/4"	10 1/4"
C - G	10 5/8"	10 5/8"
H		10 3/4"

**NOTES**

- DECK SLAB DEPTH: THE DISTANCE SHOWN FROM THE TOP OF DECK SLAB TO TOP OF WEB PLATE IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 511.18.
- A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.
- INTERMEDIATE CROSS FRAME ANGLES 3 x 3 x 5/16.
- CLEARANCE = 2".
- ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE AND ASPHALT WEARING SURFACE.
- TRANSVERSE REINFORCEMENT SHALL BE FIELD BENT AS REQUIRED AND PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL.
- THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE UNLESS SHOWN OTHERWISE.
- FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 15/17.
- SEE SHEET 612 838 FOR SUBDRAINAGE AND ASPHALT CONCRETE WEARING SURFACE DETAILS.

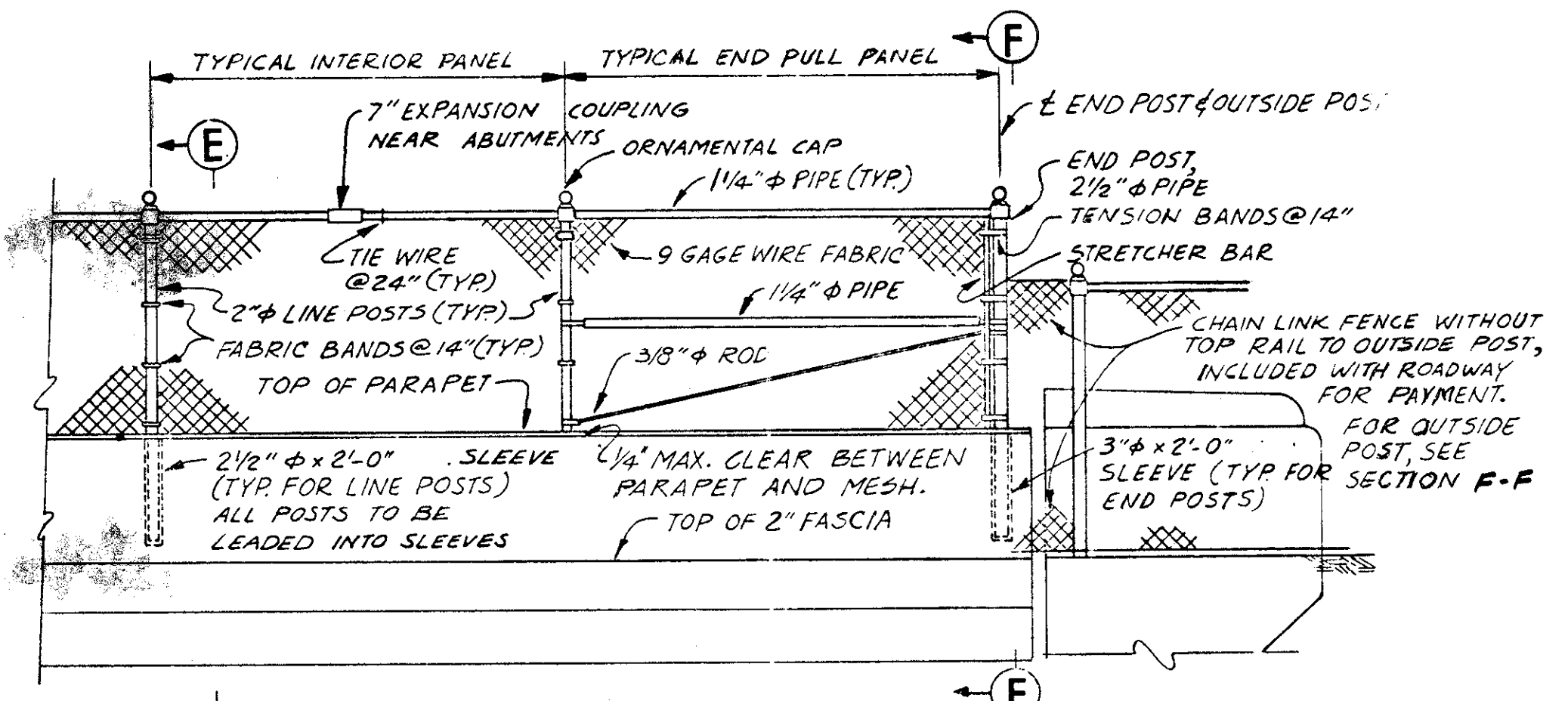
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES 14/17

**DALTON • DALTON ASSOCIATES**

**SUPERSTRUCTURE DETAILS**

BRIDGE NO. CUY - 90 - 11.81  
UNDER RELOCATED LORAIN AVE.  
I-90 CUYAHOGA COUNTY  
STA. 798 + 61.10

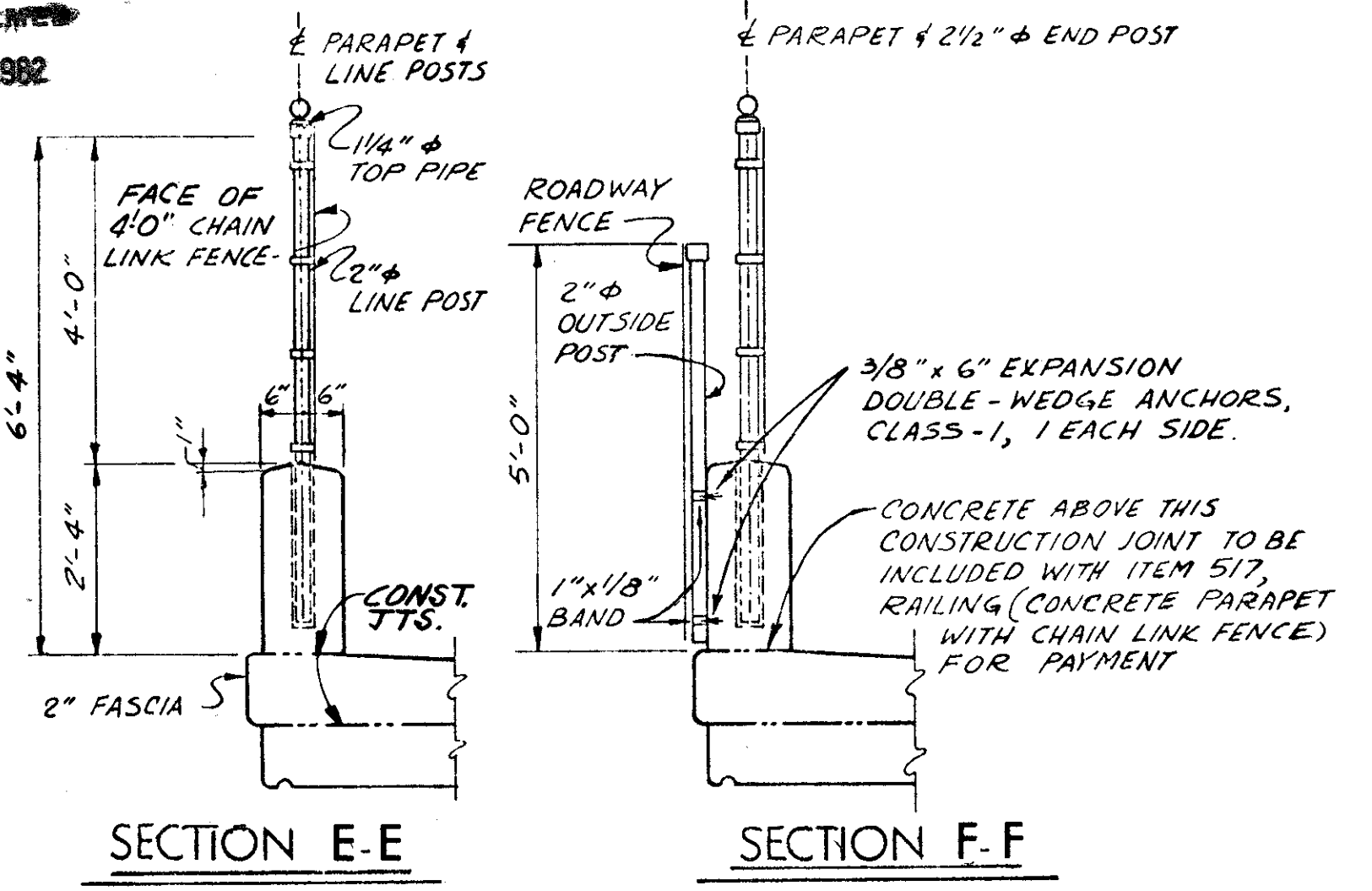
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	A.K.S.		H.S.L.	R.D.H.	4-30-71	11-18-75



**TYPICAL RAILING ELEVATION**

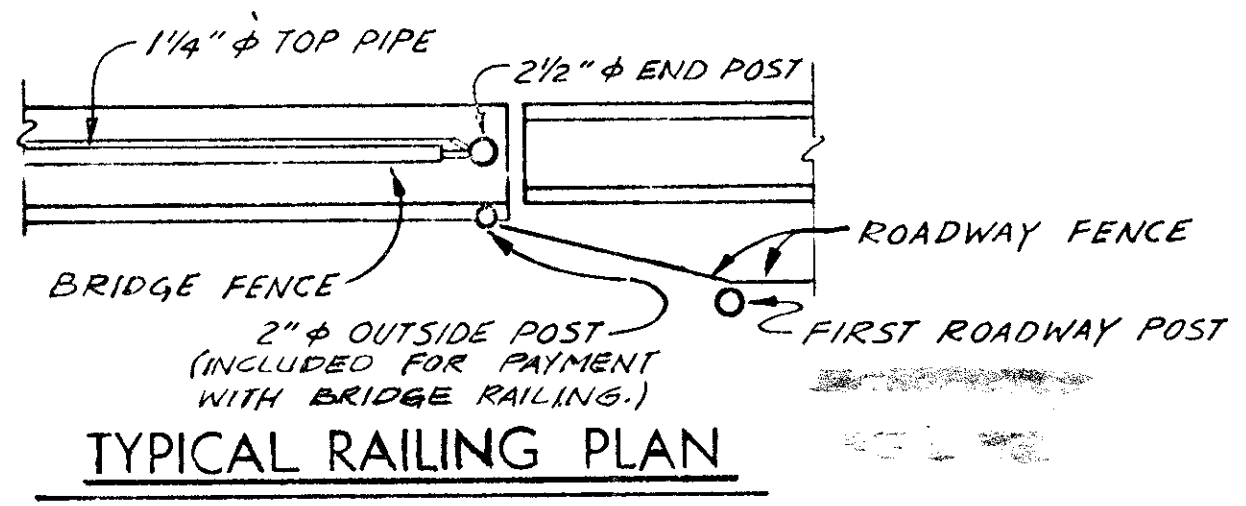
NOTE: ALL POSTS, PIPES AND FITTINGS TO BE GALVANIZED STEEL EXCEPT AS OTHERWISE SHOWN.

MICROFILMED  
OCT 1 1992

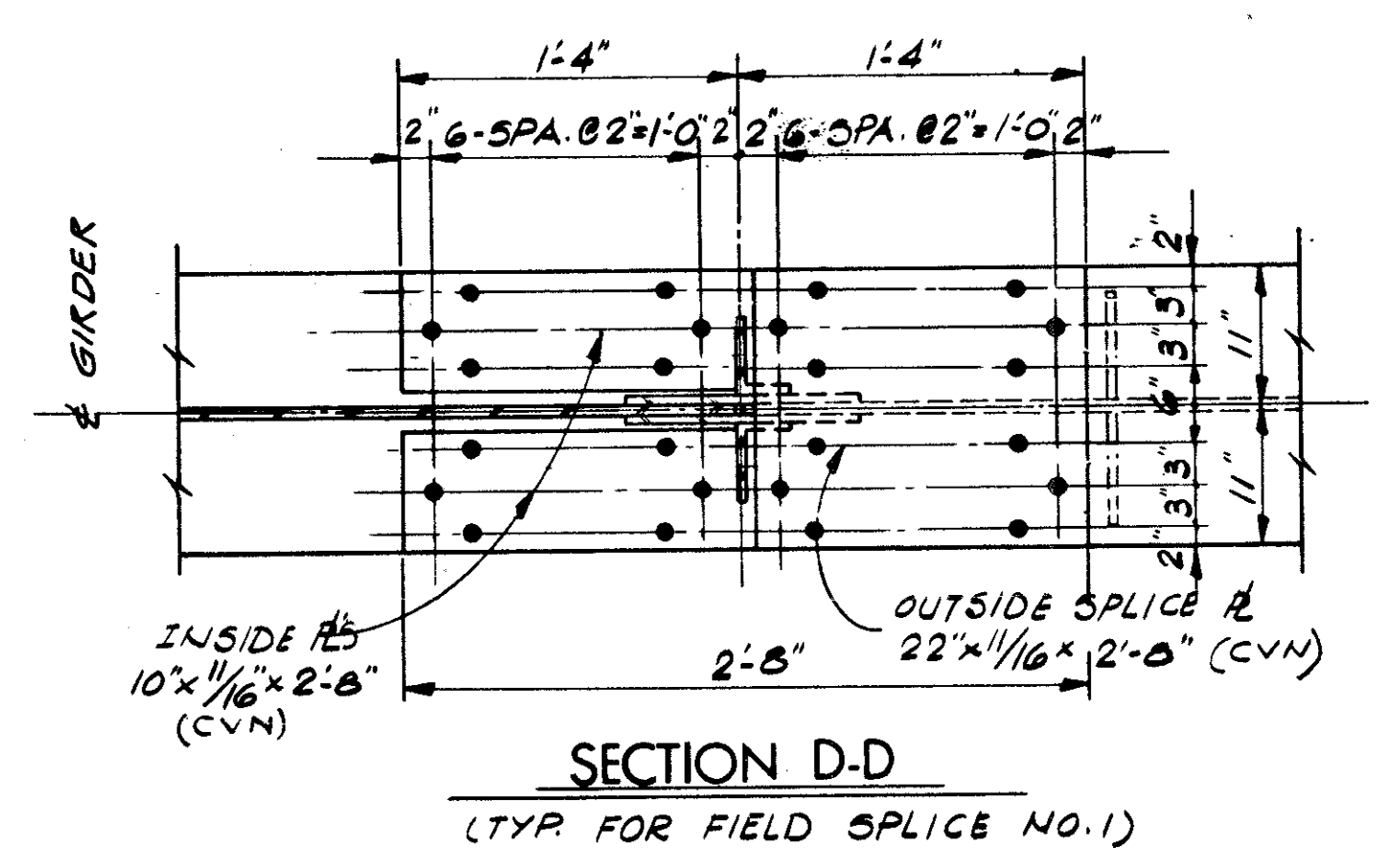


**SECTION E-E**

**SECTION F-F**

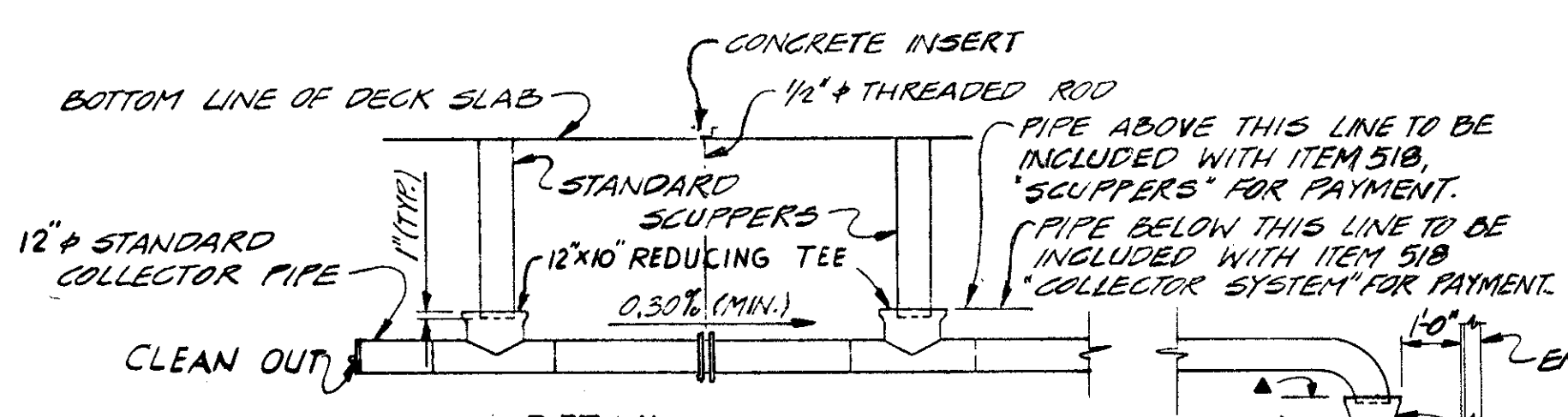


**TYPICAL RAILING PLAN**



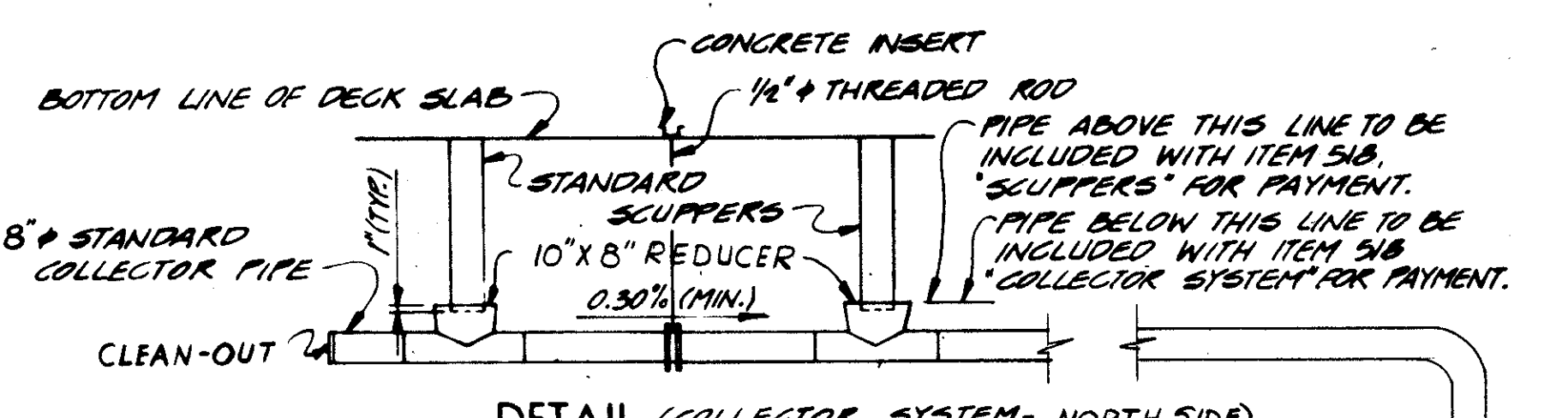
**SECTION D-D**

(TYP. FOR FIELD SPLICE NO. 1)



**DETAIL (COLLECTOR SYSTEM - SOUTH SIDE)**

COLLECTOR PIPE HANGER ASSEMBLY TO BE UNISTRUT, ALSTRUT, KINDORF, OR EQUAL. INCLUDE HANGERS WITH ITEM 518 "COLLECTOR SYSTEM" FOR PAYMENT. 10'-0" MAX. SPACING.



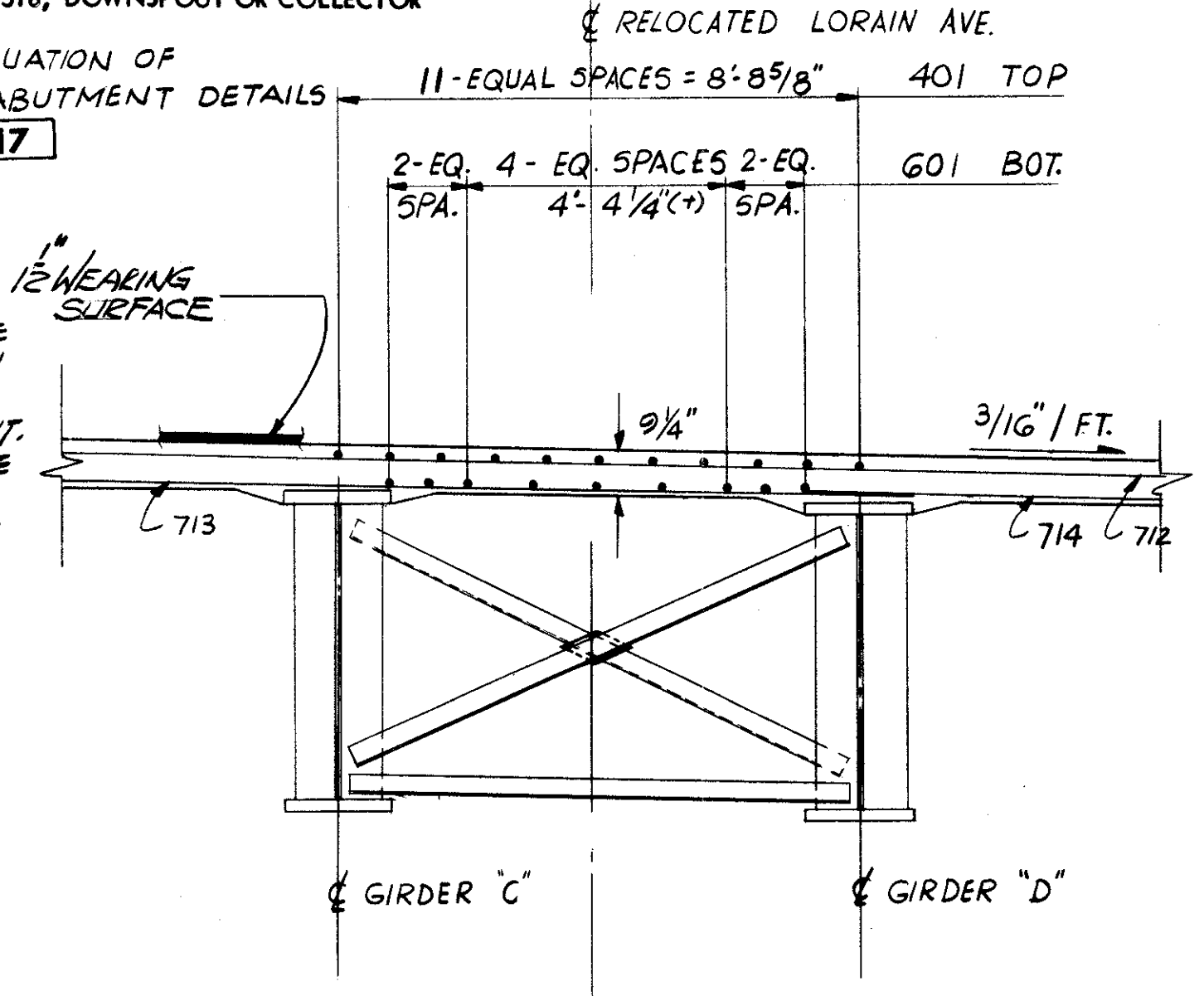
**DETAIL (COLLECTOR SYSTEM - NORTH SIDE)**

COLLECTOR PIPE HANGER ASSEMBLY TO BE UNISTRUT, ALSTRUT, KINDORF, OR EQUAL. INCLUDE HANGERS WITH ITEM 518 "COLLECTOR SYSTEM" FOR PAYMENT. 10'-0" MAX. SPACING.

ALL HORIZONTAL AND VERTICAL PIPE SHALL BE ALLOY STEEL (707.11) OR HOT-DIP GALVANIZED STEEL PIPE. JOINTS SHALL BE MADE BY WELDING BEFORE GALVANIZING. GALVANIZING AS CALLED FOR IN SECTION 711.02 WILL BE CONSIDERED AS SUFFICIENT FOR THE BOLTS. SUPPORT CHANNELS SHALL BE STRUCTURAL CARBON STEEL AND SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514. ALL COLLECTOR PIPE, SUPPORTS, BOLTS AND SPECIALS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 518, DOWNSPOUT OR COLLECTOR SYSTEM.

FOR CONTINUATION OF PIPE SEE ABUTMENT DETAILS SHEET 5/17

PIPE ABOVE THIS LINE TO BE INCLUDED WITH ITEM 518 "COLLECTOR SYSTEM" FOR PAYMENT. PIPE BELOW THIS LINE TO BE INCLUDED WITH ITEM 518 "DOWNSPOUT PIPE" FOR PAYMENT.



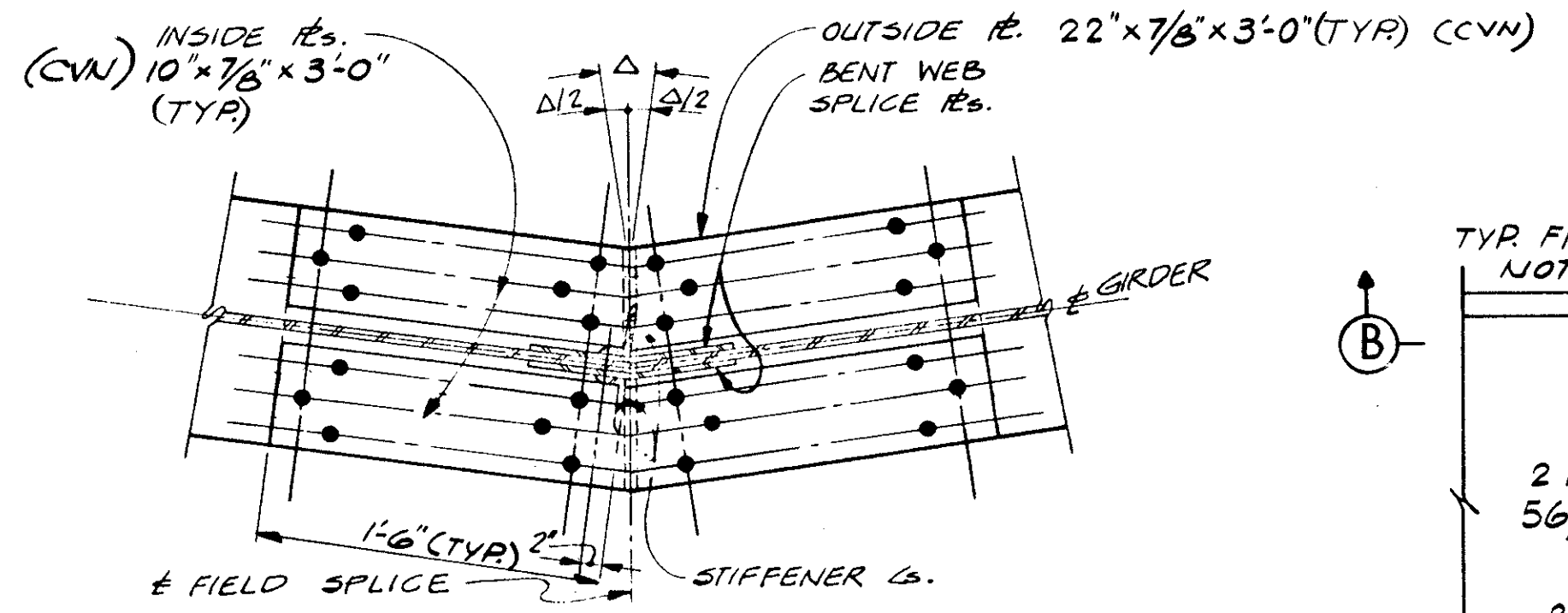
FOR LOCATION OF SECTION A-A, SEE SHEET 13/17

**SECTION A-A**

FIELD SPLICE (TYP. BETWEEN GIRDERS "B" THRU "F" @ 8'-8 5/8" SPACING)

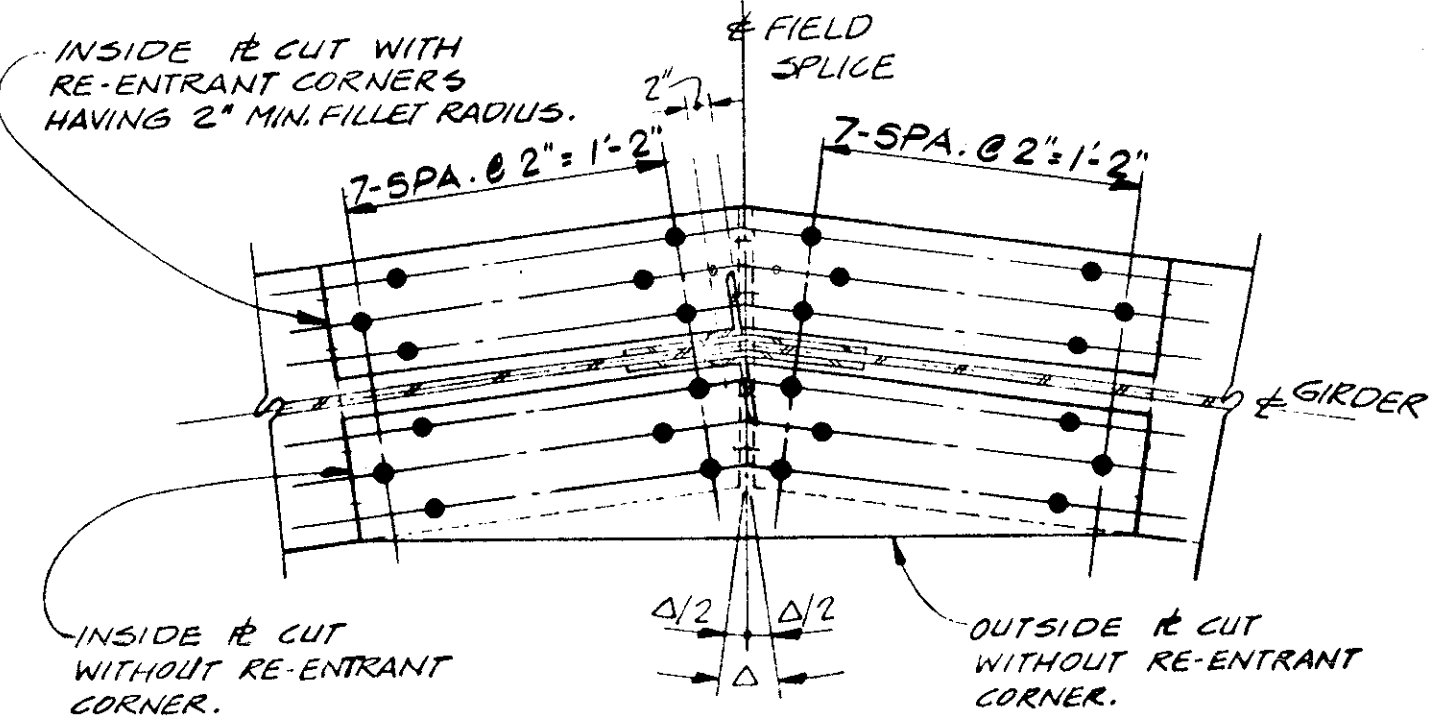
NOTE: TACK WELD NUTS TO ERECTION BOLTS IF LEFT IN PLACE.

\* SEE WELD SCHEDULE, SHEET 12/17



**SECTION B-B**

NOTE: ALL TOP FLANGE SPLICE REINFORCEMENT CUT WITH RE-ENTRANT CORNERS HAVING 2" MIN. FILLET RADIUS. FOR DETAILS NOT SHOWN SEE SECTION D-D FOR DIRECTION OF Δ SEE FRAMING PLAN SHEET 11/17

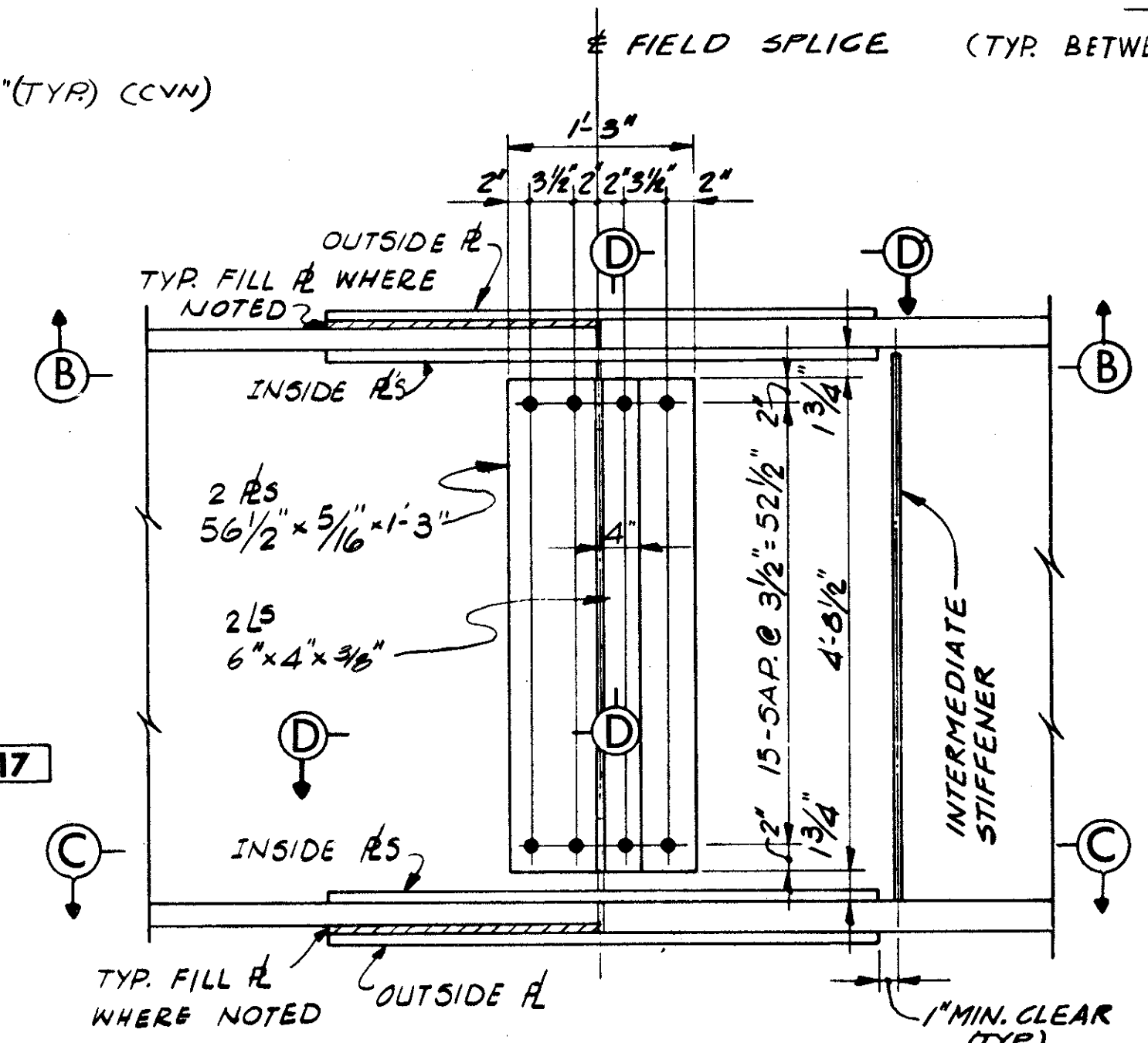


**SECTION C-C**

NOTE: GIRDERS CHANGE DIRECTION AT Δ FIELD SPLICE. FOR DETAILS NOT SHOWN SEE SECTION D-D

(TYP. FOR FIELD SPLICE NO. 2)

1/8" FILL REINFORCING FOR GIRDERS "A" & "B"  
1/4" FILL REINFORCING FOR GIRDERS "E", "F" & "G"  
3/8" FILL REINFORCING FOR GIRDERS "C" & "D"

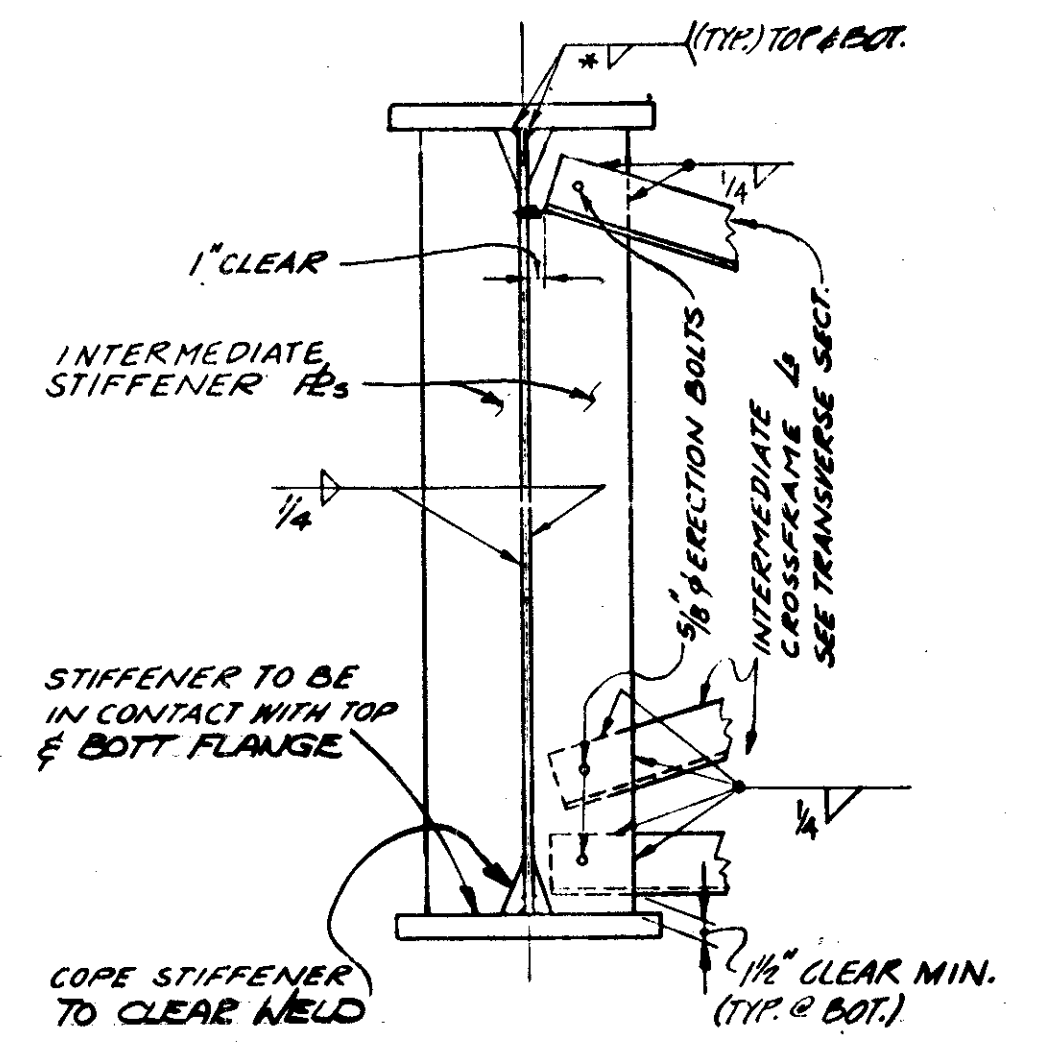


**SPLICE DETAIL**

(TYP. FOR ALL FIELD SPLICES)  
ALL SPLICE PLATES (CVN)  
(EXCEPT FILL PLATES)

**NOTES**

- ALL GIRDER FIELD SPLICES SHALL BE MADE WITH 1" HIGH STRENGTH STEEL BOLTS. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR GIRDERS AND ON THE BOTTOM OF ALL FLANGE PLATES.
- FOR ADDITIONAL NOTES, SEE SHEET 14/17



**DETAIL**

INTERMEDIATE CROSSFRAME & STIFFENER REINFORCEMENT

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		15/17
DALTON · DALTON ASSOCIATES		
SUPERSTRUCTURE DETAILS		
BRIDGE NO. CUY-90-1181 UNDER RELOCATED LORAIN AVE. I-90 CUYAHOGA COUNTY STA. 798 + 61.10		
DESIGNED R.J.P.	DRAWN A.K.S.	TRACED H.S.L.
CHECKED H.S.L.	REVIEWED K.D.M.	DATE 4-30-71

MARK	NO. REO'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
ABUTMENT A-1									
1A 501	54	30-0	ST					1690	
1A 502	18	16-7	ST					311	
1A 503	124	15-3	ST					1972	
1A 504	38	16-9	ST					664	
1A 505	68	20-2	ST					1430	
1A 506	68	30-3	ST					2145	
1A 507	25	6-3	12	1-9	4-7	3-3		163	
1A 508	62	6-6	12	2-0	4-7	3-3		420	
1A 509	37	6-9	12	2-3	4-7	3-3		260	
1A 510	25	6-9	3	1-7	3-10	1-7		176	
1A 511	62	7-0	3	1-10	3-10	1-7		453	
1A 512	37	7-3	3	2-1	3-10	1-7		280	
1A 513	5	14-1	ST					73	
1A 514	5	26-0	ST					136	
1A 515	1	13-5	ST					14	
1A 516	1	7-6	ST					8	
1A 517	2	6-6	ST					14	
1A 518	2	16-6	ST					34	
1A 519	1	11-0	ST					11	
1A 520	1	9-0	ST					9	
1A 521	8	10-6	ST					88	
1A 522	5	12-9	ST					66	
1A 523	6	6-9	2	1-7	3-10			42	
1A 524	6	7-6	12	3-0	4-7	3-2		47	
1A 525	6	4-8	ST					29	
1A 526	7	10-6	ST					77	
1A 527	3	12-9	ST					40	
1A 528	6	7-0	12	1-10	5-3	3-9		44	
1A 529	6	3-6	ST					22	
1A 530	6	3-0	12	1-7	1-6	1-0		19	
1A 531	6	6-9	2	1-7	3-10			42	
1A 532	4	4-3	ST					18	
1A 533	4	3-3	ST					14	
1A 534	2	6-0	3	3-7	1-2	1-6		13	
1A 535	80	10-0	ST					834	
1A 601	109	17-2	2	8-0	1-5			2810	
1A 602	91	5-0	2	1-11	1-5			683	
1A 603	109	7-8	2	3-6	0-11			1255	
1A 604	22	8-4	2	3-7	1-5			275	
1A 605	4	7-10	12	1-11	6-0	4-6		47	
1A 606	2	6-0	ST					18	
1A 607	4	24-0	2	11-5	1-5			144	
1A 608	4	5-6	2	2-2	1-5			33	
1A 701	154	11-0	ST					3463	
1A 801	165	11-0	ST					4846	
1A 901	124	8-8	1	2-10	6-0			3654	
1A 902	120	13-8	1	2-10	11-0			5576	
DB01	37	6-6	40	4-5				642	
TOTAL ABUTMENT A-1 =								35104	
ABUTMENT A-2									
2A 501	40	30-0	ST					1252	
2A 502	20	6-10	ST					143	
2A 503	47	20-9	ST					1017	
2A 504	180	18-10	ST					3536	
2A 505	87	32-2	ST					42	
2A 506	84	27-0	ST					2366	
2A 507	25	7-6	12	3-0	4-7	3-3		196	
2A 508	25	6-11	12	2-5	4-7	3-3		180	
2A 509	21	6-5	12	1-11	4-7	3-3		141	
2A 510	21	6-1	12	1-7	4-7	3-3		133	
2A 511	25	9-4	3	3-6	3-10	2-3		243	
2A 512	25	8-6	3	2-11	3-10	2-0		222	
2A 513	21	7-6	3	2-1	3-10	1-10		164	
2A 514	21	6-9	3	1-7	3-10	1-7		148	
2A 515	2	16-0	ST					33	
2A 516	1	8-10	ST					9	
2A 517	1	15-3	ST					16	
2A 518	5	25-0	ST					130	
2A 519	2	12-9	ST					27	
2A 520	1	10-3	ST					11	
2A 521	1	15-5	ST					16	
2A 522	6	27-0	ST					169	
2A 523	11	10-2	ST					117	
2A 524	6	12-4	ST					77	
2A 525	6	9-4	12	4-10	4-7	3-10		58	
2A 526	11	12-10	24	3-10	0-5	1-10	1-11	147	
SERIES 1-SET	8-6			1-8	0-5	1-10	1-11	11	
OF	OF 18=	TO 24	TO 70	TO 0-0	TO 0-0	TO 0-0	TO 0-0	169	
2A 527	18 BARS	9-6	24	2-2	0-5	1-10	1-11	16	
2A 528	8	12-0	ST					100	
2A 529	4	14-2	ST					59	
2A 530	6	7-5	12	2-3	5-3	3-6		46	
2A 531	6	4-6	ST					28	
2A 532	6	3-3	12	1-7	1-9	1-4		20	
2A 533	6	6-9	2	1-7	3-10			42	
2A 534	4	4-3	ST					18	
2A 535	4	3-3	ST					14	
2A 536	2	6-0	3	3-7	1-2	1-6		13	
2A 537	90	10-0	10	0-0	0-0			939	
2A 538	9	4-11	ST					46	
2A 601	108	17-8	2	8-3	1-5			2866	
2A 602	89	5-0	2	1-11	1-5			668	
2A 603	108	7-8	2	3-6	0-11			1244	
2A 604	23	8-0	2	3-5	1-5			276	
2A 605	4	7-10	12	1-11	6-0	4-6		47	
2A 606	2	6-0	ST					18	
2A 607	4	24-0	2	11-5	1-5			144	
2A 608	4	6-0	2	2-5	1-5			36	
2A 901	423	13-6	ST					19416	
2A1001	176	18-6	13	3-2	15-7	0-5		14011	
2A1002	180	8-8	13	3-2	5-9	0-2		6713	
DB01	45	6-5	40	4-4				771	
TOTAL ABUTMENT A-2 =								60235	

MARK	NO. REO'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
ABUTMENT A-1 WING WALL									
SERIES	1-SET	26-0							
OF	OF 4=	TO 5						116	
1W 501	4 BARS	29-6							
SERIES	1-SET	28-9						11	
OF	OF 4=	TO 5						125	
1W 502	4 BARS	31-4						16	
SERIES	1-SET	14-0						5	
OF	OF 11=	TO 5						224	
1W 503	11 BARS	25-1						16	
1W 504	1	25-10	ST					27	
SERIES	1-SET	13-0						5	
OF	OF 9=	TO 5						175	
1W 505	9 BARS	24-4							
1W 506	2	12-4	12	1-10	10-6	4-3		26	
1W 507	6	30-0	ST					188	
SERIES	2-SETS	6-9							
OF	OF 8=	TO 5						4-3	
1W 508	16 BARS	36-6							
1W 509	4	36-6	ST					152	
1W 510	2	25-7	ST					53	
1W 511	2	28-6	ST					59	
1W 512	2	11-0	ST					23	
SERIES	2-SETS	4-8						5	
OF	OF 4=	TO 5						57	
1W 513	8 BARS	9-0						16	
SERIES	1-SET	25-3						1	
OF	OF 5=	TO 5						148	
1W 514	5 BARS	31-8						4	
SERIES	1-SET	29-6						1	
OF	OF 5=	TO 5						171	
1W 515	5 BARS	36-0						2	
SERIES	1-SET	18-7						5	
OF	OF 10=	TO 5						226	
1W 516	10 BARS	24-10						16	
1W 517	2	4-10	12	1-10	3-0	0-8		10	
1W 518	2	25-6	ST					83	
1W 519	20	31-6	ST					657	
SERIES	2-SETS	10-4							
OF	OF 3=	TO 5						8-9	
1W 520	6 BARS	27-10						119	
SERIES	1-SET	19-0						1	
OF	OF 11=	TO 5						254	
1W 521	11 BARS	25-3						2	
1W 522	1	25-9	ST					27	
1W 523	8	13-0	ST					108	
1W 524	5	18-10	ST					96	
1W 525	5	18-8	ST					97	
1W 526	12	12-2	ST					152	
1W 527	2	16-0	ST					33	
1W 528	6	20-2	ST					126	
1W 529	2	11-0	ST					23	
SERIES	2-SETS	4-11						13	
OF	OF 6=	TO 5						79	
1W 530	12 BARS	7-9						16	
1W 531	12	10-0	ST					128	
1W 601	26	6-0	ST					234	
1W 70									

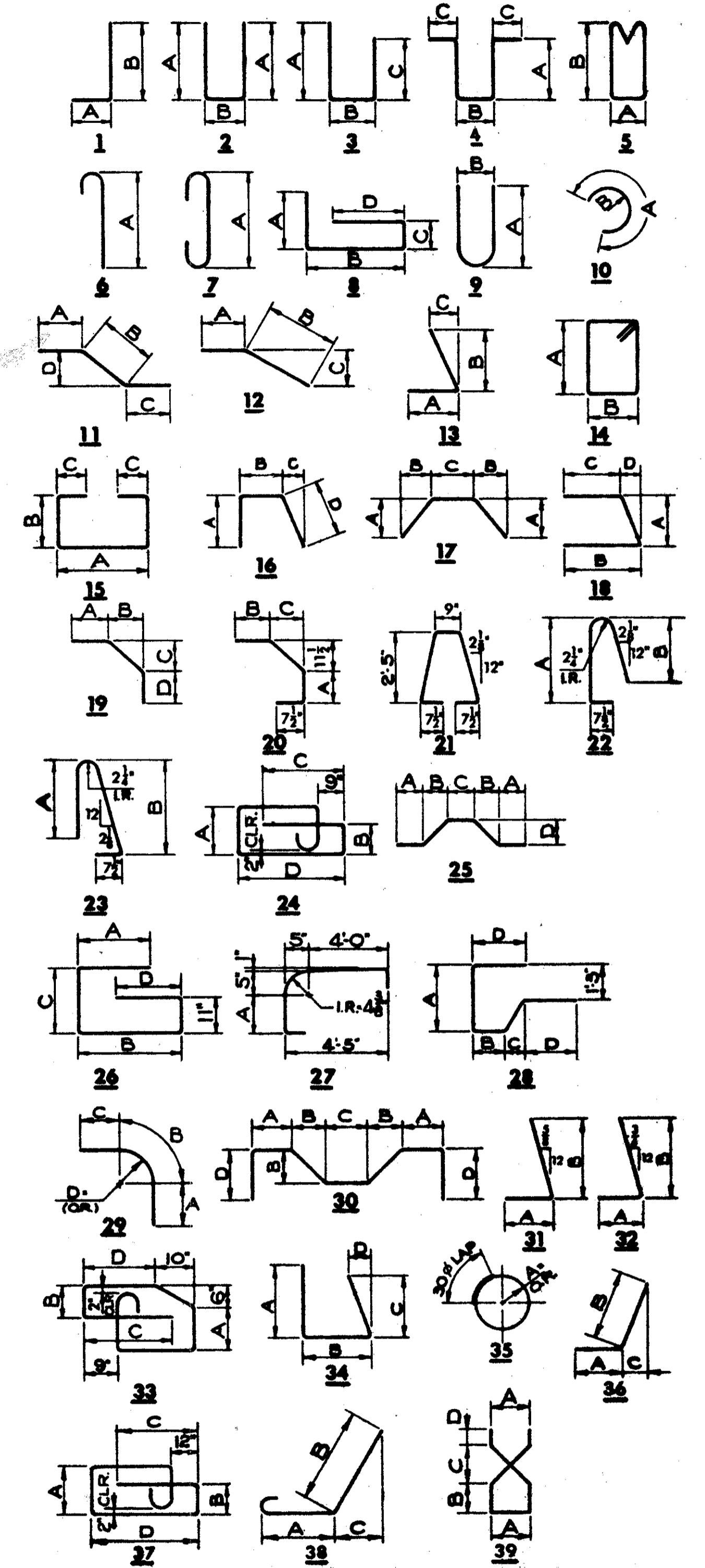
OCT 1 1982

CUYAHOGA COUNTY  
CUY-90-11.64

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
SUPERSTRUCTURE									
S 401	1119	30=0	ST						22425
S 401	371	30=0	ST						7435
S 402	45	7=0	ST						210
S 402	29	9=0	ST						174
S 402	368	10=0	ST						2458
S 501	426	7=3	5	0=8	3=0				3221
S 502	216	4=7	2	1=7	1=8				1033
S 503	216	4=3	2	1=7	1=4				937
S 504	426	6=7	2	1=7	1=7				2925
S 505	210	4=6	2	1=7	1=7				986
S 506	210	4=3	2	1=7	1=4				931
S 601	153	30=0	ST						6894
S 601	719	30=0	ST						32398
S 602	36	13=6	ST						730
S 603	24	11=6	ST						415
S 604	17	15=6	ST						396
S 701	598	20=3	ST						24752
S 702	287	32=2	ST						18670
S 703	511	35=6	ST						37079
SERIES	2-SETS	8=8							3
OF	OF 12=	TO	ST					0=3=	501
S 704	24 BARS	11=9							8
SERIES	1-SET	9=4							1
OF	OF 18=	TO	ST					0=8=	564
S 705	18 BARS	21=4							2
SERIES	1-SET	4=4							5
OF	OF 43=	TO	ST					0=8=	1707
S 706	45 BARS	34=6							8
SERIES	1-SET	5=6							5
OF	OF 20=	TO	ST					0=9=	526
S 707	20 BARS	20=3							16
SERIES	1-SET	9=4							5
OF	OF 35=	TO	ST					0=9=	1618
S 708	35 BARS	35=9							16
SERIES	1-SET	4=2							7
OF	OF 39=	TO	ST					0=9=	1581
S 709	39 BARS	35=6							8
SERIES	1-SET	20=1							15
OF	OF 89=	TO	ST					0=0=	4283
S 710	89 BARS	27=0							16
SERIES	1-SET	28=8							1
OF	OF 89=	TO	ST					0=0=	5533
S 711	89 BARS	32=2							2
SERIES	1-SET	16=8							7
OF	OF 89=	TO	ST					0=0=	3343
S 712	89 BARS	20=1							16
SERIES	1-SET	35=1							3
OF	OF 81=	TO	ST					0=0=	6229
S 713	81 BARS	40=2							4
SERIES	1-SET	30=1							3
OF	OF 81=	TO	ST					0=0=	5395
S 714	81 BARS	35=1							4
SERIES	1-SET	4=0							1
OF	OF 31=	TO	ST					0=9=	972
S 715	31 BARS	26=8							16
S 716	31	28=9	ST						1822
SERIES	1-SET	7=4							13
OF	OF 31=	TO	ST					0=8=	1175
S 717	31 BARS	29=7							16
S 718	62	16=8	ST						2112
SERIES	1-SET	13=3							3
OF	OF 16=	TO	ST					0=7=	585
S 719	16 BARS	22=6							8
SERIES	1-SET	4=2							15
OF	OF 44=	TO	ST					0=9=	1971
S 720	44 BARS	39=8							16
SERIES	1-SET	13=0							3
OF	OF 29=	TO	ST					0=8=	1339
S 721	29 BARS	32=2							16
SERIES	2-SETS	12=7							1
OF	OF 20=	TO	ST					0=4=	1291
S 722	40 BARS	19=0							16
TOTAL SUPERSTRUCTURE									= 206831

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
RAILING*									
R 501	12	11=5	ST						
R 502	108	7=1	ST						
R 503	66	14=8	ST						
R 504	12	11=7	ST						
R 505	108	6=11	ST						
R 506	66	14=2	ST						
R 507	16	3=3	9	1=6	0=6				
R 508	8	6=7	27	1=0					
R 509	8	8=3	3	3=2	4=8	0=8			
R 510	16	7=7	5	0=8	3=2				
R 511	18	4=8	ST						
*RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.									
<del>EQUIPMENT TOTAL = 307454</del>									
<del>RAILING TOTAL = 39,756</del>									
SUPERSTRUCTURE TOTAL = 206,831									
<del>GRAND TOTAL = 647,339</del>									

REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.



17 / 17

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON • DALTON ASSOCIATES**

**REINFORCING SCHEDULE**

BRIDGE # CUY-90-1181  
UNDER RELOCATED LORAIN AVE.  
I-90 CUYAHOGA COUNTY  
STA. 798+61.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.K.S.	T.M.J.		H.S.L.	R.D.H.	4-30-71	#23-76

2-0

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

639  
838

CUYAHOGA COUNTY  
CUY-90-11.64

EARTHWORK LIMITS SHOWN  
ARE SCHEMATIC. ACTUAL SLOPES  
SHALL CONFORM TO PLAN CROSS-SECTIONS.

CURVE DATA

☉ I-90  
 P.I. STA. 808+54.11  
 $\Delta = 9^\circ 49' 25''$  LT.  
 $D_c = 0^\circ 45' 00''$   
 $R = 7639.44'$   
 $T = 656.52'$   
 $L_c = 1309.82'$

☉ W 84-85 CONNECTOR RD.

P.I. STA. 51+37.32  
 $\Delta = 24^\circ 51' 18''$   
 $D_c = 10^\circ 00' 00''$   
 $R = 572.96'$   
 $T = 126.26'$   
 $L_c = 248.55'$

PROPOSED STRUCTURE

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.

SKEW:  $20^\circ 27' 41''$  RF. TO LOC. TAN.

SPANS: 89' 3", 50'-3/4", 89' 3"

ROADWAY: 52'-0" FF 6'-0" SIDE WALKS.

LOADING: HS 20-44.

WEARING SURFACE: 2" ASPHALT CONCRETE

APPROACH SLABS: (SPECIAL) 30' 0" Long

ALIGNMENT: TANGENT AND  $10^\circ 00' 00''$  CURVE RT.

SUPERELEVATION: NONE.

SLOPE PROTECTION: NONE REQUIRED.

TRAFFIC: I-90 107,216 A.D.T. 1990  
 W.84-85 14,479 A.D.T. 1990

SEE LIGHTING PLANS FOR CONDUITS ETC.

STATE OF OHIO  
 DEPARTMENT OF HIGHWAYS  
 BUREAU OF BRIDGES

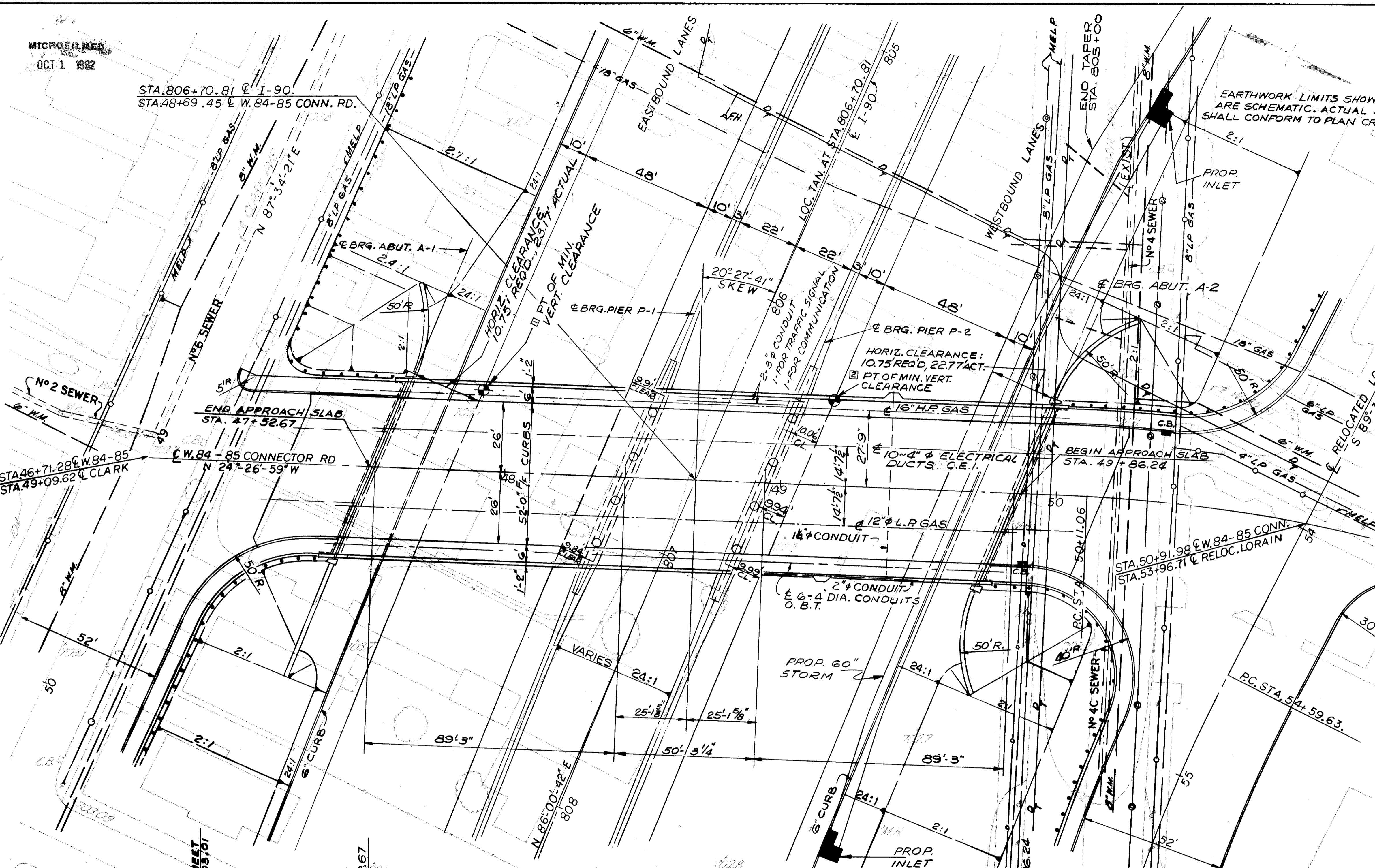
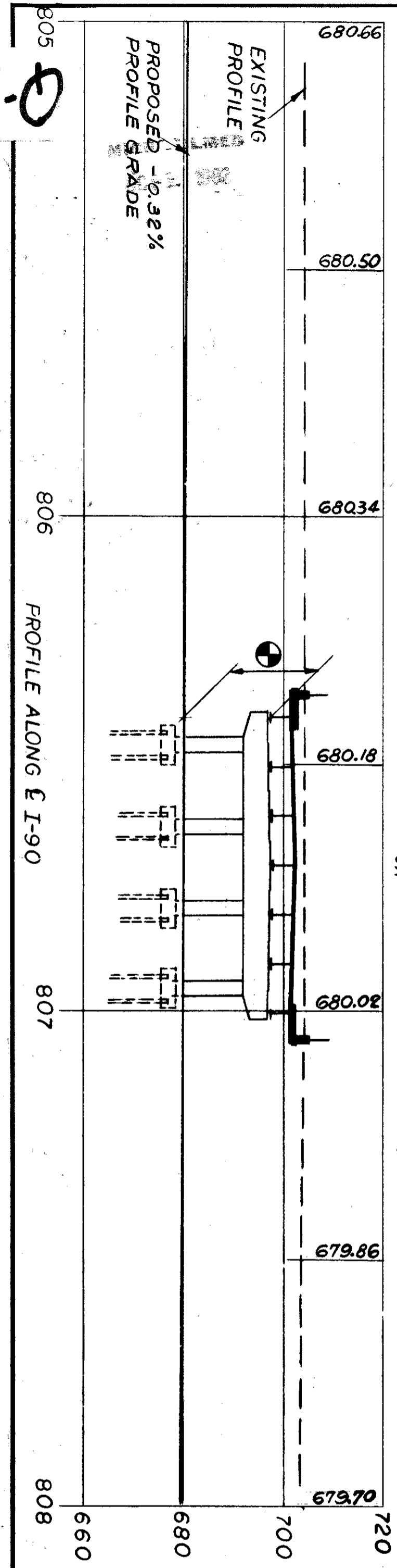
1/14

DALTON-DALTON ASSOCIATES

SITE PLAN

BRIDGE NO. CUY-90-1196  
 UNDER WEST 84th - 85th CONNECTOR RD.  
 I-90 CUYAHOGA COUNTY  
 STA. 806+70.81

DESIGNED AJS	DRAWN J.K.	TRACED	CHECKED HGH	REVIEWED 224	DATE 3-31-71	REVISED
-----------------	---------------	--------	----------------	-----------------	-----------------	---------

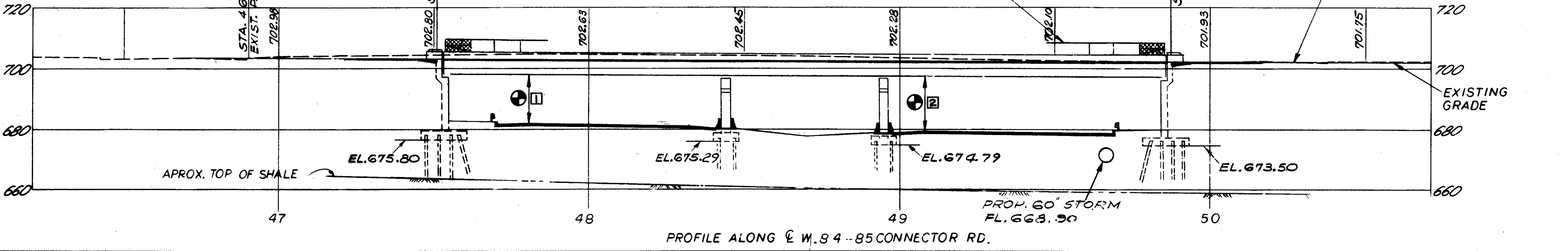


VERTICAL CLEARANCE:  
 15.00' REQ'D

ACTUAL - 16.14'  
 ACTUAL - 16.85'

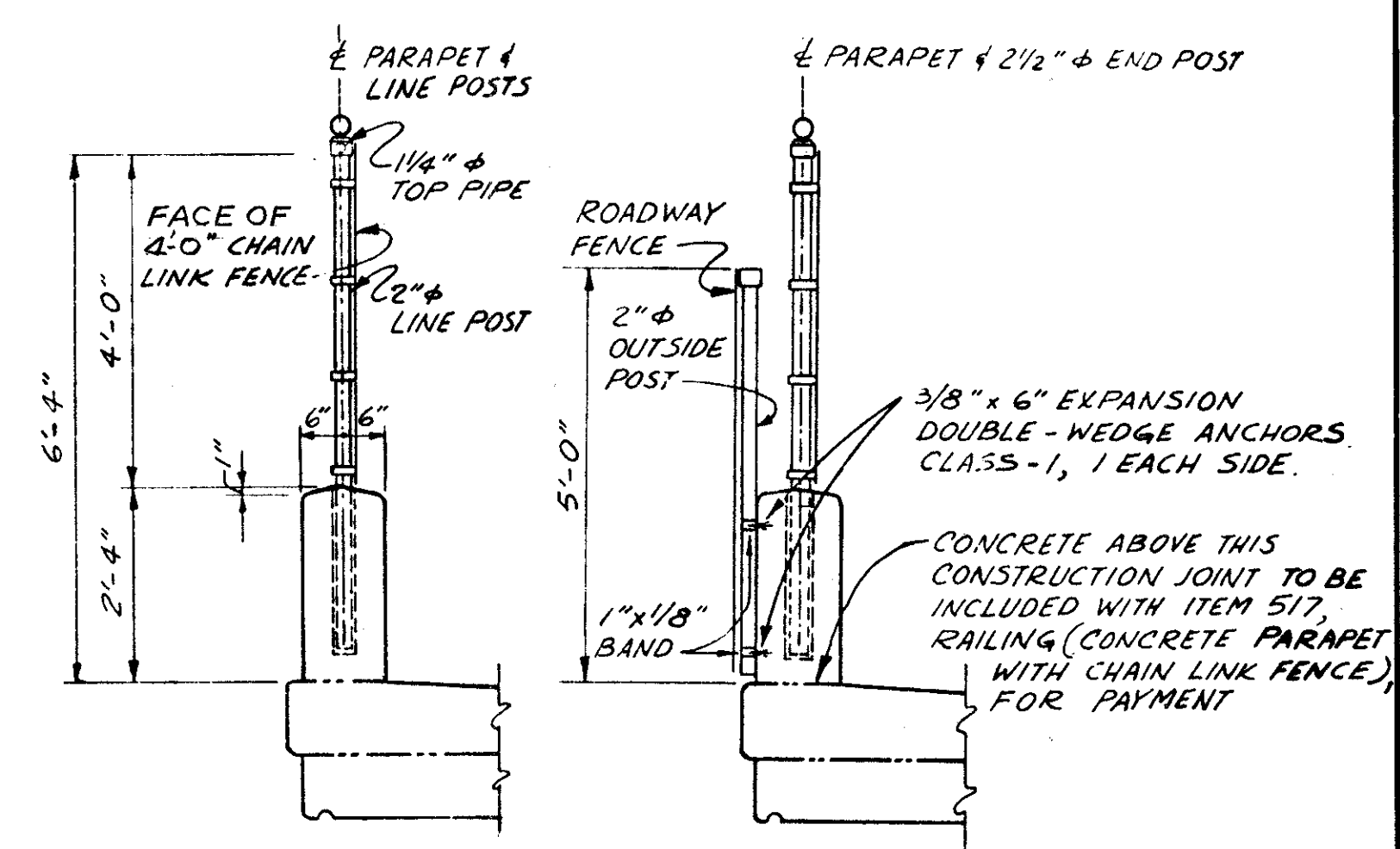
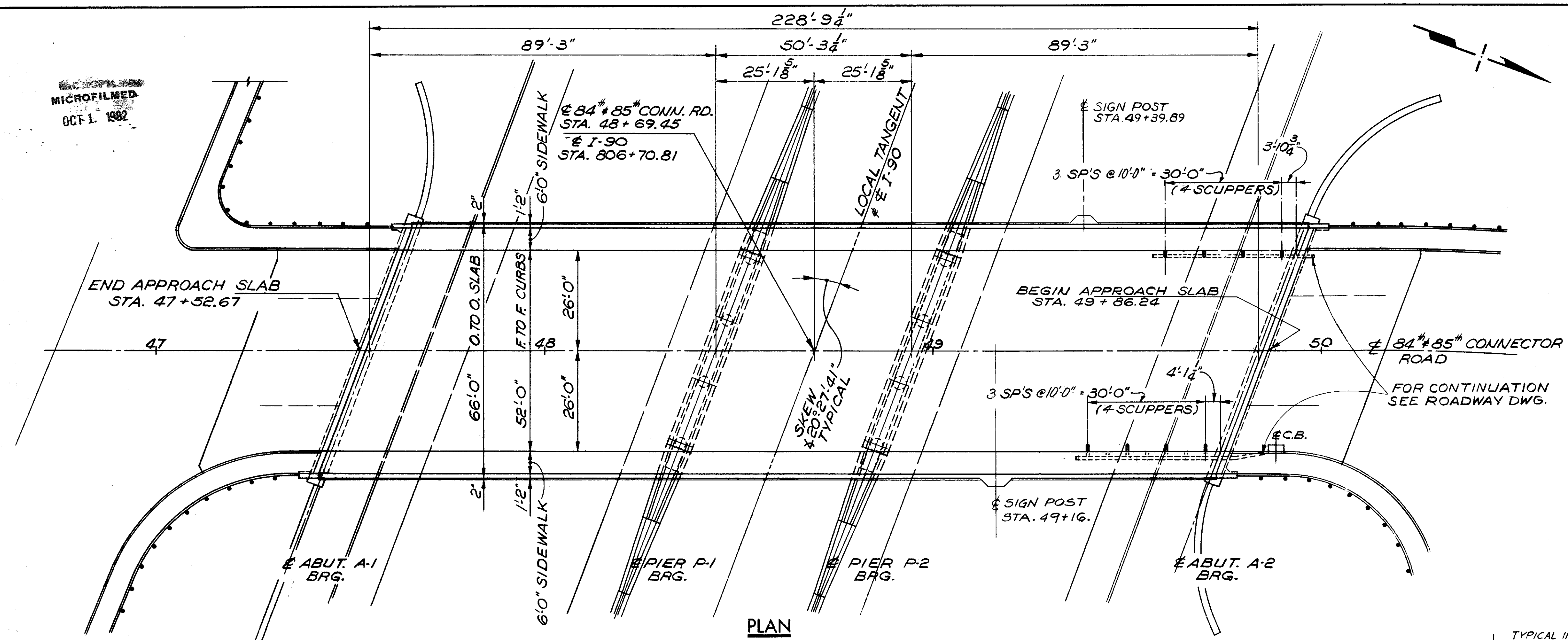
AVERAGE ESTIMATED PAY  
 LENGTH FOR PILES:  
 ABUTMENTS = 16' PIERS = 16'

ALL PILES ARE #28P53

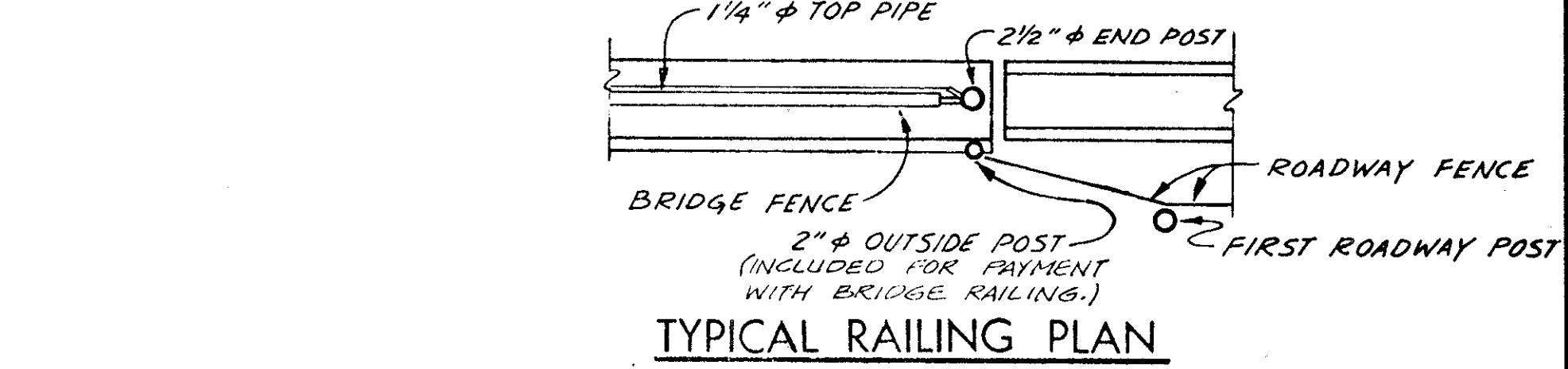


PROFILE ALONG ☉ W.84-85 CONNECTOR RD.

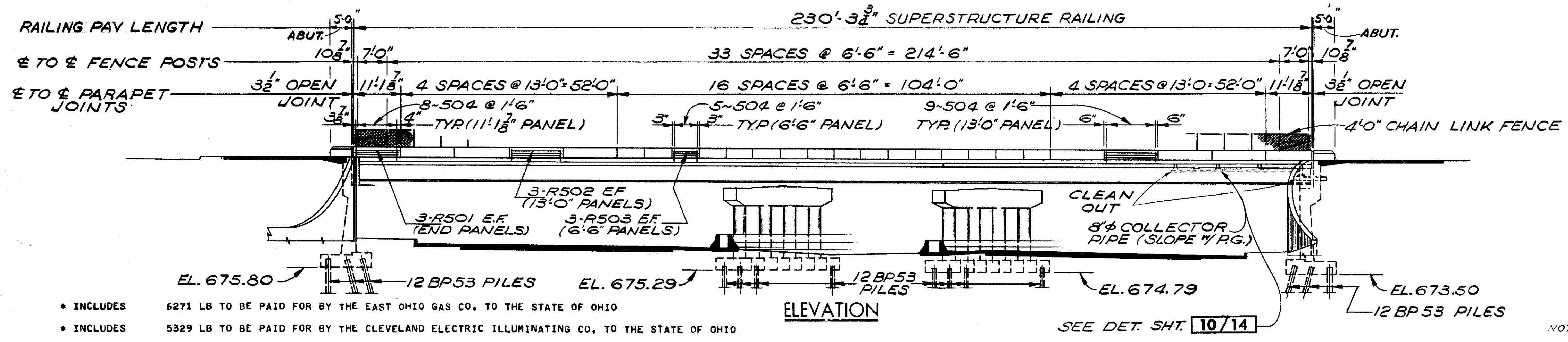
CUYAHOGA COUNTY  
CUY - 90 - 11.64



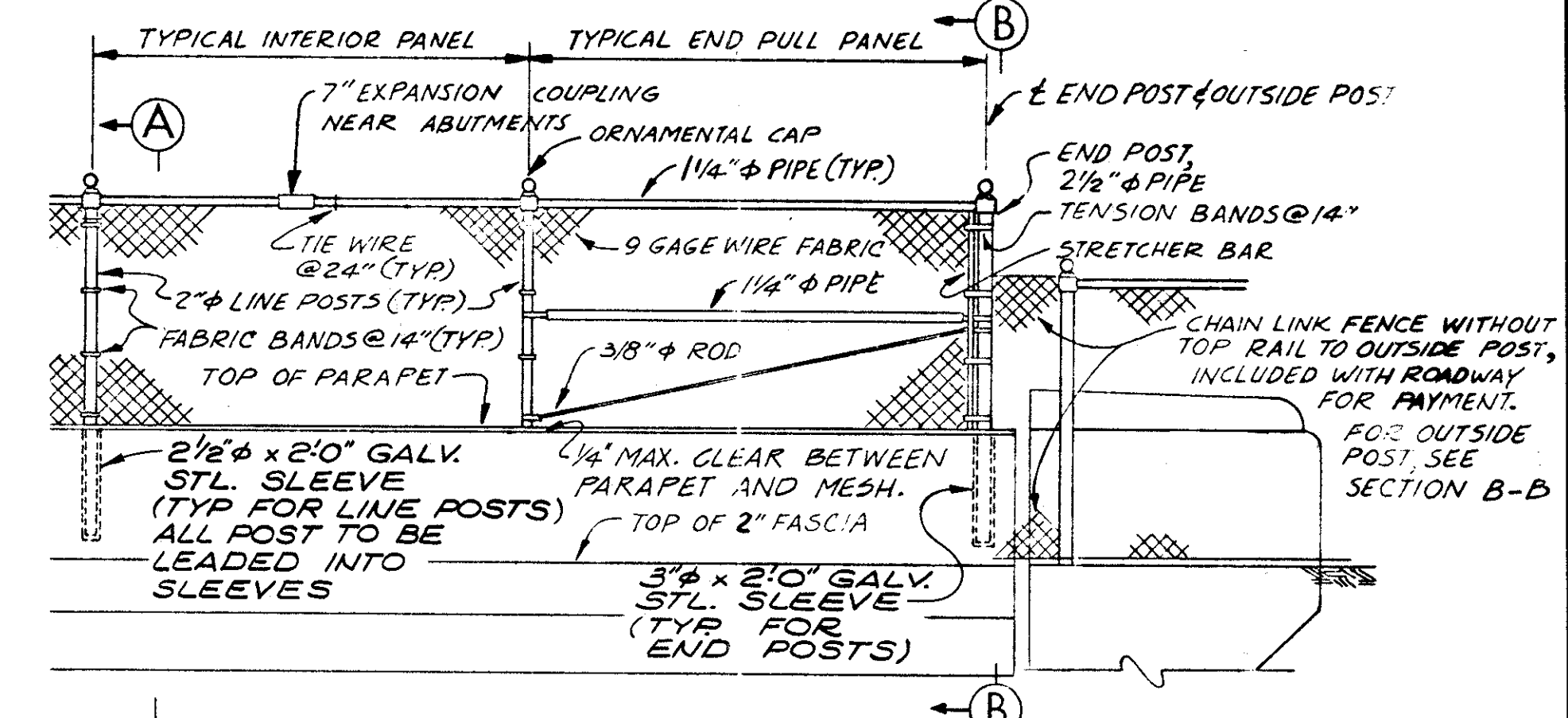
SECTION A-A SECTION B-B



TYPICAL RAILING PLAN



ELEVATION



TYPICAL RAILING ELEVATION

NOTE: ALL POSTS, PIPES AND FITTINGS TO BE GALVANIZED STEEL EXCEPT AS OTHERWISE SHOWN.

NOTES:  
FOR CONNECTION OF GUARDRAIL TO STRUCTURES SEE SHTS. 64 & 66  
FOR STRUCTURAL GENERAL NOTES SEE SHEET 611  
640 838 66 838

ESTIMATED QUANTITIES						
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER GEN'L.
404	92	CY	ASPHALT CONCRETE ( AC-20 )	92		
SPEC	1329	SY	MEMBRANE WATERPROOFING, NOT APPLIED LIQUID (SEE PROPOSAL NOTE)	1329		
503	2330	CY	UNCLASSIFIED EXCAVATION		2161	169
504	562	SF	STEEL SHEET PILING LEFT IN PLACE ( MIN. SEC. MOD. OF 7.0 IN. CUBED/FT. OF WALL )		562	
504	179	SF	STEEL SHEET PILING LEFT IN PLACE ( MIN. SEC. MOD. OF 30.43 IN. CUBED/FT. OF WALL )		179	
505	LUMP	LSUM	TEST PILE			
507	3840	LF	STEEL PILES, HP12X53		2816	1024
509	265924	LB	REINFORCING STEEL	147706	80574	37644
511	581	CY	CLASS C CONCRETE, SUPERSTRUCTURE	581		
511	95	CY	CLASS C CONCRETE, PIERS ABOVE FOOTINGS			95
511	491	CY	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		491	
511	485	CY	CLASS C CONCRETE, FOOTINGS		413	72

ESTIMATED QUANTITIES						
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIER GEN'L.
512	39	SY	TYPE B WATERPROOFING			39
512	153	LF	PREMOLDED SEALING STRIP			153
513	566500	LB	STRUCTURAL STEEL *	566500		
514	566500	LB	FIELD PAINTING OF STRUCTURAL STEEL *	566500		
516	147	SF	1 IN. PREFORMED EXPANSION JOINT FILLER			147
517	480.63	LF	RAILING (CONCRETE PARAPET WITH CHAIN LINK FENCE)	460.63	20.00	
518	8	EACH	SCUPPERS INCLUDING SUPPORTS			8
518	390	CY	POROUS BACKFILL			390
518	72	LF	8 IN. PERFORATED CMP INCLUDING SPECIALS, 707.01			72
518	71	LF	8 IN. COLLECTOR PIPE INCLUDING SPECIALS			71
518	460	LF	SUBDRAINAGE FOR WEARING COURSE (AS PER PLAN)			460
S625			SEE LIGHTING SUMMARY SHEET			
S625			SEE TRAFFIC CONTROL SUMMARY SHEET			
606	581	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B, OR D	581		

QUANTITIES CHECKED BY JTH 04-09-75

SEE LIGHTING PLANS FOR DETAILS.

SEE TRAFFIC CONTROL PLANS FOR DETAILS

QUANTITIES CHECKED BY J.T.H. DATE 11-21-73

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

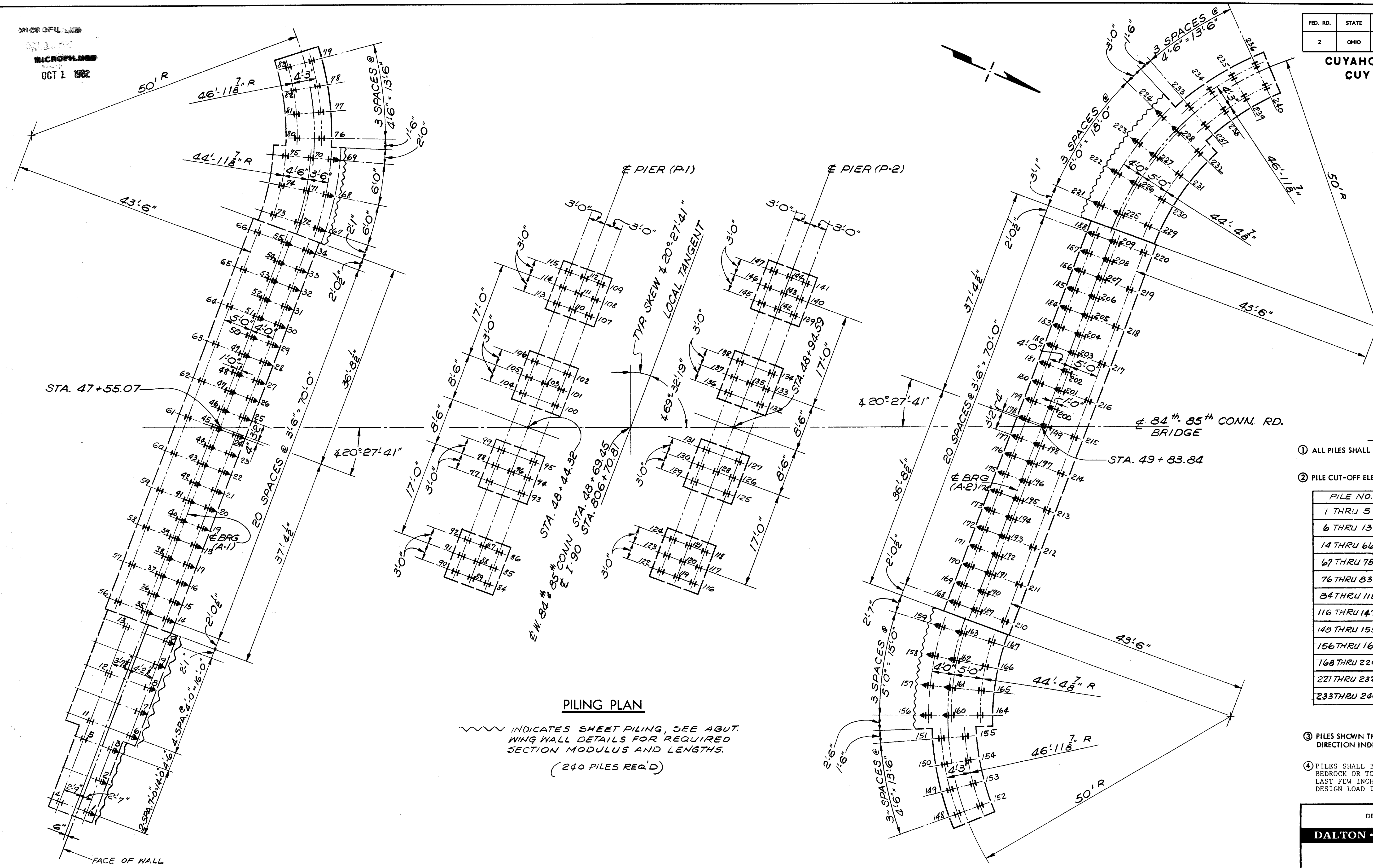
GENERAL PLAN & ELEVATION

BRIDGE NO. CUY - 90 - 1196  
UNDER WEST 84th - 85th CONNECTOR RD.  
I-90 CUYAHOGA COUNTY  
STA. 806 + 70.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AS	ALH		HGH	RDW	3-31-71	6-4-75

MICROFILM  
OCT 1 1982

CUYAHOGA COUNTY  
CUY - 90 - 11.64



**PILING PLAN**

INDICATES SHEET PILING, SEE ABUT. WING WALL DETAILS FOR REQUIRED SECTION MODULUS AND LENGTHS.  
(240 PILES REQ'D)

**NOTES**

① ALL PILES SHALL BE 128P53 STEEL PILES.

② PILE CUT-OFF ELEVATIONS

PILE NO.	ELEVATION
1 THRU 5	677.80
6 THRU 13	677.38
14 THRU 66	677.80
67 THRU 75	677.30
76 THRU 83	678.60
84 THRU 115	676.29
116 THRU 147	675.79
148 THRU 155	675.50
156 THRU 167	675.00
168 THRU 220	675.50
221 THRU 232	675.00
233 THRU 240	676.33

③ PILES SHOWN THUS SHALL BE BATTERED 1:4 IN THE DIRECTION INDICATED.

④ PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK OR TO 20 BLOWS PER INCH FOR THE LAST FEW INCHES OF PENETRATION. THE DESIGN LOAD IS 45 TONS PER PILE.

DALTON · DALTON ASSOCIATES

**PILING PLAN**  
BRIDGE NO. CUY - 90 - 1196  
UNDER WEST 84th - 85th CONNECTOR RD.  
I-90 CUYAHOGA COUNTY  
STA. 806 + 70.81

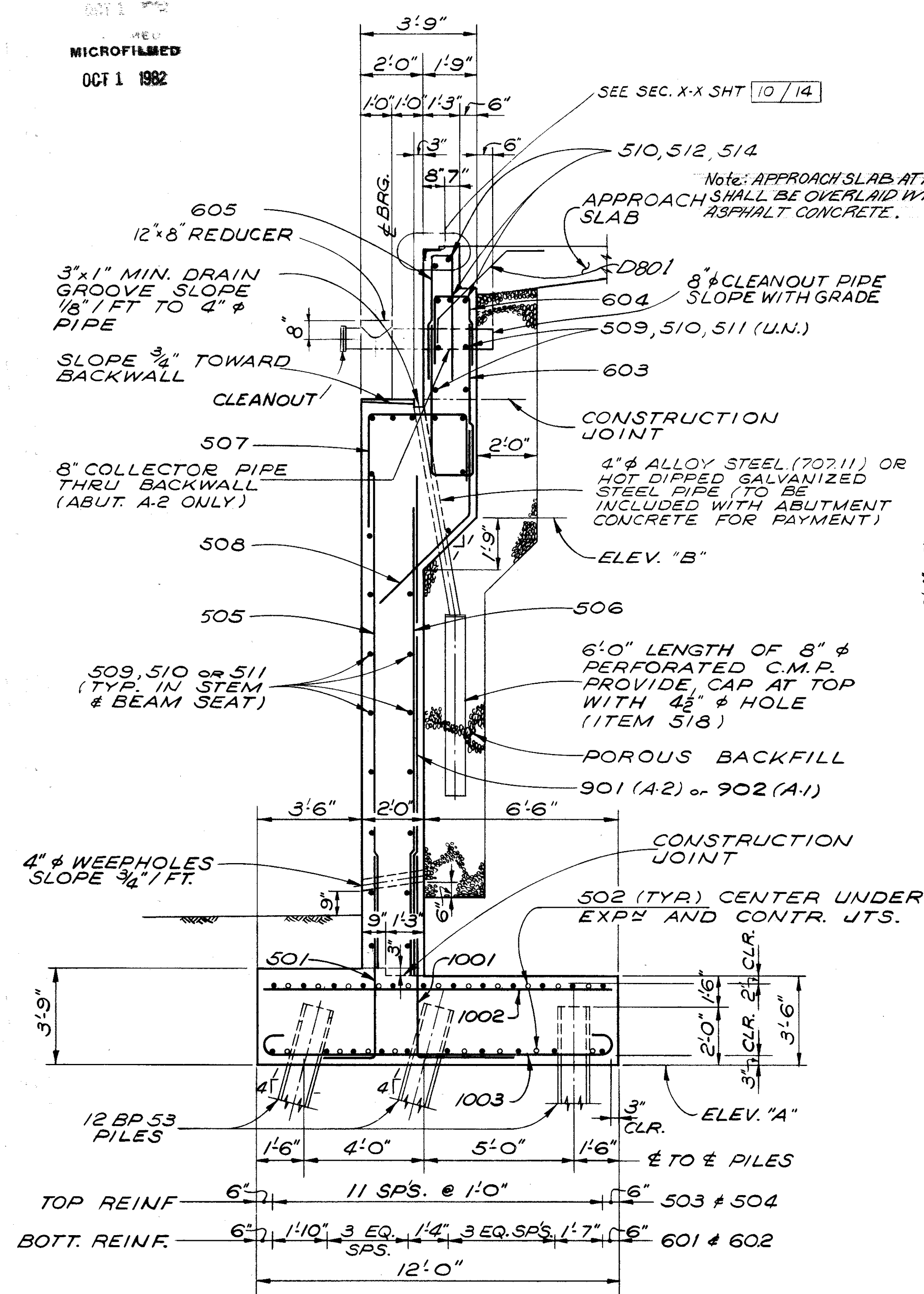
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AJ	ALH		HGH	RDA	3-31-71	



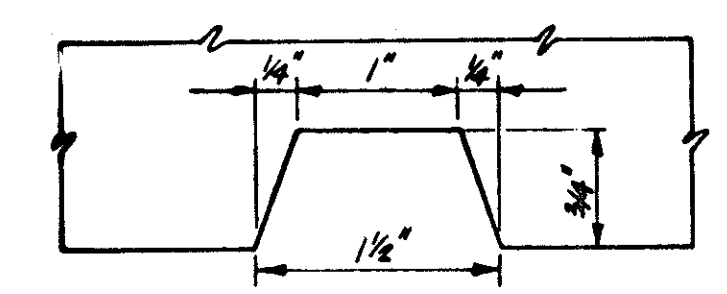


MICROFILMED  
OCT 1 1982

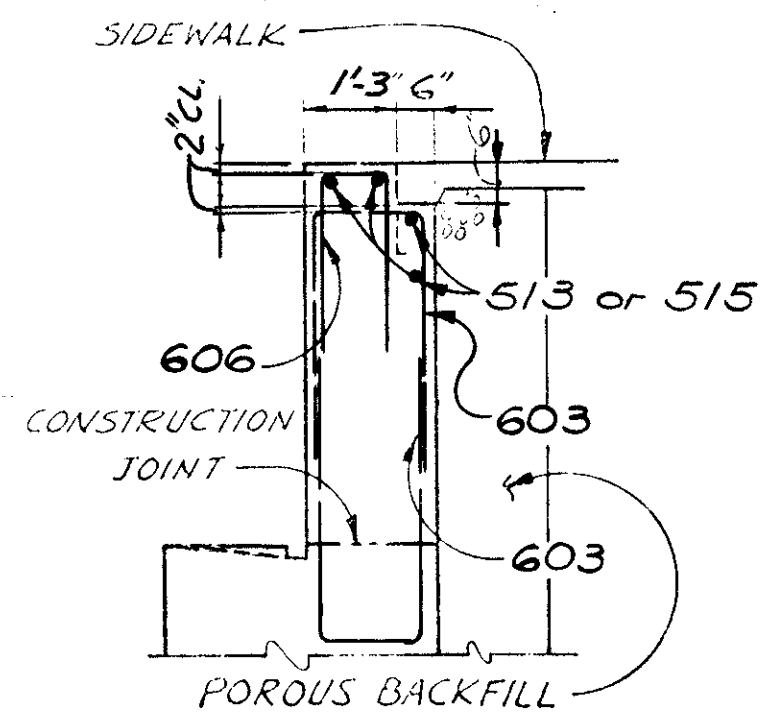
CUYAHOGA COUNTY  
CUY - 90 - 11.64



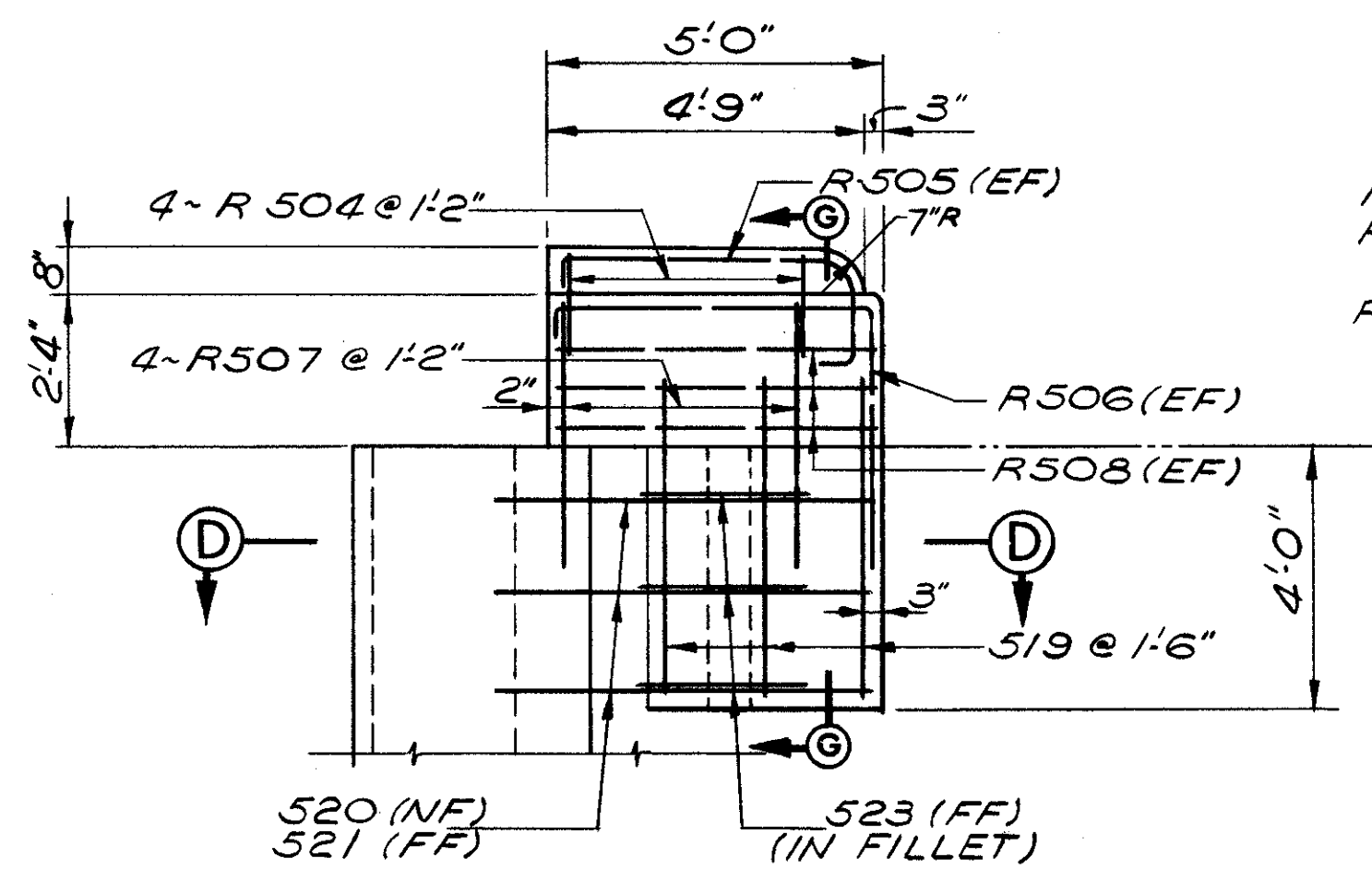
SECTION A-A



TYPICAL RUSTICATION GROOVE  
SPACED 4'0 1/4"

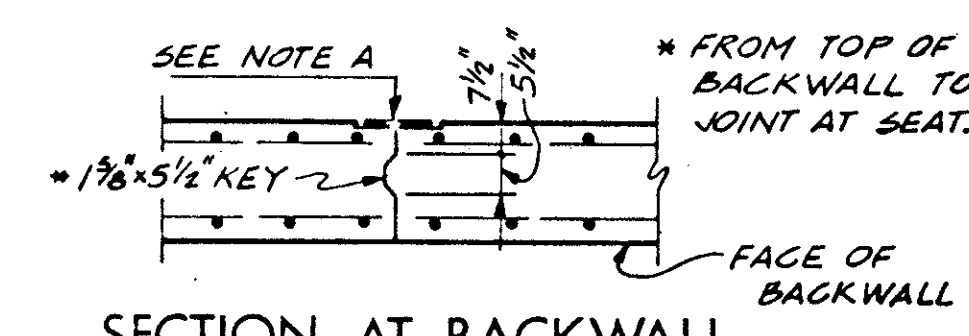


SECTION B-B  
FOR DETAILS NOT SHOWN  
SEE SECTION A-A

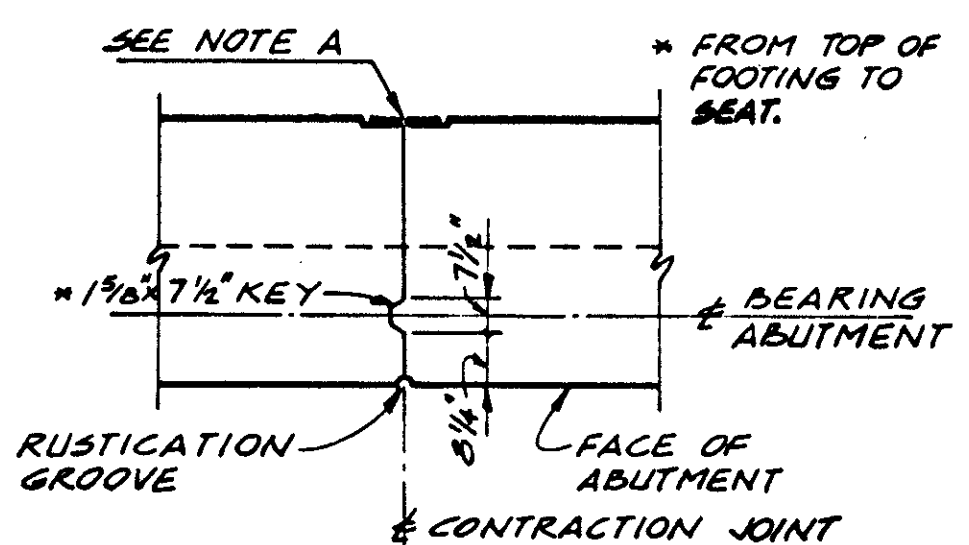


VIEW C-C

NOTE: FOR DIMENSIONS, DETAILS AND NOTES NOT SHOWN SEE STATE OF OHIO STANDARD DWG. BR-2-67

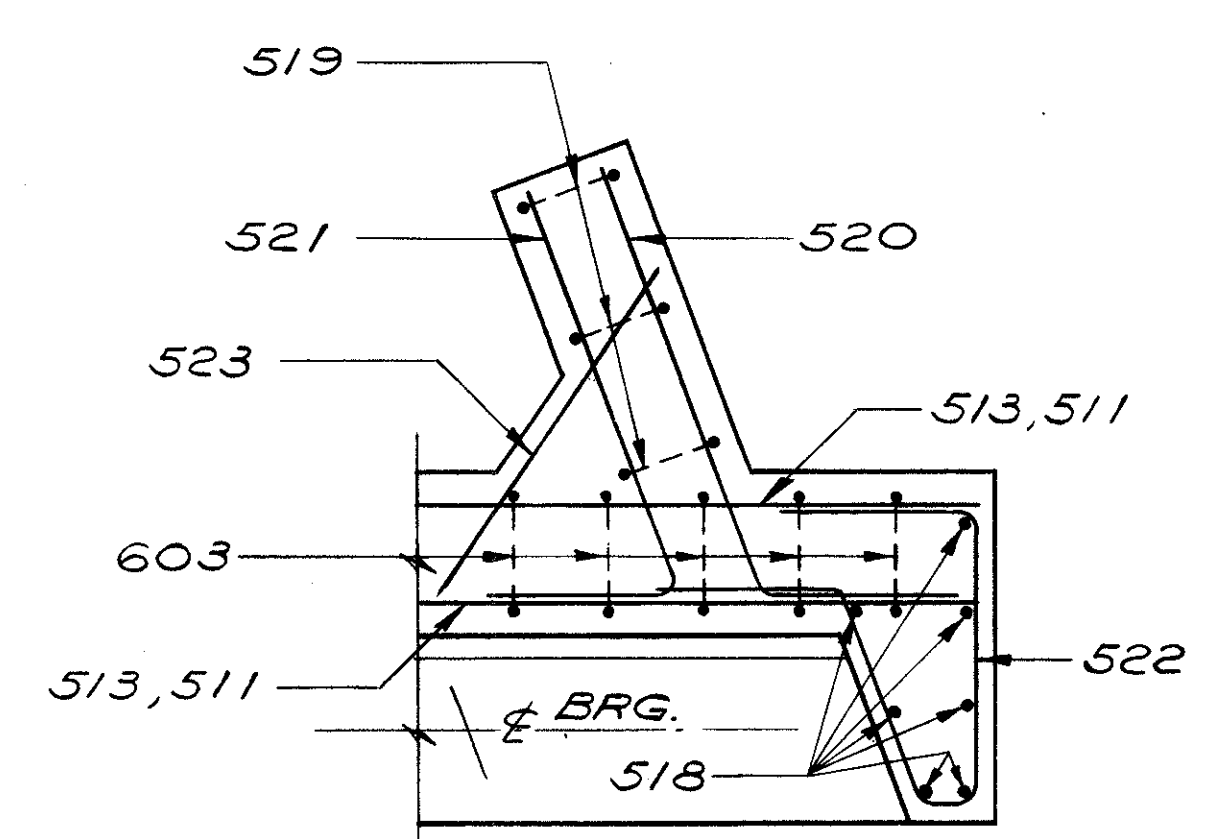


SECTION AT BACKWALL

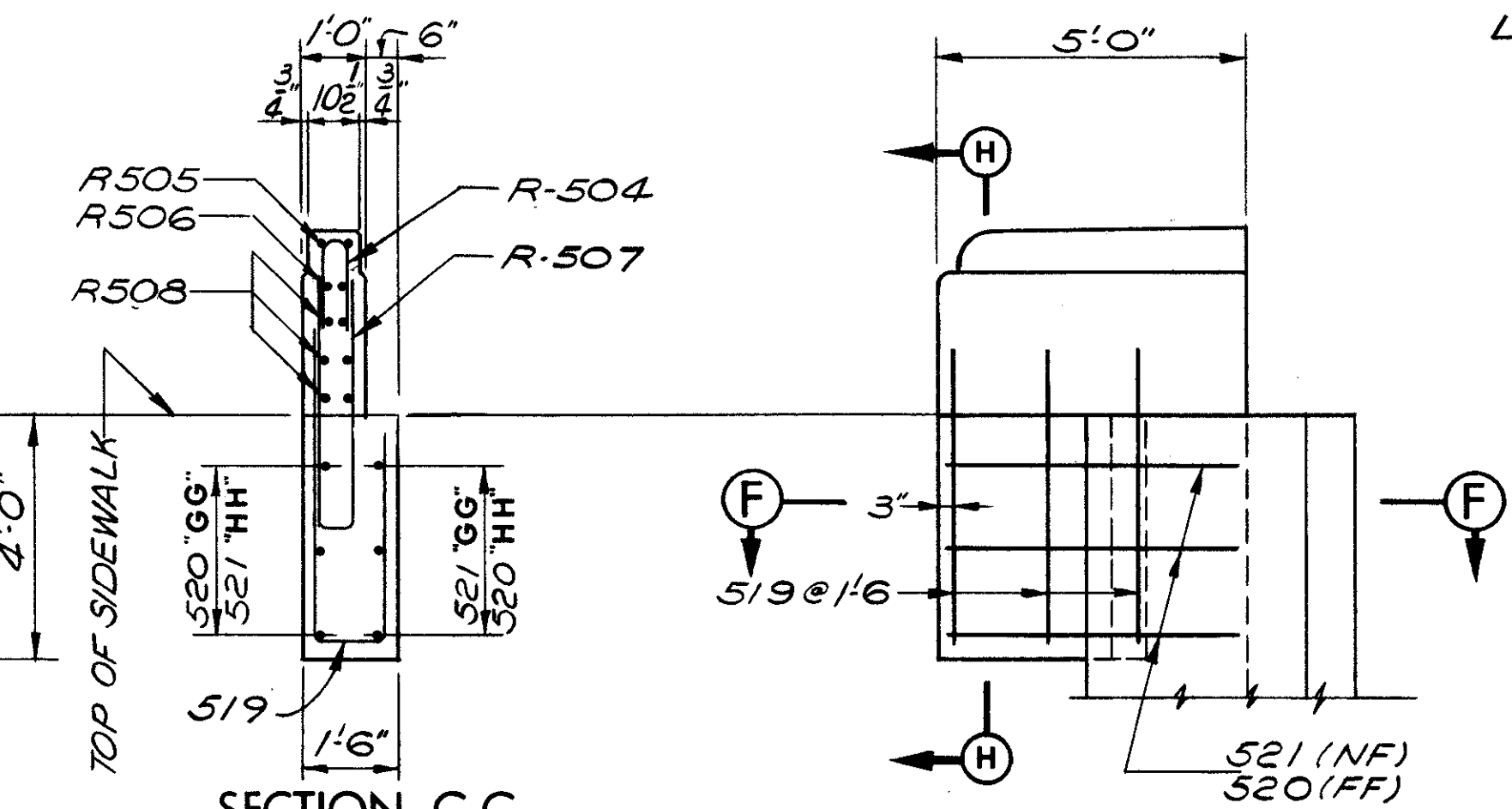


SECTION BELOW SEAT  
ABUTMENT CONTRACTION  
JOINT DETAIL

NOTE A:  
12"x 1/2" PREMOLDED SEALING STRIP IN 13"x 3/4" RECESS FROM TOP OF FOOTING TO TOP OF BACKWALL OR BOTTOM OF APPROACH SLAB.



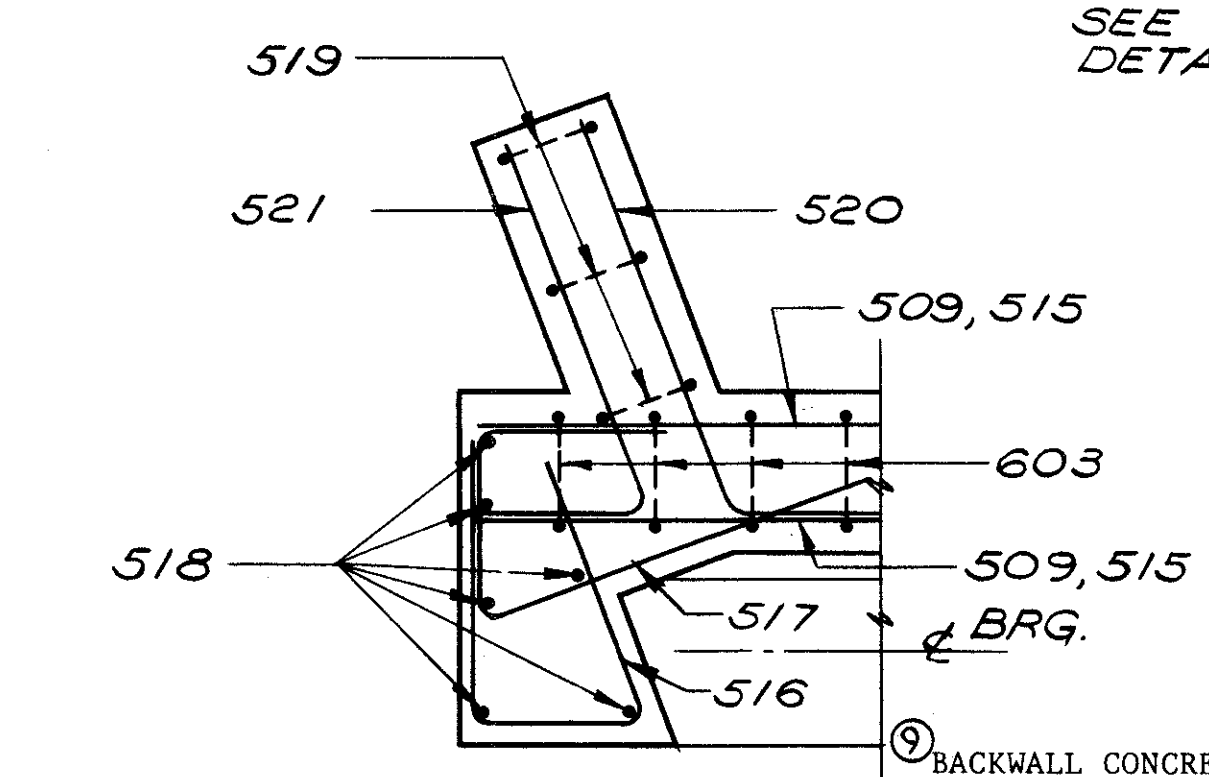
SECTION D-D



SECTION G-G  
SECTION H-H

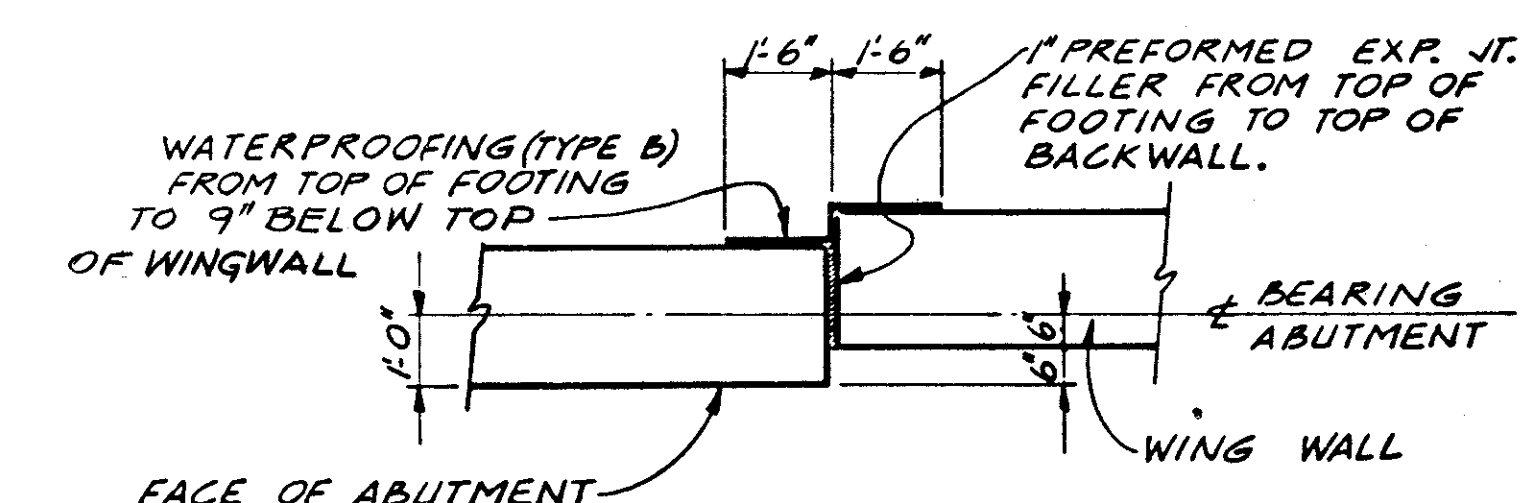
VIEW E-E

SEE VIEW "C-C" FOR DETAILS NOT SHOWN

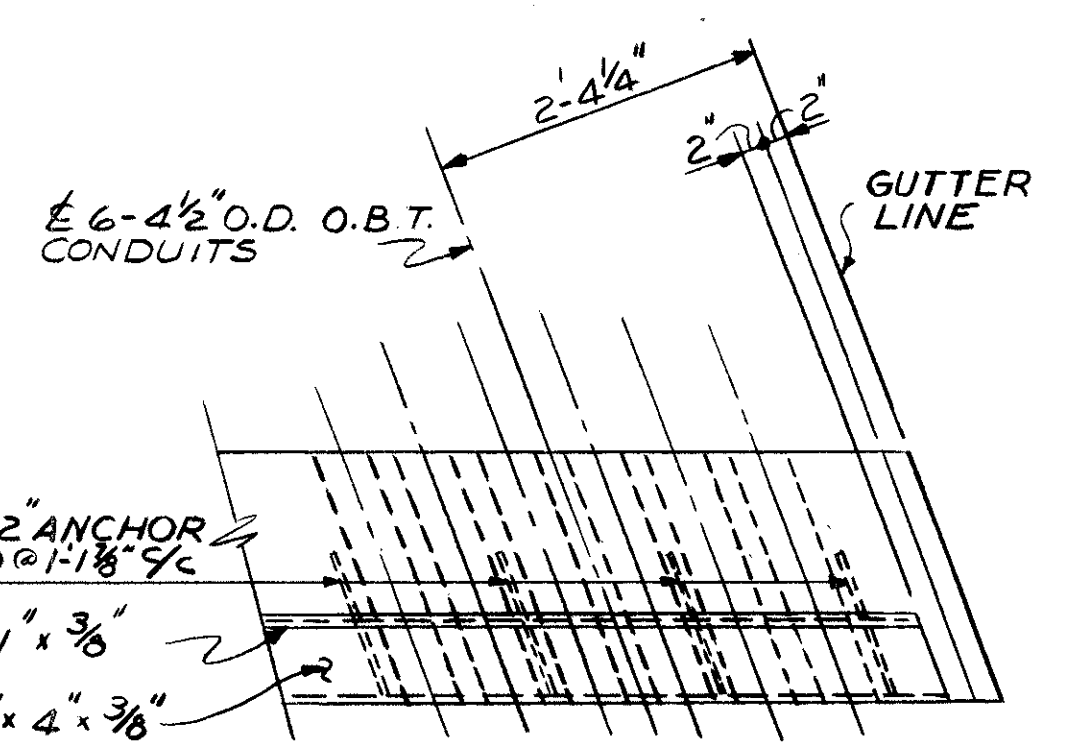


SECTION F-F

BACKWALL CONCRETE: IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE BACKWALL HAS BEEN PLACED.



ABUTMENT-WING WALL  
JOINT DETAIL  
SECTION BELOW ABUTMENT SEAT



DETAIL Y

NOTES

- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
- BACKWALL ELEVATIONS ARE GIVEN AS FINAL PAVEMENT ELEVATIONS AT FRONT FACE OF BACKWALL. (SEE SECTION "X-X" SHEET N# 10/14.)
- POROUS BACKFILL, 2 FT. THICK, FULL LENGTH OF ABUTMENT AND WINGS, SHALL EXTEND UP TO THE SUBGRADE OR TO THE FINISHED GROUND SURFACE.
- THE PREFIX "1A" OR "2A" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENTS A-1 OR A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
- PROCEDURE: BEFORE THE BACKWALL IS CONSTRUCTED THE EMBANKMENT SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE WITH A 1:1 SLOPE FROM THE BRIDGE SEAT TO THE SUBGRADE.
- FOR PILING PLAN, SEE SHEET 3/14
- USE ALTERNATE HORIZONTAL AND VERTICAL STRIATED CONCRETE FINISH BETWEEN RUSTICATION GROOVES
- HORIZONTAL AND VERTICAL RUSTICATION GROOVES MAY BE TERMINATED 12" BELOW FINISHED GROUND ELEVATION

5 / 14

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**ABUTMENT DETAILS**  
BRIDGE NO. CUY - 90 - 1196  
UNDER WEST 84th - 85th CONNECTOR RD.  
I-90 CUYAHOGA COUNTY  
STA. 806 + 70.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
AJ	ALH		HGH		10/24/81 (3-31-7)	

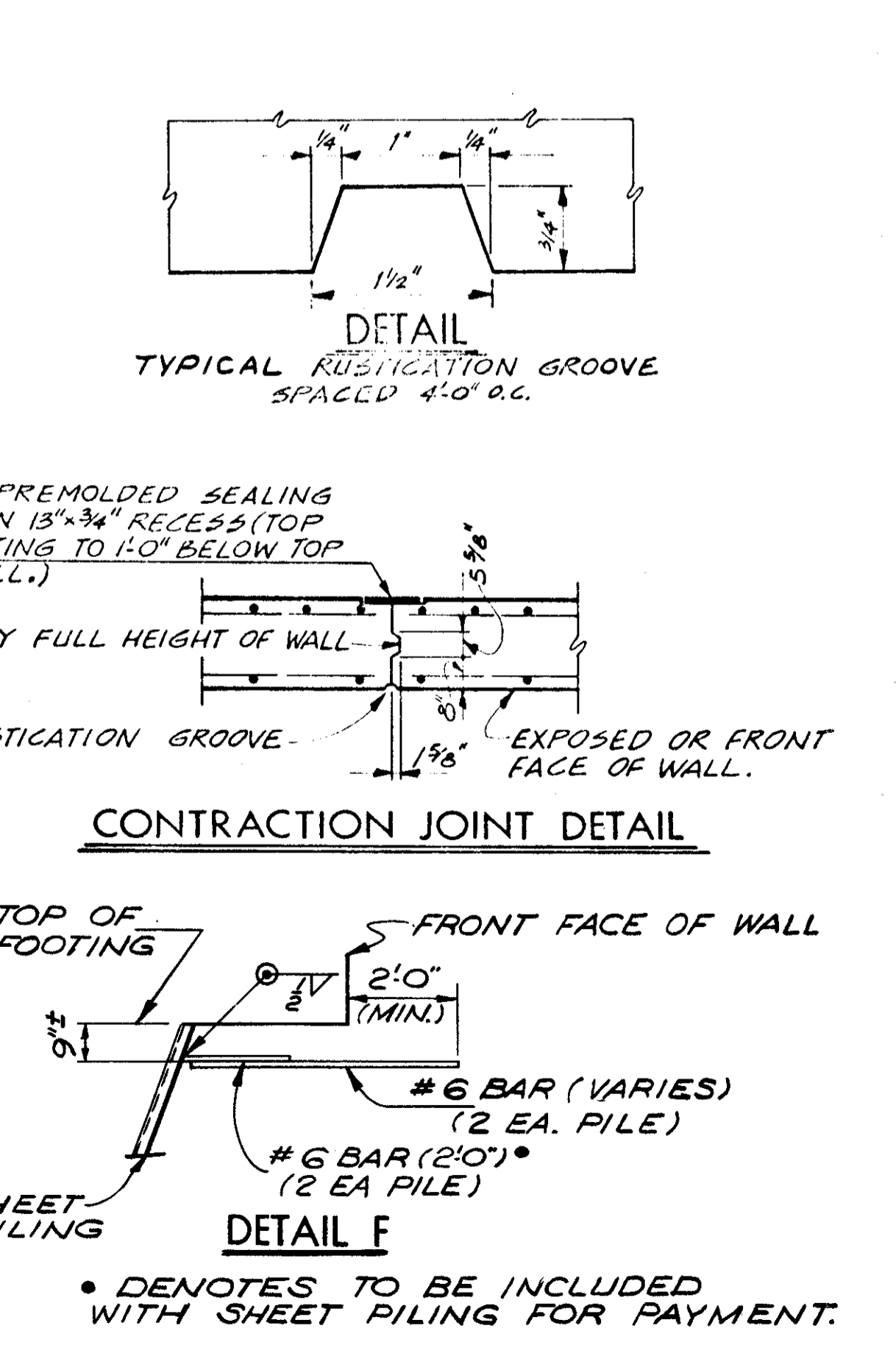
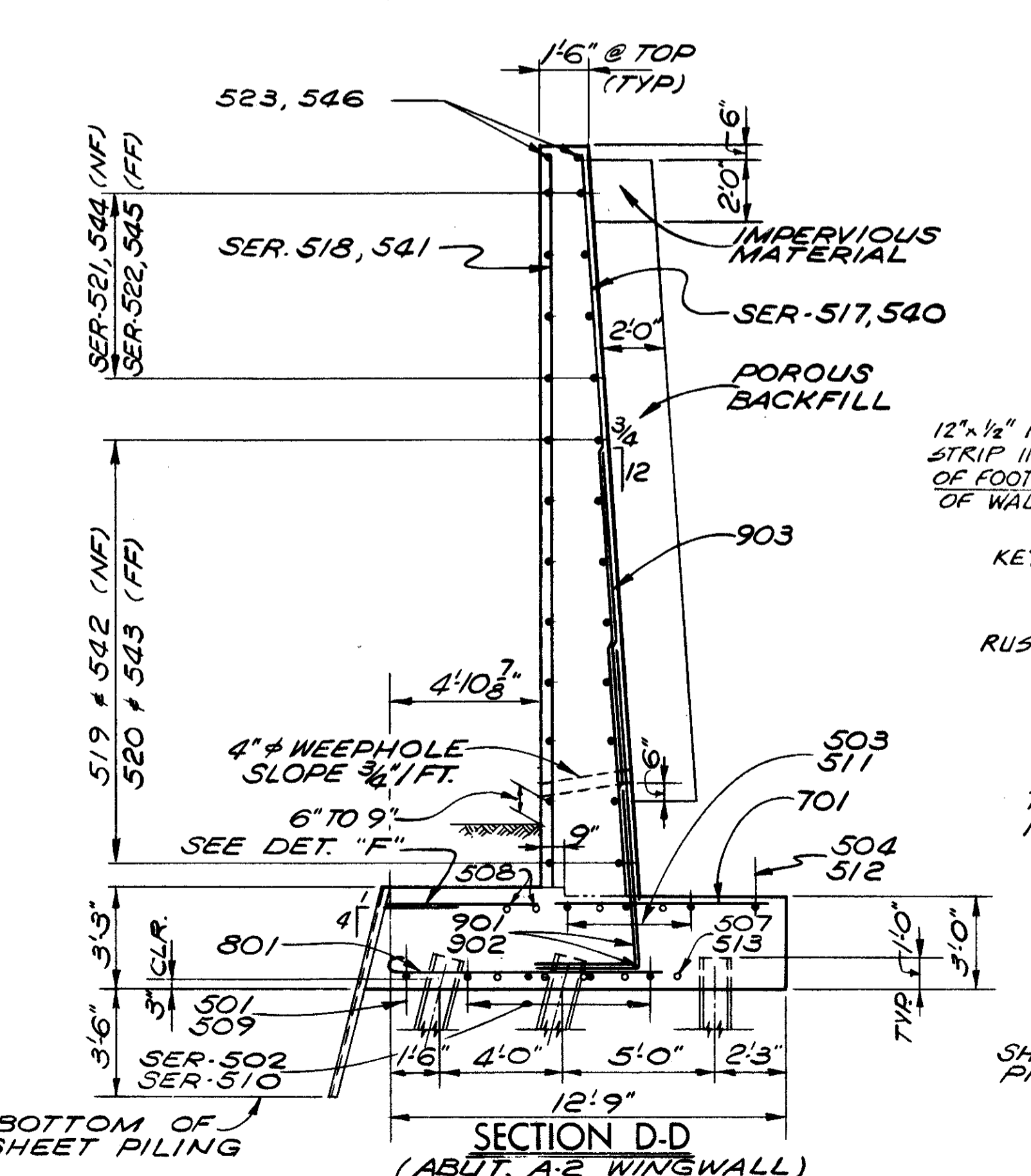
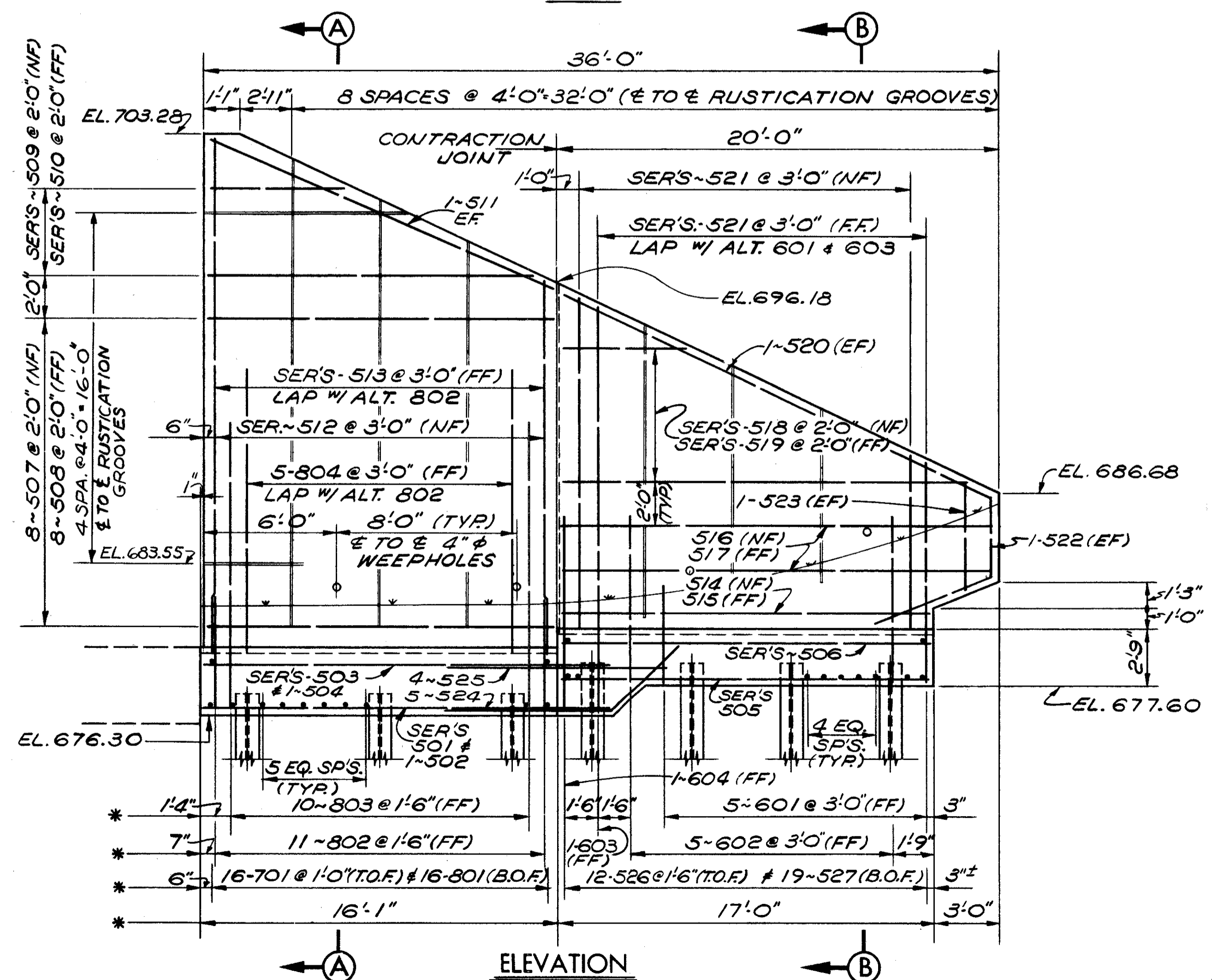
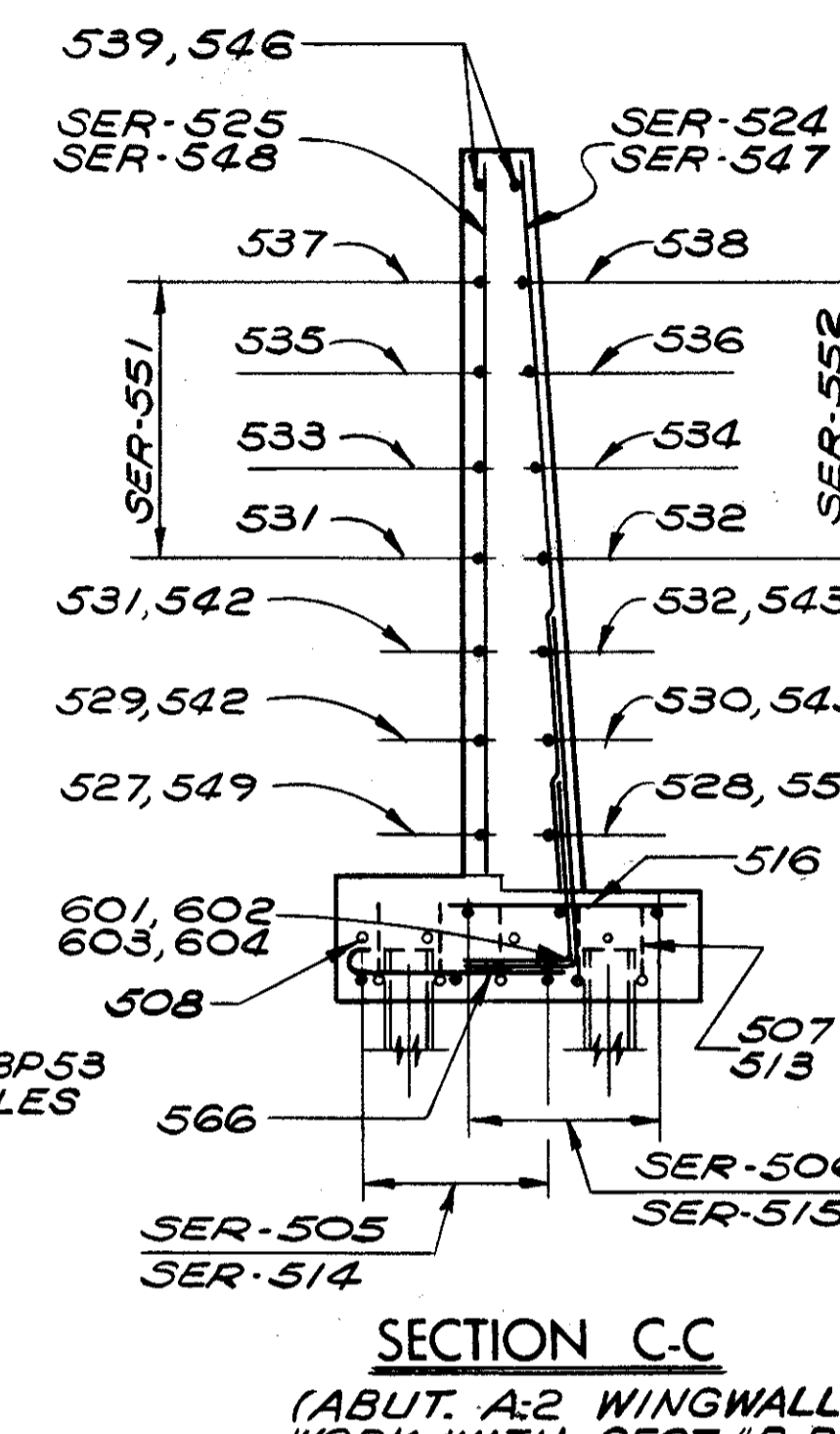
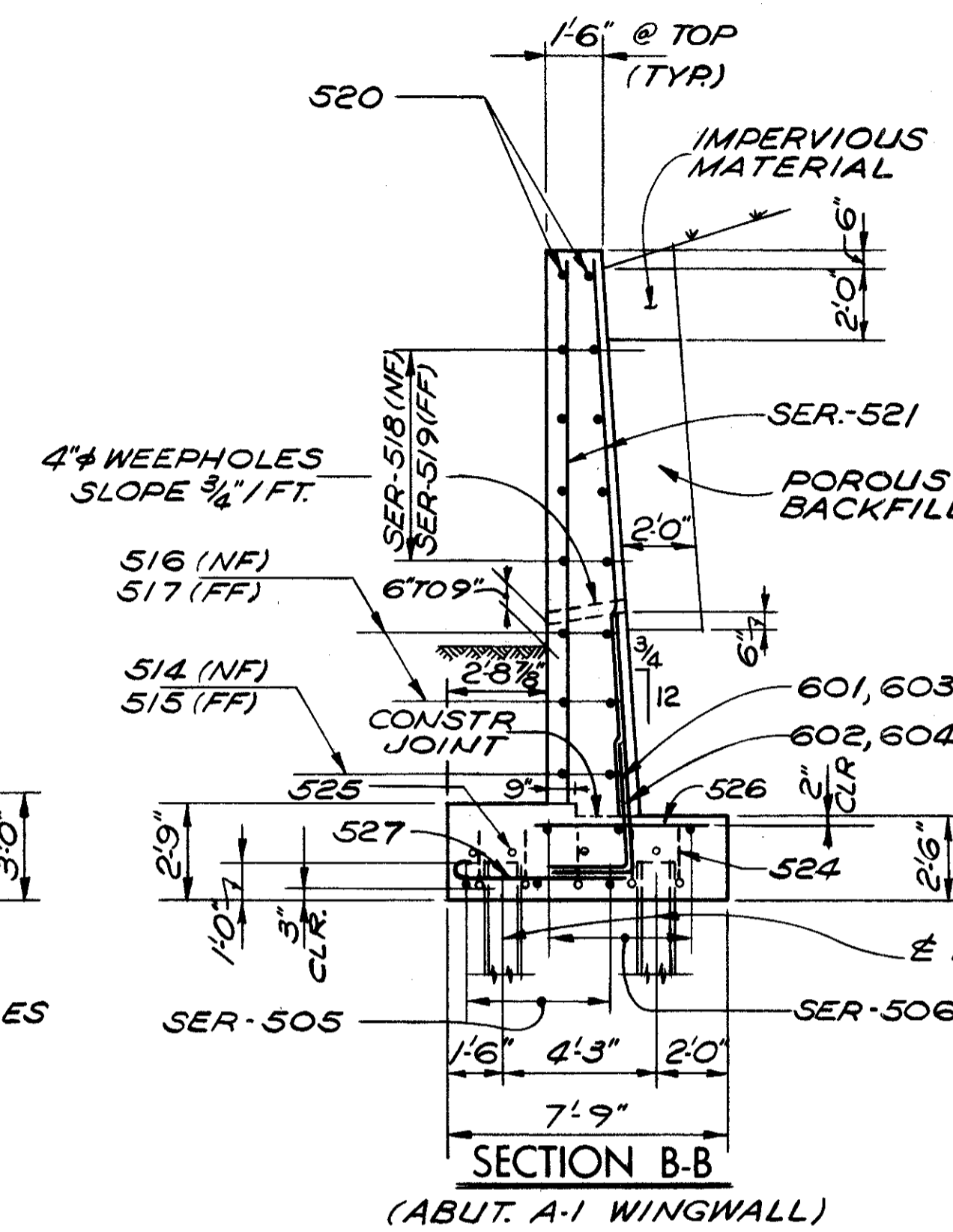
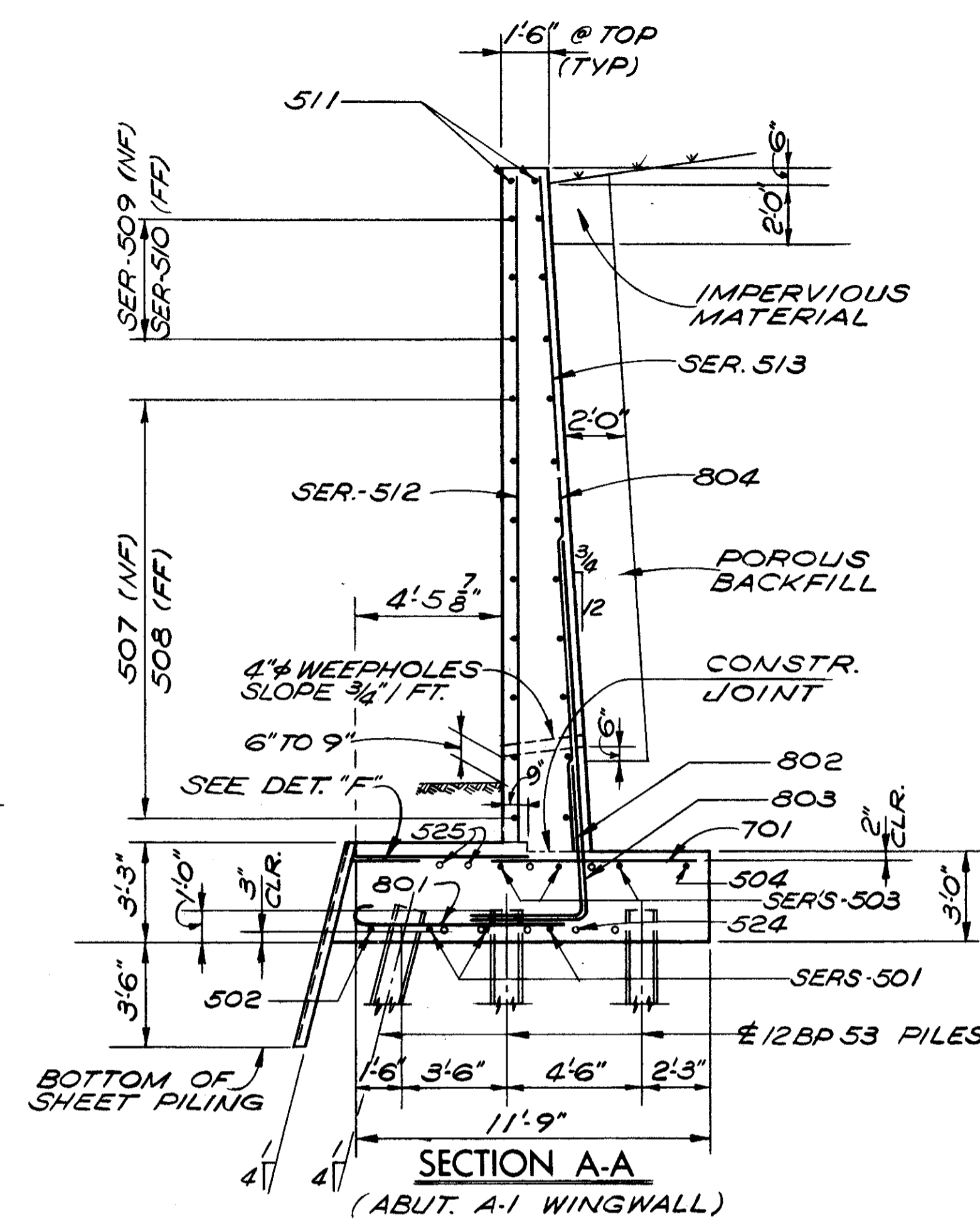
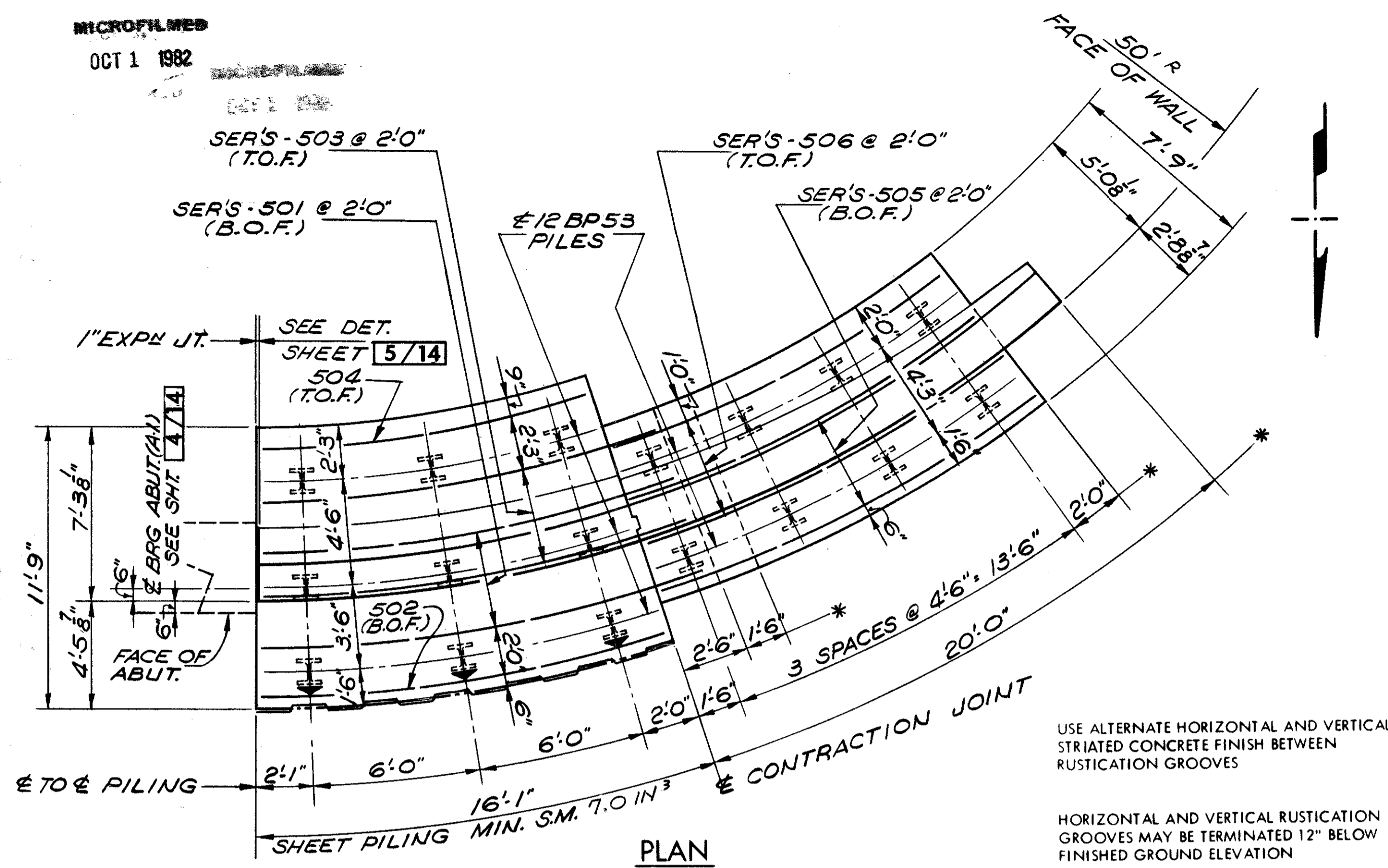
MICROFILMED

OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

644  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



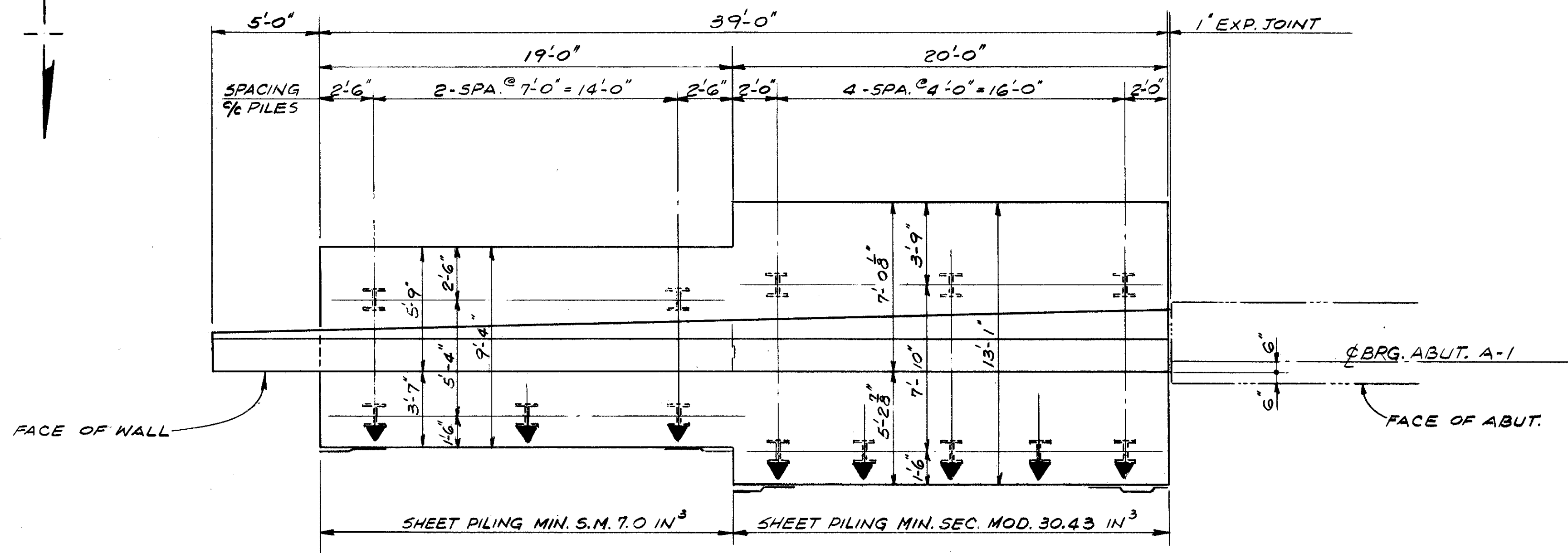
- NOTES**
- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE  
BOF-BOTTOM OF FOOTING  
TOF-TOP OF FOOTING
  - THE PREFIX "1W", "2W", ETC., SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN WALLS W-1, W-2, ETC., RESPECTIVELY.
  - ALL HORIZONTAL DIMENSIONS ARE GIVEN TO FRONT FACE OF WALL UNLESS NOTED OTHERWISE.
  - ALL REINFORCING IN FOOTINGS SHALL HAVE 3 INCHES MINIMUM CLEAR COVER.
  - FOR PILING PLAN, SEE SHEET 3/14
  - STEEL SHEET PILING LEFT IN PLACE SHALL HAVE A MINIMUM SECTION MODULUS OF \*\*\* IN PER FOOT OF WALL. USED PILING IN GOOD CONDITION MAY BE USED. \*\* SEE WINGWALL PLANS. FOR DETAILS OF ABUT. NO. 2 WINGWALLS SEE SHEET 8/14

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES					6 / 14
<b>DALTON • DALTON ASSOCIATES</b>					
<b>ABUTMENT A-1 WING WALL DETAILS</b>					
BRIDGE NO. CUY - 90 - 1196					
UNDER WEST 84th - 85th CONNECTOR RD.					
I-90 CUYAHOGA COUNTY					
STA 806 + 70.81					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
ALH	ALH	ALH	HGH	ALH	2/9/83 (3-31-7)

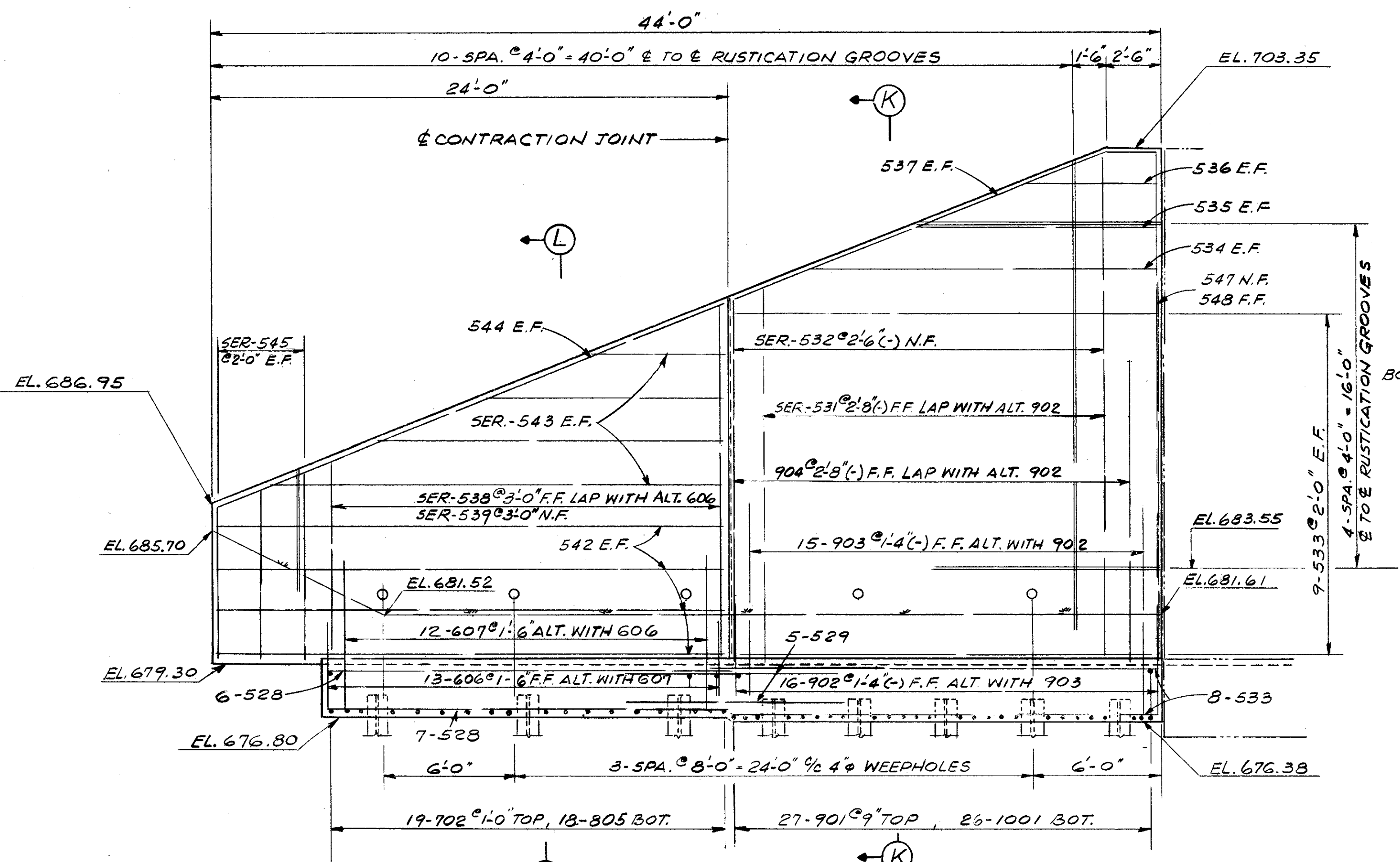
\* DENOTES DIMENSIONS SHOWN ARE GIVEN ALONG FRONT FACE OF WALL

MICROFILMED  
OCT 1 1982

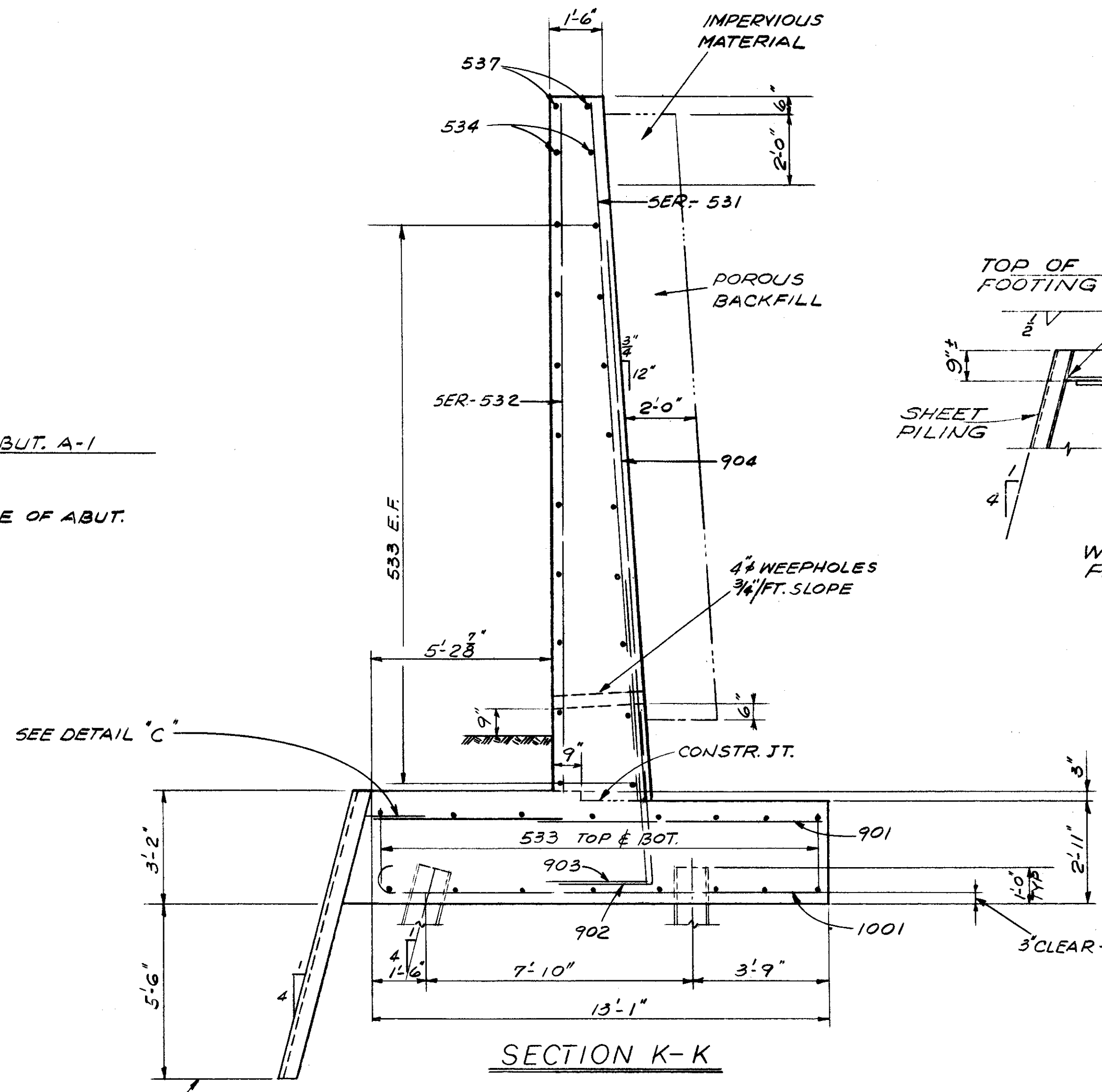
CUYAHOGA COUNTY  
CUY - 90 - 11.64



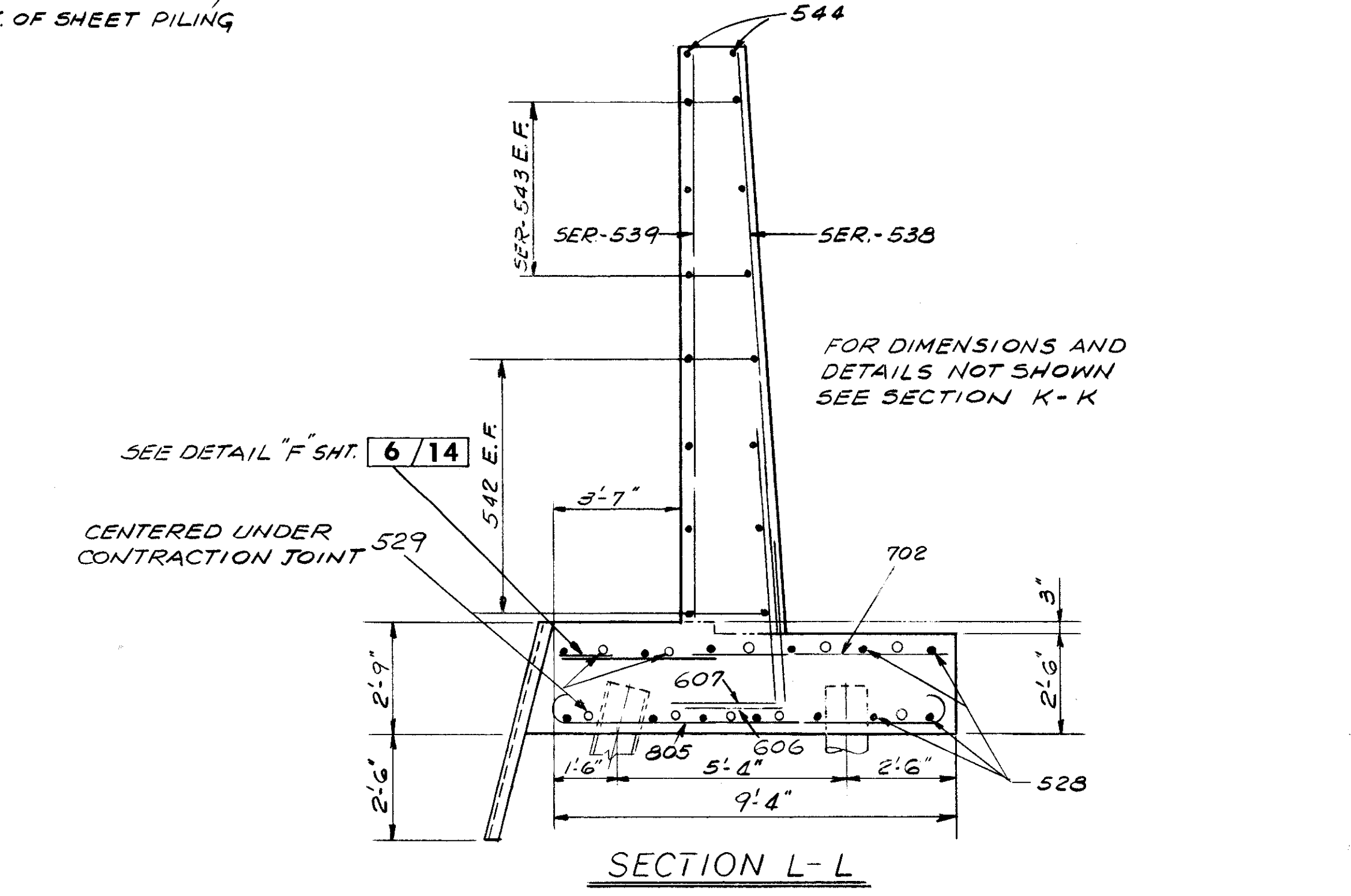
PLAN-RT. WINGWALL ABUTMENT A - 1



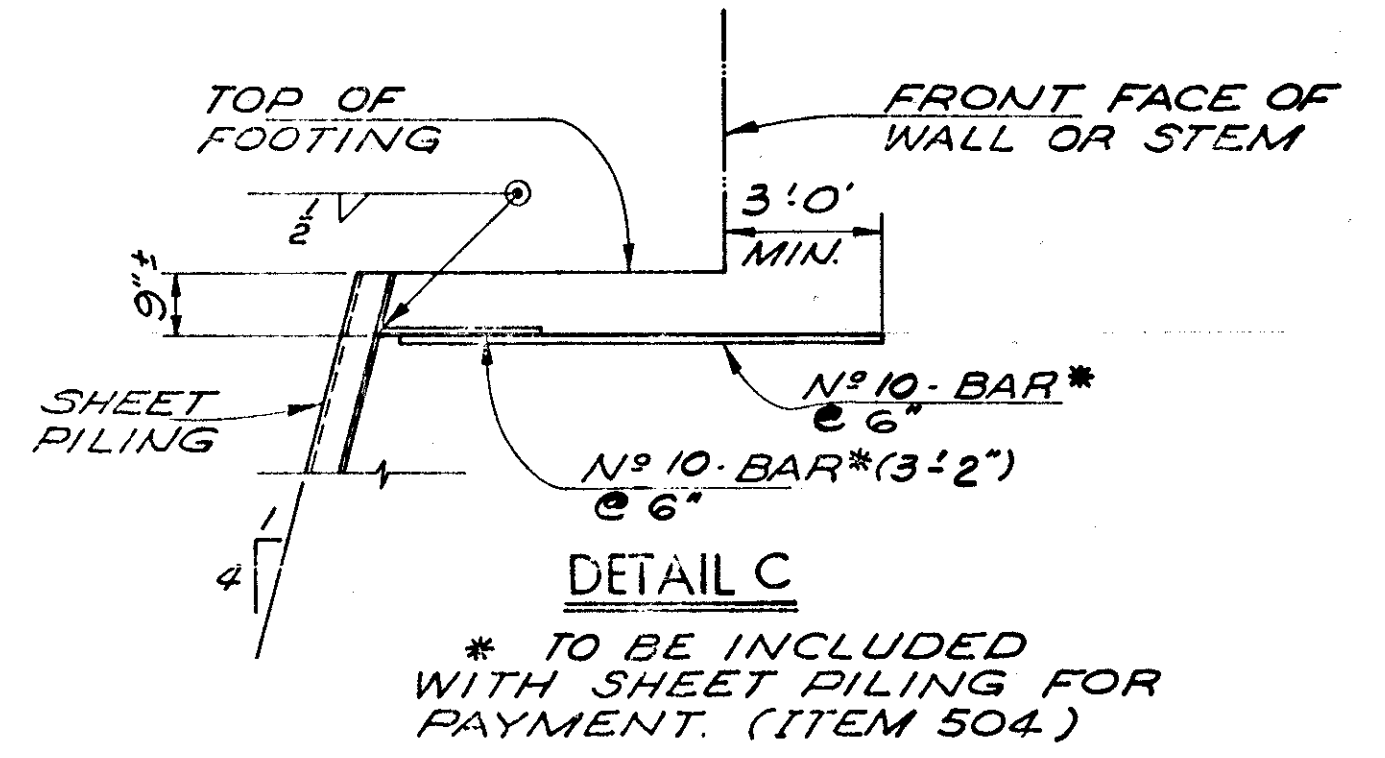
ELEVATION



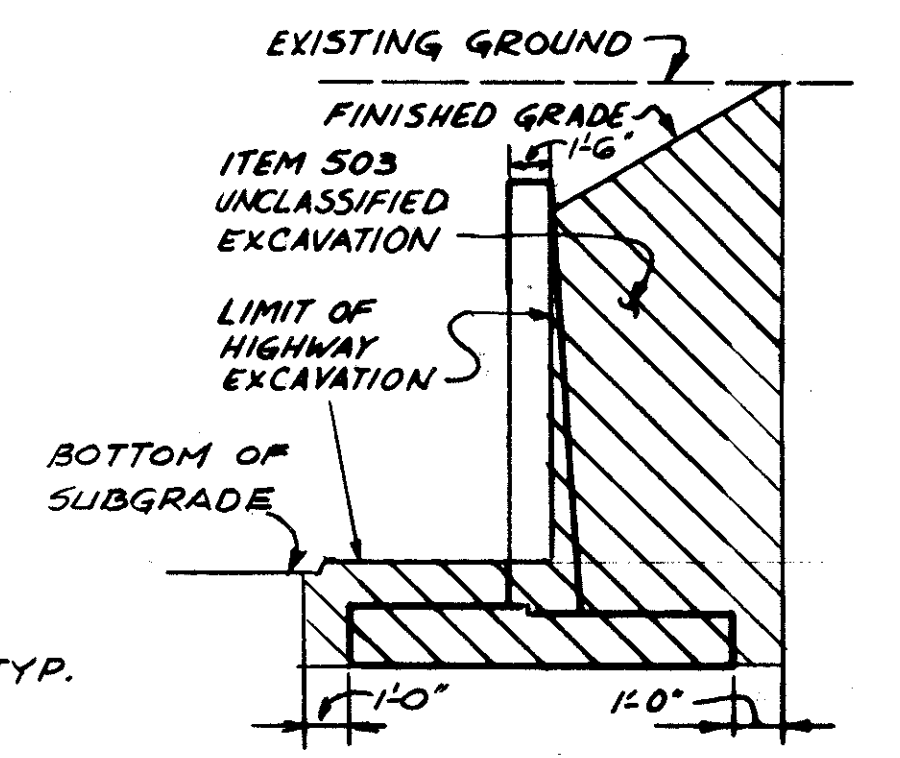
SECTION K-K



SECTION L-L



DETAIL C  
\* TO BE INCLUDED WITH SHEET PILING FOR PAYMENT. (ITEM 504.)



LIMITS OF EXCAVATION FOR WINGWALLS

FOR ADDITIONAL DETAILS, SEE SHEET 6/14

FOR NOTES, SEE SHEET 6/14

7/14

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**ABUTMENT A-1 WING WALL DETAILS**

BRIDGE NO. CUY - 90 - 1196  
UNDER WEST 84th · 85th CONNECTOR RD.  
I-90 CUYAHOGA COUNTY  
STA 806 + 70 81

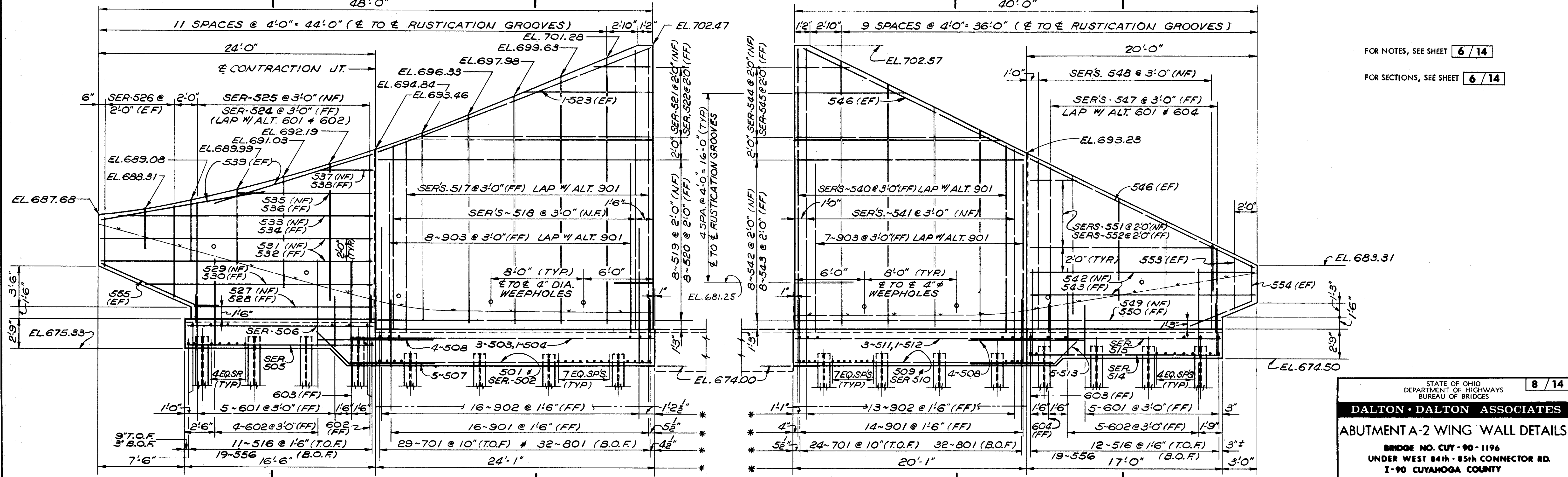
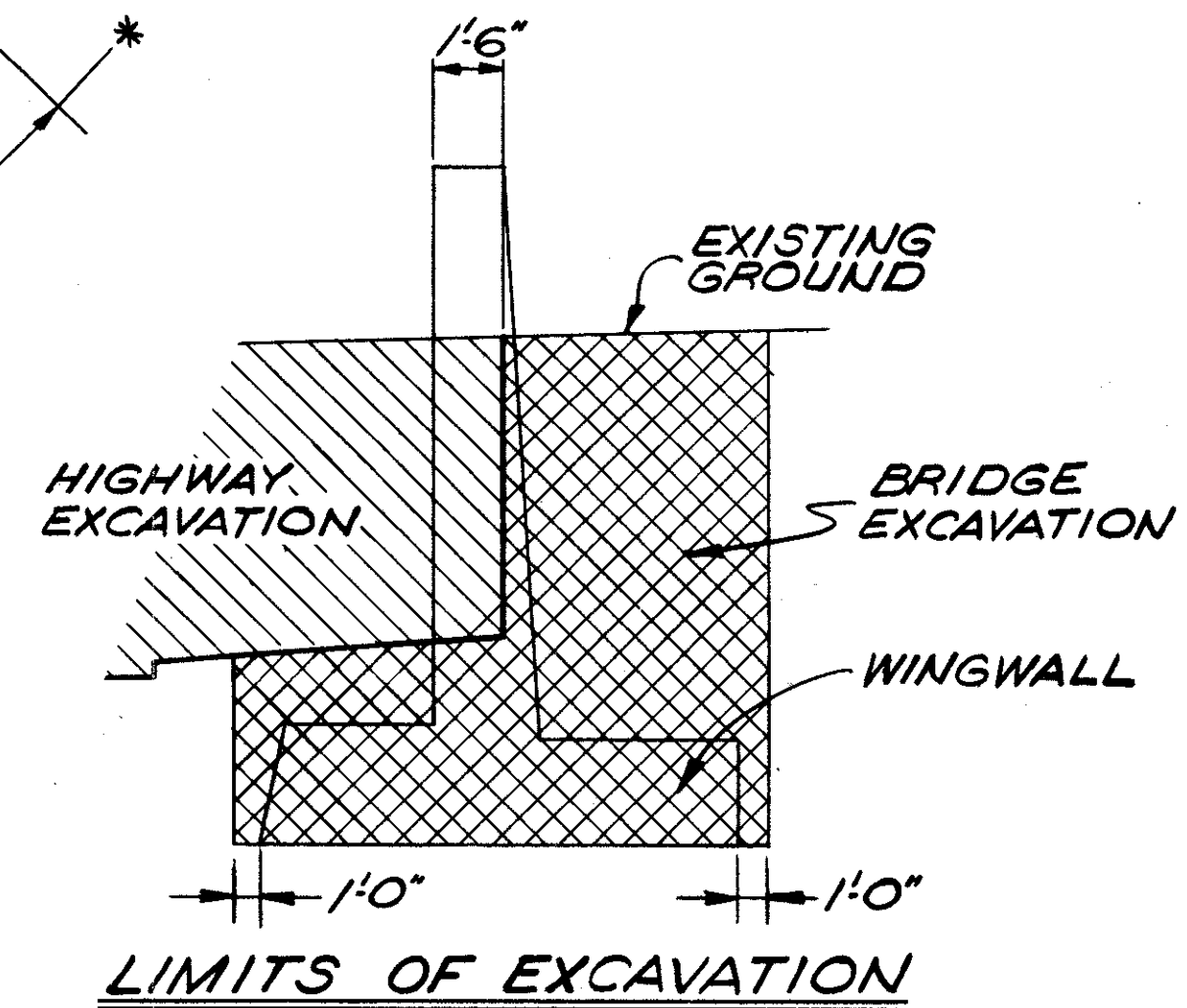
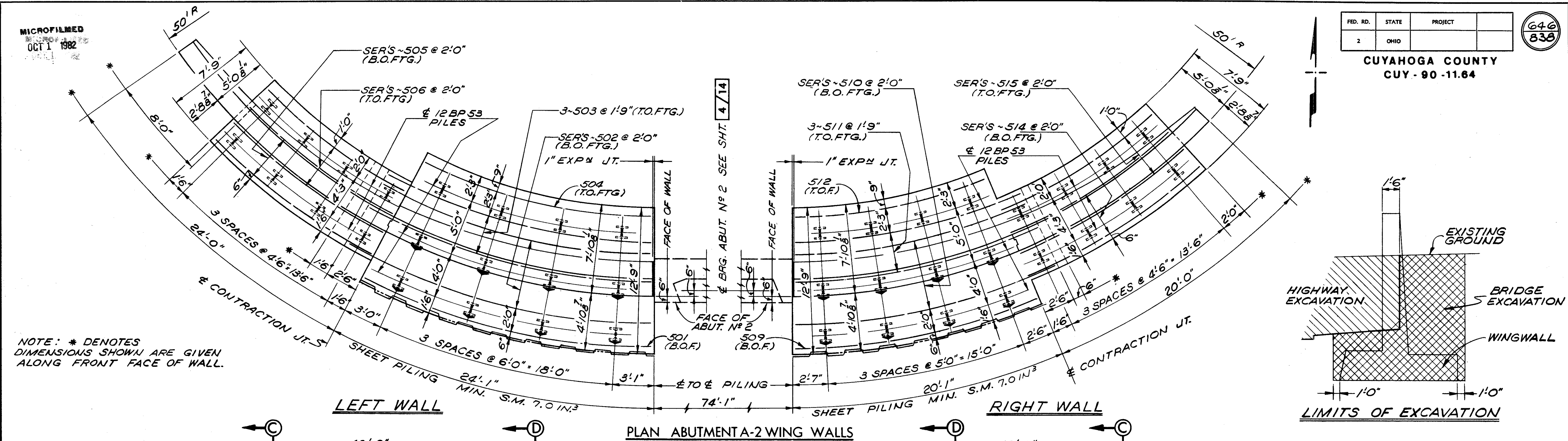
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BWM	J.K.		JFP	JFP	4-14-75	

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT	
2	OHIO		

CUYAHOGA COUNTY  
CUY - 90 - 11.64

646  
838



FOR NOTES, SEE SHEET 6/14

FOR SECTIONS, SEE SHEET 6/14

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**ABUTMENT A-2 WING WALL DETAILS**

BRIDGE NO. CUY - 90 - 1196  
UNDER WEST 84th - 85th CONNECTOR RD.  
I-90 CUYAHOGA COUNTY  
STA. 806 + 70.81

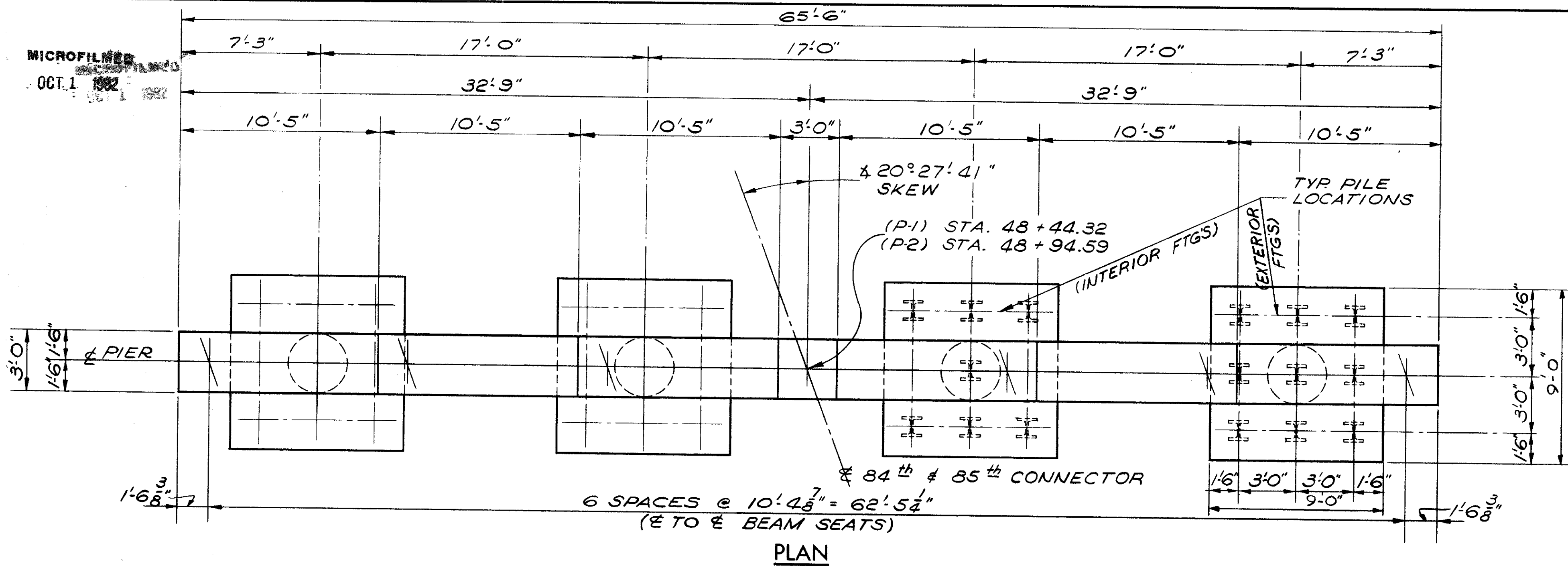
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AS	ALH		HGH	RHW	3-31-71	

MICROFILMED  
OCT. 1 1982

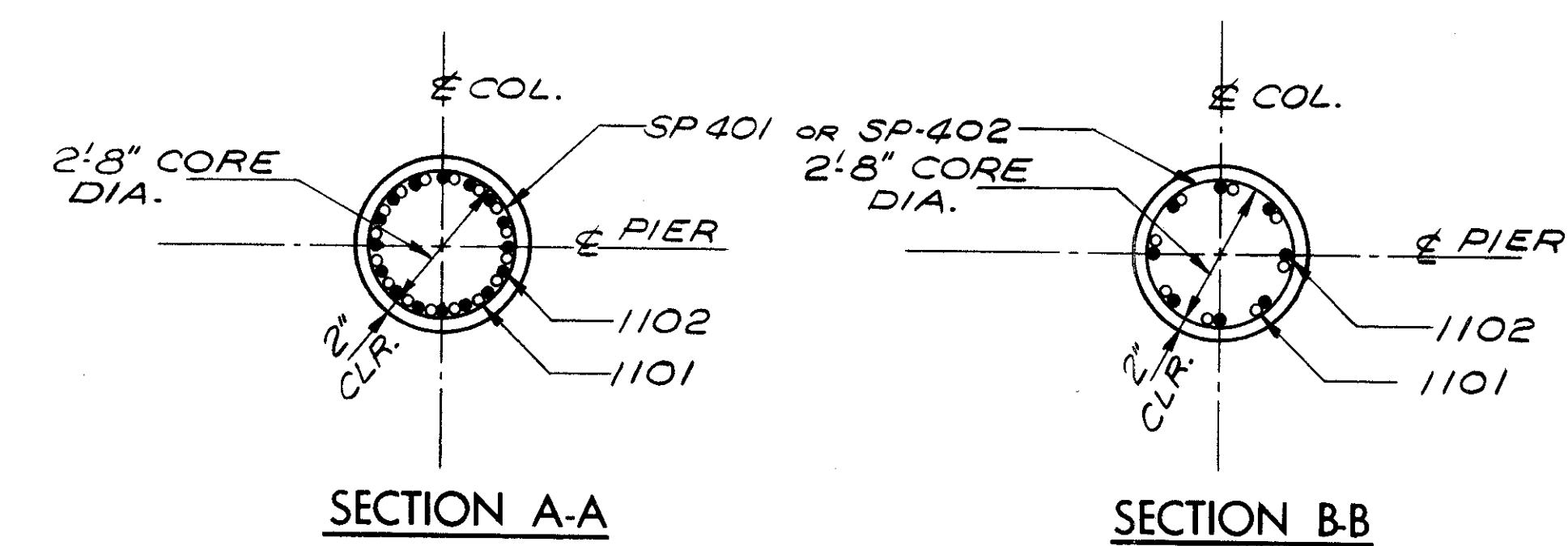
FED. RD.	STATE	PROJECT
2	OHIO	

647  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

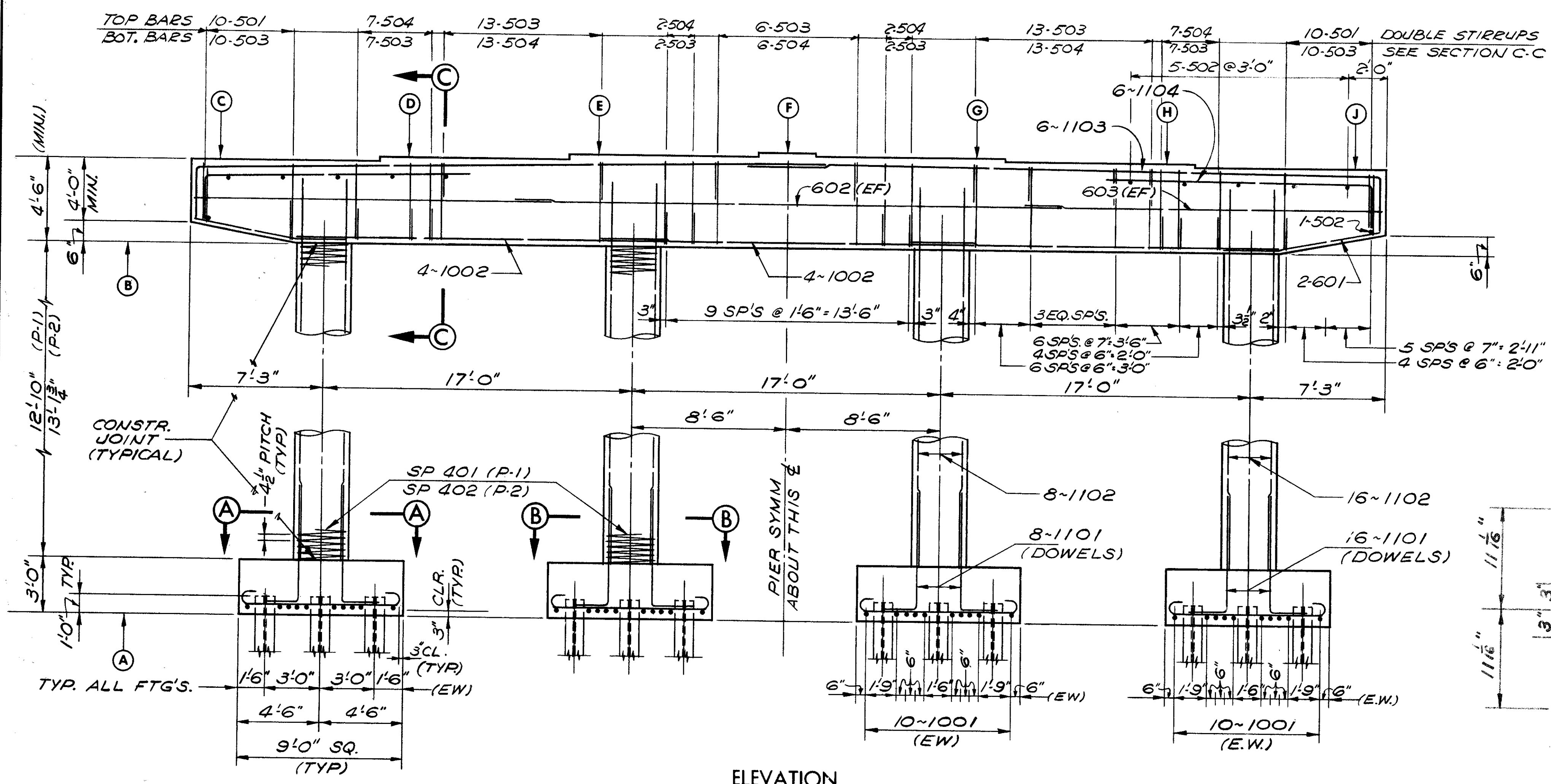


PLAN

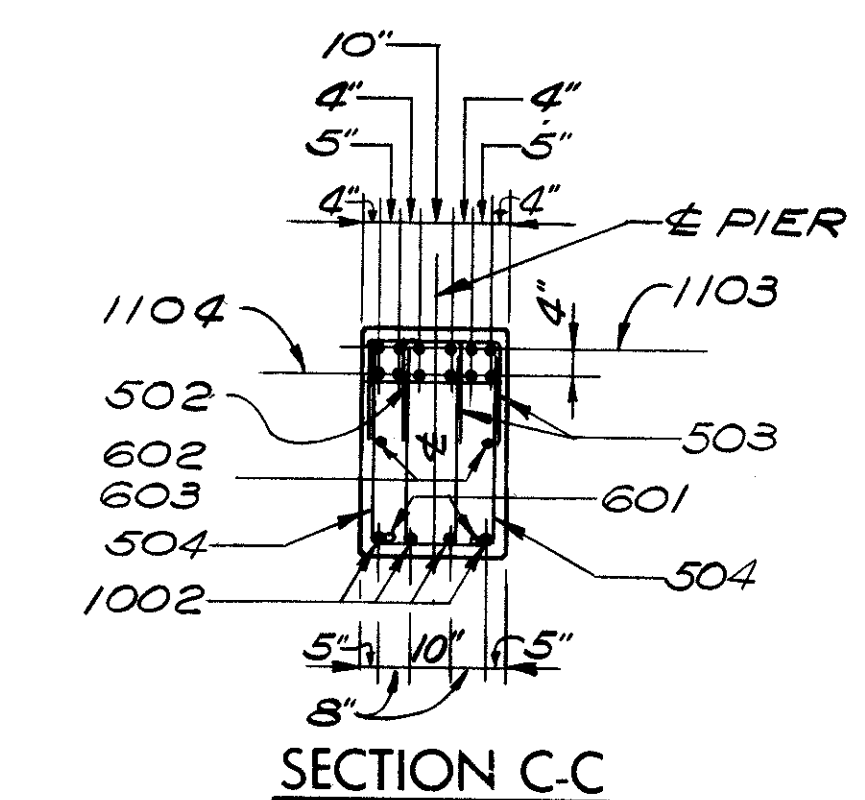


SECTION A-A

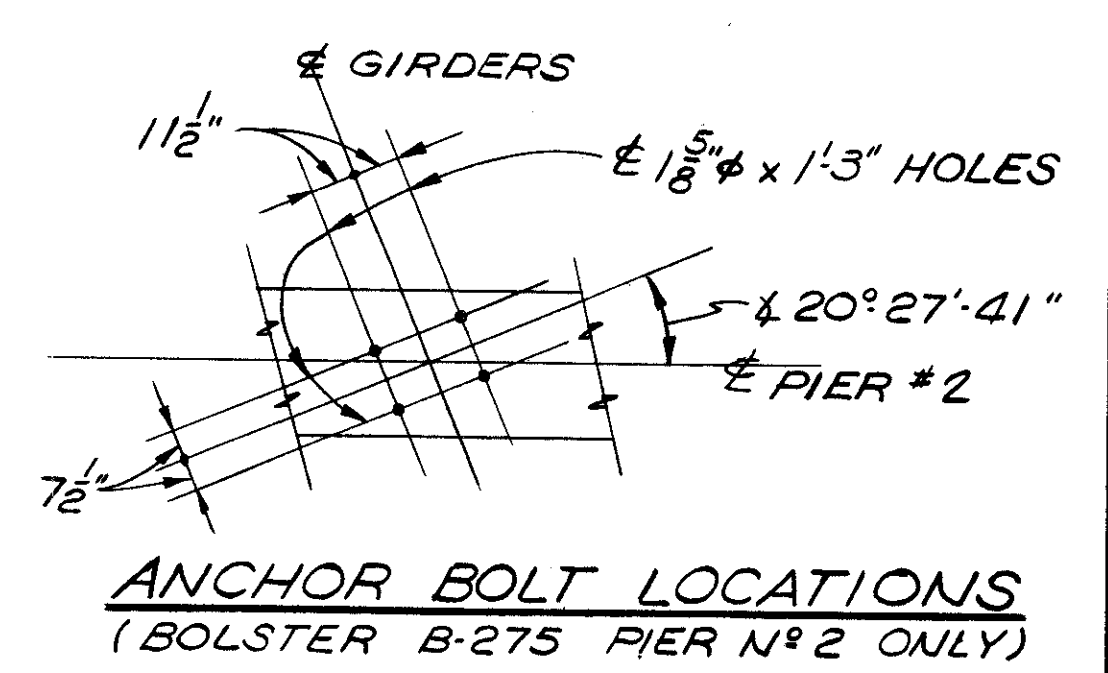
SECTION B-B



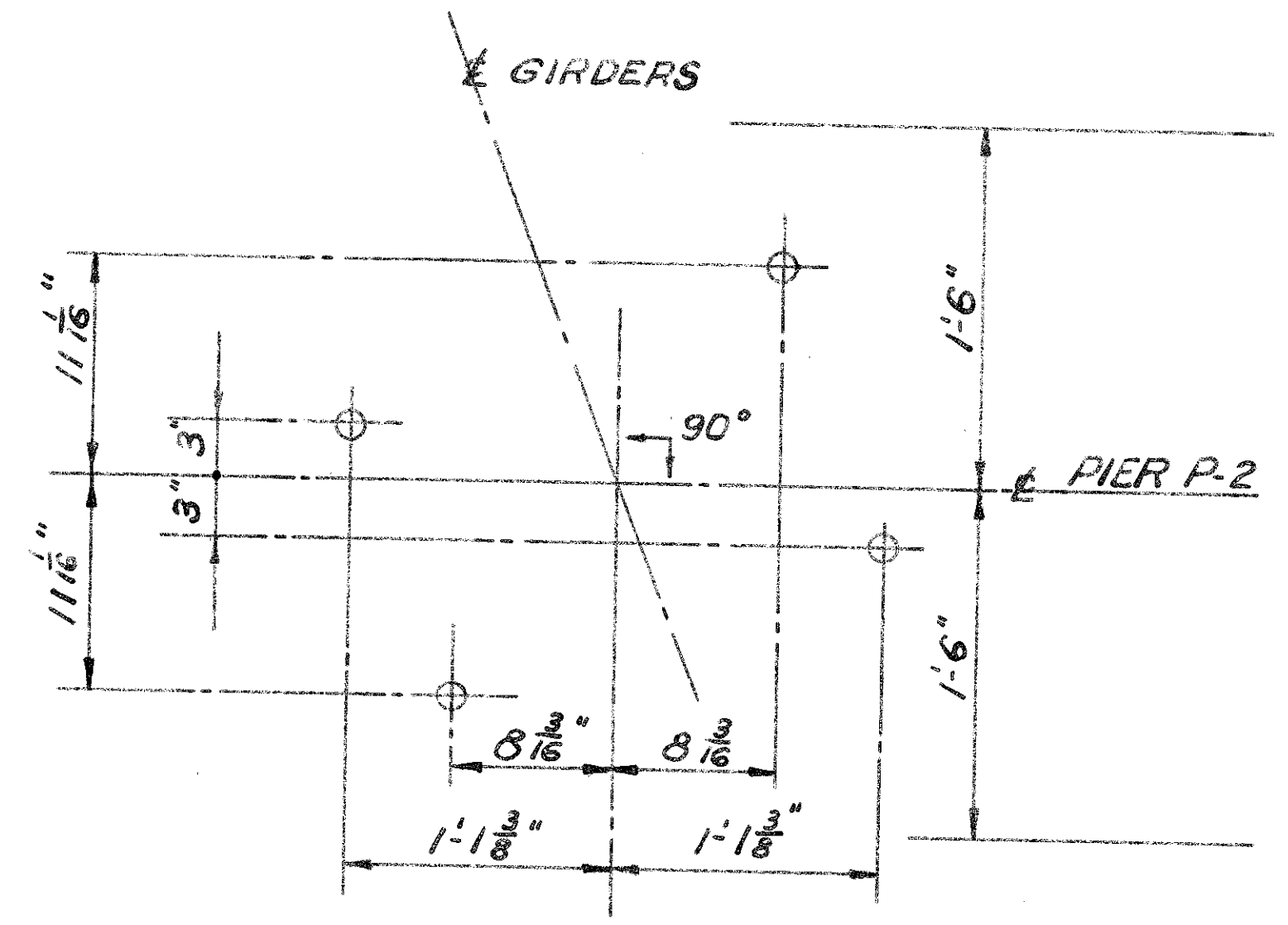
ELEVATION



SECTION C-C



ANCHOR BOLT LOCATIONS (BOLSTER B-275 PIER NO 2 ONLY)



ANCHOR BOLT LOCATIONS

- NOTES
- BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES OR THE PRESETTING OF BEARING ANCHORS. THIS ONLY APPLIES TO PIER P-2.
  - ABBREVIATIONS USED ARE:  
EW - EACH WAY  
NF - NEAR FACE  
FF - FAR FACE  
EF - EACH FACE
  - THE PREFIX "1P", "2P", ETC., SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN PIERS P1, P2, ETC., RESPECTIVELY, UNLESS SHOWN OTHERWISE.
  - FOR PILING PLAN, SEE SHEET 3/14
  - BEARING ANCHORS: AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES) LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.

ELEVATION	A	B	C	D	E	F	G	H	J
PIER NO 1	675.29	691.12	695.62	695.78	695.95	696.11	695.98	695.84	695.74
PIER NO 2	674.79	690.94	695.44	695.61	695.77	695.94	695.80	695.66	695.56

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

9 / 14

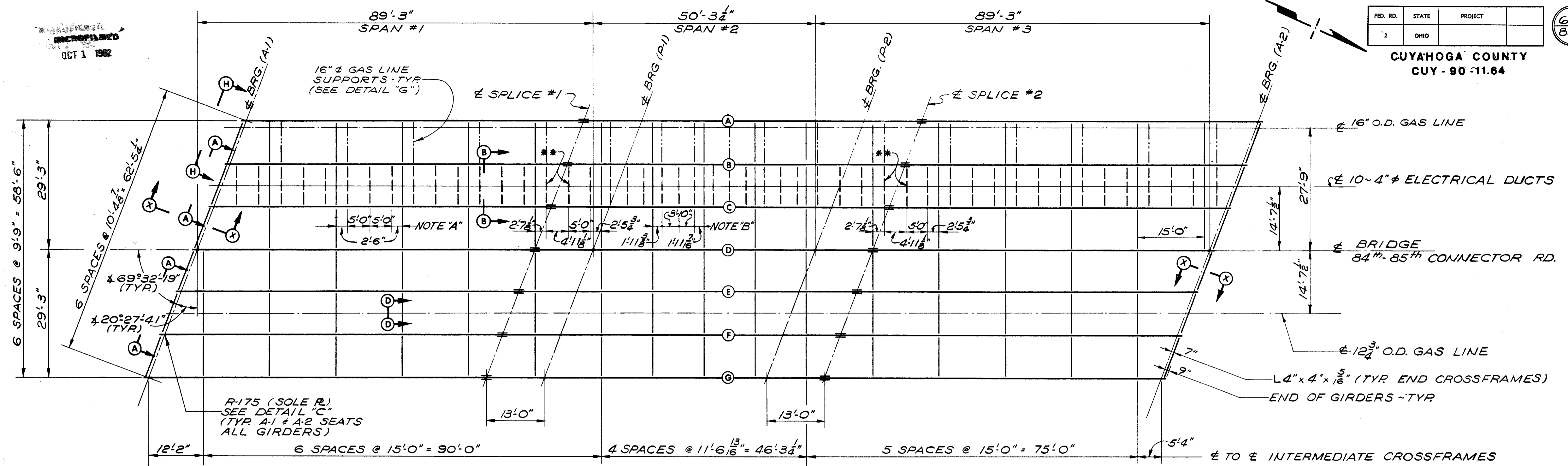
DALTON · DALTON ASSOCIATES

PIER DETAILS  
BRIDGE NO. CUY - 90 - 1196  
UNDER WEST 84th - 85th CONNECTOR RD.  
I-90 CUYAHOGA COUNTY  
STA. 806 + 70.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AS	ALH		HGH	RHW	3-31-77	10-21-76

MACROFILMED  
OCT 1 1982

CUYAHOGA COUNTY  
CUY - 90 - 11.64



**FRAMING PLAN**

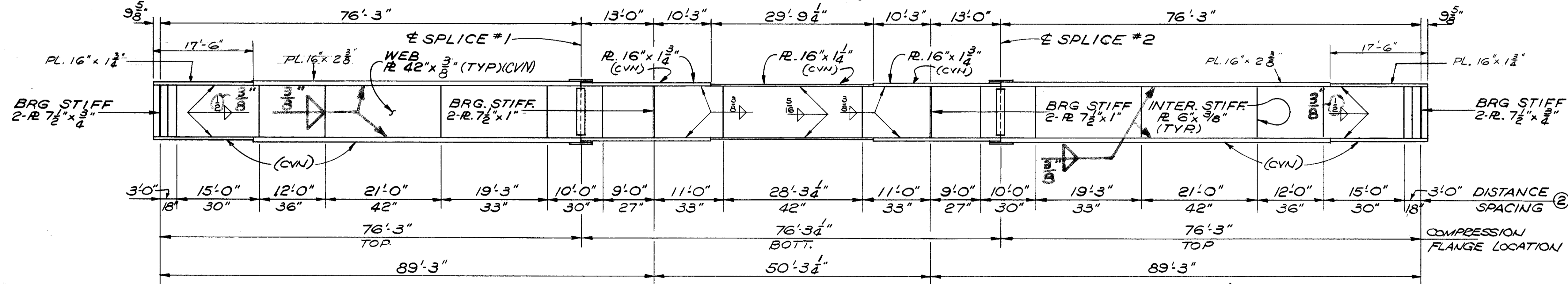
\*\* DENOTES: SEE DETAIL "F" SHEET 11/14  
NOTE "A" (TYP FOR 15'-0" CROSSFRAME SPACING) U.N.  
NOTE "B" (TYP FOR 11'-6 13/16" CROSSFRAME SPACING)

WELDED ATTACHMENTS FOR FINISHING MACHINE SUPPORTS MAY BE MADE THE FULL LENGTH OF FACIA BEAMS. ATTACHMENT DETAILS SHALL NOT EMPLOY FILLET WELDS LONGER THAN 2 INCHES OR BE CLOSER THAN 1 INCH FROM EDGE OF FLANGE.

**NOTES**

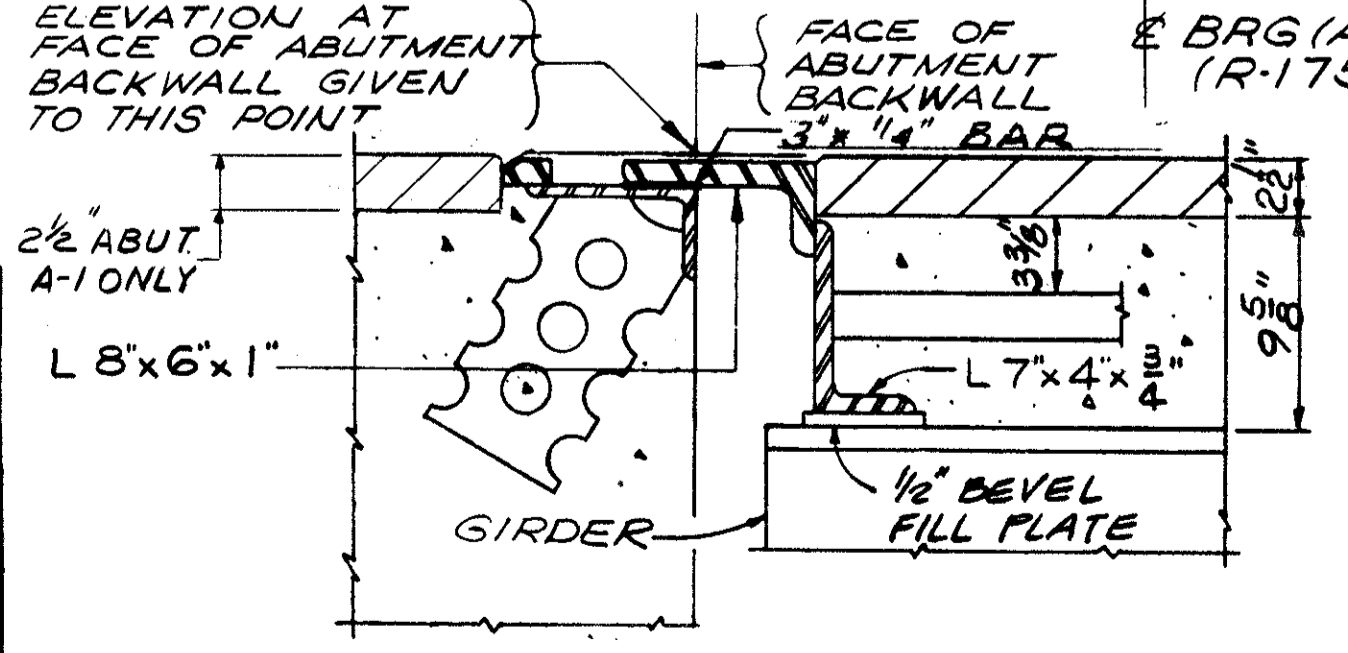
- TOP AND BOTTOM FLANGE PLATES ARE TO BE THE SAME, EXCEPT FOR THE "CVN" REQUIREMENTS, AND SHALL BE SPLICED AT POINTS SHOWN ON THE GIRDER ELEVATION
- INTERMEDIATE STIFFENERS SHALL BE PLACED IN PAIRS EQUALLY SPACED BETWEEN FIELD SPLICE ANGLES AND/OR CROSSFRAME STIFFENERS AND/OR BEARING STIFFENERS IN ACCORDANCE WITH MAXIMUM STIFFENER SPACING SHOWN ON THE GIRDER ELEVATION.
- ALL GIRDER FIELD SPLICES SHALL BE MADE WITH 1" Ø HIGH STRENGTH STEEL BOLTS. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR GIRDERS AND ON THE BOTTOM OF ALL FLANGE PLATES.
- FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 11/14

STEEL ERECTION: DURING THE ERECTION OF END DAMS AND CROSSFRAMES, CARE SHALL BE TAKEN TO INSURE THAT STRINGERS, BEARING PARTS AND BRIDGE SEATS REMAIN IN BEARING CONTACT.

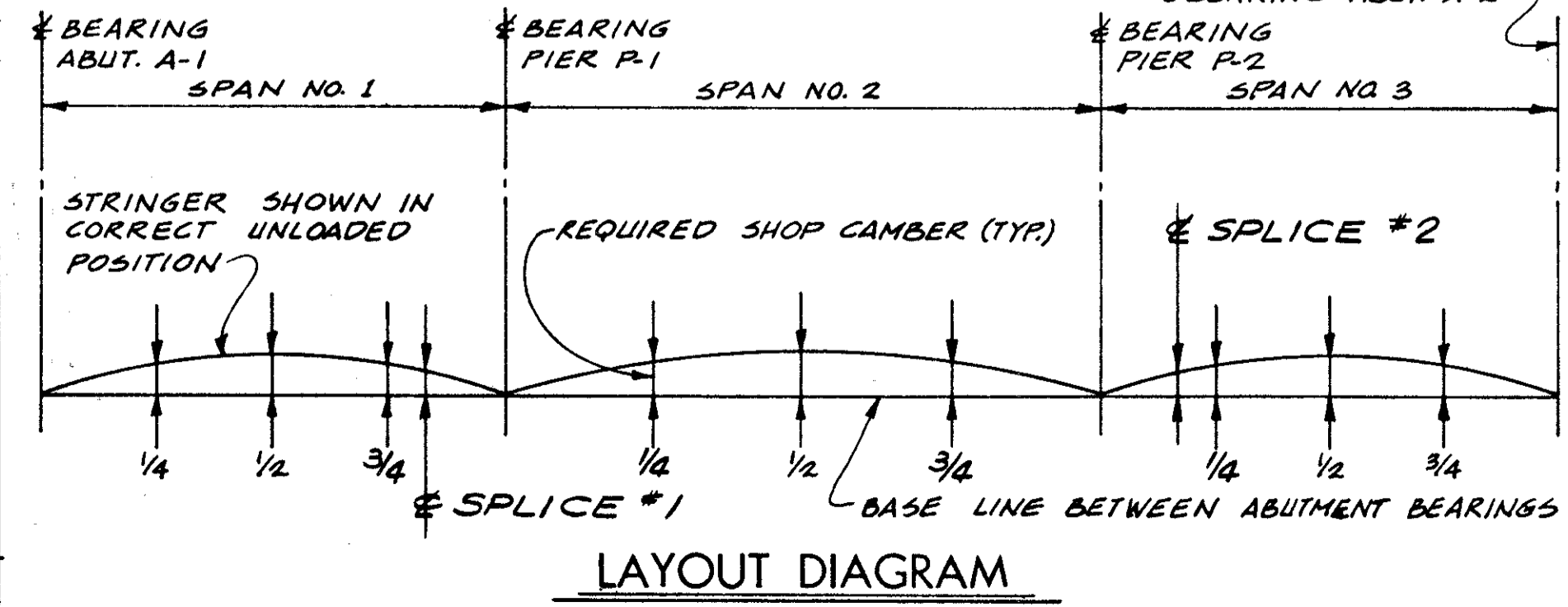


**GIRDER ELEVATION**  
(TYP "A" THRU "G")

DEFLECTION AND CAMBER												
SPANS	N°1			SPL.	N°2			SPL.	N°3			
	1/4	1/2	3/4		1/4	1/2	3/4		1/4	1/2	3/4	
POINTS	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	1/4"	1/2"	3/8"	1/8"	-1/16"	-1/16"	-1/16"	1/8"	3/16"	1/4"	1/4"	1/4"
DEFLECTION DUE TO REMAINING DEAD LOAD	3/4"	1 1/16"	1 1/16"	3/8"	-1/4"	-5/16"	-1/4"	3/8"	1 1/16"	1 1/16"	3/4"	3/4"
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
REQUIRED SHOP CAMBER	1"	1 5/16"	7/8"	1/2"	-5/16"	-3/8"	-5/16"	1/2"	7/8"	1 5/16"	1"	1"



SECTION "X-X"  
ROADWAY END DAM  
FOR ADDITIONAL DETAILS,  
SEE: 2. DWG 50-1-69, SHEET 1 OF 4.



**LAYOUT DIAGRAM**

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						10/14
DALTON · DALTON ASSOCIATES						
FRAMING PLAN						
BRIDGE NO CUY - 90 - 1196						
UNDER W.C.S. 84th - 85th CONNECTOR RD.						
I-90 CUYAHOGA COUNTY						
STA 806 + 70.81						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	ALH		HGH	RHW	3-31-71	10-31-78







CUYAHOGA COUNTY  
CUY-90-11.84

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
ABUTMENT A-1									
1A 501	50	18-0	1	1-7	6-9				430
1A 502	10	0	ST						723
1A 503	24	30-0	ST						751
1A 504	12	21-3	ST						266
1A 505	50	16-9	ST						874
1A 506	74	15-10	ST						1222
1A 507	50	8-8	3	3-3	3-5	2-3			452
1A 508	50	6-10	12	4-1	2-10	2-0			356
1A 509	29	23-2	ST						701
1A 510	32	31-8	ST						1057
1A 511	29	18-2	ST						549
1A 512	3	11-3	ST						37
1A 513	4	8-11	ST						34
1A 514	3	17-3	ST						54
1A 515	4	7-9	ST						32
1A 516	4	7-6	34	3-0	1-9	2-10	1-1		31
1A 517	4	8-2	34	2-0	2-0	4-2	1-7		34
1A 518	13	11-1	ST						150
1A 519	6	9-9	3	5-3	1-2	3-7			61
1A 520	6	6-7	12	4-8	2-0	1-10			41
1A 521	6	6-1	13	2-0	4-0	1-6			38
1A 522	4	9-8	28	3-4	0-7	0-9	2-0		40
1A 523	3	4-3	ST						13
1A 601	20	30-0	ST						901
1A 602	10	22-0	ST						330
1A 603	89	11-2	2	5-0	1-5				1493
1A 604	57	6-2	2	2-6	1-5				528
1A 605	57	9-2	2	4-3	0-11				785
1A 606	11	5-8	2	2-6	0-11				94
1A 902	74	15-9	ST						3963
1A1001	148	9-8	1	3-2	6-9				6156
1A1002	74	11-6	ST						3662
1A1003	64	14-4	7	11-6					3947
DB01	36	5-10	36	3-9"					561
TOTAL ABUTMENT A-1 =									30437

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
ABUTMENT A-2									
2A 501	50	8-3	1	1-7	6-9				430
2A 502	76	10-0	ST						793
2A 503	24	30-0	ST						751
2A 504	12	21-3	ST						266
2A 505	50	16-9	ST						874
2A 506	74	15-10	ST						1222
2A 507	50	8-8	3	3-3	3-5	2-3			452
2A 508	50	6-10	12	4-1	2-10	2-0			356
2A 509	29	23-2	ST						701
2A 510	32	31-8	ST						1057
2A 511	29	18-2	ST						549
2A 512	3	11-3	ST						35
2A 513	4	8-11	ST						37
2A 514	3	17-3	ST						54
2A 515	4	7-9	ST						32
2A 516	4	7-6	34	3-0	1-9	2-10	1-1		31
2A 517	4	8-2	34	2-0	2-0	4-2	1-7		34
2A 518	13	11-1	ST						150
2A 519	6	9-9	3	5-3	1-2	3-7			61
2A 520	6	6-7	12	4-8	2-0	1-10			41
2A 521	6	6-1	13	2-0	4-0	1-6			38
2A 522	4	9-8	28	3-4	0-7	0-9	2-0		40
2A 523	3	4-3	ST						13
2A 601	20	30-0	ST						901
2A 602	10	22-0	ST						330
2A 603	89	11-2	2	5-0	1-5				1493
2A 604	57	6-2	2	2-6	1-5				528
2A 605	57	9-2	2	4-3	0-11				785
2A 606	11	5-8	2	2-6	0-11				94
2A 901	74	17-3	ST						4340
2A1001	148	9-8	1	3-2	6-9				6156
2A1002	74	11-6	ST						3662
2A1003	64	14-4	7	11-6					3947
DB01	36	5-10	36	3-9"					561
TOTAL ABUTMENT A-2 =									30814

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
ABUTMENT A-1 WING WALL									
SERIES	1-SET	18-10		18-10	52-0				
OF	OF	3#	TO	10	TO	TO			0-8
1W 501	3 BARS	17-6		17-6	48-0				18
1W 502	1	17-2		17-2	54-0				54
SERIES	1-SET	18-0		18-0	49-9				0-8
OF	OF	3#	TO	10	TO	TO			54
1W 503	3 BARS	16-8		16-8	45-9				14
1W 504	1	13-5		13-5	43-6				53
SERIES	1-SET	17-6		17-6	52-3				0-8
OF	OF	3#	TO	10	TO	TO			53
1W 505	3 BARS	16-2		16-2	48-3				67
SERIES	1-SET	16-6		16-6	50-0				17
OF	OF	3#	TO	10	TO	TO			50
1W 506	3 BARS	15-2		15-2	46-0				131
1W 507	8	15-8		15-8	49-10				126
1W 508	8	15-1		15-1	48-2				126
SERIES	1-SET	14-9		14-9					4-3
OF	OF	3#	TO	10	TO	TO			33
1W 509	3 BARS	6-3		6-3					114
SERIES	1-SET	14-3		14-3					114
OF	OF	3#	TO	10	TO	TO			31
1W 510	3 BARS	5-9		5-9					35
1W 511	2	16-9		16-9	49-3				124
SERIES	1-SET	23-4		23-4					1-5
OF	OF	6#	TO	ST					124
1W 512	6 BARS	16-3		16-3					1-5
SERIES	1-SET	23-7		23-7					125
OF	OF	6#	TO	ST					125
1W 513	6 BARS	16-6		16-6					17
1W 514	1	16-8		16-8	49-10				17
1W 515	1	16-0		16-0	48-4				41
1W 516	2	19-8		19-8	49-10				40
1W 517	2	19-2		19-2	48-6				50
SERIES	1-SET	18-3		18-3					4-3
OF	OF	4#	TO	10	TO	TO			50
1W 518	4 BARS	5-6		5-6					46

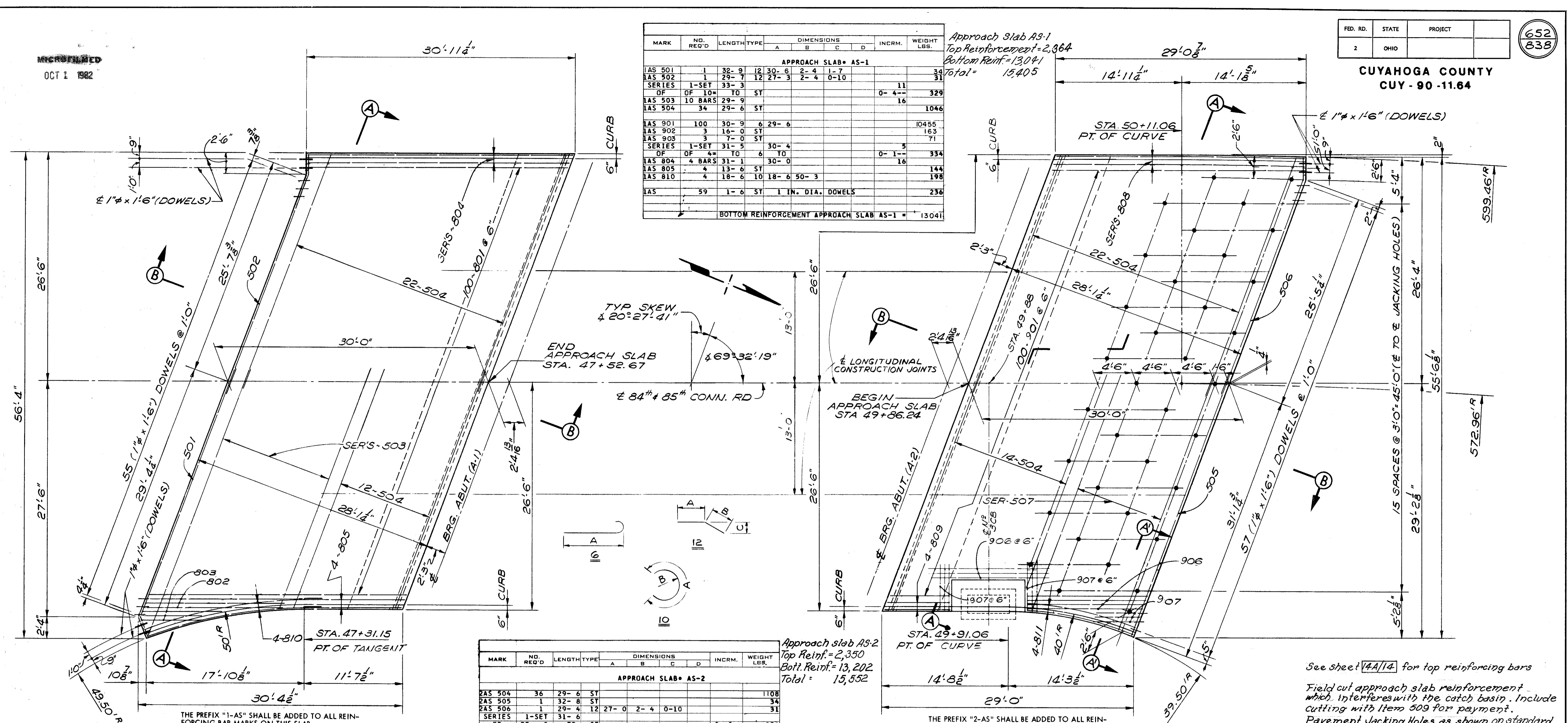
MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
ABUTMENT A-1 WING WALL									
SERIES	1-SET	17-9		17-9					
OF	OF	4#	TO	10	TO	48-8			4-2
1W 519	4 BARS	5-3		5-3					45
1W 520	2	21-6		21-6	49-3				141
SERIES	2-SETS	14-10		14-10					1-5
OF	OF	6#	TO	ST					19
1W 521	12 BARS	7-9		7-9					10
1W 522	2	9-1		12	3-6	5-8	5-4		60
1W 523	2	5-0		ST					42
1W 524	5	11-5		12	7-6	4-0	2-10		59
1W 525	4	10-0		ST					106
1W 526	12	4-9		ST					46
1W 527	19	5-4		6	4-9				66
1W 601	5	6-1		32	2-0	4-2			11
1W 602	5	8-9		32	2-0	6-10			15
1W 603	1	7-5		32	2-0	5-6			218
1W 604	1	10-1		32	2-0	6-2			345
1W 701	16	6-8	ST						218
1W 801	16	8-1		6	7-0				218
1W 802	11	7-5		32	2-6	5-1			167
1W 803	10	13-0		32	2-6	10-8			251
1W 804	5	12-6	ST						104
SERIES	1-SET	17-6		17-6					5
OF	OF	7#	TO	ST					1-0--
1W 531	7 BARS	23-8		ST					16
SERIES	1-SET	16-8		16-8					11
OF	OF	8#	TO	ST					0-11--
1W 532	8 BARS	23-6		ST					16
1W 533	34	19-8	ST						697
1W 534	2	16-0	ST						33
1W 535	2	11-6	ST						24
1W 536	2	6-6	ST						14
1W 537	2	2-10	12	2-4	18-6	7-0			43
SERIES	1-SET	9-8		9-8					1-2
OF	OF	7#	TO	ST					96
1W 538	7 BARS	16-8		ST					94
SERIES	1-SET	9-5		9-5					1-2

MICROFILMED  
OCT 1 1982

CUYAHOGA COUNTY  
CUI-90-11.64

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
APPROACH SLAB AS-1									
IAS 501	1	32-9	12	30-6	2-4	1-7			34
IAS 502	1	29-7	12	27-3	2-4	0-10			31
SERIES	1-SET	33-3						11	
OF	OF 10=	TO	ST						
IAS 503	10 BARS	29-9						0-4	329
IAS 504	34	29-6	ST					16	1046
IAS 901	100	30-9	6	29-6					10455
IAS 902	3	16-0	ST						163
IAS 903	3	7-0	ST						71
SERIES	1-SET	31-5		30-4				5	
OF	OF 4=	TO	6						
IAS 804	4 BARS	31-1	6	30-0				0-1	334
IAS 805	4	13-6	ST					16	144
IAS 810	4	18-6	10	18-6	50-3				198
IAS	59	1-6	ST	1	IN. DIA.	DOWELS			236
BOTTOM REINFORCEMENT APPROACH SLAB AS-1 =									13041

Approach Slab AS-1  
Top Reinf. = 2,364  
Bottom Reinf. = 13,041  
Total = 15,405



PLAN APPROACH SLAB @ ABUT. (A-1)

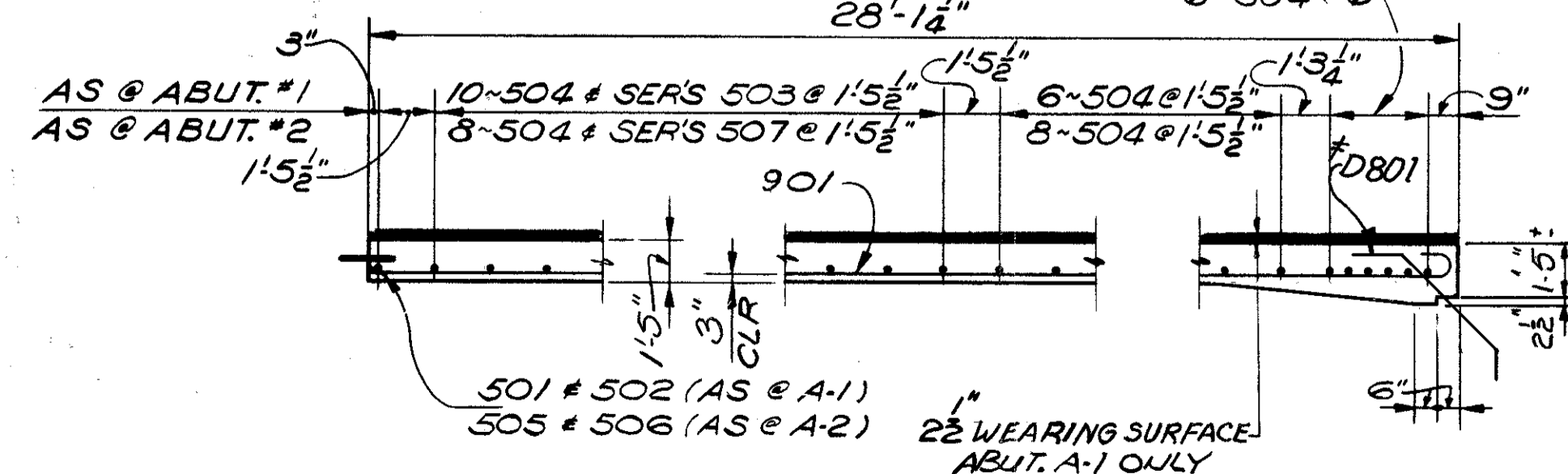
PLAN APPROACH SLAB ABUT. (A-2)

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
APPROACH SLAB AS-2									
2AS 504	36	29-6	ST						1108
2AS 505	1	32-8	ST						34
2AS 506	1	29-4	12	27-0	2-4	0-10			31
SERIES	1-SET	31-6							
OF	OF 8=	TO	ST					0-3	256
2AS 507	8 BARS	29-9							
2AS 901	100	30-9	6	29-6					10,455
2AS 906	6	14-0	ST						286
2AS 907	9	5-0	ST						153
SERIES	1-SET	29-0						5	
OF	OF 4=	TO	ST						
2AS 808	4 BARS	28-8						0-1	308
2AS 809	4	16-6	ST					16	176
2AS 811	4	14-11	10	14-11	40-3				159
2AS	59	1-6	ST	1	IN. DIA.	DOWELS			236
BOTTOM REINFORCEMENT, APPROACH SLAB AS-2 =									13,202

Approach slab AS-2  
Top Reinf. = 2,350  
Bot. Reinf. = 13,202  
Total = 15,552

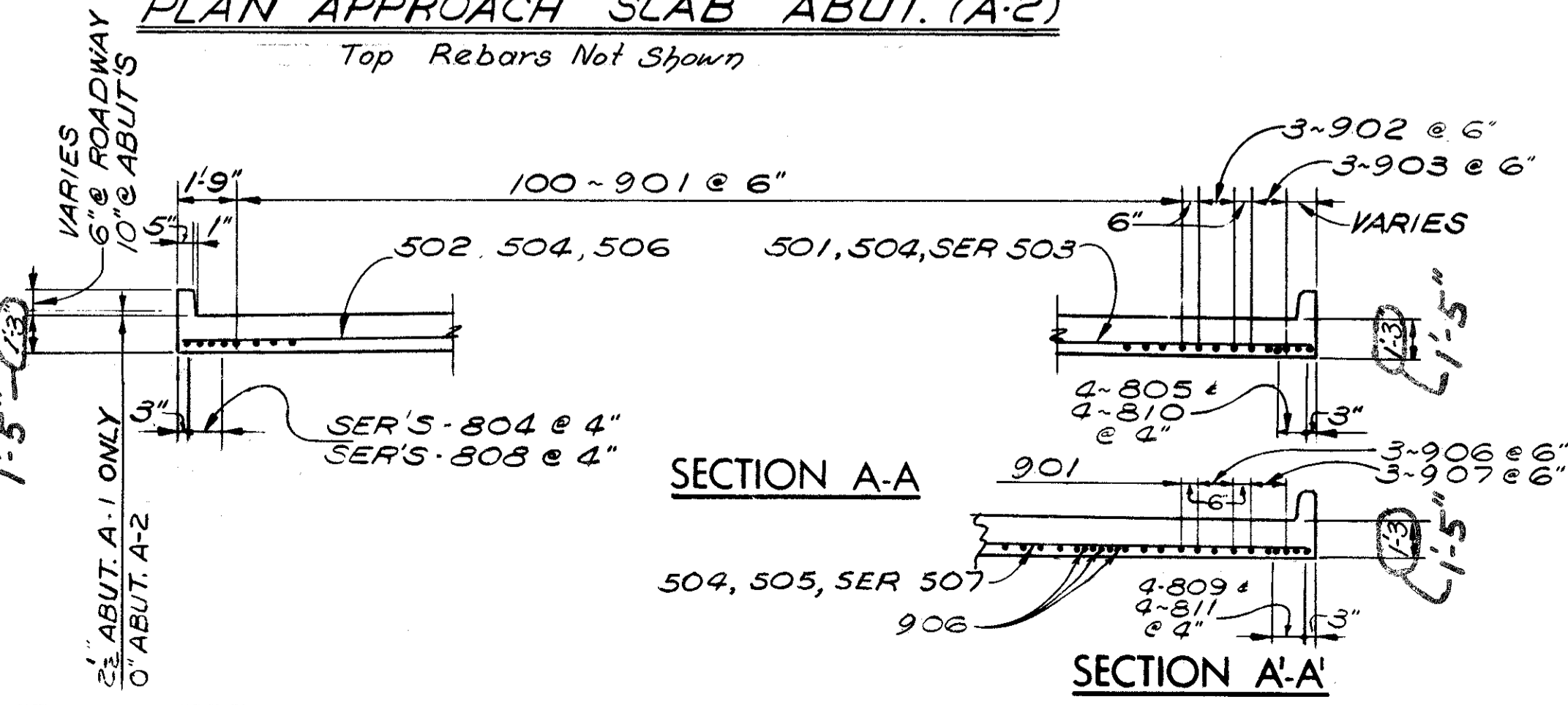
THE PREFIX "1-AS" SHALL BE ADDED TO ALL REINFORCING BAR MARKS ON THIS SLAB.

THE PREFIX "2-AS" SHALL BE ADDED TO ALL REINFORCING BAR MARKS ON THIS SLAB.



SECTION B-B

\* Included with abutment concrete for payment.



SECTION A-A

\* APPROACH SLAB REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 611 FOR PAYMENT.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, IAS 701 IS A NO. 7 SIZE BAR AND IAS1014 IS A NO. 10 SIZE BAR.

357 SQ YDS. CLASS "C" CONCRETE

QUANTITIES ARE FOR BOTH APPROACH SLABS.

See sheet 14A/14 for top reinforcing bars

Field cut approach slab reinforcement which interferes with the catch basin. Include cutting with item 509 for payment.

Pavement Jacking Holes as shown on standard drawing AS-1-72 shall not be provided for approach slab at Abutment (A-1).

NOTE: FOR DETAILS & NOTES NOT SHOWN SEE STATE OF OHIO STANDARD DWG AS-1-72.

DESIGNED		ALH	TRACED	CHKD	REV'D	DATE	REV'D
DRAWN		ALH	CHKD	REV'D	DATE	REV'D	10/31/75

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

14/14

DALTON · DALTON ASSOCIATES

APPROACH SLAB DETAILS

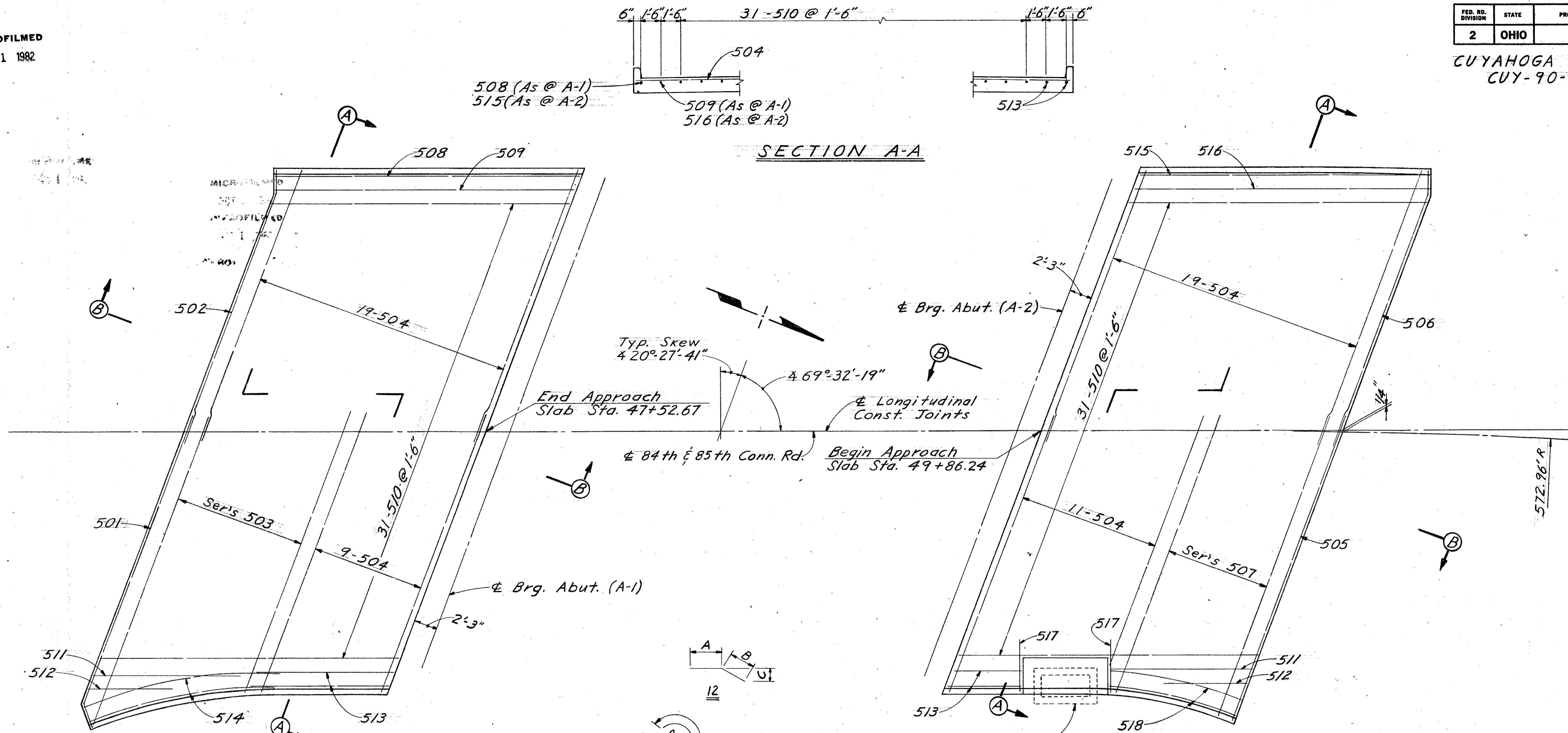
BRIDGE NO. CUY-90-1196  
UNDER WEST 84th - 85th CONNECTOR RD.  
I-90 CUYAHOGA COUNTY  
STA. 806 + 70.81

MICROFILMED  
OCT 1 1982

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

652A  
838

CUYAHOGA COUNTY  
CUY-90-11.64



SECTION A-A

PLAN APPROACH SLAB ABUT. (A-2)

The prefix "IAS" shall be added to all reinforcing bar marks on this slab.  
PLAN APPROACH SLAB ABUT. (A-1)  
Bottom Rebars not shown.

Bottom Rebars not shown  
The prefix "ZAS" shall be added to all reinforcing bar marks on this slab.

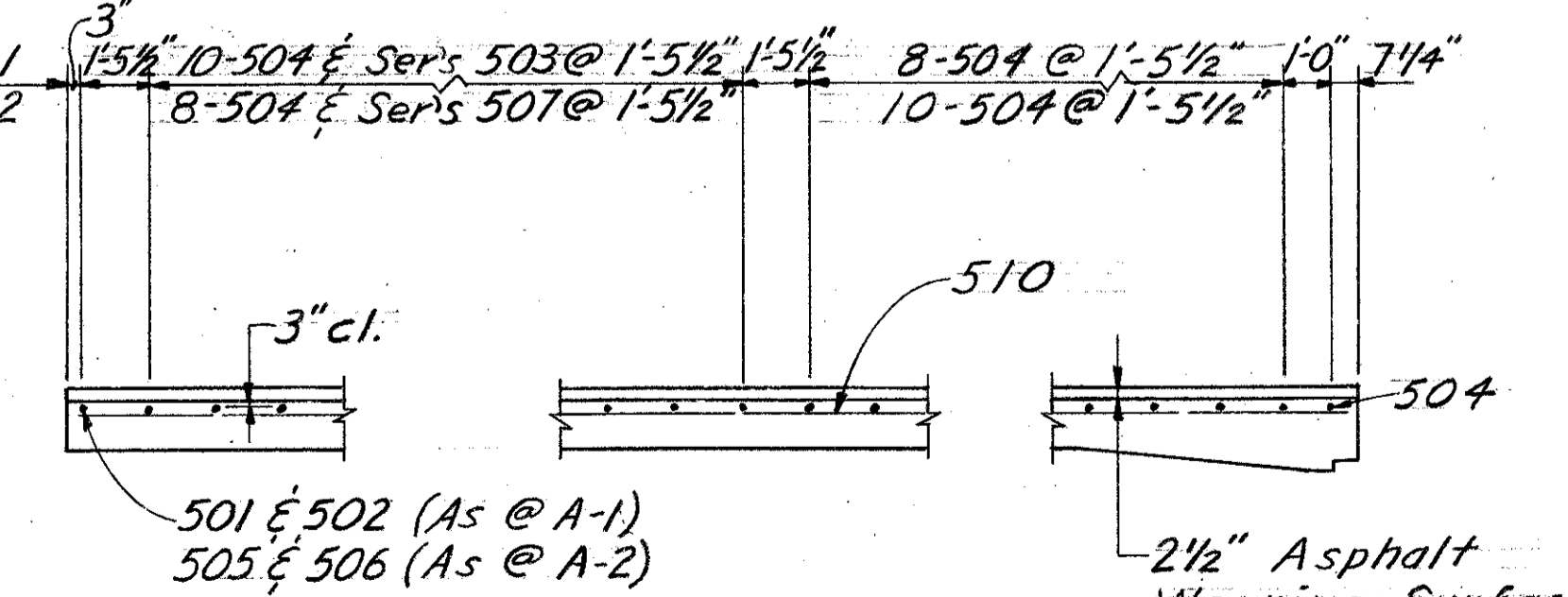
See Sh. 14/14 for bottom Reinforcing Bars.

Field cut approach slab reinforcement which interferes with the catch basin. Include cutting with Item 509 for payment.

As @ Abut #1 10-504 & Ser's 503 @ 1'-5 1/2" 1'-5 1/2" 8-504 @ 1'-5 1/2" 1'-0" 7'4"  
As @ Abut #2 8-504 & Ser's 507 @ 1'-5 1/2" 10-504 @ 1'-5 1/2"

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
APPROACH SLAB AS-1									
IAS501	1	32'-9"	12	30'-6"	2'-4"	1'-7"			34
IAS502	1	29'-7"	12	27'-3"	2'-4"	10"			31
SERIES 1-SET		33'-3"							
OF 10 =	10	ST					4 1/16"	329	
IAS503	10 BARS	29'-9"							
IAS504	28	29'-6"	ST					862	
IAS508	1	30'-3"	ST					32	
IAS509	1	29'-10"	ST					31	
IAS510	31	29'-6"	ST					954	
IAS511	1	14'-0"	ST					15	
IAS512	1	8'-0"	ST					8	
IAS513	2	13'-6"	ST					28	
IAS514	2	19'-3"	10	19'-3"	50'-6"			40	
TOP REINFORCEMENT, APPROACH SLAB AS-1 = 2364									

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
APPROACH SLAB AS-2									
ZAS504	30	29'-6"	ST						923
ZAS505	1	32'-8"	ST						34
ZAS506	1	29'-4"	12	27'-0"	2'-4"	10"			31
SERIES 1-SET		31'-6"							
OF 8 =	70	ST					3"	256	
ZAS507	8 BARS	29'-9"							
ZAS510	31	29'-6"	ST					954	
ZAS511	1	14'-0"	ST					15	
ZAS512	1	8'-0"	ST					8	
ZAS513	2	13'-6"	ST					28	
ZAS515	1	28'-8"	ST					30	
ZAS516	1	29'-2"	ST					30	
ZAS517	2	5'-0"	ST					10	
ZAS518	2	15'-0"	10	15'-0"	40'-0"			31	
TOP REINFORCEMENT, APPROACH SLAB AS-2 = 2350									



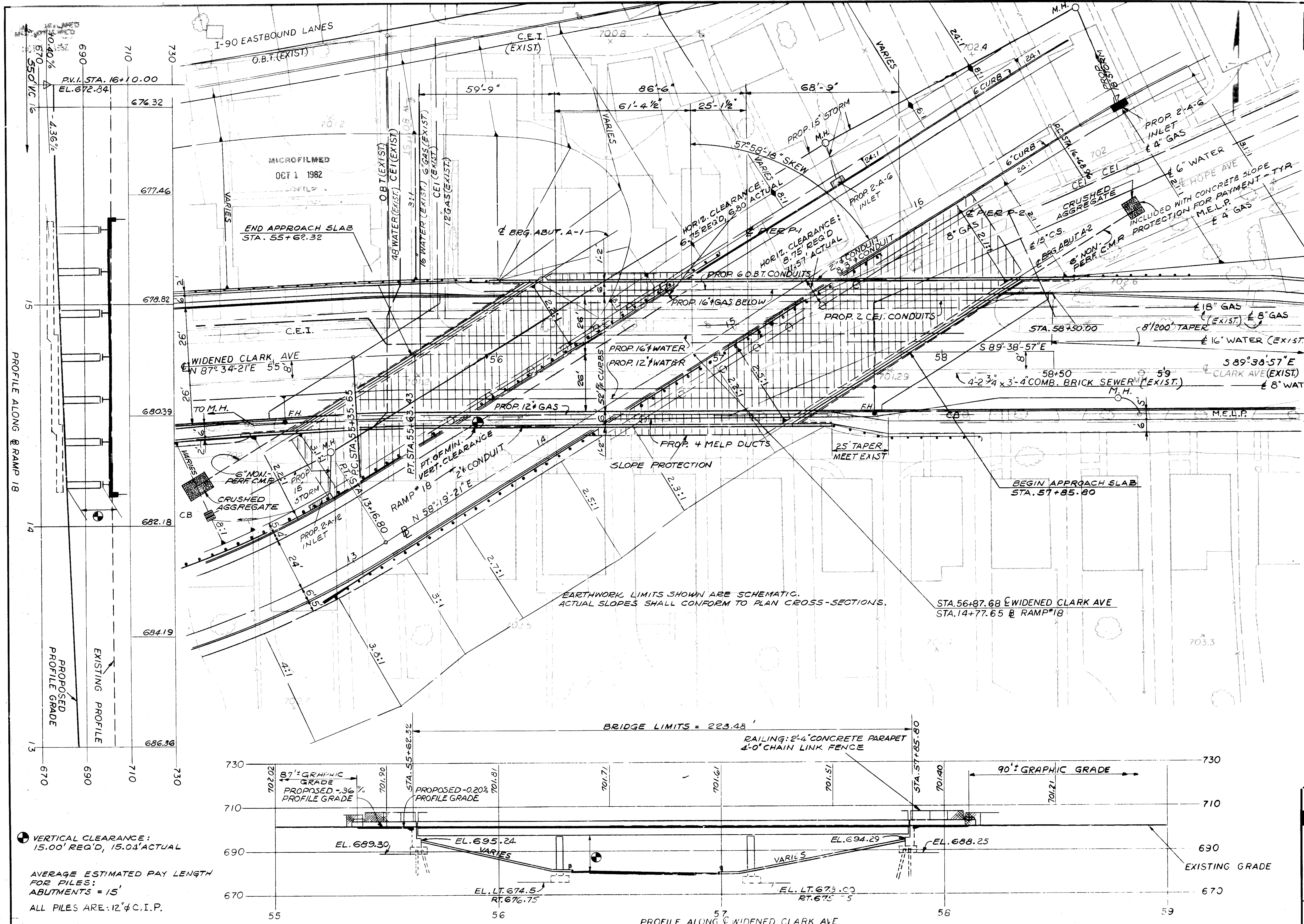
SECTION B-B

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES							14A/14
APPROACH SLAB DETAILS							
BRIDGE NO. CUY-90-1196 UNDER WEST 84th-85th CONNECTOR RD.							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
ULH	ULH		WTF	CPD	5-21-75		

CUYAHOGA COUNTY  
CUY-90-11.64

CURVE DATA

WIDENED CLARK AVE  
P.I. STA. 55+49.54  
Δ = 2°46'42"  
Q = 10°00'00"  
R = 572.96'  
T = 13.89'  
L = 27.78'



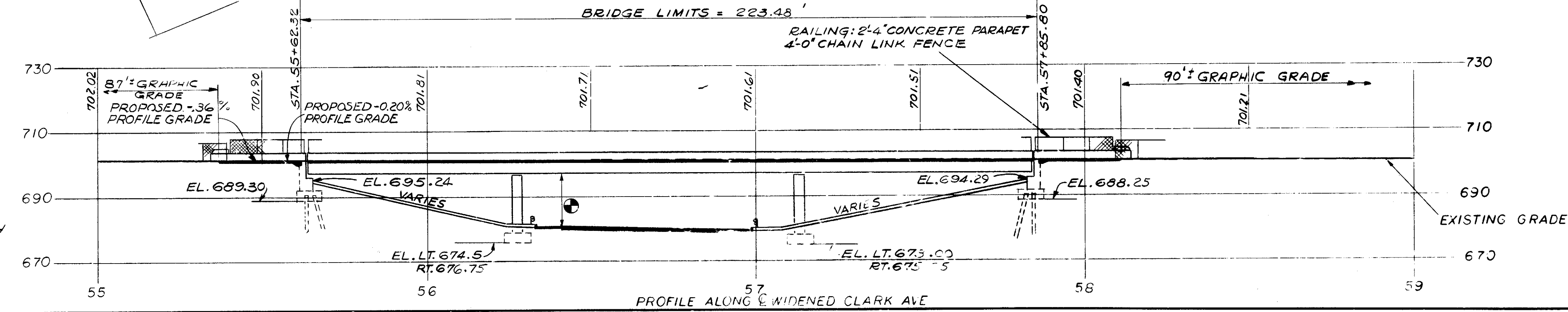
PROFILE ALONG @ RAMP 18

PROPOSED PROFILE GRADE

VERTICAL CLEARANCE:  
15.00' REQ'D, 15.04' ACTUAL

AVERAGE ESTIMATED PAY LENGTH  
FOR PILES:  
ABUTMENTS = 15'

ALL PILES ARE: 12" C.I.P.



EARTHWORK LIMITS SHOWN ARE SCHEMATIC.  
ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.

SKEW: 57°-58'-18" LF.

SPANS: 59' L<sub>1</sub>, 86'6" L<sub>2</sub>, 68'9" L<sub>3</sub>

ROADWAY: 52'-0" W/ CURBS, 6'-0" SIDEWALK LT. AND RT.

LOADING: HS 20-44

WEARING SURFACE: 1/2" ASPHALT CONCRETE

APPROACH SLABS: 25' LONG (SPECIAL)

ALIGNMENT: 10°00'00" CURVE RT & TANGENT.

SUPERELEVATION: NONE.

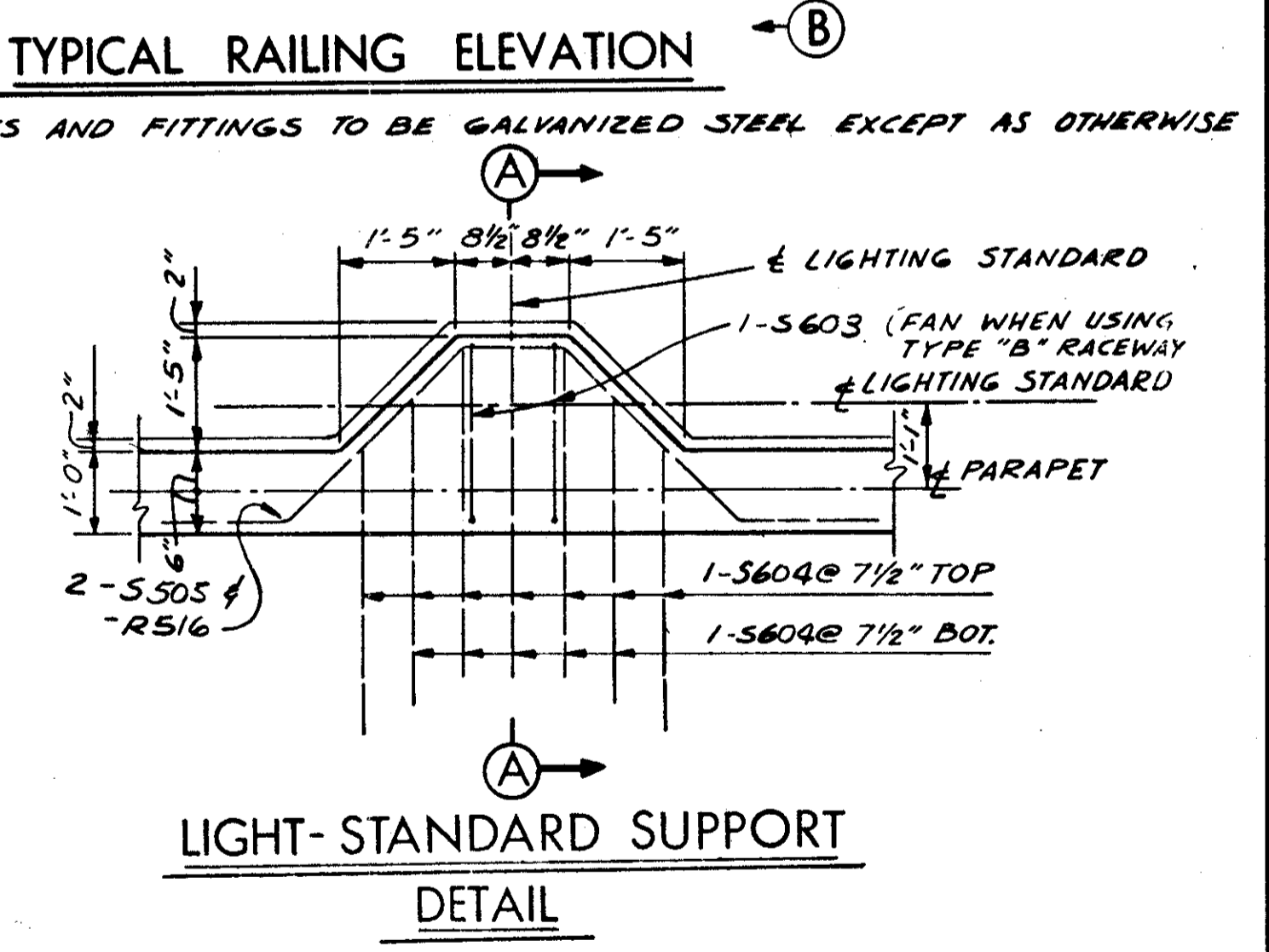
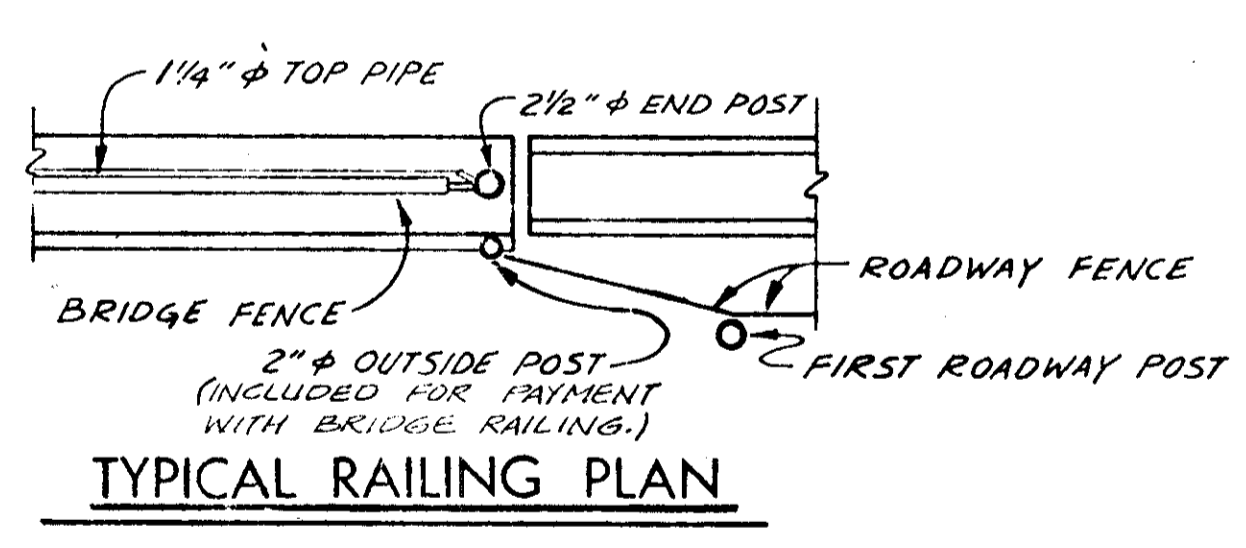
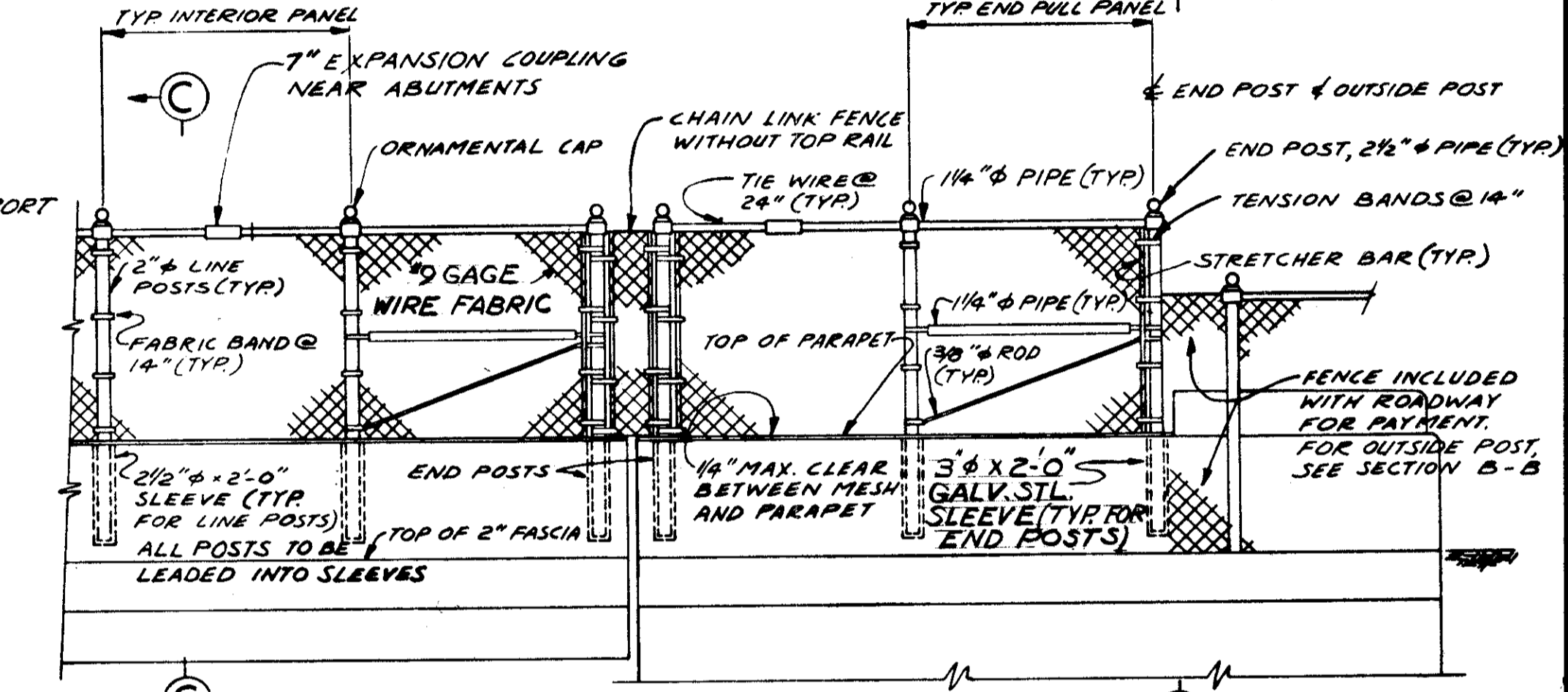
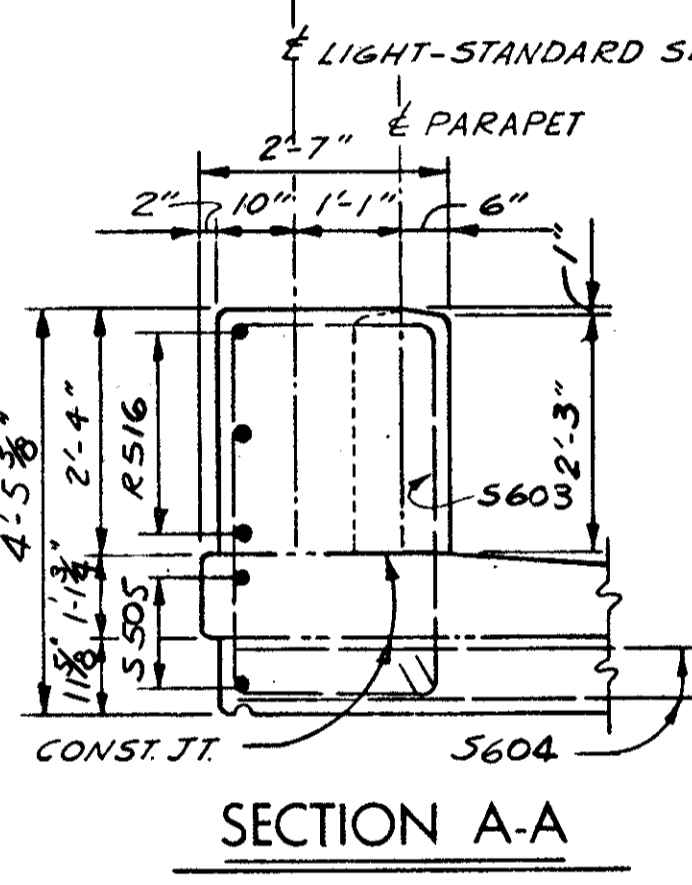
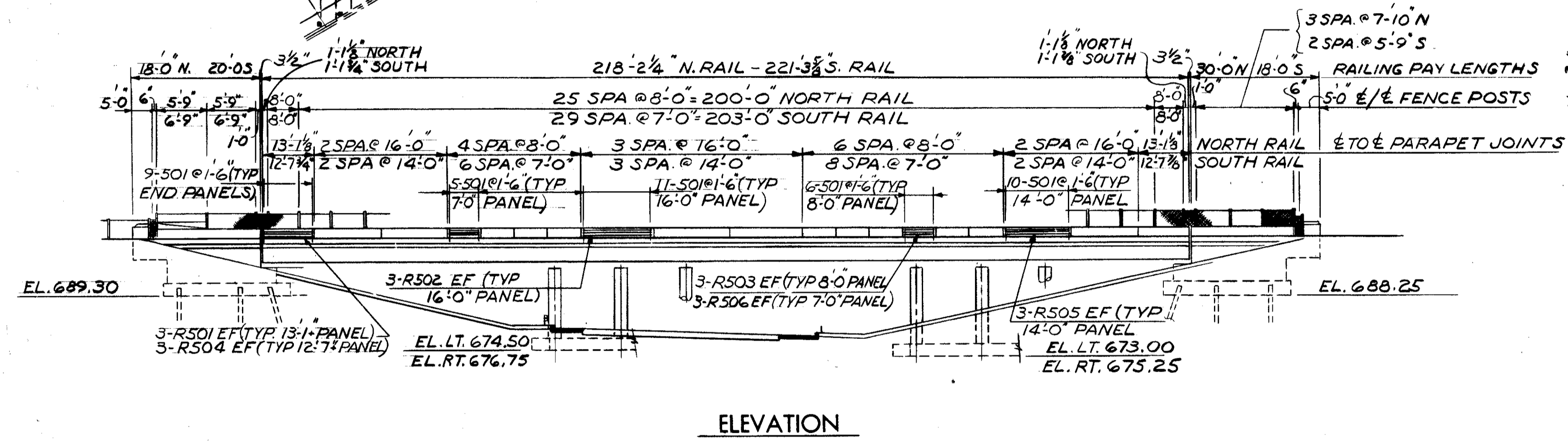
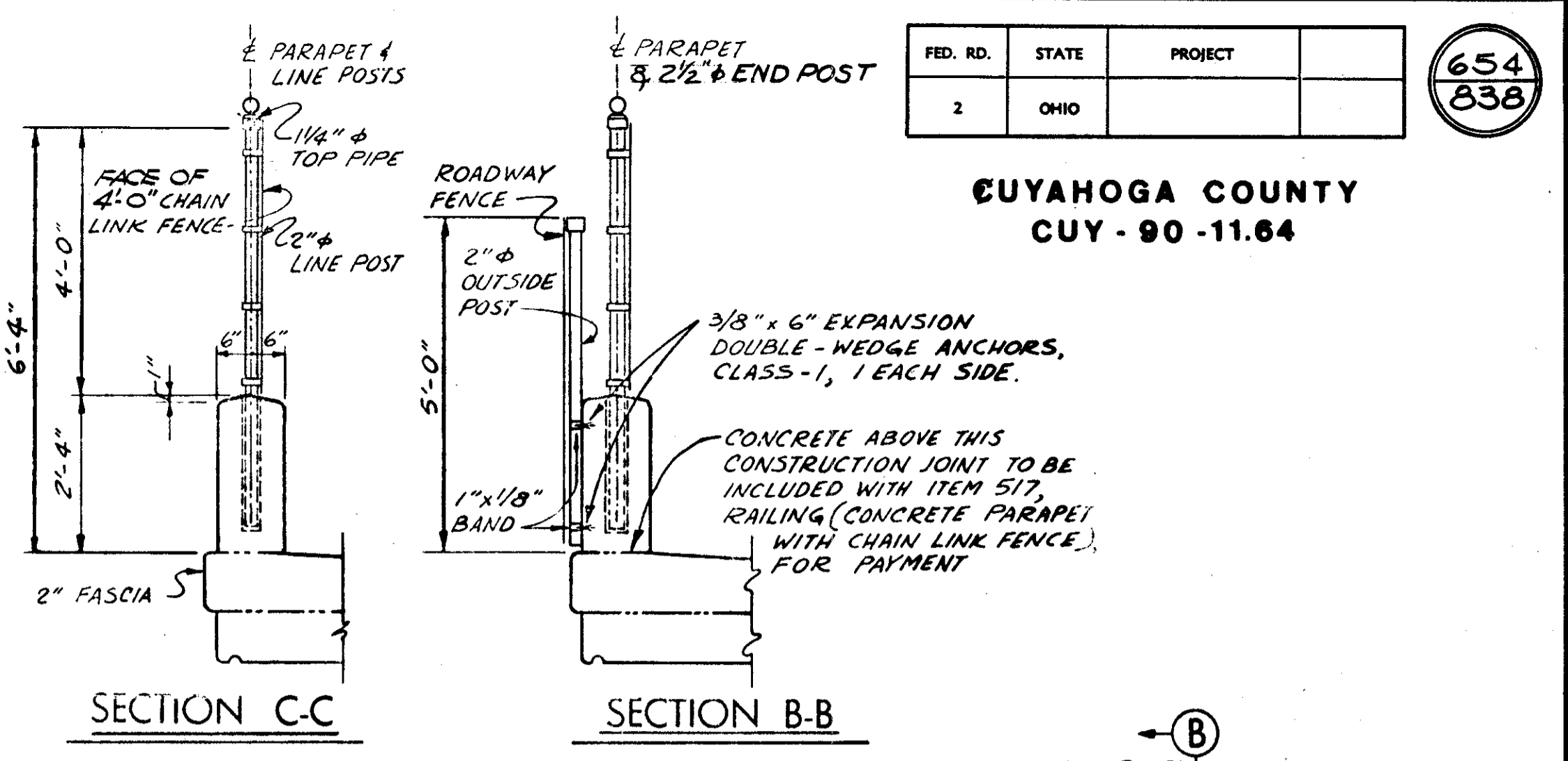
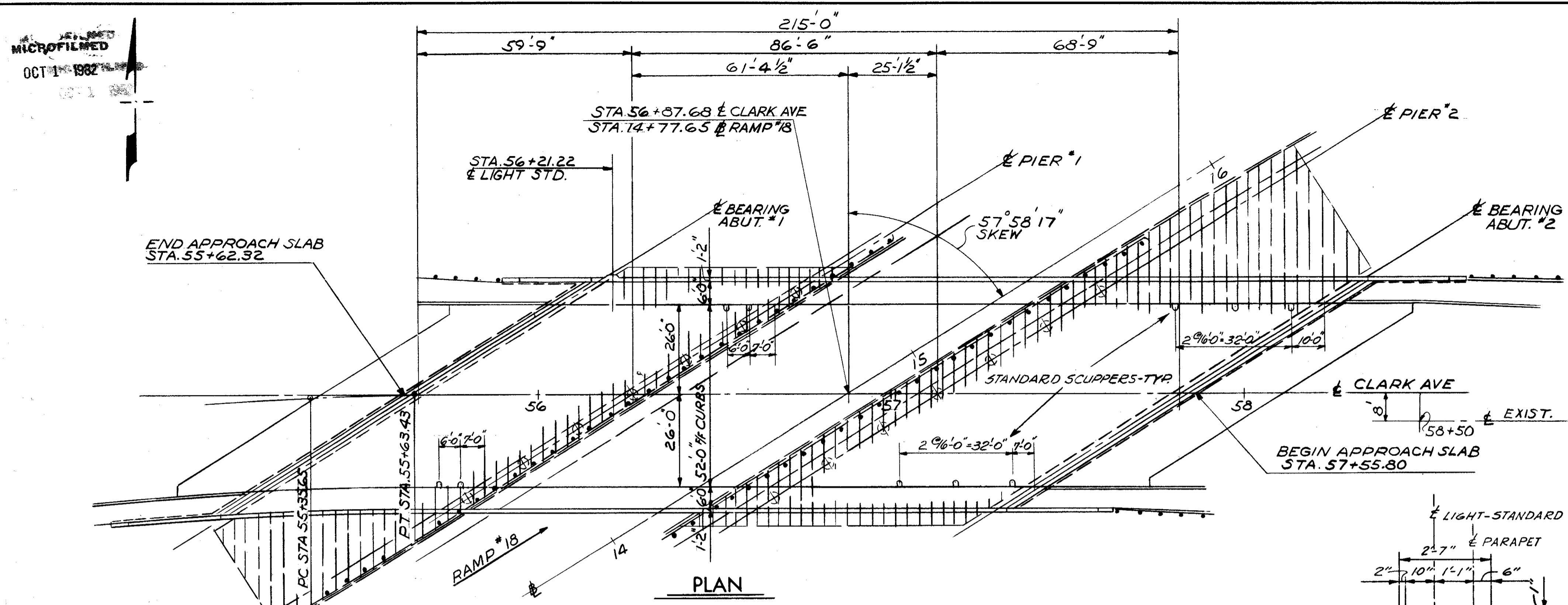
SLOPE PROTECTION: CONCRETE

TRAFFIC: CLARK AVE 14,540 A.D.T. 1990  
RAMP #18 7,581 A.D.T. 1990

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		1 / 14
DALTON • DALTON ASSOCIATES		
SITE PLAN		
BRIDGE NO. CUY-90-1210		
CLARK AVE OVER RAMP 18		
I-90 CUYAHOGA COUNTY		
STA. 55+62.32 TO STA 57+85.80		
DESIGNED	DRAWN	TRACED
RES	JK	
CHECKED	REVIEWED	DATE
J.S.K.	DBA	9-1-91

MICROFILMED  
OCT 1 1982

CUYAHOGA COUNTY  
CUY - 90 - 11.64



ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
404	50	CY	ASPHALY CONCRETE (AC-20)	50			
SPEC	1250	SY	MEMBRANE WATERPROOFING, HOT APPLIED LIQUID (SEE PROPOSAL NOTE)	1250			
503	LUMP	LSUM	COFFERDAMS CRIBS AND SHEETING				
503	1232	CY	UNCLASSIFIED EXCAVATION		580	652	
505	LUMP	LSUM	TEST PILE				
507	825	LF	12 IN. CAST-IN-PLACE REINFORCED CONCRETE PILES		825		
509	218573	LB	REINFORCING STEEL	135638	33217	49718	
511	541	CY	CLASS C CONCRETE, SUPERSTRUCTURE	541			
511	90	CY	CLASS C CONCRETE, PIERS ABOVE FOOTINGS			90	
511	262	CY	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		262		
511	420	CY	CLASS C CONCRETE, FOOTINGS		198	222	
512	49	LF	PREMOLDED SEALING STRIP		49		
513	513200	LB	STRUCTURAL STEEL *	513200			
514	513200	LB	FIELD PAINTING OF STRUCTURAL STEEL *	513200			

ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
516	51	SF	1 IN. PREFORMED EXPANSION JOINT FILLER			51	
517	525.49	LF	RAILING (CONCRETE PARAPET WITH CHAIN LINK FENCE)	439.49	86.00		
518	10	EACH	SCUPPERS INCLUDING SUPPORTS		10		
518	153	CY	POROUS BACKFILL		153		
518	229	LF	6 IN. PERFORATED, HELICAL CMP, 707.01		229		
518	114	LF	6 IN. NON-PERFORATED, HELICAL CMP INCL. SPECIALS, 707.01		114		
518	38	EACH	SUBDRAINAGE FOR WEARING COURSE (AS PER PLAN)		38		
601	1541	SY	CONCRETE SLOPE PROTECTION			1541	
625			SEE LIGHTING SUMMARY SHEET				
808	541	UNTY	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B, OR D	541			
			* INCLUDES 6597 LB TO BE PAID FOR BY THE EAST OHIO GAS CO. TO THE STATE OF OHIO				
			* INCLUDES 1710 LB TO BE PAID FOR BY THE CLEVELAND ELECTRIC ILLUMINATING CO. TO THE STATE OF OHIO				
QUANTITIES CHECKED BY JWW 4-09-75							

NOTES  
FOR STRUCTURAL GENERAL NOTES SEE SHEET.  
FOR CONNECTION OF GUARDRAIL TO STRUCTURES SEE SHEETS 66 & 67  
SEE LIGHTING PLANS FOR CONDUITS ETC.

2 / 14

**DALTON - DALTON ASSOCIATES**  
GENERAL PLAN & ELEVATION

BRIDGE NO. CUY-90-1210  
CLARK AVE. OVER RAMP 18  
I-90 CUYAHOGA COUNTY  
STA. 55 + 62.32 TO STA 57 + 85.80

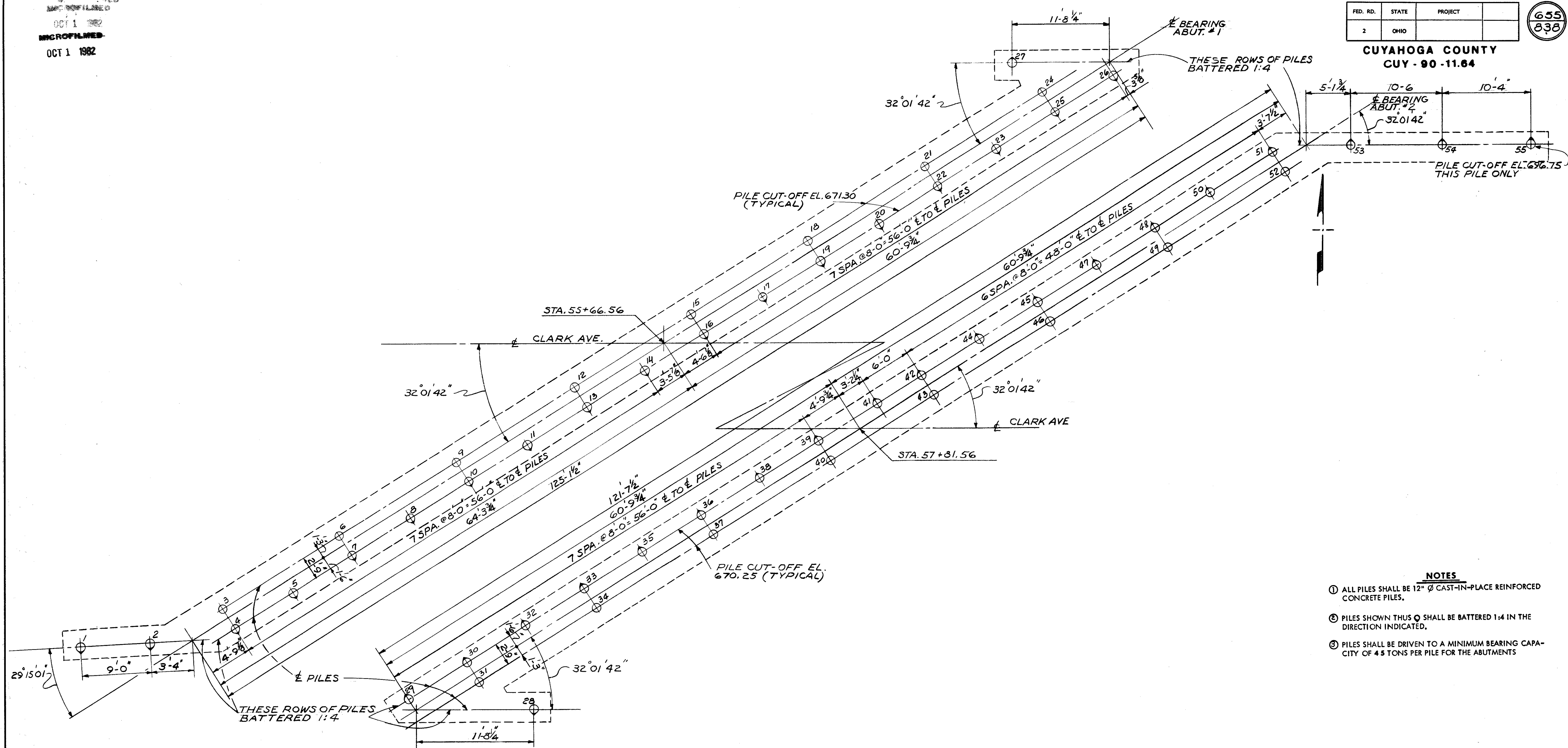
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
RGS	JLH		J.S.K.	R.D.W.	8-14-75

48B  
 MICROFILMED  
 OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

655  
 838

CUYAHOGA COUNTY  
 CUY - 90 - 11.64



PILING PLAN  
 (55 PILES REQ'D)

- NOTES**
- ① ALL PILES SHALL BE 12" Ø CAST-IN-PLACE REINFORCED CONCRETE PILES.
  - ② PILES SHOWN THUS ⊙ SHALL BE BATTERED 1:4 IN THE DIRECTION INDICATED.
  - ③ PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 4.5 TONS PER PILE FOR THE ABUTMENTS

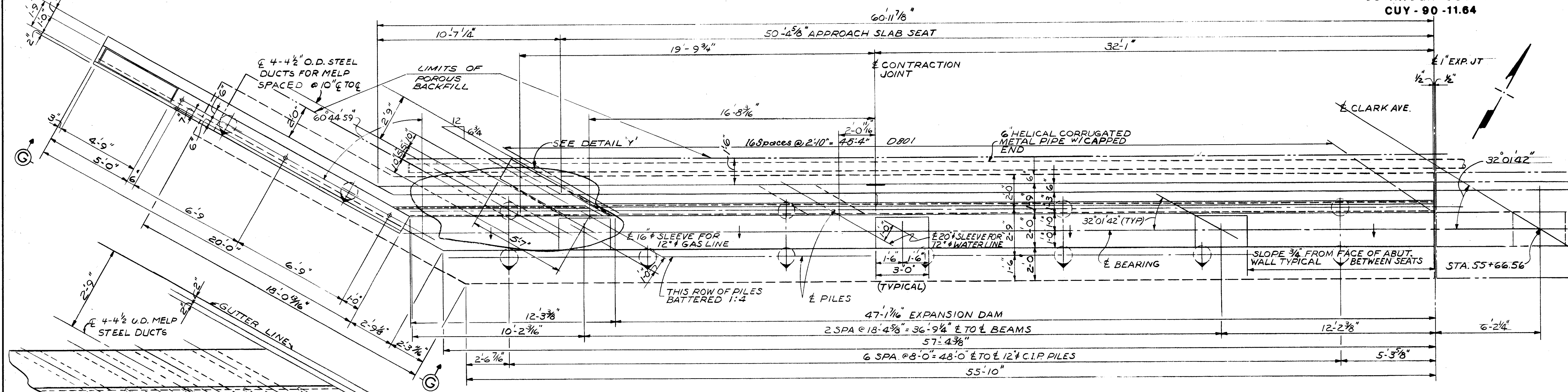
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		3 / 14
DALTON · DALTON ASSOCIATES		
PILING PLAN		
BRIDGE NO. CUY-90-1210		
CLARK AVE. OVER RAMP 18		
I-90 CUYAHOGA COUNTY		
STA. 55 + 62.32 TO STA 57 + 85.80		
DESIGNED	DRAWN	TRACED
RG5	JLH	
CHECKED	REVIEWED	DATE
J.S.K.	RDA	4-1-71

483  
MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

656  
838

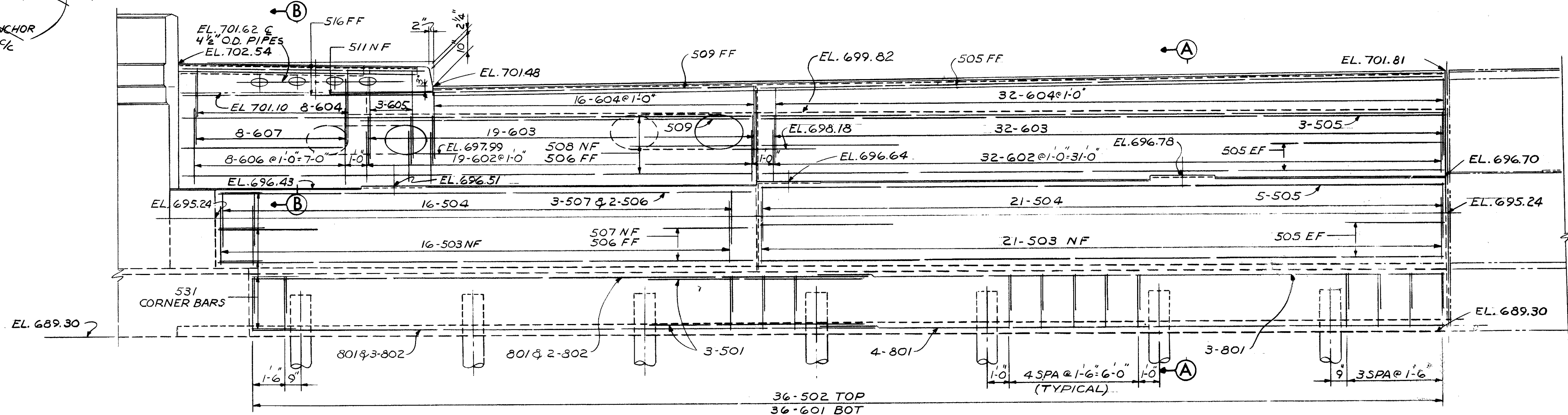
CUYAHOGA COUNTY  
CUY - 90 - 11.64



PARTIAL PLAN

NOTE:  
SEE ELECTRICAL DRAWING  
FOR QUANTITIES AND PAYMENT.

DETAIL 'Y'  
DETAIL 'X'  
(SIMILAR)



PARTIAL ELEVATION

FOR SECTIONS AND DETAILS SEE SHEET NO. 6/14  
FOR NOTES SEE SHEET NO. 5/14

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

4 / 14

DALTON · DALTON ASSOCIATES

ABUTMENT A-1

BRIDGE NO. CUY-90-1210  
CLARK AVE. OVER RAMP 18  
1-90 CUYAHOGA COUNTY  
STA. 55 + 62.32 TO STA 57 + 85.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVIEWED
RGS	JLH		J.S.K.	R.D.H.	4-1-71	

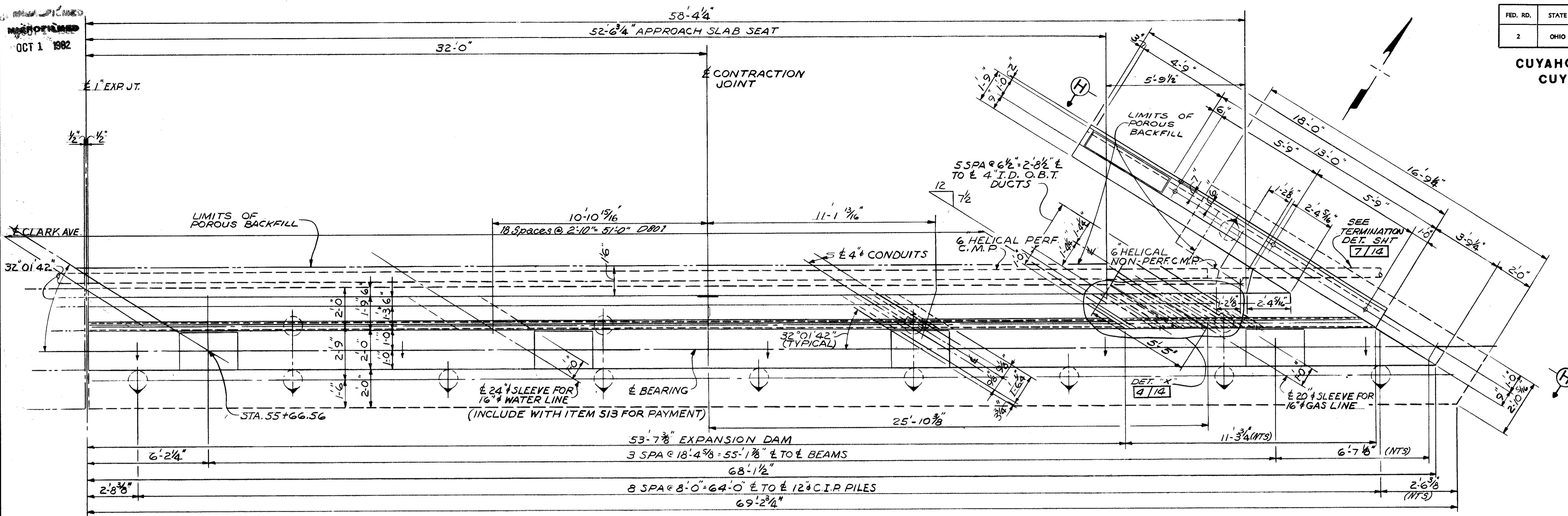


REVISED  
OCT 1 1982

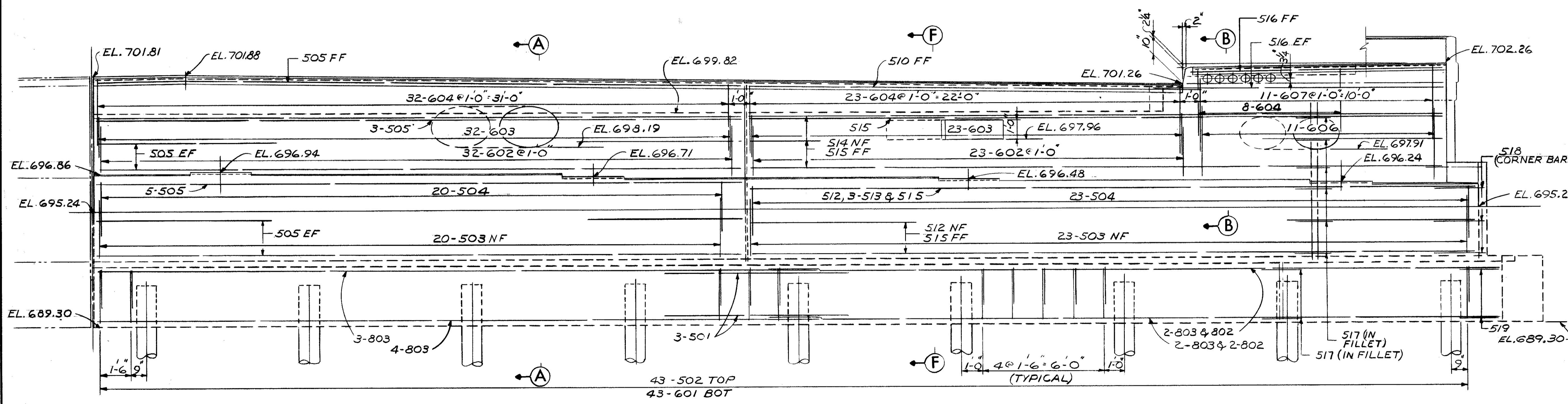
FED. RD.	STATE	PROJECT
2	OHIO	

657  
838

CUYAHOGA COUNTY  
CUI - 90 - 11.64



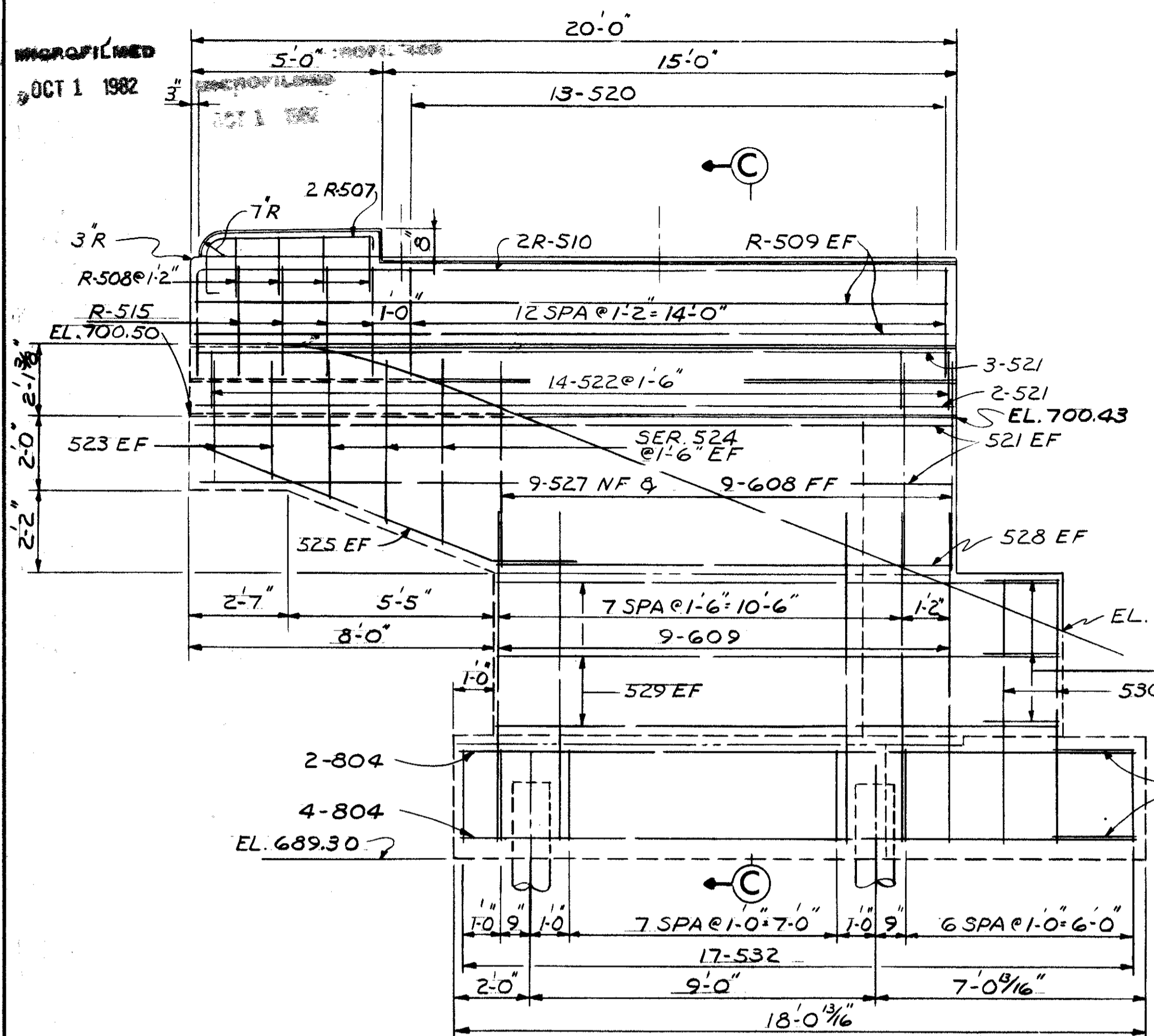
PARTIAL PLAN



PARTIAL ELEVATION

- NOTES**
- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
  - BACKWALL ELEVATIONS ARE GIVEN TO TOP OF ASPHALT CONCRETE AT FRONT FACE OF BACKWALL. SEE SECTION B-B SHEET 11/14
  - THE PREFIX "1A" OR "2A" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENTS A-1 OR A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
  - POROUS BACKFILL, FULL LENGTH OF ABUTMENT AND WINGS, SHALL EXTEND UP TO THE SUBGRADE OR TO THE FINISHED GROUND SURFACE. 1.5 FT. THICK AT ABUTMENT AND 2.0 FT. THICK AT WINGS.
  - FOR PILING PLAN, SEE SHEET 3/14
- SEE SHEET 6/14 FOR SECTIONS
- PIPE SLEEVES FOR GAS LINES TO BE INCLUDED WITH STRUCTURAL STEEL ITEM 513 FOR PAYMENT. SLEEVES TO BE:  
16" O.D. x .250" WALL x 42.05 LBS PER FT.  
20" O.D. x .250" WALL x 52.73 LBS PER FT.
- SEE LIGHTING PLANS FOR CONDUITS ETC.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		5 / 14
<b>DALTON · DALTON ASSOCIATES</b>		
<b>ABUTMENT A 1</b>		
BRIDGE NO. CUY-90-1210		
CLARK AVE. OVER RAMP 18		
I-90 CUYAHOGA COUNTY		
STA. 55 + 62.32 TO STA 57 + 85.80		
DESIGNED	DRAWN	TRACED
RGs	J.H.	J.S.K.
CHECKED	REVIEWED	DATE
	RDN	4-7-71



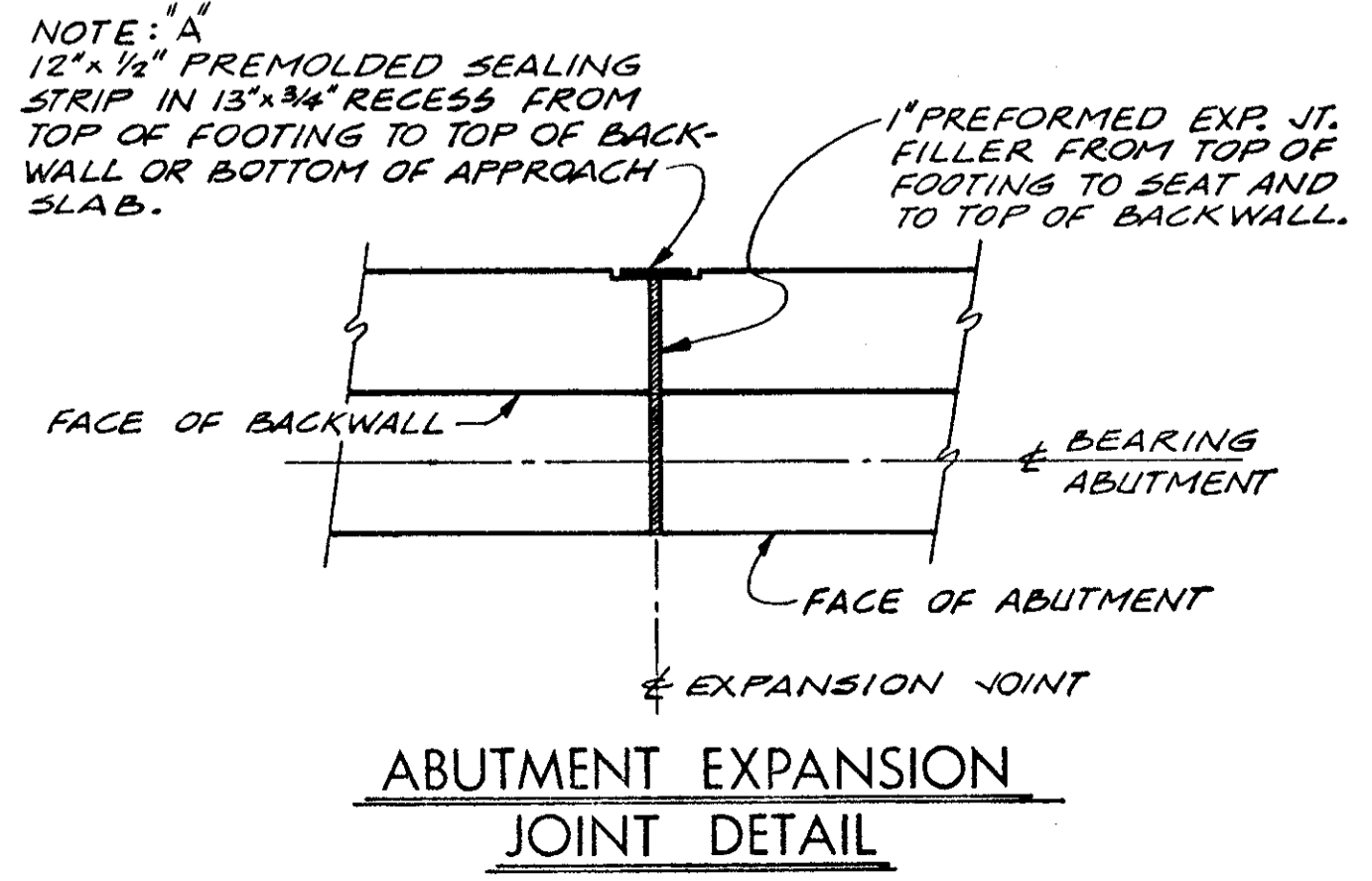
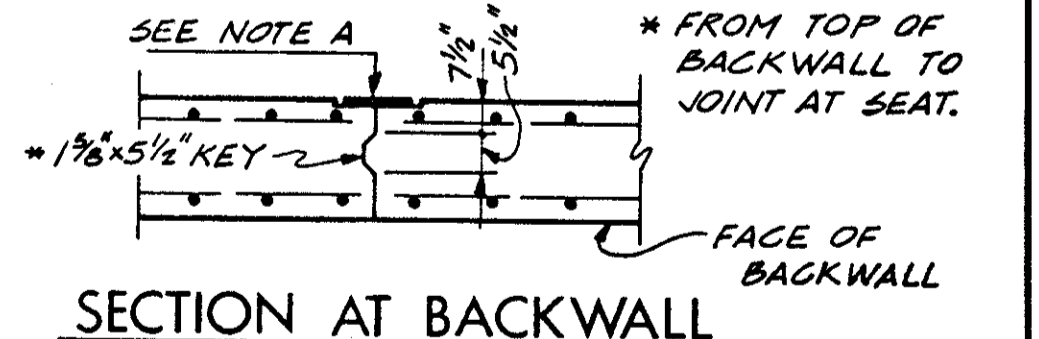
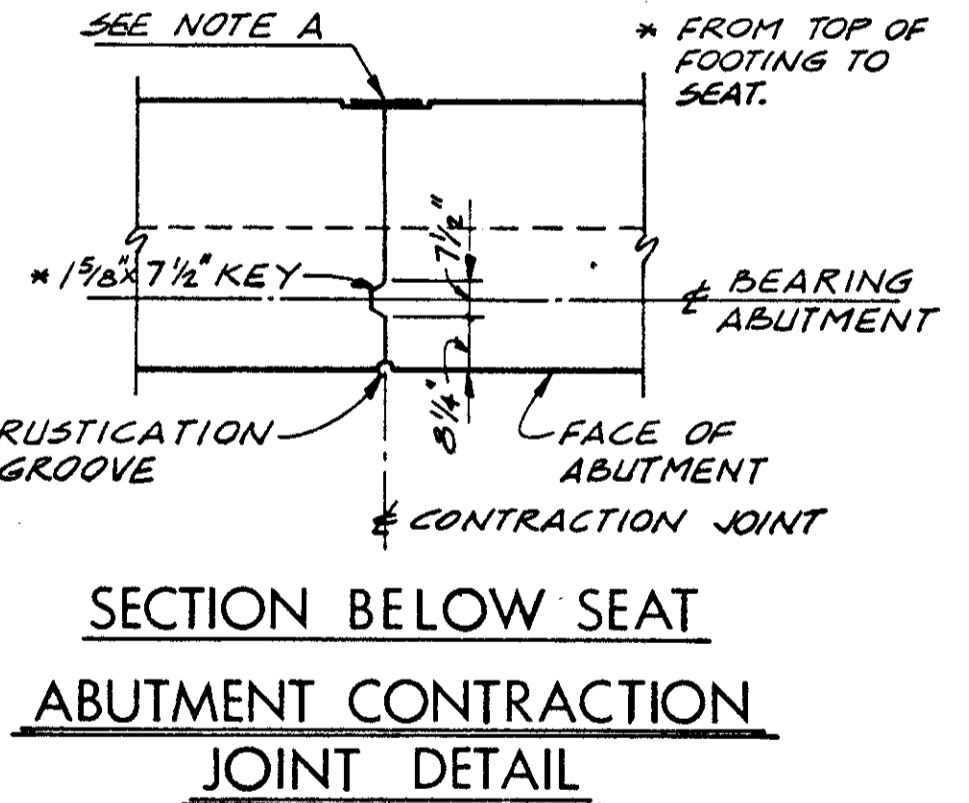
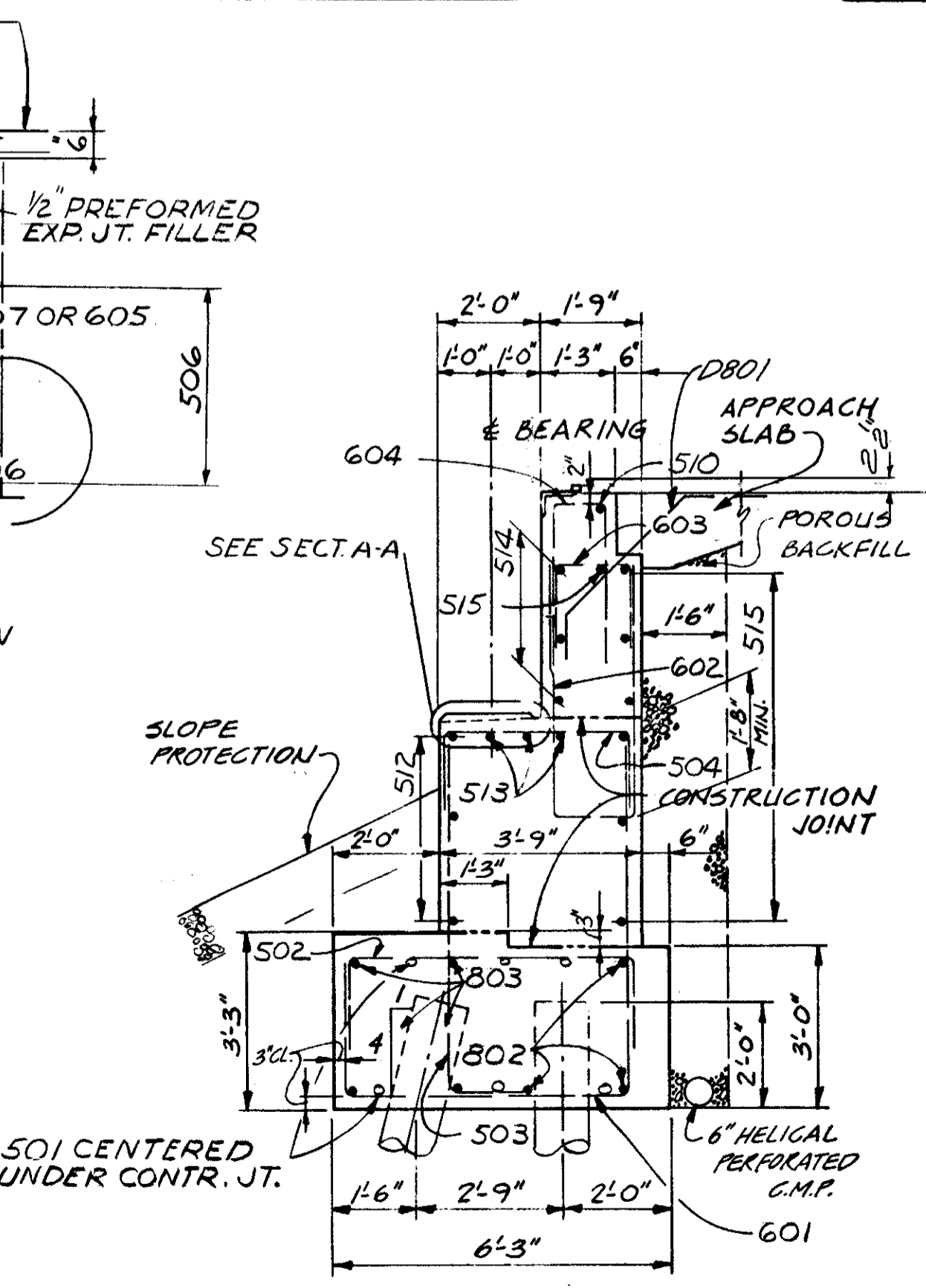
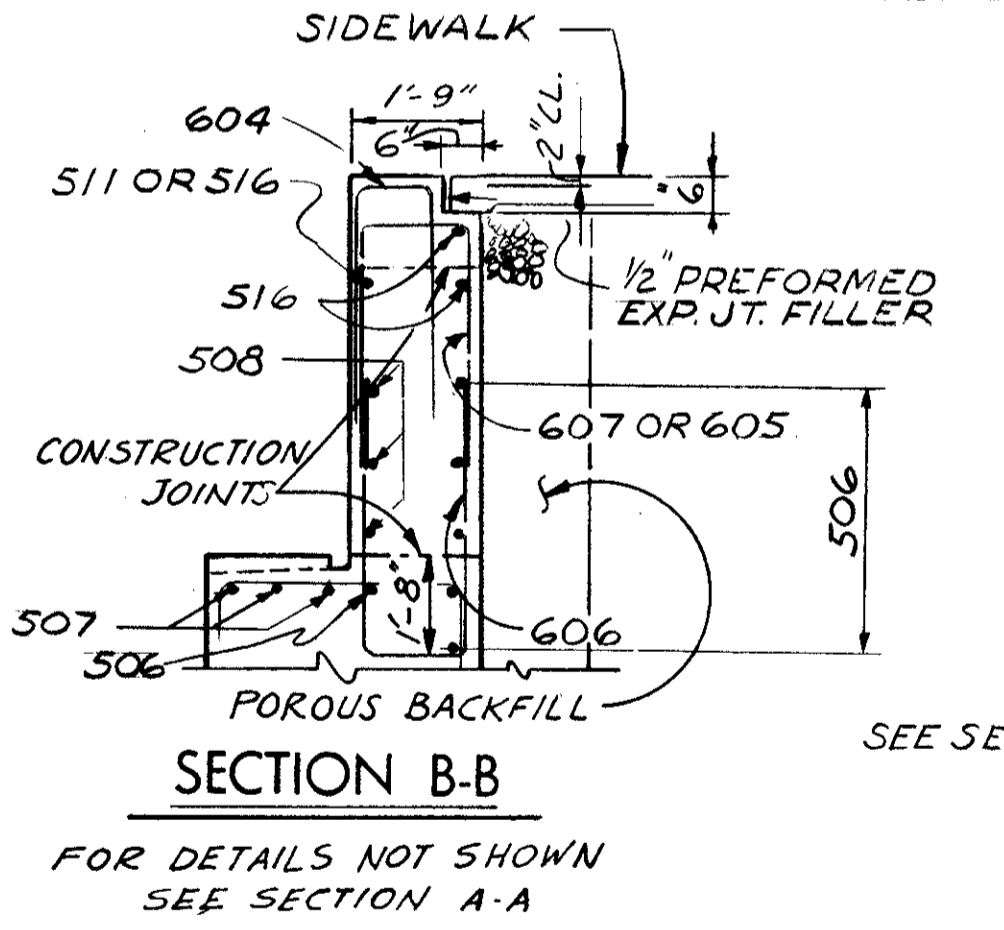
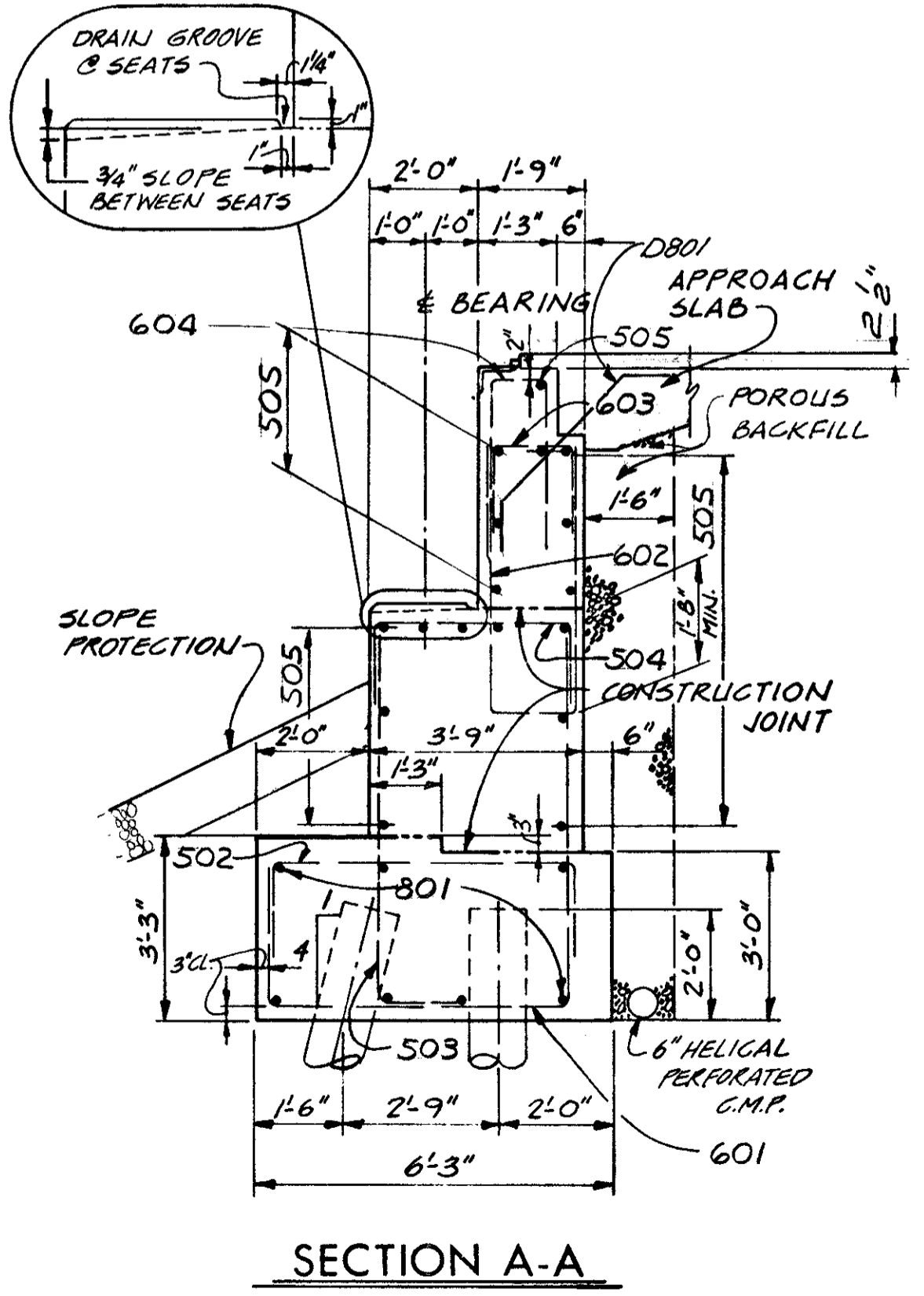
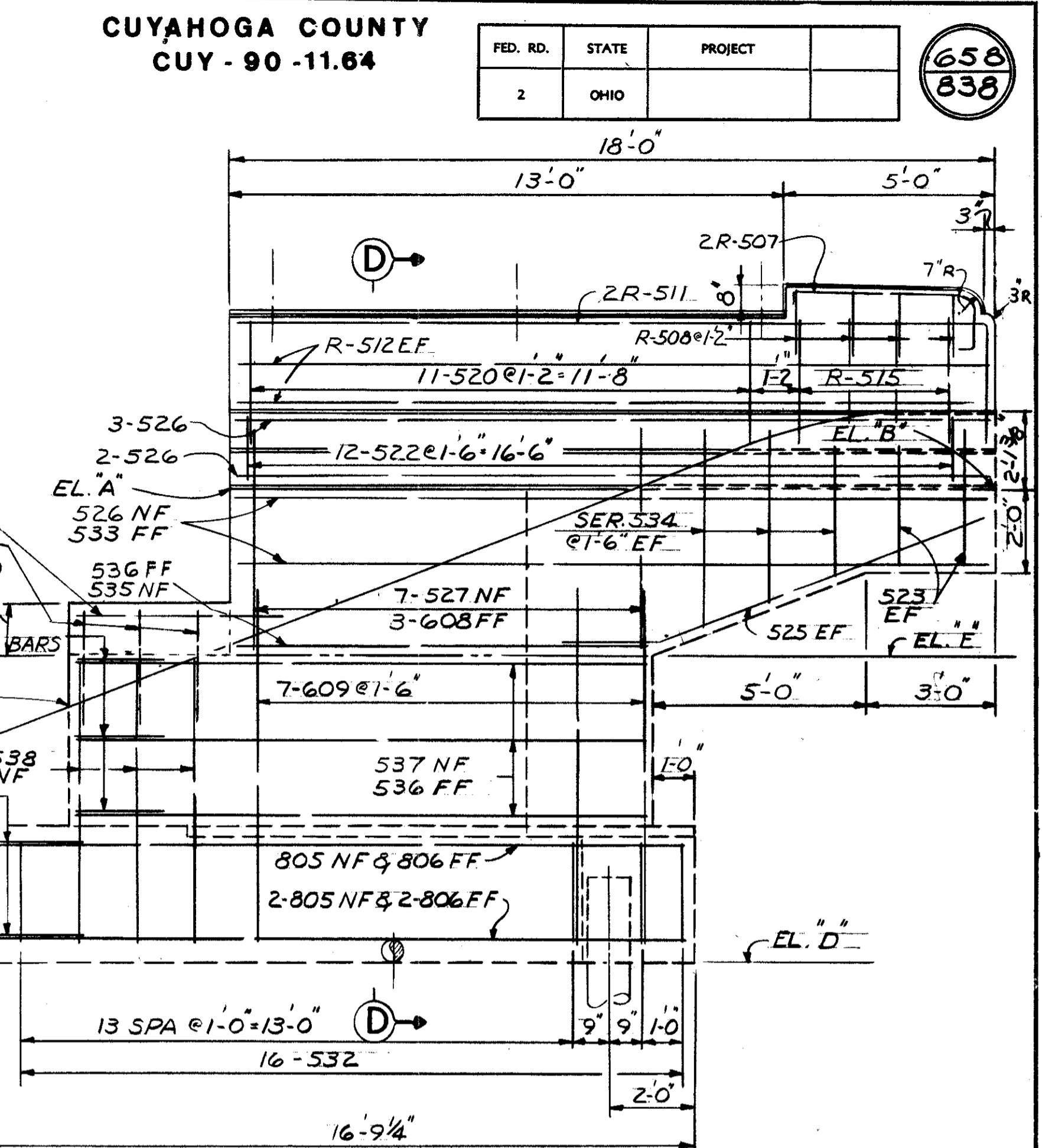
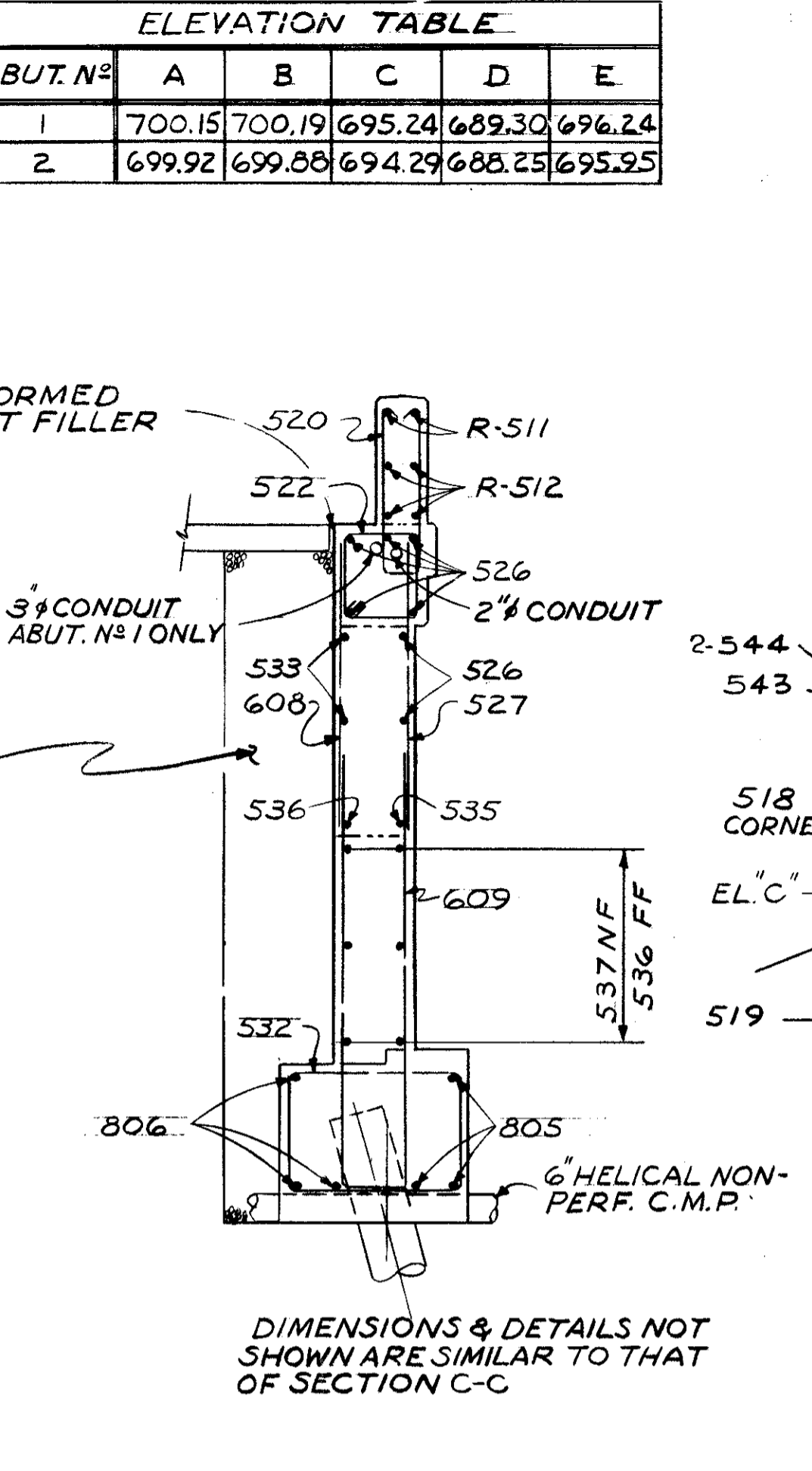
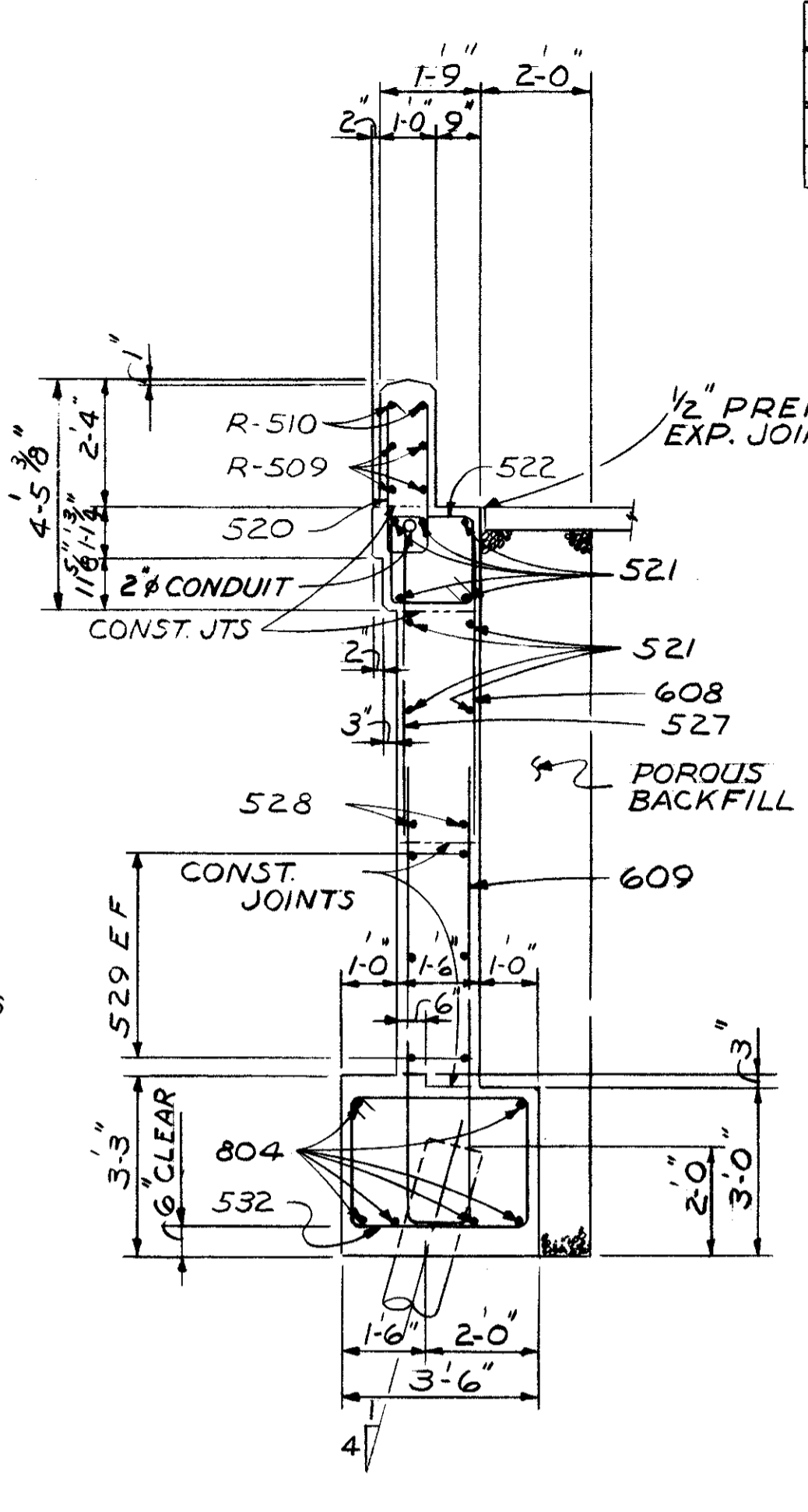
ELEVATION TABLE

ABUT. N <sup>o</sup>	A	B	C	D	E
1	700.15	700.19	695.24	689.30	696.24
2	699.92	699.88	694.29	688.25	695.25

CUYAHOGA COUNTY  
CUY - 90 - 11.64

FED. RD.	STATE	PROJECT
2	OHIO	

658  
838



STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

6 / 14

**DALTON · DALTON ASSOCIATES**

ABUTMENT A-1 DETAILS

BRIDGE NO. CUY-90-1210  
CLARK AVE. OVER RAMP 18  
I-90 CUYAHOGA COUNTY

STA. 55 + 62.32 TO STA 57 + 85.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
RGS	JLH		J.S.K.	RDN	4-1-71	





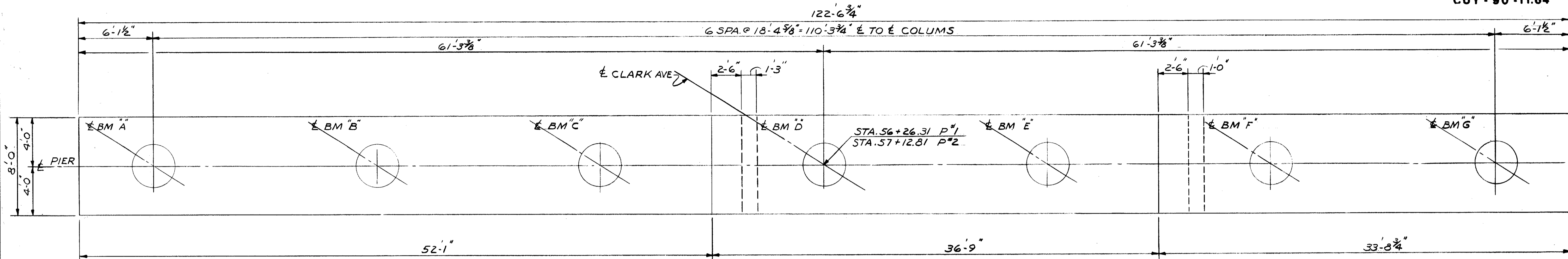


MICROFILMED  
OCT 1 1982

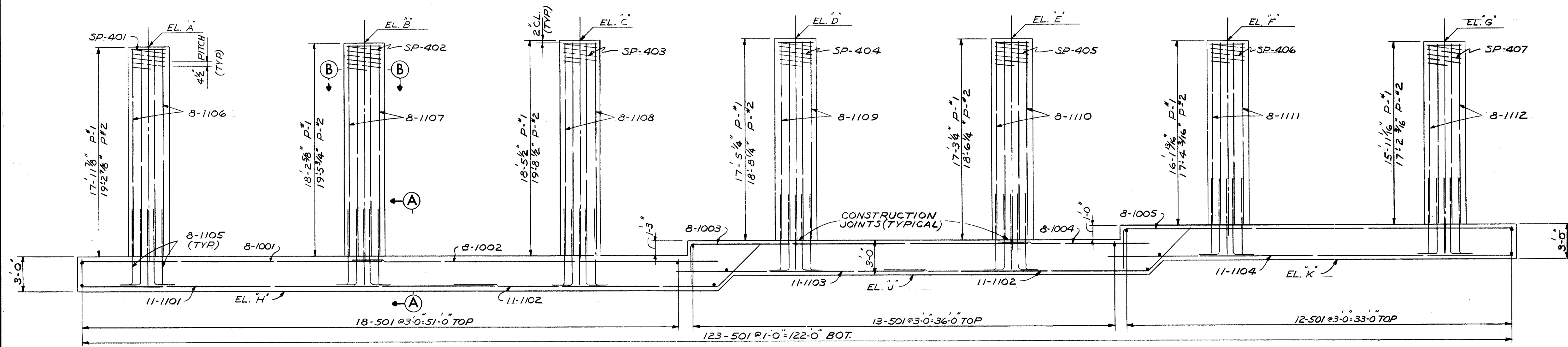
FED. RD.	STATE	PROJECT
2	OHIO	

662  
838

CUYAHOGA COUNTY  
CUY-90-11.64



PLAN



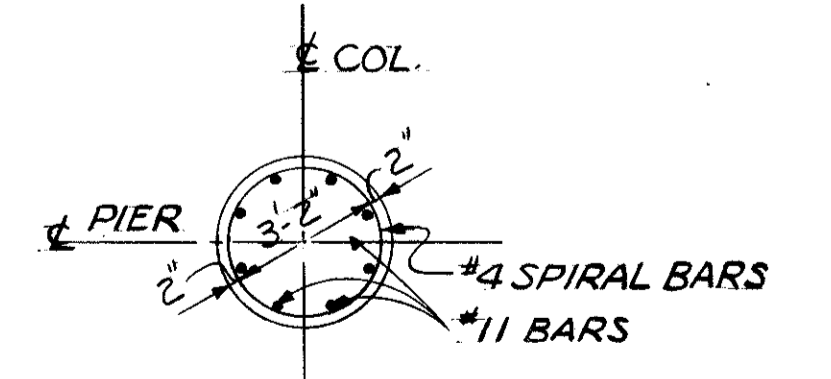
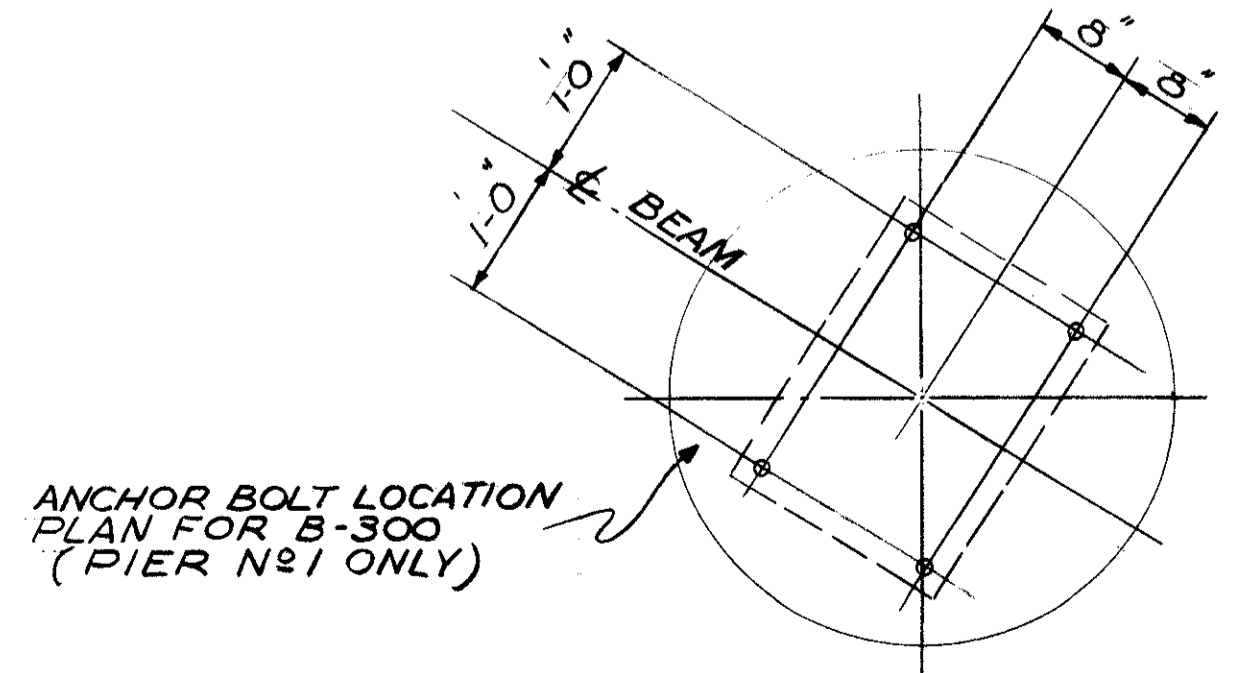
ELEVATION

NOTES

THE PREFIX "1P" OR "2P" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN PIER P-1 OR P-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.

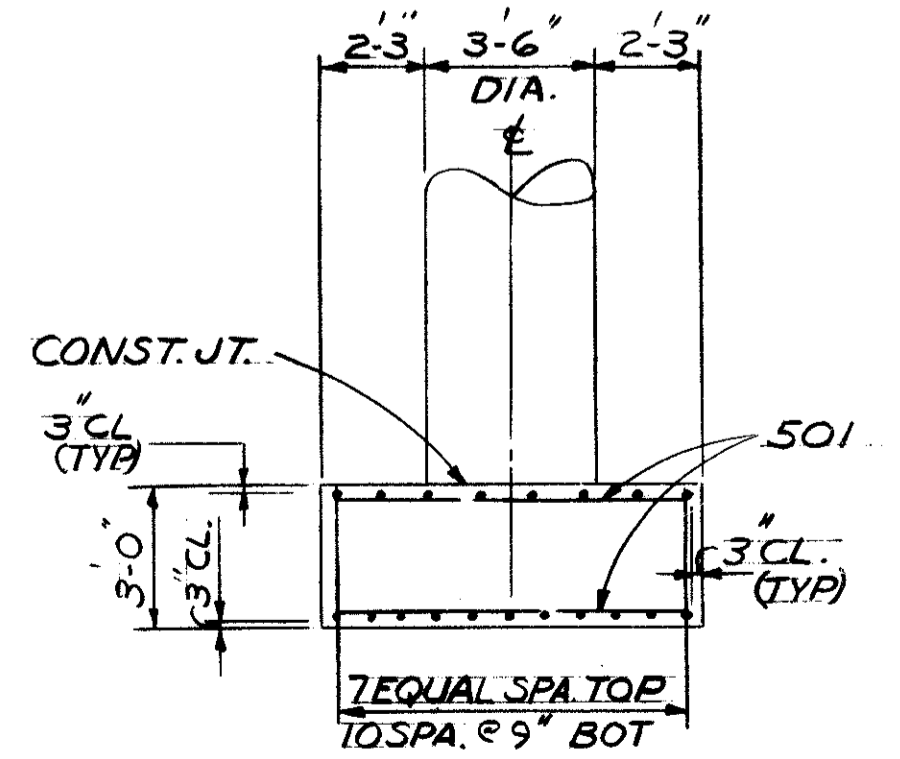
FOUNDATION BEARING PRESSURE: PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2 TONS PER SQ. FT.

BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES OR THE PRESETTING OF BEARING ANCHORS.



SECTION B-B

BEARING ANCHORS: AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES) LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.



SECTION A-A

PIER ELEVATION TABLE										
PIER NO.	A	B	C	D	E	F	G	H	J	K
1	695.46	695.69	695.93	696.16	695.99	695.82	695.64	674.50	675.75	676.75
2	695.25	695.49	695.72	695.95	695.78	695.61	695.44	673.00	674.25	675.25

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

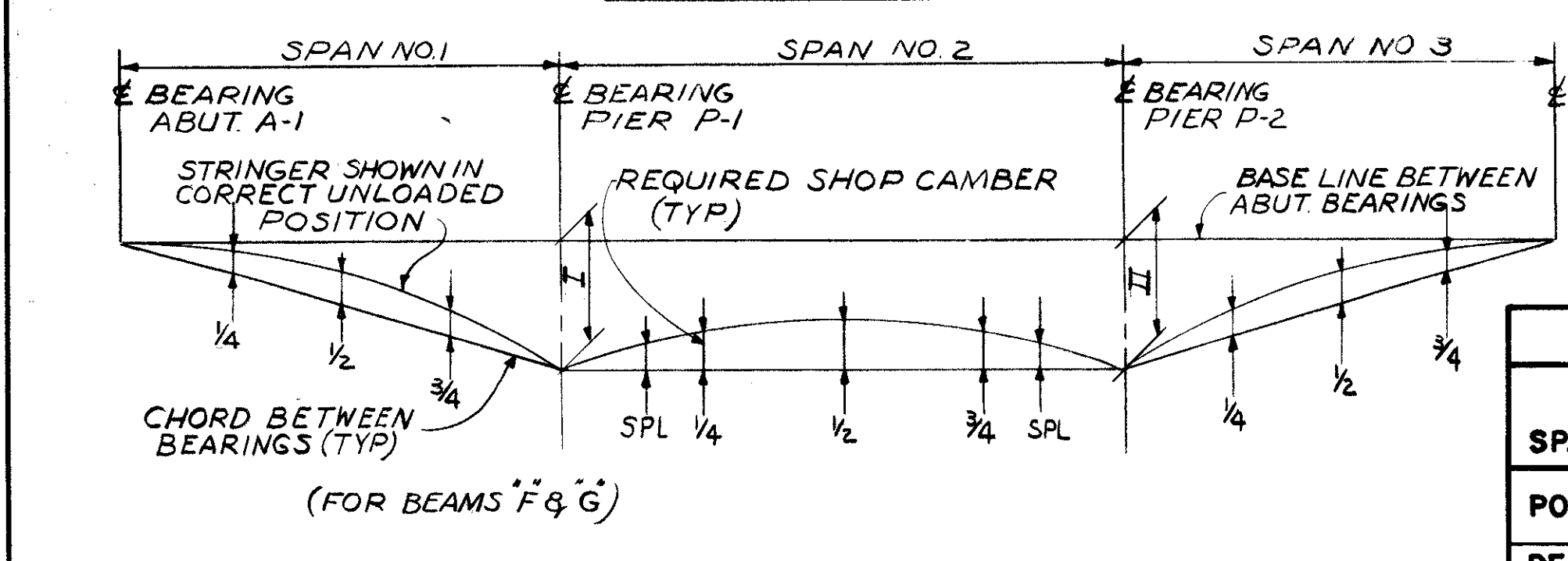
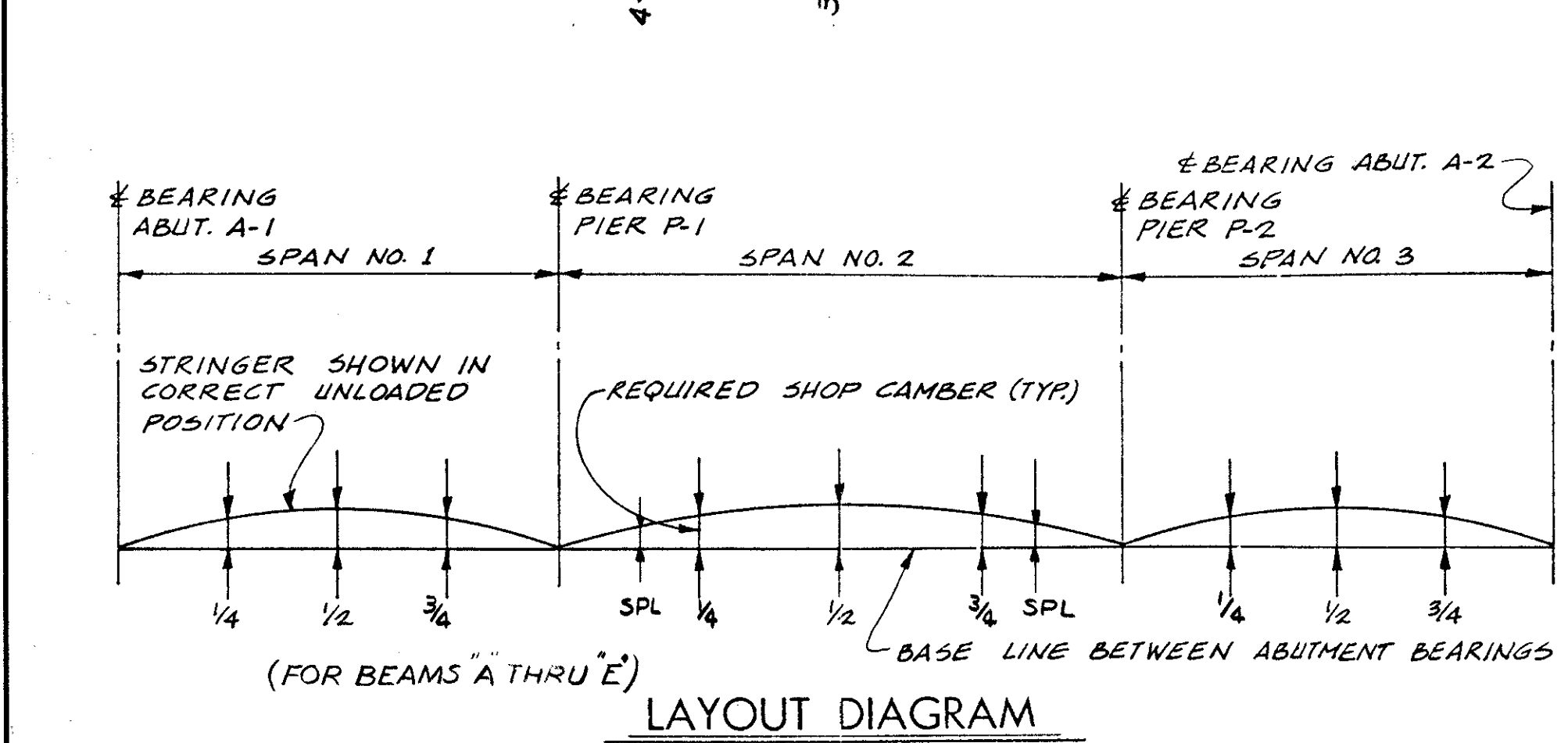
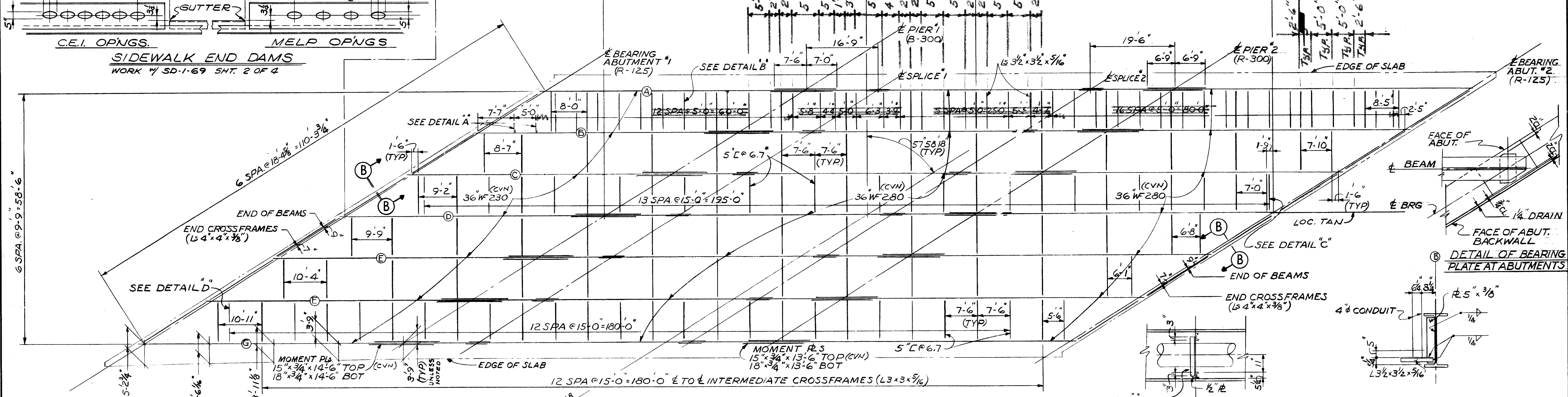
PIERS

BRIDGE NO: CUY-90-1210  
CLARK AVE. OVER RAMP 18  
I-90 CUYAHOGA COUNTY

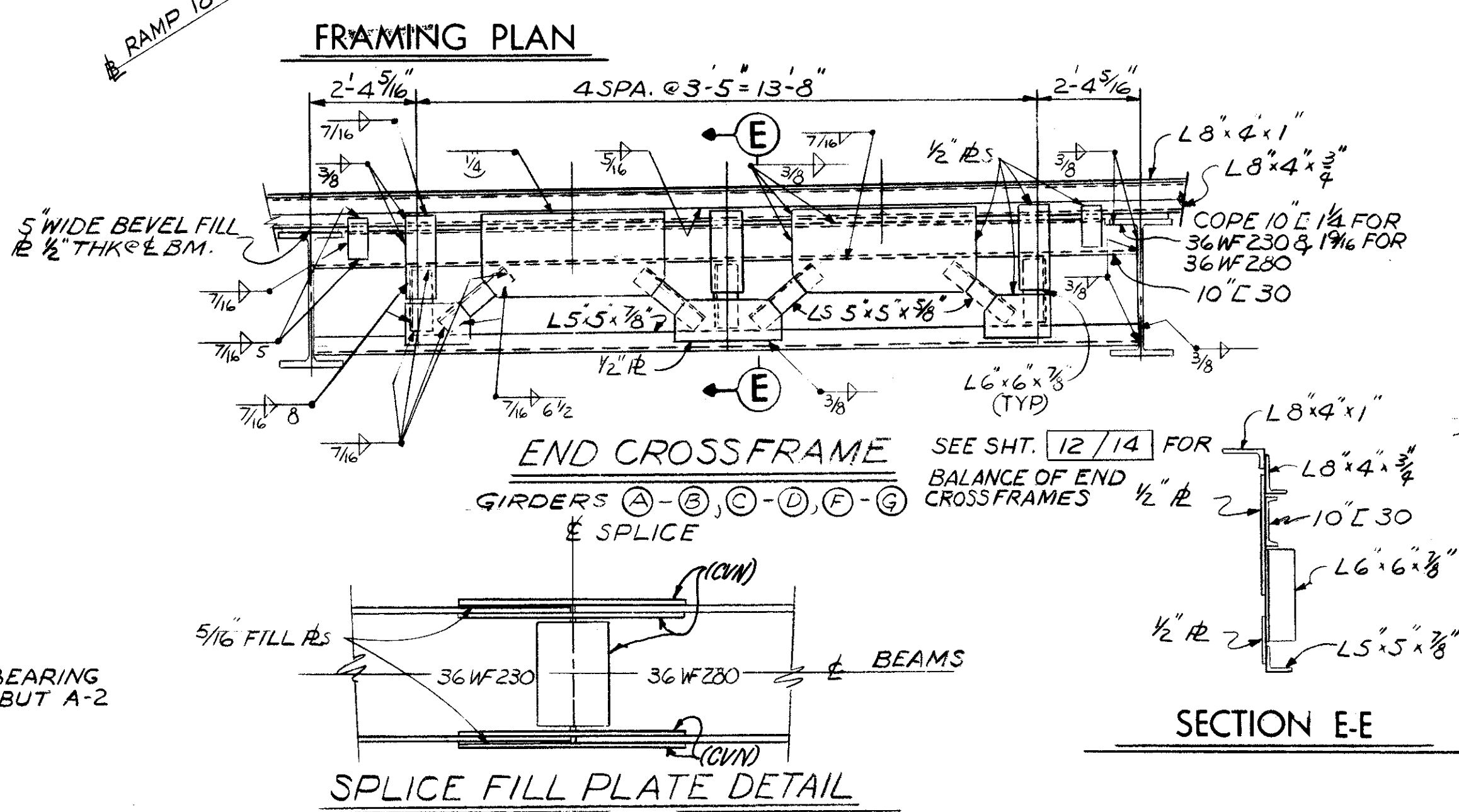
STA. 55 + 62.32 TO STA 57 + 85.80

DESIGNED: RGS  
DRAWN: JLH  
TRACED: J.S.K.  
CHECKED: RBA  
REVIEWED: RBA  
DATE: 4-1-71

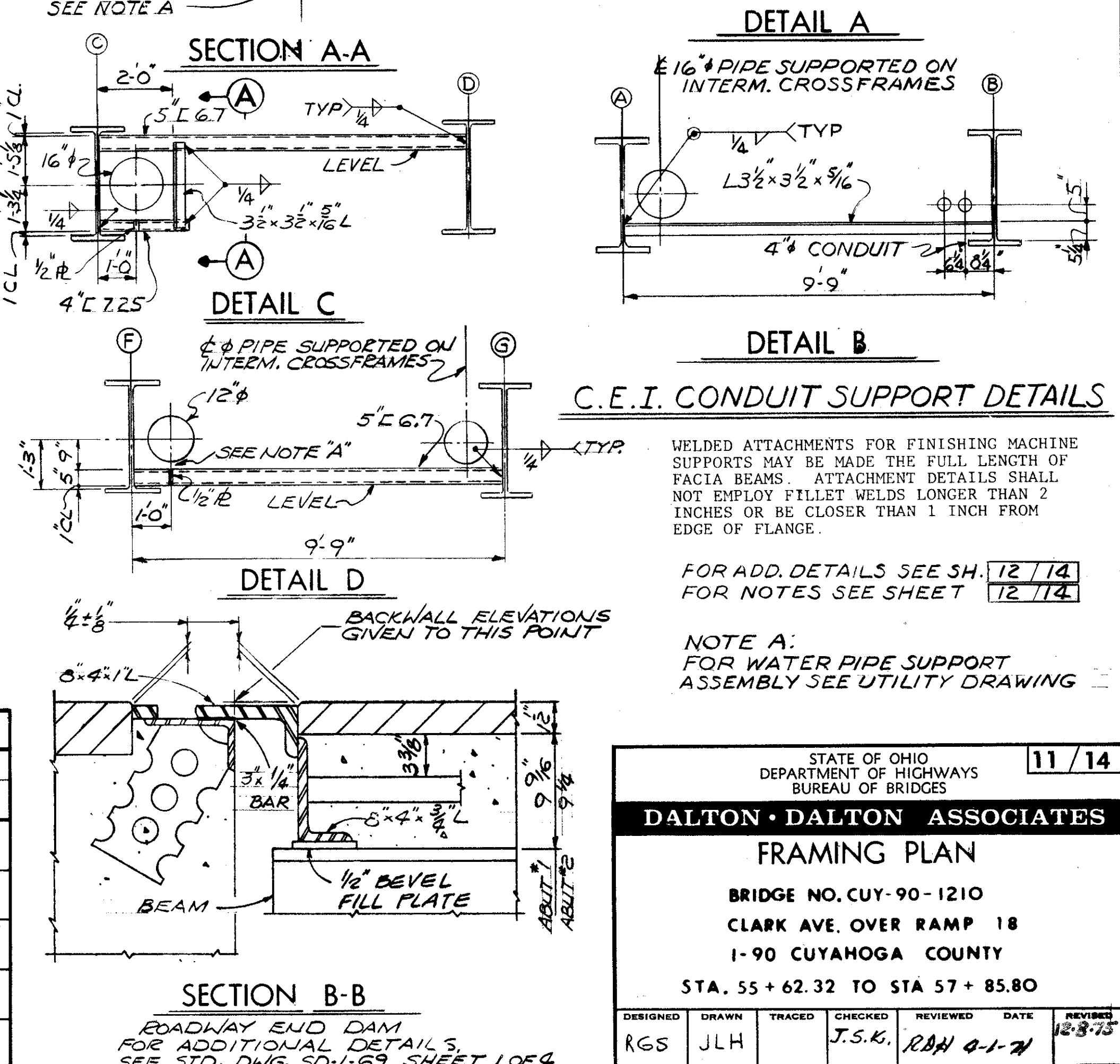
10 / 14



BMS	DIM	
	I	II
F	-3/8	-3/16
G	-3/4	-5/16



SPANS	DEFLECTION AND CAMBER																
	SPAN NO. 1						SPAN NO. 2			SPAN NO. 3							
	BMS A	BMS B	BMS C	BMS D	BMS E	BMS F	BMS G	BMS H	BMS I	BMS J	BMS K	BMS L					
POINTS	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	SPLICE	1/4	1/2	3/4	SPLICE	1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/16	1/8	1/16
DEFLECTION DUE TO REMAINING DEAD LOAD	1/4	5/16	1/16	1/2	5/16	1/16	1/4	5/16	1/16	1/4	3/8	5/16	5/16	5/16	3/16	7/16	7/16
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	0	0	0	-5/16	-5/16	-1/8	-1/4	-7/16	-1/4	0	0	0	0	0	0	0	0
REQUIRED SHOP CAMBER	5/16	3/8	1/8	0	1/16	0	1/16	-1/16	-1/8	5/16	7/16	1/16	3/8	3/8	1/4	9/16	1/2



WELDED ATTACHMENTS FOR FINISHING MACHINE SUPPORTS MAY BE MADE THE FULL LENGTH OF FACIA BEAMS ATTACHMENT DETAILS SHALL NOT EMPLOY FILLET WELDS LONGER THAN 2 INCHES OR BE CLOSER THAN 1 INCH FROM EDGE OF FLANGE.

FOR ADD. DETAILS SEE SH. 12/14  
FOR NOTES SEE SHEET 12/14

NOTE A:  
FOR WATER PIPE SUPPORT ASSEMBLY SEE UTILITY DRAWING

11/14

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

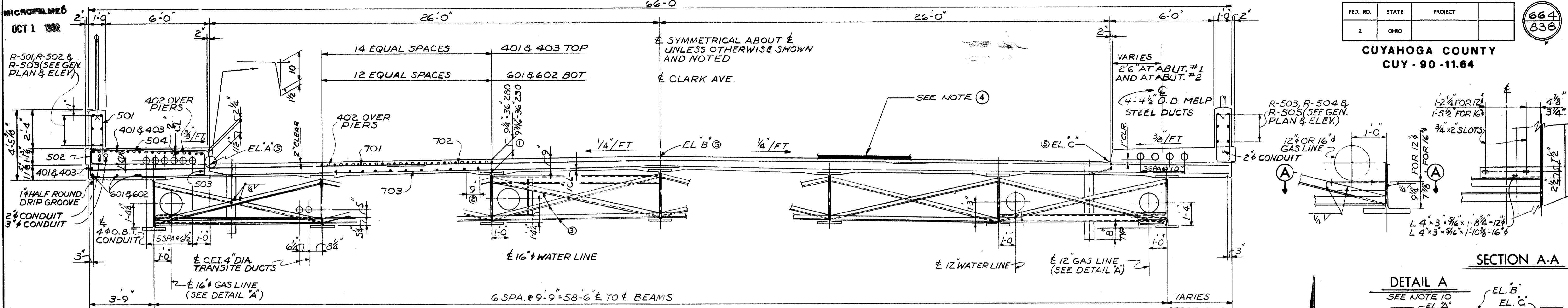
**DALTON · DALTON ASSOCIATES**

**FRAMING PLAN**

BRIDGE NO. CUY-90-1210  
CLARK AVE. OVER RAMP 18  
1-90 CUYAHOGA COUNTY

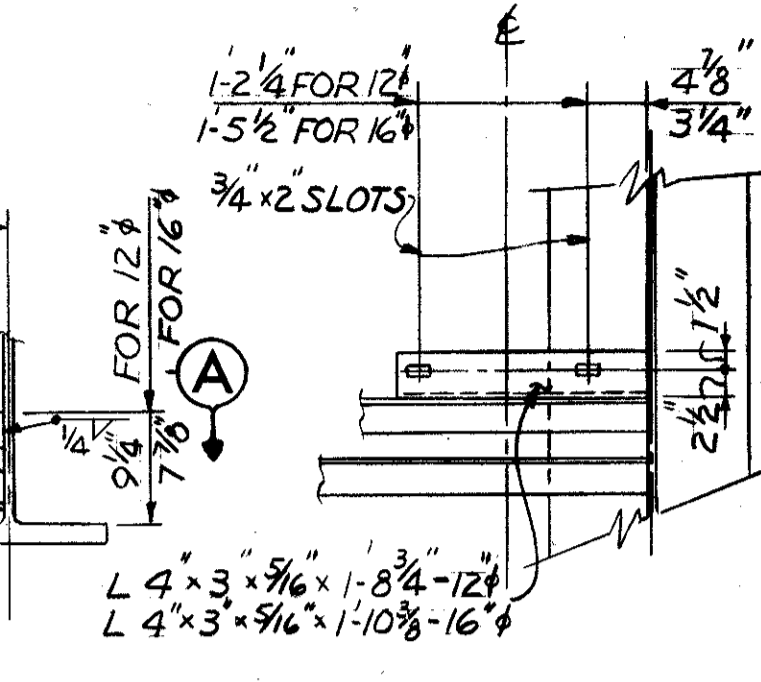
STA. 55 + 62.32 TO STA 57 + 85.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RGS	JLH		J.S.K.	RBH	8-1-74	12-8-75

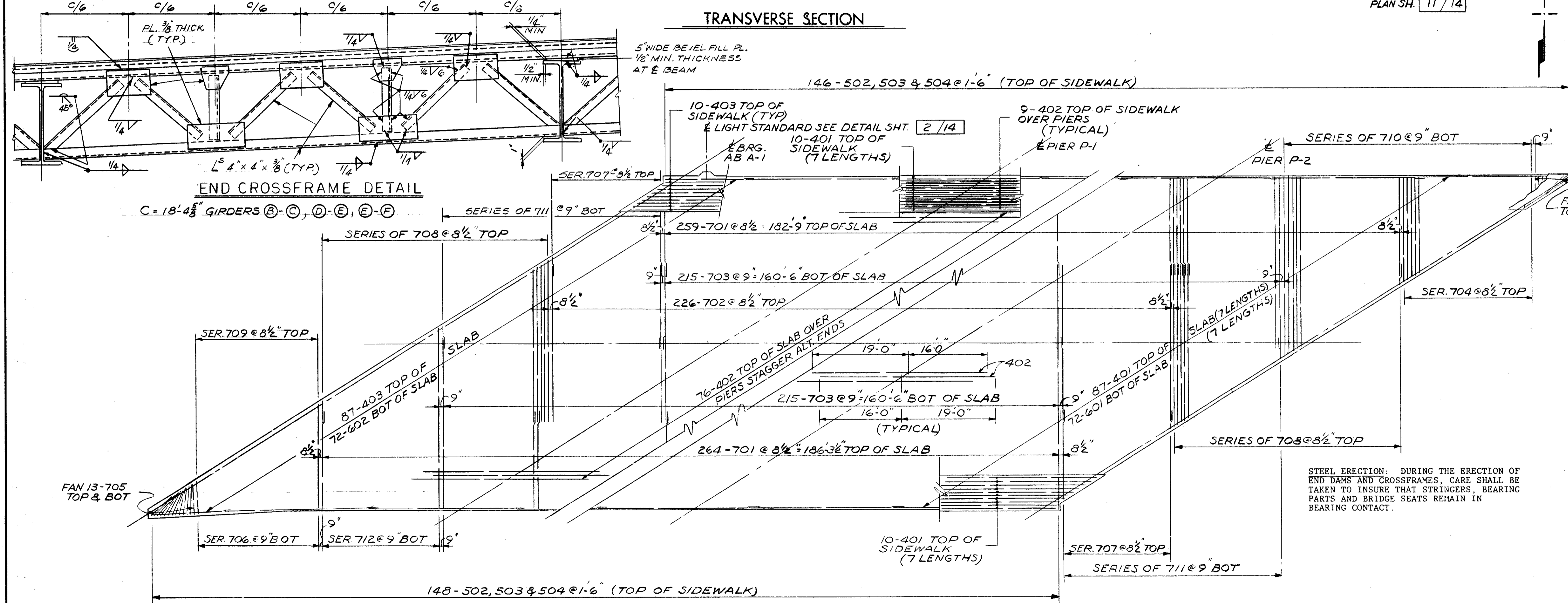


FED. RD.	STATE	PROJECT	664 838
2	OHIO		

CUYAHOGA COUNTY  
CUY-90-11.64

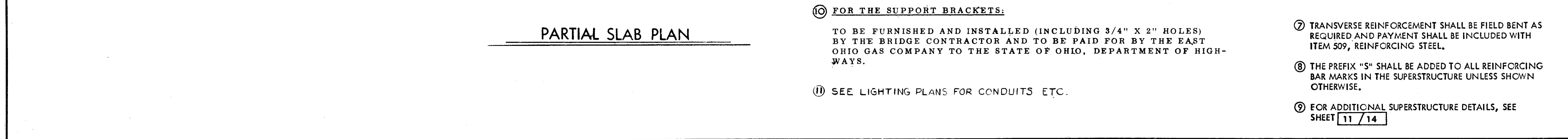


SECTION A-A  
DETAIL A  
SEE NOTE 10  
EL. A  
EL. B  
EL. C



LOCATION	EL. A*	EL. B*	EL. C*
EL. BRG. A-1	701.12	701.75	701.34
1/4 PT	701.11	701.74	701.30
1/2 PT	701.08	701.71	701.25
3/4 PT	701.04	701.66	701.21
EL. BRG. P-1	701.00	701.63	701.17
1/4 PT	700.99	701.62	701.16
1/2 PT	700.97	701.60	701.14
3/4 PT	700.91	701.53	701.07
EL. BRG. P-2	700.83	701.45	701.00
1/4 PT	700.81	701.44	700.98
1/2 PT	700.80	701.42	700.96
3/4 PT	700.76	701.38	700.92
EL. BRG. A-2	700.69	701.32	700.86

- NOTE: \* SEE NOTE #5 - 1/2" HAS BEEN ALLOWED FOR WEARING SURFACE
- DECK SLAB DEPTH: THE DISTANCE SHOWN FROM THE TOP OF DECK SLAB TO TOP OF STEEL BEAM IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 511.18.
  - A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.
  - INTERMEDIATE CROSSFRAME ANGLES 3 x 3 x 5/16. WELD BOTH SIDES OF VERTICAL LEG AND TOP SIDE OF HORIZONTAL LEG TO BEAM WITH 1/4" CONTINUOUS FILLET WELD.
  - SEE SHEET 612/838 FOR SUBDRAINAGE AND ASPHALT CONCRETE WEARING SURFACE DETAILS.
  - ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE AND ASPHALT WEARING SURFACE.



- FOR THE SUPPORT BRACKETS:  
TO BE FURNISHED AND INSTALLED (INCLUDING 3/4" X 2" HOLES) BY THE BRIDGE CONTRACTOR AND TO BE PAID FOR BY THE EAST OHIO GAS COMPANY TO THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS.
- SEE LIGHTING PLANS FOR CONDUITS ETC.
- TRANSVERSE REINFORCEMENT SHALL BE FIELD BENT AS REQUIRED AND PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL.
  - THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE UNLESS SHOWN OTHERWISE.
  - FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 11/14

12/14

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON • DALTON ASSOCIATES**

**SLAB PLAN & SECTION**

BRIDGE NO. CUY-90-1210  
CLARK AVE. OVER RAMP 18  
1-90 CUYAHOGA COUNTY  
STA. 55 + 62.32 TO STA 57 + 85.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
REG	JLH		J.S.K.		12/14 4-1-71	



CUYAHOGA COUNTY  
CUY-90-11.64

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Section: ABUTMENT A-1

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Section: PIER P=1

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Section: PIER P=2

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Section: ABUTMENT A=2

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Section: RAILING\*

Table with columns: MARK, NO. REQ'D, CORE DIA. OF SPIRAL, LENGTH OF SPIRAL, PITCH INS., WEIGHT LBS. Section: SPIRAL REINFORCING SCHEDULE

Table with columns: MARK, NO. REQ'D, CORE DIA. OF SPIRAL, LENGTH OF SPIRAL, PITCH INS., WEIGHT LBS. Section: SPIRAL REINFORCING SCHEDULE

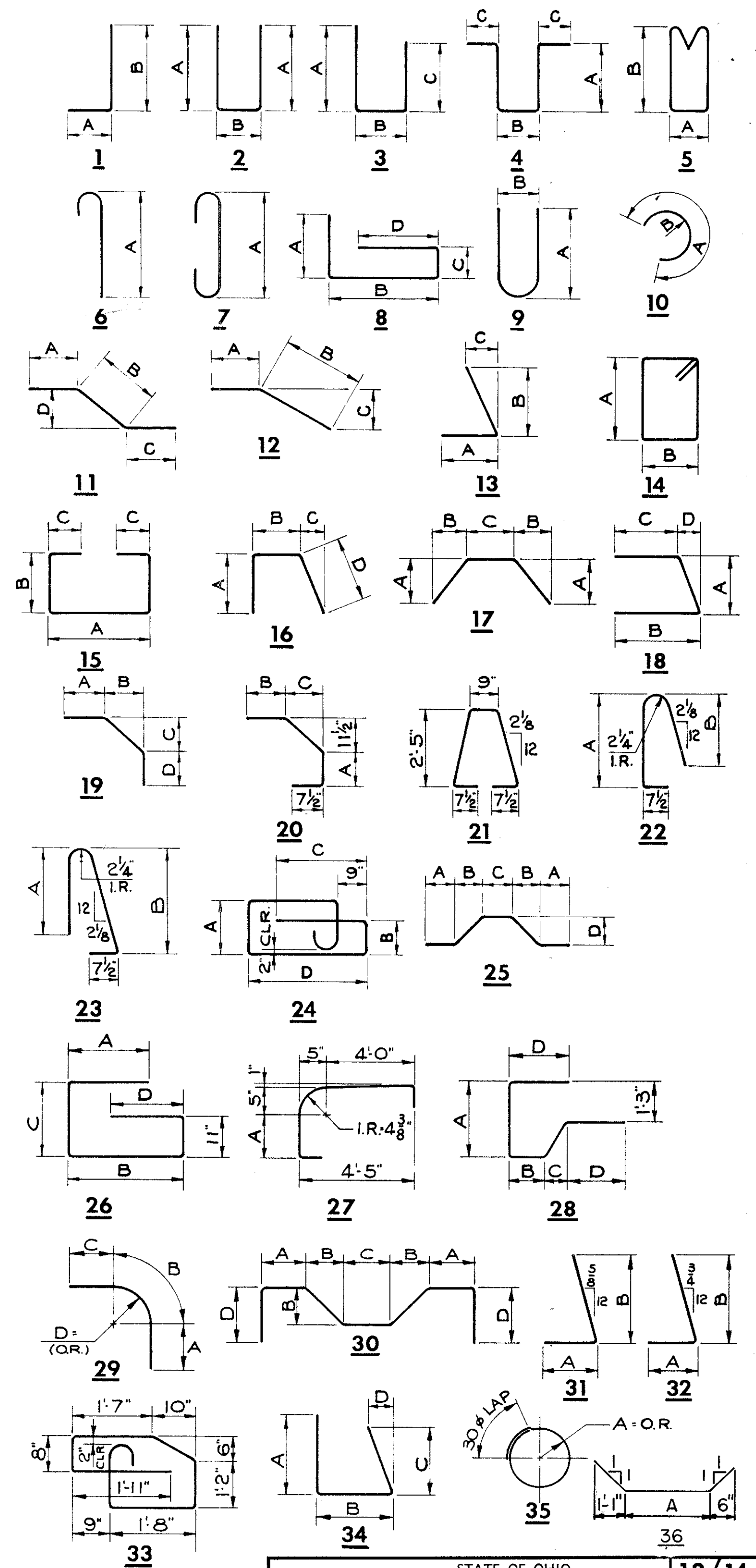
FOUR ANGLE SPACERS WEIGHING APPROX. 0.80 LBS. PER LINEAL FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT LISTED ABOVE. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL.

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Section: SUPERSTRUCTURE

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Section: SUPERSTRUCTURE

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Section: SUPERSTRUCTURE

REFER TO C/S SECTIONS 106.03, 700.709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL. SPLICED IN ACCORDANCE WITH 509.08.



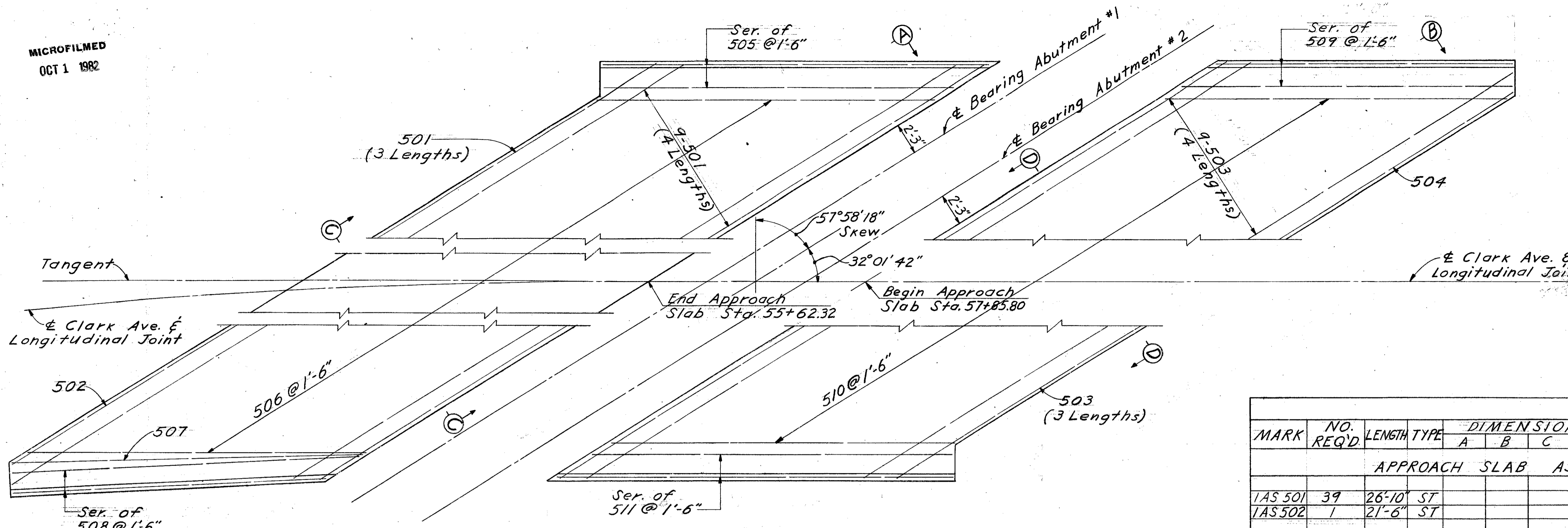
STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES  
DALTON · DALTON ASSOCIATES  
REINFORCING SCHEDULE  
BRIDGE NO. CUY-90-1210  
CLARK AVE. OVER RAMP 18  
I-90 CUYAHOGA COUNTY  
STA. 55 + 62.32 TO STA 57 + 85.80



MICROFILMED  
OCT 1 1982

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

CUYAHOGA COUNTY  
CUI-90-11.64

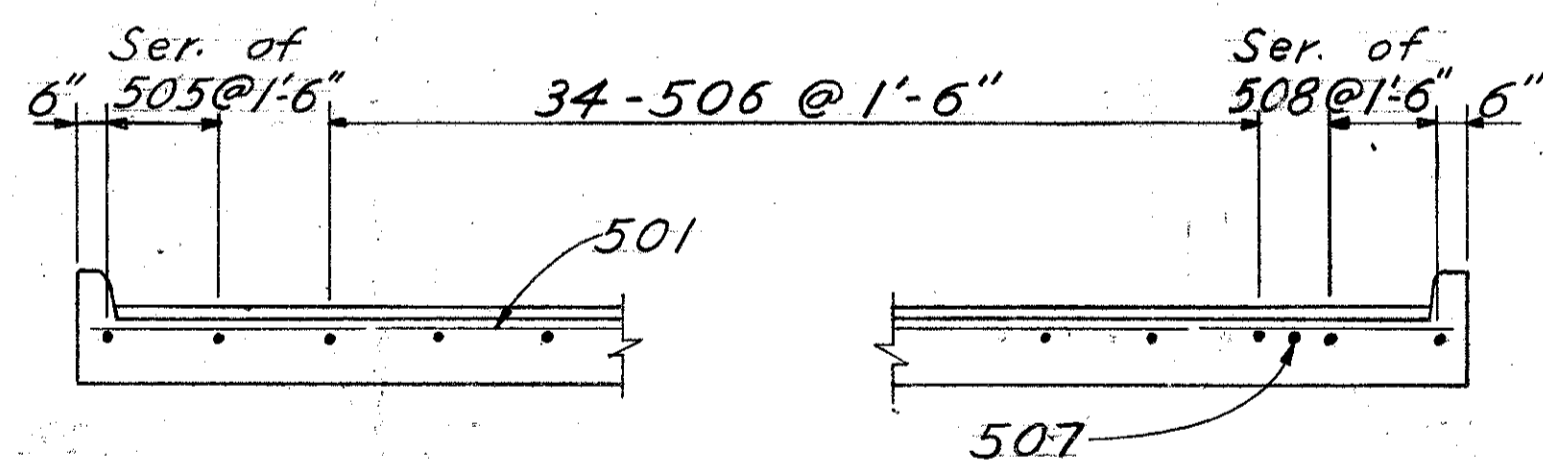


ⓐ The prefix "IAS" shall be added to all reinforcing bar marks on this slab.

ⓑ The prefix "2AS" shall be added to all reinforcing bar marks on this slab.

**PLAN APPROACH SLAB ABUTMENT A-1**

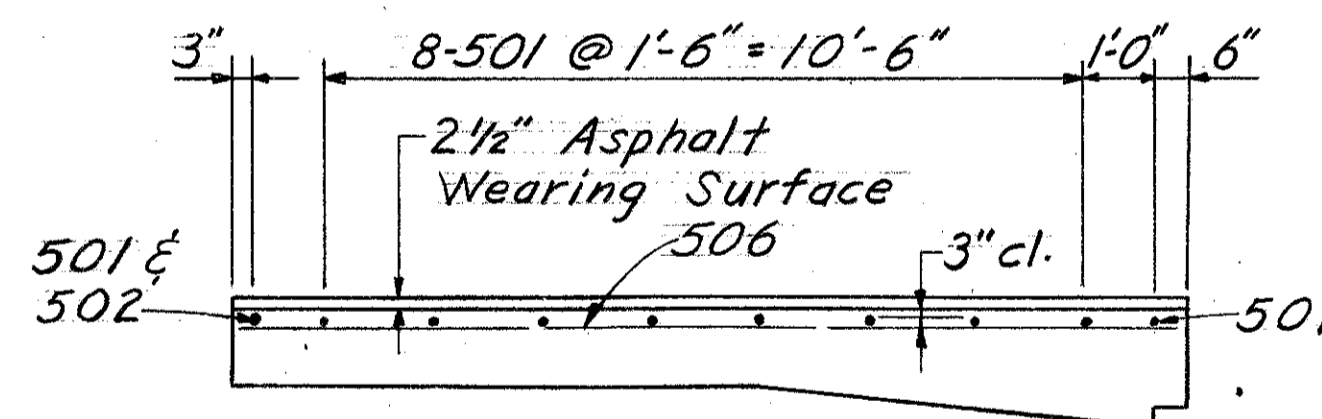
Bottom Rebars not shown



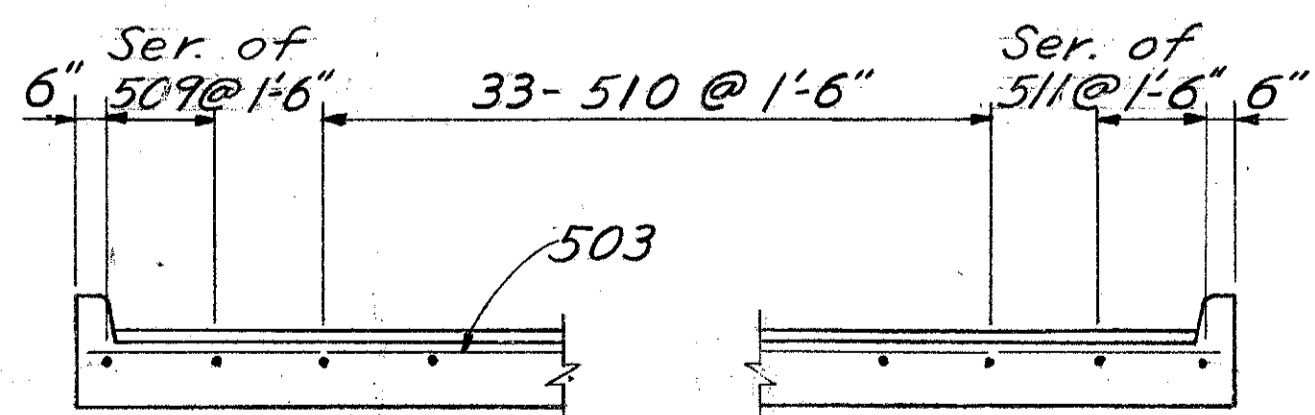
**SECTION A-A**

**PLAN APPROACH SLAB ABUTMENT A-2**

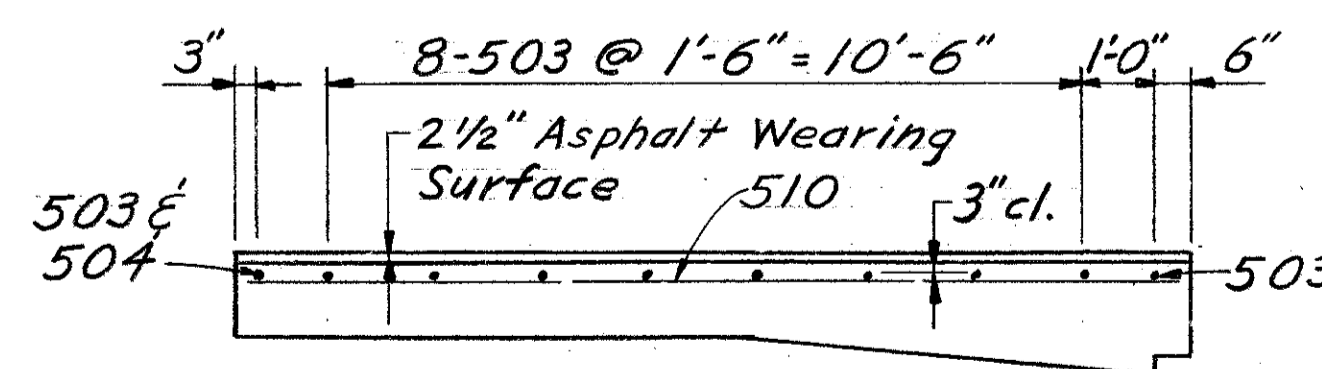
Bottom Rebars not shown



**SECTION C-C**



**SECTION B-B**



**SECTION D-D**

See Sh. 14/14 for bottom Reinforcing Bars.

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
APPROACH SLAB AS-1									
IAS 501	39	26'-10"	ST						1091
IAS 502	1	21'-6"	ST						22
SERIES	1-SET	24'-6"							
OF	OF 2 =	TO	ST					2'-6"	54
IAS 505	2 BARS	27'-0"							
IAS 506	34	22'-8"	ST						804
IAS 507	1	24'-0"	ST						25
SERIES	1-SET	21'-4"							
OF	OF 2 =	TO	ST					2'-6"	47
IAS 508	2 BARS	23'-10"							
TOP REINFORCEMENT, APPROACH SLAB AS-1 = 2043									
APPROACH SLAB AS-2									
2AS 503	39	26'-0"	ST						1058
2AS 504	1	21'-9"	ST						23
SERIES	1-SET	20'-10"							
OF	OF 2 =	TO	ST					2'-6"	46
2AS 509	2 BARS	23'-4"							
2AS 510	33	24'-8"	ST						849
SERIES	1-SET	25'-4"							
OF	OF 2 =	TO	ST					2'-6"	53
2AS 511	2 BARS	27'-10"							
TOP REINFORCEMENT, APPROACH SLAB AS-2 = 2,029									

14A/14

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
DIVISION OF DESIGN AND CONSTRUCTION  
BUREAU OF BRIDGES

**APPROACH SLAB DETAILS**

BRIDGE NO. CUY-90-1210  
CLARK AVE. OVER RAMP 18

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ULH	ULH		WTF	CPD	5-21-75	

20

**CUYAHOGA COUNTY**  
**CUY-90-11.64**

**CURVE DATA**

WESTBOUND I-90	RAMP NO. 17
PI. STA. 836+89.92	PI. STA. 27+97.94
$\Delta = 18^\circ 30' 37''$	$\Delta = 7^\circ 41' 28''$
$D_c = 0^\circ 45' 13''$	$D_c = 2^\circ 00' 00''$
$R = 7603.44'$	$R = 2864.79'$
$T = 1238.99'$	$T = 192.57'$
$L_c = 2456.40'$	$L_c = 384.56'$

MICROFILMED  
OCT 1982

**PROPOSED STRUCTURE**

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONC. DECK AND SUBSTRUCTURES.  
 SKEW:  $25^\circ 14' 49''$  RIGHT FORWARD  
 SPANS: 112'-0", 52'-0", 118'-0" % BRG.  
 ROADWAY: 36'-0" CURBS, 6'-0" SIDEWALKS.  
 LOADING: HS 20-44  
 WEARING SURFACE: 2" ASPHALT.  
 APPROACH SLABS: 30' LONG (A5-1-72)  
 ALIGNMENT: TANGENT.  
 SUPERELEVATION: NONE.  
 SLOPE PROTECTION: NONE REQUIRED.

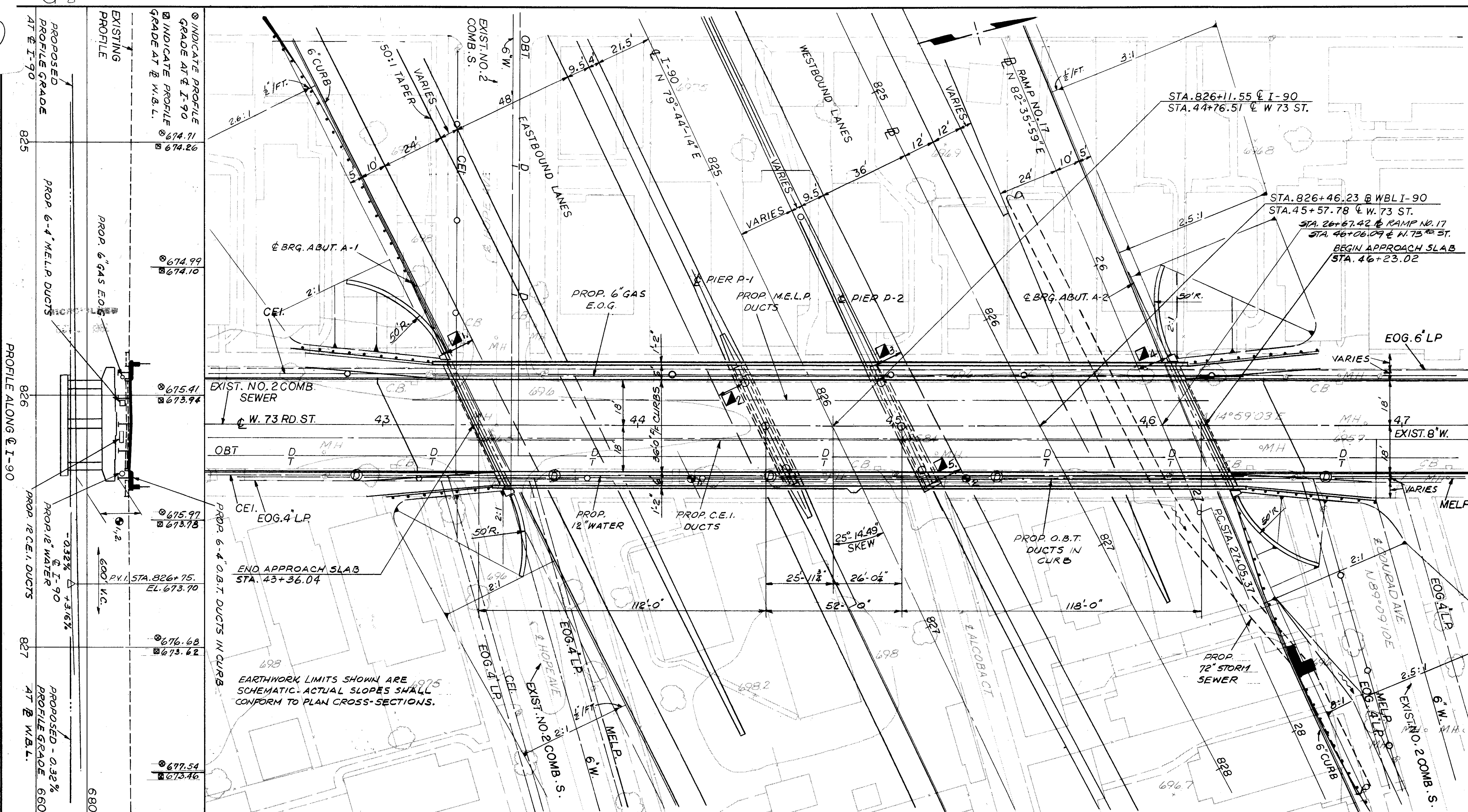
TRAFFIC: I-90 122,378 A.D.T. 1990.  
 W 73 ST. 3,074 A.D.T. 1990.

DALTON · DALTON ASSOCIATES

**SITE PLAN**

BRIDGE NO. CUY-90-1233  
 UNDER WEST 73rd ST.  
 I-90 CUYAHOGA COUNTY  
 STA. 826+11.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FLO	T.S.K.		R.J.P.	RDH	4-17-74	

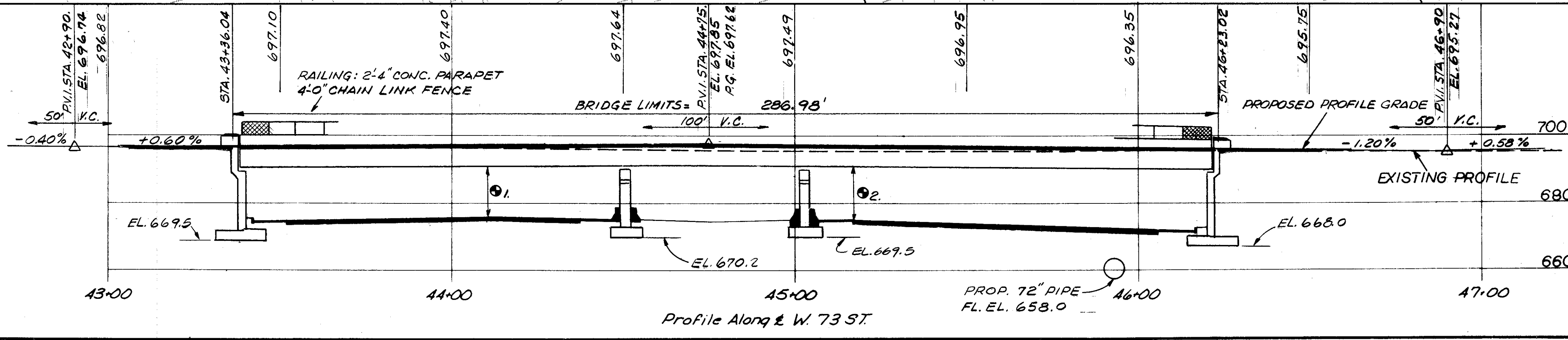


EARTHWORK LIMITS SHOWN ARE SCHEMATIC. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.

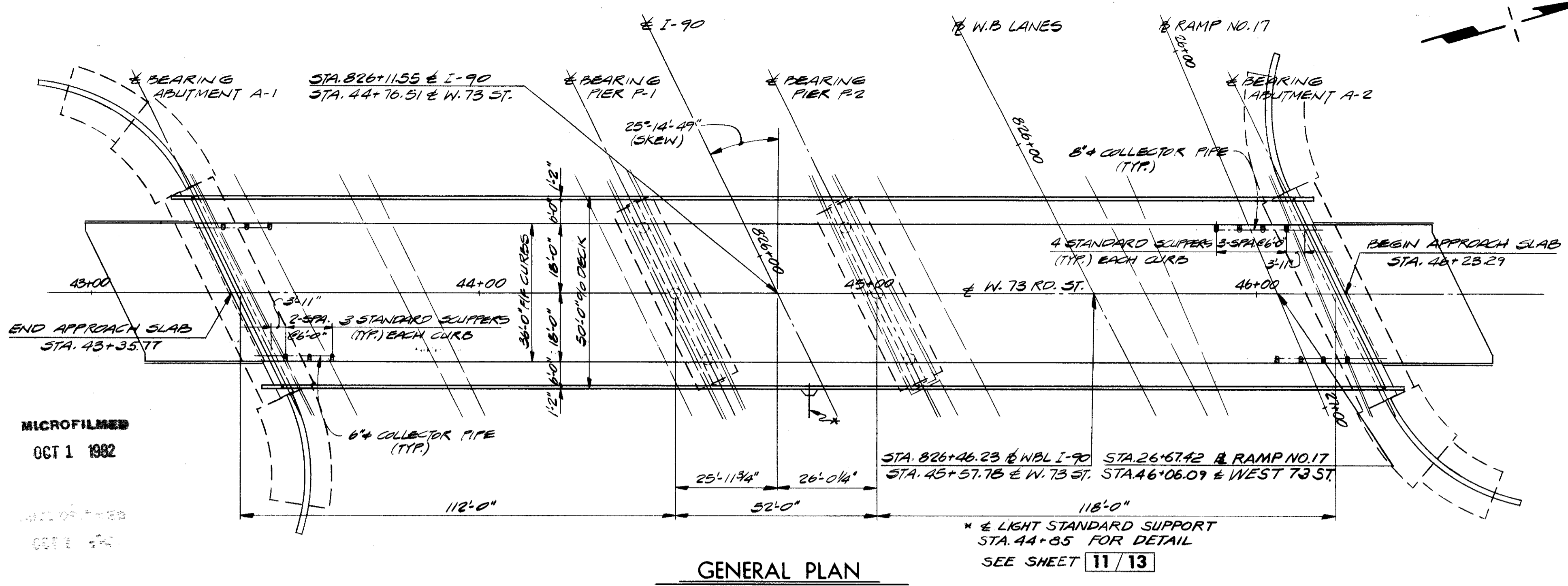
LOCATION	REQUIRED	ACTUAL
1.	15.00'	15.14'
2.	15.00'	15.92'

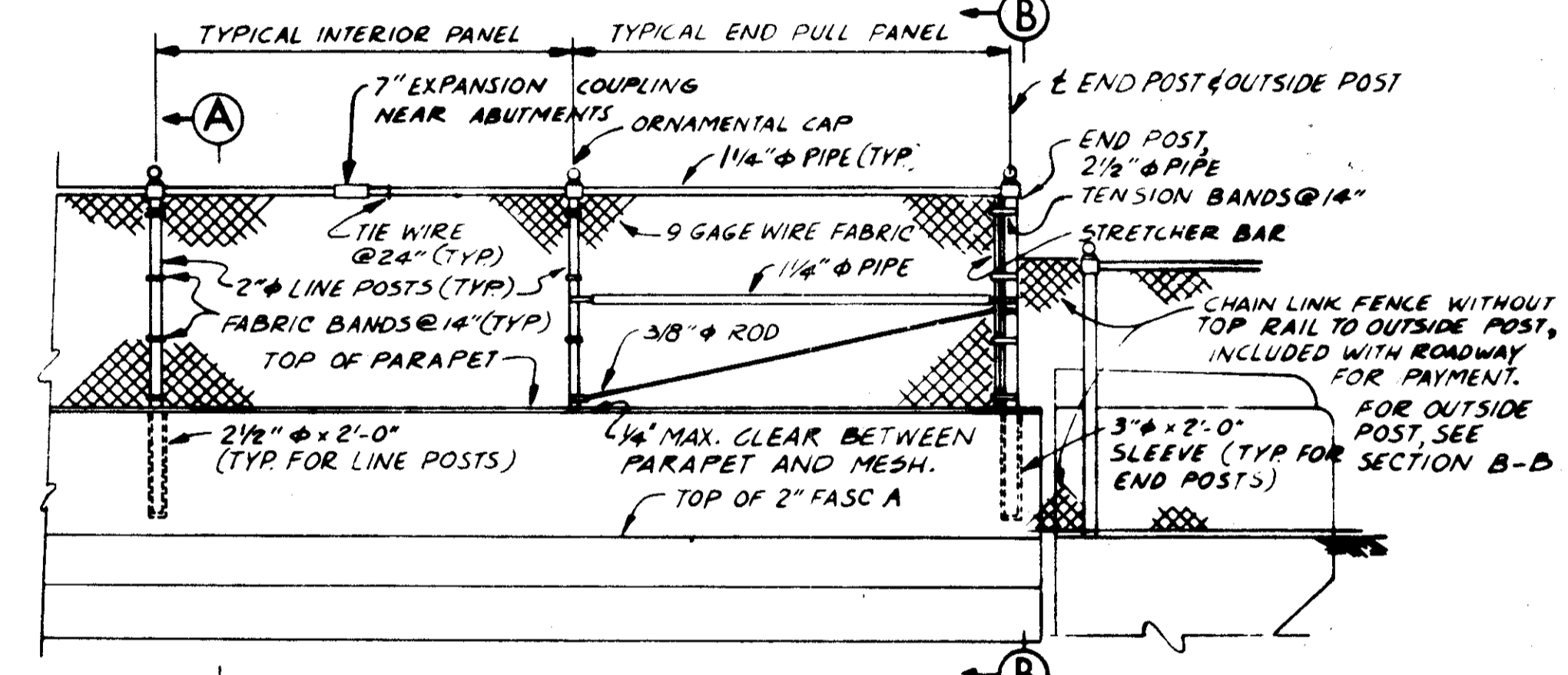
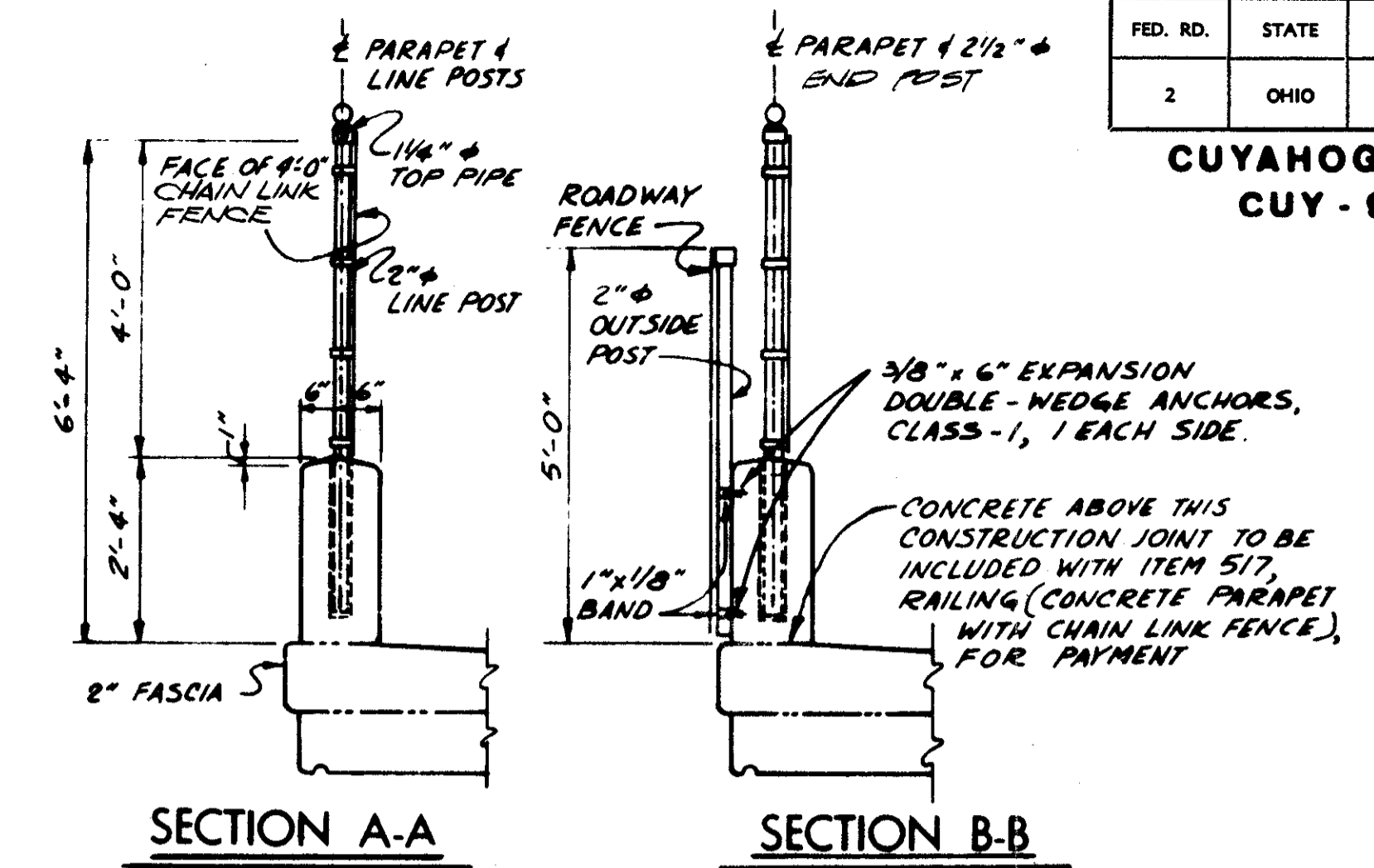
LOCATION	REQUIRED	ACTUAL
1.	10.75'	10.91'
2.	10.00'	10.00'
3.	10.00'	11.38'
4.	10.75'	10.86'
5.	10.00'	12.48'



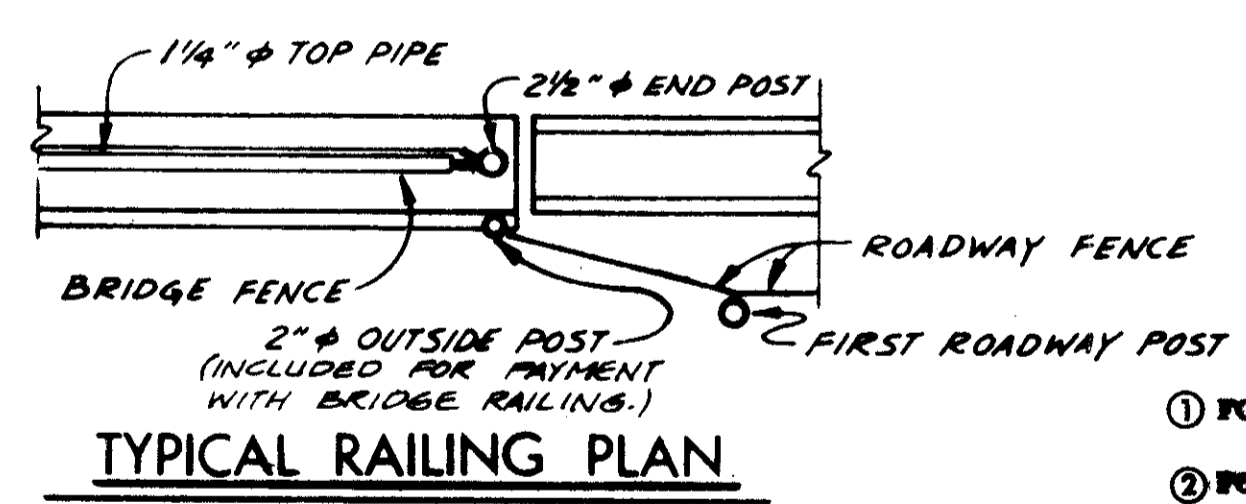
Profile Along W 73 ST



MICROFILMED  
OCT 1 1982



NOTE: ALL POSTS, PIPES AND FITTINGS TO BE GALVANIZED STEEL EXCEPT AS OTHERWISE SHOWN.



- NOTES**
- FOR STRUCTURAL GENERAL NOTES, SEE SHEET 611
  - FOUNDATION BEARING PRESSURE: ABUTMENT FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2.5 TONS PER SQ. FT. AND PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2.5 TONS PER SQ. FT.
  - FOR LIMITS OF EXCAVATION, SEE SHEET 7/13
  - SEE LIGHTING PLANS FOR DETAILS

ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
404	79	CY	ASPHALT CONCRETE ( AC-20 )	79			
SPEC	1135	SY	MEMBRANE WATERPROOFING, NOT APPLIED LIQUID (SEE PROPOSAL NOTE)	1135			
503	LUMP	L	COFFERDAMS CRIBS AND SHEETING				LUMP
503	2456	CY	UNCLASSIFIED EXCAVATION		2248	208	
509	256878	LB	REINFORCING STEEL	134986	82536	39356	
511	494	CY	CLASS C CONCRETE, SUPERSTRUCTURE	594			
511	75	CY	CLASS C CONCRETE, PIERS ABOVE FOOTINGS			75	
511	484	CY	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		484		
511	590	CY	CLASS C CONCRETE, FOOTINGS		449	141	
512	51	SY	TYPE B WATERPROOFING			51	
512	39	LF	PREMOLOD SEALING STRIP			39	
513	690800	LB	STRUCTURAL STEEL *	690800	676300		
514	690800	LB	FIELD PAINTING OF STRUCTURAL STEEL *	690800	676300		
516	173	SF	1 IN. PREFORMED EXPANSION JOINT FILLER			173	

ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
517	568.42	LF	RAILING (CONCRETE PARAPET WITH CHAIN LINK FENCE)	568.42			
518	14	EACH	SCUPPERS INCLUDING SUPPORTS	14			
518	376	CY	POROUS BACKFILL			376	
518	202	LF	6 IN. PERFORATED, HELICAL CMP, 707.01			202	
518	19	LF	6 IN. NON-PERFORATED, HELICAL CMP INCL. SPECIALS, 707.01			19	
518	48	LF	8 IN. PERFORATED CMP INCLUDING SPECIALS, 707.01			48	
518	43	LF	8 IN. COLLECTOR PIPE INCLUDING SPECIALS			43	
518	53	LF	8 IN. COLLECTOR PIPE INCLUDING SPECIALS			53	
518	568	LF	SUBDRAINAGE FOR WEARING COURSE (AS PER PLAN)			568	
S625	1		SEE LIGHTING SUMMARY SHEET				
808	594	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B, OR D		594		
			* INCLUDES 570 LB TO BE PAID FOR BY THE EAST OHIO GAS CO. TO THE STATE OF OHIO				
			* INCLUDES 13872 LB TO BE PAID FOR BY THE CLEVELAND ELECTRIC ILLUMINATING CO. TO THE STATE OF OHIO				
			QUANTITIES CHECKED BY R6 4-09-75				

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

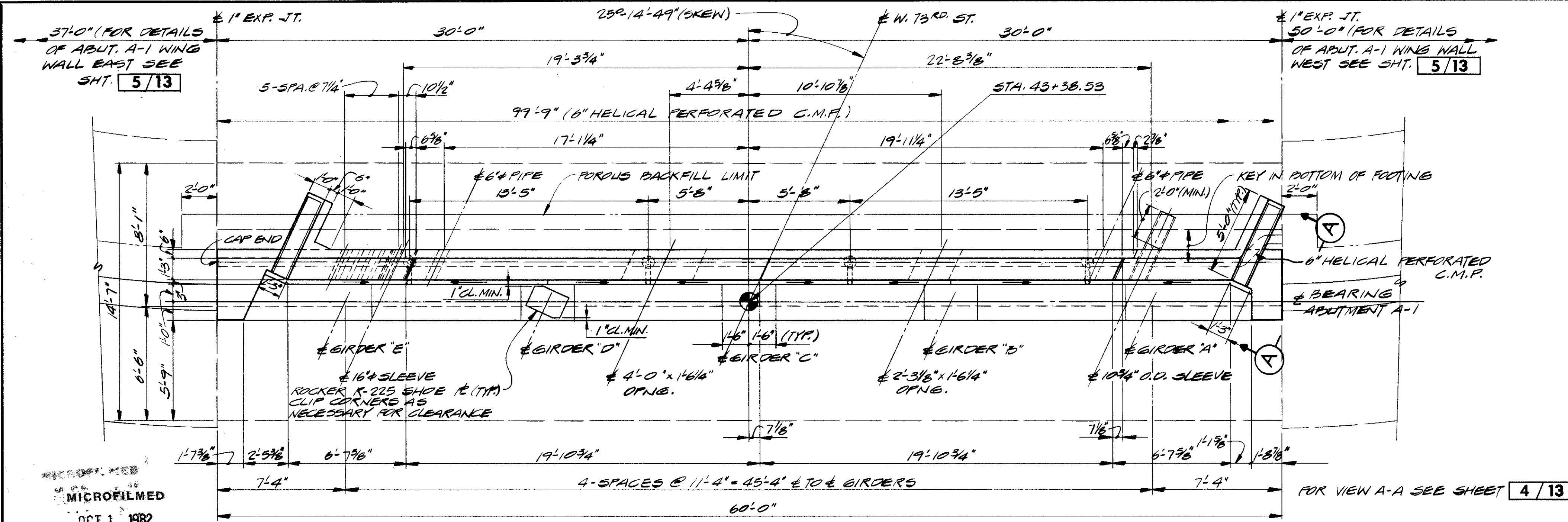
DALTON · DALTON ASSOCIATES

**GENERAL PLAN & ELEVATION**

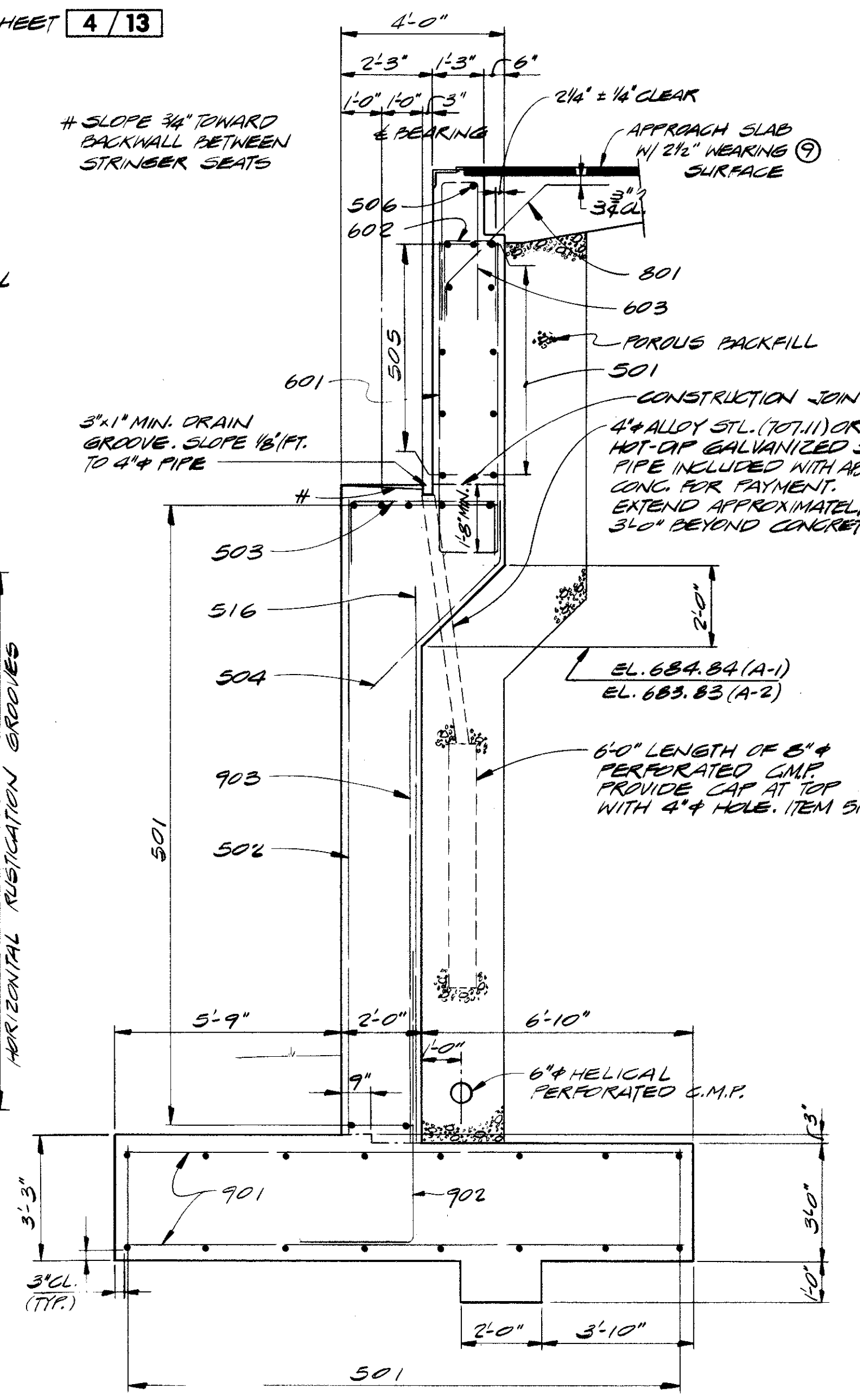
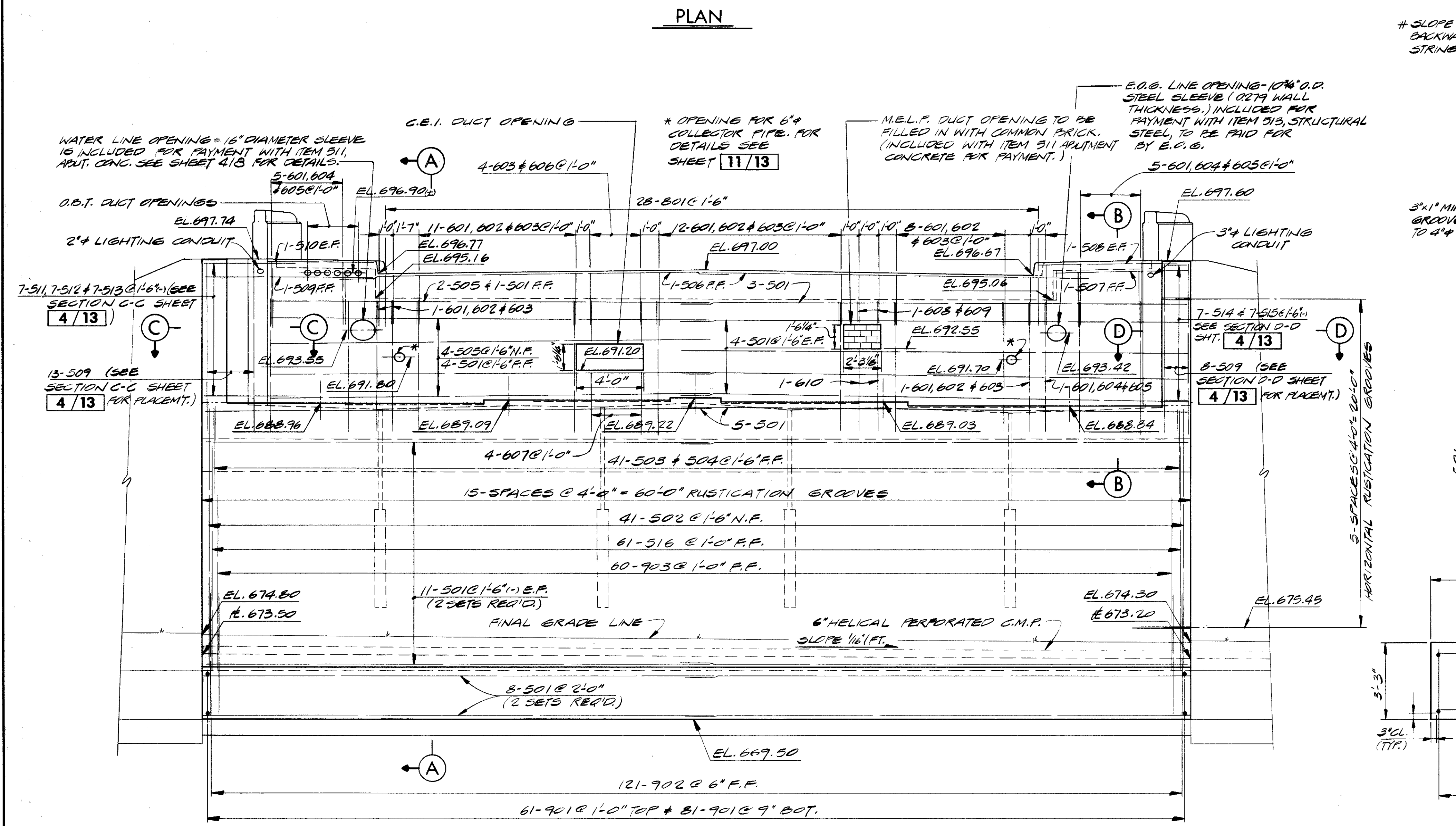
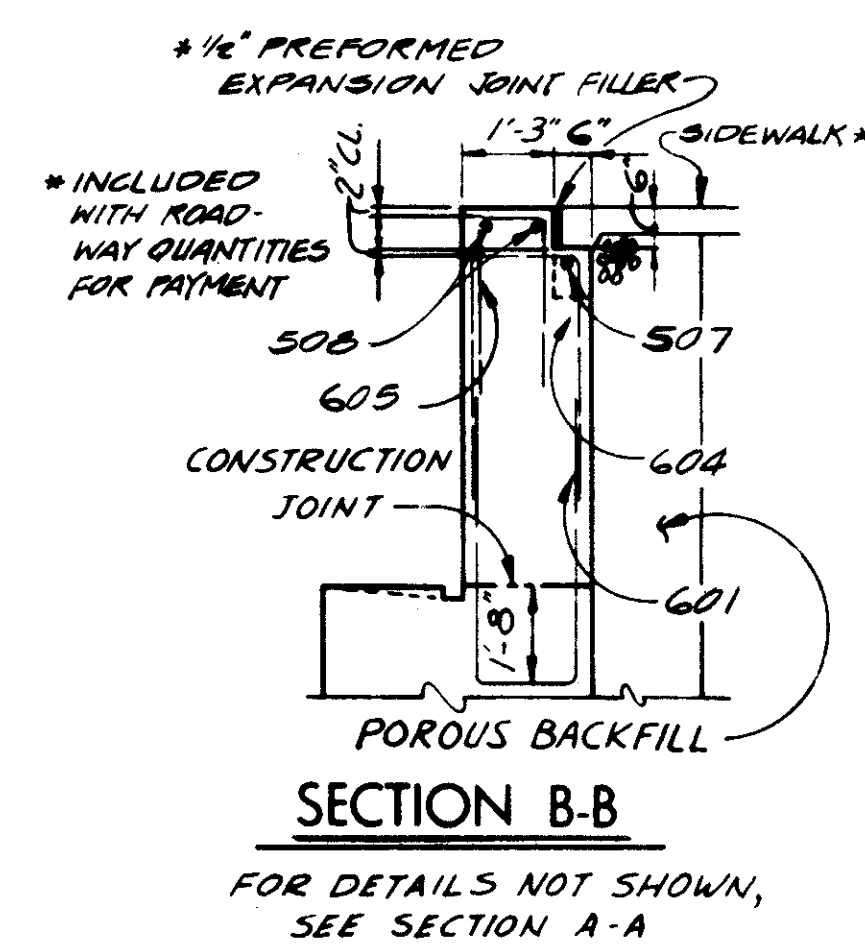
BRIDGE NO. CUY-90-1233  
UNDER WEST 73rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 826+11.55

DESIGNED: R.J.P. DRAWN: C.P.O. TRACED: R.G. CHECKED: R.G. DATE: 8-14-75 REVISION: 10-31-75

2/13



MICROFILMED  
OCT 1 1982



10 BACKWALL CONCRETE: IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE BACKWALL HAS BEEN PLACED.

NOTES

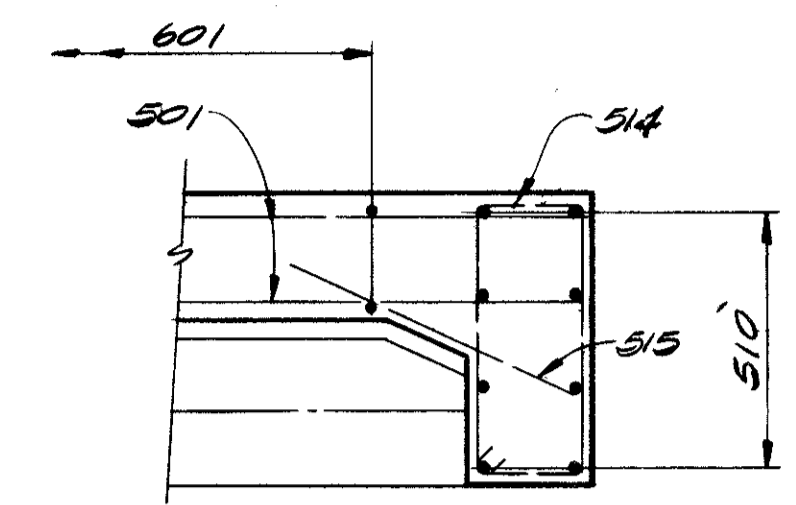
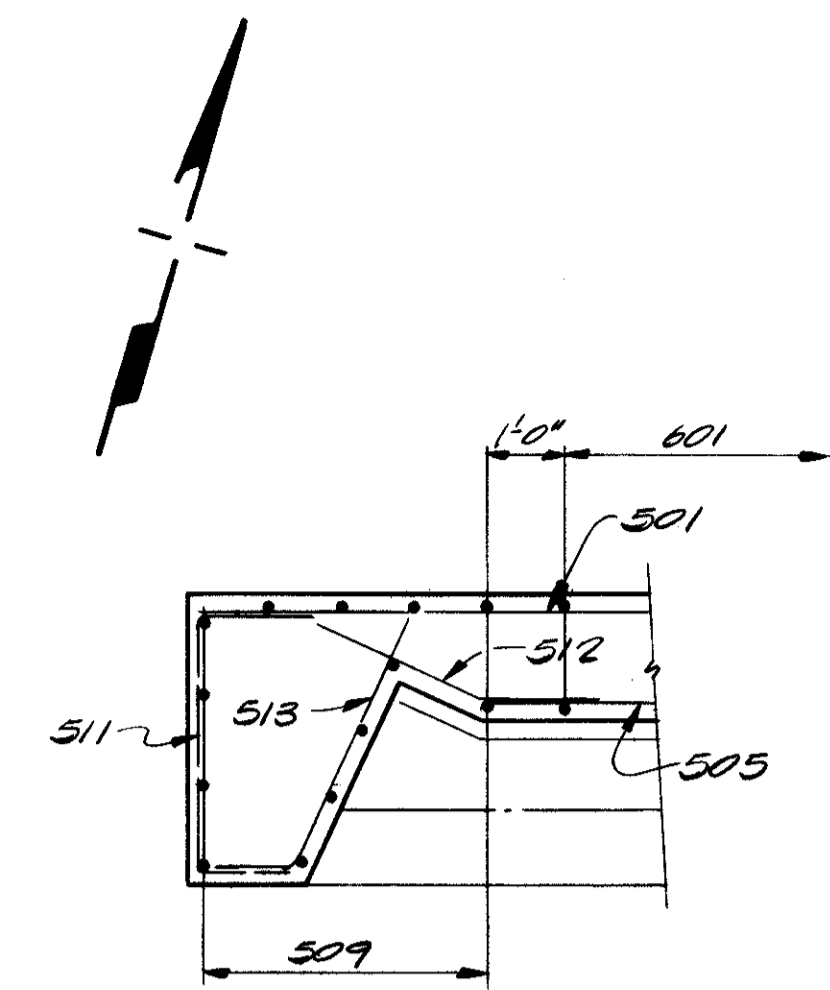
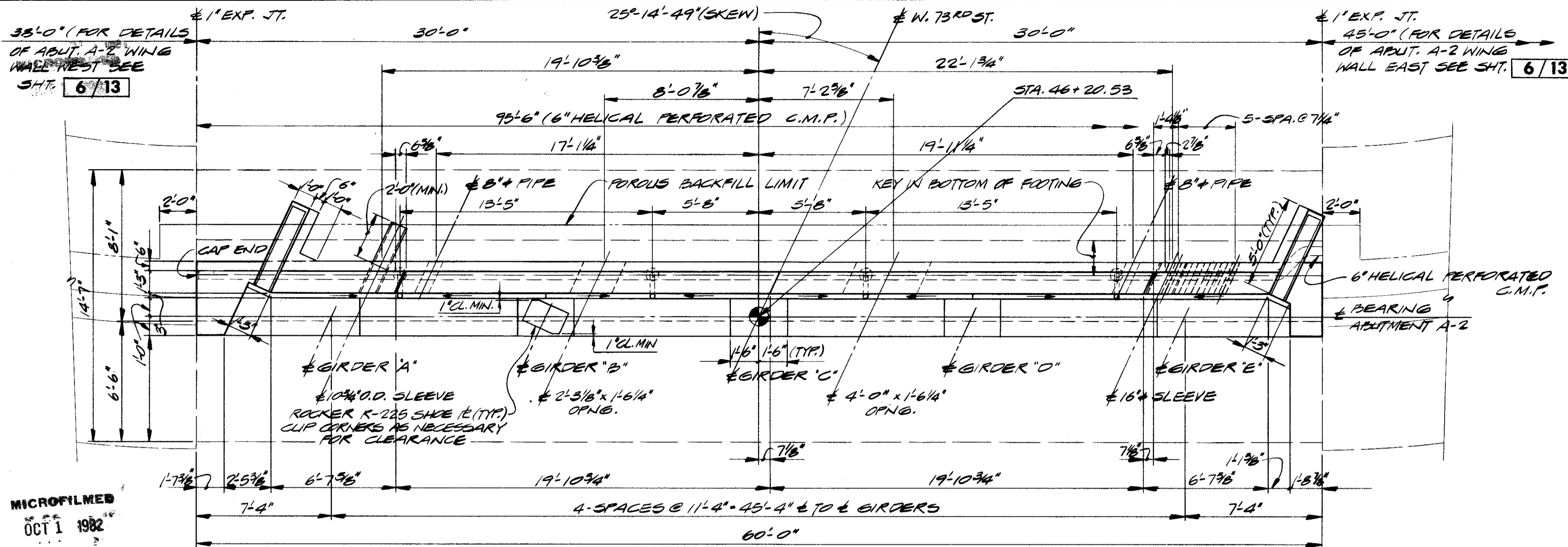
- 1 ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
- 2 BACKWALL ELEVATIONS ARE GIVEN AS FINAL TOP OF ASPHALT CONCRETE ELEVATIONS AT FRONT FACE OF BACKWALL SEE SHT 10 / 13
- 3 POROUS BACKFILL, 2 FT. THICK, FULL LENGTH OF ABUTMENT AND WINGS, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE WITHIN THE ROADWAY AREA EXTENDED LATERALLY TO THE WING WALLS OR TO THE EMBANKMENT SIDE SLOPES OR AS OTHERWISE SHOWN.
- 4 THE PREFIX "1A" OR "2A" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENT A-1 OR A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
- 5 PROCEDURE: BEFORE THE BACKWALL IS CONSTRUCTED THE EMBANKMENT SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE WITH A 1:1 SLOPE FROM THE BRIDGE SEAT TO THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FEET BACK OF ABUTMENT.
- 6 FOR ADDITIONAL NOTES, SEE SHEET 2 / 13
- 7 USE ALTERNATE HORIZONTAL AND VERTICAL STRIATED CONCRETE FINISH BETWEEN RUSTICATION GROOVES.
- 8 FOR LOCATIONS AND DETAILS OF LIGHTING APPURTENANCES, SEE LIGHTING PLANS AND STANDARD CONSTRUCTION DRAWING HL-4
- 9 TACK COAT: TACK COAT 407 SHALL BE APPLIED AT THE RATE OF 0.1 GAL. PER SQ. YD. UNDER THE APPROACH SLAB WEARING SURFACE, INCLUDE WITH APPROACH SLAB FOR PAYMENT.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		3 / 13
DALTON · DALTON ASSOCIATES		
ABUTMENT A-1		
BRIDGE NO. CUY-90-1233 UNDER WEST 73rd ST. I-90 CUYAHOGA COUNTY STA. 826 + 11.55		
DESIGNED	DRAWN	TRACED
RG	D.P.D.	R.J.P.
CHECKED	REVIEWED	DATE
	R.D.H.	4-17-74

FED. RD.	STATE	PROJECT
2	OHIO	

670  
838

CUYAHOGA COUNTY  
CUI-90-11.64

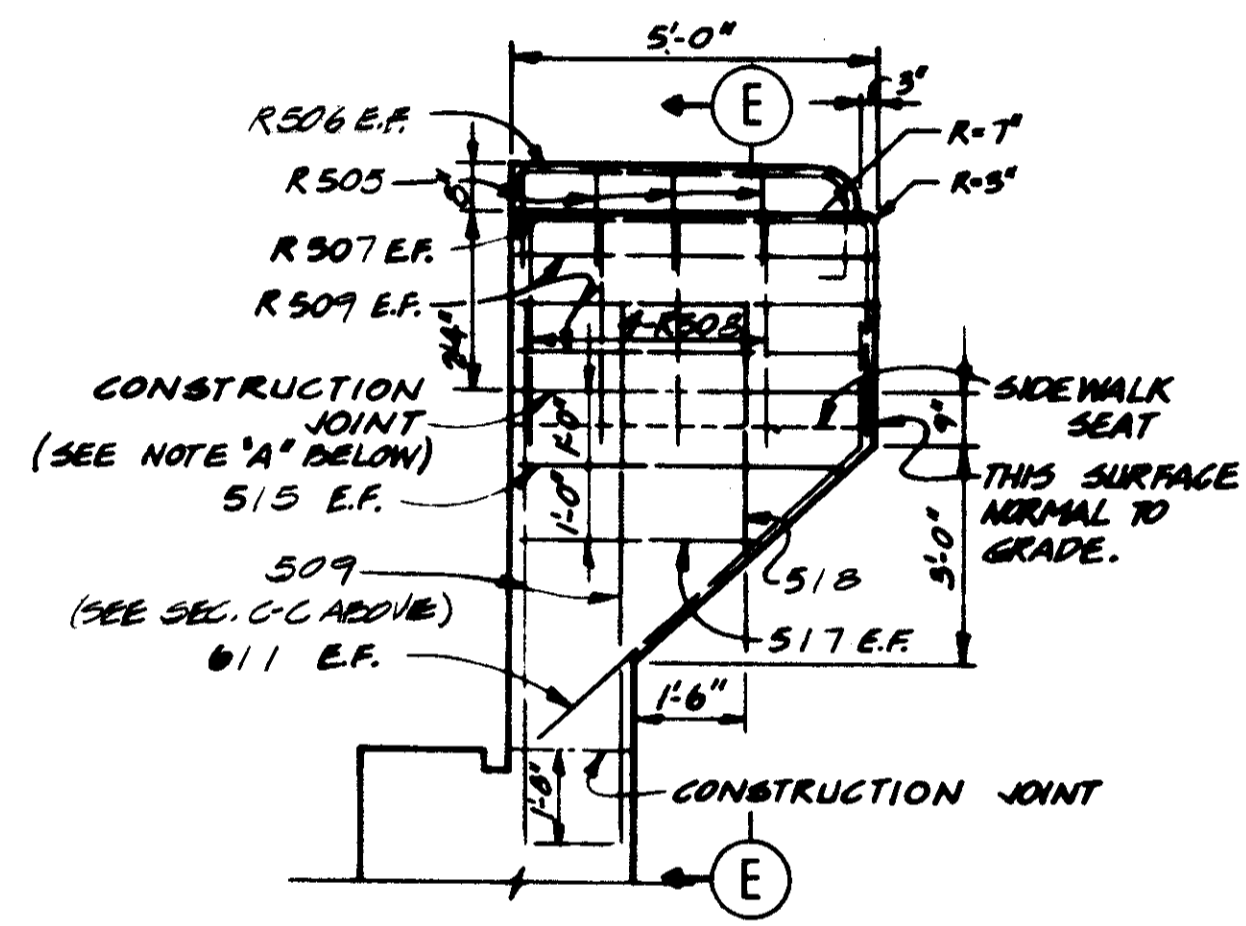
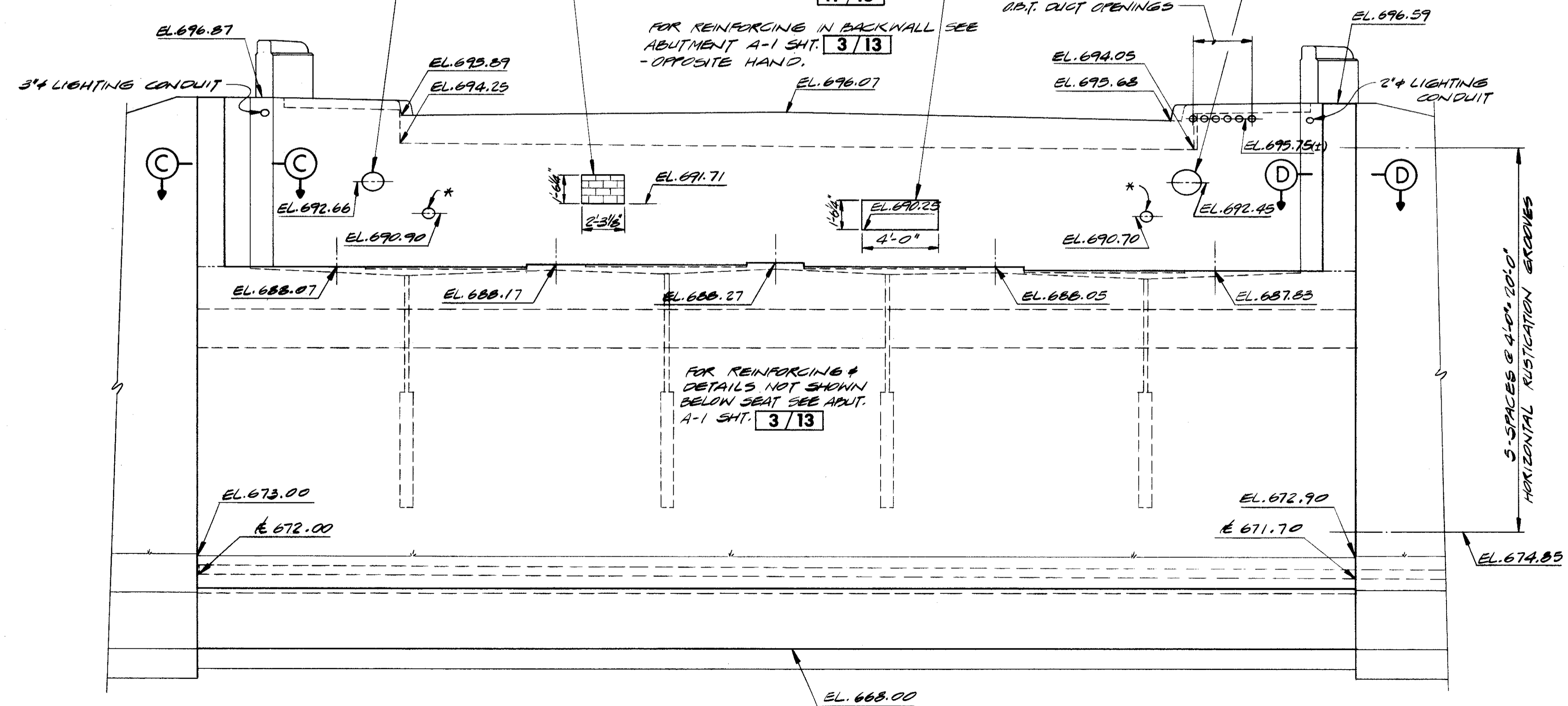


MICROFILMED  
OCT 1 1982

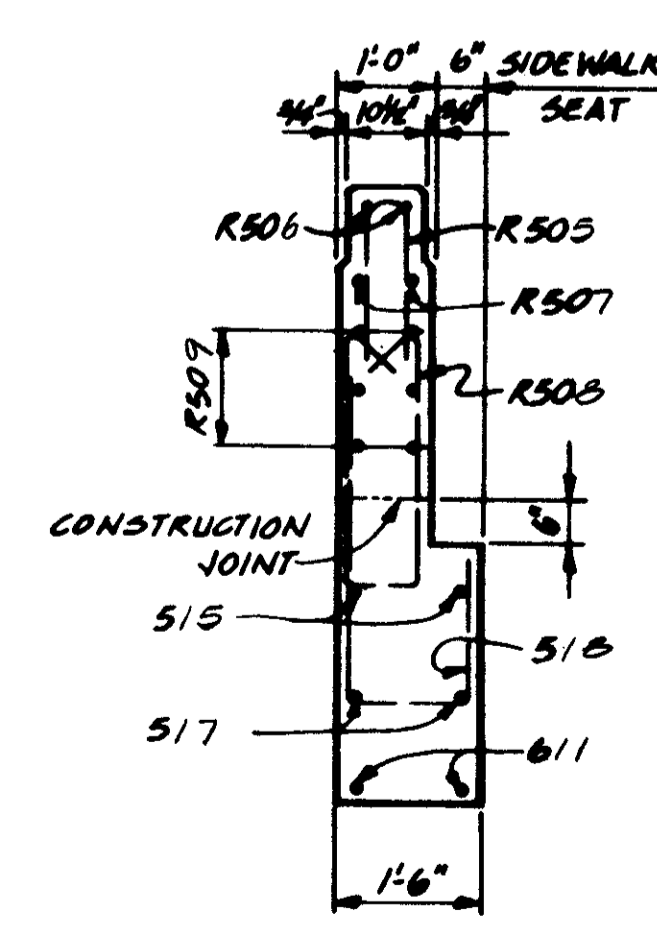
E.O.B. LINE OPENING - 10 3/4" O.D. STEEL SLEEVE (0.279 WALL THICKNESS) INCLUDED FOR PAYMENT WITH ITEM 513, STRUCTURAL STEEL, TO BE PAID FOR BY E.C.G.

M.E.L.P. DUCT OPENING TO BE FILLED IN WITH COMMON BRICK, (INCLUDED WITH ITEM 511, ABUTMENT CONCRETE FOR PAYMENT.)  
\* OPENING FOR 8" COLLECTOR PIPE. FOR DETAILS SEE SHT. 11/13

WATER LINE OPENING - 16" DIA. SLEEVE IS INCLUDED FOR PAYMENT WITH ITEM 511, ABUTMENT CONCRETE SEE SHEET FOR DETAILS.



NOTE A: CONCRETE ABOVE THIS JOINT IS INCLUDED WITH RAILING FOR PAYMENT.



FOR NOTES, SEE SHEET 3/13

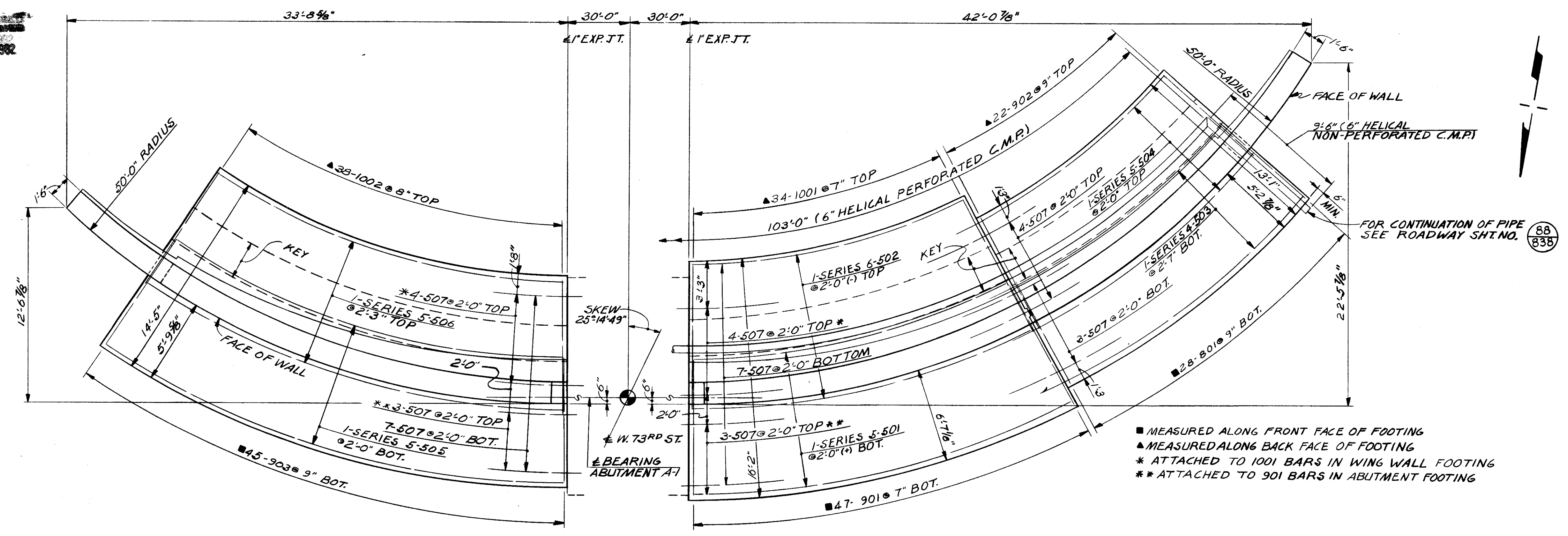
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		4/13
DALTON · DALTON ASSOCIATES		
ABUTMENT A-2		
BRIDGE NO. CUY-90-1233 UNDER WEST 73rd ST. I-90 CUYAHOGA COUNTY STA. 826+11.55		
DESIGNED	DRAWN	TRACED
RLG	D.F.D.	R.I.P.
CHECKED	REVIEWED	DATE
	RDW	4-17-74
REVISED		

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT	
2	OHIO		

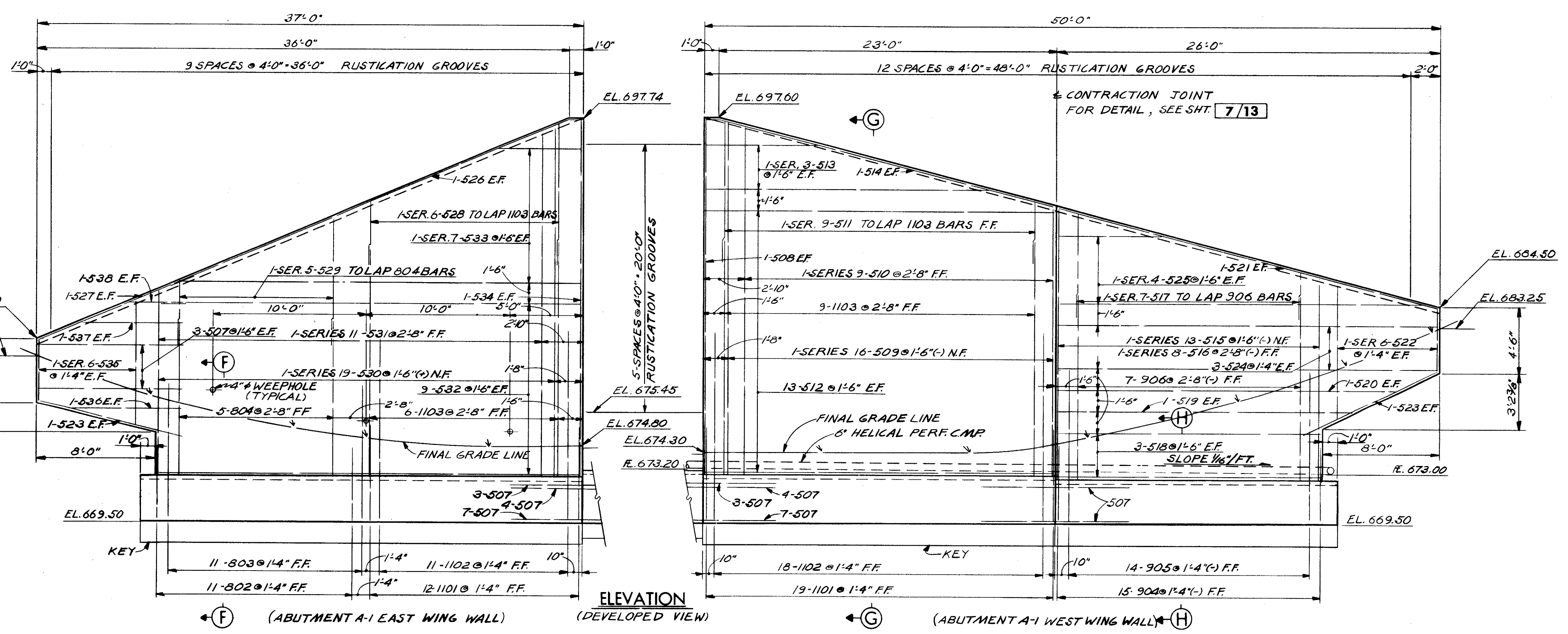
671  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



PLAN

- MEASURED ALONG FRONT FACE OF FOOTING
- ▲ MEASURED ALONG BACK FACE OF FOOTING
- \* ATTACHED TO 1001 BARS IN WING WALL FOOTING
- \*\* ATTACHED TO 901 BARS IN ABUTMENT FOOTING



ELEVATION  
(DEVELOPED VIEW)

NOTES

- ① ABBREVIATIONS USED ARE:  
NF - NEAR FACE  
FF - FAR FACE  
EF - EACH FACE
  - ② THE PREFIX "1W" AND "2W" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN WING WALLS FOR ABUTMENTS A-1 AND A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
  - ③ ALL HORIZONTAL DIMENSIONS ARE GIVEN TO FRONT FACE OF WALL UNLESS NOTED OTHERWISE.
  - ④ FOR ALL SECTIONS, SEE SHEET 7/13
  - ⑤ ALL REINFORCING IN FOOTINGS SHALL HAVE 3 INCHES MINIMUM CLEAR COVER.
  - ⑥ USE ALTERNATE HORIZONTAL AND VERTICAL STRIATED CONCRETE FINISH BETWEEN RUSTICATION GROOVES.
  - ⑦ FOR DETAILS, SEE SHEET 7/13
- FOR ADDITIONAL NOTES, SEE SHEET 3/13

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						5/13
DALTON • DALTON ASSOCIATES						
ABUTMENT A-1 WING WALLS						
BRIDGE NO. CUY - 90 - 1233 UNDER WEST 73rd ST. I-90 CUYAHOGA COUNTY STA. 826 + 11.55						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RG	TWJ		RJP	RDN	4-17-74	

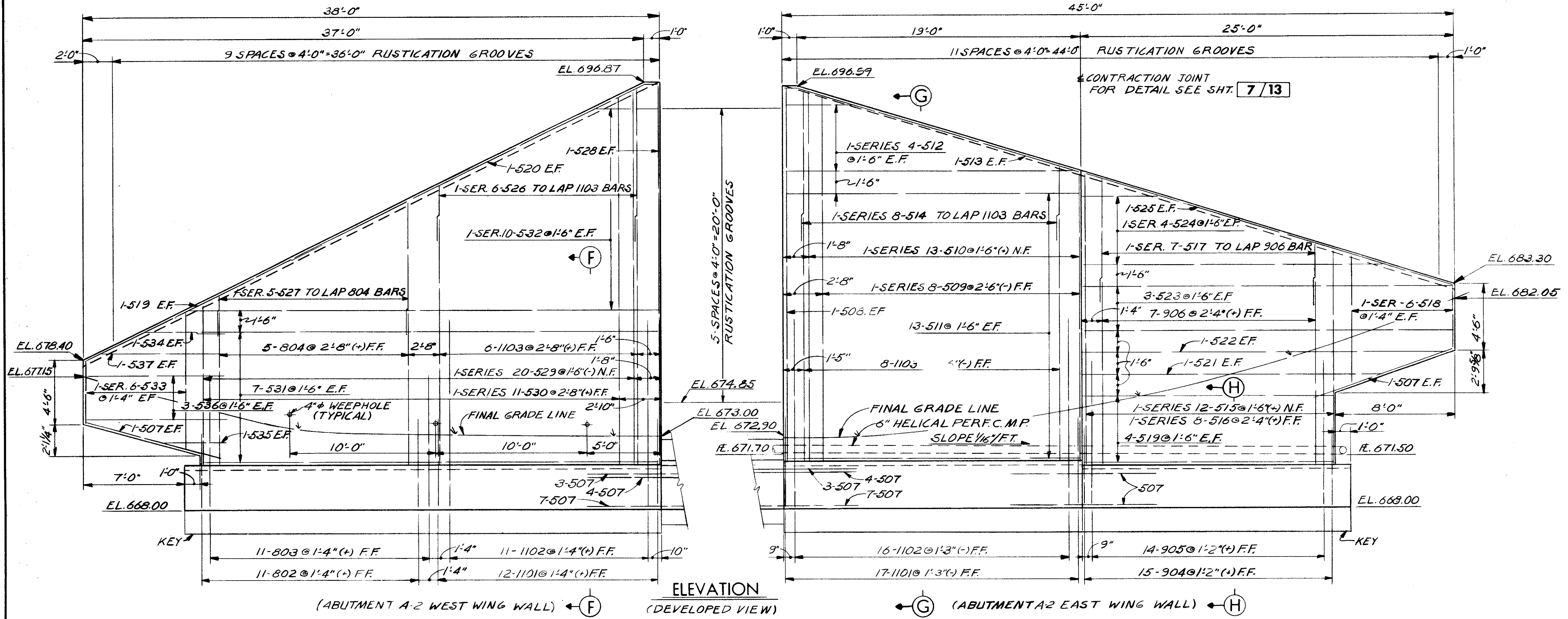
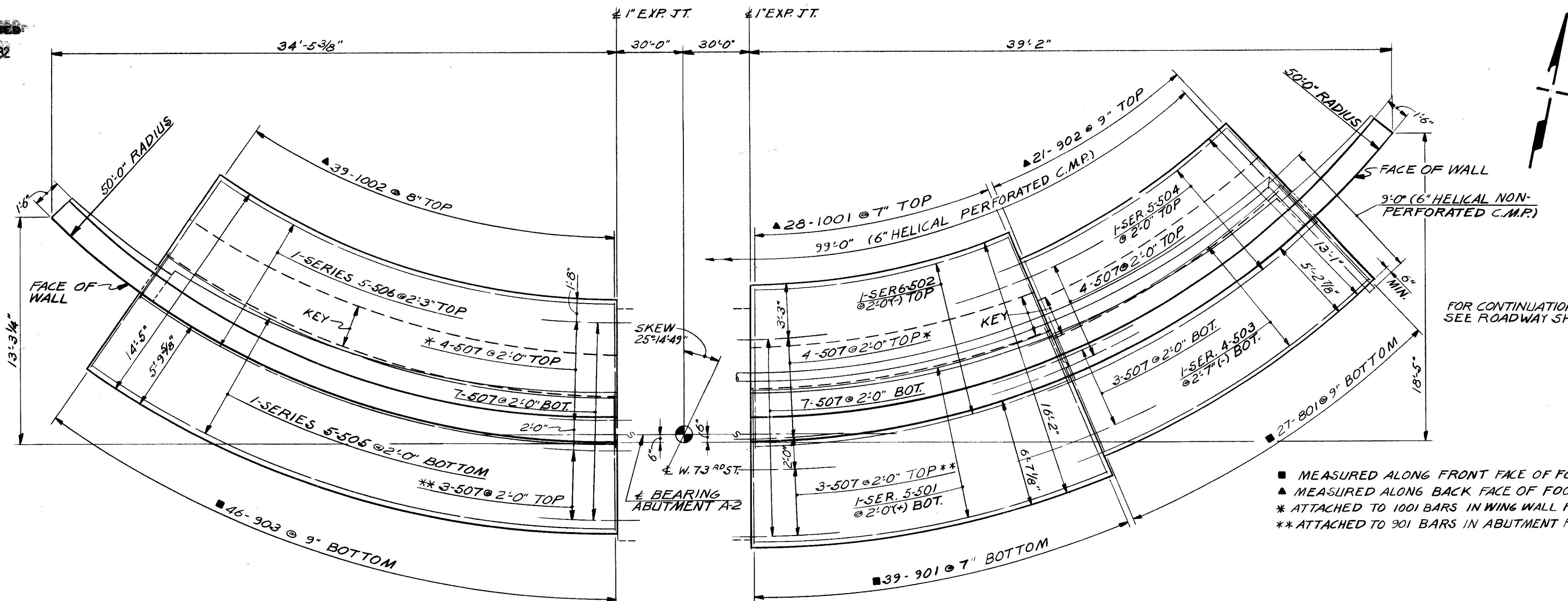


MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

672  
838

CUYAHOGA COUNTY  
CUY - 90 - 11,64



FOR NOTES, SEE SHEET 5/13

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

6/13

DALTON · DALTON ASSOCIATES

ABUTMENT A-2 WING WALLS

BRIDGE NO. CUY - 90 - 1233  
UNDER WEST 73rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 826 + 11.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RG	TJ		R.I.P.	RDA	4-17-74	

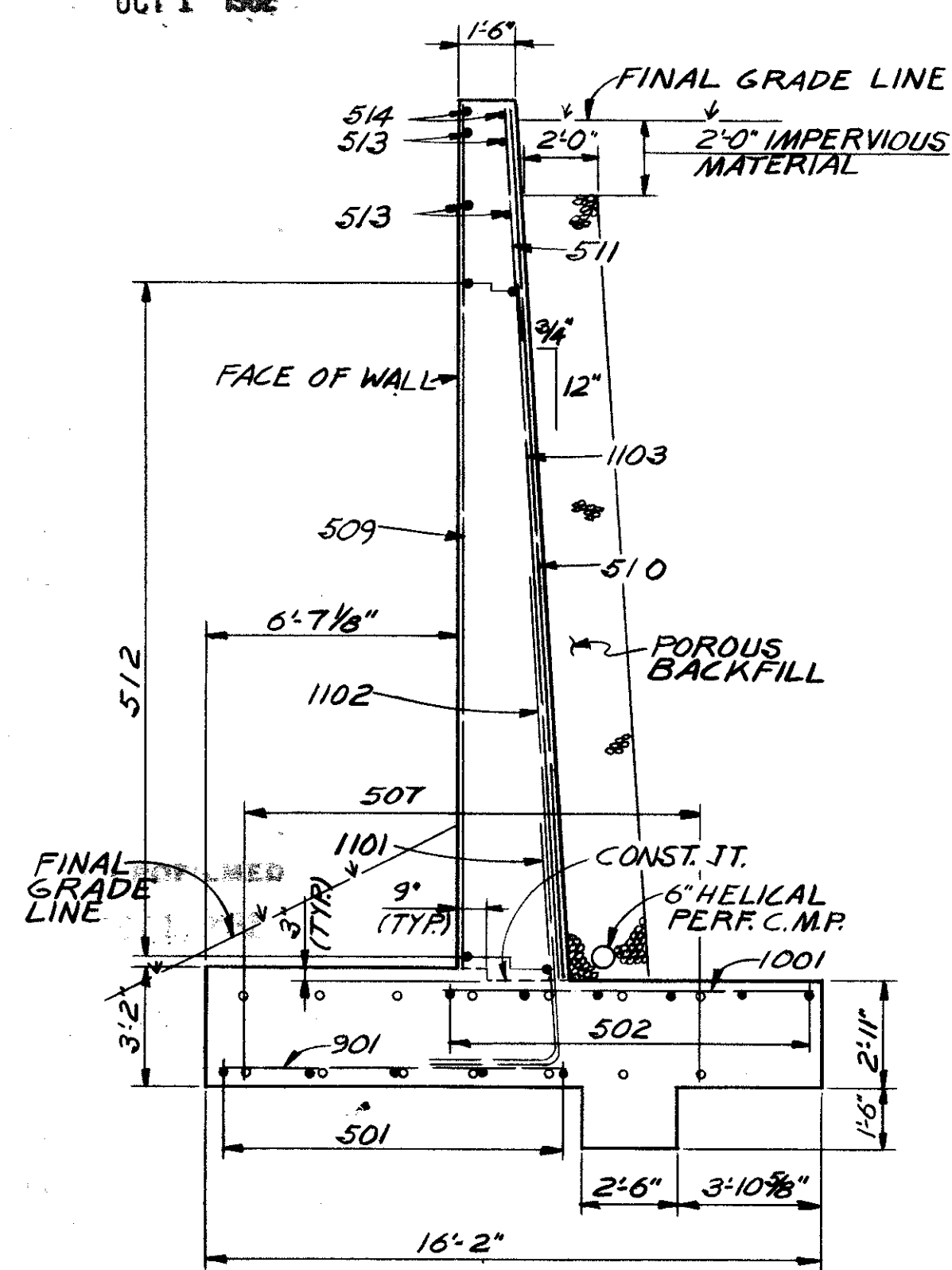
MICROFILMED

OCT 1 1982

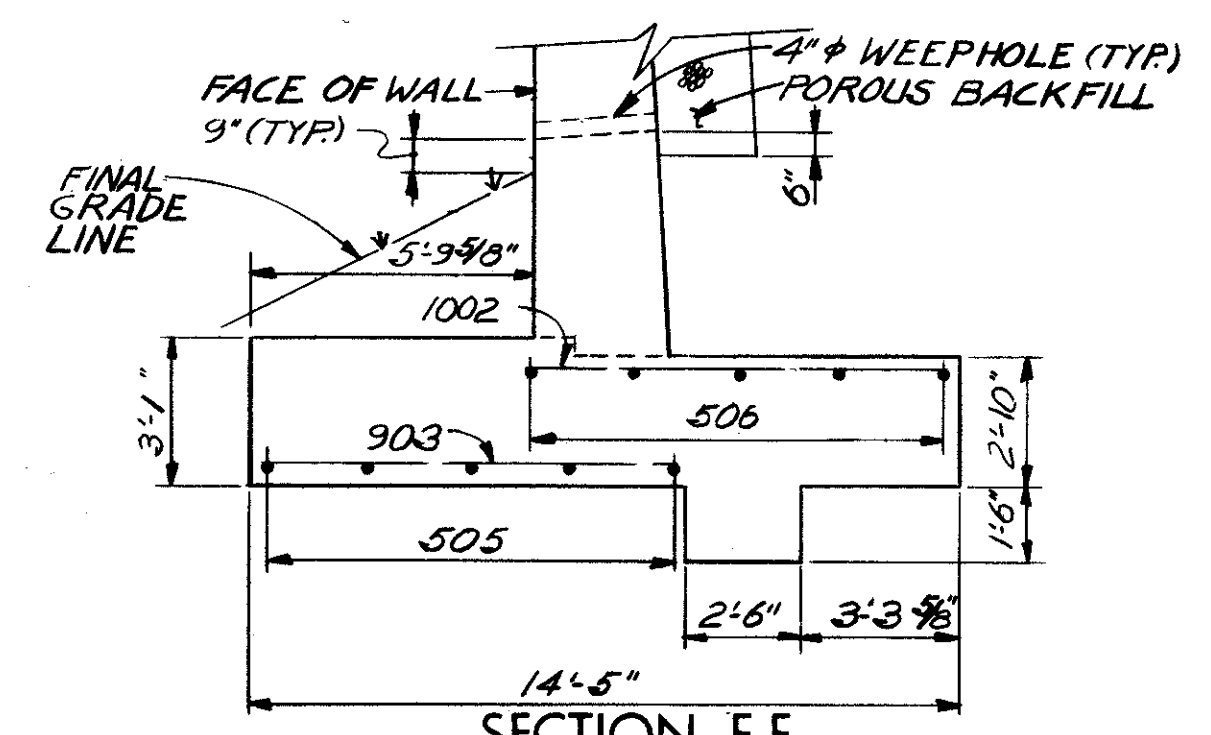
FED. RD.	STATE	PROJECT
2	OHIO	

673  
838

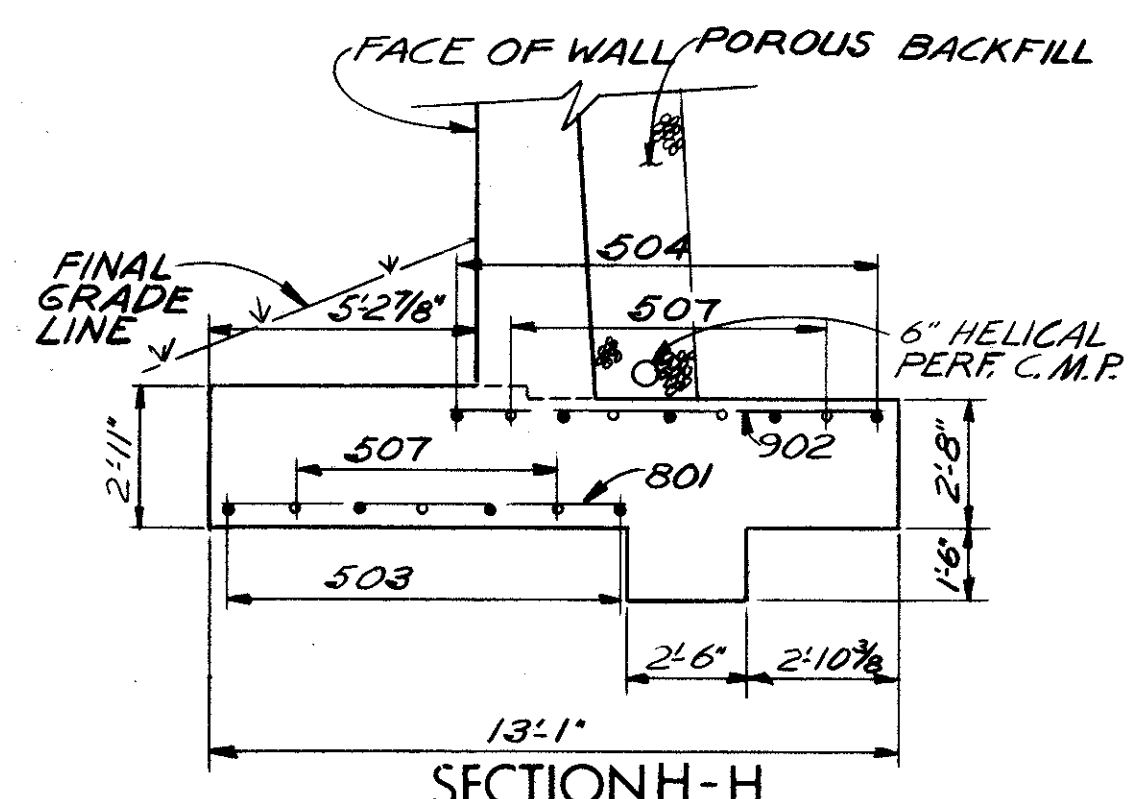
CUYAHOGA COUNTY  
CUY - 90 - 11.64



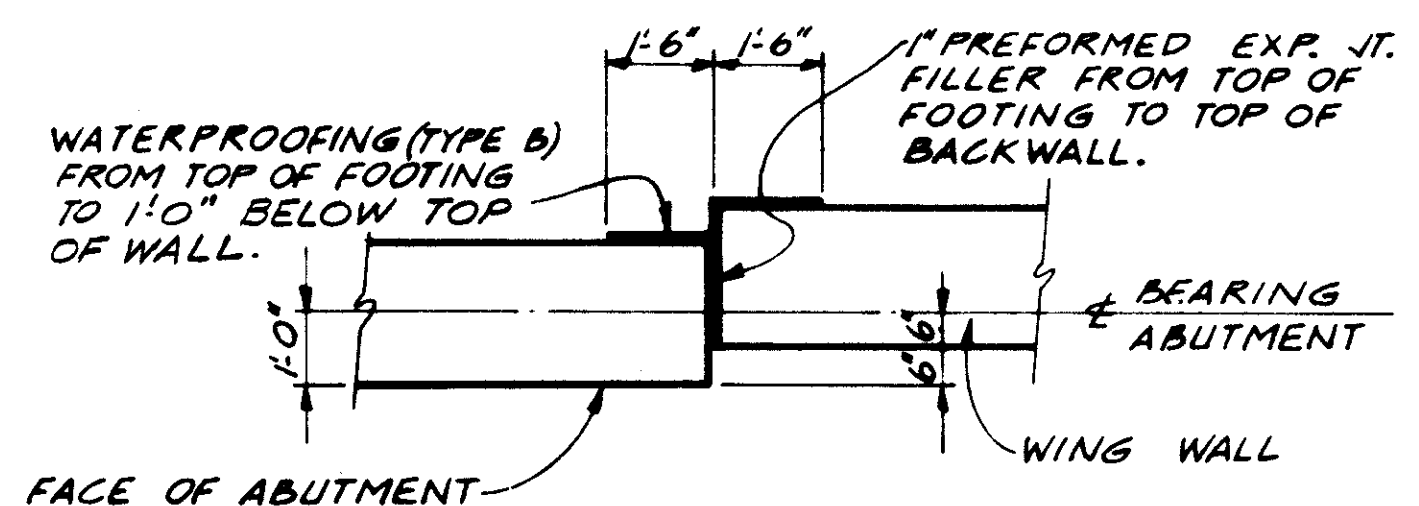
SECTION G-G  
(WING WALL TYPICAL ABUTMENT A-1 WEST, ABUTMENT A-2 EAST WING WALL SIMILAR)



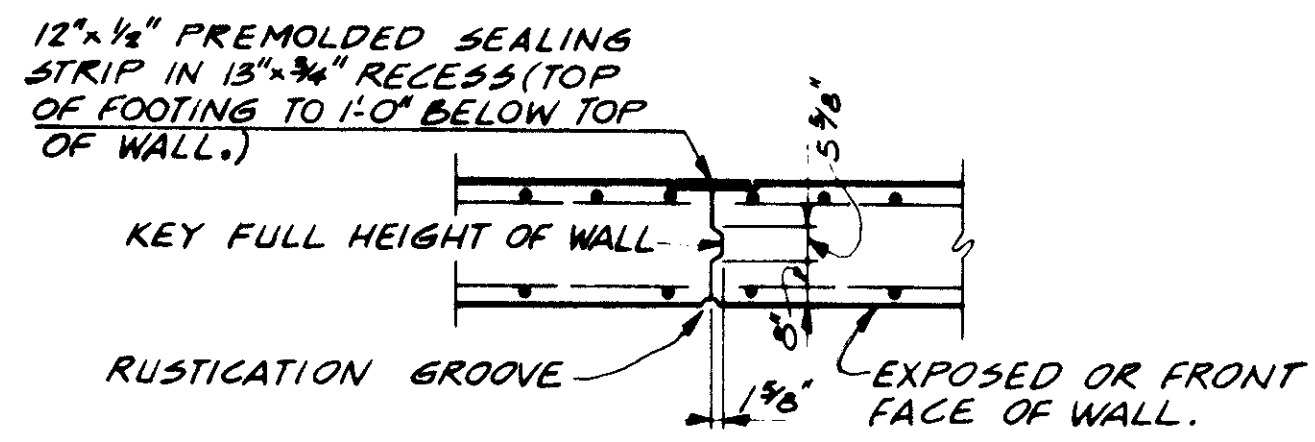
SECTION F-F  
(WING WALL FOOTING TYPICAL ABUTMENT A-1 EAST, ABUTMENT A-2 WEST WING WALL SIMILAR) FOR DETAILS NOT SHOWN, SEE SEC. G-G THIS SHT.



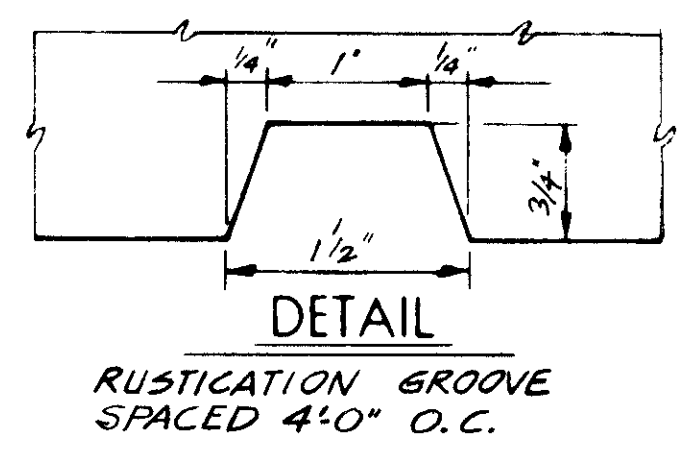
SECTION H-H  
(WING WALL FOOTING TYPICAL ABUTMENT A-1 WEST, ABUTMENT A-2 EAST WING WALL SIMILAR) FOR DETAILS NOT SHOWN SEE SEC. G-G THIS SHT.



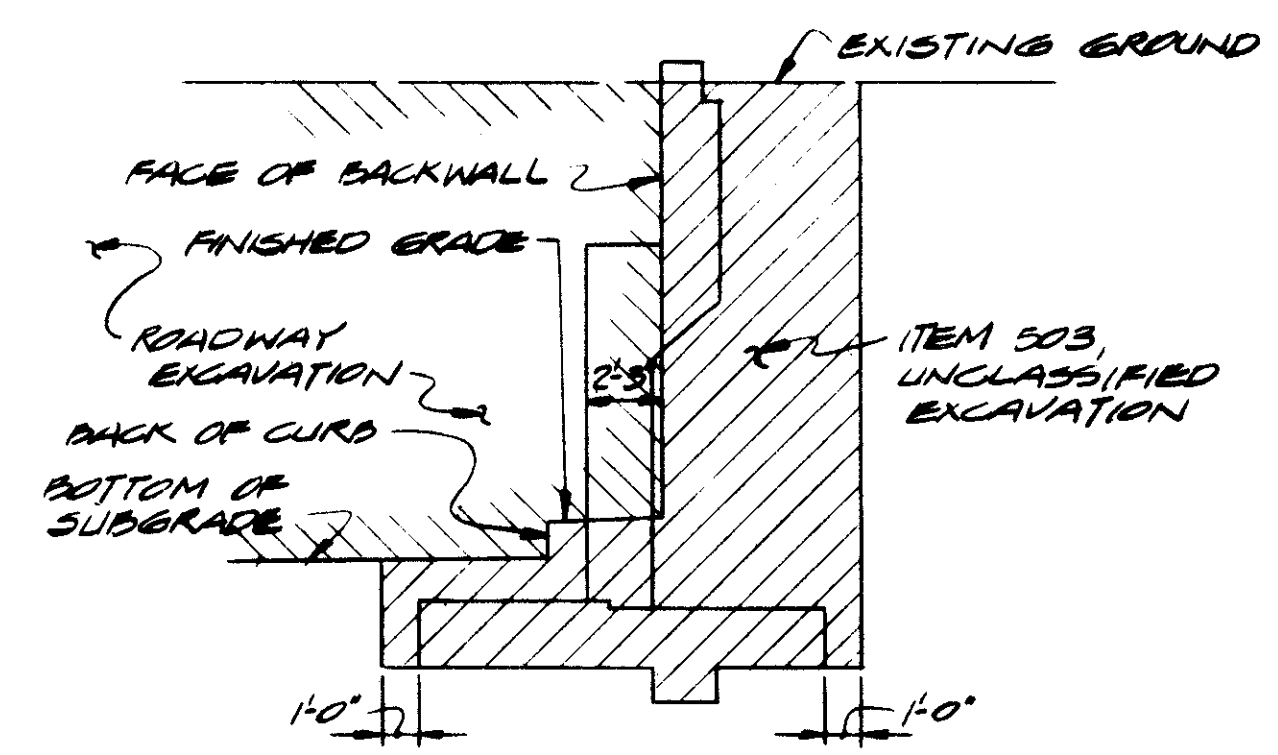
ABUTMENT - WING WALL  
JOINT DETAIL  
SECTION BELOW ABUTMENT SEAT



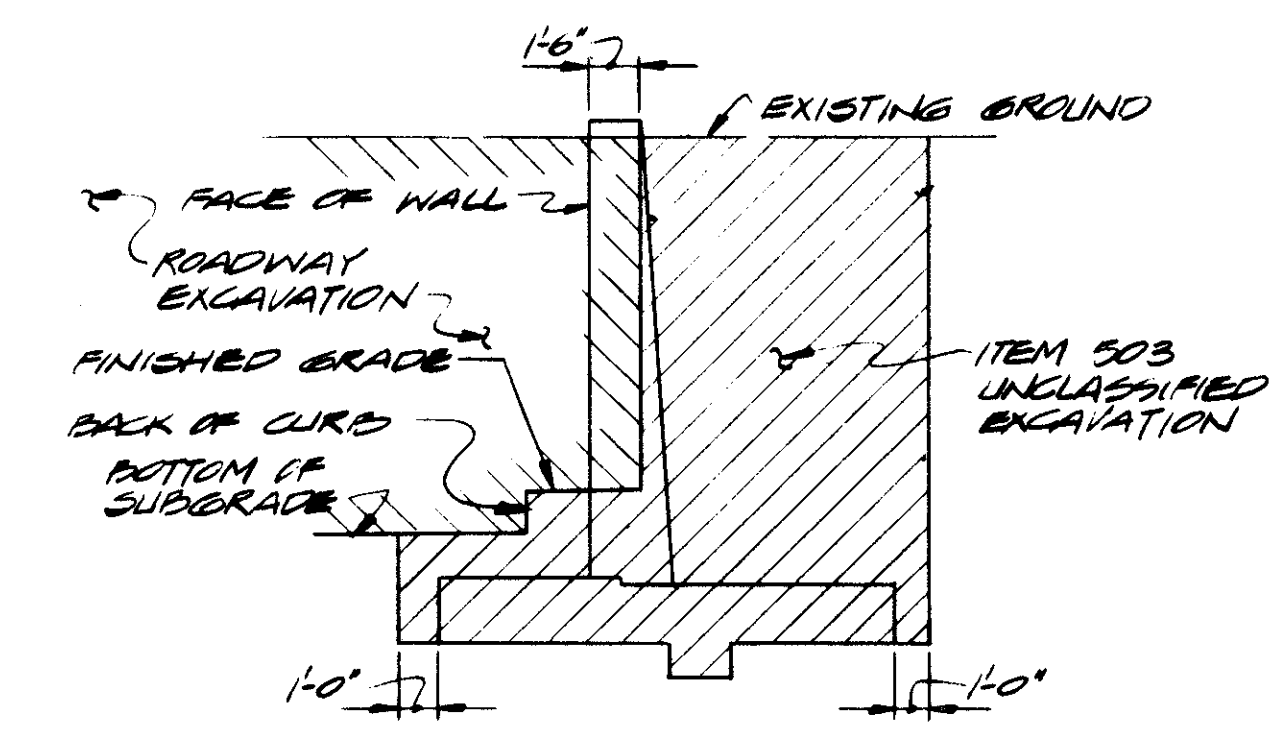
CONTRACTION JOINT DETAIL



DETAIL  
RUSTICATION GROOVE  
SPACED 4'-0" O.C.



LIMITS OF EXCAVATION  
FOR ABUTMENTS



LIMITS OF EXCAVATION  
FOR WING WALLS

FOR NOTES, SEE SHEET 5/13

FOR LOCATION OF SECTIONS, SEE SHEET 5/13 AND 6/13

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

7/13

DALTON · DALTON ASSOCIATES

WING WALL DETAILS

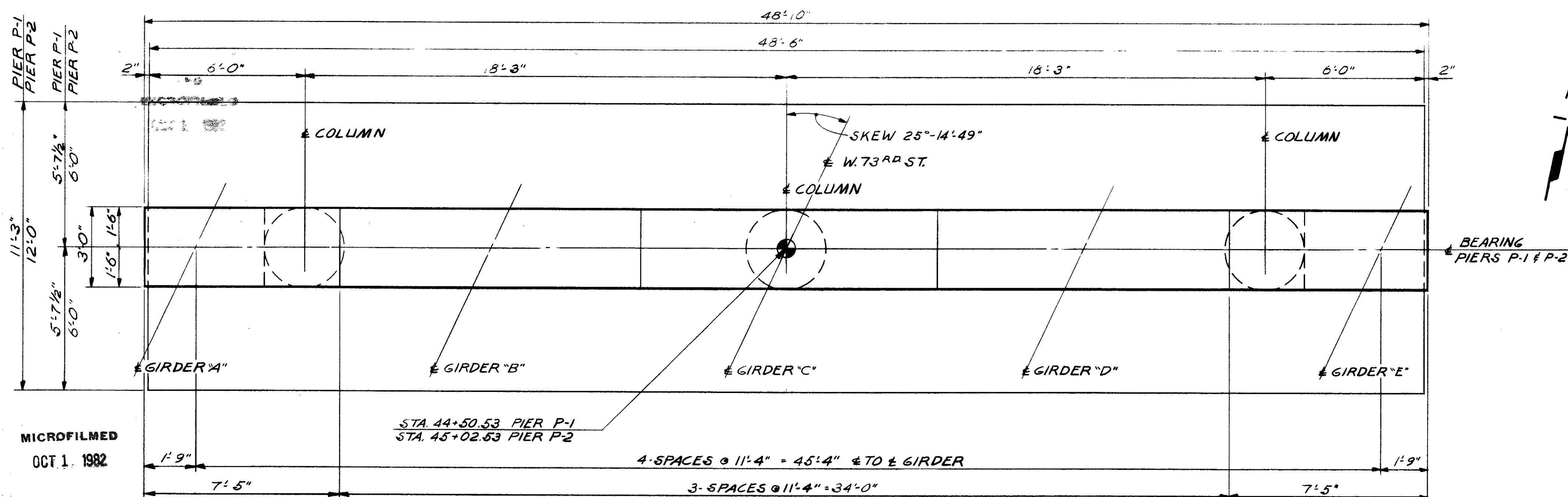
BRIDGE NO. CUY-90-1233  
UNDER WEST 73rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 826+11.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	TMT		RJP	RDA	9-17-74	

FED. RD.	STATE	PROJECT
2	OHIO	

674  
838

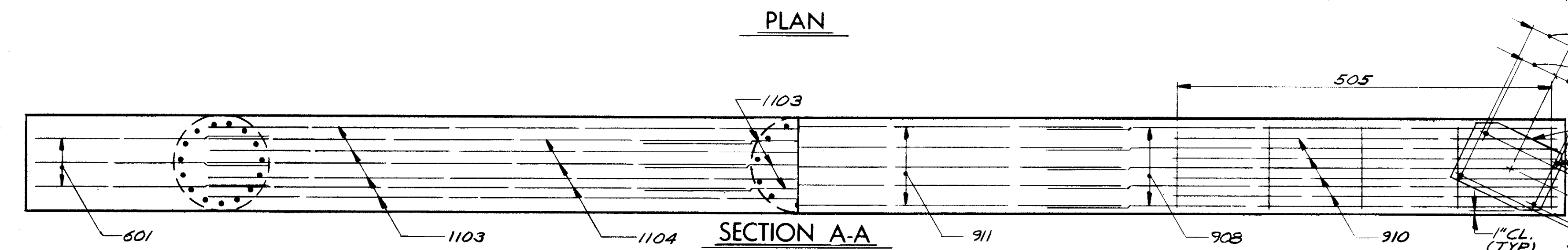
CUYAHOGA COUNTY  
CUI - 90 - 11.64



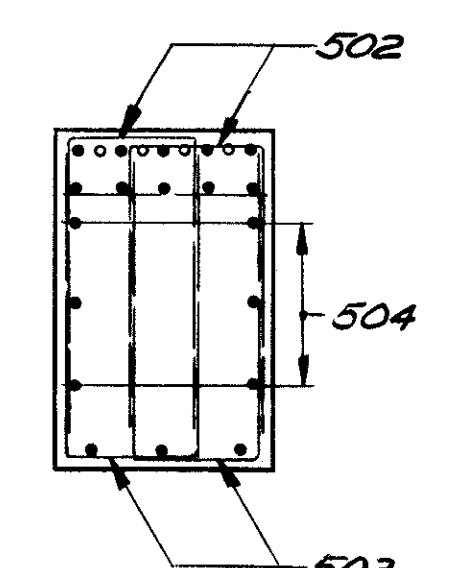
PLAN

BOLSTER NO.		DIMENSIONS (INCHES)											
A	B	C	D	F	G	H	K	L	M	R	T	Y	
375	4	23	4 1/2	3 3/4	7/8	14	22 3/8	16	31	28	14	3 3/4	1 3/16
425	4 1/2	25	4 1/2		7/8		23 3/8	17	34		15	4	2 3/16

NOTES: FOR DETAILS NOT SHOWN, SEE STANDARD DRAWING RB-1-55.  
ANCHOR BOLTS FOR BOLSTERS IN ALL CASES SHALL EXTEND A MINIMUM OF 15" INTO THE CONCRETE. (SEE SECTION A-A FOR LOCATION OF ANCHOR BOLT HOLES IN BOLSTER B-425)

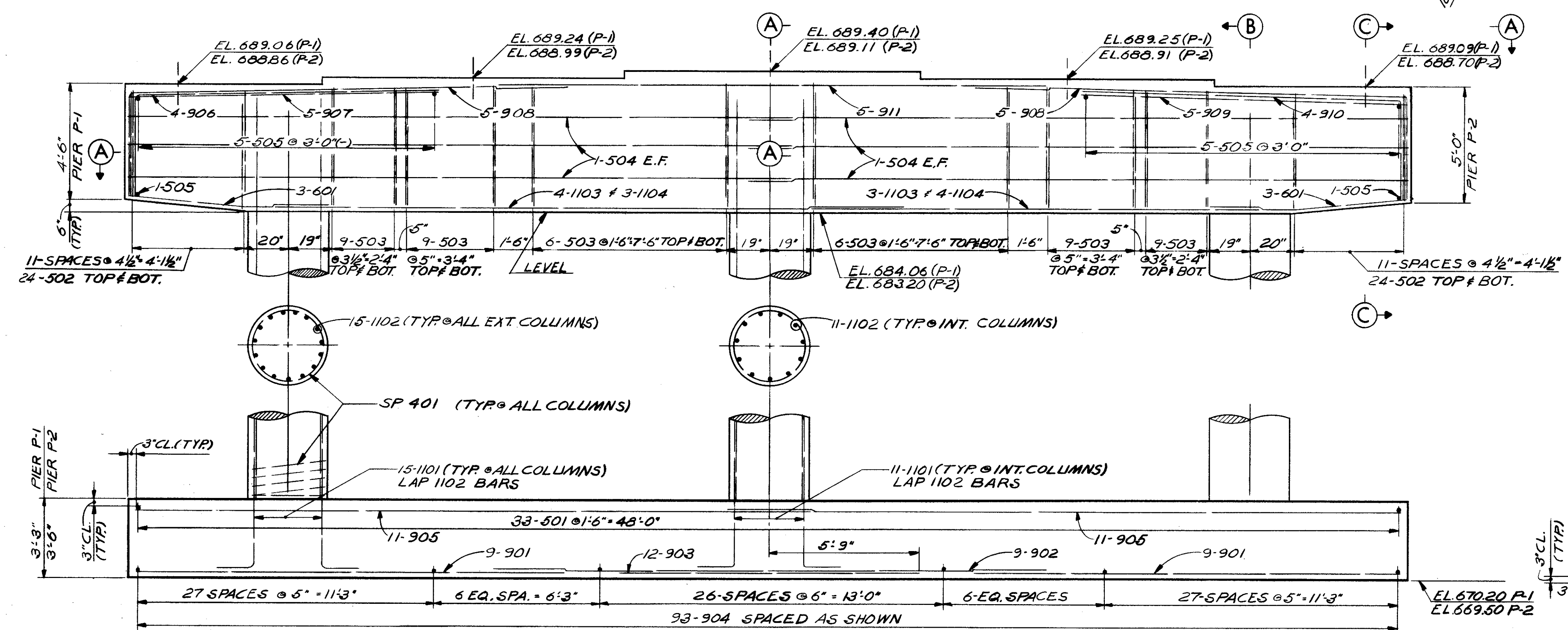


SECTION A-A

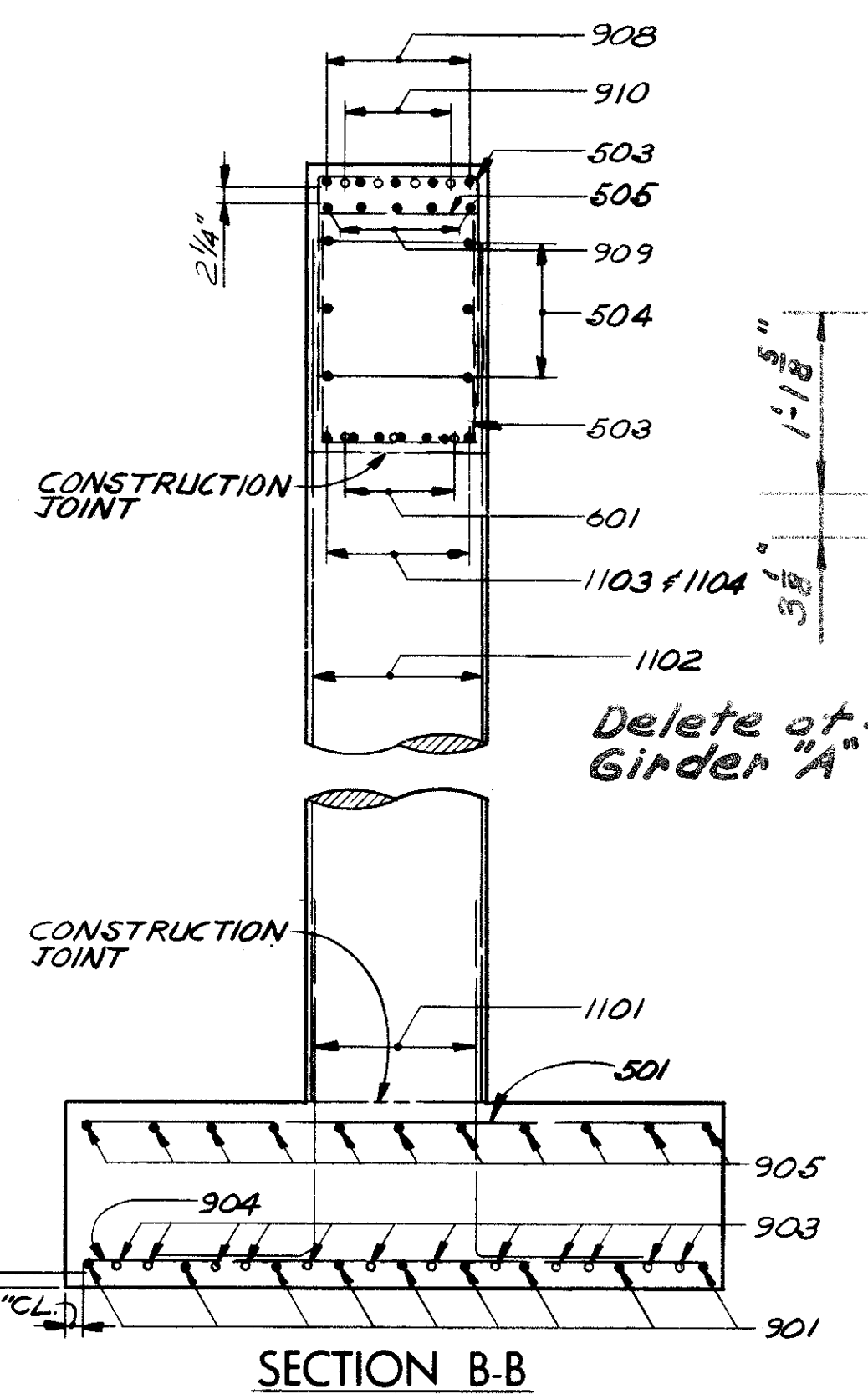


SECTION C-C

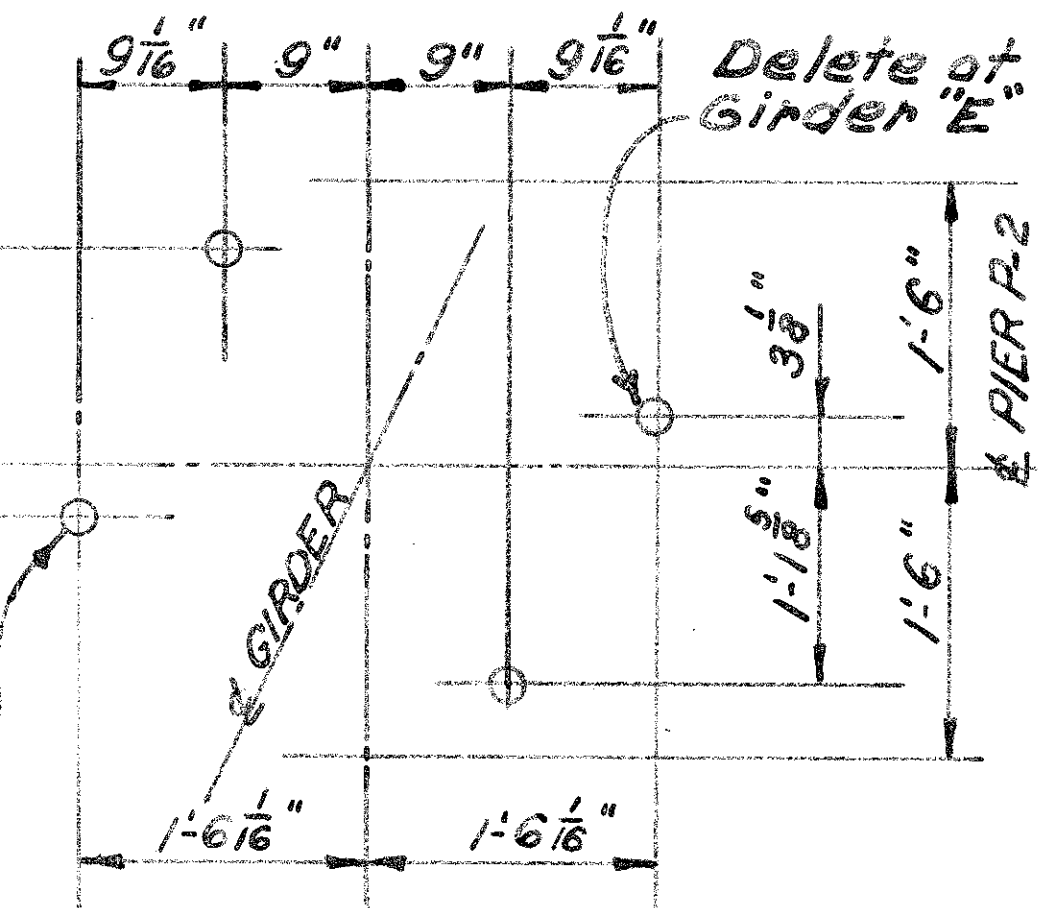
- NOTES
- BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES OR THE PRESETTING OF BEARING ANCHORS. THIS ONLY APPLIES TO PIER P-2
  - THE PREFIX "1P" OR "2P" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN PIER P-1 OR P-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
  - ABBREVIATIONS USED ARE:  
EF-EACH FACE
  - BEARING ANCHORS: AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES) LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.



ELEVATION



SECTION B-B



ANCHOR BOLT LOCATION  
PIER 2 ONLY

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

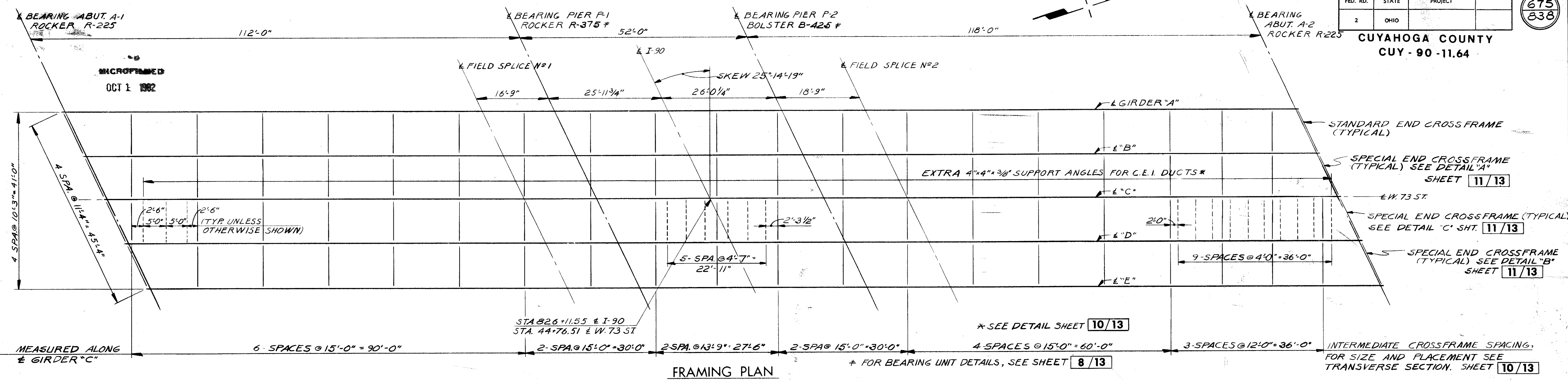
8 / 13

DALTON · DALTON ASSOCIATES

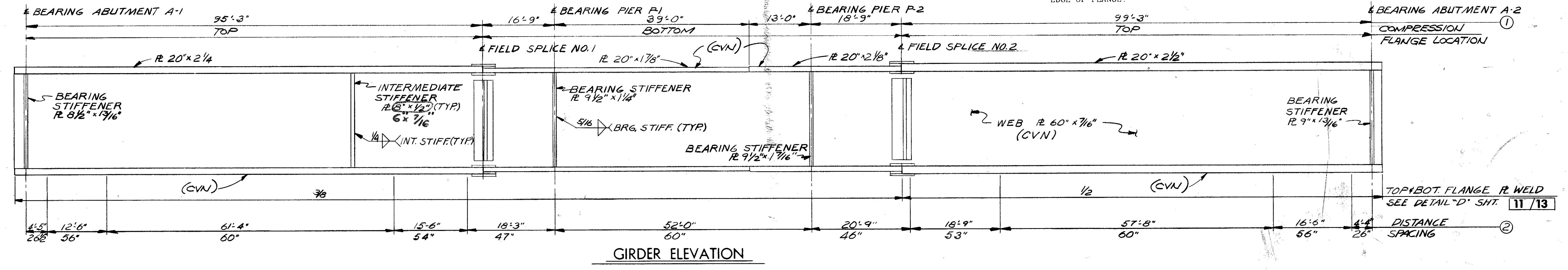
PIERS P-1 & P-2

BRIDGE NO. CUY - 90 - 1233  
UNDER WEST 73rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 826 + 11.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R6	TWJ		R.P.P.	R.W.H.	4-17-78	10/31/78



WELDED ATTACHMENTS FOR FINISHING MACHINE SUPPORTS MAY BE MADE THE FULL LENGTH OF FACIA BEAMS. ATTACHMENT DETAILS SHALL NOT EMPLOY FILLET WELDS LONGER THAN 2 INCHES OR BE CLOSER THAN 1 INCH FROM EDGE OF FLANGE.



- NOTES**
- TOP AND BOTTOM FLANGE PLATES ARE TO BE THE SAME, EXCEPT FOR THE "CVN" REQUIREMENTS, AND SHALL BE SPLICED AT POINTS SHOWN ON THE GIRDER ELEVATION.
  - INTERMEDIATE STIFFENERS SHALL BE PLACED IN PAIRS EQUALLY SPACED BETWEEN FIELD SPLICE ANGLES AND/OR CROSSFRAME STIFFENERS AND/OR BEARING STIFFENERS IN ACCORDANCE WITH MAXIMUM STIFFENER SPACING SHOWN ON THE GIRDER ELEVATION.
  - FOR ADDITIONAL DETAILS, SEE SHEETS 11/13 AND 12/13
  - ALL GIRDER FIELD SPLICES SHALL BE MADE WITH 1" Ø HIGH STRENGTH STEEL BOLTS. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR GIRDERS AND ON THE BOTTOM OF ALL FLANGE PLATES.

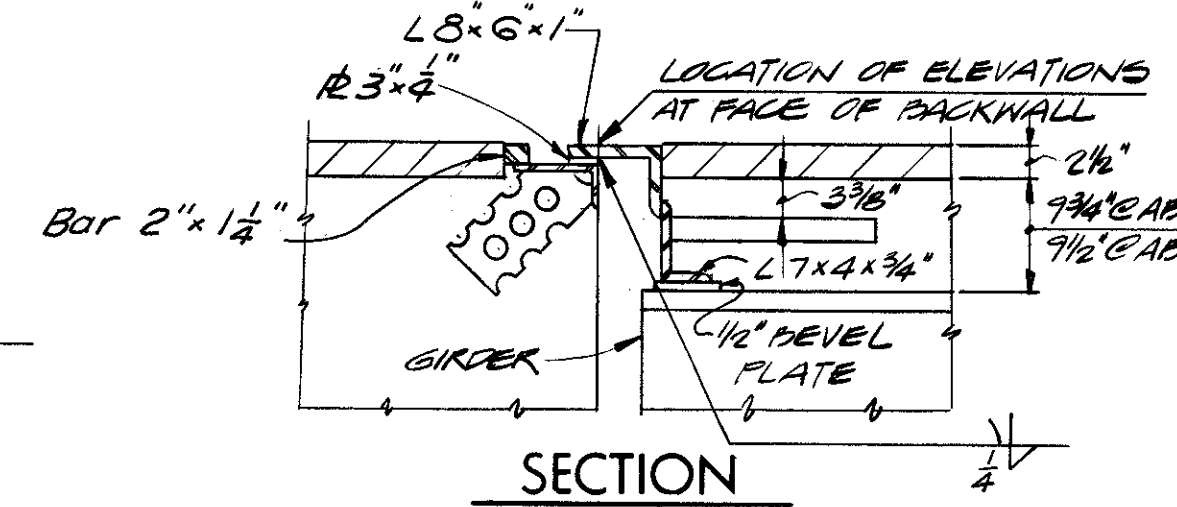
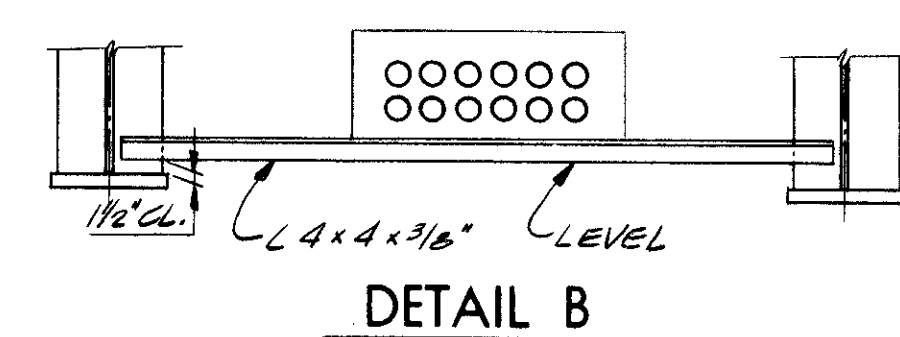
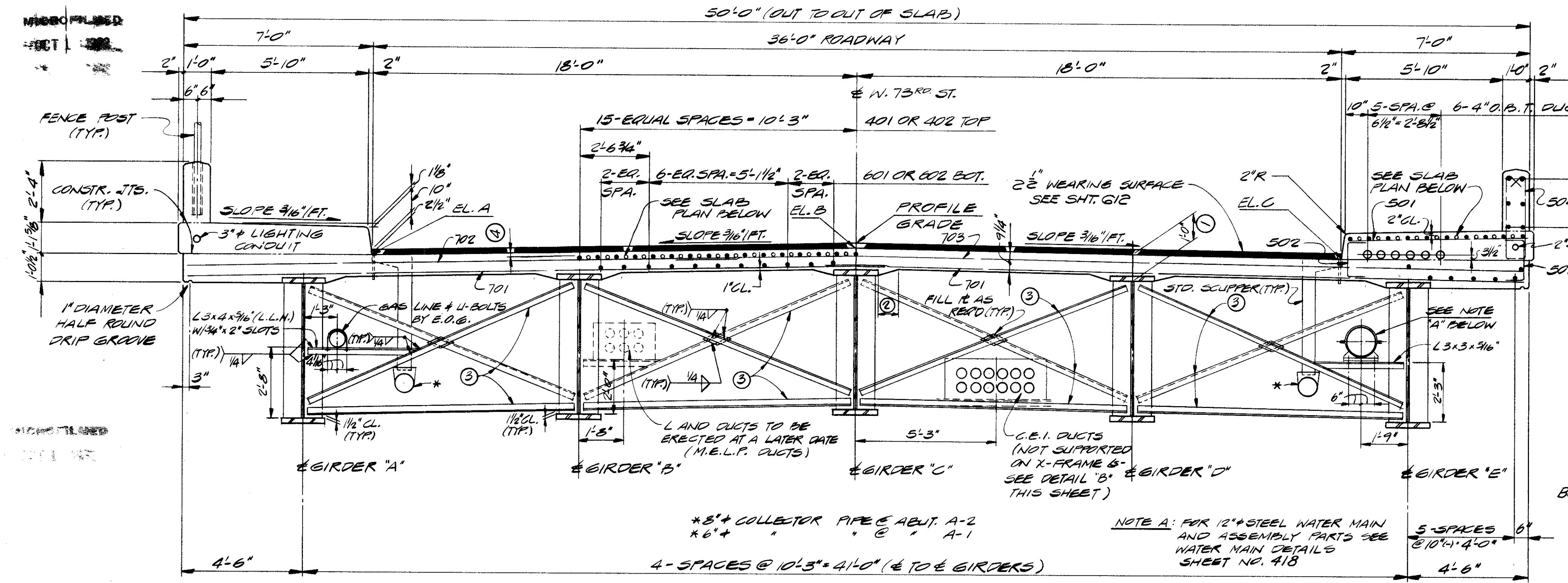
STEEL ERECTION: DURING THE ERECTION OF END DAMS AND CROSSFRAMES, CARE SHALL BE TAKEN TO INSURE THAT STRINGERS, BEARING PARTS AND BRIDGE SEATS REMAIN IN BEARING CONTACT.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		9/13
DALTON · DALTON ASSOCIATES		
FRAMING PLAN		
BRIDGE NO. CUY - 90 - 1233 UNDER WEST 73rd ST. I-90 CUYAHOGA COUNTY STA. 826 + 11.55		
DESIGNED	DRAWN	TRACED
R.I.P.	T.M.J.	R.G.
CHECKED	REVIEWED	DATE
	2014	4-17-74
REVISION	DATE	BY

FED. RD.	STATE	PROJECT
2	OHIO	

676  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



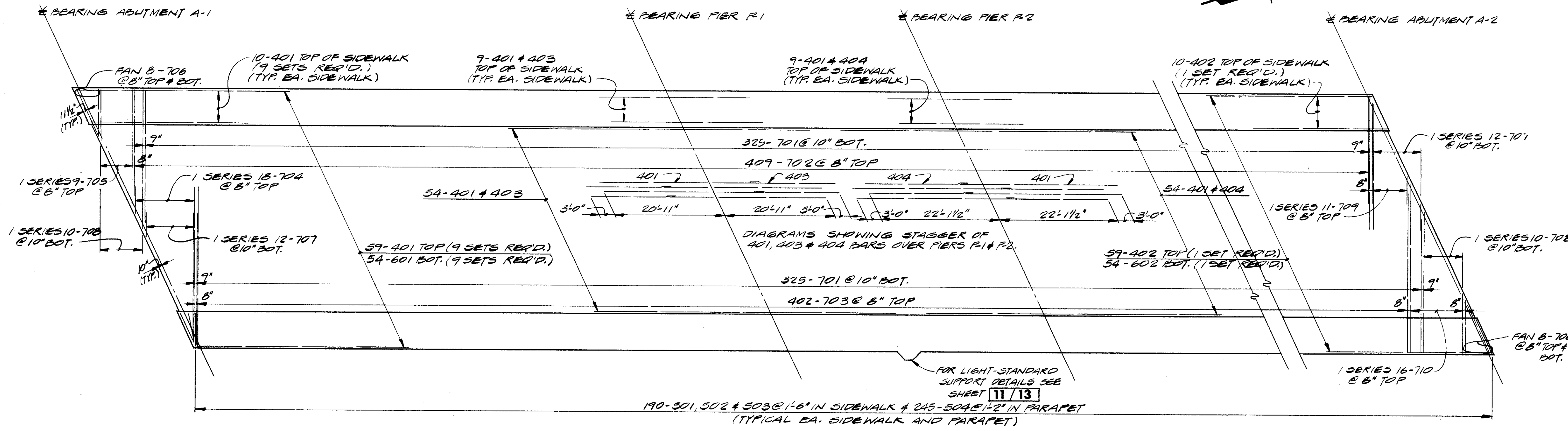
TRANSVERSE SECTION

SEE SHEET 612 FOR SUBDRAINAGE AND ASPHALT CONCRETE WEARING SURFACE DETAILS.

FOR LOCATIONS AND DETAILS OF LIGHTING APPURTENANCES, SEE LIGHTING PLANS AND STANDARD CONSTRUCTION DRAWING HL-4.

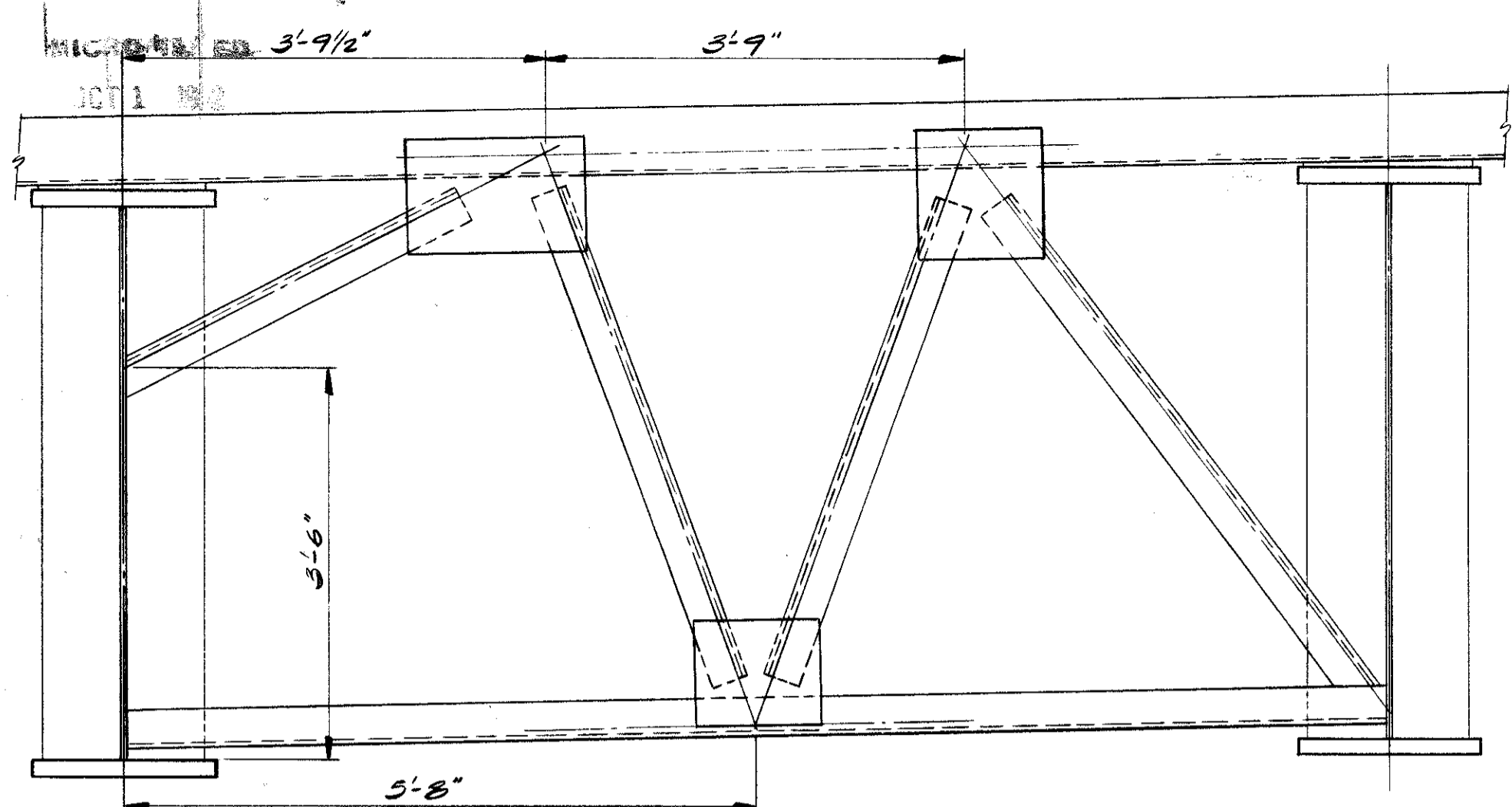
NOTES

- THIS IS THE DESIGN DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. REDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 511.18.
- A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.
- INTERMEDIATE CROSSFRAME ANGLES 3" X 3" X 5/16".
- CLEARANCE = 2"
- ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE AND ASPHALT WEARING SURFACE. THE 1/4 POINT, 1/2 POINT, ETC. ARE DIVISIONS ALONG THE PAVEMENT LINES NOTED A, B, ETC. ON THE TRANSVERSE SECTION BETWEEN CENTERLINES OF BEARING.
- TRANSVERSE REINFORCEMENT SHALL BE FIELD BENT AS REQUIRED, PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL.
- THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE UNLESS SHOWN OTHERWISE.
- FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEETS 11/13 AND 12/13



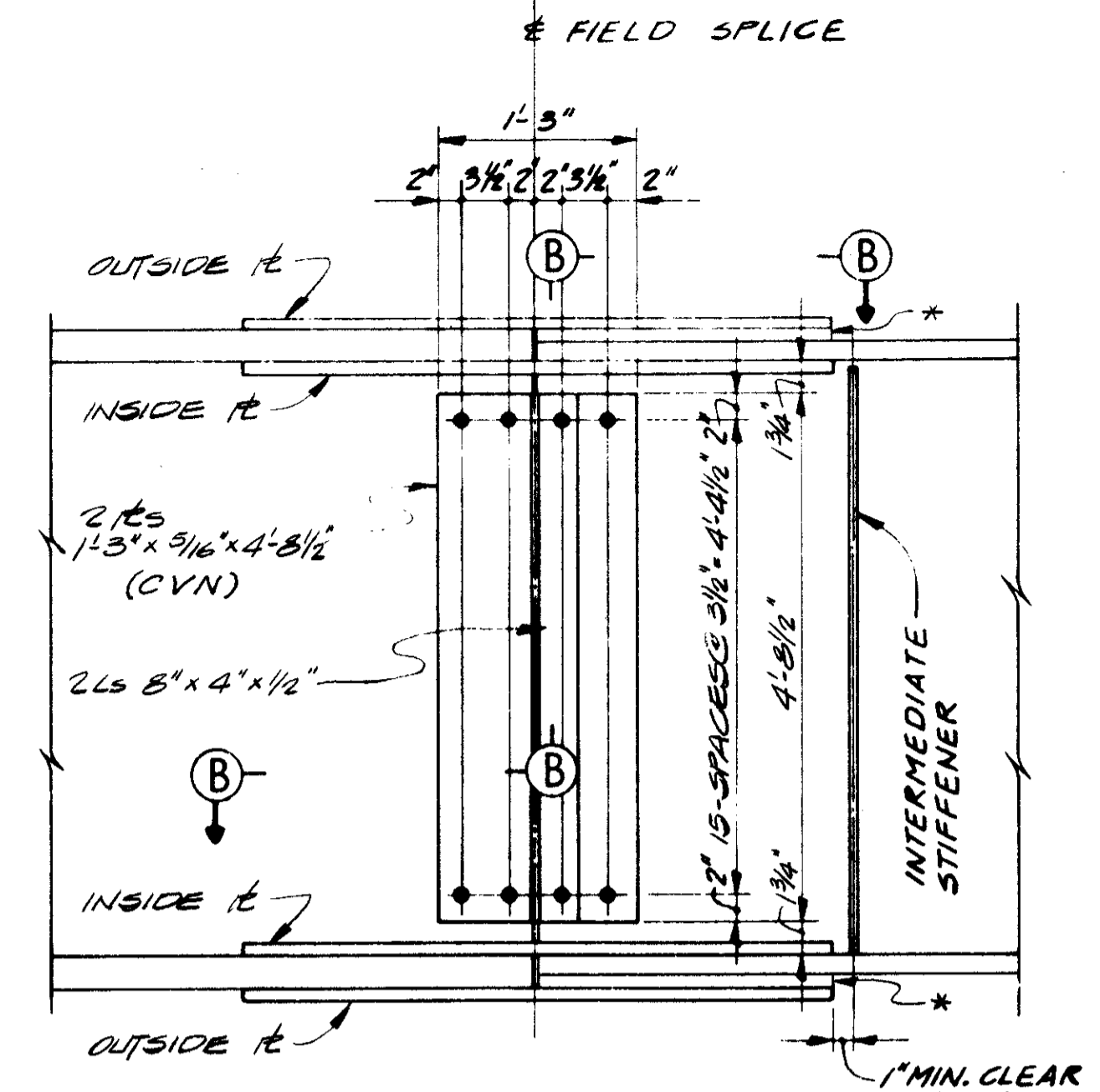
SLAB PLAN

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		10/13
DALTON · DALTON ASSOCIATES		
SLAB PLAN & SECTION		
BRIDGE NO. CUY - 90 - 1233 UNDER WEST 73rd ST. I-90 CUYAHOGA COUNTY STA. 826 + 11.55		
DESIGNED R.J.P.	DRAWN D.F.D.	TRACED F.G.
CHECKED D.E.D.	REVIEWED R.D.H.	DATE 4-17-78



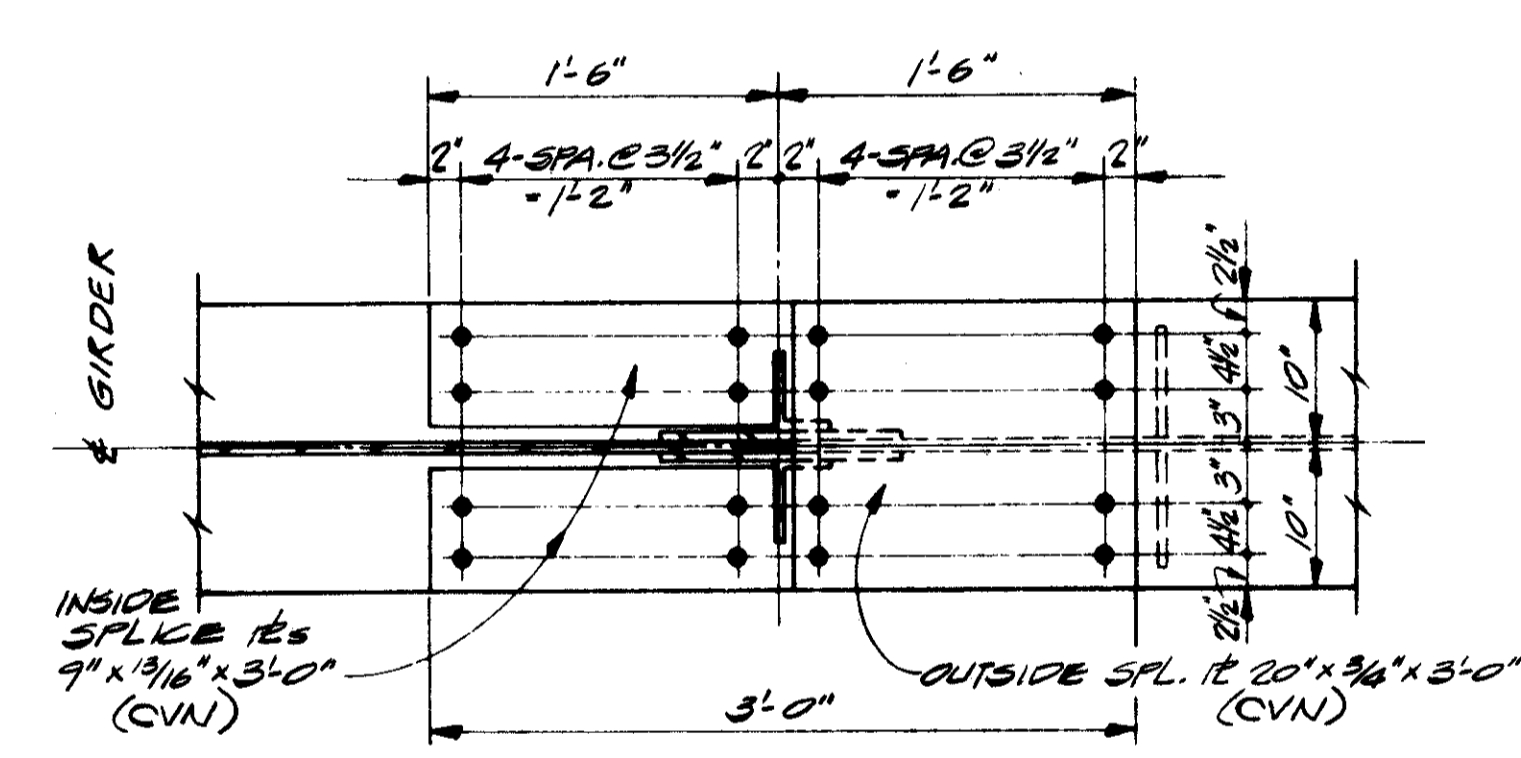
DETAIL A  
(SEE NOTE BELOW)

MICROFILMED  
OCT 1 1982

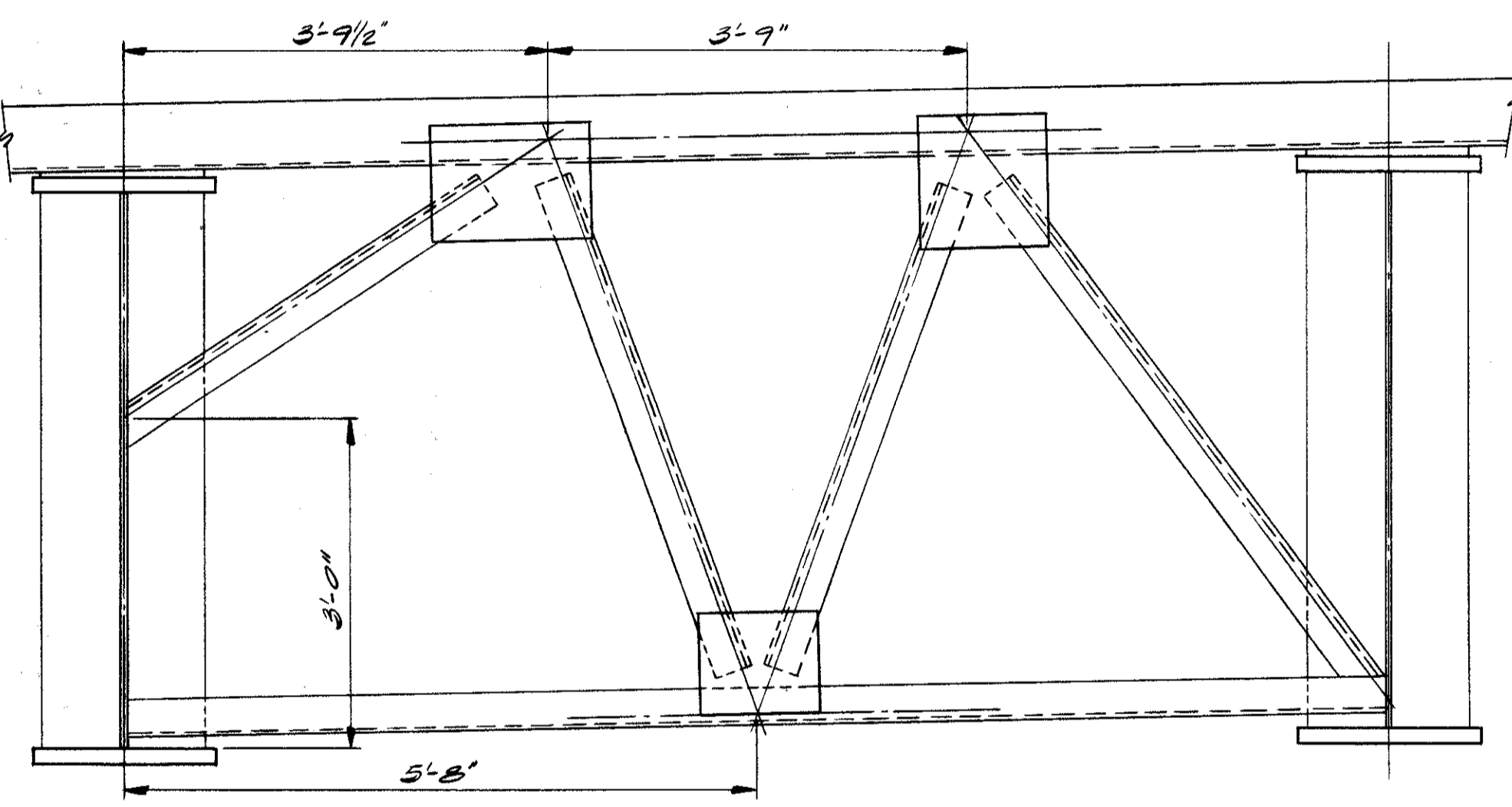


SPLICE DETAIL  
(TYPICAL FOR ALL FIELD SPLICES)

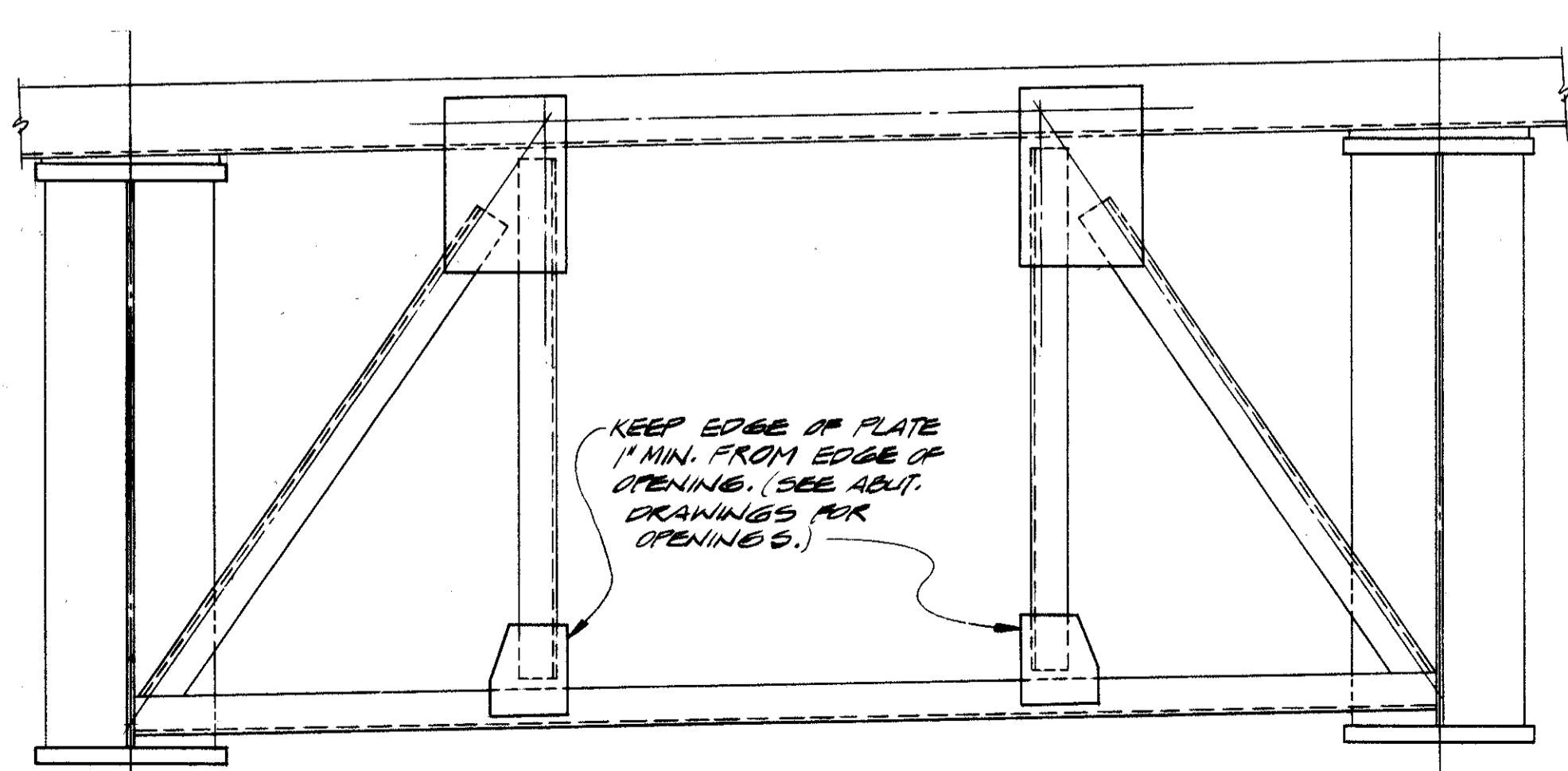
\* 3/8" FILL IR FOR FIELD SPLICE NO. 1 SHOWN  
FIELD SPLICE NO. 2 OPPOSITE HAND



SECTION B-B  
(TYPICAL FIELD SPLICE NO. 1)

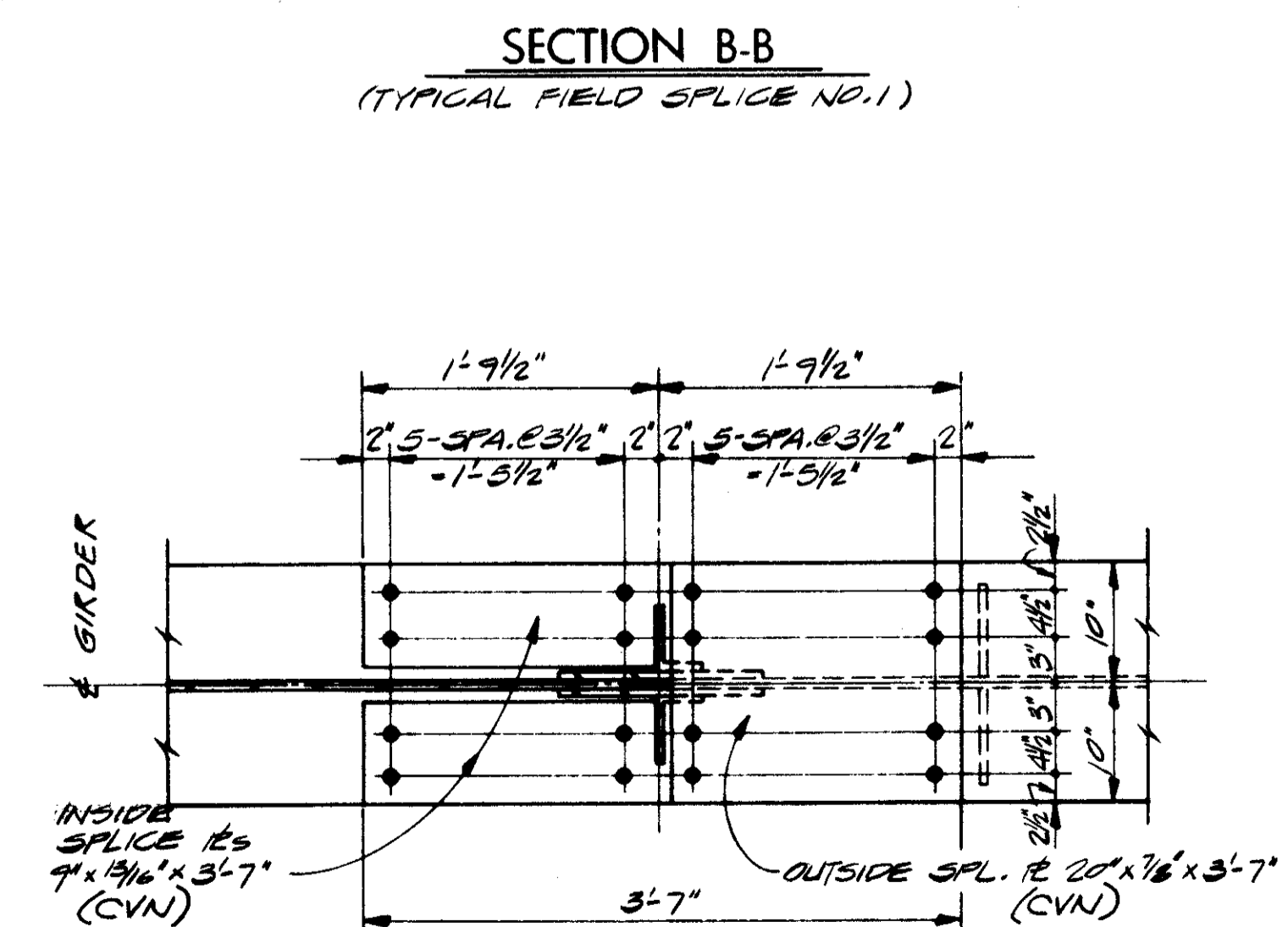


DETAIL B  
(SEE NOTE BELOW)

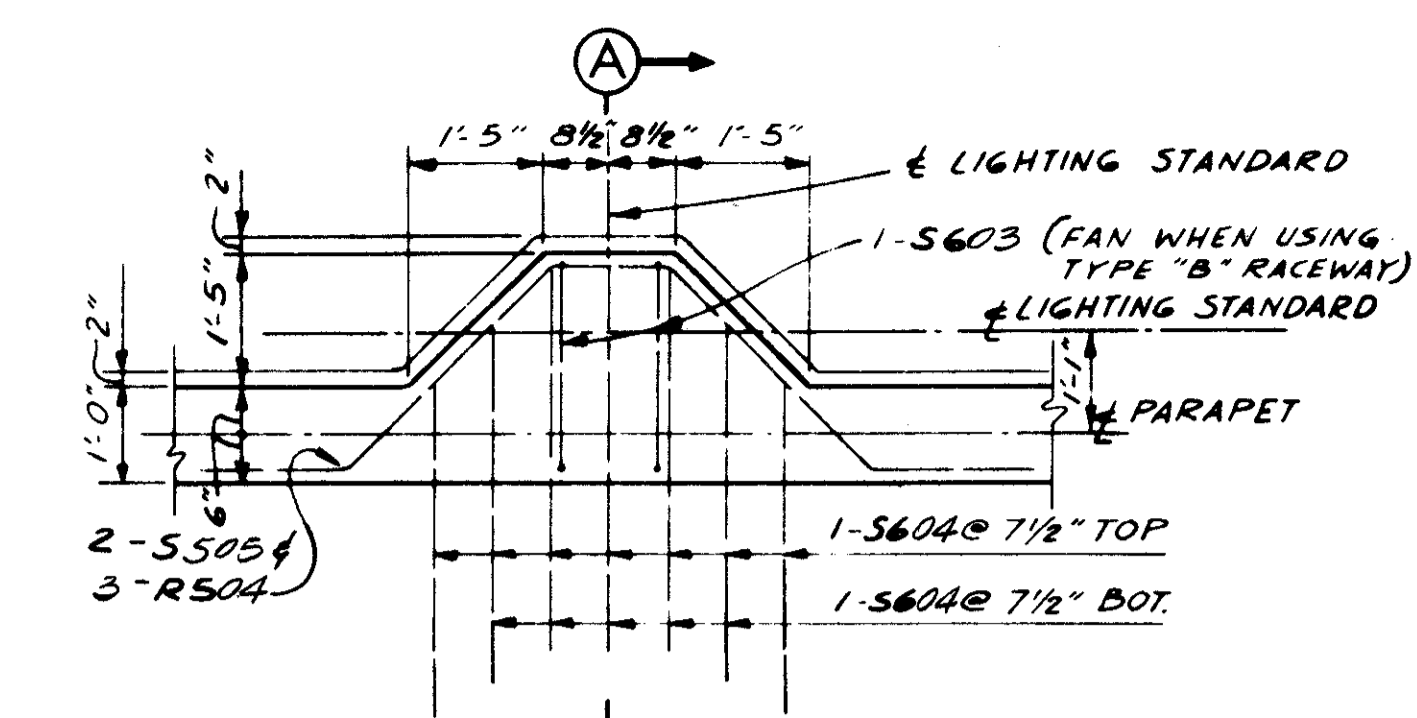


DETAIL C  
(SEE NOTE AT RIGHT)

NOTE: SPECIAL END CROSSFRAMES  
FOR DETAILS NOT SHOWN  
SEE STANDARD SD-1-69 SHEET NO. 1

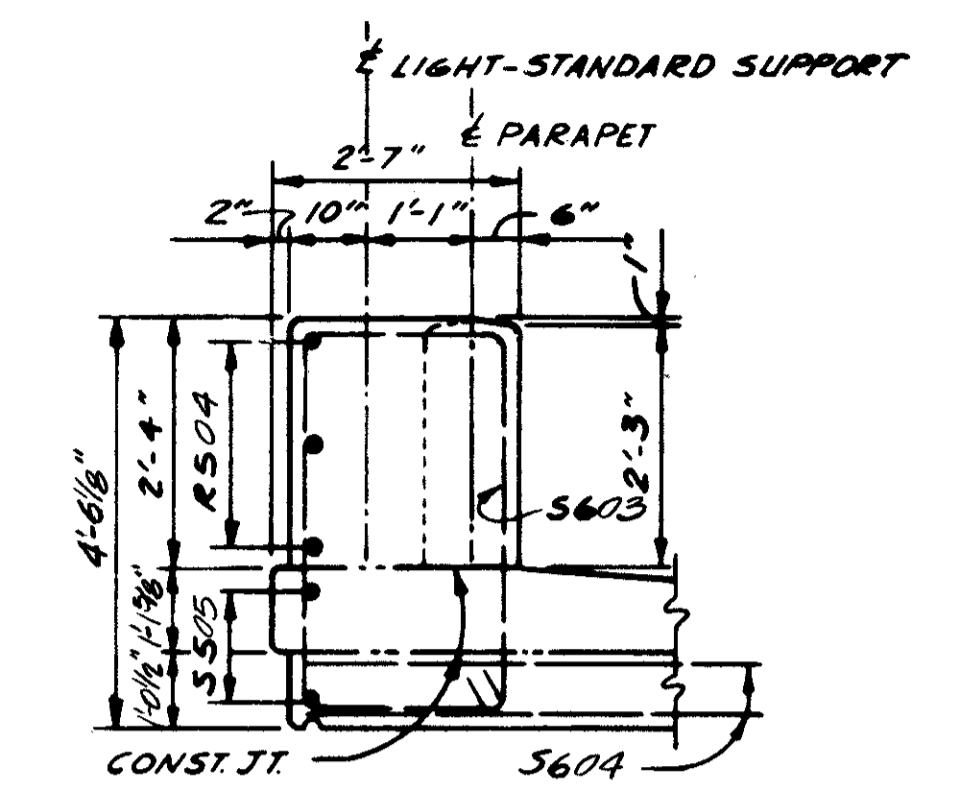


SECTION B-B  
(TYPICAL FIELD SPLICE NO. 2)

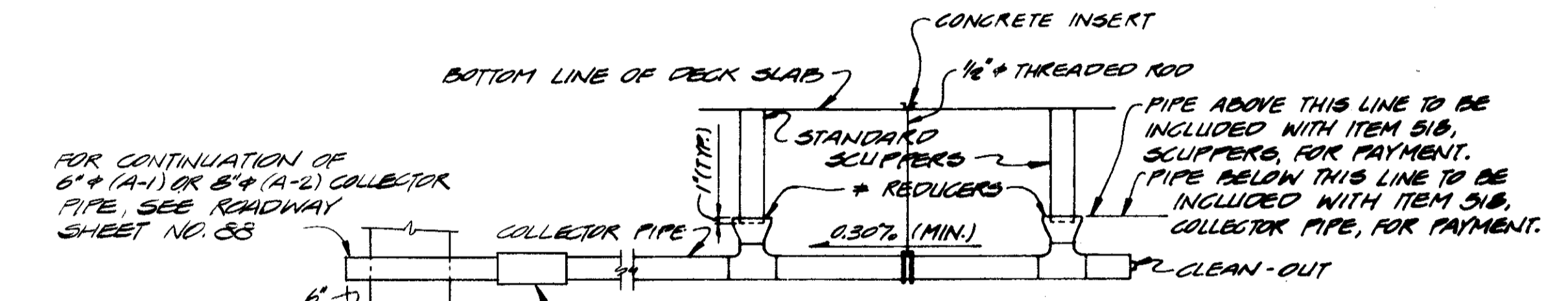


LIGHT-STANDARD SUPPORT  
DETAIL

FOR DETAILS NOT SHOWN SEE SLAB PLAN & SECTION  
AND LIGHTING DETAILS



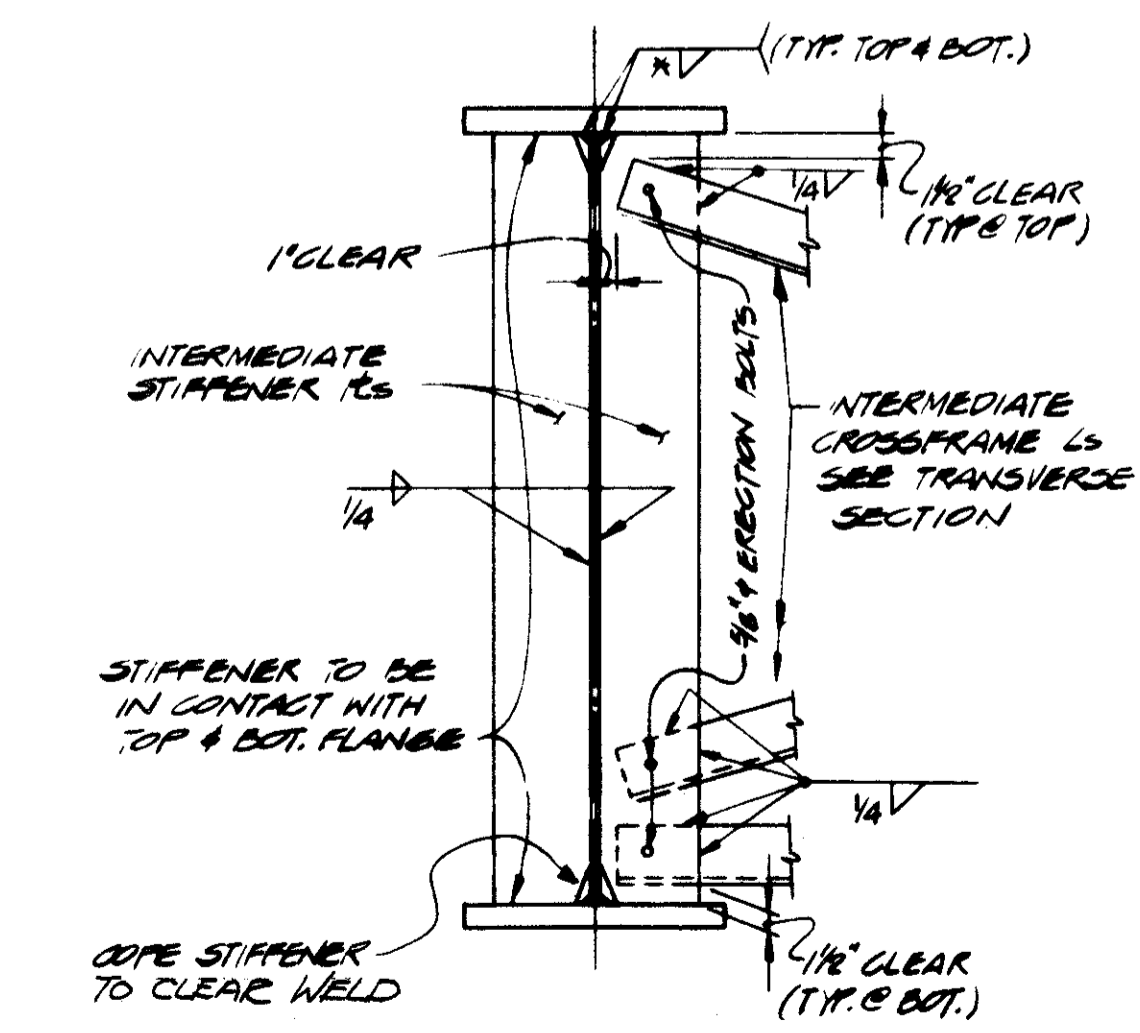
SECTION A-A



DETAIL  
DRAINAGE SYSTEM

COLLECTOR PIPE HANDBER ASSEMBLY  
TO BE UNISTRUT, ALSTRUT, KINDER, OR  
EQUAL. INCLUDE HANDBERS WITH ITEM  
318, COLLECTOR PIPE, FOR PAYMENT.  
10'-0" MAXIMUM SPACING.

NOTE: TACK WELD NUTS  
TO ERECTION BOLTS  
IF LEFT IN PLACE.  
\* SEE GIRDER  
ELEVATION SH. 9/13



DETAIL D  
INTERMEDIATE CROSSFRAME &  
STIFFENER IRs

FOR NOTES, SEE SHEET 10/13

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES							11/13
DALTON · DALTON ASSOCIATES							
SUPERSTRUCTURE DETAILS							
BRIDGE NO. CUY - 90 - 1233 UNDER WEST 73rd ST. I-90 CUYAHOGA COUNTY STA. 826 + 11.55							
DESIGNED	D.F.D.	DRAWN	D.F.D.	TRACED	FR	CHECKED	FR
REVIEWED	DATE	REVISED					
	2/8/74	4-17-74					

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

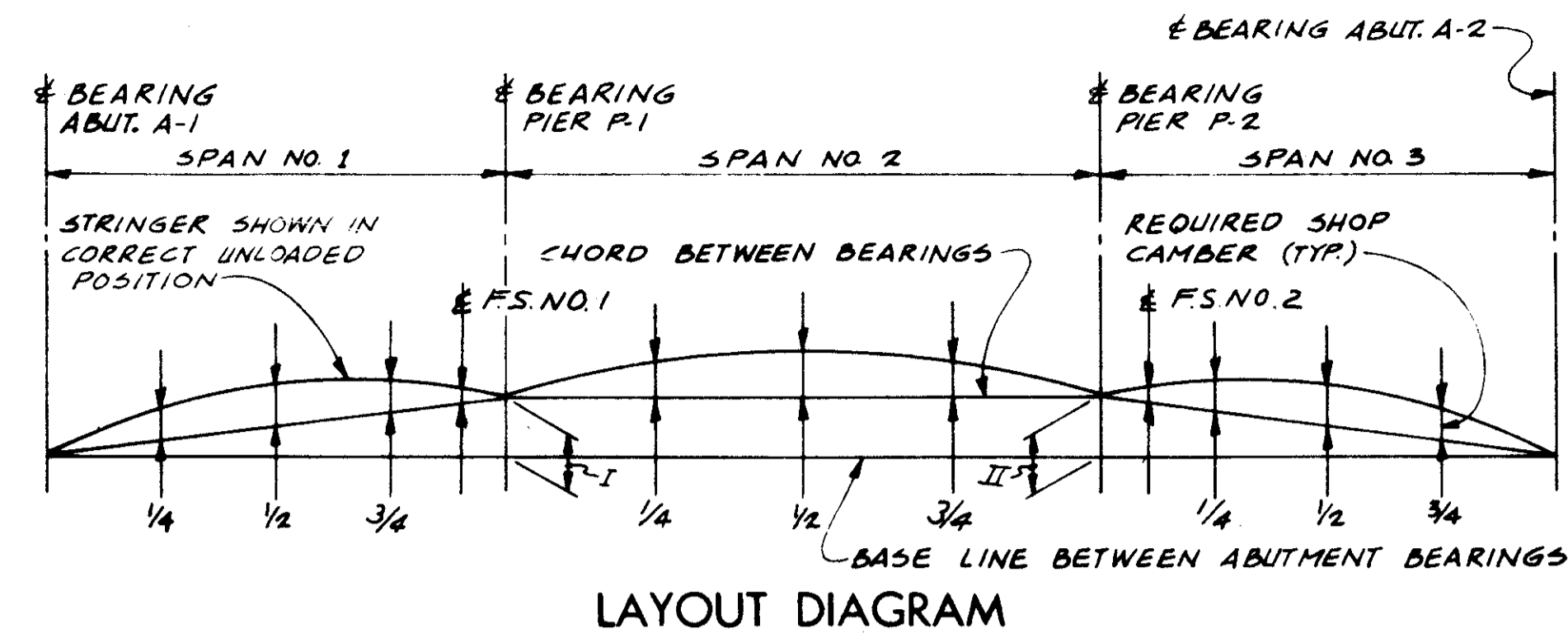
678  
338

CUYAHOGA COUNTY  
CUY - 90-11.64

### DEFLECTION AND CAMBER

LOCATION	DEFLECTION DUE TO WT. OF STEEL	DEFLECTION DUE TO REMAINING DL	ADJ. REQ'D FOR VERTICAL CURVE	REQUIRED SHOP CAMBER
CL. BRG. A-1 1/4 PT. 1/2 PT. 3/4 PT. F.S. NO. 1	5/16 3/8 1/4 1/8	1-1/16 1-3/8 7/8 1/2	1/16 1/8 3/16 1/4	1-7/16 1-7/8 1-5/16 7/8
CL. BRG. P-1 1/4 PT. 1/2 PT. 3/4 PT. CL. BRG. P-2 F.S. NO. 2	-1/16 * -1/16 -1/16 3/16 5/16 7/16 3/8	-1/4 * -5/16 -1/4 9/16 15/16 1-1/2 1-1/8	9/16 3/4 9/16 3/4 13/16 9/16 1/4	1/4 3/8 1/4 1-1/2 2-1/16 2-1/2 1-3/4
CL. BRG. A-1 1/4 PT. 1/2 PT. 3/4 PT. F.S. NO. 1	5/16 3/8 1/4 1/8	1 1-3/8 13/16 1/2	1/8 1/4 3/8 3/8	1-7/16 2 1-7/16 1
CL. BRG. P-1 1/4 PT. 1/2 PT. 3/4 PT. CL. BRG. P-2 F.S. NO. 2	-1/16 * -1/16 -1/16 3/16 5/16 7/16 3/8	-3/16 * -5/16 -3/16 9/16 7/8 1-7/16 1-1/16	9/16 3/4 9/16 5/8 5/8 3/8 3/16	5/16 3/8 5/16 1-3/8 1-13/16 2-1/4 1-5/8
CL. BRG. A-1 1/4 PT. 1/2 PT. 3/4 PT. F.S. NO. 1	5/16 3/8 1/4 1/8	1 1-3/8 13/16 1/2	3/16 3/8 1/2 1/2	1-1/2 2-1/8 1-9/16 1-1/8
CL. BRG. P-1 1/4 PT. 1/2 PT. 3/4 PT. CL. BRG. P-2 F.S. NO. 2	-1/16 * -1/16 -1/16 3/16 5/16 7/16 3/8	-3/16 * -5/16 -3/16 9/16 7/8 1-7/16 1-1/16	9/16 3/4 9/16 7/16 7/16 1/4 1/8	5/16 3/8 5/16 1-3/16 1-5/8 2-1/8 1-9/16
CL. BRG. A-1 1/4 PT. 1/2 PT. 3/4 PT. F.S. NO. 1	5/16 3/8 1/4 1/8	1 1-3/8 13/16 1/2	1/4 1/2 3/4 5/8	1-9/16 2-1/4 1-13/16 1-1/4
CL. BRG. P-1 1/4 PT. 1/2 PT. 3/4 PT. CL. BRG. P-2 F.S. NO. 2	-1/16 * -1/16 -1/16 3/16 5/16 7/16 3/8	-3/16 * -5/16 -3/16 9/16 7/8 1-7/16 1-1/16	9/16 3/4 9/16 5/16 1/4 3/16 1/16	5/16 3/8 5/16 1-1/16 1-7/16 2-1/16 1-1/2
CL. BRG. A-1 1/4 PT. 1/2 PT. 3/4 PT. F.S. NO. 1	5/16 3/8 1/4 1/8	1-1/16 1-3/8 7/8 1/2	5/16 11/16 15/16 3/4	1-11/16 2-7/16 2-1/16 1-3/8
CL. BRG. P-1 1/4 PT. 1/2 PT. 3/4 PT. CL. BRG. P-2 F.S. NO. 2	-1/16 * -1/16 -1/16 3/16 5/16 7/16 3/8	-1/4 * -5/16 -1/4 9/16 15/16 1-1/2 1-1/8	9/16 3/4 9/16 1/8 1/8 1/16 1/16	1/4 3/8 1/4 7/8 1-3/8 2 1-9/16

\*MINUS VALUES INDICATE DIMENSIONS BELOW CHORD BETWEEN BEARINGS.



LAYOUT DIAGRAM

### SCREED ELEVATIONS

SEE TRANSVERSE SECTION AND NOTE ③ SHEET 10/13

LOCATION	A	B	C
BRG. A-1	696.49	696.82	696.59
1/8	696.62	696.95	696.73
1/4	696.75	697.08	696.85
3/8	696.85	697.18	696.96
1/2	696.94	697.27	697.05
5/8	697.01	697.34	697.11
3/4	697.07	697.40	697.17
7/8	697.11	697.43	697.18
BRG. P-1	697.14	697.44	697.16
1/4	697.14	697.42	697.13
1/2	697.13	697.39	697.07
3/4	697.10	697.34	697.00
BRG. P-2	697.05	697.27	696.91
1/8	696.97	697.16	696.79
1/4	696.86	697.03	696.65
3/8	696.71	696.89	696.51
1/2	696.55	696.72	696.35
5/8	696.37	696.54	696.16
3/4	696.16	696.34	695.96
7/8	695.95	696.12	695.74
BRG. A-2	695.72	695.90	695.51

### LAYOUT DIAGRAM OFFSETS

STRINGER	I	II
A	0'-11 3/8"	1'-0 1/16"
B	0'-11 5/8"	0'-11 5/16"
C	0'-11 3/4"	0'-11 3/16"
D	0'-11 7/8"	0'-11 3/16"
E	1'-0"	0'-11 5/16"

NOTES

① DEFLECTION AND CAMBER DIMENSIONS ARE IN INCHES.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**12/13**

DALTON · DALTON ASSOCIATES

SUPERSTRUCTURE DETAILS

BRIDGE NO. CUY-90-1233  
UNDER WEST 73rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 826+11.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FB	TWJ		RJP	RDH	4-17-74	

OCT 1 1982

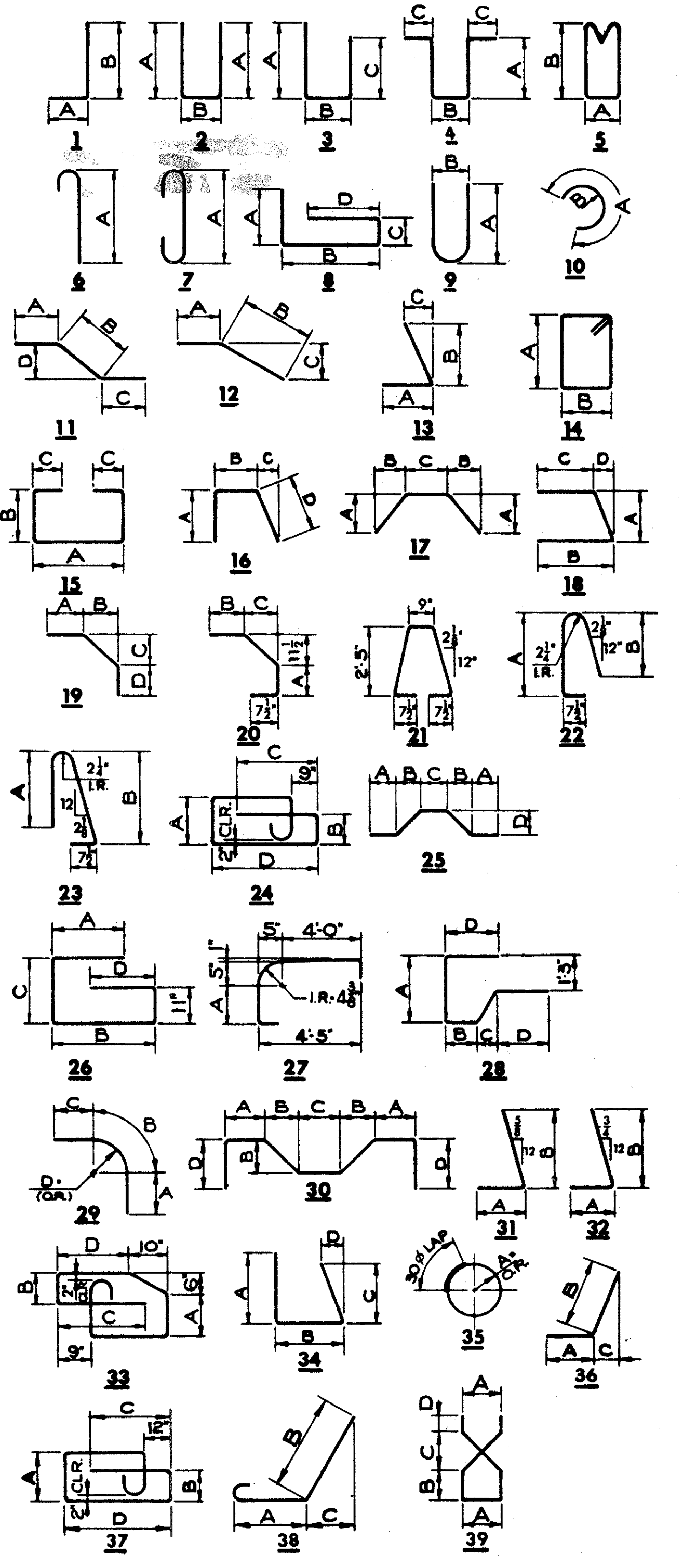
Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Includes sub-sections for ABUTMENT A-1 and ABUTMENT A-2 WING WALL.

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Includes sub-sections for ABUTMENT A-1 WING WALL (CON'T.), ABUTMENT A-2, and PIER P-1.

Table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Includes sub-sections for ABUTMENT A-2 WING WALL (CON'T.), PIER P-2, and a SPIRAL REINFORCING SCHEDULE.

SPIRAL REINFORCING SCHEDULE table with columns: MARK, NO. REQ'D, CORE DIA. OF SPIRAL, LENGTH OF SPIRAL, PITCH INS., WEIGHT LBS.

SUPERSTRUCTURE table with columns: MARK, NO. REQ'D, LENGTH, TYPE, DIMENSIONS (A, B, C, D), INCRM., WEIGHT LBS. Includes sub-sections for SUPERSTRUCTURE and RAILING.



REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES  
DALTON-DALTON ASSOCIATES  
REINFORCING SCHEDULE  
BRIDGE # CUY-90-1233 UNDER WEST 73rd. ST. I-90 CUYAHOGA COUNTY STA. 826+11.55  
DESIGNED: T.M.J. DRAWN: T.M.J. TRACED: R.G. CHECKED: R.D.H. REVIEWED: DATE: 4-17-74 REVISION: 7-23-76



**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

**CURVE DATA**

@ EASTBOUND I-90

MICROFILMED  
OCT 1 1982

PI STA. 841+04.94  
Δ = 21°35'34.3"  
D<sub>c</sub> = 1°26'25.8"  
R = 3977.53'  
T = 758.50'  
L<sub>c</sub> = 1499.00'

**PROPOSED STRUCTURE**

TYPE: CONTINUOUS STEEL BEAMS, WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES INTEGRAL ABUT'S.

SKREW: 22°-00'-18" TO LOC. TAN.

SPANS: 52'-6", 77'-6", 52'-6"

ROADWAY: 82'-9" W/ PARAPETS.

LOADING: HS 20 - 44 AND INT. ALT. LOADING

WEARING SURFACE: 2" ASPHALT CONCRETE

APPROACH SLABS: 25' LONG (SPECIAL)

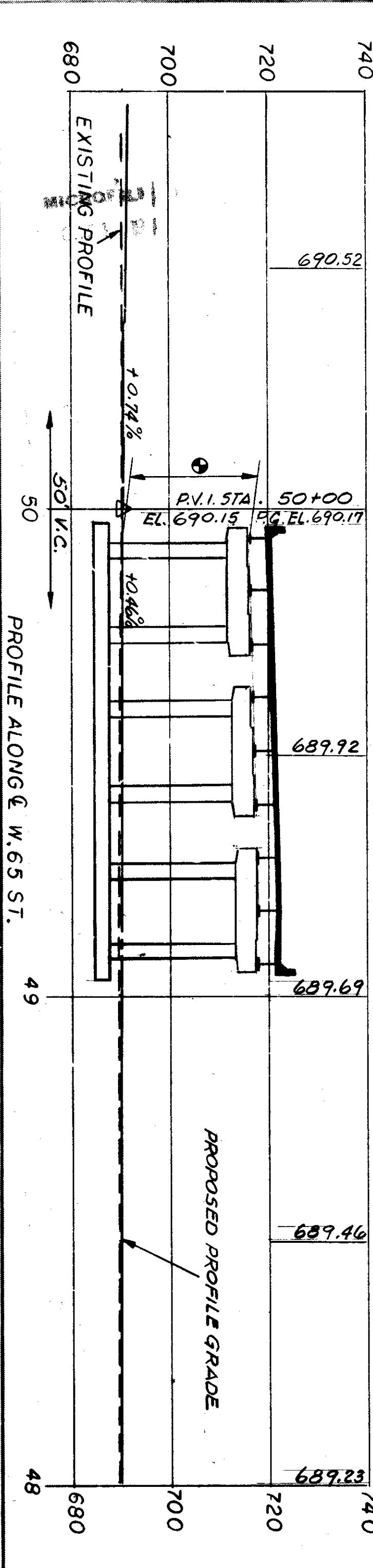
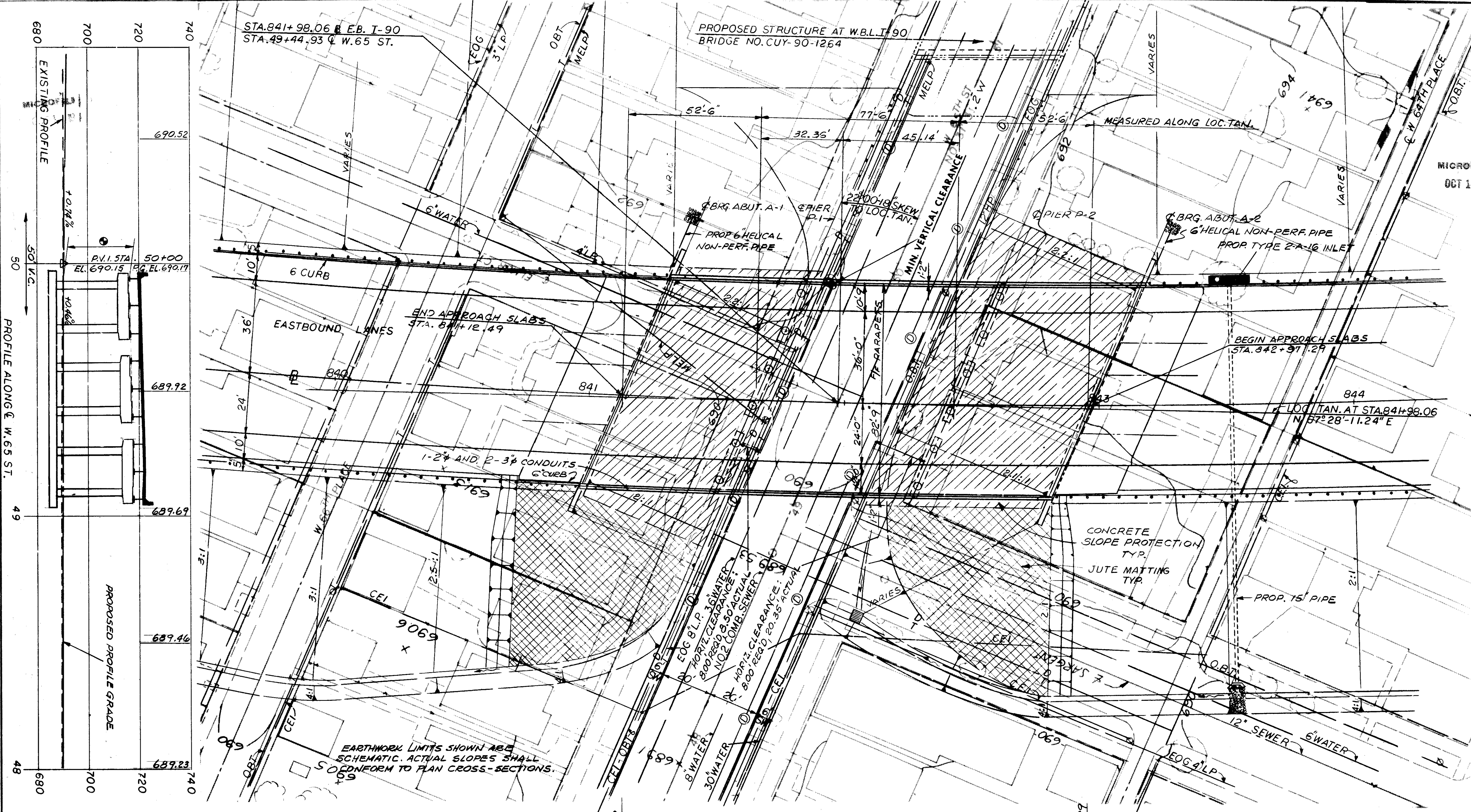
ALIGNMENT: 1°-26'-25.8" CURVE LT.

SUPERELEVATION: .036'/FT.

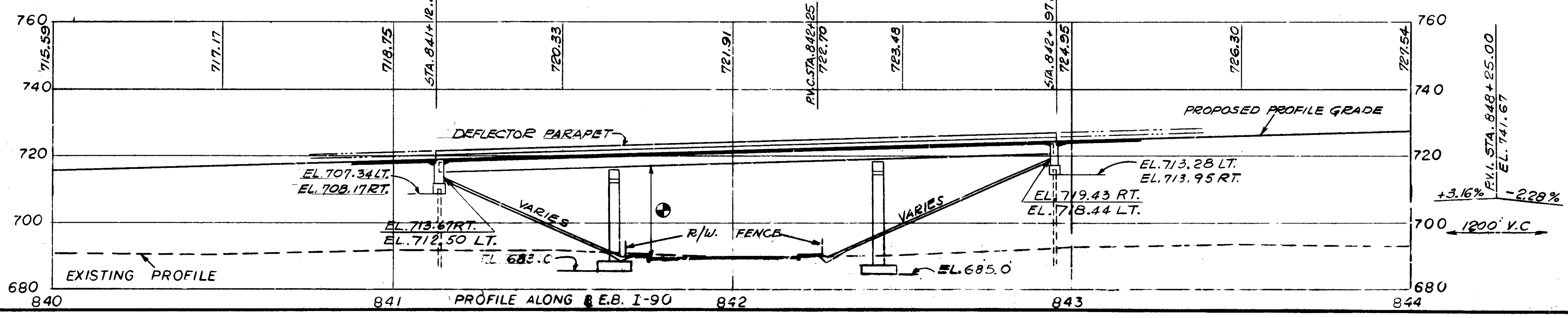
SLOPE PROTECTION: CONCRETE.

TRAFFIC: I 90 6,189 ADT 1990  
W 65<sup>th</sup> ST 13,600 ADT 1990

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES					1/11
<b>DALTON - DALTON ASSOCIATES</b>					
<b>SITE PLAN</b>					
BRIDGE NO. CUY-90-1261 OVER WEST 65th ST. I-90 CUYAHOGA COUNTY STA. 841 + 12.49 TO STA. 842 + 97.29					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
BWM	HENNESSY		C. J. H.	RDA	4-17-74



VERTICAL CLEARANCE:  
14.50' REQ'D, 26.32' ACTUAL.  
EXCESS VERTICAL CLEARANCE  
NOTE: EASTBOUND GRADE CONTROLLED BY  
CLEARANCE AT ORIGINALLY PROPOSED RAMP - #23  
AVERAGE ESTIMATED PILE LENGTH FOR PILES:  
ABUT'S = 35'  
ALL PILES ARE 12" CIP



EARTHWORK LIMITS SHOWN ARE  
SCHEMATIC. ACTUAL SLOPES SHALL  
CONFORM TO PLAN CROSS-SECTIONS.

BRIDGE LIMITS = 184.80

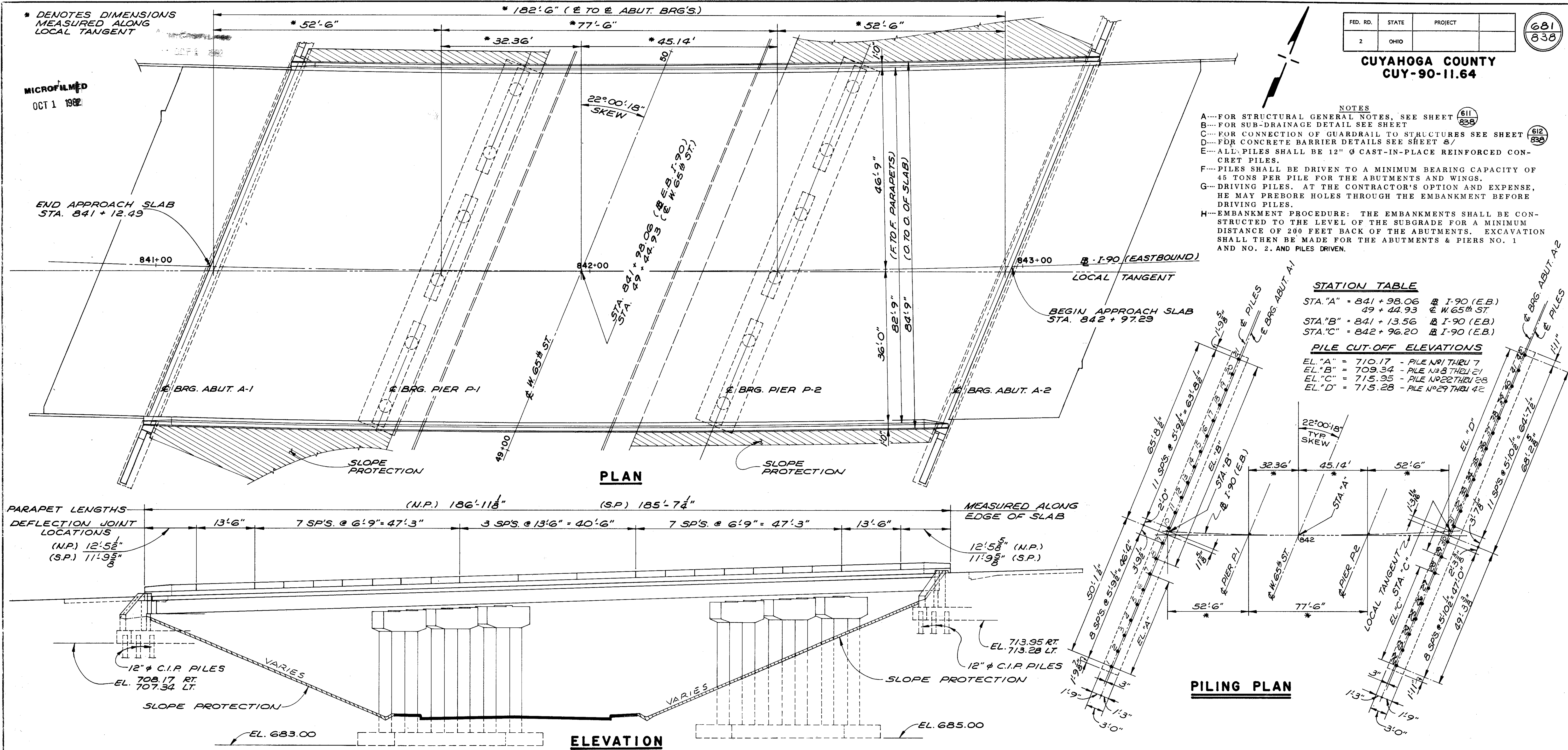
\* DENOTES DIMENSIONS MEASURED ALONG LOCAL TANGENT

FED. RD.	STATE	PROJECT
2	OHIO	

681  
838

CUYAHOGA COUNTY  
CUY-90-11.64

MICROFILMED  
OCT 1 1982



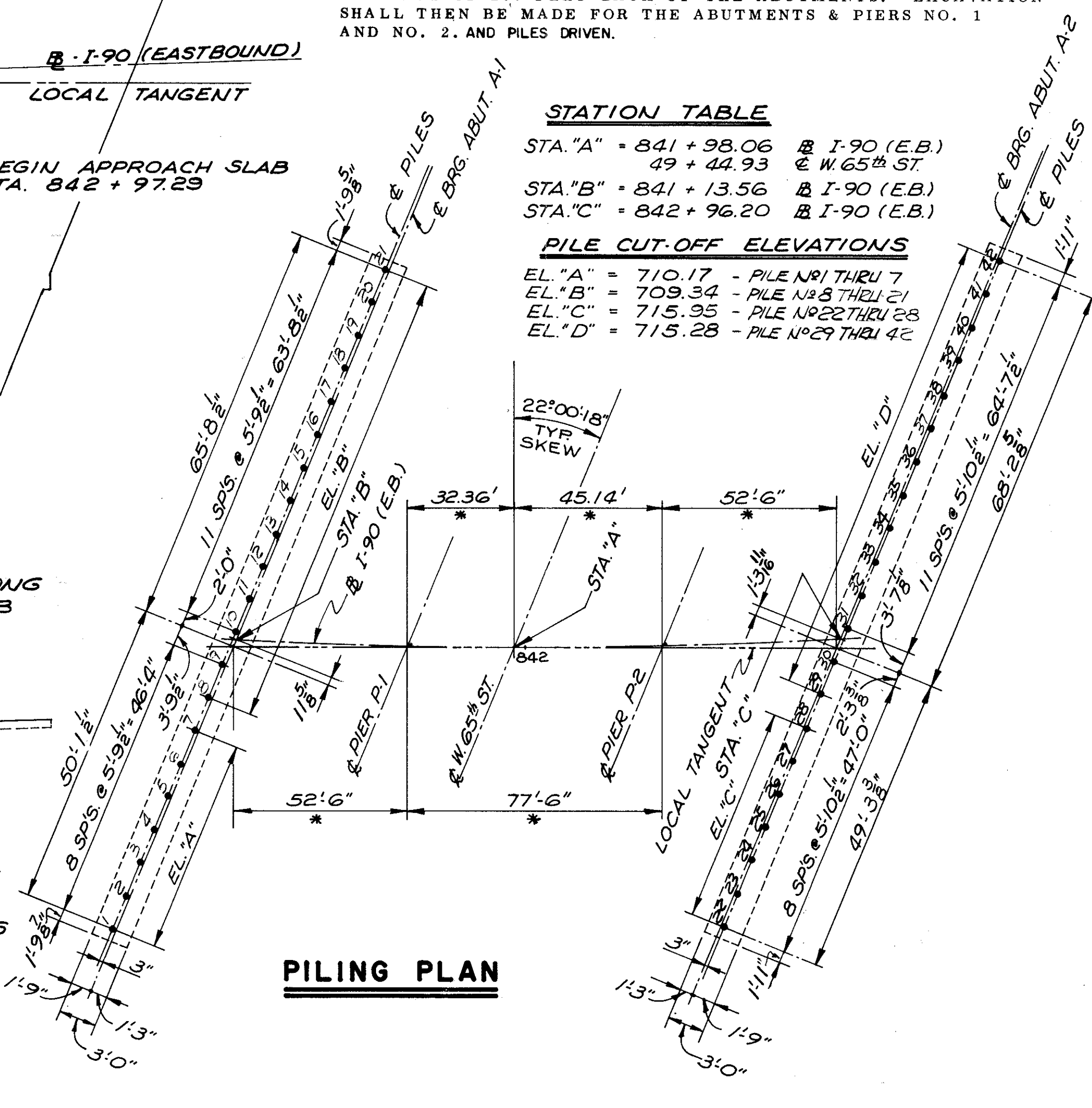
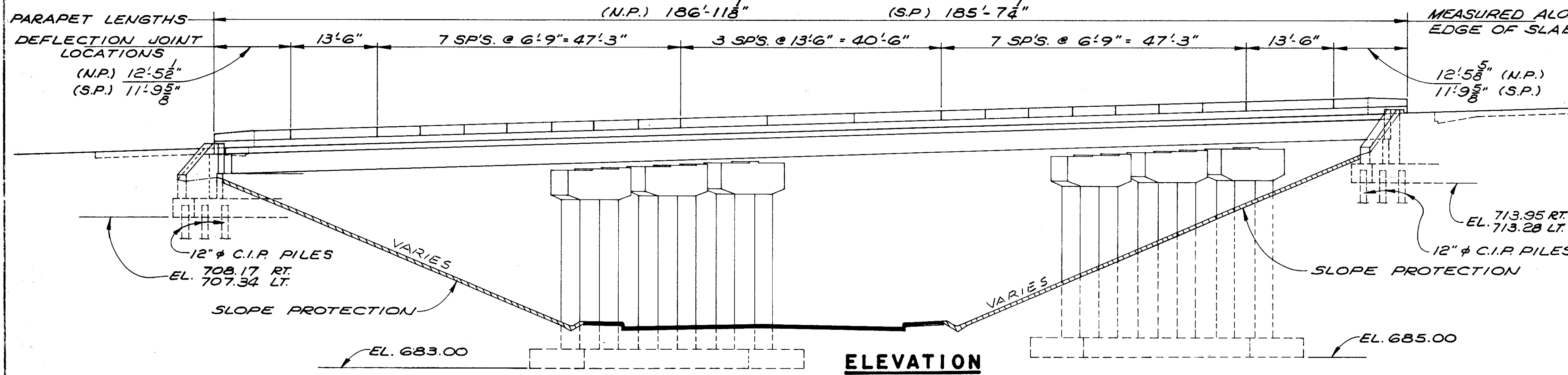
- NOTES
- A---FOR STRUCTURAL GENERAL NOTES, SEE SHEET 611/838
  - B---FOR SUB-DRAINAGE DETAIL SEE SHEET 612/838
  - C---FOR CONNECTION OF GUARDRAIL TO STRUCTURES SEE SHEET 613/838
  - D---FOR CONCRETE BARRIER DETAILS SEE SHEET 614/838
  - E---ALL PILES SHALL BE 12" Ø CAST-IN-PLACE REINFORCED CONCRETE PILES.
  - F---PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 45 TONS PER PILE FOR THE ABUTMENTS AND WINGS.
  - G---DRIVING PILES, AT THE CONTRACTOR'S OPTION AND EXPENSE, HE MAY PREBORE HOLES THROUGH THE EMBANKMENT BEFORE DRIVING PILES.
  - H---EMBANKMENT PROCEDURE: THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENTS. EXCAVATION SHALL THEN BE MADE FOR THE ABUTMENTS & PIERS NO. 1 AND NO. 2, AND PILES DRIVEN.

STATION TABLE

STA. "A"	= 841 + 98.06	to I-90 (E.B.)
	49 + 44.93	to W. 65th ST.
STA. "B"	= 841 + 13.56	to I-90 (E.B.)
STA. "C"	= 842 + 96.20	to I-90 (E.B.)

PILE CUT-OFF ELEVATIONS

EL. "A"	= 710.17	- PILE NO. 1 THRU 7
EL. "B"	= 709.34	- PILE NO. 8 THRU 21
EL. "C"	= 715.95	- PILE NO. 22 THRU 28
EL. "D"	= 715.28	- PILE NO. 29 THRU 42



ESTIMATED QUANTITIES						
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER GEN'L.
404	116	CY	ASPHALT CONCRETE (AC-20)	116		
SPEC	1669	SY	MEMBRANE WATERPROOFING, HOT APPLIED LIQUID (SEE PROPOSAL NOTE)	1669		
503	LUMP	LSUM	COFFERDAMS CRIBS AND SHEETING		278	795
503	1073	CY	UNCLASSIFIED EXCAVATION			
505	LUMP	LSUM	TEST PILE			
507	1470	LF	12 IN. CAST-IN-PLACE REINFORCED CONCRETE PILES		1470	
509	22763	LB	REINFORCING STEEL	16172	16656	48307
511	561	CY	CLASS C CONCRETE, SUPERSTRUCTURE	561		
511	156	CY	CLASS C CONCRETE, PIERS ABOVE FOOTINGS		94	156
511	94	CY	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		78	184
511	262	CY	CLASS C CONCRETE, FOOTINGS			
512	230	LF	PREMOLDED SEALING STRIP		230	

ESTIMATED QUANTITIES						
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER GEN'L.
513	363100	LB	STRUCTURAL STEEL	363100		
514	363100	LB	FIELD PAINTING OF STRUCTURAL STEEL	363100		
516	170	SF	1/4 IN. PREFORMED EXPANSION JOINT FILLER			170
516	156	SF	1 IN. PREFORMED EXPANSION JOINT FILLER			156
518	123	CY	POROUS BACKFILL			123
518	240	LF	6 IN. PERFORATED, HELICAL CMP, 707.01			240
518	26	LF	6 IN. NON-PERFORATED, HELICAL CMP INCL. SPECIALS, 707.01			26
518	373	LF	SUBDRAINAGE FOR WEARING COURSE (AS PER PLAN)		373	
601	1703	SY	CONCRETE SLOPE PROTECTION			1703
5625			SEE LIGHTING SUMMARY SHEET			
808	561	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	561		

QUANTITIES CHECKED BY CVM 4-09-75

SEE LIGHTING PLANS FOR DETAILS

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

GENERAL PLAN & ELEVATION  
AND PILING PLAN  
BRIDGE NO. CUY-90-1261  
OVER WEST 65th ST.  
I-90 CUYAHOGA COUNTY  
STA. 841 + 12.49 TO STA. 842 + 97.29

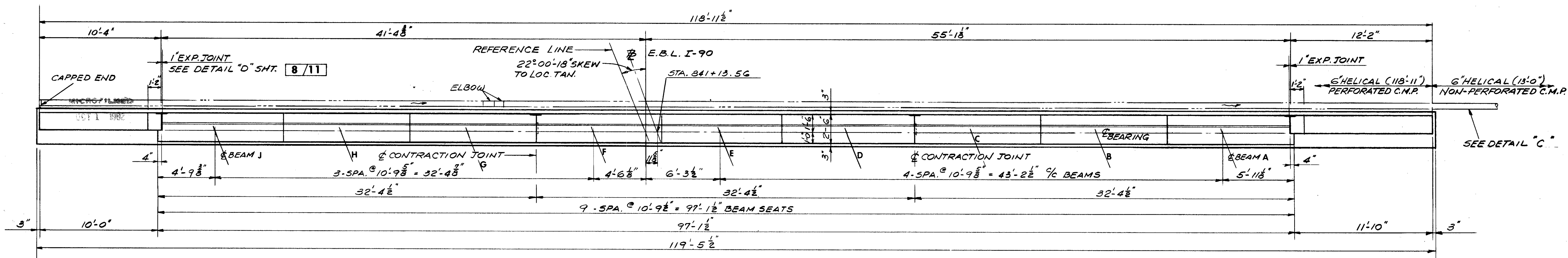
DESIGNED: BWM  
DRAWN: A.L. Hoover  
TRACED: CVM  
CHECKED: CVM  
REVIEWED: RDA  
DATE: 4-17-72

REVISION: 8-14-75  
DATE: 4-23-76

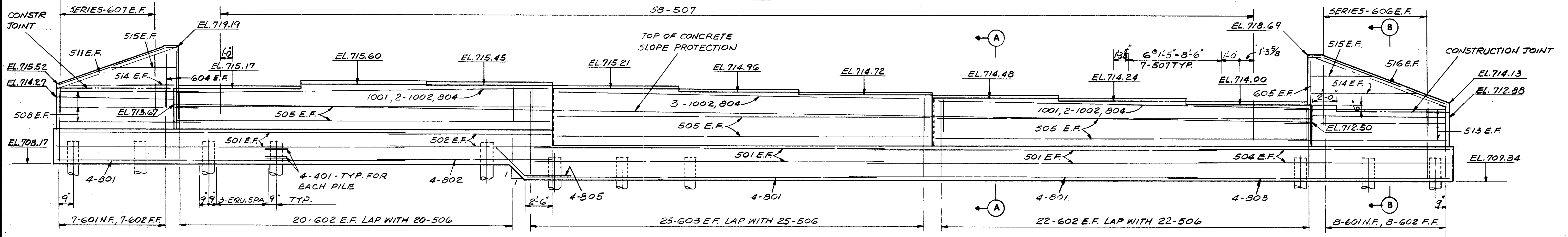
FED. RD.	STATE	PROJECT
2	OHIO	

682  
868

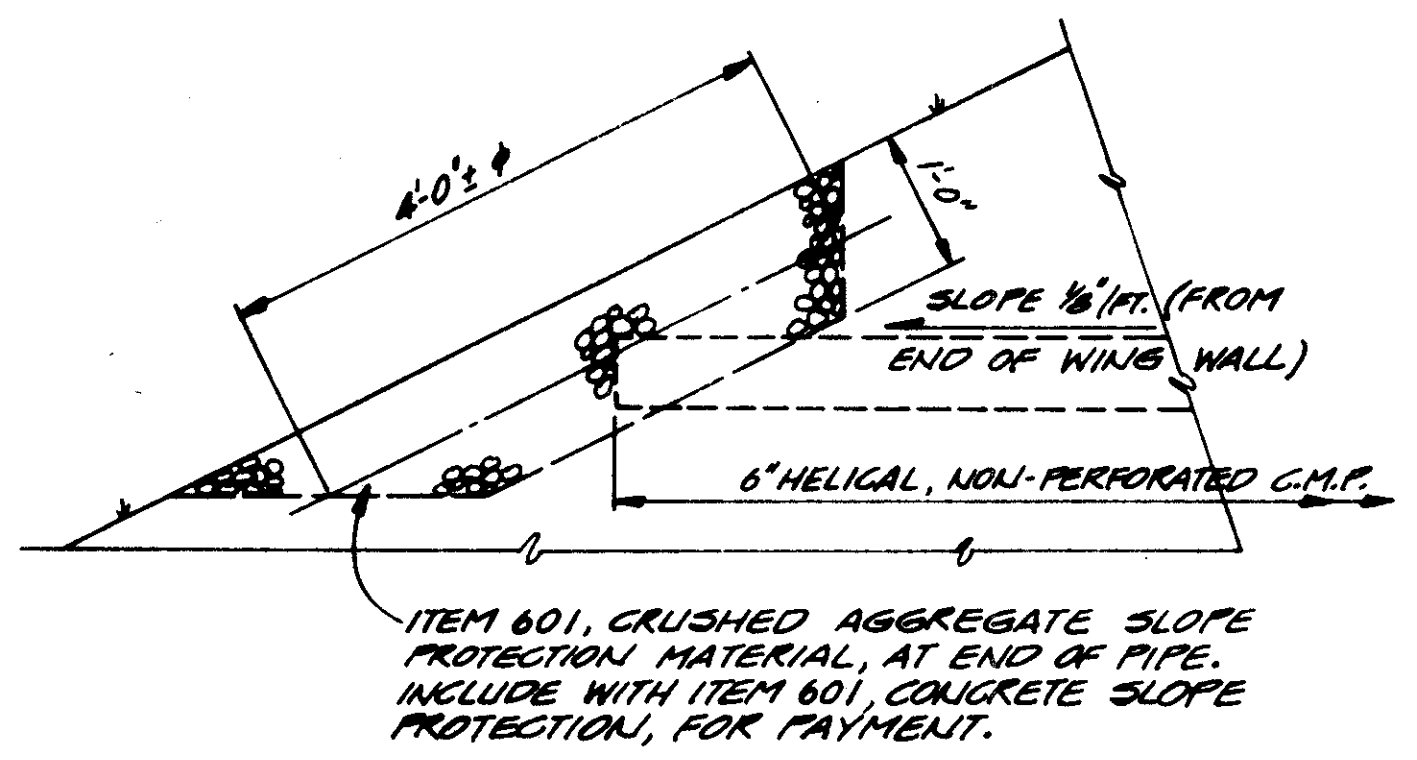
CUYAHOGA COUNTY  
CUY - 90 - 11.64



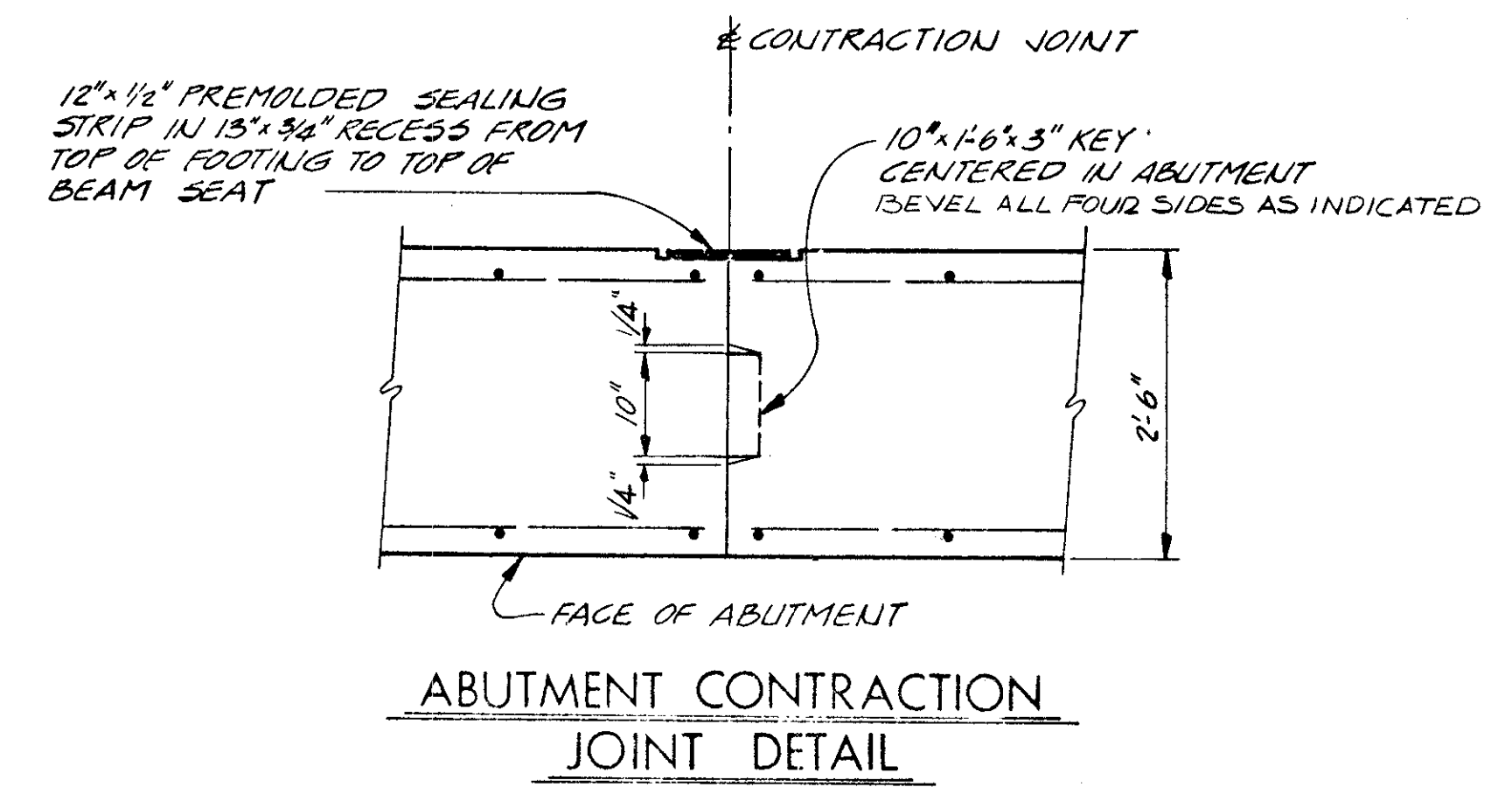
PLAN ABUTMENT A-1



ELEVATION



DETAIL C  
TERMINATION OF 6" HELICAL, NON-PERFORATED  
C.M.P. AT SLOPE

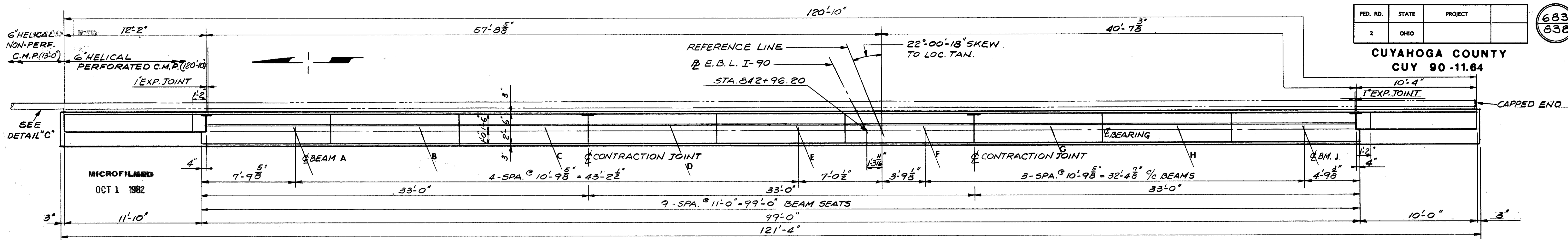


ABUTMENT CONTRACTION  
JOINT DETAIL

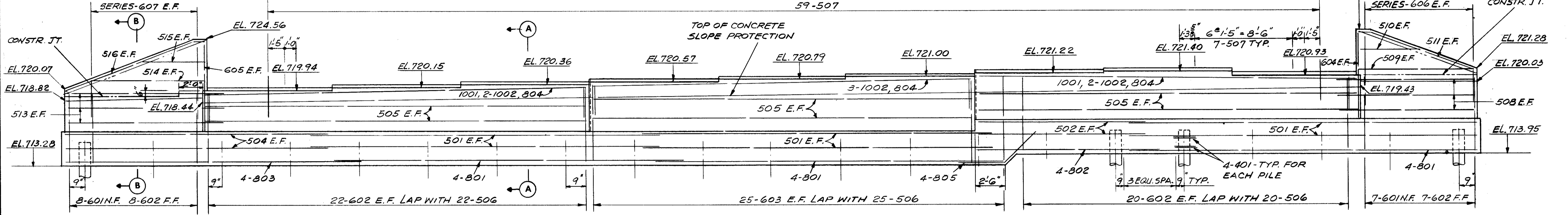
FOR NOTES AND SECTIONS, SEE SHEET 4/11

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES							3/11
<b>DALTON · DALTON ASSOCIATES</b>							
<b>ABUTMENT A 1 DETAILS</b>							
BRIDGE NO. CUY - 90 - 1261 OVER WEST 65th ST. I-90 CUYAHOGA COUNTY STA. 841 + 12.49 TO STA. 842 + 97.29							
DESIGNED BWM	DRAWN J.K.	TRACED	CHECKED C. J. J.	REVIEWED R.H.	DATE 4-17-74	REVISED	

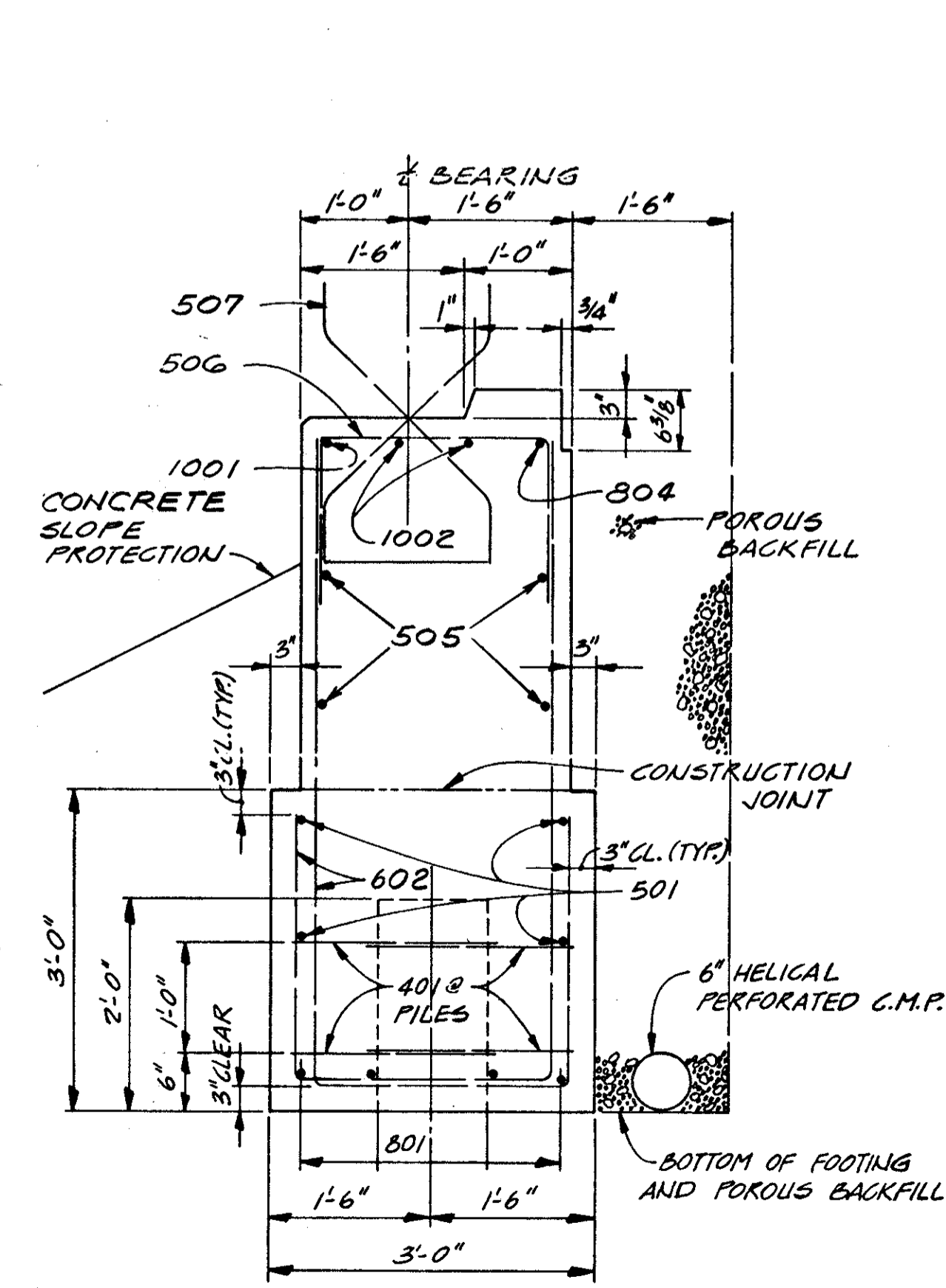
CUYAHOGA COUNTY  
CUY 90-11.64



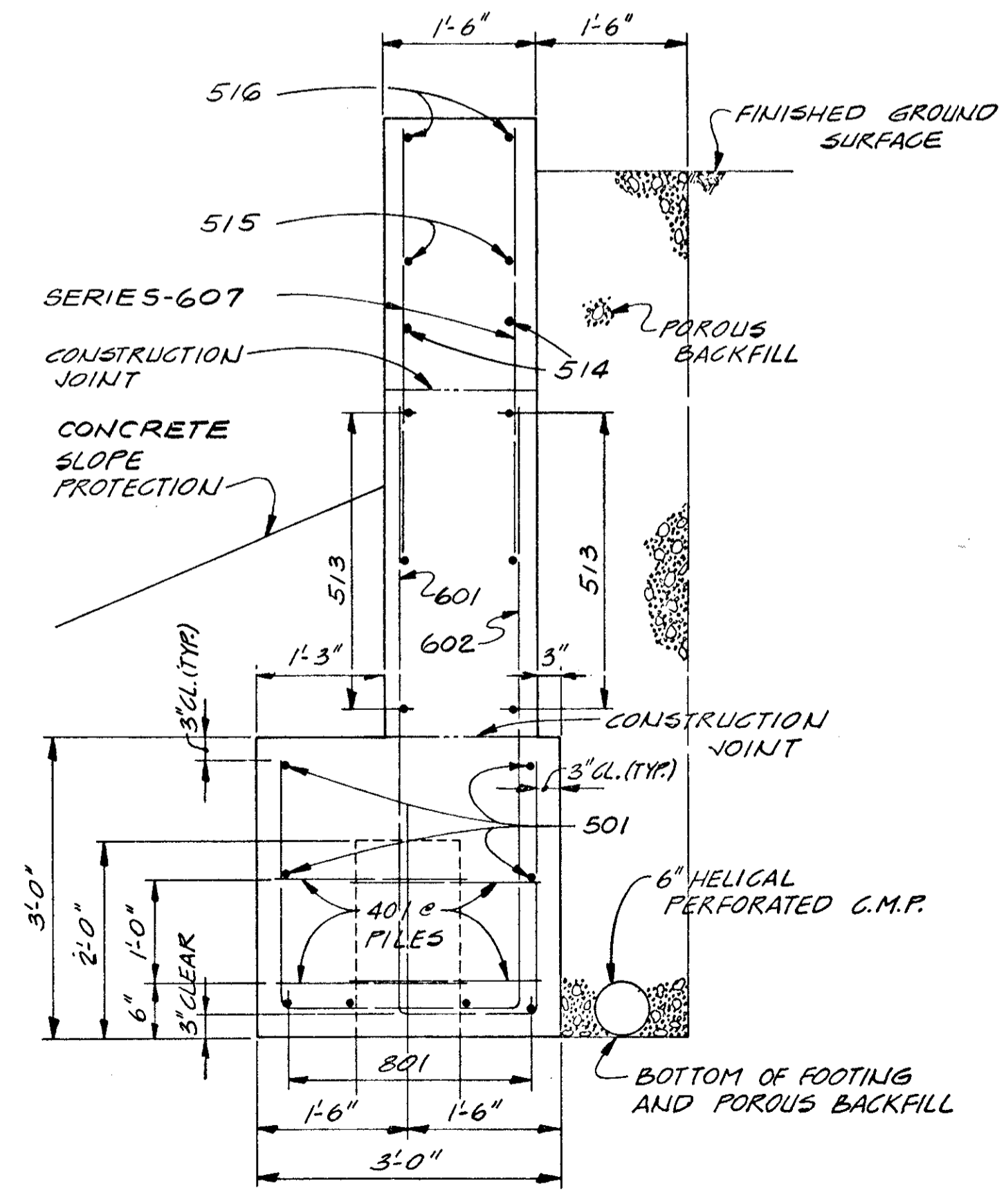
PLAN ABUTMENT A-2



ELEVATION



SECTION A-A  
OTHER ABUTMENT SIMILAR



SECTION B-B  
OTHER WING WALLS SIMILAR

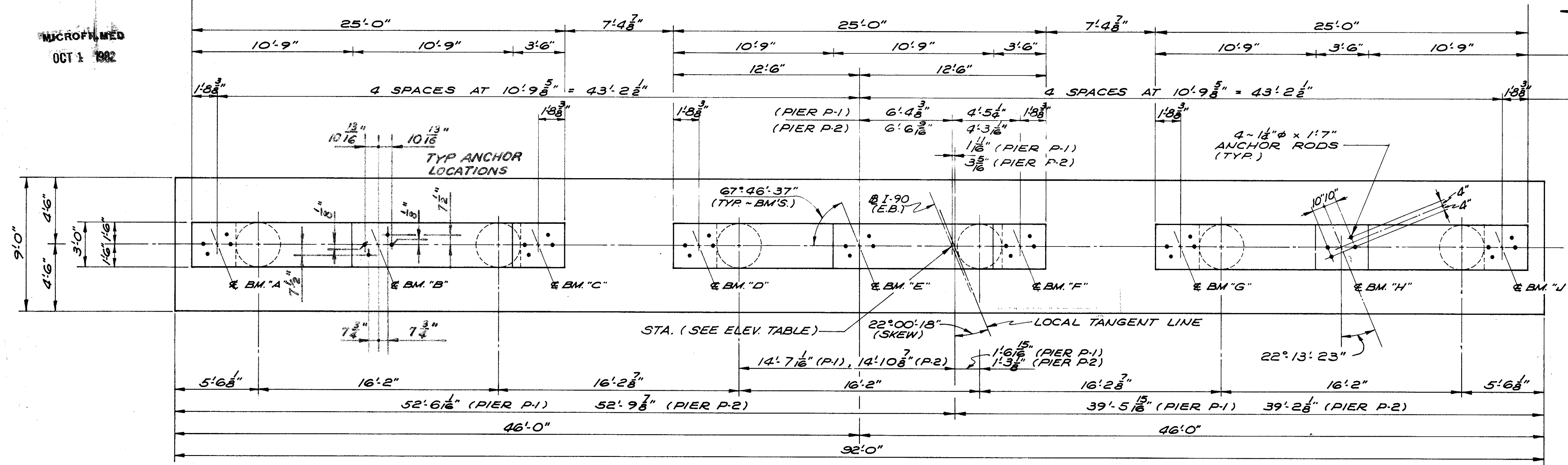
NOTES

- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
- POROUS BACKFILL SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE WITHIN THE ROADWAY AREA EXTENDED LATERALLY TO THE EMBANKMENT SIDE SLOPES.
- THE PREFIX "1A" OR "2A" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENTS A-1 OR A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
- EMBANKMENT PROCEDURE: THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENTS. EXCAVATION SHALL THEN BE MADE FOR THE ABUTMENTS, AND THE PILES DRIVEN.
- FOR PILING PLAN, SEE SHEET 2/11
- FOR ADDITIONAL DETAILS, SEE SLAB PLAN AND SECTION, SHEET 9/11

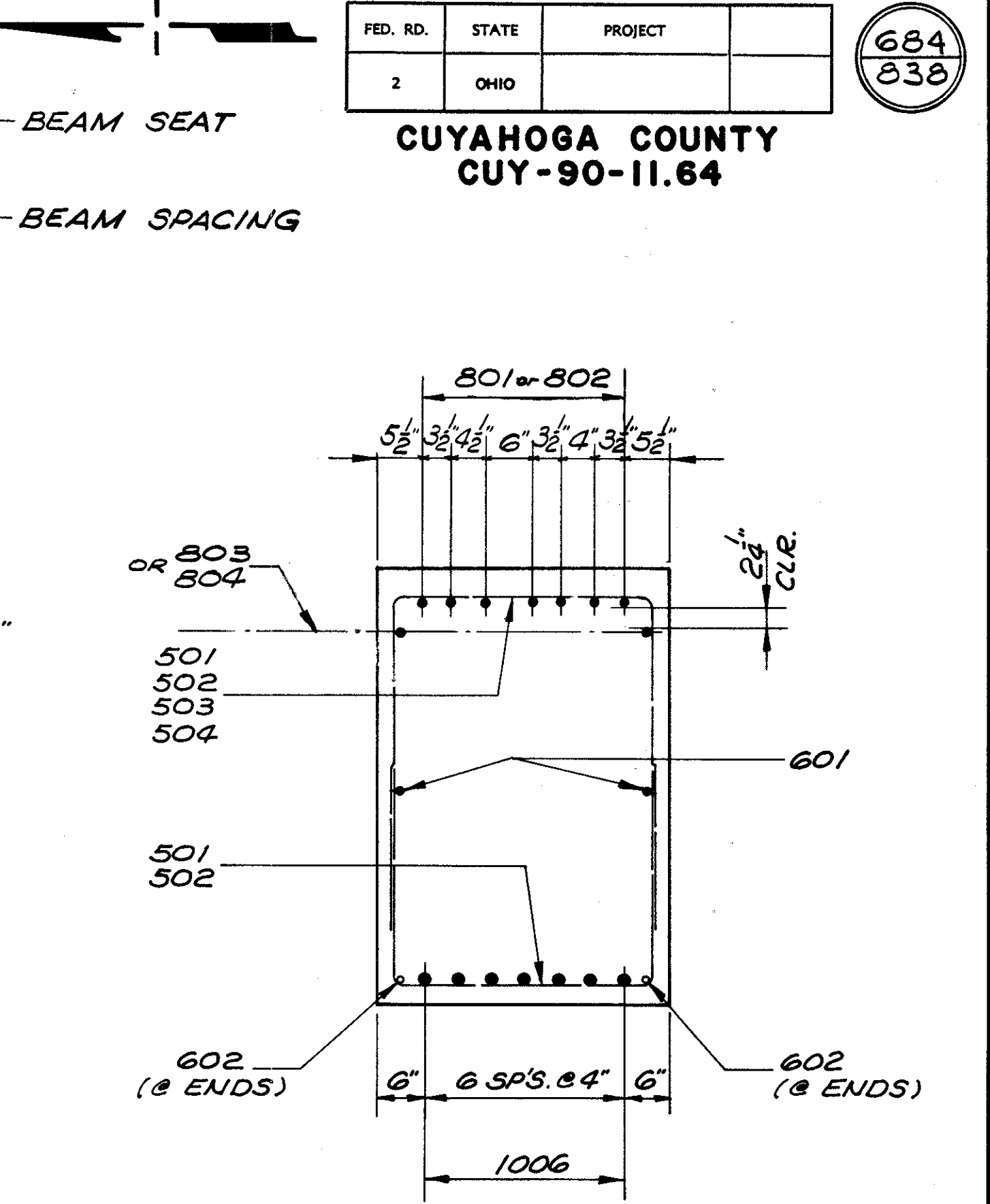
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		4/11
<b>DALTON · DALTON ASSOCIATES</b>		
<b>ABUTMENT A-2 DETAILS</b>		
BRIDGE NO. CUY-90-1261 OVER WEST 65th ST. I-90 CUYAHOGA COUNTY STA. 841 + 12.49 TO STA. 842 + 97.29		
DESIGNED	DRAWN	TRACED
BWM	J.K.	
CHECKED	REVIEWED	DATE
COW	RDA	4-17-74

MICROFILMED  
OCT 1 1982

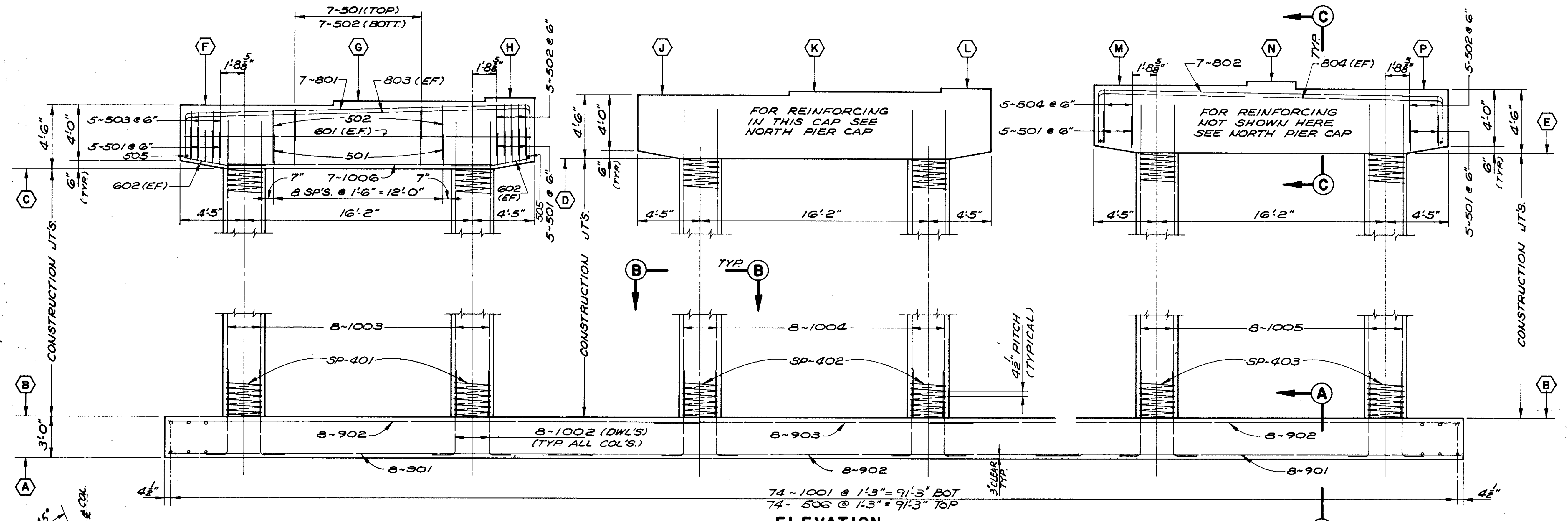
**CUYAHOGA COUNTY**  
**CUY-90-11.64**



**PLAN**



**SECTION "C-C"**  
(SIMILAR EACH CAP)

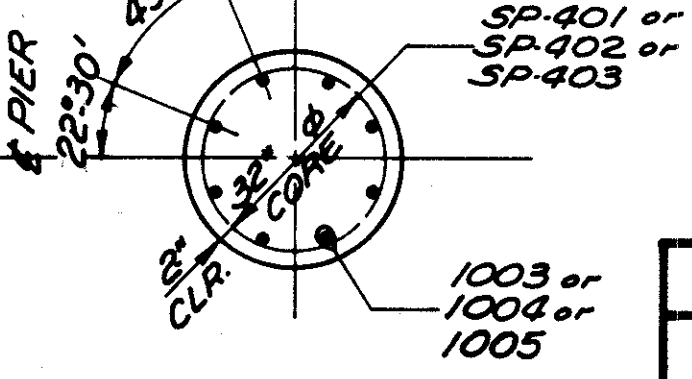


**ELEVATION**

- ① BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES OR THE PRESETTING OF BEARING ANCHORS.
- ② ABBREVIATION USED  
EF-EACH FACE
- ③ THE PREFIX "1P", "2P", ETC., SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN PIERS P-1, P-2, ETC. RESPECTIVELY, UNLESS SHOWN OTHERWISE.
- ④ FOR ADDITIONAL NOTES, SEE SHEET 2/11

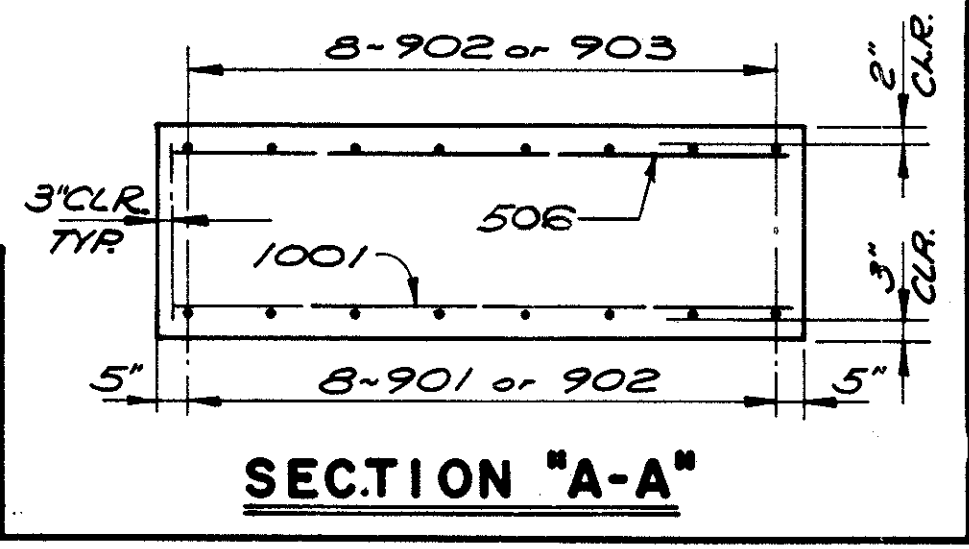
FOUNDATION BEARING PRESSURE: PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF **2.5** TONS PER SQ. FT.

BEARING ANCHORS: AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES) LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.



**SECTION "B-B"**

		ELEVATION TABLE													
LOCATION	STATION	A	B	C	D	E	F	G	H	J	K	L	M	N	P
PIER P-1	841+65.75	683.00	686.00	710.46	711.13	711.60	714.96	715.16	715.40	715.63	715.87	716.10	716.34	716.56	716.10
PIER P-2	842+43.30	685.00	688.00	712.95	713.60	714.05	717.45	717.65	717.88	718.10	718.32	718.55	718.78	719.00	718.55



**SECTION "A-A"**

5/11

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

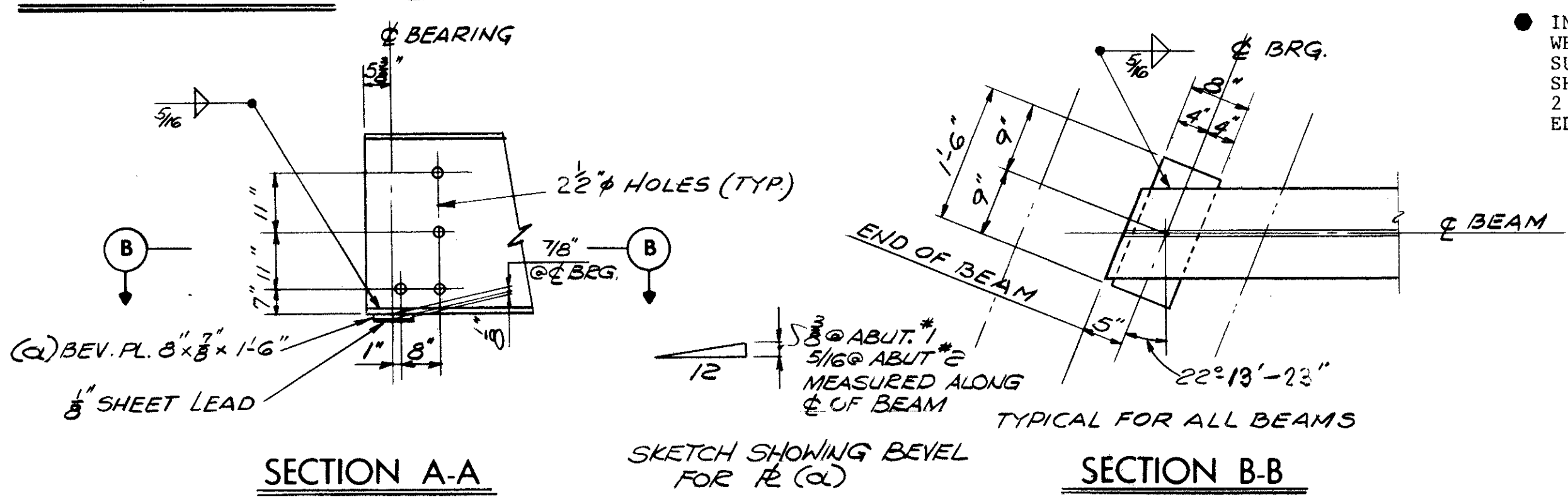
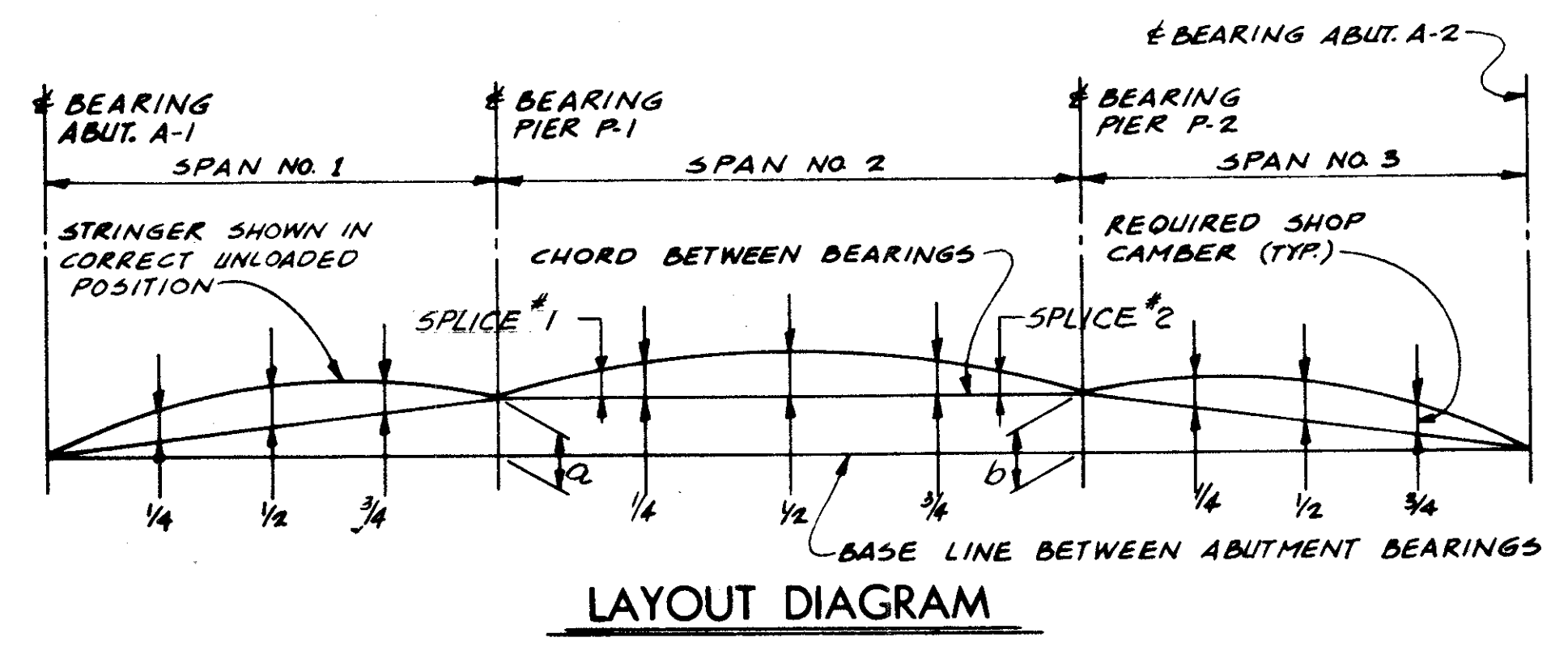
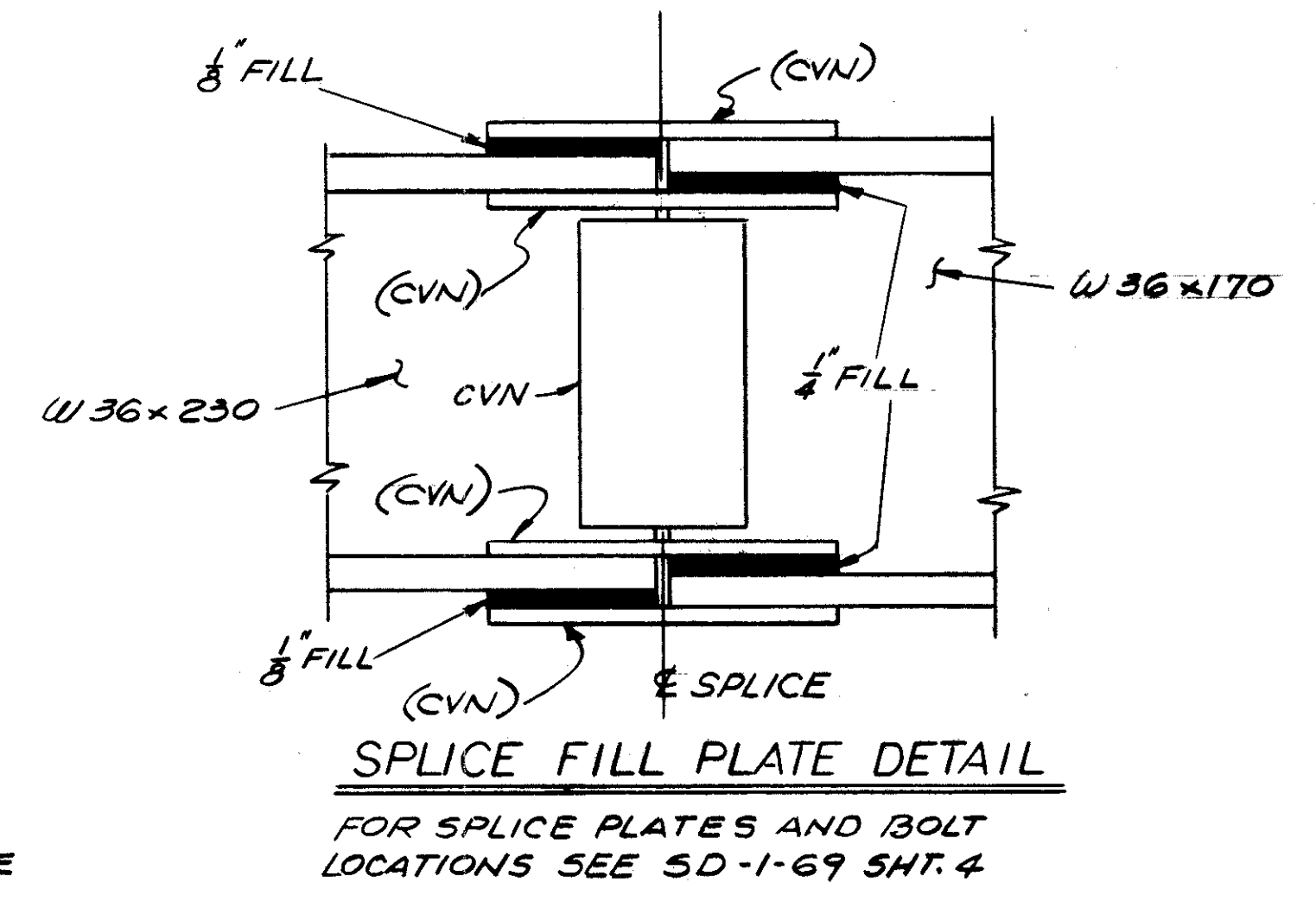
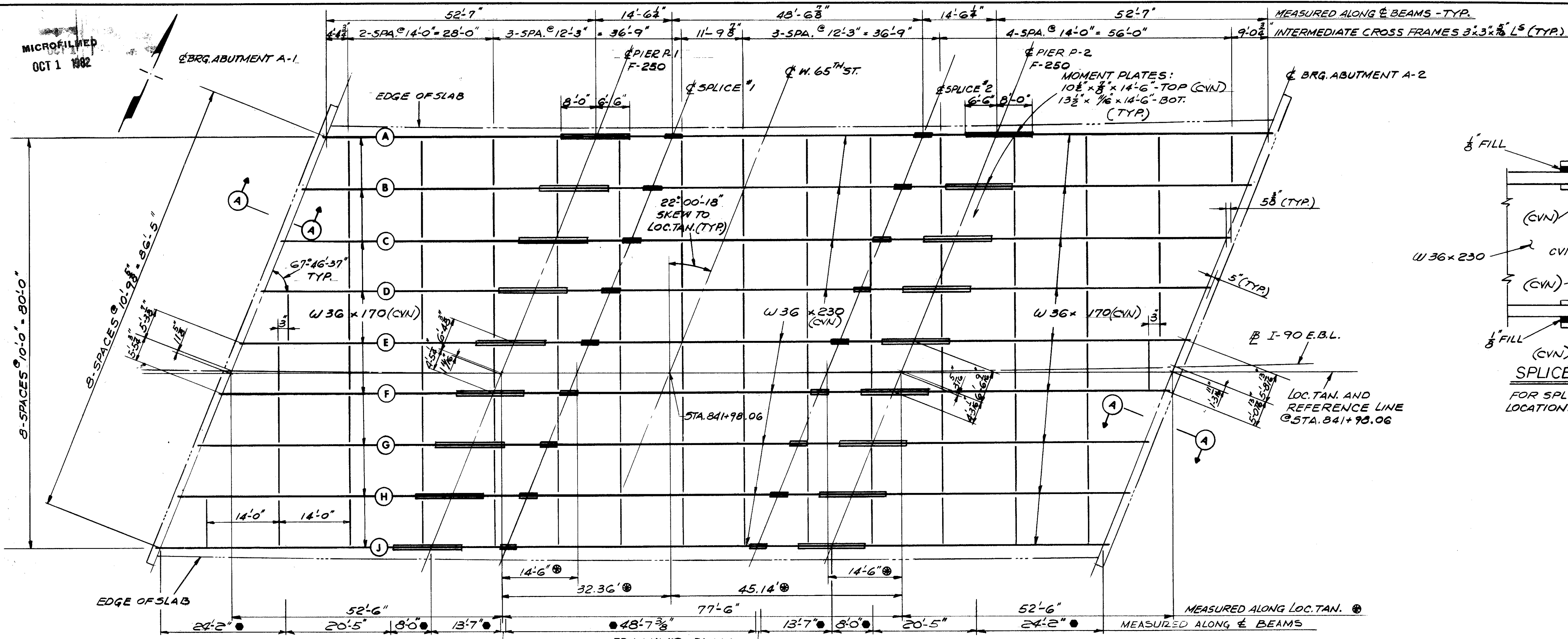
**PIER DETAILS**

BRIDGE NO. CUY-90-1261  
OVER WEST 65th ST.  
I-90 CUYAHOGA COUNTY  
STA. 841 + 12.49 TO STA. 842 + 97.25

DESIGNED BWM	DRAWN A.L. Hadovan	CHECKED C.W.P.	DATE 11/9/75	REVIEWED RDA	DATE 4-17-74	REVISED 1/31/75
-----------------	-----------------------	-------------------	-----------------	-----------------	-----------------	--------------------

MICROFILMED  
OCT 1 1982

CUYAHOGA COUNTY  
CUY-90-11.64



INDICATES AREA ON FACIA BEAMS WHERE WELDED ATTACHMENTS FOR FINISHING MACHINE SUPPORTS MAY BE MADE. ATTACHMENT DETAILS SHALL NOT EMPLOY FILLET WELDS LONGER THAN 2 INCHES OR BE CLOSER THAN 1 INCH FROM EDGE OF FLANGE.

TABLE OF DEFLECTION AND CAMBER

BEAM	DIMENSION	
	a	b
A	5/16"	9/16"
B	5/8"	13/16"
C, D, E	9/16"	3/4"
F, G	1/2"	11/16"
H	1/4"	0"
J	0"	0"

LOCATION	ALL BEAMS		BEAM A		BEAM B THRU E		BEAM F		BEAM G		BEAM H		BEAM J	
	DEFLECTION DUE TO WT. OF STEEL	DEFLECTION DUE TO REMAINING DL	ADJ. REQ'D. FOR VERTICAL & HORZ. CURVE	REQUIRED SHOP CAMBER	ADJ. REQ'D. FOR VERTICAL & HORZ. CURVE	REQUIRED SHOP CAMBER	ADJ. REQ'D. FOR VERTICAL & HORZ. CURVE	REQUIRED SHOP CAMBER	ADJ. REQ'D. FOR VERTICAL & HORZ. CURVE	REQUIRED SHOP CAMBER	ADJ. REQ'D. FOR VERTICAL & HORZ. CURVE	REQUIRED SHOP CAMBER	ADJ. REQ'D. FOR VERTICAL & HORZ. CURVE	REQUIRED SHOP CAMBER
CL A-1	----	3/16"	----	3/16"	----	3/16"	----	3/16"	----	3/16"	----	3/16"	----	3/16"
1/4 PT.	----	3/16"	----	1/4"	- 1/16"	3/16"	- 1/16"	3/16"	- 1/16"	3/16"	1/16"	5/16"	- 1/16"	3/16"
1/2 PT.	1/16"	3/16"	----	1/4"	- 1/16"	3/16"	- 1/16"	3/16"	- 1/16"	3/16"	1/16"	5/16"	- 1/16"	3/16"
3/4 PT.	----	1/16"	----	1/4"	- 1/16"	3/16"	- 1/16"	3/16"	- 1/16"	3/16"	1/16"	5/16"	- 1/16"	3/16"
CL P-1	----	5/16"	----	3/8"	- 1/16"	5/16"	- 1/16"	5/16"	- 1/16"	5/16"	1/16"	7/16"	1/16"	7/16"
CL SP LICE NO. 1	1/16"	5/16"	----	3/8"	- 1/16"	5/16"	- 1/16"	5/16"	- 1/16"	5/16"	1/16"	7/16"	1/16"	7/16"
1/4 PT.	1/16"	7/16"	- 1/16"	7/16"	- 1/16"	7/16"	- 1/16"	7/16"	- 1/16"	7/16"	1/16"	9/16"	1/16"	9/16"
1/2 PT.	1/8"	11/16"	- 1/16"	3/4"	- 1/8"	11/16"	- 1/8"	11/16"	- 1/16"	11/16"	13/16"	1/16"	7/8"	1/16"
3/4 PT.	1/16"	7/16"	- 1/16"	7/16"	- 1/8"	3/8"	- 1/16"	7/16"	- 1/16"	7/16"	----	1/2"	1/16"	9/16"
CL SP LICE NO. 2	1/16"	5/16"	- 1/16"	5/16"	- 1/8"	1/4"	- 1/16"	5/16"	- 1/16"	5/16"	----	3/8"	1/16"	7/16"
CL P-2	----	1/16"	- 1/8"	1/16"	- 1/16"	----	- 1/16"	----	- 1/16"	----	----	1/16"	----	1/16"
1/4 PT.	----	3/16"	- 3/16"	1/16"	- 1/8"	1/8"	- 1/8"	1/8"	- 1/8"	1/8"	----	1/8"	----	3/16"
1/2 PT.	1/16"	3/16"	- 1/8"	1/16"	- 1/16"	1/8"	- 1/16"	1/8"	- 1/16"	1/8"	----	3/16"	----	3/16"
3/4 PT.	----	3/16"	- 1/8"	1/16"	- 1/16"	1/8"	- 1/16"	1/8"	- 1/16"	1/8"	----	3/16"	----	3/16"
CL A-2	----	3/16"	- 1/8"	1/16"	- 1/16"	1/8"	- 1/16"	1/8"	- 1/16"	1/8"	----	3/16"	----	3/16"

6/11

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON • DALTON ASSOCIATES**

**FRAMING PLAN**

BRIDGE NO. CUY-90-1261  
OVER WEST 65th ST.  
I-90 CUYAHOGA COUNTY  
STA. 841 + 12.49 TO STA. 842 + 97.29

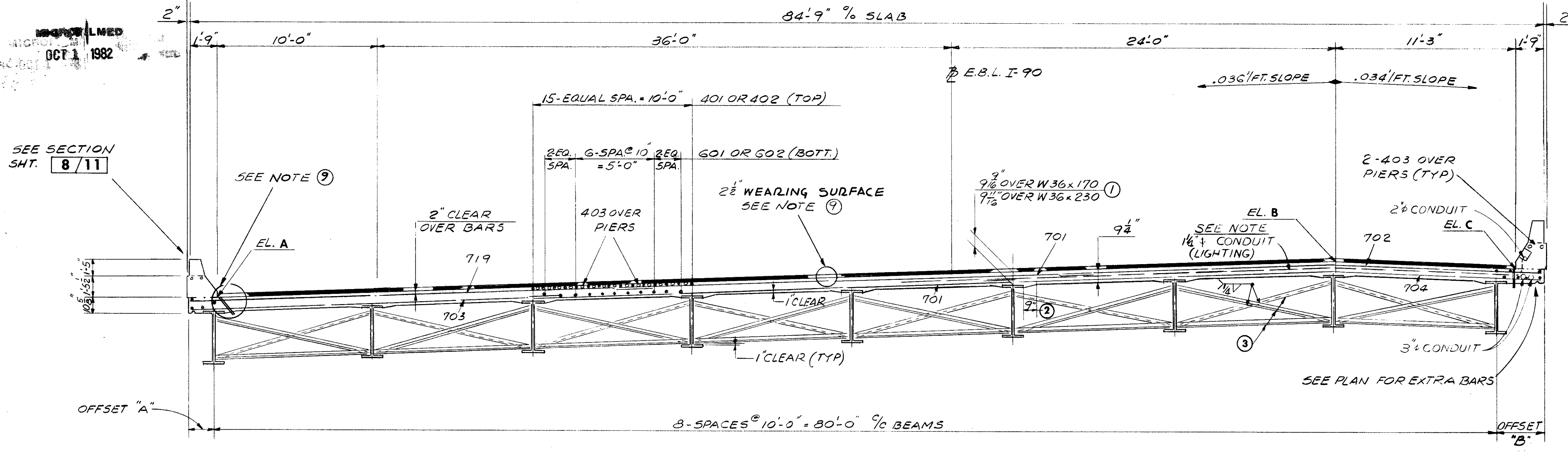
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.S.J.	J.K.		e.w.	R.D.H.	4-17-74	

RECORDED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

686  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

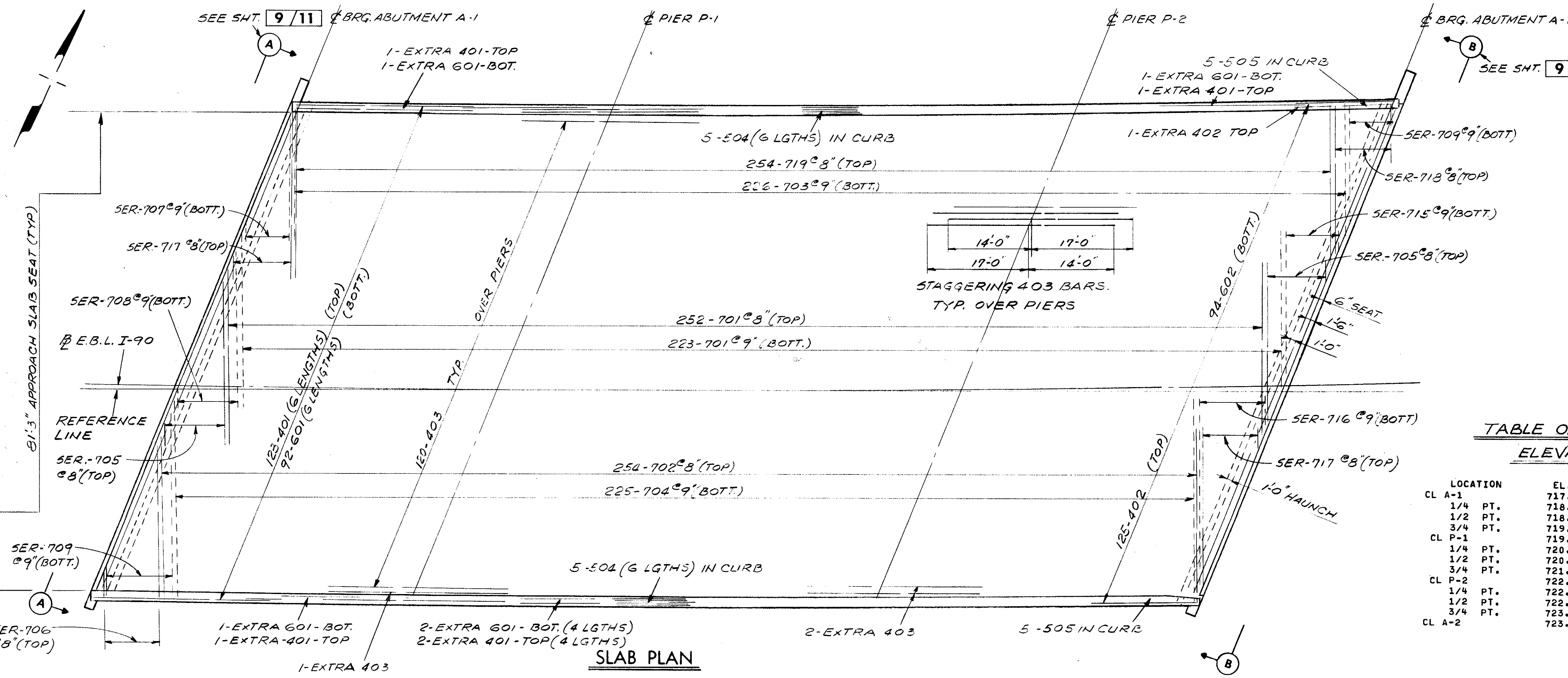


TRANSVERSE SECTION

NOTE:  
FOR LOCATION OF LUMINAIRES  
AND FOR OTHER LIGHTING DETAILS  
SEE LIGHTING PLANS.

TABLE OF OFFSETS ⑧

LOCATION	BEAM DIV.	NORMAL (RADIAL) OFFSET A	LOCATION	BEAM DIV.	NORMAL (RADIAL) OFFSET B
CL A-1	1/4	2'- 5 1/2"	CL A-1	1/4	1'- 6 11/16"
	1/2	2'- 2 1/2"		1/2	2'- 2 5/8"
	3/4	1'- 9 9/16"		3/4	2'- 5 13/16"
CL P-1	1/4	1'- 8 3/16"	CL P-1	1/4	2'- 8 7/16"
	1/2	1'- 7 1/16"		1/2	2'- 11 7/16"
	3/4	1'- 7 1/16"		3/4	3'- 1 5/16"
CL P-2	1/4	1'- 8 1/4"	CL P-2	1/4	3'- 2 1/16"
	1/2	1'- 10 9/16"		1/2	3'- 1 11/16"
	3/4	2'- 0 13/16"		3/4	3'- 0 13/16"
CL A-2	1/4	2'- 3 9/16"	CL A-2	1/4	2'- 11 3/8"
	1/2	2'- 6 13/16"		1/2	2'- 9 7/16"
	3/4	2'- 10 5/8"		3/4	2'- 7 1/4"



SLAB PLAN

FOR BARS IN PARAPET SEE SHT. 8/11  
ALL TRANSVERSE BARS NORMAL TO BEAMS.

TABLE OF SCREED ELEVATIONS ⑤

LOCATION	EL. A	EL. B	EL. C
CL A-1	1/4 PT.	717.88	719.55
	1/2 PT.	718.31	719.98
	3/4 PT.	718.72	720.39
CL P-1	1/4 PT.	719.13	720.76
	1/2 PT.	719.55	721.19
	3/4 PT.	719.95	721.59
CL P-2	1/4 PT.	720.20	721.83
	1/2 PT.	720.65	722.47
	3/4 PT.	721.45	723.05
CL A-2	1/4 PT.	722.05	723.62
	1/2 PT.	722.48	724.05
	3/4 PT.	722.93	724.48
		723.37	724.90
		723.80	725.32

- NOTES
- DECK SLAB DEPTH: THE DISTANCE SHOWN FROM THE TOP OF DECK SLAB TO TOP OF STEEL BEAM IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.
  - A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.
  - INTERMEDIATE CROSSFRAME ANGLES 3" X 3" X 5/16". WELD BOTH SIDES OF VERTICAL LEG AND TOP SIDE OF HORIZONTAL LEG TO BEAM WITH 1/4" CONTINUOUS FILLET WELD.
  - TRANSVERSE REINFORCEMENT SHALL BE FIELD BENT AS REQUIRED; PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL.
  - ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE AND ASPHALT WEARING SURFACE.
  - THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE UNLESS SHOWN OTHERWISE.
  - FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 9/11
  - SLAB OFFSETS ARE MEASURED FROM THE CENTERLINE OF BEAM AT THE LOCATION LISTED RADIALLY TO THE EDGE OF SLAB FOR SLAB OFFSET TABLE. THE 1/4 POINT, 1/2 POINT, ETC., ARE DIVISIONS ALONG THE CENTERLINE OF BEAM BETWEEN CENTERLINES OF BEARING.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**  
SUPERSTRUCTURE DETAILS

BRIDGE NO. CUY - 90 - 1261  
OVER WEST 65th ST.  
I-90 CUYAHOGA COUNTY  
STA. 841 + 12.49 TO STA. 842 + 97.29

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.S.J.	J.K.		C.W.	R.D.H.	4-17-74	

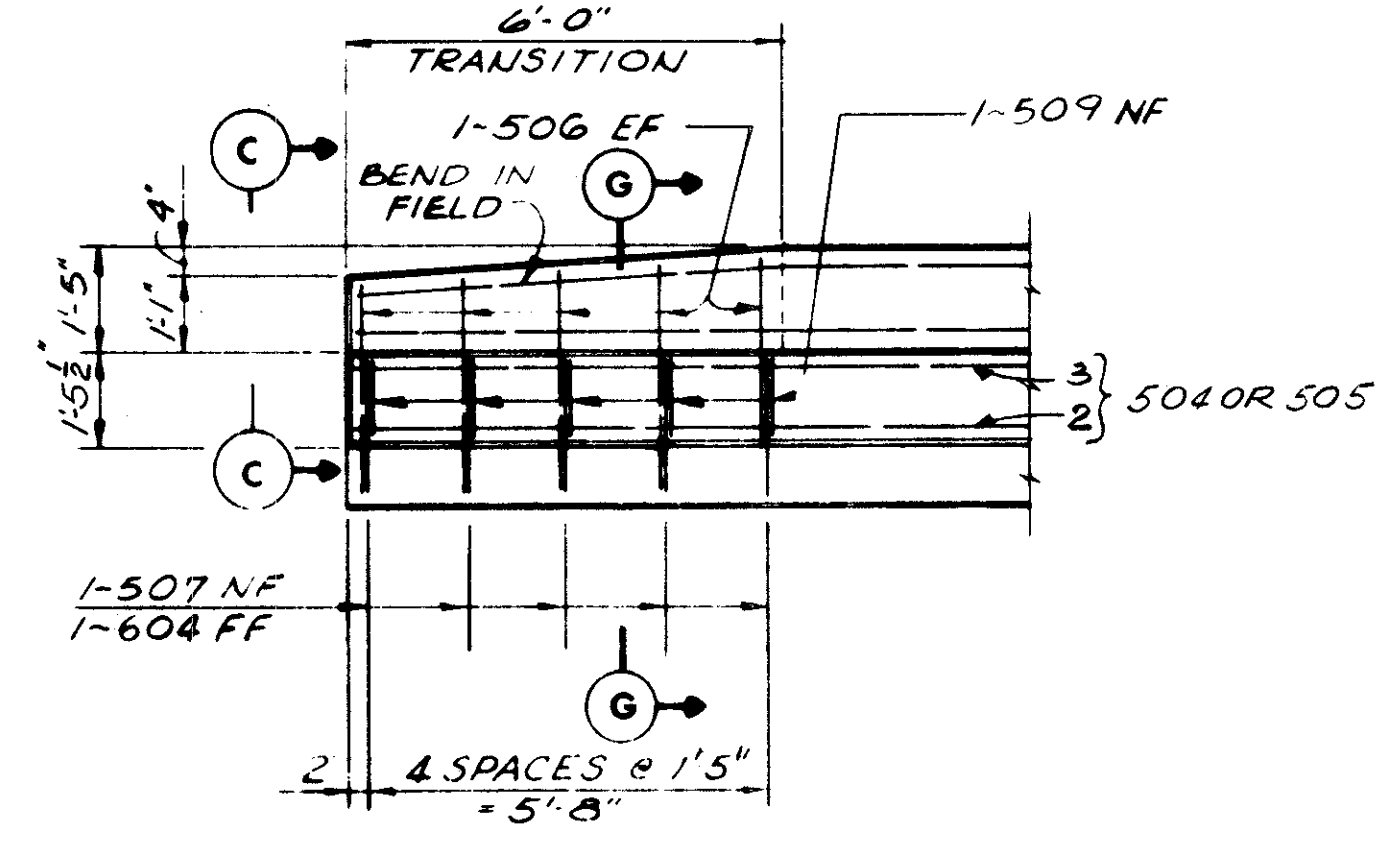
⑨ SEE SHT. 8/11 FOR SUBDRAINAGE AND ASPHALT CONCRETE WEARING SURFACE DETAILS.

MICROFILMED  
OCT 1 1982

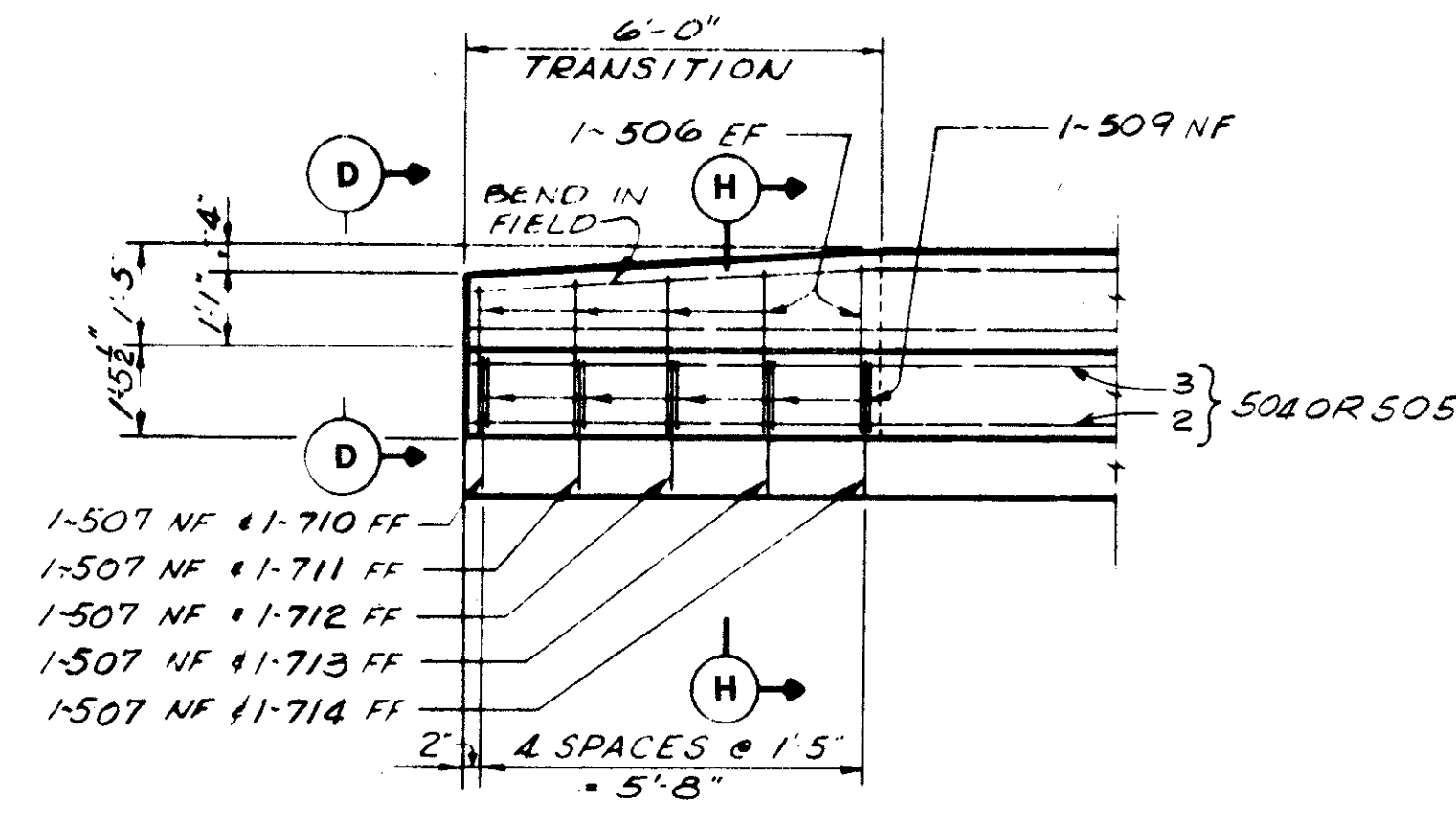
FED. RD.	STATE	PROJECT
2	OHIO	

687  
838

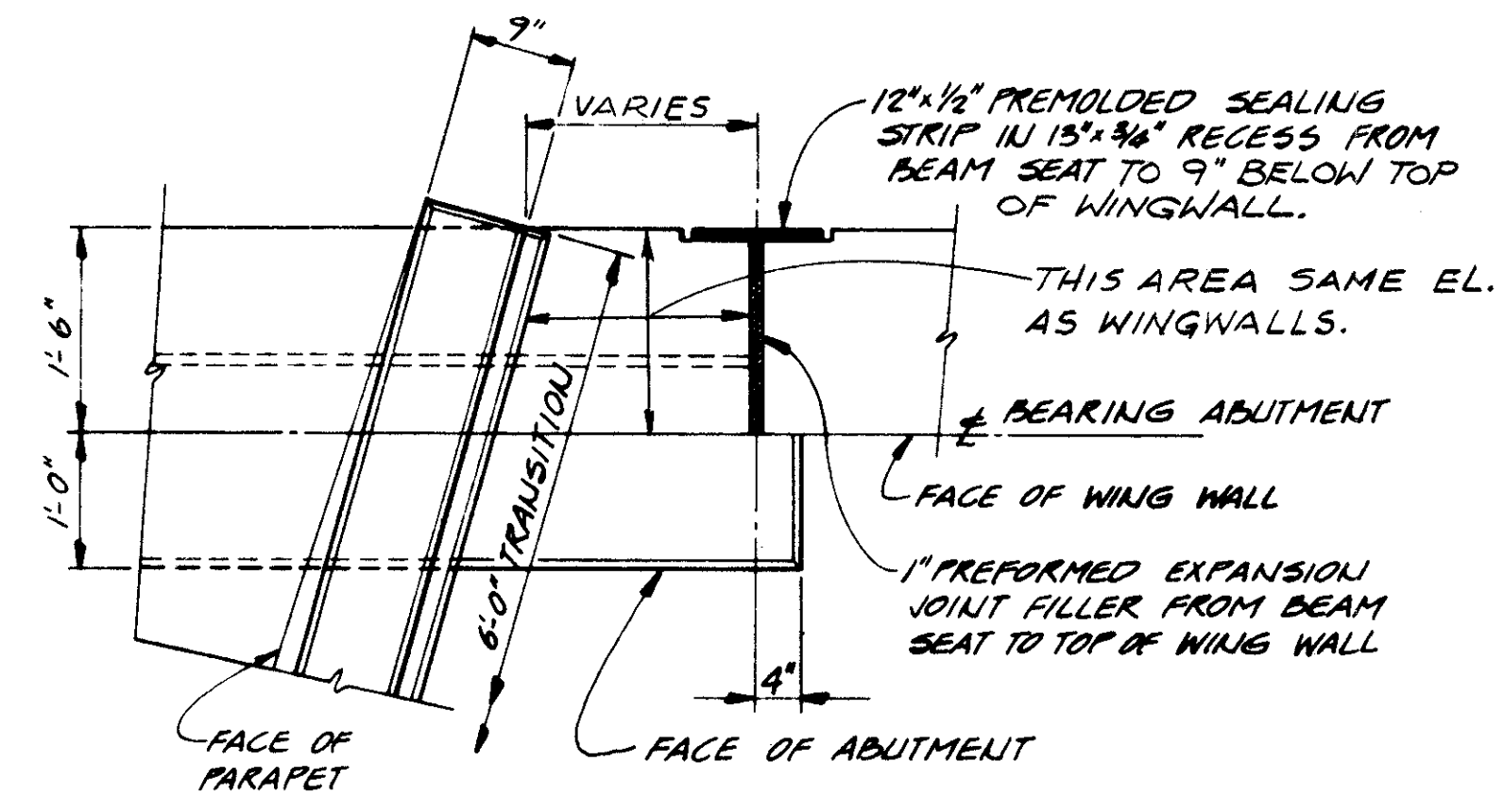
CUYAHOGA COUNTY  
CUY - 90 - 11.64



SECTION F-F

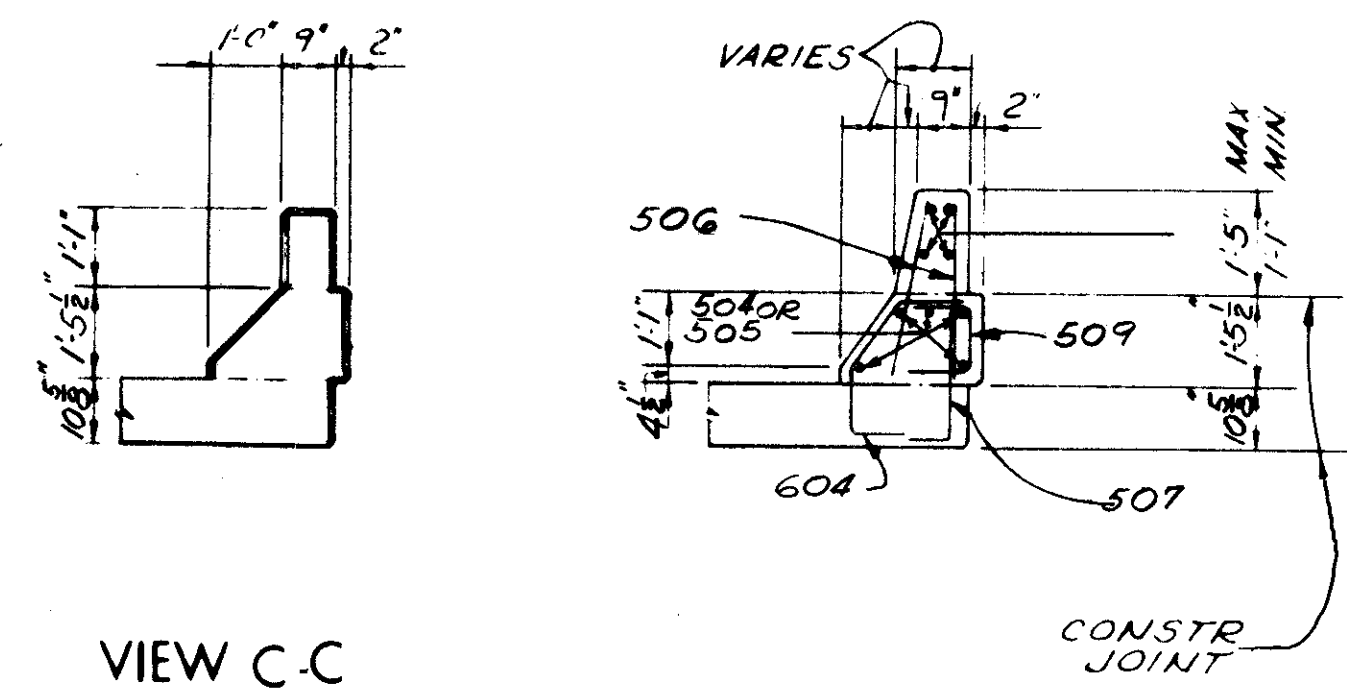


SECTION E-E



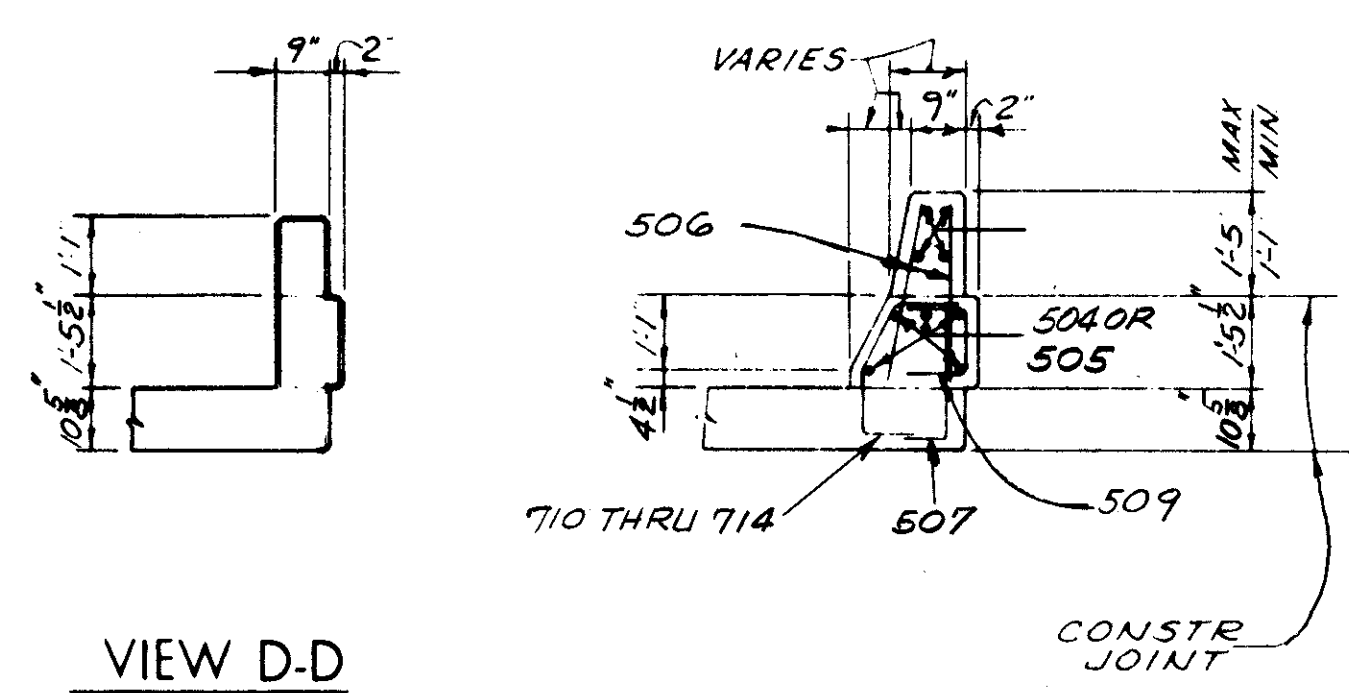
DETAIL D

SEE SH. 9/11



VIEW C-C

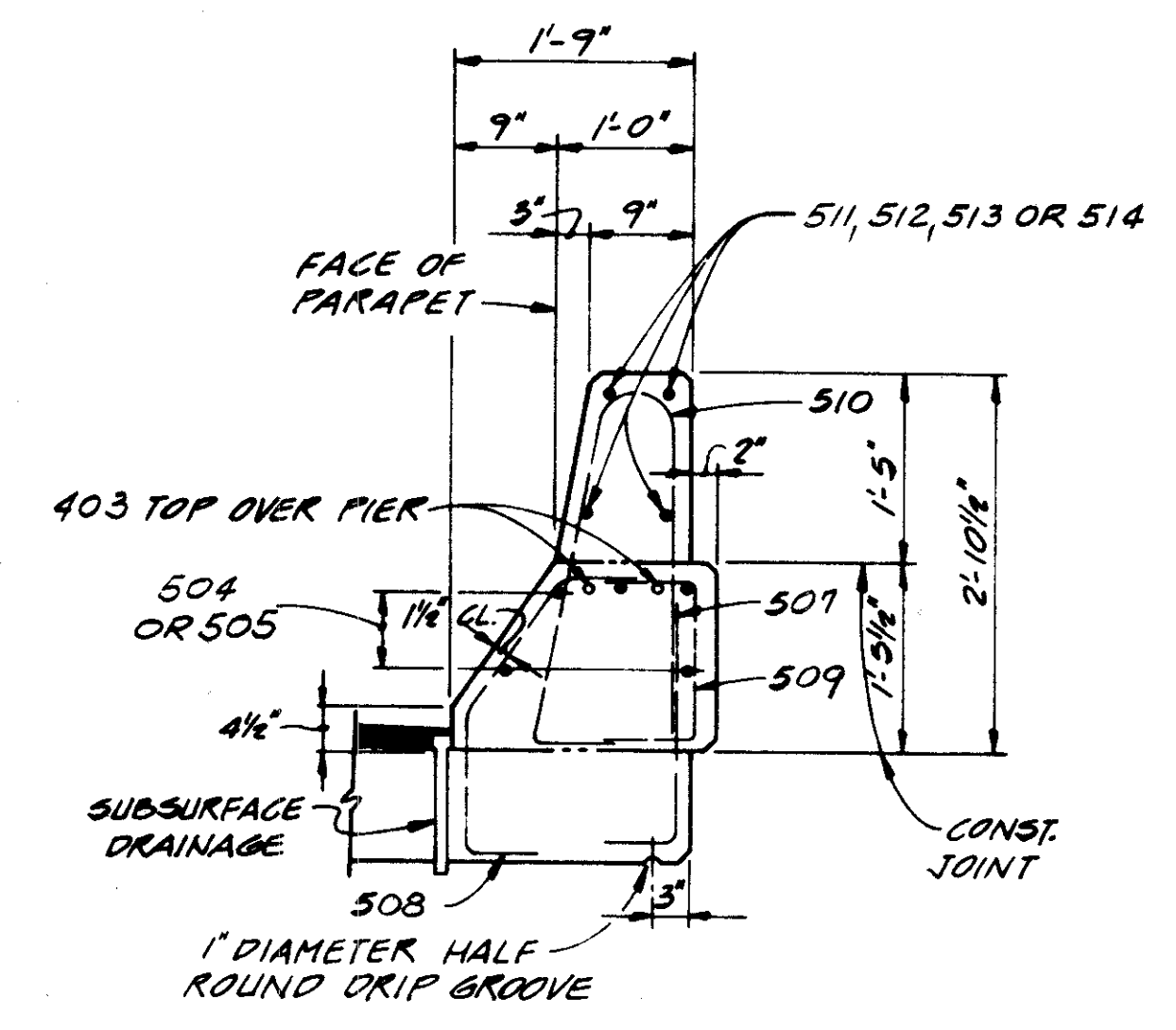
SECTION G-G



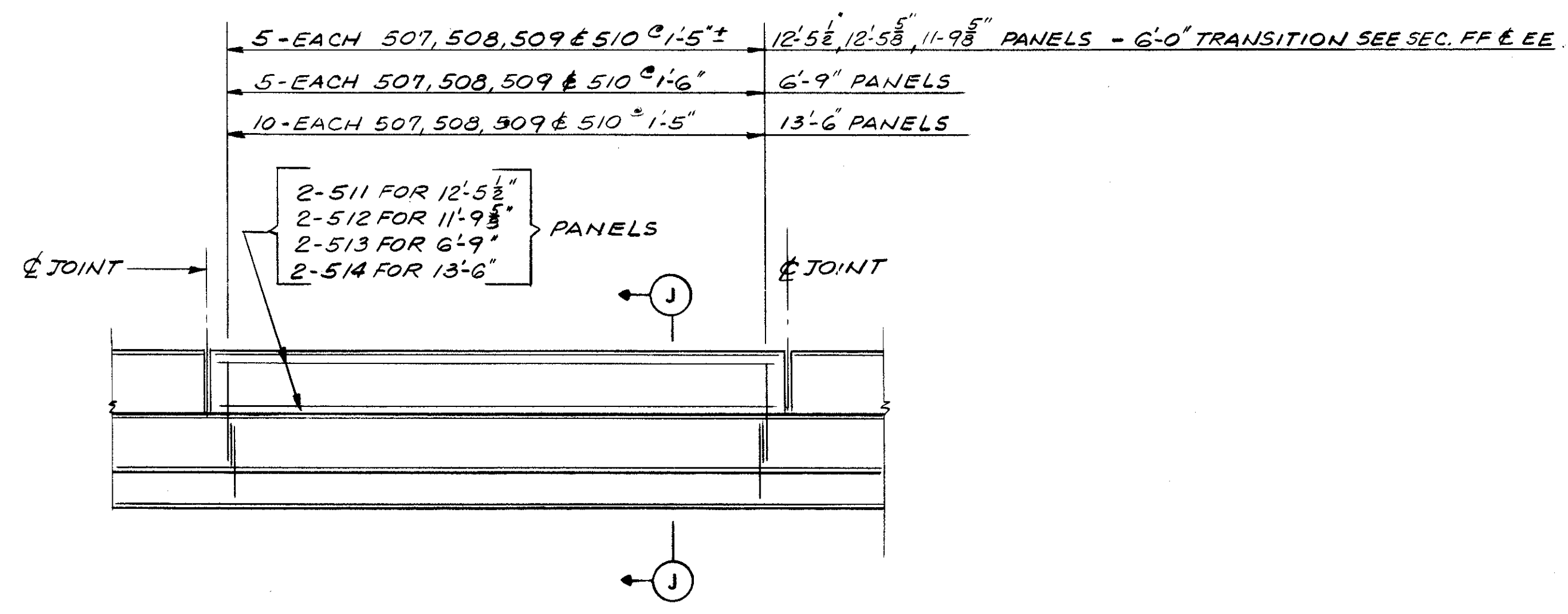
VIEW D-D

SECTION H-H

FOR DETAILS & NOTES NOT SHOWN HERE SEE STATE OF OHIO STD. DWG. BR-1-67, SHEET 1



SECTION J-J



ELEVATION

FOR PANEL SPACING SEE SH. 2/11

CONCRETE BARRIER DETAILS

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES					8/11
DALTON · DALTON ASSOCIATES					
SUPERSTRUCTURE DETAILS					
BRIDGE NO. CUY - 90 - 1261 OVER WEST 65th ST. I-90 CUYAHOGA COUNTY STA. 841 + 12.49 TO STA. 842 + 97.29					
DESIGNED K S J	DRAWN J. K.	TRACED	CHECKED C. O. W. 11/3/75	REVIEWED RDA	DATE 4-17-74

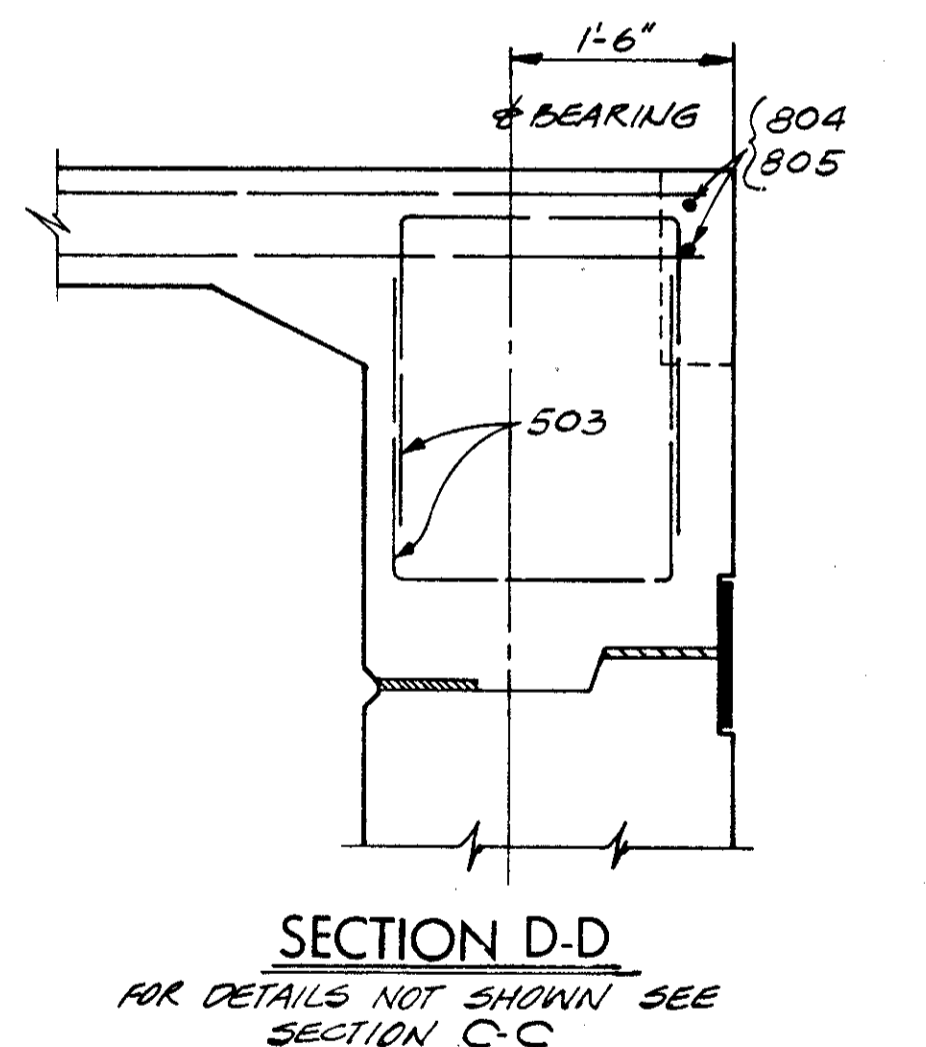
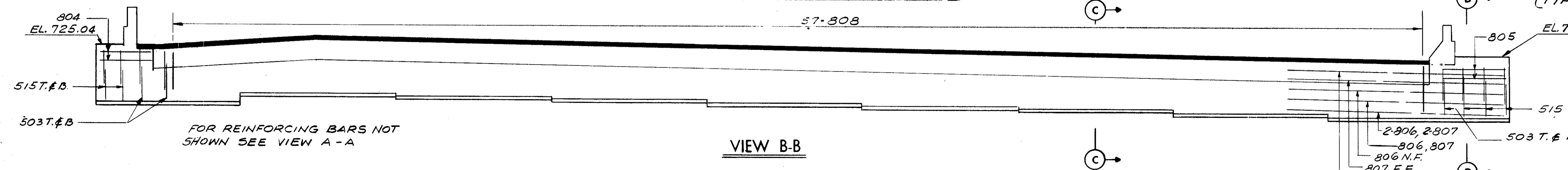
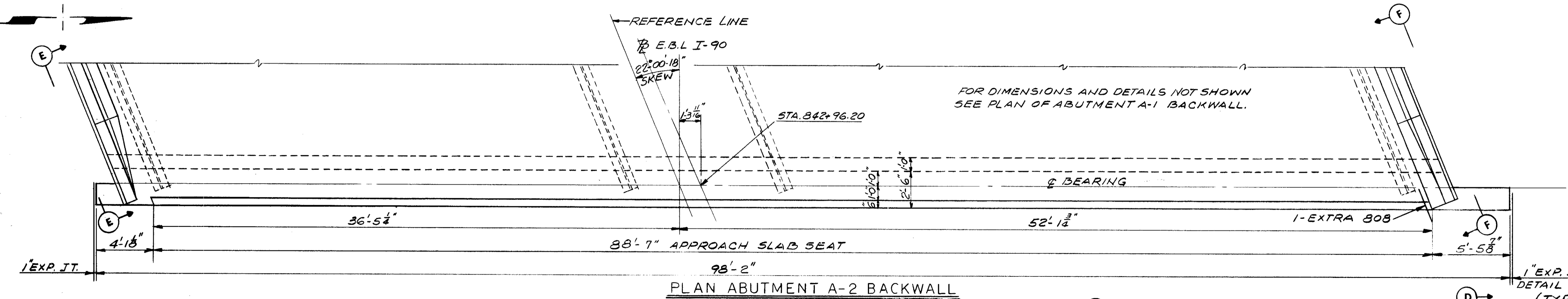
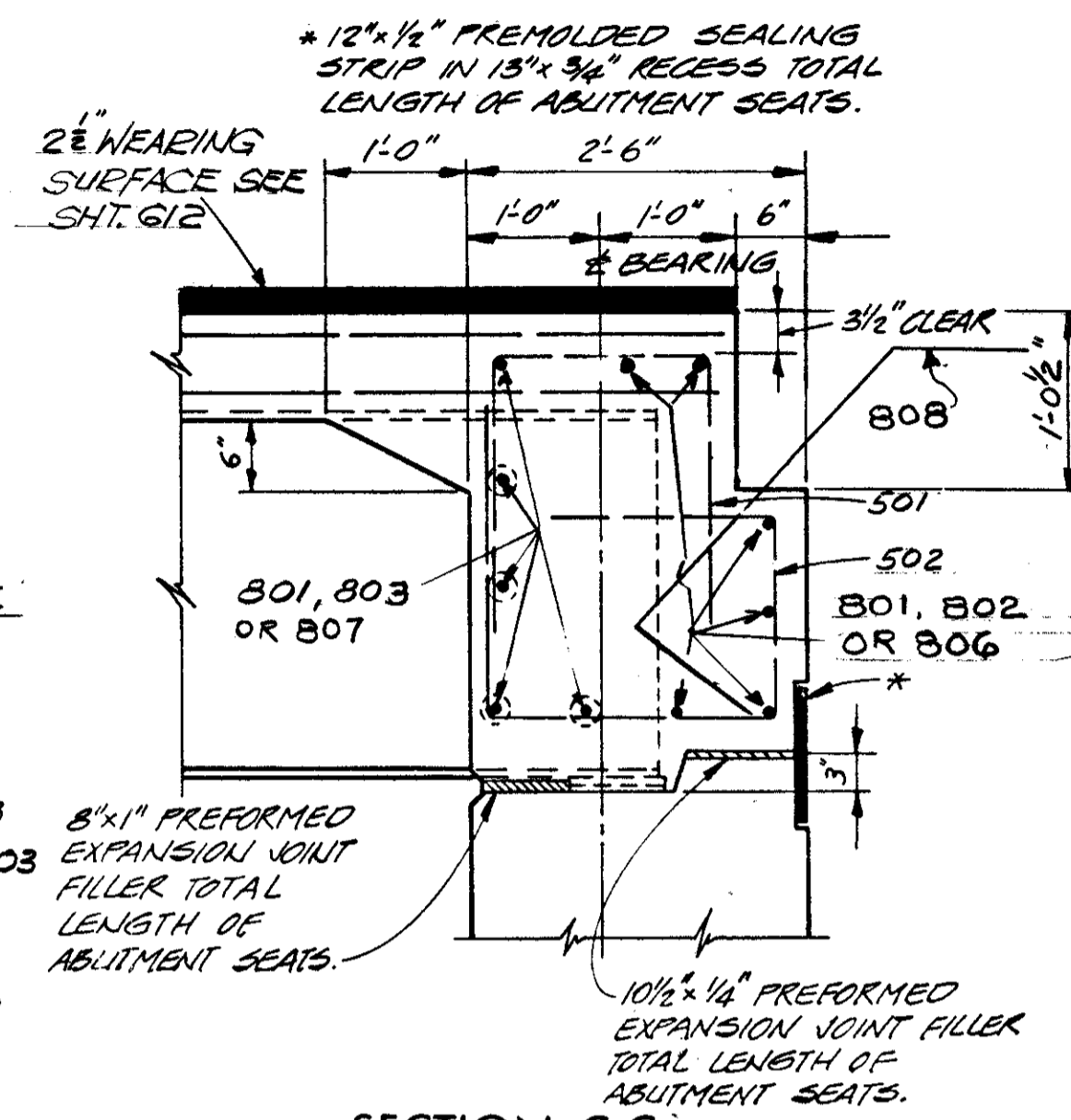
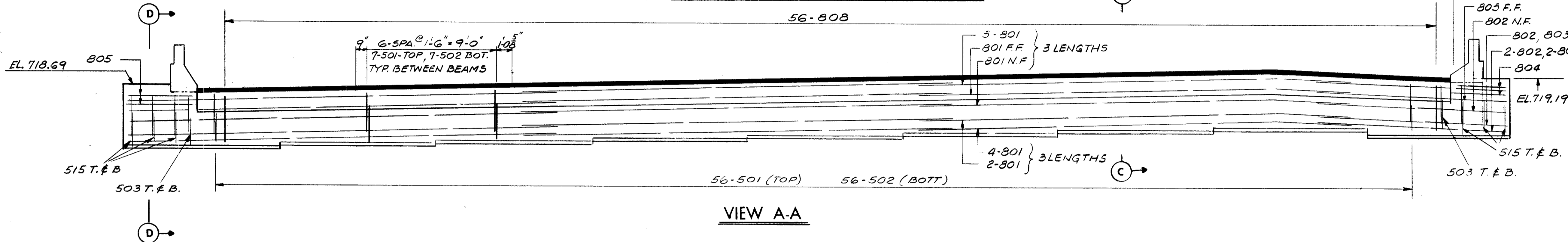
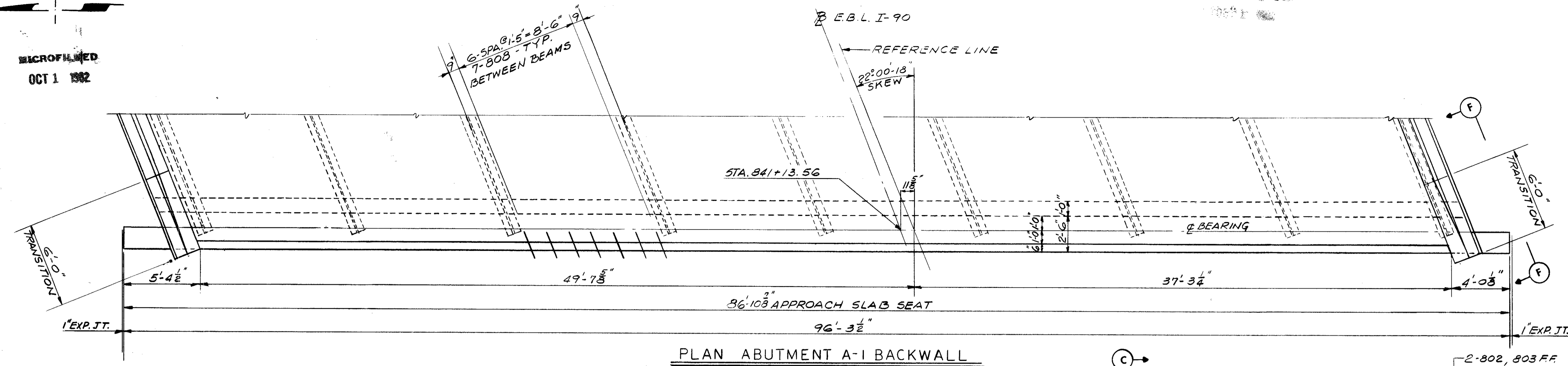


MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

688  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



FOR SECTIONS, SEE SHEET 8/11

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**  
SUPERSTRUCTURE DETAILS

BRIDGE NO. CUY - 90 - 1261  
OVER WEST 65th ST.  
I-90 CUYAHOGA COUNTY  
STA. 841 + 12.49 TO STA. 842 + 97.29

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
K.S.J.	J.K.		C.W.	R.B.A.	4-17-74	

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>ABUTMENT A-1</b>									
1A 401	84	5-5	2	1-11	1-9			304	
1A 501	12	30-0	ST					375	
1A 502	4	13-10	ST					58	
1A 504	4	21-6	ST					90	
1A 505	12	32-0	ST					401	
1A 506	67	6-11	2	2-6	2-2			483	
1A 507	58	7-4	3	1-6	0-6	1-5	0-6	444	
1A 508	6	12-2	ST					76	
1A 511	2	10-8	12	1-0	9-8	3-6		86	
1A 513	6	14-0	ST					22	
1A 514	4	9-0	ST					38	
1A 515	4	5-6	ST					23	
1A 516	2	12-8	12	1-0	11-8	4-6		26	
1A 601	15	9-8	3	6-1	1-4	2-6		218	
1A 602	99	10-8	3	6-1	2-4	2-6		1586	
1A 603	50	11-5	3	6-10	2-4	2-6		857	
1A 604	4	6-6	ST					39	
1A 605	2	6-10	ST					21	
SERIES 2-SETS	2-6							1	
OF 6=	7-0							0-7-	
1A 606	16	6-8	ST					110	
SERIES 2-SETS	3-0							8	
OF 6=	7-0							0-7-	
1A 607	12	6-0	ST					81	
1A 801	12	30-0	ST					961	
1A 802	4	14-11	ST					159	
1A 803	4	24-0	ST					256	
1A 804	3	32-0	ST					256	
1A 805	4	7-11	12	4-0	4-0	2-9		85	
1A1001	2	33-11	1	2-2	32-0			292	
1A1002	7	32-0	ST					964	
<b>TOTAL ABUTMENT A-1 = 8313</b>									
<b>ABUTMENT A-2</b>									
2A 401	84	5-5	2	1-11	1-9			304	
2A 501	12	30-0	ST					375	
2A 502	4	14-5	ST					60	
2A 504	4	22-10	ST					95	
2A 505	12	32-8	ST					409	
2A 506	67	6-11	2	2-6	2-2			483	
2A 507	58	7-4	3	1-6	0-6	1-5	0-6	451	
2A 508	6	12-2	ST					76	
2A 509	2	8-6	ST					18	
2A 510	2	4-9	ST					10	
2A 511	2	10-8	12	1-0	9-8	3-8		22	
2A 513	6	14-0	ST					88	
2A 514	2	8-3	ST					17	
2A 515	2	4-6	ST					9	
2A 516	2	12-8	12	1-0	11-8	4-5		26	
2A 601	15	9-10	3	6-3	1-4	2-6		222	
2A 602	99	10-10	3	6-3	2-4	2-6		1611	
2A 603	50	11-5	3	6-10	2-4	2-6		857	
2A 604	2	6-4	ST					19	
2A 605	2	6-8	ST					20	
SERIES 2-SETS	2-10							3	
OF 6=	7-0							0-7-	
2A 606	12	6-8	ST					78	
SERIES 2-SETS	2-5							3	
OF 7=	7-0							0-7-	
2A 607	14	6-0	ST					16	
2A 801	12	30-0	ST					961	
2A 802	4	15-6	ST					166	
2A 803	4	25-5	ST					271	
2A 804	3	32-8	ST					262	
2A 805	4	5-11	12	3-0	3-0	2-1		63	
2A1001	2	34-7	1	2-2	32-8			298	
2A1002	7	32-8	ST					964	
<b>TOTAL ABUTMENT A-2 = 8343</b>									

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>PIER P-1</b>									
1P 501	57	6-11	2	2-3	2-8			411	
1P 502	42	9-7	2	3-7	2-8			420	
1P 503	10	8-11	2	3-3	2-8			93	
1P 504	5	9-3	2	3-5	2-8			48	
1P 505	6	2-9	ST					17	
1P 506	74	8-6	ST					656	
1P 601	6	24-8	ST					222	
1P 602	12	5-1	12	2-3	2-10	0-6		92	
1P 801	14	31-5	18	24-8	3-10	3-3	0-6	1174	
1P 802	7	31-7	18	24-8	3-10	3-5	0-5	590	
1P 803	4	30-11	18	24-8	3-7	3-0	0-6	330	
1P 804	2	31-1	18	24-8	3-7	3-2	0-5	166	
1P 901	16	30-0	ST					1632	
1P 902	24	37-2	ST					3033	
1P 903	8	23-10	ST					648	
1P1001	74	8-6	ST					2707	
1P1002	48	6-9	1	1-0	6-0			1394	
1P1003	16	28-2	ST					1939	
1P1004	16	28-10	ST					1985	
1P1005	16	29-7	ST					2037	
1P1006	21	18-10	ST					1702	
<b>TOTAL PIER P-1 = 21296</b>									
<b>PIER P-2</b>									
2P 501	57	6-11	2	2-3	2-8			411	
2P 502	42	9-7	2	3-7	2-8			420	
2P 503	10	8-11	2	3-3	2-8			93	
2P 504	5	9-3	2	3-5	2-8			48	
2P 505	6	2-9	ST					17	
2P 506	74	8-6	ST					656	
2P 601	6	24-8	ST					222	
2P 602	12	5-1	12	2-3	2-10	0-6		92	
2P 801	14	31-5	18	24-8	3-10	3-3	0-6	1174	
2P 802	7	31-7	18	24-8	3-10	3-5	0-5	590	
2P 803	4	30-11	18	24-8	3-7	3-0	0-6	330	
2P 804	2	31-1	18	24-8	3-7	3-2	0-5	166	
2P 901	16	30-0	ST					1632	
2P 902	24	37-2	ST					3033	
2P 903	8	23-10	ST					648	
2P1001	74	8-6	ST					2707	
2P1002	48	6-9	1	1-0	6-0			1394	
2P1003	16	28-8	ST					1974	
2P1004	16	29-4	ST					2020	
2P1005	16	29-9	ST					2048	
2P1006	21	18-10	ST					1702	
<b>TOTAL PIER P-2 = 21377</b>									

SPIRAL REINFORCING SCHEDULE				
MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	WEIGHT LBS.
<b>SPIRALS=PIER P-1</b>				
1P-SP401	2	2-8	24-6	4,50
1P-SP402	2	2-8	25-2	4,50
1P-SP403	2	2-8	25-7	4,50
<b>TOTAL SPIRALS=PIER P-1 = 2793</b>				
<b>SPIRALS=PIER P-2</b>				
2P-SP401	2	2-8	24-11	4,50
2P-SP402	2	2-8	25-7	4,50
2P-SP403	2	2-8	26-1	4,50
<b>TOTAL SPIRALS=PIER P-2 = 2841</b>				
FOUR ANGLE SPACERS WEIGHING APPROX. 0.80 LBS. PER LINEAL FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT LISTED ABOVE. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED SPIRAL WEIGHT.				
<b>TOTAL SPIRALS=PIER P-2 = 2841</b>				
THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE TOP OF THE COLUMN INCLUDING THREE (3) CLOSED COILS (ONE AND ONE HALF CLOSED COILS AT THE ENDS OF EACH SPIRAL UNIT).				

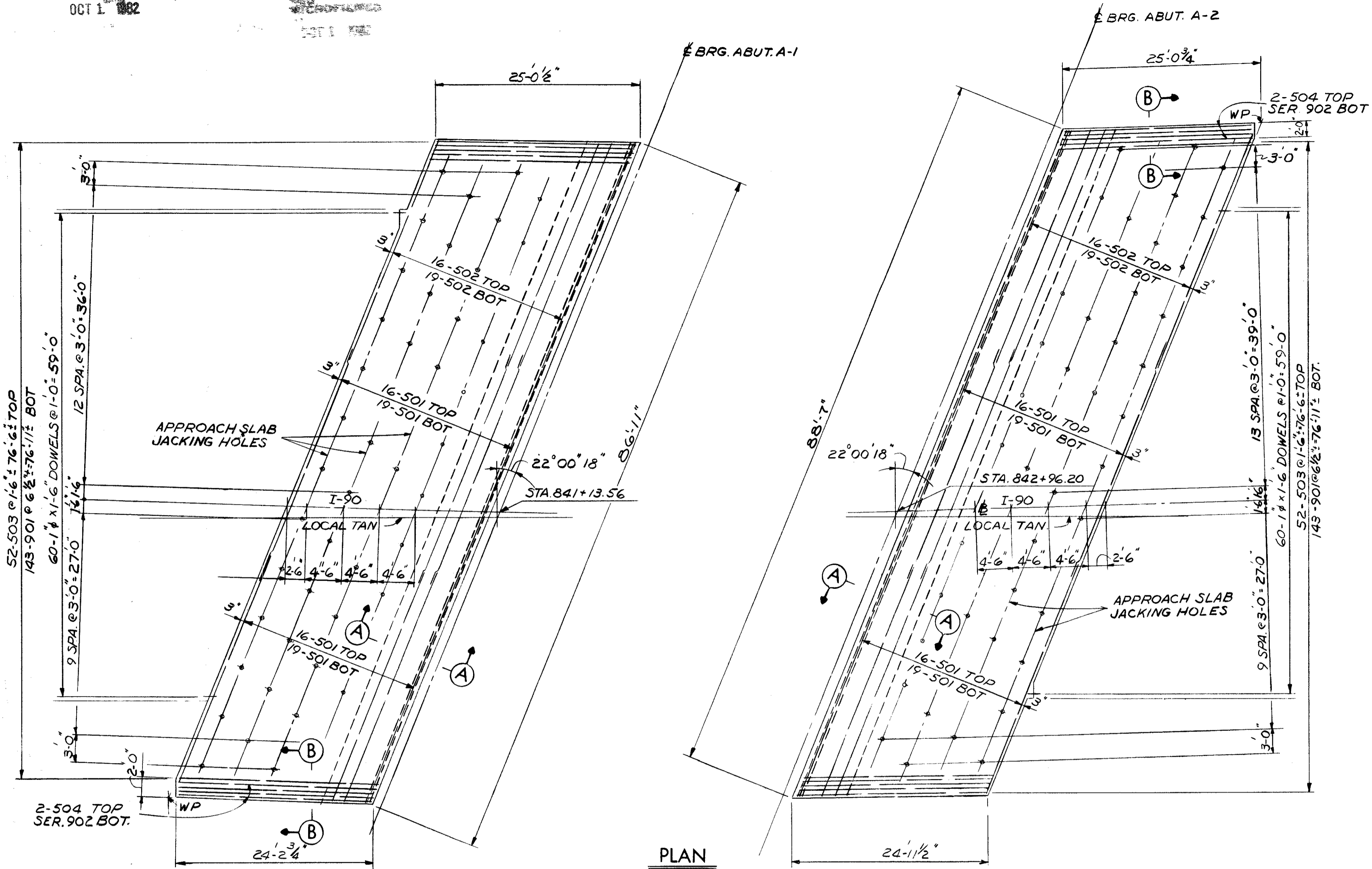
MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>SUPERSTRUCTURE</b>									
S 401	749	30-0	ST					15010	
S 402	125	13-1	ST					1092	
S 403	251	31-0	ST					5198	
S 501	112	5-9	2	2-2	1-8			672	
S 502	112	17-3	8	2-6	2-2	1-11	11-0	2018	
S 503	10	7-7	2	2-10	2-2			79	
S 504	60	30-0	ST					1877	
S 505	10	16-1	ST					168	
S 506	40	3-1	ST					129	
S 507	280	2-6	1	0-8	1-11			730	
S 508	260	3-4	20	1-0	0-9	0-8		904	
S 509	280	2-3	2	0-8	1-2			657	
S 510	260	5-8	23	2-4	2-7			1537	
S 511	8	12-1	ST					101	
S 512	8	11-5	ST					95	
S 513	112	6-5	ST					750	
S 514	40	13-2	ST					549	
S 515	22	6-7	2	2-10	1-2			151	
S 601	563	30-0	ST					25369	
S 602	94	17-0	ST					2400	
S 604	15	3-4	20	1-0	0-9	0-8		75	
S 701	475	32-3	ST					31312	
S 702	254	25-2	ST					15143	
S 703	226	23-5	ST					10817	
S 704	225	34-2	ST					15713	
SERIES 2-SETS	10-4							5	
OF 16=	7-0							1-7-	
S 705	32	34-10	ST					1477	
SERIES 1-SET	4-10							11	
OF 19=	7-0							1-7-	
S 706	19	34-4	ST					16	
SERIES 1-SET	7-4							3	
OF 9=	7-0							1-10-	
S 707	9	34-4	ST					274	
SERIES 1-SET	22-6							4	
OF 17=	7-0							1-9-	

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

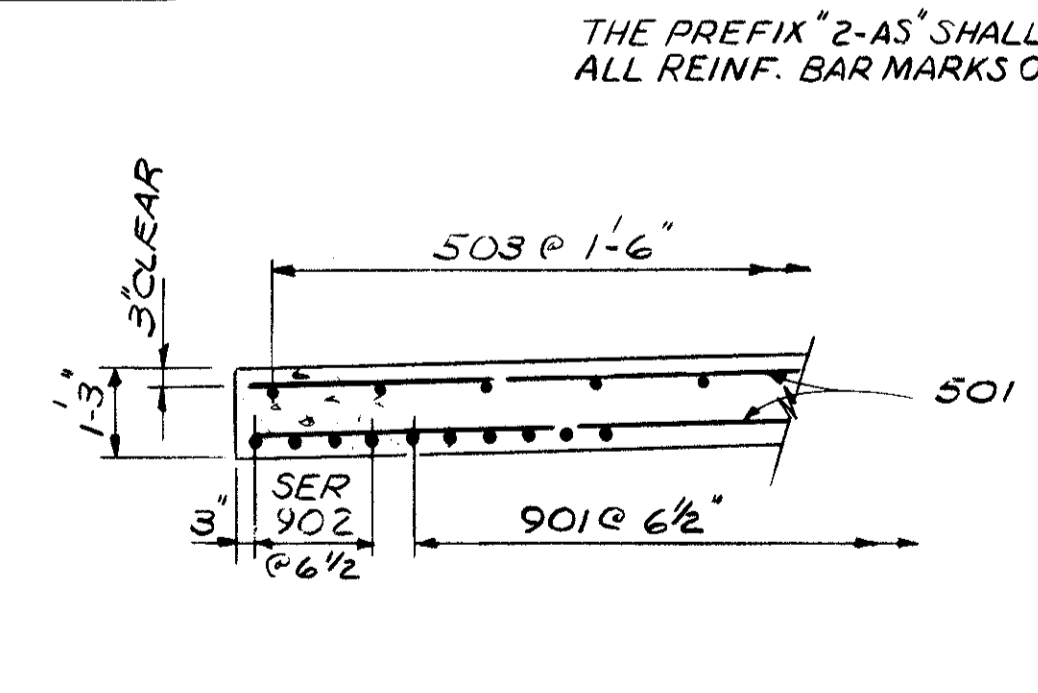
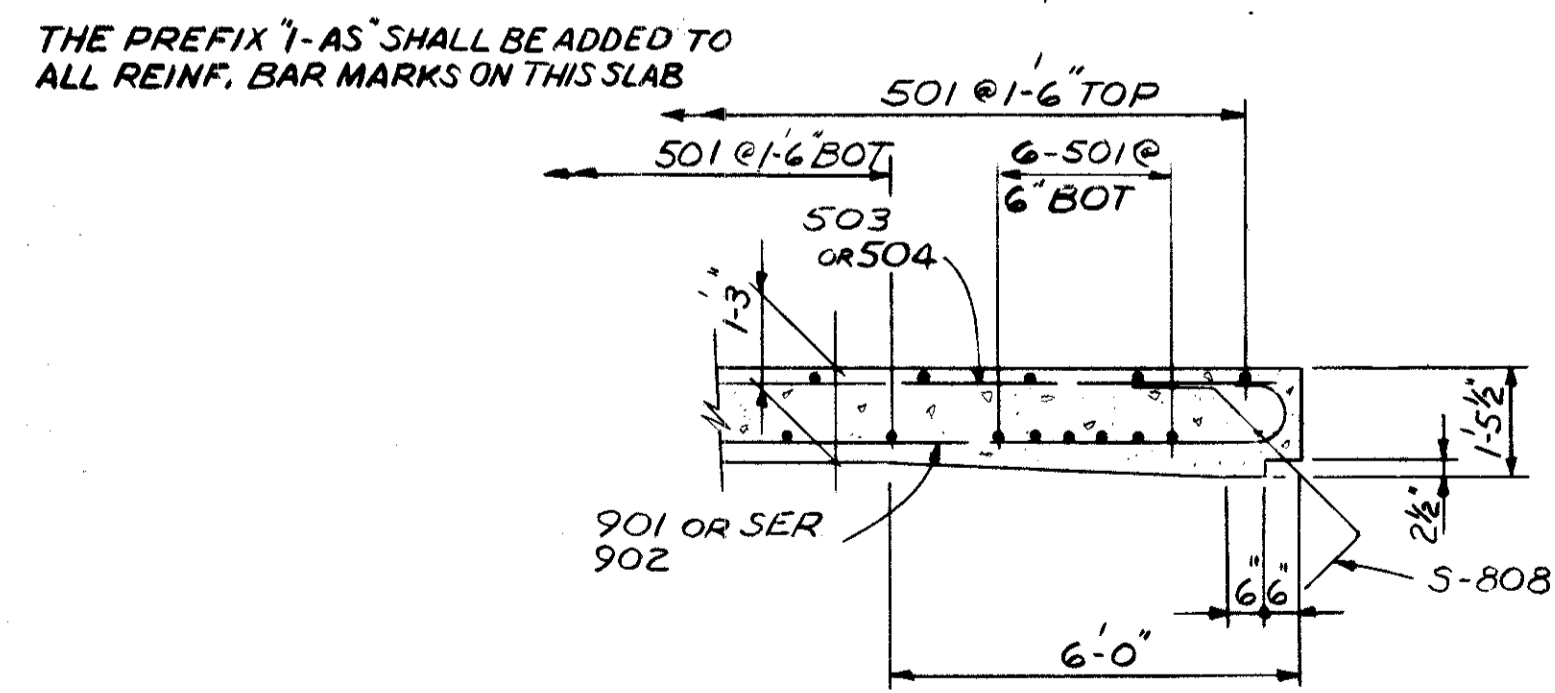
690  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
APPROACH SLAB* AS-1									
1AS 501	70	30-0	ST						2190
1AS 502	35	29-9	ST						1086
1AS 503	52	24-6	ST						1329
1AS 504	2	23-8	ST						49
1AS 901	143	25-9	6 24-6						12520
SERIES	1-SET	25-9	24-6						
OF	OF	4=	10	6	10			0-3	345
1AS 902	4 BARS	25-0	23-9						
1AS	60	1-6	ST	1 IN. DIA. DOWELS					240
TOTAL APPROACH SLAB AS-1 =									17759
APPROACH SLAB* AS-2									
2AS 501	70	30-0	ST						2190
2AS 502	35	31-5	ST						1117
2AS 503	52	24-6	ST						1329
2AS 504	2	24-0	ST						50
2AS 901	143	25-9	6 24-6						12520
SERIES	1-SET	25-9	24-6						
OF	OF	4=	10	6	10			0-2	347
2AS 902	4 BARS	25-3	24-0						
2AS	60	1-6	ST	1 IN. DIA. DOWELS					240
TOTAL APPROACH SLAB AS-2 =									17823
*APPROACH SLAB REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 611 FOR PAYMENT.									

452 SQ YDS CLASS "C" CONCRETE



NOTE:  
FOR DETAILS AND NOTES NOT SHOWN SEE  
STANDARD DWG. AS-1-72 SHEETS 1 & 2

11 / 11

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**APPROACH SLAB DETAILS**

BRIDGE NO. CUY - 90 - 1261  
OVER WEST 65th ST.  
I-90 CUYAHOGA COUNTY  
STA. 841 + 12.50 TO STA. 842 + 97.30

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
STD.	JLH		000	RDA	4-17-74	

**CUYAHOGA COUNTY**  
**CUY - 90-11.64**

**CURVE DATA**

WESTBOUND LANES I-90

PI. STA. 836+89.92  
 $\Delta = 18^\circ 30' 37''$  LT.  
 $D_c = 0^\circ 45' 13''$   
 $R = 7603.44'$   
 $T = 1238.99'$   
 $L_c = 2456.40'$

**PROPOSED STRUCTURE**

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS, WITH REINFORCED CONC. DECK AND SUBSTRUCTURES. INTEGRAL ABUTMENTS. SKEW:  $23^\circ 19' 21''$  RF TO LOC. TAN.  
 SPANS: 48'-6", 96'-9", 48'-6" % BRG'S.  
 ROADWAY: 40'-0" F CURBS, 6'-0" SIDEWALKS  
 LOADING: HS 20-44  
 WEARING SURFACE: 2" ASPHALT CONCRETE.  
 APPROACH SLABS: 25' LONG (AS-1-72).  
 ALIGNMENT: TANGENT.  
 SUPERELEVATION: NONE.  
 SLOPE PROTECTION: CONCRETE.

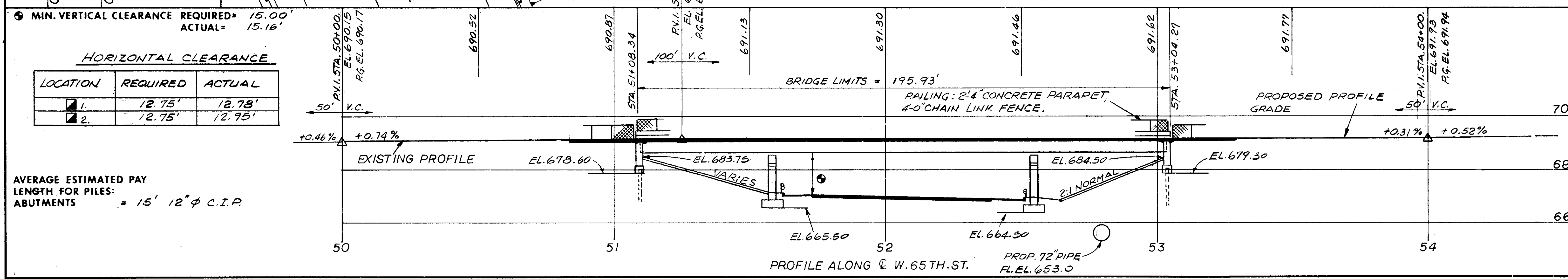
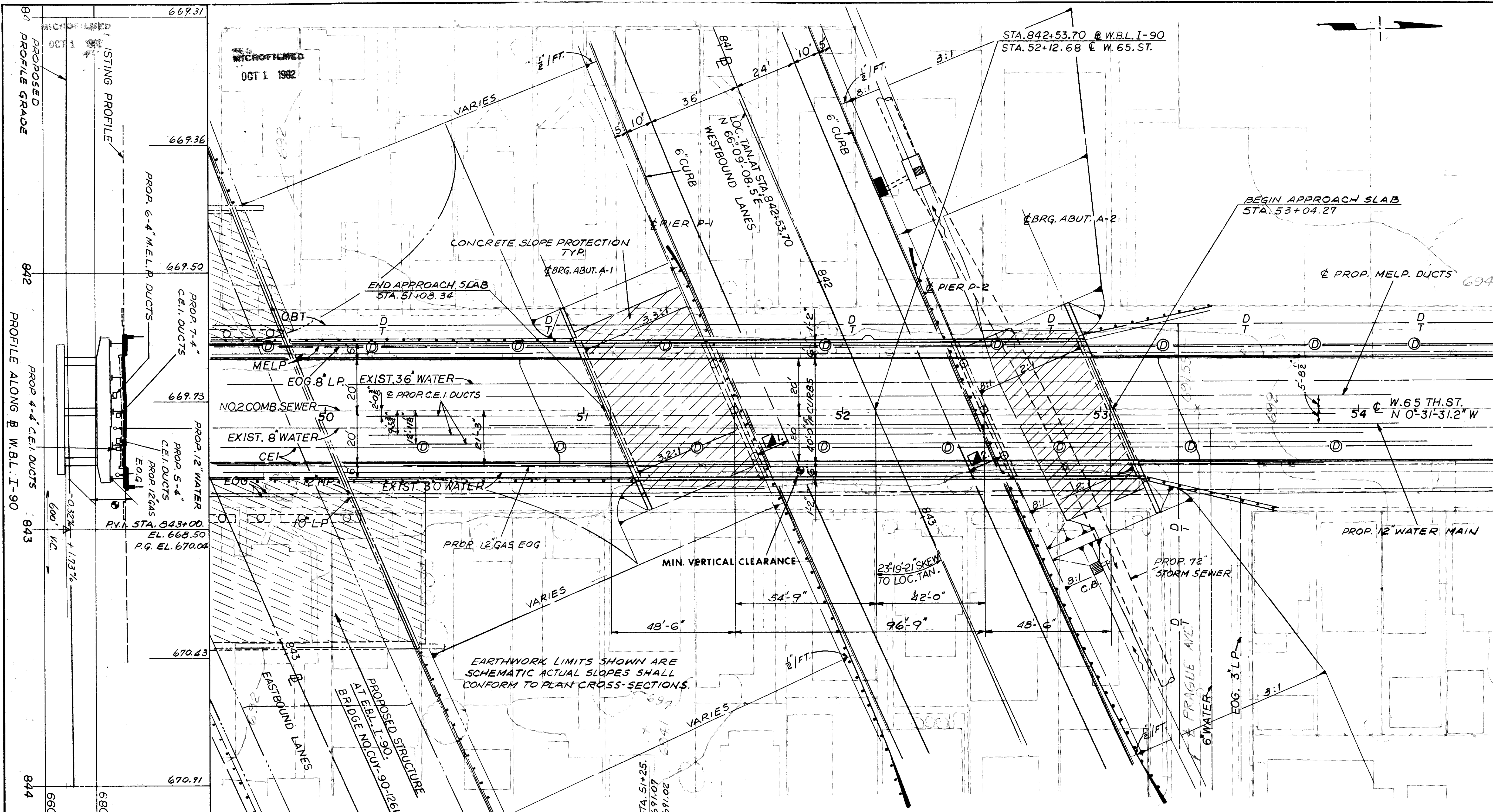
TRAFFIC: I-90 61,189 A.D.T. 1990  
 W 65 TH. ST. 13,600 A.D.T. 1990

DALTON - DALTON ASSOCIATES

**SITE PLAN**

BRIDGE NO. CUY - 90-1264  
 UNDER W 65 TH. ST.  
 I-90 CUYAHOGA COUNTY  
 STA. 842 + 53.70

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.S.K.	J.S.K.		HSL	LDW	4-17-74	



**HORIZONTAL CLEARANCE**

LOCATION	REQUIRED	ACTUAL
1.	12.75'	12.78'
2.	12.75'	12.95'

AVERAGE ESTIMATED PAY LENGTH FOR PILES: ABUTMENTS = 15' 12"  $\phi$  C.I.P.

841 PROFILE GRADE  
 842 PROFILE ALONG W.B.L. I-90  
 843  
 844

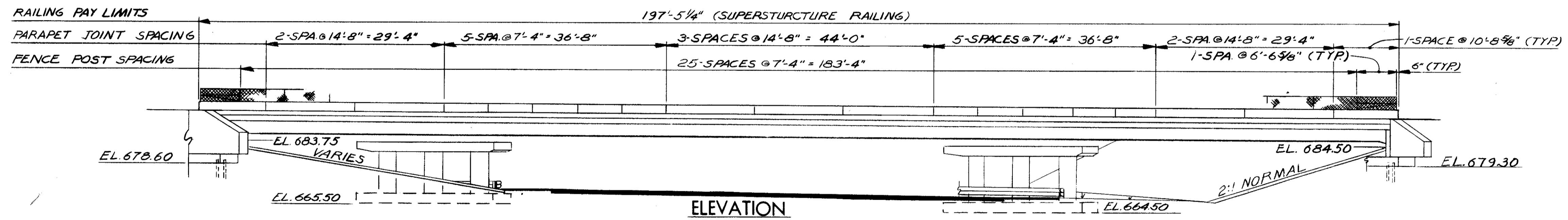
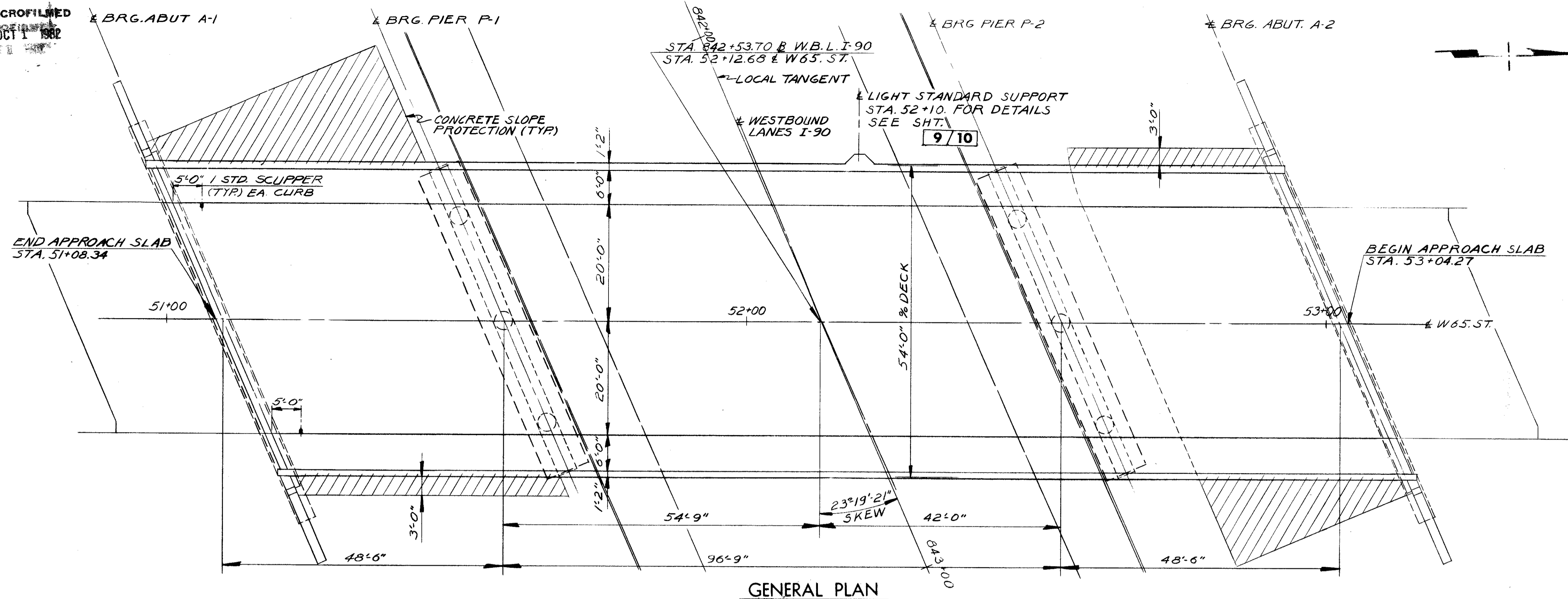
50  
 51  
 52  
 53  
 54

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

692  
838

CUYAHOGA COUNTY  
CUI - 90 - 11. 64



SEE LIGHTING PLANS FOR DETAILS

NOTES

- ① FOR STRUCTURAL GENERAL NOTES, SEE SHEET 5/10
- ② FOR PILING PLAN, SEE SHEET 5/10
- ③ FOR RAILING AND LIGHTING DETAILS, SEE SHEET 9/10

\* INCLUDES 199 LB TO BE PAID FOR BY THE EAST OHIO GAS CO. TO THE STATE OF OHIO  
\* INCLUDES 2131 LB TO BE PAID FOR BY THE CLEVELAND ELECTRIC ILLUMINATING CO. TO THE STATE OF OHIO

QUANTITIES CHECKED BY HSL 2-27-74

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
404	60	CY	ASPHALT CONCRETE ( AC-20 )	60			
SPEC	871	SY	MEMBRANE WATERPROOFING, NOT APPLIED LIQUID (SEE PROPOSAL NOTE)	871			
503	LUMP	LSUM	COFFERDAMS CRIBS AND SHEETING		160	187	LUMP
503	347	CY	UNCLASSIFIED EXCAVATION				LUMP
505	LUMP	LSUM	TEST PILE			510	
507	510	LF	12 IN. CAST-IN-PLACE REINFORCED CONCRETE PILES				
509	165092	LB	REINFORCING STEEL	116282	11664	37146	
511	510	CY	CLASS C CONCRETE, SUPERSTRUCTURE	510			
511	74	CY	CLASS C CONCRETE, PIERS ABOVE FOOTINGS				74
511	69	CY	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		69		
511	138	CY	CLASS C CONCRETE, ABUTMENTS		48		90
512	149	LF	PREMOLOD SEALING STRIP				149
513	315200	LB	STRUCTURAL STEEL *	310100	315200		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
514	310100	LB	FIELD PAINTING OF STRUCTURAL STEEL *	310100	315200		
516	111	SF	1/4 IN. PREFORMED EXPANSION JOINT FILLER		111		
516	120	SF	1 IN. PREFORMED EXPANSION JOINT FILLER		120		
517	394.88	LF	RAILING (CONCRETE PARAPET WITH CHAIN LINK FENCE)	394.88			
518	2	EACH	SCUPPERS INCLUDING SUPPORTS	2			92
518	92	CY	POROUS BACKFILL				152
518	152	LF	6 IN. PERFORATED, HELICAL CMP, 707.01				3
601	3	SY	CRUSHED AGGREGATE SLOPE PROTECTION				64
518	64	LF	6 IN. NON-PERFORATED, HELICAL CMP INCL. SPECIALS, 707.01				682
601	682	SY	CONCRETE SLOPE PROTECTION				
S625			SEE LIGHTING SUMMARY SHEET				
808	510	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	510			

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

GENERAL PLAN & ELEVATION

BRIDGE NO. CUY-90-1264  
UNDER W. 65TH ST.  
I-90 CUYAHOGA COUNTY  
STA. 842 + 53.70

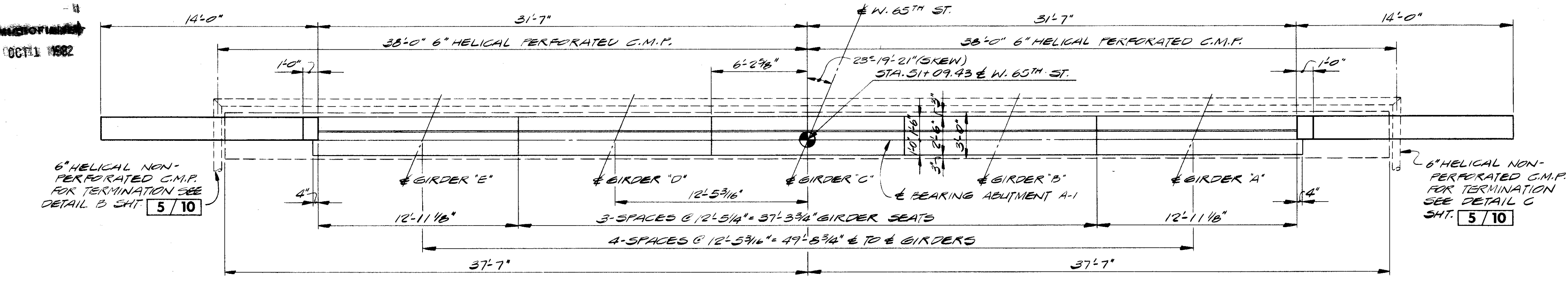
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HSL	TMJ		O.P.D.	R.D.H.	4-17-74	8-14-75 10-31-75

10011 1982

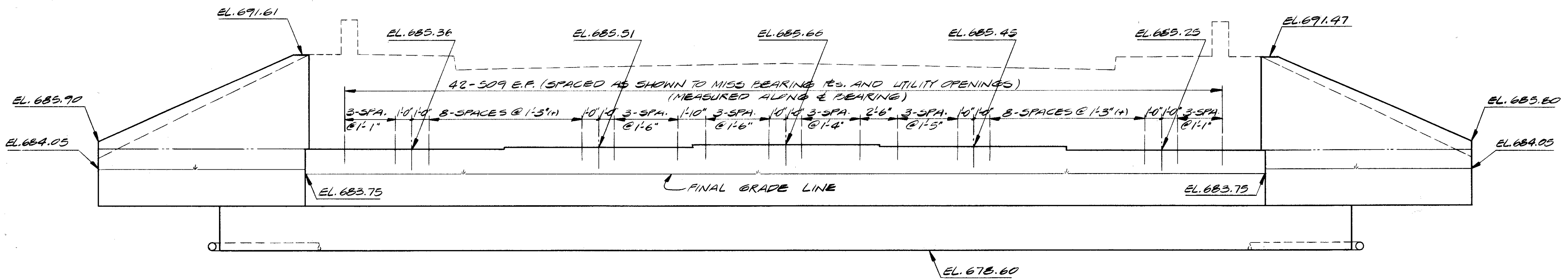
FED. RD.	STATE	PROJECT	
2	OHIO		

693  
838

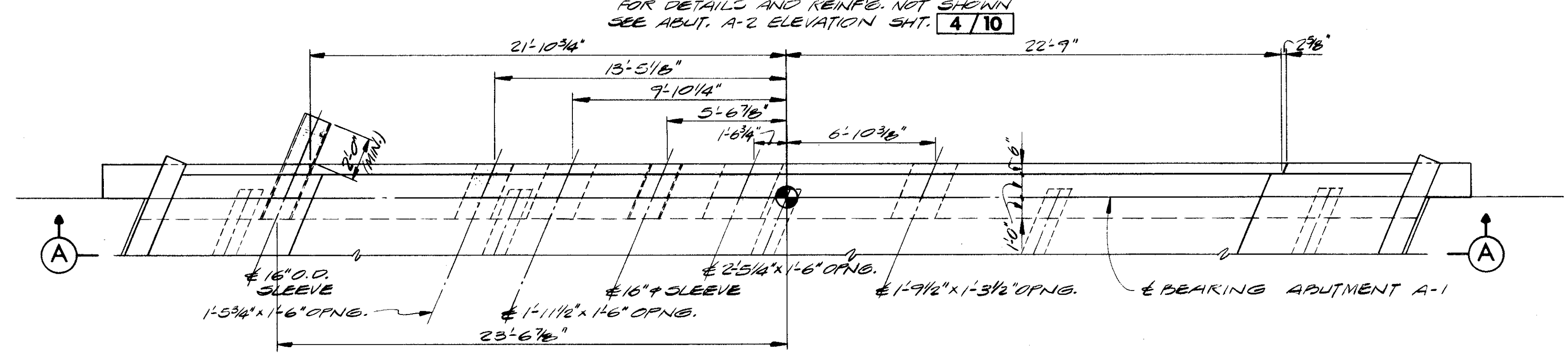
CUYAHOGA COUNTY  
CUY - 90 - 11.64



PLAN

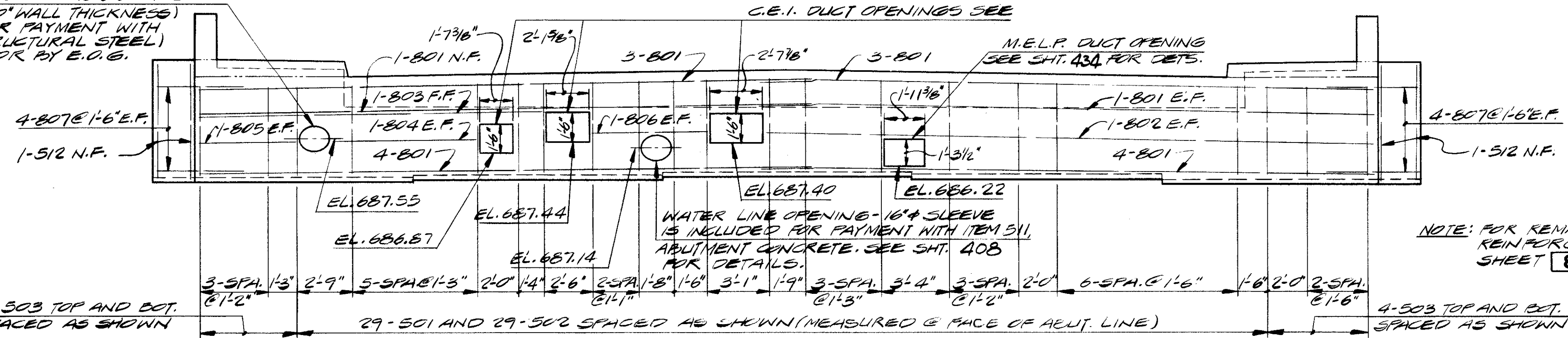


ELEVATION



PLAN (UTILITY OPENING LOCATIONS)

E.O.G. LINE OPENING - 16\"/>



VIEW A-A

NOTES

- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
- POROUS BACKFILL SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE WITHIN THE ROADWAY AREA EXTENDED Laterally TO THE EMBANKMENT SIDE SLOPES.
- THE PREFIX "1A" OR "2A" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENTS A-1 OR A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
- FOR ADDITIONAL DETAILS, SEE SLAB PLAN AND SECTION, SHEET 8/10
- THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN VIEW A-A.
- FOR DETAILS, SEE SHEET 5/10
- FOR PILING PLAN, SEE SHEET 5/10

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						3/10
DALTON • DALTON ASSOCIATES						
ABUTMENT A-1						
BRIDGE NO. CUY - 90 - 1264 UNDER W. 65TH. ST. I-90 CUYAHOGA COUNTY STA. 842 + 53.70						
DESIGNED HSL D.F.D.	DRAWN D.F.D.	TRACED D.F.D.	CHECKED D.F.D.	REVIEWED RAN	DATE 4-17-74	REVISIONS

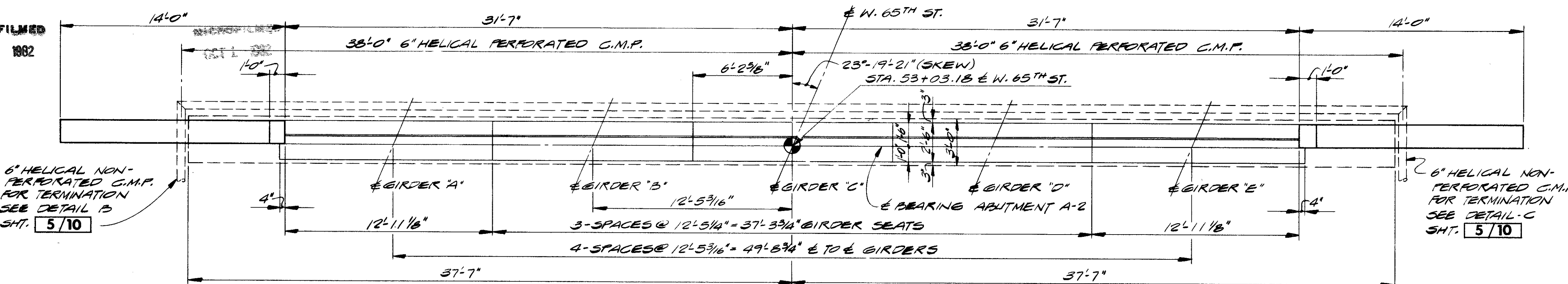
NOTE: FOR REMAINDER OF SUPERSTRUCTURE REINFORCING SEE SLAB PLAN SHEET 8/10

MICROFILMED  
OCT 1 1982

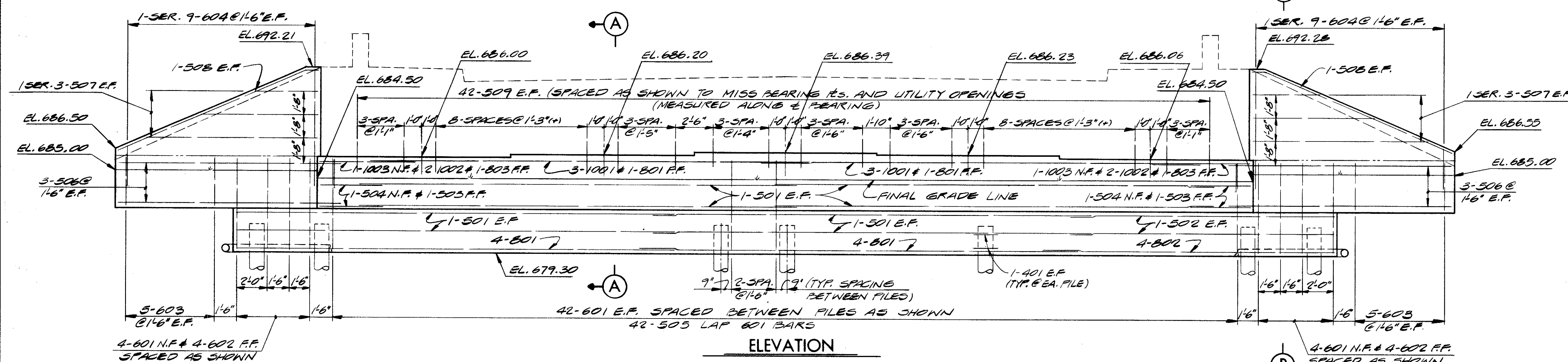
FED. RD.	STATE	PROJECT	
2	OHIO		

694  
838

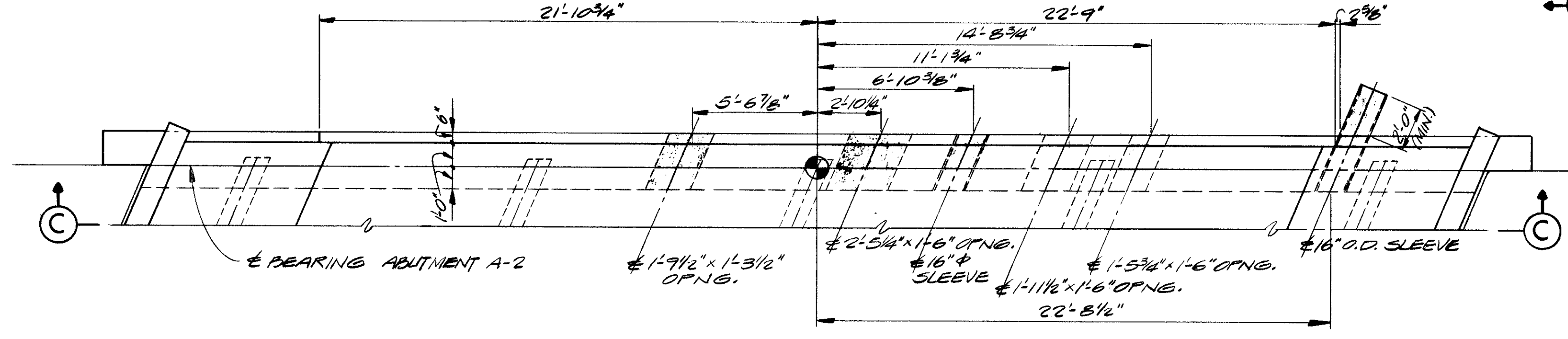
CUYAHOGA COUNTY  
CUY - 90 - 11.64



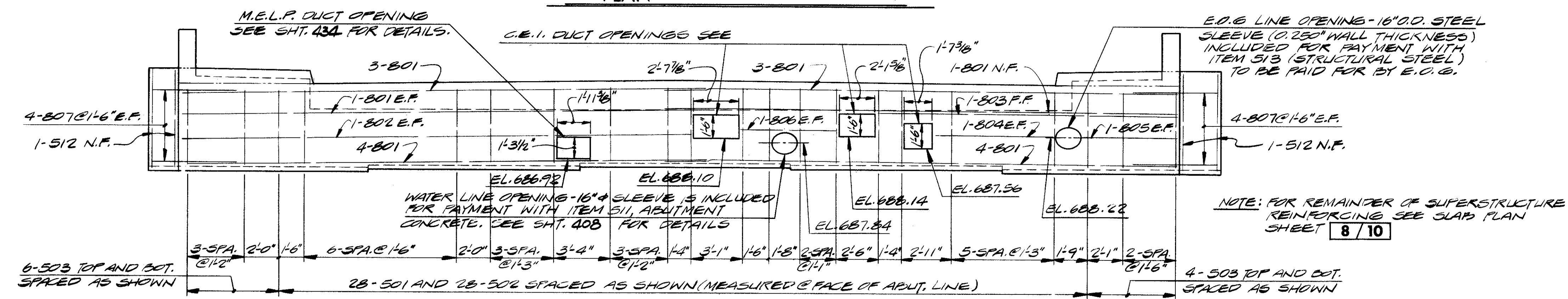
PLAN



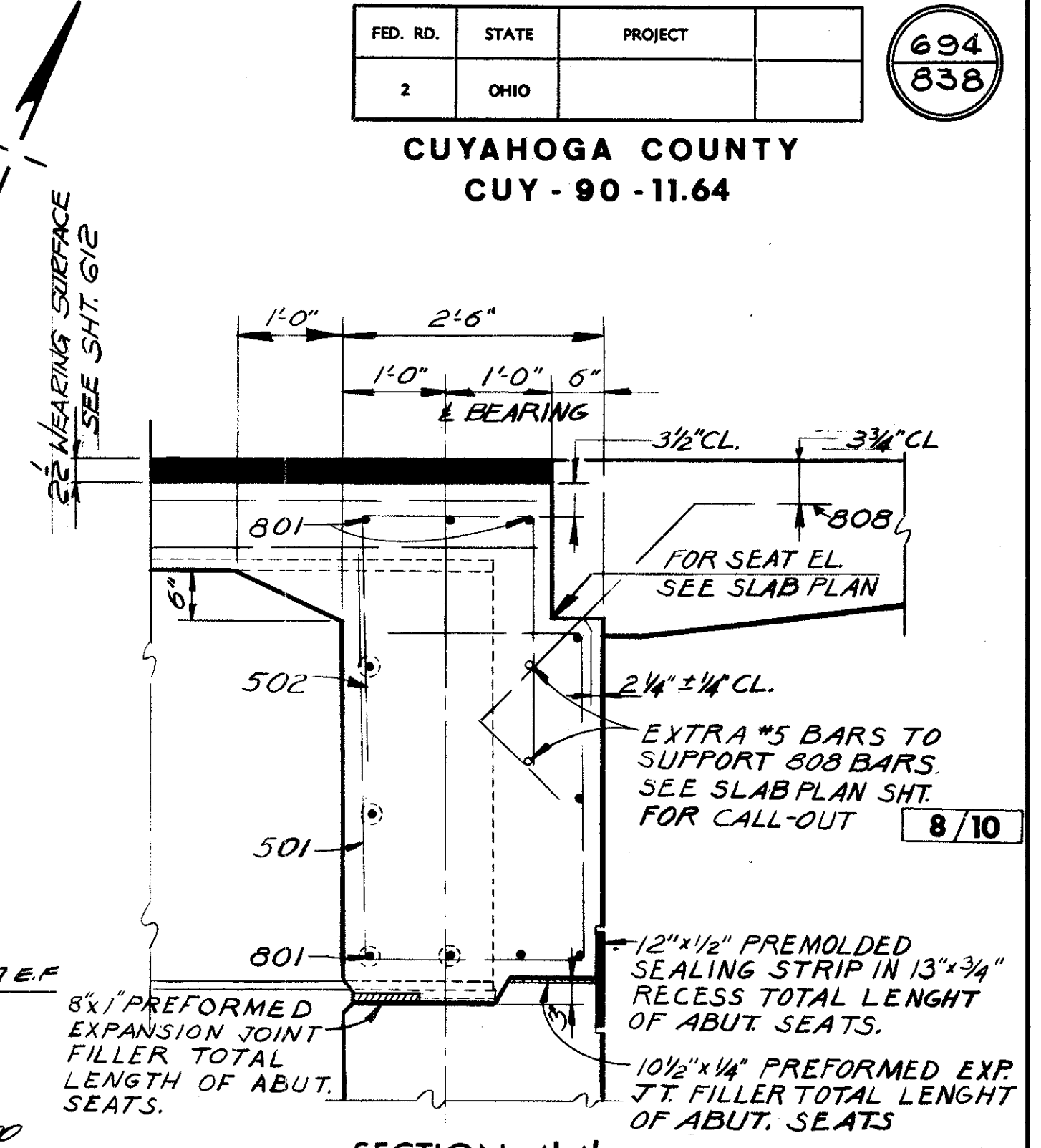
ELEVATION



PLAN (UTILITY OPENING LOCATIONS)



VIEW C-C



SECTION A-A'

FOR LOCATION OF SECTION A-A', SEE SHEET 8/10

SECTION B-B'

FOR DETAILS NOT SHOWN SEE SECTION A-A' FOR LOCATION OF SECTION B-B', SEE SHEET 8/10

NOTES

- 1 FOR SECTION A-A', SEE SHEET 5/10
- 2 FOR SECTION B-B', SEE SHEET 5/10
- 3 THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN VIEW B-B.
- 4 FOR ADDITIONAL NOTES, SEE SHEET 3/10
- 5 FOR PILING PLAN, SEE SHEET 5/10

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT A-2

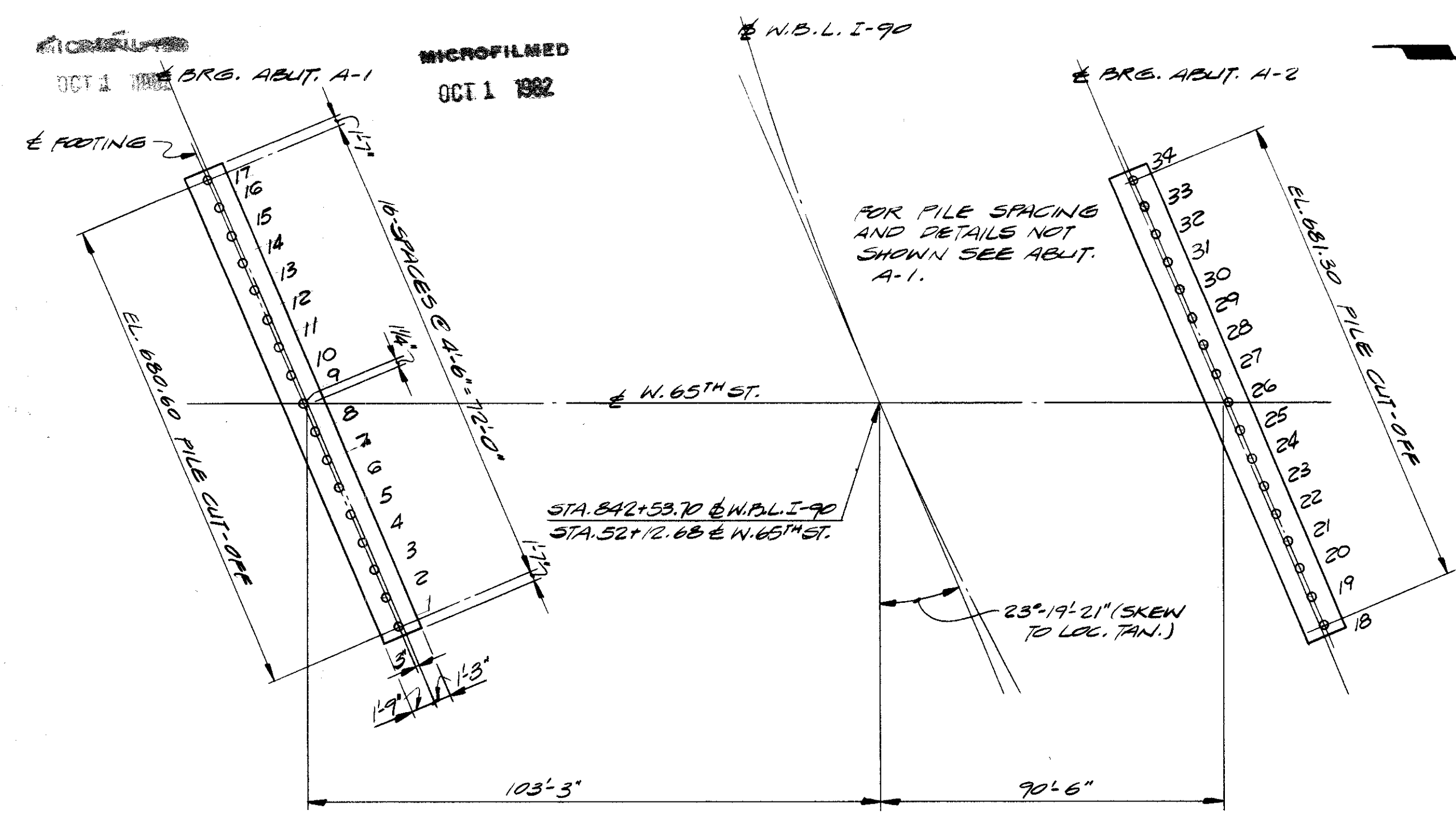
BRIDGE NO. CUY - 90 - 1264  
UNDER W. 65TH ST.  
I-90 CUYAHOGA COUNTY  
STA. 842 + 53.70

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HSL	D.F.D.		D.F.D.	R.D.A.	4-17-74	

FED. RD.	STATE	PROJECT
2	OHIO	

695  
838

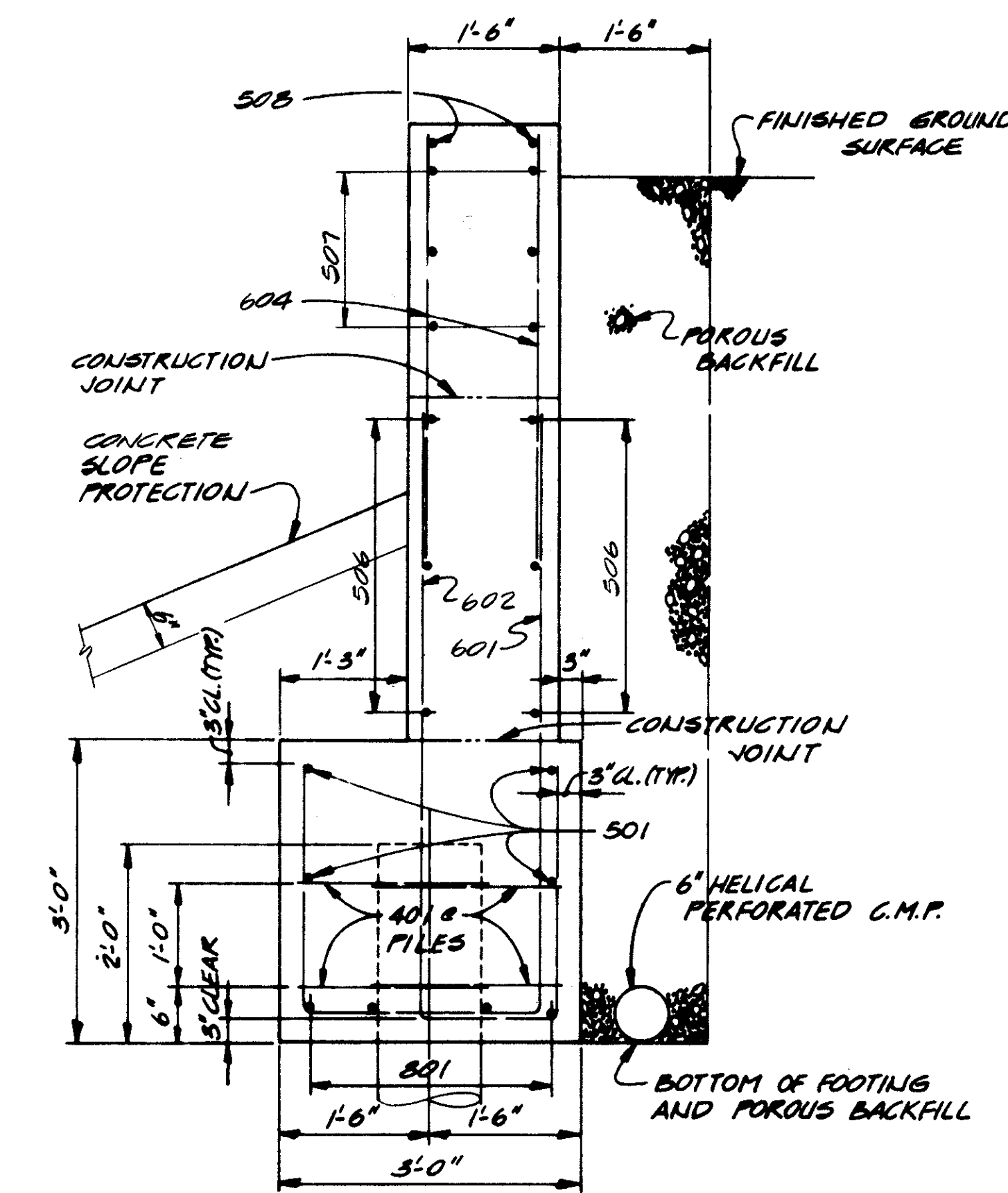
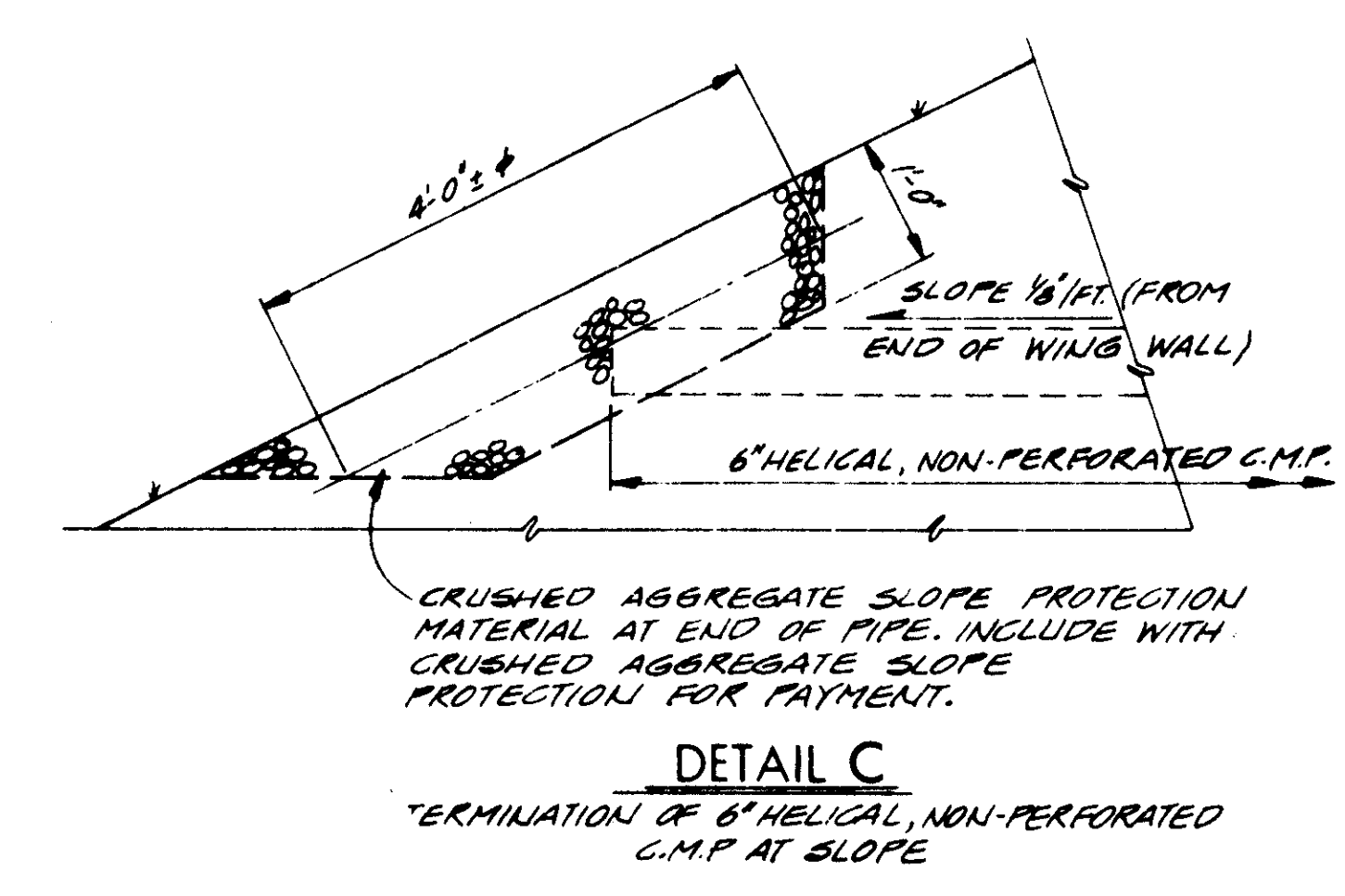
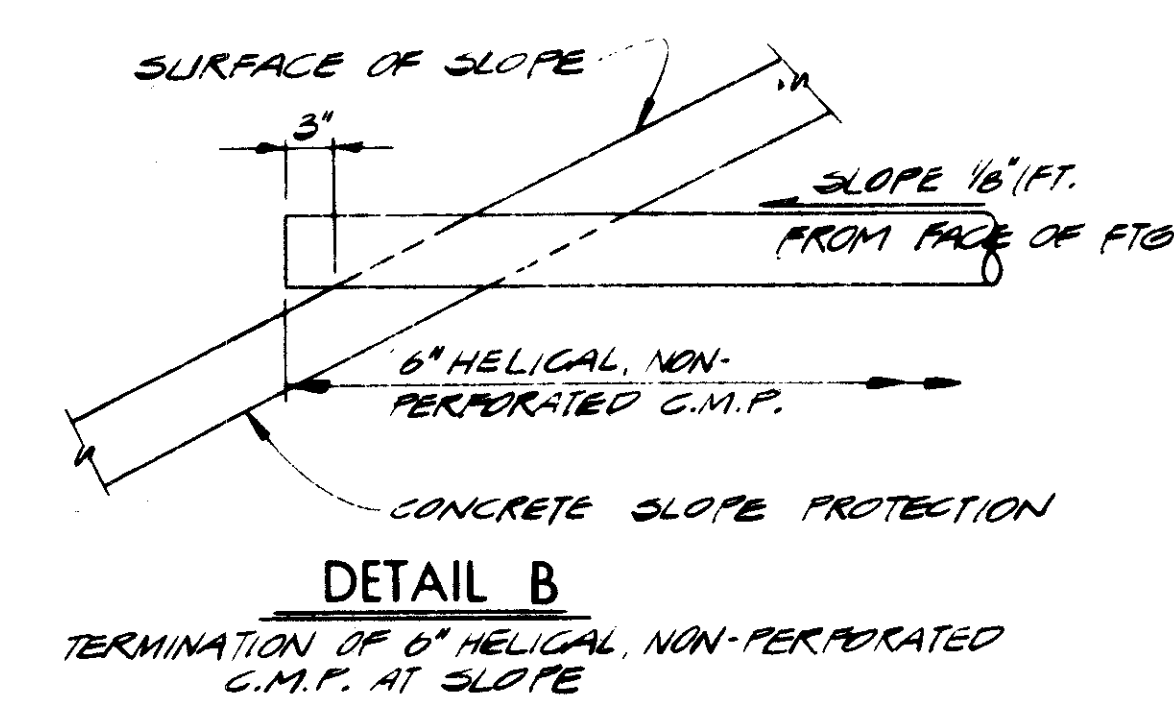
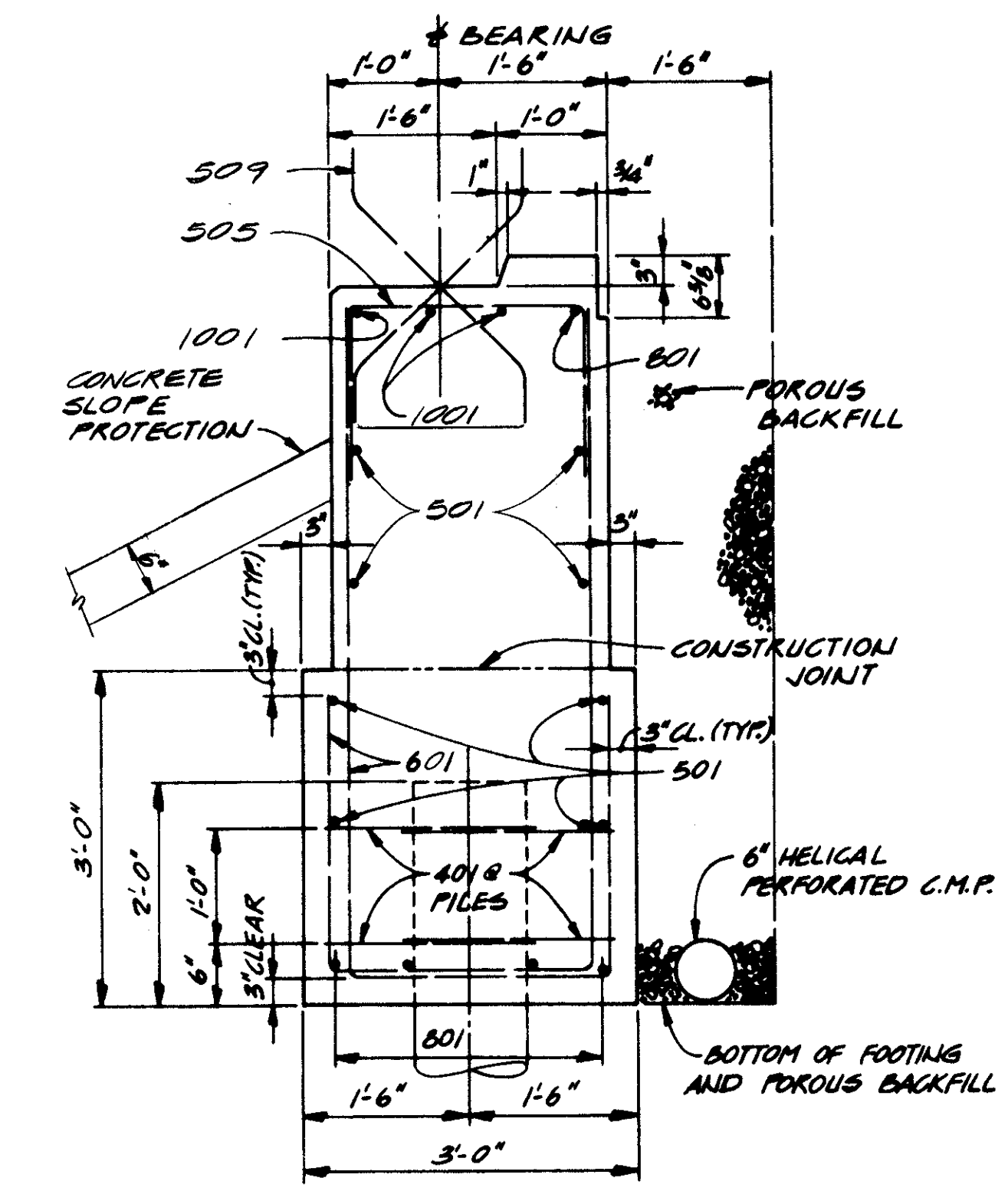
CUYAHOGA COUNTY  
CUY - 90 - 11.64



**NOTES**

- ALL PILES SHALL BE 12" Ø CAST-IN-PLACE REINFORCED CONCRETE PILES.
- PILE CUT-OFF ELEVATIONS SHALL BE:  
ABUTMENT A-1 - EL. 680.60  
ABUTMENT A-2 - EL. 681.30  
EXCEPT AS OTHERWISE SHOWN.

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 35 TONS PER PILE FOR THE ABUTMENTS



STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES							5/10
DALTON · DALTON ASSOCIATES							
ABUTMENT DETAILS							
BRIDGE NO. CUY - 90 - 1264 UNDER W. 65TH. ST. I-90 CUYAHOGA COUNTY STA. 842 + 53.70							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
H.S.L.	D.F.D.		D.F.D.	R.B.W.	4-17-74		

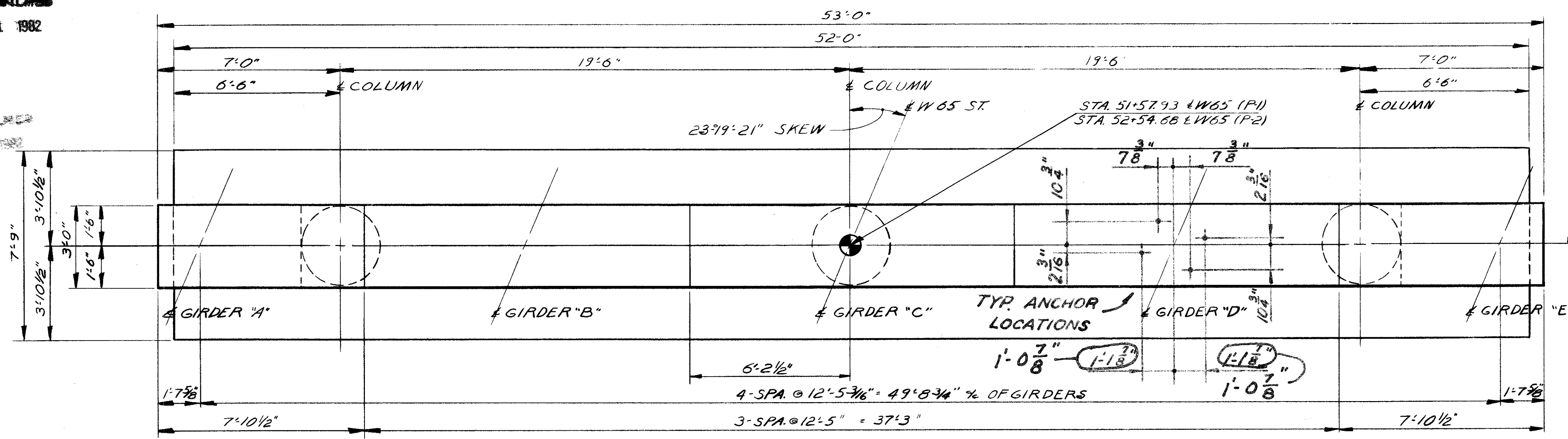


OCT 1 1982

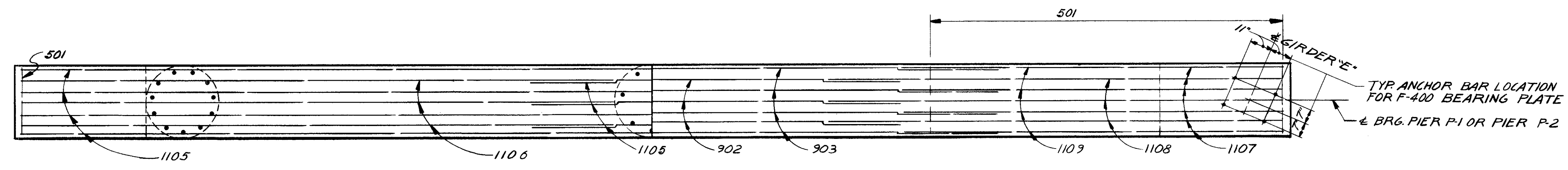
FED. RD.	STATE	PROJECT
2	OHIO	

696  
838

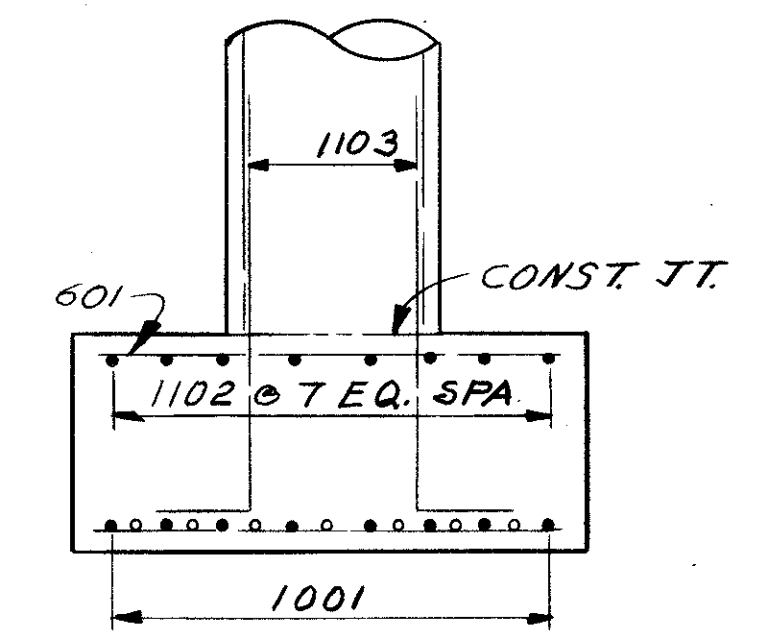
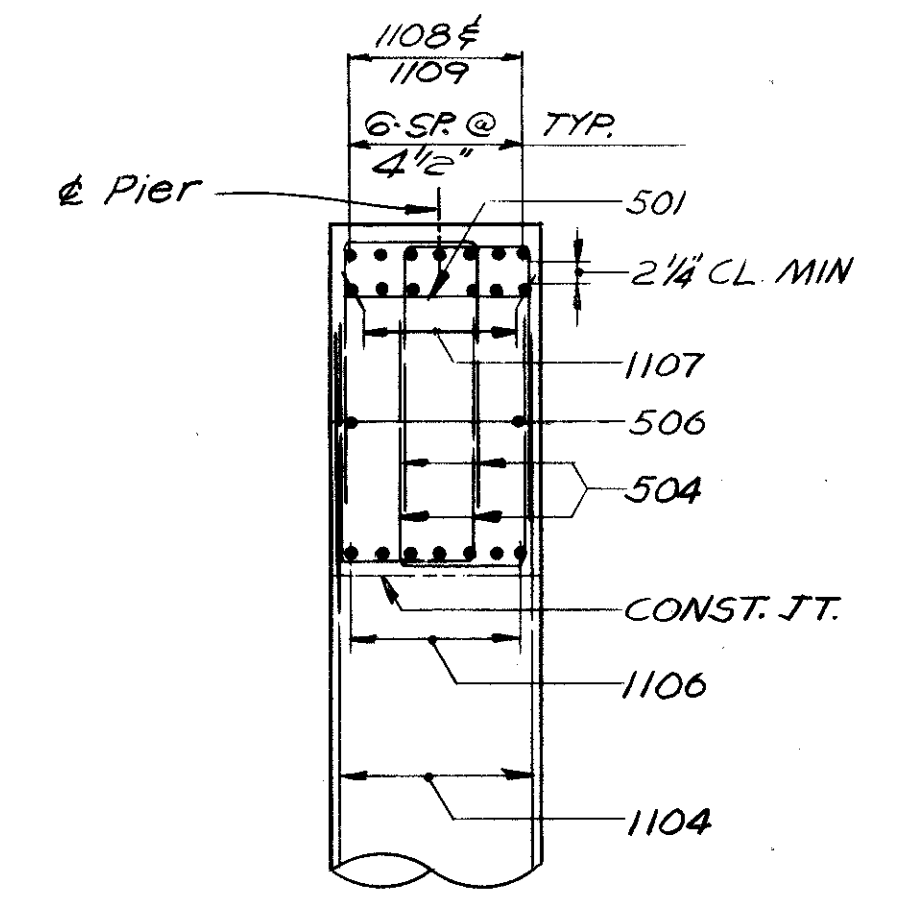
CUYAHOGA COUNTY  
CUY - 90 - 11.64



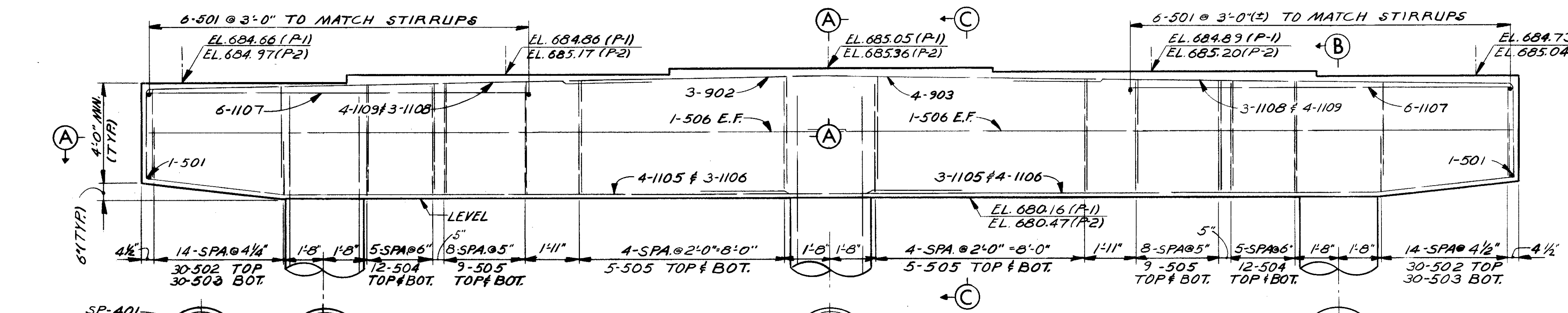
PLAN



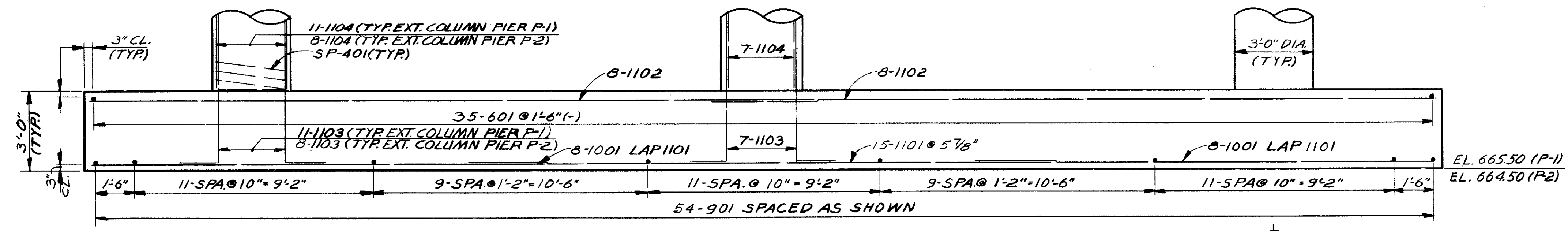
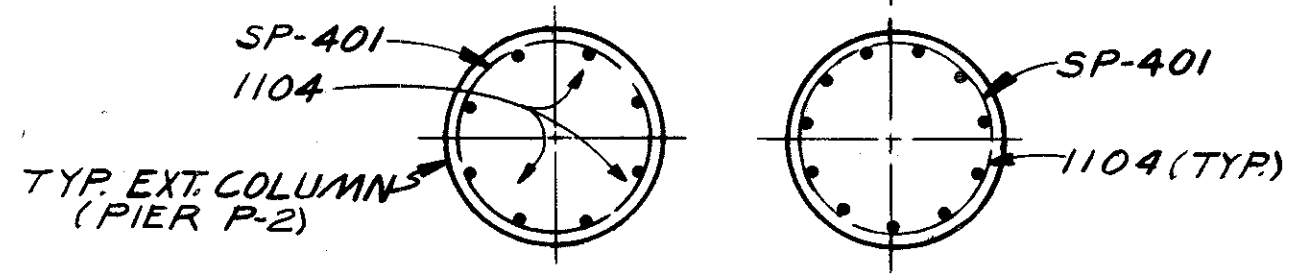
SECTION A-A



SECTION B-B



SECTION C-C



ELEVATION

NOTES

- BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES OR THE PRESETTING OF BEARING ANCHORS.
- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
- THE PREFIX "1P" OR "2P" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN PIER P-1 OR P-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
- FOUNDATION BEARING PRESSURE: PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 3 TONS PER SQ. FT.
- BEARING ANCHORS: AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES) LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

6/10

DALTON · DALTON ASSOCIATES

PIERS P-1 & P-2

BRIDGE NO. CUY - 90 - 1264  
UNDER W. 65<sup>TH</sup> ST.  
I-90 CUYAHOGA COUNTY  
STA. 842 + 53.70

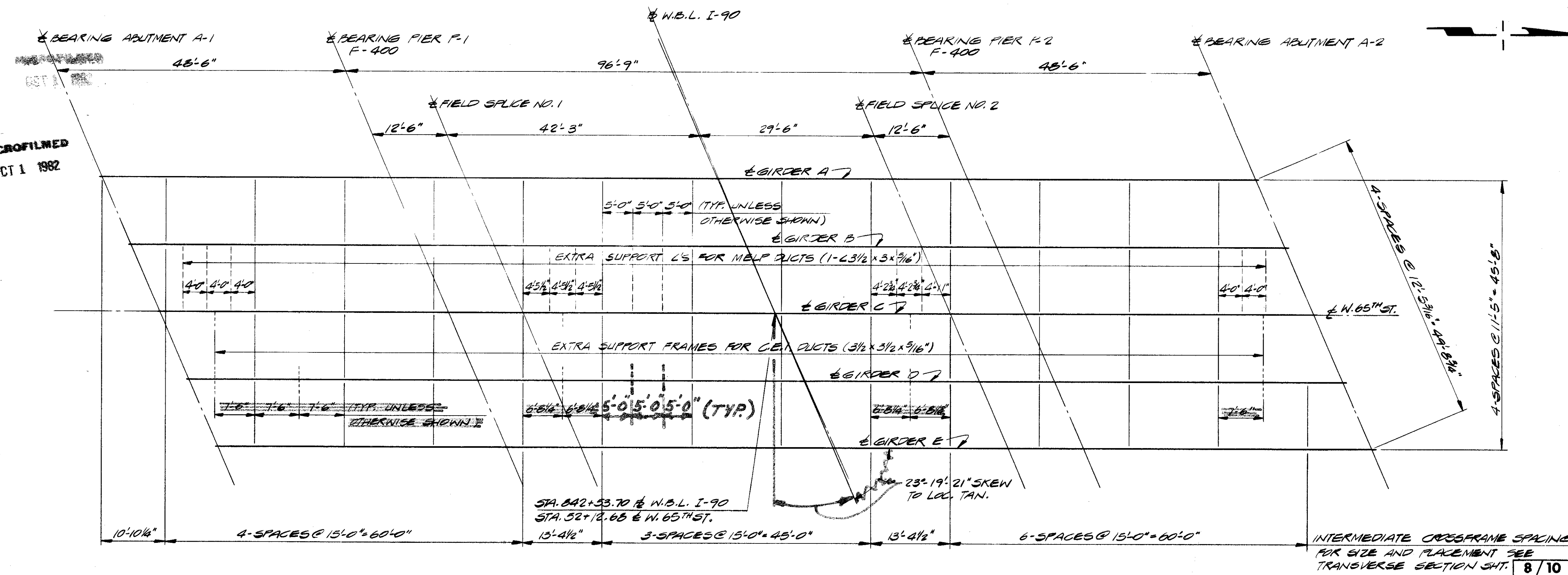
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HSL	TWJ		R.T.P.	R.D.H.	4-17-74	10-2-75 3-22-76

FED. RD.	STATE	PROJECT
2	OHIO	

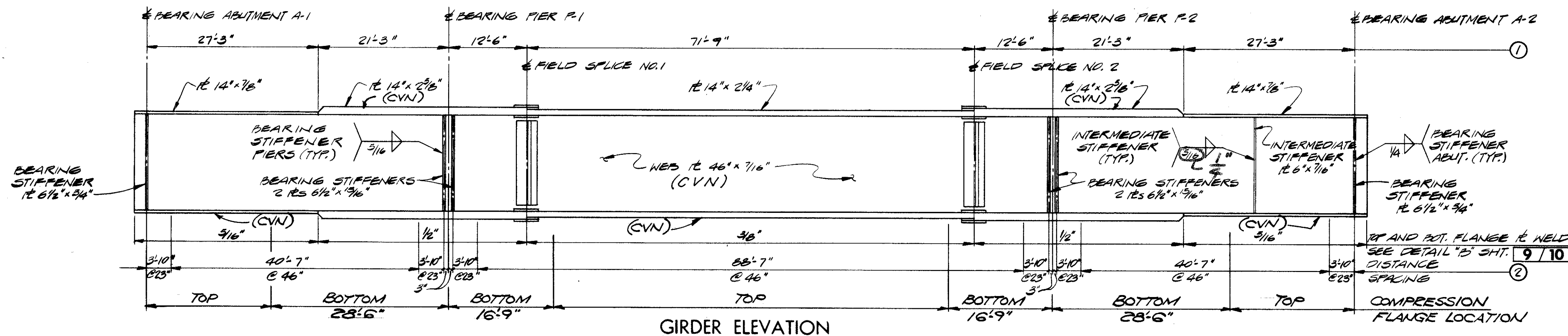
697  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

MICROFILMED  
OCT 1 1982



FRAMING PLAN



GIRDER ELEVATION

WELDED ATTACHMENTS FOR FINISHING MACHINE SUPPORTS MAY BE MADE THE FULL LENGTH OF FACIA BEAMS. ATTACHMENT DETAILS SHALL NOT EMPLOY FILLET WELDS LONGER THAN 2 INCHES OR BE CLOSER THAN 1 INCH FROM EDGE OF FLANGE.

NOTES

- TOP AND BOTTOM FLANGE PLATES ARE TO BE THE SAME, EXCEPT FOR THE "CVN" REQUIREMENTS, AND SHALL BE SPLICED AT POINTS SHOWN ON THE GIRDER ELEVATION.
- INTERMEDIATE STIFFENERS SHALL BE PLACED IN PAIRS EQUALLY SPACED BETWEEN FIELD SPICE ANGLES AND/OR CROSSFRAME STIFFENERS AND/OR BEARING STIFFENERS IN ACCORDANCE WITH MAXIMUM STIFFENER SPACING SHOWN ON THE GIRDER ELEVATION.  
**MAXIMUM STIFFENER SPACING FOR GIRDERS B, C, D SHALL BE 30".**
- ALL GIRDER FIELD SPLICES SHALL BE MADE WITH 1" Ø HIGH STRENGTH STEEL BOLTS. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR GIRDERS AND ON THE BOTTOM OF ALL FLANGE PLATES.
- FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 9/10

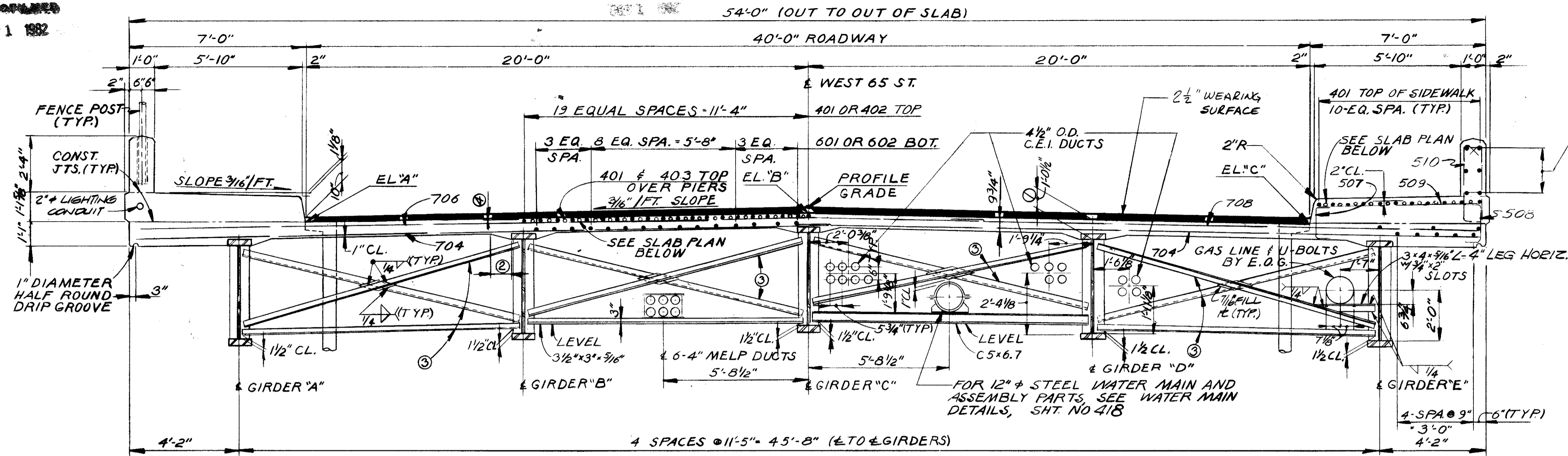
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		7/10
DALTON · DALTON ASSOCIATES		
FRAMING PLAN		
BRIDGE NO. CUY-90-1264 UNDER W. 65TH ST. I-90 CUYAHOGA COUNTY STA. 842 + 53.70		
DESIGNED H.S.L.	DRAWN D.F.R.	TRACED R.J.P.
CHECKED R.J.P.	REVIEWED R.B.H.	DATE 4-17-74
REVISED 10-31-72		12-8-75

OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

698  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



TRANSVERSE SECTION

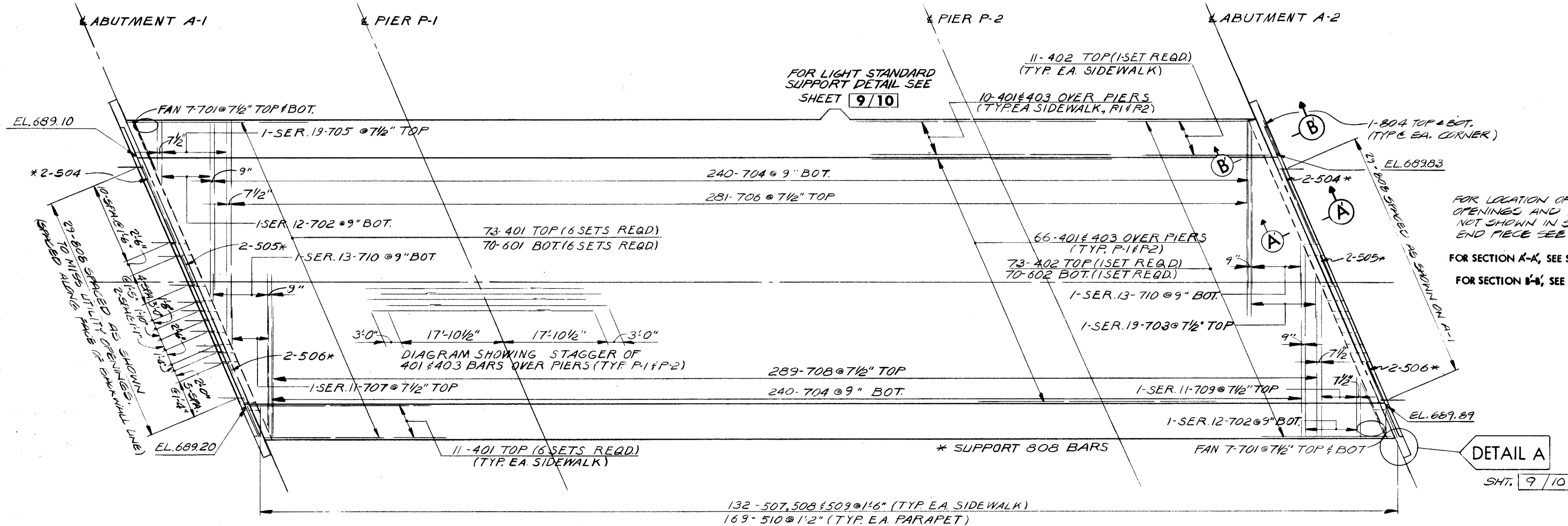
SEE SHEET 612/838 FOR SUBDRAINAGE AND ASPHALT CONCRETE WEARING SURFACE DETAILS.

SCREED ELEVATIONS  
SEE TRANSVERSE SECTION AND NOTE 5

LOCATION	A	B	C
± BRG. A-1	690.36	690.72	690.46
1/4	690.43	690.79	690.52
1/2	690.49	690.85	690.57
3/4	690.53	690.90	690.62
± BRG. P-1	690.61	690.96	690.68
1/4	690.75	691.09	690.80
1/2	690.85	691.19	690.91
3/4	690.90	691.24	690.95
± BRG. P-2	690.93	691.27	690.98
1/4	690.96	691.30	691.01
1/2	691.00	691.34	691.05
3/4	691.04	691.38	691.09
± BRG. A-2	691.08	691.42	691.13

NOTES

- THIS IS THE DESIGN DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 511.18.
- A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.
- INTERMEDIATE CROSSFRAME ANGLES 3" X 3" X 5/16".
- CLEARANCE = 2".
- ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE AND ASPHALT WEARING SURFACE.
- TRANSVERSE REINFORCEMENT SHALL BE FIELD BENT AS REQUIRED; PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL.
- THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE UNLESS SHOWN OTHERWISE.
- FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 9/10



SLAB PLAN

FOR LOCATIONS AND DETAILS OF LIGHTING APPURTENANCES, SEE LIGHTING PLANS AND STANDARD CONSTRUCTION DRAWING HL-4

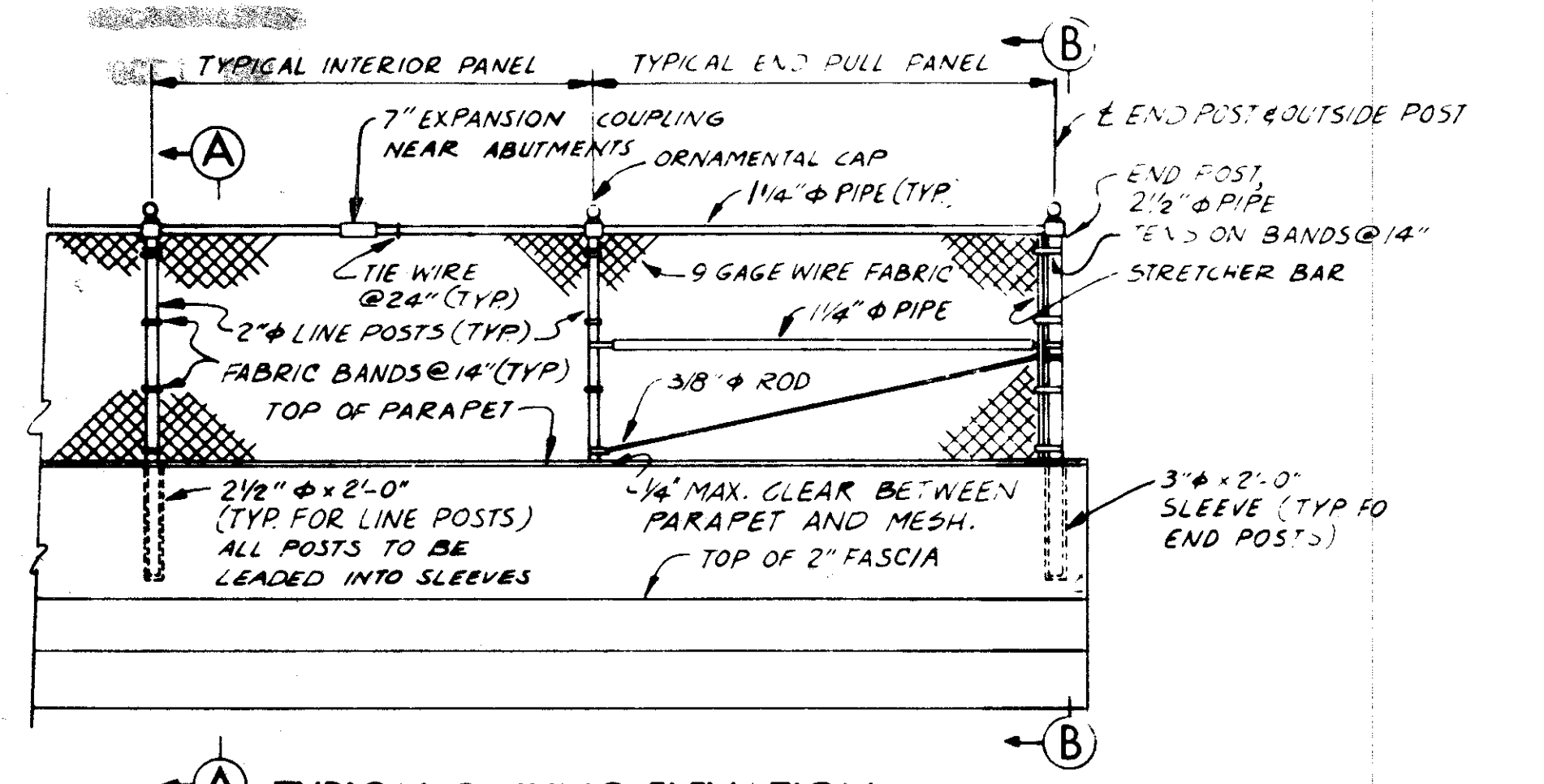
STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DALTON - DALTON ASSOCIATES

SLAB PLAN & SECTION

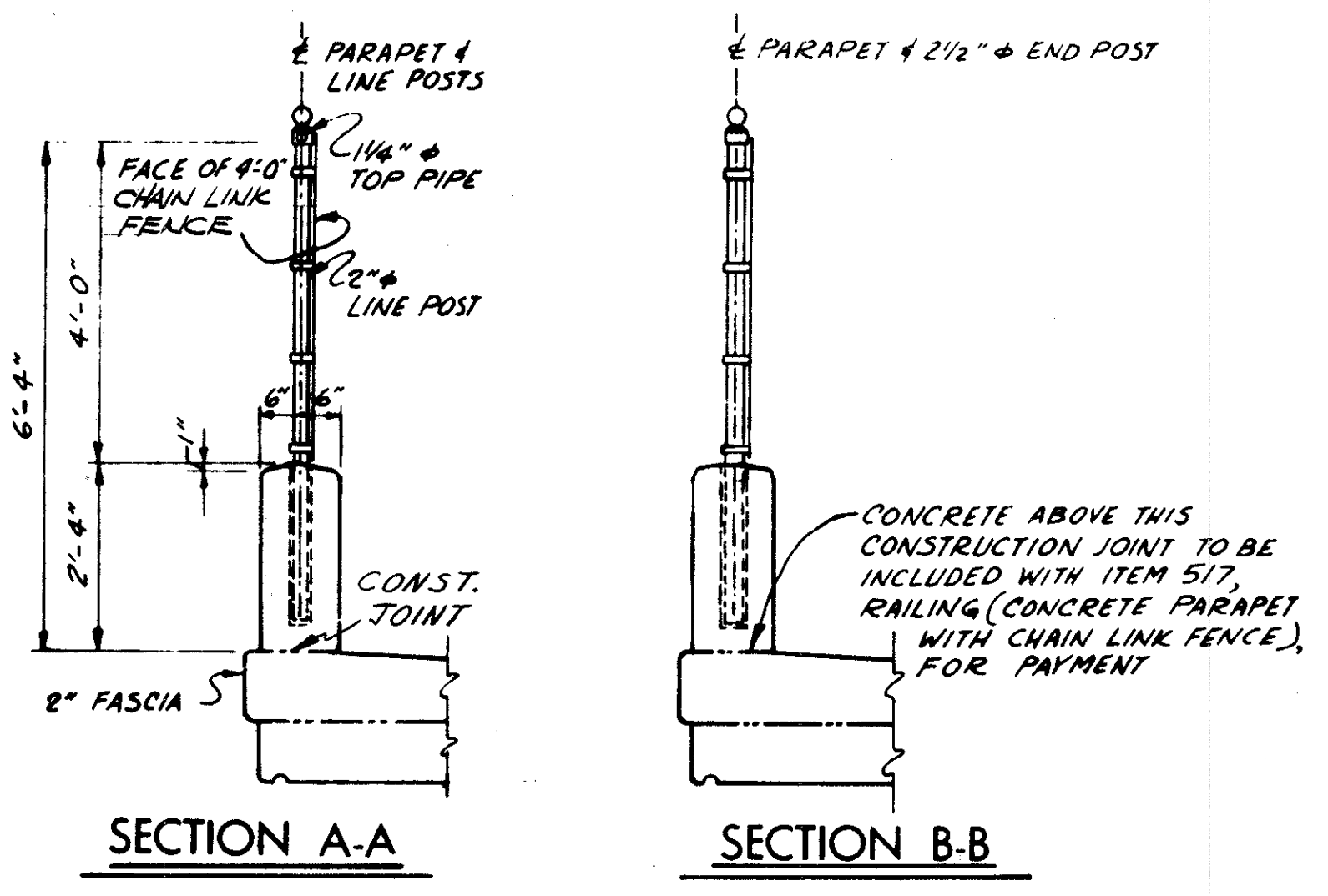
BRIDGE NO. CUY - 90 - 1264  
UNDER W. 65TH. ST.  
I-90 CUYAHOGA COUNTY  
STA. 842 + 53.70

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.F.C.	T.M.J.		H.S.L.	R.D.H.	4-17-79	

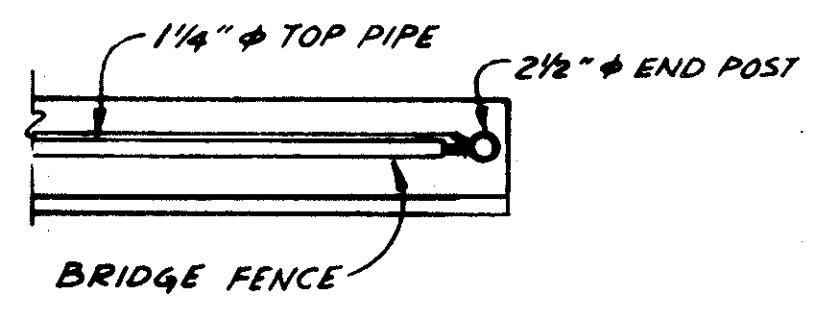


**TYPICAL RAILING ELEVATION**

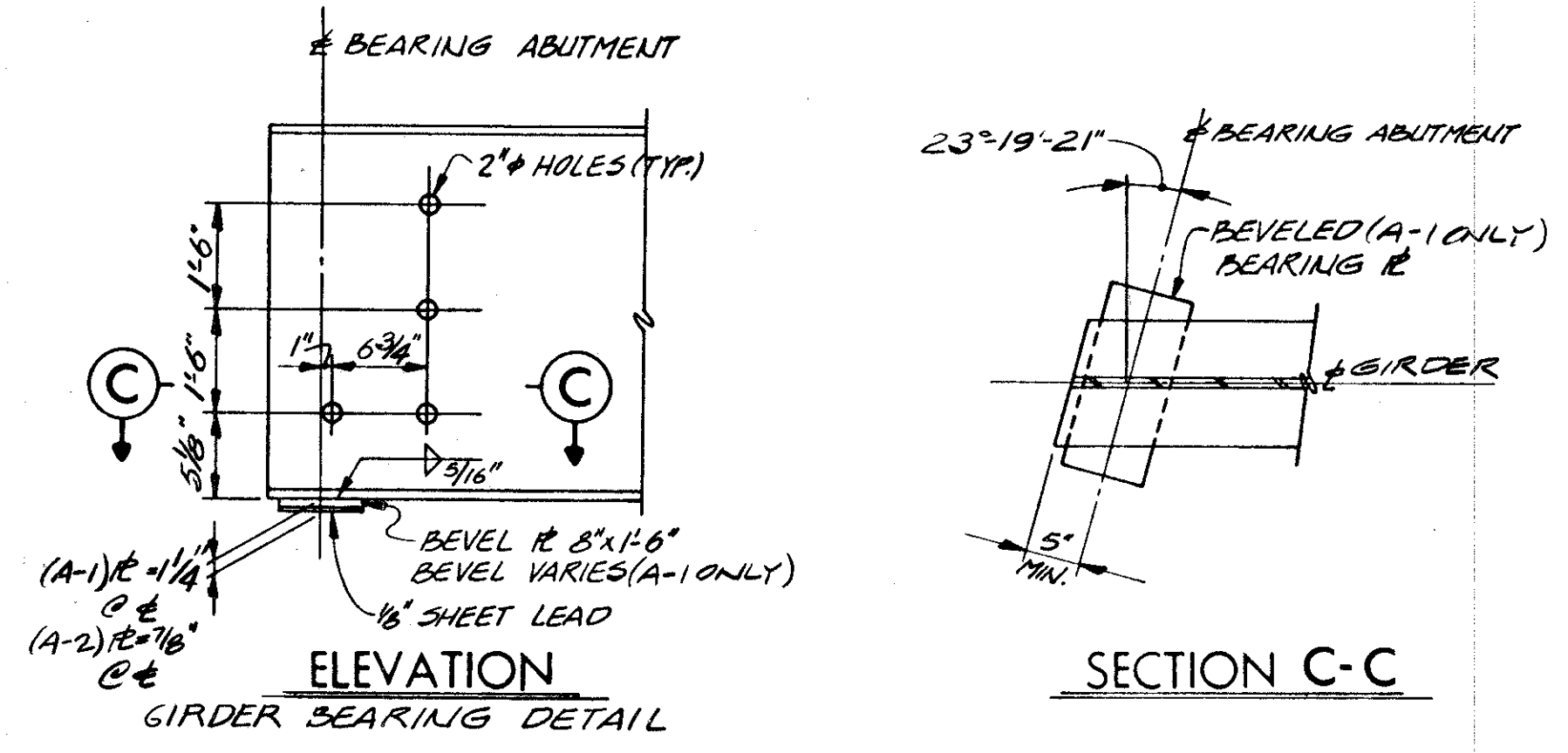
NOTE: ALL POSTS, PIPES AND FITTINGS TO BE GALVANIZED STEEL EXCEPT AS OTHERWISE SHOWN



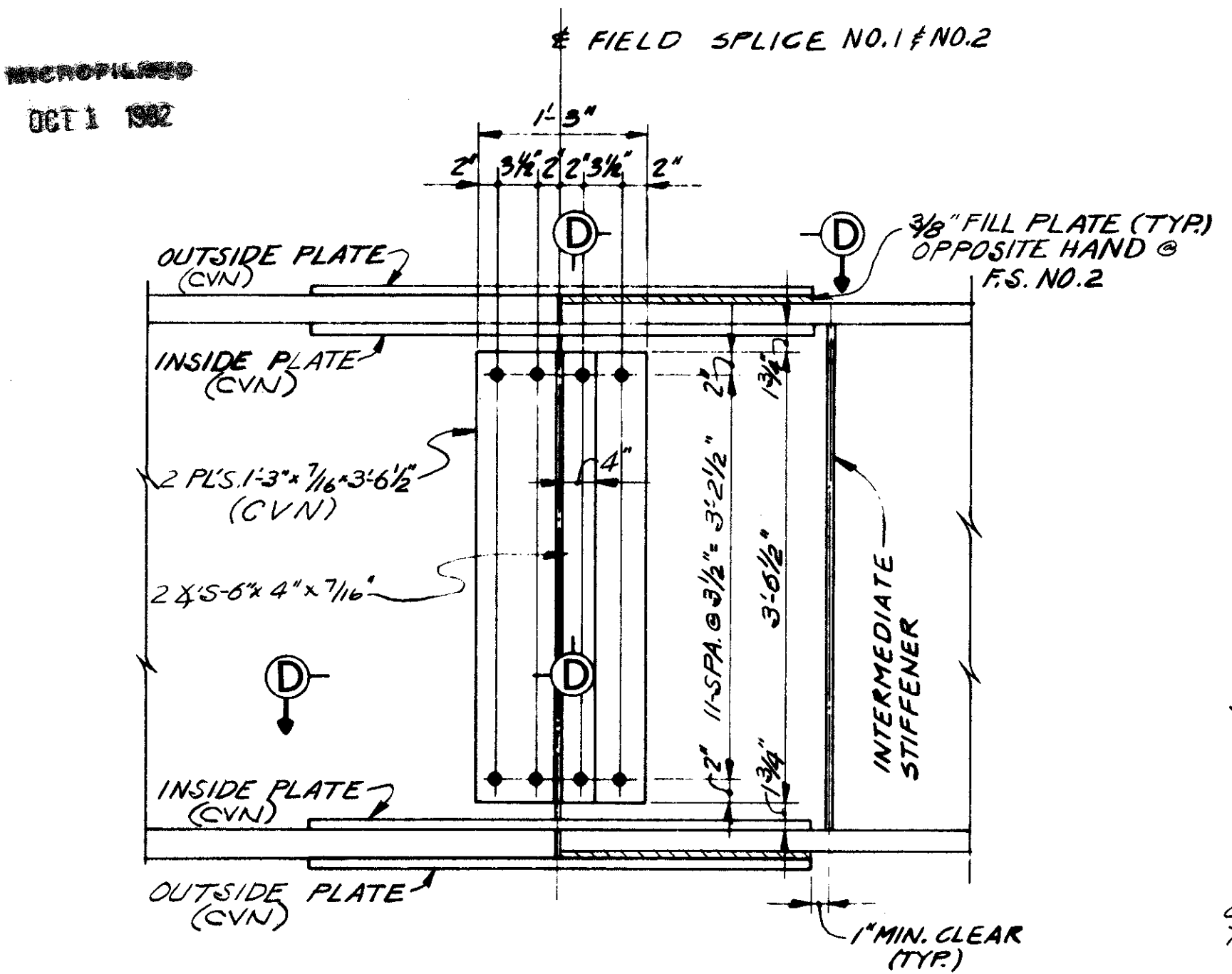
**SECTION A-A**    **SECTION B-B**



**TYPICAL RAILING PLAN**

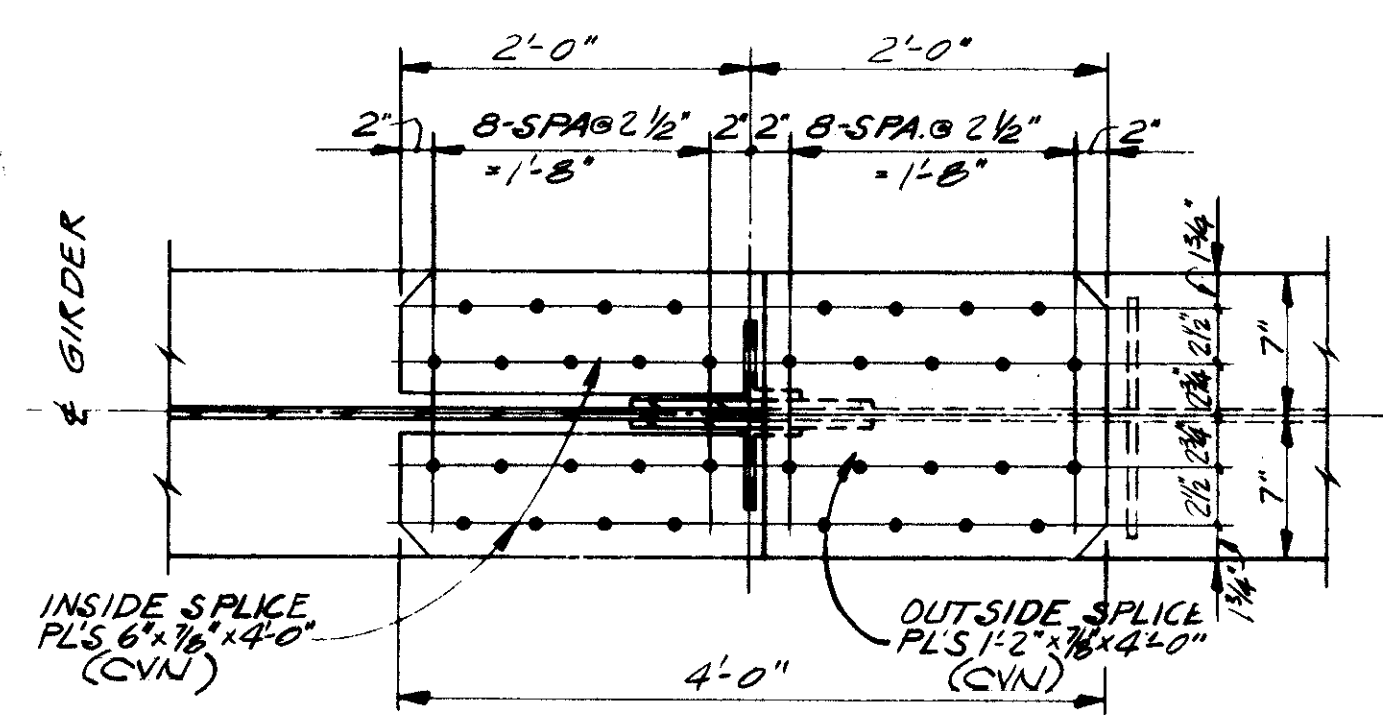


**ELEVATION**    **SECTION C-C**

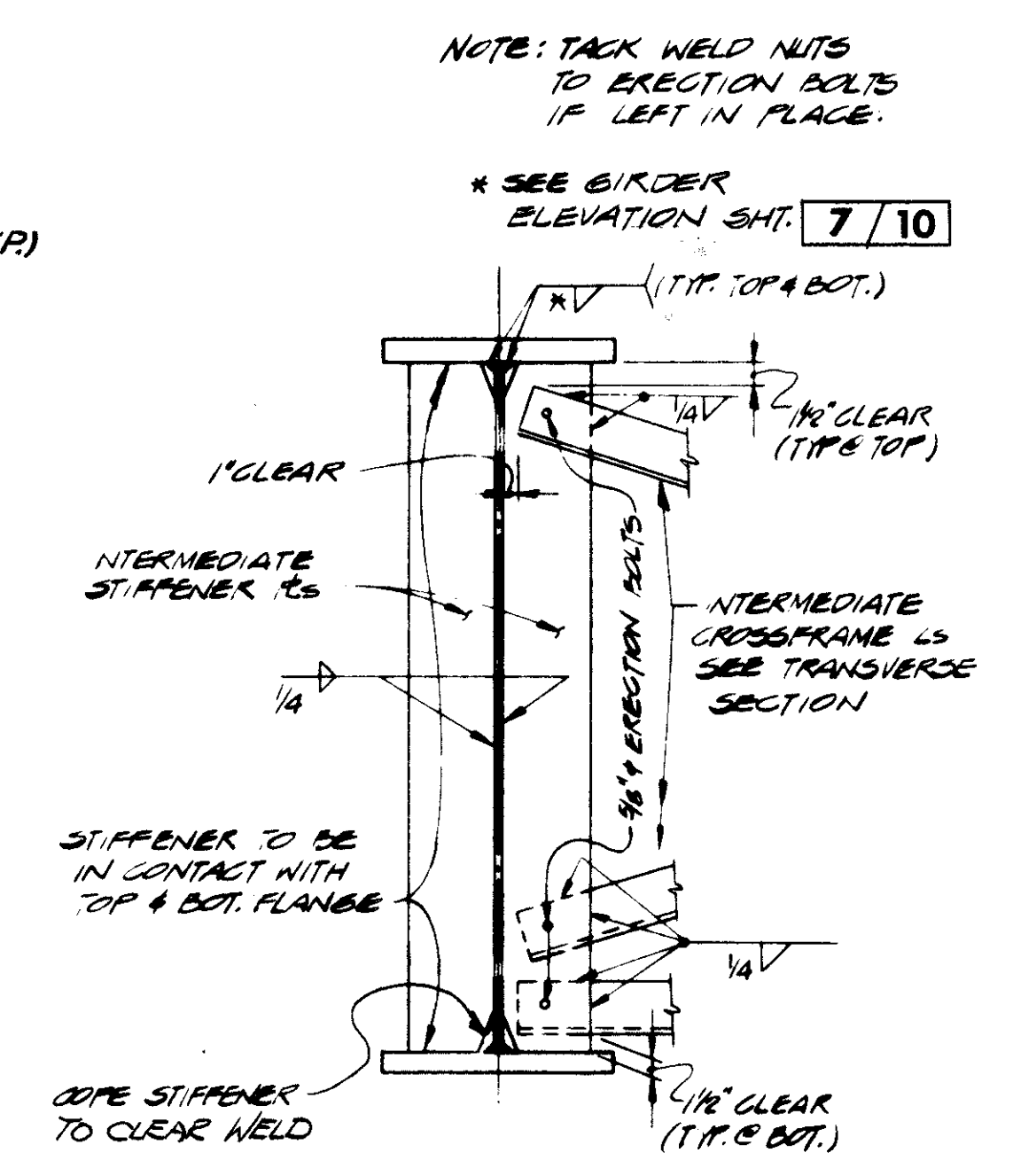


**SPLICE DETAIL**

(TYP. FOR FIELD SPLICE NO. 1 & NO. 2 EXCEPT AS NOTED)

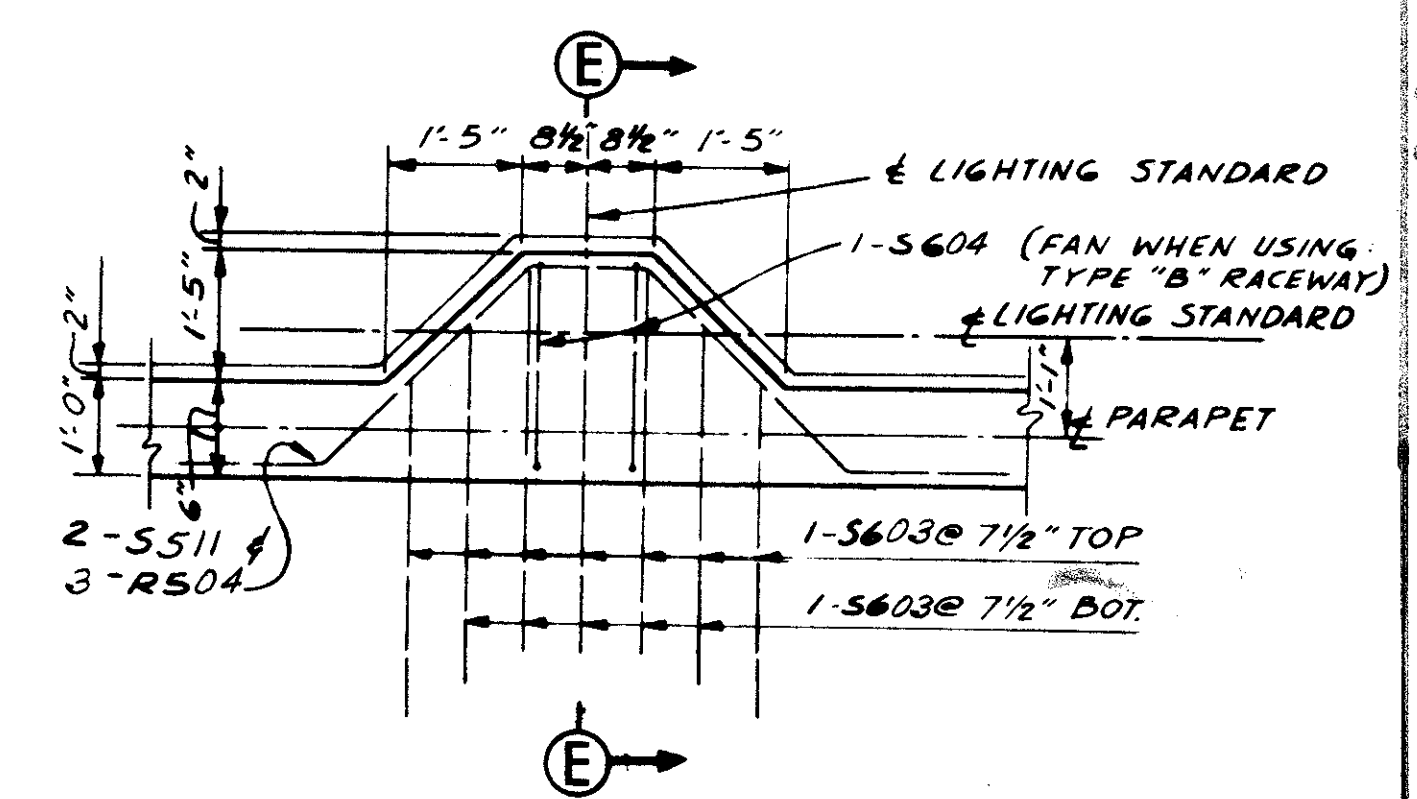


**SECTION D-D**



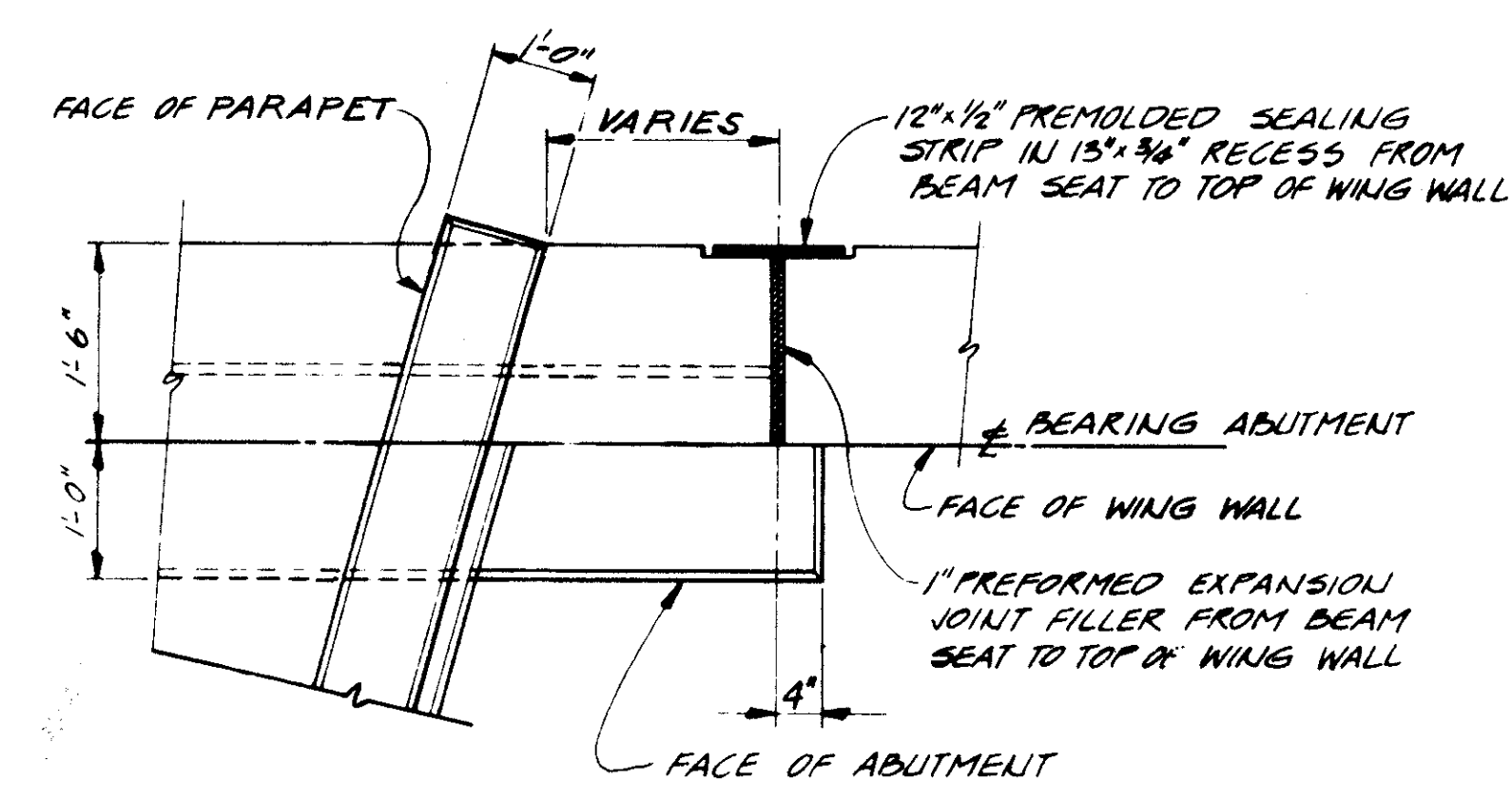
**DETAIL B**

INTERMEDIATE CROSSFRAME & STIFFENER IS

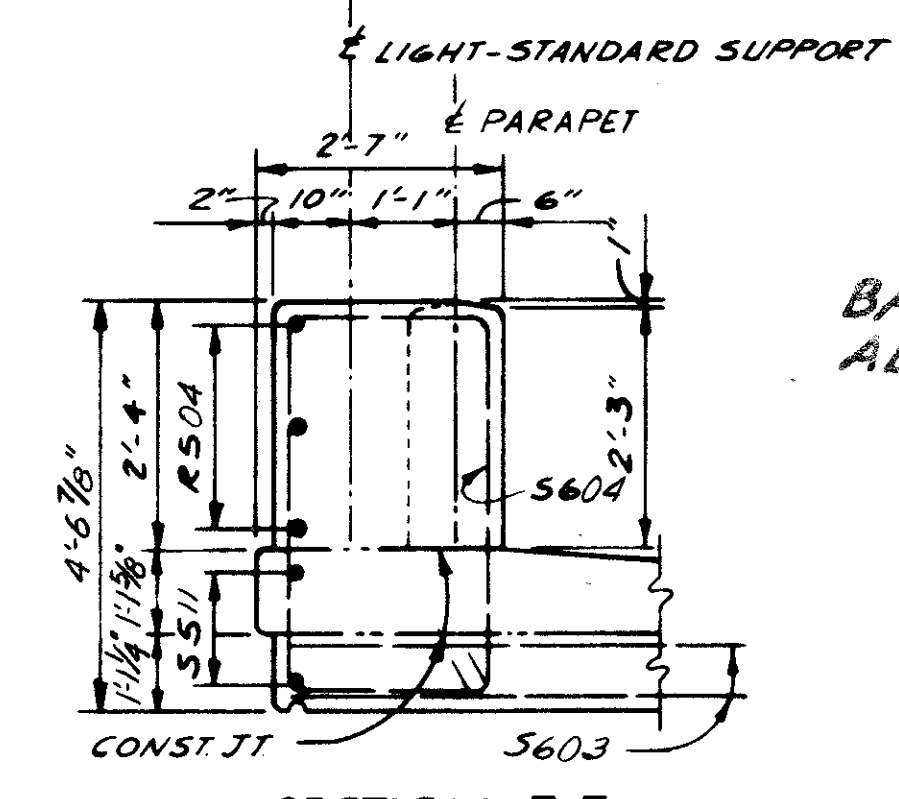


**LIGHT-STANDARD SUPPORT**

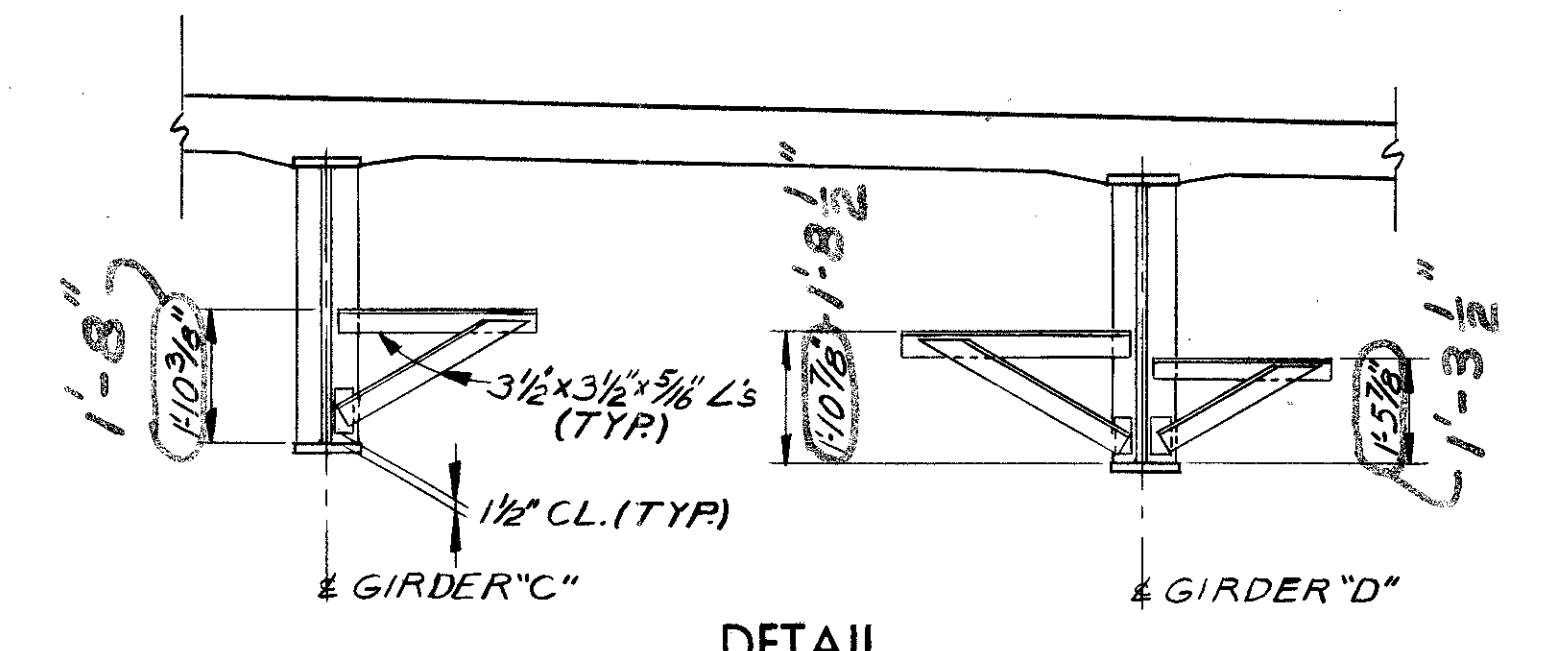
FOR DETAILS NOT SHOWN SEE SLAB PLAN & SECTION AND LIGHTING DETAILS



**DETAIL A**



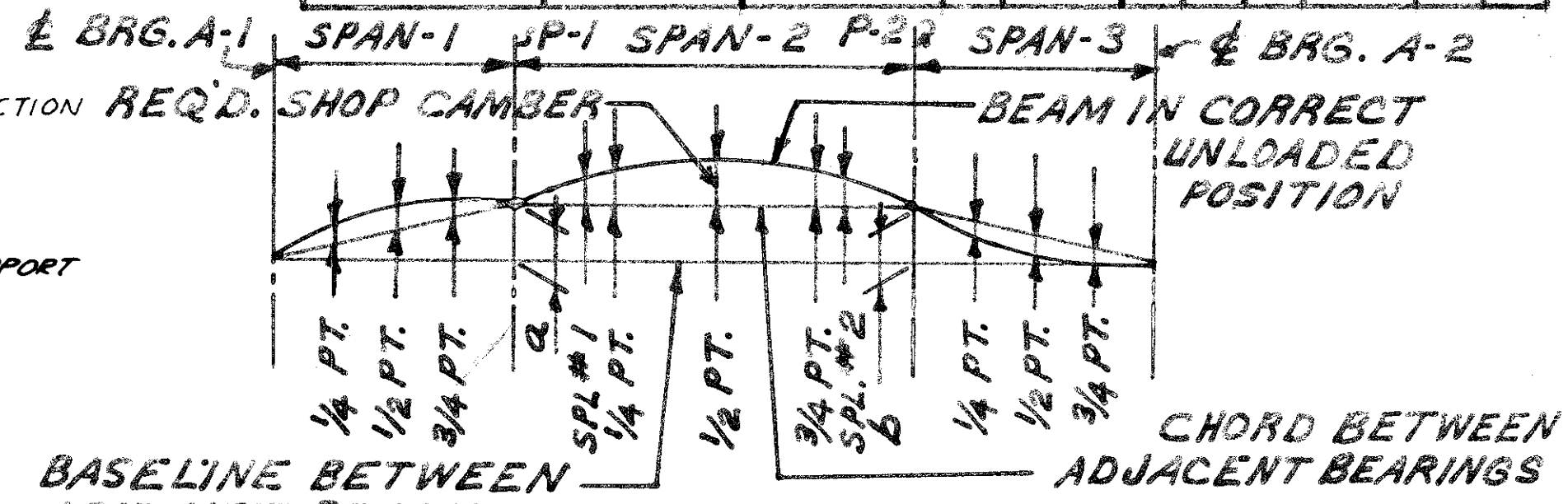
**SECTION E-E**



**DETAIL**

SUPPORT ANGLES FOR C.I. DUCTS. FOR SPACING SEE FRAMING PLAN. SHEET 7/10

LOCATION	DEFLECTION AND CAMBER										
	DEFLECT-ION DUE TO WT. OF STEEL	DEFLECT-ION DUE TO REMAINING D.L.	ADJ. REQ'D FOR VERTICAL CURVE					REQUIRED SHOP CAMBER			
	A	B	C	D	E	A	B	C	D	E	
GIRDER A thru E											
CL BRG. A-1	-	-	-	-	-	-	-	-	-	-	
1/4 PT.	0	0	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	
1/2 PT.	0	-1/16"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	
3/4 PT.	0	-1/16"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	
CL BRG. P-1											
CL SPL. No. 1	1/16"	1/4"	1/8"	1/8"	1/8"	0	3/8"	3/8"	3/8"	3/8"	
1/4 PT.	1/8"	3/16"	1/8"	1/8"	0	3/16"	3/16"	3/16"	3/16"	3/16"	
1/2 PT.	3/16"	15/16"	1/8"	1/8"	0	1/16"	1/16"	1/16"	1/16"	1/16"	
3/4 PT.	1/8"	9/16"	1/8"	0	0	3/4"	1/8"	1/8"	1/8"	1/8"	
CL SPL. No. 2	1/16"	1/4"	0	0	0	5/16"	5/16"	5/16"	5/16"	5/16"	
CL BRG. P-2											
1/4 PT.	0	-1/16"	0	0	0	1/8"	-1/8"	-1/8"	-1/8"	-1/8"	
1/2 PT.	0	-1/16"	0	0	0	1/8"	-1/8"	-1/8"	-1/8"	-1/8"	
3/4 PT.	0	0	0	0	0	0	0	0	0	0	
CL BRG. A-2											



**CHORD BETWEEN ADJACENT BEARINGS**

**TABLE**

GIRDER	Q	b
A	7/8"	3/8"
B	13/16"	5/16"
C	3/4"	1/4"
D	1 1/16"	1/4"
E	9/16"	3/16"

STATE OF OHIO  
 DEPARTMENT OF HIGHWAYS  
 BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**SUPERSTRUCTURE DETAILS**

BRIDGE NO. CUY - 90 - 1264  
 UNDER W. 65TH ST.  
 I-90 CUYAHOGA COUNTY  
 STA. 842 + 53.70

DESIGNED: HSL    DRAWN: TMJ    TRACED:    CHECKED: R.F.O.    REVIEWED: R.D.H.    DATE: 4-17-74    REVISED: 12-31-75    12-8-75

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>ABUTMENT A-1</b>									
1A 401	68	5-5	2	1-11	1-9			246	
1A 501	16	30-0	ST					501	
1A 502	4	17-10	ST					74	
1A 503	4	4-2	ST					17	
1A 504	4	5-8	1	1-7	4-2			24	
1A 505	42	5-11	2	2-0	2-2			259	
1A 506	12	15-3	ST					191	
SERIES 4-SETS 4-8								1	
OF OF 3= TO ST								3-8--	
1A 507	12 BARS	12-1						105	
1A 508	4	14-10	12	1-0	13-10	5-9		62	
1A 509	42	7-6	39	1-6	0-6	1-6	0-6	329	
1A 601	92	11-0	3	6-3	2-6	2-6		1520	
1A 602	6	9-10	3	6-3	1-4	2-6		118	
1A 603	20	3-3	ST					98	
SERIES 4-SETS 2-10								7	
OF OF 9= TO ST								0-7--	
1A 604	36 BARS	8-1						8	
1A 801	10	30-0	ST					801	
1A 802	4	19-8	ST					210	
1A 803	2	5-6	ST					29	
1A1001	6	30-0	ST					775	
1A1002	4	6-6	ST					112	
1A1003	2	7-8	1	1-5	6-6			66	
<b>TOTAL ABUTMENT A-1 =</b>								<b>5832</b>	
<b>ABUTMENT A-2</b>									
2A 401	68	5-5	2	1-11	1-9			246	
2A 501	16	30-0	ST					501	
2A 502	4	17-10	ST					74	
2A 503	4	4-2	ST					17	
2A 504	4	5-8	1	1-7	4-2			24	
2A 505	42	5-11	2	2-0	2-2			259	
2A 506	12	15-3	ST					191	
SERIES 4-SETS 4-8								1	
OF OF 3= TO ST								3-8--	
2A 507	12 BARS	12-1						105	
2A 508	4	14-10	12	1-0	13-10	5-9		62	
2A 509	42	7-6	39	1-6	0-6	1-6	0-6	329	
2A 601	92	11-0	3	6-3	2-6	2-6		1520	
2A 602	6	9-10	3	6-3	1-4	2-6		118	
2A 603	20	3-3	ST					98	
SERIES 4-SETS 2-10								7	
OF OF 9= TO ST								0-7--	
2A 604	36 BARS	8-1						8	
2A 801	10	30-0	ST					801	
2A 802	4	19-8	ST					210	
2A 803	2	5-6	ST					29	
2A1001	6	30-0	ST					775	
2A1002	4	6-6	ST					112	
2A1003	2	7-8	1	1-5	6-6			66	
<b>TOTAL ABUTMENT A-2 =</b>								<b>5832</b>	

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>PIER P-1</b>									
1P 501	14	2-9	ST					40	
1P 502	60	9-0	2	3-8	1-11			563	
1P 503	60	5-10	2	2-1	1-11			369	
1P 504	48	10-4	2	4-4	1-11			517	
1P 505	56	11-1	2	4-4	2-8			647	
1P 506	4	27-2	ST					119	
1P 601	35	7-3	ST					381	
1P 901	54	7-3	ST					1331	
1P 902	3	21-2	ST					216	
1P 903	4	27-8	ST					376	
1P1001	16	17-7	ST					1211	
1P1101	15	22-8	ST					1806	
1P1102	16	28-0	ST					2380	
1P1103	29	8-1	1	1-6	6-10			1245	
1P1104	29	15-8	ST					2414	
1P1105	7	31-4	12	26-0	5-4	0-6		1169	
1P1106	7	24-10	12	19-6	5-4	0-6		924	
1P1107	12	14-10	ST					946	
1P1108	6	22-5	1	3-8	19-0			715	
1P1109	8	19-2	1	3-8	15-9			819	
<b>TOTAL PIER P-1 =</b>								<b>18170</b>	
<b>PIER P-2</b>									
2P 501	14	2-9	ST					40	
2P 502	60	8-11	2	3-8	1-10			558	
2P 503	60	5-9	2	2-1	1-10			360	
2P 504	48	10-3	2	4-4	1-10			513	
2P 505	56	11-1	2	4-4	2-8			647	
2P 506	4	27-2	ST					119	
2P 601	35	7-3	ST					381	
2P 901	54	7-3	ST					1331	
2P 902	3	21-2	ST					216	
2P 903	4	27-8	ST					376	
2P1001	16	17-7	ST					1211	
2P1101	15	22-8	ST					1806	
2P1102	16	28-0	ST					2380	
2P1103	29	8-1	1	1-6	6-10			988	
2P1104	23	16-11	ST					2067	
2P1105	7	31-4	12	26-0	5-4	0-6		1169	
2P1106	7	24-10	12	19-6	5-4	0-6		924	
2P1107	12	14-10	ST					946	
2P1108	6	22-5	1	3-8	19-0			715	
2P1109	8	19-2	1	3-8	15-9			819	
<b>TOTAL PIER P-2 =</b>								<b>17552</b>	

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>SUPERSTRUCTURE</b>									
S 401	742	30-0	ST					14870	
S 402	95	23-1	ST					1465	
S 403	172	10-0	ST					1149	
S 501	57	10-6	8	3-8	2-2	3-1	1-11	624	
S 502	57	6-5	2	2-6	1-8			381	
S 503	38	8-7	2	3-4	2-2			340	
S 504	4	15-0	ST					63	
S 505	4	5-8	ST					24	
S 506	4	7-2	ST					30	
S 507	264	2-8	2	0-8	1-7			734	
S 508	264	2-10	2	0-8	1-9			780	
S 509	264	6-6	ST					1790	
S 510	338	7-7	5	0-8	3-2			2673	
S 511	2	10-3	25	1-7	2-1	1-5	2-1	21	
S 512	8	5-10	ST					49	
S 601	420	30-0	ST					18925	
S 602	70	27-1	ST					2848	
S 603	12	6-0	ST					108	
S 604	2	13-3	14	4-2	2-1			40	
S 701	28	8-9	ST					501	
SERIES 2-SETS 10-3								975	
OF OF 12= TO ST								1-9	
S 702	24 BARS	29-6						13	
SERIES 1-SET 5-3								752	
OF OF 19= TO ST								16	
S 703	19 BARS	33-6						16	
S 704	480	27-11	ST					27390	
SERIES 1-SET 10-3								11	
OF OF 19= TO ST								16	
S 705	19 BARS	36-9						16	
S 706	281	33-8	ST					19337	
SERIES 1-SET 6-6								3	
OF OF 11= TO ST								8	
S 707	11 BARS	21-0						8	
S 708	289	22-3	ST					13143	
SERIES 1-SET 10-3								1	
OF OF 11= TO ST								1-5--	
S 709	11 BARS	24-10						2	
SERIES 2-SETS 5-6								7	
OF OF 13= TO ST								1-10--	
S 710	26 BARS	27-11						16	
S 801	34	30-6	ST					2769	
S 802	4	29-9	ST					318	
S 803	2	17-6	ST					93	
S 804	12	7-2	ST					230	
S 805	4	5-2	ST					55	
S 806	4	5-8	ST					61	
S 807	32	5-0	ST					427	
S 808	58	5-3	16	1-1	2-11	1-1	1-6	813	
<b>TOTAL SUPERSTRUCTURE =</b>								<b>116282</b>	
<b>RAILING*</b>									
R 501	24	10-4	ST						
R 502	120	7-0	ST						
R 503	84	14-4	ST						
R 504	3	10-3	25	1-7	2-1	1-5	2-1		
<b>ABUTMENT TOTAL =</b>								<b>11,664</b>	
<b>PIER TOTAL =</b>								<b>37,146</b>	
<b>SUPERSTRUCTURE TOTAL =</b>								<b>116,282</b>	
<b>GRAND TOTAL =</b>								<b>165,092</b>	

\*RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

SPIRAL REINFORCING SCHEDULE				
MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	WEIGHT LBS.
<b>SPIRALS-PIER P-1</b>				
1P-SP401	3	0-32	10-8	4,50
<b>TOTAL SPIRALS-PIER P-1 =</b>				<b>623</b>
<b>SPIRALS-PIER P-2</b>				
2P-SP401	3	0-32	10-8	4,50
<b>TOTAL SPIRALS-PIER P-2 =</b>				<b>623</b>

**CUYAHOGA COUNTY**  
**CUY-90-11.64**

**CURVE DATA**

**E EASTBOUND LANES I-90.**  
 P.I. STA. 862+88.19  
 $\Delta = 23^\circ 59' 30.1''$   
 $D_c = 1^\circ 28' 49.1''$   
 $R = 3870.53'$   
 $T = 822.41'$   
 $L_c = 1620.72'$

**RAMP NO. 28**  
 P.I. STA. 68+04.95  
 $\Delta = 16^\circ 04' 44''$  RT.  
 $D_c = 3^\circ 00' 00''$   
 $R = 1909.8593'$   
 $T = 269.75'$   
 $L_c = 535.96'$

**PROPOSED STRUCTURE**

**TYPE:** CONTINUOUS STEEL BEAMS, WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES INTEGRAL ABUT'S.

**SKIEW:**  $16^\circ 28' 09''$  LF. TO LOC. TAN.

**SPANS:** 46'-0", 76'-6", 41'-0" % BRG'S.

**ROADWAY:** 32'-9"  $\frac{7}{8}$ " PARAPETS.

**LOADING:** HS 20-44 AND INT. ALT. LOADING

**WEARING SURFACE:** 2" ASPHALT CONCRETE.

**APPROACH SLABS:** 25' LONG (SPECIAL)

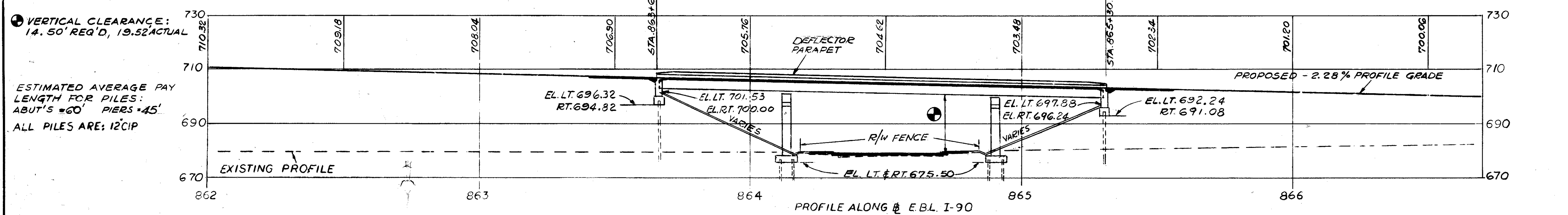
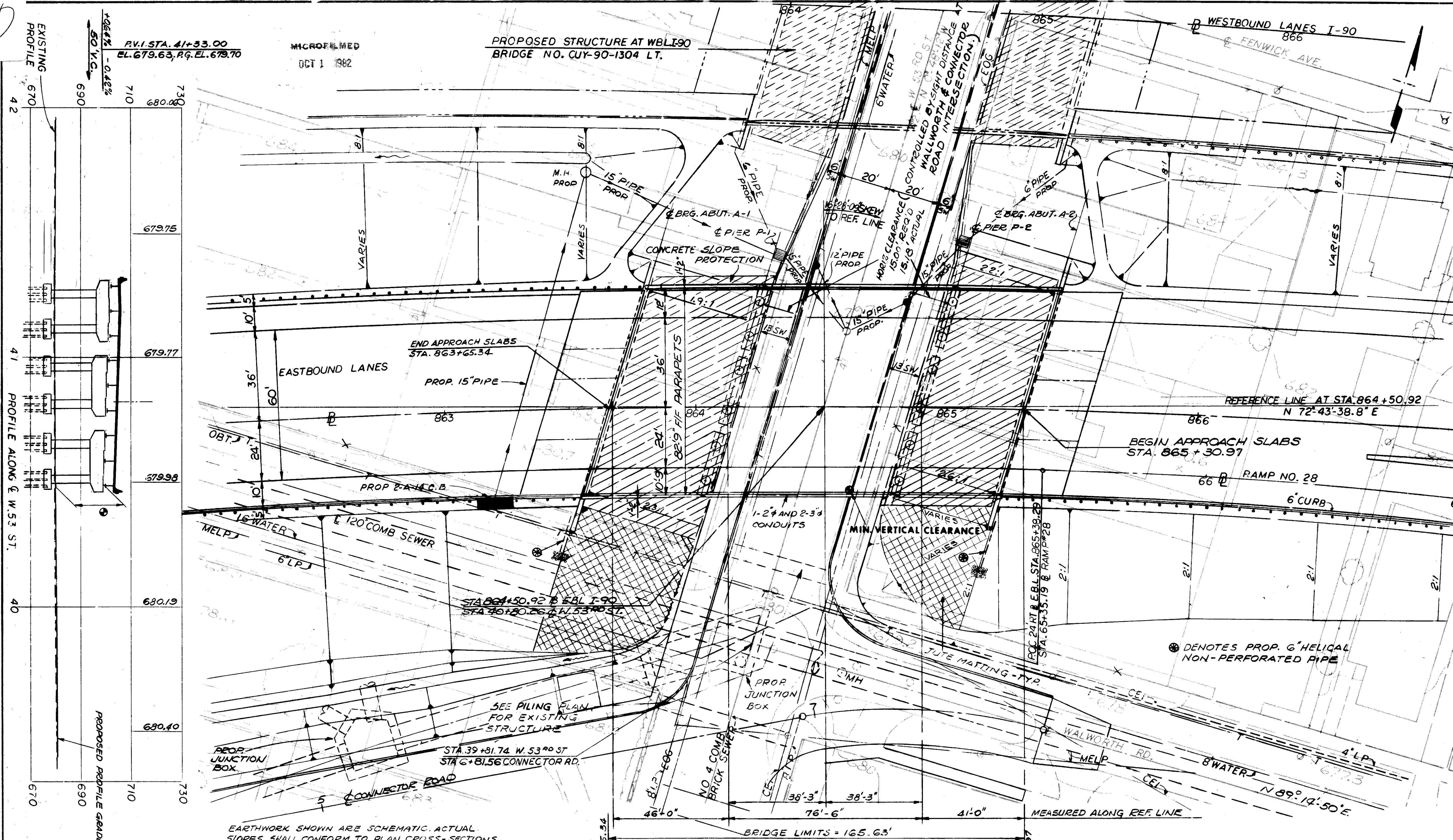
**ALIGNMENT:**  $1^\circ 28' 49.1''$  CURVE RT.

**SUPERELEVATION:** .036'/FT.

**SLOPE PROTECTION:** CONCRETE.

**TRAFFIC:** I-90 61,189 A.D.T. 1990  
 W. 53<sup>RD</sup> ST. 5,760 A.D.T. 1990

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						1/12
DALTON-DALTON ASSOCIATES						
SITE PLAN						
BRIDGE NO. CUY-90-1304RT.						
OVER WEST 53 <sup>RD</sup> ST.						
I-90 CUYAHOGA COUNTY						
STA. 863+65.34 TO STA. 865+30.97						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BWM	KEN		WOODMAN	I. BH	4-17-74	

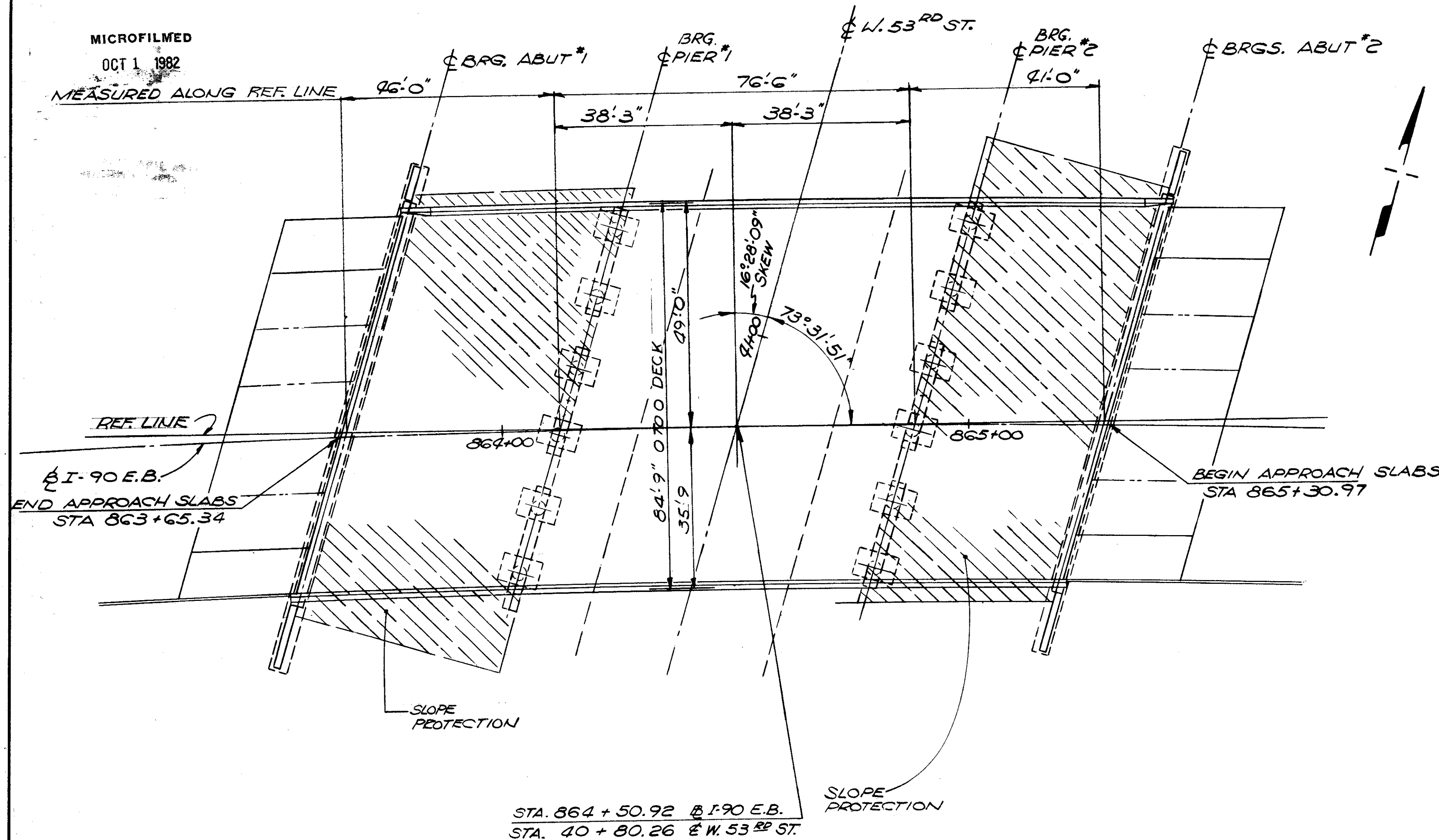


MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

792  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



GENERAL PLAN

\* DENOTES NORTH PARAPET  
Δ " SOUTH "

ESTIMATED QUANTITIES						
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER GEN'L.
404	104	CY	ASPHALT CONCRETE ( AC-20 )	104		
SPEC	1504	SY	MEMBRANE WATERPROOFING, HOT APPLIED LIQUID (SEE PROPOSAL NOTE)	1504		
503	LUMP	LSUM	COFFERDAMS CRIBS AND SHEETING			LUMP
503	405	CY	UNCLASSIFIED EXCAVATION		285	120
505	LUMP	LSUM	TEST PILE			
507	6000	LF	12 IN. CAST-IN-PLACE REINFORCED CONCRETE PILES		2760	3240
509	188533	LB	REINFORCING STEEL	143529	17072	27932
511	507	CY	CLASS C CONCRETE, SUPERSTRUCTURE	507		
511	127	CY	CLASS C CONCRETE, PIERS ABOVE FOOTINGS			127
511	93	CY	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		93	
511	144	CY	CLASS C CONCRETE, FOOTINGS		74	70
512	221	LF	PREMOLDED SEALING STRIP		221	
513	326500	LB	STRUCTURAL STEEL	326500		
514	326500	LB	FIELD PAINTING OF STRUCTURAL STEEL	326500		
516	164	SF	1/4 IN. PREFORMED EXPANSION JOINT FILLER		164	
516	151	SF	1 IN. PREFORMED EXPANSION JOINT FILLER		151	
518	117	CY	POROUS BACKFILL		117	
518	230	LF	6 IN. PERFORATED, HELICAL CMP, 707.01		230	
518	26	LF	6 IN. NON-PERFORATED, HELICAL CMP INCL. SPECIALS, 707.01		26	
518	334	LF	SUBDRAINAGE FOR WEARING COURSE (AS PER PLAN)	334		
601	1117	SY	CONCRETE SLOPE PROTECTION		1117	
625			SEE LIGHTING SUMMARY SHEET			
808	507	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	507		

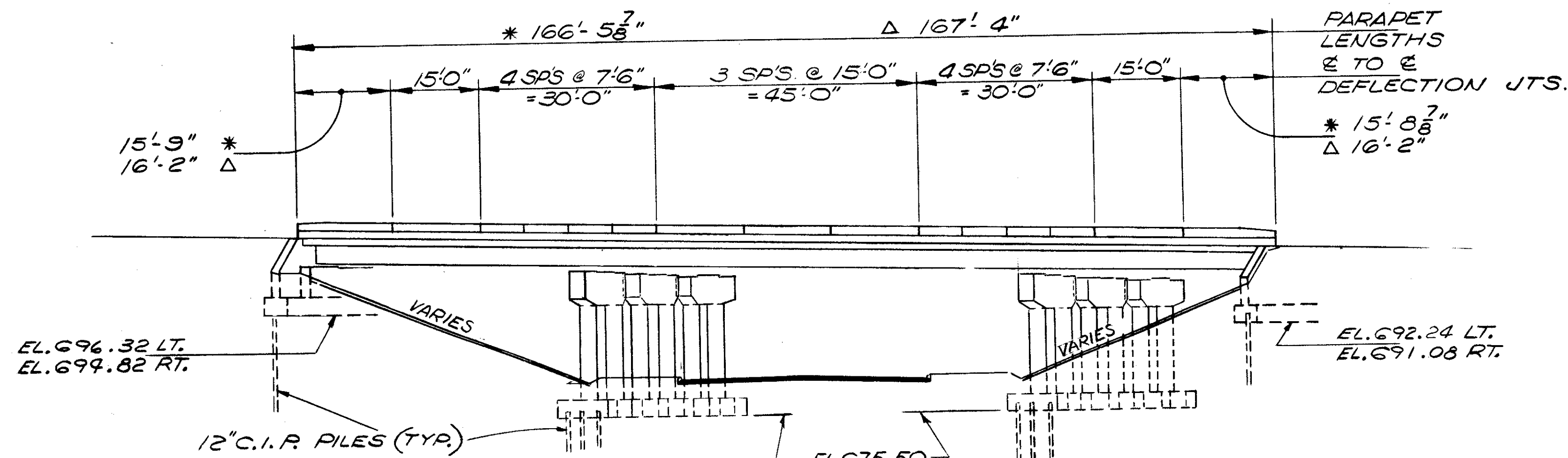
QUANTITIES CHECKED BY ALH 4-09-75

NOTES

① FOR STRUCTURAL GENERAL NOTES, SEE SHEET 611

② FOR RAILING DETAILS, SEE SHEET 10/12

③ EMBANKMENT PROCEDURE: THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENTS. EXCAVATION SHALL THEN BE MADE FOR THE ABUTMENTS AND PIERS AND PILES DRIVEN.



ELEVATION

SEE LIGHTING PLANS FOR DETAILS

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

2 / 12

DALTON • DALTON ASSOCIATES

GENERAL PLAN & ELEVATION

BRIDGE NO. CUY - 90 - 1304RT.  
OVER WEST 53rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 863 +65.34 TO STA. 865 +30.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RG5	JWW		Hoonan	LBH	4-17-74	6-14-75

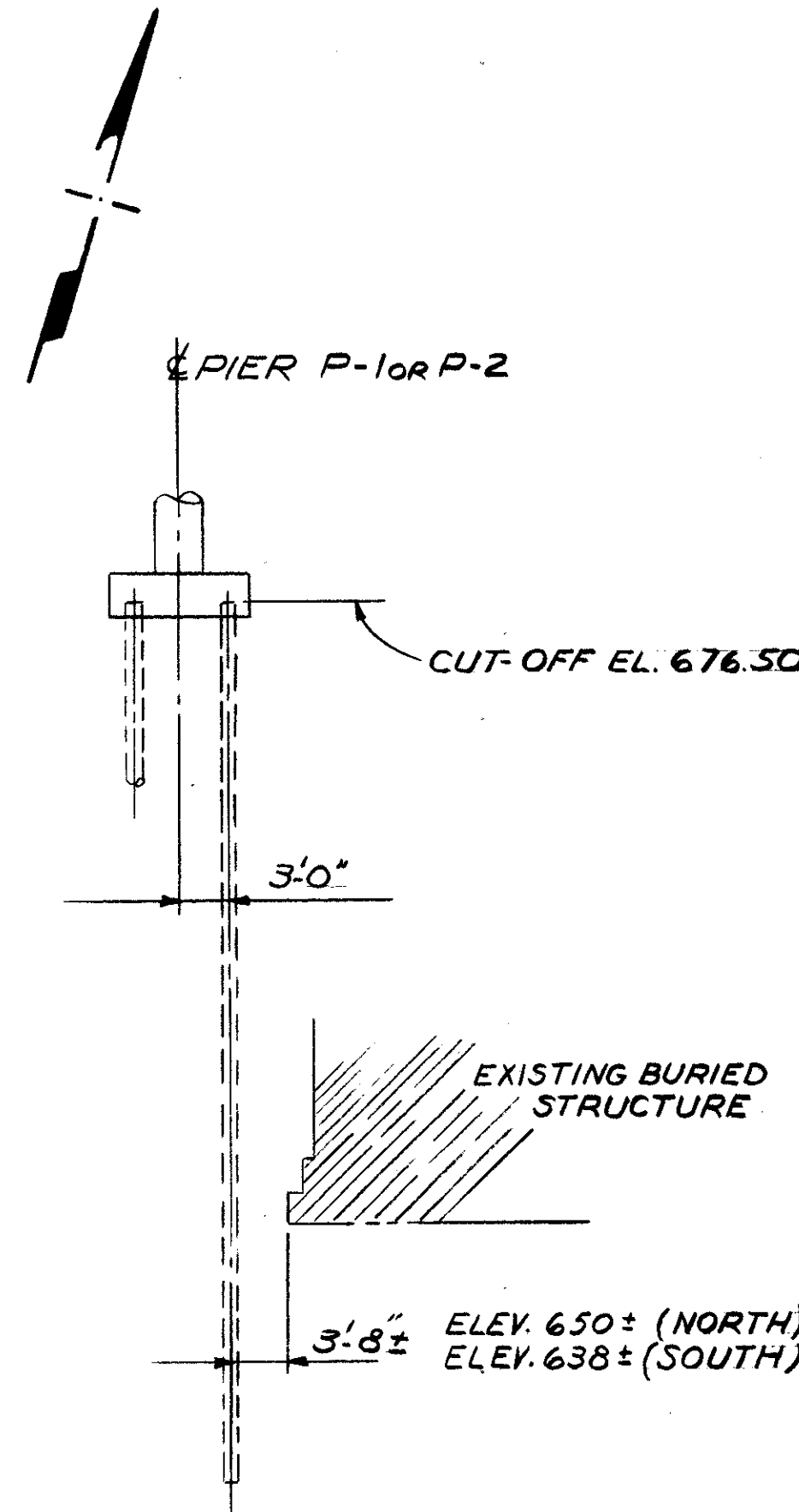
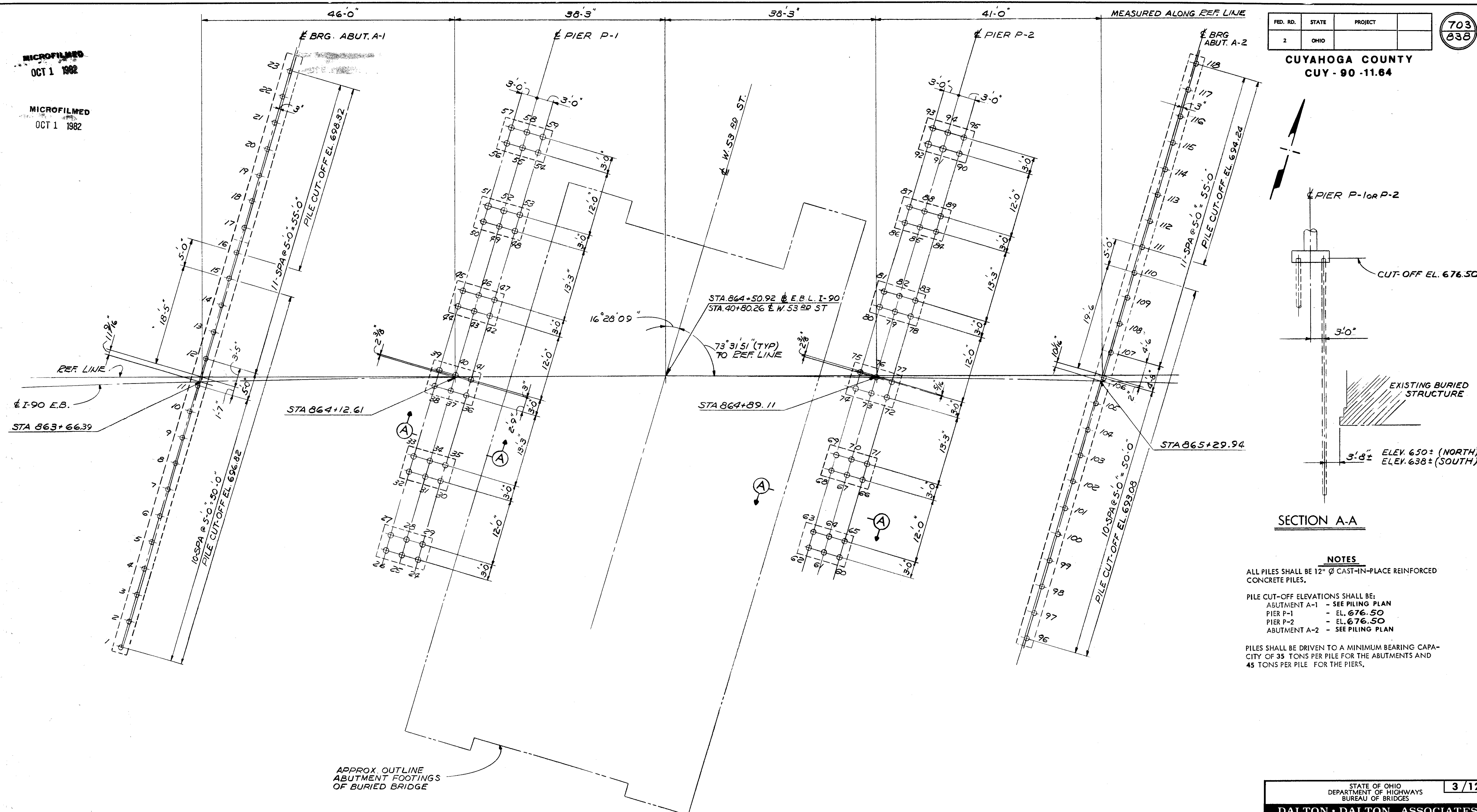
MICROFILMED  
OCT 1 1982

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

703  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



**SECTION A-A**

**NOTES**

- ALL PILES SHALL BE 12" Ø CAST-IN-PLACE REINFORCED CONCRETE PILES.
- PILE CUT-OFF ELEVATIONS SHALL BE:
  - ABUTMENT A-1 - SEE PILING PLAN
  - PIER P-1 - EL. 676.50
  - PIER P-2 - EL. 676.50
  - ABUTMENT A-2 - SEE PILING PLAN
- PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 35 TONS PER PILE FOR THE ABUTMENTS AND 45 TONS PER PILE FOR THE PIERS.

APPROX. OUTLINE  
ABUTMENT FOOTINGS  
OF BURIED BRIDGE

**PILING PLAN**  
118 PILES REQD.

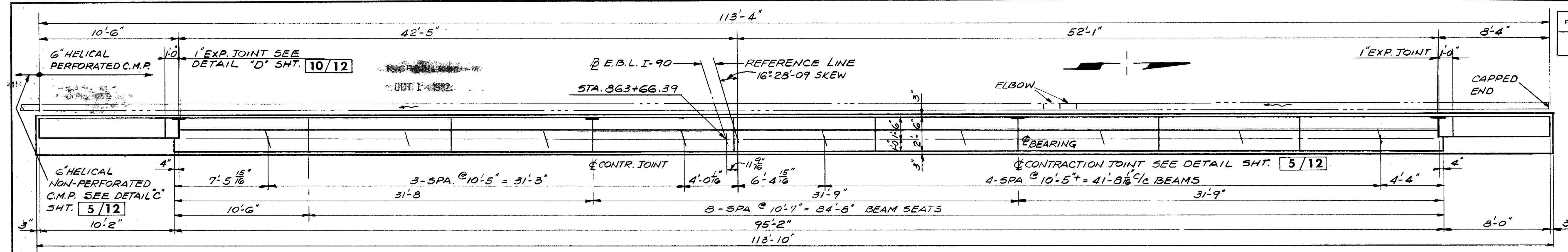
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						3/12
<b>DALTON - DALTON ASSOCIATES</b>						
<b>PILING PLAN</b>						
BRIDGE NO. CUY - 90 - 1304RT.						
OVER WEST 53rd ST.						
I-90 CUYAHOGA COUNTY						
STA. 863 +65.34 TO STA. 865 +30.97						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BWM	JLH		Hooover	RDA	4-17-74	



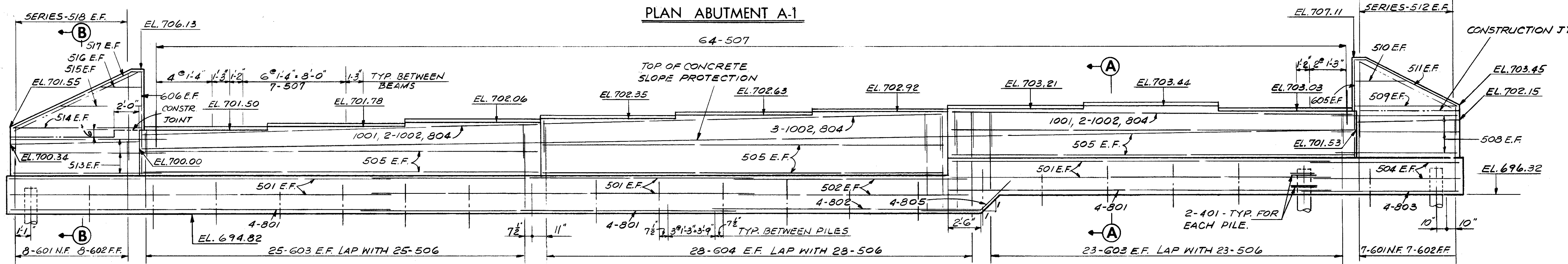
FED. RD.	STATE	PROJECT
2	OHIO	

704  
838

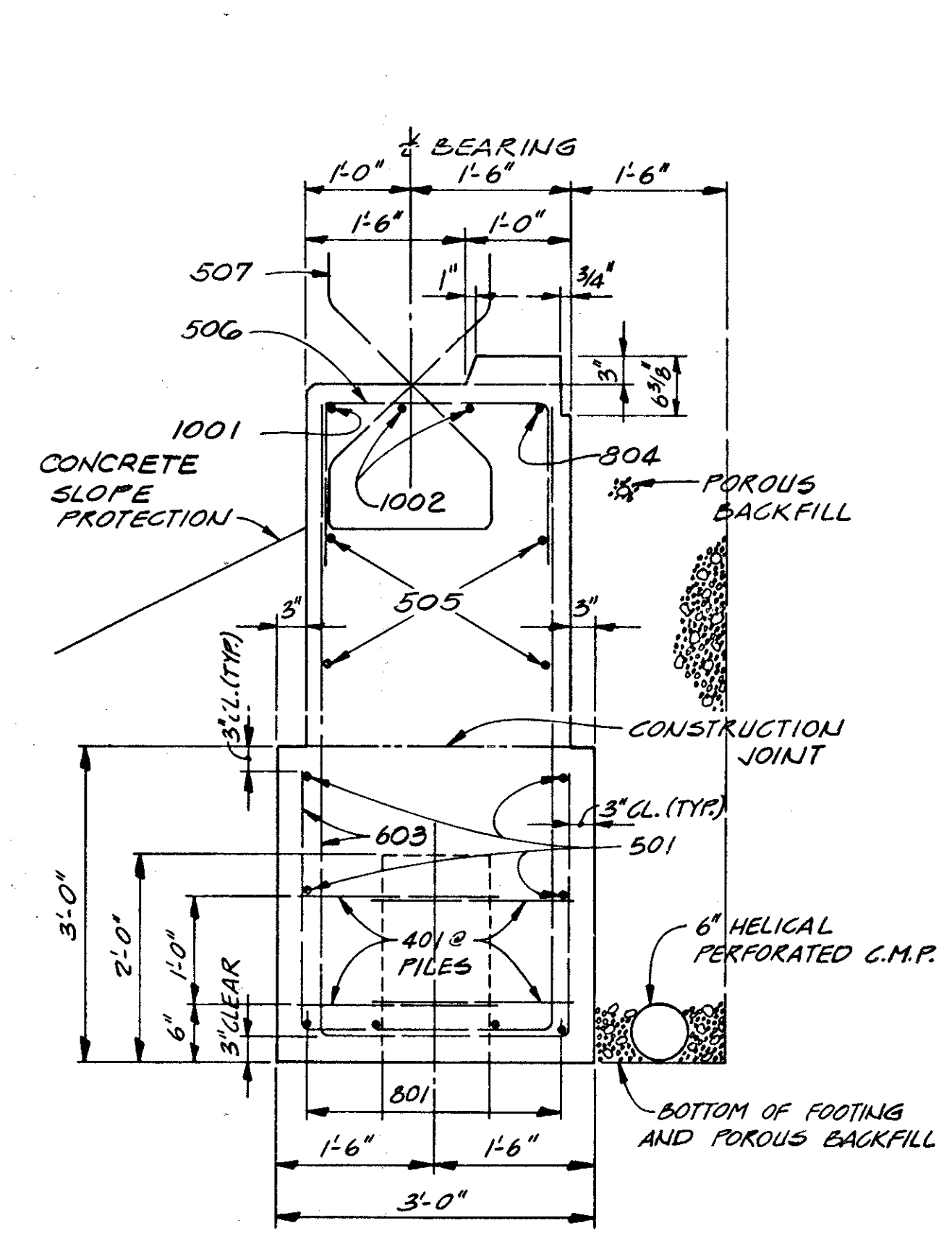
CUYAHOGA COUNTY  
CUI-90-11.84



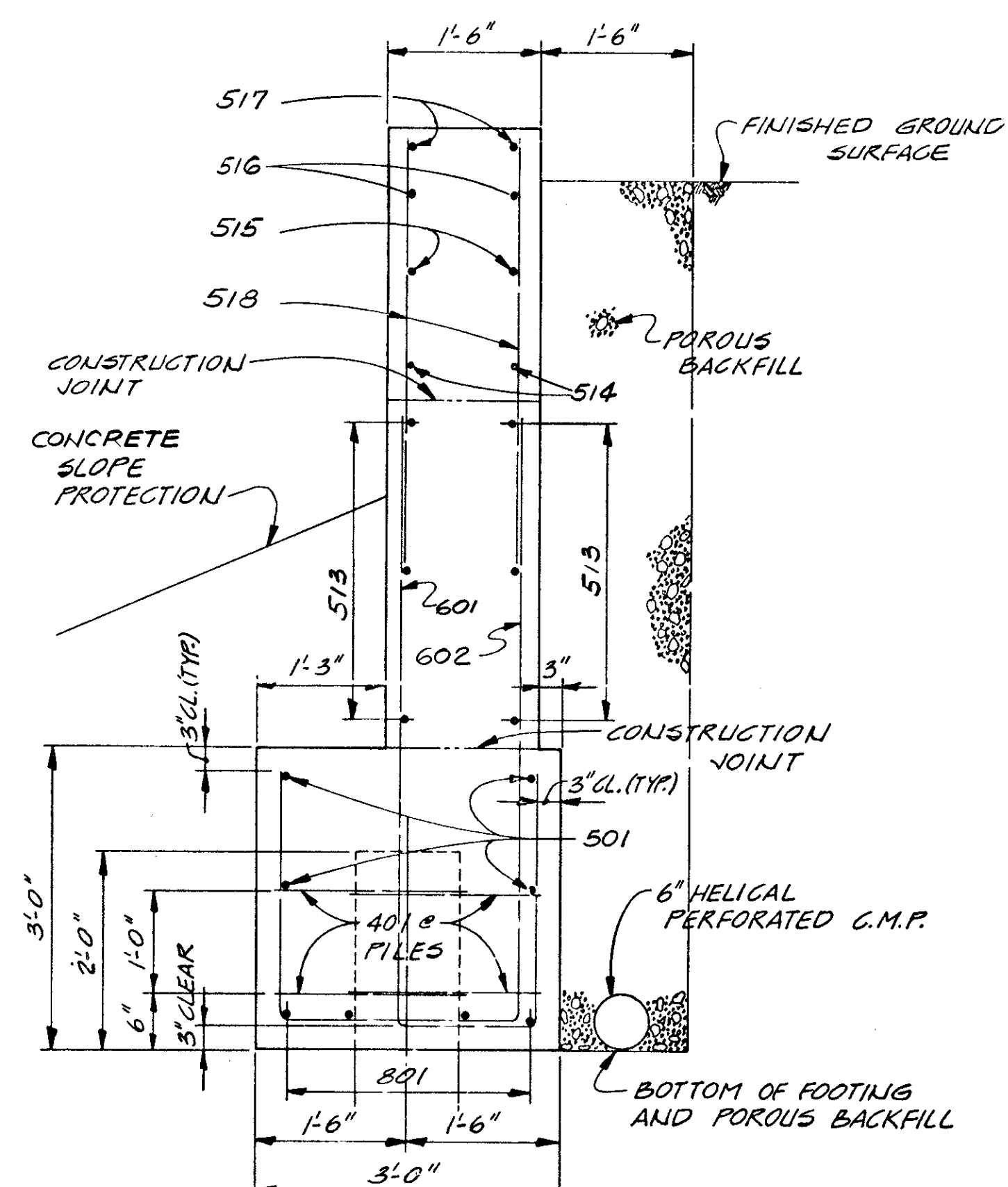
PLAN ABUTMENT A-1



ELEVATION



SECTION A-A  
OTHER ABUTMENT SIMILAR



SECTION B-B  
OTHER WING WALLS SIMILAR

NOTES

- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
- POROUS BACKFILL SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE WITHIN THE ROADWAY AREA EXTENDED Laterally TO THE EMBANKMENT SIDE SLOPES.
- THE PREFIX "1A" OR "2A" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENTS A-1 OR A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
- FOR PILING PLAN, SEE SHEET 3/12
- FOR ADDITIONAL DETAILS, SEE SHEETS 5/12 AND 9/12

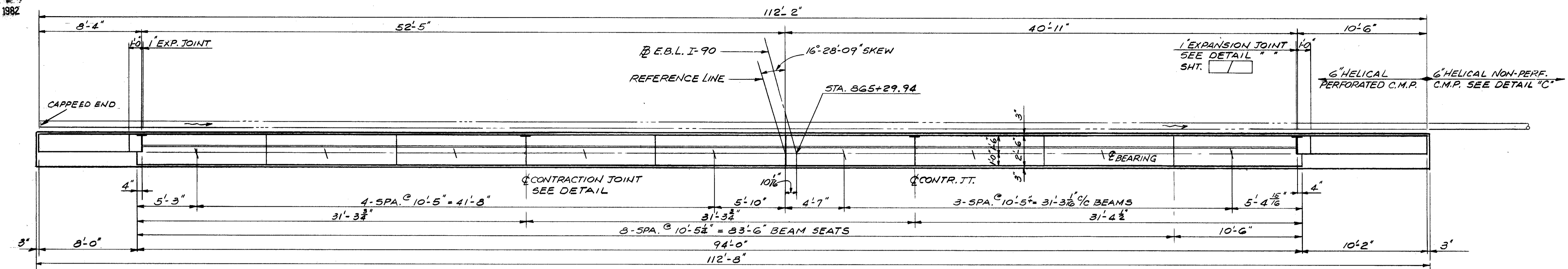
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						4/12
DALTON-DALTON ASSOCIATES						
ABUTMENT A-1 DETAILS						
BRIDGE NO. CUY-90-1304RT. OVER WEST 53rd ST. I-90 CUYAHOGA COUNTY STA.8634+65.3 TO STA.865 +30.97						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BWM	J.S.K.		Hobbs	R.B.H.	4-17-74	

FED. RD.	STATE	PROJECT
2	OHIO	

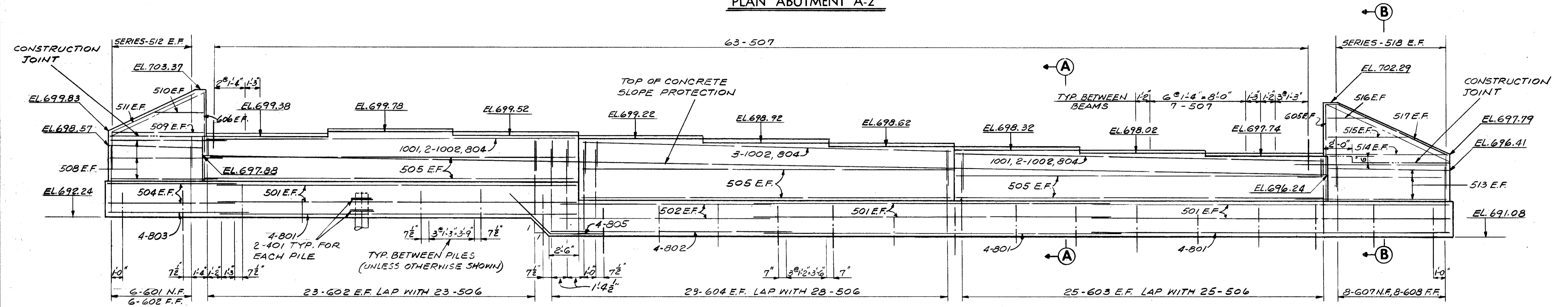
705  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

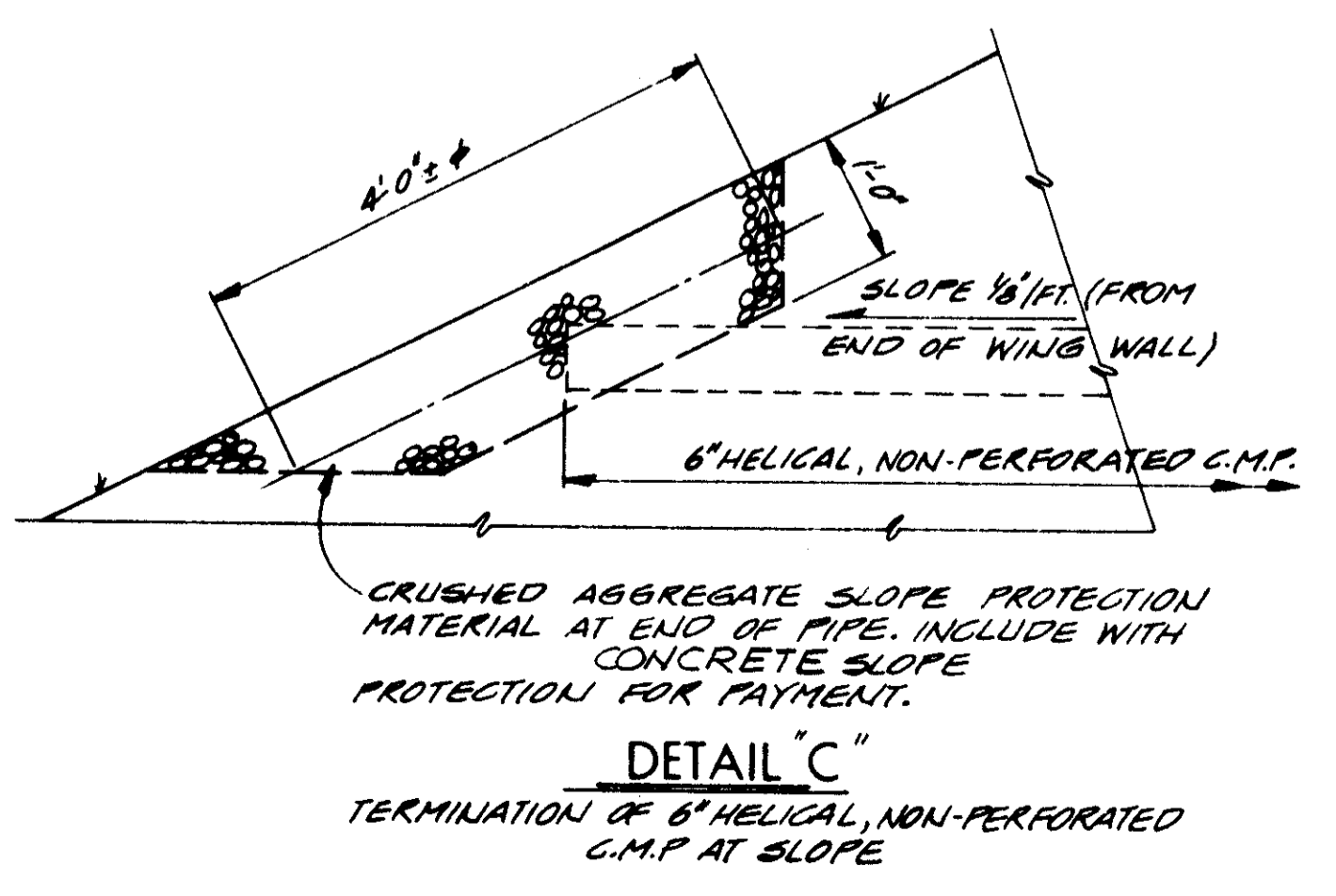
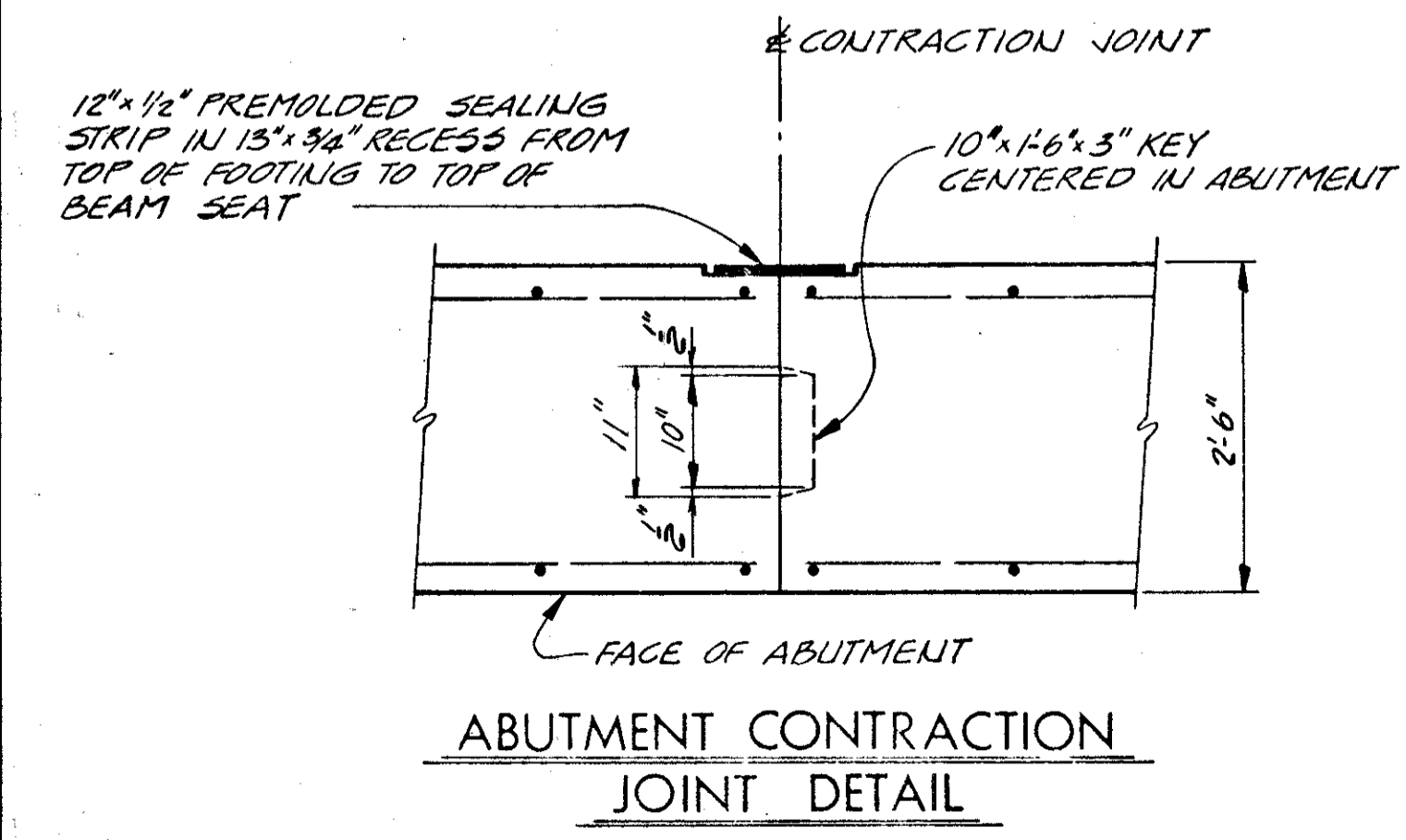
MICROFILMED  
OCT 1 1982



PLAN ABUTMENT A-2



ELEVATION



FOR ADDITIONAL NOTES, SEE SHEET 4/12  
FOR ALL SECTIONS, SEE SHEET 4/12

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

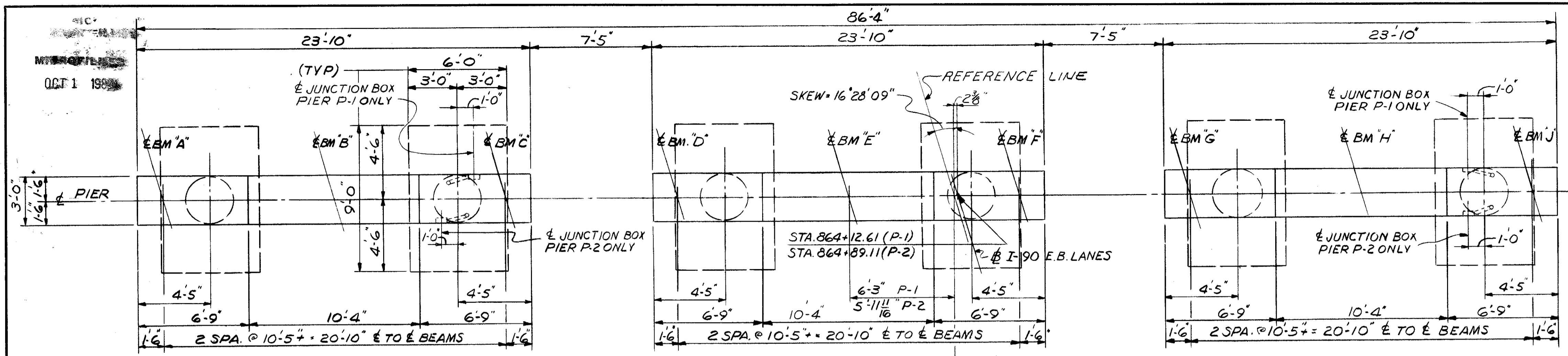
5/12

**DALTON · DALTON ASSOCIATES**

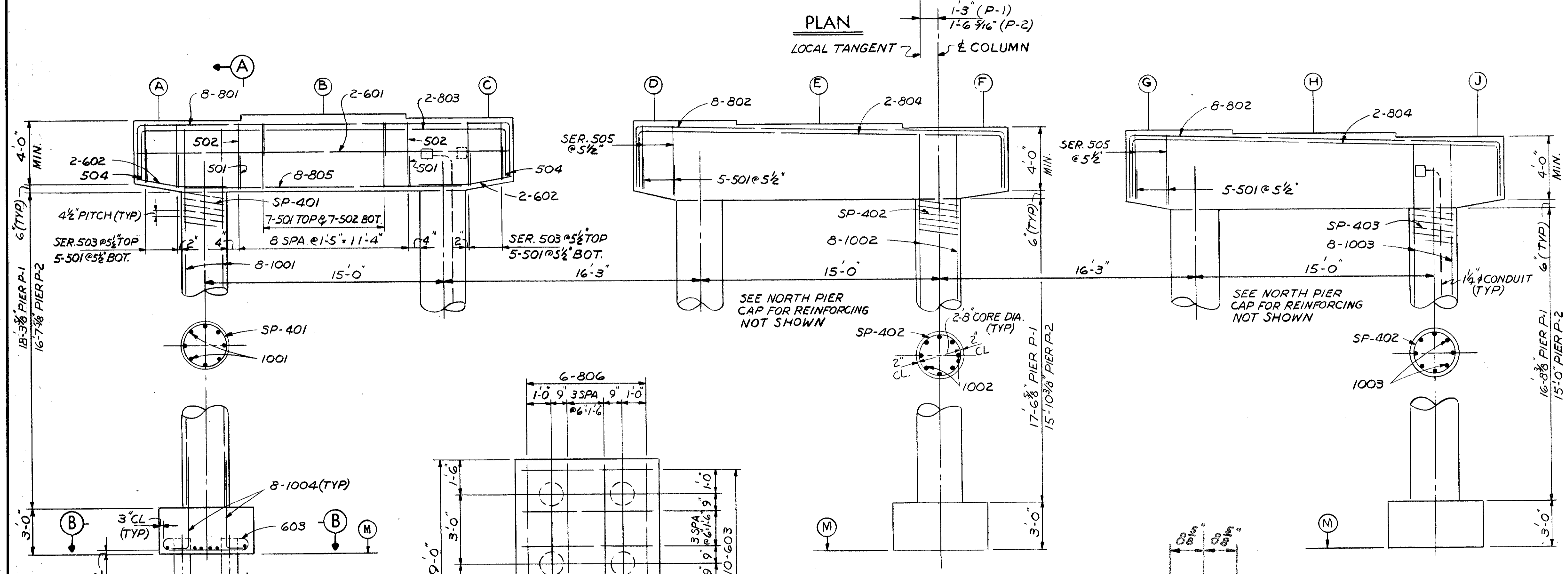
**ABUTMENT A 2 DETAILS**

BRIDGE NO. CUY-90-1304RT.  
OVER WEST 53rd ST.  
I-90 CUYAHOGA COUNTY  
STA.863 +65.34 TO STA.865 +30.97

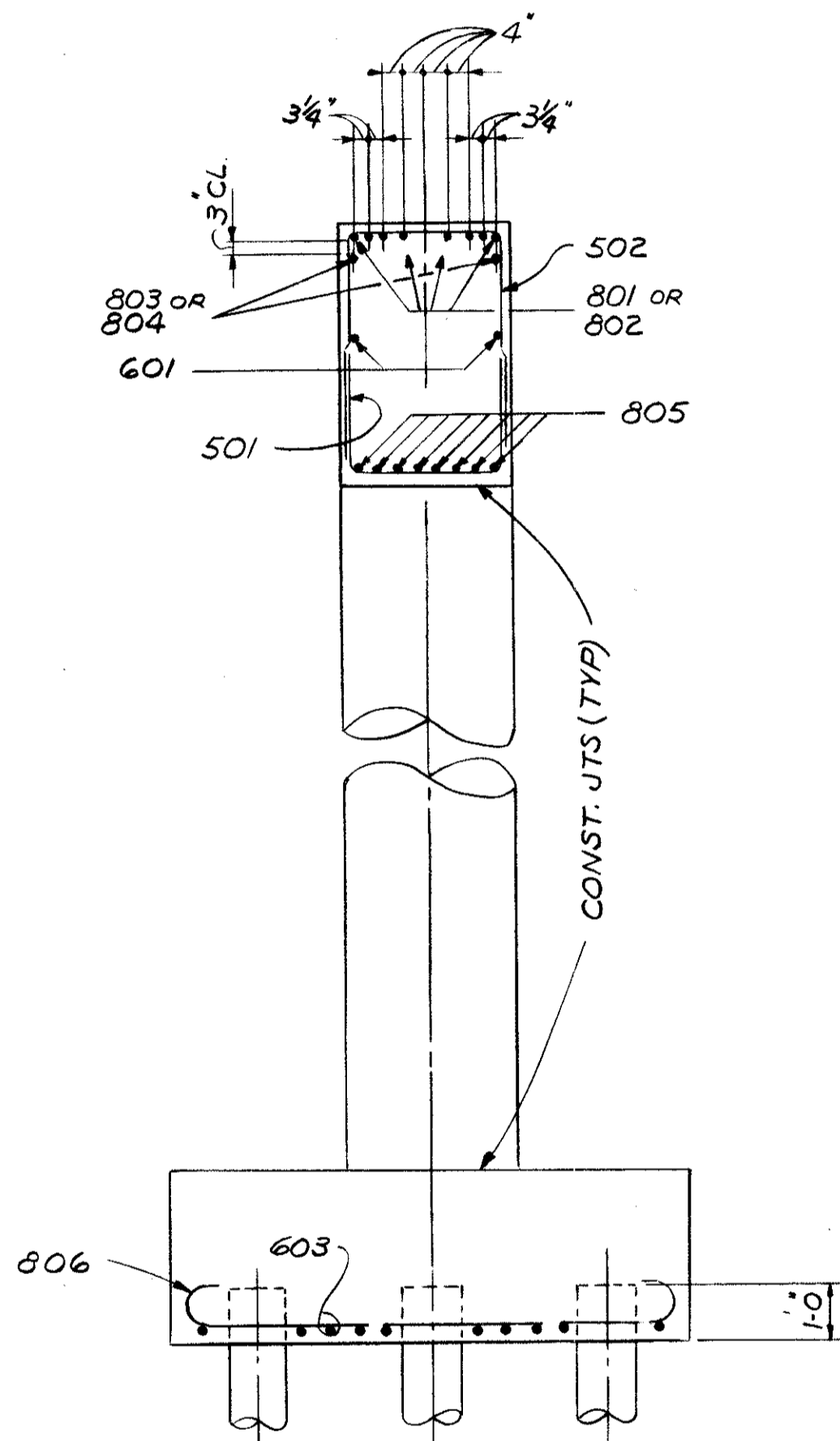
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BWM	JSK		Hodgson	RBA	4-17-74	



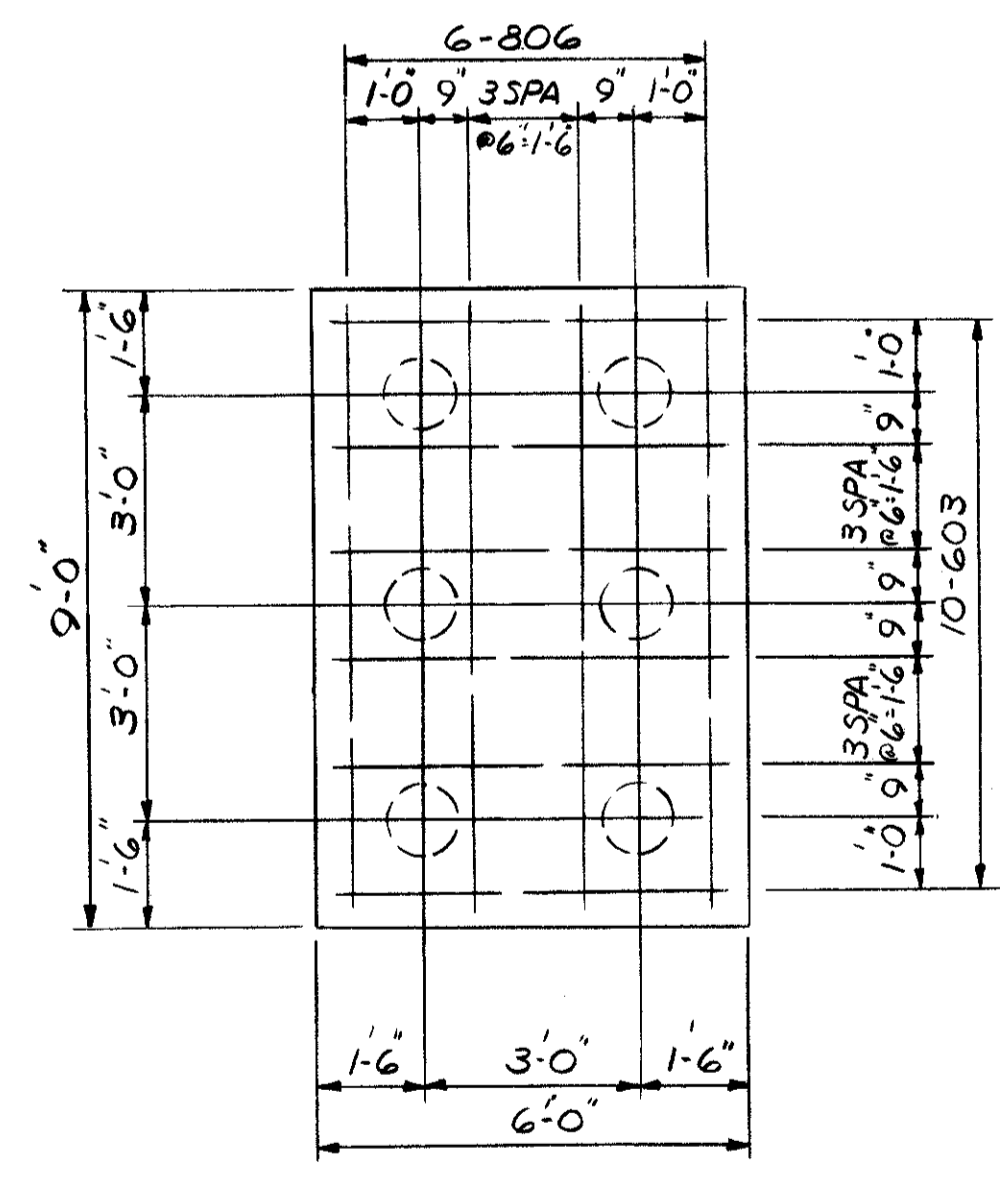
PLAN  
LOCAL TANGENT  
REFERENCE LINE  
SKEW = 16°28'09"



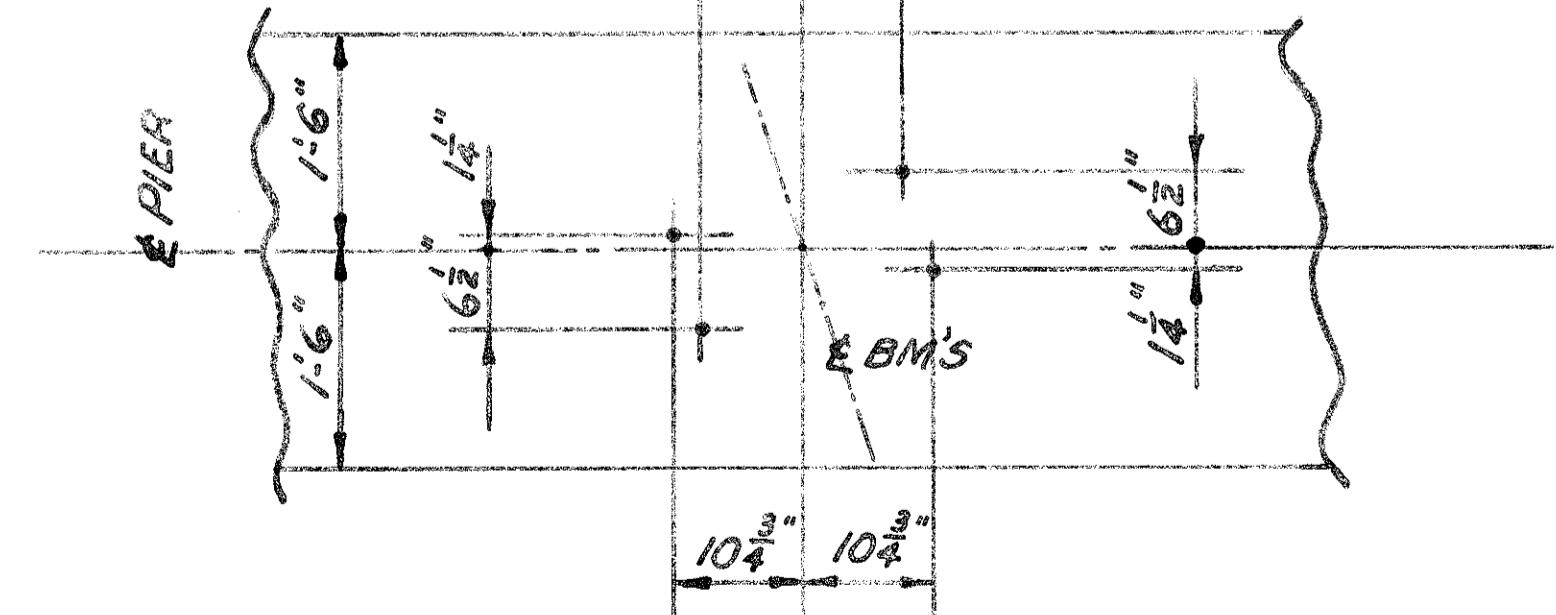
ELEVATION



SECTION A-A



SECTION B-B



TYP ANCHOR LOCATIONS

ELEVATIONS										
LOCATION	A	B	C	D	E	F	G	H	J	M
PIER P-1	701.30	701.71	701.42	701.13	700.84	700.55	700.27	699.98	699.70	675.50
PIER P-2	699.64	700.04	699.75	699.45	699.15	698.86	698.56	698.27	698.00	675.50

BEARING ANCHORS: AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES) LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.

NOTES

BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES OR THE PRESETTING OF BEARING ANCHORS.

THE PREFIX "1P", "2P" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN PIERS P-1, P-2 RESPECTIVELY, UNLESS SHOWN OTHERWISE.

FOR PILING PLAN, SEE SHEET 3/12

FOR ADDITIONAL NOTES, SEE SHEET 2/12

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

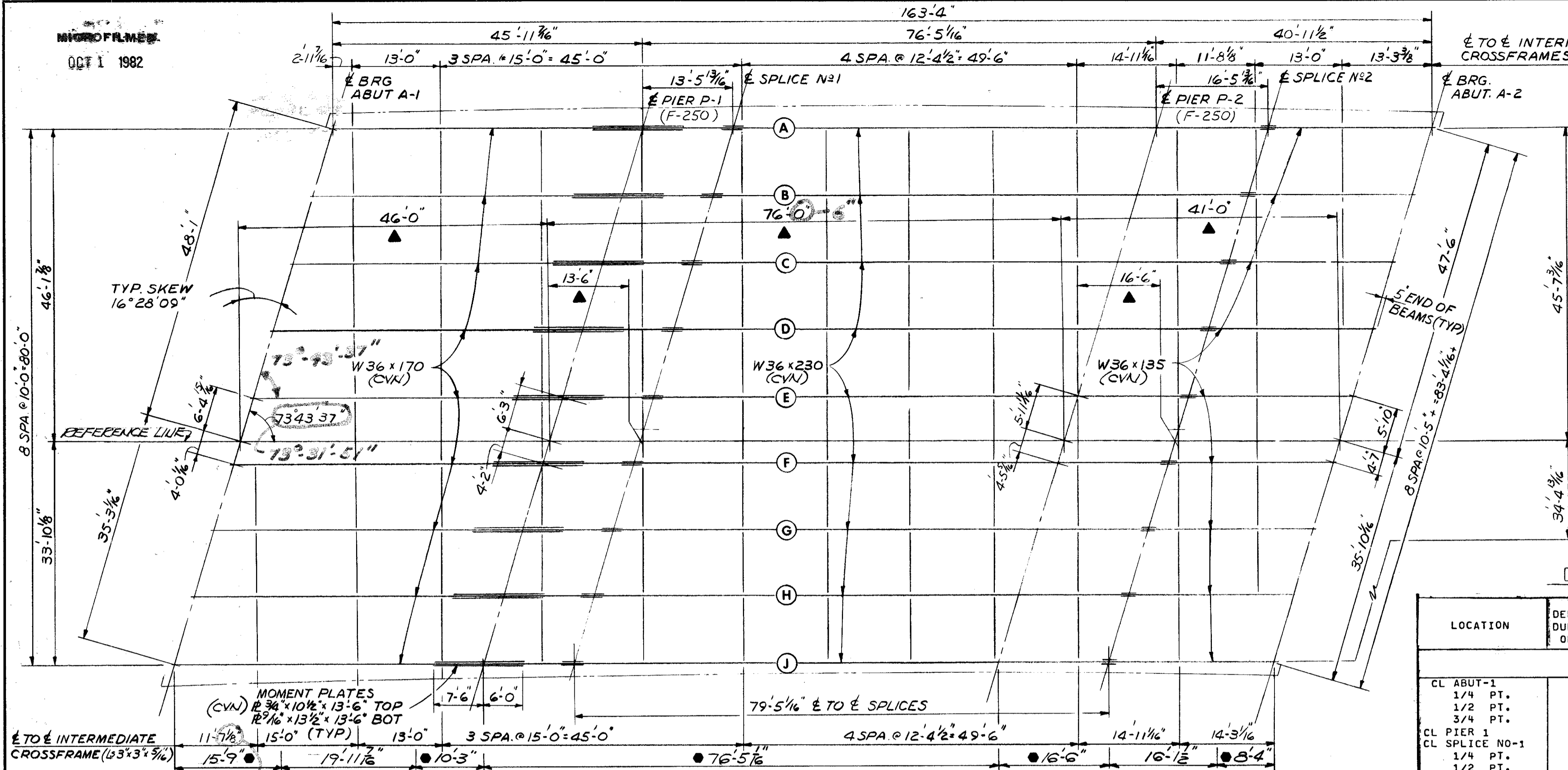
**DALTON-DALTON ASSOCIATES**

PIER DETAILS

BRIDGE NO. CUY - 90-1304RT.  
OVER WEST 53rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 863 +65.34 TO STA. 865 +30.97

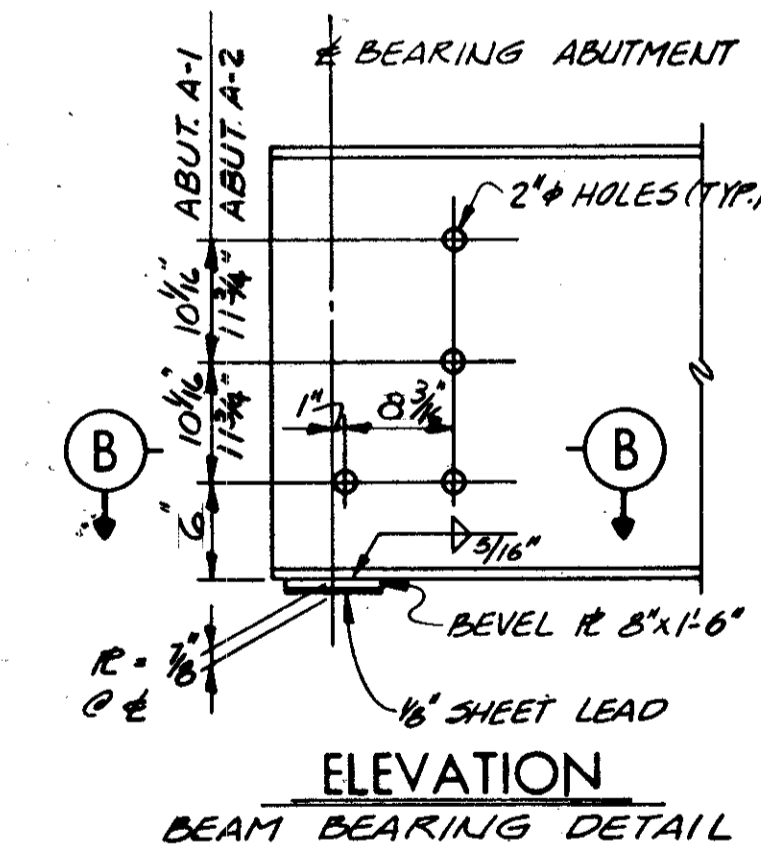
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BWM	JLH		Hobbs	RBM	9-17-79	10-31-75

**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

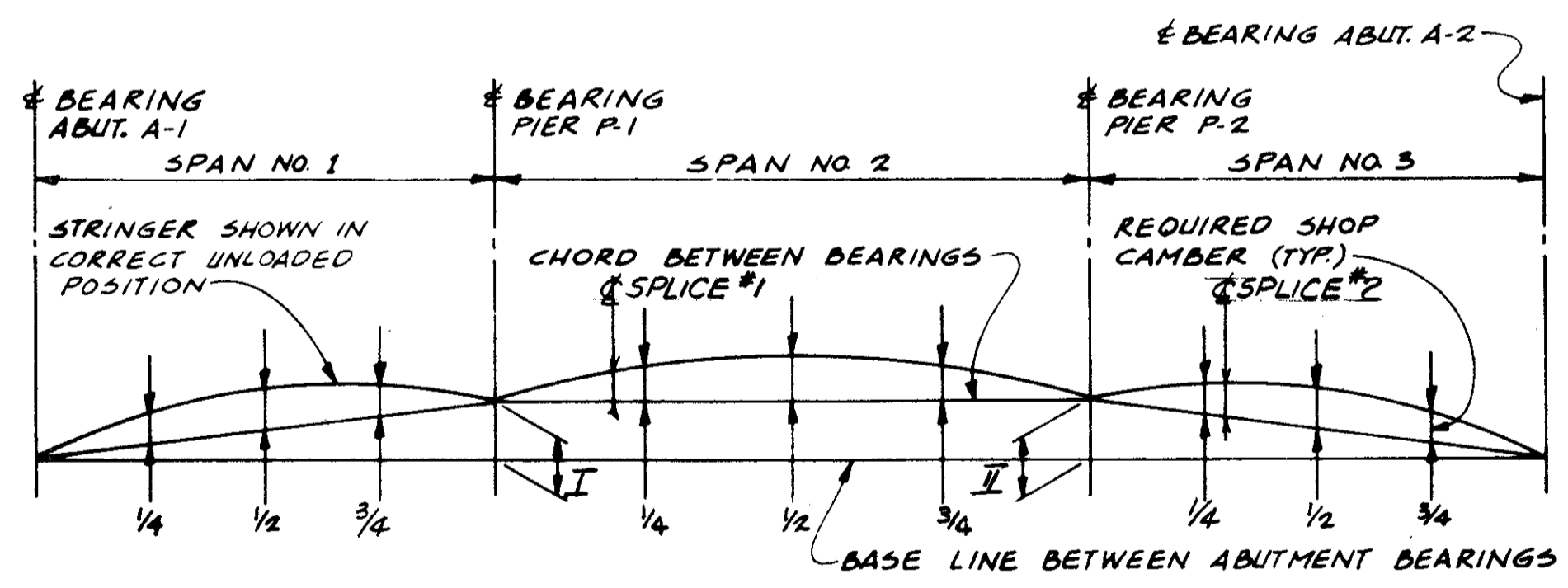


**FRAMING PLAN**

▲ DENOTES DIMENSIONS SHOWN MEASURED ALONG REFERENCE LINE



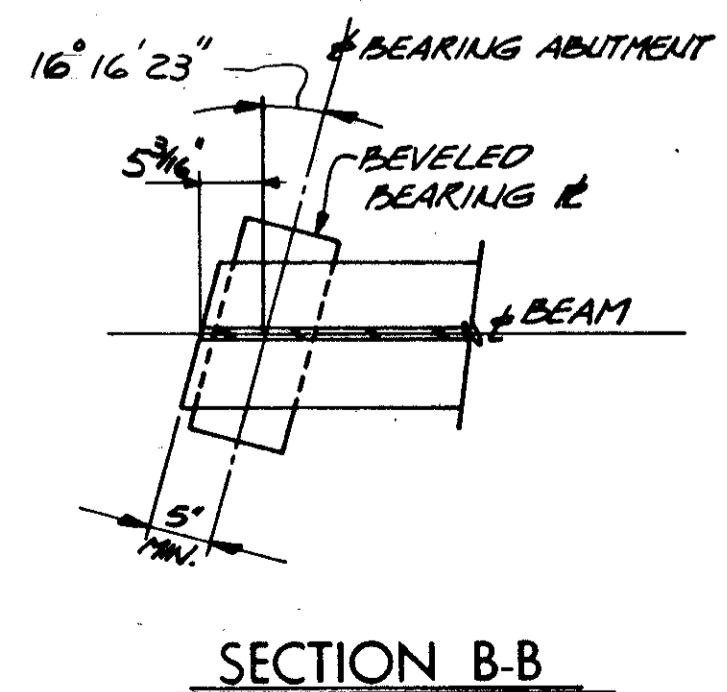
**ELEVATION BEAM BEARING DETAIL**



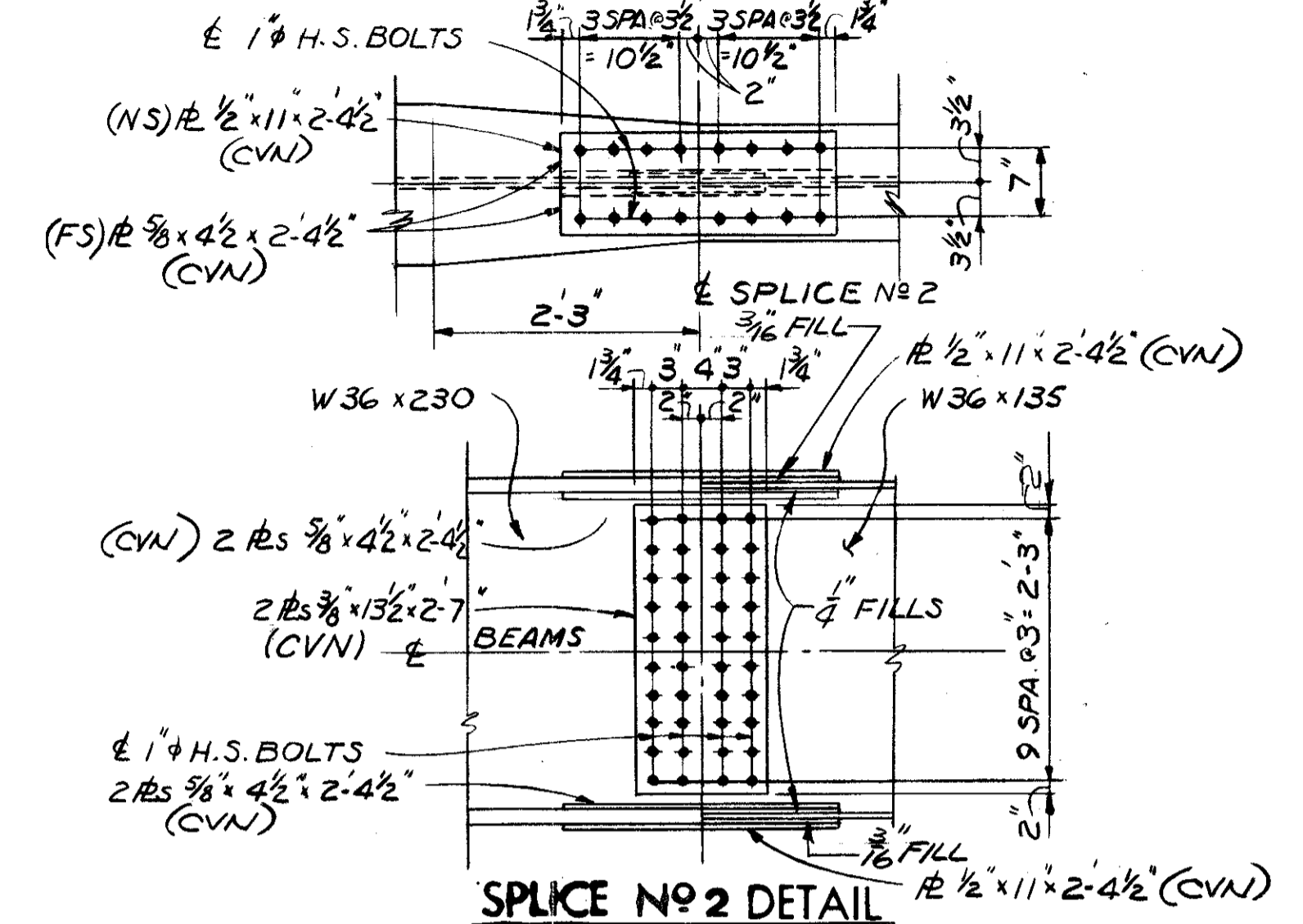
**LAYOUT DIAGRAM**

● INDICATES AREA ON FACIA BEAMS WHERE WELDED ATTACHMENTS FOR FINISHING MACHINE SUPPORTS MAY BE MADE. ATTACHMENT DETAILS SHALL NOT EMPLOY FILLET WELDS LONGER THAN 2 INCHES OR BE CLOSER THAN 1 INCH FROM EDGE OF FLANGE.

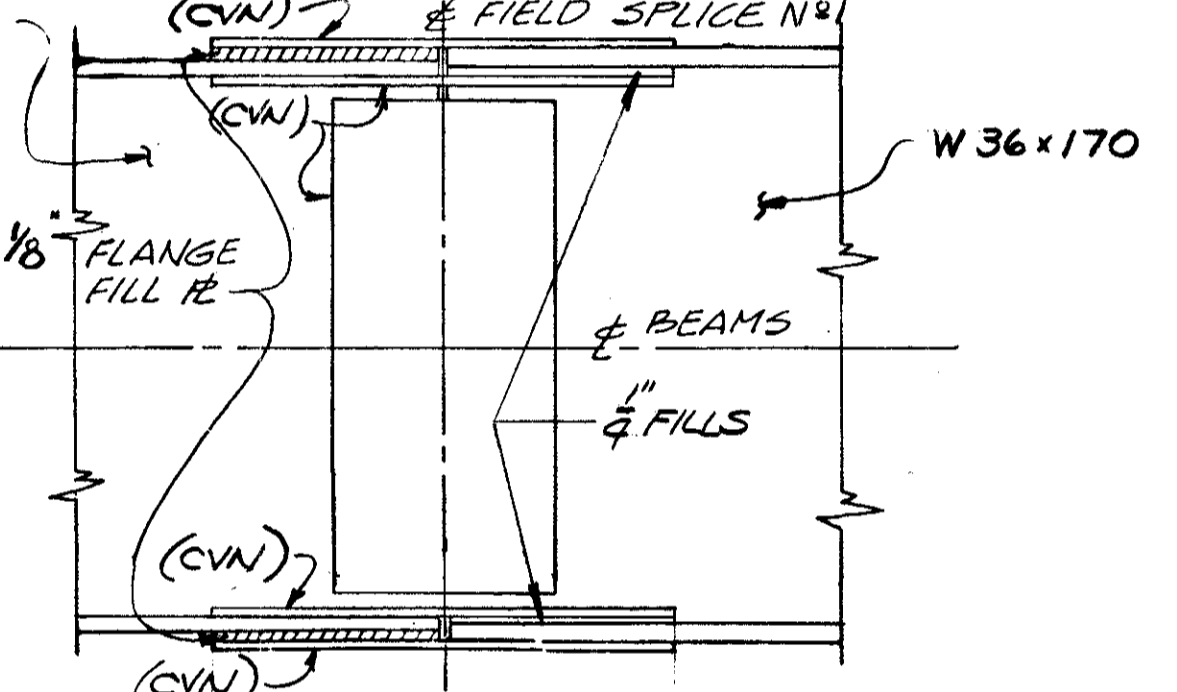
LAYOUT DIAGRAM OFFSETS			
STRINGER	I	II	
A	3/16"	3/16"	
B thru H	5/16"	1/4"	
J	3/16"	1/8"	



**SECTION B-B**



**SPlice No 2 DETAIL**



**SPlice FILL PLATE DETAIL**

FOR NOTES & DETAILS NOT SHOWN SEE S D-1-69 SHT. 4 OF 4

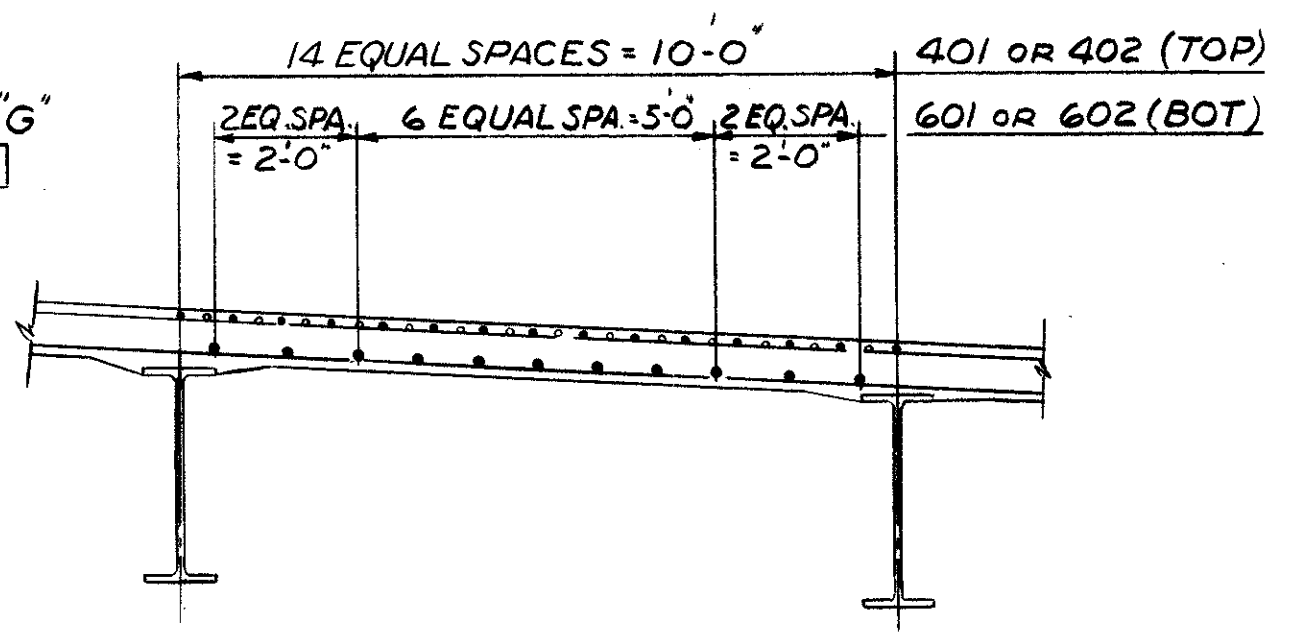
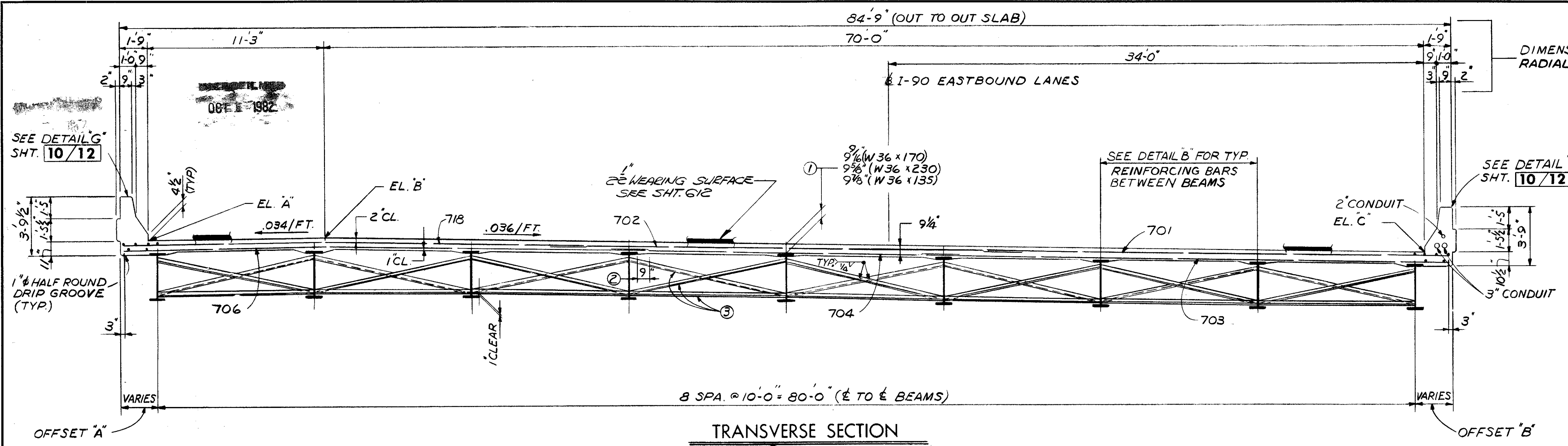
**DEFLECTION AND CAMBER**

LOCATION	DEFLECTION DUE TO WT. OF STEEL	DEFLECTION DUE TO REMAINING DL	ADJ. REQ'D. FOR VERTICAL & HORZ. CURVE	REQUIRED SHOP CAMBER
<b>BEAM A</b>				
CL ABUT-1	---	---	---	---
1/4 PT.	---	1/16"	- 1/16"	---
1/2 PT.	---	---	---	---
3/4 PT.	---	- 1/16"	---	- 1/16"
CL PIER 1	1/16"	5/16"	1/16"	7/16"
CL SPlice No-1	1/16"	1/2"	1/16"	5/8"
1/4 PT.	1/16"	1/2"	- 1/16"	13/16"
1/2 PT.	1/8"	3/4"	- 1/16"	13/16"
3/4 PT.	1/16"	1/2"	- 1/16"	1/2"
CL PIER 2	---	- 1/16"	---	- 1/16"
1/4 PT.	---	- 1/16"	---	- 1/16"
1/2 PT.	---	---	---	---
3/4 PT.	---	---	---	---
CL ABUT-2	---	---	---	---
<b>BEAM B</b>				
CL ABUT-1	---	---	---	1/16"
1/4 PT.	---	1/16"	---	1/16"
1/2 PT.	---	- 1/16"	---	- 1/16"
3/4 PT.	---	- 1/16"	---	- 1/16"
CL PIER 1	1/16"	5/16"	---	3/8"
CL SPlice No-1	1/16"	1/2"	- 1/16"	1/2"
1/4 PT.	1/16"	1/2"	- 1/16"	13/16"
1/2 PT.	1/8"	3/4"	- 1/16"	13/16"
3/4 PT.	1/16"	1/2"	- 1/16"	1/2"
CL PIER 2	---	- 1/16"	---	- 1/16"
1/4 PT.	---	- 1/16"	---	- 1/16"
1/2 PT.	---	---	---	---
3/4 PT.	---	---	---	---
CL ABUT-2	---	---	---	---
<b>BEAMS C-D-E-F-G &amp; H</b>				
CL ABUT-1	---	---	---	1/16"
1/4 PT.	---	1/16"	---	1/16"
1/2 PT.	---	---	---	---
3/4 PT.	---	- 1/16"	---	- 1/16"
CL PIER 1	1/16"	5/16"	- 1/16"	5/16"
CL SPlice No-1	1/16"	1/2"	- 1/16"	1/2"
1/4 PT.	1/16"	1/2"	- 1/16"	13/16"
1/2 PT.	1/8"	3/4"	- 1/16"	13/16"
3/4 PT.	1/16"	1/2"	- 1/16"	1/2"
CL PIER 2	---	- 1/16"	---	- 1/16"
1/4 PT.	---	- 1/16"	---	- 1/16"
1/2 PT.	---	---	---	---
3/4 PT.	---	---	---	---
CL ABUT-2	---	---	---	---
<b>BEAM J</b>				
CL ABUT-1	---	---	---	---
1/4 PT.	---	1/16"	- 1/16"	---
1/2 PT.	---	---	- 1/8"	- 1/8"
3/4 PT.	---	- 1/16"	- 1/16"	- 1/8"
CL PIER 1	1/16"	5/16"	---	3/8"
CL SPlice No-1	1/16"	1/2"	---	9/16"
1/4 PT.	1/16"	1/2"	---	7/8"
1/2 PT.	1/8"	3/4"	---	9/16"
3/4 PT.	1/16"	1/2"	---	9/16"
CL PIER 2	---	- 1/16"	---	- 1/16"
1/4 PT.	---	- 1/16"	---	- 1/16"
1/2 PT.	---	---	---	---
3/4 PT.	---	---	---	---
CL ABUT-2	---	---	---	---

FOR NOTES, SEE SHEET 8 / 12

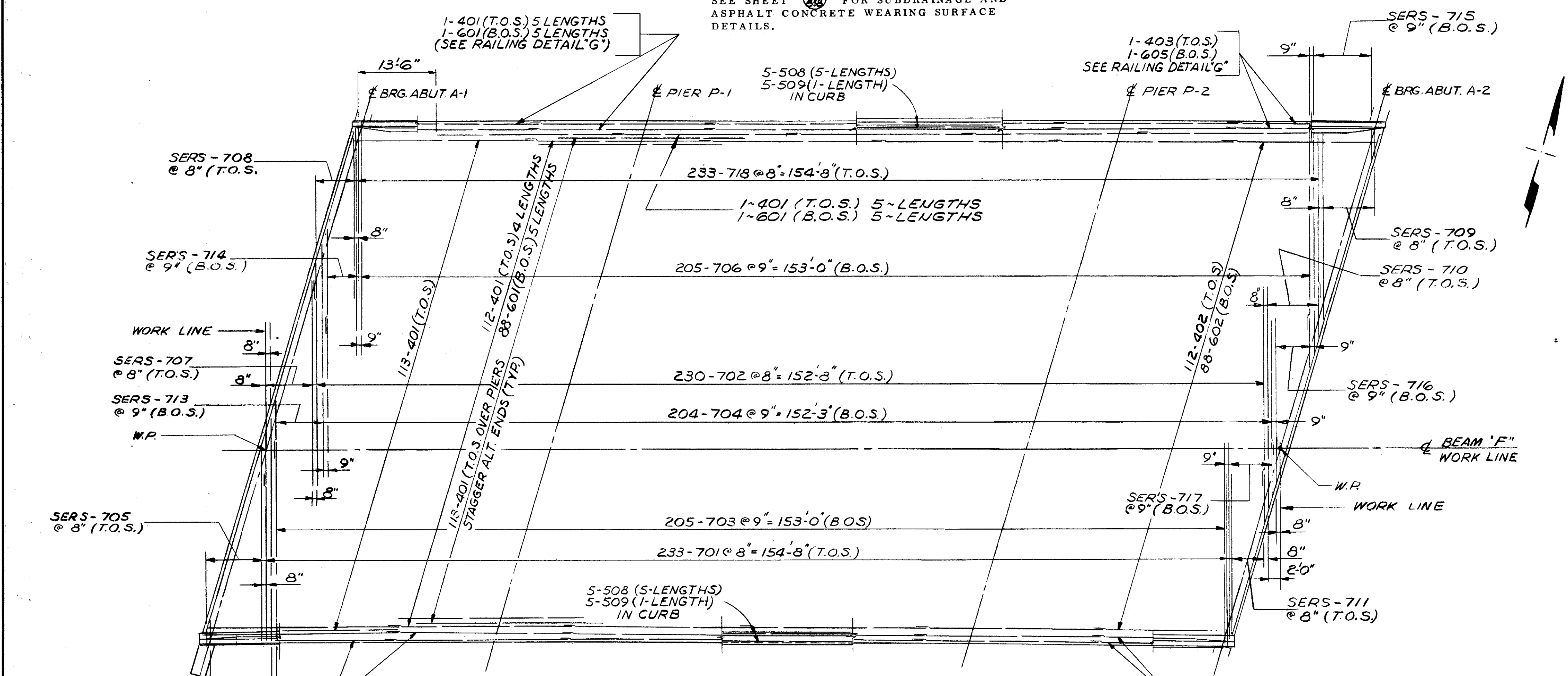
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES				7 / 12
<b>DALTON • DALTON ASSOCIATES</b>				
<b>FRAMING PLAN</b>				
BRIDGE NO. CUY - 90 - 1304RT. OVER WEST 53rd ST. I-90 CUYAHOGA COUNTY STA. 863 +65.34 TO STA. 865 +30.97				
DESIGNED	DRAWN	CHECKED	REVISIONS	DATE
KSJ	JLH	Adovani	RJH	4-17-74
				5-2-77

DIMENSIONS SHOWN ARE  
RADIAL DIMENSIONS



**TRANSVERSE SECTION**

SEE SHEET 708 FOR SUBDRAINAGE AND ASPHALT CONCRETE WEARING SURFACE DETAILS.

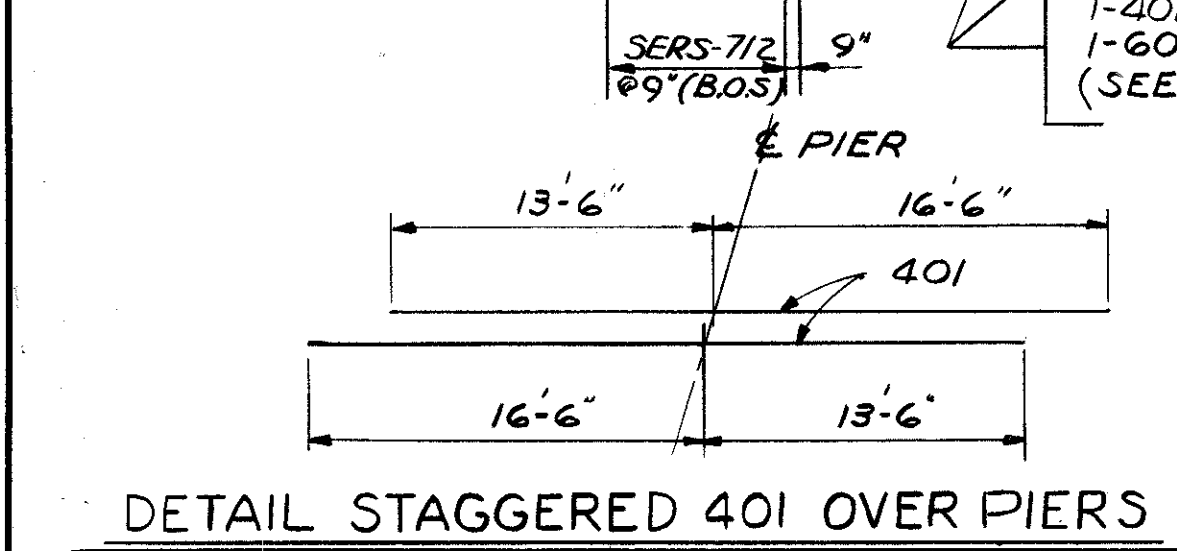


**SLAB PLAN**

REINFORCING TO BE PLACED NORMAL TO BEAMS (BEAM "F" WORK LINE)  
T.O.S. DENOTES TOP OF SLAB REINFORCING  
B.O.S. DENOTES BOTTOM OF SLAB REINFORCING

**NOTES**

- DECK SLAB DEPTH: THE DISTANCE SHOWN FROM THE TOP OF DECK SLAB TO TOP OF STEEL BEAM IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.
  - A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.
  - INTERMEDIATE CROSSFRAME ANGLES 3" X 3" X 5/16". WELD BOTH SIDES OF VERTICAL LEG AND TOP SIDE OF HORIZONTAL LEG TO BEAM WITH 1/4" CONTINUOUS FILLET WELD.
  - TRANSVERSE REINFORCEMENT SHALL BE FIELD BENT AS REQUIRED; PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL.
  - ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE AND ASPHALT WEARING SURFACE.
- FOR SCREENED ELEVATION TABLE, SEE SHEET 10/12
- THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE UNLESS SHOWN OTHERWISE.
  - FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET 10/12
  - SLAB OFFSETS ARE MEASURED FROM THE CENTERLINE OF BEAM AT THE LOCATION LISTED RADIAL TO THE EDGE OF SLAB FOR SLAB OFFSET TABLE. THE 1/4 POINT, 1/2 POINT, ETC., ARE DIVISIONS ALONG THE CENTERLINE OF BEAM BETWEEN CENTERLINES OF BEARING.
- FOR SLAB OFFSET TABLE, SEE SHEET 10/12



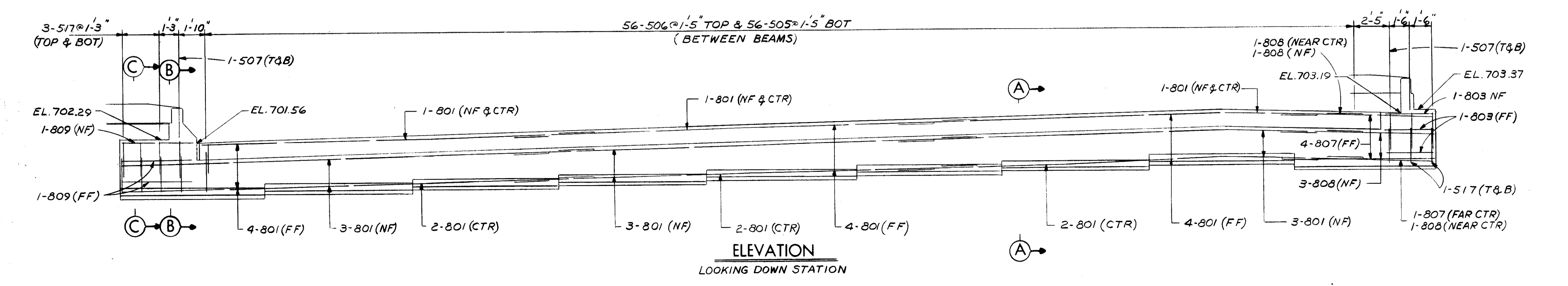
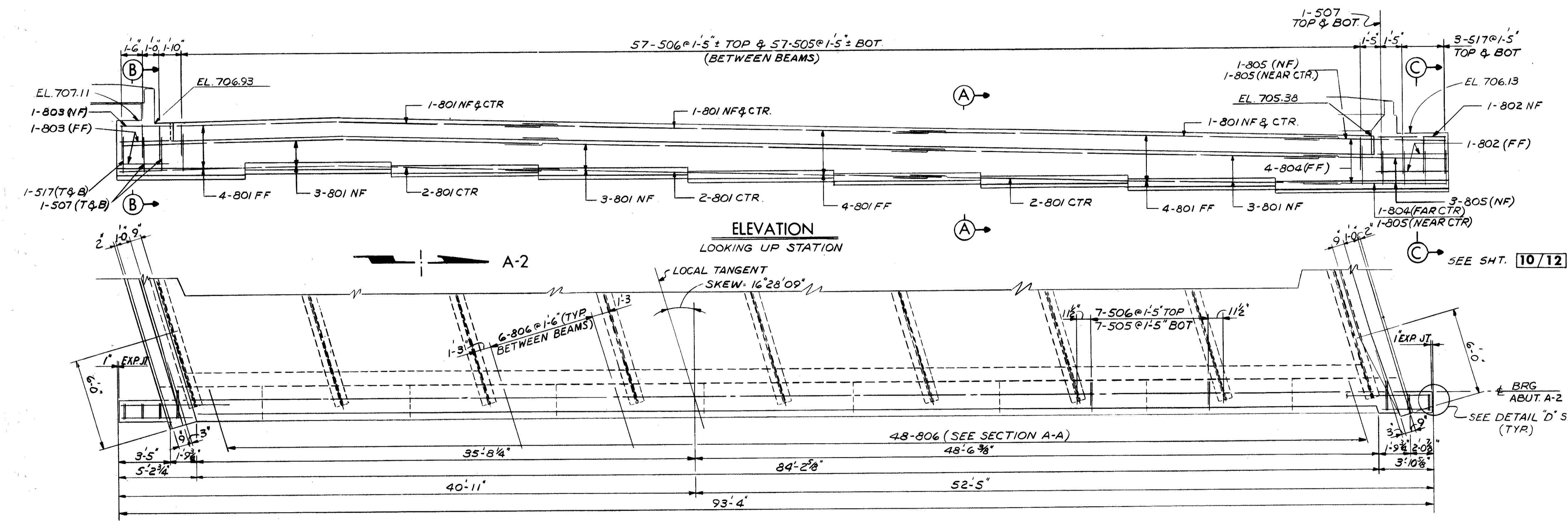
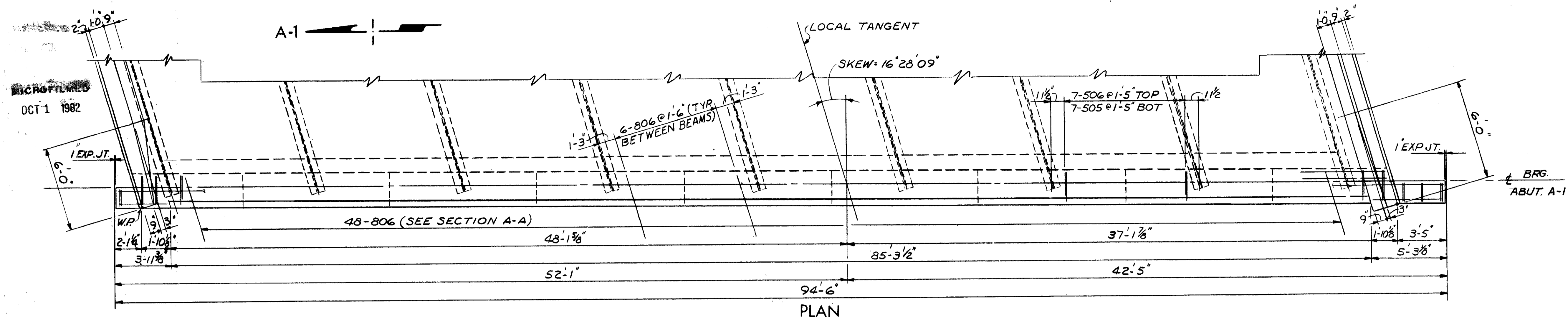
DETAIL STAGGERED 401 OVER PIERS

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		8 / 12
DALTON · DALTON ASSOCIATES		
SLAB PLAN & SECTION		
BRIDGE NO. CUY - 90 - 1304RT. OVER WEST 53rd ST. I-90 CUYAHOGA COUNTY STA. 863 +65.34 TO STA. 865 +30.97		
DESIGNED	DRAWN	TRACED
K S J	J L H	Hademan
CHECKED	REVIEWED	DATE
	R. D. A.	4-17-74
REVISED		

FED. RD.	STATE	PROJECT
2	OHIO	

709  
638

CUYAHOGA COUNTY  
CUI-90-11.64



FOR SECTIONS, SEE SHEET 10/12

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

9/12

DALTON-DALTON ASSOCIATES

SUPERSTRUCTURE DETAILS

BRIDGE NO. CUY-90-1304RT.  
OVER WEST 53rd ST.,  
I-90 CUYAHOGA COUNTY  
STA. 863 +65.34 TO STA. 865 +30.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	JLH		Hodovan	10/84	4.17.79	

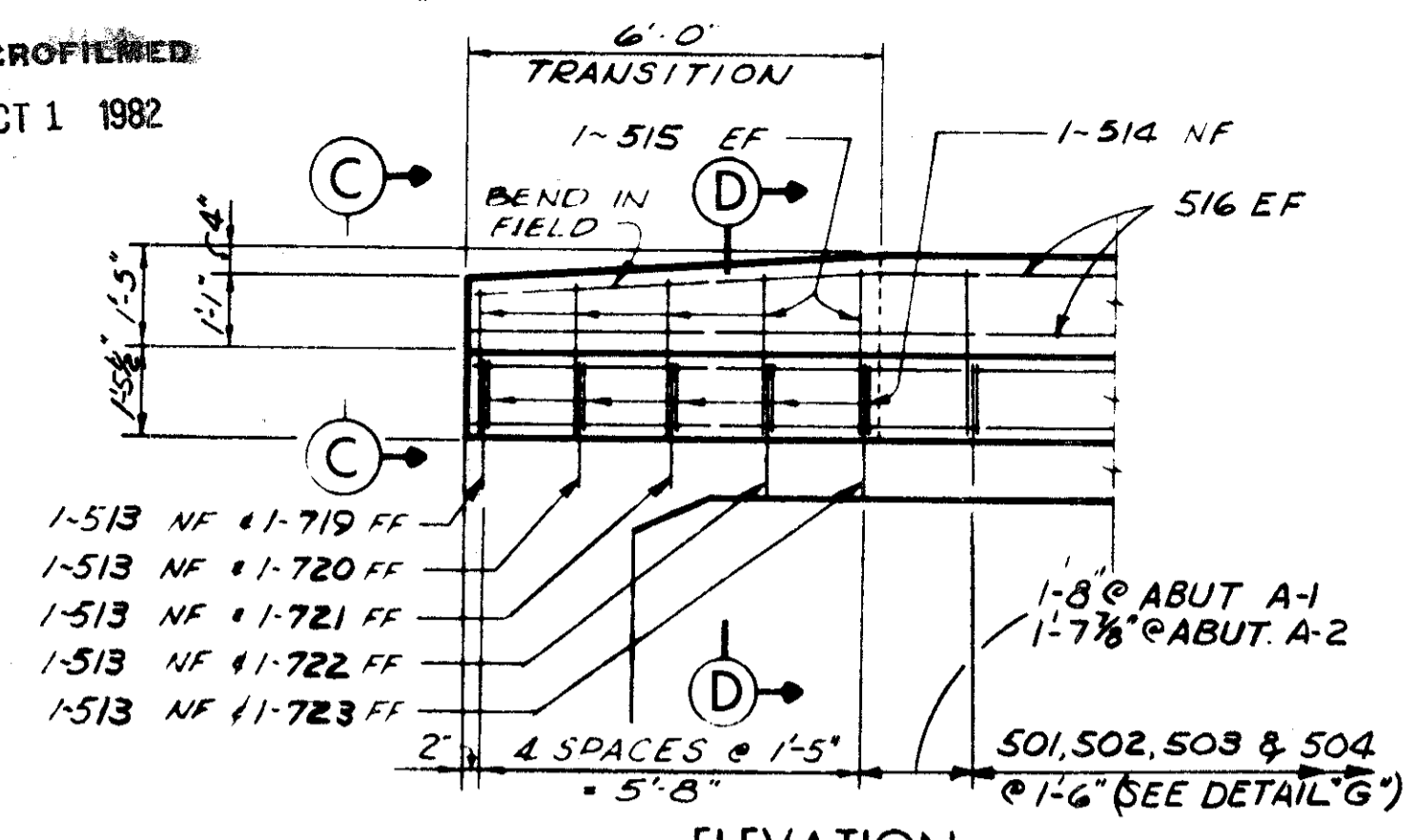
MICROFILMED  
OCT 1 1982

MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

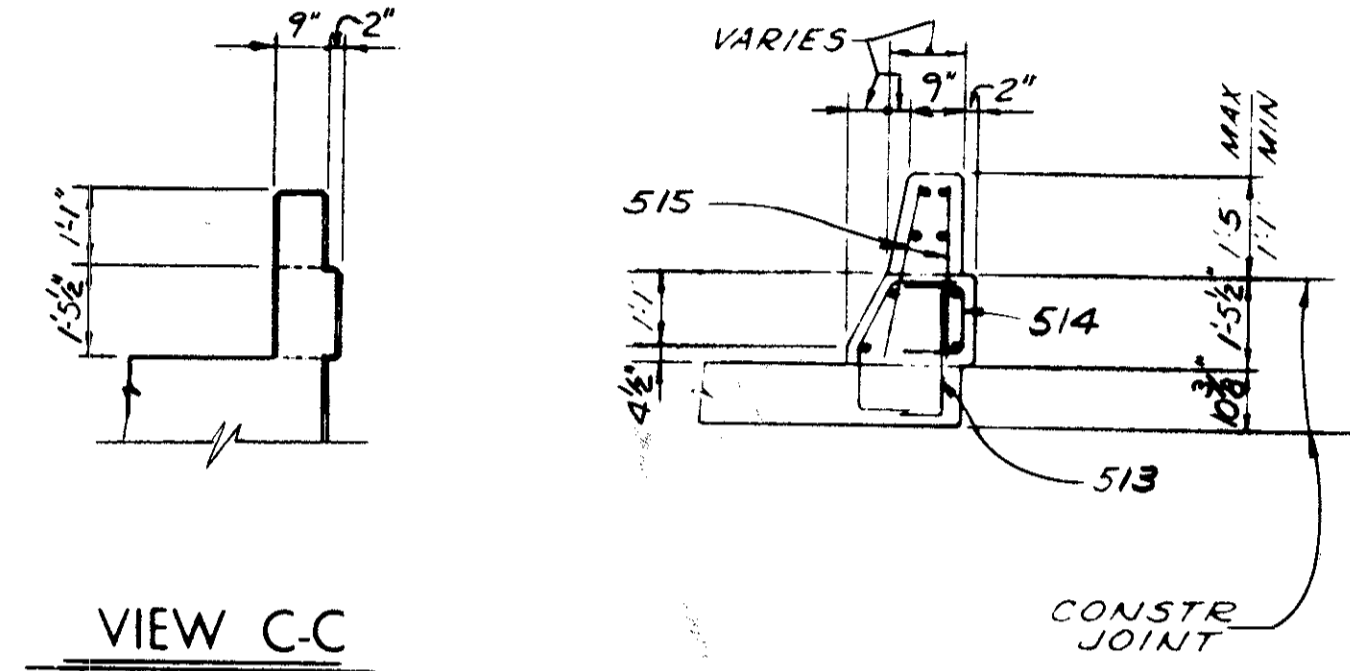
710  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



ELEVATION

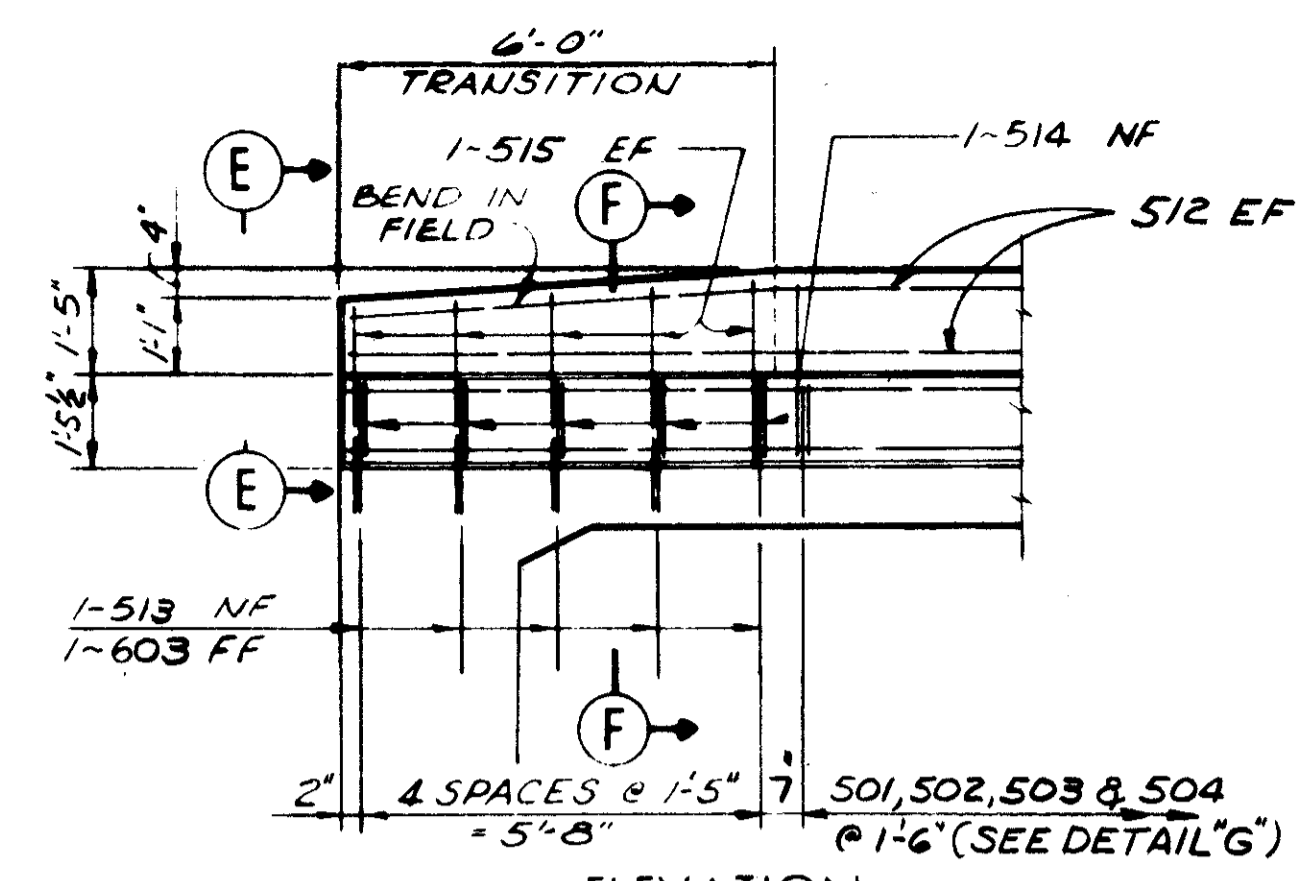
6'-0" TRANSITION WITH NO CURBS ON APPROACHES



VIEW C-C

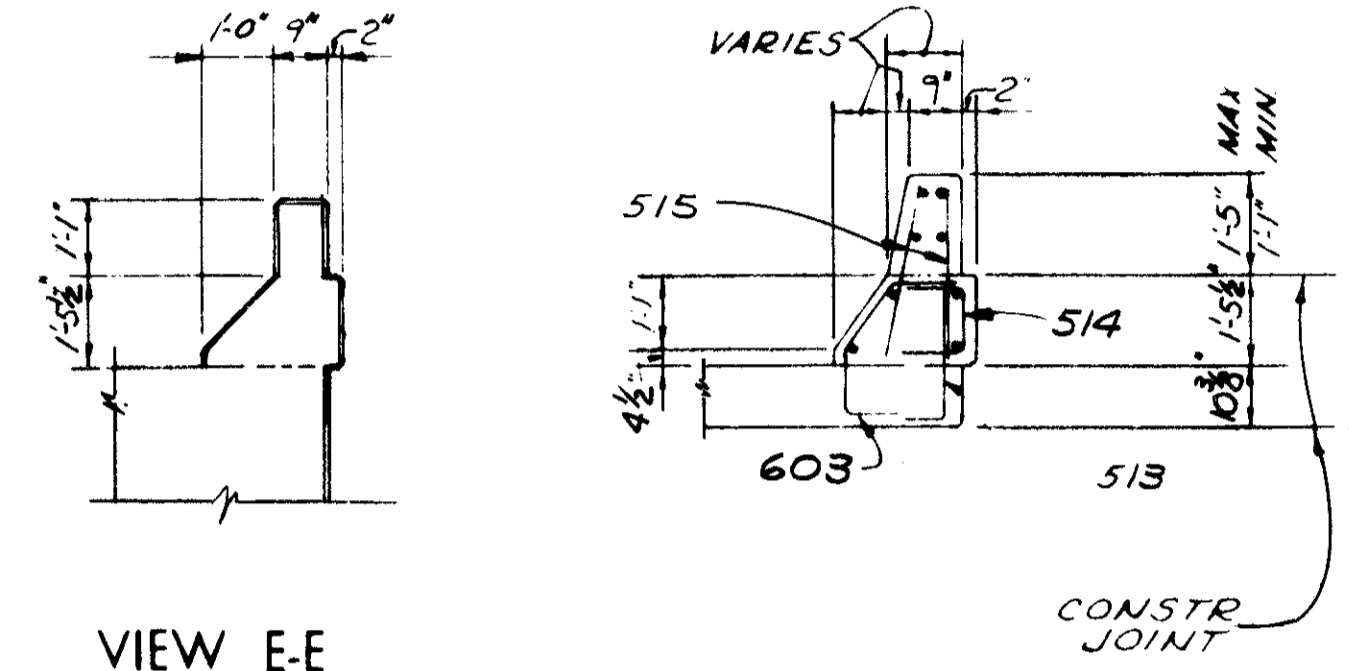
SECTION D-D

FOR DETAILS & NOTES NOT SHOWN, HERE SEE STATE OF OHIO STD DWG BR-1-67, SHEET 1



ELEVATION

6'-0" TRANSITION WITH CURBS ON APPROACHES



VIEW E-E

SECTION F-F

FOR DETAILS & NOTES NOT SHOWN, HERE SEE STATE OF OHIO STD DWG BR-1-67, SHEET 1

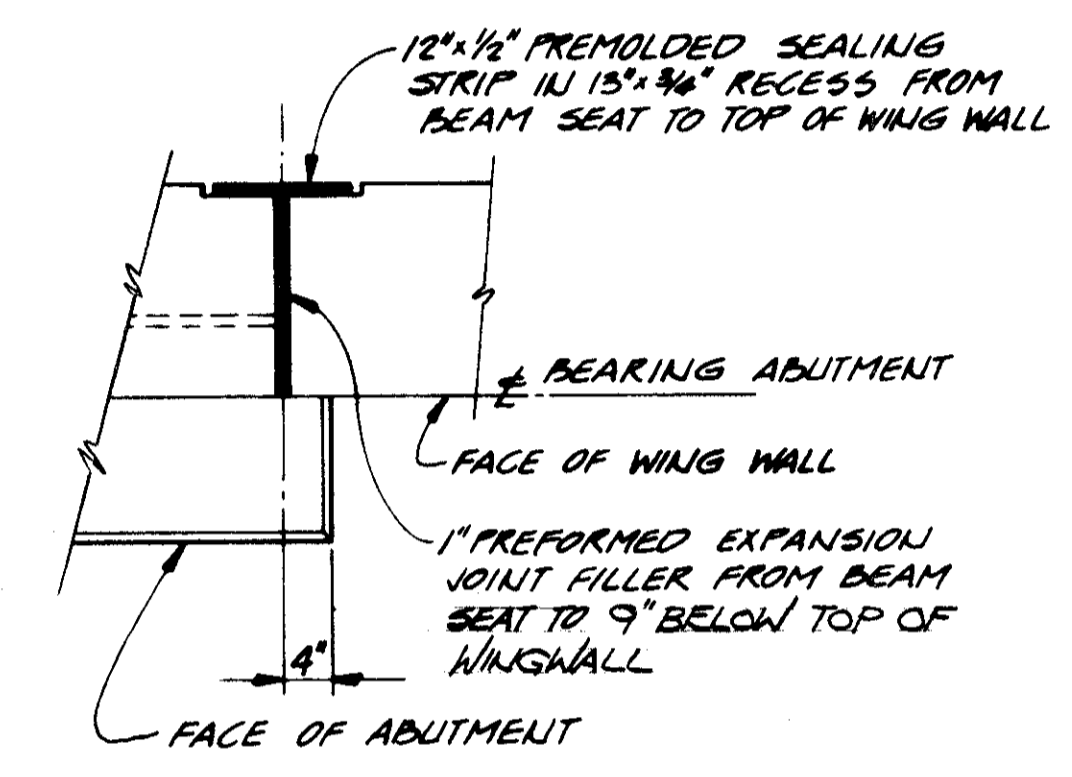
TABLE OF SCREED ELEVATIONS (5)

LOCATION	EL. A	EL. B	EL. C
CL ABT-1	706.89	707.36	705.35
1/4 PT.	706.64	707.10	705.09
1/2 PT.	706.38	706.84	704.82
3/4 PT.	706.11	706.57	704.55
CL PIER 1	705.86	706.31	704.28
1/4 PT.	705.46	705.92	703.88
1/2 PT.	705.06	705.51	703.47
3/4 PT.	704.60	705.06	703.00
CL PIER 2	704.13	704.59	702.52
1/4 PT.	703.90	704.35	702.28
1/2 PT.	703.67	704.12	702.05
3/4 PT.	703.44	703.90	701.82
CL ABT-2	703.21	703.67	701.58

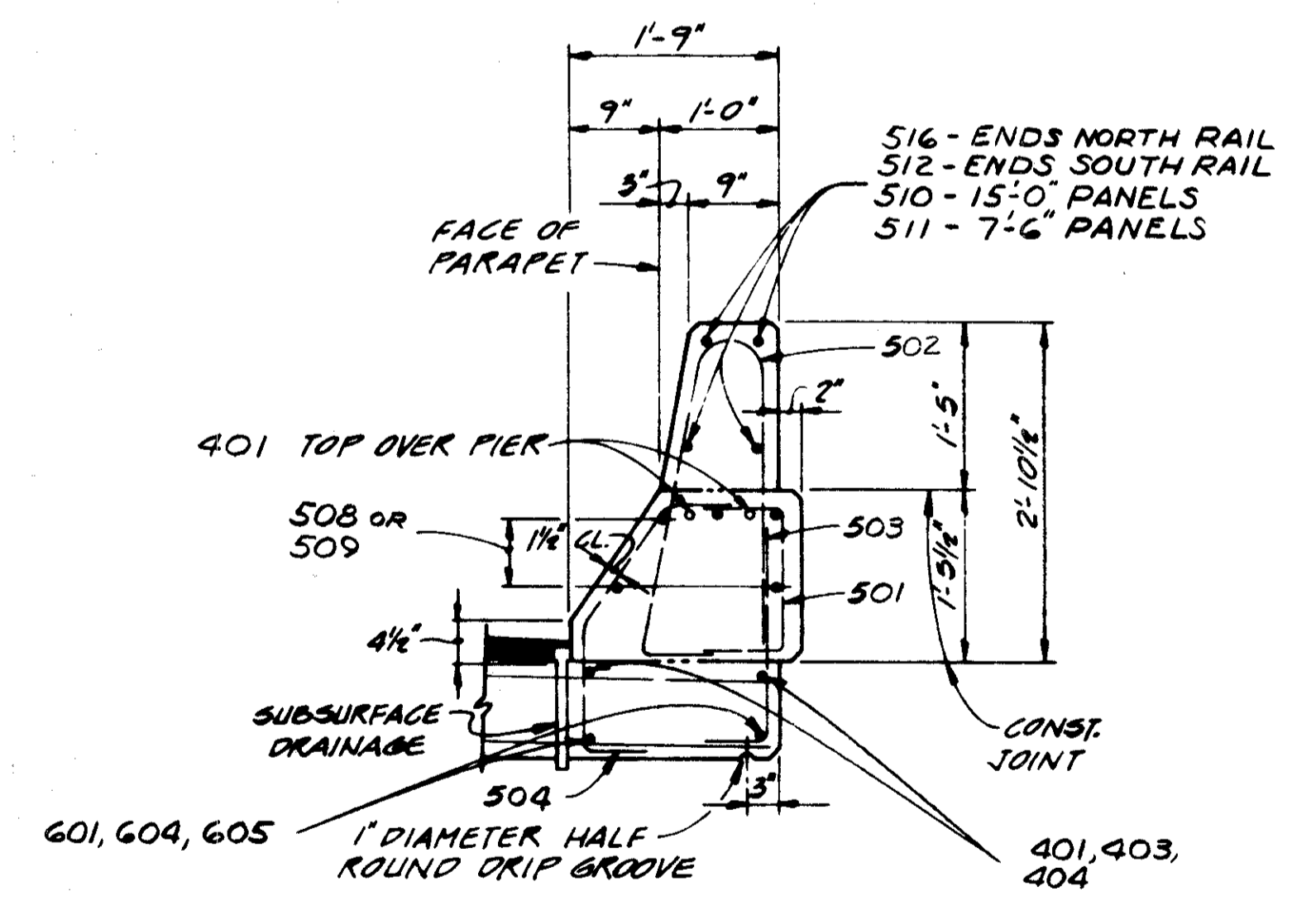
\*ELEVATIONS GIVEN ARE AT TOP OF PORTLAND CEMENT CONCRETE

TABLE OF OFFSETS (8)

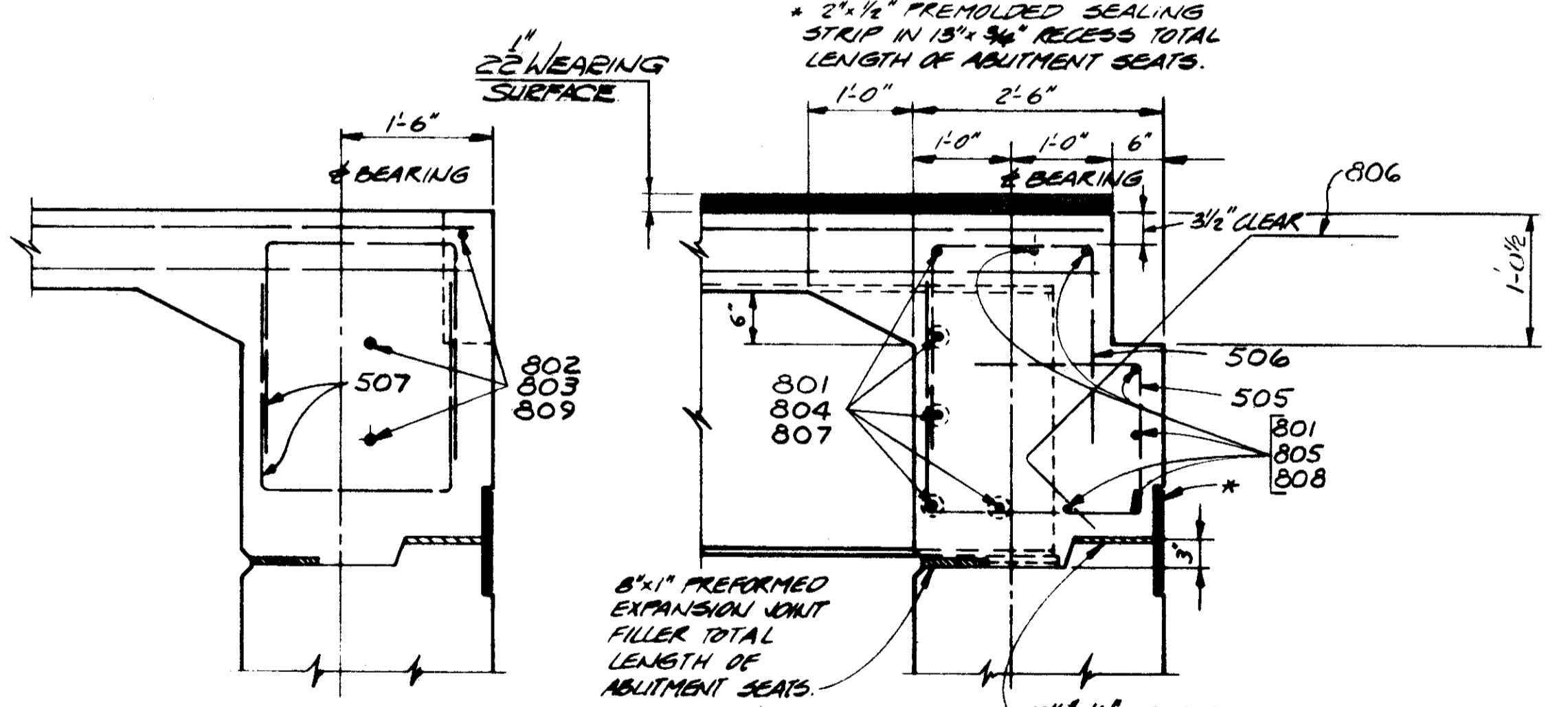
LOCATION	BEAM DIV.	NCRML (RADIAL) OFFSET A	AT STATION B.E.B. I-90	LOCATION	BEAM DIV.	NCRML (RADIAL) OFFSET B	AT STATION B.E.B. I-90
CL BRG A-1	1/4	2'-3 1/16"	863+81.14	CL BRG A-1	1/4	3'-1 3/16"	863+55.86
	1/2	2'-5 13/16"	863+92.49		1/2	2'-9 1/2"	863+67.45
	3/4	2'-8 1/8"	864+03.84		3/4	2'-6 5/16"	863+79.03
CL PIER 1	1/4	2'-10 1/16"	864+15.19	CL PIER 1	1/4	2'-3 7/16"	863+90.62
	1/2	2'-11 5/8"	864+26.54		1/2	2'-1 1/16"	864+02.20
	3/4	3'-1 5/16"	864+45.43		3/4	1'-9 15/16"	864+21.48
CL PIER 2	1/4	2'-11 5/8"	864+64.31	CL PIER 2	1/4	1'-8"	864+40.75
	1/2	3'-1 7/8"	864+83.19		1/2	1'-7 3/16"	864+60.03
	3/4	2'-11 5/8"	865+02.07		3/4	1'-7 1/2"	864+79.30
	1/4	2'-10 1/4"	865+12.19		1/4	1'-8 1/8"	864+89.63
	1/2	2'-8 9/16"	865+22.31		1/2	1'-9 1/8"	864+99.96
	3/4	2'-6 9/16"	865+32.42		3/4	1'-10 7/16"	865+10.29
CL BRG A-2	1/4	2'-4 3/16"	865+42.54	CL BRG A-2	1/4	2'-0 1/16"	865+20.62



DETAIL D



RAILING DETAIL G

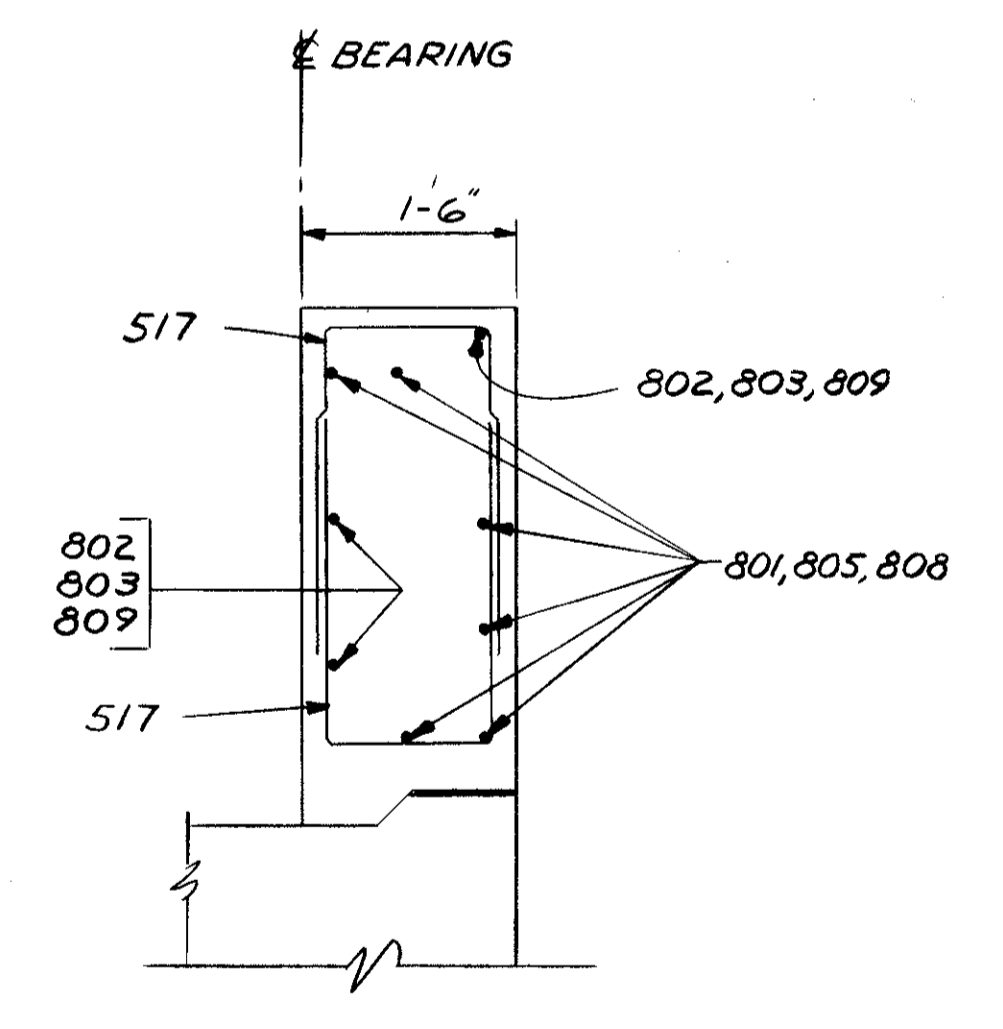


SECTION B-B

SECTION A-A

FOR DETAILS NOT SHOWN SEE SECTION A-A

(SEE SHT. 9 OF 12)



SECTION C-C

SEE SHT. 9/12

FOR NOTES, SEE SHEET 8/12

FOR LOCATION OF SECTIONS, SEE SHEET 9/12

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

10/12

DALTON • DALTON ASSOCIATES

SUPERSTRUCTURE DETAILS

BRIDGE NO. CUY - 90 - 1304RT  
OVER WEST 53rd ST  
I-90 CUYAHOGA COUNTY  
STA. 863 +65.34 TO STA. 865 +30.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	JLH		Hobourn	RJA	4-17-78	

**CUYAHOGA COUNTY  
CUY-90-11.64**

OCT 11 1982

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>ABUTMENT A-1</b>									
1A 402	92	5-5	2	1-11	1-9			333	
1A 501	12	30-0	ST					375	
1A 502	4	18-7	ST					78	
1A 504	4	11-3	ST					47	
1A 505	12	31-4	ST					392	
1A 506	76	6-11	2	2-6	2-2			548	
1A 507	64	7-6	39	1-6	0-6	1-6	0-6	501	
1A 508	6	9-11	ST					62	
1A 509	2	8-0	ST					17	
1A 510	2	4-8	ST					10	
1A 511	2	8-11	12	0-10	8-1	3-8		19	
SERIES	2-SETS	2-8	ST						
OF	OF 7=	TO	ST						
1A 512	14 BARS	6-2						64	
1A 513	6	12-1	ST					76	
1A 514	2	9-6	ST					20	
1A 515	2	6-5	ST					13	
1A 516	2	3-5	ST					7	
1A 517	2	11-2	12	0-10	10-4	4-6		23	
SERIES	2-SETS	2-2	ST						
OF	OF 8=	TO	ST						
1A 518	16 BARS	6-8						74	
1A 601	15	9-4	3	5-9	1-4	2-6		210	
1A 602	15	10-4	3	5-9	2-4	2-6		233	
1A 603	96	10-10	3	6-3	2-4	2-6		1562	
1A 604	56	11-8	3	7-1	2-4	2-6		981	
1A 605	2	7-7	ST					23	
1A 606	2	8-10	ST					27	
1A 801	12	30-0	ST					961	
1A 802	4	21-2	ST					226	
1A 803	4	12-8	ST					128	
1A 804	3	31-4	ST					251	
1A 805	4	7-7	12	3-0	4-8	3-4		81	
1A1001	2	33-3	1	2-2	31-4			286	
1A1002	7	31-4	ST					944	
TOTAL ABUTMENT A-1 = 8572									
<b>ABUTMENT A-2</b>									
2A 401	92	5-5	2	1-11	1-9			333	
2A 501	12	30-0	ST					375	
2A 502	4	18-6	ST					77	
2A 504	4	10-9	ST					45	
2A 505	12	30-11	ST					367	
2A 506	76	6-11	2	2-6	2-2			548	
2A 507	63	7-4	39	1-6	0-6	1-5	0-6	482	
2A 508	6	9-11	ST					62	
2A 509	2	8-0	ST					17	
2A 510	2	4-7	ST					10	
2A 511	2	8-10	12	0-10	8-0	3-6		18	
SERIES	2-SETS	2-3	ST						
OF	OF 6=	TO	ST						
2A 512	12 BARS	5-6						48	
2A 513	6	12-1	ST					76	
2A 514	2	9-7	ST					20	
2A 515	2	6-9	ST					14	
2A 516	2	3-11	ST					8	
2A 517	2	11-2	12	0-10	10-4	4-5		23	
SERIES	2-SETS	2-5	ST						
OF	OF 8=	TO	ST						
2A 518	16 BARS	6-8						76	
2A 601	6	10-3	3	6-8	1-4	2-6		92	
2A 602	52	11-3	3	6-8	2-4	2-6		879	
2A 603	50	10-10	3	6-3	2-4	2-6		814	
2A 604	56	11-8	3	7-1	2-4	2-6		981	
2A 605	2	8-0	ST					24	
2A 606	2	7-10	ST					24	
2A 607	8	9-4	3	5-9	1-4	2-6		112	
2A 608	8	9-4	3	5-9	1-4	2-6		112	
2A 801	12	30-0	ST					961	
2A 802	4	20-4	ST					217	
2A 803	4	11-10	ST					126	
2A 804	3	30-11	ST					248	
2A 805	4	7-2	12	3-0	4-3	3-0		77	
2A1001	2	32-10	1	2-2	30-11			283	
2A1002	7	30-11	ST					931	
TOTAL ABUTMENT A-2 = 8500									

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>PIER P-1</b>									
1P 501	57	6-5	2	2-0	2-8			381	
1P 502	27	10-7	2	4-1	2-8			298	
SERIES	4-SETS	9-5	3-6						
OF	OF 5=	TO	2-8					203	
1P 503	20 BARS	10-1	2	3-10				17	
1P 504	6	2-9	ST					17	
SERIES	2-SETS	10-3	3-11						
OF	OF 5=	TO	2-8					110	
1P 505	10 BARS	10-11	4-3					212	
1P 601	6	23-6	ST					109	
1P 602	12	5-10	12	3-0	2-10	0-6		616	
1P 603	60	6-10	7	5-6				651	
1P 801	8	30-6	2	3-8	23-6			1328	
1P 802	16	31-1	18	23-6	4-3	3-8	0-7	156	
1P 803	2	29-2	2	3-4	22-10			318	
1P 804	4	29-9	18	22-10	3-11	3-4	0-7	1121	
1P 805	24	17-6	ST					1025	
1P 806	36	10-8	7	8-6				1492	
1P1001	16	21-8	ST					1440	
1P1002	16	20-11	ST					1383	
1P1003	16	20-1	ST					1394	
1P1004	48	6-9	1	1-0	6-0				
TOTAL PIER P-1 = 12250									
<b>PIER P-2</b>									
2P 501	57	6-5	2	2-0	2-8			381	
2P 502	27	10-7	2	4-1	2-8			298	
SERIES	4-SETS	9-5	3-6						
OF	OF 5=	TO	2-8					203	
2P 503	20 BARS	10-1	2	3-10				17	
2P 504	6	2-9	ST					17	
SERIES	2-SETS	10-3	3-11						
OF	OF 5=	TO	2-8					110	
2P 505	10 BARS	10-11	4-3					212	
2P 601	6	23-6	ST					109	
2P 602	12	5-10	12	3-0	2-10	0-6		616	
2P 603	60	6-10	7	5-6				651	
2P 801	8	30-6	2	3-8	23-6			1328	
2P 802	16	31-1	18	23-6	4-3	3-8	0-7	156	
2P 803	2	29-2	2	3-4	22-10			318	
2P 804	4	29-9	18	22-10	3-11	3-4	0-7	1121	
2P 805	24	17-6	ST					1025	
2P 806	36	10-8	7	8-6				1492	
2P1001	16	20-0	ST					1377	
2P1002	16	19-3	ST					1325	
2P1003	16	18-4	ST					1262	
2P1004	48	6-9	1	1-0	6-0			1394	
TOTAL PIER P-2 = 11899									

SPIRAL REINFORCING SCHEDULE				
MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	WEIGHT LBS.
<b>SPIRALS-PIER P-1</b>				
1P-SP401	2	2-8	18-4	690
1P-SP402	2	2-8	17-7	663
1P-SP403	2	2-8	16-8	630
TOTAL SPIRALS-PIER P-1 = 1983				
<b>SPIRALS-PIER P-2</b>				
2P-SP401	2	2-8	16-8	630
2P-SP402	2	2-8	15-10	600
2P-SP403	2	2-8	15-0	570
TOTAL SPIRALS-PIER P-2 = 1800				

FOUR ANGLE SPACERS WEIGHING APPROX. 0.80 LBS. PER LINEAL FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT LISTED ABOVE. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED SPIRAL WEIGHT.

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>SUPERSTRUCTURE</b>									
S 401	820	30-0	ST					16433	
S 402	112	21-3	ST					1590	
S 403	2	22-3	ST					50	
S 404	2	23-0	ST					31	
S 501	206	2-3	2	0-8	1-2			483	
S 502	206	5-8	23	2-4	2-7			1218	
S 503	206	2-6	1	0-8	1-11			537	
S 504	206	3-3	20	0-11	0-9	0-9		698	
S 505	113	8-2	8	2-9	2-2	1-8	1-11	963	
S 506	113	5-11	2	2-3	1-8			697	
S 507	10	6-11	2	2-6	2-2			72	
S 508	50	30-0	ST					1565	
S 509	10	24-11	ST					260	
S 510	40	14-8	ST					612	
S 511	64	7-2	ST					678	
S 512	8	15-10	ST					132	
S 513	20	2-6	1	0-8	1-11			52	
S 514	20	2-3	2	0-8	1-2			47	
S 515	40	2-3	ST					94	
S 516	8	15-5	ST					129	
S 517	18	5-11	2	2-6	1-2			111	
S 601	460	30-0	ST					20728	
S 602	88	23-7	ST					3117	
S 603	10	3-3	20	0-11	0-9	0-9		49	

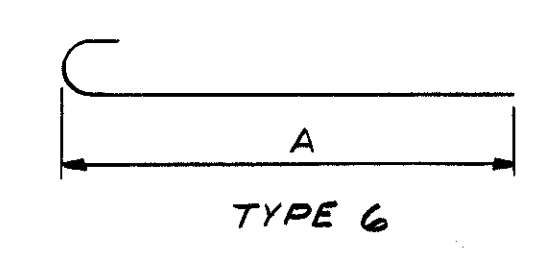
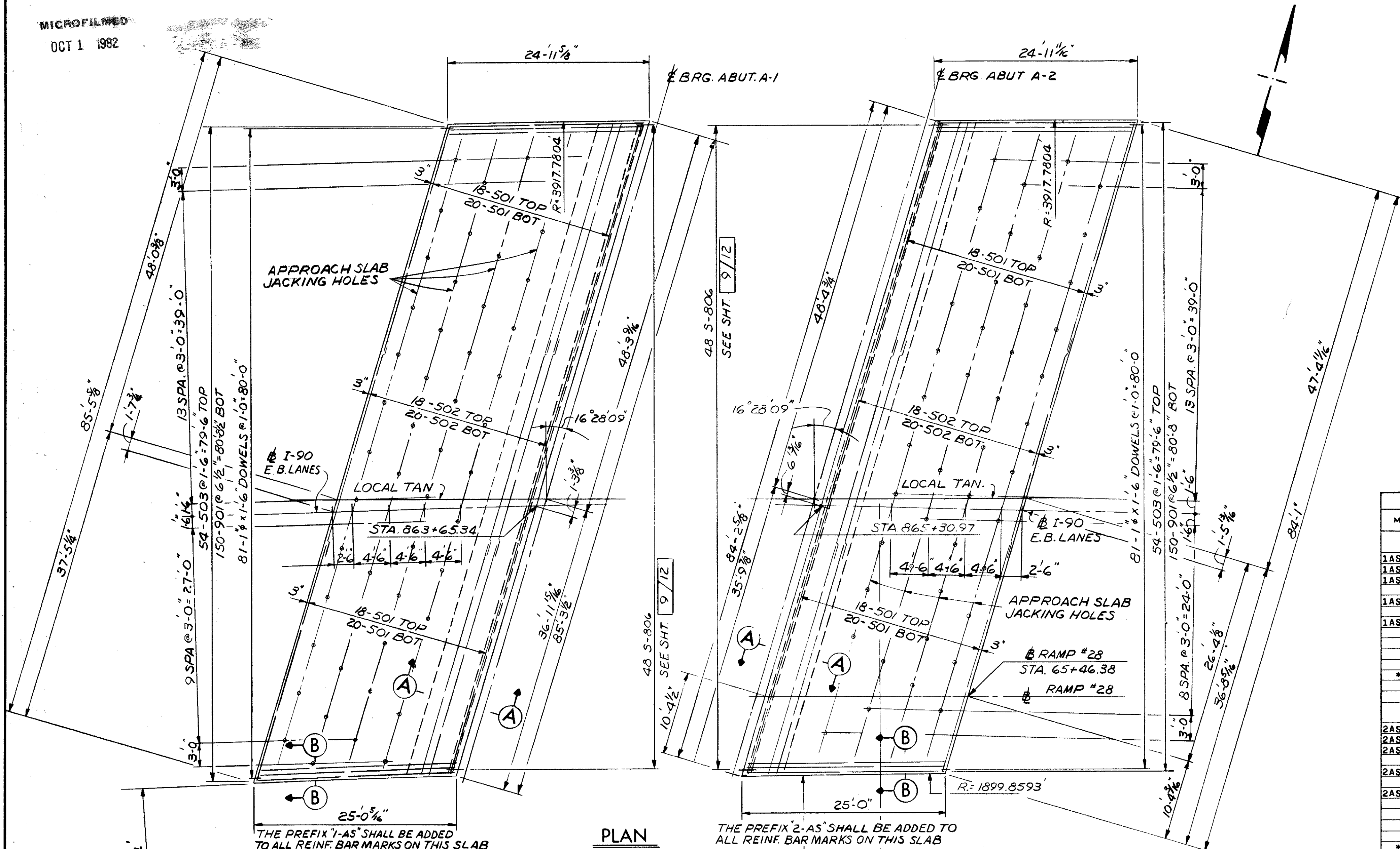


MICROFILMED  
OCT 1 1982

FED. RD.	STATE	PROJECT
2	OHIO	

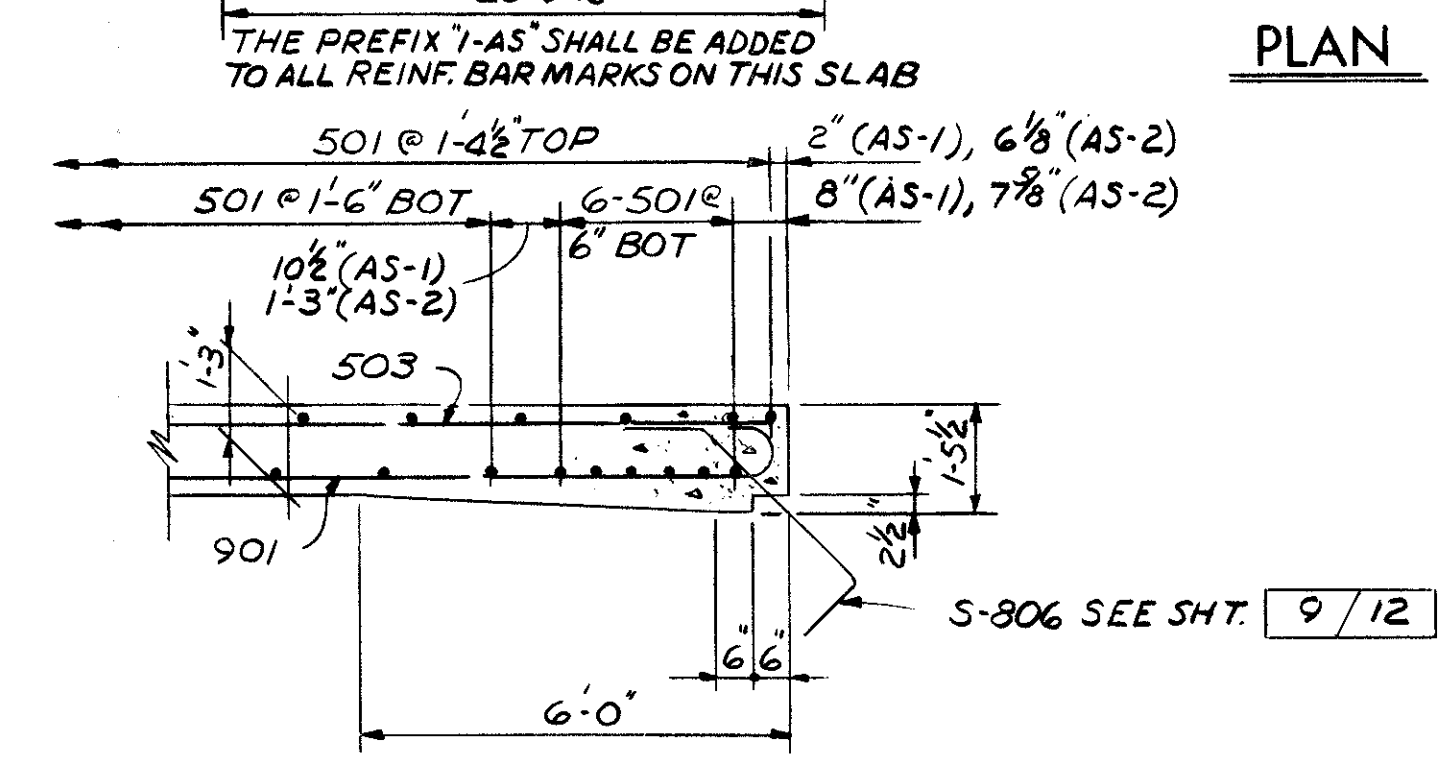
712  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

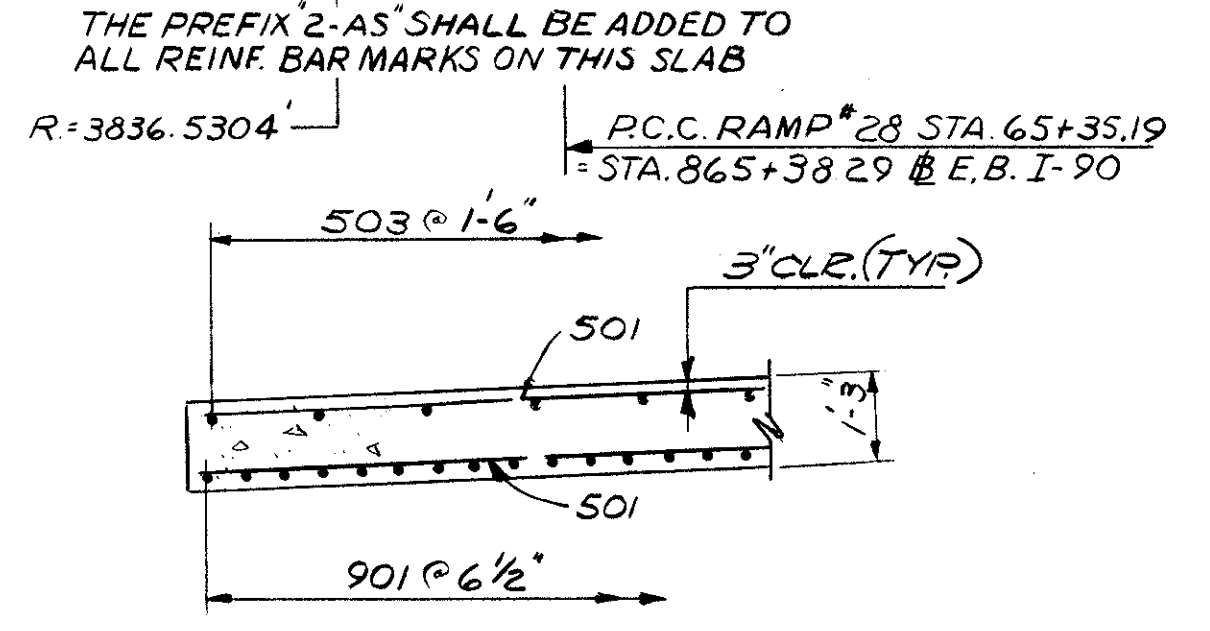


MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
APPROACH SLAB* AS-1									
1AS 501	76	30-0	ST						2376
1AS 502	38	28-3	ST						1120
1AS 503	54	24-6	ST						1360
1AS 901	150	25-9	6 24-6						13133
1AS	81	1-6	ST	1 IN. DIA. DOWELS					324
TOTAL APPROACH SLAB AS-1 =									18335
*APPROACH SLAB REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 611 FOR PAYMENT.									
APPROACH SLAB* AS-2									
2AS 501	76	30-0	ST						2376
2AS 502	38	27-0	ST						1070
2AS 503	54	24-6	ST						1360
2AS 901	150	25-9	6 24-6						13133
2AS	81	1-6	ST	1 IN. DIA. DOWELS					324
TOTAL APPROACH SLAB AS-2 =									18285
*APPROACH SLAB REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 611 FOR PAYMENT.									

451 - SQ YD. CLASS 'C' CONCRETE



SECTION A-A



SECTION B-B

NOTE  
FOR DETAILS AND NOTES NOT SHOWN SEE STANDARD DWG. AS-1-72 SHTS 1 & 2

12/12

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON - DALTON ASSOCIATES**

**APPROACH SLAB DETAILS**

BRIDGE NO. CUY - 90 - 1304RT.  
OVER WEST 53rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 863 +65.34 TO STA. 865 +30.97

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
ST'D.	JLH		Hodmann	RDA	4-17-74	

FED. RD.	STATE	PROJECT
2	OHIO	

713  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

**CURVE DATA**

**CURVE NO 65**  
 $\Delta = 27^{\circ} 49' 22''$   
 $D_c = 1^{\circ} 27' 11.8''$   
 $R = 3942.5304'$   
 $T = 976.5093'$   
 $L_c = 1914.4892'$   
 $PI = STA. 864 + 68.46$

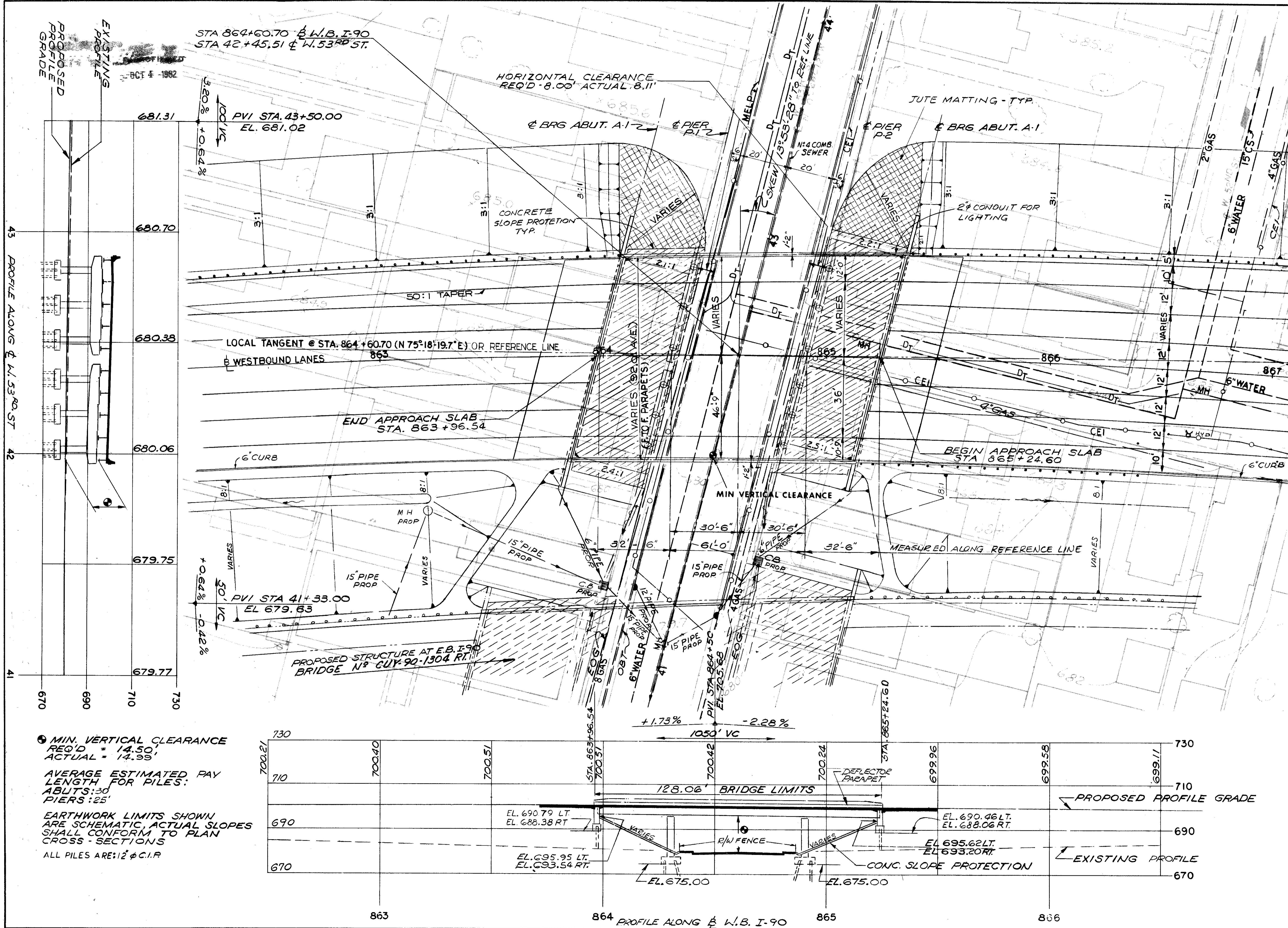
**PROPOSED STRUCTURE**

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK & SUBSTRUCTURES. (INTEGRAL ABUTMENTS)  
 SKEW:  $13^{\circ} 53' 28''$  L.F. TO REF. LINE  
 SPANS: 32'-6", 61'-0", 32'-6" % BRG'S ROADWAY: 92.01 AVE. 7/8 PARAPETS.

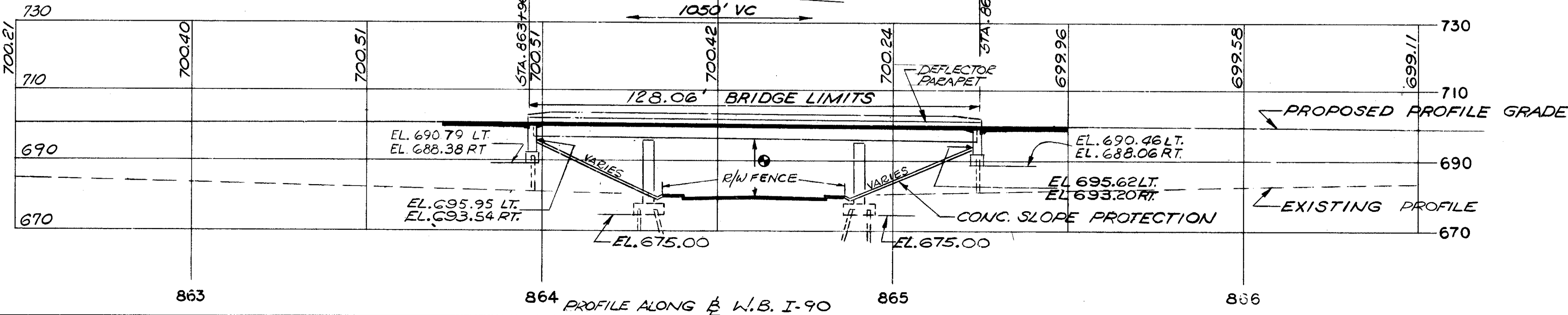
LOADING: HS 20-44 & INT ALT LOADING  
 WEARING SURFACE: 2" ASPHALT CONCRETE.  
 APPROACH SLABS: 25'-0" LONG (AS-1-72) & SPECIAL  
 ALIGNMENT: CURVE RT.  $1^{\circ} 27' 11.8''$   
 SUPERELEVATION: .036'/FT  
 SLOPE PROTECTION: CONCRETE.

TRAFFIC: W. 53<sup>RD</sup> ST - 5760 ADT 1990  
 I-90 W.B. LANE - 61,189 ADT 1990

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		1/12
<b>DALTON · DALTON ASSOCIATES</b>		
<b>SITE PLAN</b>		
BRIDGE NO. CUY - 90-1304 LT. OVER WEST 53rd ST. I-90 CUYAHOGA COUNTY STA. 863+96.54 TO STA. 865+24.60		
DESIGNED BWM	DRAWN Hodson	TRACED G.W.
CHECKED G.W.	REVIEWED RBA	DATE 4-17-74
REVISIONS		



MIN. VERTICAL CLEARANCE  
 REQ'D = 14.50'  
 ACTUAL = 14.39'  
 AVERAGE ESTIMATED PILE LENGTH FOR PILES:  
 ABUTS: 30'  
 PIERS: 25'  
 EARTHWORK LIMITS SHOWN ARE SCHEMATIC, ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS  
 ALL PILES ARE: 12"  $\phi$  C.I.P.



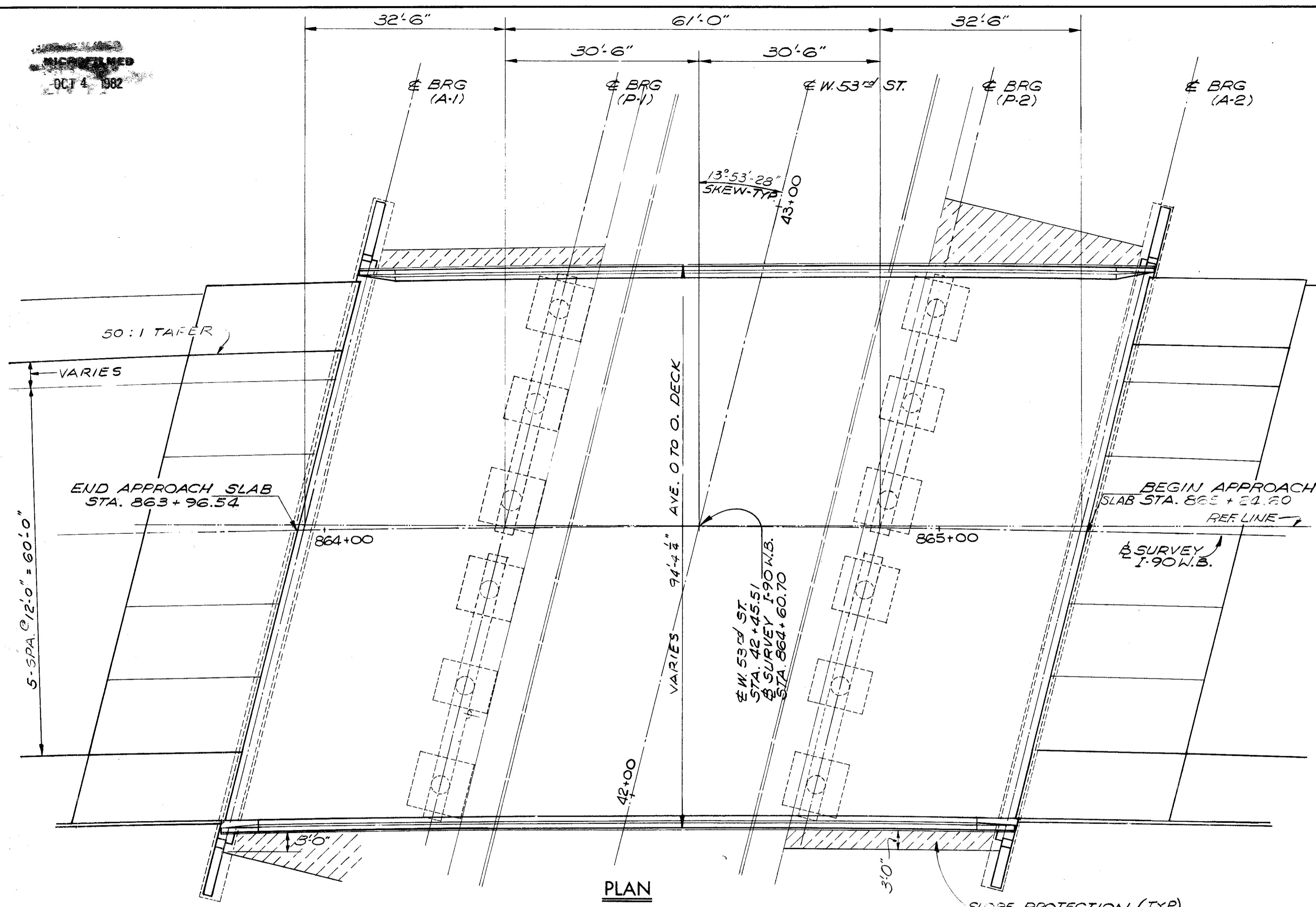
43 PROFILE ALONG W. 53<sup>RD</sup> ST. 42 41

MICROFILMED  
OCT 4 1982

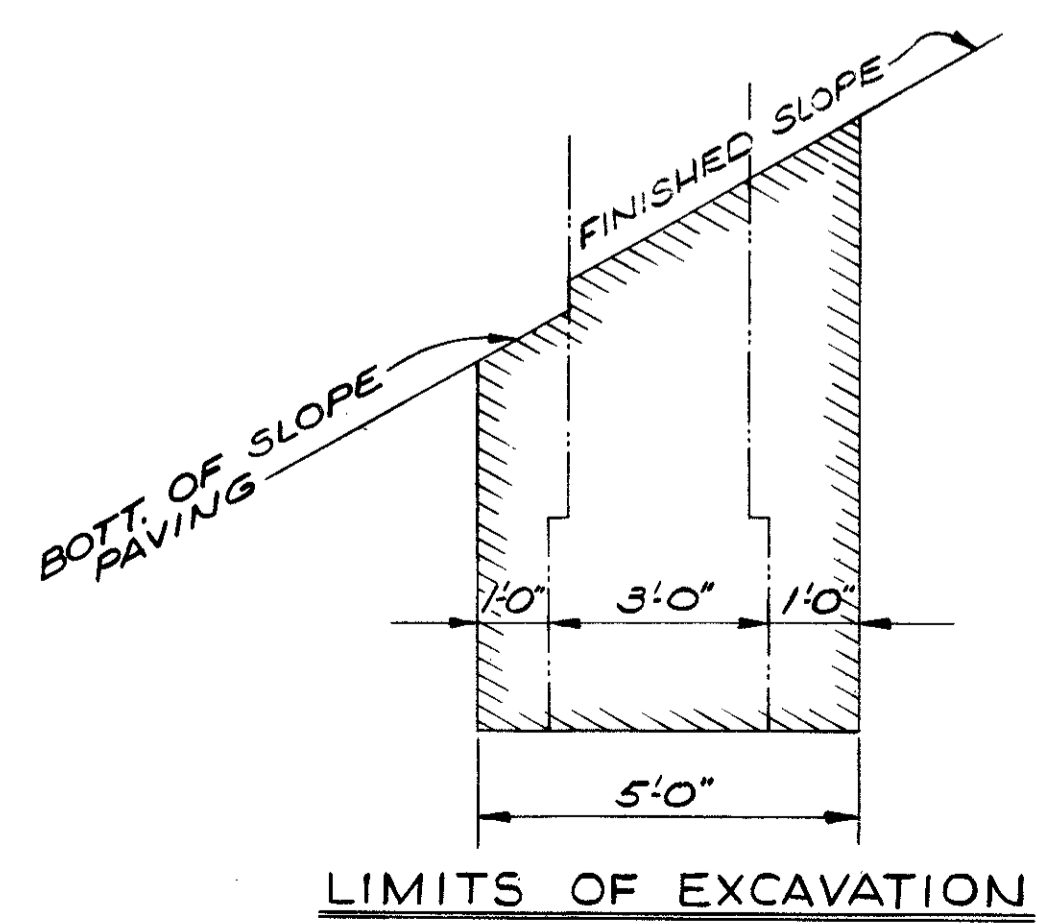
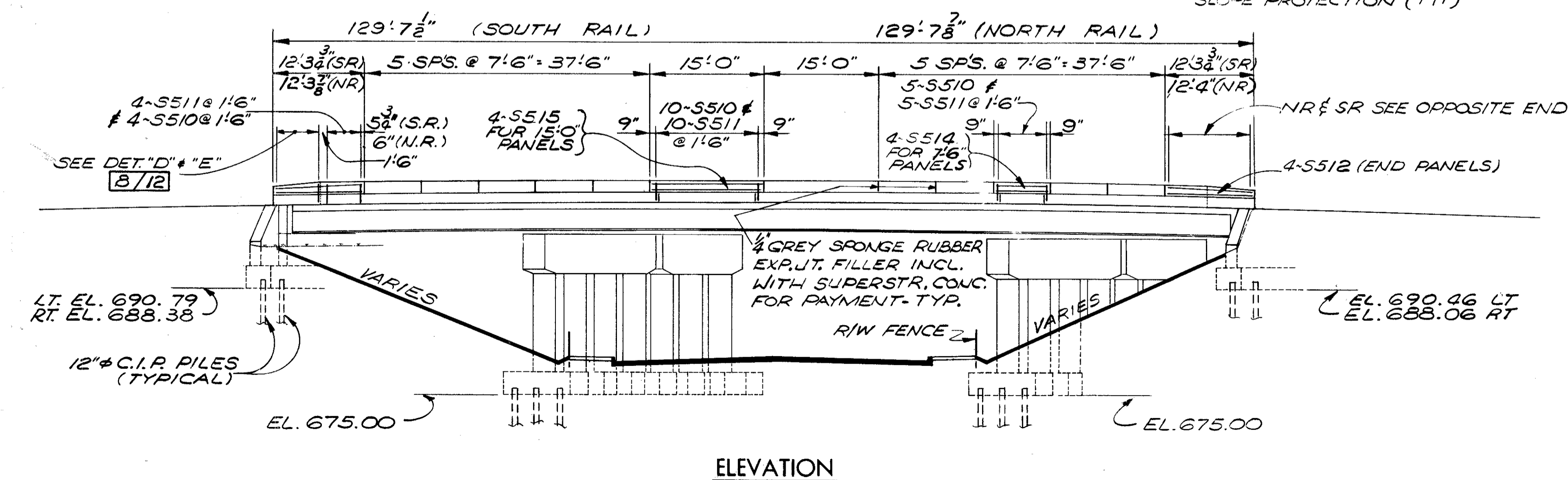
FED. RD.	STATE	PROJECT
2	OHIO	

714  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
404	90	CY	ASPHALT CONCRETE ( AC-20 )	90			
SPEC	1295	SY	MEMBRANE WATERPROOFING, NOT APPLIED LIQUID (SEE PROPOSAL NOTE)	1295			
503	LUMP	LSUM	COFFERDAMS CRIBS AND SHEETING				LUMP
503	442	CY	UNCLASSIFIED EXCAVATION		266	176	
505	LUMP	LSUM	TEST PILE				LUMP
507	3150	LF	12 IN. CAST-IN-PLACE REINFORCED CONCRETE PILES		1350	1800	
509	175601	LB	REINFORCING STEEL	130901	17554	27146	
511	436	CY	CLASS C CONCRETE, SUPERSTRUCTURE	436			
511	138	CY	CLASS C CONCRETE, PIERS ABOVE FOOTINGS			138	
511	88	CY	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS		88		
511	165	CY	CLASS C CONCRETE, FOOTINGS		79	86	
512	233	LF	PREMOLDED SEALING STRIP		233		
513	238300	LB	STRUCTURAL STEEL	238300			
514	238300	LB	FIELD PAINTING OF STRUCTURAL STEEL	238300			
516	179	SF	1/4 IN. PREFORMED EXPANSION JOINT FILLER		179		
516	152	SF	1 IN. PREFORMED EXPANSION JOINT FILLER		152		
518	121	CY	POROUS BACKFILL		121		
518	251	LF	6 IN. PERFORATED, HELICAL CMP, 707.01		251		
518	259	LF	SUBDRAINAGE FOR WEARING COURSE (AS PER PLAN)	259			
601	980	SY	CONCRETE SLOPE PROTECTION		980		
S625			SEE LIGHTING SUMMARY SHEET				
806	436	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, D OR D	436			



EMBANKMENT PROCEDURE  
THE EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENTS. EXCAVATION SHALL THEN BE MADE FOR THE ABUTMENTS AND FOR PIERS NO. 1 & 2 AND PILES DRIVEN

FOR CONNECTION OF GUARDRAIL TO STRUCTURES SEE SHT (57) 838

NOTE:  
FOR STRUCTURAL GENERAL NOTES SEE SHEET (61) 838

SEE LIGHTING PLANS FOR DETAILS

FOR RAILING DETAILS SEE SHEET (8) 12

QUANTITIES:  
CHECKED BY: *RM* DATE: 8/19/75

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

GENERAL PLAN & ELEVATION  
BRIDGE NO. CUY - 90 - 1304 LT.  
OVER WEST 53rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 863 + 96.54 TO STA. 865 + 24.60

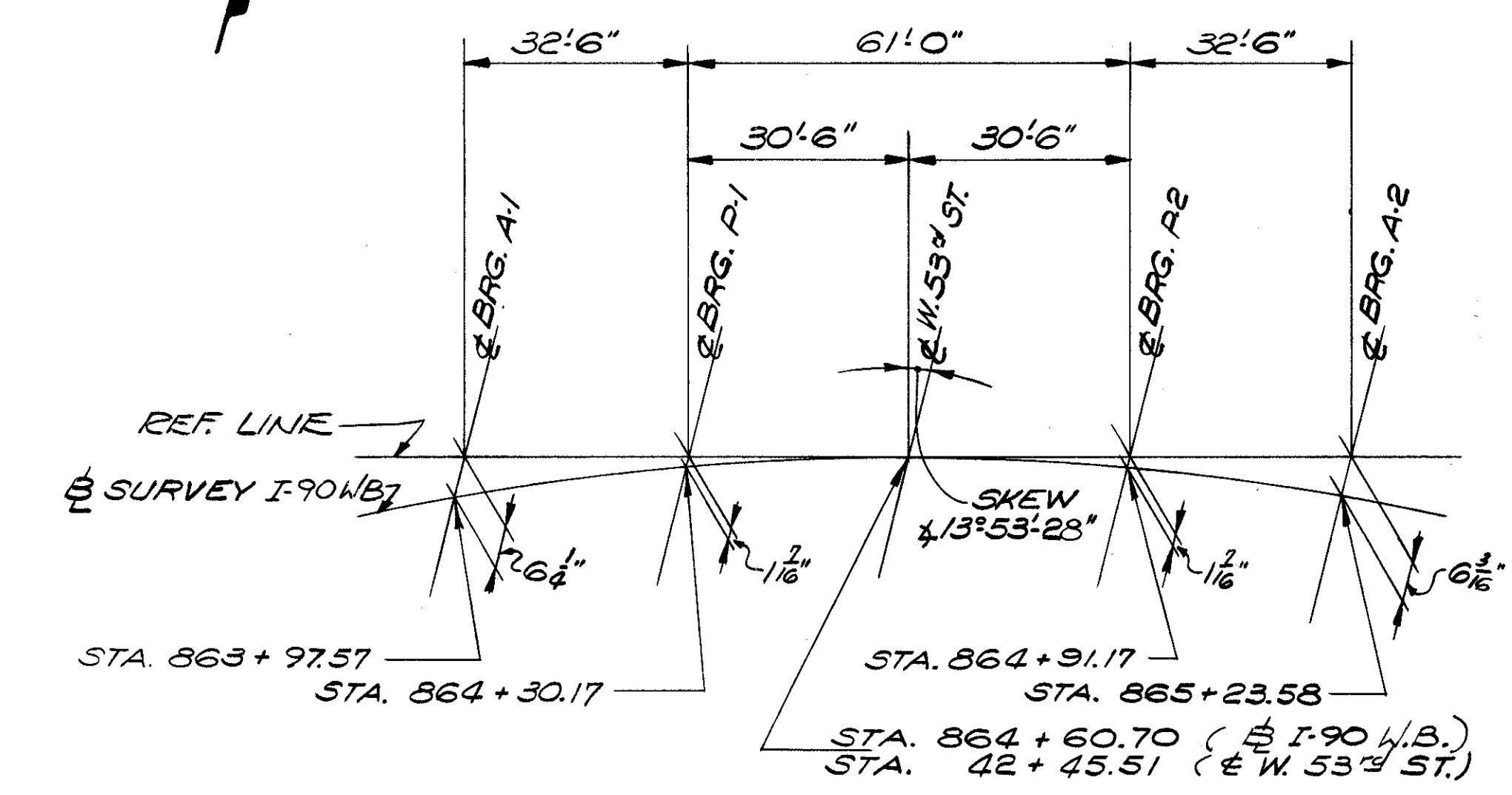
DESIGNED: BWM DRAWN: J.S.K. CHECKED: *RM* REVIEWED: *RDH* DATE: 8-14-75

OCT 4 1962

FED. RD.	STATE	PROJECT
2	OHIO	

715  
838

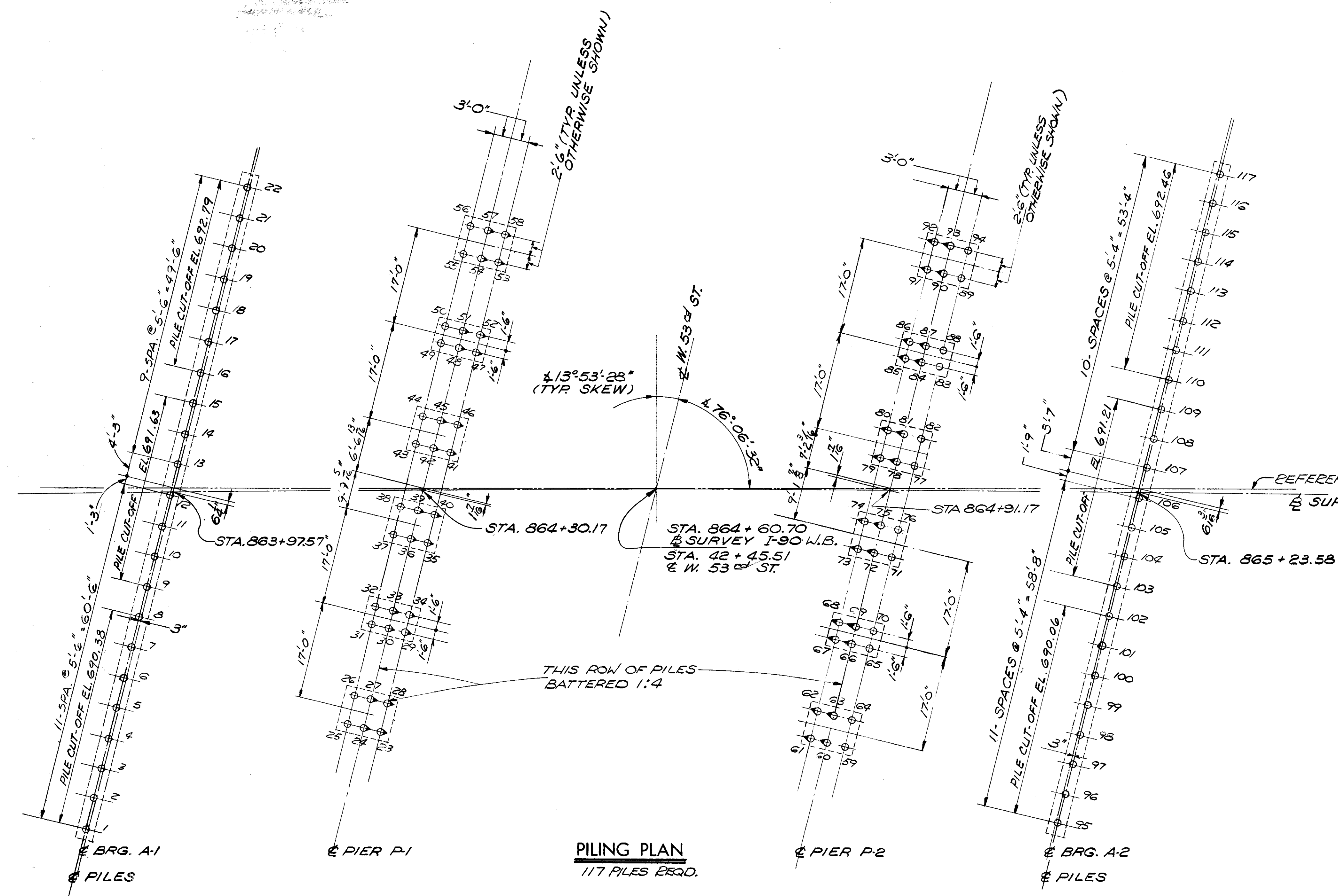
CUYAHOGA COUNTY  
CUY - 90 - 11.64



**KEY PLAN**

- NOTES**
- ALL PILES SHALL BE 12" Ø CAST-IN-PLACE REINFORCED CONCRETE PILES.
  - PILE CUT-OFF ELEVATIONS SHALL BE:  
 ABUTMENT A-1 - EL. (AS NOTED)  
 PIER P-1 - EL. 676.00  
 PIER P-2 - EL. 676.00  
 ABUTMENT A-2 - EL. (AS NOTED)
  - PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 35 TONS PER PILE FOR THE ABUTMENTS AND 45 TONS PER PILE FOR THE PIERS.

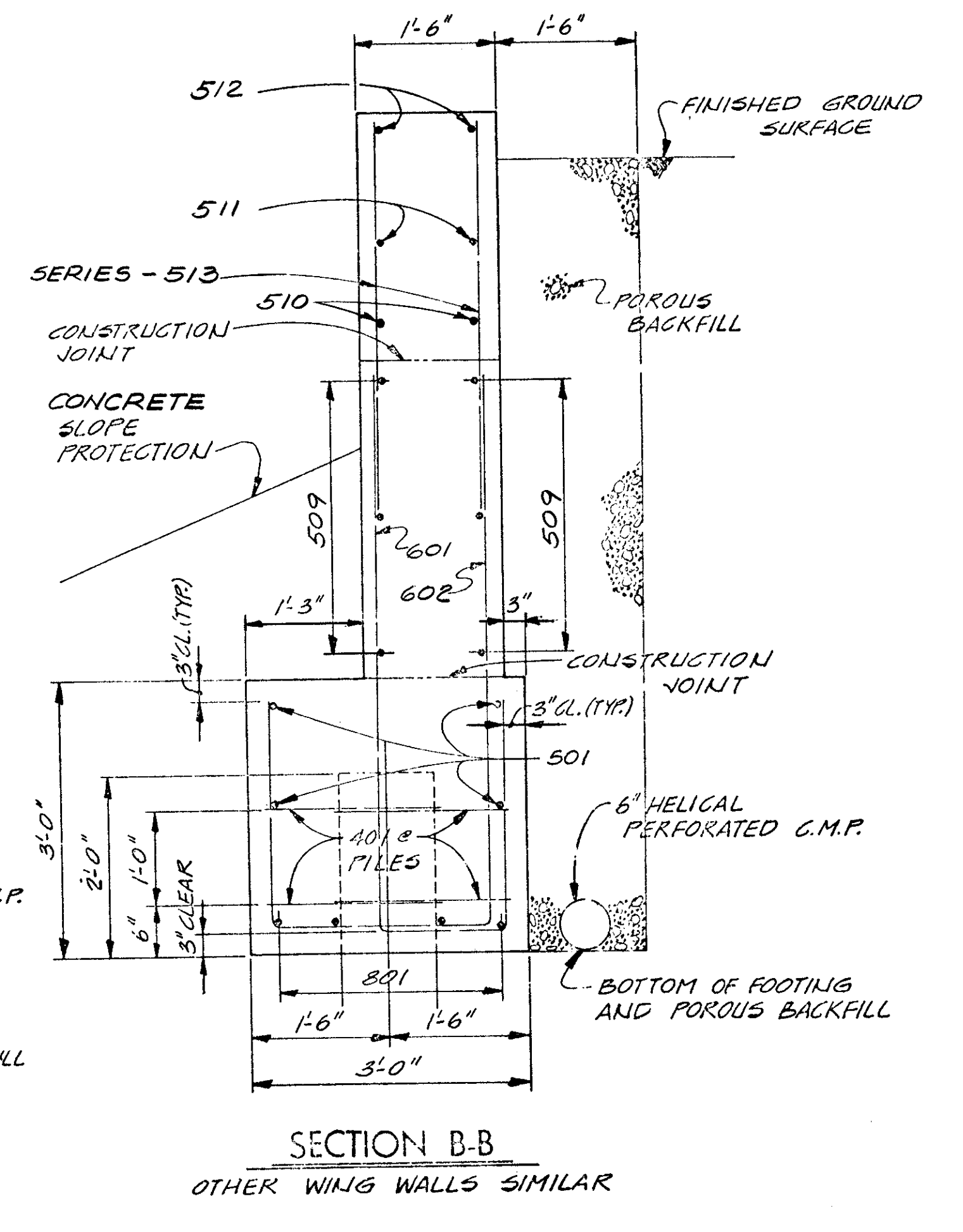
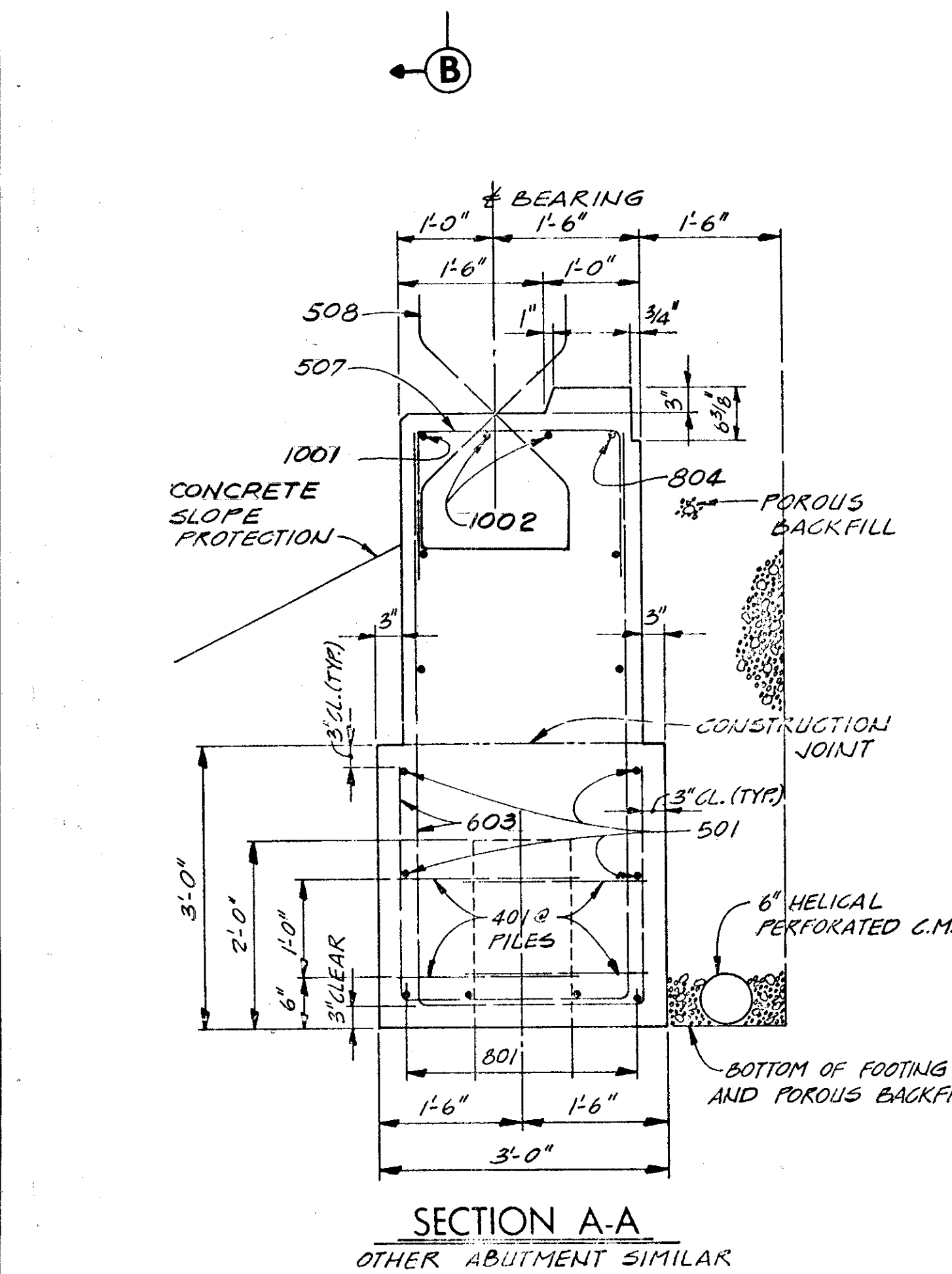
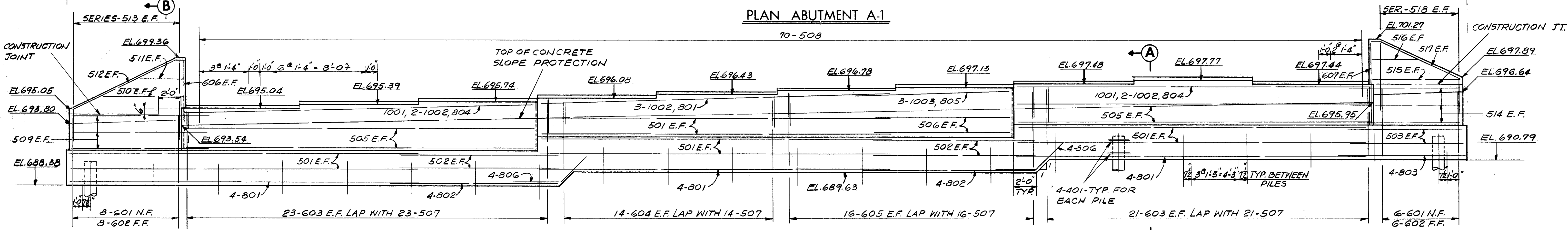
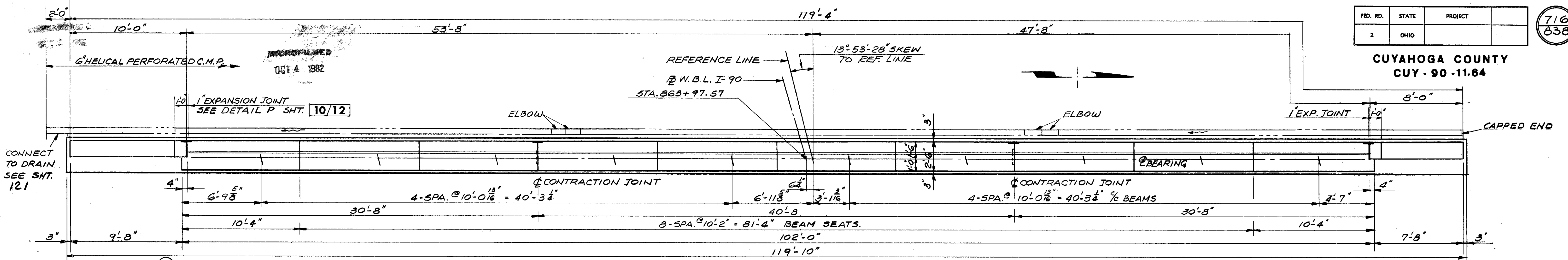
PILES SHOWN THUS SHALL BE BATTERED 1:4 IN THE DIRECTION INDICATED.



**PILING PLAN**  
117 PILES REQ'D.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						3 / 12
<b>DALTON · DALTON ASSOCIATES</b>						
<b>PILING PLAN</b>						
BRIDGE NO. CUY - 90 - 1304 LT. OVER WEST 53rd ST. I-90 CUYAHOGA COUNTY						
STA. 863 + 96.54 TO STA. 865 + 24.60						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BWM	J.S.K.		QMC	RBA	4-17-74	

CUYAHOGA COUNTY  
CUY - 90 - 11.64



- NOTES
- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
F-FAR FACE  
EF-EACH FACE
  - POROUS BACKFILL SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE FOR A MINIMUM EXTENDED LATERALLY TO THE EMBANKMENT SIDE SLOPES.
  - THE PREFIX "1A" OR "2A" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN ABUTMENT A-1 OR A-2 RESPECTIVELY UNLESS SHOWN OTHERWISE.
  - EMBANKMENT PROCEDURE: THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENTS. EXCAVATION SHALL THEN BE MADE FOR THE ABUTMENTS AND THE PILES DRIVEN.
  - FOR PILING PLAN, SEE SHEET 3/12
  - FOR ADDITIONAL DETAILS, SEE SLAB PLAN AND SECTION, SHEET 10/12

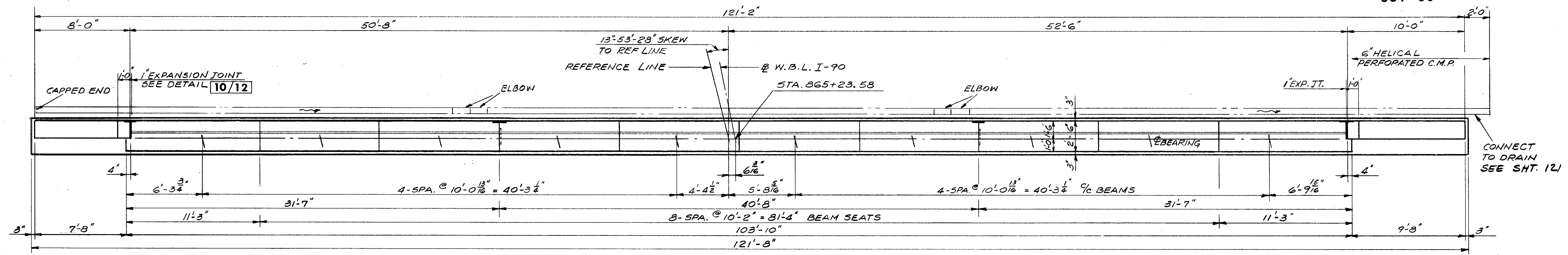
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		4/12
DALTON · DALTON ASSOCIATES		
ABUTMENT A-1 DETAILS		
BRIDGE NO. CUY - 90 - 1304 LT. OVER WEST 53rd ST. I-90 CUYAHOGA COUNTY STA. 863+96.54 TO STA. 865+24.60		
DESIGNED BWM	DRAWN J.S.K.	CHECKED R.H.
TRACED	REVIEWED R.H.	DATE 4-17-74
		REVISED

DESIGNED BY MED  
 001 10/14 1982

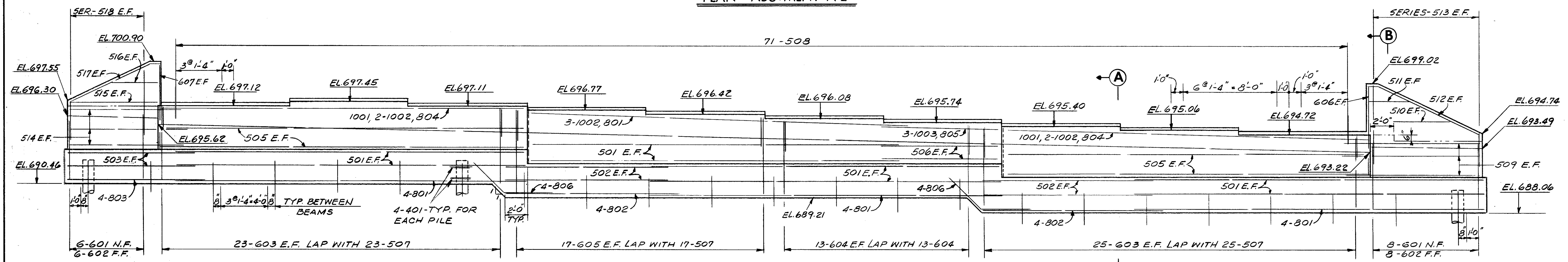
FED. RD.	STATE	PROJECT	
2	OHIO		

717  
 838

CUYAHOGA COUNTY  
 CUY - 90 11.64

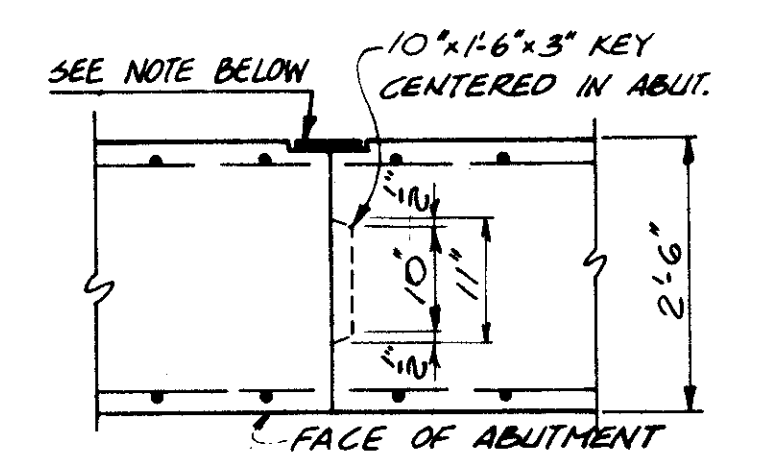


PLAN ABUTMENT A-2



ELEVATION

FOR ADDITIONAL NOTES AND DETAILS, SEE SHEET 4 / 12



ABUTMENT CONTRACTION JOINT DETAIL

NOTE:  
 12" x 1/2" PREMOLDED SEALING STRIP  
 IN 15" x 3/4" RECESS FROM TOP OF  
 FOOTING TO TOP OF BEAM SEAT

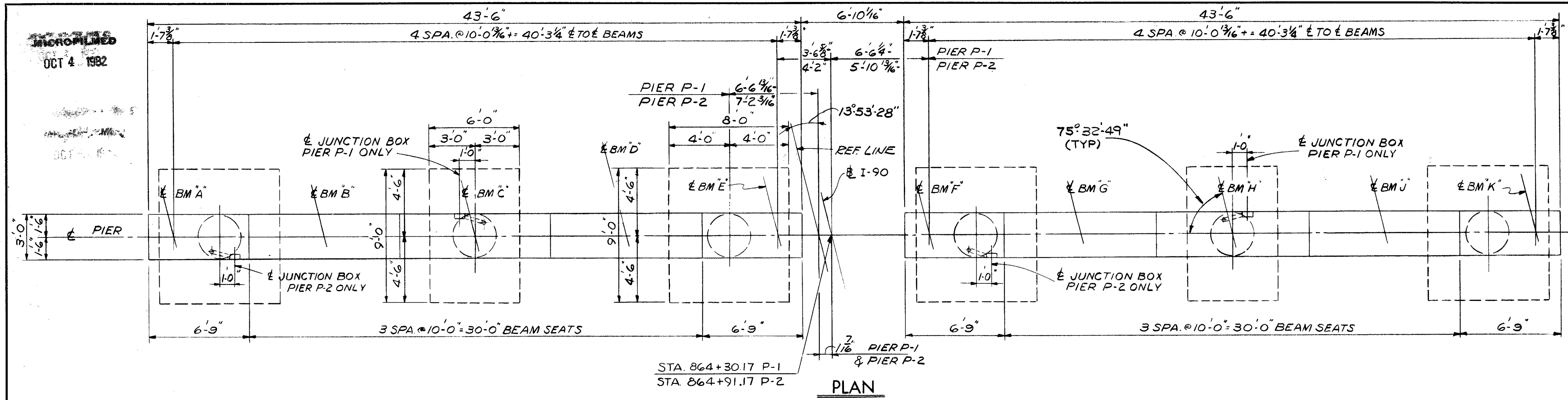
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						5 / 12
<b>DALTON · DALTON ASSOCIATES</b>						
ABUTMENT A-2 DETAILS						
BRIDGE NO. CUY - 90-1304 LT.						
OVER WEST 53rd ST.						
I-90 CUYAHOGA COUNTY						
STA. 863+96.54 TO STA. 865+24.60						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BWM	J.S.K.		B.M.	T.B.W.	4-17-74	

MICROFILMED  
OCT 4 1982

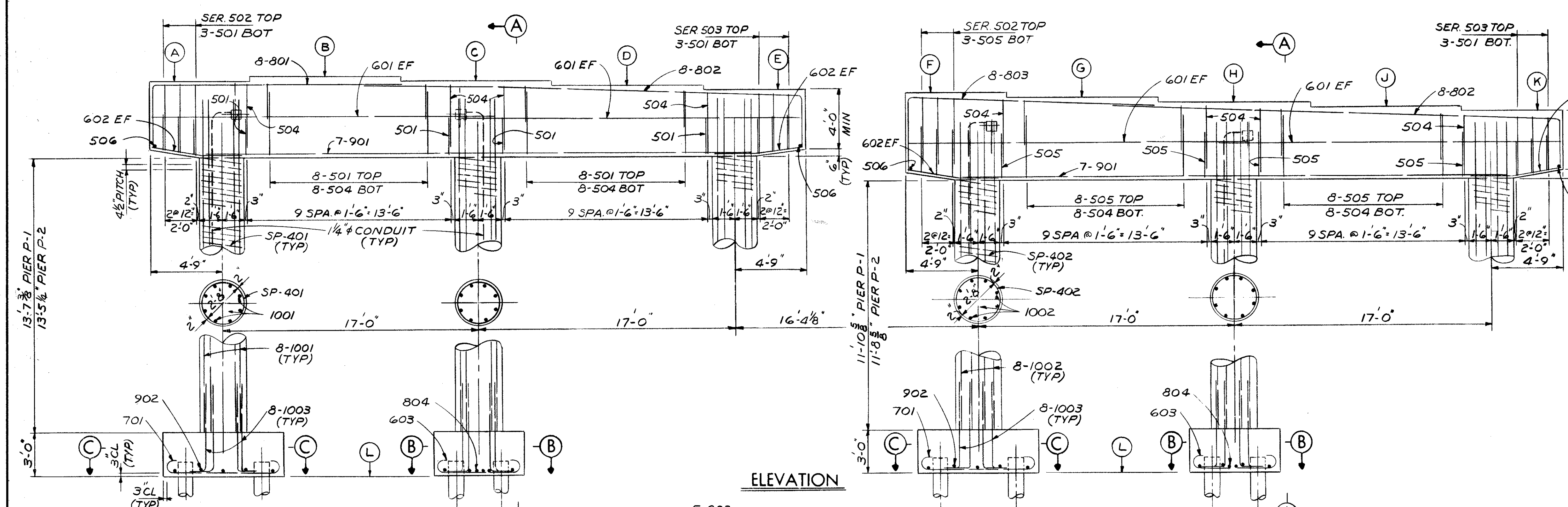
FED. RD.	STATE	PROJECT
2	OHIO	

718  
838

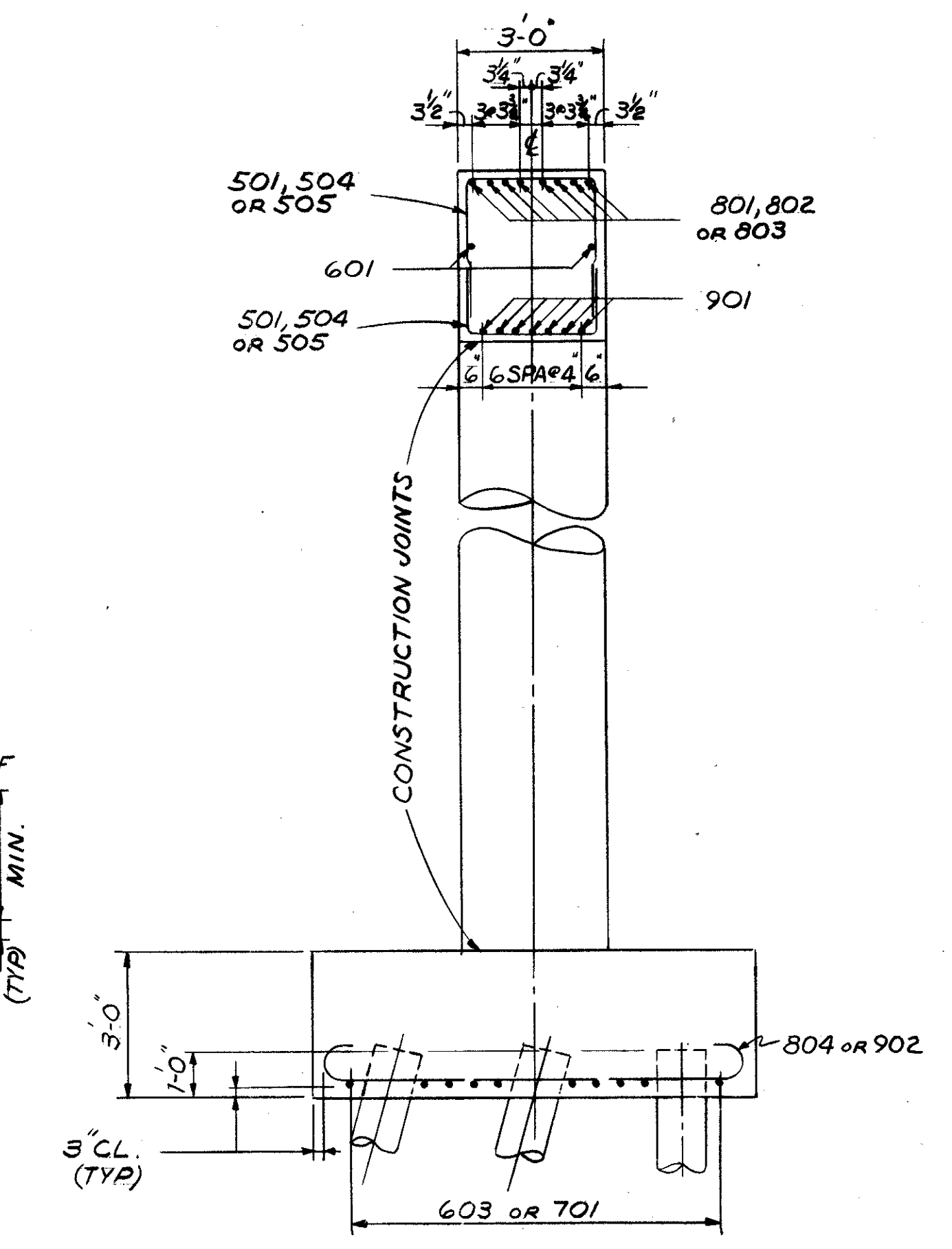
CUYAHOGA COUNTY  
CUY - 90 - 11.64



PLAN



ELEVATION



SECTION A-A

NOTES

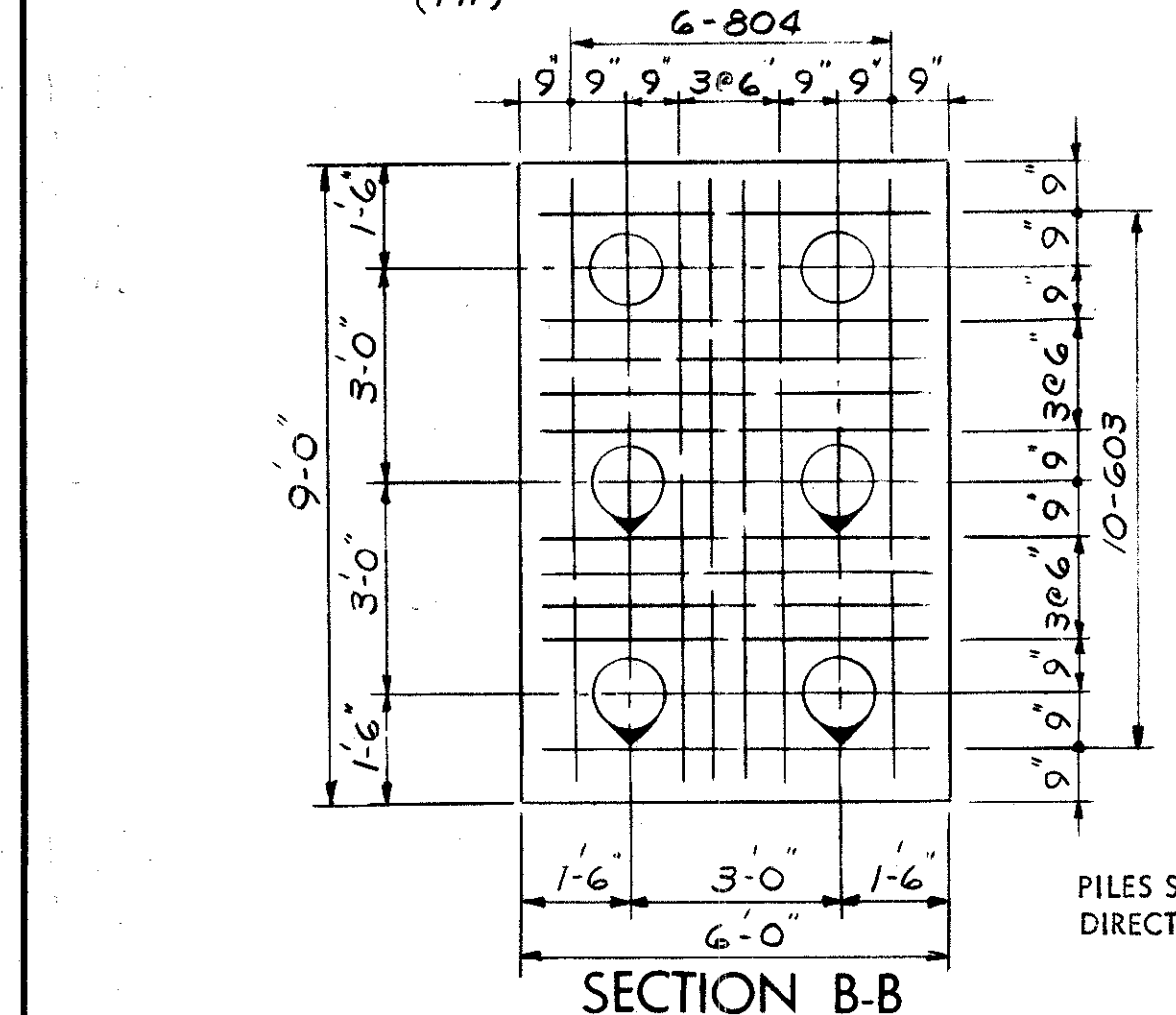
BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES OR THE PRESETTING OF BEARING ANCHORS.

ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE

THE PREFIX "1P", "2P" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN PIERS P-1, P-2 RESPECTIVELY, UNLESS SHOWN OTHERWISE.

FOR PILING PLAN, SEE SHEET 3/12

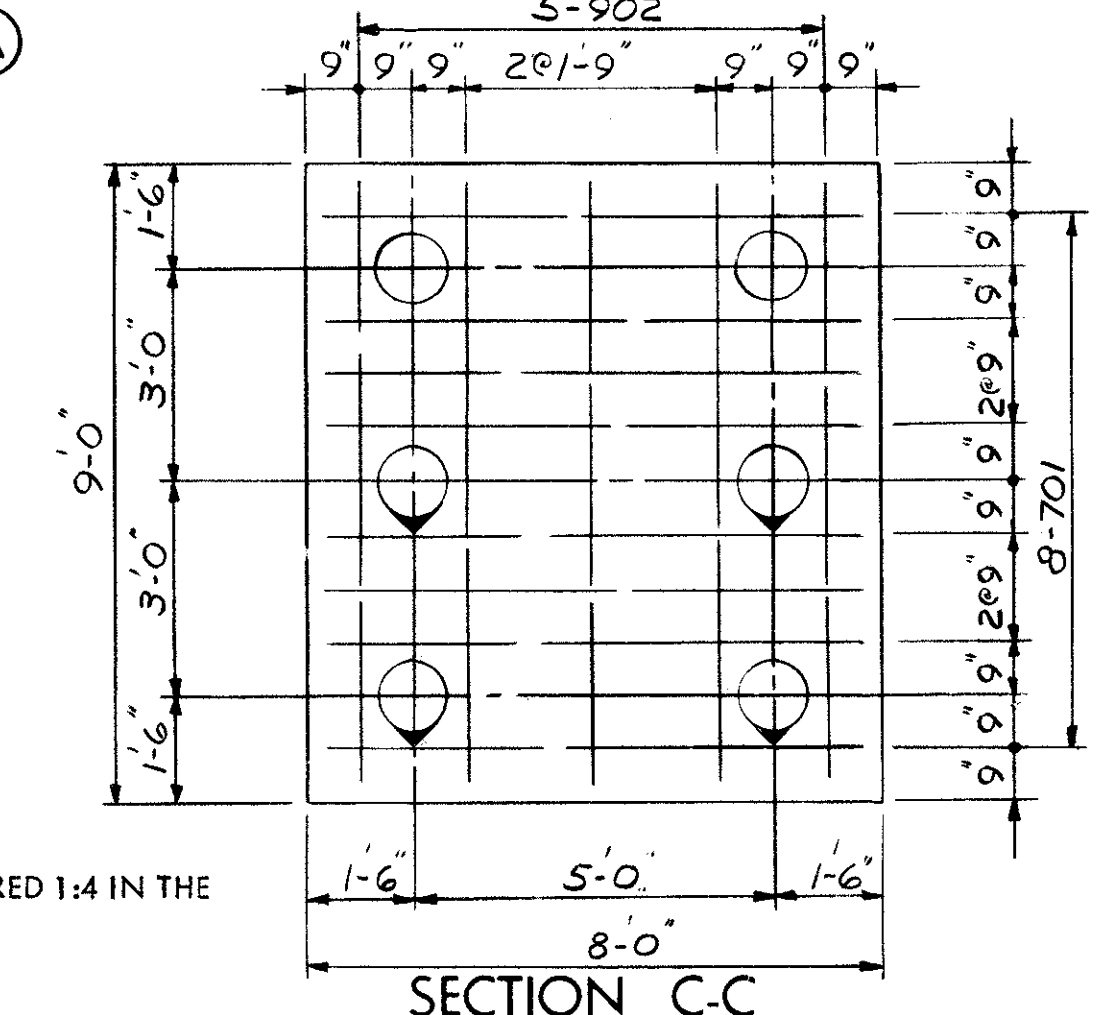
SEE LIGHTING PLANS FOR LIGHTING DETAILS



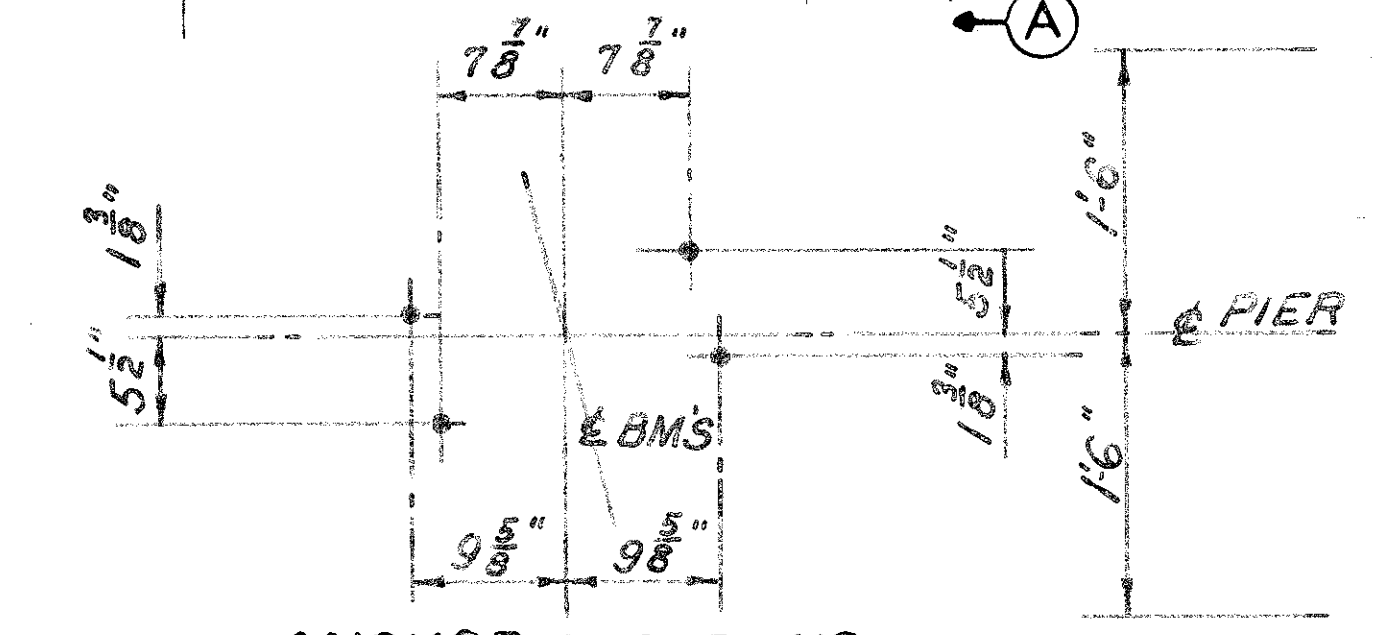
SECTION B-B

PILE BATTER FOR PIER P-2 SHOWN

PILES SHOWN THUS  $\odot$  SHALL BE BATTERED 1:4 IN THE DIRECTION INDICATED.



SECTION C-C



ANCHOR LOCATIONS

BEARING ANCHORS: AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST-IN-PLACE.

ELEVATIONS		A	B	C	D	E	F	G	H	J	K	L
PIER P-1		696.80	697.14	696.80	696.46	696.11	695.76	695.42	695.07	694.72	694.38	675.00
PIER P-2		696.65	696.96	696.62	696.28	695.94	695.59	695.25	694.91	694.57	694.22	675.00

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

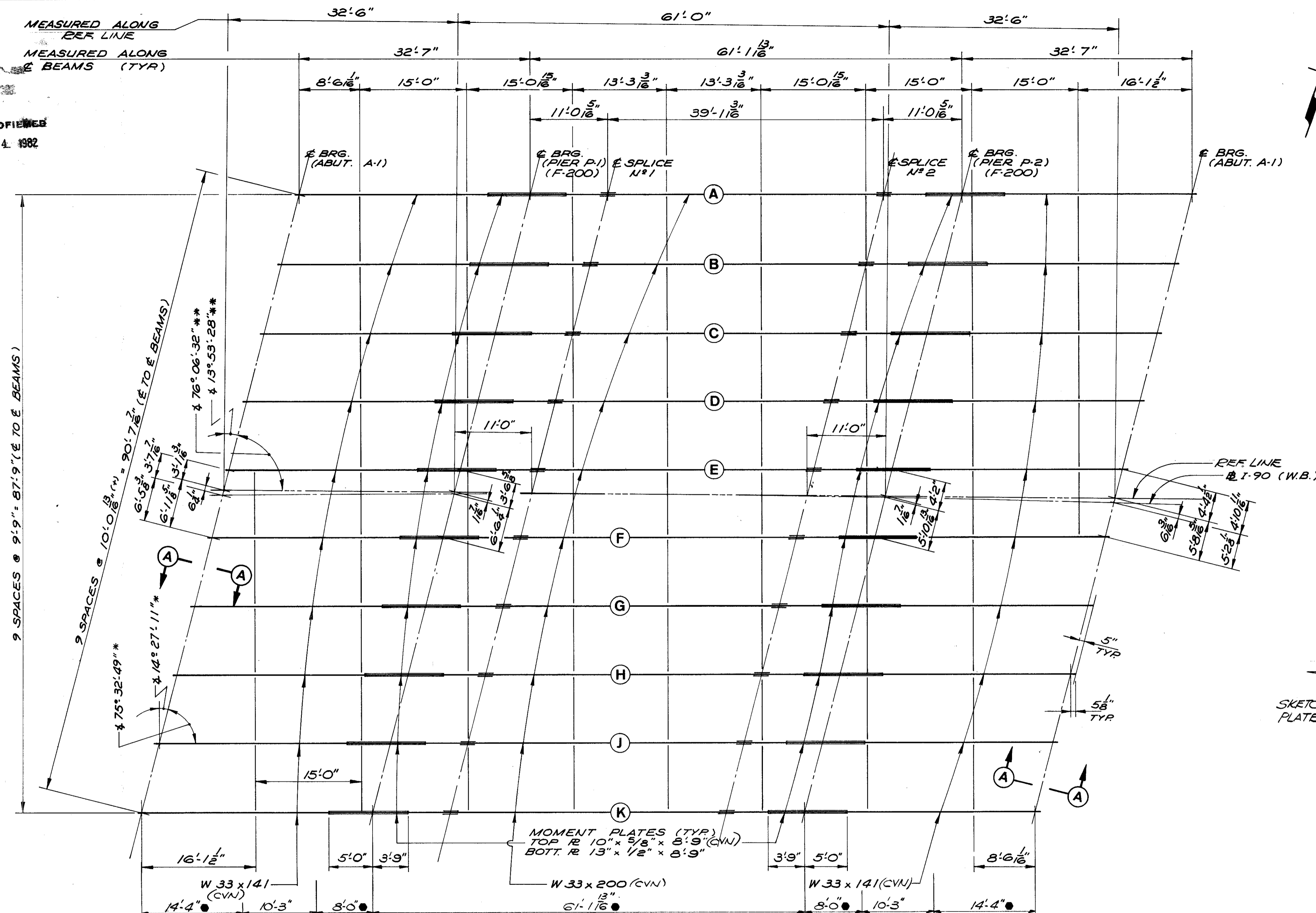
**DALTON · DALTON ASSOCIATES**

PIER DETAILS

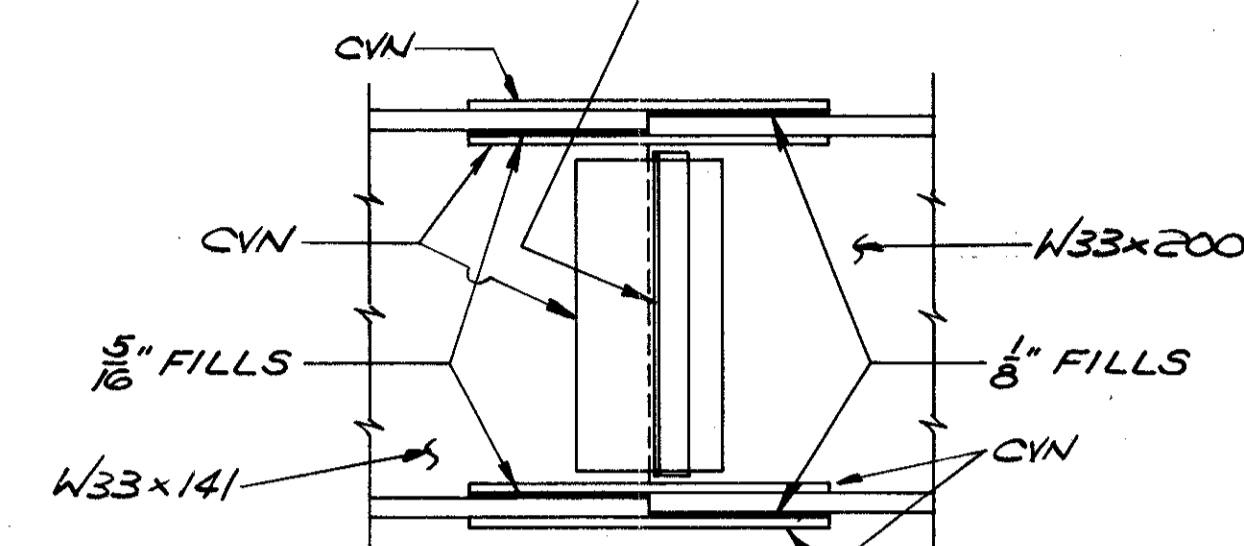
BRIDGE NO. CUY - 90 - 1304 LT  
OVER WEST 53rd ST  
I-90 CUYAHOGA COUNTY  
STA. 863+96.54 TO STA. 865+24.60

DESIGNED: BWM  
DRAWN: JLH  
TRACED:  
CHECKED: RJA  
REVIEWED: RJA  
DATE: 4-17-74

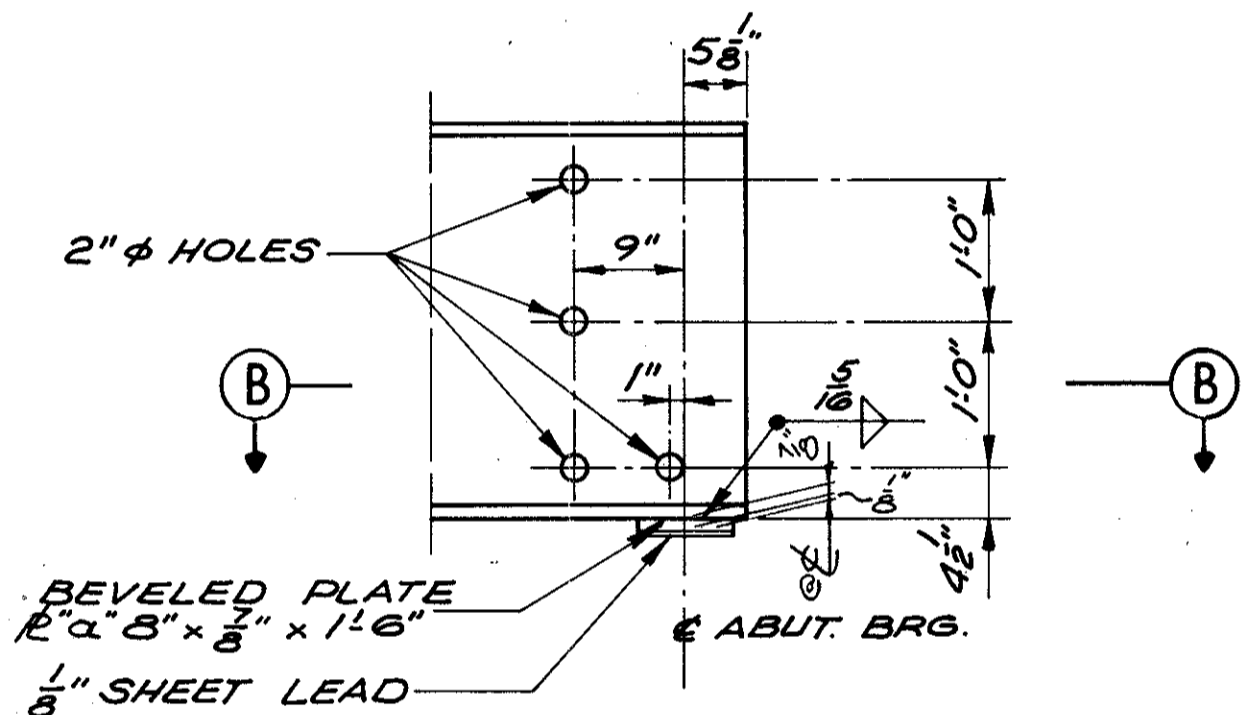
6/12



L 6" x 4" x 3/8" (N.F. & FF.) FOR  
CROSSFRAME SUPPORTS  
BEAMS "C" & "J" SPL.#1  
BEAMS "B" & "H" SPL.#2

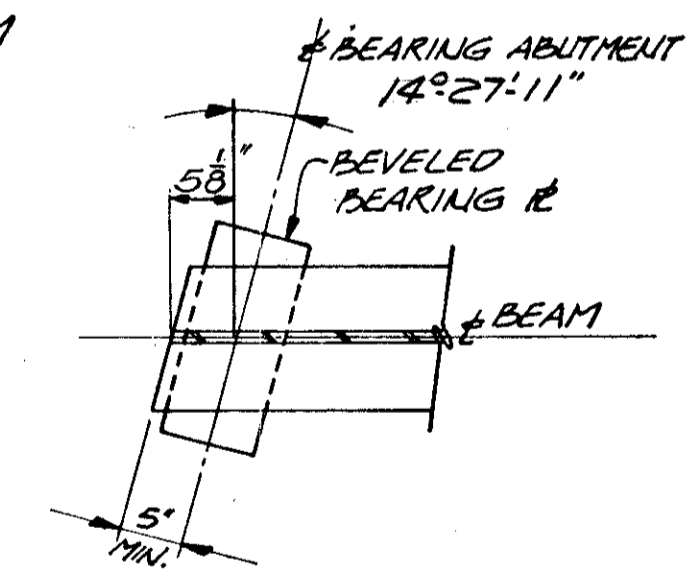


**SPLICE DETAILS**  
FOR SPLICE DETAILS NOT  
HERE SEE STD. SD-1-69, 4 of 4



**VIEW A-A**

12 1/16" FT. ABT. #1  
9" FT. ABT. #2  
SKETCH SHOWING BEVEL FOR  
PLATE "α" ALONG E OF BEAM



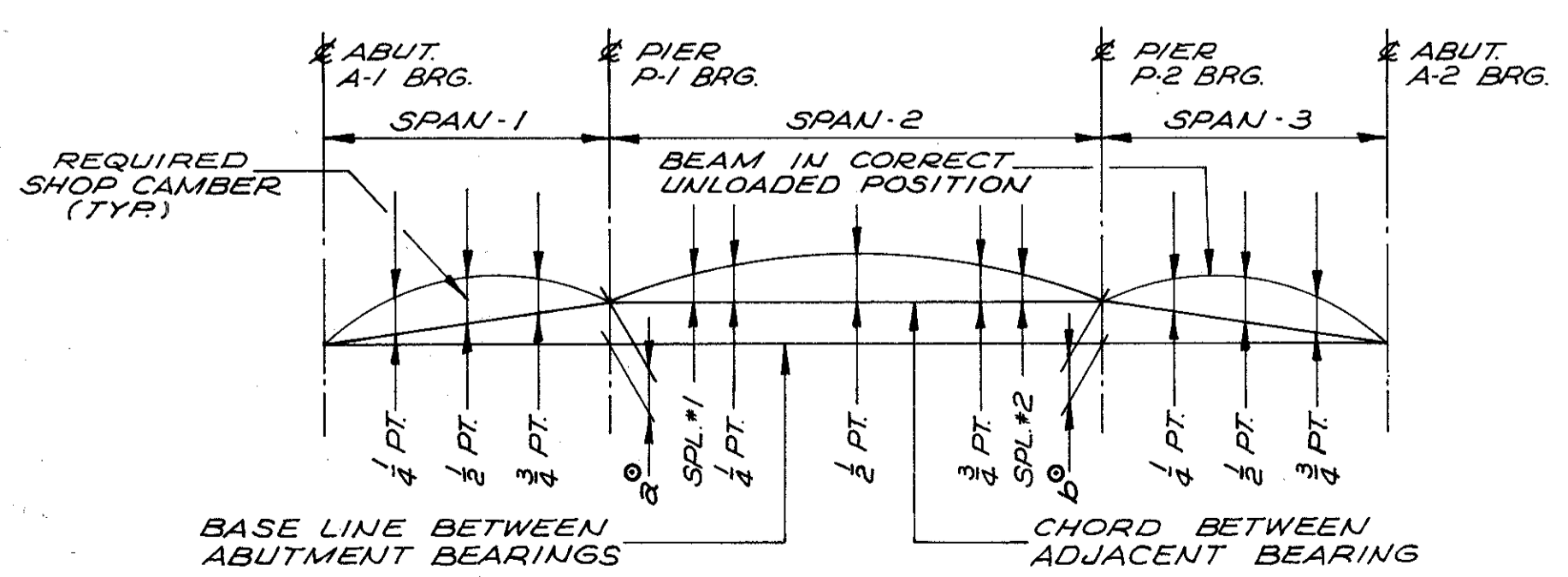
**SECTION B-B**

**FRAMING PLAN**

**NOTE:**  
\* INDICATES TYP. ANGLE BETWEEN  
E BEAMS & E BEARINGS OR SKEW  
ANGLE BETWEEN SAME  
\*\* INDICATES TYP. ANGLE BETWEEN  
E BEARINGS & REF. LINE OR SKEW  
ANGLE BETWEEN SAME.

● INDICATES AREA ON FACIA BEAMS WHERE  
WELDED ATTACHMENTS FOR FINISHING MACHINE  
SUPPORTS MAY BE MADE. ATTACHMENT DETAILS  
SHALL NOT EMPLOY FILLET WELDS LONGER THAN  
2 INCHES OR BE CLOSER THAN 1 INCH FROM  
EDGE OF FLANGE.

BEAMS	a	b
A	10'-0"	10'-0"
B	0'-0"	10'-0"
C, D, E	10'-0"	10'-0"
F, G, H, J, K	10'-0"	10'-0"



**LAYOUT DIAGRAM**

FOR DEFLECTION & CAMBER TABLE SEE SHT. 8/12  
FOR DIMENSIONS a & b SEE TABLE I

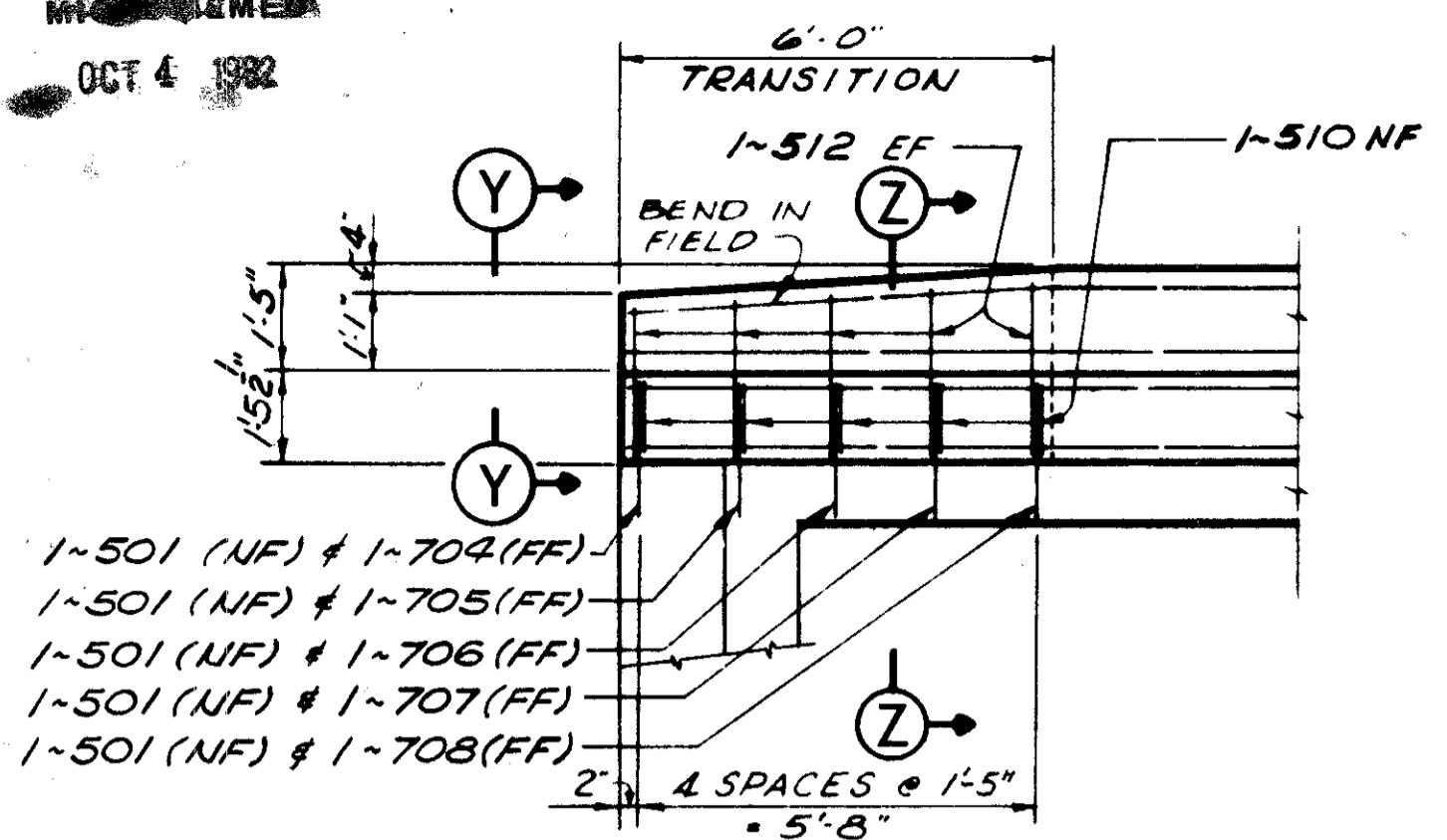
FOR NOTES SEE SHEET 9/12

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						7/12
DALTON · DALTON ASSOCIATES						
FRAMING PLAN						
BRIDGE NO. CUY-90-1304 LT. OVER WEST 53rd ST. I-90 CUYAHOGA COUNTY						
STA. 863+96.54 TO STA. 865+24.60						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K S J	Andy		R M C	R B A	4-17-74	



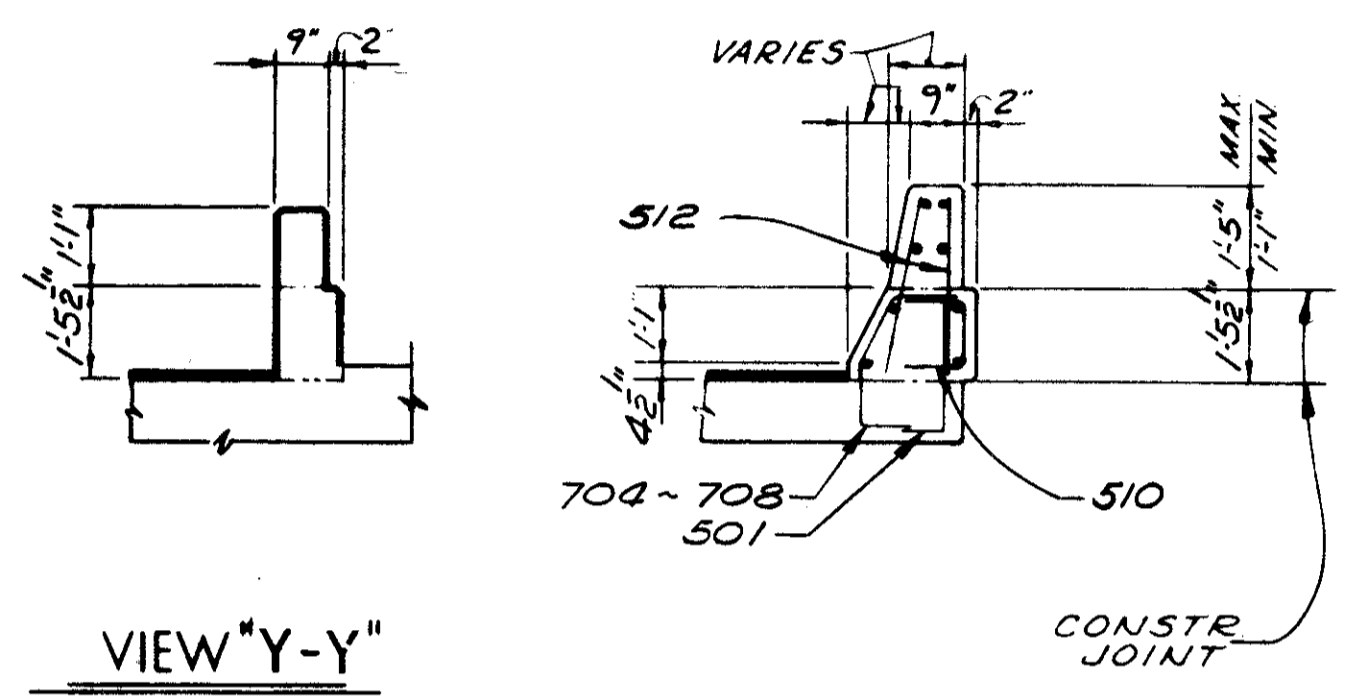
OCT 4 1982

CUYAHOGA COUNTY  
CUY-90-11.64



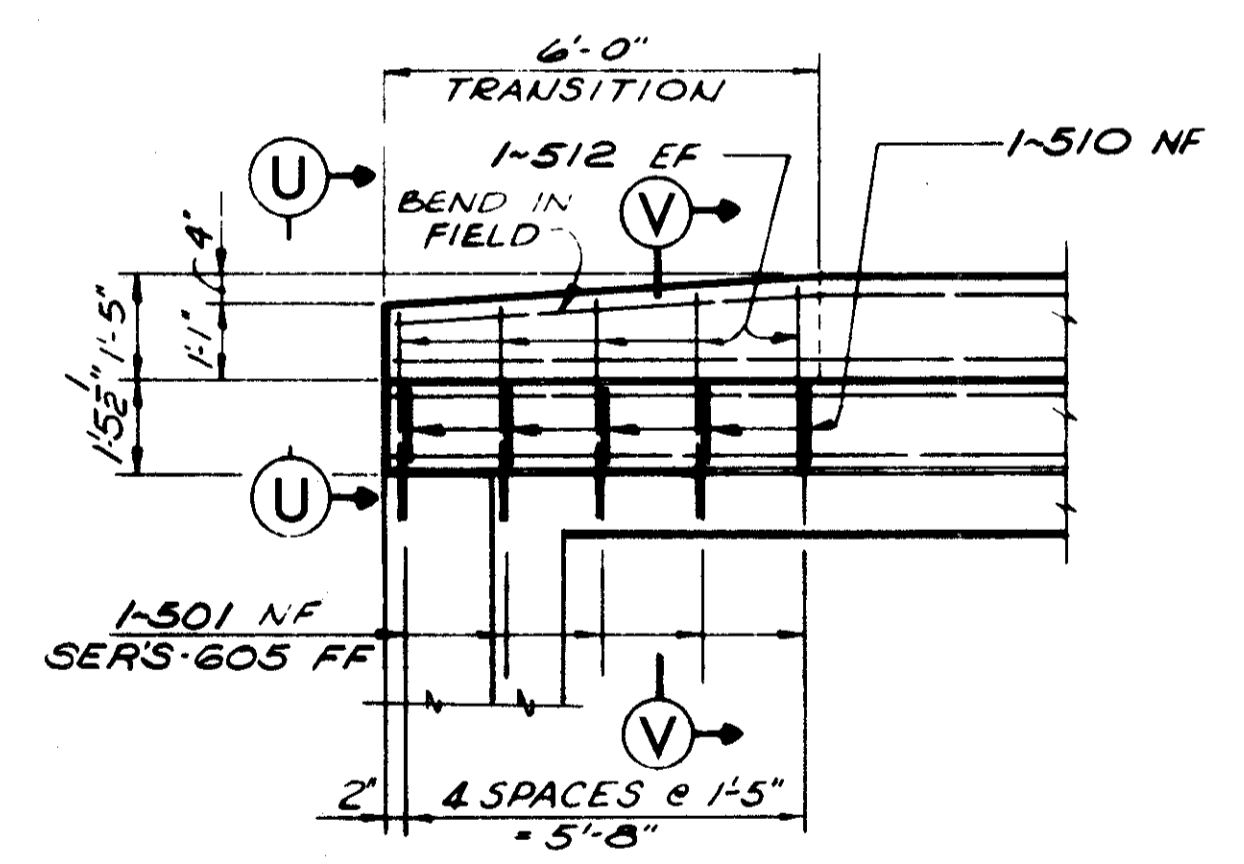
ELEVATION

6'-0" TRANSITION WITH NO CURBS ON APPROACHES



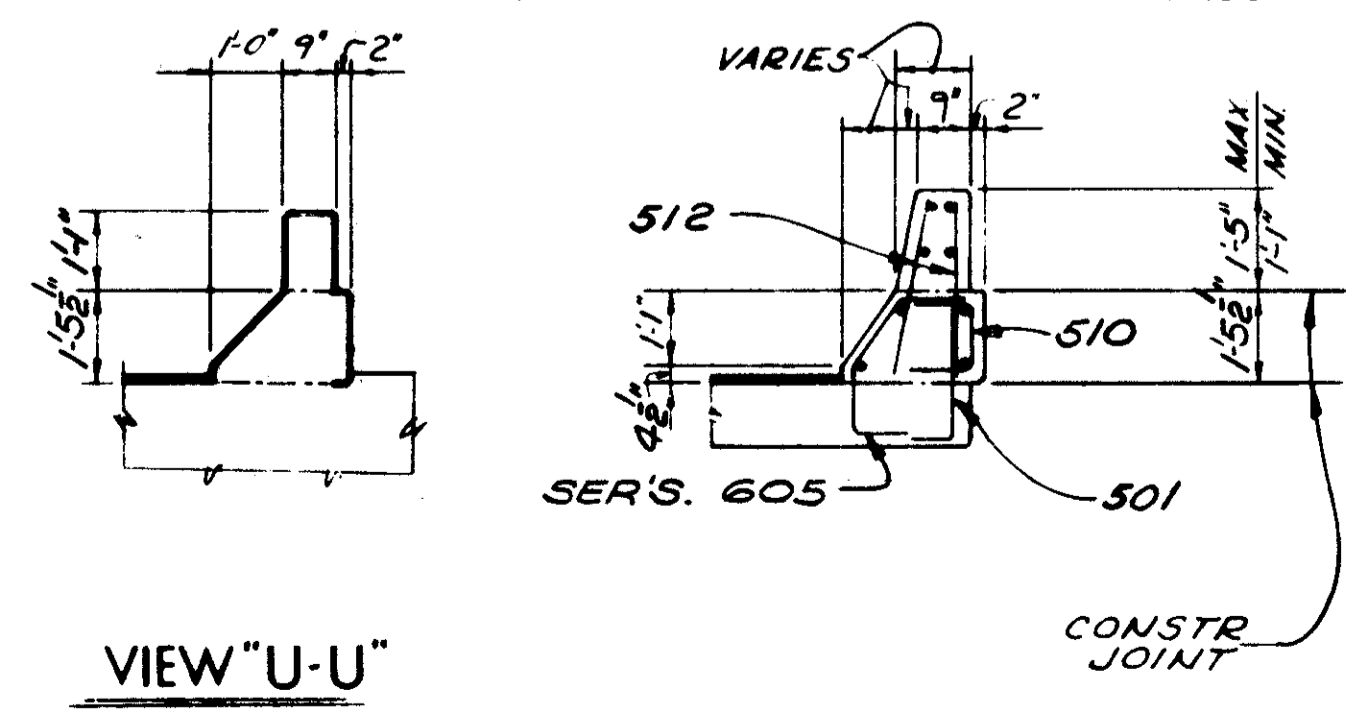
VIEW "Y-Y"

SECTION "Z-Z"



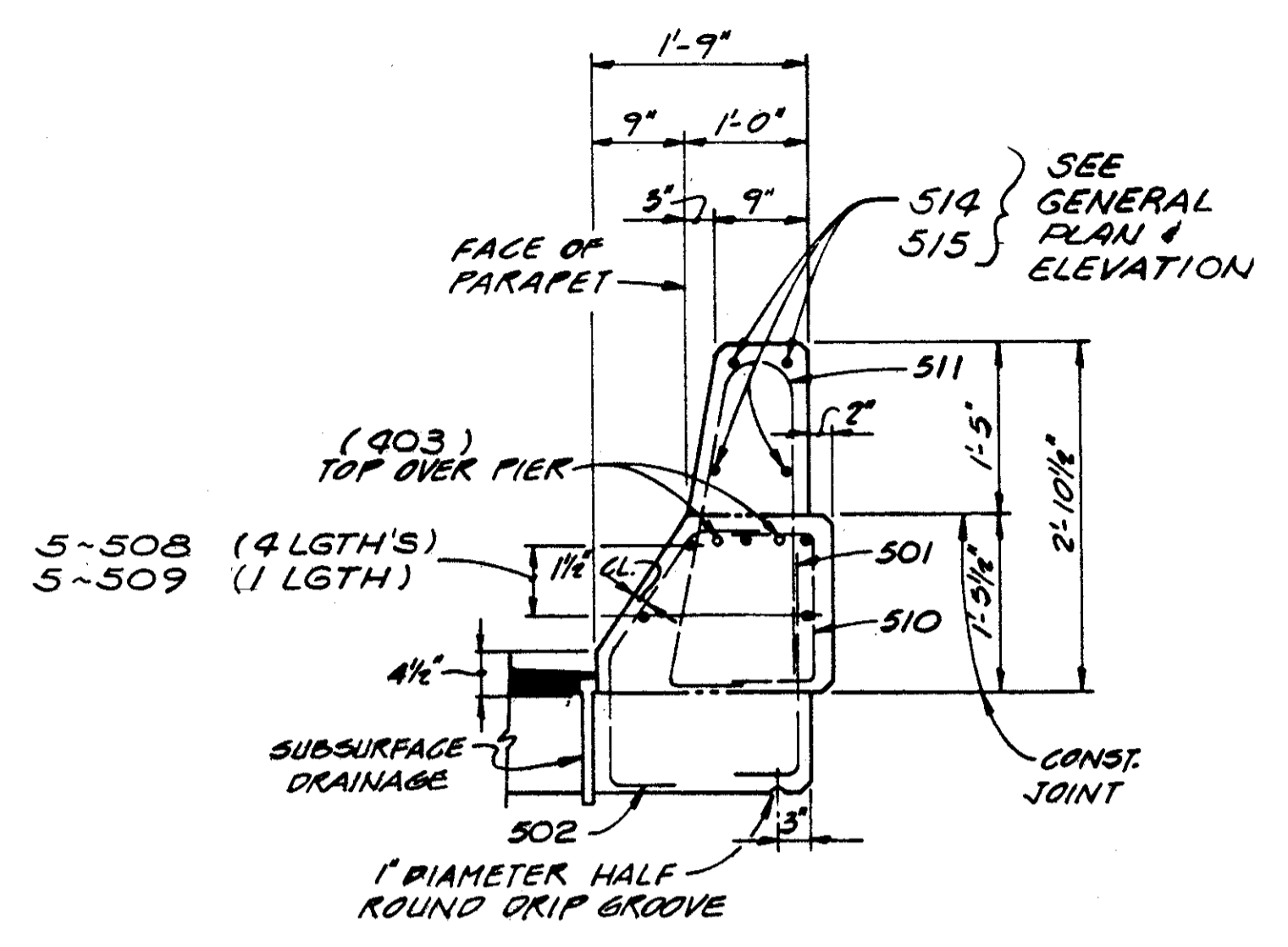
ELEVATION

6'-0" TRANSITION WITH CURBS ON APPROACHES

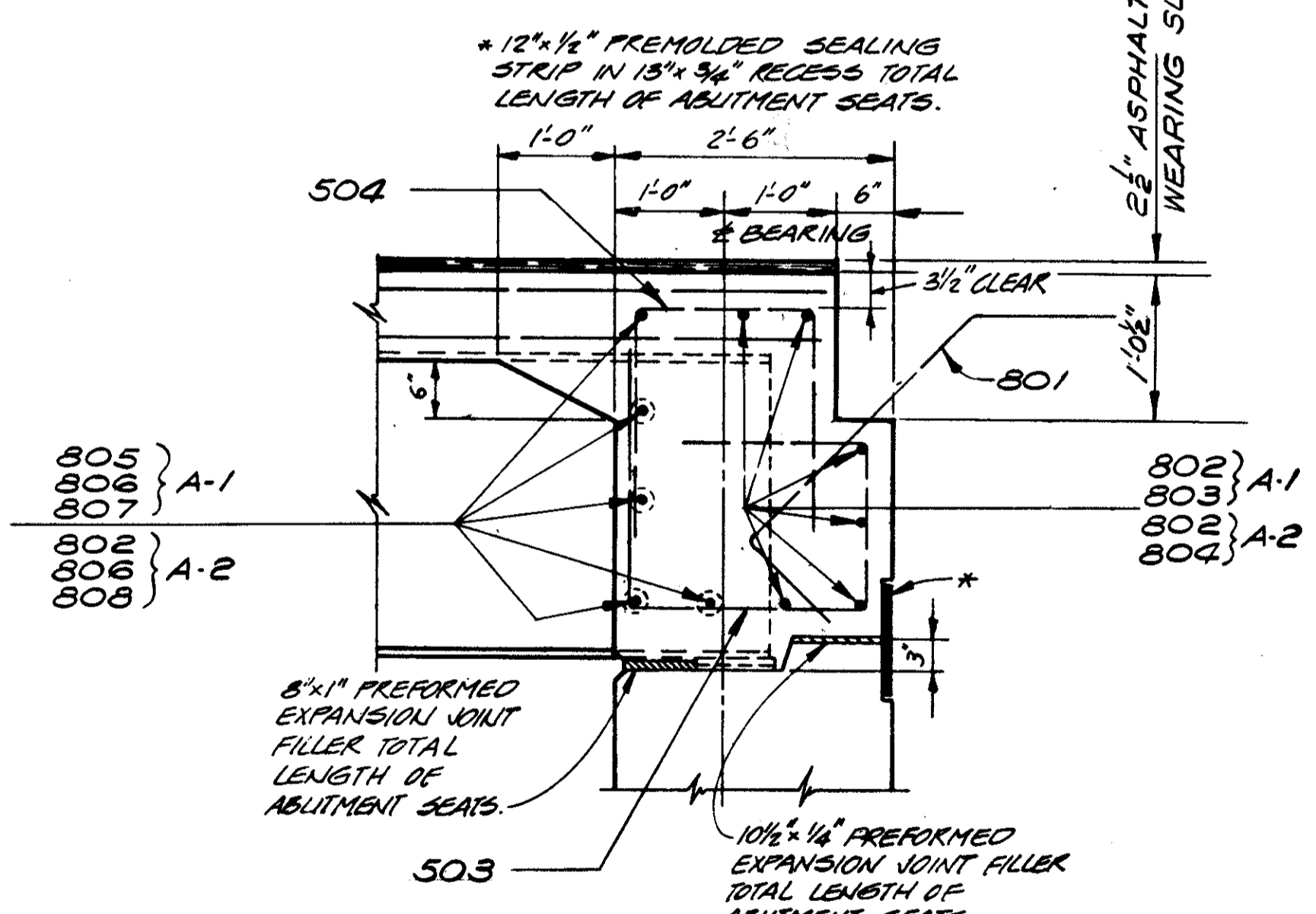


VIEW "U-U"

SECTION "V-V"



RAILING DETAIL "E"



SECTION C-C

LOCATION	EL. A	EL. B	EL. C
CL BRG A-1	701.06	701.45	698.66
1/4 PT.	701.06	701.44	698.65
1/2 PT.	701.05	701.44	698.65
3/4 PT.	701.04	701.43	698.64
CL PIER-1	701.03	701.42	698.63
1/4 PT.	701.02	701.41	698.62
1/2 PT.	701.00	701.39	698.60
3/4 PT.	700.94	701.33	698.54
CL PIER-2	700.86	701.25	698.46
1/4 PT.	700.83	701.22	698.43
1/2 PT.	700.79	701.18	698.39
3/4 PT.	700.75	701.14	698.35
CL BRG ABT -2	700.71	701.10	698.31

\*ELEVATIONS GIVEN ARE AT TOP OF PORTLAND CEMENT CONCRETE

DEFLECTION AND CAMBER

LOCATION	DEFLECTION DUE TO WT. OF STEEL	DEFLECTION DUE TO REMAINING DL	ADJ. REQ'D. FOR VERTICAL & HORZ. CURVE	REQUIRED SHOP CAMBER
<b>BEAM NO. "A"</b>				
CL BRG A-1				
1/4 PT.	----	----	1/16"	1/16"
1/2 PT.	----	----	1/16"	1/16"
3/4 PT.	----	1/16"	1/16"	1/8"
CL PIER-1				
1/4 PT.	1/16"	3/16"	1/8"	3/8"
1/2 PT.	1/16"	1/4"	3/16"	1/2"
3/4 PT.	1/16"	7/16"	1/4"	3/4"
CL SPLICE NO 2				
1/4 PT.	1/16"	3/16"	1/8"	3/8"
1/2 PT.	----	1/16"	1/16"	1/8"
3/4 PT.	----	----	1/16"	1/16"
CL BRG ABT -2				
<b>BEAM NO. "B"</b>				
CL BRG A-1				
1/4 PT.	----	----	1/16"	1/16"
1/2 PT.	----	----	1/16"	1/16"
3/4 PT.	----	1/16"	1/16"	1/8"
CL PIER-1				
1/4 PT.	1/16"	3/16"	3/16"	7/16"
1/2 PT.	1/16"	1/4"	3/16"	1/2"
3/4 PT.	1/16"	7/16"	3/16"	11/16"
CL SPLICE NO 2				
1/4 PT.	1/16"	3/16"	1/8"	3/8"
1/2 PT.	----	1/16"	1/16"	1/8"
3/4 PT.	----	----	1/16"	1/16"
CL BRG ABT -2				
<b>BEAM NOS. "C" "D" "E" "F" "G" "H" "J" &amp; "K"</b>				
CL BRG A-1				
1/4 PT.	----	----	1/16"	1/16"
1/2 PT.	----	----	1/16"	1/16"
3/4 PT.	----	1/16"	1/16"	1/8"
CL PIER-1				
1/4 PT.	1/16"	3/16"	1/8"	3/8"
1/2 PT.	1/16"	1/4"	1/8"	7/16"
3/4 PT.	1/16"	7/16"	3/16"	11/16"
CL SPLICE NO 2				
1/4 PT.	1/16"	1/4"	1/8"	7/16"
1/2 PT.	1/16"	3/16"	1/8"	3/8"
3/4 PT.	----	1/16"	1/16"	1/8"
CL BRG ABT -2				

OFFSET TABLE

OFFSET "A" FROM CENTERLINE OF BEAM "A" TO LEFT EDGE OF SLAB			
LOCATION	BEAM DIV.	NORMAL (RADIAL) OFFSET A	AT STATION
CL BRG A-1	1/4	2'-6 5/8"	864+08.67
	1/2	2'-8 3/4"	864+16.73
	3/4	2'-10 3/4"	864+24.79
CL PIER-1	1/4	3'-0 1/2"	864+32.85
	1/2	3'-2 1/16"	864+40.91
	3/4	3'-4 1/2"	864+56.03
CL PIER-2	1/4	3'-6 3/16"	864+71.15
	1/2	3'-7 3/16"	864+86.27
	3/4	3'-7 7/16"	865+01.39
CL BRG ABT -2	1/4	3'-7 5/16"	865+09.45
	1/2	3'-7"	865+17.50
	3/4	3'-6 7/16"	865+25.56
MINIMUM OFFSET = 2'-6 5/8"			864+08.67
MAXIMUM OFFSET = 3'-7 7/16"			865+00.26
*DETERMINED USING 1FT INCREMENTS ALONG BEAM A			
OFFSET "B" FROM CENTERLINE OF BEAM "K" TO RIGHT EDGE OF SLAB			
LOCATION	BEAM DIV.	NORMAL (RADIAL) OFFSET B	AT STATION
CL BRG A-1	1/4	2'-7 3/16"	863+85.49
	1/2	2'-6 3/8"	863+93.73
	3/4	2'-5 3/4"	864+01.97
CL PIER-1	1/4	2'-5 3/8"	864+10.21
	1/2	2'-5 3/16"	864+18.45
	3/4	2'-5 3/8"	864+33.92
CL PIER-2	1/4	2'-6 1/4"	864+49.38
	1/2	2'-7 15/16"	864+64.85
	3/4	2'-10 1/4"	864+80.31
CL BRG ABT -2	1/4	2'-11 13/16"	864+88.55
	1/2	3'-1 9/16"	864+96.78
	3/4	3'-3 1/2"	865+05.02
MINIMUM OFFSET = 2'-5 1/8"			864+22.50
MAXIMUM OFFSET = 3'-5 11/16"			865+13.26
*DETERMINED USING 1FT INCREMENTS ALONG BEAM K			

FOR NOTES SEE SHEET 9/12

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

SUPERSTRUCTURE DETAILS

BRIDGE NO. CUY-90-1304 LT.  
OVER WEST 53rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 863+96.54 TO STA. 865+24.60

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
KSJ	ANDY		WHE	RBA	4-17-74	

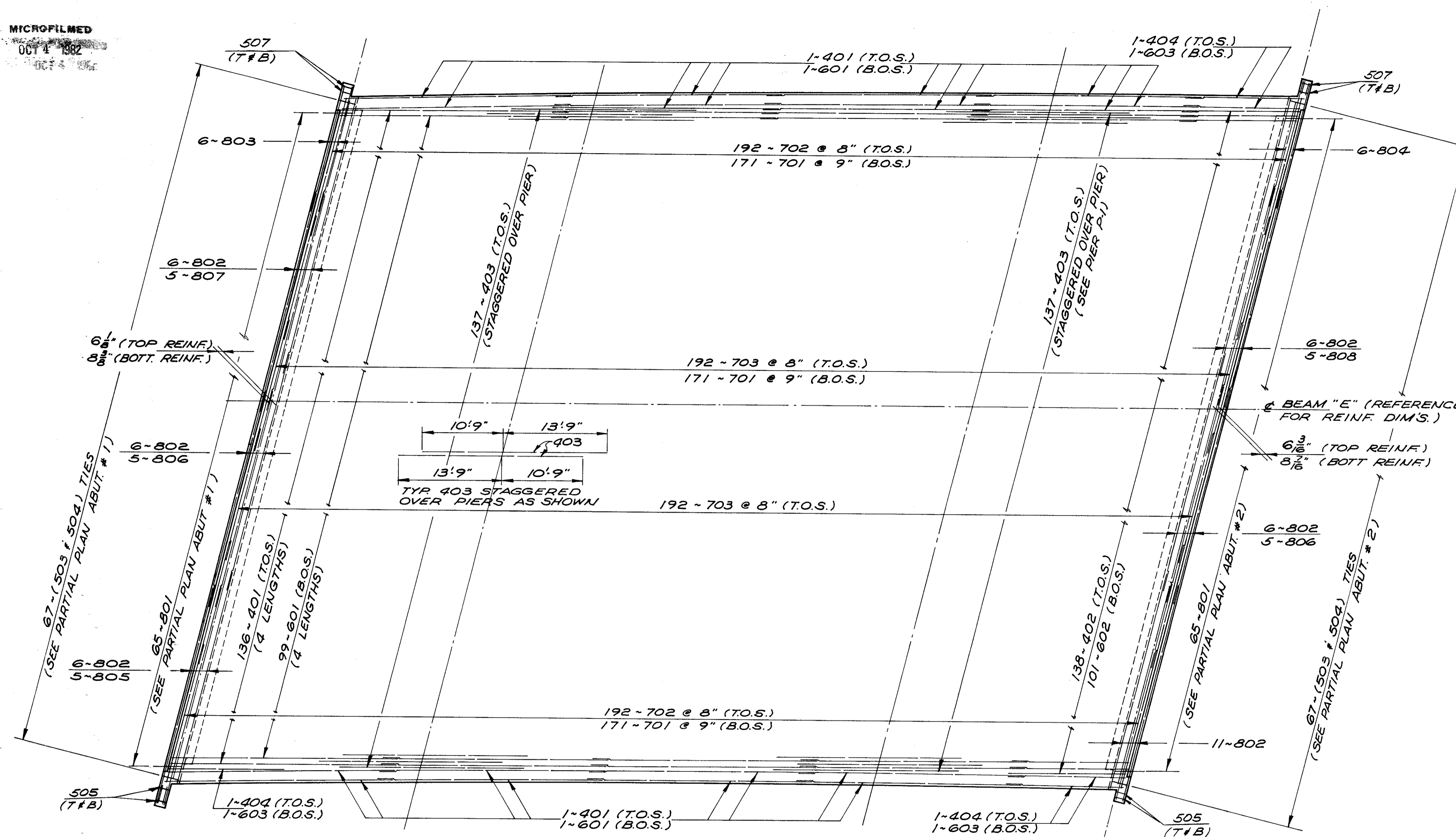
MICROFILMED

OCT 4 1982

FED. RD.	STATE	PROJECT
2	OHIO	

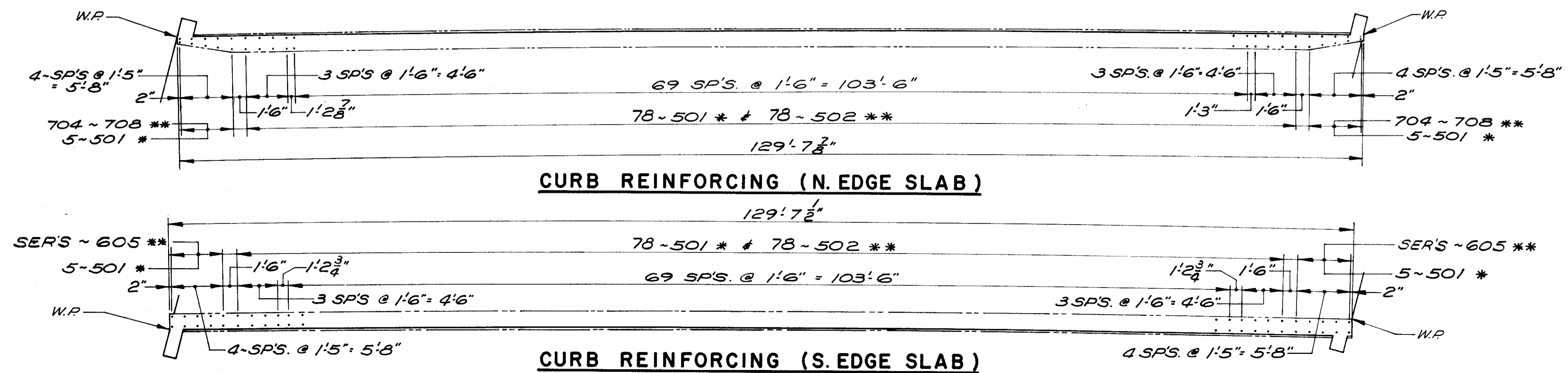
721  
838

CUYAHOGA COUNTY  
CUY-90-11.64



**SLAB PLAN**

- NOTES**
- DECK SLAB DEPTH: THE DISTANCE SHOWN FROM THE TOP OF DECK SLAB TO TOP OF STEEL BEAM IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.
  - A HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.
  - INTERMEDIATE CROSSFRAME ANGLES 3" X 3" X 5/16". WELD BOTH SIDES OF VERTICAL LEG AND TOP SIDE OF HORIZONTAL LEG TO BEAM WITH 1/4" CONTINUOUS FILLET WELD.
  - TRANSVERSE REINFORCEMENT SHALL BE FIELD BENT AS REQUIRED; PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL.
  - ELEVATIONS SHOWN ARE ON TOP OF THE PORTLAND CEMENT CONCRETE AND ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE AND ASPHALT WEARING SURFACE. THE 1/4 POINT, 1/2 POINT, ETC., ARE DIVISIONS ALONG THE SCREED LINES NOTED A, B, ETC. ON THE TRANSVERSE SECTION BETWEEN CENTERLINES OF BEARING.
- FOR PAVEMENT ELEVATION TABLE, SEE SHEET **8/12**
- THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE UNLESS SHOWN OTHERWISE.
  - FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET **10/12**
  - SLAB OFFSETS ARE MEASURED FROM THE CENTERLINE OF BEAM AT THE LOCATION LISTED RADIAL TO THE EDGE OF SLAB FOR SLAB OFFSET TABLE. THE 1/4 POINT, 1/2 POINT, ETC., ARE DIVISIONS ALONG THE CENTERLINE OF BEAM BETWEEN CENTERLINES OF BEARING.
- FOR SLAB OFFSET TABLE, SEE SHEET **8/12**



**CURB REINFORCING (N. EDGE SLAB)**

**CURB REINFORCING (S. EDGE SLAB)**

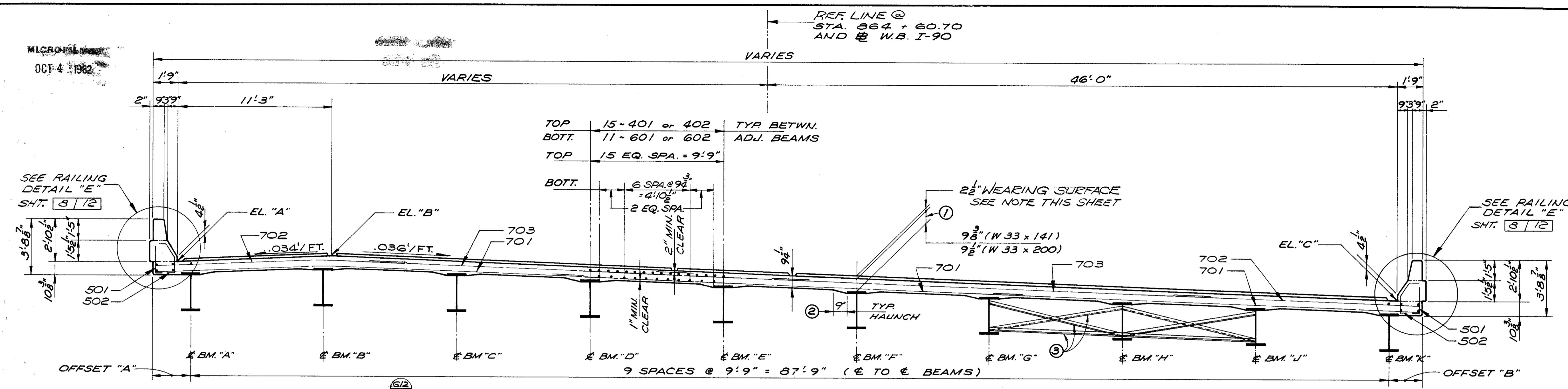
**NOTE:**  
\* DENOTES BARS ALONG EDGE OF SLAB (2" MIN. CLR.)  
\*\* DENOTES BARS ALONG EDGE OF GUTTER (2" INTO CURB)

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES		9/12
<b>DALTON · DALTON ASSOCIATES</b>		
<b>SLAB PLAN</b>		
BRIDGE NO. CUY-90-1304 LT. OVER WEST 53rd ST. I-90 CUYAHOGA COUNTY		
STA. 863+96.54 TO STA. 865+24.60		
DESIGNED K.S.J.	DRAWN R.W.D.	TRACED R.W.D.
CHECKED R.W.D.	REVIEWED R.W.D.	DATE 4-17-74
REVISED		

MICROFILM  
OCT 4 1982

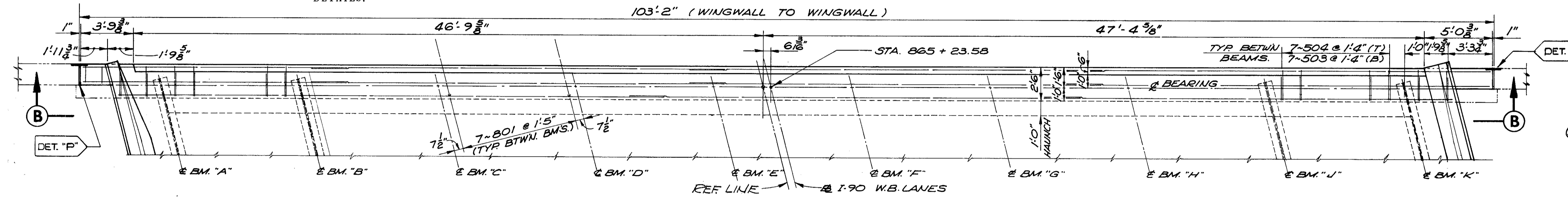
FED. RD.	STATE	PROJECT	722 838
2	OHIO		

CUYAHOGA COUNTY  
CUY-90-11.64



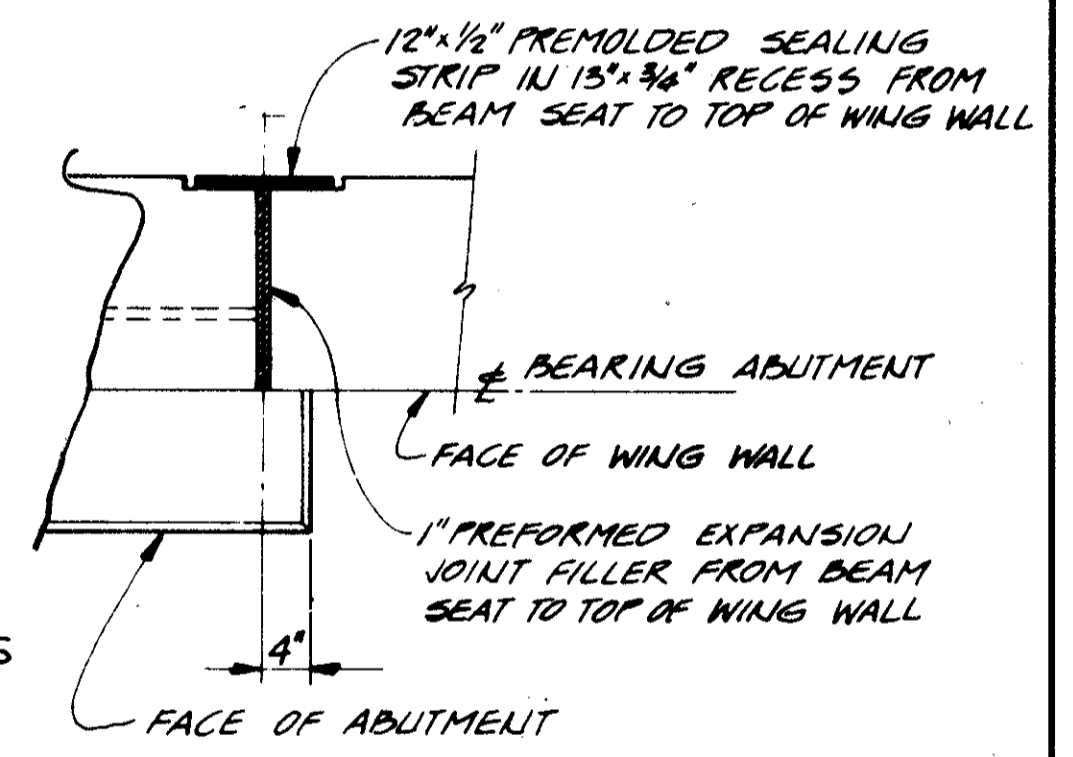
**TRANSVERSE SECTION**

SEE SHEET 8/12 FOR SUBDRAINAGE AND ASPHALT CONCRETE WEARING SURFACE DETAILS.

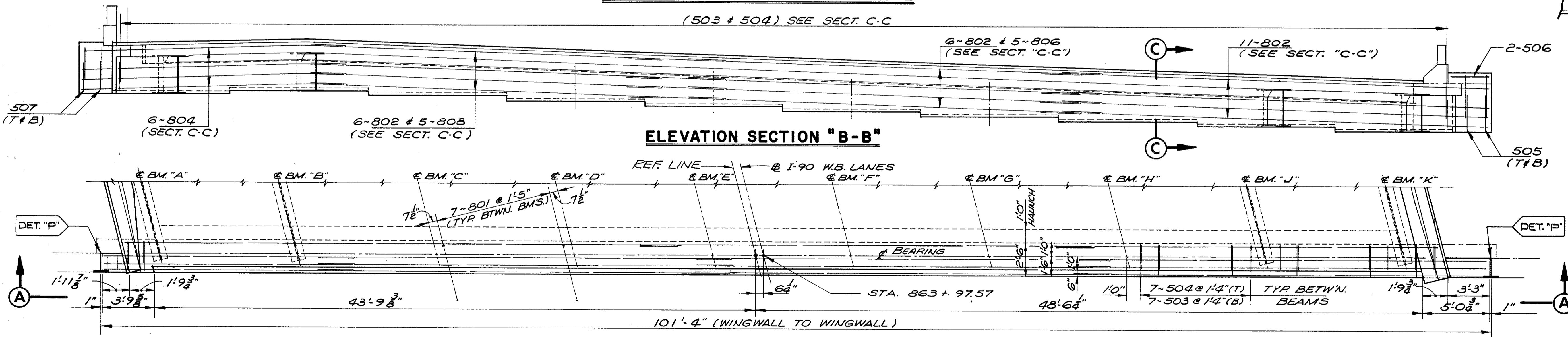


**PARTIAL SLAB PLAN at ABUT. N#2**

(503 & 504) SEE SECT. C-C

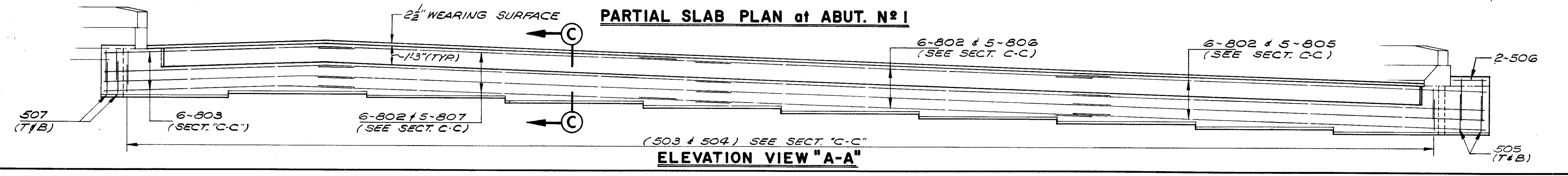


**DETAIL "P"**



**ELEVATION SECTION "B-B"**

FOR SECTION "C-C" SEE SHEET 8/12  
FOR NOTES SEE SHEET 9/12



**PARTIAL SLAB PLAN at ABUT. N#1**

**ELEVATION VIEW "A-A"**

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

10/12

DALTON · DALTON ASSOCIATES

TRANSVERSE SECTION  
SUPERSTRUCTURE DETAILS  
BRIDGE NO. CUY-90-1304 LT.  
OVER WEST 53rd ST.  
I-90 CUYAHOGA COUNTY  
STA. 863+96.54 TO STA. 865+24.60

DESIGNED K S J	DRAWN A W P	TRACED	CHECKED E M F	REVIEWED R B H	DATE 4-17-74	REVISED
-------------------	----------------	--------	------------------	-------------------	-----------------	---------

MARK	NO. REIN.	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
ABUTMENT A-1									
1A 401	88	5-5	2	1-11	1-9				318
1A 501	16	30-0	ST						501
1A 502	8	14-0	ST						117
1A 503	4	9-10	ST						41
1A 505	8	30-4	ST						253
1A 506	4	11-11	ST						50
1A 507	74	6-11	2	2-6	2-2				534
1A 508	70	7-7	39	1-6	0-6	1-7	0-6		554
1A 509	6	11-10	ST						74
1A 510	2	7-3	ST						15
1A 511	2	4-0	ST						8
1A 512	2	10-7	12	0-10	9-9	4-1			22
SERIES	2-SETS	2-0							
OF	8=	10	ST					0-7	70
1A 513	16 BARS	6-4							16
1A 514	6	9-10	ST						62
1A 515	2	7-8	ST						16
1A 516	2	4-6	ST						9
1A 517	2	8-6	12	0-10	7-8	3-4			18
SERIES	2-SETS	2-6							
OF	6=	10	ST					0-8	52
1A 518	12 BARS	5-10							
1A 601	14	9-4	3	5-9	1-4	2-6			196
1A 602	14	10-4	3	5-9	2-4	2-6			217
1A 603	88	10-10	3	6-3	2-4	2-6			1432
1A 604	28	10-7	3	6-0	2-4	2-6			445
1A 605	32	11-4	3	6-9	2-4	2-6			545
1A 606	2	7-10	ST						24
1A 607	2	7-4	ST						22
1A 801	13	30-0	ST						1041
1A 802	8	15-0	ST						320
1A 803	4	10-9	ST						115
1A 804	2	30-4	ST						162
1A 805	1	12-10	ST						34
1A 806	8	8-2	12	4-0	4-3	3-0			174
1A1001	2	32-3	1	2-2	30-4				278
1A1002	7	30-4	ST						914
1A1003	3	13-2	ST						170
TOTAL ABUTMENT A-1 =									8805
ABUTMENT A-2									
2A 401	92	5-5	2	1-11	1-9				333
2A 501	16	30-0	ST						501
2A 502	8	15-0	ST						125
2A 503	4	10-9	ST						45
2A 505	8	31-3	ST						261
2A 506	4	11-11	ST						50
2A 507	78	6-11	2	2-6	2-2				563
2A 508	71	7-7	39	1-6	0-6	1-7	0-6		562
2A 509	6	11-10	ST						74
2A 510	2	7-3	ST						15
2A 511	2	4-0	ST						8
2A 512	2	10-7	12	0-10	9-9	4-2			22
SERIES	2-SETS	2-1							5
OF	8=	10	ST					0-7	70
2A 513	16 BARS	6-4							16
2A 514	6	9-10	ST						62
2A 515	2	7-8	ST						16
2A 516	2	4-6	ST						9
2A 517	2	8-5	12	0-10	7-7	3-5			18
SERIES	2-SETS	2-6							
OF	6=	10	ST					0-7	50
2A 518	12 BARS	5-5							
2A 601	14	9-4	3	5-9	1-4	2-6			196
2A 602	14	10-4	3	5-9	2-4	2-6			217
2A 603	76	10-10	3	6-3	2-4	2-6			1237
2A 604	26	10-8	3	6-1	2-4	2-6			417
2A 605	34	11-4	3	6-9	2-4	2-6			579
2A 606	2	7-9	ST						23
2A 607	2	7-3	ST						22
2A 801	13	30-0	ST						1041
2A 802	8	15-10	ST						338
2A 803	4	11-10	ST						126
2A 804	2	31-3	ST						167
2A 805	1	12-10	ST						34
2A 806	8	8-2	12	4-0	4-3	3-0			174
2A1001	2	33-2	1	2-2	31-3				285
2A1002	7	31-3	ST						941
2A1003	3	13-2	ST						170
TOTAL ABUTMENT A-2 =									6751

00-4 102

MARK	NO. REIN.	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
SUPERSTRUCTURE									
S 401	563	30-0	ST						11283
S 402	138	11-6	ST						1060
S 403	282	24-6	ST						4615
S 404	5	14-4	ST						48
S 501	176	2-6	1	0-8	1-11				459
S 502	156	3-4	20	1-0	0-9	0-9			542
S 503	134	7-7	8	2-4	2-2	1-8	1-9		1060
S 504	134	6-1	2	2-4	1-8				850
S 505	8	6-5	2	2-9	1-2				54
S 506	4	2-11	ST						12
S 507	8	5-11	2	2-6	1-2				49
S 508	40	30-0	ST						1252
S 509	10	15-7	ST						163
S 510	176	2-5	2	0-9	1-2				444
S 511	156	5-8	23	2-7	2-4				922
S 512	40	2-5	ST						101
S 513	16	12-0	ST						200
S 514	80	7-2	ST						598
S 515	16	14-8	ST						245
S 601	415	30-0	ST						18700
S 602	101	14-6	ST						2200
S 603	5	15-4	ST						115
SERIES	5-SETS	3-4							
OF	2=	10	20	1-0	0-9	1-0	0-2		51
S 701	513	34-8	ST						36350
S 702	384	20-3	ST						15894
S 703	384	32-6	ST						25509
S 704	2	2-11	2	0-7	2-0				12
S 705	2	3-1	20	1-0	0-9	0-3			13
S 706	2	3-2	20	1-0	0-9	0-5			13
S 707	2	3-3	20	1-0	0-9	0-7			13
S 708	2	3-4	20	1-0	0-9	0-9			14
S 801	130	5-5	16	1-1	3-0	1-1	1-7		1880
S 802	41	30-0	ST						3284
S 803	6	18-4	ST						294
S 804	6	20-2	ST						323
S 805	5	29-0	ST						387
S 806	10	32-9	ST						874
S 807	5	37-8	ST						503
S 808	5	38-7	ST						515
TOTAL SUPERSTRUCTURE =									130901

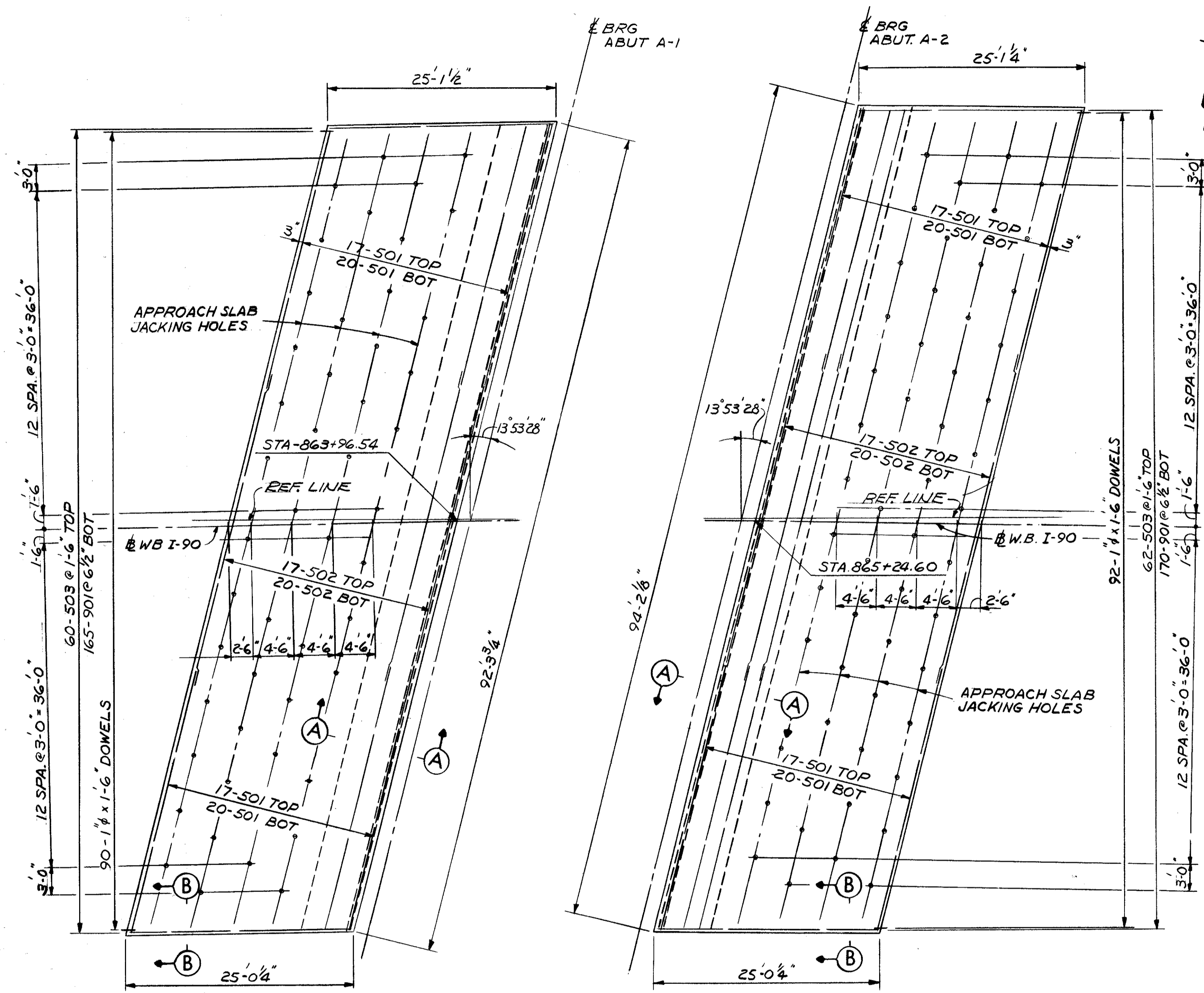
PIER P-1									
1P 501	29	7-1	2	2-4	2-8				214
SERIES	2-SETS	12-1		4-10					
OF	3=	10	2	10	2-8			0-8	71
1P 502	6 BARS	10-9		4-2					
SERIES	2-SETS	10-9		4-2					
OF	3=	10	2	10	2-8			0-6	64
1P 503	6 BARS	9-9		3-8					
1P 504	4	10-9	2	4-2	2-8				448
1P 505	23	8-5	2	3-0	2-8				202
1P 506	4	2-8	ST						11
1P 601	8	22-7	ST						271
1P 602	8	5-10	12	2-9	3-1	0-6			70
1P 603	20	7-0	7	5-8					210
1P 701	32	9-4	7	7-8					610
1P 801	8	23-9	1	4-4	19-7				507
1P 802	16	30-1	1	3-8	26-7				1285
1P 803	8	24-5	1	5-0	19-7				522
1P 804	12	10-8	7	8-6					342
1P 901	14	36-0	ST						1714
1P 902	20	11-0	7	8-6					748
1P1001	24	17-7	ST						1816
1P1002	24	15-10	ST						1635
1P1003	48	6-9	1	1-0	6-0				1394
TOTAL PIER P-1 =									12134

PIER P-2									
2P 501	29	7-1	2	2-4	2-8				214
SERIES	2-SETS	12-1		4-10					
OF	3=	10	2	10	2-8			0-5	73
2P 502	6 BARS	11-3		4-5					
SERIES	2-SETS	10-9		4-2					
OF	3=	10	2	10	2-8			0-6	64
2P 503	6 BARS	9-9		3-8					
2P 504	4	10-9	2	4-2	2-8				448
2P 505	23	8-5	2	3-0	2-8				202
2P 506	4	2-8	ST						11
2P 601	8	22-7	ST						271
2P 602	8	5-10	12	2-9	3-1	0-6			70
2P 603	20	7-0	7	5-8					210
2P 701	32	9-4	7	7-8					610
2P 801	8	23-9	1	4-4	19-7				507
2P 802	16	30-1	1	3-8	26-7				1285
2P 803	8	24-5	1	5-0	19-7				522
2P 804	12	10-8	7	8-6					342
2P 901	14	36-0	ST						1714
2P 902	20	11-0	7	8-6					748
2P1001	24	17-5	ST						1799
2P1002	24	15-8	ST						1618
2P1003	48	6-9	1	1-0	6-0				1394
TOTAL PIER P-2 =									12102

SPIRAL REINFORCING SCHEDULE						
MARK	NO. REIN.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH INS.	WEIGHT LBS.	
SPIRALS-PIER P-1						
1P-SP401	3	2-8	13-7	4.50		779
1P-SP402	3	2-8	11-10	4.50		685
TOTAL SPIRALS-PIER P-1 =						1464
SPIRALS-PIER P-2						
2P-SP401	3	2-8	13-5	4.50		770
2P-SP402	3	2-8	11-8	4.50		676
TOTAL SPIRALS-PIER P-2 =						1446

OCT 4 1982

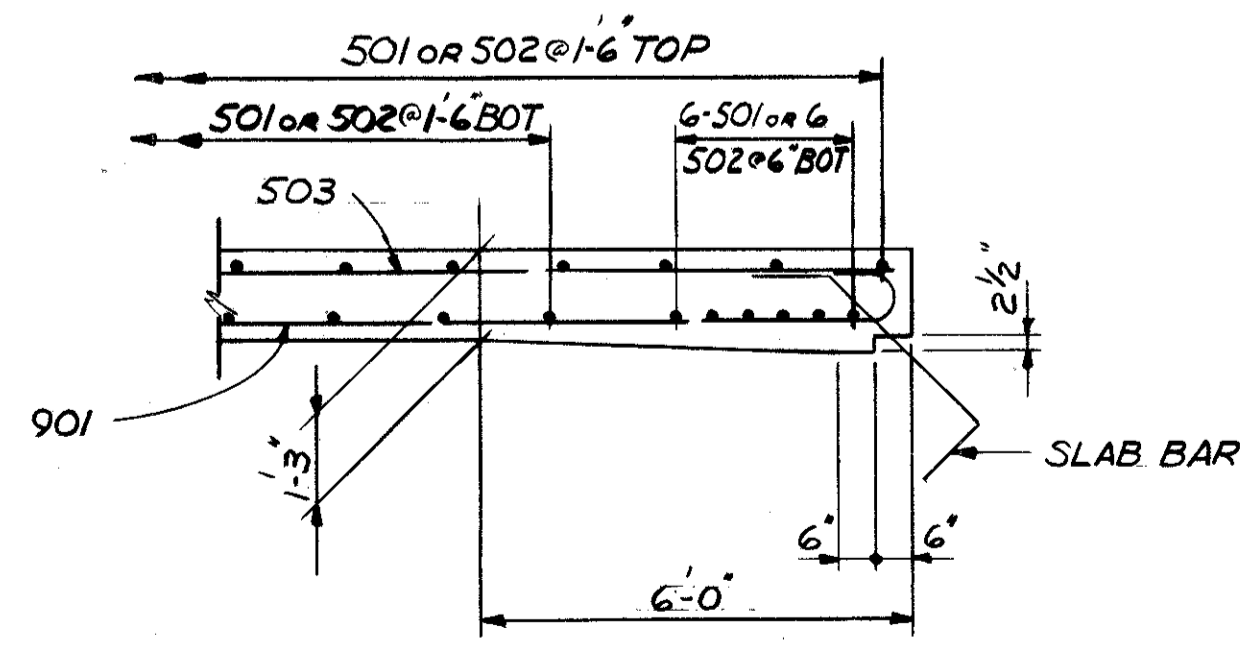
CUYAHOGA COUNTY  
CUY - 90 - 11.64



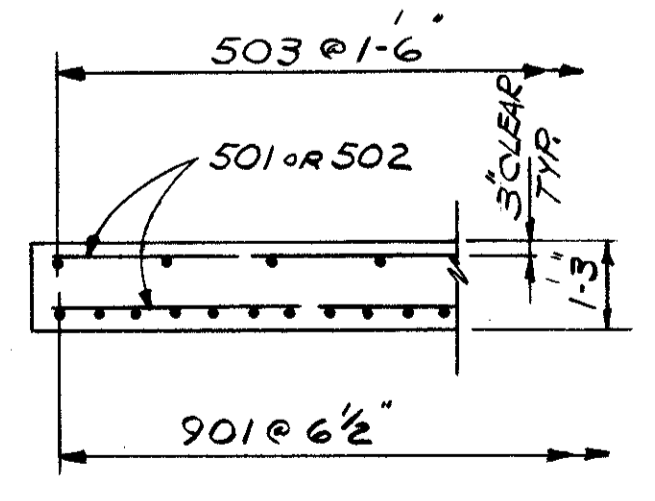
THE PREFIX 1-AS SHALL BE ADDED TO ALL REINF. BAR MARKS ON THIS SLAB.

THE PREFIX 2-AS SHALL BE ADDED TO ALL REINF. BAR MARKS ON THIS SLAB.

PLAN



SECTION A-A



SECTION B-B

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
APPROACH SLAB* AS-1									
1AS 501	74	30-0	ST						2315
1AS 502	37	35-7	ST						1373
1AS 503	60	24-6	ST						1593
1AS 901	165	25-9	6 24-6						14446
1AS	90	1-6	ST	1 IN. DIA. DOWELS					360
									TOTAL APPROACH SLAB AS-1 = 20027
APPROACH SLAB* AS-2									
2AS 501	74	30-0	ST						2315
2AS 502	37	37-6	ST						1447
2AS 503	62	24-6	ST						1564
2AS 901	170	25-9	6 24-6						14883
2AS	92	1-6	ST	1 IN. DIA. DOWELS					368
									TOTAL APPROACH SLAB AS-2 = 20597
*APPROACH SLAB REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 511 FOR PAYMENT.									

503 SQ YDS CLASS C CONCRETE

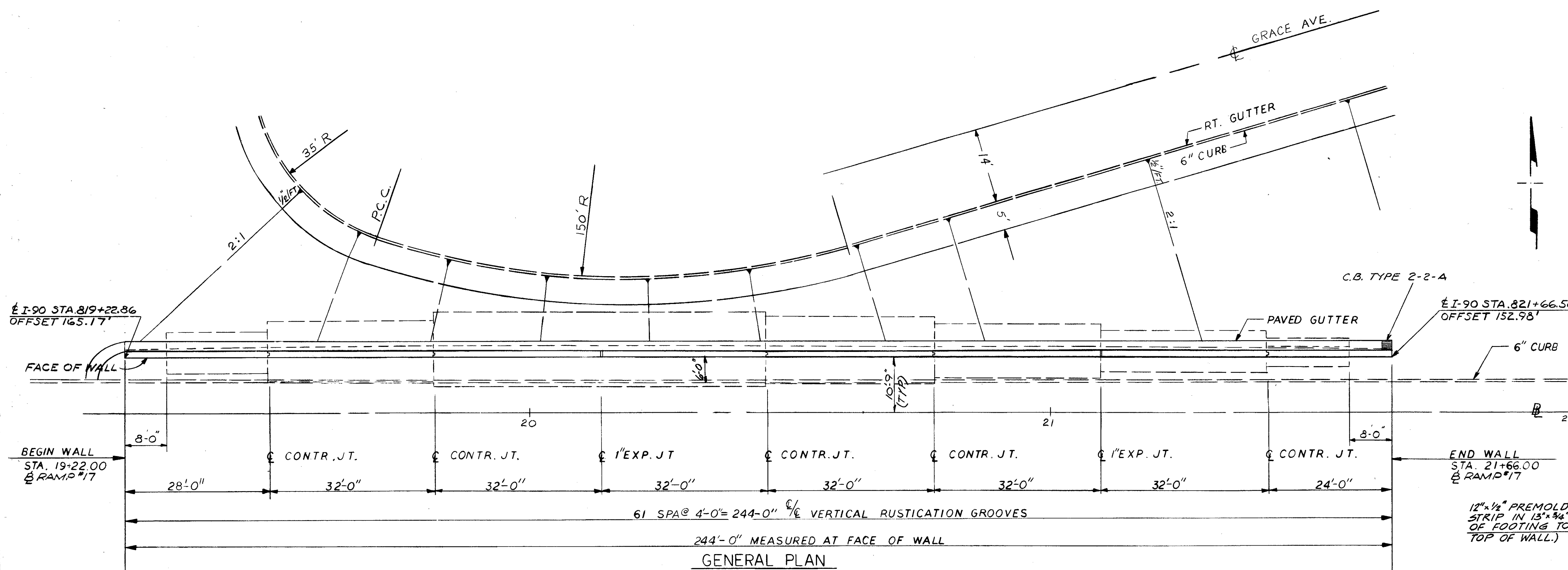
NOTE:  
FOR NOTES & DETAILS NOT SHOWN SEE  
STD. DRAWING AS-1-72, SHT. 1 & 2

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES				12/12
<b>DALTON • DALTON ASSOCIATES</b>				
<b>APPROACH SLAB DETAILS</b>				
BRIDGE NO. CUY - 90 - 1304 LT. OVER WEST 53rd ST. I-90 CUYAHOGA COUNTY STA. 863+96.54 TO STA. 865+24.60				
DESIGNED STD.	DRAWN JLH	TRACED	CHECKED BMC	REVIEWED RDA 4-17-74

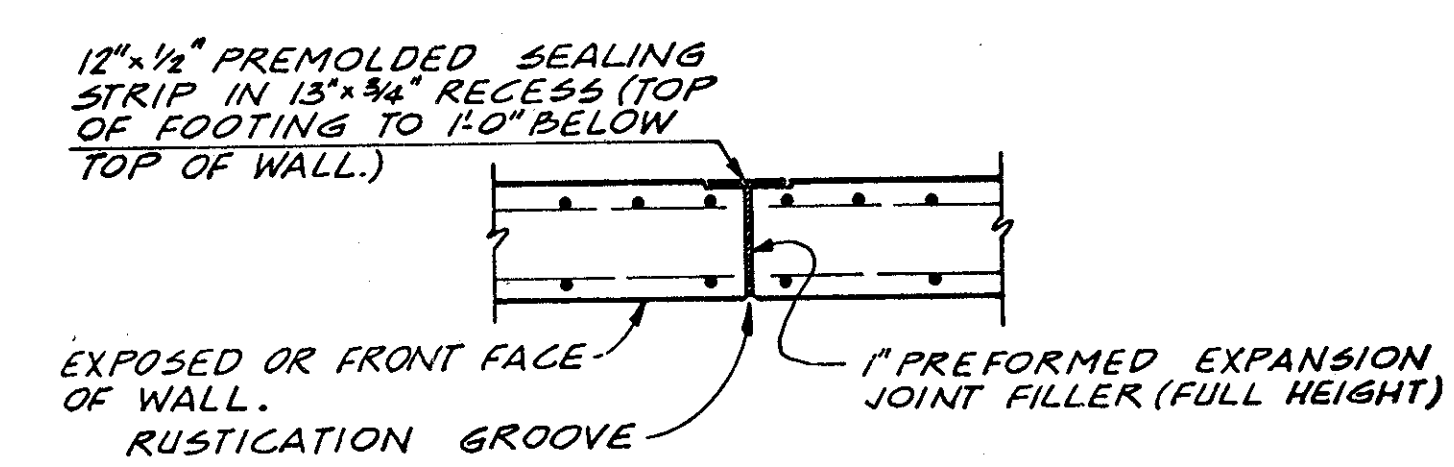
FED. RD.	STATE	PROJECT
2	OHIO	

725  
638

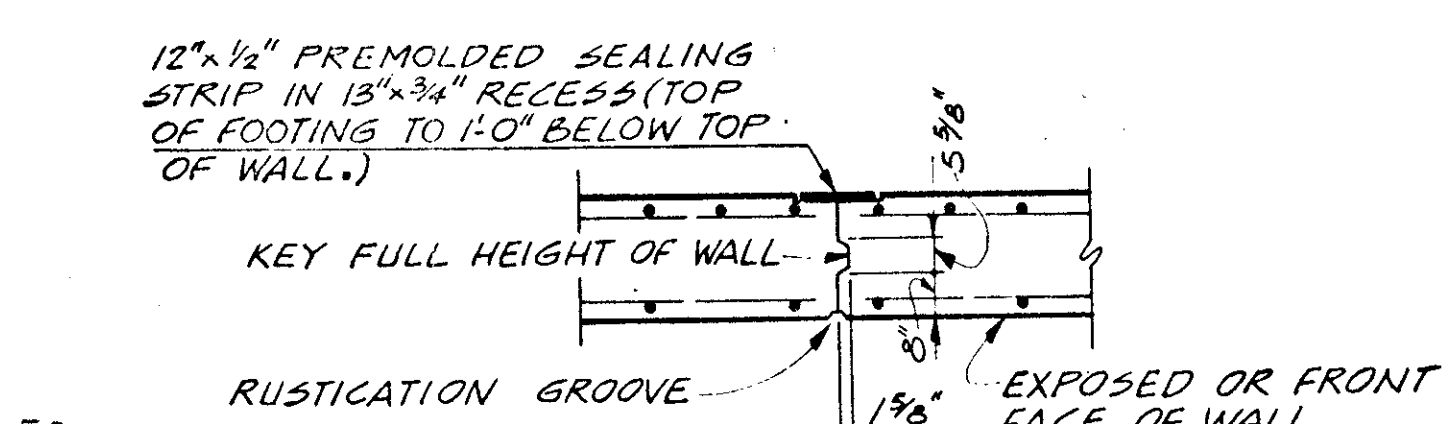
CUYAHOGA COUNTY  
CUY - 90 - 11.64



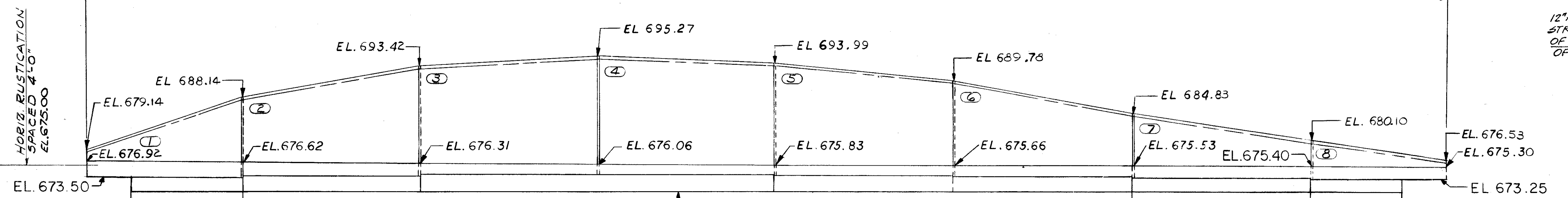
GENERAL PLAN



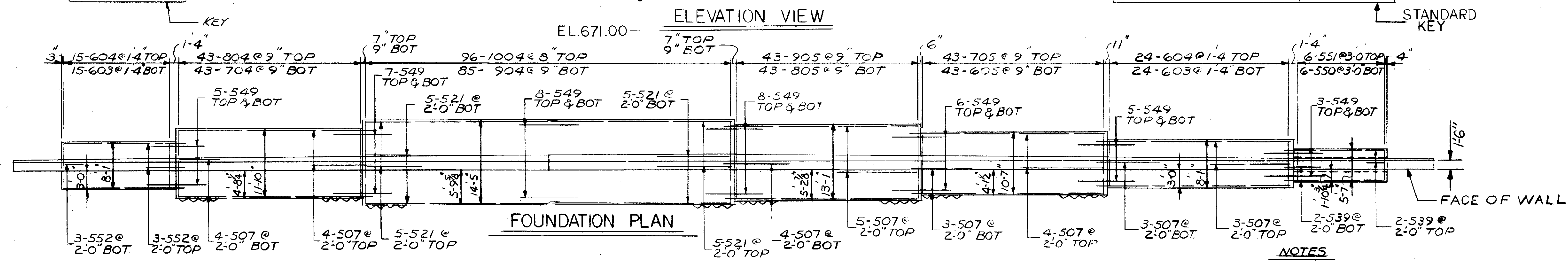
EXPANSION JOINT DETAIL



CONTRACTION JOINT DETAIL



ELEVATION VIEW



FOUNDATION PLAN

NOTES  
FOR DETAIL NOTES SEE SHT. 2/3  
FOR STRUCTURAL GENERAL NOTES SEE 611  
FOR QUANTITIES SEE SHT. 3/3 638

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						1 / 3
DALTON · DALTON ASSOCIATES						
GENERAL PLAN & ELEVATION						
RETAINING WALL NO. 3						
CUYAHOGA COUNTY						
STA 819 + 22, 86 TO STA 821 + 66, 56 LT.						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.G.S.	JLH		R.G.S.	RDA	5-12-71	

DIMENSIONS			
PANEL NO.	b	e	f
1 & 7	2'-3"	1'-6"	1'-2 1/2"
2	2'-7"	0'-0"	0'-0"
3 & 4	2'-10"	0'-0"	0'-0"
5	2'-8"	0'-0"	0'-0"
6	2'-6"	0'-0"	0'-0"
8	2'-0"	1'-3"	1'-6 1/2"

RETAINING WALL REINFORCING BARS																						
PANEL NO.	N		P		R		U		V		S		A		B		C		D		E	
	MARK	NO.	MARK	NO.	MARK	NO.	MARK	NO.	MARK	NO.	MARK	NO.	MARK	NO.	MARK	NO.	MARK	NO.	MARK	NO.	MARK	NO.
1	SEE PANEL (1) ELEVATION BELOW																					
2	8Q1	23	8O2	20	8O3	11	522	11	520	16	523	11	524	1	525	1	526	1	527	1	528	6
3	10O1	23	10O2	22	10O3	12	536	11	520	22	537	11	538	1	540	1	524	1	525	1	513	2
4	10O1	23	10O2	22	10O3	12	541	11	520	22	542	11	538	1	540	1	546	1	543	1	544	2
5	9O1	23	9O2	22	9O3	12	545	11	520	16	547	11	546	1	543	1	531	1	532	1	548	6
6	7O1	23	7O2	20	7O3	11	529	11	520	12	530	11	531	1	532	1	516	1	517	1	533	6
7	6O1	13	6O2	10	515	11	514	11	520	8	-	-	517	1	534	1	518	1	519	1	535	6
8	SEE PANEL (8) ELEVATION BELOW																					

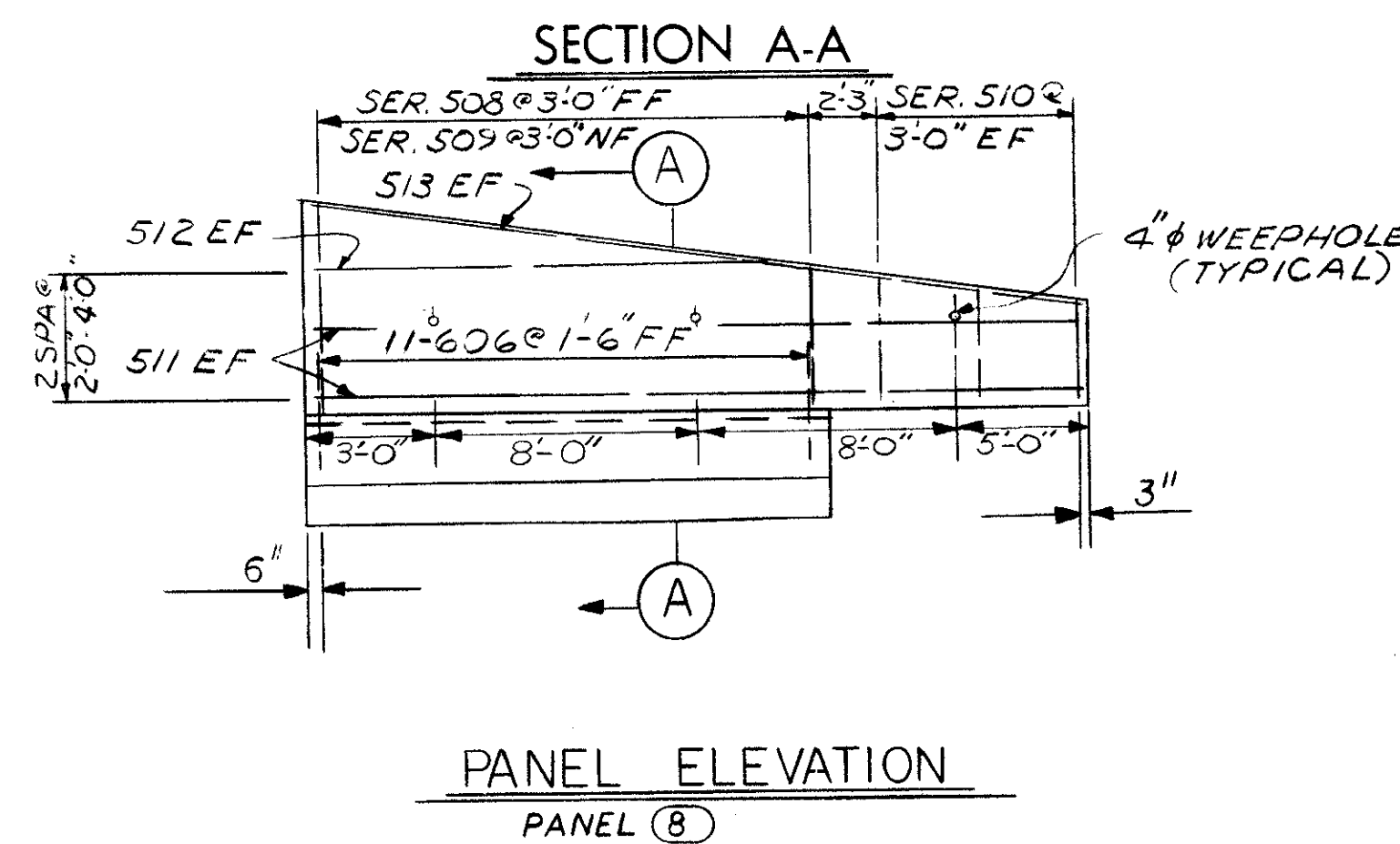
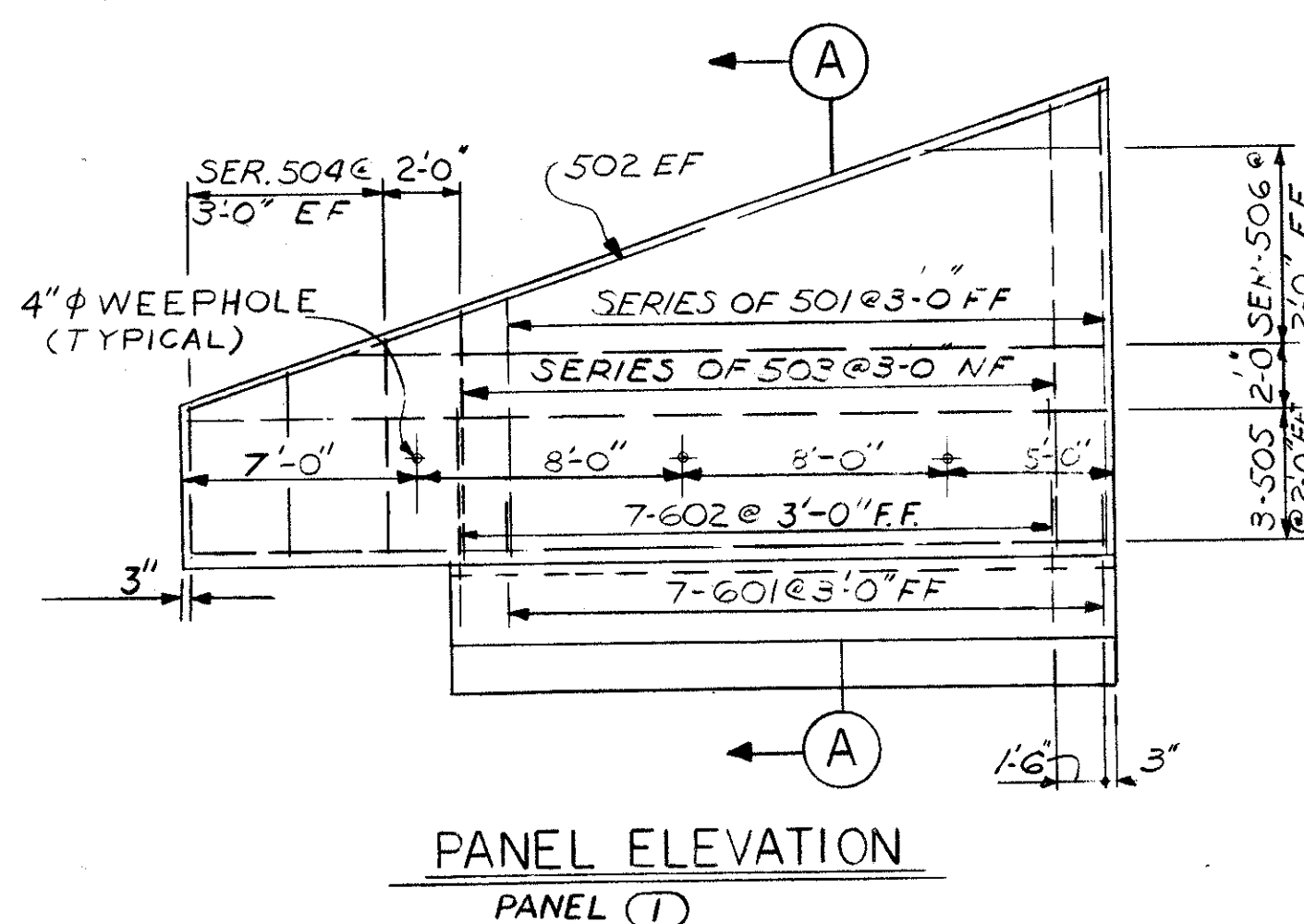
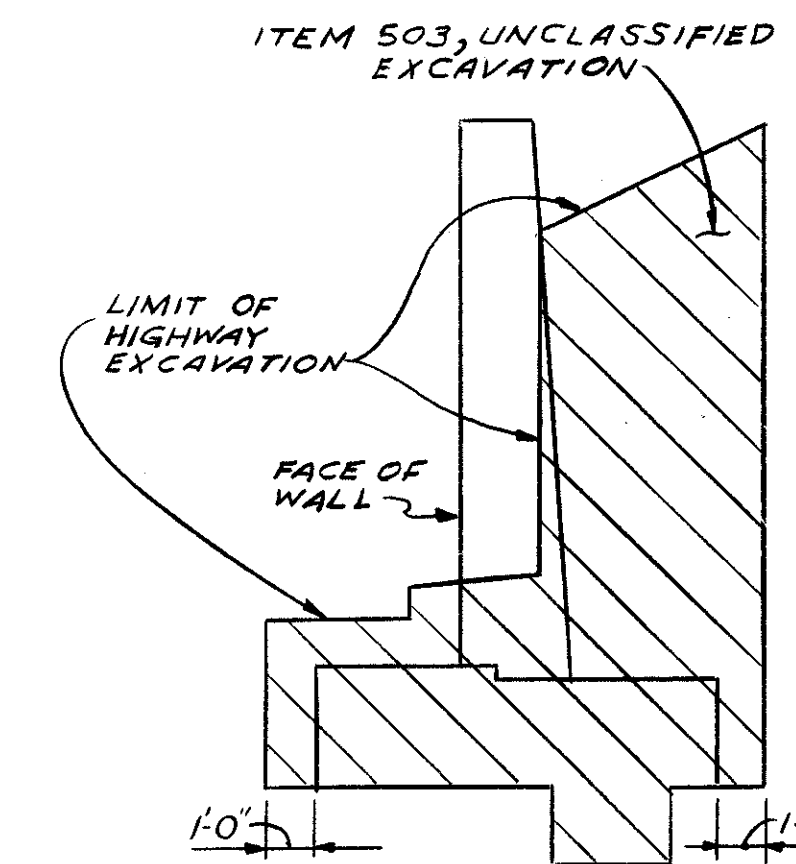
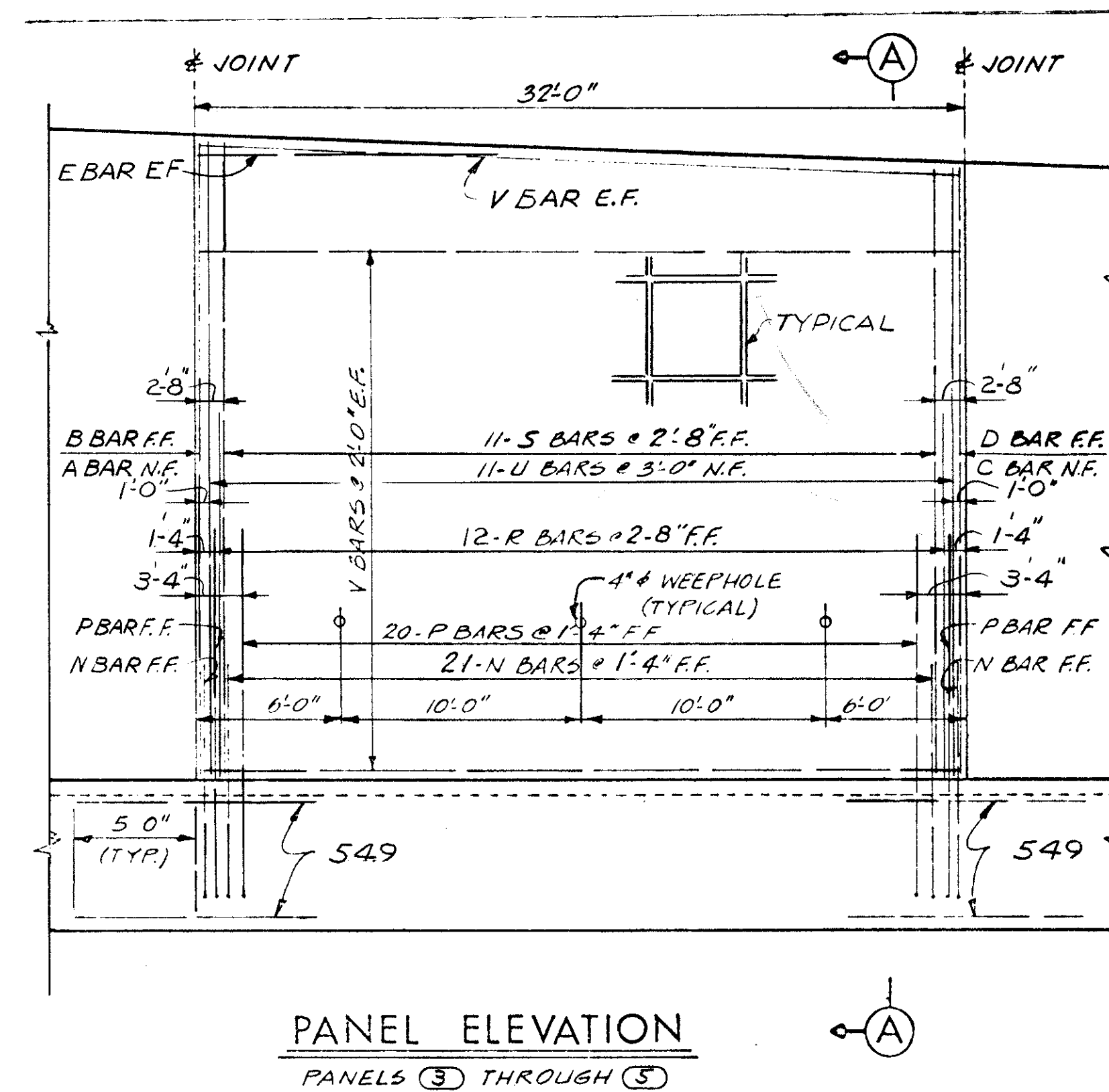
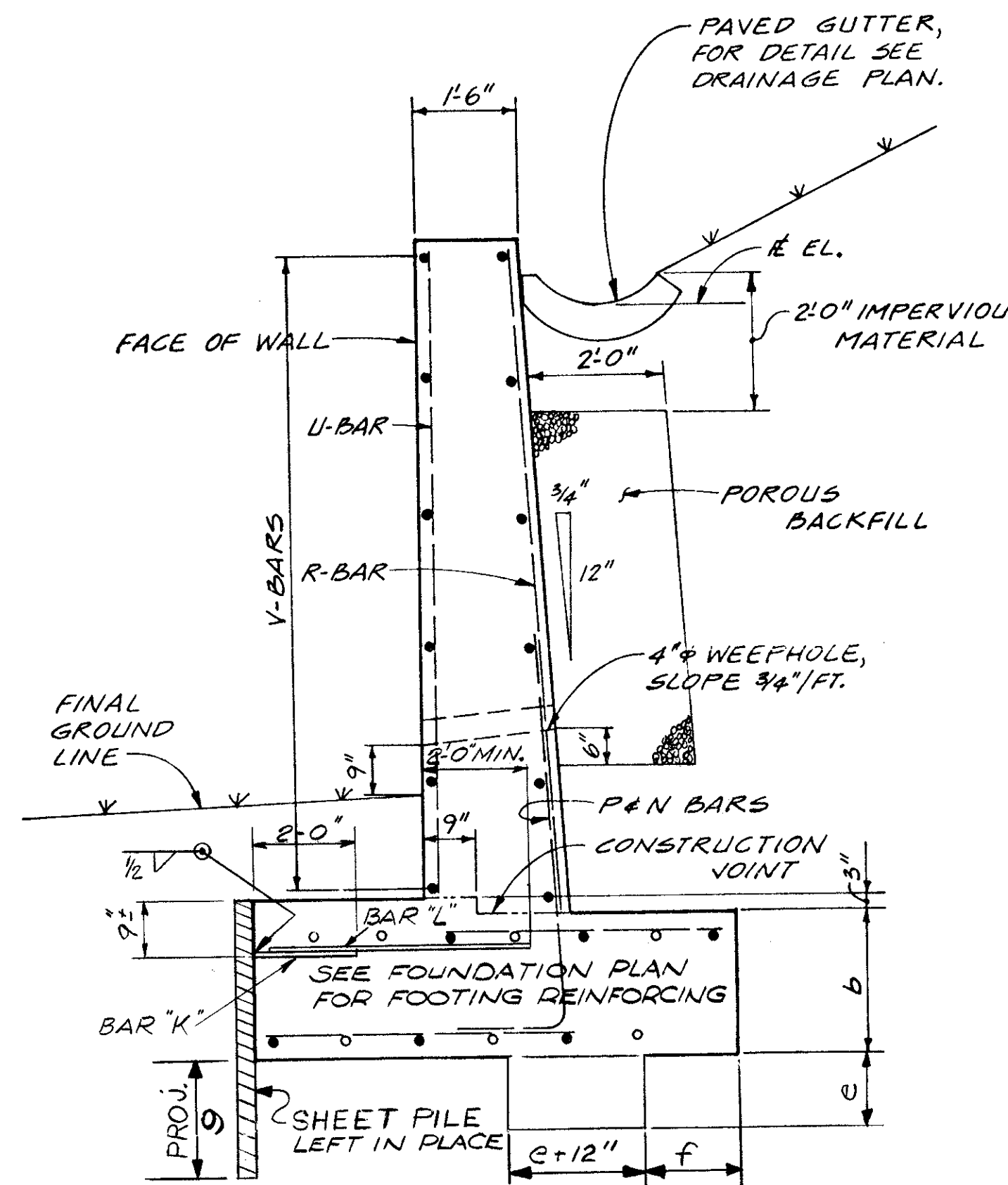
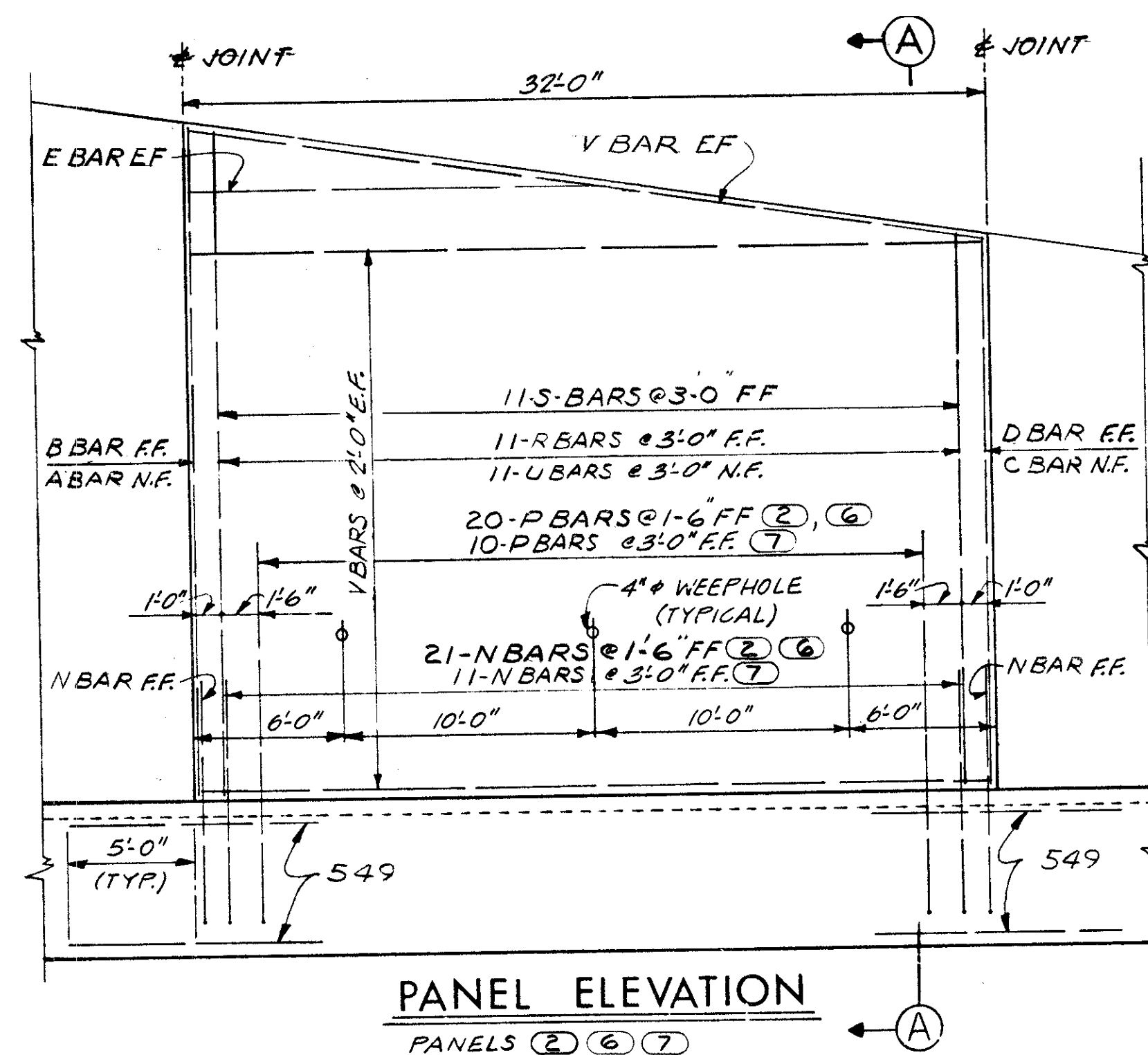
SHEET PILING TABLE				
PANEL NO.	g	SEC. MOD.	BAR#	BAR#
1 & 7	-	-	-	-
2	5'-6"	17.7	#8	-
3 & 4	3'-0"	7.0	#6	-
5	3'-6"	7.0	#6	-
6	4'-6"	11.22	#8	-
8	-	-	-	-

FED. RD.	STATE	PROJECT
2	OHIO	

726  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

\*MIN SECTION MODULUS OF  
IN. CUBED / FT. OF WALL  
▲ TO BE INCLUDED WITH SHEET PILING  
FOR PAYMENT (ITEM 504)



- NOTES**
- ABBREVIATIONS USED ARE:  
NF-NEAR FACE  
FF-FAR FACE  
EF-EACH FACE
  - THE PREFIX  $\frac{3}{4}$ IN SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE WALLS.
  - ALL HORIZONTAL DIMENSIONS ARE GIVEN TO FRONT FACE OF WALL UNLESS NOTED.
  - FOOTING KEYS**  
THE KEY FOR FOOTINGS SHALL BE PLACED IN A CAREFULLY MADE TRENCH AGAINST UNDISTURBED EARTH
  - ALL REINFORCING IN FOOTINGS SHALL HAVE 3 INCHES MINIMUM CLEAR COVER.
  - FOUNDATION BEARING PRESSURE: FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2 TONS PER SQ. FT.
  - USE ALTERNATE HORIZONTAL AND VERTICAL STRIATED CONCRETE FINISH BETWEEN RUSTICATION GROOVES
  - HORIZONTAL AND VERTICAL RUSTICATION GROOVES MAY BE TERMINATED 12" BELOW FINISHED GROUND ELEVATION

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**DETAILS**  
**RETAINING WALL NO. 3**  
**CUYAHOGA COUNTY**  
STA 819 + 22.86 TO STA 821 + 66.56 ±

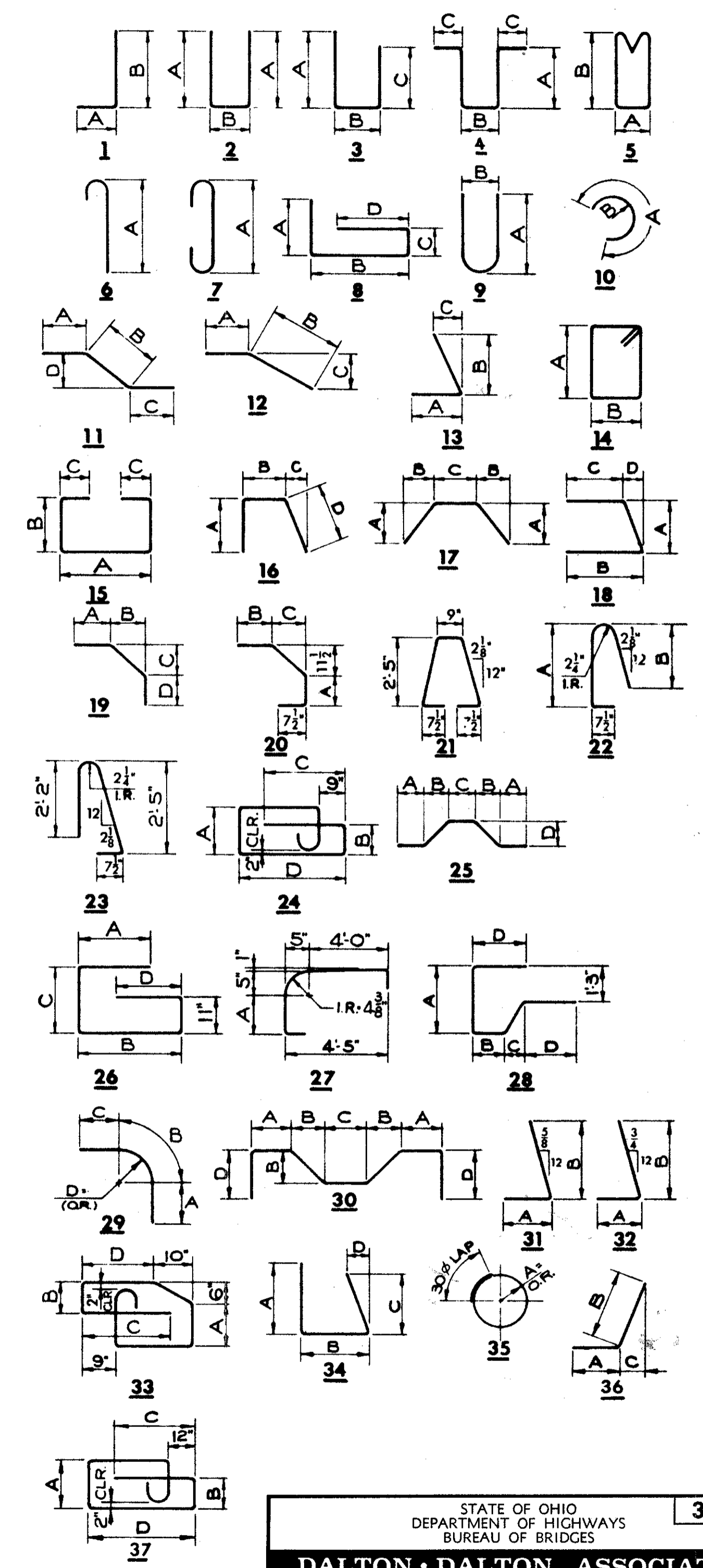
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.M.C.	J.H.		R.G.S.	R.D.H.	5-12-71	

**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
<b>RETAINING WALL RW-3</b>									
SERIES	1-SET	8-9							
OF	OF	7=	TO	ST				1	
BRW 501	7 BARS	14-6						85	
BRW 502	2	29-0	ST					60	
SERIES	1-SET	8-0							
OF	OF	7=	TO	ST				1	
BRW 503	7 BARS	13-9						79	
SERIES	2-SETS	5-3							
OF	OF	3=	TO	ST				1-0	
BRW 504	6 BARS	7-3						39	
BRW 505	6	27-8	ST					173	
SERIES	2-SETS	25-3							
OF	OF	4=	TO	ST				6-1	
BRW 506	8 BARS	7-0						135	
BRW 507	30	36-9	ST					1150	
SERIES	1-SET	6-8							
OF	OF	6=	TO	ST				0-5	
BRW 508	6 BARS	4-5						8	
SERIES	1-SET	6-5							
OF	OF	6=	TO	ST				0-5	
BRW 509	6 BARS	4-2						8	
SERIES	2-SETS	4-1							
OF	OF	3=	TO	ST				0-5	
BRW 510	6 BARS	3-2						23	
BRW 511	4	23-8	ST					99	
BRW 512	2	16-3	ST					34	
BRW 513	4	23-11	ST					100	
SERIES	1-SET	10-10							
OF	OF	11=	TO	ST				0-5	
BRW 514	11 BARS	6-5						16	
SERIES	1-SET	11-1							
OF	OF	11=	TO	ST				0-5	
BRW 515	11 BARS	6-8						16	
BRW 516	1	10-9	ST					11	
BRW 517	2	11-0	ST					23	
BRW 518	1	6-5	ST					7	
BRW 519	1	6-8	ST					7	
BRW 520	96	31-8	ST					3171	
BRW 521	20	32-6	ST					678	
SERIES	1-SET	19-0							
OF	OF	11=	TO	ST				0-6	
BRW 522	11 BARS	14-0						189	
SERIES	1-SET	19-3							
OF	OF	11=	TO	ST				0-6	
BRW 523	11 BARS	14-3						192	
BRW 524	2	19-4	ST					40	
BRW 525	2	19-7	ST					41	
BRW 526	1	14-0	ST					18	
BRW 527	1	14-3	ST					18	
SERIES	2-SETS	30-6							
OF	OF	3=	TO	ST				*-3	
BRW 528	6 BARS	6-0						114	
SERIES	1-SET	15-6							
OF	OF	11=	TO	ST				0-5	
BRW 529	11 BARS	10-9						151	
SERIES	1-SET	15-9							
OF	OF	11=	TO	ST				0-5	
BRW 530	11 BARS	11-0						153	
BRW 531	2	15-9	ST					16	
BRW 532	2	16-0	ST					33	
SERIES	2-SETS	31-8							
OF	OF	3=	TO	ST				*-10	
BRW 533	6 BARS	10-0						130	
BRW 534	1	11-3	ST					12	
SERIES	2-SETS	31-8							
OF	OF	3=	TO	ST				*-10	
BRW 535	6 BARS	6-0						118	
SERIES	1-SET	20-9							
OF	OF	11=	TO	ST				0-1	
BRW 536	11 BARS	19-2						229	
SERIES	1-SET	21-0							
OF	OF	11=	TO	ST				0-1	
BRW 537	11 BARS	19-7						233	
BRW 538	2	20-9	ST					16	
BRW 539	4	21-3	ST					43	
BRW 540	2	21-0	ST					89	
SERIES	1-SET	20-9							
OF	OF	11=	TO	ST				0-1	
BRW 541	11 BARS	19-8						232	
SERIES	1-SET	21-0							
OF	OF	11=	TO	ST				0-1	
BRW 542	11 BARS	20-0						235	
BRW 543	2	19-9	ST					16	
BRW 544	2	17-0	ST					41	
SERIES	1-SET	19-6							
OF	OF	11=	TO	ST				0-4	
BRW 545	11 BARS	15-6						201	
BRW 546	2	19-6	ST					13	
SERIES	1-SET	19-6							
OF	OF	11=	TO	ST				0-4	
BRW 547	11 BARS	16-0						204	
SERIES	2-SETS	10-6							
OF	OF	3=	TO	ST				*-7	
BRW 548	6 BARS	31-8						132	
BRW 549	84	10-0	ST					876	
BRW 550	6	3-7	ST					22	
BRW 551	6	3-3	ST					20	
BRW 552	6	24-9	ST					155	
BRW 601	20	5-9	32	1-11	3-11			173	
BRW 602	17	8-7	32	1-11	6-9			219	
BRW 603	39	4-11	ST					288	
BRW 604	39	4-9	ST					278	
BRW 605	43	6-3	ST					404	
BRW 606	11	5-6	32	1-11	3-8			91	
BRW 701	23	6-7	32	2-2	4-6			309	
BRW 702	20	9-7	32	2-2	7-6			392	
BRW 703	11	8-4	ST					187	
BRW 704	43	6-11	ST					608	
BRW 705	43	6-3	ST					549	
BRW 801	23	7-2	32	2-6	4-10			440	
BRW 802	20	11-5	32	2-6	9-1			610	
BRW 803	11	10-5	ST					306	
BRW 804	43	7-1	ST					813	

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
A	B	C	D						
BRW 805	43	7-8	ST						880
BRW 901	23	7-11	32	2-10	5-3				619
BRW 902	22	12-8	32	2-10	10-0				947
BRW 903	12	12-7	ST						513
BRW 904	85	8-6	ST						2457
BRW 905	43	8-0	ST						1170
BRW1001	46	8-9	32	3-2	5-10				1732
BRW1002	44	14-5	32	3-2	11-6				2730
BRW1003	24	14-7	ST						1506
BRW1004	96	9-0	ST						3718
<b>TOTAL RETAINING WALL RW-3 =</b>									<b>32150</b>
<b>GRAND TOTAL =</b>									<b>32,150</b>

REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.



ESTIMATED QUANTITIES				
ITEM	TOTAL	UNIT	DESCRIPTION	
503	LUMP	LSUM	COFFERDAMS, CRIBS AND SHEETING	
503	1369	CY	UNCLASSIFIED EXCAVATION	
504	595	SF	STEEL SHEET PILING LEFT IN PLACE (MIN. SEC. MOD. OF 7.0 IN. CUBED/FT. OF WALL)	
509	32150	LB	REINFORCING STEEL	
511	264	CY	CLASS C CONCRETE, RETAINING WALLS ABOVE FOOTINGS	
511	267	CY	CLASS C CONCRETE, FOOTINGS	
512	80	LF	PREMOLDED SEALING STRIP	
516	70	SF	1 IN. PREFORMED EXPANSION JOINT FILLER	
518	173	CY	POROUS BACKFILL	
504	232	SF	STEEL SHEET PILING LEFT IN PLACE (Min. Sec. Mod. of 11.22 in <sup>3</sup> per Ft. of Wall)	
QUANTITIES CHECKED BY RGS 8-6-70				
504	246	SF	STEEL SHEET PILING LEFT IN PLACE (Min. Sec. Mod. of 17.7 in <sup>3</sup> per Ft. of Wall)	

3 / 3

**DALTON • DALTON ASSOCIATES**

**REINFORCING SCHEDULE**  
**RETAINING WALL NO. 3**  
**CUYAHOGA COUNTY**  
STA 819 + 22.86 TO STA 821 + 66.56 LT.

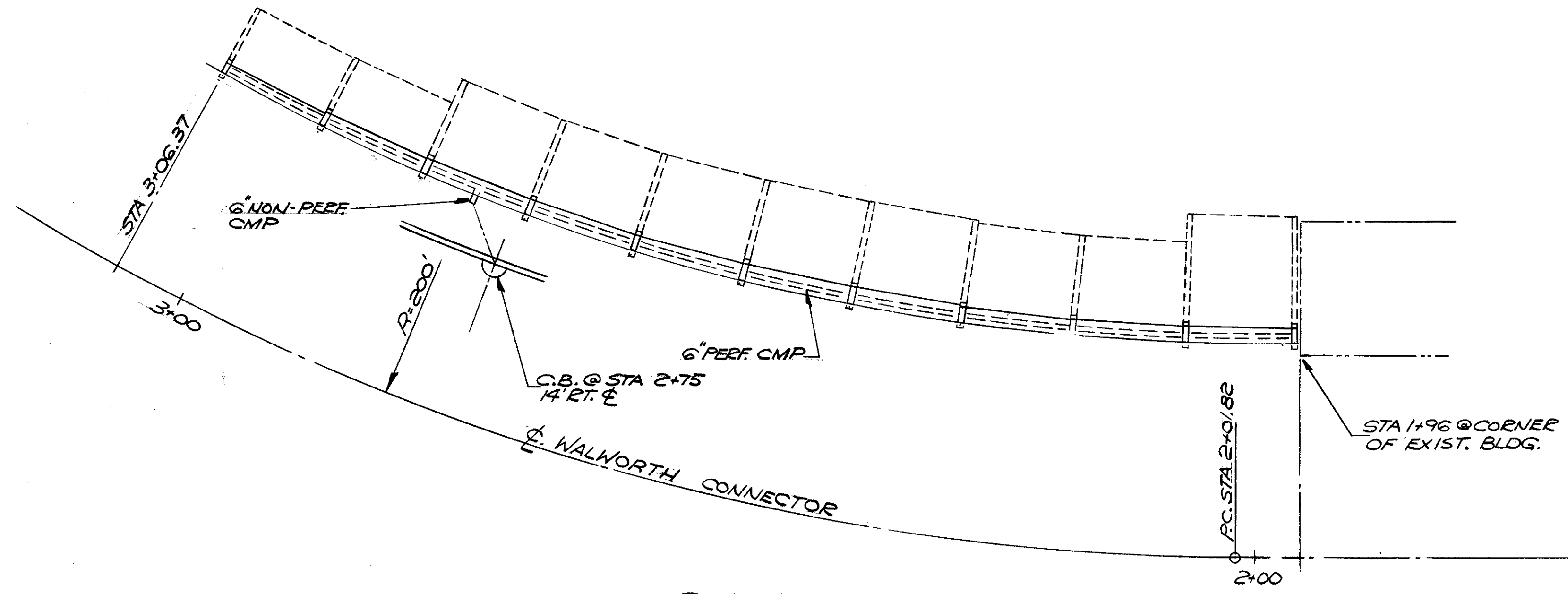
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	J.S.K.		R.G.S.	J.P.P.	4-14-75	



FED. RD.	STATE	PROJECT	
2	OHIO		

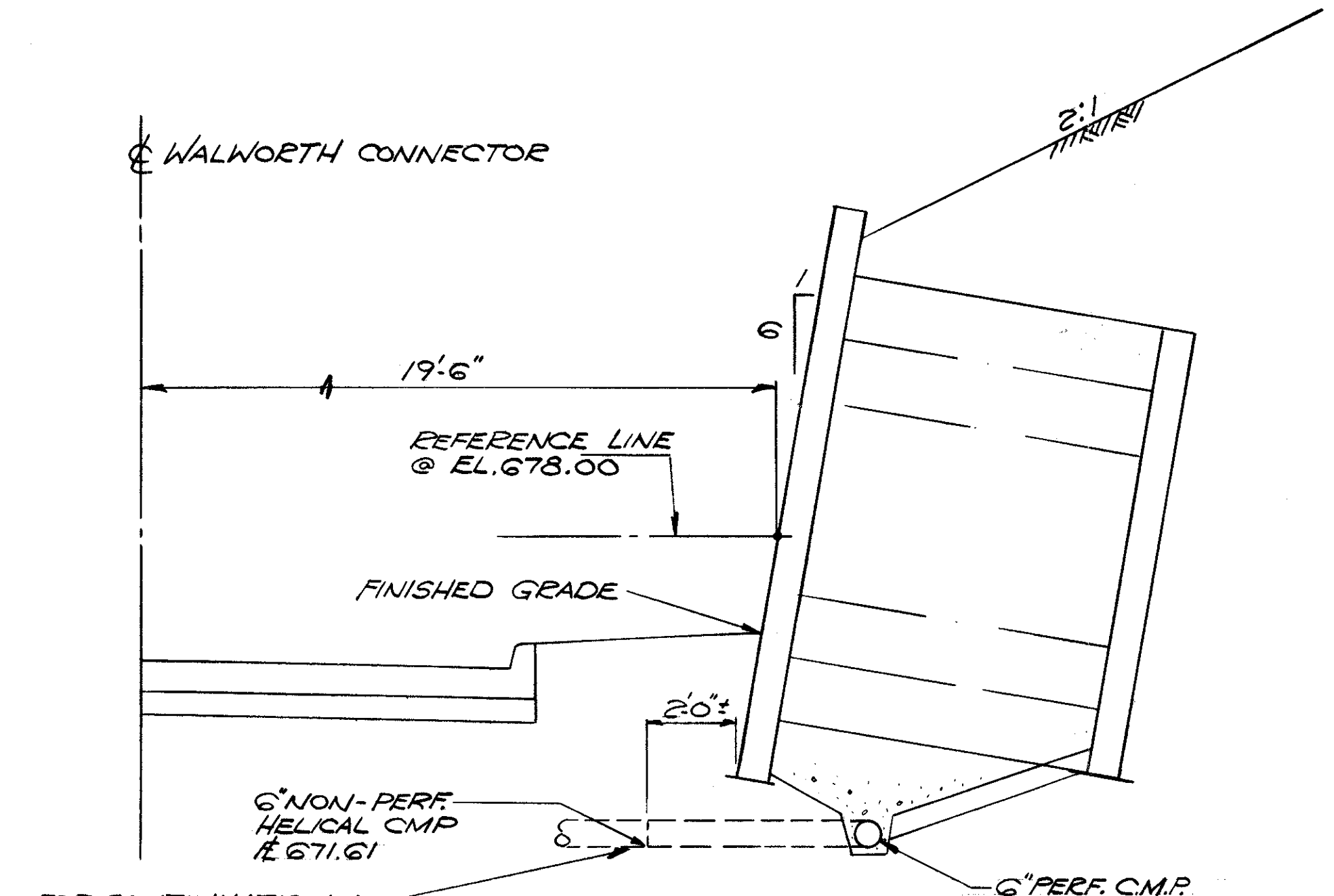


CUYAHOGA COUNTY  
CUY-90-11.64



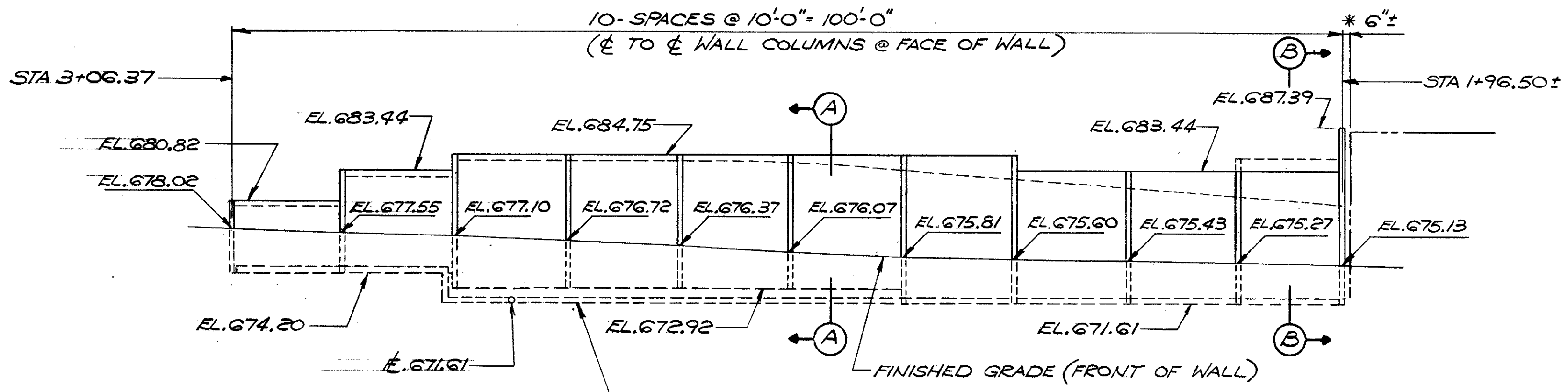
PLAN

\*PLACE CRIB WALL AS CLOSE AS POSSIBLE TO EXISTING BUILDING.

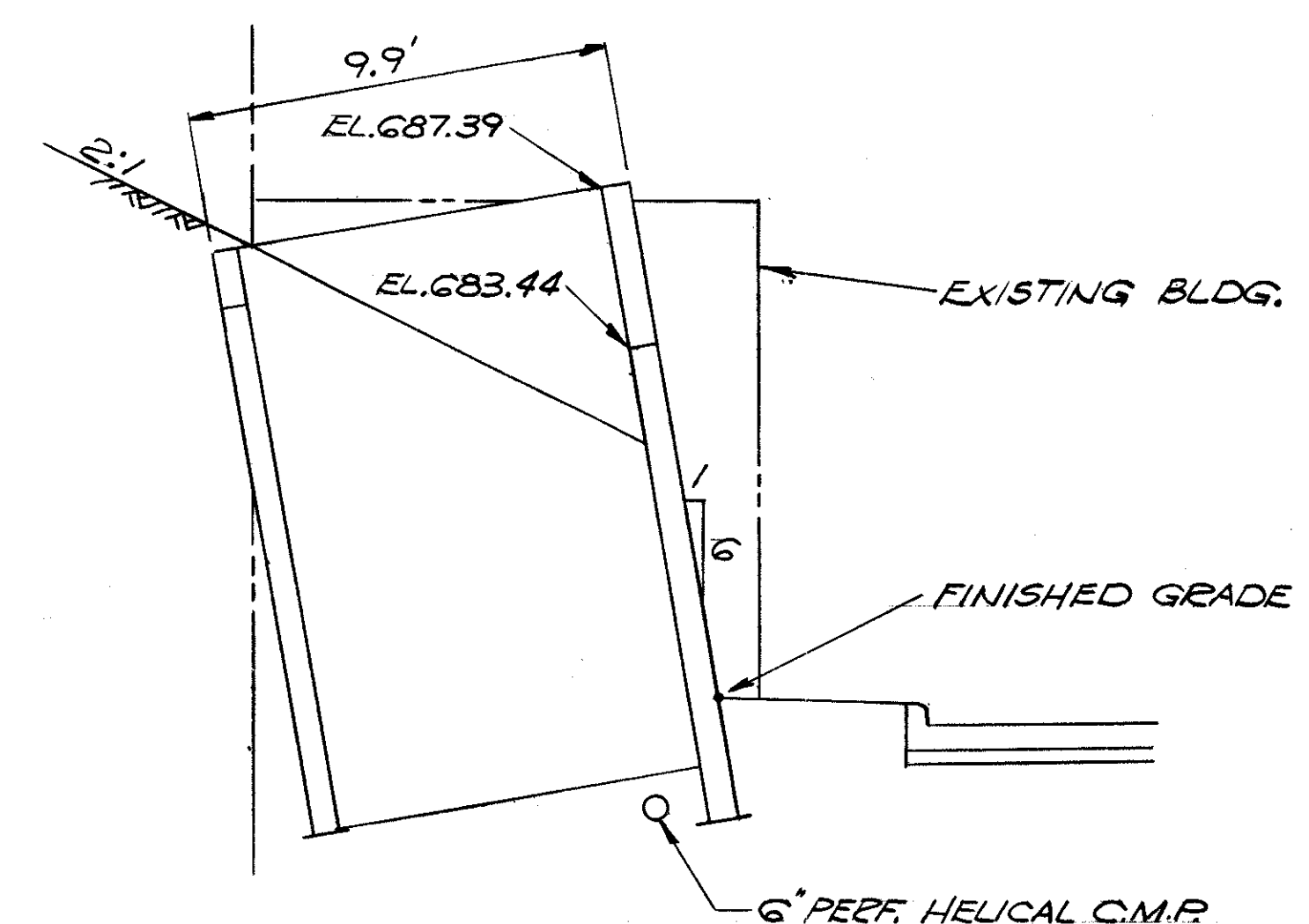


SECTION A-A

FOR CONTINUATION OF PIPE SEE DRAINAGE PLANS.



ELEVATION



SECTION B-B

ESTIMATED QUANTITIES				
ITEM	TOTAL	UNIT	DESCRIPTION	WALL
518	10	LF	6" NON-PERF HELICAL CMP INCLUDING SPEC, 707.01	10
518	100	LF	6" PERF HELICAL C.M.P. INCLUDING SPEC, 707.01	100
610	1133	SF	CELLULAR RETAINING WALL	1133

EXCAVATION WILL BE MEASURED AND PAID FOR AS ITEM 203. SEE CROSS SECTIONS FOR LIMITS OF EXCAVATION.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

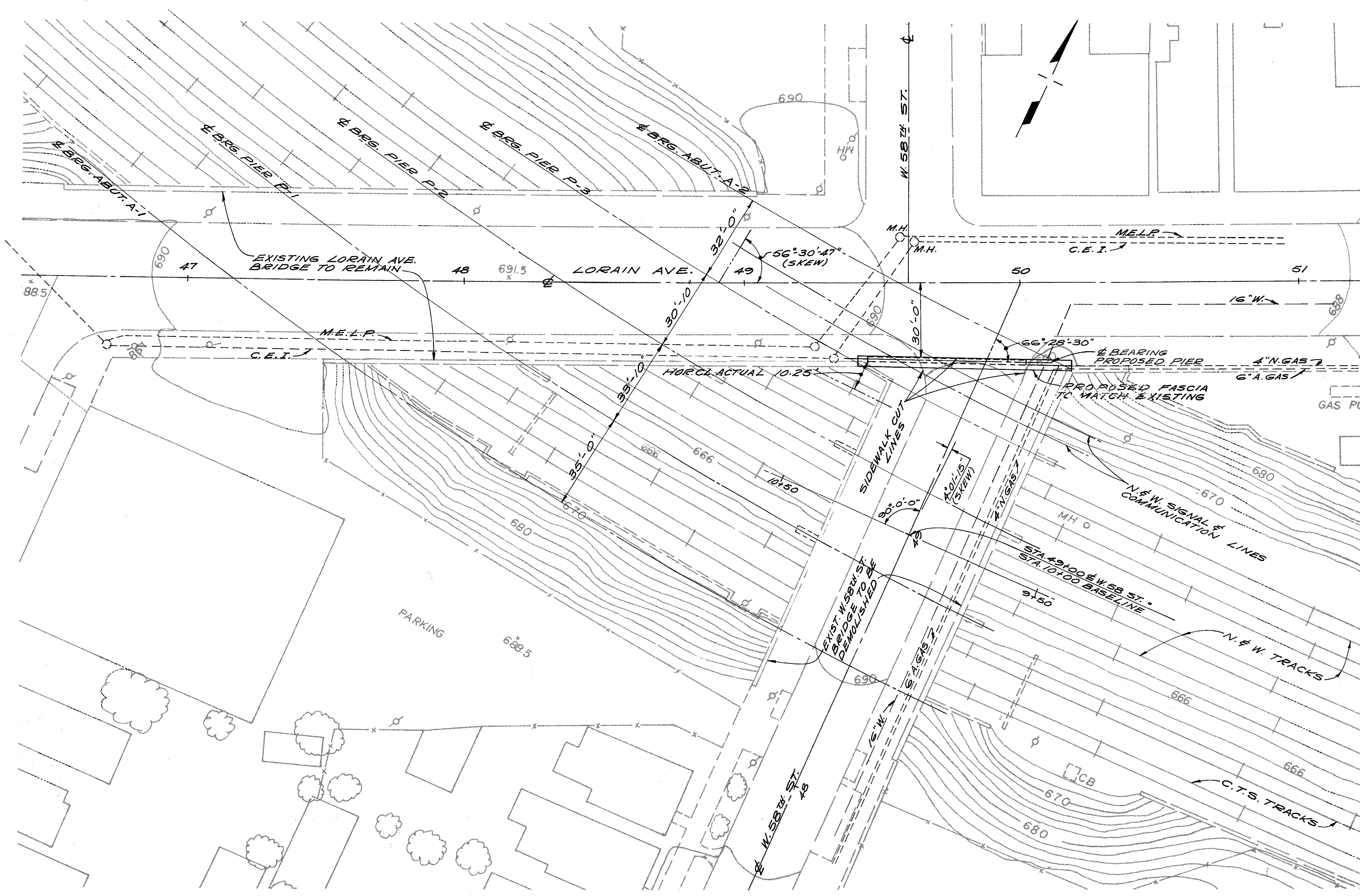
GENERAL PLAN & ELEVATION  
WALL ALONG WALWORTH CONNECTOR  
CUYAHOGA COUNTY  
STA 1+96.00 TO STA 3+06.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		CV	JFP	4-14-75	

FED. RD.	STATE	PROJECT	
2	OHIO		

734  
838

CUYAHOGA COUNTY  
CUY-90-II.64



**EXISTING STRUCTURE**

**TYPE:** 4 SPAN NON-CONTINUOUS STEEL GIRDERS AND STEEL COLUMNS ENCASED IN CONCRETE WITH REINFORCED CONCRETE DECK.

**SPANS:** 35'-0", 33'-10", 30'-10" & 32'-0" NORMAL TO  $\bar{E}$  OF SUPPORTS.

**SKREW:** 4°-01'-15" TO  $\bar{E}$  W 58 ST. 56°-30'-47" TO  $\bar{E}$  LORAIN AVE.

**LOADING:** TWO 24 TON TRUCKS & TWO STREET CAR TRAINS.

**ROADWAY:** LORAIN AVE. 40'-0" F/F 10'-6" SIDEWALKS. W 58 ST. 30'-0" F/F 13'-0" SIDEWALKS.

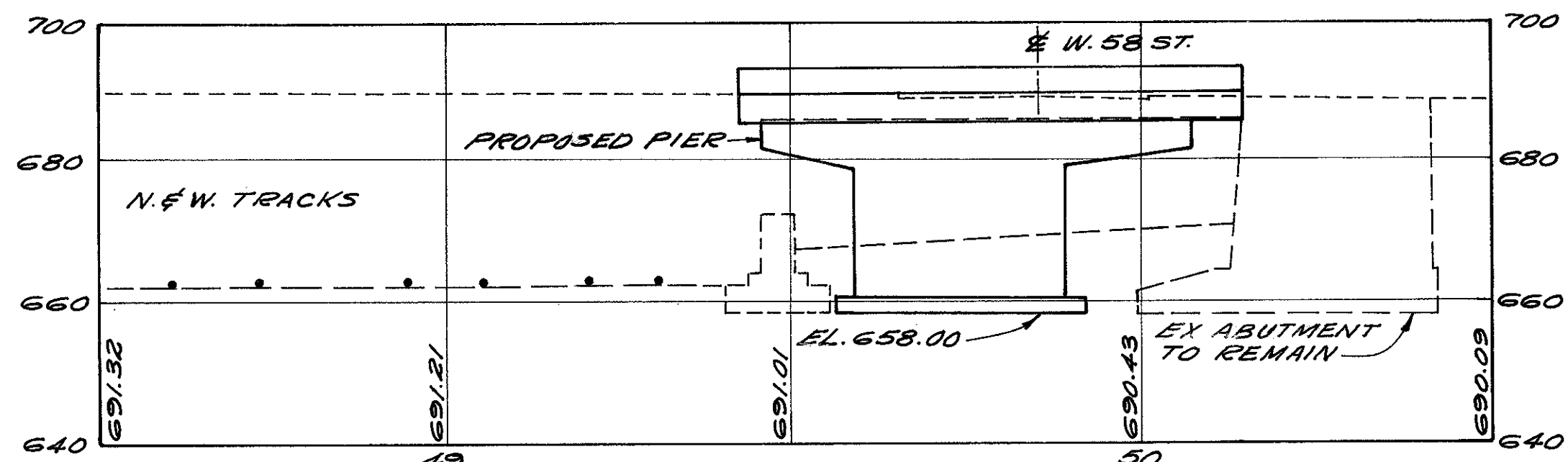
**PROPOSED STRUCTURE**

**TYPE:** LORAIN PORTION OF EXISTING STRUCTURE TO REMAIN AND W 58 ST. PORTION TO BE DEMOLISHED

**PROPOSED REINFORCED CONCRETE PIER TO BE CONSTRUCTED AT W 58 ST.**

**REINFORCED CONCRETE SIDEWALK AND RAILING TO BE ADDED AT W 58 ST. TO MATCH EXISTING LORAIN AVE. BRIDGE.**

**LOADING:** HS 20-44 FOR PROPOSED PIER ONLY.



SECTION ALONG SOUTH FASCIA LINE

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON • DALTON ASSOCIATES**

**SITE PLAN**  
LORAIN AVE. OVER  
N&W RR AND C.T.S.  
RECONSTRUCTION  
I-90 CUYAHOGA COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.J.B.	D.F.D.		L.J.B.	R.D.H.	6/16/72	

**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

**CONSTRUCTION PROCEDURE NOTES**

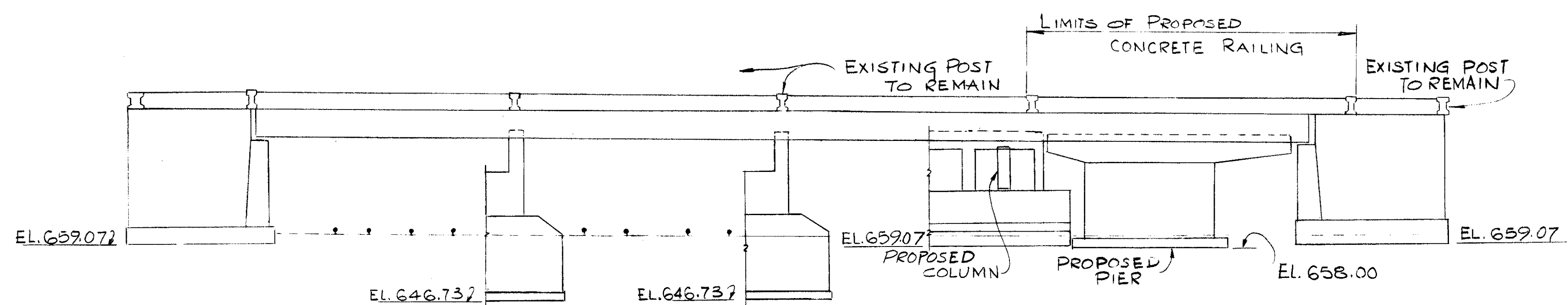
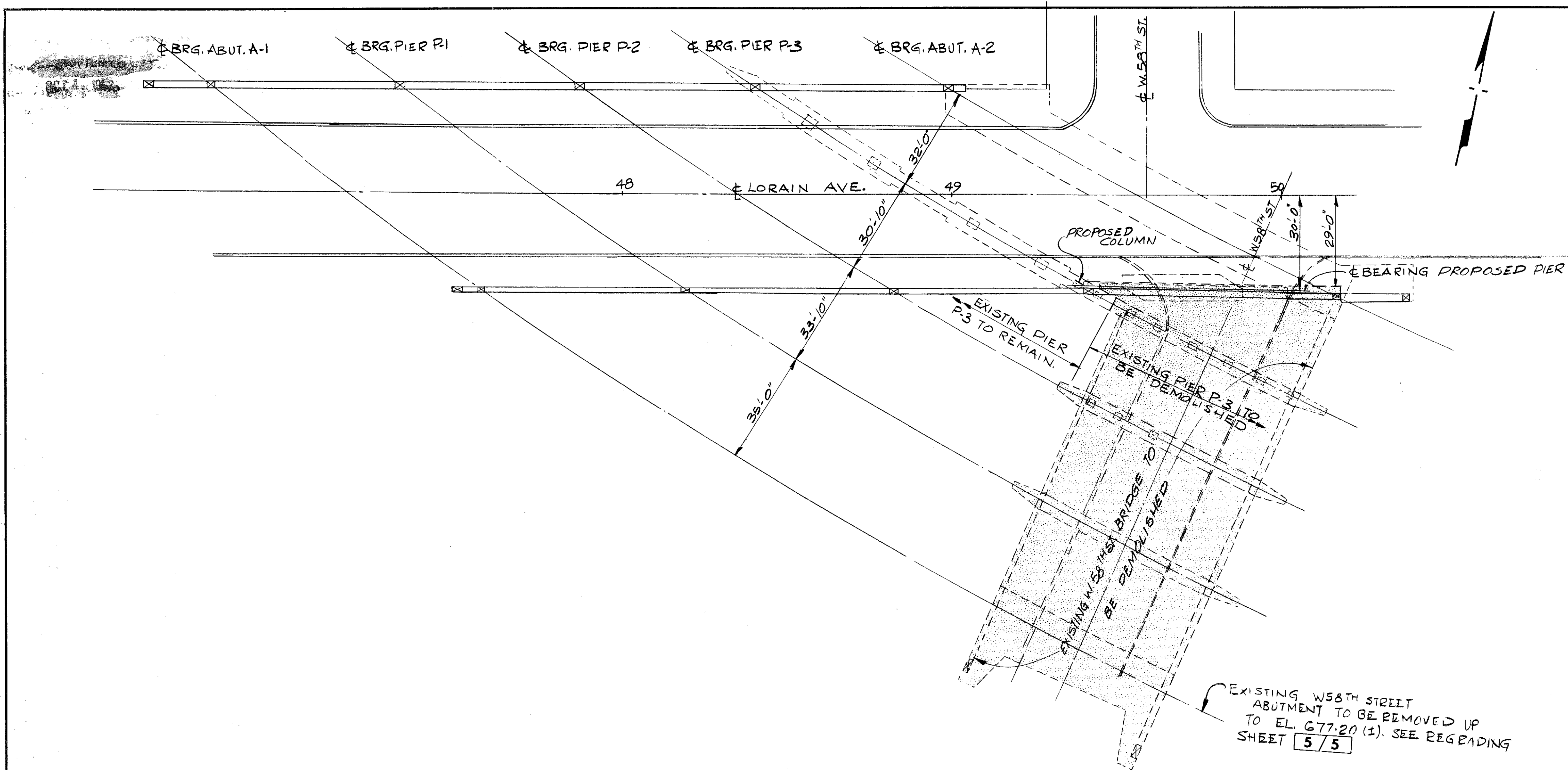
- THE INITIAL PHASE SHALL CONSIST OF THREE ELEMENTS PERFORMED CONCURRENTLY OR CONSECUTIVELY IN ANY ORDER, REMOVAL OF THE WEST 58TH PORTION OF THE STRUCTURE FROM ABUTMENT A-1 UP TO BUT NOT INCLUDING PIER P-3, CONSTRUCTION OF THE PROPOSED COLUMN FOR PIER P-3 AND CONSTRUCTION OF THE PROPOSED PIER. ADDITIONAL CONSTRUCTION SHALL NOT TAKE PLACE FOR 28 DAYS AFTER THE LAST COLUMN AND PIER CONCRETE IS IN PLACE.
- REMOVE CONCRETE AND PAVEMENT BETWEEN A LINE PARALLEL TO AND 29'-0" SOUTH OF THE CENTERLINE OF LORAIN AVENUE AND PIER P-3 AS SHOWN ON THE GENERAL PLAN.
- WELD BEARING PLATES TO FLOOR BEAMS FB 99 THROUGH FB 116. GROUT FROM THE TOP OF THE PROPOSED PIER TO THE BOTTOM OF THE BEARING PLATES AS SHOWN ON THE SUPERSTRUCTURE DETAILS, SECTION C-C, SHEET 4 / 5
- CUT FLOOR BEAMS FB 99 THROUGH FB 116 AS SHOWN ON THE FRAMING PLAN, SHEET 4 / 5. REMOVE FLOOR BEAMS FB 117 THROUGH FB 120 AND REMAINING SUPERSTRUCTURE BETWEEN THE PROPOSED PIER AND PIER P-3. REMOVE EAST PORTION OF PIER P-3 AS SHOWN ON THE DRAWING.
- CONSTRUCT SIDEWALK AND RAILING ACCORDING TO DETAILS HEREIN TO MATCH EXISTING.

**MISCELLANEOUS NOTES**

- ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BEFORE CONSTRUCTION COMMENCES.
- DAMAGE OR DEMOLITION TO THE STRUCTURE DURING CONSTRUCTION BEYOND THAT SHOWN HEREIN SHALL BE REPAIRED AS REQUIRED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE OF OHIO.
- FOR STRUCTURAL GENERAL NOTES, SEE SHEET
- QUANTITIES CHECKED BY LJB, 6/1/72.

**DEMOLITION NOTES**

- BEFORE DEMOLITION BEGINS, THE N & W WILL ENCASE ITS SIGNAL AND COMMUNICATION LINES UNDERGROUND; AFTER COMPLETION OF THE PROJECT, THE N & W WILL REPLACE ITS LINES ON POLES.
- EXISTING PORTION OF STRUCTURE TO BE REMOVED TO A DEPTH OF ONE FOOT BELOW GRADE. REMOVAL SHALL CONFORM IN ALL WAYS TO ITEM 202 OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, CONSTRUCTION AND MATERIAL SPECIFICATIONS.
- PLANS OF EXISTING STRUCTURE MAY BE OBTAINED FROM THE CITY OF CLEVELAND BRIDGE ENGINEER.
- THE CONTRACTOR SHALL PREPARE DETAILED PROCEDURES AND PLANS FOR REMOVAL OF THE EXISTING STRUCTURE. SUCH PLANS SHALL INCLUDE INFORMATION AS TO EQUIPMENT AND MATERIALS TO BE USED, PERSONNEL AND SUPERVISION TO BE USED, AND THE HOURS OF OPERATION AND DURATION OF THE JOB. THESE PLANS SHALL BE APPROVED BY THE CLEVELAND TRANSIT SYSTEM AND THE NORFOLK AND WESTERN R.R. BEFORE BEING SUBMITTED FOR APPROVAL TO THE STATE OF OHIO.
- THE CONTRACTOR SHALL SCHEDULE HIS WORK SO THAT THE REMOVALS OF ABUTMENT A-1, PIER P-1 AND THE SPAN OVER THE C.T.S. TRACKS SHALL BE ACCOMPLISHED BETWEEN THE HOURS OF 1:00 AM AND 5:00 AM WHEN THE C.T.S. RAPID IS NOT IN OPERATION, UNLESS OTHER REMOVAL TIMES ARE APPROVED IN WRITING BY C.T.S. THE CONTRACTOR IS CAUTIONED THAT THE C.T.S. LINES ARE ENERGIZED AT ALL TIMES, EVEN WHEN THE RAPID IS NOT IN OPERATION, CONSTITUTING 600 VOLTS D.C. WITH A MAXIMUM OF 3000 AMPS.
- PROCEDURES SHALL INCLUDE THE REQUIREMENT THAT THE RAILROAD AND C.T.S. BE GIVEN AT LEAST THIRTY DAYS NOTICE OF THE DATE THAT THE ACTUAL REMOVAL SHALL BEGIN.
- FOR INFORMATIONAL PURPOSES ONLY, THE QUANTITIES TO BE REMOVED UNDER ITEM 202 INCLUDE:  
363,600 LBS. STRUCTURAL STEEL  
1,088 CU. YDS. REINFORCED CONCRETE
- REGRAVING SHALL CONFORM IN ALL WAYS TO ITEM 203, EXCEPT FOR BASIS OF PAYMENT. SEEDING AND MULCHING SHALL CONFORM IN ALL WAYS TO ITEM 659, EXCEPT FOR BASIS OF PAYMENT. BOTH REGRAVING AND SEEDING SHALL BE INCLUDED WITH THE LUMP SUM PAYMENT FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED. FOR REGRAVING SEE SHEET 5 / 5



ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIER	GEN'L.
202	LUMP	LSUM	PORTIONS OF STRUCTURE REMOVED				LUMP
503	92	C.Y.	UNCLASSIFIED EXCAVATION			92	
509	12621	LBS	REINFORCING STEEL	2568		10053	
511	54	C.Y.	CLASS "C" CONCRETE, SUPERSTRUCTURE	54			
511	77	C.Y.	CLASS "C" CONCRETE, PIERS ABOVE FOOTINGS			77	
511	24	C.Y.	CLASS "C" CONCRETE, FOOTINGS			24	
513	2000	LBS	STRUCTURAL STEEL	2000			
516	5	SF	1 IN. PREFORMED EXPANSION JOINT FILLER	5			
517	80	LF	RAILING	80			
808	54	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B, OR D.	54			
QUANTITIES CH'KD BY LJB MAR 72							

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

**GENERAL PLAN & ELEVATION**

LORAIN AVE OVER  
N & W RR AND C.T.S.  
RECONSTRUCTION  
I-90 CUYAHOGA COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LJB	BSD		LJB	RDH	6-16-72	

FED. RD.	STATE	PROJECT
2	OHIO	

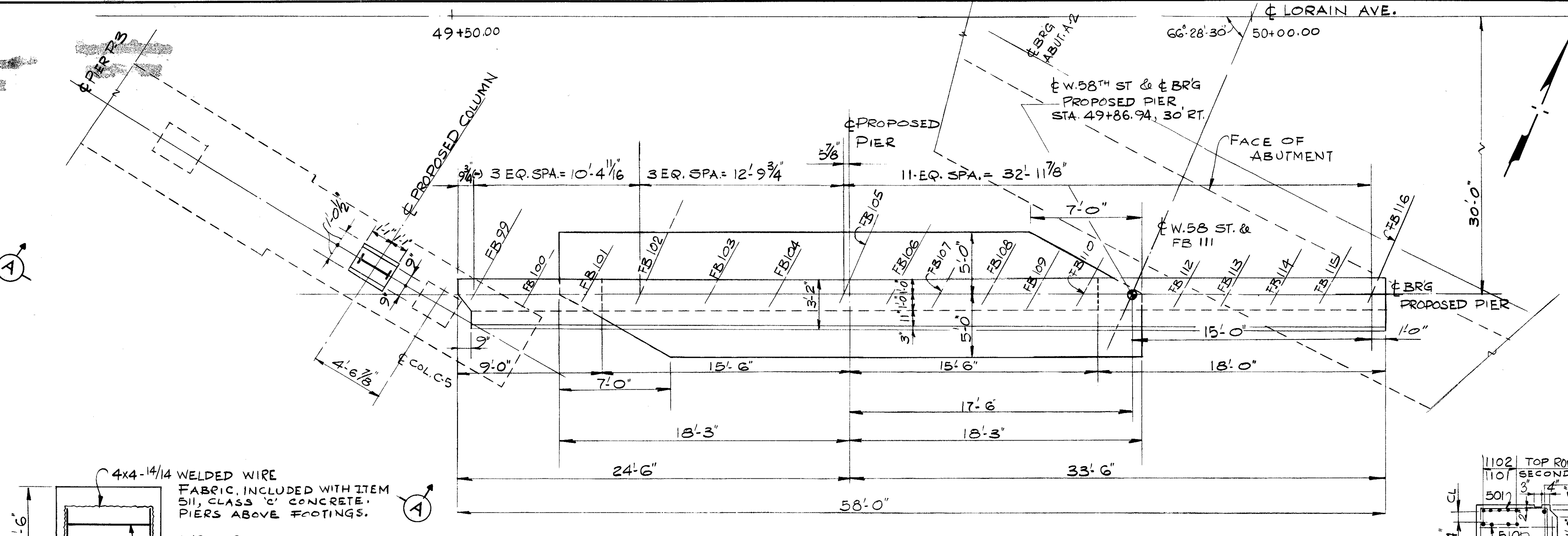
736  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

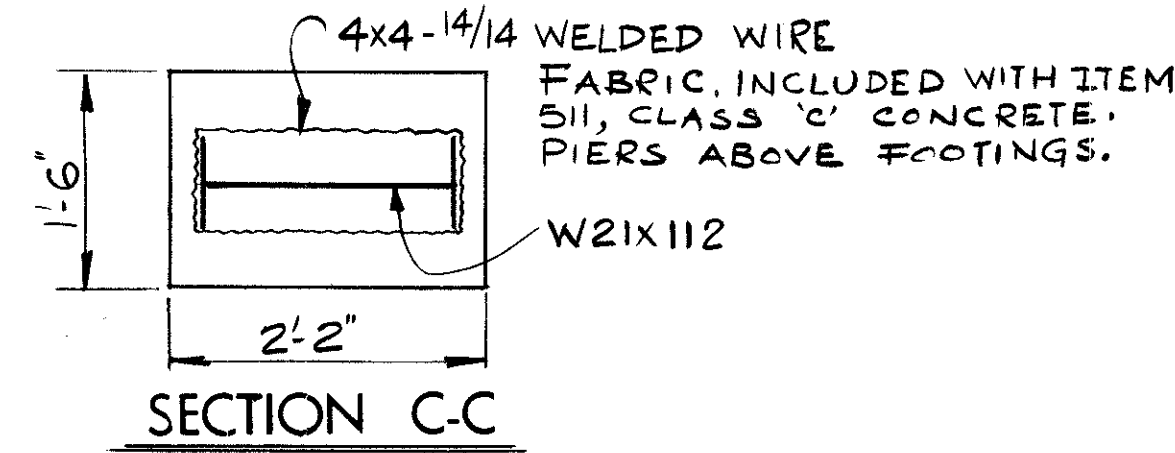
PIER NOTES

- FOUNDATION BEARING PRESSURE: PIER FOOTING IS DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2.30 TONS PER SQ. FT.
- ABBREVIATIONS USED ARE:  
NF - NEAR FACE  
FF - FAR FACE  
EF - EACH FACE
- THE PREFIX "P" SHALL BE ADDED TO ALL PIER REINFORCING BAR MARKS UNLESS SHOWN OTHERWISE.

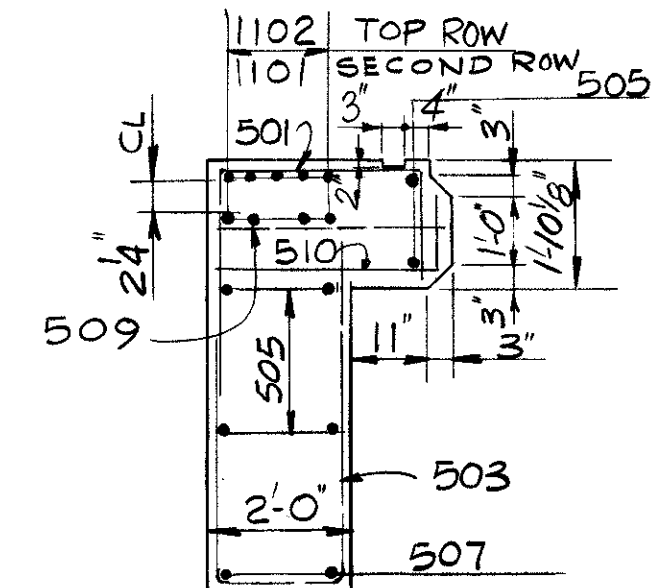
FOR SUPERSTRUCTURE NOTES, SEE SHEET 4/5



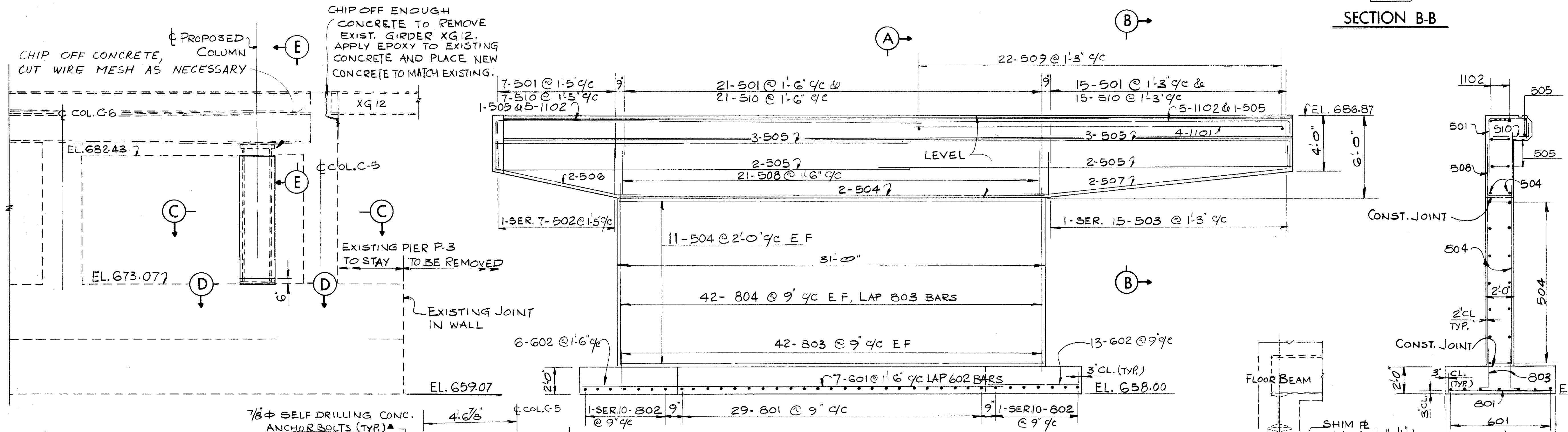
PLAN



SECTION C-C

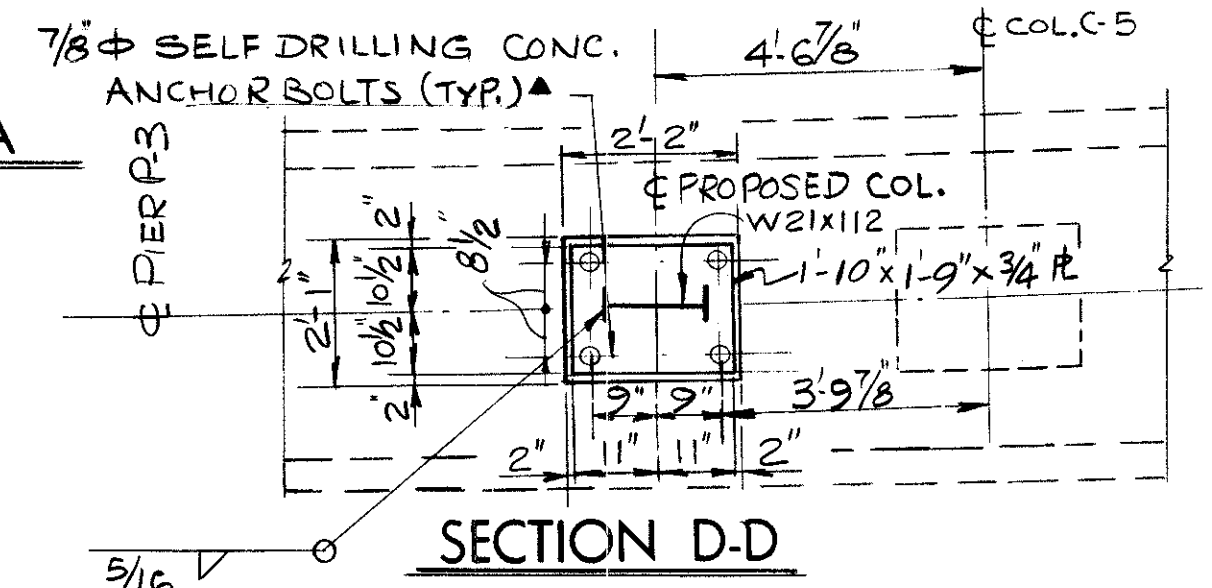


SECTION B-B

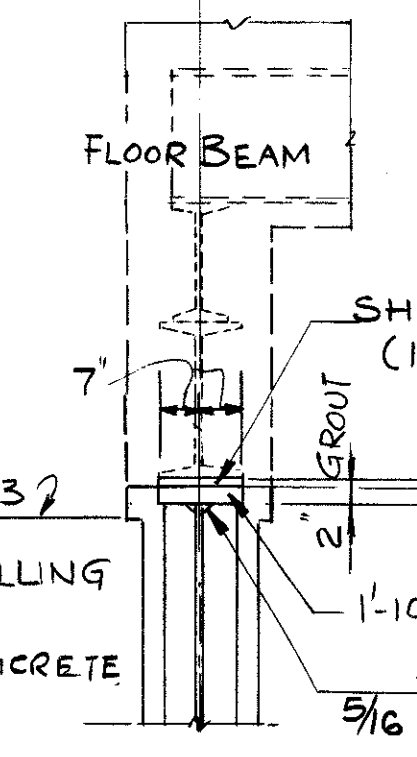


ELEVATION

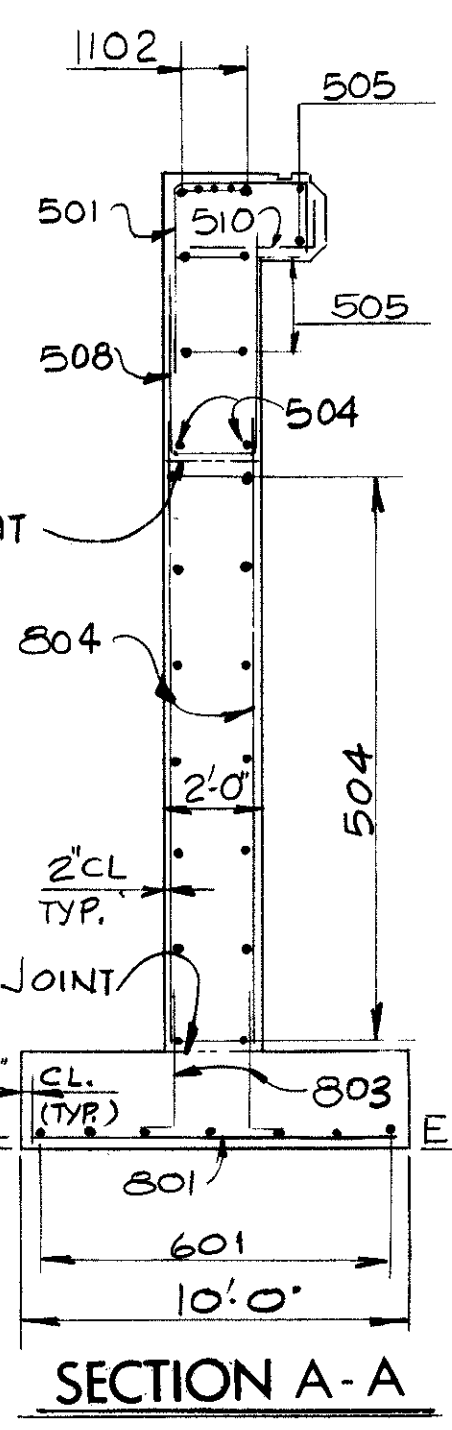
VIEW A-A



SECTION D-D



SECTION E-E



SECTION A-A

NOTE:  
▲ PAYMENT FOR 7/8" SELF DRILLING CONCRETE ANCHOR BOLTS TO BE INCLUDED WITH ITEM 511, CLASS 'C' CONCRETE PIERS ABOVE FOOTINGS.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.J.B.	B.S.D.		L.J.B.	RDH	6-16-72	

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON · DALTON ASSOCIATES**

PIER  
LORAIN AVE. OVER  
N&W RR AND C.T.S.  
RECONSTRUCTION  
I-90 CUYAHOGA COUNTY

3 / 5

FED. RD.	STATE	PROJECT
2	OHIO	

737  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

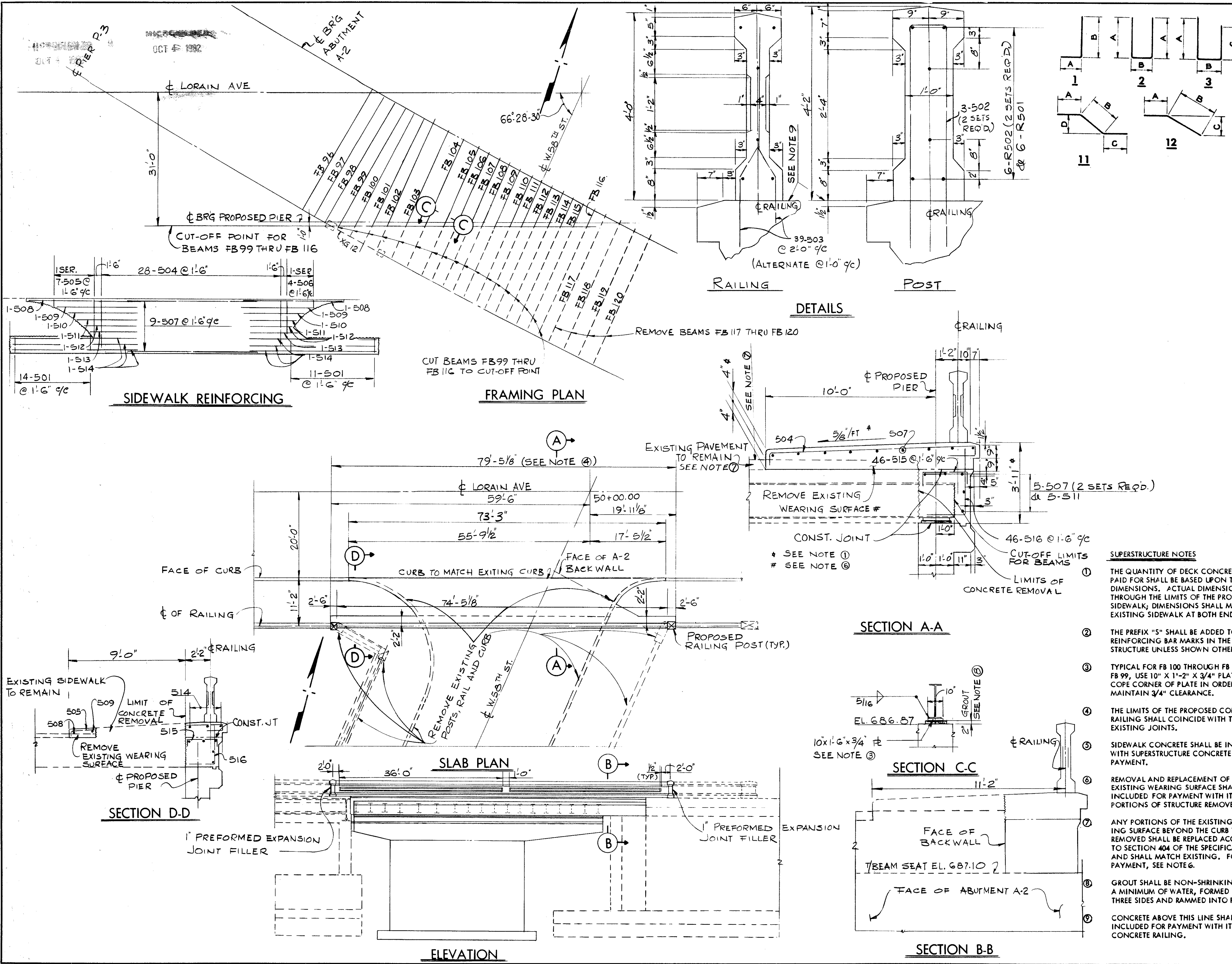
MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS				INCRM.	WEIGHT LBS.
				A	B	C	D		
PIER									
P 501	43	7-6	3	3-8	2-7	1-6			336
SERIES	1-SET	6-8		1-7	1-8	3-8		3	
OF	OF 7=	TO	3	TO	TO	TO		0-8--	64
P 502	7 BARS	10-9		3-8	1-8	5-8		16	
SERIES	1-SET	6-8		1-7	1-8	3-8		1	
OF	OF 15=	TO	3	TO	TO	TO		0-3--	136
P 503	15 BARS	10-9		3-8	1-8	5-8		2	
P 504	24	30-8	ST						768
P 505	12	30-0	ST						375
P 506	2	10-7	12	1-7	9-0	2-0			22
P 507	2	19-7	12	1-7	18-0	2-0			41
P 508	21	10-9	3	3-8	1-8	5-8			235
P 509	22	3-0	ST						69
P 510	43	3-7	1	1-0	2-8				161
P 601	7	29-0	ST						305
P 602	19	9-0	ST						257
P 801	29	9-6	ST						738
SERIES	2-SETS	9-6						11	
OF	OF 10=	TO	ST					0-6--	374
P 802	20 BARS	4-6						16	
P 803	84	4-11	1	0-11	4-2				1109
P 804	42	23-5	ST						2626
P1101	4	27-4	ST						581
P1102	10	35-1	1	31-8	3-8				1864
TOTAL PIER									10053

SUPERSTRUCTURE									
S 501	25	5-4	3	3-2	0-5	2-0			139
S 502	6	11-5	2	5-6	0-8				71
S 503	78	5-3	11	2-10	0-6	2-0	0-4		427
S 504	28	14-5	8	0-4	12-0	0-5	2-0		421
SERIES	1-SET	12-3		0-4	12-0				
OF	OF 7=	TO	1	TO	TO				1-8
S 505	7 BARS	2-3		0-4	2-0				53
SERIES	1-SET	12-3		0-4	12-0				
OF	OF 4=	TO	1	TO	TO				3-4
S 506	4 BARS	2-3		0-4	2-0				30
S 507	19	30-0	ST						595
S 508	2	23-0	ST						48
S 509	2	17-0	ST						35
S 510	2	14-0	ST						29
S 511	7	11-6	ST						84
S 512	2	10-3	ST						21
S 513	2	9-6	ST						20
S 514	6	26-0	ST						163
S 515	46	3-6	2	0-7	2-7				158
S 516	46	5-6	1	2-7	3-0				264
TOTAL SUPERSTRUCTURE									2568

RAILING*									
R 501	6	22-4	ST						
R 502	12	30-0	ST						
*RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM #17 FOR PAYMENT.									

REPLACEMENT BARS									
RE 501	1	6-7	ST						
RE 601	1	6-11	ST						
RE 801	1	7-6	ST						
RE1101	1	8-6	ST						
PIER TOTAL =									10,053
SUPERSTRUCTURE TOTAL =									2,568
GRAND TOTAL =									12,621

REINFORCING SCHEDULE									
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES									
DALTON - DALTON ASSOCIATES									4 / 5
SUPERSTRUCTURE DETAILS									
LORAIN AVE OVER N & W RR AND C.T.S. RECONSTRUCTION									
I-90 CUYAHOGA COUNTY									
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED			
L.J.B.	B.S.D.		LJB	RDH	6-16-72				

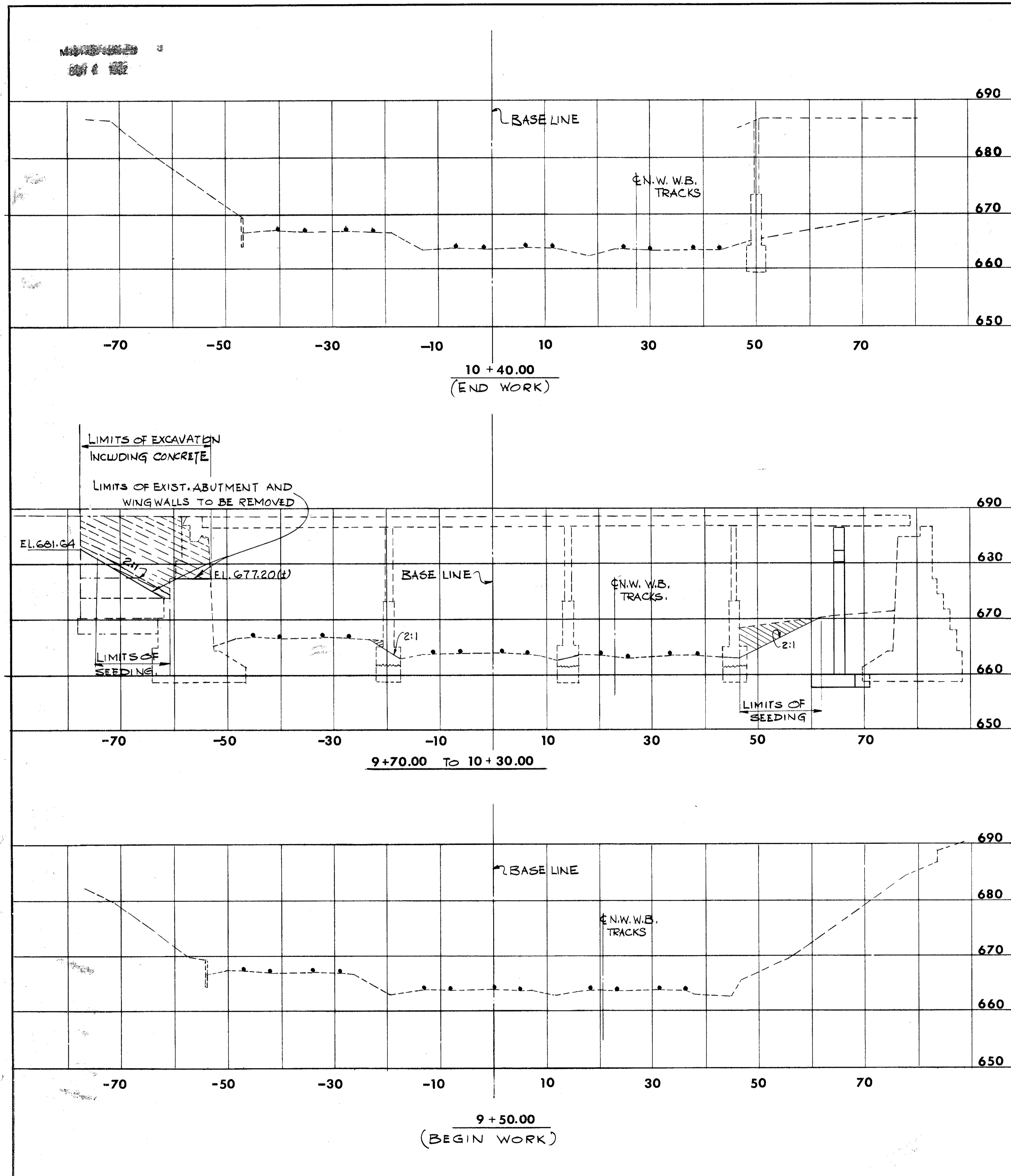


- SUPERSTRUCTURE NOTES**
- THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THESE DIMENSIONS. ACTUAL DIMENSIONS VARY THROUGH THE LIMITS OF THE PROPOSED SIDEWALK; DIMENSIONS SHALL MATCH THE EXISTING SIDEWALK AT BOTH ENDS.
  - THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE UNLESS SHOWN OTHERWISE.
  - TYPICAL FOR FB 100 THROUGH FB 116. FOR FB 99, USE 10" X 1'-2" X 3/4" PLATE AND COPE CORNER OF PLATE IN ORDER TO MAINTAIN 3/4" CLEARANCE.
  - THE LIMITS OF THE PROPOSED CONCRETE RAILING SHALL COINCIDE WITH THE EXISTING JOINTS.
  - SIDEWALK CONCRETE SHALL BE INCLUDED WITH SUPERSTRUCTURE CONCRETE FOR PAYMENT.
  - REMOVAL AND REPLACEMENT OF THE EXISTING WEARING SURFACE SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED.
  - ANY PORTIONS OF THE EXISTING WEARING SURFACE BEYOND THE CURB THAT IS REMOVED SHALL BE REPLACED ACCORDING TO SECTION 404 OF THE SPECIFICATIONS AND SHALL MATCH EXISTING. FOR PAYMENT, SEE NOTE 6.
  - GROUT SHALL BE NON-SHRINKING WITH A MINIMUM OF WATER, FORMED ON THREE SIDES AND RAMMED INTO PLACE.
  - CONCRETE ABOVE THIS LINE SHALL BE INCLUDED FOR PAYMENT WITH ITEM 517, CONCRETE RAILING.

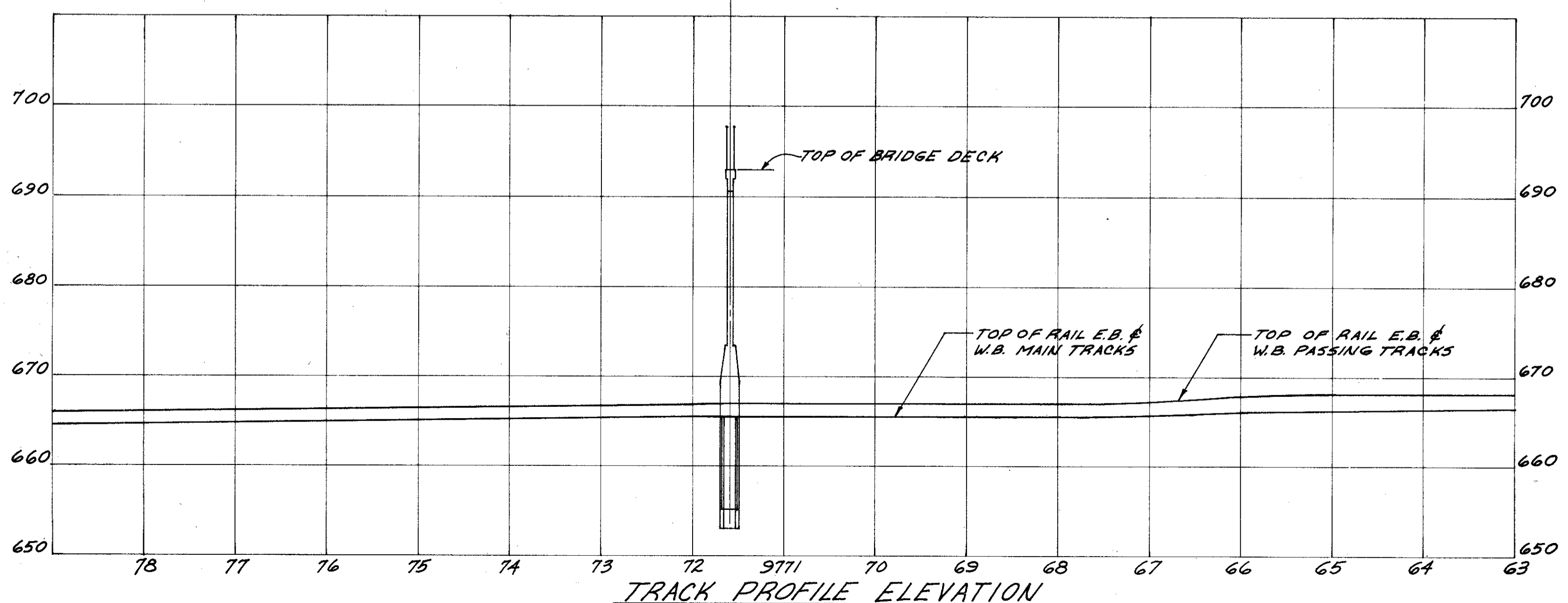
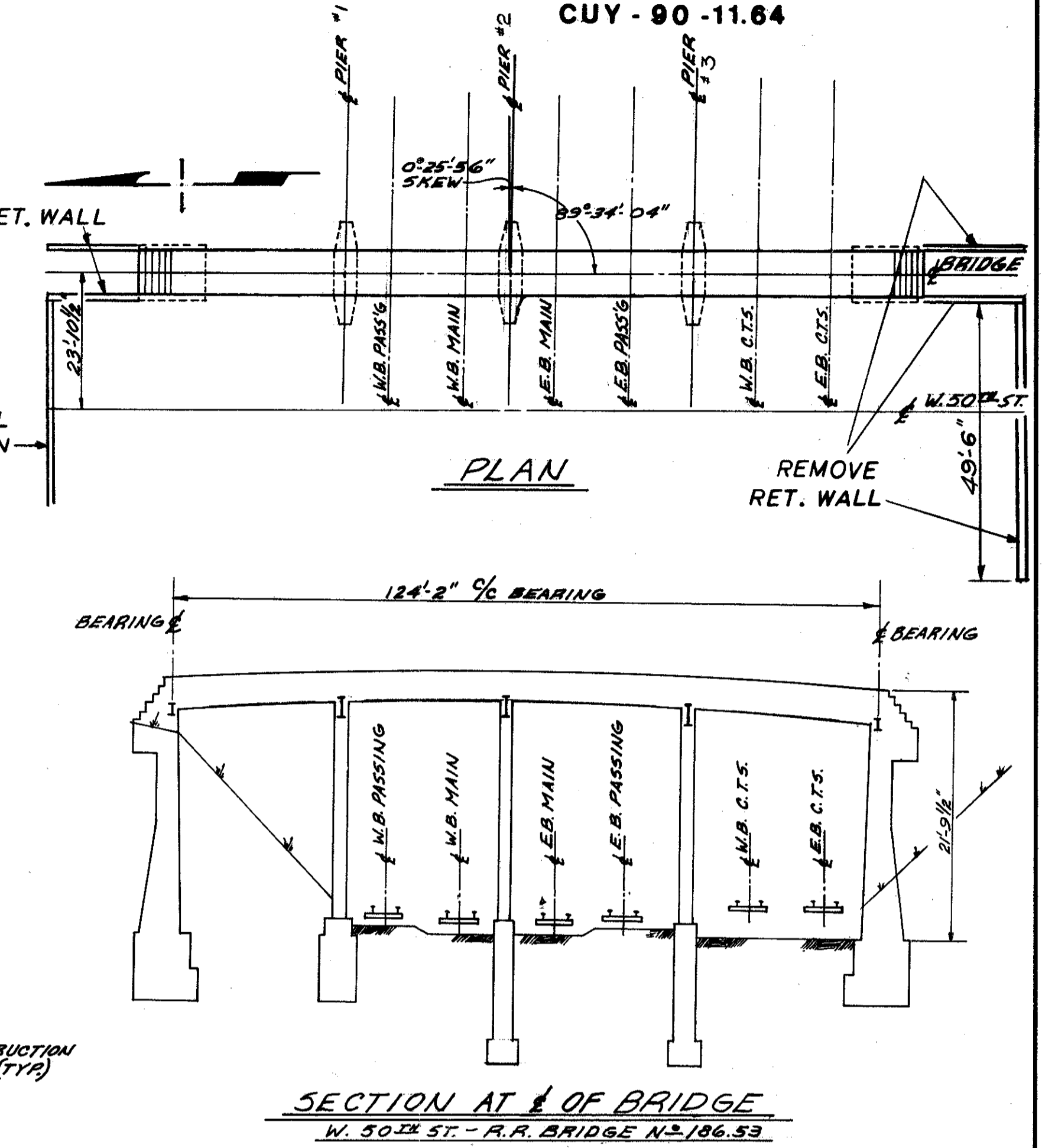
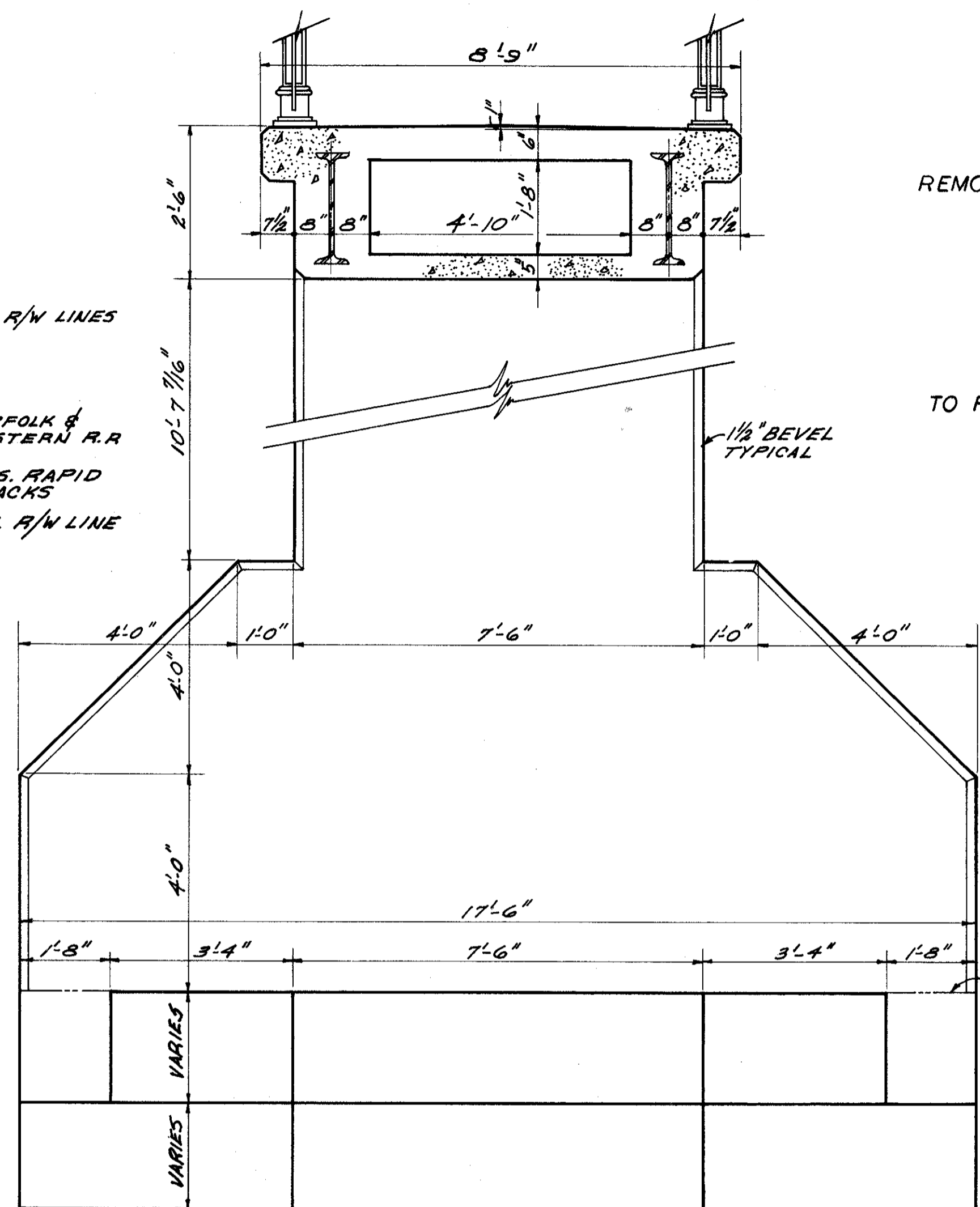
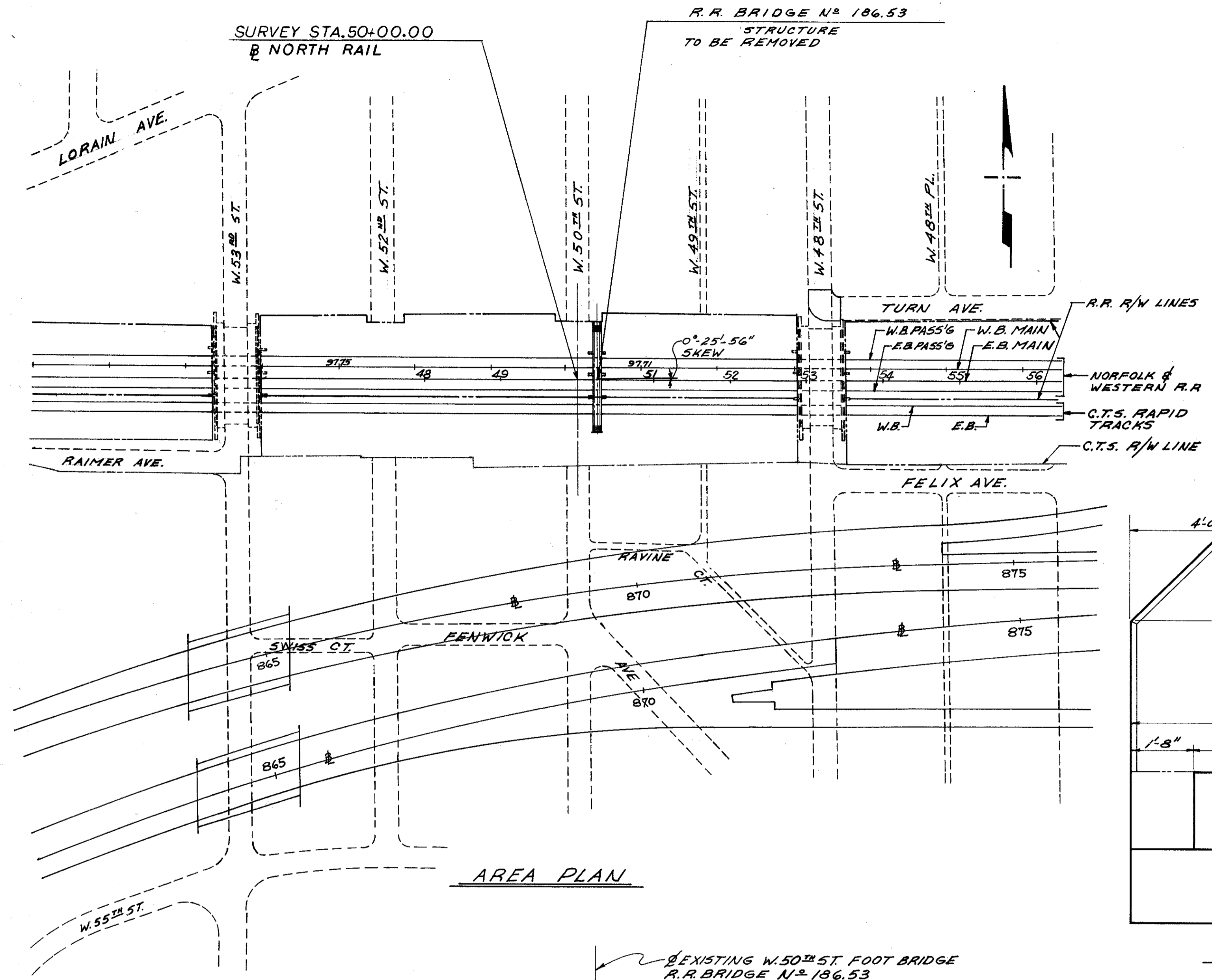
FED. RD.	STATE	PROJECT
2	OHIO	

738  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64



STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES							5 / 5
DALTON · DALTON ASSOCIATES							
EXISTING STRUCTURE REMOVAL							
LORAIN AVE. OVER N & W RR AND C.T.S. RECONSTRUCTION I-90 CUYAHOGA COUNTY							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION	
BSD	BSD		LJB	RDH	9-11-72		



ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
*	200	CU.YD.	EXCAVATION
*	210	CU.YD.	CONCRETE
*	21	TONS	STRUCTURAL STEEL
*	290	SQ.YD.	SEEDING AND MULCHING

\* THE ESTIMATED QUANTITIES ARE INCLUDED IN LUMP SUM BID ITEM 202 EXISTING STRUCTURES REMOVED, AND ARE INCLUDED ON THE ROADWAY QUANTITY SUMMARY SHEET.

**EXISTING STRUCTURE**  
**TYPE:** 4 SPAN CONTINUOUS REINFORCED CONCRETE ENCASED STEEL BEAM SUPERSTRUCTURE, REINFORCED CONCRETE SUBSTRUCTURE & STAIRWAYS.  
**SKEW:** 0°-25'-56" LEFT FORWARD  
**SPANS:** 30'-1", 25'-0", 32'-0", 33'-1" % BEARINGS  
**WALKWAY:** 8'-9" OUT TO OUT OF DECK  
**LOADING:** L.L. 100 #/SQ.FT. + 50% IMPACT

FOR NOTES, SEE SHEET 2 / 2

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**DALTON - DALTON ASSOCIATES**

EXISTING STRUCTURE REMOVAL

WEST 50th ST. OVER N&W RR AND C.T.S.  
I-90 CUYAHOGA COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.R.	R.J.P.		D.H.S.	R.B.A.	5-13-71	

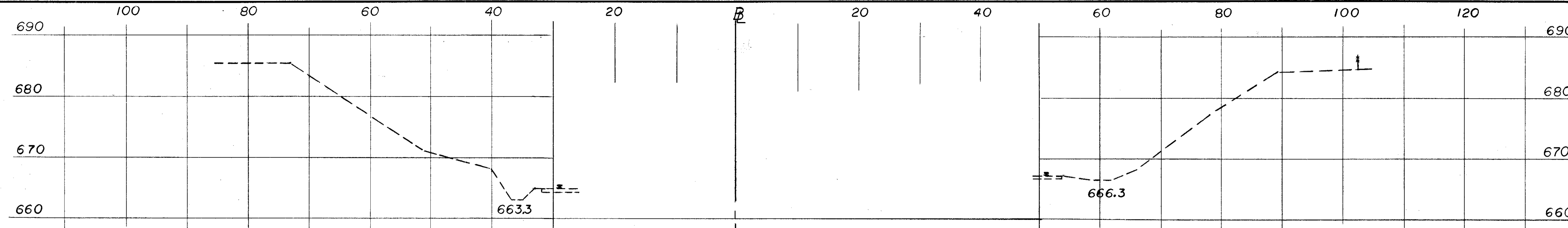
FED. RD.	STATE	PROJECT
2	OHIO	

740  
838

**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

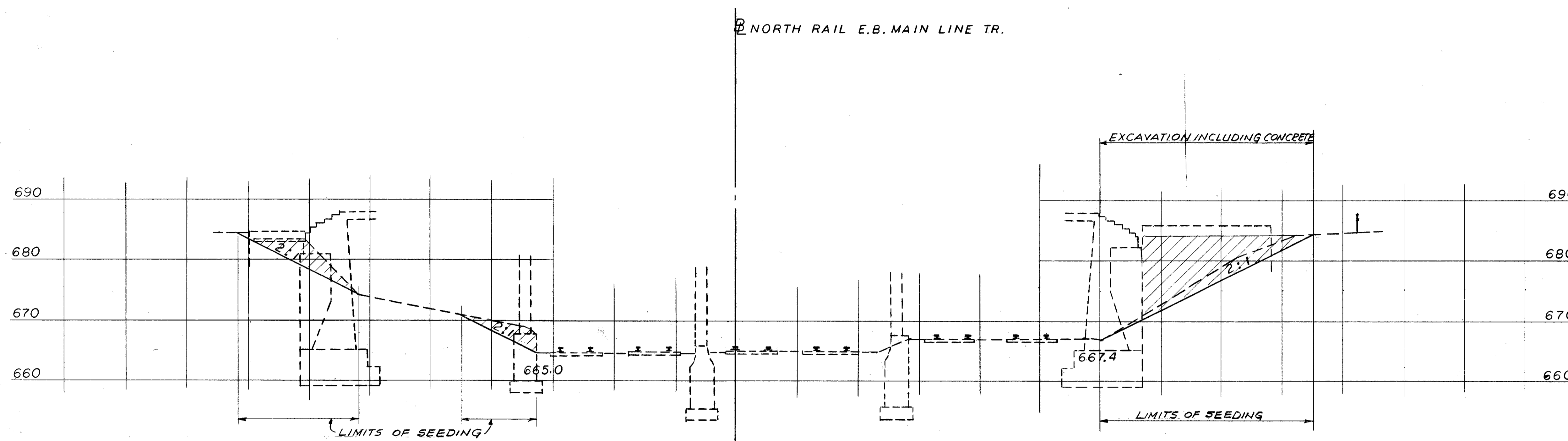
**NOTES:**

- ① REMOVAL OF EXISTING STRUCTURE INCLUDING CRIB WALLS, WING WALLS, AND RETAINING WALLS SHALL CONFORM TO ITEM 202 OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, CONSTRUCTION AND MATERIAL SPECIFICATIONS.
- ② PLANS OF EXISTING STRUCTURE MAY BE OBTAINED FROM THE CITY OF CLEVELAND BRIDGE ENGINEER.
- ③ THE CONTRACTOR SHALL PREPARE DETAILED PROCEDURES AND PLANS FOR REMOVAL OF THE EXISTING STRUCTURE, SUCH PLANS SHALL INCLUDE INFORMATION AS TO EQUIPMENT AND MATERIALS TO BE USED, PERSONNEL AND SUPERVISION TO BE USED, AND THE HOURS OF OPERATION AND DURATION OF THE JOB. THESE PLANS SHALL BE APPROVED BY THE CLEVELAND TRANSIT SYSTEM AND THE NORFOLK AND WESTERN RAILROAD BEFORE BEING SUBMITTED FOR APPROVAL TO THE STATE OF OHIO.
- ④ THE CONTRACTOR SHALL SCHEDULE HIS WORK SO THAT THE REMOVALS OF PIER NO. 3, THE SOUTH ABUTMENT, AND THE SPAN OVER THE C.T.S. TRACK SHALL BE ACCOMPLISHED BETWEEN THE HOURS OF 1:00 A.M. AND 5:00 A.M. WHEN THE C.T.S. RAPID IS NOT IN OPERATION, UNLESS OTHER REMOVAL TIMES ARE APPROVED IN WRITING BY C.T.S. THE CONTRACTOR IS CAUTIONED THAT THE C.T.S. LINES ARE ENERGIZED AT ALL TIMES, EVEN WHEN THE RAPID TRANSIT IS NOT IN OPERATION, CONSTITUTING 600 VOLTS D.C. WITH A MAXIMUM OF 5000 AMPS.
- ⑤ PROCEDURES SHALL INCLUDE THE REQUIREMENT THAT THE RAILROAD AND C.T.S. BE GIVEN AT LEAST THIRTY DAYS NOTICE OF THE DATE THAT THE ACTUAL REMOVAL SHALL BEGIN.
- ⑥ REGRADING SHALL CONFORM IN ALL WAYS TO ITEM 203 EXCEPT FOR BASIS OF PAYMENT. SEEDING AND MULCHING SHALL CONFORM IN ALL WAYS TO ITEMS 655 EXCEPT FOR BASIS OF PAYMENT. BOTH REGRADING AND SEEDING SHALL BE INCLUDED WITH THE LUMP SUM PAYMENT FOR ITEM 202, REMOVAL OF EXISTING STRUCTURE.

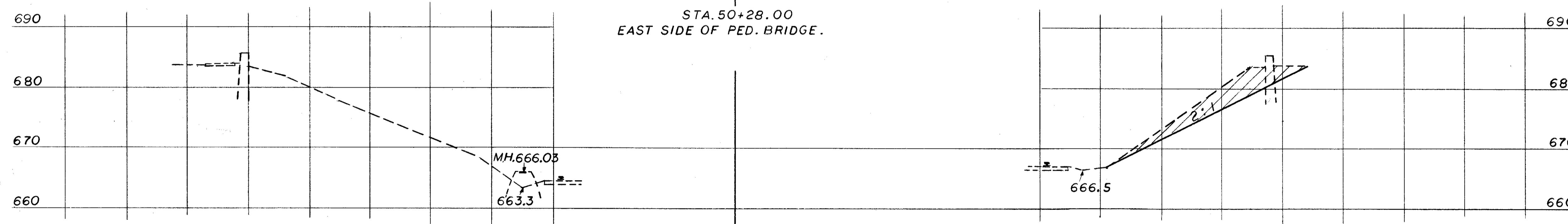


STA. 50+50.00

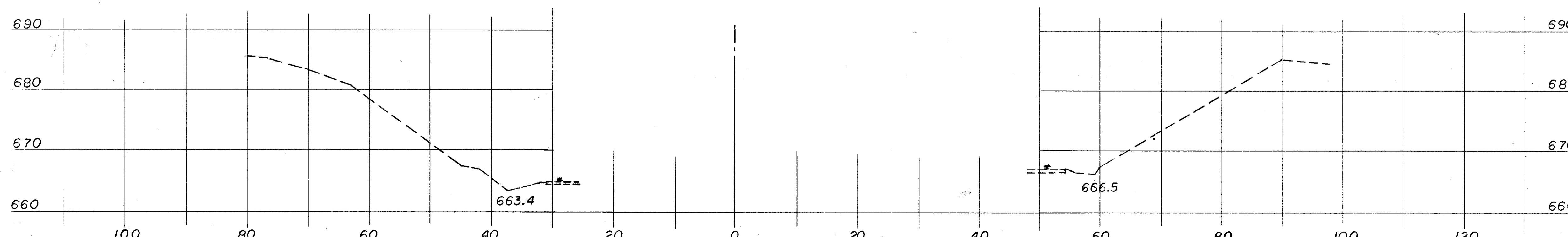
NORTH RAIL E.B. MAIN LINE TR.



STA. 50+28.00  
EAST SIDE OF PED. BRIDGE.



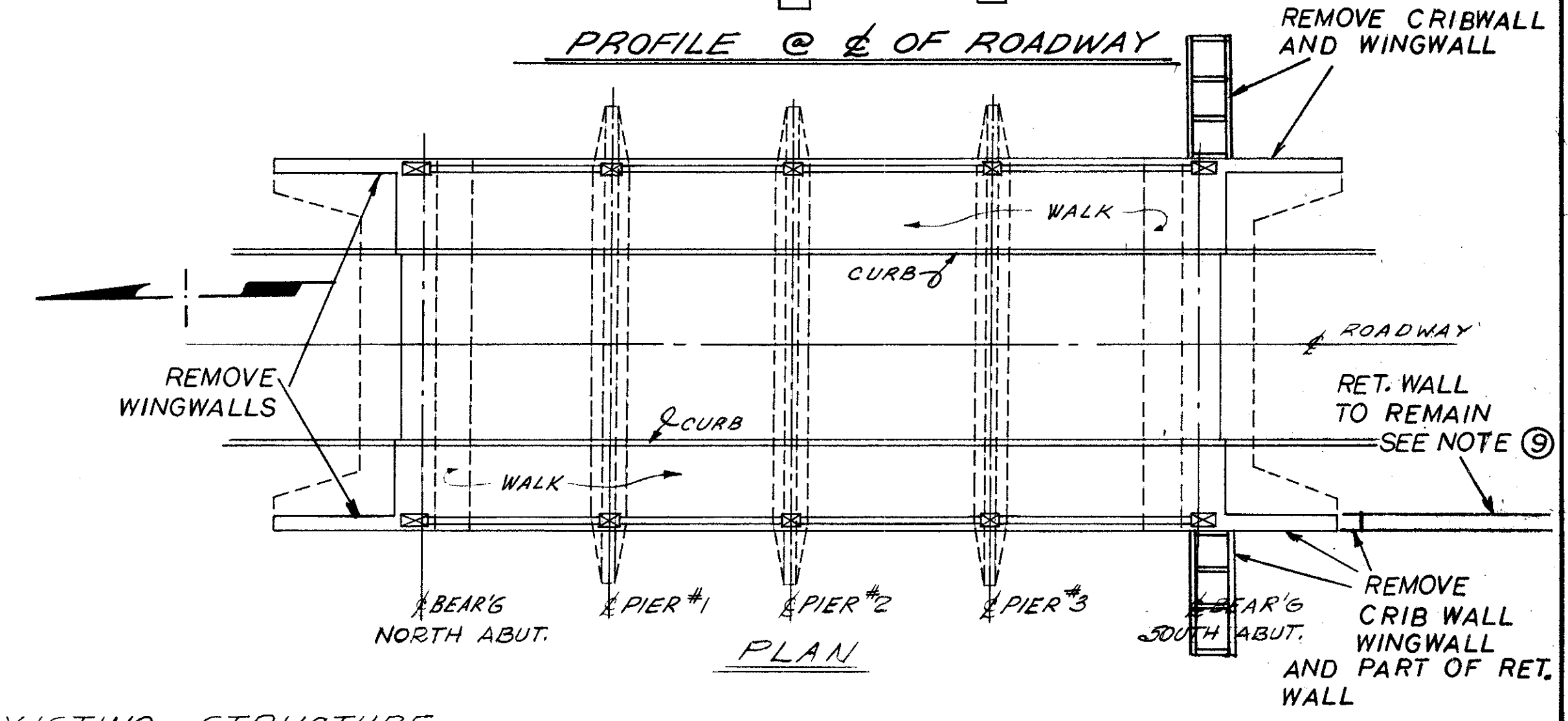
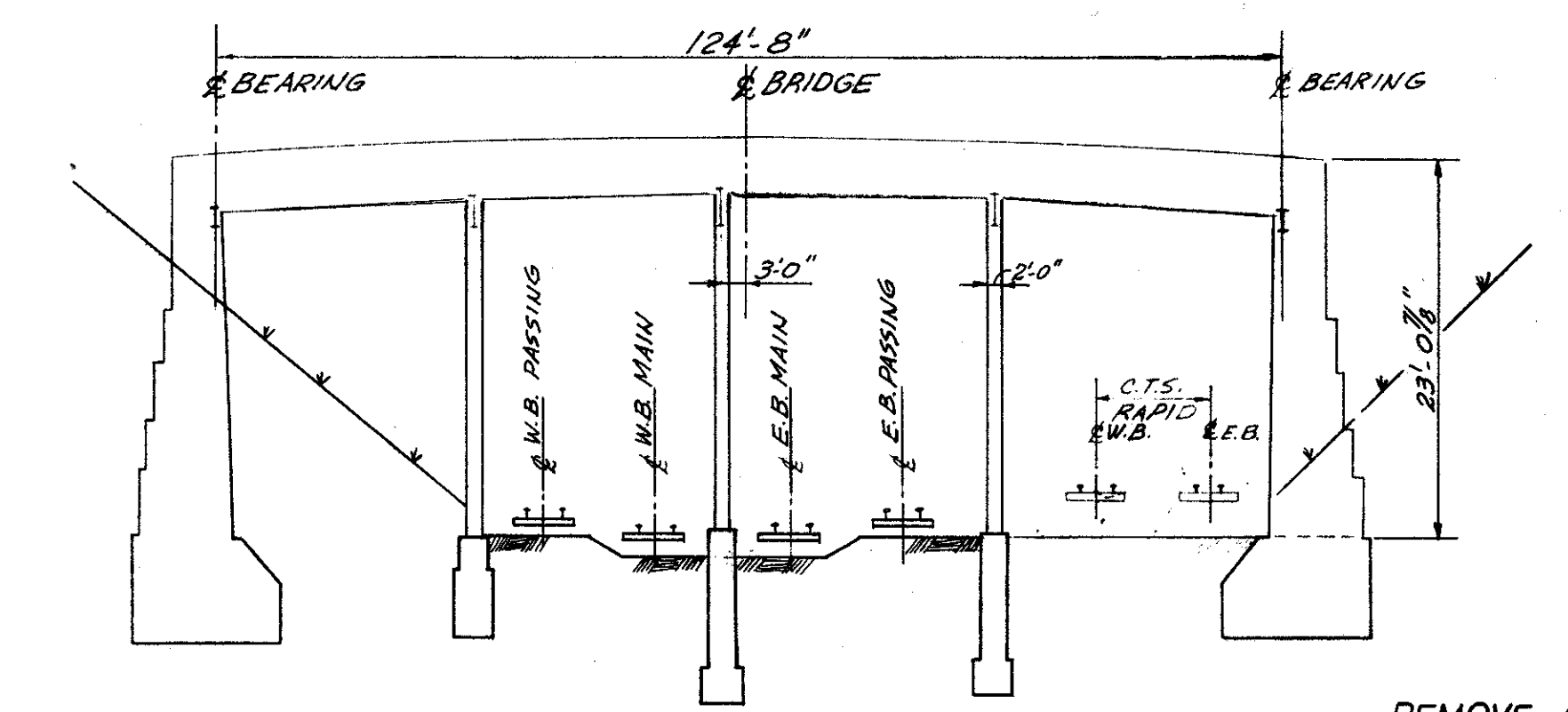
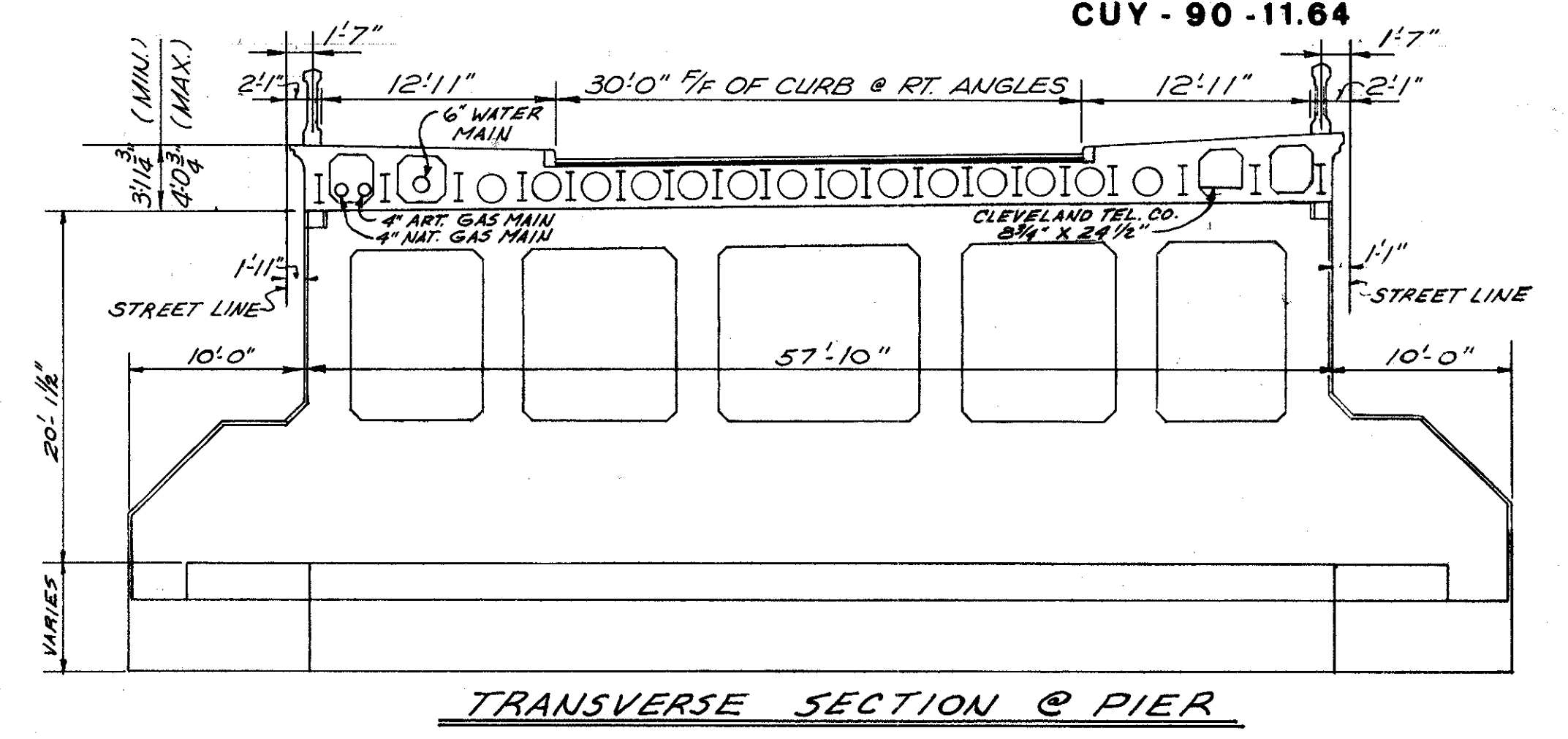
STA. 50+00.00



STA. 49+50.00

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES							2 / 2
<b>DALTON · DALTON ASSOCIATES</b>							
EXISTING STRUCTURE REMOVAL							
WEST 50 <sup>th</sup> ST. OVER N&W RR AND C.T.S.							
I-90 CUYAHOGA COUNTY							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
DHE	J.S.K.		ew	RSH	5-13-71		





FOR NOTES, SEE SHEET 2/2

**TYPE:** 4 SPAN CONTINUOUS REINFORCED CONCRETE ENCASED STEEL BEAM SUPERSTRUCTURE, REINFORCED CONCRETE SUBSTRUCTURE.  
**SKEW:** 0°-25'-38" LEFT FORWARD  
**SPANS:** 30'-4", 29'-0", 32'-0", 33'-4" % BEARINGS  
**ROADWAY:** 30'-0" FACE TO FACE OF CURBS WITH 12'-11" SIDEWALK EACH SIDE.  
**LOADING:** 24 TON TRUCKS, WITH UNIFORM LOAD OF 100 LBS/SQ FT, IMPACT ONE-HALF A.R.E.A. FORMULA ( $I = 5 \sqrt{L \times 300}$ )

ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
*	615	CU. YD.	EXCAVATION
*	1915	CU. YD.	CONCRETE
*	225	TONS	STRUCTURAL STEEL
*	480	SQ. YD.	SEEDING AND MULCHING

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

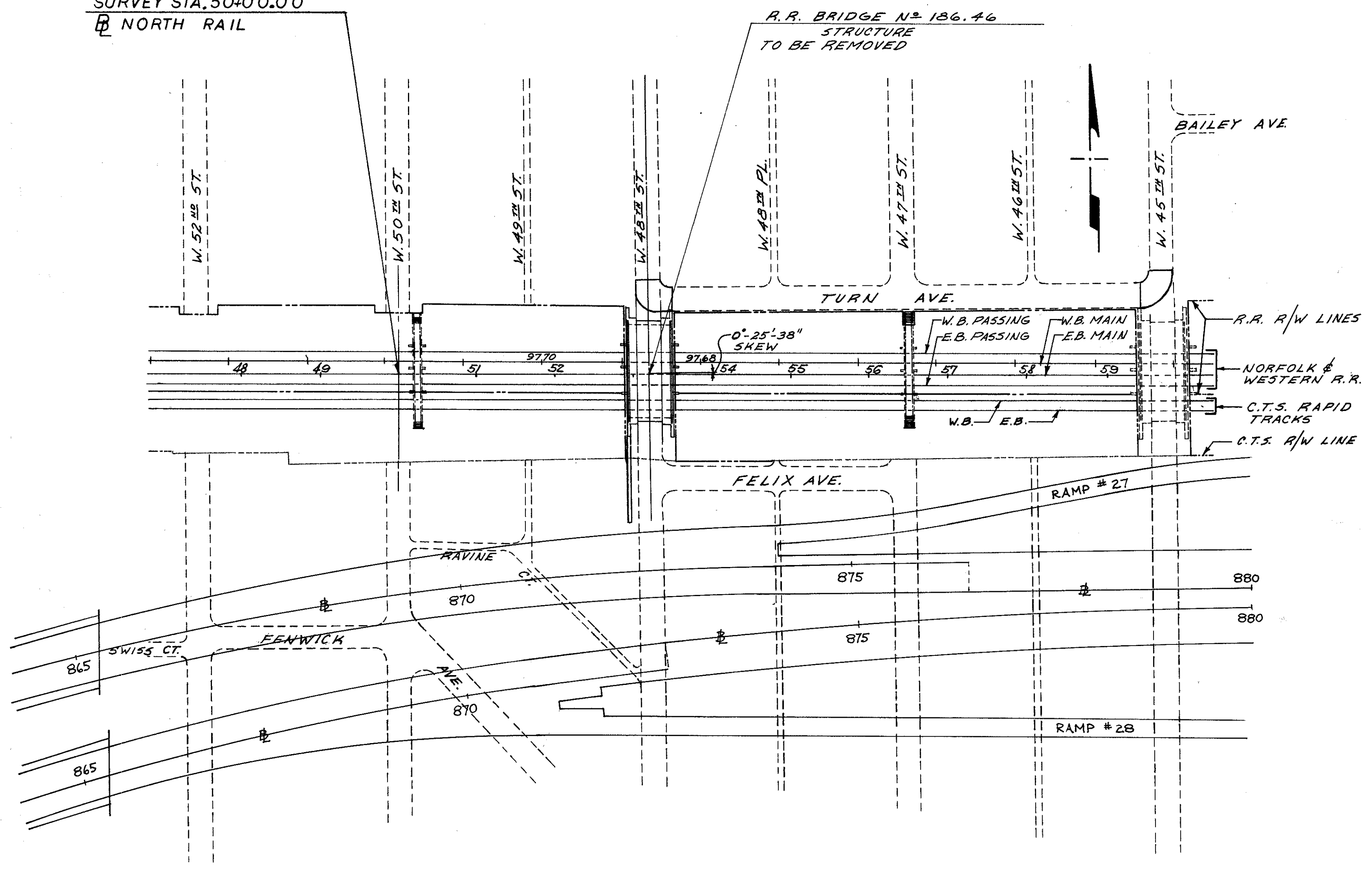
**DALTON · DALTON ASSOCIATES**

EXISTING STRUCTURE REMOVAL

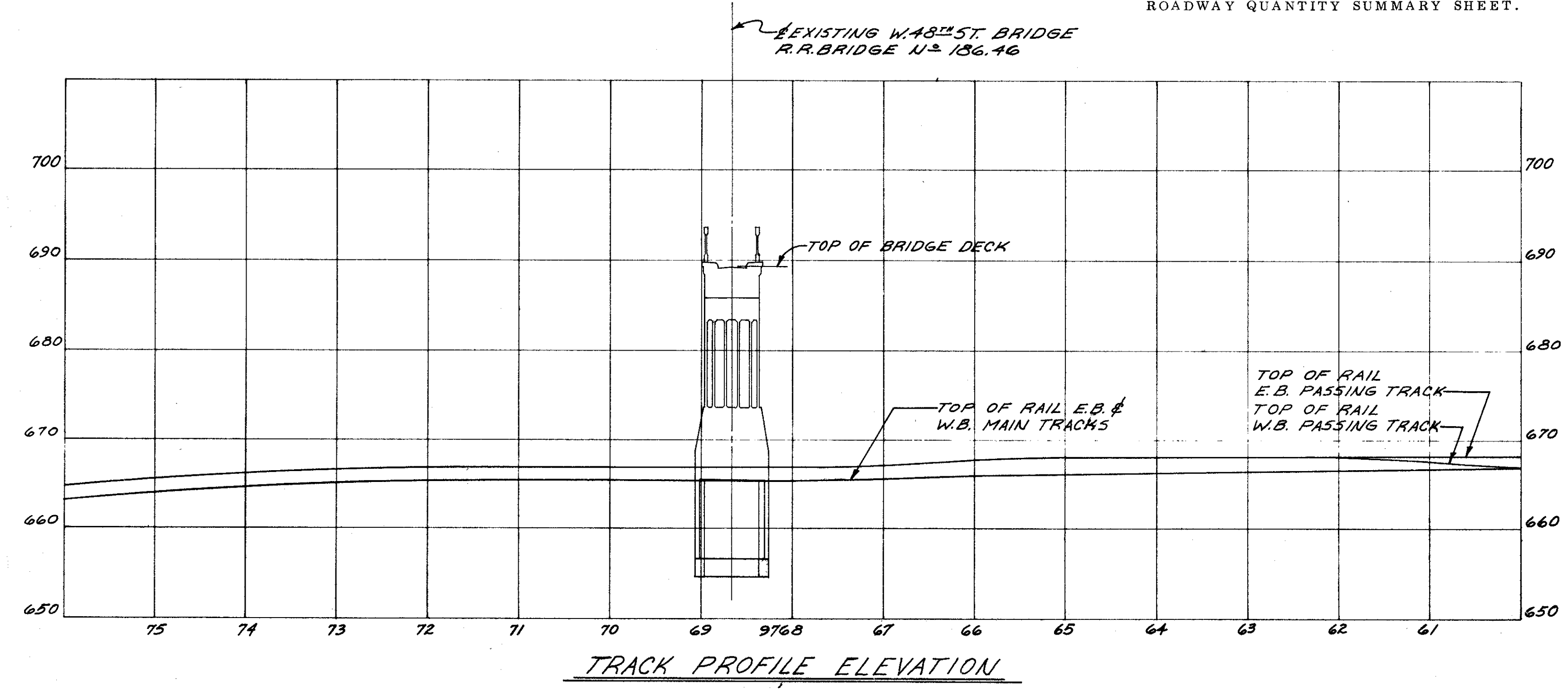
WEST 48<sup>th</sup> ST. OVER N&W RR AND C.T.S.  
I-90 CUYAHOGA COUNTY

DESIGNED: D.H.R. DRAWN: R.J.P. TRACED: D.H.S. CHECKED: R.D.W. REVIEWED: DATE: 5-13-71

SURVEY STA. 50+00.00  
NORTH RAIL



\* THE ESTIMATED QUANTITIES ARE INCLUDED IN LUMP SUM BID ITEM 202 EXISTING STRUCTURES REMOVED, AND ARE INCLUDED ON THE ROADWAY QUANTITY SUMMARY SHEET.



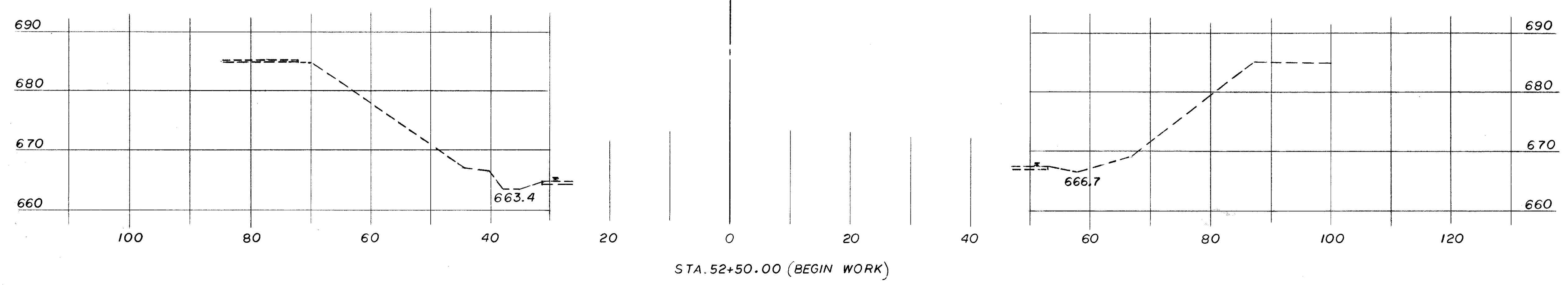
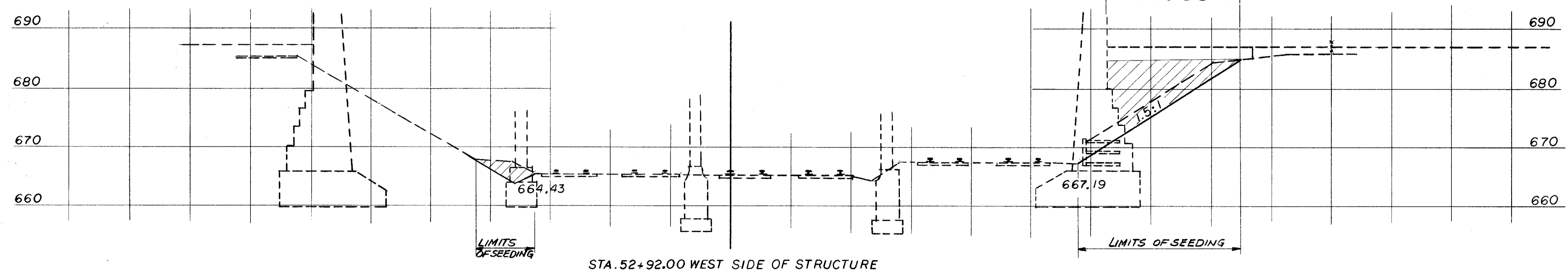
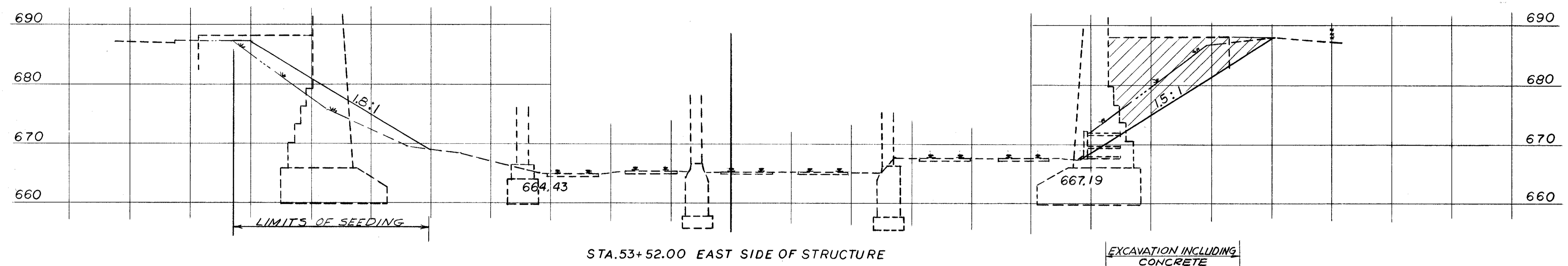
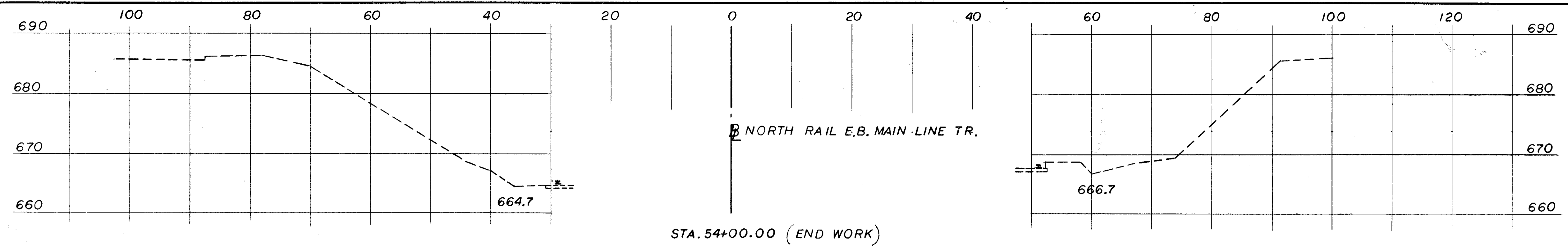
FED. RD.	STATE	PROJECT
2	OHIO	

742  
838

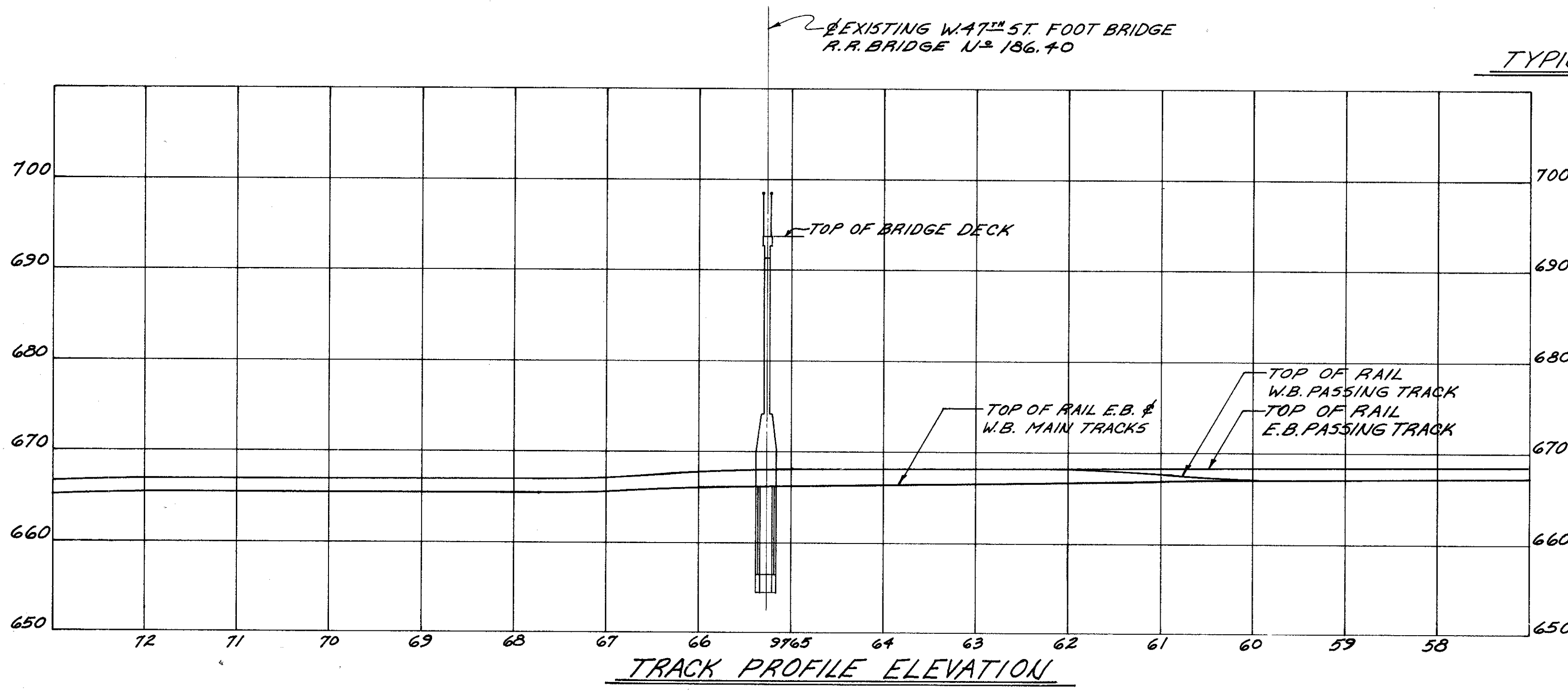
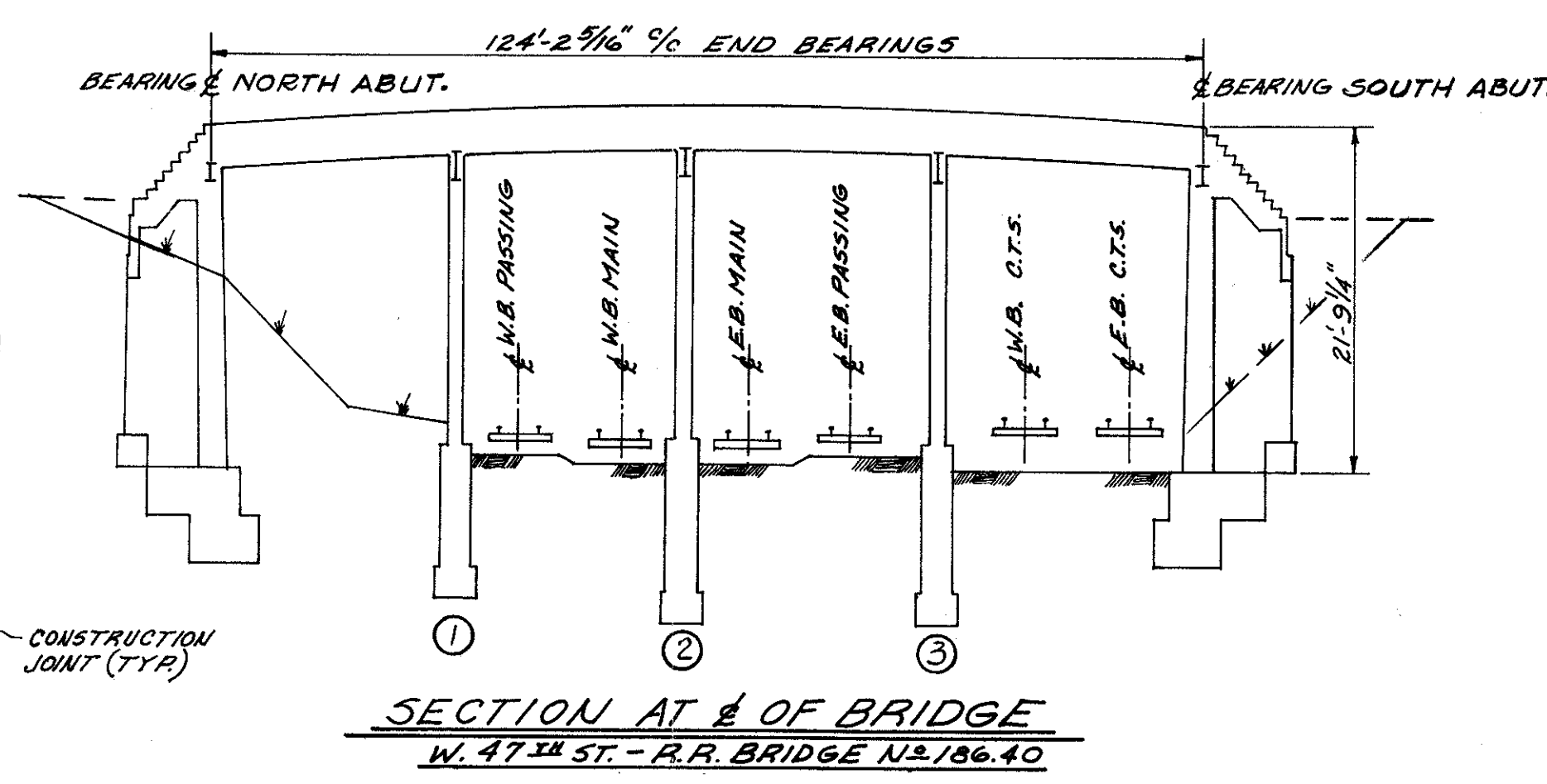
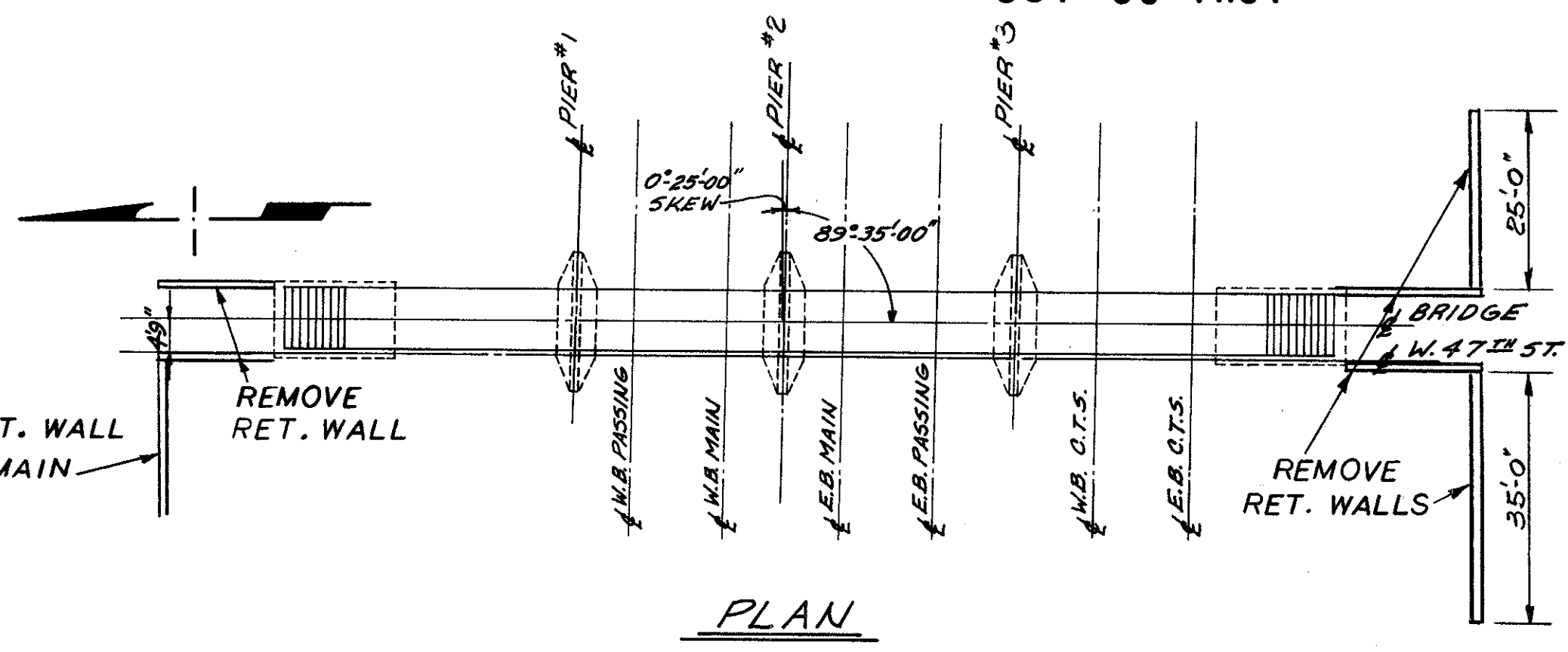
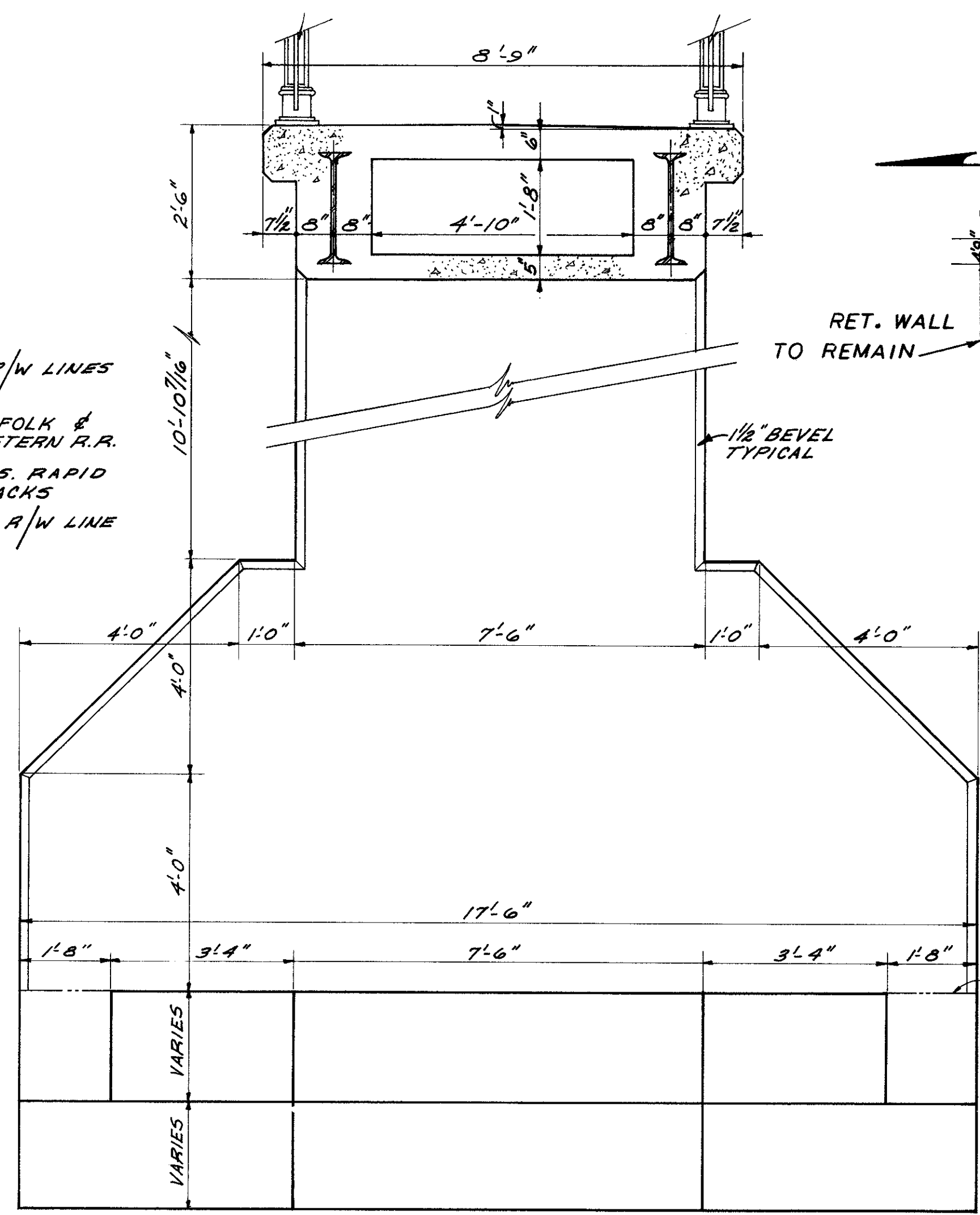
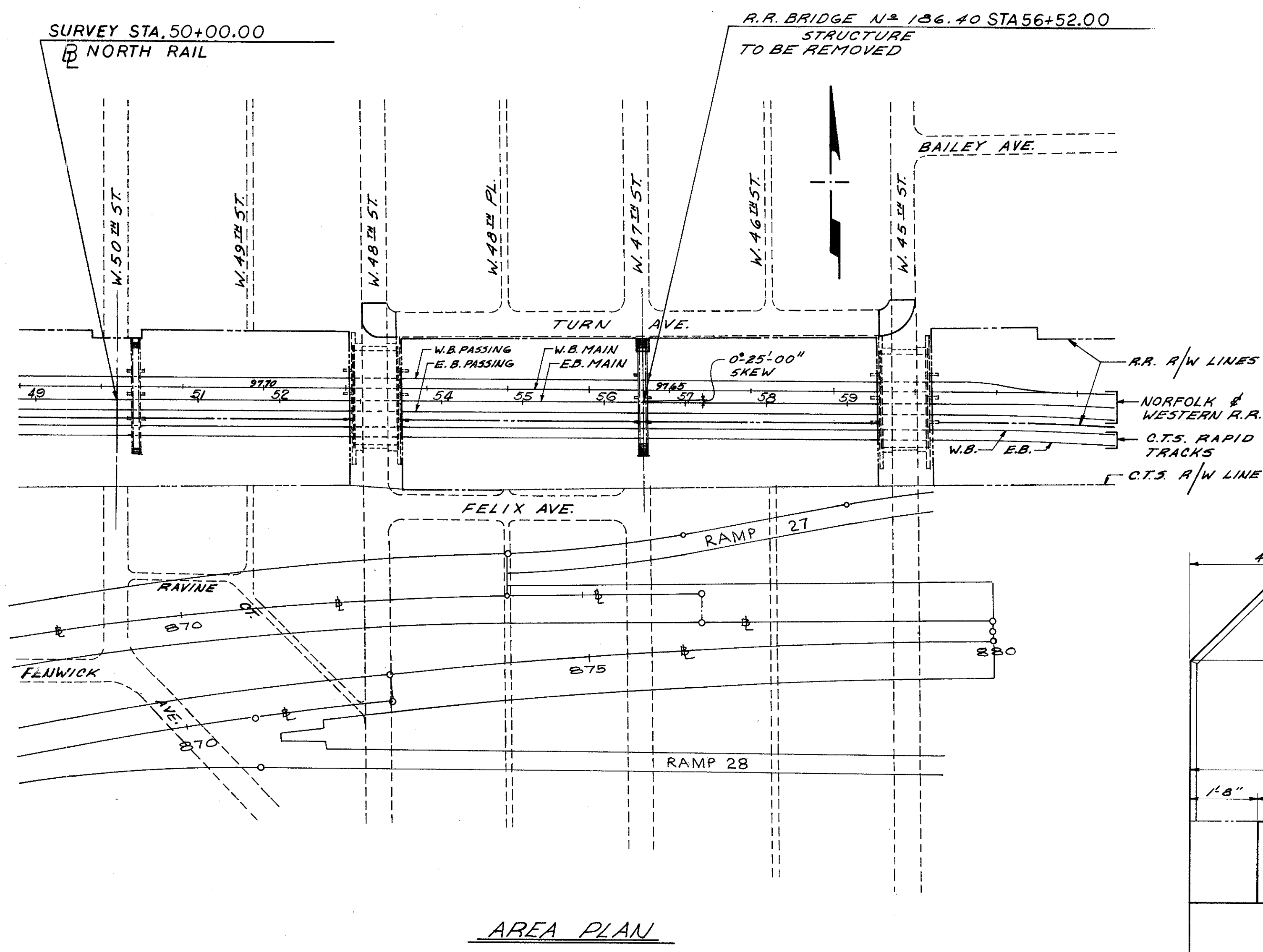
**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

**NOTES:**

- FOR NOTES ONE THRU SIX SEE SHEET 740  
838
- ⑦ FOR RELOCATION OF 6" WATER MAIN SEE UTILITIES PLANS.
  - ⑧ REMOVAL OR RELOCATION OF GAS LINES AND CLEVELAND TELEPHONE LINES BY OTHERS.
  - ⑨ WALLS THAT ARE NOTED ARE TO BE REMOVED TO ONE FOOT BELOW FINISHED GRADE LINE.



STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						<b>2 / 2</b>
<b>DALTON · DALTON ASSOCIATES</b>						
<b>EXISTING STRUCTURE REMOVAL</b>						
WEST 48 <sup>th</sup> ST OVER N&W RR AND C.T.S.						
I-90 CUYAHOGA COUNTY						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHR	J.S.K.		ew	RDA	5-13-71	



ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
*	290	CU. YD.	EXCAVATION
*	205	CU. YD.	CONCRETE
*	21	TONS	STRUCTURAL STEEL
*	330	SQ. YD.	SEEDING AND MULCHING

\* THE ESTIMATED QUANTITIES ARE INCLUDED IN LUMP SUM BID ITEM 202 EXISTING STRUCTURES REMOVED, AND ARE INCLUDED ON THE ROADWAY QUANTITY SUMMARY SHEET.

**EXISTING STRUCTURE**

**TYPE:** 4 SPAN CONTINUOUS REINFORCED CONCRETE ENCASED STEEL BEAM SUPERSTRUCTURE, REINFORCED CONCRETE SUBSTRUCTURE & STAIRWAYS.

**SKEW:** 0°-25'-00" LEFT FORWARD

**SPANS:** 30'-1 1/4", 29'-0 1/8", 32'-0 1/8", 33'-1 1/8" % BEARINGS

**WALKWAY:** 8'-9" OUT TO OUT OF DECK

**LOADING:** L.L. 100#/SQ. FT. + 50% IMPACT

FOR NOTES, SEE SHEET 2 / 2

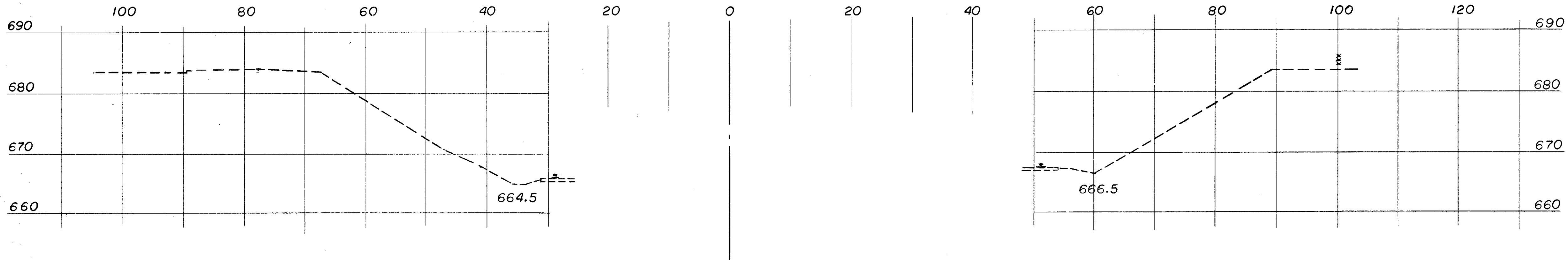
STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

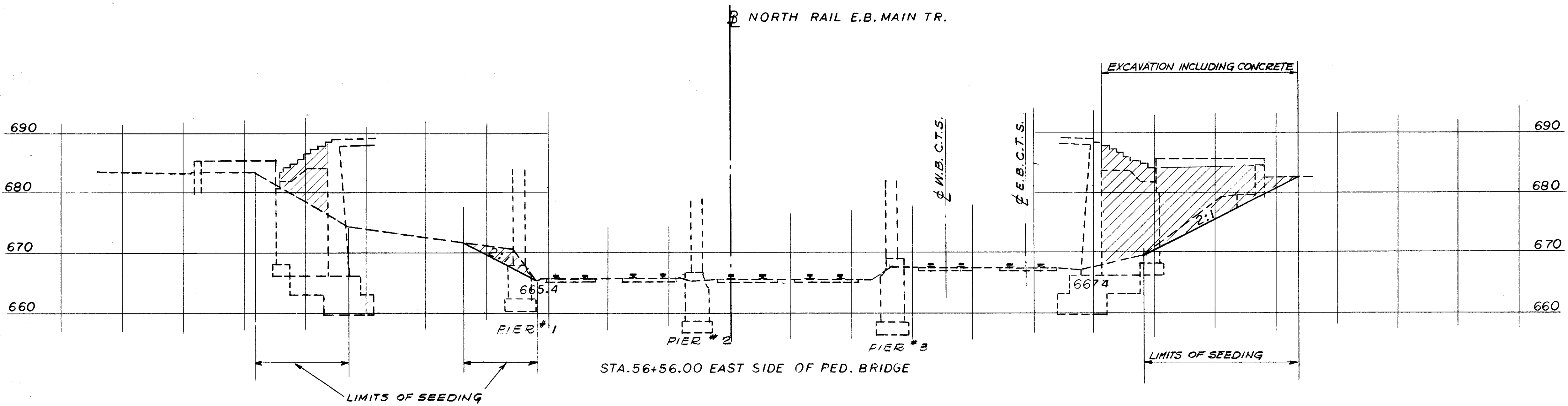
EXISTING STRUCTURE REMOVAL

WEST 47<sup>th</sup> ST. OVER N&W RR AND C.T.S.  
I-90 CUYAHOGA COUNTY

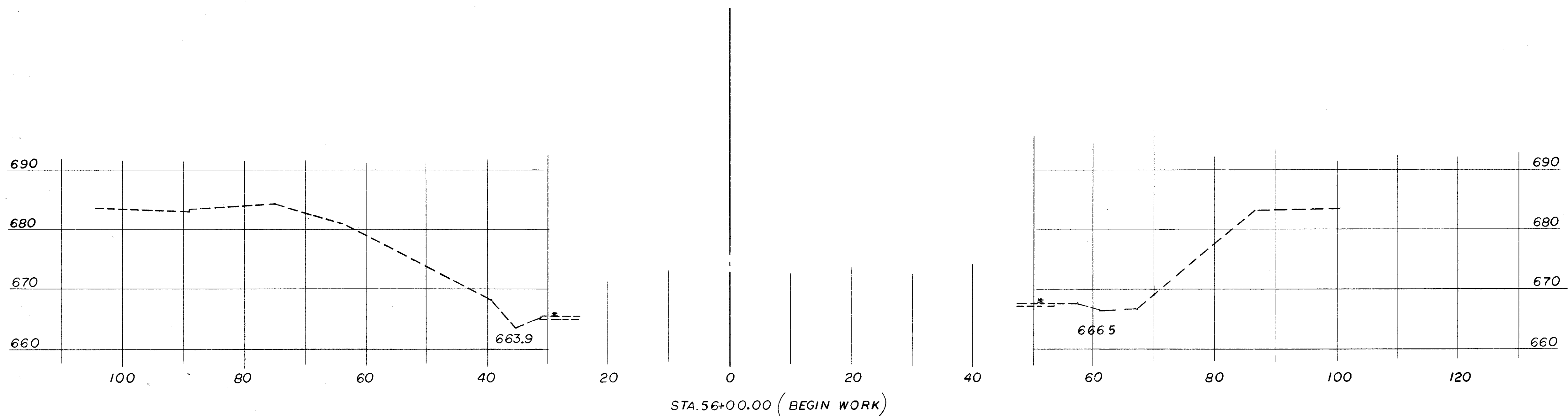
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.R.	R.J.P.		D.H.S.	RJA	5-13-71	



STA. 57+00.00 (END WORK)



STA. 56+56.00 EAST SIDE OF PED. BRIDGE



STA. 56+00.00 (BEGIN WORK)

FED. RD.	STATE	PROJECT
2	OHIO	

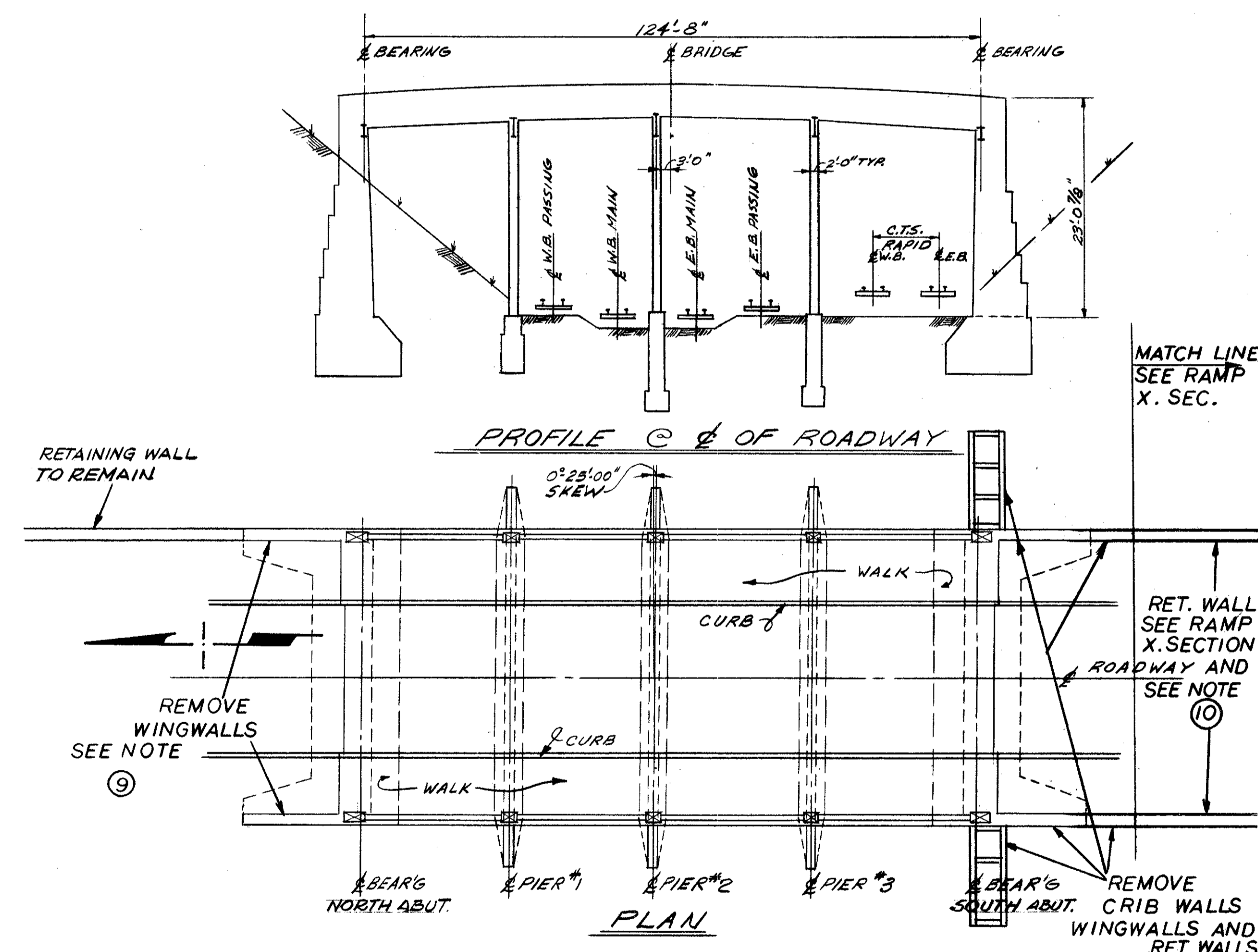
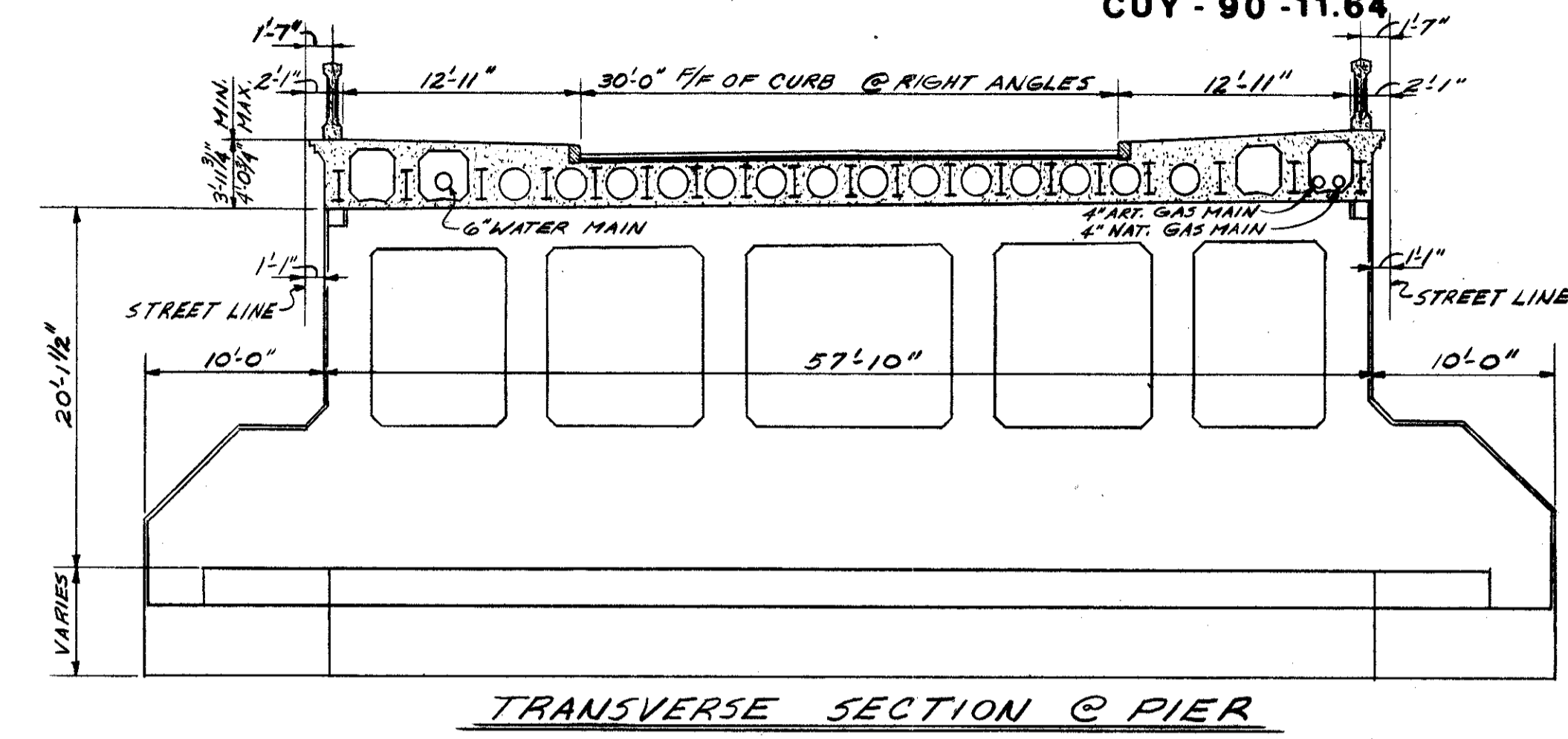
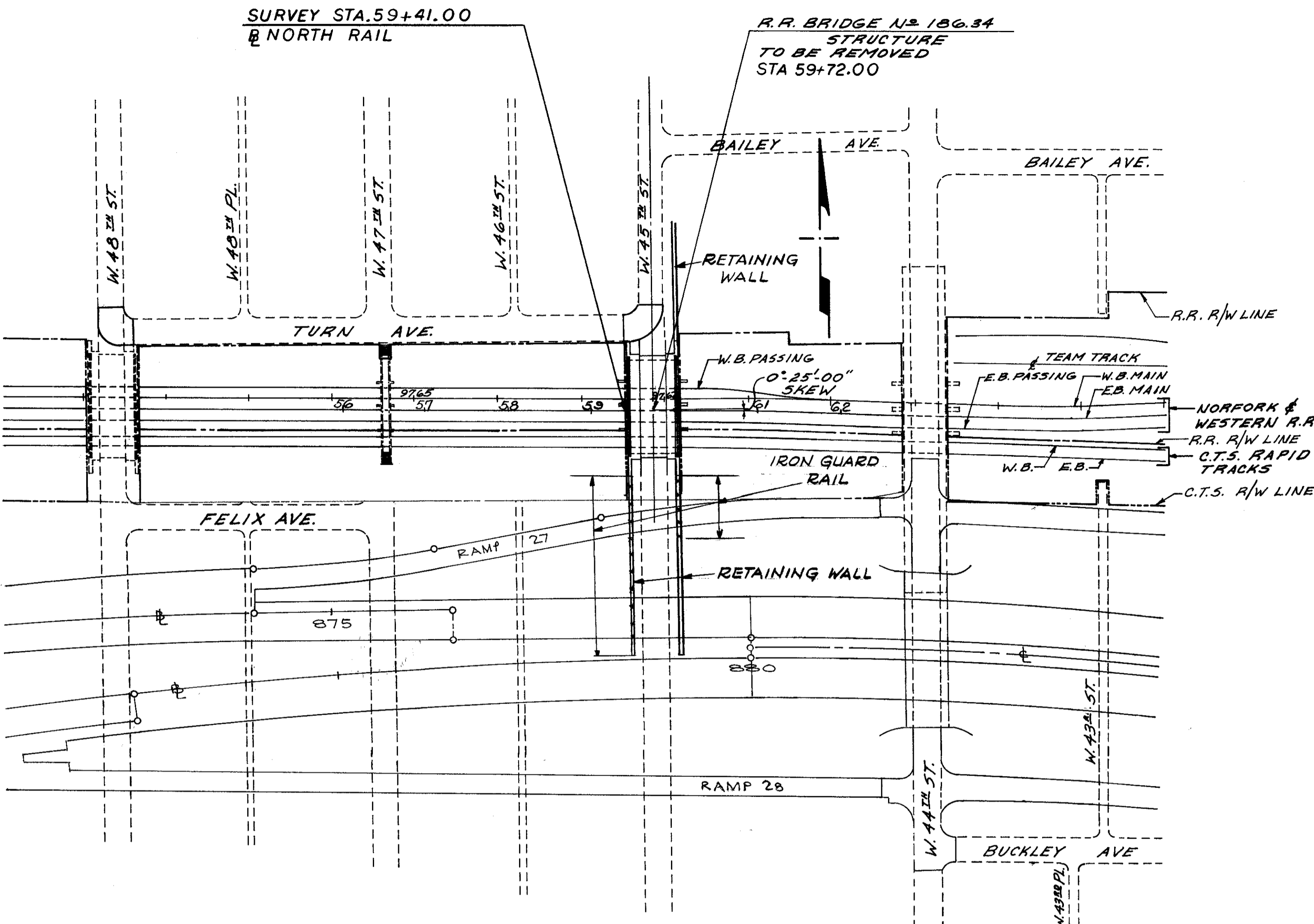
744  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64

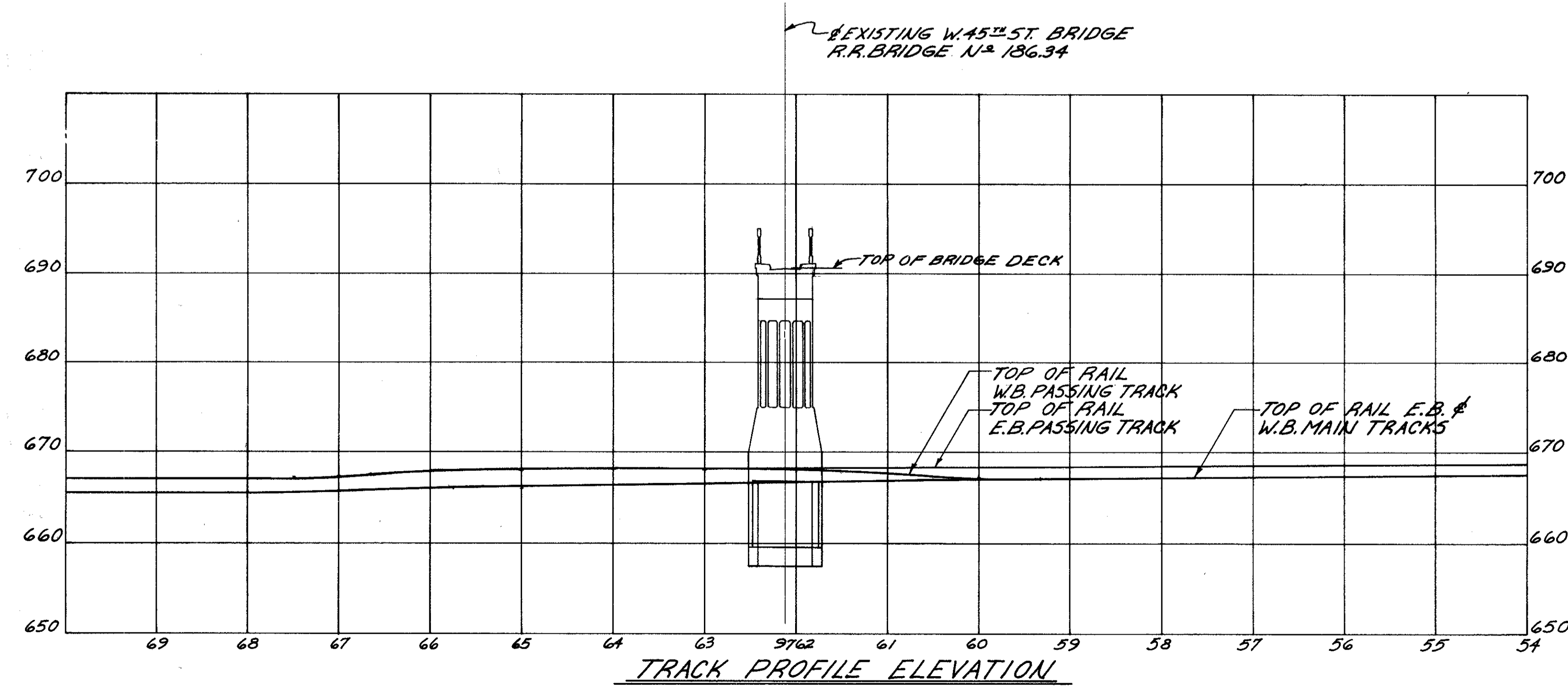
NOTE:  
FOR NOTES ONE THRU SIX SEE SHEET

740  
838

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						2 / 2
DALTON • DALTON ASSOCIATES						
EXISTING STRUCTURE REMOVAL						
WEST 47 <sup>th</sup> ST. OVER N&W RR AND C.T.S.						
I-90 CUYAHOGA COUNTY						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHR	J.S.K.		aw	RDA	5-13-71	



\* THE ESTIMATED QUANTITIES ARE INCLUDED IN LUMP SUM BID ITEM 202 EXISTING STRUCTURES REMOVED, AND ARE INCLUDED ON THE ROADWAY QUANTITY SUMMARY SHEET.



**EXISTING STRUCTURE**

TYPE: 5 SPAN CONTINUOUS REINFORCED CONCRETE ENCASED STEEL BEAM SUPERSTRUCTURE, REINFORCED CONCRETE SUBSTRUCTURE.

SKEW: 0°-25'00" LEFT FORWARD

SPANS: 30'-4", 29'-0", 32'-0", 33'-4" % BEARINGS

ROADWAY: 30'-0" FACE TO FACE OF CURBS WITH 12'-11" SIDEWALK EACH SIDE.

LOADING: 24 TON TRUCKS, WITH UNIFORM LOAD OF 100 LBS/SQ. FT., IMPACT ONE-HALF A.R.E.A. FORMULA ( $I=5 \frac{100}{L+300}$ )

ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
*	962	CU. YD.	EXCAVATION
*	1915	CU. YD.	CONCRETE
*	225	TONS	STRUCTURAL STEEL
*	1220	SQ. YD.	SEEDING AND MULCHING

FOR NOTES, SEE SHEET **2 / 2**

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES

**1 / 2**

**DALTON · DALTON ASSOCIATES**

**EXISTING STRUCTURE REMOVAL**

WEST 45<sup>TH</sup> ST. OVER N&W R.R. AND C.T.S.  
I-90 CUYAHOGA COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.R.	R./P		D.H.S.	LDW	5-13-71	

FED. RD.	STATE	PROJECT
2	OHIO	

746  
838

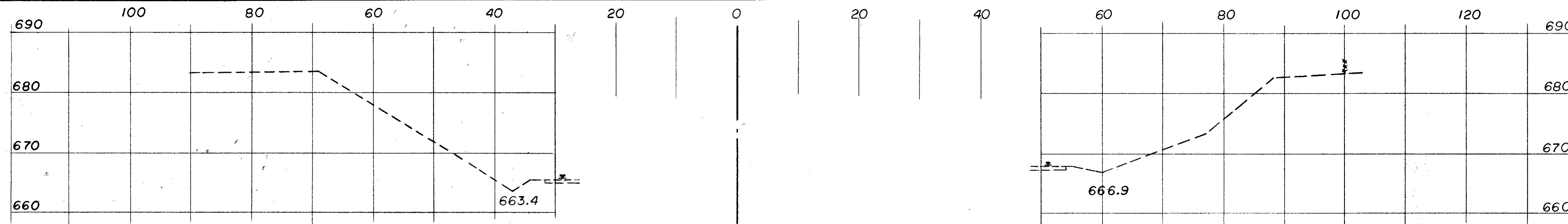
**CUYAHOGA COUNTY**  
**CUY - 90 - 11.64**

**NOTES:**

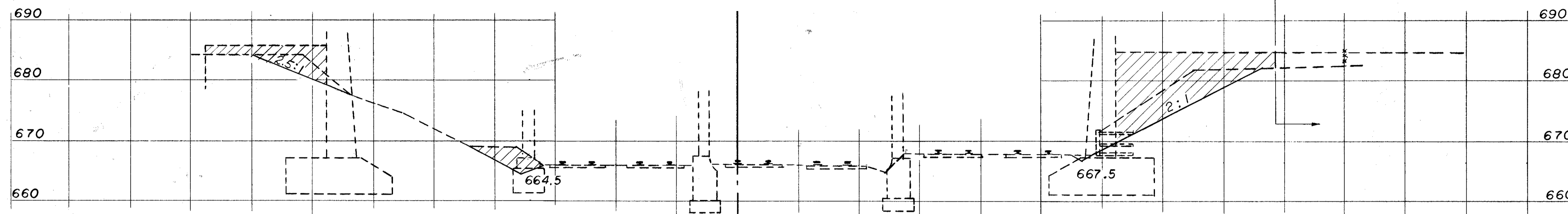
FOR NOTES ONE THRU SIX SEE SHEET

740  
838

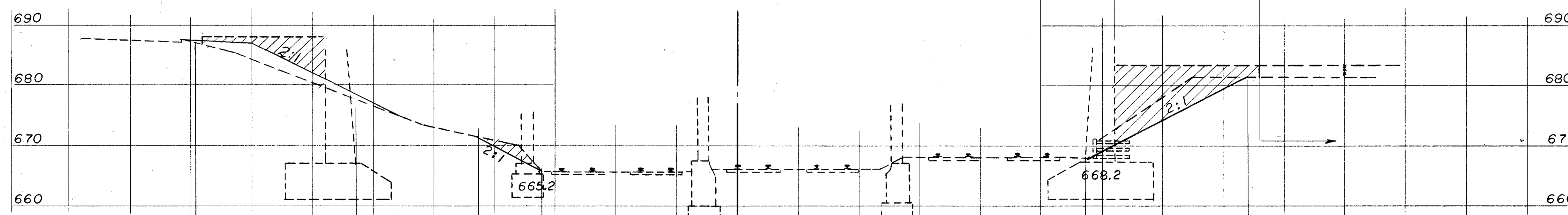
- ⑦ FOR RELOCATION OF 6" WATER MAIN SEE UTILITIES PLANS.
- ⑧ REMOVAL OR RELOCATION OF GAS LINE BY OTHERS.
- ⑨ WALLS THAT ARE NOTED ARE TO BE REMOVED TO ONE FOOT BELOW FINISHED GRADE LINE.
- ⑩ REMOVE WALL TO BOTTOM OF FOOTING.



STA. 60+50.00 (END WORK)

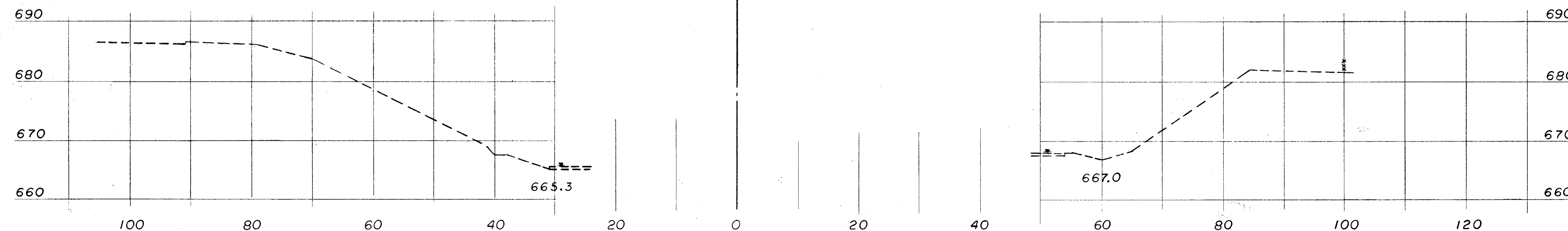


STA. 60+01.00 EAST SIDE OF STRUCTURE



STA. 59+41.00 WEST SIDE OF STRUCTURE

B NORTH RAIL E.B. MAIN TR.



STA. 59+00.00 (BEGIN WORK)

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						2 / 2
<b>DALTON · DALTON ASSOCIATES</b>						
<b>EXISTING STRUCTURE REMOVAL</b>						
WEST 45 <sup>th</sup> ST. OVER N&W RR AND C.T.S.						
I-90 CUYAHOGA COUNTY						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DHR	J.S.K.				RDW 5-13-71	

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STATION 791+40 TO STATION 880+00 BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME NUMBER 48, PAGE 25, OF THE DIRECTORS JOURNAL PURSUANT TO LAW.

# CENTERLINE SURVEY PLAT

IR 90 SEC. 11.64  
CITY OF CLEVELAND, CUYAHOGA COUNTY  
BROOKLYN TOWNSHIP, T 7 N, R 13 W - O.L. 13, 14, 27, 28, 33 & 48

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

747  
838

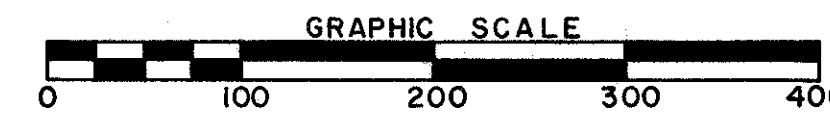
CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

1  
92

611570

RECEIVED FOR RECORD  
AT M  
MAY 1 1973  
RECORDED IN CUYAHOGA COUNTY RECORDS  
Vol. 48, Page 25  
MARK McELROY  
County Recorder

RECEIVED FOR RECORD  
AT M  
FEB 19 1973  
RECORDED IN CUYAHOGA COUNTY RECORDS  
Vol. 48, Page 38  
MARK McELROY  
County Recorder



END PROJECT STATION 792+00  
CUY-90-10.40  
I-90-1(50)19

BEGIN PROJECT STATION 792+00  
CUY-90-11.64  
I-90-1(38)21

RECEIVED FOR RECORD 19  
RECORDED VOL. 48, PAGE 25 OF  
THE CUYAHOGA COUNTY RECORDS  
RECORDER

CERTIFICATE OF APPROVAL  
SIGNED BY: *Joseph J. Powell*  
DATE 3-28-73 DISTRICT DEPUTY DIRECTOR

PROPOSED REFERENCE MONUMENT LOCATIONS

STATION	OFFSET
795+00	120' RT.
795+00	100' LT.
801+97.59	110' RT.
801+97.59	110' LT.
810+50	96' RT.
810+50	96' LT.

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N#7  
P.I. STA. 808+54.11

Δ = 9° 49' 25" LT.
D = 0° 45' 00"
T = 76.39.44'
L = 6.56.52'
CH = 1308.82'
E = 28.16'

PROPOSED MONUMENT ASSEMBLY LOCATIONS

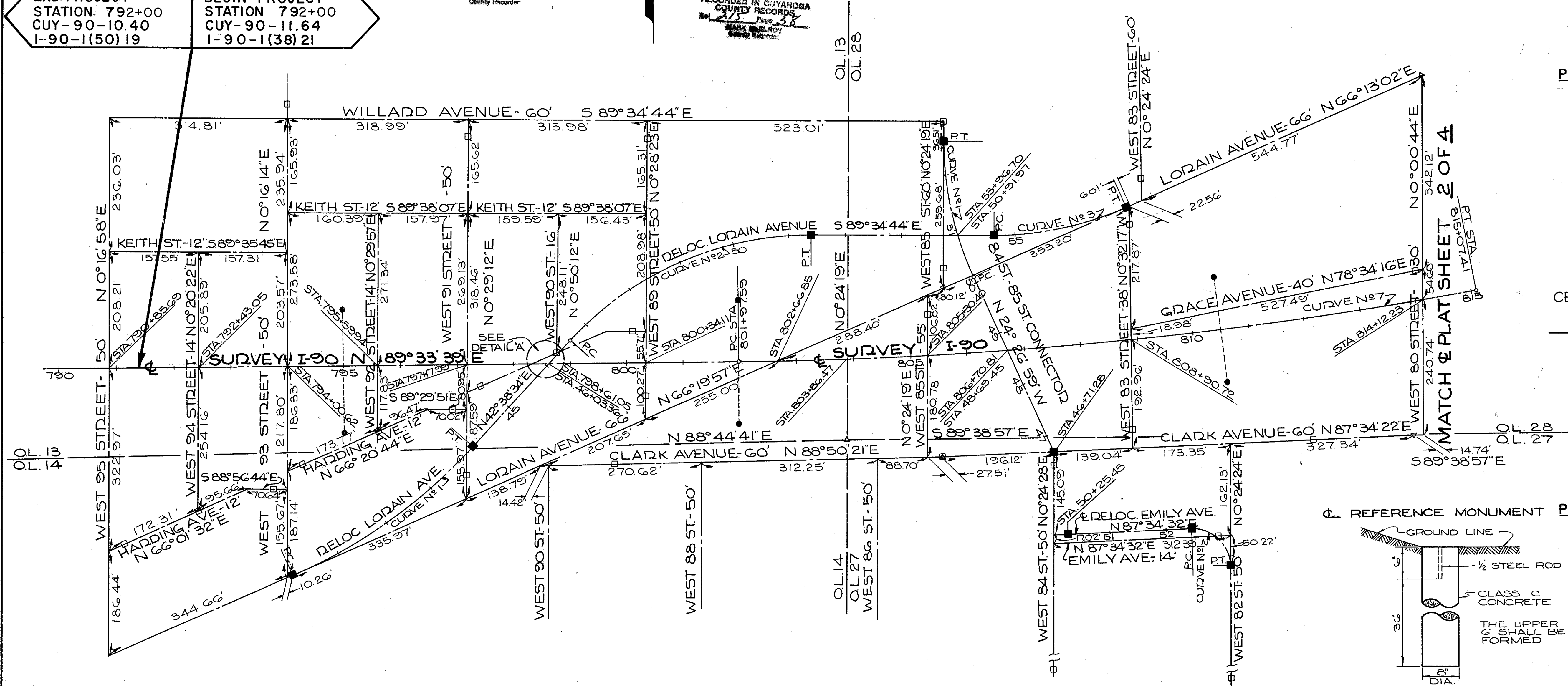
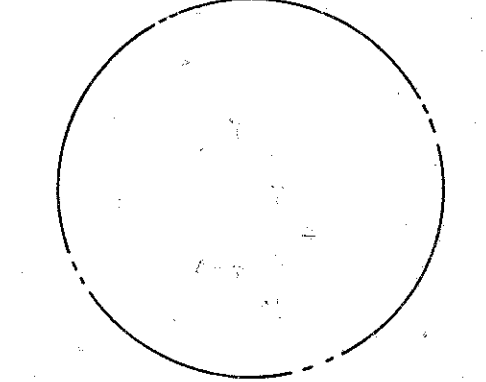
DESCRIPTION	STATION
RELOCATED LORAIN AVENUE	
P.C.	40+11.19
P.T.	44+06.02
P.T.	51+39.10
P.C.	54+59.62
P.T.	57+01.66
84 STREET - 85 STREET CONNECTOR	
P.O.T.	46+71.28
P.T.	52+59.60
RELOCATED EMILY AVENUE	
P.O.T.	50+25.45
P.C.	52+45.15
P.T.	53+48.84

LEGEND:

- EXISTING MONUMENTS FOUND AND USED.
- PROPOSED STANDARD REFERENCE MONUMENT.
- CITY OF CLEVELAND MONUMENT ASSEMBLY.

SURVEYORS SEAL

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS.  
DATE: 2-21-72 REGISTERED SURVEYOR



DELOCATED LORAIN AVENUE DATA

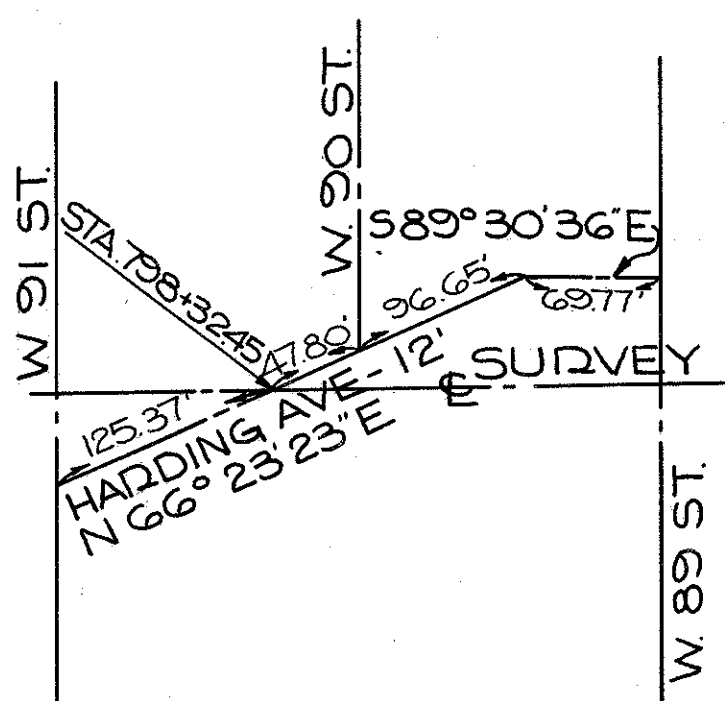
Δ	D	T	L	CH	E
23° 41' 23" LT.	0° 00' 00"	954.93'	200.28'	394.83'	392.02'
47° 46' 42" RT.	10° 00' 00"	572.96'	253.77'	477.78'	464.06'
24° 41' 14" LT.	10° 00' 00"	572.96'	122.85'	242.04'	240.24'
					13.02'

84 ST.-85 ST. CONNECTOR

Δ	D	T	L	CH	E
24° 51' 18" RT.	10° 00' 00"	572.96'	126.26'	248.55'	246.61'
					13.75'

RELOCATED EMILY AVENUE

Δ	D	T	L	CH	E
92° 49' 52" RT.	64.00'	67.24'	103.68'	92.72'	28.83'



DETAIL 'A'





THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STATION 791+40 TO STATION 880+00 BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME NUMBER 48, PAGE 25, OF THE DIRECTORS JOURNAL PURSUANT TO LAW.

611570

*Vol 215  
Page 40  
815295*

# CENTERLINE SURVEY PLAT

1 R 90 SEC. 11.64

CITY OF CLEVELAND, CUYAHOGA COUNTY  
BROOKLYN TOWNSHIP, T7N, R13W - O.L. 13, 14, 27, 28, 33 & 48

FED. RD.	STATE	PROJECT
2	OHIO	1-90-1(54)

749  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

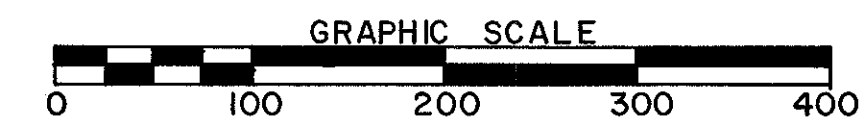
3  
92

PROPOSED REFERENCE MONUMENT LOCATIONS: LEGEND:

STATION I-90 OFFSET

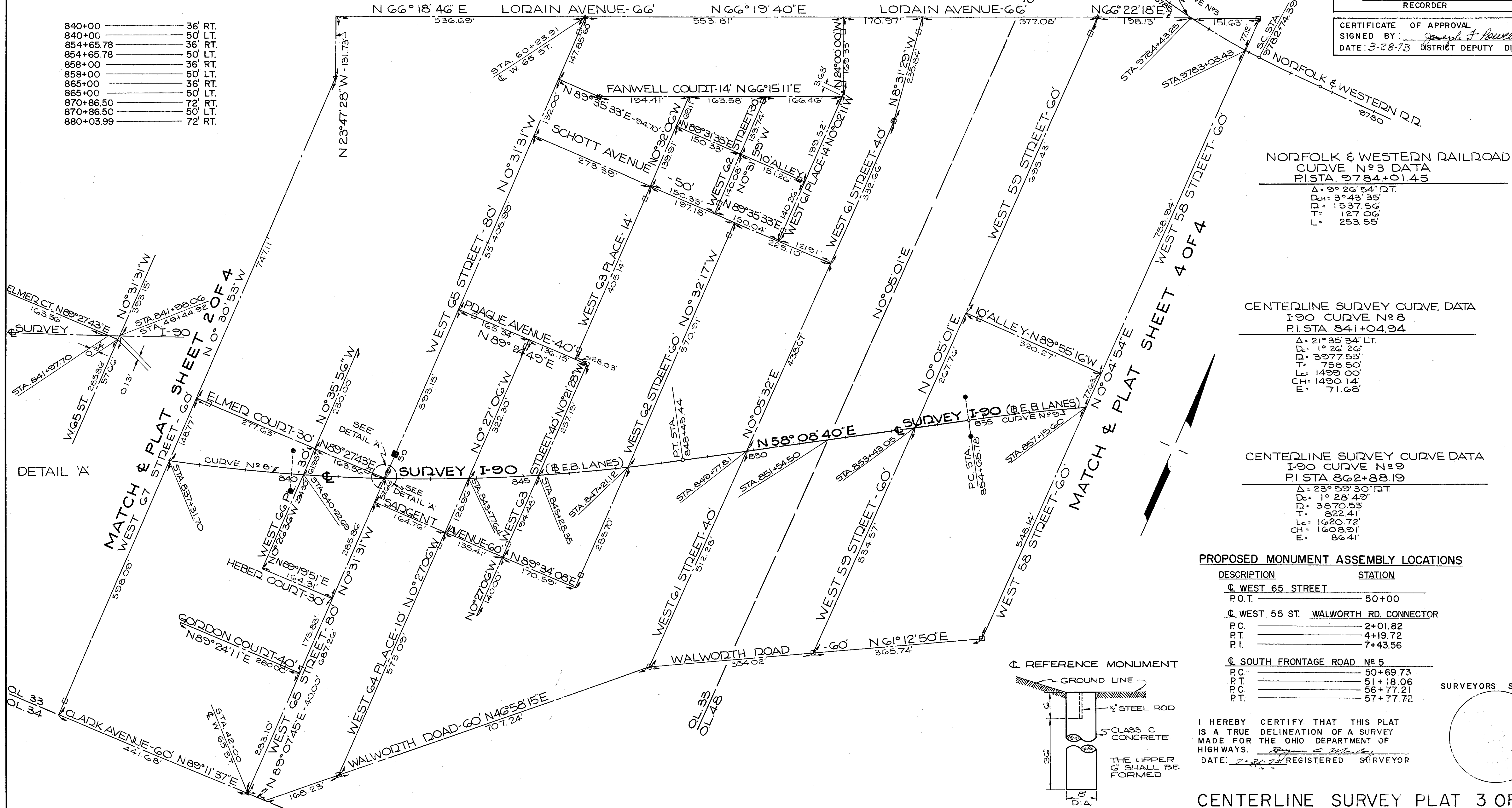
- EXISTING MONUMENTS FOUND AND USED.
- PROPOSED STANDARD REFERENCE MONUMENT
- CITY OF CLEVELAND MONUMENT ASSEMBLY.

840+00	36' RT.
840+00	50' LT.
854+65.78	36' RT.
854+65.78	50' LT.
858+00	36' RT.
858+00	50' LT.
865+00	36' RT.
865+00	50' LT.
870+86.50	72' RT.
870+86.50	50' LT.
880+03.99	72' RT.



RECEIVED FOR RECORD \_\_\_\_\_ 19\_\_\_\_  
RECORDED VOL. \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_  
THE CUYAHOGA COUNTY RECORDS  
RECORDER \_\_\_\_\_

CERTIFICATE OF APPROVAL  
SIGNED BY: *Joseph F. Powell*  
DATE: 3-28-73 DISTRICT DEPUTY DIRECTOR



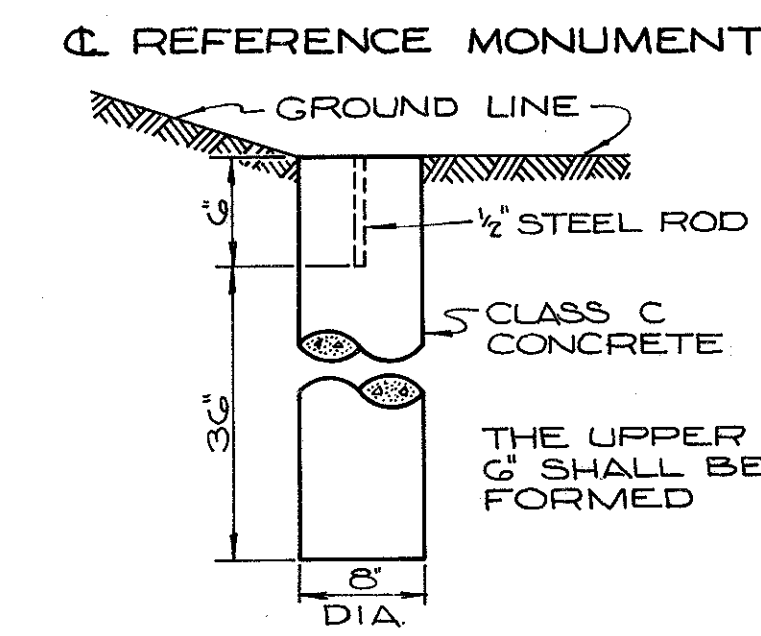
NORFOLK & WESTERN RAILROAD  
CURVE N°3 DATA  
P.I. STA. 9784+01.45  
Δ = 9° 26' 54" PT.  
D = 3° 43' 35"  
T = 1537.56'  
L = 127.06'  
E = 253.55'

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N°8  
P.I. STA. 841+01.94  
Δ = 21° 35' 34" LT.  
D = 1° 26' 26"  
T = 3977.53'  
L = 758.50'  
CH = 1499.00'  
E = 71.68'

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N°9  
P.I. STA. 862+88.19  
Δ = 23° 59' 30" LT.  
D = 1° 28' 49"  
T = 3870.53'  
L = 822.41'  
CH = 1620.72'  
E = 86.41'

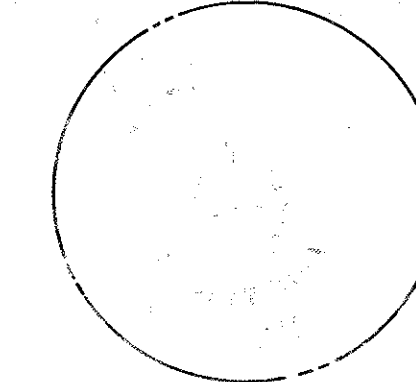
PROPOSED MONUMENT ASSEMBLY LOCATIONS

DESCRIPTION	STATION
WEST 65 STREET	
P.O.T.	50+00
WEST 55 ST. WALWORTH RD. CONNECTOR	
P.C.	2+01.82
P.T.	4+19.72
P.I.	7+43.56
SOUTH FRONTAGE ROAD N°5	
P.C.	50+69.73
P.T.	51+18.06
P.C.	56+77.21
P.T.	57+77.72



I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS.  
DATE: 3-28-73 REGISTERED SURVEYOR

SURVEYORS SEAL



THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STATION 791+40 TO STATION 880+00 BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME NUMBER 48, PAGE 25, OF THE DIRECTOR'S JOURNAL PURSUANT TO LAW.

**NOTE:**

PROPOSED CENTERLINE MONUMENT ASSEMBLY LOCATIONS ARE LISTED ON CENTERLINE SURVEY PLAT No 3 OF 4.

**LEGEND**

- EXISTING MONUMENTS FOUND AND USED.
- PROPOSED STANDARD REFERENCE MONUMENT
- CITY OF CLEVELAND MONUMENT ASSEMBLY

*Vol 1215  
Pg 41  
815295*

611570

RECORDED FOR RECORD  
AT M  
MAY 1 1973  
RECORDED IN CUYAHOGA COUNTY RECORDS  
Vol. 212, Page 16  
Cuyahoga County Recorder

# CENTERLINE SURVEY PLAT

IR 90 SEC. 11.64  
CITY OF CLEVELAND, CUYAHOGA COUNTY  
BROOKLYN TOWNSHIP, T7N, R13W - O.L. 13, 14, 27, 28, 33 & 48

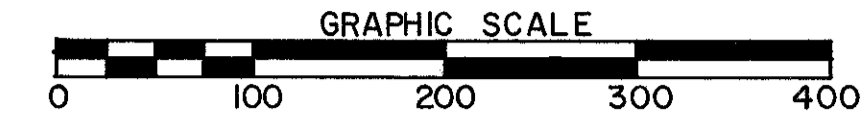
FED. RD.	STATE	PROJECT
2	OHIO	1-90-1(54)

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

750  
838  
4  
92

RECEIVED FOR RECORD \_\_\_\_\_ 19  
RECORDED VOL. \_\_\_\_\_ PAGE \_\_\_\_\_ OF  
THE CUYAHOGA COUNTY RECORDS  
RECORDER \_\_\_\_\_

CERTIFICATE OF APPROVAL  
SIGNED BY: *Joseph J. Powell*  
DATE: 3-28-73 DISTRICT DEPUTY DIRECTOR



END PROJECT STATION 880+07.53(BK)  
CUY-90-11.64  
1-90-1(38)21

BEGIN PROJECT STATION 880+00(AHD)  
CUY-90-13.33  
1-90-1(75)23

NORFOLK & WESTERN RAILROAD CURVE DATA

¢ CURVE No 1	¢ CURVE No 2	¢ CURVE No 3
P.I. STA. 9778+27.28	P.I. STA. 9782+24.68	P.I. STA. 9784+01.45
Δ = 0° 36' 31" RT.	Δ = 2° 47' RT.	Δ = 9° 26' 54" RT.
D <sub>c</sub> = 0° 29' 58"	L <sub>s</sub> = 149.18'	D <sub>c</sub> = 3° 43' 35"
T = 11.472.27'	L.T. = 99.47'	D <sub>c</sub> = 1537.86'
CH = 60.93'	S.T. = 49.74'	T = 127.06'
L = 121.86'		L = 253.55'

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE No 11 (CUY-90-13.33)  
P.I. STA. 885+65.55

Δ = 16° 28' 30" RT.  
D<sub>c</sub> = 1° 28' 00"  
D = 3906.53'  
T = 565.55'  
L<sub>c</sub> = 1129.90'  
E = 40.78'

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE No 9  
P.I. STA. 862+88.19

Δ = 23° 59' 30" RT.  
D<sub>c</sub> = 1° 28' 49"  
D = 3870.53'  
T = 822.41'  
L<sub>c</sub> = 1620.72'  
CH = 1608.91'  
E = 86.41'

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE No 10  
P.I. STA. 875+45.80

Δ = 6° 54' 49" RT.  
D<sub>c</sub> = 0° 45' 13"  
D = 7603.44'  
T = 459.30'  
L<sub>c</sub> = 917.49'  
CH = 916.91'  
E = 13.86'

W. 55 ST. WALWORTH CONNECTOR CURVE No 1 DATA

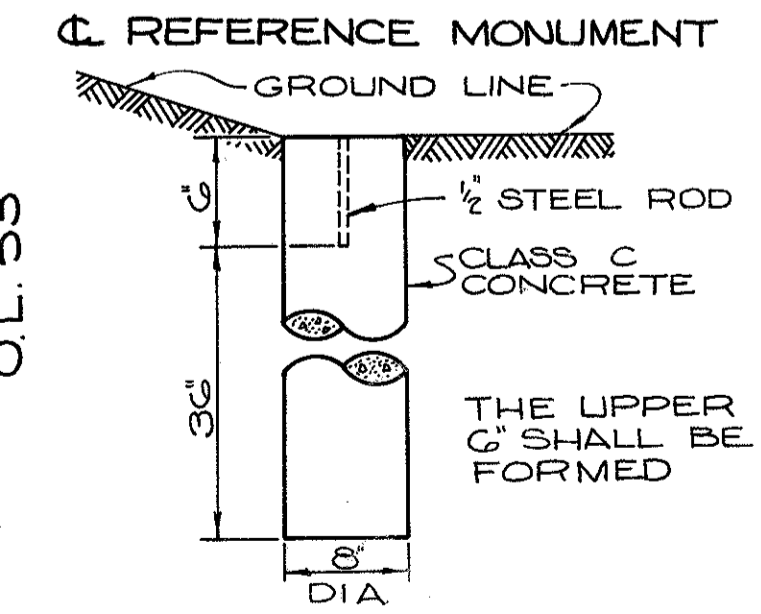
PC STA. 2+01.82	PT STA. 6+94.32
PI STA. 3+23.00	PI STA. 7+43.56
PT STA. 4+19.72	PT STA. 7+50.89
Δ = 67° 25' 19" RT.	Δ = 27° 39' 53" RT.
D = 200.00'	R = 200.00'
T = 121.18'	T = 49.24'
L <sub>c</sub> = 217.90'	L <sub>c</sub> = 96.57'
CH = 207.28'	CH = 95.63'
E = 33.85'	E = 5.99'

W. 55 ST. WALWORTH CONNECTOR CURVE No 2 DATA

PC STA. 2+01.82	PT STA. 6+94.32
PI STA. 3+23.00	PI STA. 7+43.56
PT STA. 4+19.72	PT STA. 7+50.89
Δ = 67° 25' 19" RT.	Δ = 27° 39' 53" RT.
D = 200.00'	R = 200.00'
T = 121.18'	T = 49.24'
L <sub>c</sub> = 217.90'	L <sub>c</sub> = 96.57'
CH = 207.28'	CH = 95.63'
E = 33.85'	E = 5.99'

SOUTH FRONTAGE ROAD No 5 DATA

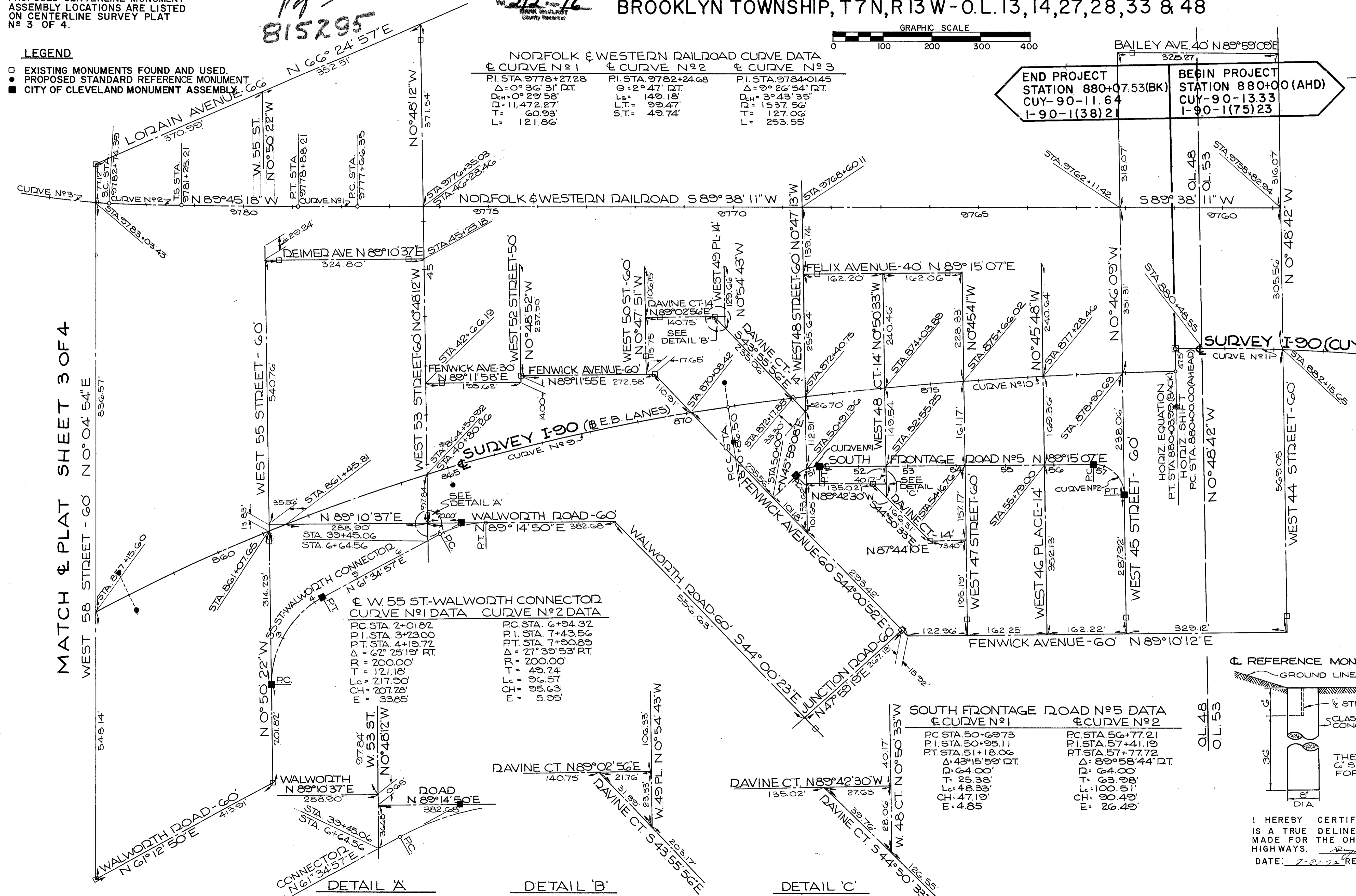
¢ CURVE No 1	¢ CURVE No 2
PC STA. 50+69.73	PC STA. 56+77.21
PI STA. 50+95.11	PI STA. 57+41.19
PT STA. 51+18.06	PT STA. 57+77.72
Δ = 43° 15' 39" RT.	Δ = 89° 58' 44" RT.
D = 64.00'	D = 64.00'
T = 25.38'	T = 64.00'
L <sub>c</sub> = 48.38'	L <sub>c</sub> = 109.90'
CH = 47.19'	CH = 90.49'
E = 4.85'	E = 26.49'



I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS.  
DATE: 7-21-72 REGISTERED SURVEYOR

SURVEYORS SEAL

MATCH & PLAT SHEET 3 OF 4



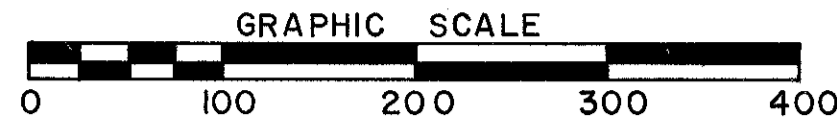
DETAIL 'A'

DETAIL 'B'

DETAIL 'C'

# PROPERTY MAP

1 R 90 SEC. 11.64



FED. RD.	STATE	PROJECT	
2	OHIO	1-90-1(54)	

751  
838

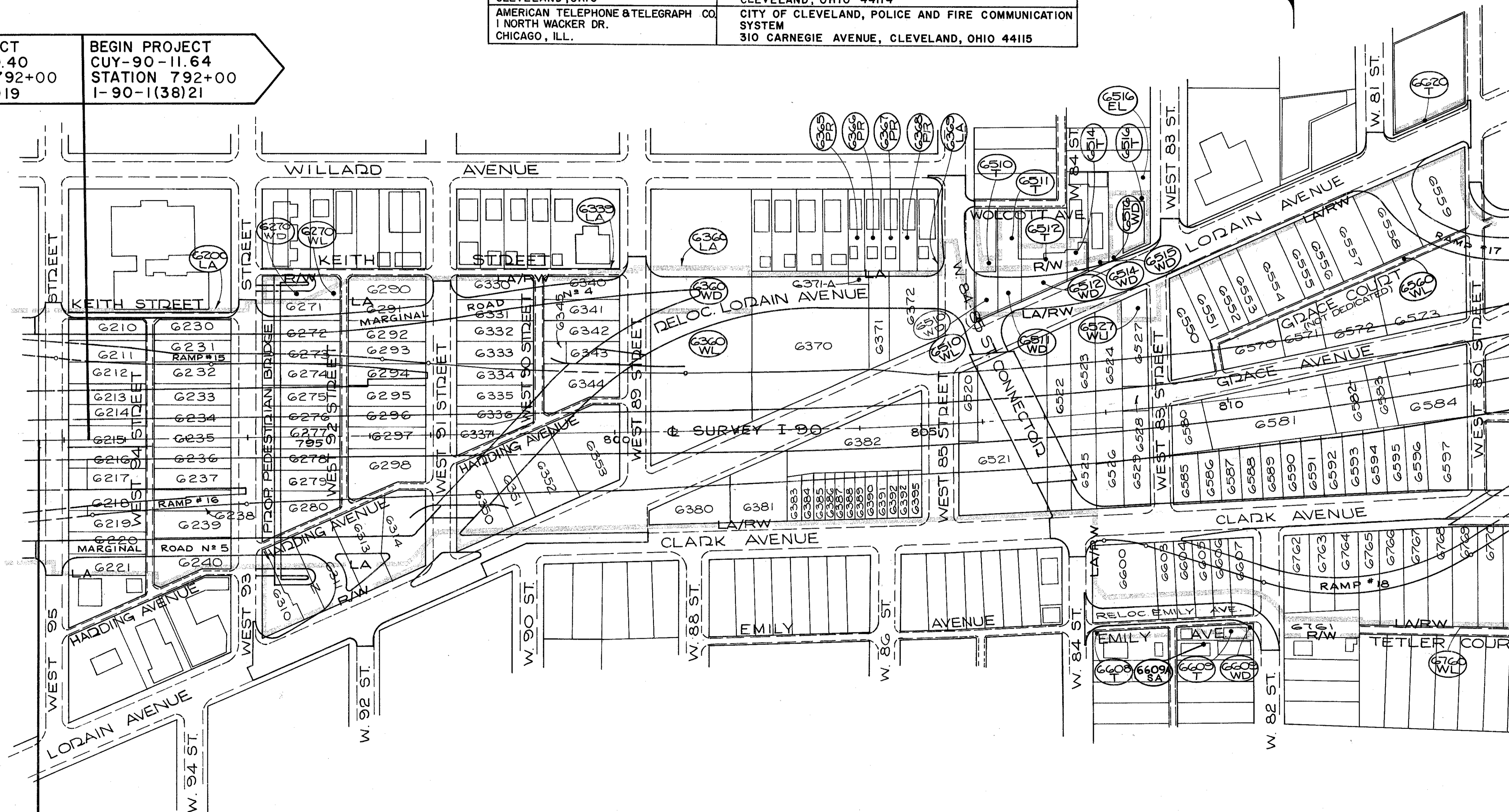
CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

5  
92

AFFECTED UTILITY COMPANIES	
THE EAST OHIO GAS COMPANY 1201 EAST 55 STREET CLEVELAND, OHIO	CITY OF CLEVELAND, DEPARTMENT OF PUBLIC UTILITIES DIVISION OF LIGHT AND POWER 1825 LAKESIDE AVENUE, CLEVELAND, OHIO 44114
OHIO BELL TELEPHONE COMPANY 820 SUPERIOR AVENUE WEST CLEVELAND, OHIO 44113	CITY OF CLEVELAND, DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER AND HEAT 1825 LAKESIDE AVENUE, CLEVELAND, OHIO 44114
THE ILLUMINATING COMPANY 55 PUBLIC SQUARE CLEVELAND, OHIO	CLEVELAND TRANSIT SYSTEM 1404 EAST NINTH STREET CLEVELAND, OHIO 44114
AMERICAN TELEPHONE & TELEGRAPH CO 1 NORTH WACKER DR. CHICAGO, ILL.	CITY OF CLEVELAND, POLICE AND FIRE COMMUNICATION SYSTEM 310 CARNEGIE AVENUE, CLEVELAND, OHIO 44115

END PROJECT  
CUY-90-10.40  
STATION 792+00  
1-90-1(50)19

BEGIN PROJECT  
CUY-90-11.64  
STATION 792+00  
1-90-1(38)21



END ACQUISITION  
CUY-90-10.40(CONST)  
STATION 790+60.69

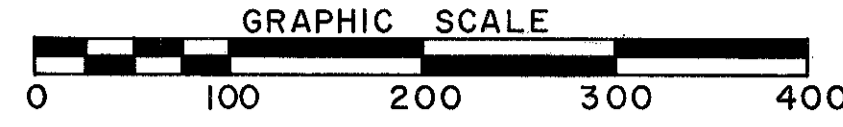
BEGIN ACQUISITION  
CUY-90-11.64(CONST)  
STATION 790+60.69

NOTE:  
PARCEL NUMBERS WITHOUT  
SUFFIX ARE TOTAL TAKE  
WL PARCELS.

NAME	REVISION	DATE

# PROPERTY MAP

1 R 90 SEC. 11.64

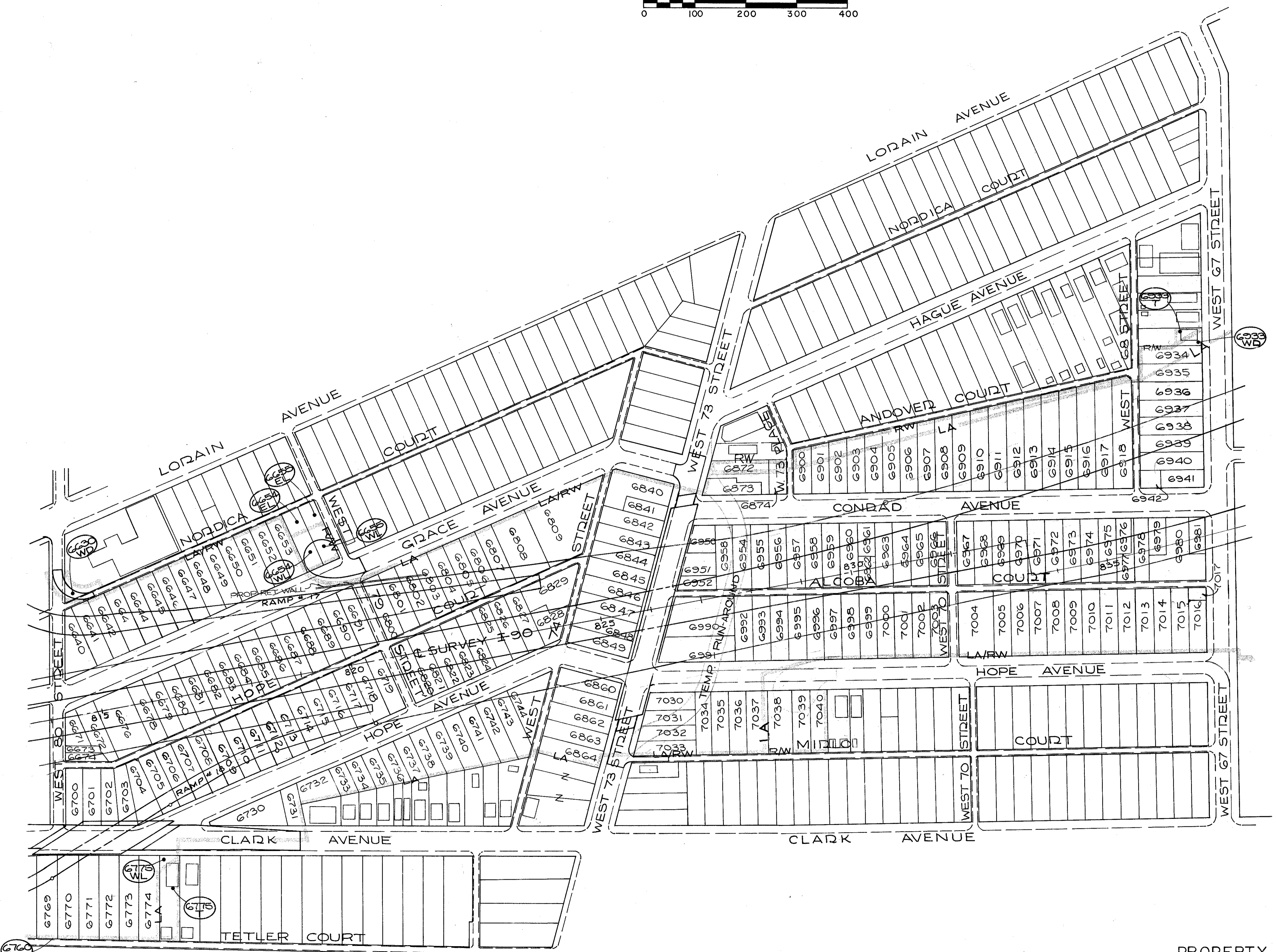


FED. RD.	STATE	PROJECT
2	OHIO	1-90-1(54)

752  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

6  
92

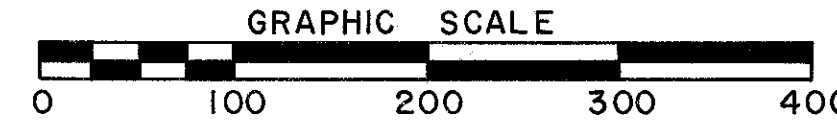


NOTE:  
PARCEL NUMBERS WITHOUT  
SUFFIX ARE TOTAL TAKE  
WL PARCELS.

NAME	REVISION	DATE

# PROPERTY MAP

1 R 90 SEC. 11.64



FED. RD.	STATE	PROJECT
2	OHIO	1-90-1(54)

753  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

7  
92

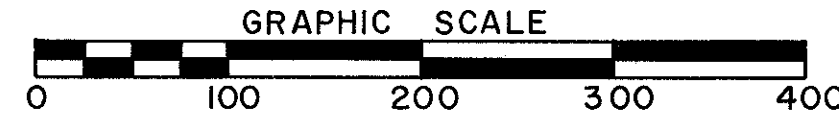


NOTE:  
PARCEL NUMBERS WITHOUT  
SUFFIX ARE TOTAL TAKE  
WL PARCELS.

NAME	REVISION	DATE

# PROPERTY MAP

1 R 90 SEC. 11.64



FED. RD.	STATE	PROJECT
2	OHIO	I - 90 - I(54)

754  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

8  
92

END PROJECT  
CUY-90-11.64  
STATION 880+07.53 (BK)  
I-90-I(38) 21

BEGIN PROJECT  
CUY-90-13.33  
STATION 880+00(AHD)  
I-90-I(75) 23

END ACQUISITION  
CUY-90-11.64 (CONST.)  
STATION 879+16.86

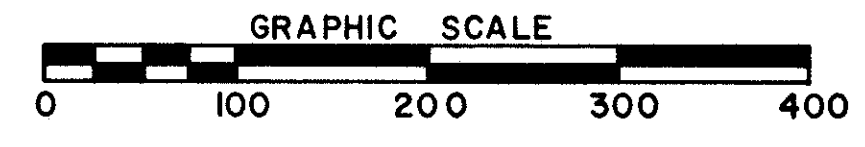
BEGIN ACQUISITION  
CUY-90-13.33 (CONST.)  
STATION 879+16.86

NOTE:  
PARCEL NUMBERS WITHOUT  
SUFFIX ARE TOTAL TAKE  
WL PARCELS.

GJB	ADDED PARCEL 7639 WD-1	5-12-76
GJB	ADDED PARCEL 7574 A-WD-5	5-12-76
NAME	REVISION	DATE

# KEY MAP

1 R 90 SEC. 11.64

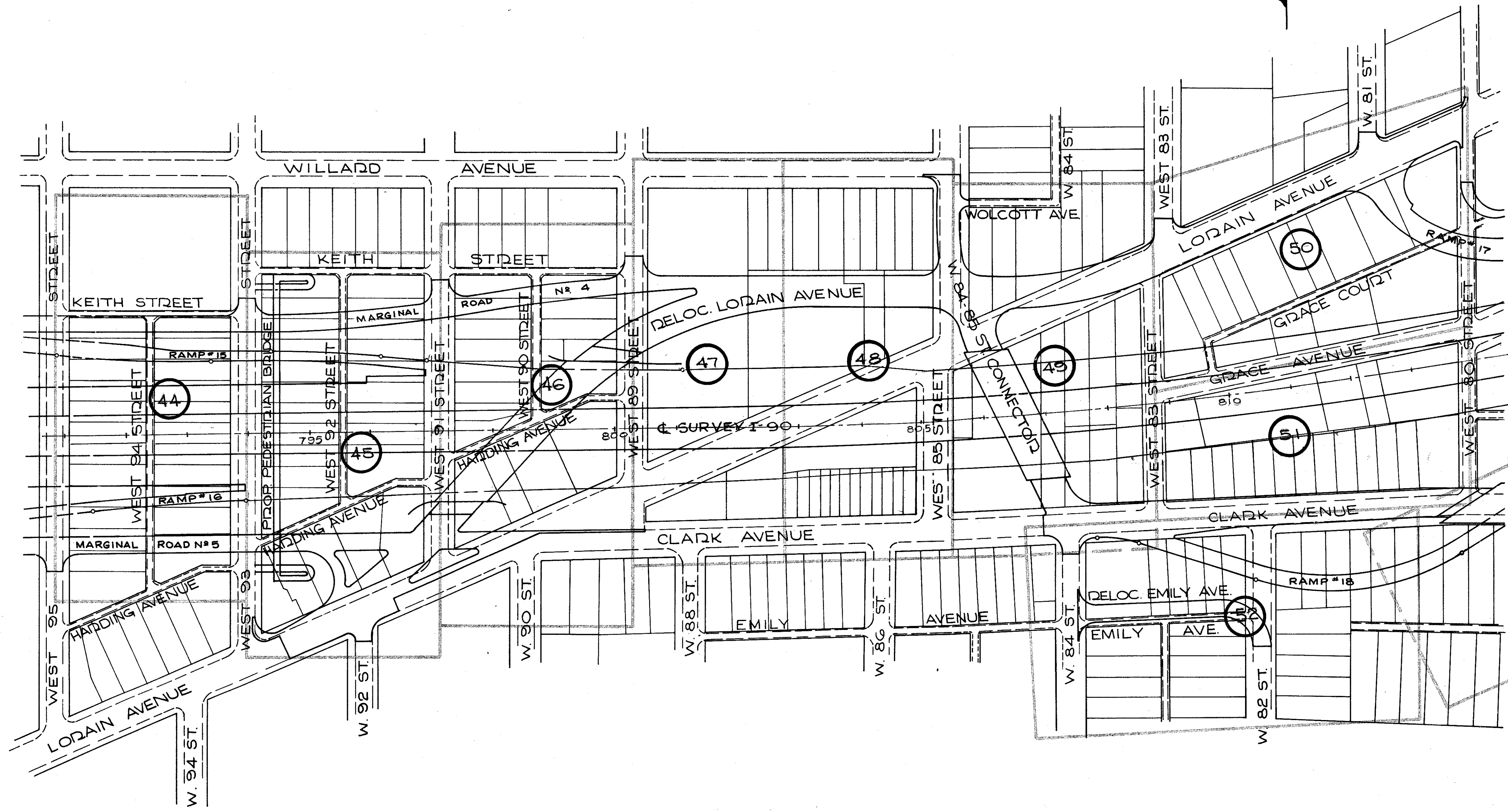


FED. RD.	STATE	PROJECT	
2	OHIO	1-90-1(54)	

755  
838

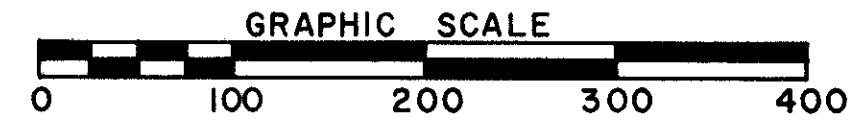
9  
92

**CUYAHOGA COUNTY**  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS



# KEY MAP

1 R 90 SEC. 11.64

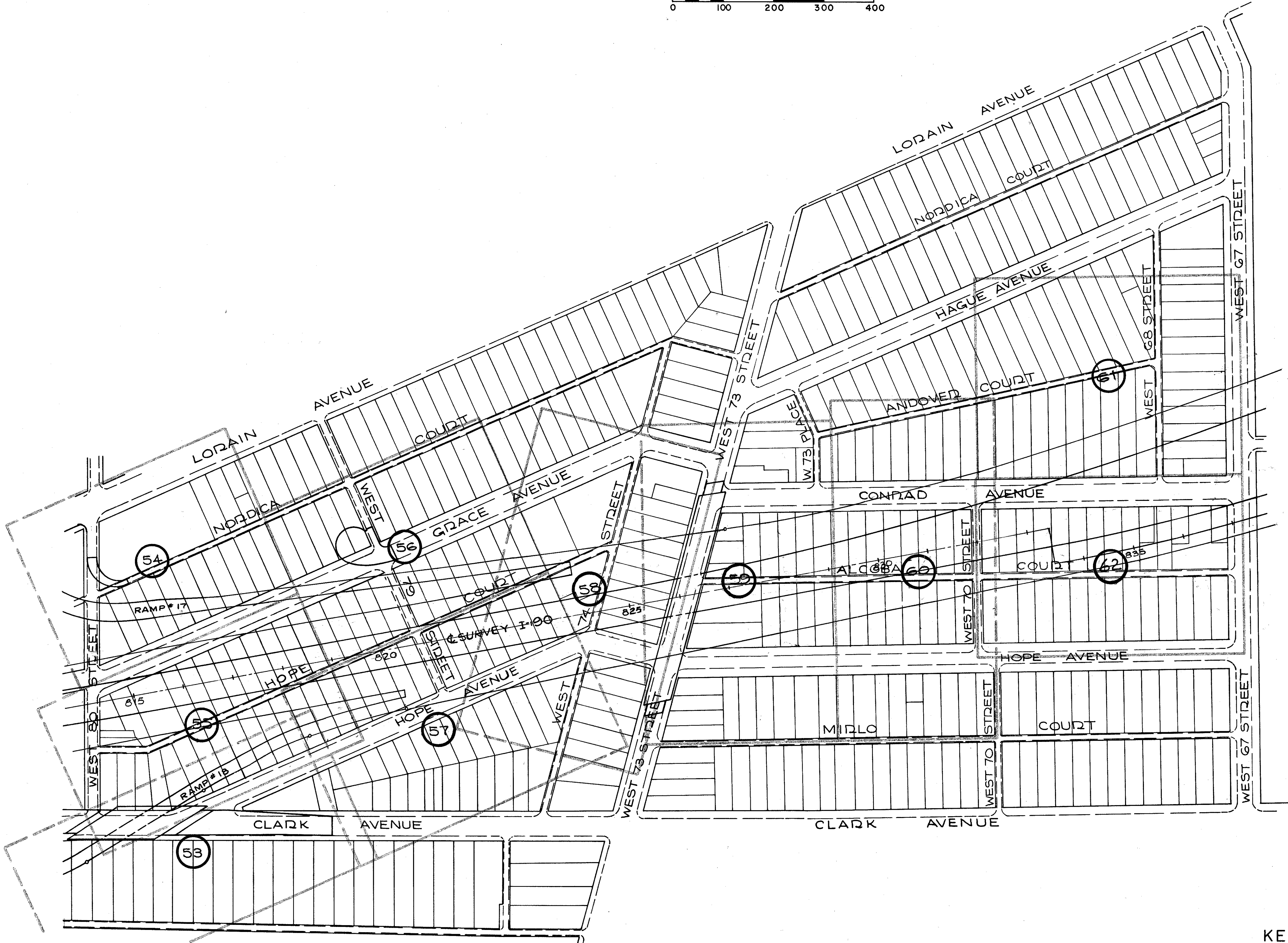


FED. RD.	STATE	PROJECT
2	OHIO	1-90-1(54)

756  
838

**CUYAHOGA COUNTY**  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

10  
92

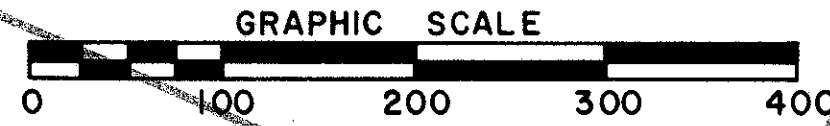


NAME	REVISION	DATE



# KEY MAP

R 90 SEC. 11.64



FED. RD.	STATE	PROJECT
2	OHIO	1-90-1(54)

757  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

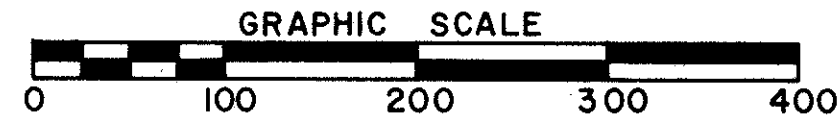
11  
92



NAME	REVISION	DATE

# KEY MAP

I R 90 SEC. 11.64

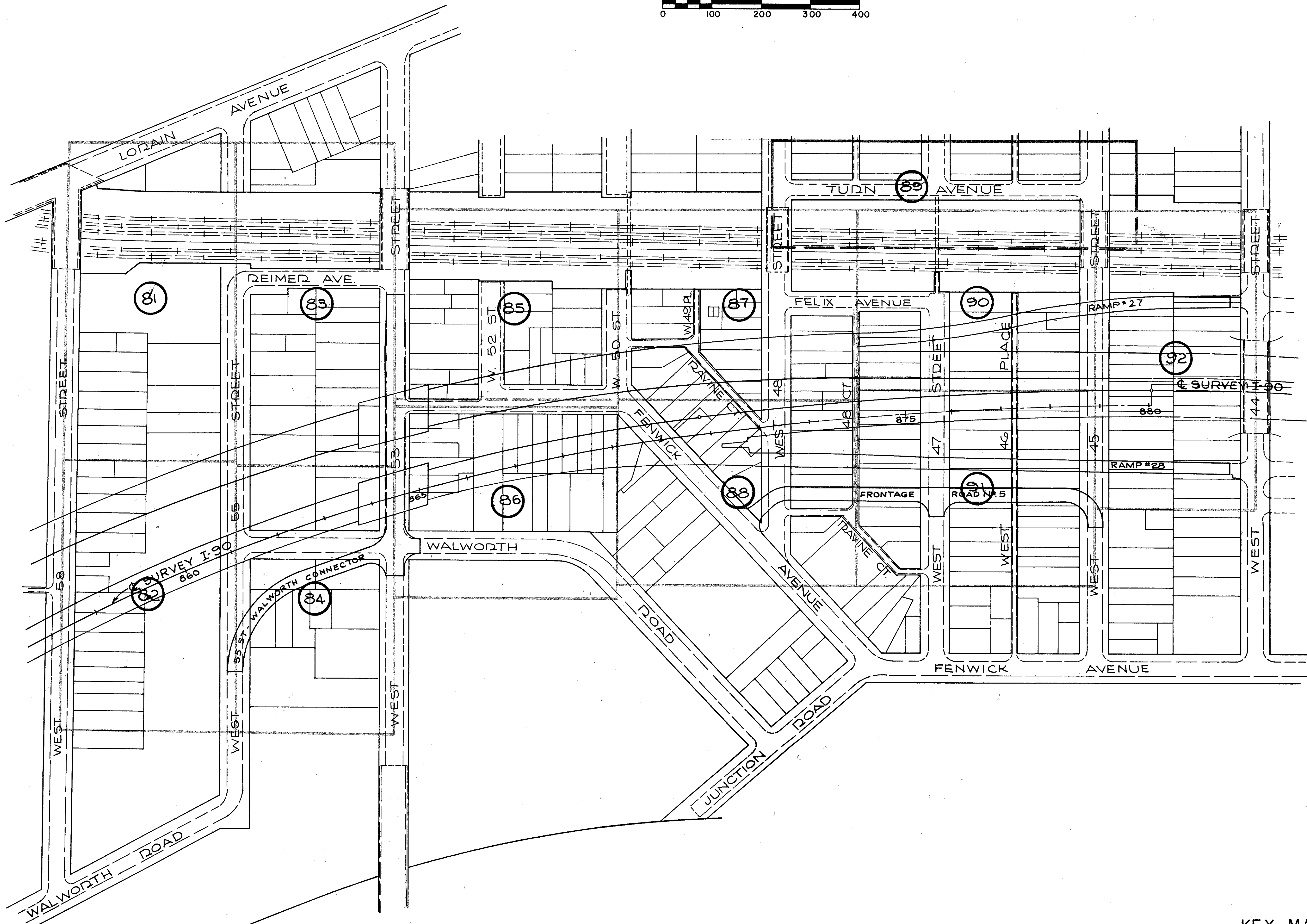


FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

758  
838

CUYAHOGA COUNTY  
 CUY-90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

12  
92



NAME	REVISION	DATE

# SUMMARY OF ADDITIONAL RIGHT OF WAY

STATE JOB N <sup>o</sup>	FED. RD.	STATE	PROJECT
12390 (0)	2	OHIO	I-90-1(54)

759  
838

TOTAL NUMBER OF OWNERS: 974

TOTAL NUMBER OF OWNERS WITH STRUCTURES: 940

NUMBER OF TOTAL TAKES: 919

TOTAL NUMBER OF TAKES WITH STRUCTURES: 910

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE		LEFT	RIGHT			
									LAND	BLDG					
6200 LA	BOARD OF EDUCATION	5-25-38	592	278	50000	0	NO TAKE	0	NO TAKE	NO	50000	0	44	I	LOSS OF INGRESS * EGRESS
6201 TO 6209															
6210 WL	CHARLES R. STURGILL * JOYCE STURGILL	5-25-37	10612		4374	0	4374	0	4374	YES	0	0	44	I	
6211 WL	DEAN L. HOLDEN	5-25-36	5863	554	4392	0	4392	0	4392	YES	0	0	44	I	
6212 WL	EDITH NICHOLS	5-25-35	5499	342	4392	0	4392	0	4392	YES	0	0	44	I	
6213 WL	WILLIAM DUDAS * LOUISE DUDAS	5-24-22	10328	276	4392	0	4392	0	4392	YES	0	0	44	I	
6214 WL	MARY F. JACKSON	5-24-23	9971	27	4392	0	4392	0	4392	YES	0	0	44	I	
6215 WL	JAKOB WALTER * BARBARA WALTER	5-24-24	8894	477	4392	0	4392	0	4392	YES	0	0	44	I	
6216 WL	REVEREND JAMES VRADENBURG * DRA E. VRADENBURG	5-24-25	8634	212	4392	0	4392	0	4392	YES	0	0	44	I	
6217 WL	ROSA HAYER	5-24-26	8844	672	4392	0	4392	0	4392	YES	0	0	44	I	
6218 WL	JOSEPH ZVONAR * HELEN ZVONAR	5-24-27	8626	693	4392	0	4392	0	4392	YES	0	0	44	I	
6219 WL	MAMIE B. GREESON	5-24-28	10307	250	4392	0	4392	0	4392	YES	0	0	44	I	
6220 WL	JOSEPH H. BANKS * ALBA M. BANKS	5-24-29	7095	212	4392	0	4392	0	4392	YES	0	0	44	I	
6221 WL 6221 EL	EDWARD DZIWIK * ELIZABETH A. DZIWIK	5-24-30	10336	637	4392	0	4392	0	4392	YES	0	0	44	I	6221 EL combined with 6240EL
6222 TO 6229															
6230 WL	JOHN M. ORTAG * LILYAN MAE ORTAG	5-25-50	9097	54	4374	0	4374	0	4374	YES	0	0	44	I	
6231 WL	LEROY CUNNINGHAM	5-25-51	7213	642	4392	0	4392	0	4392	YES	0	0	44	I	
6232 WL	WALTER I. ODEN * MABEL E. ODEN	5-25-52	5495	60	4392	0	4392	0	4392	YES	0	0	44	I	
6233 WL	PAULINE ANDREWS	5-24-21	8482 8659	603 589	4392	0	4392	0	4392	YES	0	0	44	I	
6234 WL	HAROLD H. KRUGER * GERTRUDE A. KRUGER	5-24-20	7269	630	4392	0	4392	0	4392	YES	0	0	44	I	
6235 WL	MARY L. BARTHELMANN * IDA A. STEIN	5-24-19	1082	209	4392	0	4392	0	4392	YES	0	0	44	I	
6236 WL	MIKE WOWK * MARIE WOWK	5-24-18	7697	166	4392	0	4392	0	4392	YES	0	0	44	I	
6237 WL	ANNA BAYAN	5-24-17	10363	135	4392	0	4392	0	4392	YES	0	0	44	I	
6238 WL	BRANDO PADOVANI * VIOLA PADOVANI	5-24-16	6460	151	4392	0	4392	0	4392	YES	0	0	44	I	
6239 WL	RAY C. ELLINWOOD, SR.	5-24-15	11660	357	5647	0	5647	0	5647	YES	0	0	44	I	
6240 WL 6240 EL	MARY TANKA	5-24-14	5665	154	7524	0	7524	0	7524	YES	0	0	44	I	6240 EL combined with 6221 EL
6241 TO 6269															
6270 WL	MILDRED H. WARNER, DONALD G. WARNER, CATHERINE A. TREAT, JUNE D. DAHLKE	5-28-58	7896	190	4468	0	4468	0	4468	YES	0	0	45	I	
6271 WL	LOUIS J. EHASZ * JULIA EHASZ	5-28-57	10320	321	4482	0	4482	0	4482	YES	0	0	45	I	
6272 WL	ADELINE A. RINDFLEISCH * RAYMOND F. RINDFLEISCH	5-28-56	7237	499	4478	0	4478	0	4478	YES	0	0	45	I	
6273 WL	HENRY E. MEIXNER * HEDWIG MEIXNER	5-28-55	6048	410	4474	0	4474	0	4474	YES	0	0	45	I	
6274 WL	HOWARD J. DIGNAN * EVELYN L. DIGNAN	5-28-54	6627	165	4470	0	4470	0	4470	YES	0	0	45	I	
6275 WL	ELSIE A. WELLS	5-28-53	5836	174	4465	0	4465	0	4465	YES	0	0	45	I	
6276 WL	TROY STAMPER * BLANCHE STAMPER	5-28-52	10107	478	4461	0	4461	0	4461	YES	0	0	45	I	
6277 WL	WASYL HAJEWSKY * ANNA HAJEWSKY	5-28-51	7631	86	4457	0	4457	0	4457	YES	0	0	45	I	
6278 WL	JOHN C. SCUBA	5-28-50	10135	379	4453	0	4453	0	4453	YES	0	0	45	I	
6279 WL	RAY C. ELLINWOOD	5-28-49	11660	357	4448	0	4448	0	4448	YES	0	0	45	I	

CUYAHOGA COUNTY  
CUY 90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

13  
92

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



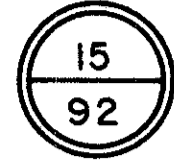
PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE		LEFT	RIGHT			
								LAND	BLDG						
6280 WL	JOHN KLINE * STELLA KLINE	5-28-48 5-28-47	5657	508	7347	0	7347	0	7347	YES	0	0	45	I	
6281 TO 6289															
6290 WL	KATH. KATSCHKA	5-28-46	5485	536	4392	0	4392	0	4392	YES	0	0	45	I	
6291 WL	DONALD H. HENESS * ANNA M. HENESS	5-28-45	9442	451	4410	0	4410	0	4410	YES	0	0	45	I	
6292 WL	NICK D. AUGUSTINE	5-28-44	9716	124	4410	0	4410	0	4410	YES	0	0	45	I	
6293 WL	HELEN A. CRANDALL	5-28-43	6410	180	4410	0	4410	0	4410	YES	0	0	45	I	
6294 WL	EVA C. BENADUM	5-28-42	1399	173	4410	0	4410	0	4410	YES	0	0	45	I	
6295 WL	JAMES C. ROBB * VIOLA L. ROBB	5-28-41	6801	462	4410	0	4410	0	4410	YES	0	0	45	I	
6296 WL	FRANK B. OUTRICH * GENEVIEVE J. OUTRICH	5-28-40	10359	583	4410	0	4410	0	4410	YES	0	0	45	I	
6297 WL	CASIMIR KIERCZYNSKI * ANN KIERCZYNSKI	5-28-39	7468	290	4410	0	4410	0	4410	YES	0	0	45	I	
6298 WL	RUSSELL HUMPHRIES * MARY HUMPHRIES	5-28-38 5-28-37	5494	49	8655	0	8655	0	8655	YES	0	0	45	I	
6299 TO 6309															
6310 WL	THE CLEVELAND TRUST CO.	5-28-1	6015	385	5127	0	5127	0	5127	YES	0	0	45	I	
6311 WL	MIKE C. VIGGIANI & LUCY F. VIGGIANI	5-28-91	8446 9792	173 308	5836	0	5836	0	5836	YES	0	0	45	I	
6312 WL	MIKE C. VIGGIANI * LUCY F. VIGGIANI	5-28-2	10691	211	9155	0	9155	0	9155	YES	0	0	45	I	
6313 WL	DONALD LENHARD * MILDRED H. LENHARD AND MILTON H. RUDY AND EVELYN C. MAYER	5-28-3	6044	527	8574	0	8574	0	8574	YES	0	0	45	I	
6314 WL	BESSIE SCHRAGER	5-28-4	8695	220	9422	0	9422	0	9422	YES	0	0	45	I	
6315 TO 6329															
6330 WL	ROSE B. WEITZEL	5-28-29	7485	563	4392	0	4392	0	4392	YES	0	0	46	I	
6331 WL	HELMUT F. MARX * ESTATE OF ANNE M. MARX	5-28-30	6229 9901	122 172	4410	0	4410	0	4410	YES	0	0	46	I	
6332 WL	PAUL WEBB * TRESSIE WEBB	5-28-31	9933	541	4410	0	4410	0	4410	YES	0	0	46	I	
6333 WL	LESLIE A. CORBIN	5-28-32	5406	580	4410	0	4410	0	4410	YES	0	0	46	I	
6334 WL	ELIZABETH M. MARTIN	5-28-33	4603	589	4410	0	4410	0	4410	YES	0	0	46	I	
6335 WL	PATRICK JOYCE * BRIDGET JOYCE AND CATHERINE SHANK * NORMAN M. SHANK	5-28-34	6086	633	4410	0	4410	0	4410	YES	0	0	46	I	
6336 WL	FRANK PAPP * THERSA PAPP	5-28-35	2106	505	3326	0	3326	0	3326	YES	0	0	46	I	
6337 WL	WILFRED J. BOUCHER * RUTH M. BOUCHER	5-28-36	10138	441	3775	0	3775	0	3775	YES	0	0	46	I	
6338															
6339 LA	WEST SIDE CHURCH OF THE NAZARENE	5-28-68	11692	565	14820	0	NO TAKE	0	NO TAKE	NO	14820	0	46	I	LOSS OF INGRESS * EGRESS
6340 WL	JOSEPH L. MASSON * FLORENCE I. MASSON	5-28-27	6288	212	4392	0	4392	0	4392	YES	0	0	46	I	
6341 WL	OSCAR WOLFE * CLARE D. WOLFE	5-28-26	7625	138	4410	0	4410	0	4410	YES	0	0	46	I	
6342 WL	DOMINIC J. MALONE	5-28-25	8001	445	4410	0	4410	0	4410	YES	0	0	46	I	
6343 WL	THOMAS J. CHAMBERS * MARY CHAMBERS	5-28-24	6452	495	3185	0	3185	0	3185	YES	0	0	46	I	
6344 WL	ERNEST * CAROLINE UVEGES	5-28-23 5-28-22	4605	180	8476	0	8476	0	8476	YES	0	0	46	I	
6345 WL	WILLIE L. MORRIS * JANETTA R. MORRIS	5-28-79	7294	421	1225	0	1225	0	1225	YES	0	0	46	I	
6346 TO 6349															
NOT USED															

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLDG	LEFT	RIGHT			
6350 WL	DANIEL BREYCHAK * DOROTHY BREYCHAK	5-28-5	10318	153	9624	0	9624	0	9324	YES	0	0	46	I	
6351 WL	PATRICIA ANN FLECK * WILLIAM R. FLECK AND RALPH STRANGWARD	5-28-6	11193	589	5280	0	5280	0	5280	YES	0	0	46	I	
6352 WL	LESTER L. ROTH	5-28-7 5-28-8	7815	48	10560	0	10560	0	10560	YES	0	0	46	I	
6353 WL	STERED GEORGE	5-28-9	6098	146	12715	0	12715	0	12715	YES	0	0	46	I	
6354 TO 6359															NOT USED
6360 WL 6360 WD 6360 LA	HERMAN SHORE	5-28-21	10968	451	68650	0	35485 12540 NO TAKE	0 0 NO TAKE	35485 12540 NO TAKE	YES	20625	0	47	I I I	LOSS OF ACCESS - ACQUIRED BY STATE AFTER 6360 WD & 6360 WL
6361 TO 6364															NOT USED
6365 PR	BEATRICE W. HORN	5-28-73	7495 11834	734 439	3702	0	NO TAKE	0	NO TAKE	NO	3702	0	48	I	LOSS OF DRIVE ACCESS
6366 PR	GEORGE J. BUJNAK * HELEN A. BUJNAK	5-28-74	11104	13	3744	0	NO TAKE	0	NO TAKE	NO	3744	0	48	I	LOSS OF DRIVE ACCESS
6367 PR	DONALD C. MCKAY	5-28-75	10635 11831	421 477	4012	0	NO TAKE	0	NO TAKE	NO	4012	0	48	I	LOSS OF DRIVE ACCESS
6368 PR	HILDEGARD STANKOVIC	5-28-76	<b>12963</b>	<b>1053</b>	3639	0	NO TAKE	0	NO TAKE	NO	3639	0	48	I	LOSS OF DRIVE ACCESS
6369 LA	HERBERT DEAN, JR. * EVELYN DEAN	5-28-77	8257	390	4652	0	NO TAKE	0	NO TAKE	NO	4652	0	48	I	LOSS OF DRIVE ACCESS
6370 WL	STEUDEL MOTORS, INC.	5-28-20 5-28-19 5-28-18 5-28-17	6240 6421	205 708	37118	0	37118	0	37118	YES	0	0	47 48	I	
6371 WL 6371A WL	ESTHER R. JOHNSON ETAL PAUL C. JOHNSON ETAL	5-28-16 5-28-78	11371 6488	297 534	5638 770	0	5638 770	0 0	5638 770	YES NO	0	0	48	I I	
6372 WL	EUGENE F. PACHTLER * ELIZABETH PACHTLER	5-28-15	9992	458	10199	0	10199	0	10199	YES	0	0	48	I	
6373 TO 6379															NOT USED
6380 WL	WENTWORTH J. MARSHALL, JR., TRUSTEE	5-28-10	6686 6692	158 538	6398	0	6398	0	6398	YES	0	0	47	I	
6381 WL	ANTHONY ZAPPONE	5-28-11 5-28-12	8250 8462	487 690	8723	0	8723	0	8723	YES	0	0	47	I	
6382 WL	MARY LARICCIA * JOSEPH CARMOSIND	5-28-14	8896	687	18213	0	18213	0	18213	YES	0	0	48	I	
6383 WL	ARTHUR J. FRANK	5-28-80	7659	353	1365	0	1365	0	1365	YES	0	0	48	I	
6384 WL	MICHAEL DWYER	5-28-83	7661 11607	349 603	1369	0	1369	0	1369	YES	0	0	48	I	
6385 WL	HAYWARD FRANK BOLTON * PEARL BOLTON	5-28-84	7680	47	1387	0	1387	0	1387	YES	0	0	48	I	
6386 WL	ILONA A. BOROSDY	5-28-90	7807	521	1390	0	1390	0	1390	YES	0	0	48	I	
6387 WL	WILLIAM RINI * EMMA RINI	5-28-13	7808	657	1390	0	1390	0	1390	YES	0	0	48	I	
6388 WL	ROBERT I. HUNTER * EVANGELINE HUNTER	5-28-85	11918	859	1390	0	1390	0	1390	YES	0	0	48	I	
6389 WL	ARCHIE R. ERWIN * AUDREY ERWIN	5-28-89	7819	542	1390	0	1390	0	1390	YES	0	0	48	I	
6390 WL	CHARLIE B. TURNER * ANN V. TURNER	5-28-88	10616	414	1390	0	1390	0	1390	YES	0	0	48	I	
6391 WL	CHARLES W. SCHULER * MARY R. SCHULER	5-28-81	7660	693	1390	0	1390	0	1390	YES	0	0	48	I	
6392 WL	FERN M. BENSON	5-28-82	7811	200	1390	0	1390	0	1390	YES	0	0	48	I	
6393 WL	ROBERT HULL WORK	5-28-86	7695	714	1390	0	1390	0	1390	YES	0	0	48	I	

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

762  
838

CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

16  
92

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT			
6394 WL	ELVIN D. SANNER * ALETHA SANNER	5-28-87	10606	701	1645	0	1645	0	1645	YES	0	0	48	I	
6395 TO 6509															NOT USED
6510 WL 6510 WD 6510 T	SPAZENIJE ZEGARAC & HAZEL ZEGARAC	6-1-57	11370	1	6831	0	159 3274 503	0	159 3274 503	YES	3398	0	49	I I I	GRADING & STRUCTURE REMOVAL
6511 WD 6511 T	ELFRIEDE NORTHRUP	6-1-58	10199	214	6183	0	2172 4011	0	2172 4011	YES	4011	0	49	I	GRADING * STRUCTURE REMOVAL
6512 WD 6512 T	IRMA B. AUGUST * ADOLPH D. BRESLER	6-1-59	6692	436	10418	0	2570 2871	0	2570 2871	YES	7848	0	49	I	GRADING * STRUCTURE REMOVAL
6513															NOT USED
6514 WD 6514 T 6514 EL	THOMAS C. JALLOS * ELLA F. JALLOS	6-1-60	5825	378	5899	0	551 1427 5348	0	551 1427 5348	YES	0	0	49	I I S	GRADING * STRUCTURE REMOVAL <b>Sold, Vol 15257, Pg 605</b>
6515 WD	ANGELO PILOSI * ROSE PILOSI	6-1-61	7088	200	5380	0	289	0	289	NO	5091	0	49	I	
6516 WD 6516 T 6516 EL	FLORENCE M. SOLTESZ, STEPHEN SOLTESZ, ELLEN SOLTESZ	6-1-62	10127	627	9200	0	126 6378 9074	0	126 6378 9074	YES	0	0	49	I I STATE	<b>SOLD-DATE OF TRANSFER 4-2-80 RECORDED IN VOL. 15241 - PG. 797 GRADING * STRUCTURE REMOVAL INCLUDES TEMPORARY NOT USED</b>
6517 TO 6519															
6520 WL	PAUL BENCO	6-1-56	5637	195	3808	0	3808	0	3808	YES	0	0	49	I	
6521 WL	THE BEVERLY-JEAN CORPORATION	6-1-55	4914	608	34502	0	34502	0	34502	YES	0	0	49	I	
6522 WL	CATHERINE ADA HAVILAND (HOOD)	6-1-54	1388	429	11986	0	11986	0	11986	YES	0	0	49	I	
6523 WL	HOOD REALTY CORPORATION	6-1-53	9751	83	7424	0	7424	0	7424	YES	0	0	49	I	
6524 WL	CATHERINE ADA HAVILAND	6-1-52	3729	7	8558	0	8558	0	8558	YES	0	0	49	I	
6525 WL	CATHERIN ADA HAVILAND	6-1-1	5600	157	5200	0	5200	0	5200	YES	0	0	49	I	
6526 WL	ROBERT E. HAVILAND * RICHARD J. HAVILAND	6-1-2	9751	86	5619	0	5619	0	5619	YES	0	0	49	I	
6527 WL 6527 WU	THE BEVERLY-JEAN CORPORATION	6-1-96	4914	610	6354	0	4950 1404	0 0	4950 1404	YES	0	0	49	I I	RELOCATION OF EXISTING AT&T RELAY STA. FROM PAR. 6528 WL
6528 WL	AMERICAN TELEPHONE * TELEGRAPH CO.	6-1-95	7632	438	1730	0	1730	0	1730	YES	0	0	49	I	EXISTING AT&T RELAY STA.
6529 WL	FRANK L. COOK * MARY ANN COOK	6-1-51	7692	94	7070	0	7070	0	7070	YES	0	0	49	I	
6530 TO 6549															NOT USED
6550 WL	RICHARD J. HAVILAND	6-1-50	7674	276	8116	0	8116	0	8116	YES	0	0	50	I	
6551 WL	ROBERT A. EDWARDS	6-1-49	8496	682	4130	0	4130	0	4130	YES	0	0	50	I	
6552 WL	RICHARD J. HAVILAND	6-1-48	7674	276	4336	0	4336	0	4336	YES	0	0	50	I	
6553 WL	ANDREW VARGA, SR. * ANNA VARGA	6-1-47	6008	50	3547	0	3547	0	3547	YES	0	0	50	I	
6554 WL	ROBERT E. HAVILAND	6-1-45 6-1-46	7674	276	8328	0	8328	0	8328	YES	0	0	50	I	
6555 WL	CATHERINE ADA HAVILAND (HOOD)	6-1-44	1386	580	4192	0	4192	0	4192	YES	0	0	50	I	
6556 WL	CATHERINE ADA HAVILAND (HOOD)	6-1-43	2315	521	4210	0	4210	0	4210	NO	0	0	50	I	
6557 WL	MARGUERITE H. CECIL	6-1-39 6-1-40 6-1-41 6-1-42	10680	185	8429	0	8429	0	8429	YES	0	0	50	I	
6558 WL	HARRY H. GEIB * MARY V. GEIB	6-1-38 6-1-37	8008	250	8545	0	8545	0	8545	YES	0	0	50	I	
6559 WL	SAM E. FINESILVER * GRACE FINESILVER	6-1-36 6-1-35	11158	19	12863	0	12863	0	12863	YES	0	0	50	I	
6560 WL	ROBERT E. HAVILAND, ET AL	NONE	1386	581	5970	0	5970	0	5970	NO	0	0	50	I	
6561 TO 6569															NOT USED
6570 WL	ROBERT E. HAVILAND	6-1-27	7674	276	5431	0	5431	0	5431	YES	0	0	50	I	

HRT	Added to Remarks - Pcl. 6514EL	4-18-83
HRT	Added to Remarks - Pcl. 6516EL	4-19-80
NAME	REVISION	DATE

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

763  
838

CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

17  
92

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE		LEFT	RIGHT			
								LAND	BLDG						
6571 WL	CATHERINE ADA HAVILAND (HOOD)	6-1-28 6-1-29	1388	429	4817	0	4817	0	4817	YES	0	0	50	I	
6572 WL	MARGUERITE H. CECIL	6-1-30	10680	185	8992	0	8992	0	8992	YES	0	0	50	I	
6573 WL	HARRY H. GEIB * MARY V. GEIB	6-1-31 6-1-32 6-1-33 6-1-34	8008	198	15932	0	15932	0	15932	YES	0	0	50	I	
6574 TO 6579															
6580 WL	THE BEVERLY-JEAN CORPORATION	6-1-26	4914	610	4753	0	4753	0	4753	YES	0	0	51	I	
6581 WL	CATHERINE ADA HAVILAND	6-1-20 6-1-21 6-1-22 6-1-24 6-1-24 6-1-25	1388	429	19116	0	19116	0	19116	YES	0	0	51	I	
6582 WL	MARGUERITE H. CECIL	6-1-19 6-1-18	10680	185	7094	0	7094	0	7094	YES	0	0	51	I	
6583 WL	MARY V. GEIB * HARRY H. GEIB	6-1-17	8008	198	3682	0	3682	0	3682	YES	0	0	51	I	
6584 WL	MARGUERITE H. CECIL	6-1-16	10680	185	14367	0	14367	0	14367	YES	0	0	51	I	
6585 WL	ANNA MASAR	6-1-3	4869	512	3629	0	3629	0	3629	YES	0	0	51	I	
6586 WL	MICHAEL POLASKO * ANNA POLASKO	6-1-4	10142	154	2973	0	2973	0	2973	YES	0	0	51	I	
6587 WL	THE BEVERLY-JEAN CORPORATION	6-1-5	4910	610	3065	0	3065	0	3065	YES	0	0	51	I	
6588 WL	CARL COTMAN, MARY ECK, MARTHA MELZ, JOSEPHINE WEBSTER * JOHN COTMAN	6-1-6	11812	565	3157	0	3157	0	3157	YES	0	0	51	I	
6589 WL	NAOMI S. CRAIG	6-1-7	5643	112	3249	0	3249	0	3249	YES	0	0	51	I	
6590 WL	KATHLEEN SCANLON GUARNERA	6-1-8	8623	539	3341	0	3341	0	3341	YES	0	0	51	I	
6591 WL	JULIUS DOBOS	6-1-9	7250	401	3433	0	3433	0	3433	YES	0	0	51	I	
6592 WL	KATIE VONNER	6-1-10	6498	540	3524	0	3524	0	3524	YES	0	0	51	I	
6593 WL	EDMUN NETZEL * AMELIE NETZEL	6-1-11	5448	39	3616	0	3616	0	3616	YES	0	0	51	I	
6594 WL	JENNIE D. KUSAK	6-1-12	5632	415	3708	0	3708	0	3708	YES	0	0	51	I	
6595 WL	TED BRANHAM * MARJORY A. BRANHAM	6-1-13	10354	631	3800	0	3800	0	3800	YES	0	0	51	I	
6596 WL	CHARLES A. PAVELKA * DORTHY R. PAVELKA	6-1-14	10193	485	3892	0	3892	0	3892	YES	0	0	51	I	
6597 WL	THE BEVERLY-JEAN CORPORATION	6-1-15	4914	610	7634	0	7634	0	7634	YES	0	0	51	I	
6598 TO 6599															
6600 WL	ST. MATHEWS PROTESTANT EPISCOPAL CHURCH	17-6-8 17-6-9	4964 11192	355 735	13012	0	13012	0	13012	YES	0	0	52	I	
6601 TO 6602															
6603 WL	WILHELM GOLLIN * ERNA E. GOLLIN	17-6-10	8882	389	3750	0	3750	0	3750	YES	0	0	52	I	
6604 WL	IRVIN M. GREEN * MARY C. GREEN	17-6-11	10148	88	3750	0	3750	0	3750	YES	0	0	52	I	
6605 WL	THERESA ROSS	17-6-12	12200	905	3750	0	3750	0	3750	YES	0	0	52	I	
6606 WL	JOSEPH H. MCDONALD * BRASKIE MCDONALD	17-6-13	10680	669	3750	0	3750	0	3750	YES	0	0	52	I	
6607 WL	PAUL MCHUGH * MARIE T. MCHUGH	17-6-14	12309	427	4780	0	4780	0	4780	YES	0	0	52	I	
6608 T	BERNARD CIUPIRO * KATHRYN L. CIUPIRO	17-6-69	12313	337	6011	0	869	0	869	NO	0	6011	52	I	GRADING
6609 WD 6609 6609	RUTH E. HUTCHINSON	17-6-127	10675	533	2646	0	155 1594 2497	0	155 1594 2497	YES	0	2491	52	I	EASEMENT IN VOL. 6460 P. 244 GRADING * STRUCTURE REMOVAL UNECONOMIC RESIDUE
6610 TO 6619															
6620 T	EUGENE R. MCFARLAND, EDWIN R. MCFARLAND, HUGH H. MCFARLAND	6-1-66	12122	691	19500	0	93	0	93	NO	19500	0	50 54	I	SIDEWALK CONST.

\* FOR PARCEL 6609A  
SEE SHEET 20

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT	
2	OHIO	I-90-1(54)	

764  
838

CUYAHOGA COUNTY  
CUY 90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

18  
92

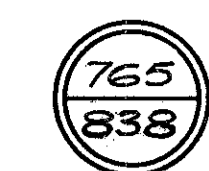
PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT			
6621 TO 6629															NOT USED
6630 WL 6630 WD	GERALDINE RUSSO	6-6-70 T072 6-6-118	12336	197	27818	0	145 1519	0 0	145 1519	NO	0	26154	54	I I	
6631 TO 6639															NOT USED
6640 WL	ELLA MARTIN	6-6-117	4239	155	4844	0	4844	0	4844	YES	0	0	54	I	
6641 WL	STANLEY SCHICKEL * MARY SCHICKEL	6-6-116	6039	607	4375	0	4375	0	4375	YES	0	0	54	I	
6642 WL	RUTH M. REISING	6-6-115	6410	7	4375	0	4375	0	4375	YES	0	0	54	I	
6643 WL	MARY M. GALLAGHER * JOSEPH J. GALLAGHER	6-6-114	3772	191	4375	0	4375	0	4375	YES	0	0	54	I	
6644 WL	OBIE OWENS * DOLORES OWENS	6-6-113	10195	483	4375	0	4375	0	4375	YES	0	0	54	I	
6645 WL	NELSON W. VOIGT * DOROTHY E. VOIGT	6-6-112	7078	168	4375	0	4375	0	4375	YES	0	0	54	I	
6646 WL	HELEN GLESKE	6-6-111	12352	921	4375	0	4375	0	4375	YES	0	0	54	I	
6647 WL	ANNA PEKAR	6-6-110	8084	109	4375	0	4375	0	4375	YES	0	0	54	I	
6648 WL	ELIZABETH MESZAR	6-6-109	8653	124	4375	0	4375	0	4375	YES	0	0	54	I	
6649 WL	GLADYS KNIOLA	6-6-108	6682	558	4375	0	4375	0	4375	YES	0	0	54	I	
6650 WL	HELEN BERNARD	6-6-107	8623	327	4375	0	4375	0	4375	YES	0	0	54	I	
6651 WL	FRANK LINK, JR.	6-6-106	9446	620	4375	0	4375	0	4375	YES	0	0	54	I	
6652 WL	JACK S. RUSS * PAULINE RUSS	6-6-105	8656	344	4375	0	4375	0	4375	YES	0	0	54	I	
6653 WL	MARTHA HOEFEL	6-6-104	7497	715	4375	0	4375	0	4375	YES	0	0	54	I	
6654 WL 6654 EL	PETER V. FILERETE * FRANCES D. FILERETE	6-6-103	7416	601	4250	0	2040 2210	0 0		YES	0	0	56	I STATE	EXCESS LANDS Sold Vol. 93-10081, Pg. 1
6655 WL 6655 EL	ELMORE LEWIS * PAULA LEWIS	6-6-102	6018	277	4500	0	2160 2340	0 0		YES	0	0	56	I STATE	EXCESS LANDS Sold Vol. 93-10081, Pg. 1
6656 TO 6670															NOT USED
6671 WL	OSCAR BUTLER * HELEN L. BUTLER	6-8-109 6-8-110	9070	87	2402	0	2402	0	2402	YES	0	0	55	I	
6672 WL	ANNA LIBERTY * SALVATORE LIBERTY	6-8-76	7852 9422 8017	677 77 5	3981	0	3981	0	3981	YES	0	0	55	I	
6673 WL	WAYNE D. BONNET	6-8-105	10638	663	1016	0	1016	0	1016	YES	0	0	55	I	
6674 WL	HARRY R. WHEELER * VIRGINIA WHEELER	6-8-107	10618	228	1352	0	1352	0	1352	YES	0	0	55	I	
6675															NOT USED
6676 WL	MARY MARTIN	6-8-77 6-8-78	4770 3013	100 247	8750	0	8750	0	8750	YES	0	0	55	I	
6677															
6678 WL	JOHN JAY GREGORY * GLENNA MAE GREGORY	6-8-79	9056	88	4375	0	4375	0	4375	YES	0	0	55	I	
6679 WL	WILLIAM J. SMITH * VIRGINIA D. SMITH	6-8-80	10370	435	4375	0	4375	0	4375	YES	0	0	55	I	
6680 WL	HELEN B. FASSETT	6-8-81	11618 9933	229 263	4375	0	4375	0	4375	YES	0	0	55	I	
6681 WL	ANDREW G. SAKSA, EDNA SAKSA, JOHN L. SAKSA, SR. * MARY A. SAKSA	6-8-82	11699 8096	39 704	4375	0	4375	0	4375	YES	0	0	55	I	
6682 WL	ANNA RITTER - MARS INVESTMENT	6-8-83	6449	323	4375	0	4375	0	4375	YES	0	0	55	I	
6683 WL	IRENE KLAUSMEYER, FLORENCE KLAUSMEYER * OTTILIE MICHALSKE	6-8-84	5648	434	4375	0	4375	0	4375	YES	0	0	55	I	
6684 WL	MABEL H. SCHNEIDER	6-8-85	8296	65	4375	0	4375	0	4375	YES	0	0	55	I	
6685 WL	JAMES F. MASON * ELEANOR M. MASON	6-8-86	10941	631	4375	0	4375	0	4375	YES	0	0	55	I	

2	pcl 6654EL, pcl 6655EL, Sold Vol. 93-10081, Pg. 1	5/2002
1	REV. GROSS TAKES FOR P.C.S. 6654 & 6655	11-20-90
REV.	DESCRIPTION	DATE

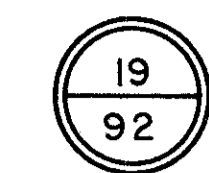


# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



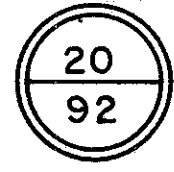
PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS	
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT				
6686	WL	MARTIN S. WALD	6-8-87	10351	463	4375	0	4375	0	4375	YES	0	0	55	I	
6687	WL	JOHN F. BODNAR * DOROTHY C. BODNAR	6-8-88	10154	392	4375	0	4375	0	4375	YES	0	0	56	I	
6688	WL	ERNEST CORDES * SOPHIE CORDES	6-8-89	6286	592	4375	0	4375	0	4375	YES	0	0	56	I	
6689	WL	MILDRED M. ROCK	6-8-90	4869	256	4375	0	4375	0	4375	YES	0	0	56	I	
6690	WL	ALBERT L. SIMS, SR. * EVANELL SIMS	6-8-91	9710	197	4375	0	4375	0	4375	YES	0	0	56	I	
6691	WL	KARL REITENBACK * ELIZABETH REITENBACK	6-8-92	10970	457	4375	0	4375	0	4375	YES	0	0	56	I	
6692 TO 6699																NOT USED
6700	WL	FRANK A. ROMANO * ANNA D. ROMANO	6-8-35	6025	711	4016	0	4016	0	4016	YES	0	0	55	I	
6701	WL	BERNETTA FERGUSON	6-8-34	6264	282	4016	0	4016	0	4016	YES	0	0	55	I	
6702	WL	HELEN HAUSER, HAROLD MANNING, ADELBERT MANNING, SR. * JACK MANNING, SR.	6-8-33	10946	451	3442	0	3442	0	3442	YES	0	0	55	I	
6703	WL	ANDREW TOCHINSKY	6-8-32	5421	65	3790	0	3790	0	3790	YES	0	0	55	I	
6704	WL	ALDINE VETRONE	6-8-75	4807	288	4784	0	4784	0	4784	YES	0	0	55	I	
6705	WL	AUDREY E. LEAVER	6-8-74	11393	495	4375	0	4375	0	4375	YES	0	0	55	I	
6706	WL	DAVID G. WILLIAMS * GRACE C. WILLIAMS	6-8-73	6866	98	4375	0	4375	0	4375	YES	0	0	55	I	
6707	WL	MITCHELL M. SHUSKO * REGINA M. SHUSKO	6-8-72	8438	244	4375	0	4375	0	4375	YES	0	0	55	I	
6708	WL	MARIE L. ECK	6-8-71	9762	472	4375	0	4375	0	4375	YES	0	0	55	I	
6709	WL	ILONA HUBALIK	6-8-70	12347	491	4375	0	4375	0	4375	YES	0	0	55	I	
6710	WL	ANDREW HAVANCHAK, JR. * IRENE B. HAVANCHAK	6-8-69	10966	703	4375	0	4375	0	4375	YES	0	0	55	I	
6711	WL	GOLDIE R. MURR	6-8-68	10984	265	4375	0	4375	0	4375	YES	0	0	55	I	
6712	WL	EMMA MAURER	6-8-67	11671	601	4375	0	4375	0	4375	YES	0	0	55	I	
6713	WL	NIKOLAJS KALNINS * ELVIRA KALNINS	6-8-66	10646	443	4375	0	4375	0	4375	YES	0	0	55	I	
6714	WL	MELVIN FALKE	6-8-65	5081	627	4375	0	4375	0	4375	YES	0	0	55	I	
6715	WL	DOROTHY A. TABOIKA	6-8-64	9474	143	4375	0	4375	0	4375	YES	0	0	57	I	
6716	WL	MCCONNELL A. COCKWELL * COLETTA MCCANN	6-8-63	8808	492	4375	0	4375	0	4375	YES	0	0	57	I	
6717	WL	LEO MIKLOVIC * BERTHA MIKLOVIC	6-8-62	3059	609	4375	0	4375	0	4375	YES	0	0	57	I	
6718	WL	DOROTHY M. HAGER	6-8-61	9769	519	4375	0	4375	0	4375	YES	0	0	57	I	
6719	WL	ROBERT COATDAM * SUSAN COATDAM	6-8-60	10993	553	4375	0	4375	0	4375	YES	0	0	57	I	
6720 TO 6729																NOT USED
6730	WL	CHARLES KELLER * M. H. KELLER	6-8-36	7895	95	5883	0	5883	0	5883	YES	0	0	53	I	
6731	WL	ELROY MARQUARD * GERALDINE H. MARQUARD	6-8-31	10938	667	2683	0	2683	0	2683	YES	0	0	53	I	
6732	WL	DANIEL J. MCCORMACK, HUGH E. MCCORMACK, MARY F. MCCORMACK	6-8-104	9915	459	3783	0	3783	0	3783	YES	0	0	57	I	
6733	WL	CHRISTIAN EGNAR	6-8-37	1368	427	2185	0	2185	0	2185	YES	0	0	57	I	
6734	WL	JOSEPH F. CHARVAT & M. L. CHARVAT	6-8-38	9958	56	2446	0	2446	0	2446	YES	0	0	57	I	
6735	WL	DENNIS D. LINDEMAN * NANCY E. LINDEMAN	6-8-39	10321	482	2707	0	2707	0	2707	YES	0	0	57	I	
6736	WL	WILLIAM H. MCGRAW & GERALDINE L. MCGRAW	6-8-40	10945	231	2968	0	2968	0	2968	YES	0	0	57	I	
6737	WL	JOHN F. KENNEY	6-8-41	11134	35	3229	0	3229	0	3229	YES	0	0	57	I	

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS	
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT				
6738	WL	HILDA ENGLISH	6-8-42	10171	489	3490	0	3490	0	3490	YES	0	0	57	I	
6739	WL	ANN KACHOVEE	6-8-43	9404	336	3750	0	3750	0	3750	YES	0	0	57	I	
6740	WL	EPIFANIO CARABALLO * DORA CARABALLO	6-8-44	11372	229	4011	0	4011	0	4011	YES	0	0	57	I	
6741	WL	MARY HOLIK	6-8-45	11686	647	4272	0	4272	0	4272	YES	0	0	57	I	
6742	WL	SANDOR PAL, TEREZ PAL * IMRE PAL	6-8-46	10118	287	4533	0	4533	0	4533	YES	0	0	57	I	
6743	WL	GEORGE R. DAWSON * THELMA DAWSON	6-8-47	10668	317	4628	0	4628	0	4628	YES	0	0	57	I	
6744	WL	ROBERT A. WILSON * SYBIL B. WILSON	6-8-48 6-8-49	9445	276	5649	0	5649	0	5649	YES	0	0	57	I	
6745 TO 6759															NOT USED	
6760	WL	BERNARD FARKAS JR.	6-27-43	11860	119	2011	0	884	0	884	NO	0	1127	52-53	I	<b>Sold, Vol 15244, Pg 717</b>
6761	WL	MICHAEL SCHUSTER	6-27-15	7270	739	5379	0	5379	0	5379	YES	0	0	52	I	
6762	WL	JAMES F. MCDERMOTT * MARGARET E. MCDERMOTT	6-27-16	10618	139	5745	0	5745	0	5745	YES	0	0	52	I	
6763	WL	FRANK GERNHART * FRIEDA GERNHART	6-27-17	8835	377	5000	0	5000	0	5000	YES	0	0	52	I	
6764	WL	RAY LANDES * ETHEL LANDES	6-27-18	12112	395	4638	0	4638	0	4638	YES	0	0	52	I	
6765	WL	CARL F. TESS	6-27-19	9733	258	6089	0	6089	0	6089	YES	0	0	52	I	
6766	WL	CARNATA SEBASTIAN	6-27-20	6211	472	6058	0	6058	0	6058	YES	0	0	52	I	
6767	WL	SOPHIE STOTTER	6-27-21	7266	273	6163	0	6163	0	6163	YES	0	0	53	I	
6768	WL	EUGENE L. SAURWEIN * GIZELLA SAURWEIN	6-27-22	8878	571	6261	0	6261	0	6261	YES	0	0	53	I	
6769	WL	CARL H. DOERGE	6-27-23	4513	110	6345	0	6345	0	6345	YES	0	0	53	I	
6770	WL	SAID HADER * ROSA HADER	6-27-24	10963	633	6391	0	6391	0	6391	YES	0	0	53	I	
6771	WL	MICHAEL EMERY * HELEN EMERY	6-27-25	9500	455	6420	0	6420	0	6420	YES	0	0	53	I	
6772	WL	NORMAN J. SULLIVAN * GEORGETTEK SULLIVAN	6-27-26	6648	609	6447	0	6447	0	6447	YES	0	0	53	I	
6773	WL	EMMITT SPURLOCK * ELSIE SPURLOCK	6-27-27	10993	699	6475	0	6475	0	6475	YES	0	0	53	I	
6774	WL	STEVEN N. HADA	6-27-28	6468 10690	75 139	6504	0	6504	0	6504	YES	0	0	53	I	
6775	WL	CARL D. & HASSIE McCORMICK	6-27-29	12587	997	6612	0	700 5912 5912	0 0 0	700 5912 5912	YES	0		53	I I	<b>Sold, Vol 15244, Pg 717</b> STRUCTURE REMOVAL
6776 TO 6799															NOT USED	
6800	WL	EMILE PLISKE	6-8-93	4193	172	4375	0	4375	0	4375	YES	0	0	56	I	
6801	WL	WILLIAM M. LINSNEMAN * VIOLA LINSNEMAN	6-8-94	4857	63	4375	0	4375	0	4375	YES	0	0	56	I	
6802	WL	VIOLA LINSNEMAN * WILLIAM LINSNEMAN AND MILDRED SIEBER	6-8-95	5826	29	4375	0	4375	0	4375	YES	0	0	56	I	
6803	WL	HENRY HEINZ * MARGARETA HEINZ	6-8-96	8283	82	4375	0	4375	0	4375	YES	0	0	56	I	
6804	WL	RUTH ROBINETT	6-8-97	9095	314	4375	0	4375	0	4375	YES	0	0	56	I	
6805	WL	JOHN H. JALATY	6-8-98	9958	458	4375	0	4375	0	4375	YES	0	0	56	I	
6806	WL	CLETUS R. REESING - TRUSTEE FOR THERESA JAN REESING	6-8-99	4537	297	4375	0	4375	0	4375	YES	0	0	56	I	
6807	WL	HARRY RADLOFF * MILDRED LAMBERT	6-8-100	11887	313	4375	0	4375	0	4375	YES	0	0	56	I	
6808	WL	TAS TEE CATERING	6-8-101 6-8-102	7881	202	8750	0	8750	0	8750	YES	0	0	58	I	
6809	WL	TAS TEE CATERING	6-8-103	7881	202	15015	0	15015	0	15015	YES	0	0	58	I	
6810 TO 6819															NOT USED	
6820	WL	JULIUS NAGY	6-8-59	8065	574	4375	0	4375	0	4375	YES	0	0	57	I	
* 6609A SA 6609A - T		NORBERT J. & ROSE J. SCHUMAN	17-6-15	13848	835	3625	--	--	--	--	--	--	52	I		SPECIAL WAIVER OF DAMAGE WATER MAIN INSTALLATION

H.R.T.	ADDED REMARKS	PCL 6760EL PCL 6775EL	8-12-81
H.R.T.	CHGD. PCL 6775ER TO 6775 EL		3-13-79
D.A.S.	ADDED PARCEL 6609A-T		8-1-76
NAME	REVISION		DATE

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

767  
838

CUYAHOGA COUNTY  
CUY 90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

21  
92

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS	
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLDG	LEFT	RIGHT				
6821	WL	JOSEPH FRANCIS ZACHEFSKY * ELAIN ZACHEFSKY	6-8-58	11184	237	4375	0	4375	0	4375	YES	0	0	57	I	
6822	WL	DENNIS H. ROHRABAUGH * PAULINE M. ROHRABAUGH	6-8-57	10334	400	4375	0	4375	0	4375	YES	0	0	57	I	
6823	WL	RUDOLF RICHTER	6-8-56	4721	303	4375	0	4375	0	4375	YES	0	0	57	I	
6824	WL	LULA M. LEUTHIER	6-8-55	9451	627	4375	0	4375	0	4375	YES	0	0	57	I	
6825	WL	MAY CHERRY	6-8-54	10647	153	4375	0	4375	0	4375	YES	0	0	57	I	
6826	WL	FRICIS RUSMANIS * HERMINE RUSMANIS	6-8-53	7818	307	4375	0	4375	0	4375	YES	0	0	57	I	
6827	WL	KATHRINE VAN DUZER	6-8-52	3436	440	4375	0	4375	0	4375	YES	0	0	57	I	
6828	WL	RUSSELL H. BAILEY * LEONA M. BAILEY	6-8-50	11175	571	3525	0	3525	0	3525	YES	0	0	58	I	
6829	WL	TASTEE CATERING	6-8-51	7881	202	6489	0	6489	0	6489	YES	0	0	58	I	
6830 TO 6839																NOT USED
6840	WL	ELMER HOLMOK	6-8-1	4879 11140	435 563	6833	0	6833	0	6833	YES	0	0	58	I	
6841	WL	WILLIAM P. HOFFMAN	6-8-2	6850	529	2610	0	2610	0	2610	YES	0	0	58	I	
6842	WL	FRANCES BAKER	6-8-3	8010	326	4375	0	4375	0	4375	YES	0	0	58	I	
6843	WL	RICHARD SHARPE * BEATRICE M. SHARP	6-8-4 6-8-5	7602 5600	20 476	4375	0	4375	0	4375	YES	0	0	58	I	
6844	WL	LAWRENCE GUZOWSKI * ELIZABETH GUZOWSKI	6-8-6	7461	107	4375	0	4375	0	4375	YES	0	0	58	I	
6845	WL	ANN F. VISOSKY	6-8-7	6062	576	4375	0	4375	0	4375	YES	0	0	58	I	
6846	WL	JOSE G. EIRAS	6-8-8	8881	727	4375	0	4375	0	4375	YES	0	0	58	I	
6847	WL	HOWARD J. MITCHELL * ELIZABETH A. MITCHELL	6-8-9	8688	228	4375	0	4375	0	4375	YES	0	0	58	I	
6848	WL	ROY JAMES HARDY * ELEANOR F. HARDY	6-8-10	11366	63	4375	0	4375	0	4375	YES	0	0	58	I	
6849	WL	ERICA DAHL BRANDIT BURKLE	6-8-11	5195	52	4375	0	4375	0	4375	YES	0	0	58	I	
6850 TO 6859																NOT USED
6860	WL	MIKE JUHA * MARIANA L. JUHA	6-8-12	9763	31	4370	0	4370	0	4370	YES	0	0	58	I	
6861	WL	MARY F. HAAS	6-8-13	8408	71	4375	0	4375	0	4375	YES	0	0	58	I	
6862	WL	NICK D. AUGUSTINE	6-8-14	11360	127	4375	0	4375	0	4375	YES	0	0	58	I	
6863	WL	TERESA C. BURKE	6-8-15	5885	296	4375	0	4375	0	4375	YES	0	0	58	I	
6864	WL	HRATCHIA ODABASHIAN	6-8-16	11613	623	4375	0	4375	0	4375	YES	0	0	58	I	
6865 TO 6871																NOT USED
6872	WL	FRANK A. EIBEN, JR., MARIE J. EIBEN, JOSEPH S. EIBEN	6-11-22	5658	38	5070	0	5070	0	5070	YES	0	0	59	I	
6873	WL	LUTHER JAMES WHEELER * MARY JANE WHEELER	6-11-109	10698	267	3488	0	3488	0	3488	YES	0	0	59	I	
6874	WL	JOSEPH D. HORVATH * JULIA HORVATH	6-11-23	5145	590	2450	0	2450	0	2450	YES	0	0	59	I	
6875 TO 6899																NOT USED
6900	WL	THOMAS FAW * GRATHIEL P. FAW	6-11-24	11355	387	3211	0	3211	0	3211	YES	0	0	60	I	
6901	WL	OTTO LONGAUER * MARIELLA LONGAUER	6-11-25	12508	545	3459	0	3459	0	3459	YES	0	0	60	I	
6902	WL	ROBERT H. YOUNG * J. YOUNG	6-11-26	10186	31	3707	0	3707	0	3707	YES	0	0	60	I	

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

768  
838

CUYAHOGA COUNTY  
CUY 90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

22  
92

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE		LEFT	RIGHT			
								LAND	BLDG						
6903	WL	CHARLES JOHNSON, JR. * SHIRLEY JOHNSON	6-11-27	8635 365	3955	0	3955	0	3955	YES	0	0	60	I	
6904	WL	RONALD TERRION * LIESEL TERRION	6-11-28	11604 225	4203	0	4203	0	4203	YES	0	0	60	I	
6905	WL	PETER P. ZENIS, JR. * AMELIA ZENIS	6-11-29	11649 427 11649 429	4451	0	4451	0	4451	YES	0	0	60	I	
6906	WL	LOUIS SCHULTZ	6-11-30	7272 693	4699	0	4699	0	4699	YES	0	0	60	I	
6907	WL	ROSE RODATT, LORRETTA GREENLEAF, EVELYN READY	6-11-31	8824 372 8825 580	4947	0	4947	0	4947	YES	0	0	60	I	
6908	WL	LAWRENCE J. GAHAN, JR. * HELEN F. GAHAN	6-11-32	8028 125	5196	0	5196	0	5196	YES	0	0	60	I	
6909	WL	ARTHUR G. MASCHINDO * JUDITH A. MASCHINDO	6-11-33	10374 427	5444	0	5444	0	5444	YES	0	0	61	I	
6910	WL	RAYMOND C. HULDEMAN	6-11-34	5868 126	5692	0	5692	0	5692	YES	0	0	61	I	
6911	WL	EDWIN BOGGEN * TWILLA M. BOGGEN	6-11-35	10162 136	5940	0	5940	0	5940	YES	0	0	61	I	
6912	WL	RUSSELL E. HICKS * MARGARET HELEN HICKS	6-11-36	10375 119	6188	0	6188	0	6188	YES	0	0	61	I	
6913	WL	STEVE LENART	6-11-37	12354 451	6437	0	6437	0	6437	YES	0	0	61	I	
6914	WL	CHARLES E. SENNETT * ELIZABETH D. SENNETT	6-11-38	11136 233	6685	0	6685	0	6685	YES	0	0	61	I	
6915	WL	MARY F. HAAS	6-11-39	11620 971	6933	0	6933	0	6933	YES	0	0	61	I	
6916	WL	ALFRED PALUMBO * FRANCES PALUMBO	6-11-40	7879 360	7182	0	7182	0	7182	YES	0	0	61	I	
6917	WL	ALMA GRAMS	6-11-41	5452 709	7430	0	7430	0	7430	YES	0	0	61	I	
6918	WL	GEORGE BECK	6-11-42	12322 245	8337	0	8337	0	8337	YES	0	0	61	I	
6919 TO 6928															NOT USED
6929 TO 6932															NOT USED
6933	WD	HELEN L. WINKLER	6-11-52	5081 253	4410	0	1159	0	1159	YES	0	0	61	I	STRUCTURE REMOVAL Sold, Vol. 15485 Pg. 975 Combined With Parcel 6934EL
6933	T						799	0	799						
6933	EL						3251	0	3251						
6934	WL	DENNIS P. REYNOLDS * COLLETTA C. REYNOLDS	6-11-51	11652 25	4410	0	3451 959	0	3451 959	YES	0	0	61	I	Sold, Vol. 15485 Pg. 975 Combined With Parcel 6933EL
6935	WL	HENRIETTA CECILIA WILLIAMSON	6-11-50	8401 323	4410	0	4410	0	4410	YES	0	0	61	I	
6936	WL	PAUL F. CUSICK	6-11-49	8839 571	4410	0	4410	0	4410	YES	0	0	61	I	
6937	WL	MARGARET G. YARWOOD ERB	6-11-48	10185 29	4410	0	4410	0	4410	YES	0	0	61	I	
6938	WL	ROSE BECK	6-11-47	7691 473	4410	0	4410	0	4410	YES	0	0	61	I	
6939	WL	ALESSANDRO LUNGO * MARY JANE LUNGO AND ANTONIO LUNGO * DOROTHY LUNGO	6-11-46	8250 420 8843 132 9045 79	4410	0	4410	0	4410	YES	0	0	61	I	

H.R.T.	Rev. areas added to Remarks-	
	Parcels 6933 & 6934	4-19-83
NAME	REVISION	DATE

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

769  
838

CUYAHOGA COUNTY  
CUY 90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

23  
92

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT			
6940 WL	LERDY WATSON * JOANNE M. WATSON	6-11-45	10146	141	4410	0	4410	0	4410	YES	0	0	61	I	
6941 WL	LEO D. * HELEN A. WESOLEK AND FRANK * SHIRLEY ANNE BATOR	6-11-44	10127	109	3068	0	3068	0	3068	YES	0	0	61	I	
6942 WL	JOHN MURTI, JR.	6-11-43	5474	584	1390	0	1390	0	1390	YES	0	0	61	I	
6943 TO 6949															NOT USED
6950 WL	JEAN PALMER	6-12-28	12101	891	2835	0	2835	0	2835	YES	0	0	59	I	
6951 WL	LERDY E. GREGORY * IRMA N. GREGORY	6-12-29	9932	145	2357	0	2357	0	2357	YES	0	0	59	I	
6952 WL	THELMA L. SCHAFER	6-12-133	9970	317	1957	0	1957	0	1957	YES	0	0	59	I	
6953 WL	CLARA TAILON * JOSEPH TAILON	6-12-27	4919	602	4410	0	4410	0	4410	YES	0	0	59	I	
6954 WL	LAWRENCE G. JONTZEN	6-12-26	10110	434	4410	0	4410	0	4410	YES	0	0	59	I	
6955 WL	EMMA FUCHS	6-12-25	1479	547	4410	0	4410	0	4410	YES	0	0	59	I	
6956 WL	ALPHONSE J. SEWELL * MATILDA M. SEWELL	6-12-24	4752	385	4410	0	4410	0	4410	YES	0	0	59	I	
6957 WL	ROSE VALANTI	6-12-23	10991	125	4410	0	4410	0	4410	YES	0	0	59	I	
6958 WL	GRACE BECKLEY * WILBER F. BECKLEY	6-12-22	5673	315	4410	0	4410	0	4410	YES	0	0	60	I	
6959 WL	JULIAE CURRAN	6-12-21	7281	724	4410	0	4410	0	4410	YES	0	0	60	I	
6960 WL	HERBERT FRIEDRICH * MARIE FRIEDRICH	6-12-20	7052 10342	172 299	4410	0	4410	0	4410	YES	0	0	60	I	
6961 WL	LOUISA JOHNSON	6-12-123	8259 9795	669 60	2205	0	2205	0	2205	YES	0	0	60	I	
6962 WL	EDWARD R. SPRIGGS * MARIE F. SPRIGGS	6-12-19	9418	65	2205	0	2205	0	2205	YES	0	0	60	I	
6963 WL	HILDA WEBBER	6-12-18	11396	447	4410	0	4410	0	4410	YES	0	0	60	I	
6964 WL	CAROLINE R. VENUS	6-12-17	11632	63	4410	0	4410	0	4410	YES	0	0	60	I	
6965 WL	LILLIAN BRENNER	6-12-16	2010 11673	495 915	4410	0	4410	0	4410	YES	0	0	60	I	
6966 WL	CHARLES A. DOROW, CLARA DOROW, FLORENCE DOROW, MARIE DOROW, WILLIAM G. DOROW, LUCILE TROESCH	6-12-15	5664 8054	650 734	4410	0	4410	0	4410	YES	0	0	60	I	
6967 WL	ANTHONY PRIEBE * GERTRUDE A. PRIEBE	6-12-14	7094	534	4410	0	4410	0	4410	YES	0	0	62	I	
6968 WL	IRENE DE VRIES	6-12-13	4855	442	4410	0	4410	0	4410	YES	0	0	62	I	
6969 WL	LESTER W. DARRAH * MARY R. DARRAH	6-12-12	6698	10	4410	0	4410	0	4410	YES	0	0	62	I	
6970 WL	JOHN JOSEPH LOGAN, MICHAEL A. LOGAN, GEORGE J. LOGAN	6-12-11	9065	325	4410	0	4410	0	4410	YES	0	0	62	I	
6971 WL	MARY SZABO	6-12-10	10690	611	4410	0	4410	0	4410	YES	0	0	62	I	
6972 WL	ROY V. HIRSCH * ESTATE OF IRENE A. HIRSCH	6-12-9	7279	666	4410	0	4410	0	4410	YES	0	0	62	I	
6973 WL	WILLIAM T. SWINDELL * VIRGINIA G. SWINDELL	6-12-8	11366	207	4410	0	4410	0	4410	YES	0	0	62	I	
6974 WL	FRIEDA GIBBONS	6-12-7	1547	182	4410	0	4410	0	4410	YES	0	0	62	I	
6975 WL	FLORENCE E. FINK	6-12-6	6037	307	4410	0	4410	0	4410	YES	0	0	62	I	
6976 WL	ITALO PACETTI * FLORINA PACETTI	6-12-5	8474	629	2263	0	2263	0	2263	YES	0	0	62	I	
6977 WL	LAURETTE NEW	6-12-130	8288	230	2147	0	2147	0	2147	YES	0	0	62	I	
6978 WL	JAMES L. WOOD * LOLA WOOD	6-12-4	10181	467	3906	0	3906	0	3906	YES	0	0	62	I	
6979 WL	TAMBERS O. GOSA * BESSIE E. GOSA	6-12-129	10305	416	2625	0	2625	0	2625	YES	0	0	62	I	

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT	
2	OHIO	I-90-1(54)	

770  
838

CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

24  
92

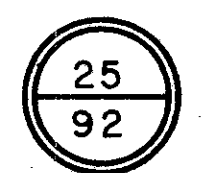
PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT			
6980 WL	WILLIAM A. LEESE	6-12-2 6-12-3 6-12-131 6-12-132	10374 10636	357 239	8655	0	8655	0	8655	YES	0	0	62	I	
6981 WL	FRANK L. COOK * MARY ANN COOK	6-12-1	10912	207	2325	0	2325	0	2325	YES	0	0	62	I	
6982 TO 6989															
6990 WL	LEO R. KUNDTZ	6-12-30	6645 11846	214 305	9502	0	9502	0	9502	YES	0	0	59	I	
6991 WL	KATHERINE I. MCMANAMON	6-12-31 6-12-95	11169 11879	419 683	7145	0	7145	0	7145	YES	0	0	59	I	
6992 WL	ALICE SZALAY & THEODORE SZALAY	6-12-96	10710	13	4410	0	4410	0	4410	YES	0	0	59	I	
6993 WL	JOHN LIHANI * SUSAN LIHANI	6-12-97	5227	29	4410	0	4410	0	4410	YES	0	0	59	I	
6994 WL	MARGARET VARGO	6-12-98	5661	337	4410	0	4410	0	4410	YES	0	0	59	I	
6995 WL	CHARLES WOJCIECHOWSKI * FRANCES C. WOJCIECHOWSKI	6-12-99	5466	356	4410	0	4410	0	4410	YES	0	0	59	I	
6996 WL	SOPHIA WELLING	6-12-100	8215	439	4410	0	4410	0	4410	YES	0	0	60	I	
6997 WL	ESTATE OF RAYMOND KELLER	6-12-101	11352	267	4410	0	4410	0	4410	YES	0	0	60	I	
6998 WL	MELVIN R. MILLER * JEANE R. MILLER	6-12-102	10695	675	4410	0	4410	0	4410	YES	0	0	60	I	
6999 WL	ELENORE TOTH * LUISE M. TOTH	6-12-103	7618	270	4410	0	4410	0	4410	YES	0	0	60	I	
7000 WL	WILLIAM F. PURSEL, SR. * DOROTHY M. PURSEL	6-12-104	9073	329	4410	0	4410	0	4410	YES	0	0	60	I	
7001 WL	LOUISE CROWE	6-12-105	12167	859	4410	0	4410	0	4410	YES	0	0	60	I	
7002 WL	NINA DI VINCENZO	6-12-106	10990	259	4410	0	4410	0	4410	YES	0	0	60	I	
7003 WL	ARLINE M. SCHAEPE * ELIZABETH EBERT	6-12-107	7813	6	4410	0	4410	0	4410	YES	0	0	60	I	
7004 WL	STANISLAW MARUSZEWSKI	6-12-108 6-12-109	8225 12366	416 201 203	8820	0	8820	0	8820	YES	0	0	62	I	
7005 WL	JOSEPH MARKHAM * ELLEN MARKHAM	6-12-110	4536	356	4410	0	4410	0	4410	YES	0	0	62	I	
7006 WL	FLORENCE A. REIMAN	6-12-111	10159	221	4410	0	4410	0	4410	YES	0	0	62	I	
7007 WL	ELSIE HEIDINGER	6-12-112	10651 16229	199 61	4410	0	4410	0	4410	YES	0	0	62	I	
7008 WL	ELEANOR GUDDY	6-12-113	6460 10635	28 437	4410	0	4410	0	4410	YES	0	0	62	I	
7009 WL	NICK MOCHKO * ESTHER MOCHKO	6-12-114	8225	210	4410	0	4410	0	4410	YES	0	0	62	I	
7010 WL	ANNA M. RATRAY	6-12-115	6666	422	4410	0	4410	0	4410	YES	0	0	62	I	
7011 WL	FRANK HURLEY * PHYLLIS H. HURLEY	6-12-116	6821	423	4410	0	4410	0	4410	YES	0	0	62	I	
7012 WL	ALTA SEIBERT * ETHEL HALAK	6-12-117	10958	169	4410	0	4410	0	4410	YES	0	0	62	I	
7013 WL	JOSEPH PUTRINO * A. P. PUTRINO	6-12-118	10150	272	4410	0	4410	0	4410	YES	0	0	62	I	
7014 WL	FRANK J. KUKLA * MARGARET M. KUKLA	6-12-119	12369	727	4410	0	4410	0	4410	YES	0	0	62	I	
7015 WL	JAMES D. BRAS * ELEANOR B. BRAS	6-12-120	10941	323	4410	0	4410	0	4410	YES	0	0	62	I	
7016 WL	WILLIAM J. WATSON * MARY E. WATSON	6-12-122	10954	71	3455	0	3455	0	3455	YES	0	0	62	I	
7017 WL	WILSON A. LEECE	6-12-121	10636	239	1003	0	1003	0	1003	YES	0	0	62	I	
7018 TO 7019															
7020 WL	VINCENT C. D'AMICO	6-13-32	10908	483	3780	0	3780	0	3780	YES	0	0	66	I	Sold AFN 199906010377
7021 WL	BASIL WEBB * HAZEL WEBB	6-13-33	11611	31	3780	0	3780	0	3780	YES	0	0	66	I	Sold AFN 199906010377
7022 WL	FRANCES J. REUST	6-13-34	333	552	3780	0	3780	0	3780	YES	0	0	66	I	Sold AFN 199906010377

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT			
7023 WL	JOHN GARDNER	6-13-35	5416	634	3672	0	3672	0	3672	YES	0	0	66	I	Sold AFN 199906010377
7024 WL	CLAUDINA PARETE * SALVATORE PARETE	6-13-41 6-13-42	9768 8866	152 440	7200	0	7200	0	7200	YES	0	0	66	I	Sold AFN 199906010377
7025															NOT USED-COMBINED WITH 7024WL
7026 WL	HAROLD L. KLARREICH	6-13-40	11636	517	2085	0	2085	0	2085	YES	0	0	66	I	Sold AFN 199906010377
7027 TO 7029															NOT USED
7030 WL	MARY L. LORENZI	6-12-32	8225 9928	141 397	3496	0	3496	0	3496	YES	0	0	59	I	
7031 WL	WILLIAM A. BUCKNER * JOAN K. BUCKNER	6-12-33	10612	113	3195	0	3195	0	3195	YES	0	0	59	I	
7032 WL	JOHN HALLERMANN * CATHERINA HALLERMANN	6-12-34	7815	457	3450	0	3450	0	3450	YES	0	0	59	I	
7033 WL	MARIE JABS * JOSEPH JABS	6-12-35	11166	269	3706	0	3706	0	3706	YES	0	0	59	I	
7034 WL	AMELIA KRUEGER	6-12-94	6356	294	3780	0	3780	0	3780	YES	0	0	59	I	
7035 WL	FRED W. SHIRK * RITA SHIRK	6-12-93	7262	460	4410	0	4410	0	4410	YES	0	0	59	I	
7036 WL	ROY MCMAHAN * JULIA MAE MCMAHAN	6-12-92	10135	471	4410	0	4410	0	4410	YES	0	0	59	I	
7037 WL	LOUIS RAK, JR. * MILDRED RAK	6-12-91	7816	118	5292	0	5292	0	5292	YES	0	0	59	I	
7038 WD	HOMER MILAM * CORA LEE MILAM	6-12-90	12130	467 469	5292	0	5292	0	5292	YES	0	0	59	I	
7039 WD	LUCAS B. DRYER * MARGARET E. DRYER	6-12-89	5462	458	4410	0	4410	0	4410	YES	0	0	59	I	
7040 WD	FLORENCE SCACCUTO	6-12-88	12128	803	4410	0	4410	0	4410	YES	0	0	60	I	
7041 TO 7045															NOT USED
7046 TO 7054															NOT USED
7055 WD	HELEN PINKOWSKI, ET AL	6-14-9	12902	567	4620	0	4620	0	4620	YES	0	0	63	I	
7056 WL 7056 WD	BOARD OF EDUCATION	6-14-8	13156	525	4620	0	1700 2920	0 0	1700 2920	NO	0	0	63	I I	ACQUIRED AS TOTAL TAKE
7057 WL	LEO A. KLAWNS	6-14-7	4702	654	4620	0	4620	0	4620	YES	0	0	64	I	
7058 WL	MARIE J. BERTOLONE	6-14-6	9422	686	4620	0	4620	0	4620	YES	0	0	64	I	
7059 WL	RICHARD VANCE * GARNET LOUISE VANCE	6-14-5	9720	601	4620	0	4620	0	4620	YES	0	0	64	I	
7060 WL	LESTER LERDY GIRCSIS * DELORES GIRCSIS	6-14-4	7037	255	4620	0	4620	0	4620	YES	0	0	64	I	
7061 WL	CARMELA MANCUSO, JOHN A. MANCUSO	6-14-150	8884	345	3730	0	3730	0	3730	YES	0	0	64	I	
7062 WL	GOERGE SZELESS * ILONA SZELESS	6-14-2	5900	485	4620	0	4620	0	4620	YES	0	0	64	I	
7063 WL	BERTHA GULAS * MIKE GULAS	6-14-1	9317	418	5149	0	5149	0	5149	YES	0	0	64	I	
7064 WL	BOARD OF EDUCATION	6-14-33 6-14-34 6-14-35 6-14-62	9701 3361	488 446	160264	0	28,845	0	28,845	YES	131,419	0	63	I	







# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

774  
838

CUYAHOGA COUNTY  
CUY 90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

28  
92

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLDG	LEFT	RIGHT			
7150															NOT USED
7151 WL	CECILIA B. GALLAGHER	6-15-67	8294	18	3682	0	3682	0	3682	YES	0	0	68	I	
7152 WL	MABEL L. KENNY	6-15-59	5157	591	6340	0	6340	0	6340	YES	0	0	68	I	
7153 WL	DEWEY G. BAIR * LOTTIE BAIR	6-15-65	11141	263	3083	0	3083	0	3083	YES	0	0	68	I	
7154 WL	THOMAS MANGAN * CATHERINE MANGAN	6-15-60	6608	568	3150	0	3150	0	3150	YES	0	0	68	I	
7155 WL	GERTRUDE BALDRIDGE	6-15-66	9458	581	3150	0	3150	0	3150	YES	0	0	68	I	
7156 WL	HENRY C. BURKHOLDER * MARGARET M. BURKHOLDER	6-15-58	8015	722	2460	0	2460	0	2460	YES	0	0	68	I	
7157 WL	EMIL E. LINKOVIC * IRENE J. LINKOVIC	6-15-57	9743	234	2500	0	2500	0	2500	YES	0	0	68	I	
7158 TO 7160															NOT USED
7161 WL	JOSEPH PIROZZOLI * DINA PIROZZOLI	6-14-36	10691	467	4800	0	4800	0	4800	YES	0	0	69	I	
7162 WL	MARGARET JANE EBENGER	6-14-37	5428	518	3520	0	3520	0	3520	YES	0	0	69	I	
7163 WL	JAMES H. DAVIS * JUNE M. DAVIS	6-14-38	9462	214	3520	0	3520	0	3520	YES	0	0	69	I	
7164 WL	ERNEST A. BRYNE * VIOLA BRYNE	6-14-39	11900	789	3520	0	3520	0	3520	YES	0	0	69	I	
7165 WL	HARRY R. CAREY * HILDA CAREY	6-14-40 6-14-41	10125	281	18640	0	18640	0	18640	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7166 WL	MARGARET JANE EBENGER	6-14-42	5405	345	2580	0	2580	0	2580	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7167 WL	THOMAS J. CORRIGAN	6-14-43	12569	645	2850	0	2850	0	2850	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7168 WL	EDWARD DIGIAMARINO * GENEVIEVE DIGIAMARINO	6-14-44	8694	56	2150	0	2150	0	2150	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7169 WL	FERDINAND DIMARINO * IONA DIMARINO	6-14-45	9917	544	2150	0	2150	0	2150	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7170 WL	ESTATE OF BRIDGET DUGAN	6-14-46	12167	67	2150	0	2150	0	2150	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7171 WL	JAMES J. BOLZAN * MARIE OLGA BOLZAN	6-14-47	5604	600	2150	0	2150	0	2150	YES	0	0	69	I	
7172 WL	CATHERINE E. THOMA	6-14-77	12173	763	4700	0	4700	0	4700	YES	0	0	69	I	
7173 WL	MARVIN H. HATALA * KATHERINE M. HATALA	6-14-78	6248	658	3500	0	3500	0	3500	YES	0	0	69	I	
7174 WL	MARIE YACZKO SIMON	6-14-79	7246	522	3000	0	3000	0	3000	YES	0	0	69	I	
7175 WL	MARY (KISSLING) BRUMLEY	6-14-76	7668	562	5600	0	5600	0	5600	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7176 WL	GUST L. ALTZNER * ANNA ALTZNER	6-14-75	8631	228	5600	0	5600	0	5600	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7177 WL	ANN MULROY, EXECUTRIX OF THE ESTATE OF MARY A. JOYCE	6-14-74	2182	559	5600	0	5600	0	5600	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7178 WL	DRA W. RILEY * DESSIE R. RILEY	6-14-73	10935	723	2800	0	2800	0	2800	YES	0	0	69	I	<b>Sold Vol. 87-5861, Pg. 45</b>
7179 WL	GEORGE JURANITS	6-14-72	10999	381	2800	0	2800	0	2800	YES	0	0	69	I	
7180 WL	RUTH M. ECKERT	6-14-48	7005	433	4200	0	4200	0	4200	YES	0	0	70	I	
7181 WL	MARY F. HAAS	6-14-49	10685	61	4200	0	4200	0	4200	YES	0	0	70	I	
7182 WL	ANNA PLISKA	6-14-50	9036	200	4200	0	4200	0	4200	YES	0	0	70	I	
7183 WL	ZEPKIN * CRISAFI REALTY, INC.	6-14-148	7869	691	2520	0	2520	0	2520	YES	0	0	70	I	
7184 WL	CARL B. UNDERWOOD	6-14-51	10372	7	1680	0	1680	0	1680	YES	0	0	70	I	
7185 WL	ANNA L. MAY	6-14-147	8859 9026 6447	591 17 340	2590	0	2590	0	2590	YES	0	0	70	I	
7186 WL	THOMAS D. MORAN	6-14-52	8861	213	1610	0	1610	0	1610	YES	0	0	70	I	
7187 WL	JUNE E. CLEVELAND	6-14-53	5817	178	4200	0	4200	0	4200	YES	0	0	70	I	
7188 WL	WILLIAM H. KNAUS	6-14-54	11140	71	4200	0	4200	0	4200	YES	0	0	70	I	
7189 WL	GEORGE KLOBUSNIK * JULIA KLOBUSNIK	6-14-55	6222	323	4200	0	4200	0	4200	YES	0	0	70	I	



# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

776  
838

CUYAHOGA COUNTY  
CUY 90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

30  
92

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS	
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLDG	LEFT	RIGHT				
7240	WL	NICK SCHEPIS	6-15-30	10148	595	8976	0	8976	0	8976	YES	0	0	73	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7241	WL	THE ELABORATED ROOFING CO.	6-15-31	2838 2867	455 450	6860	0	6860	0	6860	YES	0	0	73	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7242	WL	DAVID J. SIMON * ANNA SIMON	6-15-32	10645	17	884	0	884	0	884	YES	0	0	73	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7243	WL	DINO C. DESANTIS	6-15-33	5062	1	4284	0	4284	0	4284	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7244	WL	VASILIA CHIVILES	6-15-34	4536	612	2854	0	2854	0	2854	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7245	WL	ARTHUR G. LOYD * LINDA L. LOYD	6-15-35	11697	805	3326	0	3326	0	3326	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7246	WL	ROBERT P. ATKINSON * OCTAVIA ATKINSON	6-15-36	5679	543	3323	0	3323	0	3323	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7247	WL	ROY LEE COLSON * PATRICIA ANN COLSON	6-15-37	8893	146	2846	0	2846	0	2846	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7248	WL	HAZEL M. BLYLER	6-15-38	7870 10134	261 81	2843	0	2843	0	2843	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7249	WL	HARRY H. REDMON * LEAH MAE REDMON	6-15-39	6609	717	2841	0	2841	0	2841	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7250	WL	VICTOR M. DRAGON * IRENE E. DRAGON	6-15-40	11672	891	3737	0	3737	0	3737	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7251	WL	OLIVER C. TONG * JOAN ALICE TONG	6-15-41	6692	695	3118	0	3118	0	3118	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7252 TO 7259																NOT USED
7260	WL	MARY MARTINEZ	6-14-80	5403	312	2770	0	2770	0	2770	YES	0	0	69	I	
7261	WL	MICHAEL J. VARGO * HELEN J. VARGO	6-14-81	10683	399	5230	0	5230	0	5230	YES	0	0	69	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7262	WL	JULIA TRHAN	6-14-82	5886	52	8000	0	8000	0	8000	YES	0	0	69	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7263	WL	AMALIA H. SCHWARTZ	6-14-143	6265	473	3090	0	3090	0	3090	YES	0	0	69	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7264	WL	EDWARD C. PENNICK	6-14-83	7900	516	2110	0	2110	0	2110	YES	0	0	69	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7265	WL	JAMES EVERETT CAUDILL * VIVAN D. CAUDILL	6-14-144	10989	121	2820	0	2820	0	2820	YES	0	0	69	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7266	WL	ROSEMARY MCNAMEE	6-14-84	5446	718	8000	0	8000	0	8000	YES	0	0	69	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7267	WL	JOHN F. YACOVELLA * ALICE A. YACOVELLA	6-14-85	10400	313	4000	0	4000	0	4000	YES	0	0	69	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7268	WL	JULIA TORDK	6-14-86	3087 9002	420 508	4600	0	4600	0	4600	YES	0	0	69	I	
7269	WL	MARIE BAXTER * JOHN WENDEL	6-14-71	6089 1634	164 593	4000	0	4000	0	4000	YES	0	0	69	I	
7270	WL	LINDA L. BRIERE	6-14-87	9905	653	4200	0	4200	0	4200	YES	0	0	69	I	
7271	WL	JOSEPH MUNOZ	6-14-88	11825 9058	745 331	4200	0	4200	0	4200	YES	0	0	69	I	
7272	WL	HILSA M. LUUKE	6-14-89	2942	143	4200	0	4200	0	4200	YES	0	0	69	I	
7273	WL	ARLINA D. SEWOLICH	6-14-90	10957	501	4200	0	4200	0	4200	YES	0	0	70	I	
7274	WL	FRANK FROELICH * ROSELLA FROELICH	6-14-91	8651	91	4800	0	4800	0	4800	YES	0	0	70	I	
7275	WL	EDWARD J. * CATHERINE MCNAMARA	6-14-70	6236	489	2100	0	2100	0	2100	YES	0	0	70	I	
7276	WL	MAY WATTS	6-14-93	9067	471	4200	0	4200	0	4200	YES	0	0	70	I	
7277	WL	WILLIAM J. TISCHLER	6-14-94	5286	165	4200	0	4200	0	4200	YES	0	0	70	I	
7278	WL	CARL J. RAMSER * PHYLLIS L. RAMSER	6-14-95	8853	101	1995	0	1995	0	1995	YES	0	0	70	I	
7279	WL	WOLFGANG RIBBERT	6-14-96	10997 10382	265 699	4200	0	4200	0	4200	YES	0	0	70	I	
7280	WL	EUGENE MANN * TENNESSEE MANN	6-14-97	9963	643	4200	0	4200	0	4200	YES	0	0	70	I	
7281	WL	MARY KILBANE	6-14-98	4752	556	4200	0	4200	0	4200	YES	0	0	70	I	
7282	WL	HATTIE B. FALCONER	6-14-99	3049	249	4200	0	4200	0	4200	YES	0	0	70	I	

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

777  
838

CUYAHOGA COUNTY  
CUY 90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

31  
92

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLDG	LEFT	RIGHT			
7283	WL GEORGE A. WAGNER * EDNA M. WAGNER	6-14-100	7604	528	4200	0	4200	0	4200	YES	0	0	72	I	
7284	WL FRANK L. SEITZ * GERALDINE K. SEITZ	6-14-101	7471	279	6000	0	6000	0	6000	YES	0	0	72	I	
7285	WL PETE PIAZZA * BERNICE PIAZZA	6-14-92	11853	28	2100	0	2100	0	2100	YES	0	0	70	I	
7286	WL LOUIS P. GREENFIELD * CAROLINE G. GREENFIELD	6-14-149	9069	554	2205	0	2205	0	2205	YES	0	0	70	I	
7287 TO 7288															NOT USED
7289	WL THOMAS C. MORAN	6-14-152	8861	213	2511	0	2511	0	2511	YES	0	0	75	I	Sold Vol. 87-5861, Pg. 42
7290	WL CHARLES * ELLA MCCULLOUGH	6-14-119	8089	537	4202	0	4202	0	4202	YES	0	0	75	I	Sold Vol. 87-5861, Pg. 42
7291	WL ALICE SCHLESINGER	6-14-118	10352	269	1730	0	1730	0	1730	YES	0	0	75	I	Sold Vol. 87-5861, Pg. 42
7292	WL MARY MURRAY	6-14-117	6405	183	4340	0	4340	0	4340	YES	0	0	75	I	Sold Vol. 87-5861, Pg. 42
7293	WL LEOPOLD JUNG * NANCY L. JUNG	6-14-116	10331	559	4155	0	4155	0	4155	YES	0	0	75	I	
7294	WL LYDIA MCBRAYER	6-14-115	11355	489	2774	0	2774	0	2774	YES	0	0	75	I	
7295	WL RAYMOND M. SCHULTZ	6-14-114	9810	292	2973	0	2973	0	2973	YES	0	0	75	I	
7296	WL HAROLD E. YOUNG	6-14-113	11396	437	3405	0	3405	0	3405	YES	0	0	75	I	
7297	WL JOHN ADIPIETRO * ASSUMTA ADIPIETRO	6-14-112 6-14-151	9060	539	2777	0	2777	0	2777	YES	0	0	76	I	
7298	WL HOWARD C. MIZER * HELEN MIZER	6-14-111	8493	205	2562	0	2562	0	2562	YES	0	0	76	I	
7299	WL EDWARD R. THOMAS * MARIE THOMAS	6-14-110	6099	135	2768	0	2768	0	2768	YES	0	0	76	I	
7300	WL IRENE ALBERT * MARY BALINT	6-14-109	11557	213	2768	0	2768	0	2768	YES	0	0	76	I	
7301	WL KATHERINE E. SMITH, WILLIAM T. SMITH, ALBERT H. SMITH * CATHERINE SMITH, FRANCIS J. SMITH * ELIZABETH SMITH AND JOSEPH P. SMITH * LOUS SMITH	6-14-108	11849	451	2768	0	2768	0	2768	YES	0	0	76	I	
7302	WL ROSE M. HAMER	6-14-107	8293	413	2768	0	2768	0	2768	YES	0	0	76	I	
7303	WL JULIA TRHAN	6-14-106	7667	251	4238	0	4238	0	4238	YES	0	0	76	I	
7304	WL MARY DZIK * FRED P. DZIK	6-14-105	10971	275	2100	0	2100	0	2100	YES	0	0	76	I	
7305	WL JACOB HALLER	6-14-104	10602	717	2100	0	2100	0	2100	YES	0	0	76	I	
7306	WL MARY VALACH	6-14-103	3526	111	4000	0	4000	0	4000	YES	0	0	76	I	
7307	WL SANFORD FINCHUM	6-14-146	10621	259	4586	0	4586	0	4586	YES	0	0	72	I	
7308	WL CLARA LEAHY	6-14-102	7489	426	3470	0	3470	0	3470	YES	0	0	72	I	
7309	WL JOSEPH DEMARCO	6-13-84	6258	267	2599	0	2599	0	2599	YES	0	0	72	I	
7310	WL STEVE J. BOBROVSKY	6-13-85	11160	553	2695	0	2695	0	2695	YES	0	0	72	I	
7311	WL GEORGE BALUE * ESTHER BALUE	6-13-86	8448	180	3010	0	3010	0	3010	YES	0	0	72	I	
7312	WL HOWARD SHERMER * LOUISE D. SHERMER	6-14-120	5601	170	4500	0	4500	0	4500	YES	0	0	75	I	Sold Vol. 87-5861, Pg. 42
7313	WL CARL ZEHE * BESSIE ZEHE, M. C. MILLS * LETHA MILLS, JAMES E. HOPE * MARGARET HOPE, FRED JENKINS * NETTIE JENKINS, JOSEPH D. HOPE * HAZEL E. HOPE AND AUDREY HANNA	6-14-121	10110	72	4443	0	4443	0	4443	YES	0	0	75	I	Sold Vol. 87-5861, Pg. 42
7314	WL FEDELE DONOFRIO * CONCETTA DONOFRIO	6-14-122	10547	392	2168	0	2168	0	2168	YES	0	0	75	I	
7315	WL BERTHA THRENT F.K.A. BERTHA WHEELER * ROBERT C. THRENT	6-14-123	7462	649	2168	0	2168	0	2168	YES	0	0	75	I	
7316	WL AMALIE BRAUN	6-14-124	8027	321	4303	0	4303	0	4303	YES	0	0	75	I	
7317	WL CARL F. FLACHBART * BETTY L. FLACHBART	6-14-125	10167	379	3244	0	3244	0	3244	YES	0	0	75	I	



# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

779  
838

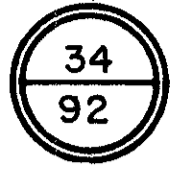
CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

33  
92

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT			
7369 WL	JOSEPH H. SCHUSTER	6-13-92 6-13-91	7409	639	8001	0	8001	0	8001	YES	0	0	72	I	
7370 WL	ALBERT S. KINTZ * GENEVIEVE F. KINTZ	6-13-90	9764	672	4785	0	4785	0	4785	YES	0	0	72	I	
7371 WL	THEODORE J. HIRTH * LUCILLE HIRTH	6-13-89	8879	591	3482	0	3482	0	3482	YES	0	0	72	I	
7372 WL	CYRIL M. SALVA	6-13-88	10179	19	2834	0	2834	0	2834	YES	0	0	72	I	
7373 WL	ELIZABETH R. KOLARIK	6-13-87	5615	547	6664	0	6664	0	6664	YES	0	0	72	I	
7374 WL	EDWARD HAYDA * JENNIE HAYDA	6-13-79	10953	80	7295	0	7295	0	7295	YES	0	0	72	I	
7375 WL	HENRY C. CHRISTIAN	6-13-100	7850	389	15134	0	15134	0	15134	YES	0	0	72	I	
7376 WL	THE BAY METAL PRODUCTS CO., AN OHIO PARTNERSHIP	6-13-97 6-13-96 6-13-101 6-13-98	10946	497	66183	0	66183	0	66183	YES	0	0	66 71-72	I	
7377 WL	W. C. ANSCHUTZ	6-13-99	10346	571	4615	0	4615	0	4615	YES	0	0	72	I	
7378 TO 7389															
7390 WL	SUN OIL COMPANY	6-18-10 6-18-11	10155	718	8965	0	8965	0	8965	YES	0	0	73	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7391 WL	JULIAN C. SCHMIDT * LOIS B. SCHMIDT	6-18-12	7852	109	7409	0	7409	0	7409	YES	0	0	73	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7392 WL	FRANK REIDLE	6-18-9	5625	415	6382	0	6382	0	6382	YES	0	0	73	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7393 WL	RUTH V. OLASKY	6-18-8	7894	560	4595	0	4595	0	4595	YES	0	0	73	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7394 WL	FOSTER M. SHELTON * KATHLEEN SHELTON	6-18-7	11382	153	5000	0	5000	0	5000	YES	0	0	73	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7395 WL	CLARK T. DIEHL	6-18-6	11372	469	6453	0	6453	0	6453	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7396 WL	NANDOR KOLMER * HELEN KOLMER	6-18-5	10197	365	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7397 WL	JAMES J. HYLAND * MARY C. HYLAND	6-18-4	9709	423	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7398 WL	PHILLIP * BERRY J. NATIVIO	6-18-3	10534	560	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7399 WL	JOHN GEORGE SOEDER, JR.	6-18-2	9438	325	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7400 WL	FRANK BRDA * LILLIAN BRDA	6-18-1	7427	369	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7401 WL	JOSEPHINE MOULTON	6-17-26	5833	680	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7402 WL	NORMAN W. RYAN * EMMA J. RYAN	6-17-25	11602	557	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7403 WL	CARL MILLER * MARY MILLER	6-17-24	5447	607	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7404 WL	EDWARD A. ORSZAK * LILLIAN M. ORSZAK	6-17-23	10250 10557	612 234	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7405 WL	KALRA DRAGHICI	6-17-22	9033	116	3900	0	3900	0	3900	YES	0	0	74	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7406 WL	NORMAN CHESTER NUSSER * RAMONA E. NUSSER	6-17-21	11661	451	3900	0	3900	0	3900	YES	0	0	75	I	<b>Sold Vol. 87-5861, Pg. 42</b>
7407 WL	LILLIAN A. SKUTOVITS	6-17-20	8488	306	3900	0	3900	0	3900	YES	0	0	75	I	
7408 WL	GEORGE B. BISHOP	6-17-19	10617	121	3900	0	3900	0	3900	YES	0	0	75	I	
7409 WL	JOHN D. ANDERSON * TYGRE IRENE ANDERSON	6-17-18	5446	440	3900	0	3900	0	3900	YES	0	0	75	I	
7410 WL	MIKE KETVIRTIS * JOSEPHINE KETVIRTIS	6-17-17	2779	430	7800	0	7800	0	7800	YES	0	0	75	I	
7411 WL	KENNETH C. CLAYPOOLE * EDITH CLAYPOOLE	6-17-16	11365	699	4680	0	4680	0	4680	YES	0	0	75	I	
7412 WL	RICHARD STEWART * MATILDA STEWART	6-17-15	10691	693	4680	0	4680	0	4680	YES	0	0	75	I	
7413 WL	OSCAR A. KORTOWICH	6-17-14	5439	433	4680	0	4680	0	4680	YES	0	0	75	I	
7414 WL	OSCAR KORTOWICH * PAULINE KORTOWICH	6-17-13	5420	192	4680	0	4680	0	4680	YES	0	0	75	I	

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLDG	LEFT	RIGHT			
7415	WL	BEATRICE SCOLARI	6-17-12	9943 51	4485	0	4485	0	4485	YES	0	0	75	I	
7416	WL	STEVE B. VAND * CECELIA D. VAND	6-17-11	9009 451	2224	0	2224	0	2224	YES	0	0	76	I	
7417	WL	PATRICK MELITO * NELLIE MELITO	6-17-10	11853 906	1871	0	1871	0	1871	YES	0	0	76	I	
7418	WL	AUGUST A. RIEKER * JULIA T. RIEKER	6-17-9	9081 359	3900	0	3900	0	3900	YES	0	0	76	I	
7419	WL	FLORENCE E. BURRELL	6-17-8	8839 8833 371 651	3900	0	3900	0	3900	YES	0	0	76	I	
7420	WL	JOHN HUCULAK	6-17-7	11300 339	3900	0	3900	0	3900	YES	0	0	76	I	
7421	WL	LEO CARL NALE * EVA NALE	6-17-6	9092 271	3900	0	3900	0	3900	YES	0	0	76	I	
7422	WL	NICKOLAS VON FISHER	6-17-5	12185 645	3900	0	3900	0	3900	YES	0	0	76	I	
7423	WL	NICKOLAS VON FISHER	6-17-4	9776 10	3900	0	3900	0	3900	YES	0	0	76	I	
7424	WL	VICTOR SIREN	6-17-3	12162 171	3900	0	3900	0	3900	YES	0	0	76	I	
7425	WL	SYLVIA BADER	6-17-2	8632 577	3900	0	3900	0	3900	YES	0	0	76	I	
7426	WL	ROBERT E. BEER	6-17-1	11675 79	3900	0	3900	0	3900	YES	0	0	76	I	
7427	WL	JOHN LENGAL * HILDA LOUISE LENGAL	6-16-85	8037 433	3900	0	3900	0	3900	YES	0	0	77	I	
7428	WL	FRED KESSLER * GLADYS KESSLER	6-16-86	12206 611	3900	0	3900	0	3900	YES	0	0	77	I	
7429	WL	ESTATE OF SOPHIE FRANK	6-16-87	3522 43	3900	0	3900	0	3900	YES	0	0	77	I	
7430	WL	ESTATE OF GEORGE JAKUBIK	6-16-88	7415 133	3900	0	3900	0	3900	YES	0	0	77	I	
7431	WL	AGNES G. MAUSER	6-16-89	7409 617	3900	0	3900	0	3900	YES	0	0	77	I	
7432	WL	ZEPKIN * CRISAFI REALTY INC.	6-16-90	10887 109	3890	0	3890	0	3890	YES	0	0	77	I	
7433	WL	EDWARD HAYDA * JENNIE R. HAYDA	6-16-91 6-16-92	11398 457	4183	0	4183	0	4183	YES	0	0	77	I	
7434	WL	BRENTWOOD INVESTMENT CORP.	6-18-13	10629 303	17960	0	17960	0	17960	YES	0	0	73	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7435	WL	LEO * SARAH BUCHANAN	6-18-91	10360 439	3234	0	3234	0	3234	YES	0	0	73	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7436	WL	NAYEL S. * ALICE SALIM	6-18-100	9792 33	3266	0	3266	0	3266	YES	0	0	73	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7437	WL	EMIL RONCEVIC * MARY RONCEVIC	6-18-92	6055 42	5200	0	5200	0	5200	YES	0	0	73	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7438	WL	MORRALL RICE	6-18-93 6-18-102	11615 803	3900	0	3900	0	3900	YES	0	0	73	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7439															NOT USED
7440	WL	HOWARD E. CORBIN * EDWINA T. CORBIN	6-18-94	11612 961	5200	0	5200	0	5200	YES	0	0	73	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7441	WL	GEORGE HELMINK * GERTRUDE HELMINK	6-18-95	5861 284	5200	0	5200	0	5200	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7442	WL	MARTIN FORTAS	6-18-96	7885 291	5200	0	5200	0	5200	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7443	WL	FRANCES M. URBAN	6-18-97	8440 672	5200	0	5200	0	5200	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7444	WL	GEORGE GROSS * SARAH GROSS	6-18-98	5474 625	5200	0	5200	0	5200	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7445	WL	FRANCES BOEHLEFIELD * FRANK J. MATHEISEN	6-18-99	9701 252	5200	0	5200	0	5200	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7446	WL	NORMAN L. CHAMBERS * MARY E. CHAMBERS	6-17-27	9800 728	5200	0	5200	0	5200	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7447	WL	HAZEL KOLBENSCHLAG	6-17-28	4920 525	5200	0	5200	0	5200	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7448	WL	LAWRENCE N. JONES, JR. * LAVERNE JONES	6-17-29	11558 131	5200	0	5200	0	5200	YES	0	0	74	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7449	WL	MARY ZMICH	6-17-30	1768 244	5200	0	5200	0	5200	YES	0	0	75	I	
7450	WL	ANTOINETTE CARILE	6-17-31	10922 183	5200	0	5200	0	5200	YES	0	0	75	I	
7451	WL	PATRICK HASTINGS * ALICE HASTINGS	6-17-32	5819 577	5200	0	5200	0	5200	YES	0	0	75	I	
7452	WL	VINCENT JOHN COOK * EDITH COOK	6-17-33	5621 310	5200	0	5200	0	5200	YES	0	0	75	I	
7453	WL	GEORGE SCHANZ * MARIE SCHANZ	6-17-34	9479 486	4160	0	4160	0	4160	YES	0	0	75	I	

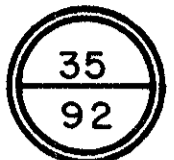


# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS	
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLDG	LEFT	RIGHT				
7454	WL	DONALD G. HANGAUER * LORRAINE N. HANGAUER	6-17-35	8644	384	4160	0	4160	0	4160	YES	0	0	75	I	
7455	WL	FRANK RAGONE * DOROTHY RAGONE	6-17-36	7409	598	4160	0	4160	0	4160	YES	0	0	75	I	
7456	WL	ANNA HOLLO * ANNA DAMETER	6-17-37	6671	434	4160	0	4160	0	4160	YES	0	0	75	I	
7457	WL	ELEANDR L. PORLIER * ALBERTA R. CUMMINGS	6-17-38	5882	400	4160	0	4160	0	4160	YES	0	0	75	I	
7458	WL	DANIEL M. SPAR * MARY E. SPAR	6-17-39	9801	472	5200	0	5200	0	5200	YES	0	0	75	I	
7459	WL	CURLEY LOWERY * BETTY E. LOWERY	6-17-40	11150	367	5200	0	5200	0	5200	YES	0	0	76	I	
7460	WL	BERNICE C. FARKAS * MENHART M. FARKAS	6-17-41	8260	247	5200	0	5200	0	5200	YES	0	0	76	I	
7461	WL	EDWARD D. JENKINS * MAXINE JENKINS	6-17-42	6015	525	5200	0	5200	0	5200	YES	0	0	76	I	
7462	WL	FRANK H. SCHWETER * HELEN K. SCHWETER	6-17-43	8003	647	5200	0	5200	0	5200	YES	0	0	76	I	
7463	WL	STANLEY J. KROPIAK * BETTY Y. KROPIAK	6-17-44	11125	53	5200	0	5200	0	5200	YES	0	0	76	I	
7464	WL	<b>VIRGINIA BEDNAR</b>	6-17-45	<b>12520</b>	<b>175</b>	5200	0	5200	0	5200	YES	0	0	76	I	
7465	WL	WILLIAM R. * AGNES J. GLASER	6-17-46	9913	294	5200	0	5200	0	5200	YES	0	0	76	I	
7466	WL	LOUIS A. TOTH * ALICE S. TOTH	6-17-47	7060	734	5200	0	5200	0	5200	YES	0	0	76	I	
7467	WL	RALPH G. FRINGLEY * S. D. FRINGLEY	6-16-82	9945	176	10400	0	10400	0	10400	YES	0	0	77	I	
7468																NOT USED
7469	WL	SOL E. SINGER	6-16-93	6601	736	64	0	64	0	64	NO	0	0	77	I	
7470 TO 7480																NOT USED
7482	WL	T. F. L. INVESTMENT CO.	6-18-14 6-18-66	8667	677	20796	0	20796	0	20796	YES	0	0	78	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7483	WL	VIVIAN W. VLACK * FRANKLIN W. VLACK	6-18-90	10358	373	3900	0	3900	0	3900	YES	0	0	78	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7484	WL	HARRY L. LIVINGSTON	6-18-89	6826	498	3900	0	3900	0	3900	YES	0	0	78	I	<i>Sold Vol. 87-5861, Pg. 42</i>
7485	WL	FRED W. LANTZ * METZ A. LANTZ	6-18-88	11667	857	3900	0	3900	0	3900	YES	0	0	78	I	<i>Sold Vol. 87-5861, Pg. 42</i>

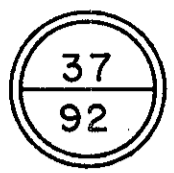


# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE		LEFT	RIGHT			
7522 WL	RAYMOND M. GRIMM * MARY ALICE GRIMM	6-18-73	7203	458	2500	0	2500	0	2500	YES	0	0	78	I	Sold Vol. 87-5861, Pg. 42
7523 WL	EUGENE E. TOMAK * EVA TOMAK	6-18-104	7203	456	2700	0	2700	0	2700	YES	0	0	78	I	Sold Vol. 87-5861, Pg. 42
7524 WL	RAYMOND P. DERING * EILEEN M. DERING	6-18-74	8465 10096	390 467	5200	0	5200	0	5200	YES	0	0	78	I	Sold Vol. 87-5861, Pg. 42
7525 WL	WEST SIDE CHURCH OF THE NAZARENE	6-18-75	10127	286	4940	0	4940	0	4940	NO	0	0	79	I	Sold Vol. 87-5861, Pg. 42
7526 WL	GEORGE A. J. SMITH * LAVERNE B. SMITH	6-18-76	8265	279	5460	0	5460	0	5460	YES	0	0	79	I	Sold Vol. 87-5861, Pg. 42
7527 WL	EVA G. MINAR	6-18-77	6050 10634	249 37	5200	0	5200	0	5200	YES	0	0	79	I	Sold Vol. 87-5861, Pg. 42
7528 WL	CHARLES R. HUGHES * ELOUISE HUGHES	6-18-78	9907	247	5200	0	5200	0	5200	YES	0	0	79	I	
7529 WL	RAYMOND J. GLOVER * AGNES R. GLOVER	6-17-68 6-17-69	6895	157	5200	0	5200	0	5200	YES	0	0	79	I	
7530 WL	BUDDY LOUISE SPARKS * JANICE SPARKS	6-17-70	11136 11432	501 589	5200	0	5200	0	5200	YES	0	0	79	I	
7531 WL	IRME TOROK * ELIZABETH TOROK	6-17-71	10971 11278	139	4550	0	4550	0	4550	YES	0	0	79	I	
7532 WL	MELANIE BENHOFF	6-17-72	10307 3955	503 637	4550	0	4550	0	4550	YES	0	0	79	I	
7533 WL	JOHN CONLEY * CAROL R. CONLEY	6-17-73	11193 11520	219 59	5200	0	5200	0	5200	YES	0	0	79	I	
7534 WL	JOHN D. ROSE (HUSBAND OF NELLIE J. ROSE)	6-17-74	11602 11031	1065 425	5200	0	5200	0	5200	YES	0	0	79	I	
7535 WL	K. F. HURT	6-17-75	10610	123	5200	0	5200	0	5200	YES	0	0	79	I	
7536 WL	CHALMER C. MASON * BEVERLY A. MASON	6-17-76	11304	247	5200	0	5200	0	5200	NO	0	0	79	I	
7537 WL	SAMUEL C. CRAIG * DOROTHY CRAIG	6-17-77	9739	295	5200	0	5200	0	5200	YES	0	0	79	I	
7538 WL	VICTOR T. YENSER	6-17-78 6-17-79	10306 8492	390 73	10400	0	10400	0	10400	YES	0	0	80	I	
7539 WL	THE YODER COMPANY	6-17-80 6-17-49	12329 12186	643 417	57850	0	1200	0	1200	NO	0	56650	80	I	DEED AREA INCLUDES LOTS 52,54 & 55 AND 112 THRU 120 SEE DEMOLITION NOTE - PG. 50
7540 TO 7559															NOT USED
7560 WL	MILDRED PIVCEVICH	6-18-48 6-18-63 6-18-64 6-18-65	10630	532	40297	0	40297	0	40297	YES	0	0	81	I	Sold Vol. 87-5861, Pg. 42
7561 WL	JUAN A. RIVERA * AIDA A. RIVERA	6-18-106	9413	99	2487	0	2487	0	2487	YES	0	0	81	I	Sold Vol. 87-5861, Pg. 42
7562 WL	JOHN M. FRANKOVICH * KATEY FRANKOVICH	6-18-61	6223	91	5558	0	5558	0	5558	YES	0	0	81	I	Sold Vol. 87-5861, Pg. 42
7563 WL	JOZSEF MARKOVICS * TEREZIA MARKOVICS	6-18-60	6036	574	5572	0	5572	0	5572	YES	0	0	81	I	Sold Vol. 87-5861, Pg. 42
7564 WL	CHARLES PTAK * HELEN PTAK	6-18-59	5422	287	4607	0	4607	0	4607	YES	0	0	81	I	Sold Vol. 87-5861, Pg. 42
7565 WL	HENRY KLUG	6-18-58	6233	714	4617	0	4617	0	4617	YES	0	0	81	I	Sold Vol. 87-5861, Pg. 42
7566 WL	WEST SIDE CHURCH OF THE NAZARENE	6-18-57	10127	286	4766	0	4766	0	4766	YES	0	0	81	I	Sold Vol. 87-5861, Pg. 42
7567 WL	MARIO J. SANCHEZ	6-18-56	9445	257	4777	0	4777	0	4777	YES	0	0	81	I	Sold Vol. 87-5861, Pg. 42
7568 WL	WILLIAM G. BAKER * SARAH E. BAKER	6-18-107	11345	110	2175	0	2175	0	2175	YES	0	0	82	I	
7569 WL	LUIGI SANBENEDETTO	6-18-54	4732	68	4654	0	4654	0	4654	YES	0	0	82	I	
7570 WL	FRANK CHASE * LORETTA CHASE	6-18-53	9504	277	5654	0	5654	0	5654	YES	0	0	82	I	
7571 WL	ALEX S. FRANKLIN	6-18-52	5623	125	5669	0	5669	0	5669	YES	0	0	82	I	
7572 WL	PETER R. CALVILLO * ROSE CALVILLO	6-17-105	9745	383	5683	0	5683	0	5683	YES	0	0	82	I	
7573 WL	MABEL BARTELL	6-17-122	8456	641	1781	0	1781	0	1781	YES	0	0	82	I	

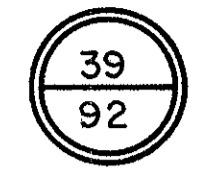


# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT			
7630 WL	THE YODER COMPANY	6-17-107	6809	665	7920	0	7920	0	7920	NO	0	0	84	I	
7631 WL	OTTO KRETZ * LUCILLE M. KRETZ	6-17-119	8425	184	7920	0	7920	0	7920	YES	0	0	84	I	
7632 WL 7632 WD	JOHN HORVAL * EVA HORVAL	6-17-108 6-17-109	6829	439	6300	0	2818 3482	0 0	2818 3482	YES	0	0	84	I	
7633 WL 7633 WD	ROBERT L. MACDONALD * LUCILLE E. MACDONALD	6-17-110	7091	1	4200	0	1078 3122	0 0	1078 3122	YES	0	0	84	I	
7634 WL 7634 WD	BILLY G. MULLINS * LORENE MULLINS	6-17-111	10384	461	4707	0	442 4265	0 0	442 4265	YES	0	0	84	I	
7635 WL 7635 WD	JAMES CROWLEY * MARGARET CROWLEY	6-17-118	8646	130	3390	0	6 3384	0 0	6 3384	YES	0	0	84	I	
7636 WD 7636 T 7637 TO 7638	ANNA ROGAL	6-17-117	10169	427	7840	0	2347 262	0 0	2347 262	NO	0	5493	84	I	GRADING NOT USED
7639 WD 7639 T 7639 WD-1	REINO P HILL , ET AL	6-17-112 6-17-113 6-17-115	12943	255	23760	0	1757 1220 54	0 0 0	1757 1220 54	NO	0	21949	84	I I I	GRADING ADDITIONAL PARCEL REQUIRED FOR BIN WALL CONSTRUCTION
7640 TO 7649															NOT USED
7650 WD 7650 T 7651 TO 8999	JOFE CORP.	6-21-12	11879	647	357835	0	198 8830	0 0	198 8830	NO	0	357637	86	I	TEMPORARY RUNAROUND NOT USED
9000 WL	DONALD E. HALL * MARILYN HALL	6-21-1	9645	598	2110	0	2110	0	2110	YES	0	0	85	I	
9001 WL	ELVIRE BASTIN	6-21-79	9467	25	2100	0	2100	0	2100	YES	0	0	85	I	
9002 WL	DOMIENIKA PENDD	6-21-2	10135 7884	92 477	2563	0	2563	0	2563	YES	0	0	85	I	
9003 WL	JOSEPH J. TADEJ * ANN TADEJ	6-21-80	7884 8311	477 342	1650	0	1650	0	1650	YES	0	0	85	I	
9004 WL	LOUIS NEMES	6-21-3	10957	151	2100	0	2100	0	2100	YES	0	0	85	I	
9005 WL	LOUIS NEMES * ALBERTA NEMES	6-21-78	11225 10638	317 239	2100	0	2100	0	2100	YES	0	0	85	I	
9006 WL	FRANK PURGAI, STEPHEN J. NOLL, BARBARA M. BURKET	6-21-41	7653	717	8400	0	8400	0	8400	YES	0	0	85	I	
9007 WL	CITY OF CLEVELAND	6-21-5	987	469	4200	0	4200	0	4200	NO	0	0	85	I	
9008 WL	JAMES L. WILLIAMS & MARY ANN WILLIAMS	6-21-6	8098 8558	439 97	2396	0	2396	0	2396	YES	0	0	85	I	
9009 WL	WILLIAM C. SCHWARZER * RILLIE SCHWARZER	6-21-77	6875 9566	545 1	1812	0	1812	0	1812	YES	0	0	85	I	
9010 WL	ALEX FOOD REALTY CO.	6-21-7	11389	1	2181	0	2181	0	2181	YES	0	0	85	I	
9011 WL	WILLIAM FERRERE * HATTIE FERRERE	6-21-76	6662 11594	101 455	1921	0	1921	0	1921	YES	0	0	85	I	
9012 TO 9019															NOT USED
9020 WL	DENNIS M. SWEENEY * ELIZABETH A. SWEENEY	6-21-72	5006	7	2500	0	2500	0	2500	YES	0	0	85	I	
9021 WL	KATHERINE PRITKO	6-21-73	6022	330	3500	0	3500	0	3500	YES	0	0	85	I	
9022 WL	BERT NELSON BENNETT * ETHEL S. BENNETT	6-21-74 6-21-75	8841	488	5600	0	5600	0	5600	YES	0	0	85	I	
9023 WL	RUDDOLF WOJTOWICZ * KRYSZYNA L. WOJTOWICZ	6-21-45	8656	210	2825	0	2825	0	2825	YES	0	0	85	I	
9024 WL	ARZY GODDARD * ERMA C. GODDARD	6-21-46	8640 11431	71 661	2935	0	2935	0	2935	YES	0	0	85	I	
9025 WL	JAMES C. FRANKLIN * ZETHAL L. TORRES	6-21-47	11106	213	3000	0	3000	0	3000	YES	0	0	85	I	

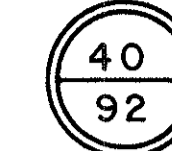
GJB	ADDED PARCEL 7639 WD-1	5-12-76	
NAME	REVISION	DATE	

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS	
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE		LEFT	RIGHT				
								LAND	BLOG							
9026	WL	LESTER G. MAY * MARIE MAY	6-21-48	7094	727	1680	0	1680	0	1680	YES	0	0	85	I	
9027	WL	CARL DIENES * MARGARET DIENES	6-21-49	9414	673	2010	0	2010	0	2010	YES	0	0	85	I	
9028	WL	FRANCES HENNESSY	6-21-50	2230	164	2010	0	2010	0	2010	YES	0	0	85	I	
9029	WL	MARY NAGY	6-21-71	5607	388	4000	0	4000	0	4000	YES	0	0	85	I	
9030	WL	ANDREW J. MCLANDRICH	6-21-70	8842	166	4000	0	4000	0	4000	YES	0	0	85	I	
9031	WL	JULIE ANN ANDERSON	6-21-69	11387	311	5250	0	5250	0	5250	YES	0	0	85	I	
9032	TD 9038															NOT USED
9039	WL	LLOYD K. SHARP * EUNICE M. SHARP	6-21-59	10970	447	1191	0	1191	0	1191	YES	0	0	87-88	I	
9040	WL	AUGUSTA E. OBERG, SR.	6-21-65	11116	263	2100	0	2100	0	2100	YES	0	0	87	I	
9041	WL	BILLIE G. MOORE * ESSIE J. MOORE	6-21-82	11142	525	2067	0	2067	0	2067	YES	0	0	87	I	
9042	WL	MABEL CORRIGAN * SALLY A. MCKELVEY F.K.A. SALLY A CORRIGAN	6-21-66	5621	147	2167	0	2167	0	2167	YES	0	0	87	I	
9043	WL	JAMES F. HOBAN	6-21-67	8064	147	2142	0	2142	0	2142	YES	0	0	87	I	
9044	WL	HENRY JOVICH	6-21-88	7440	646	4213	0	4213	0	4213	YES	0	0	87	I	
9045	WL	HENRY C. JENKINS * GERTRUDE L. JENKINS	6-21-92	9062	312	1431	0	1431	0	1431	YES	0	0	87	I	
9046	WL	HENRY C. JENKINS * GERTRUDE L. JENKINS	6-21-93	9062	312	215	0	215	0	215	YES	0	0	87	I	
9047	WL	FRANCES ANN YOUNG	6-21-90	9411	22	215	0	215	0	215	YES	0	0	87	I	
9048	WL	FRANCES ANN YOUNG	6-21-64	9411	22	1873	0	1873	0	1873	YES	0	0	87	I	
9049	WL	LOUISE MARY RAPPE	6-21-89	7462	439	2054	0	2054	0	2054	YES	0	0	87	I	
9050	WL	HUGO H. KLEIN, GUARDIAN OF THE ESTATE OF WILLIAM SCHOLL (WARD)	6-21-63	5230	549	5000	0	5000	0	5000	YES	0	0	87	I	
9051	WL	WILLIAM COLLIER	6-21-62	10568	521	4500	0	4500	0	4500	YES	0	0	87	I	
9052	WL	MARY MIHALIK A.K.A. MARY T. MIHALIK	6-21-61	2802	114	2136	0	2136	0	2136	YES	0	0	87	I	
9053	WL	LLOYD K. SHARP & EUNICE M. SHARP	6-21-60	11388	633	1422	0	1422	0	1422	YES	0	0	87	I	
9054	WL	JOSEPH GAJOS * BARBARA A. GAJOS	6-21-68	10685	563	3772	0	3772	0	3772	YES	0	0	87	I	
9055	WL	JULIA KOVACS	6-21-51	6634	34	4853	0	4853	0	4853	YES	0	0	87-88	I	
9056	WL	MARIE K. ZIMMERMAN	6-21-52	1268	602	5280	0	5280	0	5280	YES	0	0	87-88	I	
9057	WL	ROSE M. POTTER F.K.A. ROSE M. GOSNELL	6-21-53	11895	685	5280	0	5280	0	5280	YES	0	0	87-88	I	
9058	WL	ETRULLIA E. PRINCE	6-21-54	8875	388	2464	0	2464	0	2464	YES	0	0	88	I	
9059	WL	SUSAN REISS	6-21-87	12103	503	2816	0	2816	0	2816	YES	0	0	87-88	I	
9060	WL	PAUL WHITFORD * RUTH M. WHITFORD	6-21-55	9790 10174	392 199	5280	0	5280	0	5280	YES	0	0	88	I	
9061	WL	WILLIAM LEMASTER	6-21-56	11216	277	5280	0	5280	0	5280	YES	0	0	88	I	
9062	WL	JAMES A SHEFFEY, MARY H. SHEFFEY, CHARLES L. SHEFFEY, LUCY M. SHEFFEY	6-21-81	8668	732	3359	0	3359	0	3359	YES	0	0	88	I	
9063	WL	JOSEPH GEORGE STELBASKY * BERNICE RUTH STELBASKY	6-21-57	6228	7	1369	0	1369	0	1369	YES	0	0	88	I	
9064	WL	JOHN MITTERHOLZER * FANNY MITTERHOLZER	6-21-58	6037	335	4821	0	4821	0	4821	YES	0	0	88	I	
9065	TD 9099															NOT USED
9100	WL	FRED O. RIECH * LENA F. RIECH, JAKOB MAERZLUFT * JOHANNA MAERZLUFT	6-21-08	9959	566	3000	0	3000	0	3000	YES	0	0	86	I	
9101	WL	JAKOB GOLDSCHAREK * ELIZABETH GOLDSCHAREK	6-21-9 6-21-83	8499	693	5880	0	5880	0	5880	YES	0	0	86	I	

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS	
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT				
9102	WL	HOMER MILAM * CORA LEE MILAM	6-21-10	10609	433	3100	0	3100	0	3100	YES	0	0	86	I	
9103	WL	NESTE THEODORE * ARTAMIS THEODORE	6-21-97	9483	338	3500	0	3500	0	3500	YES	0	0	86	I	
9104	WL	CECILE SIMMONS * JENNIE B. SIMMONS	6-21-96	10931	579	3500	0	3500	0	3500	YES	0	0	86	I	
9105	WL	CLEVELAND BAPTIST TEMPLE	6-21-11 6-21-44 6-21-98	10173 10617 10128	530 247 498	26573	0	26573	0	26573	YES	0	0	86	I	
9106	WL	IAN J. MOLNAR * GERDA A. MOLNAR	6-21-13	10004	458	6856	0	6856	0	6856	YES	0	0	86	I	
9107	WL	CLAUD POWELL * JULIA POWELL	6-21-15	6666	579	5089	0	5089	0	5089	YES	0	0	86	I	
9108	WL	CYRIL BOUTTON	6-21-16 6-21-99	6808 10154	82 129	8046	0	8046	0	8046	YES	0	0	86	I	
9109	WL	ANNA BARBECK	6-21-43	4917	461	3480	0	3480	0	3480	YES	0	0	86	I	
9110	WL	ELIZABETH WALISZEWSKI	6-21-42	9781	457	3480	0	3480	0	3480	YES	0	0	86	I	
9111	WL	WILLIAM EDWARD LEESON * MARY J. LEESON	6-21-41	11355	217	3600	0	3600	0	3600	YES	0	0	86	I	
9112	WL	DOMINGO RIVERA * LUZ MARY RIVERA	6-21-40	11869	253	3360	0	3360	0	3360	YES	0	0	86	I	
9113	WL	HENRY MERGEL	6-21-39	9028	554	3480	0	3480	0	3480	YES	0	0	86	I	
9114	WL	WILLIAM VAN COMBS * CARMEN LYDIA COMBS	6-21-38	11396 11786	657 113	3480	0	3480	0	3480	YES	0	0	86	I	
9115	WL	JOSE M. AGUIAR & LILLIAN A. AGUIAR	6-21-37	10163 10889 11787	580 509 677	3000	0	3000	0	3000	YES	0	0	86	I	
9116	WL	QUAD MORTGAGE CORPORATION	6-21-36 6-21-91	11120 10722	515 255	8621	0	8621	0	8621	YES	0	0	86	I	
9117	WL	JACINTO NATAL * BALBINA NATAL	6-21-35 6-21-84	10686 9965 6437	275 428 218	4832	0	4832	0	4832	YES	0	0	88	I	
9118	WL	EDMUND J. ANDRES * ESTHER LEE ANDRES	6-21-34	10680	181	2510	0	2510	0	2510	YES	0	0	88	I	
9119	WL	SOPHIE ZIMMERMAN	6-21-33	11177	243	7055	0	7055	0	7055	YES	0	0	88	I	
9120	SA	E. F. & E. M. RICHARDSON	6-21-32	7604	492	5241	0	NO TAKE	0	NO TAKE	NO	0	5241	86	I	INSTALL. NEW WATERLINE EXIST. COMMON WATERLINE WITH 9125 REMOVED
9121 TO 9123																NOT USED
9124	WL	CYRIL W. BOUTTON	6-21-14	9704	641	3547	0	3547	0	3547	YES	0	0	86	I	
9125	WL	JOHN HARLACH * HELEN HARLACH	6-21-86	7292	615	2240	0	2240	0	2240	YES	0	0	88	I	
9126 TO 9139																NOT USED
9140	WL	JULIA KOCHES	6-22-1	5424	722	3750	0	3750	0	3750	YES	0	0	87	I	
9141	WL	REINHOLD GINDER * MATHILDA GINDER	6-22-2	5679	736	5000	0	5000	0	5000	YES	0	0	87	I	
9142	WL	ESTATE OF LOUIS LETOURNEAU	6-22-3	2130	464	3250	0	3250	0	3250	YES	0	0	87	I	
9143	WL	THERESA FIKTER A.K.A. TRISA FIKTER	6-22-146	8048	32	1820	0	1820	0	1820	YES	0	0	87	I	
9144	WL	GEORGE J. SIMON * FRIEDA H. SIMON	6-22-4	9092	216	1430	0	1430	0	1430	YES	0	0	87	I	
9145	WL	ROBERT F. KOLIHA & CLEVA M. KOLIHA	6-22-5	7500 7786	199 638	3500	0	3500	0	3500	YES	0	0	87	I	
9146	WL	ALFRED J. WOLF & GENEVIEVE WOLF	6-22-6	7443 10024	718 269	2560	0	2560	0	2560	YES	0	0	88	I	
9147	WL	ANNA MAE SCHAEFFER	6-22-150	7290	482	2440	0	2440	0	2440	YES	0	0	88	I	
9148	WL	FRANK S. THOMAS * ANNA THOMAS	6-22-7	8100	494	5000	0	5000	0	5000	YES	0	0	88	I	

# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLOG	LEFT	RIGHT			
9149 WL	HEINZ STANDAR * ERMA STANDAR	6-22-8	10698	147 149	7500	0	7500	0	7500	YES	0	0	88	I	
9150 WL	FRANK J. GRASBERGER * DOLORES F. GRASBERGER	6-22-9	8297 11298	737 293	3750	0	3750	0	3750	YES	0	0	88	I	
9151 WL	MICHAEL R. CAMPOS * LAURA J. CAMPOS	6-22-10	10912	381	3750	0	3750	0	3750	YES	0	0	88	I	
9152 WL	MARY SAMPER	6-22-11	4913	159	4975	0	4975	0	4975	YES	0	0	88	I	
9153 TO 9159															NOT USED
9160 WL	VIOLA H. MAJDROS	6-22-138	10955	309	3312	0	3312	0	3312	YES	0	0	90	I	
9161 WL	STEVE URSZENI * DOROTHY H. URSZENI	6-22-137	7071	398	3312	0	3312	0	3312	YES	0	0	90	I	
9162 WL	RALPH M. SCOTT * LUCILLE SCOTT	6-22-136	8634 9174	168 44	3375	0	3375	0	3375	YES	0	0	90	I	
9163 WL	SIGMUND TOTH * ESTATE OF EMMA TOTH	6-22-135	7694 10365	514 377	3375	0	3375	0	3375	YES	0	0	90	I	
9164 WL	MARY A. DITTMAN	6-22-134	6231	629	3375	0	3375	0	3375	YES	0	0	90	I	
9165 WL	ANTHONY FUHRINGER	6-22-133	7426	504	3250	0	3250	0	3250	YES	0	0	90	I	
9166 WL	TAAVETTI TIILIKAINEN	6-22-132	4230 4697	130 19	5000	0	5000	0	5000	YES	0	0	91	I	
9167 WL	EDMUND A. KRAJEWSKI * BETTY J. KRAJEWSKI	6-22-131	8033	492	3750	0	3750	0	3750	YES	0	0	91	I	
9168 WL	MICHAEL BINDEL * AMELIA BINDEL	6-22-130	4206	194	3750	0	3750	0	3750	YES	0	0	91	I	
9169 WL	FRANK MICHAEL GAUGHAN * ELINORE W. GAUGHAN	6-22-129	11168 11482	337 65	6250	0	6250	0	6250	YES	0	0	91	I	
9170 WL	BONNIE E. HURST	6-22-128	8230	723	6250	0	6250	0	6250	YES	0	0	91	I	
9171 WL	FRANK J. TOTH * DORIS L. TOTH	6-22-127	9798	474	5000	0	5000	0	5000	YES	0	0	91	I	
9172 TO 9189															NOT USED
9190 WL	MILDRED COTTIER	6-22-105	11915	729	5000	0	5000	0	5000	YES	0	0	90	I	
9191 WL	LEONA C. LARSEN	6-22-106	5457	625	5000	0	5000	0	5000	YES	0	0	90	I	
9192 WL	JOSEPHINE A. RECSE	6-22-107	8637	477	5000	0	5000	0	5000	YES	0	0	90	I	
9193 WL	HENRY WADE * ANGELA WADE	6-22-108 6-22-153	8064 7926	59 103 106	5000	0	5000	0	5000	YES	0	0	90	I	
9194 WL	NICK J. GOODALL * EDITH GOODALL	6-22-109	8061 9941 10242	255 342 176	5000	0	5000	0	5000	YES	0	0	90	I	
9195 WL	AGNES HIGGINS-TRUSTEE FOR JOSEPH MEIER-MINOR (FROM ESTATE OF JOSEPH S. MEIER)	6-22-110	11005	71	5000	0	5000	0	5000	YES	0	0	91	I	
9196 WL	JOHN W. BAILLIS * NINA M. BAILLIS	6-22-111	10150 10489	630 140	5000	0	5000	0	5000	YES	0	0	91	I	
9197 WL	ROBERT H. JONES * PANSY L. JONES	6-22-112	9728 9890	481 534	5000	0	5000	0	5000	YES	0	0	91	I	
9198 WL	ESTATE OF MIKE CAROLLA * ROSE CAROLLA	6-22-113	5017	588	5000	0	5000	0	5000	YES	0	0	91	I	
9199 WL	HELEN BABIC	6-22-114	2449	302	5000	0	5000	0	5000	YES	0	0	91	I	
9200 WL	J. E. REEVES * LILLY R. REEVES	6-22-115	11656	973	5000	0	5000	0	5000	YES	0	0	91	I	
9201 TO 9219															NOT USED
9220 WL	GEORGE MALIAR, JR. * MARGARET S. MALIAR	6-22-104	10197 10552	644 666	5000	0	5000	0	5000	YES	0	0	90	I	



# SUMMARY OF ADDITIONAL RIGHT OF WAY

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)



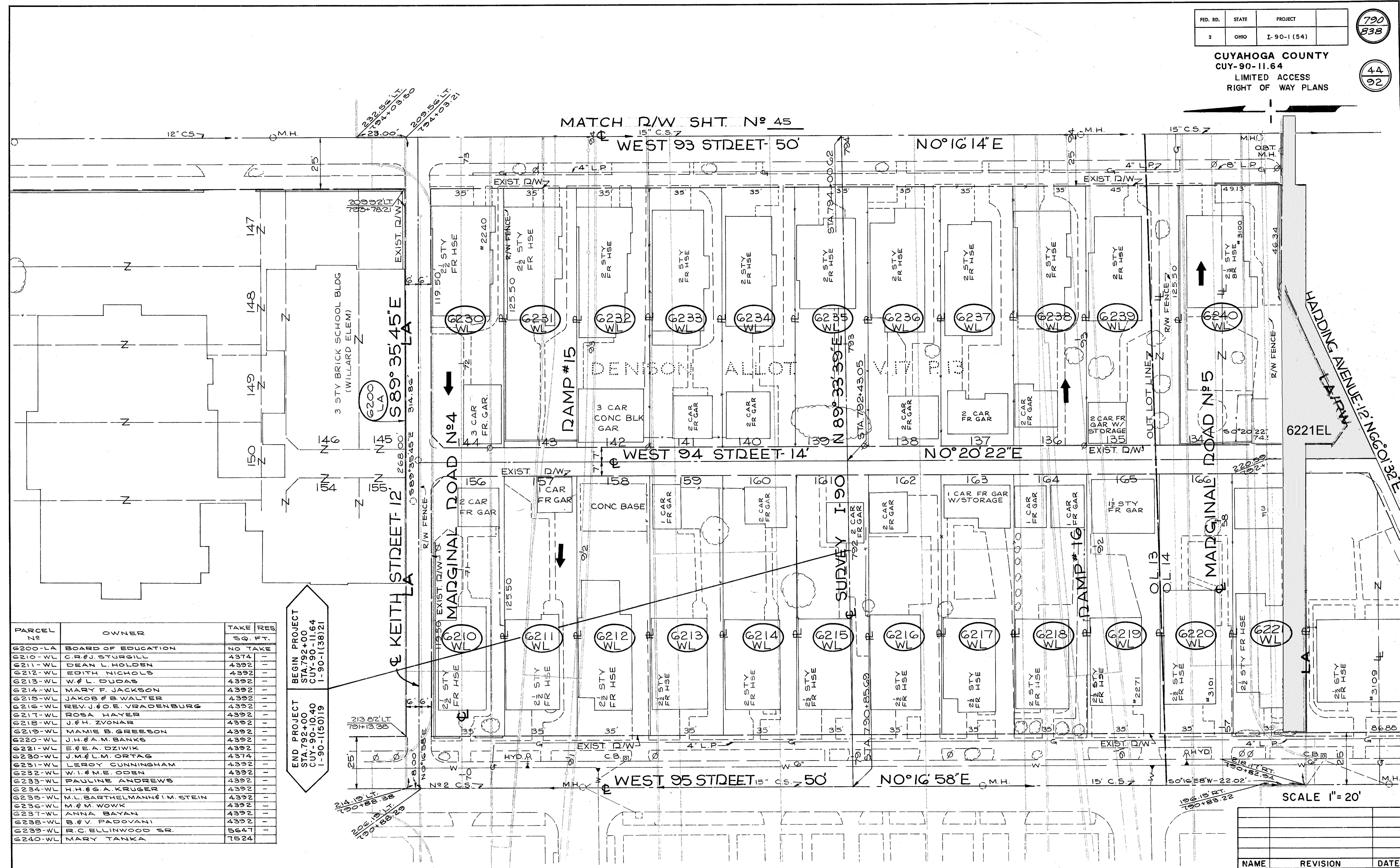
CUYAHOGA COUNTY  
 CUY 90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS



PARCEL NO	OWNER	AUDITOR'S NO.	DEED RECORD		DEED AREA	TOTAL PRO	TO BE ACQUIRED				NET RESIDUE		SHEET NO	TYPE FUNDS	REMARKS
			BOOK	PAGE			GROSS TAKE	PRO IN TAKE	NET TAKE LAND	BLDG	LEFT	RIGHT			
9221 WL	PETER BACHORSKI * DOROTHY BACHORSKI BY CHANGE OF NAME NOW-PETER * DOROTHY BAKER	6-22-151	7676 8675	125 33	2552	0	2552	0	2552	YES	0	0	90	I	
9222 WL	ALVIN J. LOHR, JR. * DOROTHY S. LOHR	6-22-103	7676 8217	125 490	2448	0	2448	0	2448	YES	0	0	90	I	
9223 WL	JOHN KONEVAL * DOLORES A. KONEVAL	6-22-102	9915 10206	363 225	5250	0	5250	0	5250	YES	0	0	90	I	
9224 WL	MARY ANN BODNAR	6-22-101	10116	611	4750	0	4750	0	4750	YES	0	0	90	I	
9225 WL	THERESIA PAL (WITH DOWER IN SPOUSE JOHN PAL) JOHN PAL FROM WILL OF JOHN PAL, SR.	6-22-100	2410	272	5000	0	5000	0	5000	YES	0	0	90	I	
9226 WL	MARY C. PAULITZKY	6-22-99	9973 11802	502 957 59	5000	0	5000	0	5000	YES	0	0	91	I	
9227 WL	CHARLES MOORE * ANNA MOORE	6-22-98	11613	715	5000	0	5000	0	5000	YES	0	0	91	I	
9228 WL	DOY A. NICHOLS * RUTH E. NICHOLS	6-22-97	9964 10274 11452	656 721 609	5000	0	5000	0	5000	YES	0	0	91	I	
9229 WL	VERA SALEM	6-22-96	7637	683	5000	0	5000	0	5000	YES	0	0	91	I	
9230 WL	FRED MATTER * MARION MATTER	6-22-95	11357	687	5000	0	5000	0	5000	YES	0	0	91	I	
9231 WL	WILLIAM SIKORA	6-22-94	2950	241	4438	0	4438	0	4438	YES	0	0	91	I	
9232 WL	GEORGE HAKOS * ELSIE HAKOS	6-22-93	9905	19	2850	0	2850	0	2850	YES	0	0	91	I	
7574 A WD	THE YODER COMPANY	6-17-114			111319	0	25	0	25	NO	0	111294	84	I	BIN WALL CONSTRUCTION

GJB	ADDED PARCEL	7574 A-WD	5-12-76
NAME	REVISION		DATE

MATCH R/W SHT. N° 45



PARCEL N°	OWNER	TAKE \$	RES
6200-LA	BOARD OF EDUCATION	NO TAKE	
6210-WL	C.R.F.J. STURGILL	4374	
6211-WL	DEAN L. HOLDEN	4392	
6212-WL	EDITH NICHOLS	4392	
6213-WL	W. & L. DUDAS	4392	
6214-WL	MARY F. JACKSON	4392	
6215-WL	JAKOB & B. WALTER	4392	
6216-WL	REV. J. & O.E. VRADENBURG	4392	
6217-WL	ROSA HAYER	4392	
6218-WL	J. & H. ZVONAR	4392	
6219-WL	MAMIE B. GREESON	4392	
6220-WL	J.H. & A.M. BANKS	4392	
6221-WL	E. & E.A. DZIWIK	4392	
6230-WL	J.M. & L.M. ORTAG	4374	
6231-WL	LEROY CUNNINGHAM	4392	
6232-WL	W.I. & M.E. ODEN	4392	
6233-WL	PAULINE ANDREWS	4392	
6234-WL	H.H. & G.A. KRUGER	4392	
6235-WL	M.L. BARTHELMANN & M. STEIN	4392	
6236-WL	M. & M. WOVK	4392	
6237-WL	ANNA BAYAN	4392	
6238-WL	S. & V. PADOVANI	4392	
6239-WL	R.C. ELLINWOOD SR.	5647	
6240-WL	MARY TANKA	7624	

END PROJECT  
STA. 792+00  
CUY-90-11.64  
I-90-1(38)21

BEGIN PROJECT  
STA. 792+00  
CUY-90-11.64  
I-90-1(38)21

SCALE 1" = 20'

NAME	REVISION	DATE

PARCEL N <sup>o</sup>	OWNER	TAKE SQ. FT.	RES
6312-WL	M.C. & L.F. VIGGIANI	9155	-
6313-WL	D.E.M. H. LENHARD & M.H. RUDY # E.C. MAYER	8574	-
6314-WL	BESSIE SCHRAGER	9422	-
6290-WL	K. KATSCHKA	4392	-

RELOC. LODAIN AVE CURVE DATA  
 & CURVE N<sup>o</sup> 1  
 P.I. STA. 42+11.47  
 Δ = 23° 41' 23" LT. T = 200.28'  
 D = 6° 00' 00" L = 394.83'  
 P = 954.93' CH = 392.02'  
 E = 20.78'

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

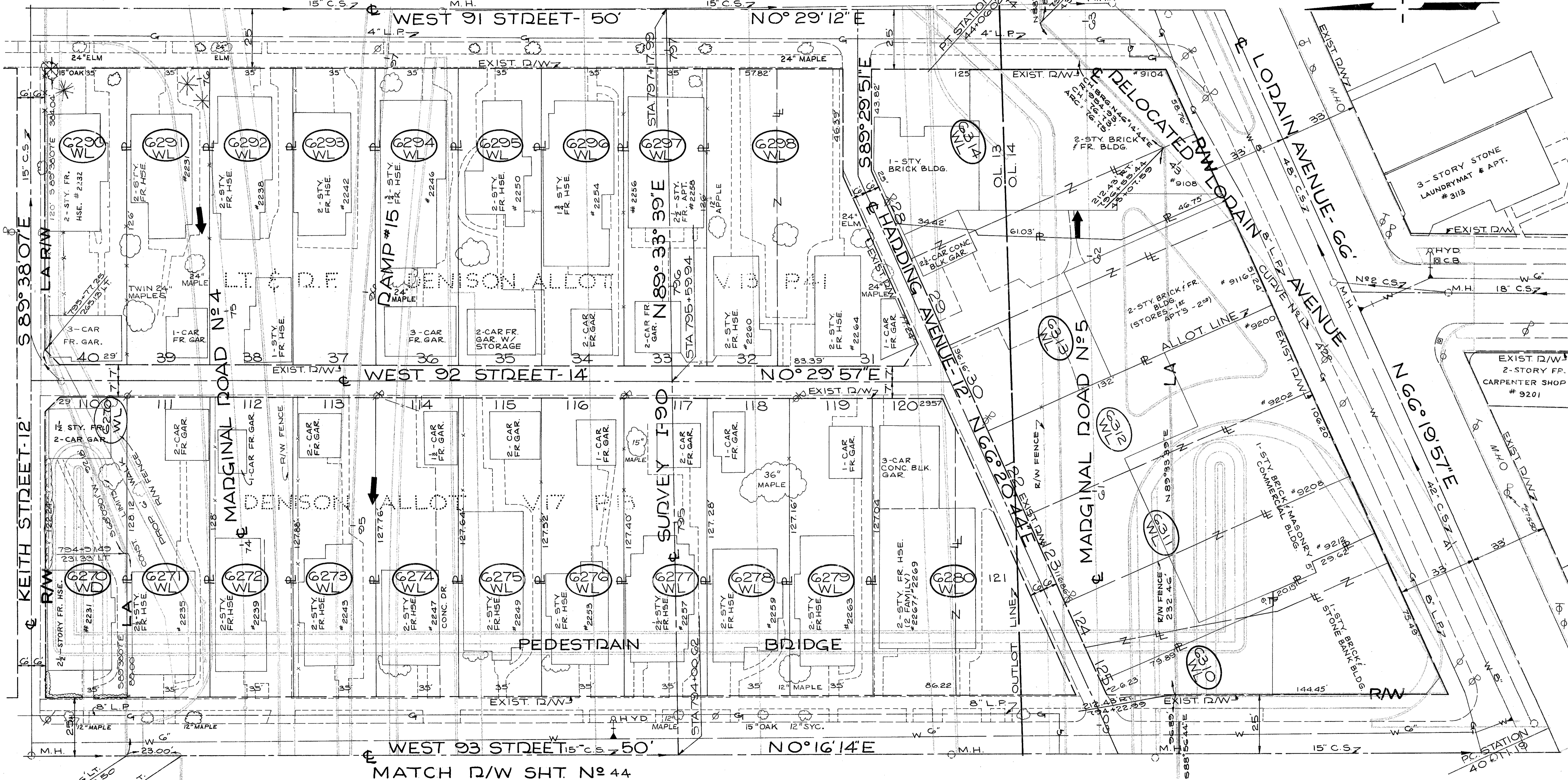
791  
838

CUYAHOGA COUNTY  
 CUY-90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

45  
92

MATCH R/W SHT. N<sup>o</sup> 46

MATCH R/W SHT. N<sup>o</sup> 44



PARCEL N <sup>o</sup>	OWNER	TAKE SQ. FT.	RES	PARCEL N <sup>o</sup>	OWNER	TAKE SQ. FT.	RES	PARCEL N <sup>o</sup>	OWNER	TAKE SQ. FT.	RES
6270-WL	M.H. WARNER, ETAL	4468	-	6277-WL	W.#A. HAJEWSKY	4457	-	6294-WL	E.C. BENADUM	4410	-
6271-WL	L.J. & J. EHASF	4482	-	6278-WL	JOHN C. SCUBA	4453	-	6295-WL	J.C. & V.L. ROBB	4410	-
6272-WL	A.A. & R.F. RINDFLEISCH	4478	-	6279-WL	R.C. ELLINWOOD	4448	-	6296-WL	F.B. & G.J. OUTRICH	4410	-
6273-WL	H.E. & H. MEIXNER	4474	-	6280-WL	J.#S. KLINE	7347	-	6297-WL	C.#A. KIERCZYNSKI	4410	-
6274-WL	H.J. & E.L. DIGNAN	4470	-	6291-WL	D.H. & A.M. HENESS	4410	-	6298-WL	R.#M. HUMPHRIES	8655	-
6275-WL	E.A. WELLS	4465	-	6292-WL	N.C. AUGUSTINE	4410	-	6310-WL	THE CLEVELAND TRUST CO.	5127	-
6276-WL	T.#B. STAMPER	4461	-	6293-WL	H.A. CRANDALL	4410	-	6311-WL	L.F. VIGGIANI	5836	-

232.56' LT.  
 194+09.50  
 209.56' LT.  
 194+09.21

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

RELOC. LORAIN AVE. CURVE DATA  
 CURVE N° 2  
 P.I. STA. 49+50.09

$\Delta = 47^{\circ}46'42''$  RT. T=253.77  
 $PC = 10^{\circ}00'00''$  L=477.78  
 $PD = 572.90'$  CH=464.06'  
 E=53.68'

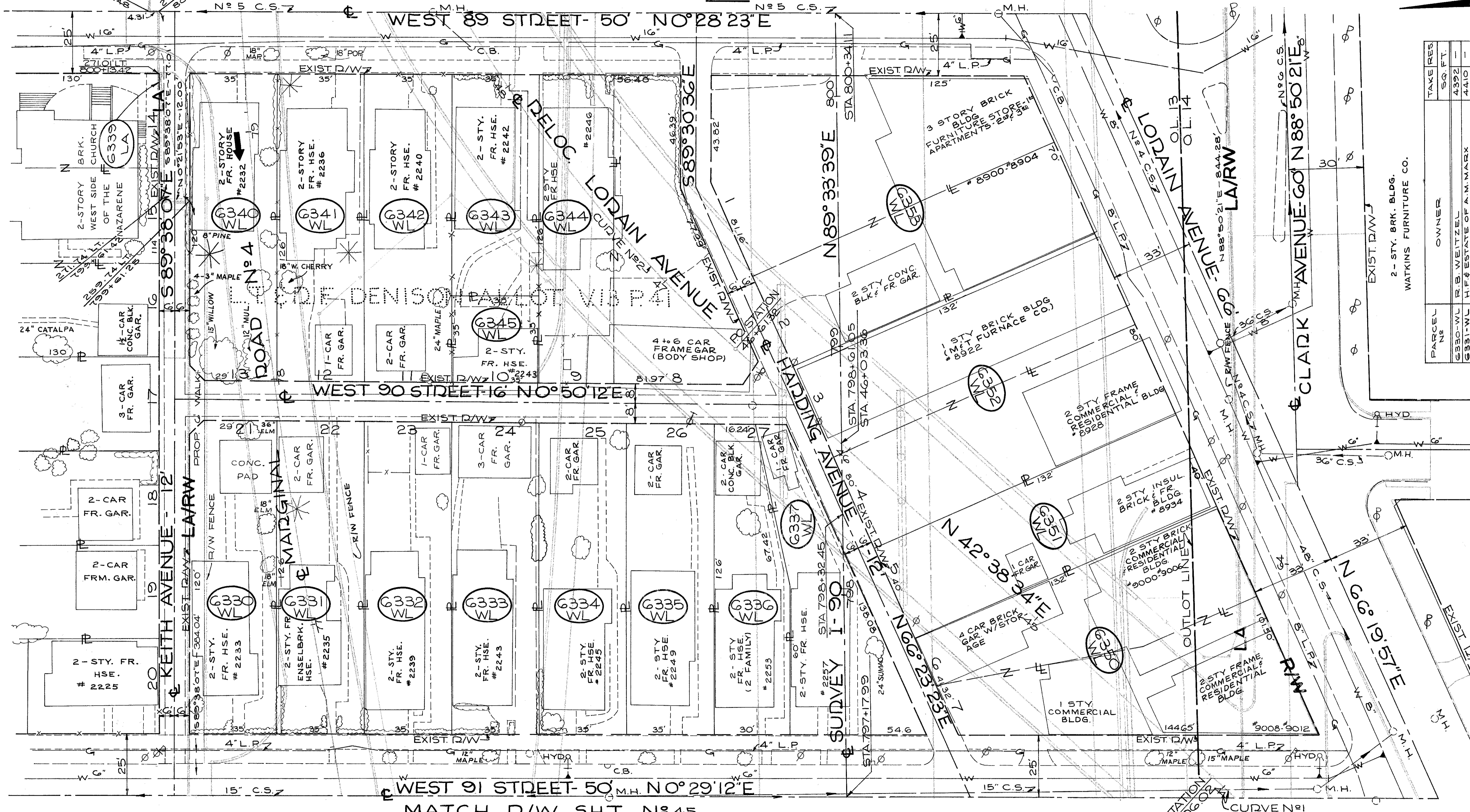
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

792  
838

CUYAHOGA COUNTY  
 CUY-90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

46  
92

MATCH R/W SHT. N° 47



MATCH R/W SHT. N° 45



PARCEL NO.	OWNER	TAKE RES.	SQ. FT.
6330-WL	R.B. WEITZEL	4392	4392
6331-WL	H.F. ESTATE OF A.M. MARK	4410	4410
6332-WL	P.T. WEBB	4410	4410
6333-WL	L.A. CORBIN	4410	4410
6334-WL	E.M. MARTIN	4410	4410
6335-WL	P.B. JOYCE & C.N.M. SHANK	4410	4410
6336-WL	F.T. PAPP	3526	3526
6337-WL	W.J. & R.M. BOUCHER	3115	3115
6339-LA	WEST SIDE CHURCH OF THE NAZARENE	NO TAKE	---
6340-WL	J.L. & F.I. MASSON	4392	4392
6341-WL	O.F. & D. WOLFE	4410	4410
6342-WL	D.J. MALONE	4410	4410
6343-WL	T.J. & M. CHAMBERS	3185	3185
6344-WL	E.F. & C. UVEGES	3476	3476
6345-WL	W.L. & J.R. MORRIS	1225	1225
6350-WL	D.F. & B. BREYCHAK	3624	3624
6351-WL	P.A. & W.R. FLECK & R. STRANGWARD	5280	5280
6352-WL	L.L. & ROTH	10360	10360
6353-WL	S. GEORGE	12715	12715

2-STY. BRK. BLDG.  
 WATKINS FURNITURE CO.

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

DELOC. LORAIN AVE. CURVE DATA  
 & CURVE N°2  
 P.I. STA. 49+15.09

$\Delta = 47^\circ 46' 42''$  DT. T= 253.77'  
 $DL = 10^\circ 00' 00''$  Lc= 477.78'  
 $D = 572.96'$  CH= 464.06'  
 E= 53.68'

PARCEL N°	OWNER	TAKE SQ. FT.	RES.
6360-WL	H. SHORE	35,485	20425
6360-WD		12,540	
6360-LA		NOTAKE	
6370-WL	STEUDEL MOTORS INC.	37,118	-
6380-WL	WENTWORTH J. MARSHALL, JR., TRUSTEE	6,308	-
6381-WL	A. ZAPPONE	8,723	-

CENTERLINE SURVEY CURVE DATA  
 I-90 CURVE N°7  
 P.I. STA. 808+54.11

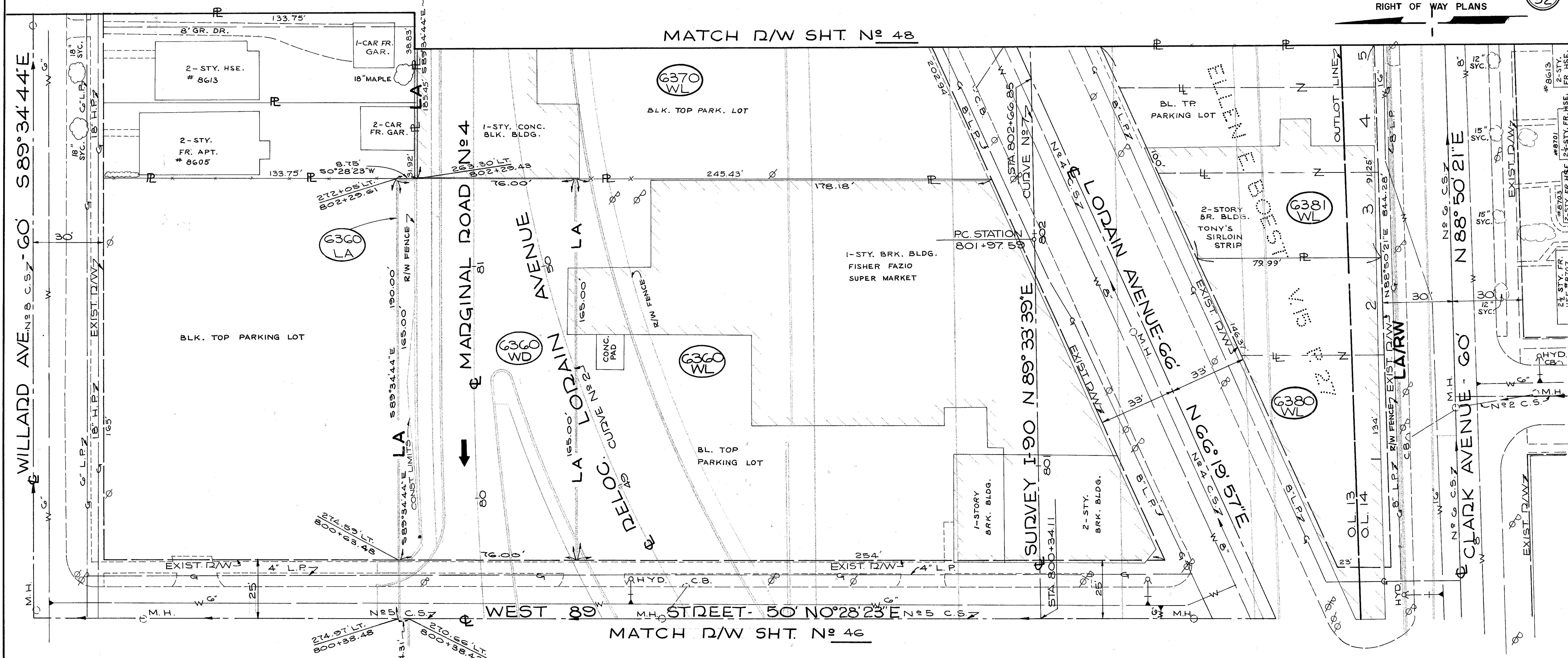
$\Delta = 9^\circ 49' 25''$  LT. T= 655.652'  
 $DL = 0^\circ 45' 00''$  Lc= 1309.652'  
 $D = 7639.44'$  CH= 1308.852'  
 E= 28.16'

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

CUYAHOGA COUNTY  
 CUY-90-11.64

LIMITED ACCESS  
 RIGHT OF WAY PLANS

793  
 838  
 47  
 92



MATCH D/W SHT. N° 48

MATCH D/W SHT. N° 46

SCALE 1" = 20'

NAME	REVISION	DATE

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1 (54)

794  
838

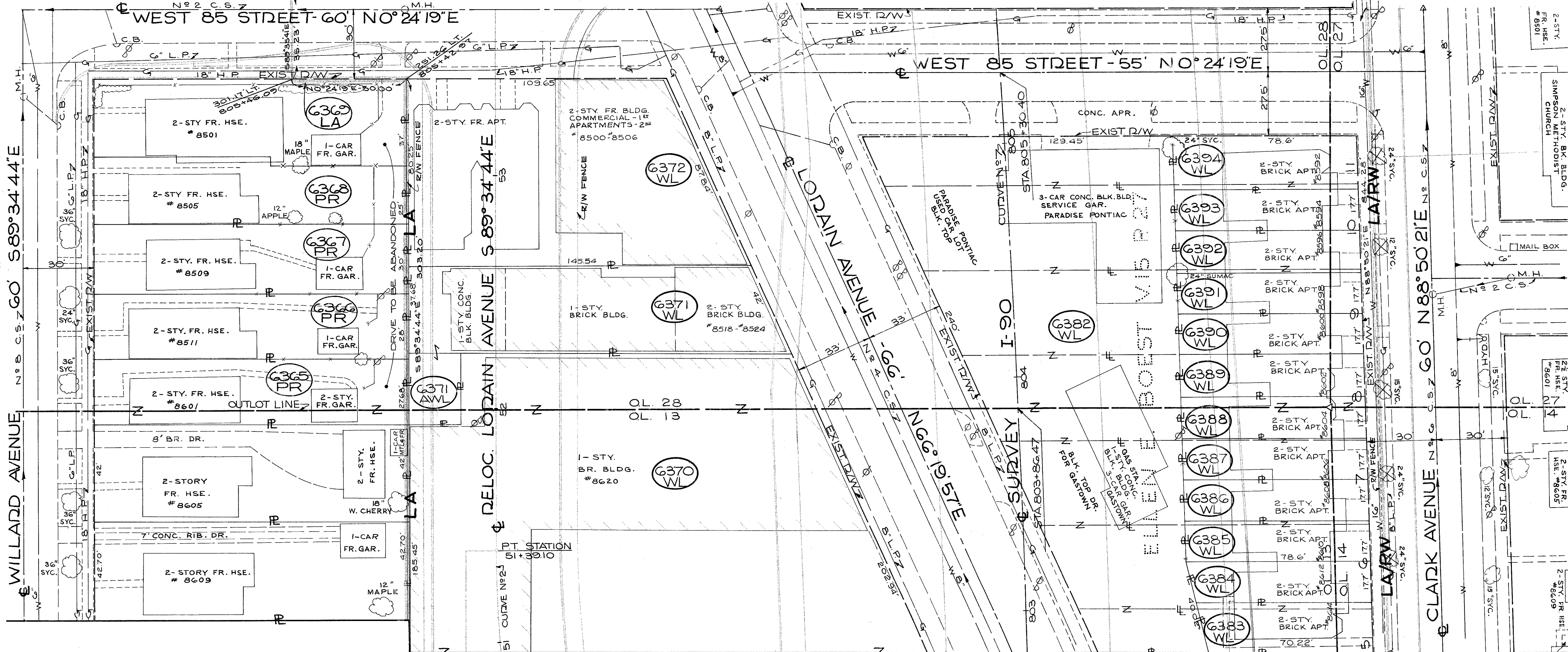
CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

48  
92



PARCEL No	OWNER	TAKE RES SQ. FT.	PARCEL No	OWNER	TAKE RES SQ. FT.
6368-PR	BEATRICE W. HOZN	NO TAKE	6384-WL	M. DWYER	1369
6366-PR	G.J. & H.A. BUJNAK	NO TAKE	6385-WL	H.F. & P. BOLTON	1387
6367-PR	D.C. MCKAY	NO TAKE	6386-WL	I.A. BOROSDY	1390
6368-PR	HILDEGARD STANKOVIC	NO TAKE	6387-WL	W.F.E. RINI	1390
6369-LA	H.F.E. DEAN JR.	NO TAKE	6388-WL	R.I.F.E. HUNTER	1390
6370-WL	STEUDEL MOTORS INC.	37.18	6389-WL	A.R.F.A. ERWIN	1390
6371-WL	P.C. JOHNSON ETAL	5638	6390-WL	C.B. & A.V. TURNER	1390
6371-AWL	E.R. JOHNSON ETAL	770	6391-WL	C.W. & M.R. SCHULER	1390
6372-WL	E.F. & E. PACTLER	10,199	6392-WL	F.M. BENSON	1390
6382-WL	M. LARICCIA & J. CARMOSINO	18,213	6393-WL	R.H. WORK	1390
6383-WL	A.J. FRANK	1365	6394-WL	E.O. & A. SANNER	1645

MATCH R/W SHT. No 49



MATCH R/W SHT. No 47

RELOC. LORAIN AVE. CURVE DATA  
CURVE No 2  
P.I. STA. 49+15.09

Δ = 47° 46' 42" DT.	T = 253.77'
D = 10° 00' 00"	L = 477.78'
D = 572.96'	CH = 464.06'
	E = 53.68'

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE No 7  
P.I. STA. 808+54.11

Δ = 9° 49' 25" LT.	T = 656.52'
D = 0° 45' 00"	L = 1309.82'
R = 7639.44'	CH = 308.21'
	E = 28.16'

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

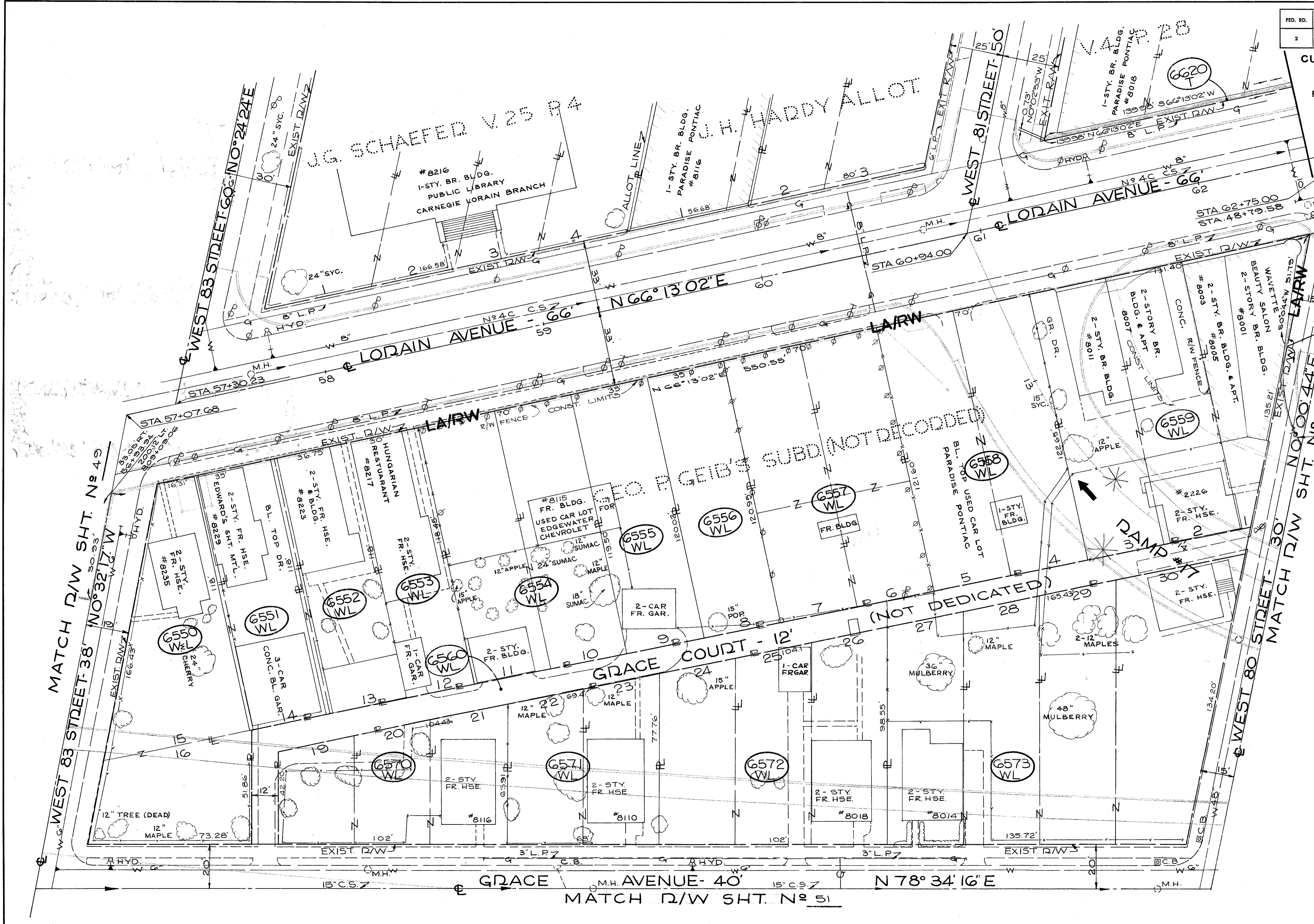


FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

796  
838

**CUYAHOGA COUNTY**  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

50  
92



PARCEL NO.	OWNER	TAKE RES. SQ. FT.
6560-WL	ROBERT E. HAVILAND, ET AL	5970
6620-T	ER. McFARLAND, ET AL	93 119500
6550-WL	R. J. HAVILAND	816
6551-WL	R. A. EDWARDS	4130
6552-WL	R. J. HAVILAND	4336
6553-WL	A. F. AVARGA SR.	3547
6554-WL	R. E. HAVILAND	8928
6555-WL	C. A. HAVILAND (HOOD)	4192
6556-WL	C. A. HAVILAND (HOOD)	4210
6558-WL	MARGUERITE H. CECIL	8429
6559-WL	H. H. & M. V. GEIB	12663
6570-WL	S. E. F. FINESILVER	5545
6571-WL	R. E. HAVILAND	5431
6572-WL	C. A. HAVILAND (HOOD)	4817
6573-WL	M. H. CECIL	8992
6573-WL	H. H. & M. V. GEIB	15932

SCALE 1" = 20'

NAME	REVISION	DATE

**RIGHT OF WAY PLANS**



PARCEL NO.	OWNER	TAKE RES.	SQ. FT.
6580-WL	THE BEVERLY-JEAN CORP.	4753	-
6581-WL	C.A. HAVILAND	19116	-
6582-WL	M.H. CECIL	7094	-
6583-WL	M.V. GEIB & H.H. GEIB	3682	-
6584-WL	M.H. CECIL	14367	-
6585-WL	A. MASAR	3629	-
6586-WL	M. & A. POLASKO	2973	-
6587-WL	THE BEVERLY-JEAN CORP.	3065	-
6588-WL	C. COTMAN, ETAL; MARY ECK, M. MELZ, J. WEBSTER & C. AND J. COTMAN	3157	-
6589-WL	N.S. CRAIG	3249	-
6590-WL	K.S. GUARNERA	3341	-
6591-WL	J. DOBOS	3433	-
6592-WL	K. VONNER	3524	-
6593-WL	E. & A. NETZEL	3616	-
6594-WL	J.D. KUSAK	3708	-
6595-WL	T. & M.A. BRANHAM	3800	-
6596-WL	C.A. & D.R. PAVELKA	3892	-
6597-WL	THE BEVERLY-JEAN CORP.	7634	-

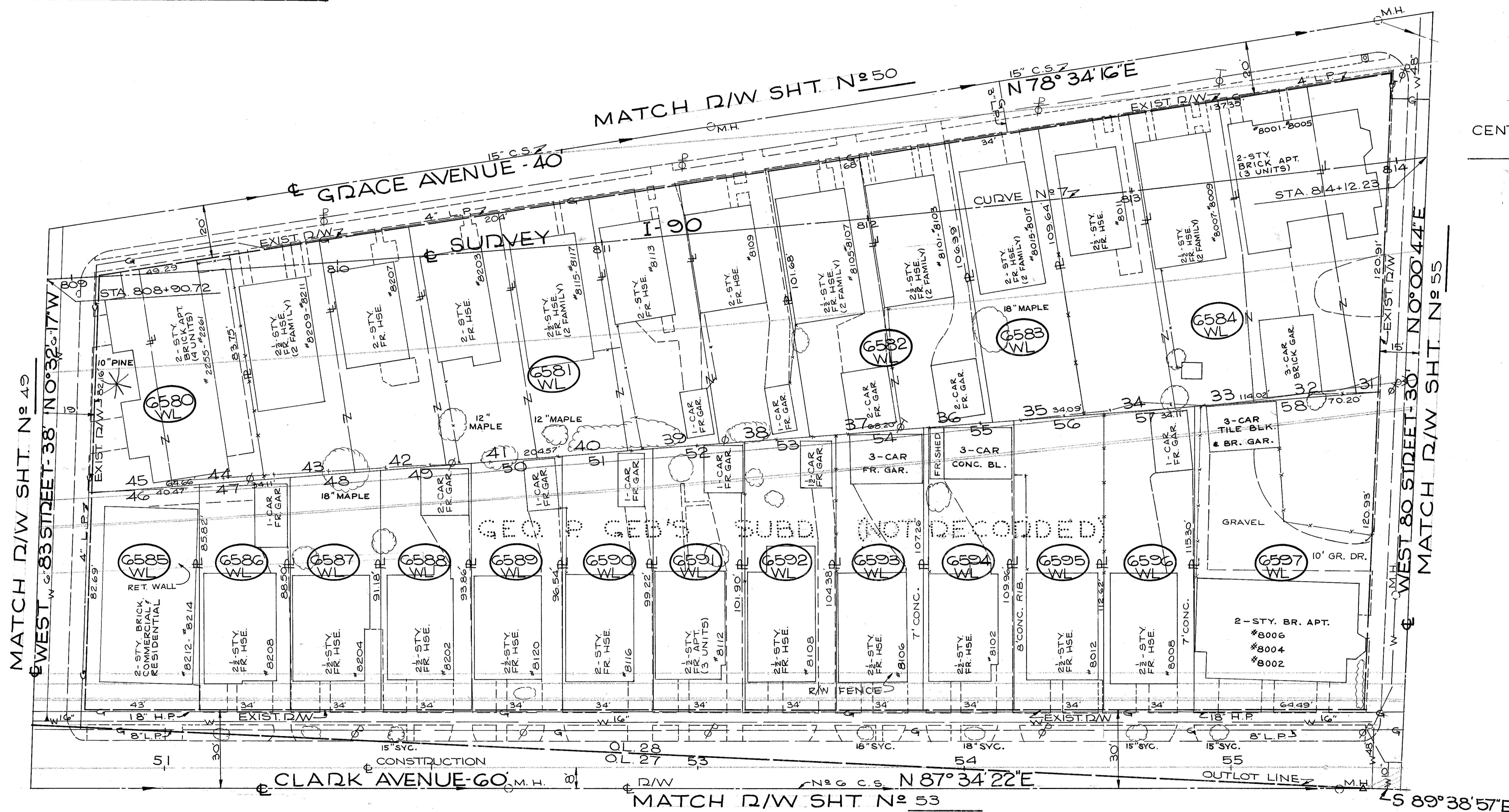
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

797  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

51  
92

CENTERLINE SUDVEY CURVE DATA  
I-90 CURVE NO. 7  
PI STA 808+54.11  
Δ = 9° 49' 25" LT.  
DC = 0° 45' 00"  
TD = 7633.44'  
T = 16556.52'  
C = 19900.82'  
E = 20.16'



SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

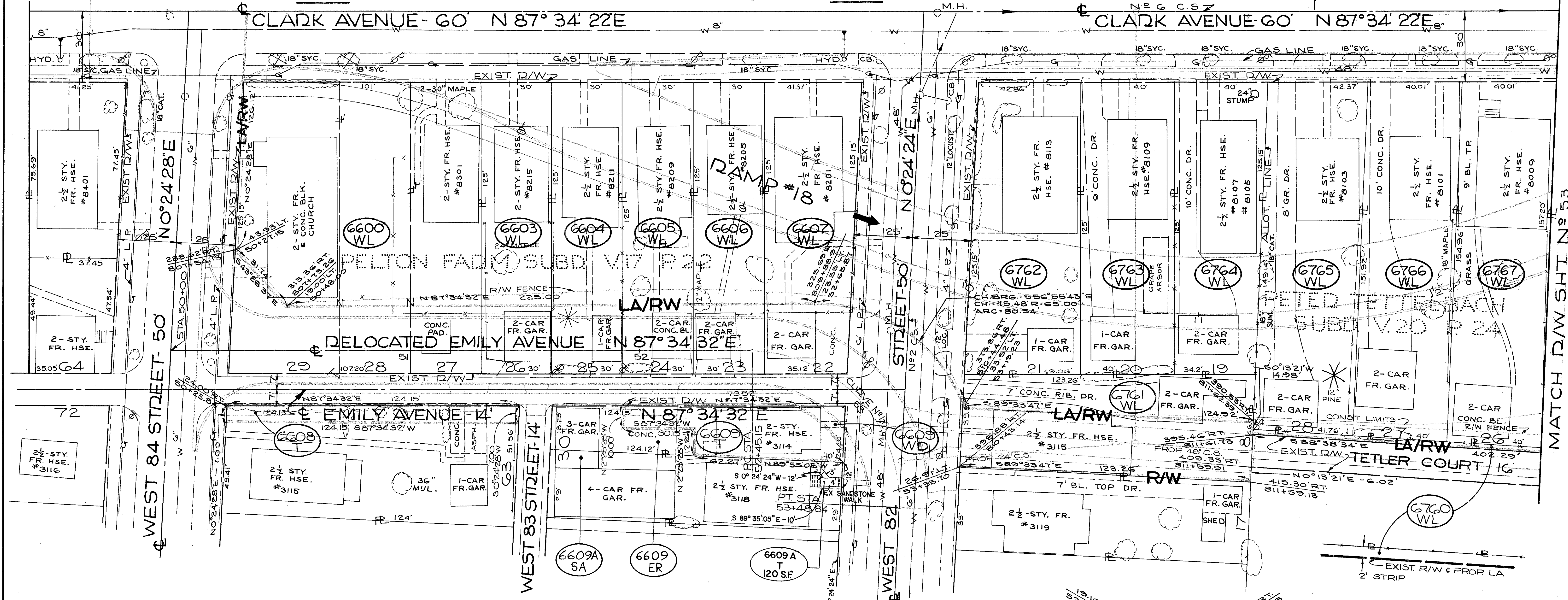
798  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

52  
92

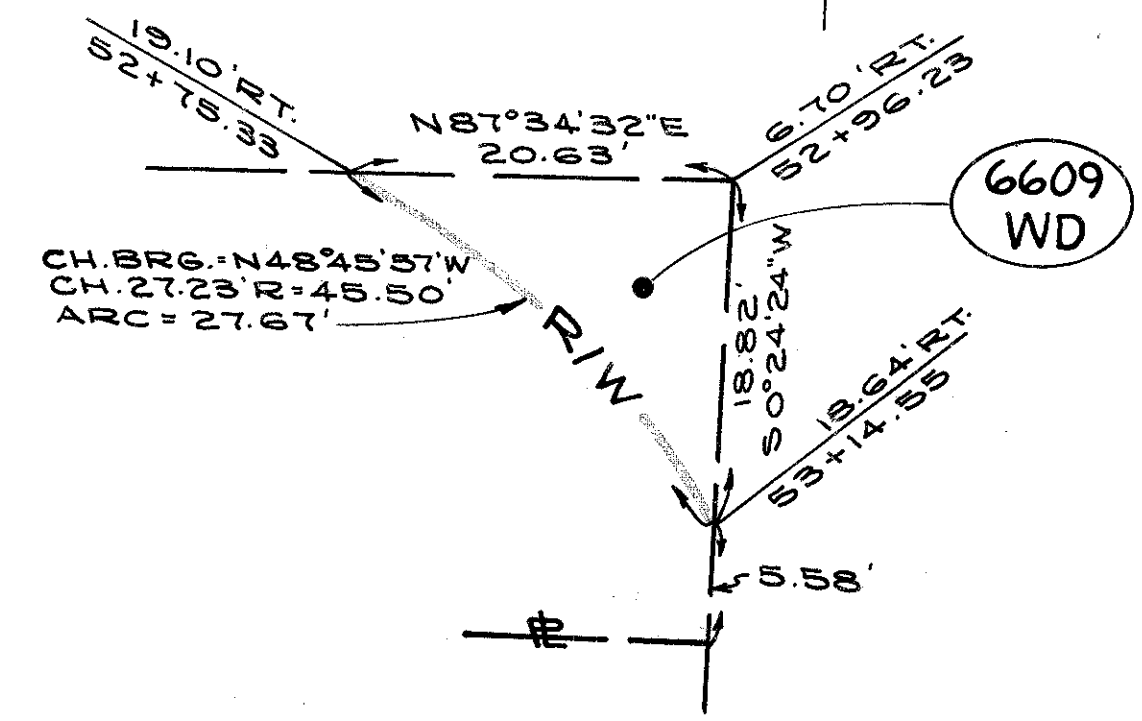
MATCH R/W SHT. N<sup>o</sup> 49

MATCH R/W SHT. N<sup>o</sup> 51



PARCEL N <sup>o</sup>	OWNER	TAKE SQ. FT.	RES
6600-WL	ST. MATHEWS PROTESTANT EPISCOPAL CHURCH	13,012	-
6603-WL	W & E. E. GOLLIN	3,750	-
6604-WL	I. M. & M. C. GREEN	3,750	-
6605-WL	T. ROSS	3,750	-
6606-WL	J. H. & B. Mc DONALD	3,750	-
6607-WL	P. M. T. Mc HUGH	4,780	-
6608-T	B. F. K. L. CIUPIDRO	869	6011
6609-WD	R. E. HUTCHINSON	155	2431
6609-ER		1594	
6609-SA		249	
6760-WL	BERNARD FARKAS JR.	804	1207
6761-WL	M. SCHUSTER	5379	-
6762-WL	J. F. & M. E. McDERMOTT	5145	-
6763-WL	F. & F. GERNHART	5000	-
6764-WL	R. LANDES	4688	-
6765-WL	C. F. TESS	6089	-
6766-WL	C. SEBASTIAN	6058	-
6767-WL	S. STOTTER	6163	-

DELOCATED EMILY AVENUE  
CURVE DATA  
P.I. STA. 59+12.39  
 $\Delta = 92^{\circ} 49' 52''$   
 $D = 64.00'$   
 $T = 67.24'$   
 $C.L. = 103.70'$   
 $E = 28.80'$



PARCEL 6609 WD

SCALE 1" = 20'

NAME	REVISION	DATE
D.A.S.	ADDED PCL 6609A-T	8-1-76
HRT	ADDED PCL 6609A-SA	9-9-75

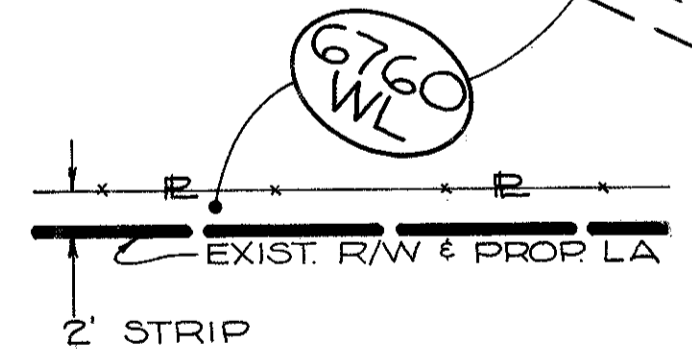
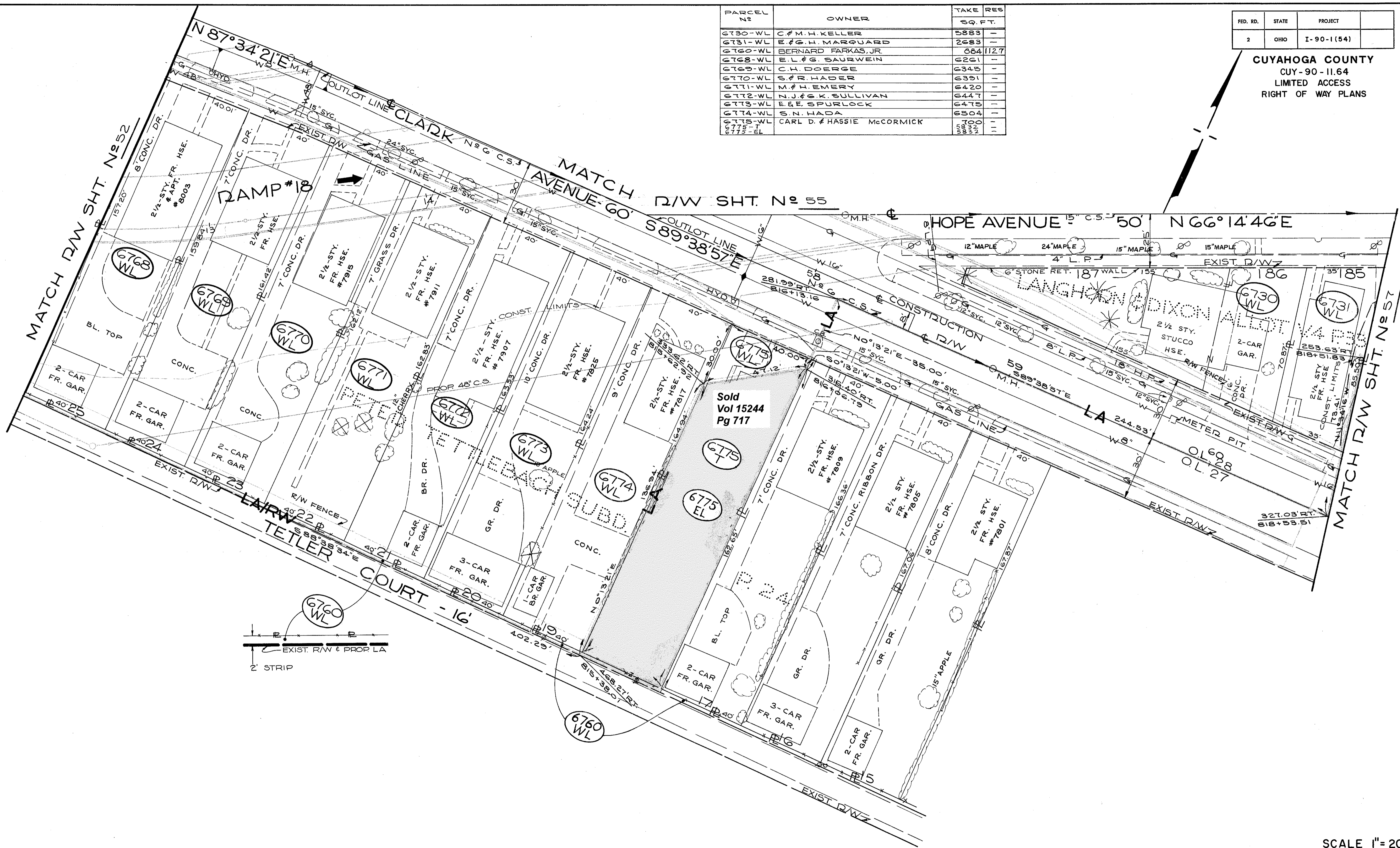
PARCEL NO	OWNER	TAKE RES SQ. FT.
6730-WL	C.F.M.H. KELLER	5883
6731-WL	E.F.G.H. MARQUARD	2683
6760-WL	BERNARD FARKAS, JR.	684
6768-WL	E.L.#G. SAURWEIN	6261
6769-WL	C.H. DOERGE	6345
6770-WL	S.F.R. HADER	6391
6771-WL	M.#H. EMERY	6420
6772-WL	N.J.#K. SULLIVAN	6447
6773-WL	E.#E. SPURLOCK	6475
6774-WL	S.N. HADA	6504
6775-WL	CARL D.#HASSIE McCORMICK	7000
6775-EL		5833

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

CUYAHOGA COUNTY  
 CUY-90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

799  
838

53  
92



SCALE 1" = 20'

H.R.T.	CHGD.PCL.	6775ERT06775EL	3-13-79
NAME	REVISION	DATE	

RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

800  
838

CUYAHOGA COUNTY  
CUY - 90 - 11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

54  
92

WEST 80 ST-NORDICA CT. CONNECTOR  
C. CURVE N=1 DATA  
P.I. STA 50+59.47  
Δ=113°47'17" LT.  
D=55.00  
T=84.35  
L=109.23  
CH=92.14  
E=45.70

R/W CURVE N=1.  
CH. BRG. = 66°52'54"E  
CH. = 108.90' R=66.00'  
ARC = 129.09'

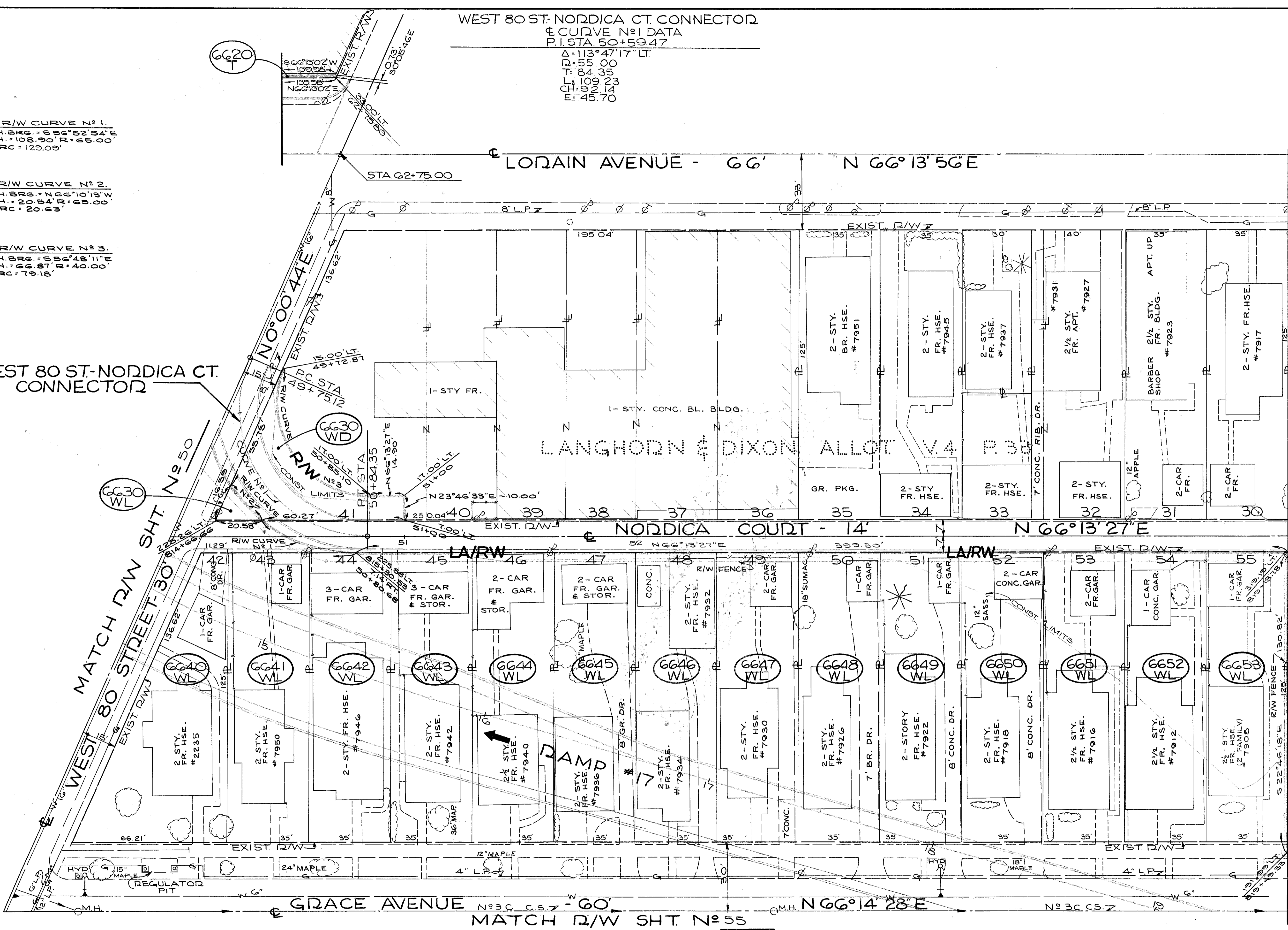
R/W CURVE N=2.  
CH. BRG. = 20°54'00"W  
CH. = 20.84' R=80.00'  
ARC = 20.63'

R/W CURVE N=3.  
CH. BRG. = 58°48'11"E  
CH. = 66.87' R=40.00'  
ARC = 19.18'

WEST 80 ST-NORDICA CT.  
CONNECTOR

MATCH R/W SHT. N=50  
WEST 80 STREET-30'  
EXIST. R/W

MATCH R/W SHT. N=56



PARCEL NO.	OWNER	TAKE RES.	SO.	RES.	PARCEL NO.	OWNER	TAKE RES.	SO.	RES.
6620-T	E.R. McFARLAND, ETAL	50	15500	6622-WL	J.S. & P. RUSS	43T5			
6630-WL	G. RUSSO	145	2484	6653-WL	MARTHA HOEFEL	43T5			
6630-WD		1519							
6640-WL	E. MARTIN	4844							
6641-WL	S. M. SCHICKEL	43T5							
6642-WL	R.M. REISING	43T5							
6643-WL	M.M. & J.J. GALLAGHER	43T5							
6644-WL	O. D. OWENS	43T5							
6645-WL	N.W. DE VOIGT	43T5							
6646-WL	H. GLEESKE	43T5							
6647-WL	ANNA PEKAR	43T5							
6648-WL	E. MESZAR	43T5							
6649-WL	G. KNICLA	43T5							
6650-WL	H. BERNARD	43T5							
6651-WL	F. LINK JR.	43T5							

SCALE 1" = 20'

NAME	REVISION	DATE

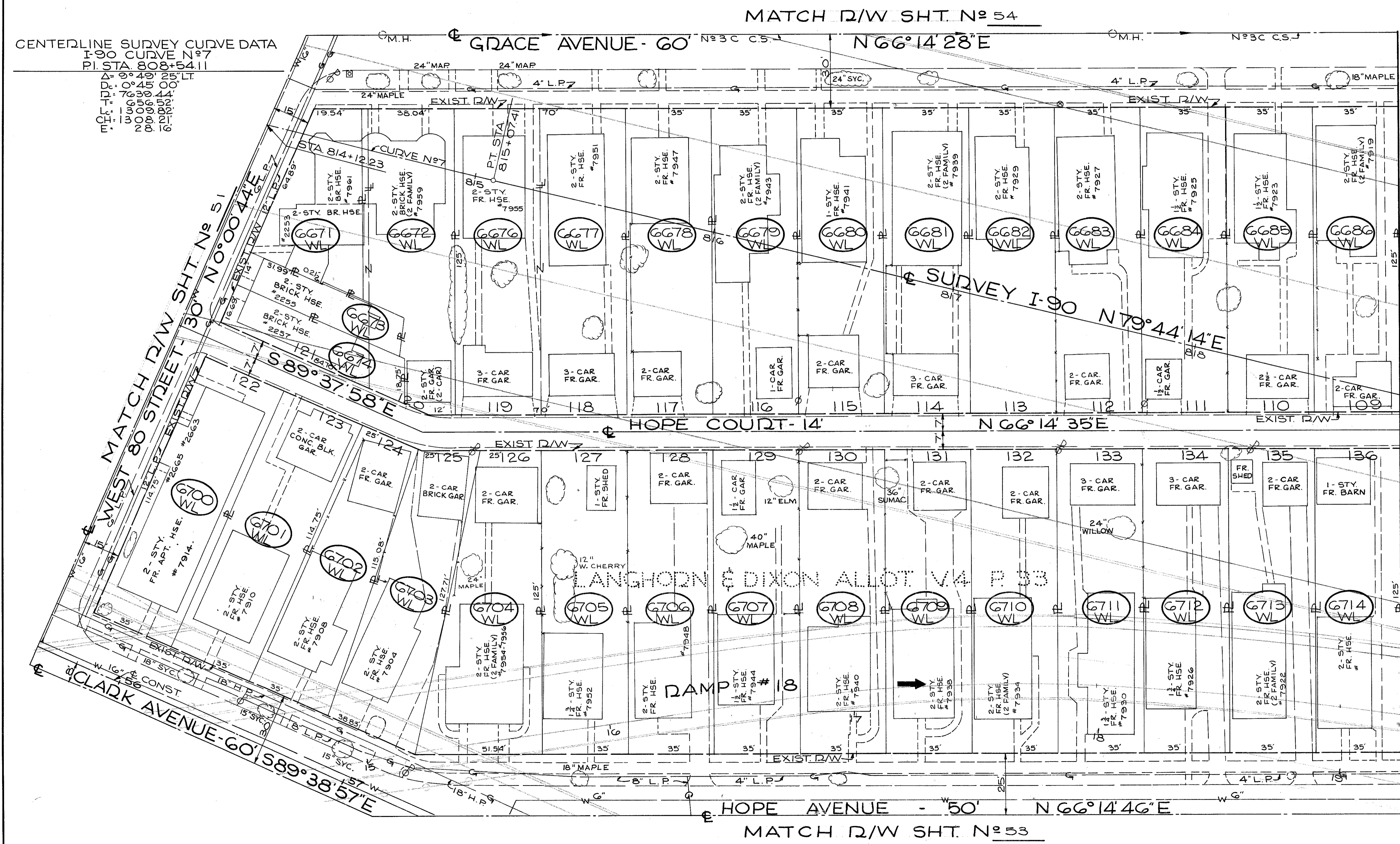
RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

801  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

55  
92



CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N<sup>o</sup> 7  
P.I. STA 808+54.11  
D<sub>1</sub> = 93.40' R<sub>1</sub> = 0° 40' 00" LT.  
D<sub>2</sub> = 70.00' R<sub>2</sub> = 0° 40' 00" LT.  
D<sub>3</sub> = 90.00' R<sub>3</sub> = 0° 40' 00" LT.  
D<sub>4</sub> = 60.00' R<sub>4</sub> = 0° 40' 00" LT.

PARCEL N <sup>o</sup>	OWNER	TAKE RES SQ. FT.	PARCEL N <sup>o</sup>	OWNER	TAKE RES SQ. FT.
6671-WL	B. FERGUSON	4016	G701-WL	H. HAUSER ETAL. H.J.F.A.	4016
6672-WL	H. MANNING SR.	3442	G702-WL	H. MANNING SR.	3442
6673-WL	A. TOCHINSKY	3700	G703-WL	A. VETRONE	4784
6674-WL	A. VETRONE	4315	G704-WL	A. E. LEAVER	4315
6675-WL	D.G. WILLIAMS	4315	G705-WL	D.G. WILLIAMS	4315
6676-WL	M.L. ECK	4315	G706-WL	M.L. ECK	4315
6677-WL	A. HUBALIK	4315	G707-WL	A. HUBALIK	4315
6678-WL	A. HUBALIK	4315	G708-WL	A. HUBALIK	4315
6679-WL	A. HUBALIK	4315	G709-WL	A. HUBALIK	4315
6680-WL	A. HUBALIK	4315	G710-WL	A. HUBALIK	4315
6681-WL	A. HUBALIK	4315	G711-WL	A. HUBALIK	4315
6682-WL	A. HUBALIK	4315	G712-WL	A. HUBALIK	4315
6683-WL	A. HUBALIK	4315	G713-WL	A. HUBALIK	4315
6684-WL	A. HUBALIK	4315	G714-WL	A. HUBALIK	4315
6685-WL	A. HUBALIK	4315			
6686-WL	A. HUBALIK	4315			
6687-WL	A. HUBALIK	4315			
6688-WL	A. HUBALIK	4315			
6689-WL	A. HUBALIK	4315			
6690-WL	A. HUBALIK	4315			
6691-WL	A. HUBALIK	4315			
6692-WL	A. HUBALIK	4315			
6693-WL	A. HUBALIK	4315			
6694-WL	A. HUBALIK	4315			
6695-WL	A. HUBALIK	4315			
6696-WL	A. HUBALIK	4315			
6697-WL	A. HUBALIK	4315			
6698-WL	A. HUBALIK	4315			
6699-WL	A. HUBALIK	4315			
6700-WL	A. HUBALIK	4315			
6701-WL	O.F.H. BUTLER	2402			
6702-WL	A.F.S. LIBERTY	3981			
6703-WL	H.O. BONNET	1016			
6704-WL	H.R.V. WHEELER	4315			
6705-WL	M. MARTIN	4315			
6706-WL	J.J. GREGORY	4315			
6707-WL	J.J. GREGORY	4315			
6708-WL	H.B. FASSET	4315			
6709-WL	A.S. J. SAKSA	4315			
6710-WL	A. RITTER-MARS INVESTMENT	4315			
6711-WL	H. SCHNEIDER	4315			
6712-WL	H. SCHNEIDER	4315			
6713-WL	H. SCHNEIDER	4315			
6714-WL	H. SCHNEIDER	4315			
6715-WL	H. SCHNEIDER	4315			
6716-WL	H. SCHNEIDER	4315			
6717-WL	H. SCHNEIDER	4315			
6718-WL	H. SCHNEIDER	4315			
6719-WL	H. SCHNEIDER	4315			
6720-WL	H. SCHNEIDER	4315			
6721-WL	H. SCHNEIDER	4315			
6722-WL	H. SCHNEIDER	4315			
6723-WL	H. SCHNEIDER	4315			
6724-WL	H. SCHNEIDER	4315			
6725-WL	H. SCHNEIDER	4315			
6726-WL	H. SCHNEIDER	4315			
6727-WL	H. SCHNEIDER	4315			
6728-WL	H. SCHNEIDER	4315			
6729-WL	H. SCHNEIDER	4315			
6730-WL	H. SCHNEIDER	4315			
6731-WL	H. SCHNEIDER	4315			
6732-WL	H. SCHNEIDER	4315			
6733-WL	H. SCHNEIDER	4315			
6734-WL	H. SCHNEIDER	4315			
6735-WL	H. SCHNEIDER	4315			
6736-WL	H. SCHNEIDER	4315			
6737-WL	H. SCHNEIDER	4315			
6738-WL	H. SCHNEIDER	4315			
6739-WL	H. SCHNEIDER	4315			
6740-WL	H. SCHNEIDER	4315			
6741-WL	H. SCHNEIDER	4315			
6742-WL	H. SCHNEIDER	4315			
6743-WL	H. SCHNEIDER	4315			
6744-WL	H. SCHNEIDER	4315			
6745-WL	H. SCHNEIDER	4315			
6746-WL	H. SCHNEIDER	4315			
6747-WL	H. SCHNEIDER	4315			
6748-WL	H. SCHNEIDER	4315			
6749-WL	H. SCHNEIDER	4315			
6750-WL	H. SCHNEIDER	4315			

SCALE 1" = 20'

NAME	REVISION	DATE

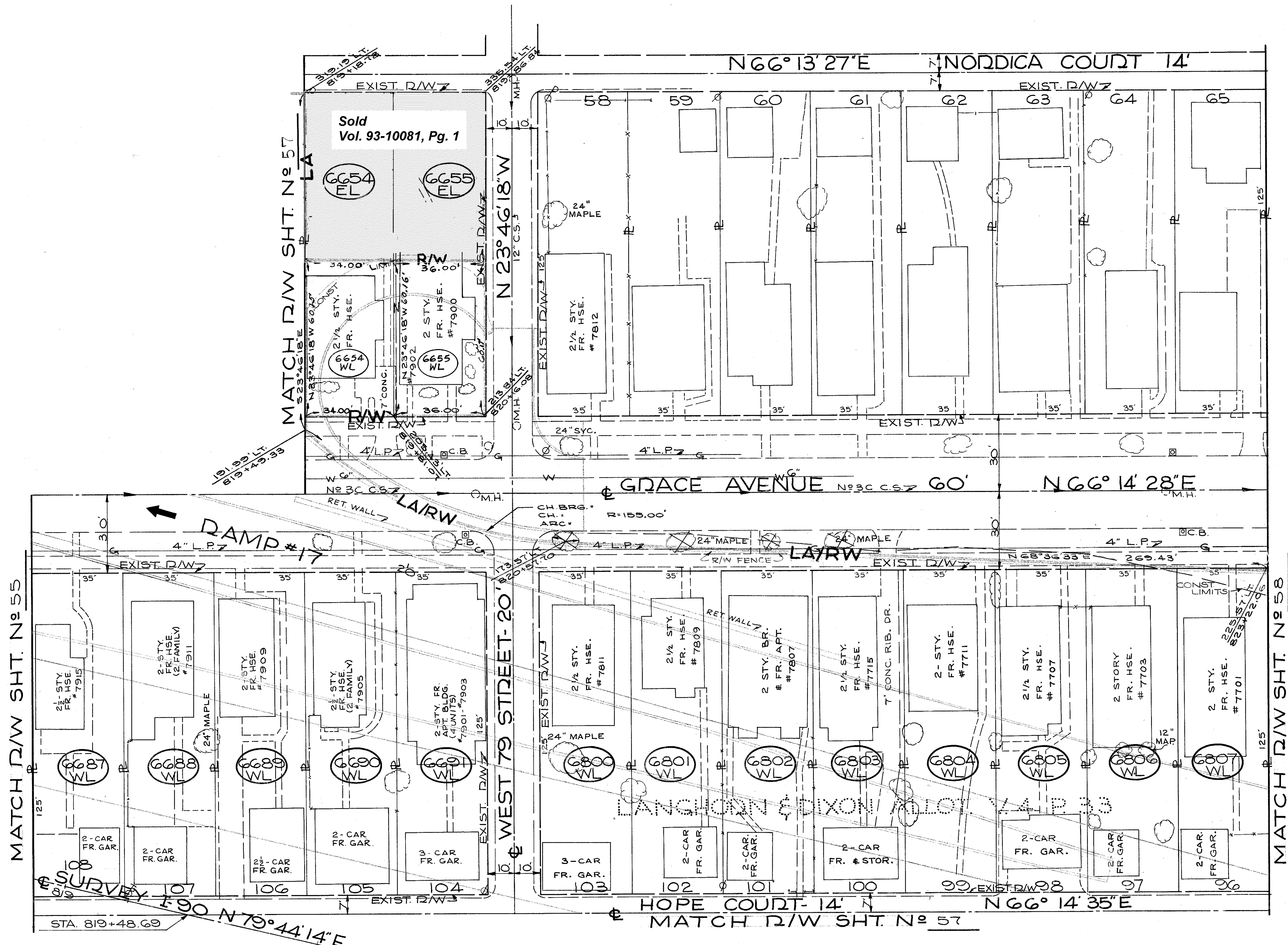
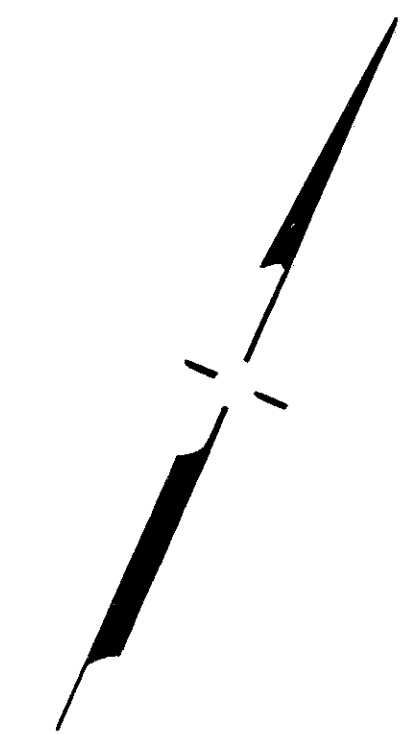
RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

802  
338

**CUYAHOGA COUNTY**  
**CUY-90-11.64**  
**LIMITED ACCESS**  
**RIGHT OF WAY PLANS**

56  
92



PARCEL NO.	OWNER	TAKE	RES. SQ. FT.
6654-WL	P.V. & R.D. FILERETE	2046	-
6654-EL		2210	-
6655-WL	E. & P. LEWIS	2160	-
6655-EL		2340	-
6687-WL	J.F. & D.C. BODNAR	4375	-
6688-WL	E. & S. CORDES	4375	-
6689-WL	M.M. ROCK	4375	-
6690-WL	A.L. & E. SIMS SR.	4375	-
6691-WL	K. & E. REITENBACH	4375	-
6800-WL	E. PLISKE	4375	-
6801-WL	W.M. & V. LINDENMAN	4375	-
6802-WL	V. & W. LINDENMAN & M. SIEBER	4375	-
6803-WL	H. & M. HEINZ	4375	-
6804-WL	R. ROBINETT	4375	-
6805-WL	J.H. JALATY	4375	-
6806-WL	C.R. REESING - TRUSTEE FOR T.J. REESING	4375	-
6807-WL	H. RADLOFF & M. LAMBERT	4375	-

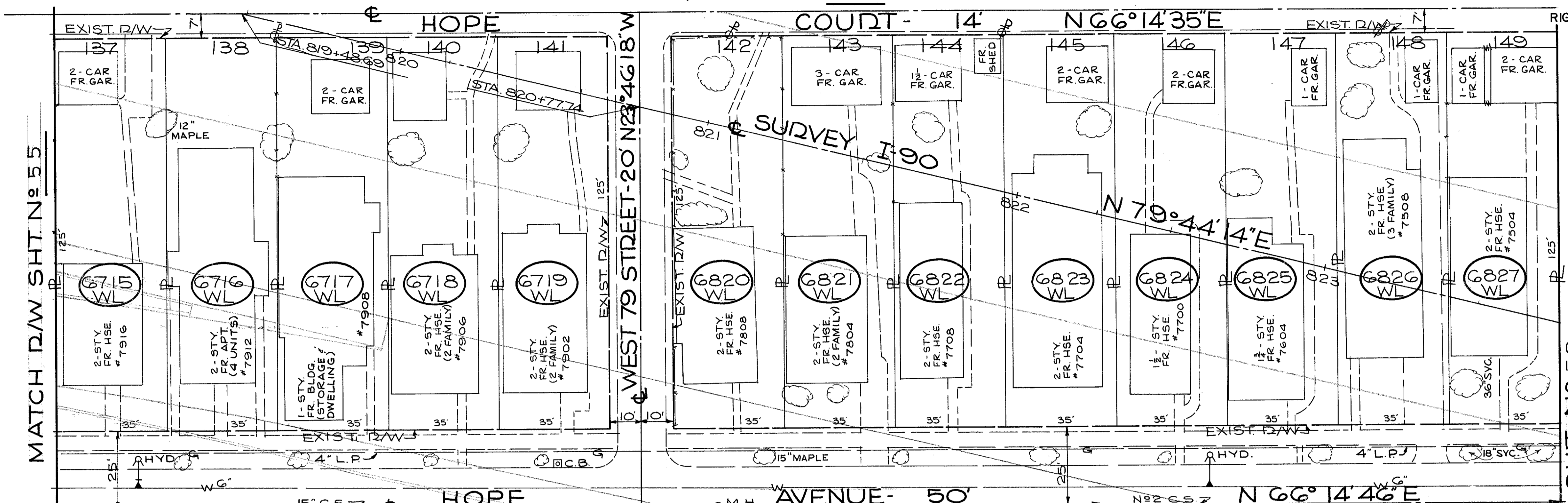
SCALE 1" = 20'

2 p.c. 6654EL, p.c. 6655EL, 5/2002  
 Sold Vol. 93-10081, Pg. 1

1	REV. R/W FOR PCLS.	11-20-90
	6654 & 6655	
NAME	REVISION	DATE

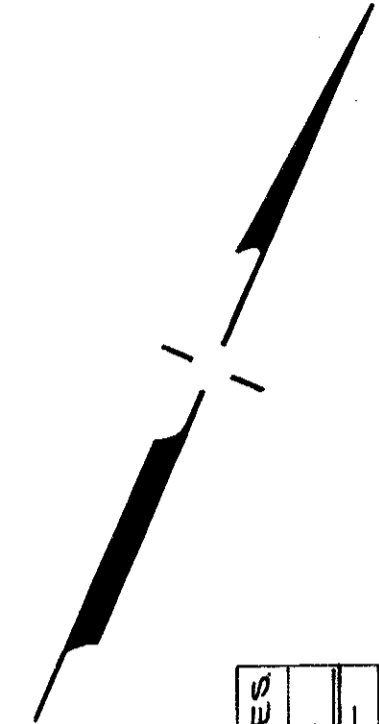
**RIGHT OF WAY PLANS**

MATCH D/W SHT. N° 56

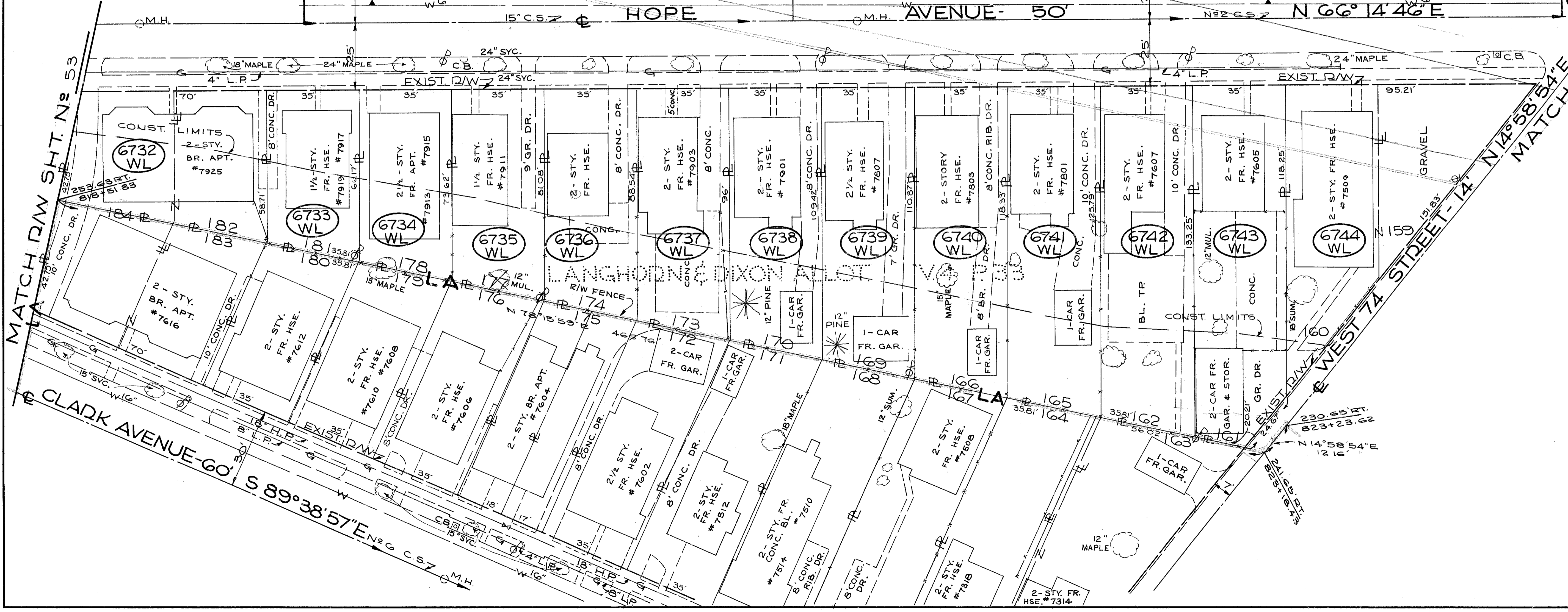


MATCH D/W SHT. N° 55

SHT. N° 58



MATCH D/W SHT. N° 53



PARCEL NO.	OWNER	TAKE RES. SQ. FT.	PARCEL NO.	OWNER	TAKE RES. SQ. FT.
6732 WL	CONST. LIMITS	4315	6820 WL	2-STY. FR. HSE. #7808	4533
6733 WL	1 1/2 STY. FR. HSE. #7919	4315	6821 WL	2-STY. FR. HSE. (2 FAMILY) #7804	4628
6734 WL	2 1/2 STY. FR. APT. #7915	4315	6822 WL	2-STY. FR. HSE. #7708	5049
6735 WL	1 1/2 STY. FR. HSE. #7911	4315	6823 WL	2-STY. FR. HSE. #7704	4315
6736 WL	2-STY. FR. HSE. #7903	4315	6824 WL	1 1/2 STY. FR. HSE. #7604	4315
6737 WL	2-STY. FR. HSE. #7901	4315	6825 WL	1 1/2 STY. FR. HSE. #7604	4315
6738 WL	2 1/2 STY. FR. HSE. #7607	4315	6826 WL	2-STY. FR. HSE. (3 FAMILY) #7508	4315
6739 WL	2-STORY FR. HSE. #7805	4315	6827 WL	2-STY. FR. HSE. #7504	4315
6740 WL	2-STY. FR. HSE. #7801	4315			
6741 WL	2-STY. FR. HSE. #7607	4315			
6742 WL	2-STY. FR. HSE. #7605	4315			
6743 WL	2-STY. FR. HSE. #7509	4315			
6744 WL	2-STY. FR. HSE. #7509	4315			

SCALE 1" = 20'

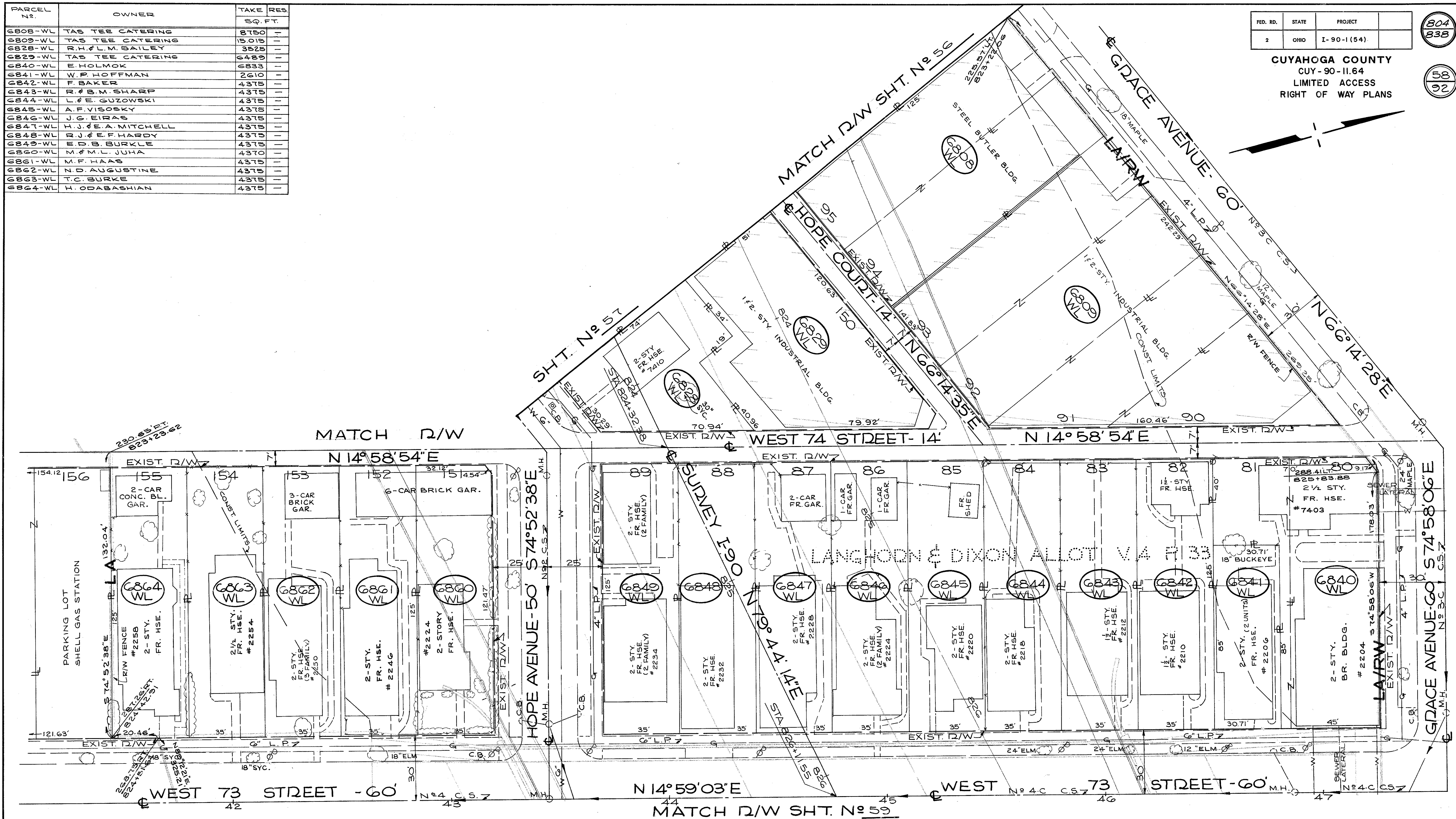
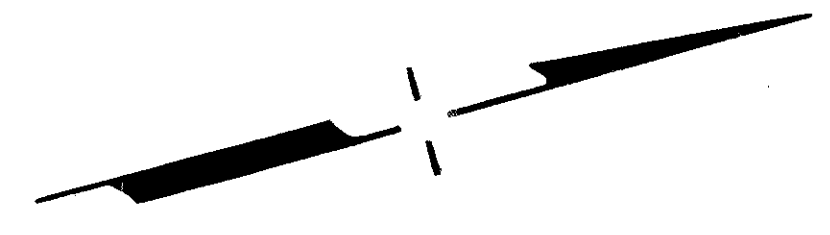
NAME	REVISION	DATE

PARCEL No.	OWNER	TAKE SQ. FT.	RES.
6808-WL	TAS TEE CATERING	8750	-
6809-WL	TAS TEE CATERING	15,018	-
6828-WL	R.H. & L.M. BAILEY	3525	-
6829-WL	TAS TEE CATERING	6489	-
6840-WL	E. HOLMOK	6833	-
6841-WL	W.P. HOFFMAN	2610	-
6842-WL	F. BAKER	4375	-
6843-WL	R.# B.M. SHARP	4375	-
6844-WL	L.# E. GUZOWSKI	4375	-
6845-WL	A.F. VISOSKY	4375	-
6846-WL	J.G. EIRAS	4375	-
6847-WL	H.J.# E.A. MITCHELL	4375	-
6848-WL	R.V.# E.F. HARDY	4375	-
6849-WL	E.D.B. BURKLE	4375	-
6860-WL	M.# M.L. JUHA	4370	-
6861-WL	M.F. HAAS	4375	-
6862-WL	N.D. AUGUSTINE	4375	-
6863-WL	T.C. BURKE	4375	-
6864-WL	H. ODABASHIAN	4375	-

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1 (54)

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

804  
838  
58  
92



SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS



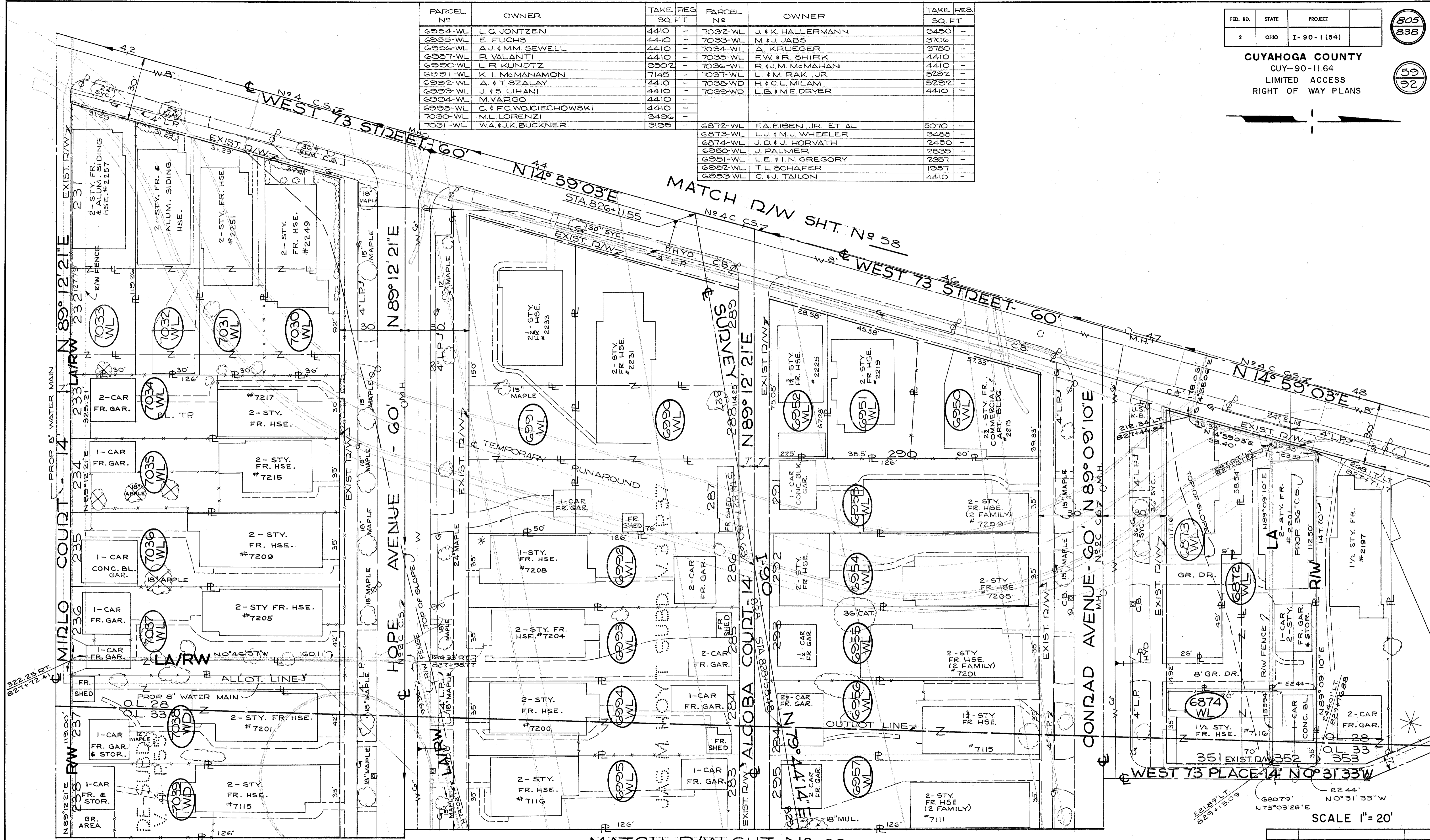
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

805  
838

**CUYAHOGA COUNTY**  
 CUY-90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

59  
92

PARCEL No	OWNER	TAKE SQ. FT.	RES.	PARCEL No	OWNER	TAKE SQ. FT.	RES.
6954-WL	L.G. JONTZEN	4410	-	7032-WL	J & K. HALLERMANN	3450	-
6955-WL	E. FUCHS	4410	-	7033-WL	M & J. JABS	3706	-
6956-WL	A.J. & M.M. SEWELL	4410	-	7034-WL	A. KRUEGER	3780	-
6957-WL	R. VALANTI	4410	-	7035-WL	FW & R. SHIRK	4410	-
6990-WL	L.R. KUNDTZ	9902	-	7036-WL	R & J.M. McMAHAN	4410	-
6991-WL	K.I. McMANAMON	7145	-	7037-WL	L & M. RAK JR.	5292	-
6992-WL	A & T. SZALAY	4410	-	7038-WD	H & C.L. MILAM	5292	-
6993-WL	J & S. LIHANI	4410	-	7039-WD	L.B. & M.E. DRYER	4410	-
6994-WL	M. VARGO	4410	-				
6995-WL	C & F.C. WOJCIECHOWSKI	4410	-				
7030-WL	M.L. LORENZI	3496	-				
7031-WL	WA & J.K. BUCKNER	9195	-				
				6872-WL	FA. EIBEN, JR. ET AL	5070	-
				6873-WL	L.J. & M.J. WHEELER	3488	-
				6874-WL	J.D. & J. HORVATH	2450	-
				6950-WL	J. PALMER	2899	-
				6951-WL	L.E. & I.N. GREGORY	2357	-
				6952-WL	T.L. SCHAFER	1957	-
				6953-WL	C & J. TAILOR	4410	-



SCALE 1" = 20'

NAME	REVISION	DATE

**RIGHT OF WAY PLANS**

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

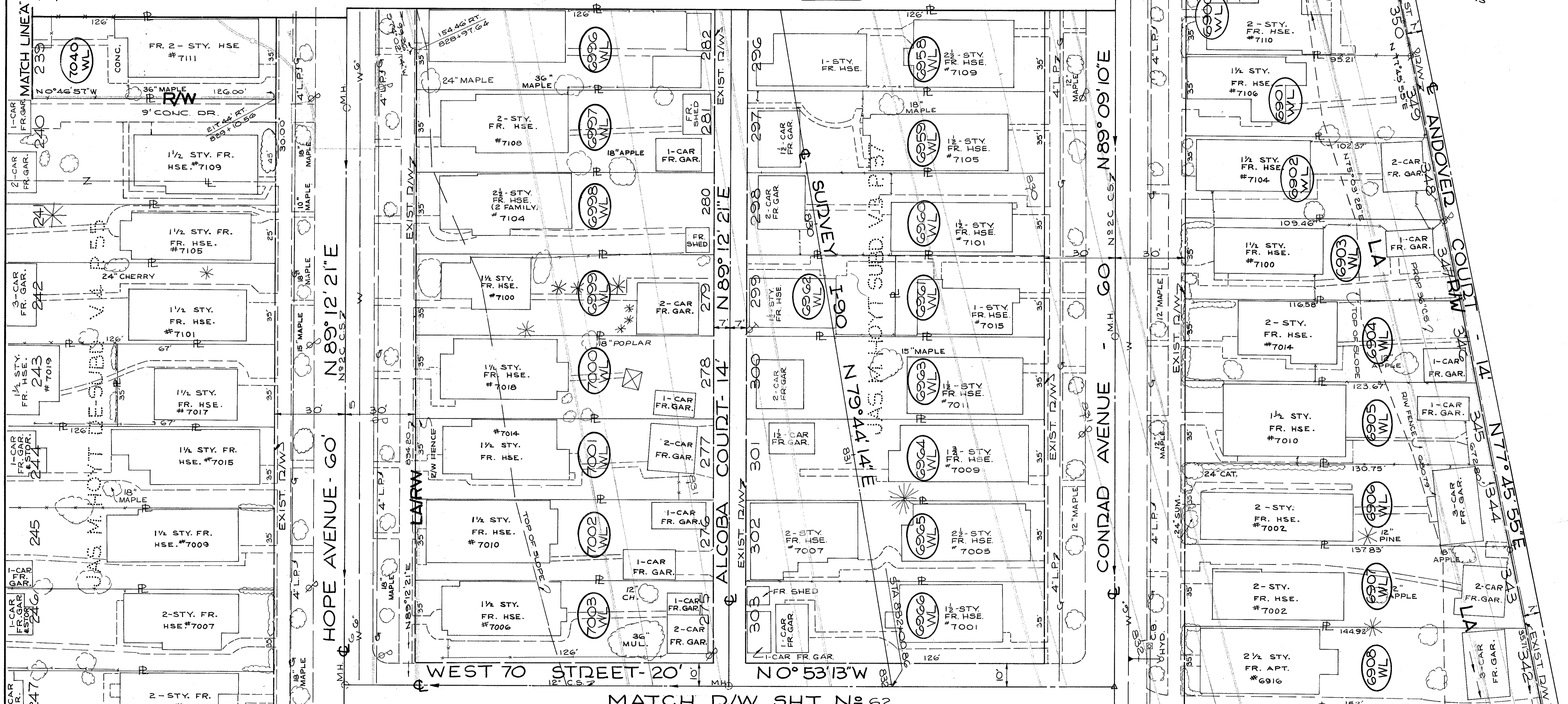
806  
838

60  
92

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

PARCEL No.	OWNER	TAKE RES \$Q. FT.	PARCEL No.	OWNER	TAKE RES \$Q. FT.	PARCEL No.	OWNER	TAKE RES \$Q. FT.
6900-WL	T. & G.P. FAW	3211	6961-WL	L. JOHNSON	2208	7000-WL	W.F. & D.M. PURSEL JR.	4410
6901-WL	O. & M. LONGAUER	3459	6962-WL	E.R. & M.F. SPRIGGS	2208	7001-WL	L. CROWE	4410
6902-WL	R.H. & J. YOUNG	3707	6963-WL	H. WEBBER	4410	7002-WL	N. DIVINCENZO	4410
6903-WL	C. & S. JOHNSON JR.	3955	6964-WL	C.R. VENUS	4410	7003-WL	A.M. SCHAEPPPE & E. EBERT	4410
6904-WL	R. & L. TERRISON	4203	6965-WL	L. BRENNER	4410	7040-WD	F. SCACCCUTO	4410
6905-WL	P.P. & A. ZENIS JR.	4451	6966-WL	C.A. DOROW, ET AL	4410			
6906-WL	L. SCHULTZ	4699	6996-WL	SOPHIA WELLING	4410			
6907-WL	R. RODATT, ETAL	4947	6997-WL	ESTATE OF R. KELLER	4410			
6908-WL	L.J. & H.F. GAHAN JR.	5196	6998-WL	M.R. & J.R. MILLER	4410			
6958-WL	G. & W.F. BECKLEY	4410	6999-WL	E. & L. TOTH & E. & L.M. TOTH	4410			
6959-WL	J. CURRAN	4410						
6960-WL	H. & M. FRIEDRICH	4410						

MATCH R/W SHT. No 59



MATCH R/W SHT. No 62

MATCH R/W SHT. No 61

SCALE 1" = 20'

NAME	REVISION	DATE

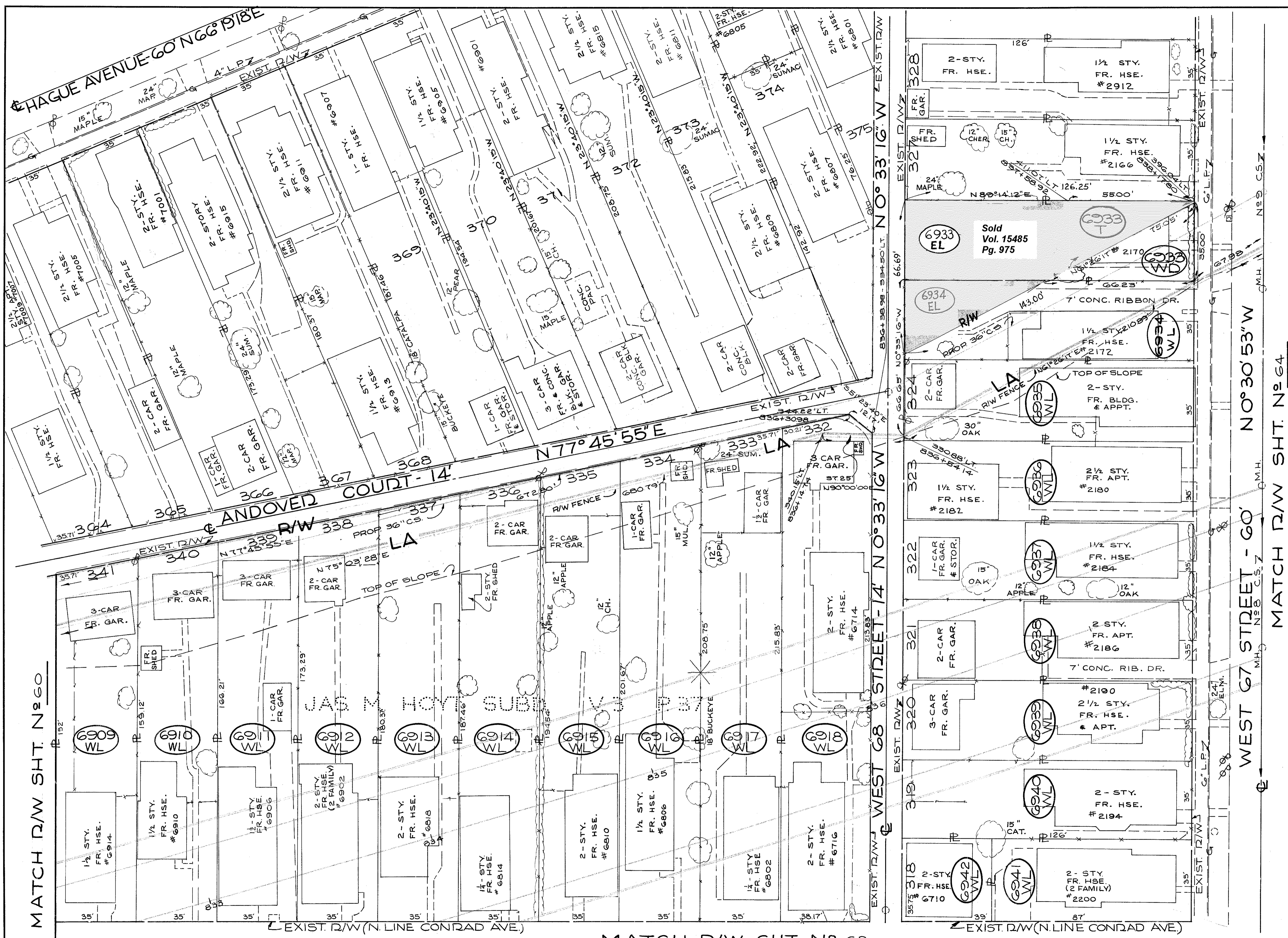
RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

807  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

61  
92



PARCEL NO.	OWNER	TAKE RES. SQ. FT.	PARCEL NO.	OWNER	TAKE RES. SQ. FT.
6909-WL	A.G. #J.A. MASCHINO	5444	6933-WD	H.L. WINKLER	1159
6910-WL	R.C. HULDEMAN	5652	6933-T		799
6911-WL	E.F.T.M. BOGGEN	5940	6933-EL		3251
6912-WL	R.E.#M.H. HICKS	6188	6934-WL		1150
6913-WL	S.I. ENART	6437	6934-WL	D.F.C.C. REYNOLDS	4410
6914-WL	C.E.#E.D. SENNETT	6685	6935-WL	H.C. WILLIAMSON	4410
6915-WL	M.F. HAAS	6933	6935-WL	P.F. CUSICK	4410
6916-WL	A.F. PALUMBO	7182	6935-WL	M.G. YARWOOD ERB	4410
6917-WL	A. GRANS	7430			
6918-WL	G. BECK	8337			
			6938-WL	R. BECK	4410
			6939-WL	A.F.M. J. LUNGO F.A.D. LUNGO	4410
			6940-WL	L.F.J.M. WATSON	4410
			6941-WL	L.D.F.H. A. WESOLEK #	3068
			6942-WL	J. MARTIN JR.	1390

SCALE 1" = 20'

EXCESS LAND PARCELS SOLD BY STATE

HRT	Rev. R/W Line & added Pct. 6934 EL	12-12-78
NAME	REVISION	DATE

RIGHT OF WAY PLANS

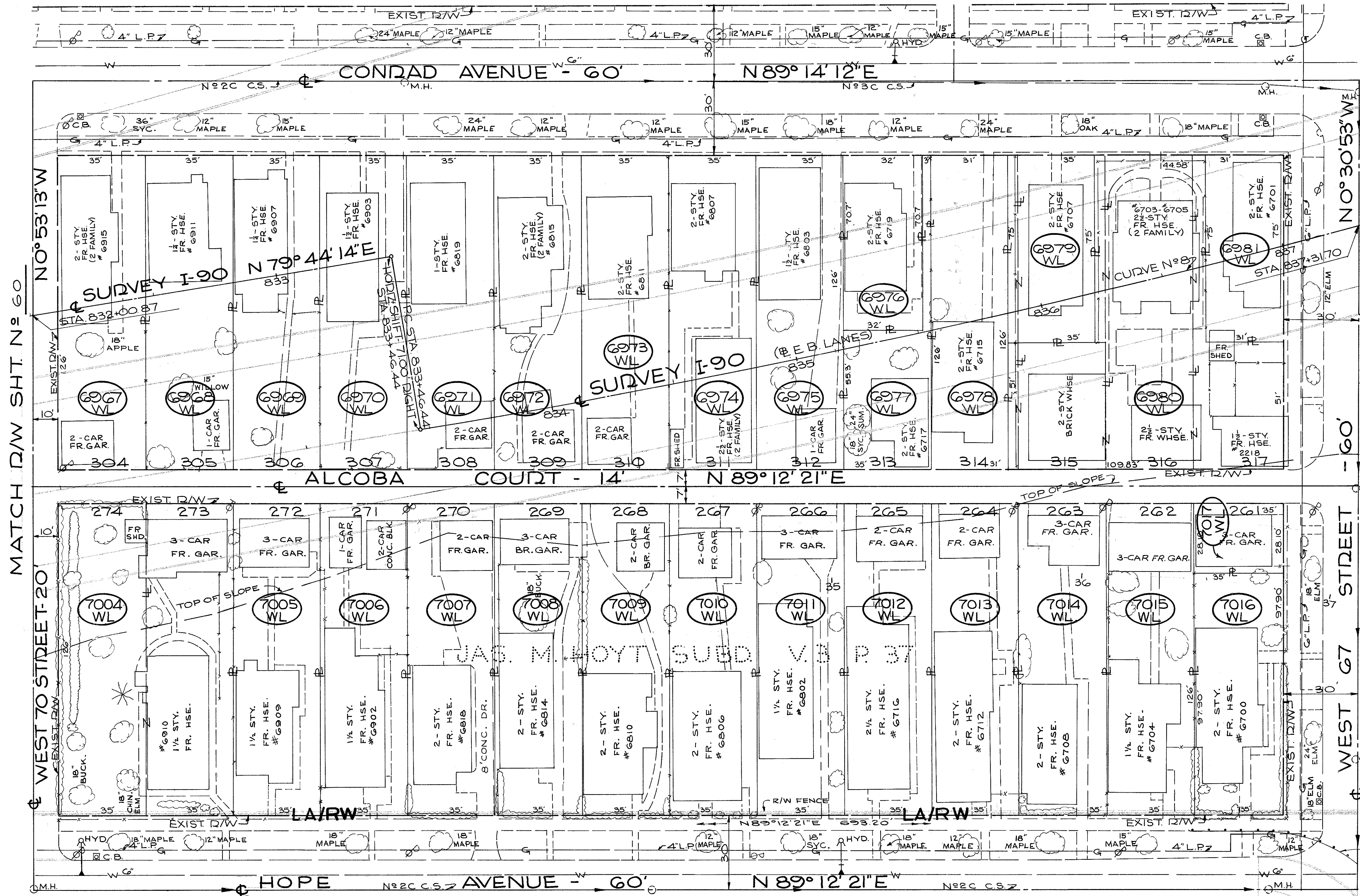
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

808  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

62  
92

MATCH D/W SHT. N° 61



CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N° 8  
P.I. STA. 841+04.94  
Δ = 21° 35' 34" LT. Lc = 1499.00  
D = 1° 26' 26" CH = 1490.14'  
T = 758.50' E = 71.68'

PARCEL NO.	OWNER	TAKE RES. SQ. FT.
6967-WL	W.A. LEESE	2655
6968-WL	F. & M. A. COOK	2525
6969-WL	S. MARUSZEWSKI	8820
6970-WL	J. & E. MARKHAM	4410
6971-WL	F. A. REIMAN	4410
6972-WL	E. HEIDINGER	4410
6973-WL	E. G. UDDY	4410
6974-WL	N. E. MOCHKO	4410
6975-WL	A. M. RATTAY	4410
6976-WL	F. P. HURLEY	4410
6977-WL	A. SEIBERT & HALAK	4410
6978-WL	J. F. A. P. PUTRINO	4410
6979-WL	F. J. F. M. KUKLA	4410
6980-WL	J. D. F. B. BRAS	4410
6981-WL	W. J. F. M. E. WATSON	3455
6982-WL	W. A. LEESE	1003

PARCEL NO.	OWNER	TAKE RES. SQ. FT.	PARCEL NO.	OWNER	TAKE RES. SQ. FT.
6967-WL	A. & S. A. PRIEBE	4410	6973-WL	W. T. & V. G. SWINDELL	4410
6968-WL	I. DE VRIES	4410	6974-WL	F. GIBBONS	4410
6969-WL	L. W. & M. R. DARRAH	4410	6975-WL	F. E. FINK	4410
6970-WL	J. J. LOGAN ETAL	4410	6976-WL	I. & F. FACETTI	2263
6971-WL	M. SZABO	4410	6977-WL	L. NEW	2147
6972-WL	R. V. HIRSCH & ESTATE OF IRENE A. HIRSCH	4410	6978-WL	J. L. & L. WOOD	3906
			6979-WL	T. O. F. B. E. GOSA	2625

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

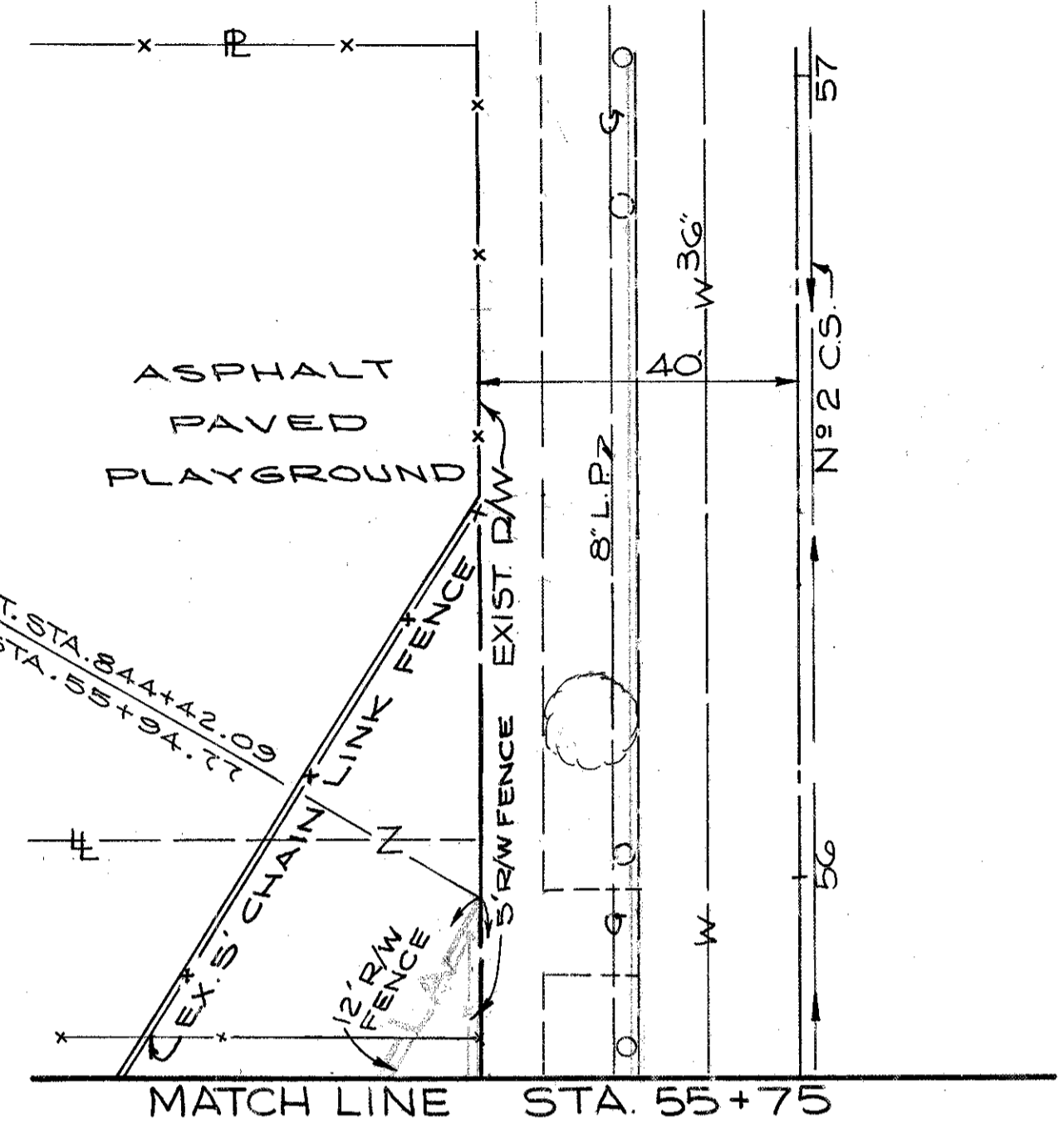
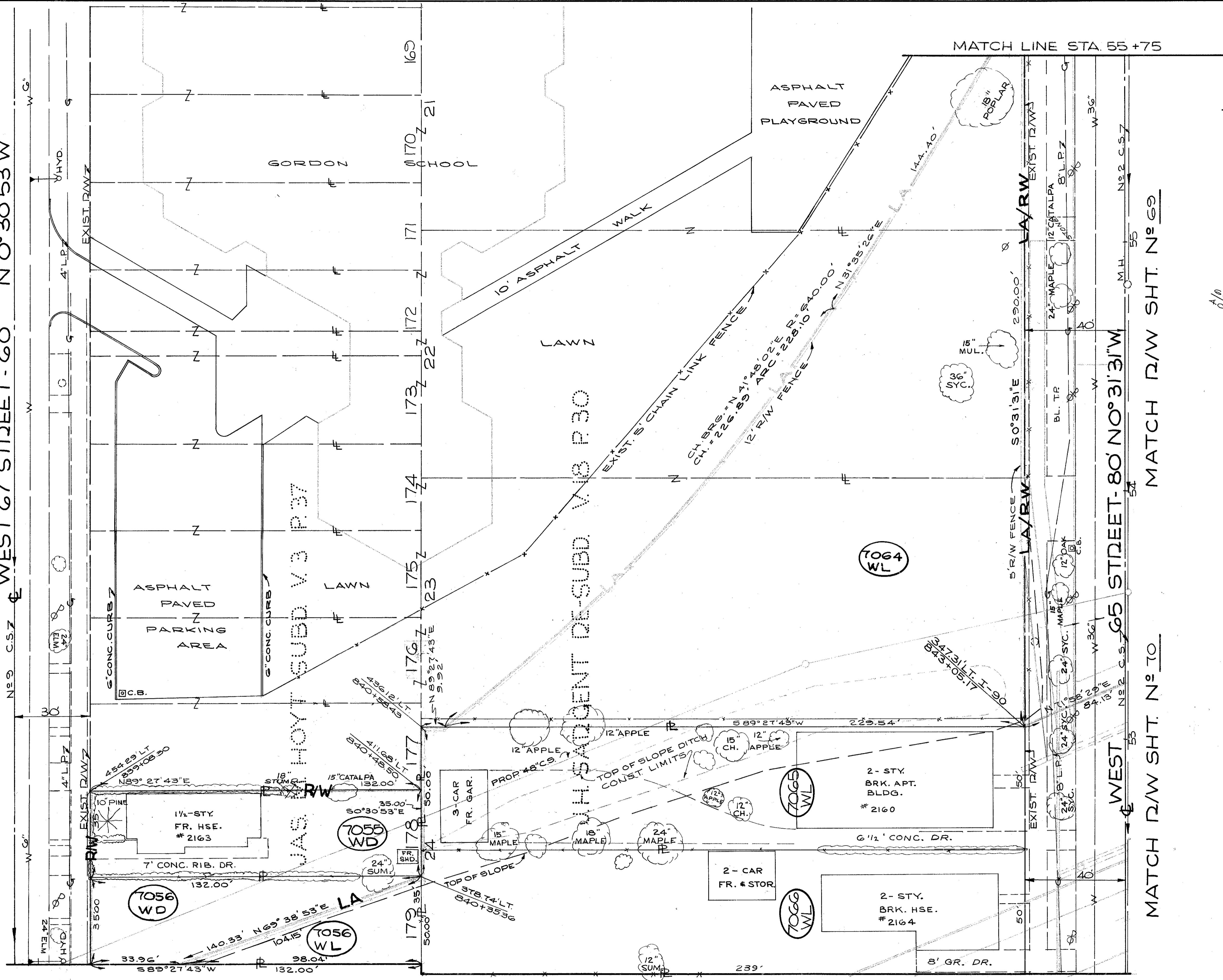
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

809  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

63  
92

WEST 67 STREET - 60' N 0° 30' 53" W



PARCEL NO.	OWNER	TAKE RES. SQ. FT.
7055-WD	HELEN PINKOWSKI, ET AL	4620
7056-WL 7056-WD	BOARD OF EDUCATION	1,700 2,920
7064-WL	BOARD OF EDUCATION	28,845
7065-WL	M. MANOS	11,950
7066-WL	E.S. & C.J. MROHALY	11,950

MATCH D/W SHT. N° 69

MATCH D/W SHT. N° 10

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS



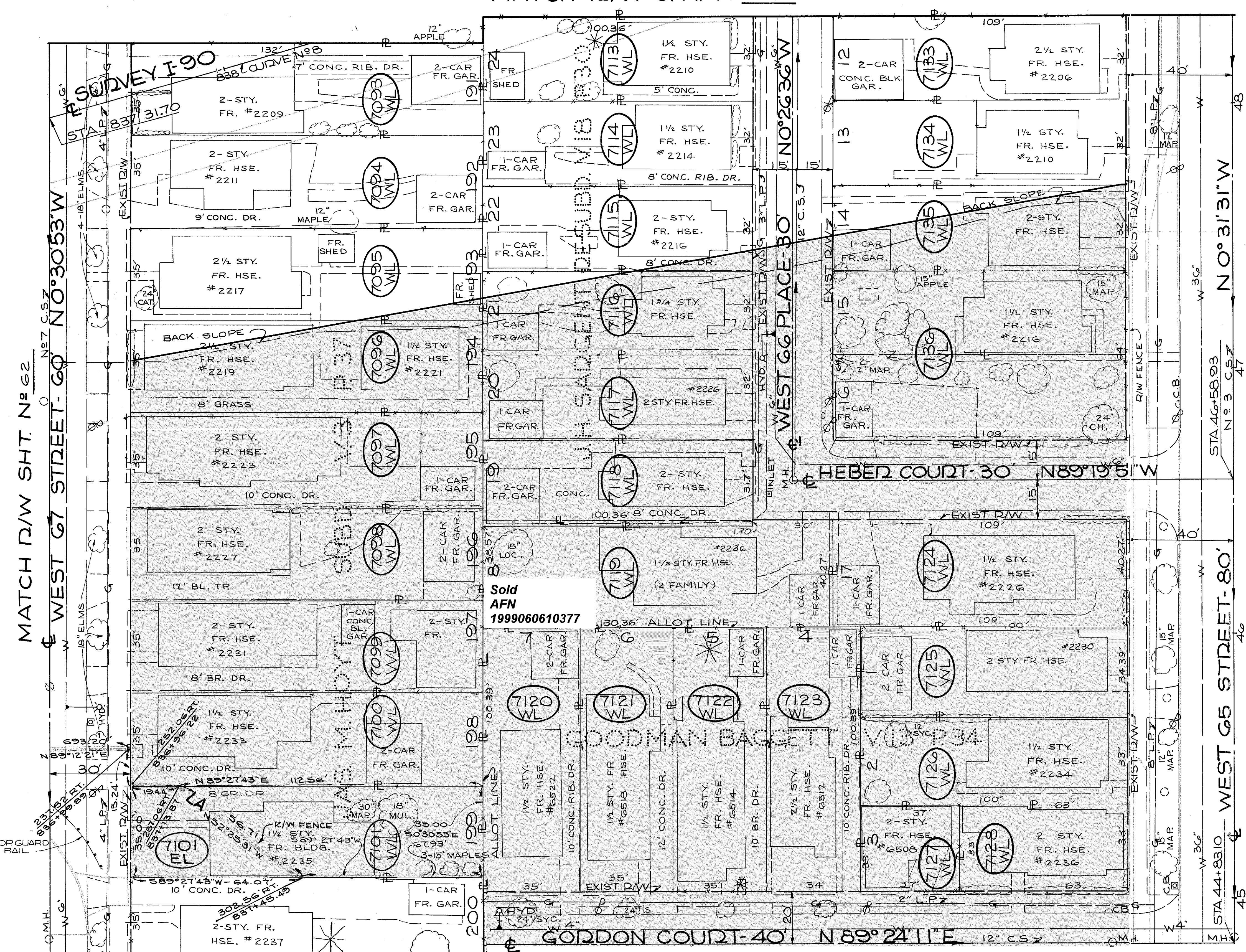
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

811  
838

65  
92

**CUYAHOGA COUNTY**  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

MATCH R/W SHT. N<sup>o</sup> 64



CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N<sup>o</sup> 8  
P.I. STA. 841+04.94  
Δ = 21° 35' 34" LT.  
Dc = 1° 26' 36" LT.  
D = 3977.53'  
T = 758.50'  
Lc = 1499.00'  
Ch = 1490.14'  
E = 71.68'

PARCEL NO.	OWNER	TAKE SQ. FT.	RES.
7093-WL	P.P.# H.E. SANOVICH	4620	-
7094-WL	J.# M. MORRIS	4620	-
7095-WL	E.H. RIEDEL	4620	-
7096-WL	L. CORONA	4620	-
7097-WL	A.# J. SCALMATO	4620	-
7098-WL	L.# D.M. LEE	4620	-
7099-WL	J.C. BUNDY ETAL	4620	-
7100-WL	R.E. PETRICE	4620	-
7101-WL	R.M.# Z.M. BERRY	3159	1461
7101-EL		1461	
7113-WL	J.S.# M. NEMETH	3212	-
7114-WL	R.A.# B.A. DEHLINGER	3212	-
7115-WL	W.F.# R. RIMKUS	3212	-
7116-WL	E.W.# K.A. MATSON	3212	-
7117-WL	J.# F.B. KOLLAR	3212	-
7118-WL	R.L.# B.L. MARTIN	3011	-
7119-WL	M.C.# S. WELLS	5250	-
7120-WL	T.J. ELLIOTT JR.	3514	-
7121-WL	A.S.# A.R. SALAMONE	3514	-
7122-WL	M.F. HAAS	3514	-
7123-WL	A. BERING	3514	-
7124-WL	G.# D. IMPALA	4389	-
7125-WL	F.# J. FILOCCO	3439	-
7126-WL	H. MOGYOROSSY	3300	-
7127-WL	C.S.# M.L. CLIFTON	1221	-
7128-WL	W. JACZKO	2079	-
7133-WL	E.# M.J. PATSKO	3488	-
7134-WL	L. KAPPLER	3488	-
7135-WL	J. KRIJWANSIK	3488	-
7136-WL	C. KONASEK	6976	-

SCALE 1" = 20'

NAME	REVISION	DATE

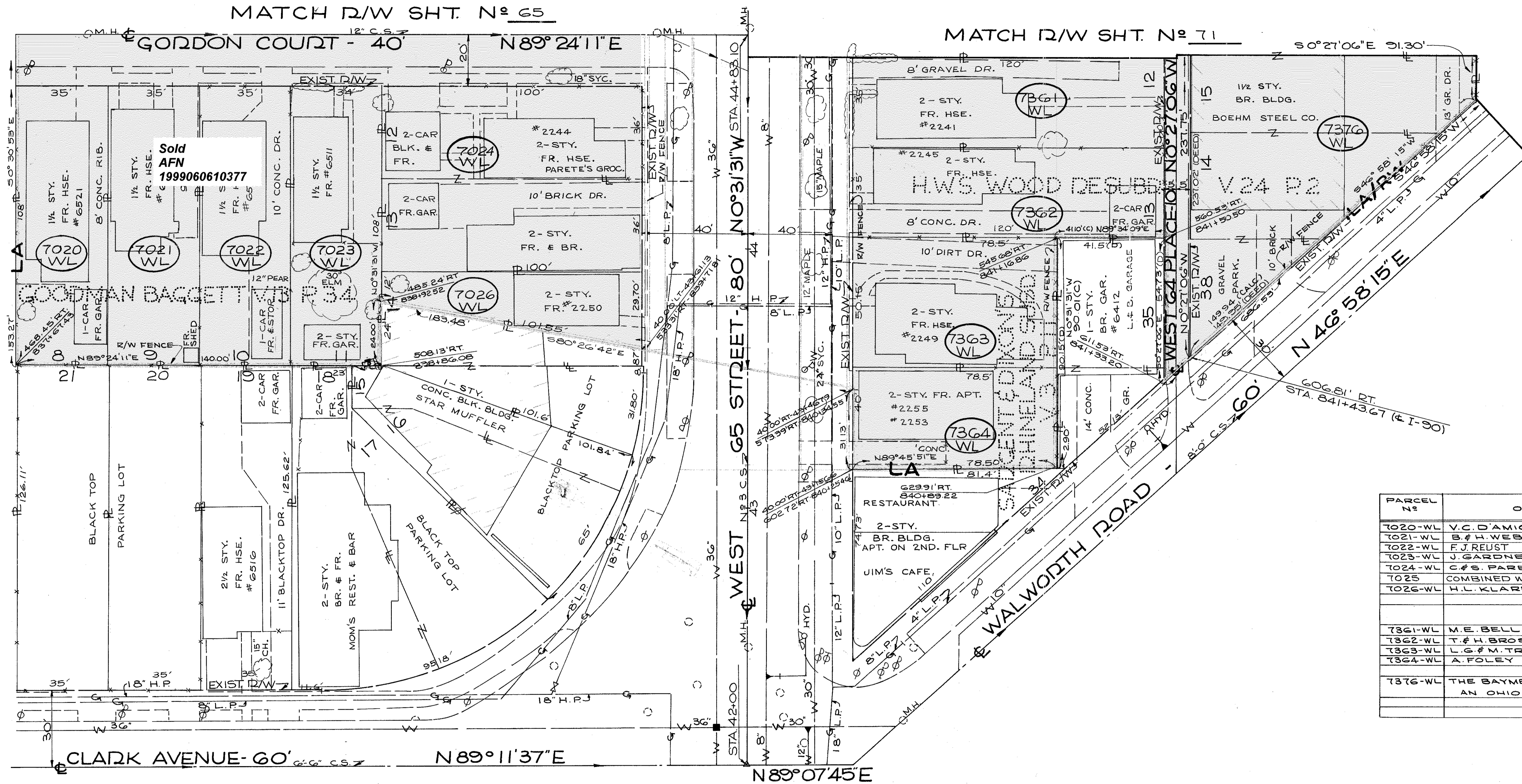
**RIGHT OF WAY PLANS**

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1 (54)

312  
338

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

66  
92



PARCEL N <sup>o</sup>	OWNER	TAKE	RES.
7020-WL	V.C. D'AMICO	3780	—
7021-WL	B.# H. WEBB	3780	—
7022-WL	F.J. REUST	3780	—
7023-WL	J. GARDNER	3672	—
7024-WL	C.# S. PARETE	7200	—
7025	COMBINED WITH 7024-WL		
7026-WL	H.L. KLARREICH	2085	—
7361-WL	M.E. BELL	4200	—
7362-WL	T.# H. BROSTL	4200	—
7363-WL	L.G.# M. TRUSKO	3937	—
7364-WL	A. FOLEY	3140	—
7376-WL	THE BAYMETAL PRODUCTS CO. AN OHIO PARTNERSHIP	66,183	—

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

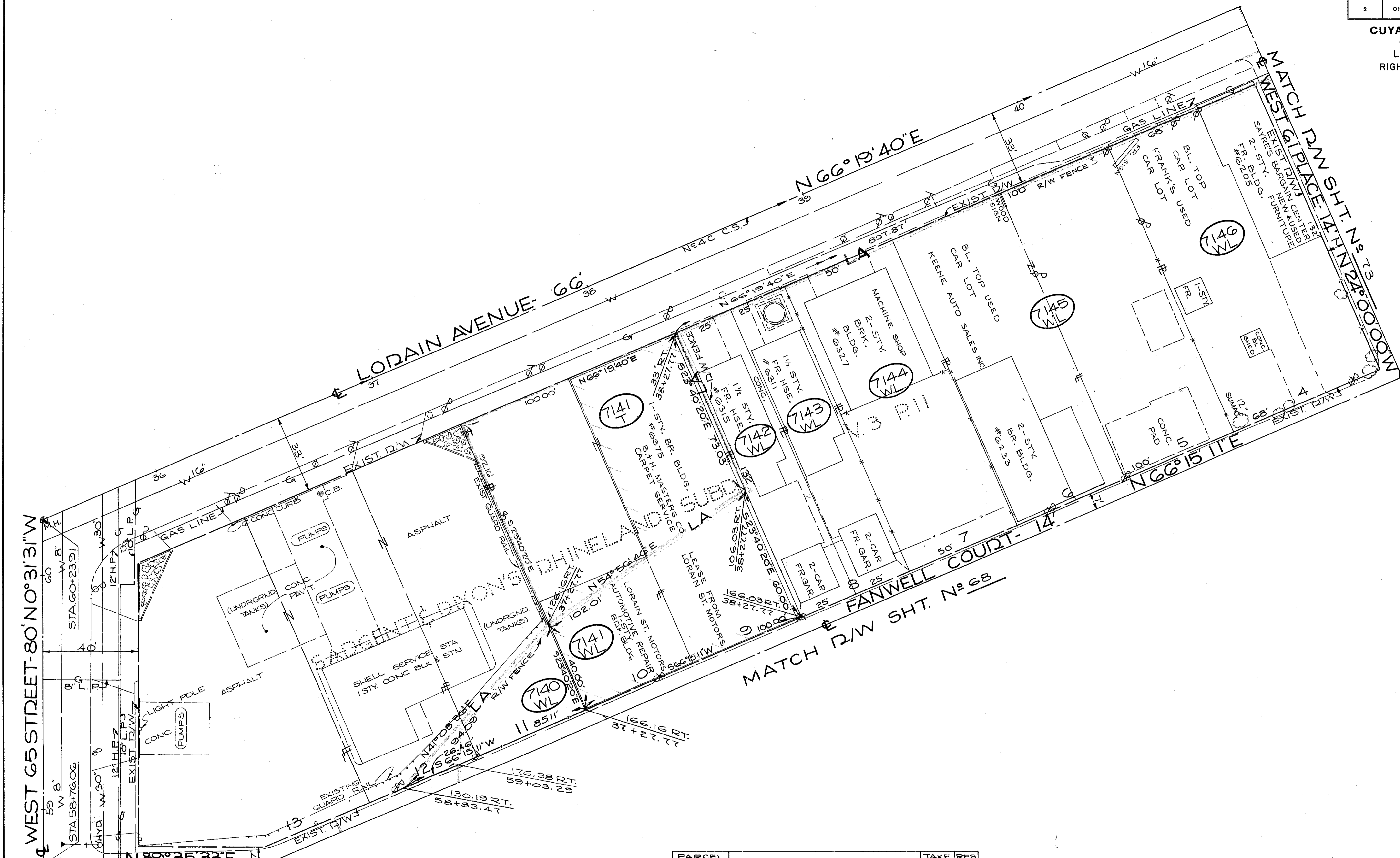


FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

8/3  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

67  
92



PARCEL NO.	OWNER	TAKE	RES
		SQ. FT.	
7140-WL	SHELL OIL CORPORATION	1702	21,478
7141-WL	DORAN AGENCY INC.	5000	8,208
7141-T		8,208	
7142-WL	DEZSO SZUTS	3300	
7143-WL	L. KINKOPF	3300	
7144-WL	F. J. LEE	6600	
7145-WL	L. BENDER	1,3200	
7146-WL	M. GAL	8976	

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

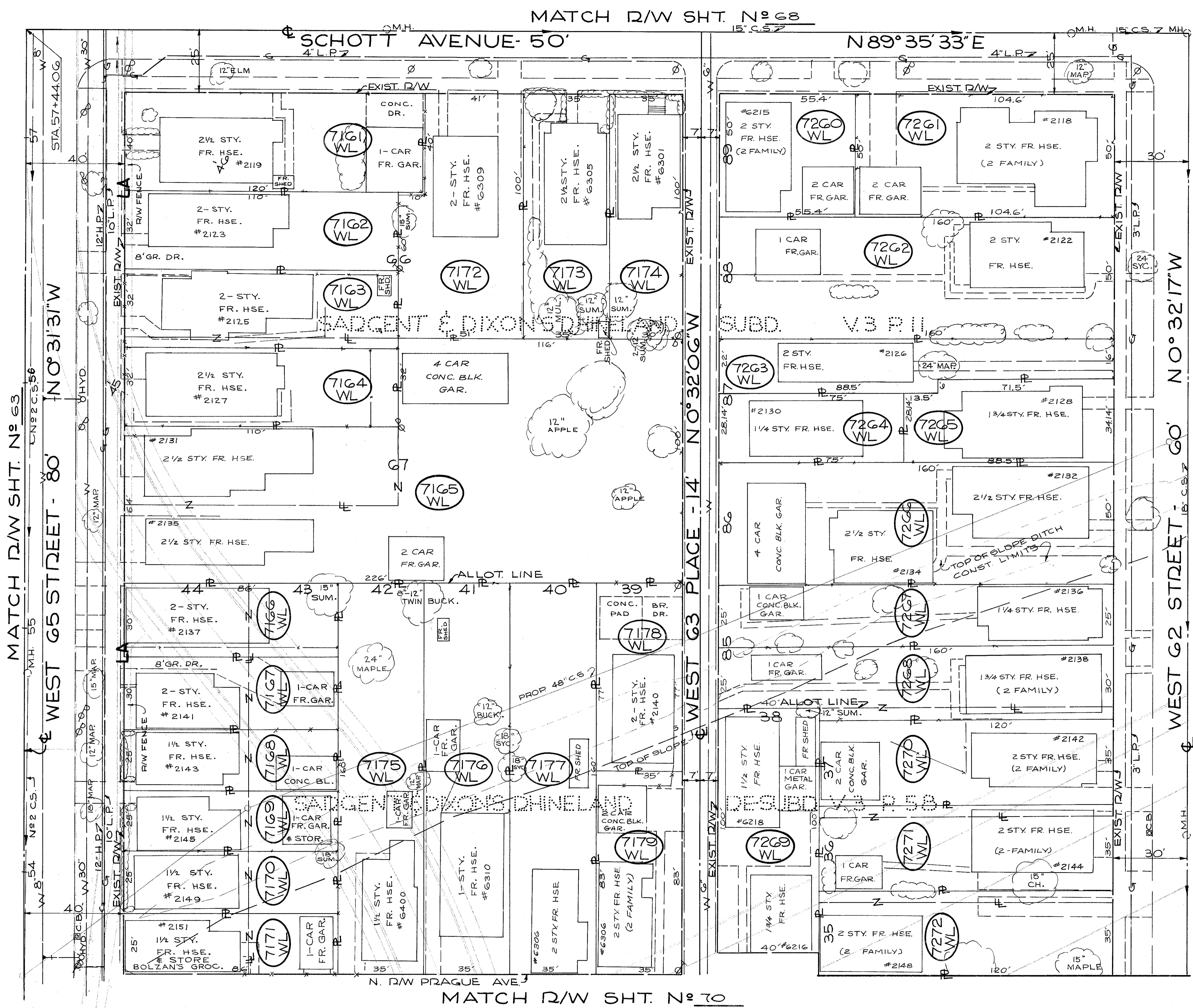


FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

815  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

69  
92



PARCEL No.	OWNER	TAKE RES. SQ. FT.
7161-WL	J.F.D. PIROZZOLI	4800
7162-WL	M.J. EBENGER	3520
7163-WL	J.H.# J.M. DAVIS	3520
7164-WL	E.A.# V. BRYNE	3520
7165-WL	H.R.# H. CAREY	18,640
7166-WL	M.J. EBENGER	2580
7167-WL	T.J. CORRIGAN	2850
7168-WL	E.# G. DIGIAMARINO	2150
7169-WL	F.# I. DIMARINO	2150
7170-WL	ESTATE OF BRIDGET DUGAN	2150
7171-WL	J.J.# M.O. BOLZAN	2150
7172-WL	C.E. THOMA	4700
7173-WL	M.H.# K.M. HATALA	3500
7174-WL	M.Y. SIMON	3000
7175-WL	M. (KISSLING) BRUMLEY	5600
7176-WL	G.L.# A. ALTZNER	5600
7177-WL	A. MULROY-EXECUTRIX OF THE ESTATE OF M.A. JOYCE	5600
7178-WL	O.W. RILEY# D.R. RILEY	2800
7179-WL	G. JURANITS	2800
7260-WL	M. MARTINEZ	2770
7261-WL	M.J.# H.J. VARGO	5230
7262-WL	J. TRHAN	8000
7263-WL	A.H. SCHWARTZ	3090
7264-WL	E.C. PENNICK	2110
7265-WL	J.E.# V.D. CAUDILL	2820
7266-WL	R. McNAMEE	8000
7267-WL	J.F.# A.A. YACOVELLA	4000
7268-WL	J. TOROK	4600
7269-WL	M. BAXTER# J.W. WENDEL	4000
7270-WL	L.L. BRIERE	4200
7271-WL	J. MUNOZ	4200
7272-WL	H.M. LUUKE	4200

SCALE 1"=20'

NAME	REVISION	DATE

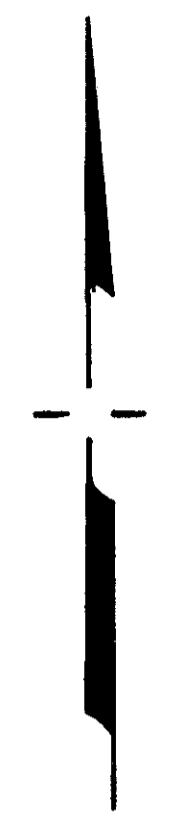
RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

816  
838

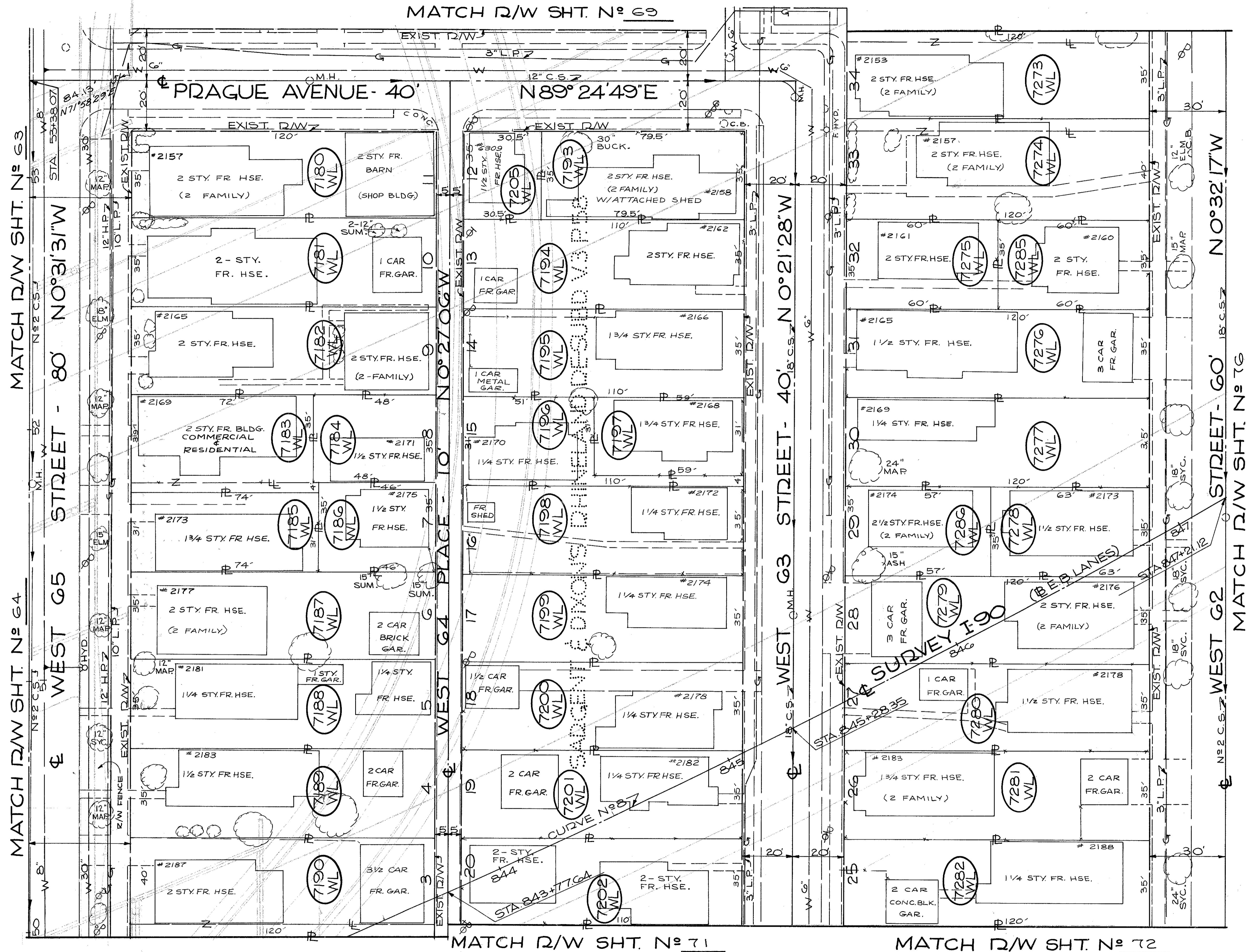
CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

10  
92



CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N°8  
P.I. STA 841+04.94  
Δ = 21° 35' 34" LT.  
Dc = 1° 26' 26"  
D = 3977.53'  
T = 758.50'  
Lc = 1499.00'  
Ch = 1490.14'  
E = 71.68'

PARCEL No.	OWNER	TAKE SQ. FT.	RES.
7180-WL	R.M. ECKERT	4200	---
7181-WL	M.F. HAAS	4200	---
7182-WL	A. PLISKA	4200	---
7183-WL	ZEPKIN/CRISAFI REALTY INC.	2520	---
7184-WL	C.B. UNDERWOOD	1680	---
7185-WL	A.L. MAY	2590	---
7186-WL	T.O. MORAN	1610	---
7187-WL	J.E. CLEVELAND	4200	---
7188-WL	V.H. KNAUS	4200	---
7189-WL	S.# J. KLOBUSNIK	4200	---
7190-WL	FRUSH	4800	---
7193-WL	K.M. WALDRON	2782	---
7194-WL	C.M. GAUGHAN	3850	---
7195-WL	P.J.# A.K. MULROY	3850	---
7196-WL	R.J. BOOTH	1990	---
7197-WL	S. RONSFORD/K.C. MEADOWS	1860	---
7198-WL	M.A. BEAN/J. BARTHOLMA	3850	---
7199-WL	F.W.# C.L.E. HART	3850	---
7200-WL	P.H.# M.P. GARBONICK	3850	---
7201-WL	E. REANY	3850	---
7202-WL	M.F. HAAS	3850	---
7205-WL	W.L.B. SPARKS	1068	---
7213-WL	A.D. SEWOLICH	4200	---
7214-WL	F.# R. FROEHLICH	4800	---
7215-WL	E.J.# C. MCNAMARA	2100	---
7216-WL	M. WATTS	4200	---
7217-WL	W.J. TISCHLER	4200	---
7218-WL	C.J.# P.L. RAMSER	1995	---
7219-WL	WOLFGANG RIBBERT	4200	---
7280-WL	E.# T. MANN	4200	---
7281-WL	M. KILBANE	4200	---
7282-WL	H.B. FALCONER	4200	---
7285-WL	R.# B. PIAZZA	2100	---
7286-WL	L.P.# C.G. GREENFIELD	2205	---



SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

CENTERLINE SURVEY CURVE DATA  
 I-90 CURVE N° 8  
 P.I. STA. 841+04.94

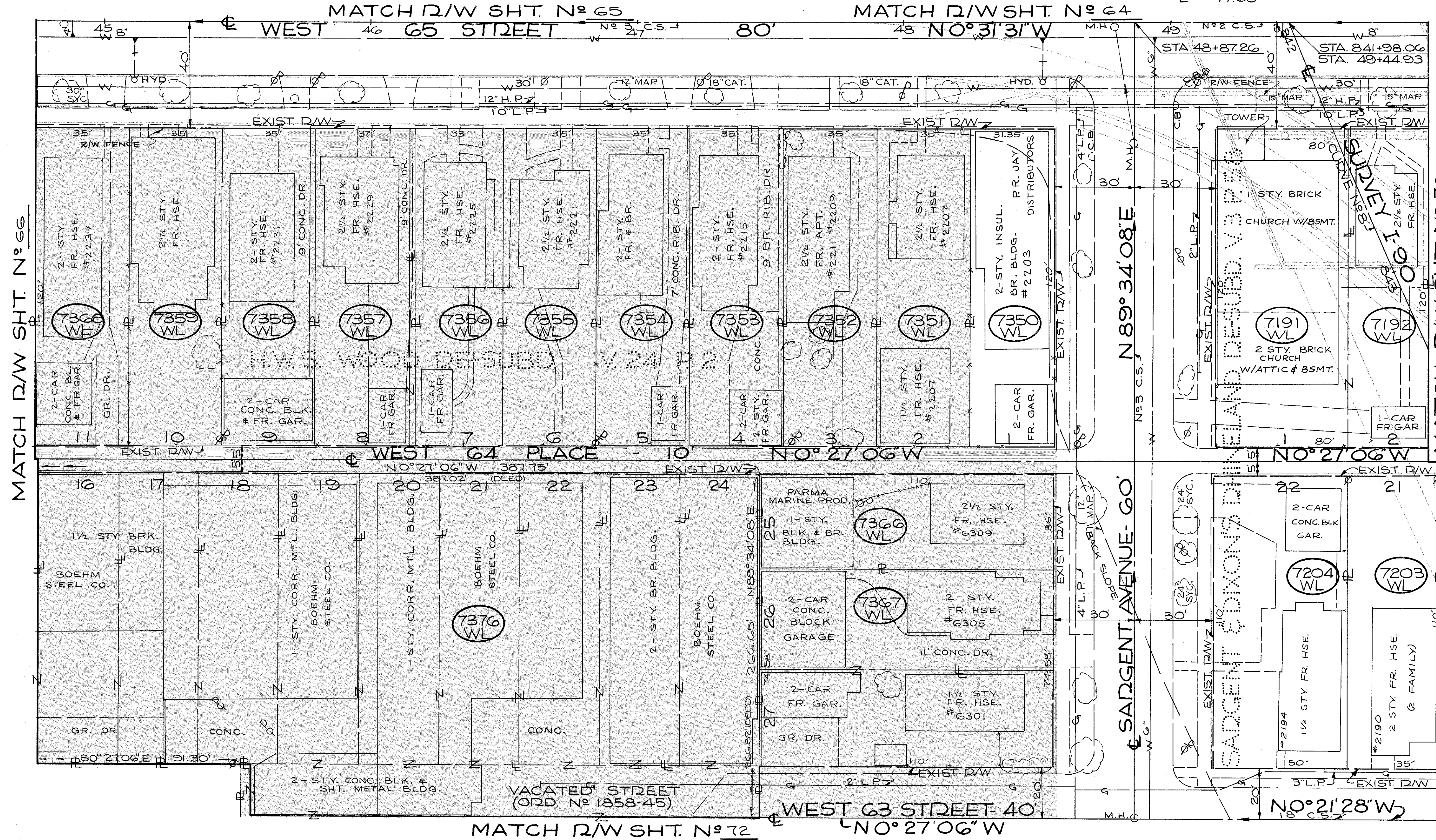
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

8/7  
838

CUYAHOGA COUNTY  
 CUY-90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

71  
92

$\Delta = 21^{\circ} 35' 34" \text{ LT.}$   
 $D_c = 265.226'$   
 $T = 397.775'$   
 $L_c = 149.900'$   
 $CH = 149.900'$   
 $E = 71.68'$



MATCH R/W SHT. N° 70

MATCH R/W SHT. N° 66

W.S. WOOD DE-SUBD V. 24 P. 2

SARGENT AVENUE-60'  
 N 89° 34' 08" E  
 N 83 C.S.  
 SARGENT AVENUE-60'  
 SARGENT AVENUE-60'  
 SARGENT AVENUE-60'

PARCEL N°	OWNER	TAKE RES. SQ. FT.	PARCEL N°	OWNER	TAKE RES. SQ. FT.
7191-WL	2 STY. BRICK CHURCH W/ATTIC & BSMT.	4200	T354-WL	A.N. MITSONIS	4200
7192-WL	1-CAR FR. GAR.	4200	T355-WL	A.F.L.V. MCINTYRE	4200
7204-WL	2-CAR CONC. BLK. GAR.	6000	T356-WL	J.#1 M. WYCHE	4200
7203-WL	2 STY. FR. HSE. (& FAMILY)	4200	T357-WL	G.# M. WINDZ	4200
7376-WL	BOEHM STEEL CO.	3850	T358-WL	T.# A. SPILKA	4200
7367-WL	2-CAR CONC. BLOCK GARAGE	5900	T359-WL	A. FRICK	4200
7366-WL	1-CAR FR. GAR.	5500	T360-WL	E.D.F. RMOUNT	4200
7351-WL	2-1/2 STY. FR. HSE. (#2207)	5162	T361-WL	C. SCHILKE	3960
7352-WL	2-1/2 STY. FR. APT. (#2209)	4200	T362-WL	THE BAY METAL PRODUCTS CO	8204
7353-WL	2-1/2 STY. FR. HSE. (#2215)	4200	T363-WL	AN OHIO PARTNERSHIP	8204
7354-WL	2-1/2 STY. FR. # BR.	4200	T364-WL	THE BAY METAL PRODUCTS CO	66183
7355-WL	2-1/2 STY. FR. HSE. (#2221)	4200	T365-WL	AN OHIO PARTNERSHIP	66183
7356-WL	2-1/2 STY. FR. HSE. (#2225)	4200			
7357-WL	2-1/2 STY. FR. HSE. (#2229)	4200			
7358-WL	2-1/2 STY. FR. HSE. (#2231)	4200			
7359-WL	2-1/2 STY. FR. HSE. (#2237)	4200			
7369-WL	2-CAR CONC. BLK. FR. GAR.	4200			
7370-WL	2-CAR CONC. BLK. GAR.	4200			
7371-WL	2-CAR CONC. BLK. GAR.	4200			
7372-WL	2-CAR CONC. BLK. GAR.	4200			
7373-WL	2-CAR CONC. BLK. GAR.	4200			
7374-WL	2-CAR CONC. BLK. GAR.	4200			
7375-WL	2-CAR CONC. BLK. GAR.	4200			
7376-WL	BOEHM STEEL CO.	3850			
7377-WL	BOEHM STEEL CO.	3850			
7378-WL	BOEHM STEEL CO.	3850			
7379-WL	BOEHM STEEL CO.	3850			
7380-WL	BOEHM STEEL CO.	3850			
7381-WL	BOEHM STEEL CO.	3850			
7382-WL	BOEHM STEEL CO.	3850			
7383-WL	BOEHM STEEL CO.	3850			
7384-WL	BOEHM STEEL CO.	3850			
7385-WL	BOEHM STEEL CO.	3850			
7386-WL	BOEHM STEEL CO.	3850			
7387-WL	BOEHM STEEL CO.	3850			
7388-WL	BOEHM STEEL CO.	3850			
7389-WL	BOEHM STEEL CO.	3850			
7390-WL	BOEHM STEEL CO.	3850			
7391-WL	BOEHM STEEL CO.	3850			
7392-WL	BOEHM STEEL CO.	3850			
7393-WL	BOEHM STEEL CO.	3850			
7394-WL	BOEHM STEEL CO.	3850			
7395-WL	BOEHM STEEL CO.	3850			
7396-WL	BOEHM STEEL CO.	3850			
7397-WL	BOEHM STEEL CO.	3850			
7398-WL	BOEHM STEEL CO.	3850			
7399-WL	BOEHM STEEL CO.	3850			
7400-WL	BOEHM STEEL CO.	3850			

SCALE 1" = 20'

NAME	REVISION	DATE

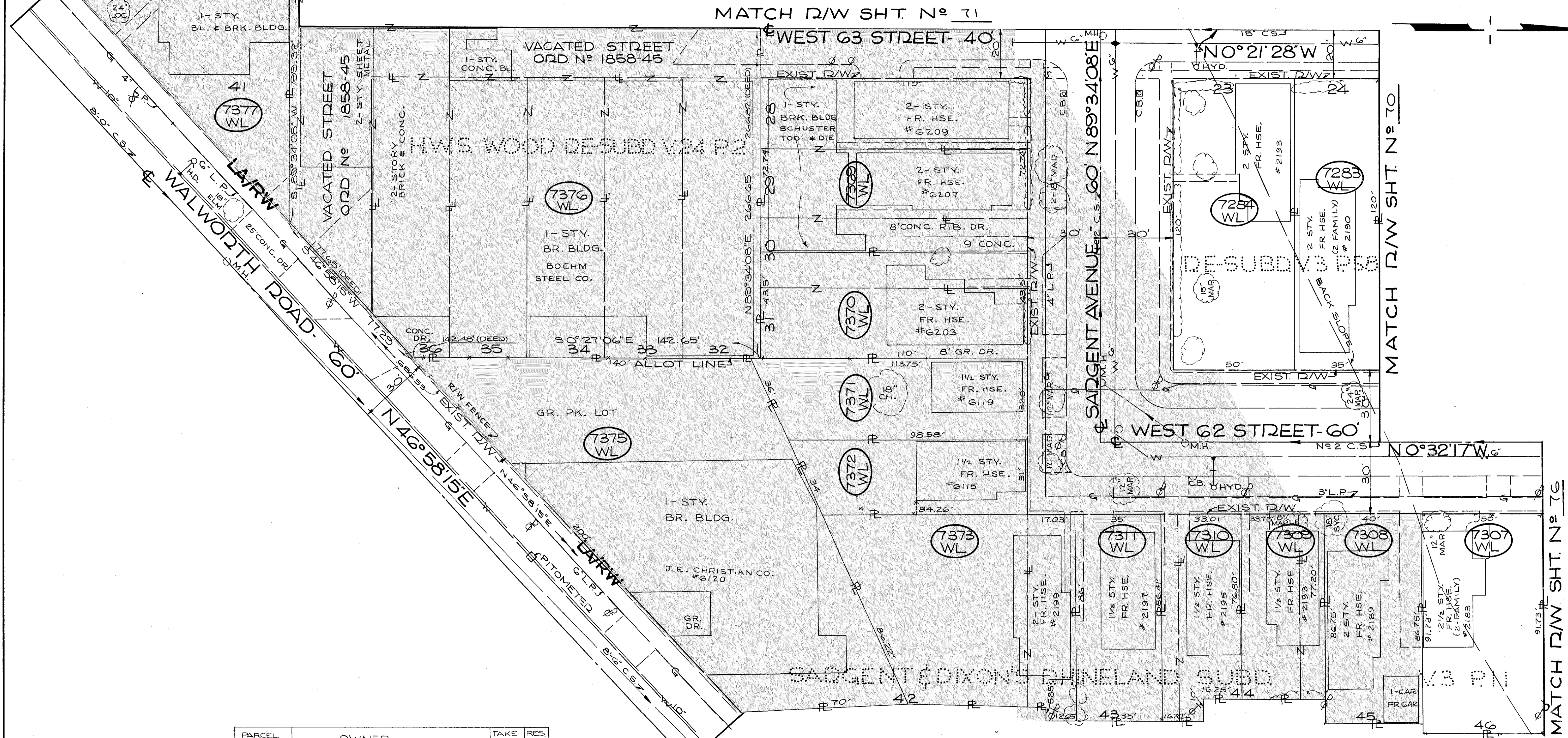
RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1 (54)

818  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

72  
92



PARCEL No	OWNER	TAKE SQ. FT.	RES.
7283-WL	GA. & E.M. WAGNER	4200	--
7284-WL	FL. & GK. SEITZ	6000	--
7307-WL	S. & L. FINCHUM	4586	--
7308-WL	C. LEAHY	3470	--
7309-WL	J. DE MARCO	2599	--
7310-WL	S.J. BOBROVSKY	2694	--
7311-WL	G. & E. BALUE	3010	--
7369-WL	J.H. SCHUSTER	8001	--
7370-WL	A.S. & G.F. KINTZ	4785	--
7371-WL	T.J. & L. HIRTH	3482	--
7372-WL	CM SALVA	2834	--
7373-WL	ER. KOLARIK	6664	--
7375-WL	H.C. CHRISTIAN	15134	--
7376-WL	THE BAY METAL PRODUCTS CO. AN OHIO PARTNERSHIP	66183	--
7377-WL	WC ANSCHUTZ	4615	--

CENTERLINE SURVEY CURVE DATA  
S.P. 3 CURVE No 1  
P.I. STA 57+64.70  
Δ = 21°19'00" RT.  
D = 1°28'00"  
T = 3906.53  
L = 735.20  
Lc = 1453.41'  
E = 68.58'

MATCH R/W SHT. No 77

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

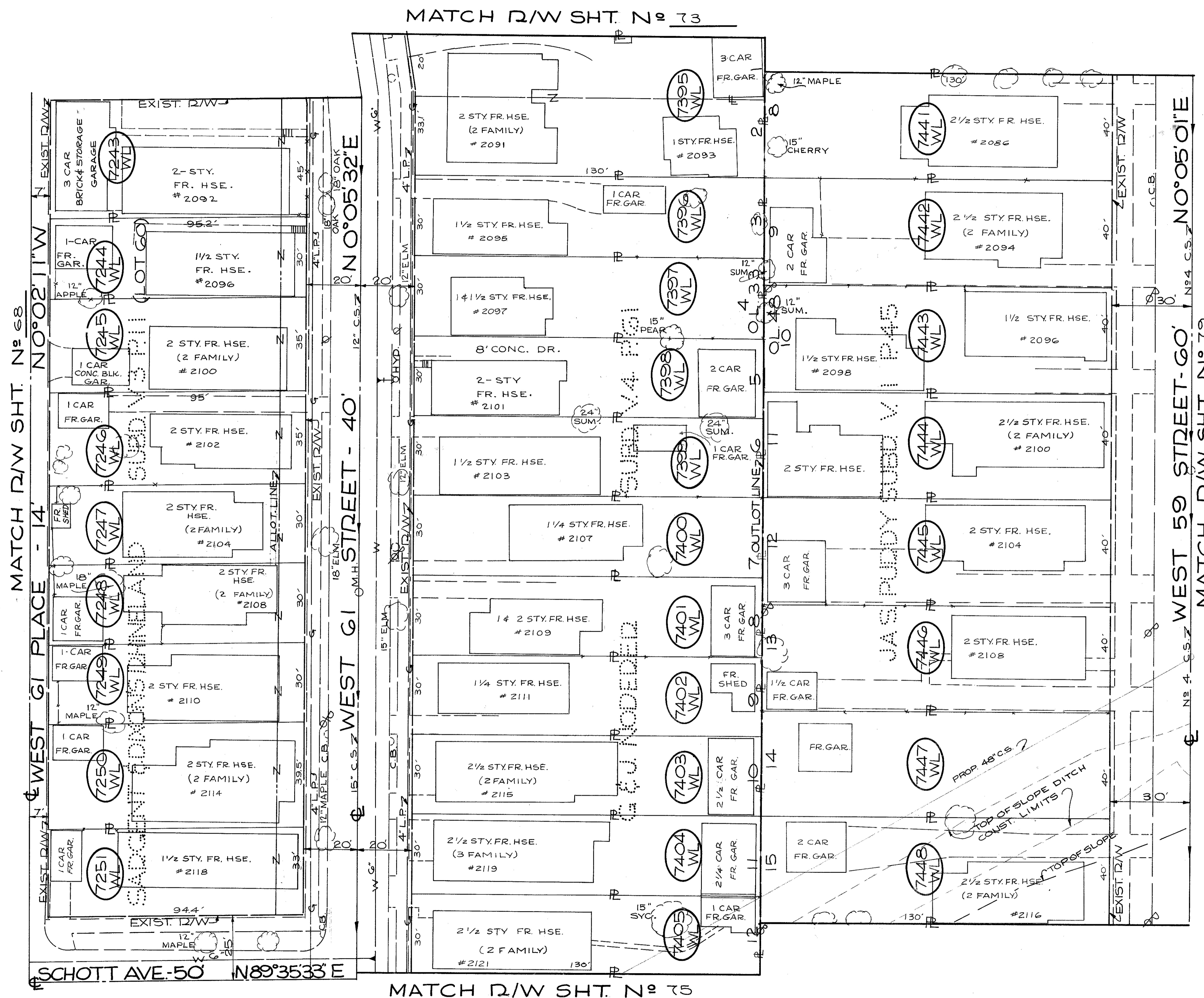


FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

820  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

74  
92



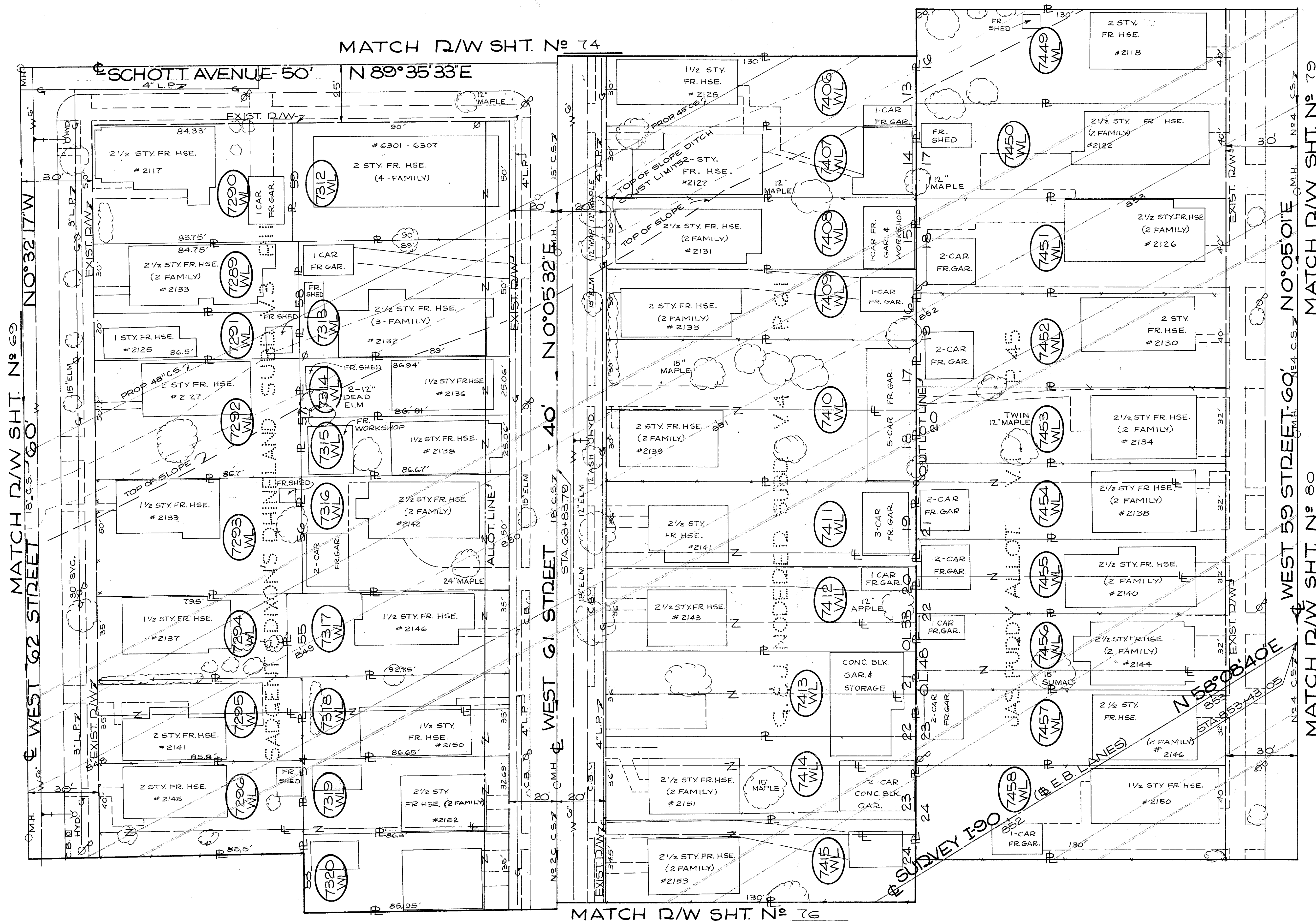
PARCEL NO.	OWNER	TAKE SQ. FT.	RES.
7243-WL	D.C. DESANTIS	4284	---
7244-WL	V. CHIVILES	2854	---
7245-WL	A.G. L.L. LOYD	3526	---
7246-WL	R.P. O. ATKINSON	3523	---
7247-WL	R.L. PA. COLSON	2846	---
7248-WL	H.M. BLYLER	2843	---
7249-WL	H.H. L.M. REDMON	2841	---
7250-WL	V.M. I.E. DRAGONY	3737	---
7251-WL	O.C. F.J. AL TONG	3118	---
7395-WL	C.T. DIEHL	6453	---
7396-WL	N.F.H. KOLMER	3900	---
7397-WL	J.J. M.C. HYLAND	3900	---
7398-WL	P.F.B.J. NATIVIO	3900	---
7399-WL	J.G. SOEDER, JR.	3900	---
7400-WL	F.F.L. BRDA	3900	---
7401-WL	J. MOULTON	3900	---
7402-WL	N.W. E.J. RYAN	3900	---
7403-WL	C.F.M. MILLER	3900	---
7404-WL	E.A. L.M. ORSZAK	3900	---
7405-WL	K. DRAGHICI	3900	---
7441-WL	G.F.G. HELMINK	5200	---
7442-WL	M. FORTAS	5200	---
7443-WL	F.M. URBAN	5200	---
7444-WL	G.F.S. GROSS	5200	---
7445-WL	F. BOEHLEFIELD & F.J. MATHEISEN	5200	---
7446-WL	N.L. M.E. CHAMBERS	5200	---
7447-WL	H. KOLBENSCHLAG	5200	---
7448-WL	L.N. L. JONES, JR.	5200	---

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS





MATCH D/W SHT. N<sup>o</sup> 74

MATCH D/W SHT. N<sup>o</sup> 80

MATCH D/W SHT. N<sup>o</sup> 79

PARCEL N <sup>o</sup>	OWNER	TAKE RES SQ. FT.	PARCEL N <sup>o</sup>	OWNER	TAKE RES SQ. FT.
7289 WL	TC MORAN	2311	7406 WL	N.C.F.R.E. NUSSER	3900
7290 WL	C.F.E. McCULLOUGH	4202	7407 WL	L.A. SKUTOVITS	3900
7291 WL	A. SCHLESINGER	1730	7408 WL	G.B. BISHOP	3900
7292 WL	M. MURRAY	4340	7409 WL	J.O. & T.I. ANDERSON	3900
7293 WL	L.F. N.L. JUNG	4173	7410 WL	M.F.J. KETVIRTIS	7800
7294 WL	L.M. BRAYER	2174	7411 WL	K.C.F.E. CLAYPOOLE	4680
7295 WL	R.M. SCHULTZ	2973	7412 WL	R.F.M. STEWART	4680
7296 WL	H.E. YOUNG	3405	7413 WL	O.A. KORTOVICH	4680
7312 WL	H.F.L.D. SHERMER	4900	7414 WL	O.P. KORTOVICH	4680
7313 WL	C.F.B. ZEH, M.C.F.L. MILLS, J.E.M. HOPE, F.N. JENKINS, J.D.M. HOPE, F.A. HANNA	4443	7415 WL	B. SCOLARI	4485
7314 WL	E.C. DONOFRIO	2168	7416 WL	M. ZMICH	5200
7315 WL	B. THRENT F.K.A. BERTHA WHEELER, F.R.C. THRENT	2168	7417 WL	A. CARILE	5200
7316 WL	A. BRAUN	4303	7418 WL	P.A. HASTINGS	5200
7317 WL	C.F.F.B.L. FLACHBART	3244	7419 WL	V.J.F.E. COOK	4160
7318 WL	S. DIXON	3033	7420 WL	G.F.M. SCHANZ	4160
7319 WL	J.R.F.S. WISEMAN	2827	7421 WL	D.G.F.L.N. HANGAUER	4160
7320 WL	W.B.F.R. NOLAN	2842	7422 WL	F.D. RAGONE	4160
			7423 WL	A. HOLLOWAY, A. DAMETER	4160
			7424 WL	E.L. PORLIER, F.A.R. CUMMINGS	4160
			7425 WL	D.M.F.M.E. SPAR	5200

SCALE 1" = 20'

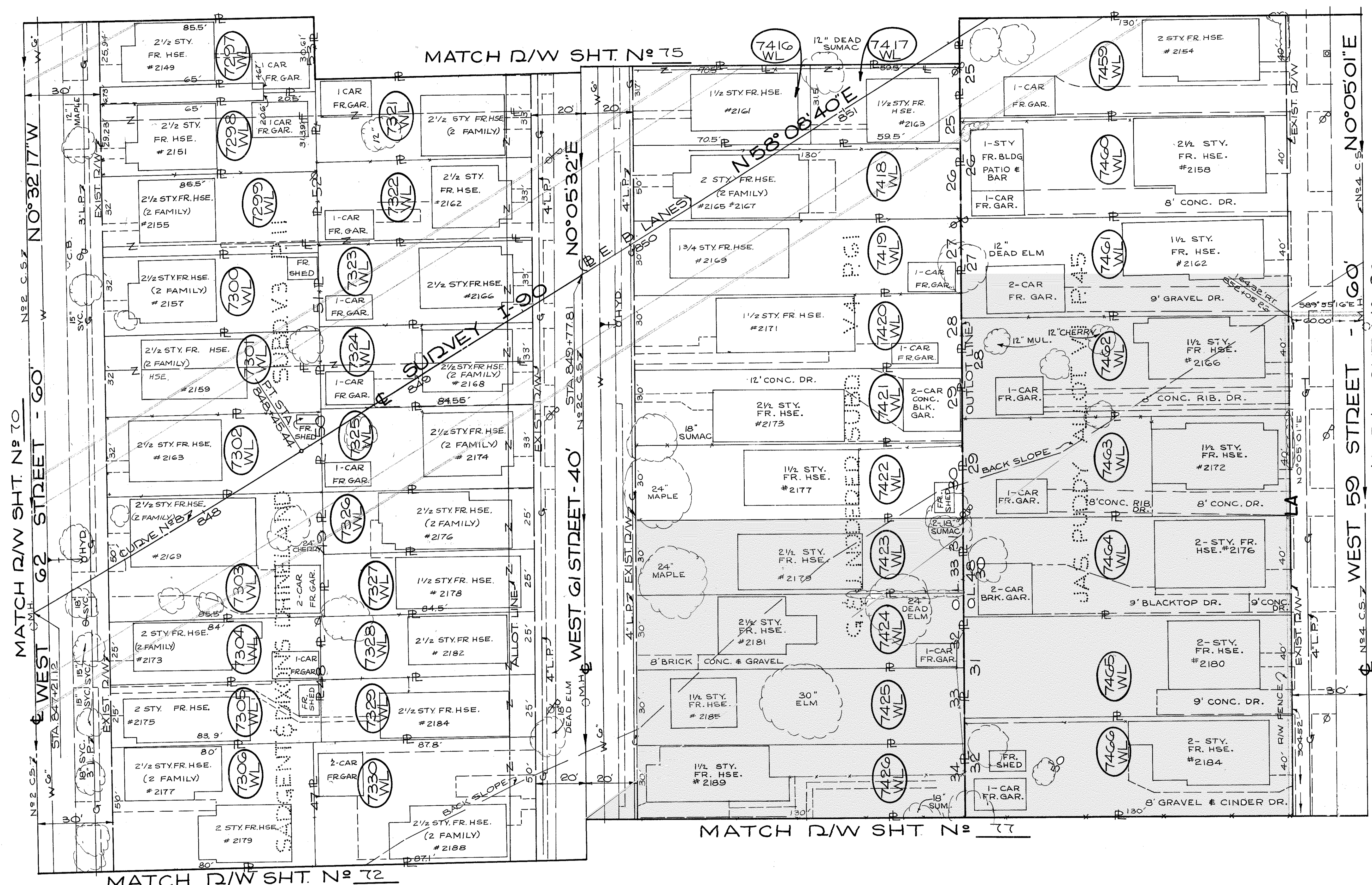
NAME	REVISION	DATE

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

822  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

76  
92



CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N° 8  
P.I. STA. 841+04.94  
Δ = 21° 35' 34" LT.  
D = 1° 26' 26"  
ID = 3977.53'  
T = 758.50'  
L = 1499.00'  
CH = 1490.14'  
E = 71.68'

PARCEL NO.	OWNER	TAKE RES. SQ. FT.	PARCEL NO.	OWNER	TAKE RES. SQ. FT.
7297-WL	J. A. ADIPIETRO	2777	7416-WL	S.B. C.B. VANO	2224
7298-WL	H.C. H. MIZER	2562	7417-WL	P.F.N. MELITO	1871
7299-WL	E.R. THOMAS & M. THOMAS	2768	7418-WL	A.A. & J.T. RIEKER	3900
7300-WL	M. BALINT & I. ALBERT	2768	7419-WL	F.E. BURRELL	3900
7301-WL	K.F. & W.T. SMITH, A.H. & F.C. SMITH	2768	7420-WL	J. HUCULAK	3900
7302-WL	R.M. HAMER	2768	7421-WL	L.C. & E. NALE	3900
7303-WL	J. TRHAN	4238	7422-WL	N. VON FISHER	3900
7304-WL	M.F.F. DEIK	2100	7423-WL	N. VON FISHER	3900
7305-WL	J. HALLER	4000	7424-WL	S. BADER	3900
7306-WL	M. WOOD	2830	7425-WL	R.E. BEER	3900
7307-WL	H.F. D.J. RICHARDS	2800	7426-WL	C.F. & E. LOVERY	3900
7308-WL	R.F. M. KISH	2807	7427-WL	B.C. & M.M. FARKAS	3900
7309-WL	L.F.H. DARABANT	2764	7428-WL	E.D. & M. JENKINS	3900
7310-WL	J.S. & L. GAYER	2091	7429-WL	F.H. & H.K. SCHWETTER	3900
7311-WL	A. WHITNEY	2103	7430-WL	S.J. & B.Y. KROPIAK	3900
7312-WL	F. SADLAK	2101	7431-WL	VIRGINIA BEDNAR	3900
7313-WL	E.F. & E. SABALA	2101	7432-WL	W.R. & J.J. GLASER	3900
7314-WL	J.W. & E. COOK	4378	7433-WL	L.A. & A.S. TOTH	3900

SCALE 1" = 20'

NAME	REVISION	DATE

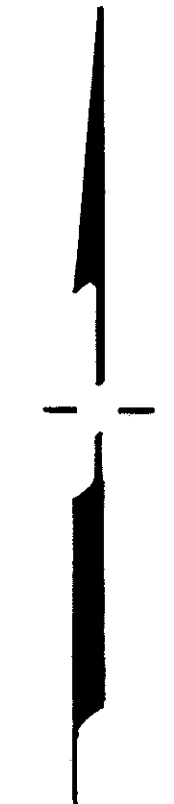
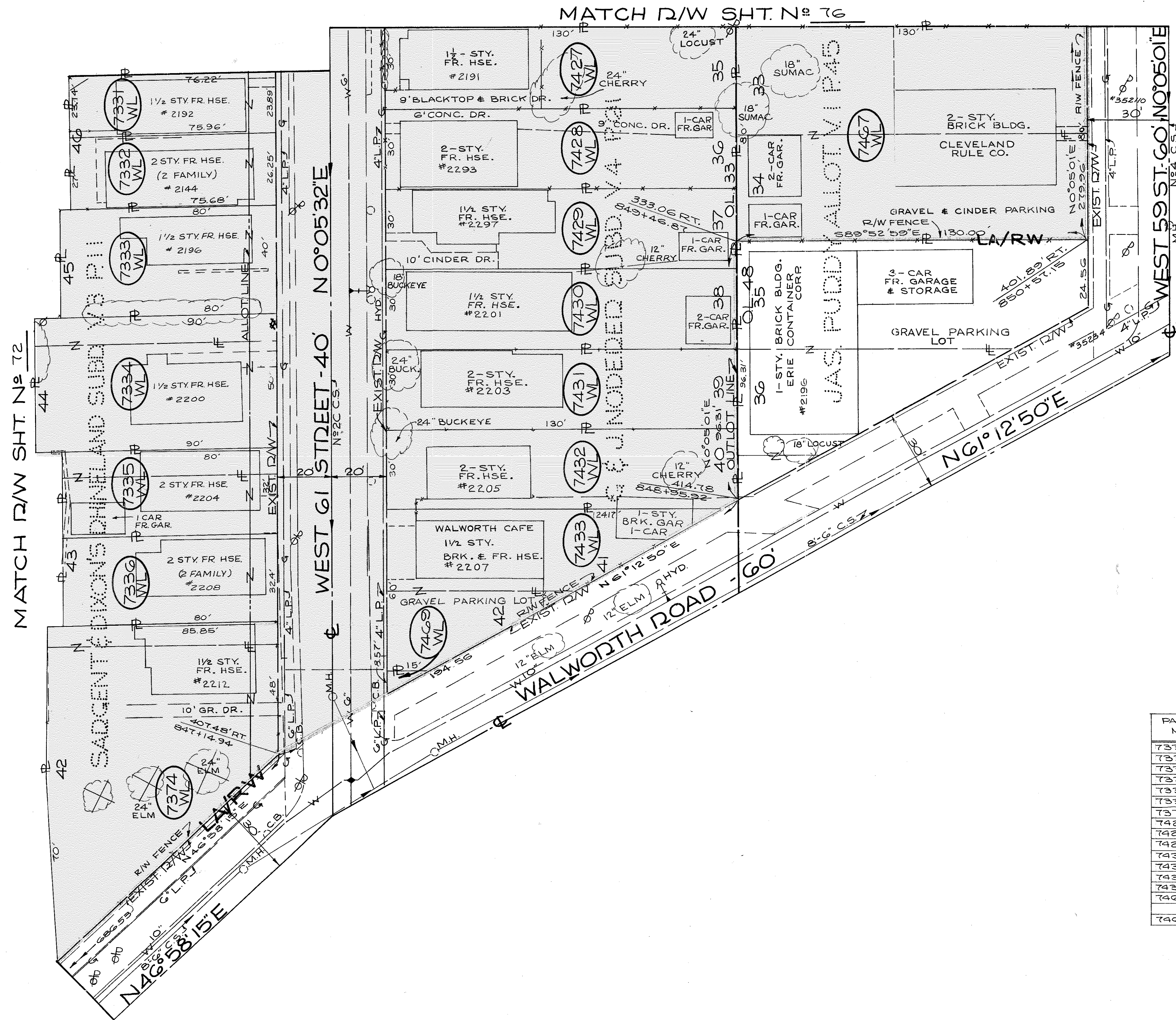
RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

523  
838

**CUYAHOGA COUNTY**  
CUY-90-11.64  
**LIMITED ACCESS**  
**RIGHT OF WAY PLANS**

77  
92



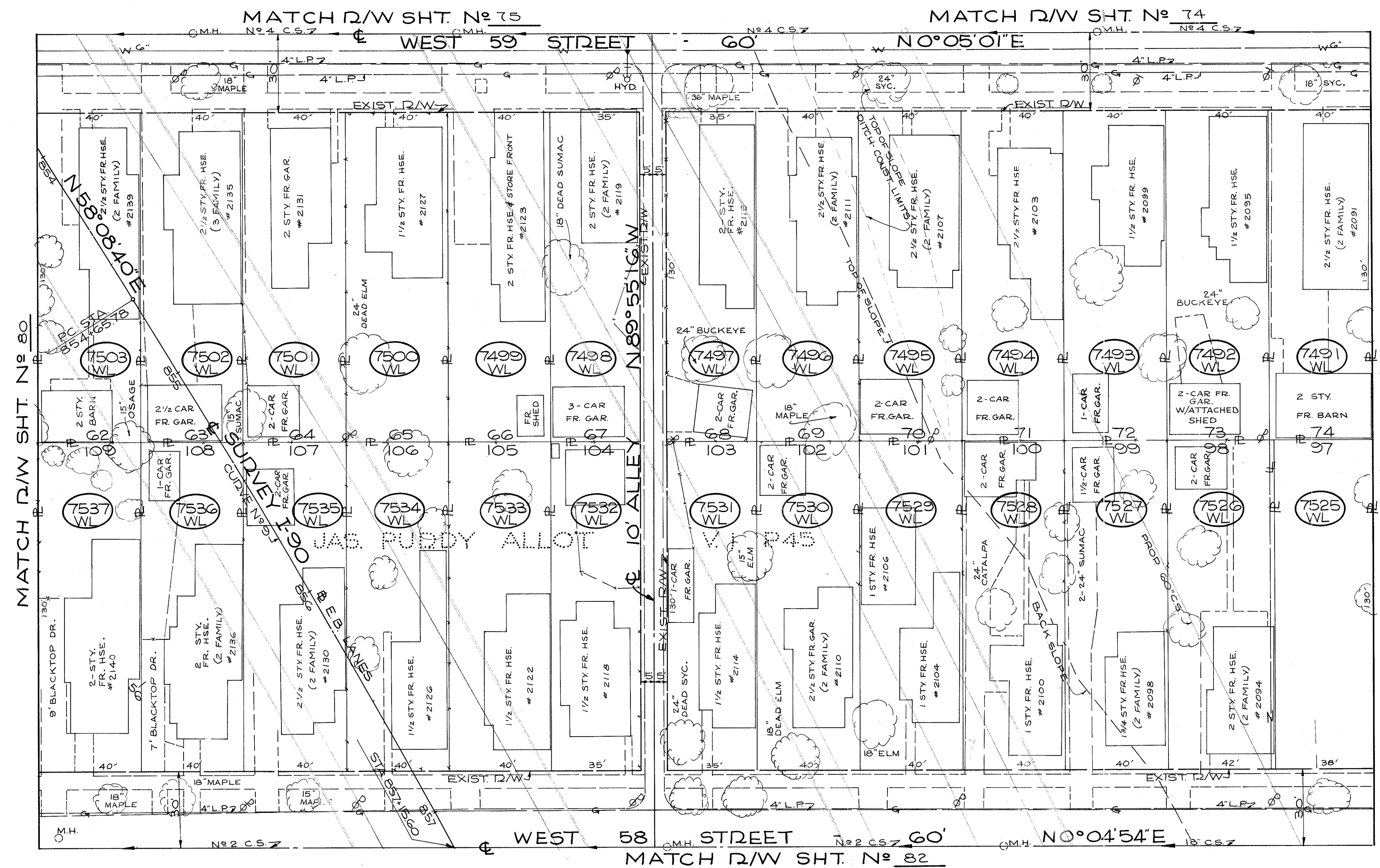
PARCEL NO	OWNER	TAKE SQ. FT.	RES
7331-WL	R. F. L. KING	1776	---
7332-WL	GR. F. E. J. BALL	2016	---
7333-WL	Z. CIFANI	3200	---
7334-WL	E. F. E. QUINONES	4500	---
7335-WL	J. R. F. RY. WEDGEWORTH	2560	---
7336-WL	E. F. J. R. HAYDA	2592	---
7374-WL	E. F. J. HAYDA	7295	---
7427-WL	J. F. H. L. LENGAL	3900	---
7428-WL	F. F. G. KESSLER	3900	---
7429-WL	ESTATE OF SOPHIE FRANK	3900	---
7430-WL	ESTATE OF GEORGE JAKUBIK	3900	---
7431-WL	A. G. MAUSER	3900	---
7432-WL	ZEPKIN, F. CRISAFI REALTY INC.	3890	---
7433-WL	E. F. J. R. HAYDA	4183	---
7467-WL	R. G. F. SD. FRINGLEY	10400	---
7469-WL	S. E. SINGER	64	---

SCALE 1" = 20'

NAME	REVISION	DATE

**RIGHT OF WAY PLANS**





CENTERLINE SUDVEY CURVE DATA  
I-90 CURVE N° 09  
P.I. STA. 862+88.19  
Δ = 23° 59' 30" RT.  
D<sub>1</sub> = 19' 28" 49"  
D<sub>2</sub> = 3870.53'  
T<sub>1</sub> = 822.41'  
T<sub>2</sub> = 1620.72'  
C<sub>1</sub> = 608.91'  
E = 86.41'

PARCEL N°	OWNER	TAKE RES SQ. FT.	PARCEL N°	OWNER	TAKE RES SQ. FT.
7491-WL	G.F.M. DOSA	5200	7525-WL	WEST SIDE CHURCH OF THE NAZARENE	4940
7492-WL	G.F.S. GROSS	5200	7526-WL	GA. J. L.B. SMITH	5460
7493-WL	A.M. (WIDOW) & G.W. LEHMAN (SON)	5200	7527-WL	E.G. MINAR	5200
7494-WL	N. DIVINCENZO	5200	7528-WL	C.R. E. HUGHES	5200
7495-WL	R. KRAMMER	5200	7529-WL	R.J. & R. GLOVER	5200
7496-WL	F.E. B. PACHASA	4950	7530-WL	B.L. & J. SPARKS	5200
7497-WL	G.F.A. HARDEN	4950	7531-WL	I.E. TORROK	4550
7498-WL	G.F.E. REDESCALDI	5200	7532-WL	M. BENHOF	4550
7499-WL	M. SOTA & I. HERCZEG	5200	7533-WL	J. CR. CONLEY	5200
7500-WL	F.J. SLAMA (SINGLE) & F. WICK (SINGLE)	5200	7534-WL	J.O. ROSE (HUSBAND OF NJ ROSE)	5200
7501-WL	C.H. & B.E. DAVIS, JR.	5200	7535-WL	K.F. HURT	5200
7502-WL	R.F.J. GARRISON	5200	7536-WL	C.C. & B.A. MASON	5200
7503-WL	F.N. & C. PANZA	5200	7537-WL	S.C. & D. GRAIG	5200

SCALE 1" = 20'

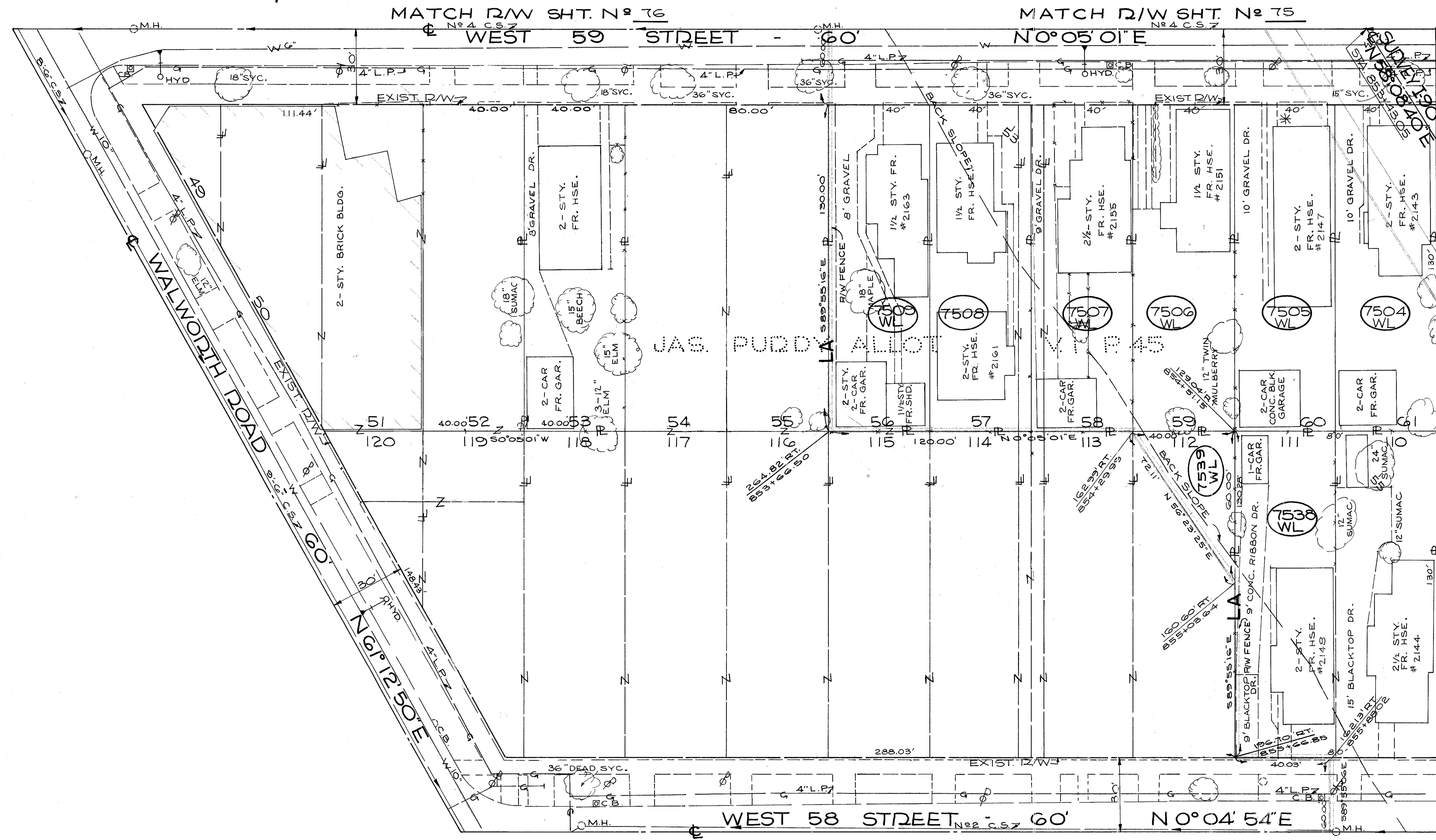
NAME	REVISION	DATE

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

826  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

80  
92



MATCH R/W SHT. N<sup>o</sup> 76  
MATCH R/W SHT. N<sup>o</sup> 75  
MATCH R/W SHT. N<sup>o</sup> 79

PARCEL NO.	OWNER	TAKE AREA SQ. FT.	RES.
7504-WL	J.E. F. GR. CANSLER	5200	---
7507-WL	A.S. BRIEN	5200	---
7506-WL	F.E. F. A.I. RUSSELL	5200	---
7507-WL	J.F.T. CSOLTKO	5200	---
7508-WL	H.I. LIESCU	5200	---
7509-WL	R.L. B.D. TEDROW	5200	---
7538-WL	V.T. YENSER	10400	---
7539-WL	THE YODER COMPANY	12000	54x50

SCALE 1" = 20'

NAME	REVISION	DATE

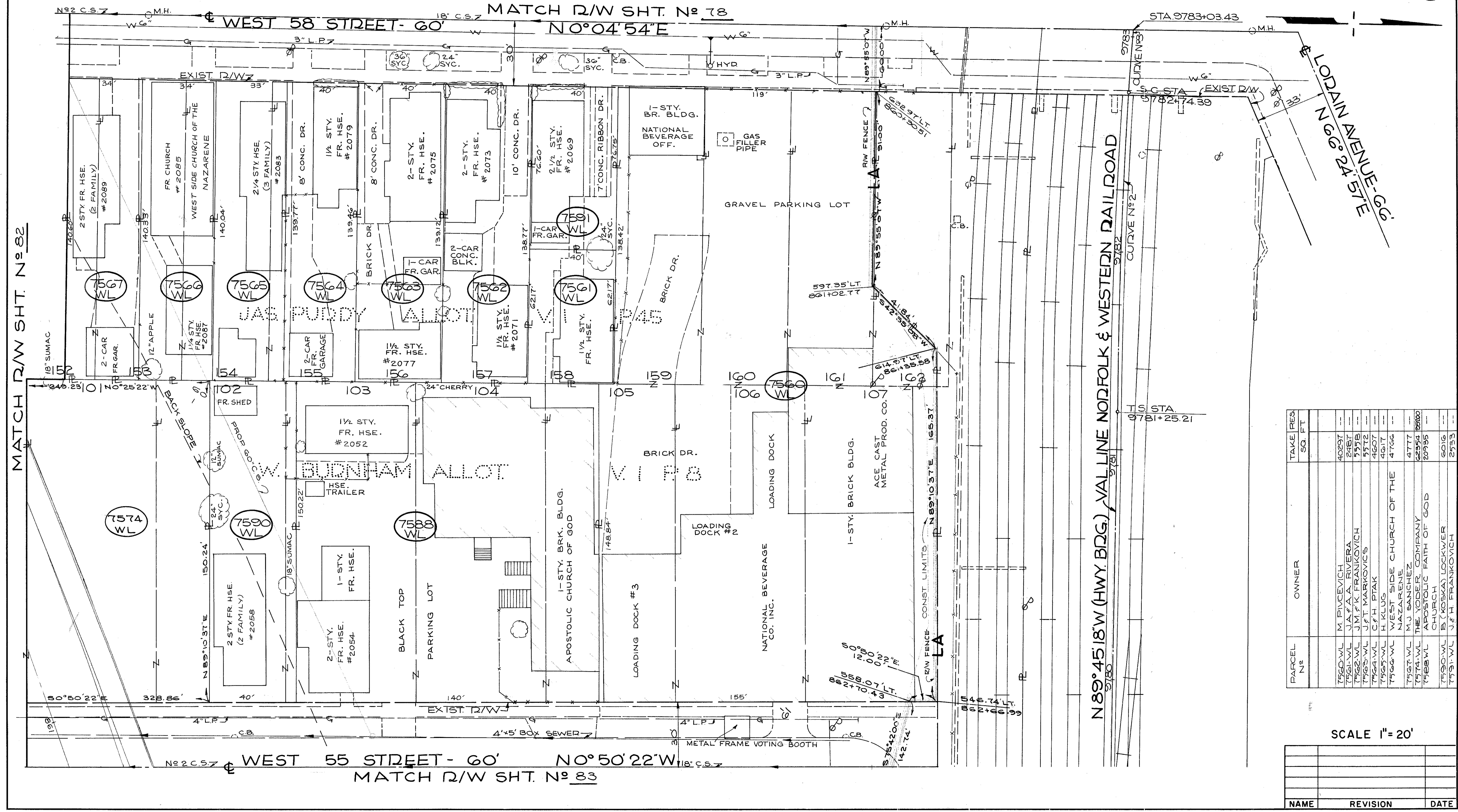
RIGHT OF WAY PLANS

NORFOLK & WESTERN RAILROAD CURVE DATA  
 CURVE No 2      CURVE No 3  
 P.I. STA. 9782+24.68      P.I. STA. 9784+01.45  
 Δ: 2° 47' 12"      Δ: 9° 26' 54" 12"  
 Ls: 149.18'      Dch: 3° 43' 58"  
 Lt: 99.47'      T: 1537.88'  
 ST: 49.74'      L: 253.85'

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

CUYAHOGA COUNTY  
 CUY-90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

827  
 838  
 81  
 92



PARCEL No	OWNER	TAKE RES SQ. FT.
7560-WL	M. PIVCEVICH	40297
7561-WL	J.A.F.A. RIVERA	2487
7562-WL	J.M.F.K. FRANKOVICH	5578
7563-WL	J.F.T. MARKOVICH	7572
7564-WL	C.F.H. PITAK	4607
7565-WL	H. KLUG	4617
7566-WL	WEST SIDE CHURCH OF THE NAZARENE	4766
7567-WL	M.J. SANCHEZ	4777
7574-WL	THE YODER COMPANY	62954
7588-WL	APOSTOLIC FAITH OF GOD CHURCH	20935
7590-WL	B. (KOSKA) LOCKWER	6016
7591-WL	J.F.H. FRANKOVICH	2573

SCALE 1" = 20'

NAME	REVISION	DATE

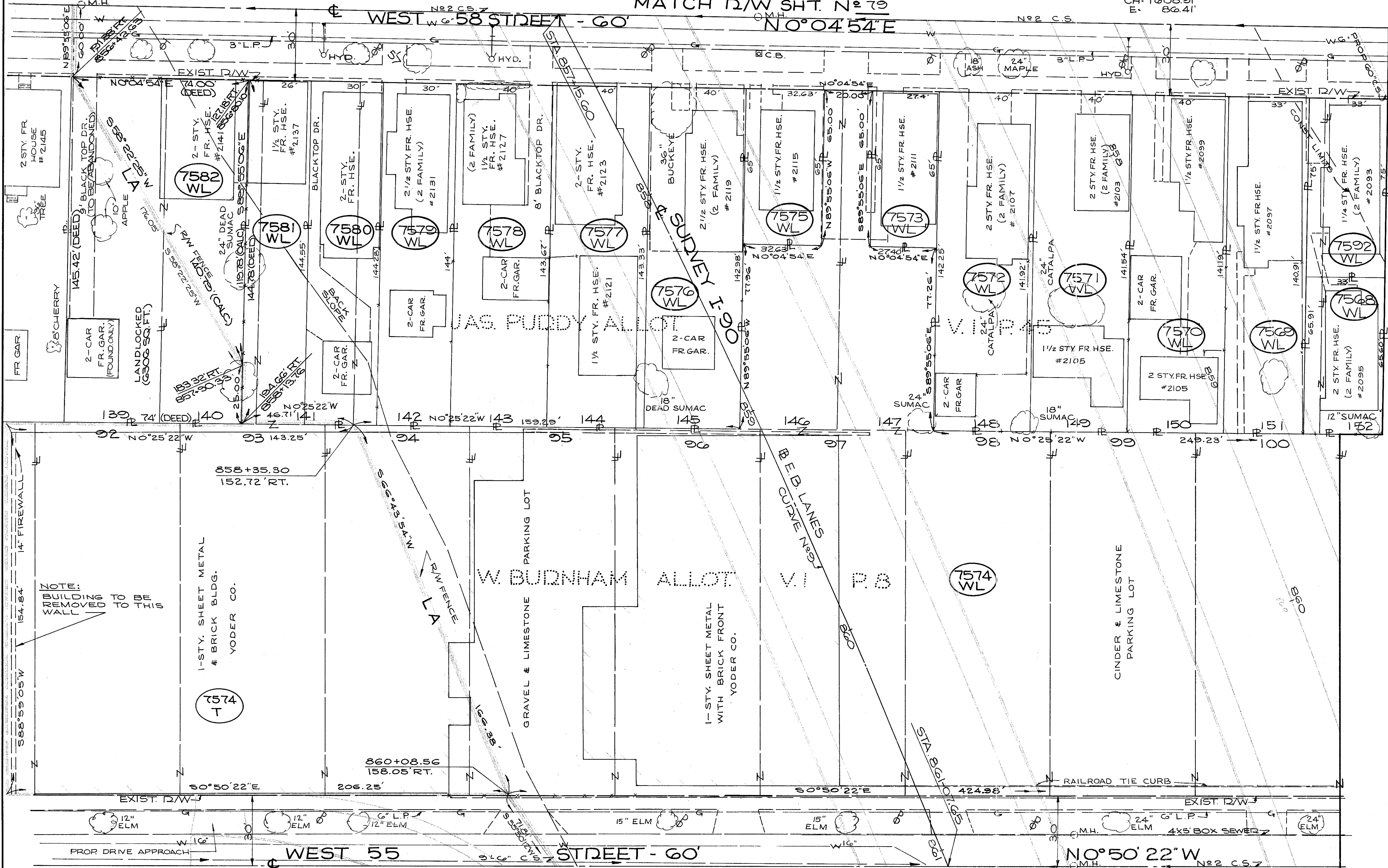
CENTERLINE SURVEY CURVE DATA  
 I-90 CURVE N°9  
 P.I. STA. 862+88.19  
 Δ: 23° 59' 30" DT.  
 D: 1° 28' 40"  
 T: 3870.53'  
 L: 1620.72'  
 CH: 1608.91'  
 E: 86.41'

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

528  
838  
82  
92

CUYAHOGA COUNTY  
 CUY-90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

MATCH R/W SHT. N° 79  
 WEST 58 STREET - 60' N° 04' 54" E



MATCH R/W SHT. N° 81

NOTE:-  
 PARCEL 7574 - CONTRACTOR TO REMOVE FOUNDATIONS, FLOORS & MACHINE BASES WITHIN THE REMOVAL AREA TO A MINIMUM OF THREE(3) FEET BELOW GRADE

PARCEL No	OWNER	TAKE	RES.
7574-WL	W.G. & S.E. BAKER	2175	---
7575-WL	L.S. BENEDETTI	4654	---
7576-WL	F.L. CHASE	5654	---
7577-WL	A.S. FRANKLIN	5665	---
7578-WL	PR. F.R. CALVILLO	5683	---
7579-WL	M. BARTELL	1781	---
7580-WL	THE YODER COMPANY	16,884	82014
7581-WL	G.F. M.A. BARNES	26,950	---
7582-WL	S. BARRY	2121	---
7583-WL	G.J. F.A.F. THEU'S	5726	---
7584-WL	L.A. F.T. WRIGHT	5740	---
7585-WL	E. HARRY	5753	---
7586-WL	THE YODER COMPANY	4324	---
7587-WL	M.S. WALD	4330	---
7588-WL	E. GEORGE	3759	---
7589-WL	E. GEORGE	4432	63004
7590-WL	E.E. & D.C. WHEELER	2475	---

SCALE 1" = 20'

HRT	ADDED DEMO. NOTE	6-18-75
NAME	REVISION	DATE

RIGHT OF WAY PLANS





R/W CURVE N° 1  
 CH. BRG. = S 21° 09' 17" W.  
 CH. = 127.33'  
 R = 170.00'  
 ARC. = 130.52'

R/W CURVE N° 2  
 CH. BRG. = N 31° 08' 36" E.  
 CH. = 70.72'  
 R = 170.00'  
 ARC. = 71.24'

R/W CURVE N° 3  
 CH. BRG. = N 59° 37' 17" W.  
 CH. = 25.66'  
 R = 15.00'  
 ARC. = 30.78'

W-55 ST. - WALWORTH RD. CONNECTOR  
 CURVE N° 1 DATA  
 P.I. STA. 3+23.00  
 $\Delta = 62° 25' 19"$  RT.  
 R = 200.00'  
 T = 121.18'  
 Lc = 217.90'  
 CH. = 207.28'  
 E = 33.85'

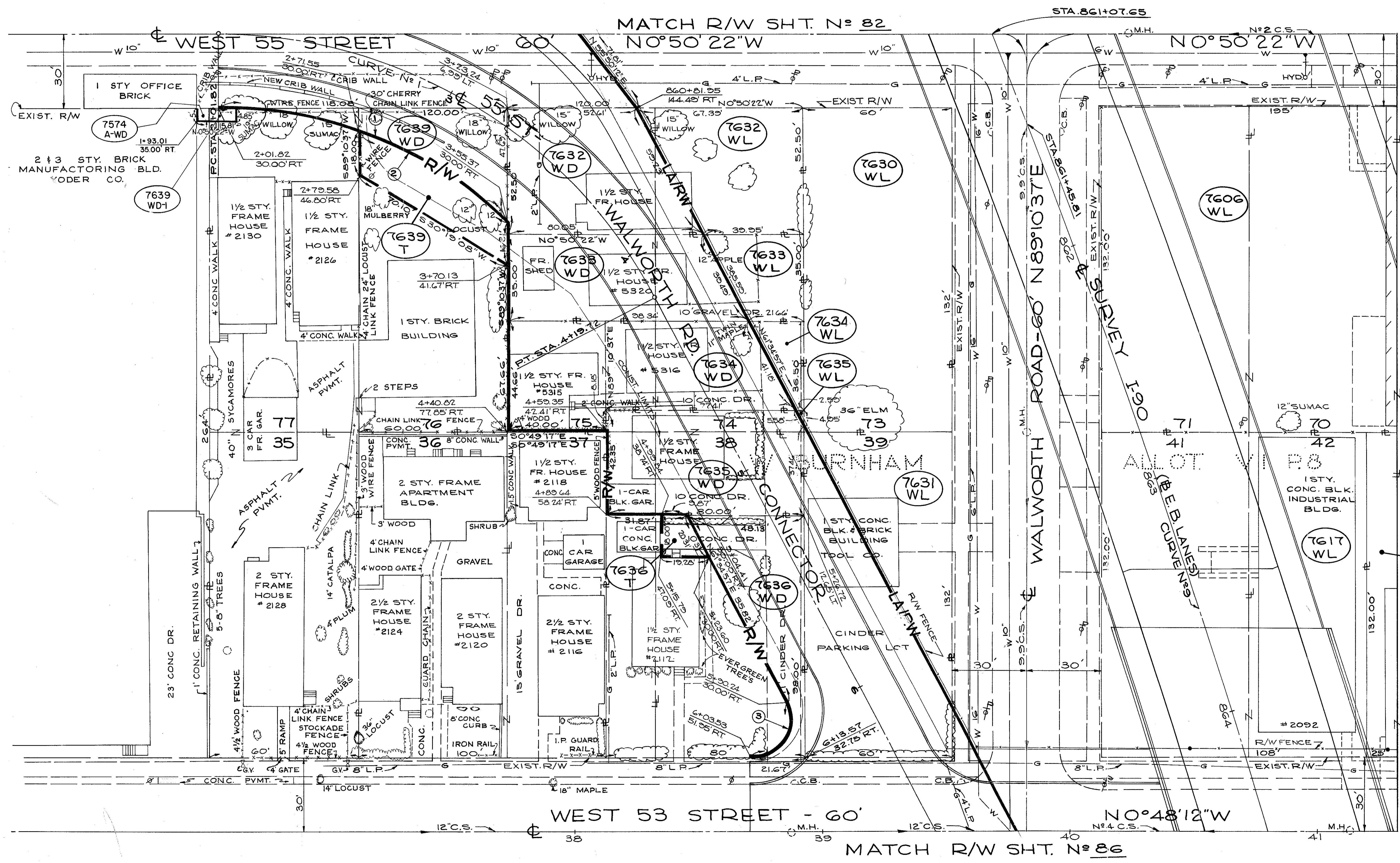
CENTERLINE SURVEY CURVE DATA  
 I-90 CURVE N° 9  
 P.I. STA. 862+88.19  
 $\Delta = 23° 59' 30"$  RT.  
 Dc = 1° 28' 49"  
 R = 3870.53'  
 T = 822.41'  
 Lc = 1620.72'  
 CH. = 1608.91'  
 E = 86.41'

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

830  
838

CUYAHOGA COUNTY  
 CUY-90-11.64  
 LIMITED ACCESS  
 RIGHT OF WAY PLANS

84  
92



MATCH R/W SHT. N° 83

PARCEL NO.	OWNER	TAKE (RES.) SQ. FT.
7606	GENERAL TOOL & DIE CO.	25586
7610	N. DAUGUSTINE	3900
7611	SCHMUCK BROS. CO.	14,062
7630	THE YODER CO.	7,920
7631	O. F. L. M. KRETZ	7,920
7632	J. F. HORVAL	2,816
7632	J. F. HORVAL	3,487
7633	R. L. & L. MACDONALD	1,076
7633	R. L. & L. MACDONALD	3,172
7634	B. G. F. MULLINS	447
7634	B. G. F. MULLINS	4,765
7635	J. F. M. CROWLEY	6
7635	J. F. M. CROWLEY	3,304
7636	A. ROGAL	2,347
7636	A. ROGAL	5,493
7639	REINO P. HILL, ET AL	1,751
7639	REINO P. HILL, ET AL	22,003

SCALE: 1" = 20'

GJB	ADDED PARCEL 7639 WD-1	5-12-76
GJB	ADDED PARCEL 7574A-WD-5	5-12-76
NAME	REVISION	DATE

RIGHT OF WAY PLANS



FED. RD.	STATE	PROJECT
2	OHIO	I-90-1 (54)

832  
838

86  
92

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

MATCH R/W SHT. N° 85

FENWICK AVENUE - 60' N 89° 11' 55" E

FENWICK AVENUE - 30' N 89° 11' 58" E

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N° 9  
P.I. STA. 862+88.19

Δ = 23° 59' 30" RT  
D = 1° 28' 49"  
T = 3870.53'  
C.P. = 822.41'  
C.L. = 1620.72'  
E = 808.91'  
R = 664.1'

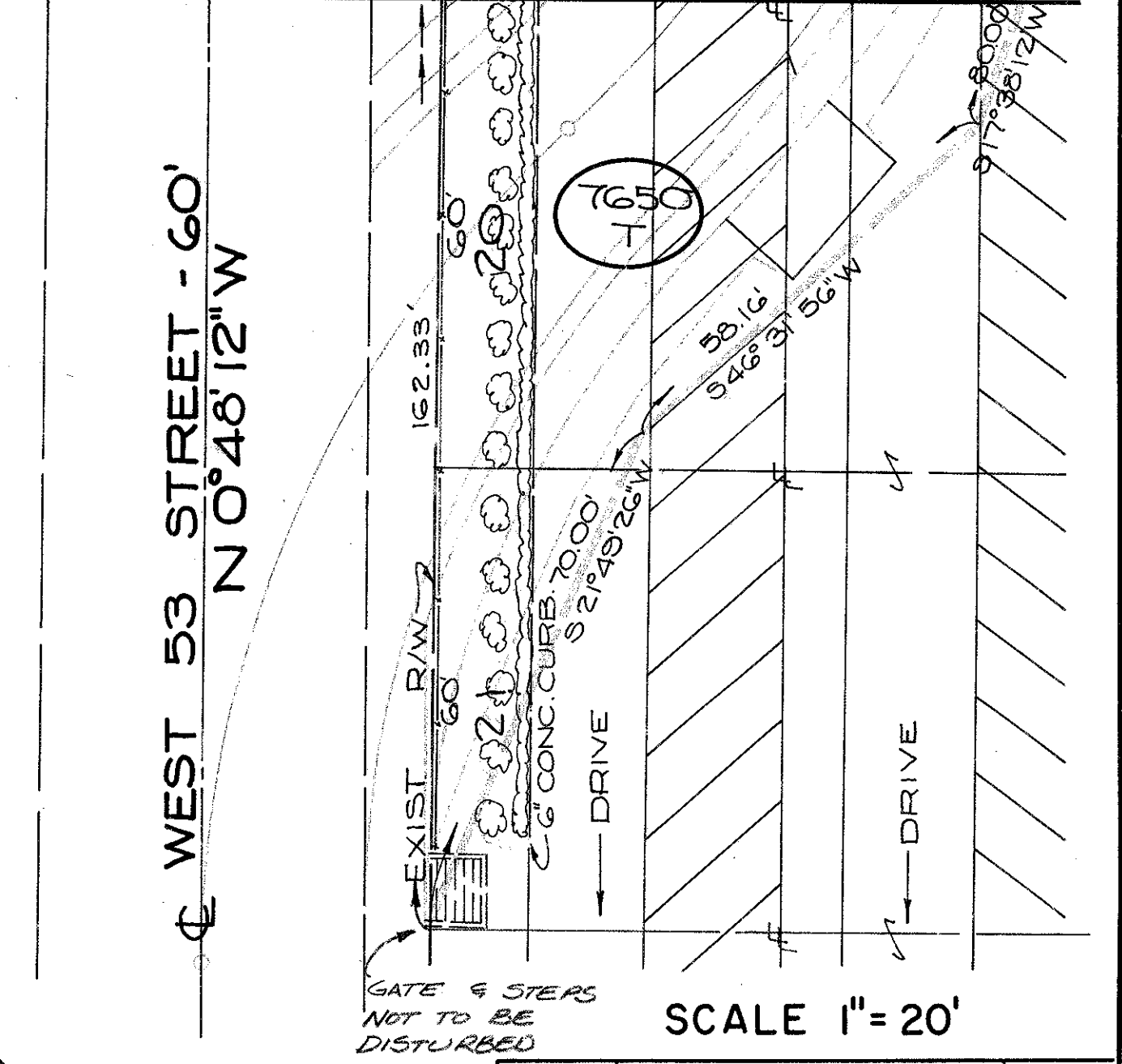
W. 55 ST. - WALWORTH RD. CONNECTOR  
CURVE N° 2 DATA

P.I. STA. 7+43.56  
Δ = 27° 39' 53"  
D = 20° 00' 00"  
T = 949.240'  
C.P. = 94.54'

PARCEL NO.	OWNER	TAKE SQ. FT.	RES.
9100-WL	F.O. & L.F. RIECH, J&J MAERZLUFT	3000	---
9101-WL	J. & E. GOLDSCHAREK	5880	---
9102-WL	H. & C.L. MILAM	5100	---
9103-WL	N. & A. THEODORE	3500	---
9104-WL	C. & J.B. SIMMONS	3500	---
9105-WL	CLEVELAND BAPTIST TEMPLE	26573	---
9106-WL	T.J. & G.A. MOLNAR	6856	---
9107-WL	C. & J. POWELL	5089	---
9108-WL	C. BOUTTON	8046	---
9109-WL	A. BARBECK	3480	---
9110-WL	E. WALISZEWSKI	3480	---
9111-WL	W.E. & M.J. LEESON	3600	---
9112-WL	D. & L.M. RIVERA	3360	---
9113-WL	H. MERGEL	3480	---
9114-WL	W.V. & C.L. COMBS	3480	---
9115-WL	J.M. & L.A. AGUIAR	3000	---
9116-WL	QUAD MORTGAGE CORPORATION	8621	---
9120-SA	E.F. & E.M. RICHARDSON	NO TAKE	5241
9124-WL	C.W. BOUTTON	3547	---
7650-WD	JOFE CORP.	198	357637
7650-T		8830	---

NOTE: INSTALLATION OF NEW WATER LINE

MATCH LINE SEE BELOW



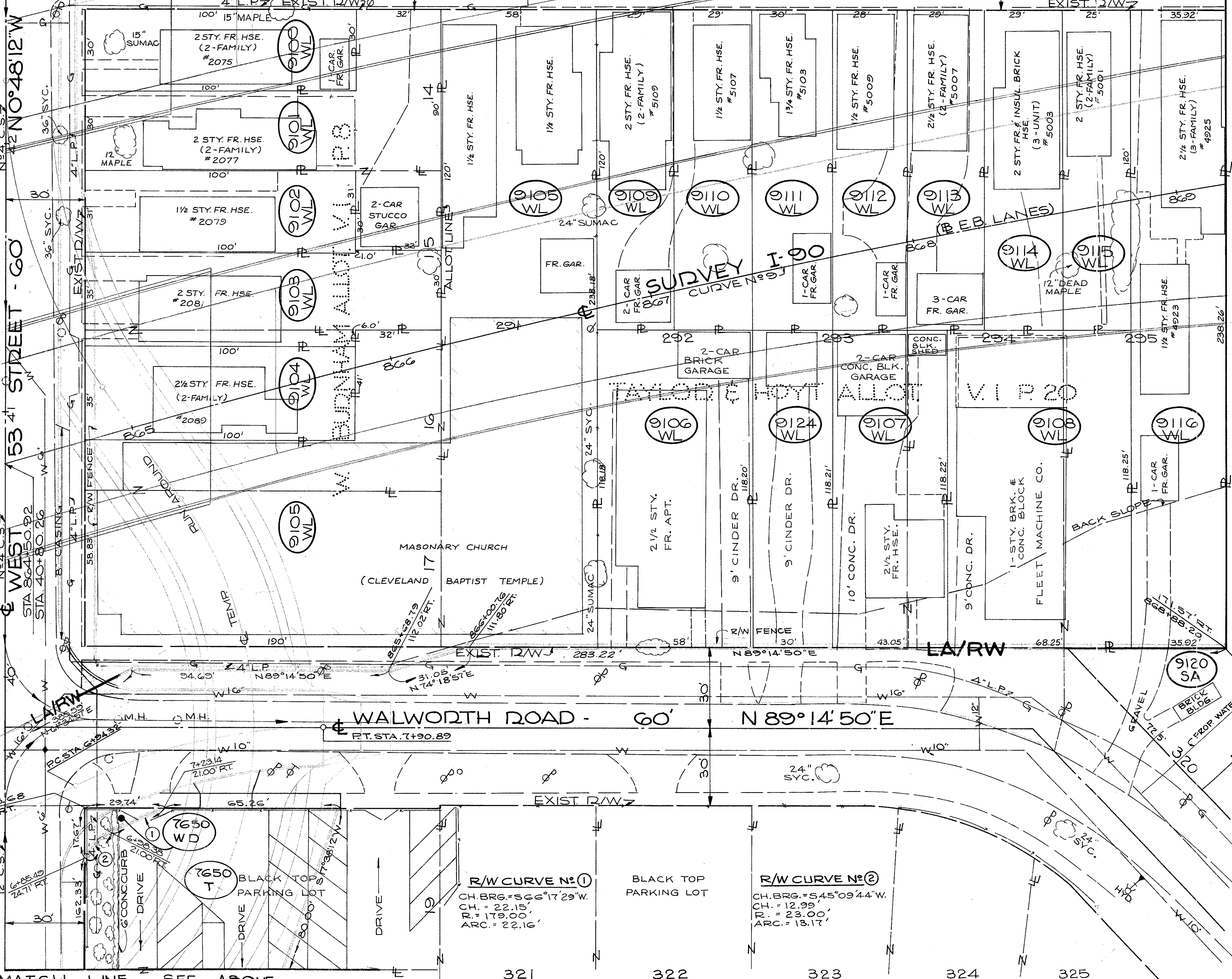
SCALE 1" = 20'

NAME	REVISION	DATE

MATCH R/W SHT. N° 83

MATCH R/W SHT. N° 84

MATCH R/W SHT. N° 88



R/W CURVE N° 1  
CH. BRG. = S66° 17' 29" W.  
CH. = 22.15'  
R. = 179.00'  
ARC. = 22.16'

R/W CURVE N° 2  
CH. BRG. = S45° 09' 44" W.  
CH. = 12.99'  
R. = 23.00'  
ARC. = 13.17'

321

322

323

324

325

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

833  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

87  
92

MATCH R/W SHT. N<sup>o</sup> 89

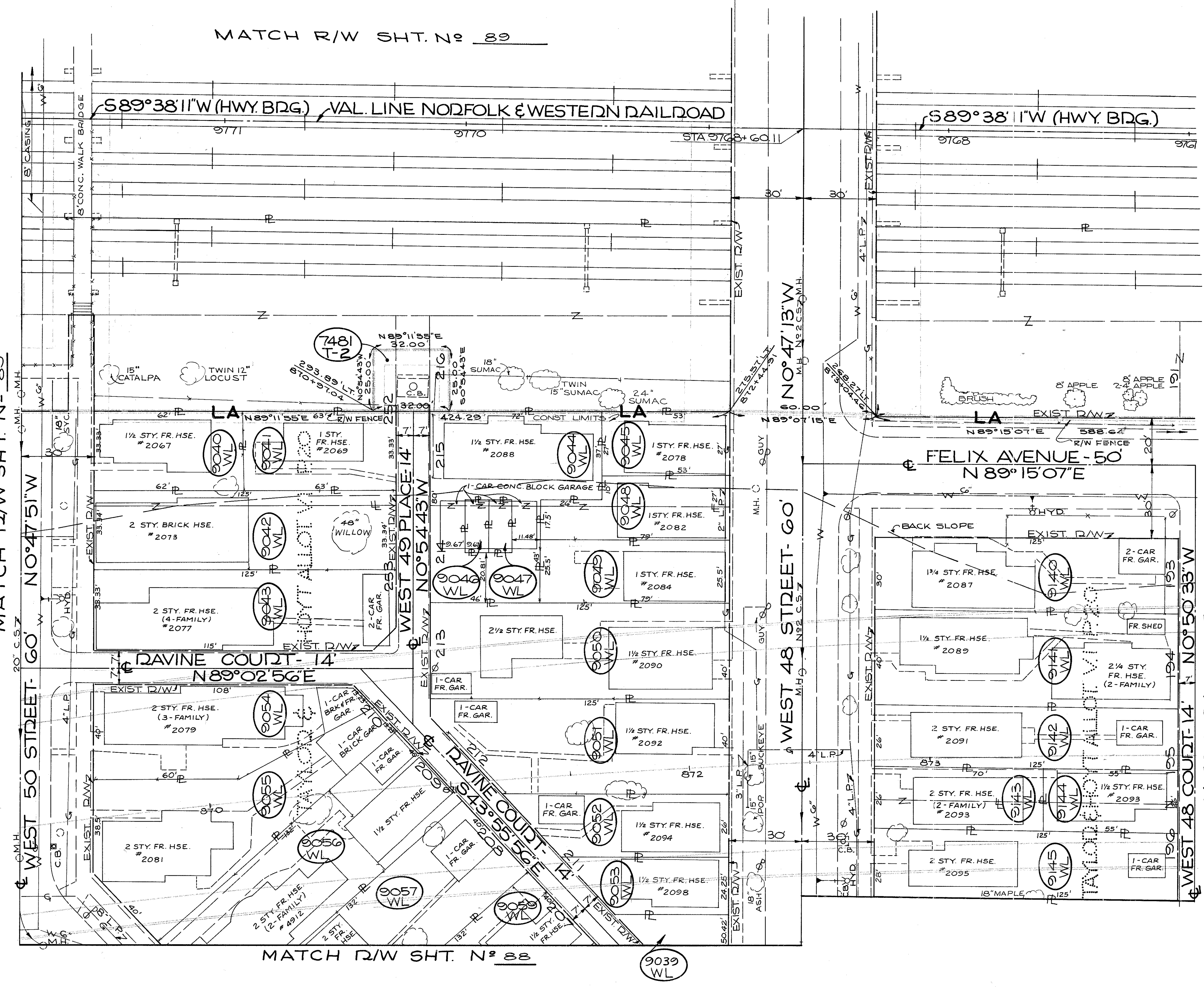
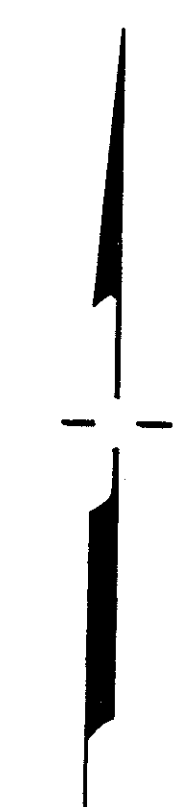
MATCH R/W SHT. N<sup>o</sup> 85

WEST 50 STREET-60' W NO 47 51' W

WEST 50 STREET-60' W NO 47 51' W

MATCH R/W SHT. N<sup>o</sup> 88

MATCH R/W SHT. N<sup>o</sup> 90



PARCEL NO	OWNER	TAKE SQ. FT.	RES
9039-WL	L.K. FEM. SHARP	1191	---
9040-WL	A.E. OBERG, SR	2100	---
9041-WL	B.G. F.E.J. MOORE	2067	---
9042-WL	M. CORRIGAN F.S.A. Mc KELVEY F.K.A. SALLY A. CORRIGAN	2167	---
9043-WL	J.F. HOBAN	2142	---
9044-WL	H. JOVICH	4213	---
9045-WL	H.C. F.G.L. JENKINS	1431	---
9046-WL	H.C. F.G.L. JENKINS	215	---
9047-WL	F.A. YOUNG	215	---
9048-WL	F.A. YOUNG	1873	---
9049-WL	L.M. RAPPE	2054	---
9050-WL	H.H. KLEIN, GUARDIAN OF THE ESTATE OF WILLIAM SCHOLL (WARD)	5000	---
9051-WL	W. COLLIER	4500	---
9052-WL	M. MIHALIK A.K.A. M.T. MIHALIK	2136	---
9053-WL	L.K. FEM. SHARP	1422	---
9054-WL	J.F. BA. GAJOS	3772	---
9055-WL	J. KOVACS	4853	---
9056-WL	M.K. ZIMMERMAN	5280	---
9057-WL	R.M. POTTER, F.K.A. ROSE. M. GOSNELL	5280	---
9059-WL	S. REISS	2816	---
9140-WL	J. KOCHES	3750	---
9141-WL	R.M. GINDER	5000	---
9142-WL	ESTATE OF LETOURNEAU	3250	---
9143-WL	T. FIKTER	1820	---
9144-WL	G.J. F.F.H. SIMON	1430	---
9145-WL	R.F. F.C.K. KOLIHA	3500	---
7481T-2	CITY OF CLEVELAND	800	---

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N°9  
P.I. STA. 862+88.19

Δ: 23° 59' 30" RT.  
Dc: 1° 28' 43"  
D: 3870.53'  
T: 822.41'  
Lc: 1620.72'  
Ch: 1608.91'  
E: 86.41'

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N°10  
P.I. STA. 875+45.80

Δ: 6° 54' 49" RT.  
Dc: 0° 45' 13"  
D: 7603.44'  
T: 459.30'  
Lc: 917.49'  
Ch: 916.91'  
E: 13.86'

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1 (54)

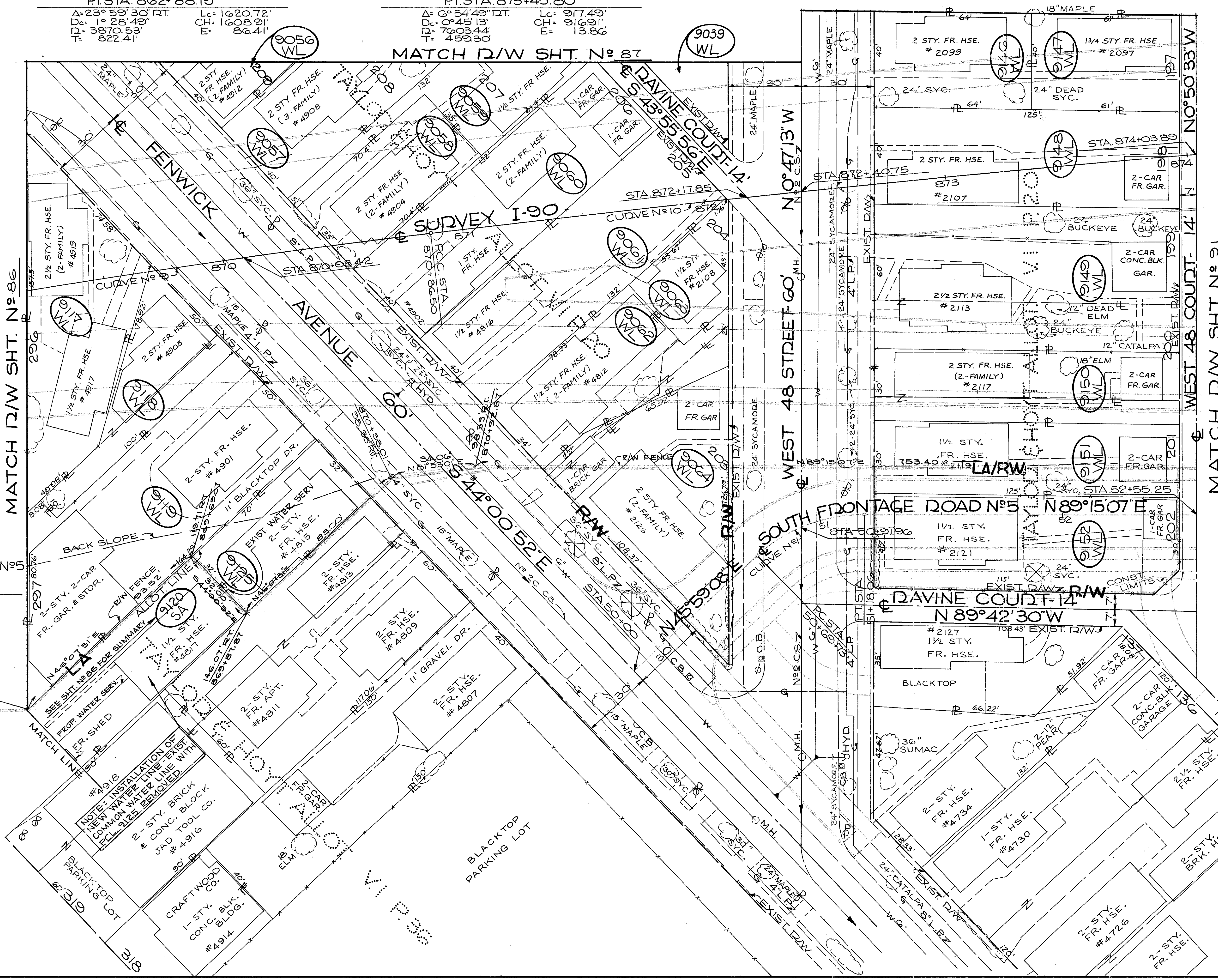
334  
838

88  
92

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

SOUTH FRONTAGE RD. N°5  
CURVE N°1 DATA  
P.I. STA. 50+95.11

Δ: 43° 15' 53" RT.  
Dc: 25° 30'  
D: 4833.83'  
T: 47.19'



PARCEL NO	OWNER	TAKE RES SQ. FT.	PARCEL NO	OWNER	TAKE RES SQ. FT.
9035	L.K. F. M. SHARP	1191	9118-WL	E.J. F. EL. ANDRES	2910
9036-WL	M.K. ZIMMERMAN	9280	9119-WL	S. ZIMMERMAN	7075
9037-WL	R.M. POTTER F.K.A. R.M. GOSNELL	5280	9125-WL	J.H. HARLACH	2240
9038-WL	E.E. PRINCE	2464	9146-WL	A.J. G. WOLF	2560
9039-WL	S. REISS	2816	9147-WL	A.M. SCHAEFFER	2440
9040-WL	R.F.R.M. WHITFORD	9280	9148-WL	F.S. F.A. THOMAS	5000
9041-WL	W. LEMASTER	3359	9149-WL	H.F. STANDAR	7900
9042-WL	J.A. SHEFFEY ETAL	1365	9150-WL	F.J. D.F. GRASBERGER	3790
9043-WL	J.G. F. BR. STELBASKY	4832	9151-WL	M.R. F. L.J. CAMPOS	3790
9044-WL	J.F.F. MITERHOLZER	4832	9152-WL	M. SAMPER	4915

SCALE 1" = 20'

NAME	REVISION	DATE

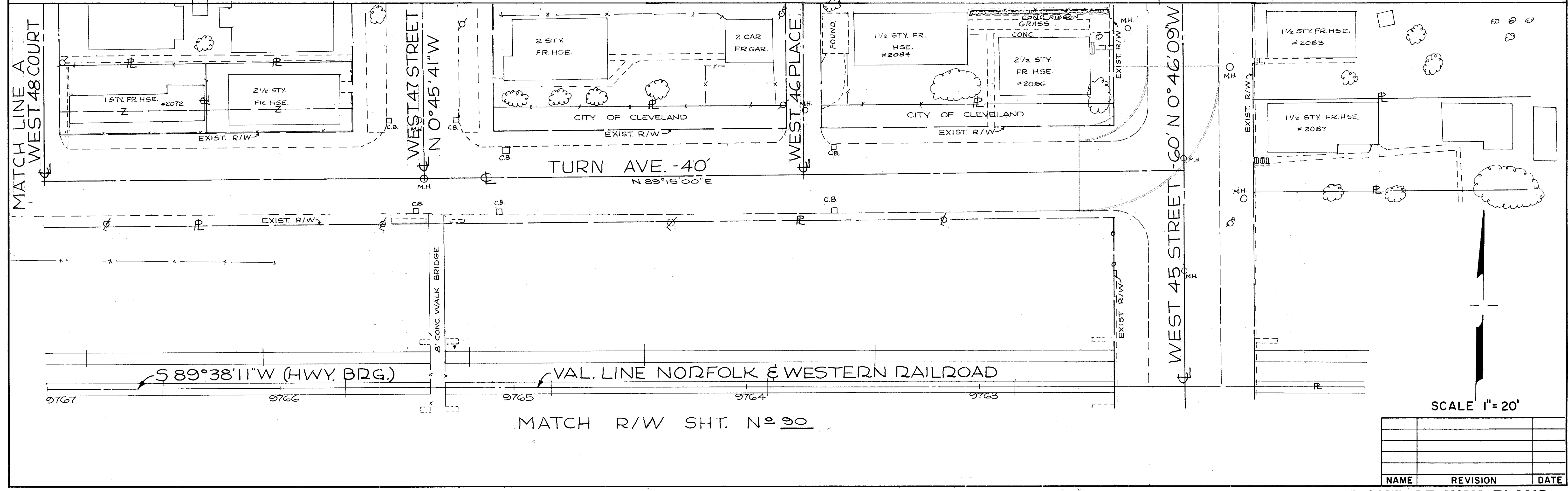
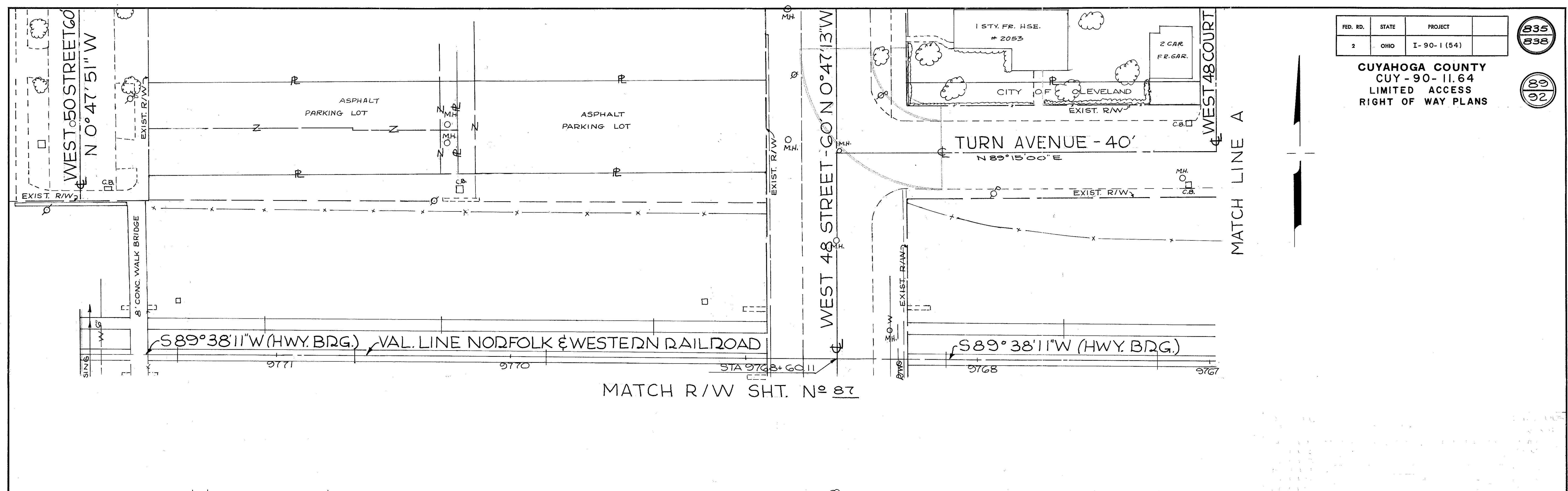
RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

835  
838

89  
92

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS



SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS

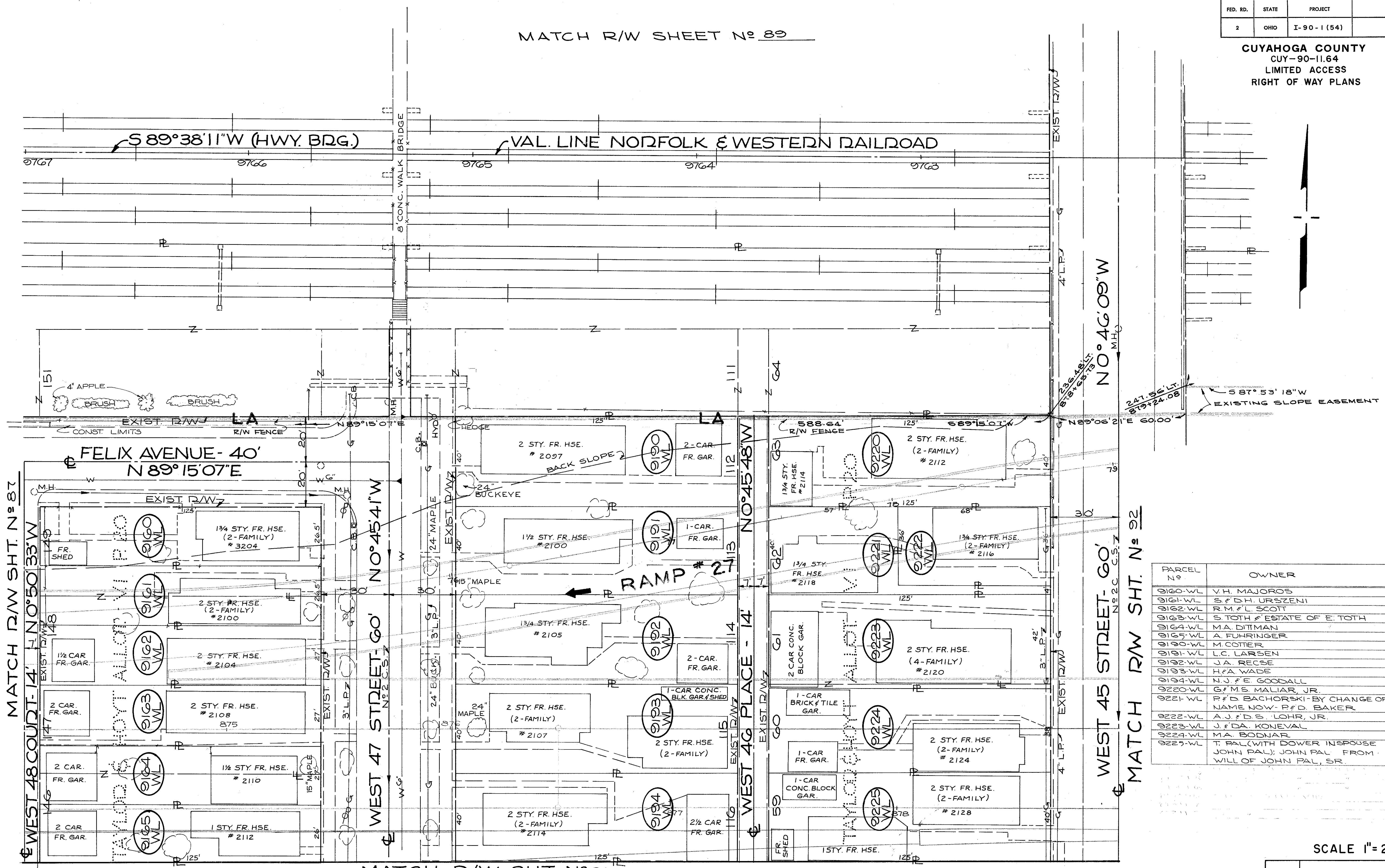
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

836  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

90  
92

MATCH R/W SHEET No 89



PARCEL No	OWNER	TAKE	RES
9160-WL	V.H. MAJOROS	3312	--
9161-WL	S.F.D.H. URSZENI	3312	--
9162-WL	R.M. & L. SCOTT	3375	--
9163-WL	S. TOTH & ESTATE OF E. TOTH	3375	--
9164-WL	M.A. DITMAN	3375	--
9165-WL	A. FUHRINGER	3250	--
9190-WL	M. COTTER	5000	--
9191-WL	L.C. LARSEN	5000	--
9192-WL	J.A. RECSE	5000	--
9193-WL	H.A. WADE	5000	--
9194-WL	N.J. & E. GOODALL	5000	--
9220-WL	G.F. M.S. MALIAR, JR.	5000	--
9221-WL	R.F.D. BACHORSKI - BY CHANGE OF NAME NOW R.F.D. BAKER	2552	--
9222-WL	A.J. & D.S. LOHR, JR.	2448	--
9223-WL	J.F. DA. KONEVAL	5250	--
9224-WL	M.A. BODNAR	4750	--
9225-WL	T. PAL (WITH DOWER IN SPOUSE JOHN PAL); JOHN PAL FROM WILL OF JOHN PAL, SR.	5000	--

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS



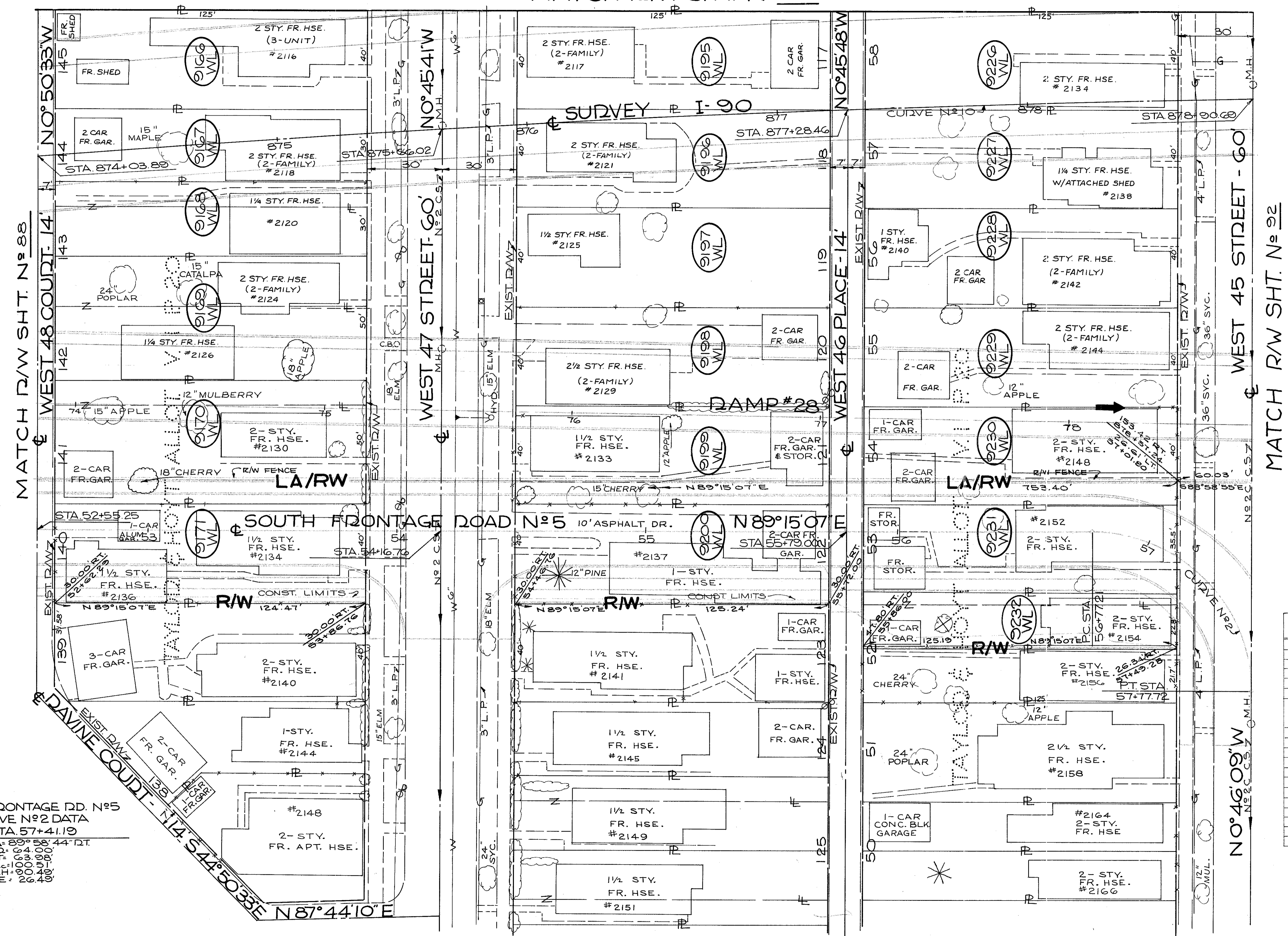
FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

337  
338

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

91  
92

MATCH R/W SHT. N<sup>o</sup> 90



CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N<sup>o</sup> 10  
P.I. STA. 875+45.80  
 $\Delta = 6^{\circ}54'49"$  DT.  
 $R = 0^{\circ}45'13"$   
 $P.T. = 459.84'$   
 $M.I. = 917.40'$   
 $E.T. = 916.91'$   
 $L = 13.86'$

PARCEL N <sup>o</sup>	OWNER	TAKE SQ. FT.	RES
9166-WL	T. TILIKAINEN	5000	--
9167-WL	E.A. & B.J. KRAJEWSKI	3750	--
9168-WL	M.F.A. BINDEL	3750	--
9169-WL	F.M.F.E.W. GAUGHAN	6250	--
9170-WL	BE. HURST	6250	--
9171-WL	F.J. & D.L. TOTH	5000	--
9195-WL	A. HIGGINS-TRUSTEE FOR JOSEPH MEIER-MINOR (FROM ESTATE OF J.S. MEIER)	5000	--
9196-WL	J.W. & N.M. BAILLIS	5000	--
9197-WL	R.H. & P.L. JONES	5000	--
9198-WL	ESTATE OF M.F.R. CAROLLA	5000	--
9199-WL	H. BABIC	5000	--
9200-WL	J.E. & L.R. REEVES	5000	--
9226-WL	M.C. PAULITZKY	5000	--
9227-WL	C.F.A. MOORE	5000	--
9228-WL	D.A. & F.R. NICHOLS	5000	--
9229-WL	V. SALEM	5000	--
9230-WL	F.F.M. MATTER	5000	--
9231-WL	W. SIKORA	4438	--
9232-WL	G.E. HAKOS	2850	--

SOUTH FRONTAGE RD. N<sup>o</sup> 5  
CURVE N<sup>o</sup> 2 DATA  
P.I. STA 57+41.19  
 $\Delta = 89^{\circ}58'44"$  DT.  
 $R = 100.00'$   
 $P.T. = 200.00'$   
 $M.I. = 400.00'$   
 $E.T. = 399.99'$

SCALE 1" = 20'

NAME	REVISION	DATE

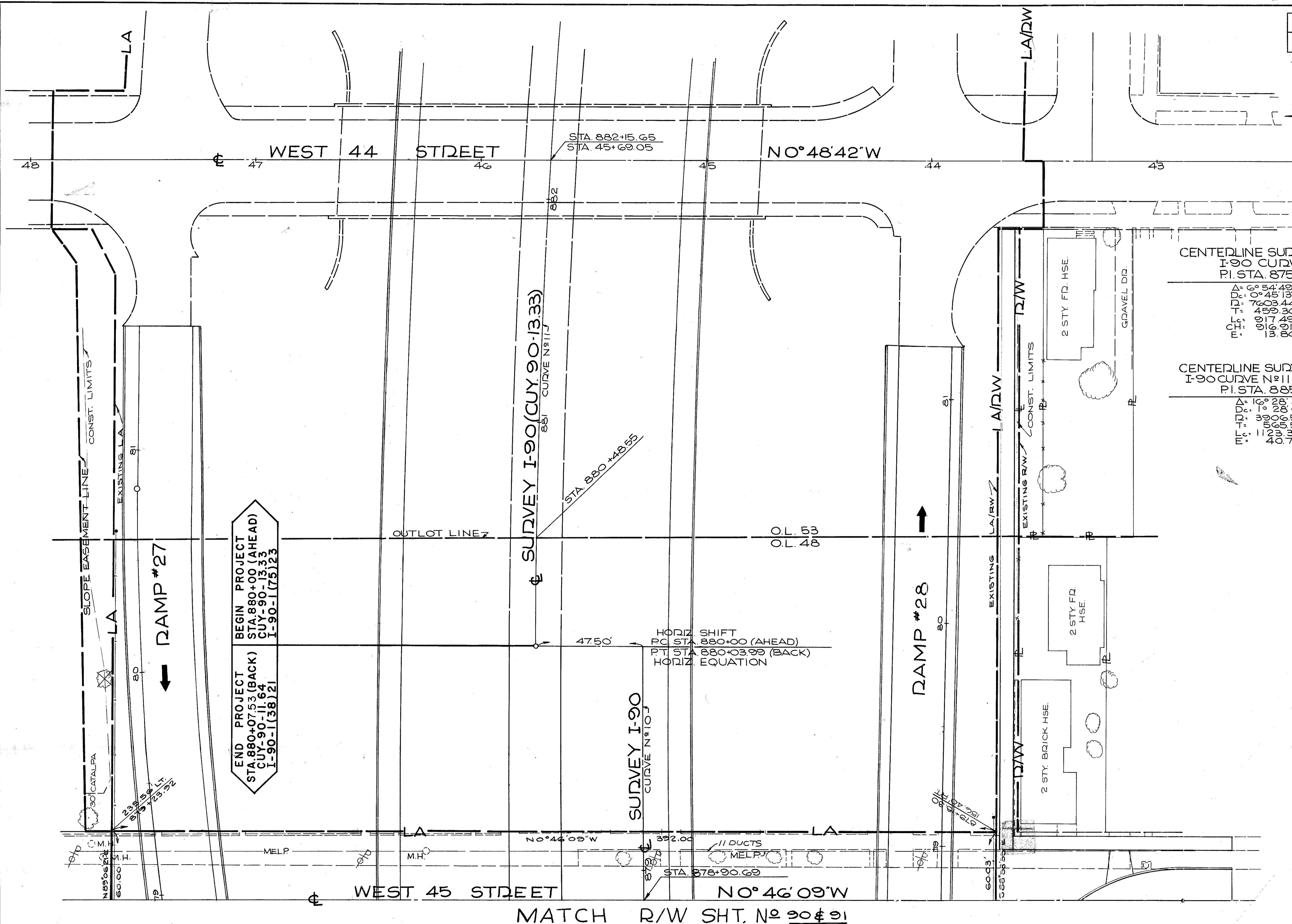
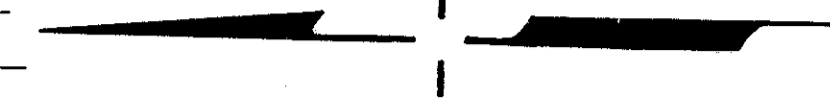
RIGHT OF WAY PLANS

FED. RD.	STATE	PROJECT
2	OHIO	I-90-1(54)

838  
838

CUYAHOGA COUNTY  
CUY-90-11.64  
LIMITED ACCESS  
RIGHT OF WAY PLANS

92  
92



CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N°10  
P.I. STA. 875+45.80  
 $\Delta = 6^{\circ}54'49''$  RT.  
 $D_c = 0^{\circ}45'13''$   
 $T = 7603.44'$   
 $L = 459.30'$   
 $E = 917.49'$   
 $F = 13.86'$

CENTERLINE SURVEY CURVE DATA  
I-90 CURVE N°11 (CUY-90-13.33)  
P.I. STA. 885+65.55  
 $\Delta = 16^{\circ}28'50''$  RT.  
 $D_c = 1^{\circ}28'00''$   
 $T = 3900.00'$   
 $L = 500.00'$   
 $E = 1129.00'$   
 $F = 40.70'$

BEGIN PROJECT  
STA. 880+00 (AHEAD)  
CUY-90-13.33  
I-90-1(75)23

END PROJECT  
STA. 880+07.53 (BACK)  
CUY-90-11.64  
I-90-1(38)21

HORIZ. SHIFT  
P.O. STA. 880+00 (AHEAD)  
P.I. STA. 880+03.99 (BACK)  
HORIZ. EQUATION

SCALE 1" = 20'

NAME	REVISION	DATE

RIGHT OF WAY PLANS